TECHNICAL MANUAL

MAINTENANCE INSTRUCTIONS (ORGANIZATIONAL)

GENERAL AIRFRAME INFORMATION NAVY MODEL RF-4B AIRCRAFT

MCDONNELL AIRCRAFT

NOw60–0134–i
N00019–72–A–0001

Published by direction of the Commander, Naval Air Systems Command.

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This manual supersedes NAVAIR 01-245FDB-2-1.1 dated 15 December 1968, and Changes 1 through 8 for RF-4B aircraft only.

This basic publication includes Change 1 dated 1 August 1973

Published by direction of the Commander, Naval Air Systems Command.

LIST OF EFFECTIVE PAGES

Insert latest changed pages; dispose of superseded pages in accordance with applicable regulations.

NOTE: On a changed page, the portion of the text affected by the latest change is indicated by a vertical line, or other change symbol, in the outer margin of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages:

Original . . . 0 . . 15 Jun 73
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Total number of pages in this manual is 440 . consisting of the following:

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SECTION I

INTRODUCTION

AIRCRAFT DESCRIPTION

1-1 GENERAL.

1-2. This manual is one of a series providing maintenance instructions for operational activities. The purpose of this manual is to provide general airframe information for the RF-4B Model aircraft. The RF-4B Series consists of the following aircraft:

151975t AND UP

1-3. The RF-4B Series "PHANTOM II" aircraft is a two place, twin jet, supersonic, tactical aircraft manufactured by MCDONNELL AIRCRAFT. See figure 1-1. Principle dimensions and particulars are presented in table 1-1. Principle recognition features are the 45 degree swept back wings with saw tooth leading edge and wing tip dihedral, swept back vertical fin, and pronounced negative dihedral of the horizontal tail surface (stabilator). Tandem pressurized cockpits are enclosed with individual clam-shell canopies and equipped with Martin-Baker low-level ejection seats. Separate air conditioning and pressurization systems operated by engine bleed air, provide temperature and pressure controlled air for crew environment and electronic equipment cooling requirements. The two axial-flow, turbo-jet engines are mounted internally to the left and right of the fuselage keel, with separate air intakes and induction ramps adjacent to the cockpits. Conventional tricycle landing gear includes a nose gear which folds aft into the forward fuselage and wide tread main landing gear which folds inboard into the wings. The aircraft is equipped with catapult provisions and arresting gear for carrier based operations, and a drag chute intstallation to shorten landing runs ashore.

1-4. Aircraft construction is semi-monocoque with full cantilever wings, stabilizer, and vertical fin. Aluminum alloy is the principle material used with stainless steel, titanium, and magnesium alloys used as required by design criteria. The skin of the wings and some skins and doors on the fuselage are chemically machined with integral stiffeners. The wing inboard of the folding outer panels is constructed as a wet wing with the structure and skins sealed to form left and right integral fuel cells. Primary fuel storage is provided by bladder-type fuel cells in the fuselage.

1-5. Primary longitudinal control is provided by a conventional rudder and a one piece stabilator which functions as both a stabilizer and elevator. Lateral control is accomplished by the simultaneous operation of ailerons and spoilers on the wings. Primary controls are hydraulically operated with the actuators being controlled by conventional stick and rudder pedals in the forward cockpit. The wings are equipped with leading edge flaps, trailing edge flaps, and speed brakes. A boundary layer control system, supplied with engine bleed air, operates in conjunction with the leading and trailing edge flaps to increase lift and reduce turbulence during slow speed flight. On 153101z AND UP, ALSO 151975t THRU 153100y AFTER AFC 218, an aileron droop system functions with the flaps to provide additional lift.

1-6. The aircraft is an all-weather tactical reconnaissance aircraft capable of high or low altitude, day or night, selective photographic and other reconnaissance missions. The crew consists of the pilot and the reconnaissance system operator (RSO).

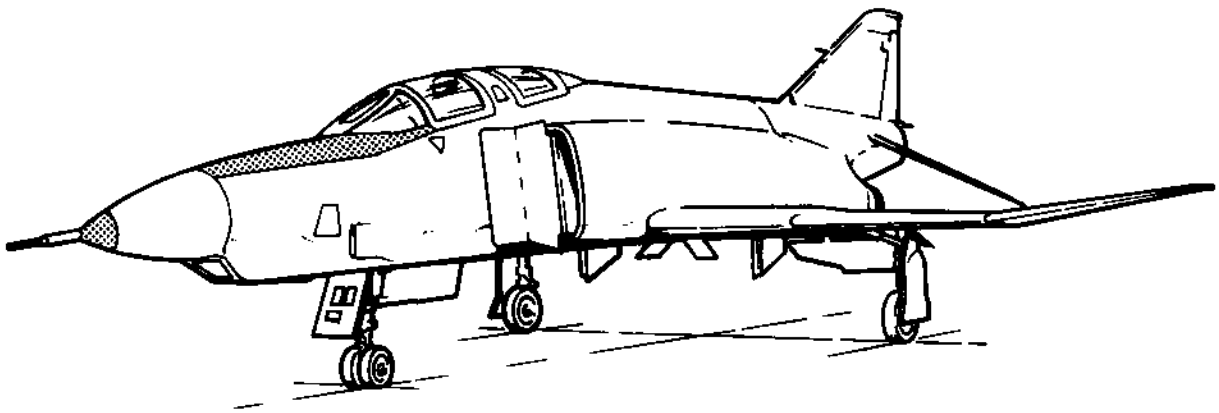
Table 1-1. Aircraft Dimensions and Particulars

GENERAL DIMENSIONS	
Overall length	62 ft. 11.2 in.
Wing Span	38 ft. 4.9 in.
Wing Span (wings folded)	27 ft. 6.6 in.
Height over fin (struts extended)	16 ft. 3.8 in.
Horizontal tail surface span	17 ft. 10.9 in.
WEIGHT	
Empty	28,002 lbs.
Basic reconnaissance take-off gross (internal fuel only)	43,273 lbs.
Alternate long range reconnaissance take-off gross (internal and external fuel)	53,365 lbs.
CENTER OF GRAVITY	
Normal take-off gross weight	F.S. 325.2 W.L. 27.1

CONTINUED

Table 1-1. Aircraft Dimensions and Particulars (CONT)

WING	
Theoretical total area (including 173 sq. ft. of fuselage)	530.0 sq. ft.
Incidence	+1 degree
Dihedral – Inner Wing	0 degree
Dihedral – Outer Wing	+12 degrees
Aspect ratio	2.82
Thickness ratio (percent of chord)	5.1
Sweepback at 25 percent of chord	45 degrees
Aileron area	26.16 sq. ft.
Spoiler area	10.88 sq. ft.
HORIZONTAL TAIL (STABILATOR)	
Area (prior to slotted leading edge)	96.23 sq. ft.
Area (slotted leading edge)	100.29 sq. ft.
Dihedral	−23.25 degrees
Sweepback at 25 percent of chord	35.5
VERTICAL TAIL	
Fin area	56.40 sq. ft.
Rudder area	11.1 sq. ft.
Rudder hinge line (percent of chord)	80
Sweepback at 25 percent chord	58.3
HIGH DRAG DEVICES	
Speed brake – Total area	18.64 sq. ft.
Angular movement from closed to open	40 degrees
HIGH LIFT DEVICES	
Leading edge flap total area	40.98 sq. ft.
Trailing edge flap area aft of hinge center line	29.20 sq. ft.
Ailerons (when drooped 16.5 degrees)	26.16 sq. ft.
AIRFOIL DESIGNATIONS	
Wing root	NACA 0006.4 – 64 Mod.
Wing – B.L. 160.0	4.0 – 64 Mod.
Wing tip	3.0 – 64 Mod.
Stabilator at root	3.7 – 64 Mod.
Stabilator at tip	3.0 – 64 Mod.
Vertical tail at root	4.0 – 64 Mod.
Vertical tail at tip	2.5 – 64 Mod.
TIRES	SIZE TYPE
Main gear 151975t THRU 153115aa BEFORE AFC 230	30 x 7.7 Type VII EHP
Main gear 151975t THRU 153115aa AFTER AFC 230 PART III	30 x 8.0 Type VIII EHP
Nose gear	18 x 5.5 Type VII EHP
POWER PLANT	
Engine model	Two General Electric J79–GE–8 Engines with Afterburner



FDC-2-1.1-(1)

Figure 1-1. RF-4B Aircraft

INTRODUCTION TO MAINTENANCE INSTRUCTIONS MANUALS

1-7. GENERAL.

1-8. The Maintenance Instructions Manuals (-2 series) consists of separately bound manuals, each assigned an individual publication number for identification purposes. The series is divided into groups of manuals containing related data or related systems. The last dash number of the publication number indicates the grouping, with a decimal number assigned to each individual publication within the group when applicable. For the publication numbers and titles of Maintenance Instruction Manuals, Flight Manuals, Illustrated Parts Breakdown Manuals, Structural Repair Manuals, Weapons Manuals, and Periodic Maintenance publications, refer to paragraph 1-46.

1-9. SCOPE OF COVERAGE.

1-10. The Maintenance Instructions Manuals (MIM), include data and instructions required by operating squadrons and Naval Air Station aircraft maintenance departments to perform Organizational level maintenance. Some manuals and some systems coverage within a multisystem manual contain Intermediate level maintenance as indicated by the title page of each manual. In these manuals, the instructions for disassembly and repair of components are furnished to the extent of the disassembly and repair limits of Intermediate level activities. Complete overhaul instructions for components

are issued separately and are not contained in the MIM. Maintenance information for Contractor Furnished Aerospace Equipment (CFAE) and Government Furnished Aerospace Equipment (GFAE) are included only to the extent that they are peculiar to the installation in the aircraft. Intermediate level maintenance instructions for these systems or equipment are contained in separate instruction manuals. Refer to list of CFAE/GFAE Part Numbers and Publication coverage in this section.

1-11. **POWER PLANT.** The airframe MIM contains Organizational maintenance instructions for the power plant when installed in the aircraft. The Intermediate maintenance required for the engine while the engine is removed from the aircraft, except Quick Engine Change (QEC) installation, is furnished in a separate engine Service Instructions Manual. The QEC installation (and some airframe component installations on the engine) are the only maintenance procedures provided in the airframe MIM when the engine is removed from the aircraft. A separate engine IPB supports the engine Service Instructions Manual.

1-12. **AVIONIC AND RECONNAISSANCE SYSTEMS.** On some avionics and reconnaissance systems, the airframe MIM and the airframe IPB manuals support Intermediate maintenance instructions to maintain an operational system on a black-box or end-item replacement basis. Separate system or component Maintenance or Service Instructions manuals and Intermediate manuals, provide the Intermediate detail maintenance instructions necessary to repair and verify operation of some or all components in these systems. The airframe manuals will not repeat the data presented in the individual equipment manuals except when complete system verification requires the same procedures as the subsystem component checks.

1-13. **SYSTEMS INTEGRATION.** The Systems Integration Maintenance Instructions Manuals contain Organizational level maintenance only, along with general and detailed discussion of electronic systems interconnected functions. Information is provided to checkout functional loops between integrated systems, and for the isolation of a malfunction within an integrated functional loop to the faulty system.

1-14. EFFECTIVITY NOTATION.

1-15. Aircraft effectivity notations are required only when data presented in the body of the manual is limited by aircraft serial number. These differences may be the result of engineering changes incorporated in production, or modifications incorporated by Technical Directives. Effectivity notations limit equipment configuration by model designation or model designation and serial/part number. An example of an aircraft effectivity notation is as follows:

151975t THRU 151977t

1-16. ARRANGEMENT.

1-17. **NUMBERING.** Pages, paragraphs, and figures are each numbered separately and consecutively within each section of the manual. The numbers assigned are two-part numbers separated by a dash, with the first number indicating the section number and the second, the sequence within the section. Figure numbers and titles appear below the illustrations to which they apply. Table numbers and titles appear above the tables to which they apply. Pages, paragraphs, and figures added between existing numbers when a manual is changed are assigned the preceding number plus consecutive capital letter suffixes; for example 1-2A, 1-2B, etc.

1-18. **INDEXING.** Each Maintenance Instructions Manual contains a standard table of contents and a list of illustrations. Systems manuals further contain a chart type alphabetical index located at the end of the manual. The name of systems, components, equipments, etc.; are listed versus categories of maintenance required. Paragraph and figure numbers are used to direct the reader to the desired data. The Wiring Data manual contains an alphabetical index of circuits at the front of each applicable section of the manual.

1-19. **NOTES, CAUTIONS, AND WARNINGS.** Items of special importance and critical instructions are emphasized by the use of a note, caution or warning. The use of and the differences between notes, cautions and warnings are listed below.

NOTE

An operating procedure, condition, etc., which it is essential to highlight.

CAUTION

Operating procedures, practices, etc., which if not strictly observed, will result in damage to or destruction of equipment.

WARNING

Operating procedures, practices, etc., which will result in personal injury or loss of life if not correctly followed.

1-20. ***QUALITY ASSURANCE.*** *Procedural steps that must have correct completion ensured for safe flight and that cannot be inspected following the final step of the procedures are identified either by (1) the words "Quality Assurance" enclosed in parenthesis immediately following the step in the procedure, or (2) the step in the procedure printed in italics. A QUALITY ASSURANCE SUMMARY containing inspections which must be made to insure that the aircraft has been returned to flight ready status follows the final step of each maintenance procedure if applicable.*

1-21. **CURRENT MANUAL CHANGE SYMBOLS.** Current changes to text are noted by a broad vertical line printed in the outer margin adjacent to the text affected. Current changes to illustrations containing photographs or line drawings are indicated by miniature pointing hands positioned to pin-point the area of the change. Current changes to diagrams and schematics are indicated by shading over or outlining with a shaded border, the area of the change. Illustrations completely revised or with too extensive areas of change to make pin-pointing practical, are noted with a miniature hand and the words MAJOR CHANGE in reverse lettering. See figure 1-2.

NOTE

Change symbols are not used in revision of the manuals.

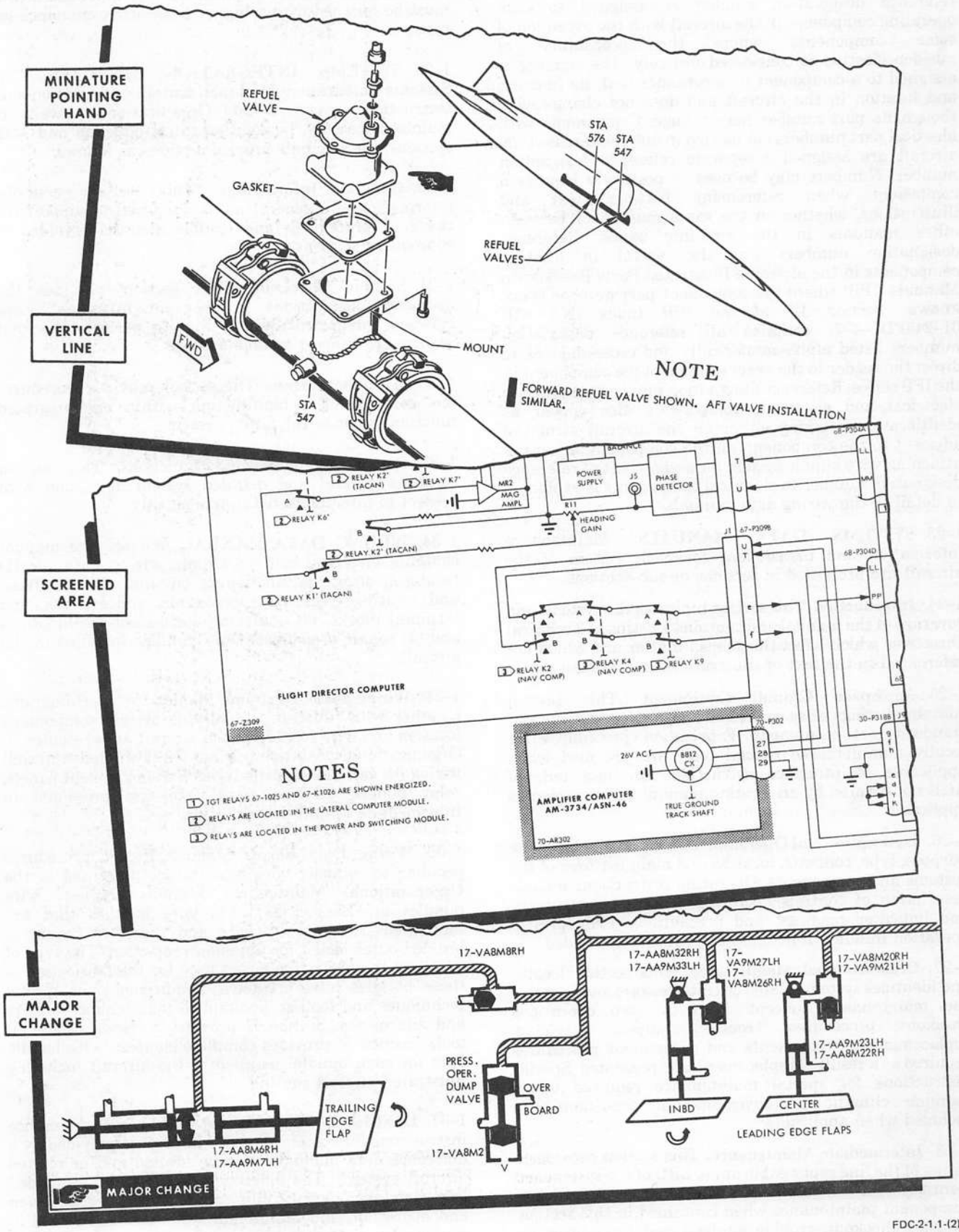


Figure 1–2. Illustration Change Symbols

1-22. **REFERENCE DESIGNATION NUMBERS.** A reference designation number is assigned to each operating component in the aircraft with the exception of some components where the probability of misidentification is considered unlikely. The number is assigned to a component in accordance with its function and location in the aircraft and does not change even though its part number may change. Components with identical part numbers but located in different areas of the aircraft are assigned a separate reference designation number. Numbers may be used to positively identify a component when referencing between text and illustrations, whether in the same manual or between other manuals in the airframe series. Reference designation numbers are also useful in locating components in the airframe Illustrated Parts Breakdown Manuals (IPB) where the component part number is not known. Section III of the IPB Index (NAVAIR 01-245FDC-4-7) contains all reference designation numbers listed alpha-numerically and cross-indexed to direct the reader to the exact location of the component in the IPB series. Reference designation numbers assigned to electrical and electronic components also appear as identification marking either on the aircraft structure adjacent to the component, on the component, or on the attaching wire bundle system for assignment of reference designation number to electrical components is explained in detail in the wiring data manuals.

1-23. **SYSTEMS DATA MANUALS.** Maintenance information and instructions for each system of the aircraft are presented in sections or sub-sections.

1-24. **Introduction.** This section indicates the systems and coverage of the manual and contains a listing of Technical Directives which affect the subject matter and which are referenced in the text or illustrations in this manual.

1-25. **Aerospace Ground Equipment.** This section contains listings of special tools and test equipment and standard test equipment. Fabrication procedures for locally manufactured special tools are provided when applicable. Maintenance instructions for those items of AGE not covered by an existing manual, are provided as applicable.

1-26. **Description and Operation.** Description includes the purpose, type, contents, location and main features of the systems and components. Operating instructions include description of controls operating sequence, instrument and indicator readings, and precautions. Principles of operation inluding functional diagrams are included.

1-27. **Organizational Maintenance.** This section locates and identifies system related circuit breakers and explains the maintenance concept. Step by step operations checkout procedures, trouble analysis, servicing, replacement of components and adjustment procedures required as a result of replacement, are presented. Specific instructions for special maintenance required under extreme climatic or environmental conditions are included when applicable.

1-28. **Intermediate Maintenance.** This section provides a listing of the line replaceable units, LRU of the system and identifies the location of maintenance procedures. Component maintenance when contained in this section, includes checkout, trouble analysis and procedures for disassembly, repair, inspection and testing to restore the component to operational status. Preservation and packaging information is provided for components which must be forwarded to a higher level of maintenance for repair.

1-29. **SYSTEMS INTEGRATION MANUALS.** The Systems Integration Manuals contain information and instructions required at Organizational levels of maintenance only. In addition to Introduction and AGE sections, the manuals provide sections as follows.

1-30. **General Information.** This section contains information of a general nature required to support the checkout procedures and trouble analysis provided in subsequent sections.

1-31. **System Checkout.** This section provides the necessary instructions to checkout functional loops between integrated systems and to perform checkout required to support trouble analysis.

1-32. Trouble Analysis. This section provides procedures for isolation of a malfunction within an integrated functional loop of the faulty system.

1-33. **System Interconnected Functions.** This section contains general and detailed system discussion with respect to interconnected functions only.

1-34. **WIRING DATA MANUAL.** Wiring data manual contains electrical and electronic wiring data for (1) troubleshooting malfunctioning circuits, (2) identifying and locating electrical components, splice areas, and terminal blocks, (3) analyzing component malfunctions and (4) repair of compact wire bundles installed in the aircraft.

1-35. **Wiring Data Diagrams Manual.** Wiring diagrams together with illustrations showing system components location and wire routing in the aircraft are presented in Organizational Maintenance section. Complete internal wiring for various components such as instrument panels, relay panels, junction boxes, etc. are presented in Intermediate Maintenance section.

1-36. **Wiring Data Repair Manual.** Repair procedures peculiar to compact wire bundles are presented in the Organizational Maintenance section. Compact wire bundles are defined as those wire bundles that are fabricated from hookup wire and therefore require a braided outer jacket for abrasion protection. The type of wire and the protective jacket used for the fabrication of these bundles have created a requirement for special techniques and tools to accomplish maintenance repairs and alterations. Section II provides a listing of special tools. Section V provides complete compact wire bundle data for each bundle installed in the aircraft including illustrated aircraft routing.

1-37. **DIFFERENCE DATA MANUALS.** Maintenance instructions for certain modified aircraft is provided by a difference data manual covering affected and/or related aircraft systems. The difference data manual is divided into parts, each part including supplementary description and operation, and maintenance procedures for use in conjunction with the system manual(s) as referenced. A section on Periodic Maintenance Requirements may be included.

1-38. **CORROSION CONTROL AND DECONTAMINATION.** Information on the control, detection and elimination of corrosion, on the refinishing and preservation of the aircraft, and on decontamination methods applicable to the aircraft is provided in a separate manual.

1-39. TECHNICAL DIRECTIVES.

1-40. **DESCRIPTION.** Technical directives are letter type publications issued to accomplish one time changes to, or to impart precautionary instructions or inspections to, aircraft or related equipment. Technical Directives which are issued to accomplish configuration changes on delivered aircraft have an issue date concurrent with the availability of parts and incorporation of data in the maintenance instruction manuals.

1-41. **DELETION/RETENTION OF DATA OBSOLETED BY TECHNICAL DIRECTIVES.** Maintenance data in the manuals made obsolete by a Technical Directive will be deleted in accordance with the action category of the Directive.

1-42. **Immediate Action Directives.** Superseded data is deleted at the same time the new data applicable to the Technical Directive, is incorporated in the manual.

1-43. **Urgent Action Directives.** Superseded data is retained and the effectivity of the data noted for two years after the issue date of the applicable Technical Directives.

1-44. **Routine Action Directives.** Superseded data is retained and the effectivity and the data noted for three years after the issue date of the applicable Technical Directives.

1-45. **TECHNICAL DIRECTIVES WHICH AFFECT THIS MANUAL.** The current Technical Directives which affect the text and illustrations in this manual are listed in table 1-2. When the Before Technical Directive configuration is removed from the manual, dependent on Action Category, the Technical Directive entry will be deleted from table 1-2.

Table 1-2. Applicable Technical Directives

Technical Directive	Directive Date	Title	Manual Change/ Revision Date
ACC 38	31 May 65	MARTIN-BAKER MK H5 EJECTION SEATS; FINGER RING OF THE IFF BRACKET QUICK RELEASE PIN; Replacement of.	15 Jun 73
ACC 187	18 Oct 71	MK-H5/7 EJECTION SEAT - Prevention of connector link jamming and inadvertent ejection (ECP-MDA-F4-714R1S12, 950 and 950S1)	
ACC 224		MK-H7 EJECTION SEAT ROCKET MOTOR, Pressure operated initiation system - Installation of.	15 Jun 73
AFC 218	30 Jul 68	FLIGHT CONTROL SYSTEM - Incorporation of Drooped Aileron System. (ECP-MDA-F-4-457R2)	15 Jun 73
AFC 220	23 Aug 66	Ram Air Turbine Hydraulic System Removal ECP (MDA-F-4B-571)	15 Jun 73
AFC 227	24 Feb 67	ELECTRICAL SYSTEM - Installation of AC Generator Split Bus Power Supply. (ECP-MDA-F -4B-604)	15 Jun 73
AFC 230 (Part III)	21 Jun 68	LANDING GEAR AND RELATED STRUCTURAL REWORK - Modification to Increase Gross Landing Weight Capability. (ECP-MDA-F-4B-457R3)	15 Jun 73
AFC 231	18 Apr 66	WHEEL BRAKE SYSTEM - Replacement of Brake Control Units (ECP-MDA-F-4-612)	15 Jun 73
AFC 236	14 Oct 66	INERTIAL NAVIGATION SYSTEM - Incorporation of Carrier Alignment Capability. (ECP-MDA-RF-4B-4002R1 and ECP-MDA-F-4 -8077)	15 Jun 73

CONTINUED

Table 1-2. Applicable Technical Directives (CONT)

Technical Directive	Directive Date	Title	Manual Change/ Revision Date
AFC 242	25 Mar 66	NOSE GEAR STRUT CATAPULT EXTENSION SYSTEM - Replacement of nose landing gear strut catapult extension switch. (ECP-MDA-F-4-589)	15 Jun 73
AFC 249 (Part II)	30 Mar 67	FUEL SYSTEM - Installation of Automatic Fuel Transfer Provisions. (ECP-MDA-F-4B-606, 606S1 and 606S2)	15 Jun 73
AFC 252 (Part I)	12 Dec 68	POWERPLANT INSTRUMENT SYSTEM - Installation of Two-Point Oil Quantity Gaging System. (ECP-MDA-F-4B-601 and 601R1)	15 Jun 73
AFC 254	17 Mar 67	POWERPLANT CONTROL SYSTEM - Incorporation of Approach Power Compensation System, RF-4B Aircraft. (ECP-MDA-RF-4B-4001)	15 Jun 73
AFC 273	10 May 68	FUEL SYSTEM - Improvement of Hydraulic Driven Fuel Transfer Pump Control (ECP-MDA -F4B-680 Pt II)	15 Jun 73
AFC 289	9 Feb 68	CABIN AIR CONDITIONING SYSTEM - Addition of Heat Exchanger Water Drain Valve and Lines. (ECP-MDA-F-4-650)	15 Jun 73
AFC 291	16 Jun 67	CANOPY SYSTEM - Installation of Canopy Viscous Damper (ECP-MDA-F4-709)	15 Jun 73
AFC 301	28 Apr 67	EMERGENCY LANDING GEAR AND EMERGENCY FLAP SYSTEM VENT LINES - Relocation of (ECP-MDA-RF4-3065R1)	15 Jun 73
AFC 307	10 Sept 68	EMERGENCY ESCAPE SYSTEM - Incorporation of Rocket Propulsion and Sequencing Systems. (ECP-MDA-F4-714R1, 714R1S1, 714R1S2, 714R1S4, 870 and 861)	15 Jun 73
AFC 323	28 Jul 67	PITOT/STATIC SYTEM - Installation of Improved Line Assemblies. (ECP-MDA-RF-4B/C-3093)	15 Jun 73
AFC 329	5 Jul 68	ECM SYSTEM - Interim Provisions for ECM Centerline Stores Pod (ECP-MDA-RF-4B-4013)	15 Jun 73
AFC 331 (Part II)	29 Nov 67	INTEGRATED ELECTRONIC CENTRAL - KY-28 UHF Installation, RF-4B Aircraft. (ECP MDA-F -4B-703 and 703S1)	15 Jun 73
AFC 332	2 Feb 70	ECM SYSTEM: AN/ALE-29 Countermeasures Chaff Dispenser; AN/APR-25 Homing and Warning Sets, incorporation of. (ECP-MDA-RF-4B -4009R1S1, 4009R1S2 and 4009R2)	15 Jun 73
AFC 340	22 Aug 69	DATA DISPLAY SYSTEM, AN/ASQ90 - PROVISIONS FOR CAMERA SENSOR IDENTIFICATION (ECP-MDA-RF-4-4010, 4010S1)	15 Jun 73
AFC 356	9 Aug 68	SURFACE CONTROLS - Replacement of Aileron Power Control Cylinder. (ECP-MDA-F-4-787S1)	15 Jun 73

CONTINUED

Table 1-2. Applicable Technical Directives (CONT)

Technical Directive	Directive Date	Title	Manual Change/ Revision Date
AFC 370	16 May 69	FUEL SYSTEM – Emergency Extension of Inflight Refueling Probe, Installation of. (ECP-MDA-F-4 -739R1)	15 Jun 73
AFC 373 (Part II)	16 Jan 70	CENTER FUSELAGE STRUCTURE – Modification of Lateral Trim Actuator Access on Aircraft with Smoke Abatement System. (ECP-MDA-F-4-770R1)	15 Jun 73
AFC 400	29 Mar 68	LATERAL CONTROL SYSTEM – Modification of Power Control I, Power Control II, and Utility Hydraulic Systems. (ECP-MDA-F-4-887)	15 Jun 73
AFC 433 (Part II)		INTERCOMMUNICATION SYSTEM – Modifications for Improvement of Intercom Systems. (ECP-MDA-F-4-864S1)	15 Jun 73
AFC 460	12 Sep 69	PHOTOFLASH CARTRIDGE EJECTOR SYSTEM – INTERIM CHAFF CAPABILITY, Installation of (ECP-MDA-F4-4015)	15 Jun 73
AFC 463	10 Oct 69	EQUIPMENT AIR CONDITIONING SYSTEM – Installation of Radar Cooling Air Diverter (ECP -MDA-F-4-927)	15 Jun 73
AFC 470 Part III		AN/ARA-63 SYSTEM, RECEIVER, DECODER, AND ANTENNA, installation of (ECP-MDA-F4 -907)	15 Jun 73
AFC 472	20 Nov 70	FORWARD FUSELAGE STRUCTURE – Provisions for armor plate, installation of (ECP-MDA-F4 -827S31013)	15 Jun 73
AFC 474	3 Apr 70	SAFETY AND SURVIVAL EQUIPMENT – Secondary Emergency Jettison System, installation of (ECP-MDA-F4-928P1)	15 Jun 73
AFC 497	21 Dec 70	CANOPY SYSTEM; FORWARD CANOPY JETTISON ELECTRICAL Ballistic Thruster System and Canopy Hinge Improvement, installation of (ECP MDA-F4-967, 967S1)	15 Jun 73
AFC 534		LATERAL CONTROL SYSTEM, Pilot option emergency aileron droop system – Addition of, (ECP-MDA-F4-1008)	15 Jun 73
AFC 547		RELOCATION OF AFT FUEL VENT SYSTEM DRAIN LINE (ECP-MDA-F4-1034P2)	15 Jun 73
AYC 294		AILERON POWER CONTROL CYLINDER P/N 2219000-1 – Modification of servo valve drive rod mechanism (ECP-MDA-F4-984)	15 Jun 73
SEC 1696 (REV. A)	30 Jul 71	Ejection Seat Safety Pin Assembly – Modification of MDE 32722-317/-327 to MDE 32722-331 Configuration (ECP MDA-F-4-950)	15 Jun 73
AFC 538	3 Mar 72	Installation of Provisions to Operate KA—82 Pan Camera	1 Aug 73

PUBLICATIONS REQUIRED BY OPERATING ACTIVITIES

1-46. GENERAL.

1-47. Airframe, publications containing instructions for Organizational and Intermediate levels of maintenance are listed in table 1-3. Part numbers and related publications for contractor (CFE) and government furnished (GFAE) aerospace equipment are listed in table 1-4. Part numbers and related publications for test (AGE) and special support equipment (SSE) are listed in table 1-5.

NOTE

The following codes are assigned to the type of manuals as indicated in tables 1-4 and 1-5. These codes are shown in parenthesis in the publication column following the publication number.

CALI - Calibration
DM - Depot Maintenance Instructions
FLM - Flight Line Manual
FMI - Field Maintenance Instructions
IM - Intermediate Maintenance
INSP - Inspection Procedures
IPB - Illustrated Parts Breakdown
MIM - Maintenance Instructions Manual
OH - Overhaul Instructions
OH/IPB - Overhaul Instructions with Illustrated Parts Breakdown
OM - Operation and Maintenance Instructions
OPER - Operation/Operating Instructions
ORG - Organizational
OS - Operation and Service Instructions
PAC - Packing Instructions
PL - Parts List
REP - Repair Instructions
SI - Service Instructions

Type of technical manuals are:

Table 1-3. Flight, Airframe Maintenance Instructions, Periodic Maintenance Requirements, and Weapons Manuals

Publication No.	Title
NA 01-245FDA-3-1.1	Structural Repair - (Organizational and Intermediate) - General Information
NA 01-245FDA-3-1.2	Structural Repair - (Organizational and Intermediate) - Fixed Structure
NA 01-245FDA-3-1.3	Structural Repair - (Organizational and Intermediate) - Doors and Removable Panels
NA 01-245FDA-3-1.4	Structural Repair - (Organizational and Intermediate) - Control Surfaces and Removable Structural Components
NA 01-245FDA-3-1.5	Structural Repair - (Organizational and Intermediate) - Typical Repairs and Repair of Special Structure
NA 01-245FDA-3-1.6	Structural Repair - (Organizational and Intermediate) - Sealing and Corrosion Control
NA 01-245FDA-3-2	Structural Repair - Depot
NA 01-245FDC-4-1	Airframe - Illustrated Parts Breakdown
NA 01-245FDC-4-2	Mechanisms, Controls and Ejection Seats - Illustrated Parts Breakdown
NA 01-245FDC-4-3	Utility, Hydraulic and Pneumatic systems - Illustrated Parts Breakdown
NA 01-245FDC-4-4	Instrumentation, Electrical and Electronic Systems - Illustrated Parts Breakdown
NA 01-245FDC-4-5	Fuel System, Power Plant and Related Systems - Illustrated Parts Breakdown
NA 01-245FDA-4-6	Special Support Equipment - Illustrated Parts Breakdown
NA 01-245FDC-4-7	Index - Illustrated Parts Breakdown
NA 01-245FDA-4-8	Reconnaissance Systems - Illustrated Parts Breakdown
NA 01-245FDA-6-4.1	Engine Calendar Maintenance Requirements Cards - J79-GE-8/8A/8B

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Table 1-3. Flight, Airframe Maintenance Instructions, Periodic Maintenance Requirements, and Weapons Manuals (CONT)

Publication No.	Title
NA 01-245FDA-6-5.1	Engine Sequence Control Chart Calendar - J79-GE-8/-8A/-8B Engine
NA 01-245FDA-6-7	Preoperational Maintenance Requirement Cards - Special Support Equipment
NA 01-245FDA-6-8	Periodic Maintenance Requirements Cards - Special Support Equipment
NA 01-245FDB-N2	Cross Servicing Schedule for Phantom II Aircraft, U.S. Navy Models F-4B, F-4J and RF-4B Aircraft
NA 01-245FDB-2-0	Maintenance Planning Manual
NA 01-245FDB-2-0.2	Installations Facilities
NA 01-245FDC-2-1.1	General Airframe Information - Maintenance Instructions (Organizational)
NA 01-245FDB-2-1.2	Corrosion Control and Decontamination - Maintenance Instructions (Organizational)
NA 01-245FDB-2-2.1	Safety and Survival Equipment (Organizational)
NA 01-245FDC-2-2.2	Structure and Surface Controls - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDC-2-2.3	Landing Gear and Related Systems - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDB-2-2.4	Hydraulic and Pneumatic Systems - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDC-2-2.5	Bleed Air and Associated systems - Maintenance Instructions (Organizational)
NA 01-245FDB-2-3.1	Power Plant - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDB-2-3.2	Air Inductions Systems - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDC-2-3.3	Fuel Systems - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDC-2-3.4	Power Plant Control Systems - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDC-2-3.5	Power Plant Build-Up - Maintenance Instructions with Illustrated Parts Breakdown (Organizational and Intermediate)
NA 01-245FDC-2-4.1	Instrument Systems - Maintenance Instructions (Organizational)
NA 01-245FDC-2-4.2	Air Data Computer Set - Maintenance Instructions - (Organizational and Intermediate)
NA 01-245FDC-2-5.1	Electrical Power Supply System - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDC-2-5.2	Lighting Systems - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.2	Miscellaneous Electronic, Navigation and Recording Systems - Maintenance Instructions (Organizational)
NA 01-245FDC-2-6.3	Flight Control Group and Related Systems - Maintenance Instructions - Organizational and Intermediate

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Table 1-3. Flight, Airframe Maintenance Instructions, Periodic Maintenance Requirements, and Weapons Manuals (CONT)

Publication No.	Title
NA 01-245FDB-2-6.6	Integrated Electronic Central, AN/ASQ-88 AND AN/ASQ-108 - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.7	Forward Looking Radar and Electronic Altimeter Systems - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.8	Radar Mapping System - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.8A	Supplement - Radar Mapping System (U) - Maintenance Instructions (Organizational) (Confidential) (Gp 3)
NA 01-245FDB-2-6.9	Sensor Control, Data Display and Optical Viewfinder Systems - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.10	Infrared Detecting System - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.10A	Supplement - Infrared Detecting System (U) - Maintenance Instructions (Confidential) (Organizational) (Gp 3)
NA 01-245FDB-2-6.11	High Frequency Radio and Sound Recorder Systems - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.12	Inertial Navigation Systems Set, AN/ASN-56 - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.15	Attitude Reference and Bomb Computer Systems - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.16	Inertial Navigation Set, AN/ASN-74 - Maintenance Instructions (Organizational)
NA 01-245FDB-2-6.17	Electronic Intelligence Systems (U) Maintenance Instructions (Organizational) (Confidential) (Gp 3)
NA 01-245FDC-2-6.19	Countermeasures Chaff Dispenser Set, AN/ALE-29A and AN/ALE-29A (Modified) Maintenance (Organizational)
NA 01-245FDB-2-6.20	Homing and Warning Set and Related Equipment (U) Maintenance Instructions (Organizational and Intermediate) (Confidential) (Gp 3)
NA 01-245FDB-2-6.22	Radar Receiving Set, AN/APR-27 and Countermeasures Sets, AN/ALQ-91 and AN/ALQ-91A (U) - Maintenance Instructions (Organizational) (Secret) (Gp 3)
NA 01-245FDB-2-6.24	Preliminary Receiving - Decoding Group, AN/ARA-63 - Maintenance Instructions (Organizational)
NA 01-245FDC-2-7	Armament Systems - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDB-2-9.1	Systems Integration - Maintenance Instructions (Organizational)
NA 01-245FDB-2-9.1A	Systems Integration - Maintenance Instructions (Organizational) (Confidential)
NA 01-245FDB-2-10.3	Wiring Data Diagrams - Maintenance Instructions (Organizational and Intermediate)
NA 01-245FDB-2-10.4	Wiring Data Repair - Maintenance Instructions (Organizational and Intermediate)

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Table 1-3. Flight, Airframe Maintenance Instructions, Periodic Maintenance Requirements, and Weapons Manuals (CONT)

Publication No.	Title
NA 01-245FDB-2-11	Photographic Reconnaissance Systems
NA 01-245FDB-8	Aircraft Work Unit Code Manual - Aircraft Maintenance
NA 01-245FDC-1	NATOPS Flight Manual
NA 01-245FDC-1A	Supplement - NATOPS Flight Manual (Confidential)
NA 01-245FDC-1B	NATOPS Pocket Checklist
NA 01-245FDC-1C	NATOPS Servicing Checklist
NA 01-245FDC-1T	Tactical Manual (Confidential)
NA 01-245FDC-6	Periodic Maintenance Requirements Manual
NA 01-245FDC-6-1	Preflight Maintenance Requirement Cards
NA 01-245FDC-6-2	Postflight/Servicing/Conditional Maintenance Requirements Cards
NA 01-245FDC-6-3	Daily/Special Maintenance Requirements Cards
NA 01-245FDC-6-4	Calendar Maintenance Requirement Cards
NA 01-245FDC-6-5	Odd Numbered Calendar Inspection Sequence Control Chart
NA 01-245FDC-6-6	Function Test Flight Checklist
NA 01-245FDD-1-6	Functional Checkflight Checklist

Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage

Part No.	Nomenclature	Publication No.
A-13A	Aircraft Clock, Type A-13A	NA05-35A-27 (OH/IPB)
A/A37U	Electronics Countermeasures Pod	NA16-30ALQ81-1 (OS/IPB)
A/24G-24	Air Data Computer Set	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-9 (IM/OH) NA05-20GAA-10 (IPB)
A/24G-30	Air Data Computer Set	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-9 (OH) NA05-20GAA-10 (IPB)
AA-313314-2	Brake Assembly	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB) NA03-25GAM-1 (OH/IPB)
AAU-19/A	Altimeter Counter Drum Pointer Servo	NA 01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB) NA05-30-82 (OH) NA05-30-83 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
AC900-4, -61, -121, -121P	Hydraulic System Filter	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
AC1120-61	Hydraulic Oil Filter	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
AD900-62P	Hydraulic Oil System Filter	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
AERO 27A	Bomb Rack Aero 27A	NA01-245FDC-2-7 (MIM) NA11-5C-17 (OH)
AE4493-126P	Hydraulic Manifold Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
AE4493-126P2, -126P3	Hydraulic Manifold Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
AGE 59-2	AC Emergency Generator	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-4 (IPB)
AGE 59-2	Alternating Current Generator	NA03-5AAL-7 (OH/IPB) NA03-5AAL-13 (OH) NA03-5AAL-14 (IPB)
AL1020M13-2, -3	Electro-Mechanical Linear Actuator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-5CGY-1 (OH/IPB)
AL1020M13-11, -11A	Electro-Mechanical Linear Actuator	NA01-245FDC-2-2.2 (MIM) NA03-5CGY-1 (OH/IPB) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
AM-2349/ASQ-19	Power Supply Receiver Amplifier (GFAE)	NA16-35AM2349-3 (IPB) NA16-35AM2349-2 (OH) NA16-35AM2349-1 (SI)
AM-4080/ASN-55	Leveling Amplifier	NA01-245FDB-2-6.15 (MIM) NA05-35KAB-9 (OH)
AN/AAS-18, -18A	Infrared Detecting Set	NA01-245FDB-2-6.10 (MIM) NA16-30AAS18-1 (FMI) NA16-30AAS18-2 (IPB)
AN/ALA-31	Electronic Countermeasures System	NA01-245FDB-2-6.17A (MIM) NA16-30ALA31-1 (OS)
AN/ALE-29A	Countermeasures Chaff Dispenser, AN/ALE-29A	NA01-245FDC-2-6.19 (MIM) NA16-30ALE29-1 (O & M) NA16-30ALE29-2 (IPB)
AN/ALQ-31	Electronic Countermeasures System	NA01-245FDB-2-6.17 (MIM) NA01-245FDB-2-6.17A (MIM) NA16-30ALQ31-1 (OS/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
AN/ALQ-81	Electronic Countermeasures Pod, AN/ALQ-81	NA01-245FDB-2-6.17 (MIM) NA01-245FDB-2-6.22 (MIM) NA16-30ALQ81-1 (OS/PL) NA16-30ALQ81-2 (IM) NA16-30ALQ81-3 (IPB)
AN/ALQ-88	Electronic Countermeasures System	NA01-245FDB-2-6.17 (MIM) NA01-245FDB-2-6.22 (MIM) NA16-30ALQ88-1 (OS/IPB)
AN/APA-128	Radar Set Group (GFAE)	NA16-30APA128-502 (SI) NA16-30APA128-503 (OH) NA16-30APA128-504 (IPB)
AN/APN-154(V)	Radar Beacon	NA01-245FDB-2-6.21 (MIM) NA16-30APN154-1 (OPER) NA16-30APN154-2 (SI) NA16-30APN154-3 (OH) NA16-30APN154-4 (IPB)
AN/APN-159	Electronic Altimeter Set	NA01-245FDB-2-6.7 (MIM) NA16-30APN159-1 (FMI)
AN/APQ-99	Radar Set	NA01-245FDB-2-6.7 (MIM) NA16-30APQ99-1 (SI) NA16-30APQ99-2 (OH) NA16-30APQ99-3 (IPB)
AN/APQ-102	Radar Mapping Set	NA16-30APQ102-1 (SI) NA16-30APQ102-2 (IPB)
AN/APR-25(V)	Homing and Warning Set, AN/APR-25	NA01-245FDB-2-6.20 (MIM) NA16-30APR25-1 (OS) NA16-30APR25-2 (IPB)
AN/APR-27	Radar Detecting Set, AN/APR-27	NA01-245FDB-2-6.22 (MIM) NA16-30APR27-1 (OS) NA16-30APR27-3 (OH/IPB)
AN/APR-50	Countermeasure Receiving Set	NA01-245FDB-2-6.20 (MIM) NA01-245FDB-2-6.21 (MIM) NA01-245FDB-2-6.22 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA16-45A-20 (OH/IPB)
AN/ARA-63	Receiver Decoding Set, AN/ARA-63	NA01-245FDB-2-6.24 (MIM)
AN/ARC-105	Radio Frequency Translator Module	NA01-245FDB-2-6.11 (MIM) NA16-25-380 (OH) NA16-30ARC105-1 (FMI) NA16-30ARC105-2 (IPB)
AN/ASA-32G	Flight Control Group	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-7 (IPB)
AN/ASA-32H, -32J	Flight Control Group	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-7 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
AN/ASN-46, -46A	Navigational Computer Set	NA01-245FDB-2-6.2 (MIM) NA05-35BC-15 (FMI)
AN/ASN-54V	Approach Power Control Set (GFAE)	NA01-245FDC-2-3.4 (MIM) NA05-20XAB-11 (OH) NA05-20XAB-12 (IPB)
AN/ASN-55	Attitude Heading Reference System	NA01-245FDB-2-6.15 (MIM) NA05-35KAB-9 (IPB)
AN/ASN-56	Inertial Navigation Set	NA01-245FDB-2-6.12 (MIM) NA01-245FDC-4-4 (IPB) NA17-15CAA-47 (OS) NA17-15CAA-48 (IPB)
AN/ASN-74	Inertial Navigational Set	NA01-245FDB-2-6.16 (MIM) NA05-35KAA-31 (OH) NA05-35KAA-32 (IPB)
AN/ASQ-88	Integrated Electronic Central	NA01-245FDB-2-6.6 (MIM) NA01-245FDB-2-11 (MIM)
AN/ASQ-90	Data Display System, AN/ASQ-90	NA01-245FDB-2-6.9 (MIM) NA16-30ASQ90-1 (FMI) NA16-30ASQ90-2 (OH) NA16-30ASQ90-3 (IPB)
AN/ASQ-108	Integrated Electronic Central	NA01-245FDB-2-6.6 (MIM) NA01-245FDB-2-11 (MIM)
AN/ASW-25	Digital Data Communications Set	NA16-30ASW25-1 (IM) NA16-30ASW25-2 (IPB) NA16-30ASW25-3 (IM) NA16-30ASW25-4 (IPB) NA16-45-1229 (IM) NA16-45-1230 (IPB) NA16-45-1231 (IM/OH/IPB) NA16-45-1232 (IM/IPB) NA16-45-1233 (IM/IPB)
AN/AWW-4	Fuze Function Control Set	NA16-30AWM-4-1 (OS/IPB)
ADSA0047-1	Nose Landing Gear Control Box	NA03-25ES-2 (OH/IPB)
AP10V-2	Variable Displacement Aircraft Pump	NA03-30ABS-3 (OH) NA03-30ABS-4 (IPB)
AP6V-34B	Variable Displacement Aircraft Pump, Model AP6V-34B	NA03-30ABS-1 (OH) NA03-30ABS-2 (IPB)
AS-1059/ASQ-19	Antenna (UHF-ADF)	NA16-35AM2349-1 (SI) NA16-35AS1059-1 (OH) NA16-35AS1059-2 (IPB)
AS-1451/APQ-99	Antenna, AS-1451/APQ-99	NA01-245FDB-2-6.7 (MIM) NA01-245FDA-4-8 (IPB) NA16-30APQ99-1 (IM) NA16-30APQ99-2 (OH) NA16-30APQ99-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
AS-1521/APN-159	Transmitter Antenna	NA01-245FDB-2-6.7 (MIM) NA16-30APN159-1 (FMI)
AS-1522/APN-159	Receiver Antenna	NA01-245FDB-2-6.7 (MIM) NA16-30APN159-1 (FMI)
AS-1739/APN -154(V)	Antenna	NA01-245FDB-2-6.21 (MIM) NA16-30APN154-1 (OPER) NA16-30APN154-2 (SI) NA16-30APN154-3 (OH) NA16-30APN154-4 (IPB)
AV16B1638B	Motor Operated Gage Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-5CGH-3 (OH) NA03-5CGH-4 (IPB)
AV17B1034B	Motor Operated Butterfly Valve	NA01-245FDC-2-3.3 (MIM) NA03-110FD-15 (OH/IPB)
AV17B1066B	Motor Operated Butterfly Valve	NA01-245FDC-2-3.3 (MIM) NA03-110FD-15 (OH/IPB)
A03A0003-1	Data Recording Camera Set	NA01-245FDB-2-11 (MIM) NA10-10EA-48 (IPB) NA10-10EA-47 (FMI/OH)
A05A0004	Control Box	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-4 (IPB)
A05A0047-1	Nose Landing Gear Control Box	NA03-25ES-2 (OH/IPB)
A1017A	Power Control Box	NA03-5FFH-3 (OH) NA03-5FFH-4 (IPB)
A218-960570-01	Control Stick Grip Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
A25A004-001-103	Radar Mapping Set	NA16-30APQ102-1 (FMI) NA16-30APQ102-2 (IPB)
A25A104-002-103, -002-104	Antenna Assembly	NA16-30APQ102-2 (IPB) NA16-35AS1586-1 (OH) NA16-30APQ102-1 (O/S) NA01-245FDB-2-6.8 (MIM)
A25A204-003-105	Left Antenna Control Group	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (O/S) NA16-30APQ102-2 (IPB) NA16-35AS1586-1 (OH)
A25A204-003-106	Right Antenna Control Group	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (O/S) NA16-30APQ102-2 (IPB) NA16-35AS1586-1 (OH)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
A25A204-150-105, -150-107	Antenna Control Unit-Left	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (SI) NA16-30APQ102-2 (IPB) NA16-35AS1586-1 (OH)
A25A204-151-105, -151-107	Antenna Control Unit-Right	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (SI) NA16-30APQ102-2 (IPB) NA16-30APQ102-3 (OH) NA16-35AS1586-1 (OH)
A25A205-021-101, -021-102	Support Adapter, Antenna (Left Hand)	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (O/S) NA16-30APQ102-2 (IPB) NA16-35AS1586-1 (OH)
A25A304-100-107	Amplifier Modulator	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-2 (IPB) NA16-30APQ102-1 (O/S) NA16-35AM3950-1 (OH)
A25A404-001-109	Frequency Converter Transmitter	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (O/S) NA16-30APQ102-2 (IPB) NA16-35CV1678-1 (OH)
A25A504-201-101	Reference Signal Generator Computer	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (O/S) NA16-30APQ102-1 (IPB) NA16-35CP758-1 (OH)
A25A604-001-103	Recorder Control	NA01-245FDB-2-6.9 (MIM) NA16-30APQ102-1 (O/S) NA16-30APQ102-2 (IPB) NA16-35C6068-1 (OH)
A25A704-001-109, -001-113	Radar Mapping Recorder	NA01-245FDB-2-6.8 (MIM) NA16-30APQ102-1 (O/S) NA16-30APQ102-2 (IPB) NA16-35RO249-1 (OH)
A2590-1	Turn and Slip Indicator	NA05-20HH-8 (OH/IPB)
A343-1, -1A	Caution Light Test Control	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
A343-1B	Caution Light Control	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
A4132210002	Altimeter, Servo, Counter Drum Pointer	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB) NA05-30-82 (OH) NA05-30-83 (IPB)
A413221003	Altimeter Servo Counter Drum Pointer	NA05-30-82 (OH) NA05-30-83 (IPB)
A61456-1, -2	Power Control Manifold	NA03-30DD-29 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
A70019, 20, 21	Inline Hydraulic Relief Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
B-9210-1	Caution Light Panel Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-5 (IPB)
BE5811	Transformer/Rectifier	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-4
BLYB7506	Hot Air Shutoff Valve and Actuator	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA03-5CHC-18 (OH/IPB)
BYLB9047	Actuator Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA03-5CHC-27 (OH/IPB)
B119786	Two Level Gaging System	NA01-245FDC-2-4.1 (MIM)
B30072-10-004	Altimeter Indicator (Type B2LH)	NA01-245FDC-2-4.1 (MIM) NA05-30-556 (OH) NA05-30-557 (IPB)
B8500-23D	Tail Light Assy	NA01-245FDC-2-5.2 (MIM)
B8731 B8732 B8733	Fixture Assembly, Lighting	NA01-245FDC-2-5.2 (MIM)
CCA7500, -1	Valve Assembly, Fuel Drain	NA01-245FDC-2-7 (MIM)
CCB20000-1	External Wing Tank Disconnect	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
CCB200050-1	External Wing Tank (Air) Disconnect	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
CCB9850-1	External Center Tank (Air) Disconnect	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
CCB9900-1	External Centerline (Fuel) Disconnect	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
CN-558/ASA-32 CN-559/ASA-32 CN-560/ASA-32	Rate Gyroscope	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
CN-990/ASN-55	Displacement Gyroscope	NA01-245FDB-2-6.15 (MIM) NA01-245FDC-4-4 (IPB) NA05-35KAB-5 (OH)
CPK-69/A24G-24	Air Data Computer	NA01-245FDC-2-4.2 (MIM) NA01-245FDA-4-8 (IPB) NA05-20GAA-3 (OS/OH/FMI) NA05-20GAA-4 (IPB)
CP-731/APQ-99	Command Computer	NA01-245FDB-2-6.7 (MIM) NA01-245FDC-4-8 (IPB) NA16-30APQ99-1 (IM) NA16-30APQ99-2 (OH) NA16-30APQ99-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
CP-757/ASN-54(V)	Throttle Control Computer	NA01-245FDC-2-3.4 (MIM) NA01-245FDC-4-4 (IPB)
CP-860/ASN-74	Navigational Computer, CP-860/ASN-74	NA01-245FDB-2-6.16 (MIM) NA01-245FDC-4-4 (IPB) NA05-35KAA-42 (OH) NA05-35KAA-43 (IPB)
CP-910A/ASN-54(V)	Approach Power Compensator Computer	NA01-245FDC-2-3.4 (MIM) NA05-20XAB-11 (OH) NA05-20XAB-12 (IPB)
CPU-114/A	Air Data Computer Set	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-9 (IM/OH) NA05-20GAA-10 (IPB)
CU-1104/APN-154	Duplexer	NA01-245FDB-2-6.2 (MIM) NA16-30APN154-1 (OPER) NA16-30APN154-2 (SI) NA16-30APN154-3 (OH) NA16-30APN154-4 (IPB)
C-2873B/ASA-32	Automatic Pilot Engaging Controller	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
C-4419/APN-154	Control	NA01-245FDB-2-6.21 (MIM) NA16-30APN154-1 (OPER) NA16-30APN154-2 (SI) NA16-30APN154-3 (OH) NA16-30APN154-4 (IPB)
C-4582/ASA-32G	Amplifier Control	NA01-245FDC-2-6.3 (MIM) NA05-45BJA-3 (OH) NA05-45BJA-4 (IPB)
C-4781/AJB-7	Compass System Controller	NA01-245FDB-2-6.15 (MIM)
C-6280/APX	Transponder Control	NA16-30APX64-1 (OS) NA16-30APX64-2 (SI) NA16-30APX64-3 (OH) NA16-30APX64-4 (IPB) NA16-35C6280-1 (OS/OH/IPB)
C-6448/ASN-55	Compass System Controller	NA01-245FDB-2-6.15 (MIM) NA05-35KAB-1 (OS) NA05-35KAB-9 (IPB)
C-6563/ASA-32H	Amplifier Control	NA01-245FDC-2-6.3 (MIM) NA05-45BJA-3 (OH) NA05-45BJA-4 (IPB)
C-6564/ASA-32H, -32K	Automatic Pilot Engaging Controller	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB) NA05-45BJA-3 (OH) NA05-45BJA-4 (IPB)
C-6684/ASQ	Control, C-6684/ASQ	NA01-245FDB-2-6.1 (MIM) NA16-35C6684-1 (OS) NA16-35C6684-2 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
C-6685/ASQ	Control, C-6685/ASQ	NA01-245FDB-2-6.1 (MIM) NA16-35C6685-2 (IPB)
C-8068/ALA-31	Electronic Countermeasures Control Unit	NA01-245FDB-2-6.17 (MIM)
C2150-2	Drag Chute	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
C2536310021	Vertical Velocity Indicator	NA05-5E-66 (OH) NA05-5E-67 (IPB)
C707-003-006, 007, 008	Synchronizer, Electrical Course Drive	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
C707-004-007	Synchronizer, Two Speed Pitch, Electrical	NA01-245FDC-2-6.3 (MIM)
C-7296/ALQ-91	Control	NA01-245FDB-2-6.22 (MIM) NA16-30ALQ91-2 (IM) NA16-30ALQ91-4 (IPB)
D-27/ALE-29A	Countermeasures Chaff Dispenser	NA01-245FDC-2-6.19 (MIM) NA16-30ALE29-1 (OS) NA16-30ALE29-2 (IPB)
DC10716A	Exterior Lights Flasher Assembly	NA01-245FDC-2-5.2 (MIM)
DST-17-1	Temperature Indicator	NA05-40BH-1 (OH/IPB)
D6270-1	Flasher Assembly	NA01-245FDB-2-12 (MIM)
D665A1-3	Servo Valve	NA03-30ACT-1 (OH/IPB)
D8310B15	Panel Caution Lights	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
D8310B19	Panel Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
D8310B33	Panel Assembly Caution Light	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
D8310B45	Panel Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
D8310B47	Panel Assembly Caution Light	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
D8310B5	Caution Lights Panel	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
D8535-4	Panel Assembly Caution Lights	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
D9510	Cockpit Utility Spot and Flood Light Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
EA1020-044	Regulating and Unloading Valve Assembly	NA03-30CH-112 (OH) NA03-30CH-113 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
ERU-5/A	Tachometer Indicator	NA01-245FDC-2-4.1 (MIM) NA05-5E (OH)
E6412	Motor and Brake Actuator	NA01-245FDC-2-2.2 (MIM)
E7186	Fitting	NA01-245FDC-2-2.2 (MIM)
FG200A13	No. 4 Fuel Tank Gaging Unit	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG200A15	No. 2 Fuel Tank Gaging Unit	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG200A57	No. 3 Fuel Tank Gaging Unit	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG200A65	No. 6 Fuel Tank Gaging Unit	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG200A68	No. 5 Fuselage Fuel Cell Fuel Quantity Gaging Unit	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG200A73	Tank Unit, No. 4 Fuselage	NA01-245FDC-2-4.1 (MIM)
FG200A74	Tank Unit, No. 2 Fuselage	NA01-245FDC-2-4.1 (MIM)
FG200A75	Tank Unit, No. 3 Fuselage	NA01-245FDC-2-4.1 (MIM)
FG200A76	Tank Unit, No. 5 Fuselage	NA01-245FDC-2-4.1 (MIM)
FG200A78	Tank Unit, No. 6 Fuselage	NA01-245FDC-2-4.1 (MIM)
FG201A13	No. 1 Fuel Tank Gaging (Upper Unit)	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG225A1	Outboard Wing Fuel Tank Gaging Unit	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG225A10	Tank Unit Intermediate Wing	NA01-245FDC-2-4.1 (MIM)
FCR44840	No. 1 Fuselage Fuel Tank Assembly	NA01-245FDC-2-3.3 (MIM)
FG225A3	Inboard Wing Fuel Tank Gaging Unit	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG225A7	Fuel Quantity Gaging Unit, Tank	NA01-245FDC-4-5 (IPB) NA01-245FDC-2-4.1 (MIM)
FG225A8	Outboard Wing Tank Unit	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB)
FG225A9	Inboard Wing Tank Unit	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB)
FG226A1	No. 1 Probe Tank Unit	NA01-245FDB-2-6.5 (MIM) NA01-245FDC-4-5 (IPB)
FG226A3	No. 1 Fuselage Upper Tank Unit	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
FG240A1	No. 1 Fuel Tank Gaging (lower) Unit	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB)
FG240A5	No. 1 Fuselage Lower Tank Unit	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB)
FR51-130	Supply Line Relief Valve	NA01-245FDC-2-2.1 (MIM) NA01-245FDC-4-3 (IPB)
F59B0008M1	Fuel Level Control Valve Dual Shutoff	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB) NA03-10ABP-95 (OH/IPB)
F59B009M1	Fuel Level Control Dual Shutoff Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB) NA03-10ABP-95 (OH/IPB)
F60B0058	No.2 Fuel Tank Refuel Level Control	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-10ABP-95 (OH/IPB)
F60B0102	Fuel Level Control Valve (Left Internal Wing Tank)	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-10ABP-97 (OH/IPB)
F60B103	Fuel Level Control Valve Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-10ABP-96 (OH/IPB)
F60C1559	Actuator Assembly	NA01-245FDC-2-3.3 (MIM) T.O.8D1-61-11-3 (OH/IPB)
F72310-1	Fuel Tank Flow Switch Transmitter	NA01-245FDC-2-3.3 (MIM) NA05-65EB-5 (OH/IPB)
F72670X	Fuel Tank Flow Switch Transmitter	NA01-245FDC-2-3.3 (MIM) NA05-65EB-6 (OH/IPB)
GCU-24/A	Liquid Oxygen Converter	NA03-50HE-3 (OH) NA03-50HE-4 (IPB)
HP931200-1	Valve Assembly, Brake	NA01-245FDC-2-2.3 (MIM)
H61G0020, M1	Hydraulic 3-Position 4-Way Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30CG-101 (OH/IPB)
ID-663B/U	Bearing Distance Heading Indicator	NA16-35ID663-9 (OH) NA16-35ID663-10 (IPB)
ID-663B/V	Bearing Distance Heading Indicator	NA16-35ID663-11 (OH) NA16-35ID663-12 (IPB)
ID-1144/AJB-7	Altitude Director Indicator	NA01-245FDB-2-6.15 (MIM) NA05-35KAB-3 (OH) NA05-35KAB-4 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
ID-1162/APN-159	Indicator, Height, ID-1162/APN-159	NA01-245FDB-2-6.7 (MIM) NA16-35ID1162-2 (IPB) NA16-35ID1162-1 (OH)
ID-1311/ASQ	Indicator, Freq. Channel, ID-13ll/ASQ	NA01-245FDB-2-6.1 (MIM) NA16-35ID1311-1 (OH) NA16-35ID1311-2 (IPB)
ID-1396/ALA-31	Electronic Countermeasures Blanking Unit	NA01-245FDB-2-6.17(MIM)
ID-808/ASQ-19	Frequency Channel Indicator, Remote (FWD) (AFT)	NA16-35ID808-2 (IPB) NA16-35ID808-1 (OH) NA01-245FDB-2-6.1 (MIM)
JG132B6	Fuel Quantity Indicator	NA05-65AA-75 (IPB) NA05-65AA-74 (OH) NA01-245FDC-2-4.1 (MIM)
J-79-GE-8, -10	Engine, J19-GE-8, -10	NA02B-105AGC-504 (IPB) NA02B-105AGC-503, A (OH) NA02B-105AGC-502, A (SI) NA03-110M-1 (OH) NA03-110M-2 (IPB) NA01-245FDB-2-3.1 (MIM)
KA-55	Hi Pan Framing Camera	NA01-245FDB-2-11 (MIM) NA10-10DC-11 (OS) NA10-10DC-12 (OH) NA10-10DC-13 (IPB)
KA-56	Still Picture Camera	NA01-245FDB-2-11 (MIM) NA01-10DC-8 (OS) NA10-10DC-9 (OH) NA10-10DC-10 (IPB)
KS-72	Framing Camera	NA01-245FDB-2-11 (MIM) NA10-10DC-5 (O/S) NA10-10DC-6 (OH) NA10-10DC-7 (IPB)
KS-74A	Data Recording Camera Set	NA01-245FDB-2-6.7 (MIM) NA10-10EA-47 (FMI/OH) NA10-10EA-48 (IPB)
KS-87	Camera Set, KS-87	NA01-245FDB-2-11 (MIM) NA10-10AC-107 (O/M) NA10-10AC-108 (OH) NA10-10AC-109 (IPB)
KS-97A	Data Recording Camera	NA01-245FDB-2-11 (MIM) NA10-10EA-47 (OM) NA10-10EA-48 (IPB)
KY-311/ASQ-19	Receiver Transmitter Coder	NA01-245FDB-2-6.1 (MIM) NA16-35KY311-1 (SI) NA16-35KY311-2 (OH) NA16-35KY311-3 (IPB)
KY-532/ASQ KY-532A/ASQ	Receiver Transmitter Coder	NA01-245FDB-2-6.1 (MIM) NA16-35KY532-1 (SI) NA16-35KY532-2 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
LA-308A	Photoflash Cartridge Ejector	NA10-10AJ-15 (OH/IPB)
LA-313A	Aerial Mapping and Reconnaissance Photographic Viewfinder	NA01-245FDB-2-6.9 (MIM)
LAU-7/A	Missile Launcher	NA01-245FDB-2-7 (MIM) NA01-245FDB-75 (MIM) NA01-245FDA-4-1 (IPB) NA11-75A-26 (OS) NA11-75A-27 (OH) NA11-75A-28 (IPB)
LD-58A	Exposure Frequency Control	NA01-245FDB-2-11 (MIM) NA10-10EA-47 (FMI/OH) NA10-10EA-48 (IPB)
LD-68A	Exposure Frequency Control	NA01-245FDB-2-6.8 (MIM) NA10-10EA-47 (FMI/OH) NA10-10EA-48 (IPB)
LE1900-2	Photoflash Cartridge Ejector	NA10-245FDB-2-11 (MIM) NA10-10AJ-15 (OH/IPB)
LE1950-2	Photoflash Cartridge Ejector	NA01-245FDB-2-11 (MIM) NA10-10AJ-15 (OH/IPB)
LH1490-5	Pneumatic Regulator Assy.	NA01-245FDB-2-2.1 (MIM)
LH1670	Lube Pressure Relief Valve	NA01-245FDB-2-3.1 (MIM) NA01-245FDC-4-5 (IPB)
LH5080, -5A	Hydraulic Pressure Switch Assembly	NA01-245FDB-2-2.4 (MIM)
LS-459B, -460B	Intercommunications Station	NA01-245FDB-2-6.1 (MIM) NA16-30LS459-3 (OH) NA16-30LS459-4 (IPB)
LS-58A	Aircraft Camera Mount Set	NA01-245FDB-2-6.9 (MIM) NA10-10AF-16 (FMI/OH) NA10-10AF-17 (IPB)
MA-2	Aerial Refueling Nozzle Assembly	NA03-100E-1 (OH) NA03-100E-2 (IPB)
MA-10/AAS-18	Film Magazine	NA01-245FDB-2-6.10 (MIM) NA16-35MA15-1 (OH) NA16-35MA15-2 (IPB)
MBEU/1200H5/ 1201H5/1252H5	Pilot Ejection Seat	NA01-245FDB-2-2.1 (MIM) NA13-30-18 (OH) NA13-30-19 (IPB)
MBEU/13079	Motor and Housing Assy.	NA01-245FDB-2-2.1 (MIM)
MBEU/134H5	Time Release Mechanism Assembly	NA01-245FDB-2-2.1 (MIM)
MBEU/16650	Guillotine Cartridge	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
MBEU/1682-12H5 MBEU/1682H5	Ground Level Ejection Seat	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30-39 (OH) NA03-30-40 (IPB)
MBEU/1850RU	Rocket Motor	NA01-245FDB-2-2.1 (MIM) NA13-30-18 (OH) NA13-30-19 (IPB)
MBEU/1904RU	Safety Pin-Rocket Firing Mechanism	NA01-245FDB-2-2.1 (MIM) NA13-30-18 (OH) NA13-30-19 (IPB)
MBEU/1925RU	Adapter - Torque Wrench Rocket Firing	NA01-245FDB-2-2.1 (MIM) NA13-30-18 (OH) NA13-30-19 (IPB)
MBEU/38536	Initiator Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA01-245FDN-4-2 (IPB)
MBEU/38960-4	Ground Level Ejection Seat	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30-39 (OH) NA03-30-40 (IPB)
MBEU/38962-4	Ground Level Ejection Seat	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30-39 (OH) NA03-30-40 (IPB)
MBEU/4004PA	Parachute and Harness Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB)
MBEU/8210H5, Mod 1705 (32-82022-333)	Ground Level Ejection Seat	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA13-30-18 (OH) NA13-30-19 (IPB)
MBEU/8210H5 Mod 1705 (32-821504-7)	Ground Level Ejection Seat	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA13-30-18 (OH) NA13-30-19 (IPB)
MC-1	Rate Switching Gyroscope	NA01-245FDB-2-6.15 (MIM) NA05-20BEA-2 (OS) NA05-20GE-22 (OH) NA05-20GE-23 (IPB) NA05-20GE-24 (OH) NA05-20GE-25 (IPB) NA05-20GE-515 (OH) NA05-20GE-516 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
MC1603-3501	Relief Valve Assembly	NA01-245FDB-2-2.1 (MIM) NA03-10ABB-549 (OH) NA03-10ABB-550 (IPB)
MC2662	Four Way Pneumatic Selector Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30MC-505 (OH/IPB)
MC2666-1	Four Way Selector Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30MC-9 (OH/IPB)
MC5680	Solenoid Valve	NA01-245FDB-2-2.4 (MIM) NA03-30MC-11 (OH/IPB)
MC630909-1, -11	Stabilator Feel System Probe Heater Assembly	NA01-245FDB-2-2.2 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
MD-1	Roll and Pitch Gyroscope	NA01-245FDB-2-6.15 (MIM) NA05-20GE-29 (OS/IPB)
MDE32535-301	Air Conditioning System Test Set	NA17-15BH-6 (O/S/IPB)
MKH5A	Ground Level Ejection Seat	NA13-30-18 (OH) NA13-30-19 (IPB)
Model 261-6	Counting Accelerometer Transducer (Maxon)	NA05-20KD-3 (OH) NA05-20KD-4 (IPB)
Model 262	Counting Accelerometer Indicator	NA05-20KD-5 (OH) (Maxson) NA05-20KD-6 (IPB) (Maxson)
Model 2231B-1	Counting Accelerometer Indicator (Giannini)	NW05-20KE-1 (OH) NW05-20KE-2 (IPB)
Model 24523T6	Counting Accelerometer Transducer	NA05-20KE-3 (OH) (Giannini) NA05-20KE-4 (IPB) (Giannini)
Model 7050,A, A-1	ANTI-G Valve	NA03-30DBA-1 (OH) NA03-30DBA-2 (IPB)
MS17996-1	Hydraulic Pressure Indicator	NA01-245FDC-2-4.1 (MIM)
MS24350,-6	ANTI-G Valve	NA03-30DBA-1 (OH) NA03-30DBA-2 (IPB)
MS24569-1	Exhaust Gas Temperature Indicator Assembly	NA01-245FDC-2-4.1 (MIM)
MS25399-1	AC Power Control Box	NA01-245FDC-2-5.1 (MIM)
MS25447-6	Counting Accelerometer Transducer	NA05-20KD-3 (OH) (Maxson) NA05-20KD-4 (IPB) (Maxson) NA05-20KE-3 (OH) (Giannini) NA05-20KE-4 (IPB) (Giannini)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
MS25448-1	Counting Accelerometer Indicator	NW05-20KD-5 (OH) (Maxson) NW05-20KD-6 (IPB) (Maxson) MW05-20KE-1 (OH) (Giannini) MW05-20KE-2 (IPB) (Giannini)
MS25450-1	Altimeter	NA01-245FDC-2-4.1 (MIM)
MS28054-4	Generator Tachometer	NA01-245FDC-2-1.1 (MIM) NA03-95D-9 (OH)
MS28124-1	Transformer/Rectifier, Power Supply	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-5 (IPB)
MS28131-6	Fuel Pressure Gauge Transmitter	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
MS28700-1, -3	Hydraulic Accumulator	NA01-245FDC-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
MS851L	Airspeed and Mach Number Indicator	NA01-245FDC-2-4.1 (MIM) NA05-10-96 (OH/IPB)
MT-2463/ASA-32C	Electrical Equipment Rack	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
MT-3027/APQ-99	Mount Assembly	NA01-245FDB-2-6.7 (MIM) NA01-245FDC-4-8 (IPB) NA16-30APQ99-1 (IM) NA16-30APQ99-2 (OH) (IPB)
MX-1437/A	Desiccant Dehydrator	NA01-245FDB-2-8.2 (MIM)
MX-3421/ASA-32D	Aircraft Accelerometer	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
MX-3422/ASA-32D	Aircraft Accelerometer	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
MX-3423/ASA-32D	Aircraft Accelerometer	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
MX-7718/ALE-29A	Programmer	NA01-245FDC-2-6.19 (MIM) NA16-30ALE29-1 (OS) NA16-30ALE29-2 (IPB)
MX-7721/ALE-29A	Dispenser Housing	NA01-245FDC-2-6.19 (MIM) NA16-30ALE29-1 (OS) NA16-30ALE29-2 (IPB)
MX-7970/A	Interference Blanker	NA01-245FDB-2-6.20 (MIM)
MX-7971/A	Interference Blanker	NA01-245FDB-2-6.20 (MIM)
M3A1	Initiator	NA01-245FDB-2-2.1 (MIM)
N30M1M6	Hydraulic Nipple Assembly	NA01-245FDC-2-2.4 (MIM)
N30M42M16	Hydraulic Nipple Assembly	NA01-245FDC-2-2.4 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
PP-3725A/AAS-18	Power Supply	NA01-245FDB-2-6.10 (MIM) NA16-35PP3725-1 (OH) NA16-35PP3725-2 (IPB)
PP-3869/APN-159	Power Supply	NA01-245FDB-2-6.7 (MIM) NA16-30APN159-1 (FMI) NA16-35PP3869-1 (OH) NA16-35PP3869-2 (IPB)
PS136740	Switch Assembly Pressure	NA01-245FDB-2-2.4 (MIM)
P321B904	Autotransformer Assy.	NA01-245FDC-2-5.1 (MIM)
RCS60-ILO	Vertical Velocity Indicator	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-4 (IPB) NA05-20-87 (OH) NA05-20-88 (IPB)
RCS60-120	Vertical Velocity Indicator	NA05-20-87 (OH) NA05-20-88 (IPB)
RG12D11	Transfer Fuel Quantity Relay	NA01-245FDC-2-4.1 (MIM)
RO-229/AAS-18, -18A	Infrared Mapping Recorder	NA01-245FDB-2-6.10 (MIM) NA16-35RO229-1 (OH) NA16-35RO229-2 (IPB)
RO-249/APQ-102	Radar Mapping Recorder	NA16-35RO249-1 (OH)
RO-254/ASQ	Sound Recorder	NA16-35RO254-1 (O/S) NA16-35RO254-2 (IPB)
RO-279/AAS-18A	Infrared Mapping Recorder	NA16-35RO229-1 (OH) NA16-35RO229-2 (IPB)
RR16720A	No. 3 Bearing Scavenge Pump	NA03-15BF-13 (OH/IPB)
RR16730A	Main Lube Pump	NA03-15BF-10 (OH/IPB)
RSSK-1, -1A	Survival Kit Assembly, Rigid Seat	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
RT-160/APN-22	Radar Altimeter Receiver-Transmitter	NA16-30APN22-2 (SI) NA16-30APN22-3 (OH) NA16-30APN22-4 (IPB)
RT-546A/ASQ-19	Radio Receiver-Transmitter	NA16-35RT546-1 (SI) NA16-35RT546-2 (OH) NA16-35RT546-3 (IPB)
RT-547/ASQ-19	Radio Receiver-Transmitter	NA16-35RT547-1 (SI) NA16-35RT547-2 (OH) NA16-35RT547-3 (IPB)
RT-708/APN-159	Receiver-Transmitter	NA01-245FDB-2-6.7 (MIM) NA16-35RT708-1 (OH) NA16-35RT708-2 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
RT-763/APN-154(V)	Receiver-Transmitter	NA01-245FDB-2-6.21 (MIM) NA16-30APN154-1 (OPER) NA16-30APN154-2 (SI) NA16-30APN154-3 (OH) NA16-30APN154-4 (IPB)
R-1190/AAS-18	Infrared Receiver	NA01-245FDB-2-6.10 (MIM) NA16-35R1190-1 (OH) NA16-35R1190-2 (IPB)
R1068M1	Gear Box and Crank Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
R144M39-2	Stabilator Artificial Feel Trim Actuator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA03-5CHD-62 (OH) NA03-5CHD-62 (IPB)
R1694-1	Lateral Feel Trim Actuator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA03-5CHD-65 (OH/IPB)
R196M14-5, -6, -7	Flexible Shaft Assembly	NA01-245FDC-2-2.2 (MIM)
R532M28-1, -11, -111	Screwjack Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-4 (IPB) NA03-5CHD-66 (OH/IPB)
R532M55, -1	Screw Jack and Rudder Pedal Adjustment	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-5CHD-90 (OH/IPB)
R584M7-1, -7	Rudder Artificial Feel Trim Actuator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA03-5CHD-64 (OH/IPB)
R8810625-000	Cabin Pressure Indicator Assembly	NA01-245FDC-2-4.1 (MIM)
R8811937-005	Fuel Boost Pressure Indicator Assembly	NA01-245FDC-2-4.1 (MIM)
R8811937-005-000	Fuel Boost Pressure Gage Assembly	NA01-245FDC-2-4.1 (MIM)
R8812600-025	Tachometer	NA01-245FDB-2-5 (MIM)
RT88T1982-025	Fuel Flow Transmitter Assembly	NA01-245FDC-2-4.1 (MIM) NA05-55B-85 (OH) NA05-55B-86 (IPB)
R88T2651-255	Hydraulic Pressure Transmitter	NA01-245FDC-2-4.1 (MIM)
SA-1204-327L1	Flap Position Indicator Assembly	NA01-245FDC-2-4.1 (MIM)
SA-1403-14L	Gear Position Indicator	NA01-245FDC-2-4.1 (MIM)
SA-1557/ALE-29A	Sequencing Switch	NA01-245FDC-2-6.19 (MIM) NA16-30ALE29-1 (OS) NA16-30ALE29-2 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
SLZ9081	Angle of Attack Indicator, ARK-10/A24G -8	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-7 (IPB) NA05-20NB-33 (OH) NA05-20NB-34 (IPB)
SLZ9170A, B	Angle of Attack Transmitter	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA05-20XAB-5 (OH/IPB)
SY-144, A, A-1	A/C Parameter Control	NA01-245FDB-2-6.9 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDA-4-8 (IPB) NA10-10AG-26 (OH) NA10-10AG-27 (IPB)
SY-181-1, 1A	Sound Recorder	NA01-245FDB-2-6.11 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDA-4-8 (IPB) NA16-35R0254-1 (SI) NA16-35R0254-2 (IPB)
S1642A	Hydraulic Snubber Valve	NA01-245FDB-2-2.4 (MIM)
S30MIM6	Socket Assembly	NA01-245FDB-2-2.4 (MIM)
S30M43M16	Socket	NA01-245FDB-2-2.4 (MIM)
S512-25-2	Accumulator	NA03-30DV-4 (OH) NA03-30DV-5 (IPB)
S513-50-2	Accumulator	NA03-30DV-4 (OH) NA03-30DV-5 (IPB)
TB117300-3, -5	Fuel Transfer Pump	NA03-10EC-75 (IPB) NA03-10EC-74 (OH)
TD-236A/AJB-3	Interval Timer, Model 5804C	NA01-245FDC-2-7 (MIM) NA11-70FFL-4 (IPB) NA11-70FFL-3 (OH) NA11-70FF-502 (SI) NA11-70FF-3 (SI)
TG-75/APA-128	Tuning Drive (Four Channel)	NA01-245FDB-2-8.2 (MIM) NA16-30APA128-502 (SI) NA16-30APA128-504 (IPB) NA16-30APA157-1 (SI) NA16-30APA157-3 (IPB)
TR-175/ASA-32D	Motional Pickup Force	NA01-235FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
TRK-58/A24G-16	Angle of Attack Transmitter	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA05-20XAB-5 (OH)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
TRK-97/A24G-16	Angle of Attack Transmitter	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB)
TW61091	Transformer/Rectifier	NA01-245FDC-2-5.1 (MIM)
TY17H60M1-17S29	Synchronous Motor	NA01-245FDC-2-5.1 (MIM)
TY23HNO-8076	Hysterisis Synchronous Motor	NA01-245FDC-2-5.1 (MIM) NA03-5CHT-4 (OH) NA03-5CHT-5 (IPB)
T-751/AJB-3A	Rate Gyro Transmitter	NA01-245FDC-2-7 (MIM) NA11-70FFM-1 (OH) NA11-70FFM-2 (IPB)
T100000	Hydraulic Test Stand	NA17-15BF-42 (OM)
UA527499-9, -10	Hydraulic Fluid Regulator	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
U520620-23	Oil Tank	NA02B-105AGC-502 (SI) NA02B-105AGC-503 (OH) NA02B-105AGC-504 (IPB)
VF-57	Aerial Mapping and Reconnaissance Photographic Viewfinder System	NA01-245FDB-2-6.8 (MIM) NA10-10AH-18 (OH) NA10-10AH-19 (IPB)
VM205-* *-214, -215, -216, -217, -219, -220, -223, -224, -236, -237, -238, -241, -242, -248, -249, -259, -260, -261, -262, -267, -268, -269, -278, -281, -284, -285, -640, -641	Light Assemblies	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
VM206-101, -102	Light Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
W-33-7540-4	Aircraft Clock, Type A-13A (Wakeman)	NA05-35A-27 (OH/IPB)
OMP2202-4	Interconnect Check Valve Assembly	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB) NA03-5FDZ-1 (OH) NA03-5FDZ-2 (IPB)
OMP2202-6	Nose Gear Steering Power Unit	NA01-245FDC-2-2.3 (MIM) NA03-5FDZ-1 (OH) NA03-5FDZ-2 (IPB)
OMP2202-6, -8	Power Steering Unit Assembly	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-2 (IPB) NA03-5FDZ-1 (OH) NA03-5FDZ-2 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
OR-18A/ALQ-91	Receiver-Transmitter Processor	NA01-245FDB-2-6.22 (MIM) NA16-30ALQ91-2 (IM) NA16-30ALQ9-4 (IPB)
01X210400, -1	Receiver-Transmitter Unit, RT-708/APN -159	NA01-245FDB-2-6.7 (MIM) NA16-30APN159-1 (FMI) NA16-35RT708-1 (OH) NA16-35RT708-2 (IPB)
01X213300, -1	Power Supply, PP-3869/APN-159	NA01-245FDB-2-6.7 (MIM) NA16-30APN159-1 (FMI) NA16-35PP-3869-2 (IPB) NA16-35PP-3869-1 (OH)
010-14589	Aileron - Rudder Interconnect Actuator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-5MA-3 (OH) NA03-5MA-4 (IPB)
010-14599	Aileron - Rudder Interconnect Actuator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-5MA-3 (OH) NA03-5MA-4 (IPB)
010-20480	Transfer Valve	NA01-245FDC-2-2.2 (MIM) NA03-30MG-10 (OH/IPB)
010-22297	Servo Valve	NA01-245FDC-2-2.2 (MIM) NA03-5MG-1 (OH) NA03-5MG-2 (IPB)
010-22440	Electrohydraulic Servo Actuator	NA01-245FDC-2-2.2 (MIM) NA03-5MA-1 (OH) NA03-5MA-2 (IPB)
010-2400	Variable Ramp Servo Valve	NA03-30MG-13 (OH/IPB)
066570104-5	Servo Valve	NA01-245FDC-2-2.3 (MIM) NA03-30ACT-1 (OH/IPB)
1CB-1, -1A, -1B	Bellmouth By-Pass Controller	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-5FFM-1 (OH) NA03-5FFM-2 (IPB)
IR36411-XX	Hydraulic Restrictor Valve	NA01-245FDB-2-2.4 (MIM)
1R3642-XX	Hydraulic Restrictor Valve	NA01-245FDB-2-2.4 (MIM)
1R3665-XX	Hydraulic Restrictor Valve	NA01-245FDB-2-2.4 (MIM)
1R3683-XX	Hydraulic Restrictor Valve	NA01-245FDB-2-2.4 (MIM)
10-0016-10	Liquid Oxygen Converter	NA03-50HE-3 (OH) NA03-50HE-4 (IPB)
1008700	Cylindrical Hydraulic Pressure Accumulator	NA03-30CE-51 (OH) NA03-30CE-52 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
1010530	Cylindrical Hydraulic Pressure Accumulator	NA03-30CE-51 (OH) NA03-30CE-52 (IPB)
102AR2U	Electrical Resistance Temperature Transmitter	NA01-245FDC-2-4.2 (MIM)
102200	Bearing Distance Heading Indicator	NA16-35ID663-11 (OH) NA16-35ID663-12 (IPB)
102202-3	Cabin Pressure Regulator, Model CPRI-83	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-3 (IPB) NA03-80APR-4 (OH) NA03-80APR-5 (IPB)
102266	Air Pressure Regulating Valve	NA01-245FDC-2-2.5 (MIM) NA13-10F-1 (OH/IPB)
102842AH	Fuel System Shutoff Valve Actuator Assembly	NA03-5CH-567 (OH) NA03-5CH-568 (IPB) NA03-5CH-576 (OH) NA03-5CH-577 (IPB)
103130-535-3	Cabin Air Pressure Safety Valve	NA01-245FDC-2-2.5 (MIM) NA03-80EAR-8 (OH/IPB)
104051	Temperature Control Valve	NA01-245FDC-2-2.5 (MIM)
104568	Modulating Air Shutoff Valve	NA01-245FDC-2-2.5 (MIM) NA03-30AK-72 (OH/IPB)
104568-4-1	Modulating Air Shutoff Valve	NA01-245FDC-2-2.5 (MIM) NA03-30AK-102 (OH/IPB)
104650	One and One-Half Inch Diameter Electric Shutoff Valve	NA01-245FDC-2-2.5 (MIM) NA03-80EAR-10 (OH/IPB)
104750, -2-1, -1.2	Direct Linear Pressure Suit Air Mixing Valve	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-10E-1 (OH/IPB)
104764	Cabin Temperature Mixing Valve	NA01-245FDC-2-2.5 (MIM) NA13-10F-2 (OH) NA13-10F-3 (IPB)
10525-3	Supply Line Relief Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
105284	Temperature Control Valve Assembly	NA01-245FDC-2-2.5 (MIM)
105958	Ram Air Shutoff Valve	NA01-245FDC-2-2.5 (MIM) NA03-30AK-73 (OH/IPB)
107062	Check Valve Assembly	NA01-245FDB-2-2.4 (MIM)
1071T100-13, -14, -17, -18, -19, -20,	Leading Edge Flap (BLC) Shutoff Valve	NA01-245FDC-2-2.3 (MIM) NA03-30TA-12 (OH/IPB)
107212	Check Valve Assembly	NA01-245FDB-2-2.4 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
1076A200	Still Picture Camera LO Pan KA-56B	NA01-245FDB-2-11 (MIM)
108388-1-1, -2-1	Air Pressure Regulator	NA01-245FDC-2-3.3 (MIM) NA03-30AK-75 (OH/IPB)
108458-3-1	Shutoff Differential Pressure Regulator	NA01-245FDB-2-2.4 (MIM) NA03-30AK-78 (OH/IPB)
108486	Differential Pressure Regulator Shutoff Valve	NA01-245FDB-2-3 (MIM) NA01-245FDC-4-3 (IPB) NA03-30AK-80 (OH) NA03-30AK-81 (IPB)
11-0577-2	Drive Assembly	NA01-245FDB-2-6.9 (MIM) NA01-245FDC-4-8 (IPB) NA10-10AR-1 (FMI/OH) NA10-10AR-2 (IPB)
11-0578-1	Power Unit	NA01-245FDB-2-6.9 (MIM) NA01-245FDC-4-8 (IPB) NA10-10AR-1 (OH) NA10-10AR-2 (IPB)
11-0579-1	Forward Oblique Camera Positioning System	NA01-245FDB-2-6.9 (MIM) NA10-10AR-1 (FMI/OH) NA10-10AR-2 (IPB)
11-10086	Manifold Assembly	NA03-30ET-33 (OH/IPB)
11-10173, -10174, -10175, -10176, -10177, -10185	Hydraulic System Filter	NA01-245FDB-2-2.4 (MIM) NA01-245FDA-4-3 (IPB) NA01-245FDC-4-4 (IPB)
11-10872	Manifold Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30ET-33 (OH)
11-11057, -11058, -11059, -11060, -11061, -11062	Hydraulic Fluid Oil Filter	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
110860, -1	Lateral Control Servo Actuator	NA01-245FDC-2-2.2 (MIM) NA03-5CR-1 (OH) NA03-5CR-2 (IPB)
1111-555171	Hot Air Check Valve Assembly	NA01-245FDC-2-3.3 (MIM)
1111-568503	Wing and External Tank Hot Air Check Valve	NA01-245FDC-2-3.3 (MIM)
1111-577790	Check Valve Assembly	NA01-245FDB-2-2.4 (MIM)
1111-578790	External Tank Hot Air Check Valve Assembly	NA01-245FDC-2-3.3 (MIM)
1112-577883	Hydraulic Check Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA03-30CG-74 (OS/OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
1112-577885	Hydraulic Check Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA03-30CG-74 (OS/OH/IPB)
1112-577978	Hydraulic Relief Valve Assembly	NA01-245FDC-2-2.2 (MIM)
1112-598167	Shuttle Valve Assembly	NA01-245FDB-2-2.4 (MIM)
1121-6-16	Hydraulic Flow Regulator	NA01-245FDB-2-2.4 (MIM)
11300-30	Tacan Coaxial Switch	NA01-245FDB-2-6.1 (MIM)
12192	Wing Fold Control Box Assembly	NA01-245FDC-2-2.2 (MIM)
12690A	Tank Pressure Regulator	NA03-30STE-23 (OH/IPB)
12701-1	Shuttle Valve	NA01-245FDC-2-2.3 (MIM)
12715	Shuttle Valve	NA01-245FDC-2-2.3 (MIM)
12748-1, -2	Throttle Control Box	NA01-245FDC-2-3.4 (MIM) NA01-245FDC-4-5 (IPB)
12772	External Centerline Tank Fuel Flow Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
12853	Shuttle Valve	NA01-245FDC-2-2.3 (MIM)
1315-556755M2	Motor Operated Fuel Shutoff Valve	NA01-245FDC-2-3.3 (MIM) NA03-10ABP-94 (OH/IPB)
1322-566108M1	Wing Fuel Transfer and Low Level Shutoff Valve	NA01-245FDC-2-3.3 (MIM) NA03-10ABP-91 (OH/IPB)
1322-566109M2	Wing Fuel Transfer and Low Level Shutoff Valve	NA01-245FDC-2-3.3 (MIM) NA03-10ABP-92 (OH/IPB)
1323-517314	Fuel Level Control Valve	NA01-245FDC-2-3.2 (MIM) NA03-10ABB-626 (OH/IPB)
1323-585944	External Tank Pressure Valve	NA01-245FDC-2-7 (MIM)
133696-01-01	Rate Gyroscope Transmitter	NA01-245FDB-2-6.15 (MIM) NA11-70FFM-1 (OH) NA11-70FFM-2 (IPB)
133646-01	Rate Gyroscope Transmitter, T-751/AJB -3A	NA01-245FDB-2-6.15 (MIM) NA11-70FFM-1 (OH) NA11-70FFM-2 (IPB)
135D100-11, -13	Absolute Pressure Regulator	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
1362-576130	Pressure Relief Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
1362-585007M1, M2, M4	Wing Tank Pressure and Vacuum Relief Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-30CG-104 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
1362-586565	External Tank Emergency Relief Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
138255-01-01	Compensator Compass Adapter	NA01-245FDB-2-6.2 (MIM) NA05-35KAB-7 (OH) NA05-35KAB-8 (IPB)
138474-01-01	Switch Rate Gyroscope	NA01-245FDB-2-6.2 (MIM) NA05-20BEA-2 (OS) NA05-20GE-22 (OH) NA05-20GE-23 (IPB)
139001-01-01, -02	Attitude Director Indicator, ID-44/AJB-7, Model 4060P-6	NA01-245FDB-2-6.2 (MIM) NA05-35KAB-3 (OH) NA05-35KAB-4 (IPB)
140070-01-01	Gyroscope	NA01-245FDB-2-6.2 (MIM) NA05-35KAB-5 (OH) NA05-35KAB-6 (IPB)
140090-4	Canopy Seal Pressure Regulator	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB)
141300-01-01, -01-02	Leveling Amplifier	NA01-245FDB-2-6.2 (MIM) NA05-35KAB-1 (FMI) NA05-35KAB-9 (IPB)
141410-01-01	Switching Rate Gyroscope	NA01-245FDB-2-6.2 (MIM) NA05-35KAB-10 (OH) NA05-35KAB-11 (IPB)
1460-62AB62-1	Airspeed and Mach Indicators	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-4 (IPB) NA05-10-75 (OH/IPB)
14658	Solenoid Selector (FLAP) Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
14703	Selector Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
14769	Selector Speed Brake Valve	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
14770-8, -17, -27, -31	Multiple Solenoid Selector Manifold	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
14775-1	Hydraulic Solenoid Valve	NA01-245FDC-2-2.3 (MIM) NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
1480001	Ramp Feed Back Potentiometer	NA01-245FDC-2-3.2 (MIM)
14900-01-01	Leveling Amplifier Power Supply	NA01-245FDB-2-6.2 (MIM) NA05-35KAB-1 (FMI) NA05-35KAB-9 (IPB)
1500-1	Hydraulic Pressure Indicator	NA05-70-34 (OH/IPB)
1500-2	Oil Pressure Indicator	NA05-70-34 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
1500-3	Boost Temperature Indicator	NA05-70-34 (OH/IPB)
152000-5	No. 4 Fuel Tank Transfer Pressure Pump Switch Assembly	NA01-245FDC-2-3.3 (MIM) NA03-10RE-1 (OH/IPB)
153000-13	No. 6 Fuel Tank Transfer Pump Pressure Switch	NA01-245FDC-2-3.3 (MIM) NA03-10RE-1 (OH/IPB)
154-10	Total Temperature Sensor	NA01-245FDB-2-4.2 (MIM)
15939-016-00, 044-00	Flexible Shaft Assembly	NA01-245FDC-2-2.2 (MIM)
16-562-51	External Wing Tank Flow Switch	NA01-245FDC-2-3.3 (MIM) NA03-10RE-1 (OH/IPB)
161J100-4	Hydraulic Swivel Joints	NA01-245FDC-2-2.2 (MIM)
16150-7, -11, -12, -13, -14	Stabilator Power Control Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) Na03-25GBK-3 (OH) NA03-25GBK-4 (IPB)
163J100	Hydraulic Swivel Joints	Na01-245FDC-2-2.2 (MIM)
16545	Dual Power Control Hydraulic Cylinder	NA01-245FDB-2-2 (MIM) NA03-25GBK-5 (OH) NA03-25GBK-6 (IPB)
16560-1	Dual Power Control Hydraulic Cylinder	NA01-245FDC-2-2.2 (MIM) NA03-25GBK-5 (OH) NA03-25GBK-6 (IPB)
16560-2	Dual Power Control Hydraulic Cylinder	NA01-245FDC-2-2.2 (MIM) NA03-25GBK-5 (OH) NA03-25GBK-6 (IPB)
16563, -1	Servo Power Control Valve	NA01-245FDB-2-2 (MIM) NA03-25GBK-5 (OH) NA03-25GBK-6 (IPB)
168J100, 200	Hydraulic Swivel Joints	NA01-245FDC-2-2.2 (MIM)
169-1-000	Engine Dual Control Throttle Box	NA01-245FDC-2-3.4 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDD-4-6 (OH) NA03-5FF-16 (OH/IPB)
169D935G2	Frequency and Load Control Box	NA03-5CHT-4 (OH) NA03-5CHT-5 (IPB)
170-1-000	Engine Dual Control Throttle Box	NA03-5FF-16 (OH/IPB) NA01-245FDC-2-3.4 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDD-4-6 (OH)
17313-1A	Navigational Computer Control Panel	NA01-245FDB-2-6.2 (MIM) NA05-35BC-8 (OH) NA05-35BC-9 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
17319-1F	Computer Control, CP-723A/ASN-46	NA01-245FDB-2-6.2 (MIM) NA05-35BC-15 (O/S) NA05-35BC-19 (OH) NA05-35BC-20 (IPB)
174010	Equipment Refrigerator Unit, Model RUFA-10-1	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
174012	Heat Exchanger	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-3 (IPB)
174022-1-1	Exchanger Assembly	NA01-245FDC-2-2.5 (MIM)
18A307	Motor	NA01-245FDB-2-6.2 (MIM)
1810	Servo Indicator	NA05-55C-7 (OH) NA05-55C-8 (IPB)
182666	Servo Indicator	NA05-55C-7 (OH) NA05-55C-8 (IPB)
18530-1	Brake Control Valve	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB)
18739-1A	Navigation Computer Amplifier, AM -3754/ASN-46	NA05-35BC-15 (O/S) NA05-35BC-17 (IPB) NA05-35BC-18 (OH)
197C281G3	Accelerometer	NA01-245FDC-2-7 (MIM) NA05-45MCA-1 (OH) NA05-45MCA-2 (IPB)
197C282G3	Accelerometer	NA01-245FDB-2-6.3 (MIM) NA05-45MCA-3 (OH) NA05-45MCA-4 (IPB)
197C324G2, 3	Roll Rate Gyroscope	NA01-245FDB-2-6.3 (MIM) NA05-45CFA-1 (OH) NA05-45CFA-2 (IPB)
197C325G2	Yaw Rate Gyroscope	NA01-245FDB-2-6.3 (MIM) NA05-45CFA-1 (OH) NA05-45CFA-2 (IPB)
197C326G2	Pitch Rate Gyroscope	NA01-245FDB-2-6.3 (MIM) NA05-45CFA-1 (OH) NA05-45CFA-2 (IPB)
199000-1	Quick Disconnect Supply Coupling Half	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB)
2-662-51	External Wing Tank Fuel Flow Switch	NA01-245FDC-2-3.3 (MIM) NA03-10RE-1 (OH/IPB)
2CM261B1, C1, D1	Alternating Current Generator	NA01-245FDC-2-5.1 (MIM) NA03-5AD-104 (OH) NA03-5AD-105 (IPB)
2C5560	Check Valve	NA01-245FDB-2-2.4 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
2C5798	Check Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
2C5820	Check Valve	NA01-245FDB-2-2.4 (MIM)
2F1-6-23433-7	No. 4 Fuselage Fuel Tank	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
2F1-6-23435-5	No. 5 Fuselage Fuel Tank	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
2F1-6-25487-7	No. 3 Fuselage Fuel Tank	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
2F1-6-25492-11, -13, -15, -21	No. 2 Fuselage Fuel Tank	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
2F1-6-27135-11	No. 6 Fuselage Fuel Tank	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
2R2643-9, -19	Hydraulic Restrictor Valve	NA01-245FDB-2-2.4 (MIM)
2SV244	Shuttle Valve	NA01-245FDB-2-2.4 (MIM)
2SV246	Nose Landing Gear Uplock Cylinder Shuttle Valve	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB)
20-34248-601	Drag Chute Door Actuator	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
200-2	Statistical Accelerometer	NA01-245FDC-2-4.1 (MIM) NA05-20KE-3 (OH) NA05-20KE-4 (IPB)
2001481001	Potentiometer	NA01-245FDC-2-3.2 (MIM)
20020-327	Angle of Attack Indicator Light	NA01-245FDC-2-5.2 (MIM)
202873-133	Solenoid Valve	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB)
20300-102A-100A1	Rudder Position Indicator	NA01-245FDC-2-4.1 (MIM)
20301-113A-101-A1	Wing Trim Position Indicator	NA01-245FDC-2-4.1 (MIM)
203130	Cooling Turbine Assembly	NA01-245FDC-2-2.5 (MIM) NA03-80K-6 (IPB) NA03-80K-5 (OH)
204480-1-1	Cooling Turbine Assembly	NA01-245FDC-2-2.5 (MIM) NA03-80K-5 (OH) NA03-80K-6 (IPB)
204740-3-1, -5-1	Cooling Turbine Assembly	NA01-245FDC-2-2.5 (MIM) NA03-80K-11 (OH) NA03-80K-12 (IPB)
205400, A	Four-Way Dry Coil Servo Valve	NA01-245FDC-2-2.2 (MIM) NA03-30ET-27 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
206320	Four Way Servo Valve	NA03-30ET-27 (OH/IPB)
206330	Four Way Servo Valve	NA01-245FDC-2-3.4 (MIM) NA03-5CD-17 (OH/IPB)
20720	Indicator Assembly	NA01-245FDB-2-6.9 (MIM)
208503	Direct Linear Three Way Two Position Solenoid Valve	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
209000-1	Pressure Suit Air Flow Shutoff Valve Assembly	NA01-245FDC-2-2.5 (MIM)
21B30-3A	Generator Control Panel	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-4 (IPB) NA03-5QC-9 (OH) NA03-5QC-10 (IPB)
21000-9	Survival Kit	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB)
21007-5	Lower Disconnect Block Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB)
21269-1, -2	Pressure Suit Manual Temperature Limiter	NA01-245FDB-2-2.4 (MIM)
21301900	Pressure Operated Initiator	NA01-245FDB-2-2.1 (MIM) Na01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA13-30-35 (OH/IPB)
214A307-2	Main Landing Gear Wheel	NA01-245FDC-2-2.3 (MIM) NA03-25BE-5 (OH/IPB)
214657	Pressure Regulator	NA01-245FDB-2-2.4 (MIM)
2163J	Rate Gyroscope Transmitter, T-751/AJB -3A	NA01-245FDC-2-7 (MIM) NA11-70FMM-1 (OH) NA11-70FMM-2 (IPB)
218A938-1	Main Landing Gear Wheel	NA01-245FDC-2-2.3 (MIM) NA03-25BE-7 (OH/IPB)
219A466-2	Wheel Assembly, Nose Landing Gear	NA01-245FDC-2-2.3 (MIM) NA03-25BE-8 (OH/IPB)
2192100-1	.75 Seconds Time Delay Explosive Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30CT-62 (OH/IPB)
2197100-2, -3	Canopy Jettison Thruster	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
220A26, -2, -3	Wheel Assembly, Landing Gear, Tubeless Tire	NA01-245FDC-2-2.3 (MIM) NA03-25BE-9 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
220231-3	Power Unit Compensator	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
2204100	Thermal Battery Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
2219000-1, -2	Aileron Power Control Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30NL-4 (OH) NA03-30NL-5 (IPB)
2282	IFF Tacan-Lower Antenna	NA01-245FDB-2-6.1 (MIN)
2285-1	IFF Upper Antenna	NA01-245FDB-2-6.6 (MIM)
229E925G1	Control Amplifier	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB) NA05-45BJA-3 (OH) NA05-45BJA-4 (IPB)
22930	Electro Hydraulic Tandem Power Control Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA03-25GBK-7 (OH) NA03-25GBK-8 (IPB)
22930-1, -2	Electro Hydraulic Tandem Power Control Cylinder	NA01-245FDC-2-2.2 (MIM) NA03-25GBK-7 (OH) NA03-25GBK-8 (IPB) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
230E418G1	Control Amplifier	NA01-245FDB-2-6.2 (MIM) NA05-45BJA-3 (OH) NA05-45BJA-4 (IPB)
231E581G3	Control Amplifier C-3377/ASA-32K	NA01-245FDC-2-6.3 (MIM) NA05-45-114 (IM) NA05-45-115 (IPB) NA01-245FDC-4-4 (IPB)
234811-3	Air Pressure Regulator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB) NA03-30BF-14 (OH/IPB)
235000-1, -2, -3, -6	Airspeed Switch Assembly	NA01-245FDC-2-2.2 (MIM)
2362000-2, -3	Hydraulic Servo Aileron Power Control Cylinder Valve	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30NL-4 (OH) NA03-30NL-5 (IPB)
23711446	Air Bottle	NA01-245FDB-2-2.4 (MIM)
2371189	Air Bottle Assembly	NA01-245FDC-2-2.2 (MIM)
2394281	Relief Valve Assembly	NA01-245FDB-2-2.4 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
24174-3-2, -4-2, -4 -3, -6-1, -7-1	Static Pressure Compensator	NA01-245FDC-2-4.2 (MIM) NA05-20HBA-3 (OH) NA05-20HBA-4 (IPB)
24174-8-1, -9-1	Static Pressure Compensator	NA01-245FDC-2-4.2 (MIM) NA05-20HBA-5 (OH) NA05-20HBA-6 (IPB)
24176-4-4, -4-5	Log Pressure Controllers	NA01-245FDC-2-4.2 (MIM) NA05-20JBA-3 (OH) NA05-20JBA-4 (IPB)
24298-3, -4	Pressure Regulator	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB)
24340-5-5	Pressure Ratio Transducer	NA01-245FDC-2-4.2 (MIM) NA05-20EBA-3 (OH) NA05-20EBA-4 (IPB)
24482-1-1	True Airspeed Indicator, AVK-14/A24G-8	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-4 (IPB) NA05-20FAA-1 (OH) NA05-20FAA-2 (IPB)
24523T1, T4, T6, T7	Accelerometer Counting Transducer	NA05-20KE-3 (OH) NA05-20KE-4 (IPB)
25100-1, -2	Bellmouth Tube Assembly Pitot	NA01-245FDC-2-4.1 (MIM)
252000-3, -4	Bellmouth Controller Pitot Tube	NA01-245FDB-2-2.4 (MIM)
25502A23A7A1	Hydraulic Pressure Indicator	NA01-245FDC-2-4.1 (MIM)
25511-A15C-14-A1	Boost Pump Pressure Indicator	NA05-70D-25 (OH/IPB)
25511-A23D-14-A1	Hydraulic Pressure Indicator	NA05-70D-25 (OH/IPB)
25511-A30D-14-A1	Oil Pressure Indicator	NA05-70D-25 (OH/IPB)
26040014	Impingement Starting Selector Valve	NA01-245FDC-2-2.1 (MIM) NA03-70GB-2 (OH/IPB)
260414	Fuel Level Control Valve	NA01-245FDC-2-2.1 (MIM) NA03-10ABP-95 (OH/IPB)
26230055	Solenoid Valve	NA01-245FDB-2-3.1 (MIM) NA01-245FDC-4-5 (IPB)
2630104	Rudder Feel Hydraulic Solenoid Selector Valve	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
2630111-1, 1M1, -3, -3M1, -5, -5M1, -7, -7M1, -9, -11, -11M1	Hydraulic Selector Solenoid Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30CG-107 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
2630325, M1, M2, M3	Wing Tank Vent Pressure and Vacuum Relief Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB) NA03-30CG-104 (OH/IPB)
26330032, -01	Ramp Control Amplifier Assembly	NA01-245FDB-2-3.2 (MIM)
26440027	Check Valve	NA01-245FDB-2-3.1 (MIM) NA03-30V-1 (OH/IPB)
26500-305, -305A, -311, -311A, -313, -313A	Power Control Cylinder	NA01-245FDC-2-2.2 (MIM) NA03-30DA-21 (OH/IPB)
2660-815-2X	Blower Assembly	NA03-70DG-1 (OH/IPB)
2660414	Fuel Level Control Valve	NA01-245FDB-2-3.3 (MIM) NA03-10ABP-95 (OH/IPB)
2660415	Fuel Level Control Valve	NA01-245FDC-2-3.3 (MIM) NA03-10ABP-95 (OH/IPB)
26703-3A3A1	Ground Speed Indicator, ID-1126/ASN-46	NA01-245FDB-2-6.2 (MIM) NA05-35BC-21 (OH/IPB)
2670335, M1, M2	Air Pressure Regulator and Relief Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB) NA03-10ABP-115 (DM/IPB)
27300A23A1A2	Pneumatic Pressure Indicator	NA01-245FDC-2-4.1 (MIM)
27300B16A1A1	Fuel Flow Indicator	NA01-245FDC-2-4.1 (MIM) NA05-55N-13 (OH/IPB)
275520	Optic System	NA01-245FDB-2-8.2 (MIM)
275668	Switching Motor	NA01-245FDB-2-8.2 (MIM)
27749	Hydraulic Dual Power Control Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB) NA03-25GBK-5 (OH) NA03-25GBK-6 (IPB)
27906B16A4A1	Indicator Fuel Flow	NA01-245FDC-2-4.2 (MIM) T.O.5L6-2-29-23 (OH) T.O.5L6-2-29-24 (IPB)
29-760-1	Fuselage Tank Vent Valve, Vacuum Relief	NA01-245FDC-2-3.2 (MIM) NA03-10ABG-51 (OH/IPB)
29-760-1-3	Fuselage Tank Vent Valve	NA01-245FDC-2-4.1 (MIM) NA03-10ABG-51 (OH/IPB)
3S2781F122C1	Panel-Generator Control	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-4 (IPB) NA03-5AD-106 (OH) NA03-5AD-107 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
30-0059-1A, -2A	Wing Tip Light (Left-Right)	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-1 (IPB)
30-0060-1, -2 -5, -6	Join Up Light (Left-Right)	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-1 (IPB)
30-0118-1, -2, -3, 4	Wing Tip Position Light	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
300-11002	Relay Communications Coaxial	NA01-245FDB-2-6.6 (MIM)
30050-05	Press Suit Temperature Limiter and Sensor	NA01-245FDB-2-2.4 (MIM)
30050-10, -15	Duct Temperature Sensor	NA01-245FDB-2-2.4 (MIM)
301500-5	Dive Vent Check Valve Assembly	NA01-245FDC-2-3.3 (MIM)
30300, -1	Flutter Damper	NA01-245FDC-2-2.1 (MIM) NA03-5CHY-1 (OH)
305670-1	Flutter Damper	NA01-245FDC-2-2.2 (MIM) NA03-30-149 (OH/IPB)
31-014713-01	Digital Display Indicator	NA01-245FDB-2-6.9 (MIM) NA16-30ASQ90-1 (OS) NA16-30ASQ90-2 (OH) NA16-30ASQ90-3 (IPB)
31-017045-01	Radar Receiver Adapter	NA01-245FDB-2-6.20 (MIM)
31D1277-1	Survival Kit	NA01-245FDC-2-2.1 (MIM)
31D1281-2	Upper Disconnect Block Assembly	NA01-245FDC-2-2.1 (MIM)
31D1281-4	Lower Disconnect Block Assembly	NA01-245FDC-2-2.1 (MIM)
31D1285-1	Disconnect Hose	NA01-245FDC-2-2.1 (MIM)
3100100	Moisture Separator Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
311D215G3	Ramp Control Amplifier Assembly	NA01-245FDC-2-3.2 (MIM)
311D215G5	Ramp Control Amplifier Assembly	NA01-245FDC-2-3.2 (MIM)
312700	Engine Feed Check Valve Assembly	NA01-245FDC-2-3.3 (MIM)
312900-3	Interconnector Check Valve Assembly	NA01-245FDC-2-3.3 (MIM)
313300, -3	Inflight Refueling Check Valve Assembly	NA01-245FDC-2-3.3 (MIM)
3141-2	Integrated Throttle Boost Actuator	NA01-245FDB-2-6.5 (MIM) NA03-5-CGU-9 (IPB) NA03-5-CGU-8 (OH)
32-411700-301, -302	Main Landing Gear Strut	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
32-41600-301, -302 -303, -304, -305	Shock Strut Assembly	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-41600-306	Main Landing Gear Shock Strut	NA01-245FDC-2-2.3 (MIM)
32-41701-1, -2	Main Landing Gear Side Brace Actuator	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-451800-301	Nose Landing Gear Actuator	NA01-245FDC-2-2.3 (MIM)
32-45257-1, -301	Nose Drag Brace Toggle Assembly Indicator	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-45600-301, -303, -305	Nose Landing Gear Shock Strut	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-45601-305, -309, -313	Nose Gear Actuating Drag Brace Assembly	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-54000-363, -369	Power Quadrant Assembly	NA01-245FDC-2-3.4 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
32-54020-327	Power Control Quadrant Lever Assembly	NA01-245FDC-2-3.4 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDD-4-6 (IPB)
32-54003-321	Left Hand Throttle Lever Assembly	NA01-245FDC-2-3.4 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
32-55101-307	External Centerline Fuel Tank	NA01-245FDC-2-3.3 (MIM) NA03-10JM-1 (OH) NA03-10JM-2 (IPB)
32-55201-303; -304, -305, -306, -307, -308, -311, -312	Pylon Ejector Wing Assembly Tank	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-10JM-3 (OH) NA03-10JM-4 (IPB)
32-55202-307	External Wing Fuel Tank Structure Assembly	NA01-245FDC-2-3.3 (MIM) NA03-10JM-3 (OH) NA03-10JM-4 (IPB)
32-55208-303, -304	External Wing Fuel Tank Ejector Pylon Assembly	NA01-245FDC-2-3.3 (MIM) NA03-10JM-3 (OH) NA03-10JM-4 (IPB)
32-61005-301	Control Stick Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB)
32-62206-301	Control Spring Aileron Cartridge	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB)
32-63016-1	Stabilator Feel System Spring Cartridge	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB)
32-63072-1	Stabilator Feel System Spring Cartridge Assembly	NA01-245FDC-2-2.2 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
32-63081-1	Longitudinal Feel System Bellows	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB)
32-63081-301	Longitudinal Feel System Bellows Assembly	NA01-245FDC-2-2.2 (MIM)
32-65113-303	Emergency Flap Control Lighting Panel Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
32-69089-1	NLG Uplock Cylinder	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-69190-1	Nose Landing Gear Uplock Cylinder Shuttle Valve	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB)
32-69201-1	Engine Auxiliary Air Door Actuating Cylinder	NA01-245FDC-2-3.2 (MIM) NA01-245FDC-4-3 (IPB)
32-69217-303 -307, -309	Power Control Hydraulic Reservoir	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
32-69218-309 -311	Utility Hydraulic Reservoir	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
32-69304-301	Rudder Hydraulic Damper Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
32-69305-301, -307	Longitudinal Artificial Feel Viscous Damper	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
32-69311-1	Rudder Feel Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-2 (IPB)
32-69356-1	Speed Brake Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
32-69404-3, -301	Outer Wing Fold Actuating Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
32-69404-303	Outer Wing Fold Actuating Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
32-69413-5, -6	Damper Hydraulic Aileron Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
32-69422-3	Wing Fold Pin Pull Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
32-69484-1	MLG Uplock Cylinder	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-69517-305	Inboard Tandem Spoiler Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
32-69525-303	Outboard Tandem Spoiler Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
32-69553-303	Inner Wing Lead Edge Flap Cylinder Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
32-69563-1	Actuating Cylinder Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
32-69570-1, -3	Outer Wing Leading Edge Flap Actuator Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
32-69670-3	MLG Inboard Door Cylinder	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-69678-303	Arresting Gear Damper	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
32-69697-1, -2	Inboard LE Flap Swivel	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
32-69715-1	Variable Ramp 10° - 14° Cylinder	NA01-245FDC-2-3.2 (MIM) NA01-245FDC-4-5 (IPB) T.O.9H2-5-254-2 (FMI/OH/IPB)
32-69737-3, -5	Refuel Probe Cylinder	NA01-245FDC-2.3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
32-69766, -301	Arresting Gear Horizontal Damper	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB) NA03-30GF-11 (OH/IPB)
32-69782-3, -303	Damper Cylinder	NA01-245FDC-2-2.3 (MIM) NA03-25HMC-6 (OH/IPB)
32-71002-317	Aero 27A Bomb Rack	NA01-245FDC-2-7 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-7 (IPB) NA11-5C-17 (OH)
32-72067-1	Cockpit Flooding Door Cylinder	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
32-72119-301	Aft Canopy Emergency Dump Valve Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
32-72132-3	Forward Canopy Pneumatic Cylinder	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB)
32-72136-1, -303	Aft Cockpit Pneumatic Cylinder	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB)
32-72200-1	Ram Air Emergency Turbine Door Actuator	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
32-72207-301	Ram Air Emergency Actuating Pneumatic Cylinder	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
32-72239-301	Forward Canopy Pneumatic Dump Valve Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
32-72282-303	Pneumatic Pressure Operated Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
32-72316-1	0.30 Second Time Delay Sequence Actuator	NA01-245FDB-2-2.1 (MIM)
32-72316-7	0.40 Second Time Delay Sequence Actuator	NA01-245FDB-2-2.1 (MIM)
32-72317-1	0.75 Second Time Delay Sequence Actuator	NA01-245FDB-2-2.1 (MIM)
32-72317-3	Pressure Operated Initiator	NA01-245FDB-2-2.1 (MIM)
32-72318-1	Emergency Disconnect	NA01-245FDB-2-2.1 (MIM)
32-72319-1	Command Selector Valve	NA01-245FDB-2-2.1 (MIM)
32-73581-1, -2 -301, -302	ECM Pod Pylon Assembly and Wing Missile Pylon, LAU-17/A	NA01-245FDC-2-7 (MIM) NA01-245FDA-4-6 (IPB) NA11-75A-60 (OH)
32-74009-1	Compass Transmitter Assembly	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
32-74009-301	Compass Transmitter Assembly	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
32-78010-301, -309, -311	Relay Trim Actuator Panel Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-4 (IPB)
32-78010-307, -309, -311	Relay Trim Actuator Panel Assembly	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
32-81024-327	Cabin Pressure Indicator Panel Assembly	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
32-81024-337	Cabin Pressure Indicator Panel Assembly	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-4 (IPB)
32-81024-345	Cabin Pressure Indicator Panel Assembly	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-4 (IPB)
32-81042-1	Exterior Lights Control and In-Flight Refueling Probe Lights Panel Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
32-81610-13	Aft Cockpit No. 1 Sensor Control Panel Assembly	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-4 (IPB)
32-81624-301	Essential D.C. Test and Ground Power Panel Assembly	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-4 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
32-821500-1, -3, -301, -303, -307	Lock Forward Reel	NA01-245FDB-2-2.1 (MIM) NA13-30-18 (OH) NA13-30-19 (IPB)
32-821552-27, -31, -33, -301, -309	Parachute Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA13-1-6.2 (CREW SYS)
32-83014-1	Cabin Air Outlet Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
32-83028-303	Emergency Air Inlet Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (OH)
32-83148-301	Cabin Air Inlet Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
32-84077-1	Arresting Gear Centering Spring	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB)
32-87076-31, -301	Aileron Rudder Interconnect Control Amplifier	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
32-87600-3	Data Recording Camera Periscope	NA01-245FDB-2-11 (MIM) NA01-10EA-47 (FMI-OH) NA10-10EA-48 (IPB)
32-87601-11, -15	Camera System	NA01-245FDB-2-6.2 (MIM) NA10-10EA-47 (FMI/OH) NA10-10EA-48 (IPB)
32-87700-1	Exposure Frequency Control	NA01-245FDB-2-6.2 (MIM) NA01-245FDC-4-4 (IPB) NA10-10EA-47 (FMI/OH) NA10-10EA-48 (IPB)
32-88005	Forward Oblique Camera Positioning Set	NA01-245FDA-4-8 (IPB)
32-94581-1, -2 -225, -226, -233, -234, -236, -301, -302, -303, -304	Wing Missile Pylon LAU-7/A	NA01-245FDC-2-7 (MIM) NA01-245FDC-4-2 (IPB) NA11-75A-25 (OH)
32-94581-325, -326, -725, -726	Missile Pylon Assembly, LAU-17A	NA01-245FDC-2-7 (MIM) NA01-245FDA-4-6 (IPB) NA11-75A-60 (OH)
32-94672-11	Multiple Weapons Adapter Assembly	NA01-245FDC-2-7 (MIM) NA01-245FDA-4-6 (IPB)
32E11026-1	Rocket Nozzle Guard Assembly	NA01-245FDB-2-2.1 (MIM)
32G411700-1, -2	Main Landing Gear Strut	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
32G71002-1, -3, -5, -7	Aero 27A Bomb Rack	NA01-245FDC-2-7 (MIM) NA01-245FDC-4-2 (IPB) NA11-5C-17 (OH)
32G821552-1, -17	Parachute Assembly	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA13-1-6.2 (CREW SYS)
32SB12303-3	Aero 27A Bomb Rack	NA01-245FDC-2-7 (MIM) NA01-245FDC-4-2 (IPB) NA11-5C-17 (OH)
32255	Solenoid Selector Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
32257 32258	Solenoid Selector Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
33SB27416-1, -3, -5, -7	External Centerline Fuel Tank Assembly	NA03-10JM-2 (IPB)
33160-23	Lower Fuselage Light	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
33565-1	Top Fuselage Light	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
34A520	Rudder Pedal Shaker Actuator	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB)
3426-5GB1	Pilot's Accelerometer	NA01-245FDC-2-4.1 (MIM) NA05-20KH-2 (IPB) NA05-20KH-1 (OH)
34265-2	Floodlight Assembly, Utility	NA01-245FDC-2-5.2 (MIM)
3477435552-001, -002	Indicator Light Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-5 (IPB)
348027	Hydraulic Pump Adapter Assembly	NA01-245FDC-2-3.1 (MIM) NA01-245FDC-2-3.5 (MIM) NA01-245FDC-4-5 (IPB)
35000-8	Control Unit	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-5 (IPB)
350143	Coolant Bottle	NA01-245FDB-2-6.10 (MIM) NA16-35MX4238-1 (OH/IPB)
35202-28	Flexible Conduit Assembly	NA01-245FDB-2-5 (MIM)
35530-0-765	Sensing Element Assembly	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-2-7 (MIM)
35560-0-765	Sensing Element Assembly	NA01-245FDC-2-5.1 (MIM)
35590-0-765	Sensing Element Assembly	NA01-245FDC-2-5.1 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
35620-0-765	Sensing Element Assembly	NA01-245FDC-2-5.1 (MIM)
35840-3-1	Alternating Current Motor	NA03-5CDD-16 (OH/IPB) NA16-30AAS18-1 (O/S)
36843	Direct Current Motor	NA01-245FDB-2-2.4 (MIM) NA03-5CDD-8 (OH/IPB)
37400-305, -306	Dual Spoiler Valve	NA03-30DA-22 (OH/IPB)
37612-1H5-A1	Bearing Distance Heading Indicator	NA16-35ID663-9 (OH) NA16-35ID663-10 (IPB)
37773	No. 3 Non-Self Sealing Fuselage Tank Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-10-513 (MIM)
37774	No. 4 Non-Self Sealing Fuselage Fuel Tank Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-10-513 (MIM)
37775	No. 4 Non-Self Sealing Tank Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB) NA03-10-513 (MIM)
37776	No. 6 Non-Self Sealing Tank Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA03-10-513 (MIM)
37790	No. 1 Fuselage Fuel Tank Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
37790-1	No. 1 Fuselage Fuel Tank Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
37791	No. 2 Fuselage Fuel Tank Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
37808-1	Air Filter Assembly	NA01-245FDB-2-3.1 (MIM)
38000-3, -7, -9	Engine Bleed Air Check Valve Assembly	NA01-245FDC-2-3.5 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDD-4-6 (IPB)
38919	Slide Oblique Camera Positioning System	NA10-10AR-4 (IPB) NA10-10AR-3 (FM/OH)
392242-1-1	Relief Valve Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
39550-1	Antenna Tacan Selector	NA01-245FDB-2-6.1 (MIM)
4-660-151, -165	Fuel Pressure Regulator	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDD-4-6 (IPB) NA03-10ABG-55 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
4060P-6	Attitude Director Indicator, ID-1144/AJB -7	NA01-245FDB-2-6.2 (MIM) NA05-35KAB-3 (OH) NA05-35KAB-4 (IPB)
409370-1-1-1	Hydraulic Flow Equalizer	NA03-30CE-76 (OH/IPB)
42400-100 Series	Air Data Computer	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA05-20GAA-3 (FM/OH) NA05-20GAA-4 (IPB)
42400-205-1	Air Data Computer	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB) NA05-20GAA-9 (OH) NA05-20GAA-10 (IPB)
42400-206-1	Air Data Computer	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB) NA05-20GAA-9 (IM/OH) NA05-20GAA-10 (IPB)
42400-209-1, -211-1	Air Data Computer	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-5 (IPB) NA05-20GAA-9 (IM) NA05-20GAA-10 (IPB)
42400-227-1	Air Data Computer	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA05-20GAA-9 (IM) NA05-20GAA-10 (IPB)
42400-229-1	Air Data Computer	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB) NA05-20GAA-9 (OH) NA05-20GAA-10 (IPB)
43850B	Anticollision Light	NA01-245FDB-2-5.2 (MIM)
4400010200-1, -3	External Centerline Tank Disconnect	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB)
4400010300-1, -1X	External Wing Tank Disconnect Assembly	NA01-245FDC-2-3.2 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
4400010400-1, -1X	External Wing Tank Disconnect Assembly	NA01-245FDC-2-3.2 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
4435	Pump Assembly	NA03-30GU-1 (OH/IPB)
46500-7, -9	Hydraulic Pressure Operated Valve	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
470310-2	Antenna, AS-1451/APQ-99	NA01-245FDB-2-6.7 (MIM) NA01-245FDC-4-8 (IPB) NA16-30APQ99-1 (IM) NA16-30APQ99-2 (OH) NA16-30APQ99-3 (IPB)
470313-1	Command Computer, CP-731/APQ-99	NA01-245FDB-2-6.7 (MIM) NA01-245FDC-4-8 (IPB) NA16-30APQ99-1 (IM) NA16-30APQ99-2 (OH) NA16-20APQ99-3 (IPB)
470316-2	Azimuth Rear Indicator	NA01-245FDB-2-6.7 (MIM) NA01-245FDC-4-8 (IPB)
474050-3, -4	Power Supply	NA01-245FDB-2-6.10 (MIM) NA16-30AAS18-1 (O/S) NA16-35PP3725-1 (OH) NA16-35PP3725-2 (IPB)
474100-1, -2, -3	Receiver (Scanner) Unit	NA01-245FDB-2-6.10 (MIM) NA01-245FDC-4-8 (IPB) NA16-30AAS18-1 (FMI) NA16-35R1190-1 (OH) NA16-35R1190-2 (IPB)
474150-3	Recorder	NA01-245FDB-2-6.10 (MIM) NA16-30AAS18-1 (F/M) NA16-35R0229-1 (OH) NA16-35R0229-2 (IPB)
474200-2, -3, -4	Magazine	NA01-245FDB-2-6.10 (MIM) NA16-30AAS18-1 (F/M) NA16-35MA15-1 (IPB) NA16-35MA15-2 (OH)
47568-8-2	Temperature Controller	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-75T-1 (OH/IPB)
47654-1	Temperature Magnetic Amplifier Panel Assembly	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
47654-5-1, -6-1	Temperature Magnetic Amplifier Panel Assembly	NA01-245FDC-2-2.5 (OM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA03-5LE-1 (OH/IPB)
5-1157, -1	3-Position Trailing Edge Flap Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
5-1177, -1	Refuel Probe Latch Cylinder	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDA-4-6 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
50-008-001-3	Inertia Lock Powered Retraction Reel	NA01-245FDC-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-5CGT-3 (OH) NA03-5CGT-4 (IPB)
50-008-001-5, -7	Inertia Lock Powered Retraction Reel	NA01-245FDC-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA03-5CGT-3 (OH) NA03-5CGT-4 (IPB)
502BL2	Exhaust Gas Temperature Indicator	NA01-245FDC-2-4.1 (MIM) NA05-40DB-16 (OH) NA05-40DB-15 (IPB)
50241	Hydraulic Pump Adapter	NA01-245FDB-2-2.4 (MIM) NA01-245FDB-2-3.1 (MIM) NA01-245FDC-4-5 (IPB)
50901	Variable Displacement Pump	NA03-20ABS-1 (OH) NA03-20ABS-2 (IPB)
5115-3-17, -3-21-1	Panel Control Assembly, Caution Light	NA01-245FDC-2-2.1 (MIM) NA03-5CGT-3 (OH) NA03-5CGT-4 (IPB)
5115-3-21-2	Panel Control Assembly, Caution Light	NA01-245FDC-2-2.1 (MIM) NA03-5CGT-3 (OH) NA03-5CGT-4 (IPB)
511837	Pneumatic Connector Assembly	NA01-245FDC-2-4.2 (MIM)
512533	Amplifier Assembly, Computer	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-3 (INTER) NA05-20GAA-4 (IPB)
512533-0-2	Amplifier	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-3 (OH)
512744-3-3	Base Assembly, Air Data	NA01-245FDC-2-4.2 (MIM)
512744-5-1	Base Assembly	NA01-245FDC-2-4.2 (MIM)
513048-2-2, -2-3	Total Temp, and True Airspeed Servo	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB)
513049-3-2, -3-3, -4 -1, -5-1, -5-2, -7-1, -8-1	Computer Gear Box Modules	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-5 (OH) NA05-20GAA-6 (IPB)
513452-2-2, -2-3, -3 -1, -3-2, -5-1	Mach Selector Modules Resistor	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-7 (OH) NA05-20GAA-8 (IPB)
516312	Valve Assembly, Pneumatic Pump	NA01-245FDB-2-2.4 (MIM) NA03-80EHS-509 (OH/IPB)
517-1000-000	Data Display Set	NA16-30ASQ90-1 (SI) NA16-30ASQ90-2 (OH) NA16-30ASQ90-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
517-2000, A, C, D, E, F, G, H, J, M	Converter, Signal Data	NA01-245FDB-2-6.15 (MIM) NA16-30ASQ90-1 (SI) NA16-30ASQ90-2 (OH) NA16-30ASQ90-3 (IPB)
520945	Bellmouth Controller	NA01-245FDC-2-3.2 (MIM) NA01-245FDC-4-5 (IPB) NA03-5FFM-2 (IPB) NA03-5FFM-1 (OH)
522-0543-005	Receiver Transmitter	NA01-245FDB-2-6.6 (MIM) NA16-35AM2349-2 (OH) NA16-35AM2349-3 (IPB) NA16-35RT546-1 (SI) NA16-35RT546-2 (OH) NA16-35RT546-3 (IPB)
522-0690-003		NA01-245FDB-2-6.6 (MIM)
522-1267-005	ADF Antenna, UHF	NA01-245FDB-2-6.6 (MIM)
522-1763-003	Flight Director Computer	NA01-245FDB-2-6.2 (MIM) NA05-20GCA-1 (OH) NA05-20GCA-2 (IPB)
522-1764-003	Mode Selector Control	NA01-245FDB-2-6.2 (MIM) NA01-245FDC-4-4 (IPB)
522-2011-003	Shock Mount	NA01-245FDB-2-6.2 (MIM) NA01-245FDC-4-4 (IPB) NA05-20GCA-1 (OH) NA05-20GCA-2 (IPB)
522-2411-003	Horizontal Situation Indicator	NA01-245FDB-2-6.2 (MIM) NA05-20GH-1 (OH) NA05-20GH-2 (IPB)
522-3333-004	Antenna Coupler	NA01-245FDB-2-6.11 (MIM) NA16-35CU1239-1 (OH) NA16-35CU1239-2 (IPB)
522-3408-005	Integrated Control (FWD), 6248/ASQ-88	NA01-245FDB-2-6.6 (MIM)
522-3419-005	Receiver-Transmitter IFF/SIF Coder	NA01-245FDB-2-6.6 (MIM)
53-79922-301	Right Wheel Well Switch Panel Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB)
53-81037-1, -303	Oxygen and Utility Panel Assembly	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-3 (IPB)
53-81263-5	Altimeter, Type AAU-7/A	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-5 (IPB)
53-87406-1, -301	Data Recording Camera-Periscope	NA01-245FDB-2-11 (MIM) NA10-10EA-48 (IPB) NA10-10EA-47 (FMI/OH)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
53-87800-1	Data Recording Camera Set	NA01-245FDB-2-11 (MIM) NA10-10EA-48 (IPB) NA10-10EA-47 (FMI/OH)
53-87803-1	Still Picture Camera	NA01-245FDB-2-11 (MIM) NA10-10EA-47 (FMI/OH) NA10-10EA-48 (IPB)
538286-3-1	Pressure Ratio Sensor	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
5400010100-3, -5	Venturi Heater Assembly	NA01-245FDC-2-2.1 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB)
540158-2, -3, -4, -4 -2, -5, -5-2	Refrigeration Unit Actuator	NA01-245FDC-2-2.5 (MIM) NA03-5CHA-41 (OH/IPB)
541144-1-1, -1-2	Scanner Door Ramp Actuator Screw Jack Assembly	NA01-245FDC-2-2.2 (MIM) NA03-5CF-146 (OH) NA03-5CF-147 (IPB)
541146-3-1	Infrared Door Power Unit Rotary Electromechanical Actuator	NA01-245FDC-2-2.2 (MIM) NA03-5CHA-62 (OH/IPB)
541594-1-1, -2-1, -3 -1	Rotary Electromechanical Actuator	NA01-245FDC-2-2.2 (MIM) NA03-5CHA-69 (OH/IPB)
543953-1, -3	Infrared Detecting Set Test Bench Set	NA16-30AAM17-1 (OS) NA16-30AAM17-2 (OH)
549984-1, -1-1	Ram Air Turbine Hydraulic Power Unit	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA03-80K-7 (OH) NA03-80K-8 (IPB)
550FV	Rudder Pedal Adjustment Screw Jack	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA03-5CE-520 (OH/IPB)
55001	Displacement Variable Pump	NA03-30ABS-3 (OH) NA03-30ABS-4 (IPB)
55114	Engine Driven Variable Delivery Hydraulic Pump Assembly	NA03-30ABS-3 (OH) NA03-30ABS-4 (IPB)
55300	Solenoid Hyd. Selector Valve	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)
55350-1, -15, -19, -23, -23, -5	Solenoid Hyd. Selector Valve	NA01-245FDC-2-2.2 (MIM) NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) T.O.9H8-14-252-3 (OH/IPB)
554-5209-005	Decoder Pulse	NA01-245FDB-2-6.6 (MIM)
554-5210-005	Receiver-Transmitter, RT-736/ASQ-88	NA01-245FDB-2-6.6 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
5547000-501 thru -519	Inflight Refueling Stores Assembly	NA01-245FDC-2-7 (MIM) NA01-245FDC-4-3 (MIM) NA03-100-501 (OH) NA03-100-502 (IPB)
5902	Valve, Hydraulic Sequence	NA01-245FDC-2-2.3 (MIM)
59223	Constant Speed Drive Return Oil Filter	NA01-245FDB-2-3.1 (MIM) NA01-245FDC-4-5 (IPB)
59663	Hydraulic Adapter Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-5 (IPB)
6D113	Valve Assy., Integral Wing Tank Drain	NA01-245FDC-2-3.3 (MIM)
60-057C	Fuel Boost Pump Assembly, Double End	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-5 (IPB) NA01-245FDA-4-6 (IPB) NA03-10EX-7 (OH/IPB)
60-449X, -451	Fuel Transfer Pump Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-3 (IPB) NA03-10EX-11 (OH) NA03-10EX-12 (IPB)
60-451A, -493A, -495A	Fuel Transfer Pump Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-3 (IPB) NA03-10EX-11 (OH) NA03-10EX-12 (IPB)
60-639M, -641M, -643, -643A, -645, -645A	Fuel Transfer Pump Assembly	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-3 (IPB) NA03-10EX-11 (OH) NA03-10EX-12 (IPB)
60-1447 (MB1)	Compass, Standby, Radar Pilot's	NA01-245FDC-2-4.1 (MIM)
60-6315	HSI Amplifier	NA01-245FDC-2-6.3 (MIM)
6000-1	Accumulator	NA01-245FDC-4-3 (IPB) NA01-245FDC-2-2.3 (MIM)
60001-3	Accumulator	NA01-245FDC-4-3 (IPB) NA01-245FDC-2-2.3 (MIM)
6043H4	AC Power Control Box	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-4-4 (IPB) NA03-5FFC-3 (OH) NA03-5FFC-4 (IPB)
604900-3	Gyroscope, Displacement	NA05-35KAA-31 (OH) NA05-35KAA-32 (IPB) NA05-35KAA-38 (O/S)
610340	Inertial Platform, Gyro-Stabilized MX -4839/ASN-48	NA05-35KAA-32 (IPB) NA05-35KAA-31 (OH) NA05-35KAA-38 (O/S) NA01-245FDC-4-4 (IPB) NA01-245FDB-2-6.12 (MIM)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
611480-1	Accelerometer, Inertial Measuring Unit	NA01-245FDC-2-2.3 (MIM) NA05-35KAA-32 (IPB) NA05-35KAA-29 (OH) NA05-35KAA-38 (O/S)
626T100-13, -14	Shutoff Valve, Butterfly	NA01-245FDC-2-2.2 (MIM) NA03-30TA-3 (OH/IPB)
631009	Navigational Computer, CP-733/ASN	NA01-245FDB-2-6.12 (MIM) NA01-245FDC-4-4 (IPB) NA05-35KAA-35 (OH) NA05-35KAA-36 (IPB) NA05-35KAA-38 (O/S)
637420	Distribution Unit Output Signal	NA05-35KAA-33 (OH) NA05-35KAA-34 (IPB)
637424	Aircraft Attitude Computer	NA05-35KAA-27 (OH) NA05-35KAA-28 (IPB)
637672	Aircraft Attitude Computer	NA05-35KAA-27 (OH) NA05-35KAA-28 (IPB)
65-0101-5	Caution Light Panel Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
65-0102-3, -5	Caution Light Panel Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDA-4-8 (IPB)
65-0210-7, -45	Caution Light Panel Assembly	NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB)
657400	Inertial Navigation Set, AN/ASN-74	NA01-245FDB-2-6.16 (MIM) NA05-35KAA-31 (OH) NA05-35KAA-32 (IPB) NA05-35KAA-41 (FMI)
657403	Navigational Computer, CP-860/ASN-74	NA01-245FDB-2-6.16 (MIM) NA05-35KAA-42 (OH) NA05-35KAA-43 (IPB)
657650	Platform Gyro Stabilator	NA05-35KAA-31 (OH) NA05-35KAA-32 (IPB)
6583-1	Communications Antenna Blade	NA01-245FDB-2-6.1 (MIM) NA01-245FDA-2-11 (MIM)
662138	Navigational Computer, CP-733/ASN	NA01-245FDB-2-2.4 (MIM) NA05-35KAA-35 (OH) NA05-35KAA-36 (IPB)
6623A	Integral Lighting Autotransformer	NA01-245FDB-2-5.2 (MIM)
667333	Navigational Computer, CP-860/ASN-74	NA01-245FDB-2-6.16 (MIM) NA05-35KAA-42 (OH) NA05-35KAA-43 (IPB)
671T100-1, -2, -3, -4	Valve Shutoff, Boundary Layer Control, Leading Edge	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
675000-01, -02	Cable Extension, Controlled Rate, Reel Assembly	NA03-1-194 (OH/IPB)
6800-100-1, -2, -3, -4	Aerial Mapping and Reconnaissance Viewfinder System	NA01-245FDB-2-6.1 (MIM) NA10-10AH-18 (OH) NA10-10AH-19 (IPB)
6800-101-3, -4	Aerial Mapping and Reconnaissance Viewfinder System	NA01-245FDB-2-6.1 (MIM) NA10-10AH-18 (FM/OH) NA10-10AH-19 (IPB)
683100-2-1, -3-1	Refrigeration Unit, Cabin	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
687D950G1	Engaging Controller	NA01-245FDC-2-7 (MIM) NA01-245FDC-4-4 (IPB)
687D950G1	Engaging Controller	NA01-245FDC-2-6.3 (MIM)
687D960G1	Motional Pickup Transducer Assembly	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB)
6901-723	Air Pressure Gage Assembly	NA01-245FDC-2-4.1 (MIM)
691C192G1	Accelerometer "G" Limiting	NA01-245FDC-2-6.3 (MIM)
693134	Paralleling and Fine Frequency Control	NA03-5FB-68 (OH) NA03-5FB-69 (IPB)
695146B, C, D, E, F, H	Constant Speed Transmission	NA03-5FB-66 (OH) NA03-5FB-67
7-3179	Three Position Trailing Edge Cylinder	NA03-30AAA-1 (OH/IPB)
7-653-171-1	Inflight Refueling Probe Nozzle	NA01-245FDC-2-3.3 (MIM) NA03-10ABG-510 (OH) NA03-10ABG-511 (IPB)
7A045-1, -2	Hydraulic Pressure Relief and Check Manifold Assembly	NA01-245FDB-2-2.4 (MIM) NA03-30CT-61 (OH/IPB)
7U7138	Dump Valve Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
7U7174-1	Sequence Valve	NA01-245FDC-2-3.3 (MIM) NA01-245FDC-4-3 (IPB)
7U7234	Hydraulic Sequence Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
7U7242, -1, -2	Three Position Trailing Edge Cylinder	NA01-245FDC-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30AAB-1 (OH/IPB)
7U7245	Bellmouth Bypass Control	NA03-5CRH-1 (OH/IPB)
7U7341	Solenoid Pneumatic Selector Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA03-30EF-2 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
72P209500	Height Indicator	NA16-30APN159-1 (O/S) NA16-35ID1162-2 (IPB) NA16-35ID1162-1 (OH)
72P20960	Height, Indicator, ID-1162/APN-159	NA01-245FDB-2-6.7 (MIM) NA16-35ID1162-1 (OH) NA16-35ID1162-2 (IPB)
740515-1, -3, -4, -5	Refrigeration System Package	NA01-245FDC-2-2.5 (MIM) NA01-245FDC-4-4 (IPB)
74960LN01	Rudder Pedal Adjust Screw Jack	NA01-245FDC-2-2.2 (MIM) NA03-5CE-145 (OH/IPB)
74960LN-01	Rudder Pedal Adjust Screw Jack Assembly	NA01-245FDC-2-2.2 (MIM) NA03-5CE-145 (OH/IPB)
74981LN01	Rudder Pedal Adjust Gearbox and Crank Assembly	NA01-245FDC-2-2.2 (MIM) NA03-5CE-145 (OH/IPB) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB)
75030	Flow Control Servo Valve	NA01-245FDC-2-2.3 (MIM) NA03-30ACT-1 (OH/IPB)
75250	Flow Control Servo Valve	NA01-245FDC-2-2.3 (MIM) NA03-30ACT-1 (OH/IPB)
755D240G1	Control Amplifier Mounting Rack	NA01-245FDB-2-6.8 (MIM) NA05-45BJA-1 (OH) NA05-45BJA-2 (IPB)
756D180G1	Autopilot Mounting Rack	NA05-45BJA-1 (OH) NA05-45BJA-2 (IPB)
756D493G1	Controller Engaging C-6564/ASA-32H	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-7 (IPB) NA01-245FDC-4-5 (IPB)
7617-23A5-1	Pneumatic Pressure Transmission	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB) NA05-55N-15 (OH/IPB)
8-958-101, -201, -251, -401	Aerial Refueling Nozzle Assembly	NA01-245FDC-2-3.3 (MIM) NA03-100E-1 (OH) NA03-100E-2 (IPB)
8DJ50LAC2	Exhaust Nozzle Position Indicator	NA01-245FDC-2-4.1 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA05-55A-69 (OH/IPB)
8DJ50MAB2, C2	Stabilator Trim Position Indicator	NA01-245FDC-2-4.1 (MIM)
8DJ81LAA1	Tachometer Indicator	NA01-245FDC-2-4.1 (MIM) NA05-5J-29 (OH/IPB)
8LB6122	Check Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
8LB6123	Hydraulic Relief Valve	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
8050-1A	Combination Fill Buildup and Vent Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB)
808310-3-2	Air Data Computer Base Assembly	NA05-20GAA-3 (INTER) NA05-20GAA-4 (IPB)
808312-1-1	Computer Gear Box Module	NA05-20GAA-5 (OH) NA05-20GAA-6 (IPB)
808312-2-1, -3-1, -4 -1, -6-1, -9-1, -10-1, -12-1, -13-1, -14-1	Computer Gearbox Module	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-15 (OH) NA05-20GAA-16 (IPB)
808316-1-1, -2-1, -2 -2	Log Pressure Controller	NA01-245FDC-2-4.2 (MIM) NA05-20JBA-5 (OH) NA05-20JBA-6 (IPB)
808318-2-1, -3-1, -4 -1, -6-1	Mach Sector Variable Resistor Selector	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-13 (OH) NA05-20GAA-14 (IPB)
808318-9-1	Mach Sector Variable Resistor Selector	NA01-245FDC-2-4.2 (MIM) NA05-20GAA-13 (OH) NA05-20GAA-14 (IPB)
808374-1-1, -2-1, -3 -1	Altitude Encoder Unit	NA01-245FDC-2-4.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB) NA05-20KBA-1 (OH) NA05-20KBA-2 (IPB) NA05-20KBA-3 (IM)
835A	Gearbox and Crank Assembly Rudder Pedal Adjust	NA01-245FDC-2-2.2 (MIM) NA03-5CE-525 (OH/IPB)
840327	Drain Fitting	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
840485	Air Dehydrator Assembly	NA01-245FDB-2-2.4 (MIM) NA03-30AY-1 (OH) NA03-30AY-2 (IPB)
840659	Quick Disconnect	NA01-245FDB-2-2.4 (MIM)
840752	Compressor Fan	NA01-245FDB-2-2.4 (MIM)
840892-04	Relief Valve Assembly	NA01-245FDB-2-2.1 (MIM)
840892-05	Relief Valve Assembly	NA01-245FDB-2-2.1 (MIM)
85X209300	Receiver Antenna	NA01-245FDB-2-6.7 (MIM) NA01-245FDC-4-4 (IPB)
85X209310	Transmitter Antenna	NA01-245FDB-2-6.7 (MIM) NA01-245FDC-4-4 (IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
8519B	Electro – Hydraulic Servo Actuator	NA01-245FDB-2-2.2 (MIM) NA01-245FDC-4-2 (IPB) NA03-5MA-1 (OH) NA03-5MA-2 (IPB)
8530A12TTL	External Tank 1 to 7 Air Check Valve Assembly	NA01-245FDC-2-3.3 (MIM)
854940-1-1	Ram Air Emergency Turbine	NA01-245FDB-2-2.4 (MIM) NA03-80K-7 (OH) NA03-80K-8 (IPB)
85862-1-2	Pressure Suit Heat Exchanger	NA01-245FDB-2-2.4 (MIM) T.O. 15A4-51-2 (SI)
86167C-9, -17	Potentiometer	NA01-245FDC-2-3.2 (MIM)
869-100-19	Missile Status Panel	NA01-245FDC-2-5.2 (MIM) NA11-5-103 (OS/OH)
870829-01	100 Cubic Inch Air Bottle Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
870830-01	100 Cubic Inch Air Bottle	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
871789	100 Cubic Inch Air Bottle Assembly	NA01-245FDB-2-2.4 (MIM)
871791	400 Cubic Inch Air Bottle Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
871869	Bellmouth Pneumatic Filter Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
871984	Drain Fitting	NA01-245FDC-4-3 (IPB) NA01-245FDB-2-2.4 (MIM)
874363	Air Bottle	NA01-245FDB-2-2.4 (MIM)
890272, -01	Hydraulic Motor Driven Air Compressor	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA03-30EL-4 (OH) NA03-30EL-5 (IPB)
890493	Pneumatic Filter	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
891588	300 Cubic Inch Air Bottle	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
891589	400 Cubic Inch Air Bottle	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB)
891736	Pneumatic Brake Valve	NA01-245FDC-2-2.3 (MIM) NA01-245FDC-4-3 (IPB) NA03-30AC-9 (OH/IPB)

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Table 1-4. CFAE/GFAE Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
892500	Four Way Selector Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-2 (IPB) NA01-245FDC-4-3 (IPB) NA03-30AY-7 (OH/IPB)
892532	Moisture Separator Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30AY-5 (OH) NA03-30AY-6 (IPB)
892713	Four Way Pneumatic Selector Valve	NA01-245FDB-2-2.1 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30AY-7 (OH/IPB)
893C328G1, G2	Adder-Attenuator Amplifier	NA01-245FDC-2-6.3 (MIM) NA01-245FDC-4-4 (IPB) NA05-45BJA-1 (OH) NA05-45BJA-2 (IPB)
893C520G4	Servo Amplifier	NA01-245FDC-2-6.3 (MIM) NA05-45BJA-1 (OH) NA05-45BJA-2 (IPB)
895377	Moisture Separator Assembly	NA01-245FDB-2-2.4 (MIM) NA01-245FDC-4-3 (IPB) NA01-245FDC-4-4 (IPB) NA03-30AY-5 (OH) NA03-30AY-6 (IPB)
9-359-1	Internal Wing Tank Fuel Transfer Low Level Shutoff Valve	NA01-245FDC-2-3.2 (MIM) NA03-10ABG-57 (OH/IPB)
9-363-151	External Wing Fuel Pressure Regulator Assembly	NA01-245FDC-2-3.3 (MIM) NA03-10ABC-9 (OH/IPB)
9230-8784	Exterior Lights, Photo Power Control, ADAS Distribution and Miscellaneous No. 1 Relay	NA01-245FDC-2-5.1 (MIM) NA01-245FDC-2-5.2 (MIM) NA01-245FDC-4-4 (IPB) NA01-245FDC-4-5 (IPB)
94425	Engine Air Oil Cooler	NA01-245FDB-2-3.1 (MIM) NA01-245FDC-4-5 (IPB)
9664	Transformer/Rectifier	NA01-245FDC-2-5.1 (MIM)

Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage

Part No.	Nomenclature	Publication No.
AC1815-1	Hydraulic Back Flush Cleaner Filter	T.O. 34Y2-42-1 (OM)
AC2051-1	Element Bubble Point-Test Stand Filter	NA17-15BD-22 (OS/IPB)
AERO 33B	Bomb Truck	NA19-15BD-501 (OS/OH) NA19-15BD-502 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
AHT58(XMA-75)	Portable Aircraft Hydraulic System Test Stand	NA17-15HA-505 (OH/IPB/OM)
AN/AAM-16	Infrared Detection Set Analyzer	NA16-30AAM16-1 (OM) NA16-30AAM16-2 (IPB)
AN/AAM-17	Infrared Detecting Set Test Bench Set	NA16-30AAM17-1 (OM) NA16-30AAM17-2 (IPB)
AN/AAM-23	Cooler Test Bench	NA16-30AAM23-1 (OM/IPB)
AN/APM-216	Electronic Altimeter Test Set	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
AN/APM-217	Electronic Altimeter Test Bench	NA16-30APM217-1 (OM) NA16-30APM217-2 (IPB)
AN/APM-226	Radar Mapper Test Set	NA16-30APM226-1 (OM) NA16-30APM226-2 (IPB)
AN/APM-228	Radar Test Set	NA01-245FDB-2-6.7 (MIM) NA16-30APM228-1 (OS) NA16-30APM228-2 (IPB)
AN/APM-230	Radar Beacon Test Set	NA16-30APM230-1 (OS/IPB)
AN/APM-235	Transmitter Test Bench Set	NA16-45-382 (OM) NA16-45-383 (IPB)
AN/APM-236	Antenna Receiver Test Bench Set	NA16-45-384 (OM) NA16-45-385 (IPB)
AN/APM-278	Radar Test Set	NA01-245FDB-2-6.7 (MIM) NA16-30APM228-1 (OS) NA16-30APM228-2 (IPB)
AN/ASM-20	Missile Launcher Test Set	NA16-30ASM20-2 (OS/IPB)
AN/ASM-49	Automatic Pilot Test Set	NA17-15KK-3 (IPB/OM)
AN/ASM-50, -50A -50B, -50C	Automatic Pilot System Test Harness	NA17-15KK-2 (OM/IPB)
AN/ASM-56	Navigation Subsystem Test Set	NA17-15KK-4 (IPB/OM)
AN/ASM-73, -73A, -73B	Servo Test Set	NA17-15CAD-27 (OM) NA17-15CAD-28 (IPB)
AN/ASM-82, -82A	Air Data Computer Test Set	NA17-15CAD-2 (OS/IPB)
AN/ASM-91	Frequency Control Test Set	NA17-15CAD-25 (OM) NA17-15CAD-26 (IPB)
AN/ASM-123, A	Angle of Attack Simulator	NA17-15CAD-15 (OS/IPB)
AN/ASM-140	Oscilloscope	NAVSHIPS 94507A(OS/FMI/IPB)
AN/ASM-155	Navigational Computer Test Bench, AN/ASM-155 and AN/ASM-296	NA17-15CA-33 (OM) NA17-15CA-34 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
AN/ASM-192	Inertial Navigation Set Test Set	NA17-15CAA-51 (OM) NA17-15CAA-52 (IPB)
AN/ASM-194, -194A	Inertial Navigation Set Test Bench	NA17-15CAA-47 (OM) NA17-15CAA-48 (IPB)
AN/ASM-200	Attitude Heading Reference Test Set	NA17-15CAA-9 (OM) NA17-15CAA-10 (IPB)
AN/ASM-204A	Air Data Computer Test Set	NA17-15CAD-35 (OM) NA17-15CAD-36 (IPB)
AN/ASM-205, -205A	Data Display Set Test Bench	NA16-30ASM205-1 (OM) NA16-30ASM205-2 (IPB) NA16-45-1075 (OH/IPB)
AN/ASM-208	Inertial Navigation Test Bench Set	NA17-15CAA-49 (OM) NA17-15CAA-50 (IPB)
AN/ASM-210, -210A	Attitude Test Bench Set	NA17-15CAH-7 (OM) NA17-15CAH-8 (IPB)
AN/ASM-269A	Air Data Computer Test Set	NA17-15CAD-52 (OM) NA17-15CAD-53 (IPB)
AN/ASM-270A, -270B	Air Data Computer Test Set	NA17-15CAD-51 (OS/IPB)
AN/ASM-272	Inertial Navigation Test Set	NA17-15CAA-51 (OM) NA17-15CAA-52 (IPB)
AN/ASM-295	Air Data Computer Test Set	NA17-15CAD-52 (OM) NA17-15CAD-53 (IPB)
AN/ASM-296	Navigational Computer Test Bench Set	NA17-15CA-33 (SI) NA17-15CA-34 (IPB)
AN/ASM-310	True Airspeed Test Set Tester	NA17-15CAD-51 (OS/IPB)
AN/ASM-315	Test Set, Automatic Pilot Quick Trim	NA17-15CAD-57 (OS/IPB)
AN/GPM-14	Boresighting Set	NA16-30GPM14-1 (OPER) NA16-30GPM14-2 (SI) NA16-30GPM14-3 (OH) NA16-30GPM14-4 (IPB)
AN/GPM-15	Harmonization and Boresight, Radar System	NA16-30GPM14-1 (OPER) NA16-30GPM14-2 (SI) NA16-30GPM14-3 (OH) NA16-30GPM14-4 (IPB)
AN/PSM-2A	Insulation Test Set	T.O.33A1-4-5-11 (OPER)
AN/PSM-4	Multimeter	NA17-15BAB-20 (OS) NW20-5CB1-3 (DESCRIPTION)
AN/PSM-15A	Pneumatic Pressure Test Set	NA17-15GD-1 (IPB/OM)
AN/PSM-15B/C	Pneumatic Pressure Test Set	NA17-15GD-2 (OM) NA17-15GD-3 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
AN/PSM-17A	Angle of Attack Test Set	NA17-15CAD-1 (IPB/OM)
AN/PSM-17B, -17C	Angle of Attack Test Set	NA17-15CAD-33 (OM) NA17-15CAD-34 (IPB)
AN/PSM-18, -18A	Automatic Pilot Test Set	NA17-15KK-8 (OM) NA17-15KK-9 (IPB)
AN/PSM-19, -19A, -19B	Ramp Control System Test Set	NA17-15A-21 (OM) NA17-15A-22 (IPB)
AN/PSM-19A	Ramp Control System Test Set	NA17-15A-21 (OM) NA17-15A-22 (IPB)
AN/PSM-20, -20A	Electrical Power Test Set	NA17-15AB-18 (IPB/OM)
AN/PSM-21, -21A	Air Conditioning System Test Set	NA17-15BH-6 (OS/IPB)
AN/PSM-23	CADC Noise Level Detector Test Set	NA17-15CAD-4 (IPB/OM)
AN/UPM-28A	Spectrum Analyzer	NA16-30UPM28-1 (OPER) NA16-30UPM28-2 (SERV) NA16-30UPM28-3 (IPB)
AN/UPM-29A, -29B	Radar Test Set	NA16-30UPM29-1 (OPER) NA16-30UPM29-2 (SI) NA16-30UPM29-3 (IPB)
AN/URM-25D	Radio Frequency Signal Generator Set	NA16-30URM25-501 (OM)
AN/USM-26A	Electronic Counter	NA16-30USM26-1 (OPER) NA16-30USM26-2 (SERV) NA16-30USM26-3 (OH) NA16-30USM26-4 (IPB)
AN/USM-44, -44A	Signal Generator	NA16-30USM44-501 (OPER) NA16-30USM44-502 (SI) NA16-30USM44-503 (OH) NA16-30USM44-504 (IPB)
AN/USM-48	Super High Frequency Signal Generator	T.O.33A1-8-250-1 (OS) T.O.33A1-8-250-11 (OS/IPB)
AN/USM-105A	Oscilloscope	NA17-20AW-17 (CALIBRATION)
AN/USM-165	Precision Angle Indicator	NA17-15CAK-1 (OS/IPB)
AN/USM-216	Digital Multimeter	NA16-30USM216-1 (OM/IPB) NA16-45-445 (SI)
A-4	HARA Analyzer Module Extender	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
A03G0021	Camera Test Set	NA17-15E-11 (OM) NA17-15E-12 (IPB)
A03G0022, 23	Cartridge Ejector Impulse Recording Test Set	NA17-15E-11 (OM) NA17-15E-12 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
A03G0051-1	Camera Test Control LA-332B	NA17-15E-6 (FMI) NA17-15E-7 (IPB)
A03G0052-1	Camera Test Selector Adapter LA-335B	NA17-15E-6 (FMI) NA17-15E-7 (IPB)
A04G0001	Transmitter Test Bench Group	NA16-45-382 (OM) NA16-45-383 (IPB)
A04G0002	Antenna/Receiver Test Bench Group	NA16-45-384 (OM) NA16-45-385 (IPB)
A04G0003	Control-Power Supply Component Group	NA16-45-388 (OM) NA16-45-389 (IPB)
A04G0004	Indicator-Computer Component Group	NA16-45-386 (OM) NA16-45-387 (IPB)
A04G0015-1	Computer-Indicator Test Bench Set	NA16-45-386 (OM) NA16-45-387 (IPB)
A05G0181-1	Automatic Pilot Flight Controller Test Set	NA17-15KK-2 (OS/IPB)
A05G0182-1	Automatic Pilot Test Set	NA17-15KK-2 (OS/IPB)
A06G0737	Camera Simulator	NA17-15E-9 (OS) NA17-15E-10 (IPB)
A06G1065-1	Radio Adapter	NA16-45-384 (OM)
A06G1197-1	Data Display Test Set Adapter Group, OF -2/ASM-205	NA16-30ASM205-1 (OM) NA16-30ASM205-2 (IPB)
A06G1275	Weight Shifting Mechanism	NA17-15E-9 (OS) NA17-15E-10 (IPB)
A06G1489-1	Limiting Accelerometer Bracket	NA17-15KK-2 (OS/IPB)
A07G0148	Control-Simulator, C-644DA/APM-216 and C-6440/APM-216	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
A14G0458 (W1) A14G0459 (W2) A14G0460 (W3) A14G0461 (W4) A14G0462 (W5) A14G0463 (W6) A14G0556 (W8)	Associated Cables for LM-131A and LM -132A	NA17-15E-11 (OM) NA17-15E-12 (IPB)
A14G0525 A14G0526 A14G0529 A14G0530 A14G0541	Associated Cables for Control-Simulator, C-6440/APM-216	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
A25A904-101	RF-IF Module Test Set	NA16-45-1134 (SI/IPB)
A25A970-171-101	Control Antenna Test Bench, Type OA -7144/APM-219	NA16-350A7144-1 (OM) NA16-350A7144-2 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
A25A980-171, -101	Amplifier Type OA-7143/APM-219	NA16-350A7143-1 (OM) NA16-350A7143-2 (IPB)
A54E0009-1	Power Supply, LM-140B	NA17-15E-6 (FMI) NA17-15E-7 (IPB)
BH109C	Jetcal Analyzer	NA17-15A-17 (OS/OH/IPB)
BH112J-30	Jet Engine Analyzer	NA17-15A-503 (IPB/OH/OM)
B4A	Aircraft Maintenance Platform	NA19-15BC-8 (OH/OS) NA19-15BC-9 (IPB)
C-6440/APM-216	Control Simulator	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
CJ65D0126	Fifteen Ton Hydraulic Jack	NA19-70-62 (OS/OH/IPB)
CY-6317/APM-238A	Case and Cable Assembly	NA16-30APM238-1 (OM) NA16-30APM228-2 (IPB)
C5378	Electrical Liquid Oxygen Purging Heater Assembly	NW19-60-51 (IPB/OH/OM)
C709763016	Angle Indicator	NA17-15CAK-1 (OS) NA17-15CAK-4 (IPB)
C709796000	Precision Angle Indicator	NA17-15CAK-1 (OS) NA17-15CAK-4 (IPB)
EH-64A	Processor Viewer Photographic Film	NA16-45-363 (OM) NA16-45-364 (IPB)
EL-3586	Tape Recorder	NA16-45-1182 (OS)
ENV21285A	Multivoltage Power Supply	NA17-15CAD-40 (OH/IPB)
ES-52A, 55A	Correlator Processor Set	NA16-45-366 (OM) NA16-45-367 (IPB)
HCT-9	Hydraulic Component Test Stand	NA17-15BF-25
J-2548/G	Interconnecting Box	NA17-15B-53 (IM/IPB)
J-2757/ASM	Interconnecting Box	NA17-15B-53 (ORG/IM/IPB)
LA-332B	Camera Test Control	NA17-15E-6 (FMI) NA17-15E-7 (IPB)
LA-335B	Camera Test Adapter-Selector	NA17-15E-6 (FMI) NA17-15E-7 (IPB)
LM-126A, -127A	Vertical Stabilized Mount Function Simulator	NA17-15E-9 (OM) NA17-15E-10 (IPB)
LM-128A	Weight Shifting Mechanism	NA17-15E-9 (OS) NA17-15E-10 (IPB)
LM-130A	Camera Test Set	NA17-15E-11 (OM) NA17-15E-12 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
LM-131A	Cartridge Ejector Impulse Recording Test Set	NA17-15E-11 (OM) NA17-15E-12 (IPB)
LM-132A	Cartridge Ejector Impulse Recording Test Set	NA17-15E-11 (OM) NA17-15E-12 (IPB)
LM-140B	Power Supply, LM-140B	NA17-15E-6 (FMI) NA17-15E-7 (IPB)
LS-61A	Data Recording Camera Test Set	NA17-15E-8 (IPB)
LS-62A, B	Test Bench Set - Vertical Stabilized Camera Mount	NA17-15E-9 (OM) NA17-15E-10 (IPB)
LS-64A, B	Camera System Test Bench Assembly	NA17-15E-6 (OM) NA17-15E-7 (IPB)
LT-3257A	Computer Set Components Test Stand	NA11-70FF-3 (OPER) NA11-70FF-502 (OPER)
LT-3276B	AN/AJB-3 & AN/AJB-3A Computer Set Portable Analyzer	NA17-15FB-35
LT-3296B	Rate Table	NA11-70FF-3 (SERV) NA11-70FF-502 (SERV) NA17-15FB-504 (IPB/ON/OM)
LT-3972	Scorsby Table	NA11-70FF-3 (OPER) NA11-70FF-502 (SERV)
MA1A Model 7082	Test Stand, Aircraft Generator	NA17-15BAB-14 (OM) NA17-15BAB-15 (OH) NA17-15BAB-16 (IPB)
MDE32SB509701-1, -3	Air Data Computer Set, AN/ASM-270A	NA17-15CAD-51 (OS/IPB)
MDE32SB510401-1, -5	Air Data Computer Test Set	NA17-15CAD-52 (OM) NA17-15CAD-53 (IPB)
MDE321129-311	Air Data Computer Test Set	NA17-15CAD-52 (OM) NA17-15CAD-53 (IPB)
MDE321236-1	Barostat Vacuum Test Chamber	NA17-1-546 (OS/IPB)
MDE321236-301	Barostat Vacuum Test Chamber	NA17-1-546 (IPB/OS)
MDE321237-301	Release Mechanical Switch Assembly	NA17-1-546 (IPB/OS)
MDE321441-1, -301	Coolant Kit	NA17-15BAB-23 (IPB/OM)
MDE321457-1, -301, -303	Servo Test Set, AN/ASM-73, -73A, -73B	NA17-15CAD-27 (SI) NA17-15CAD-28 (IPB)
MDE321819-1, -301	Transducer Test Fixture	NA17-15KK-2 (OM/IPB)
MDE321897-1	Radar Recorder Test, AN/APM-192	NA16-30APM192-1 (OH) NA16-30APM192-2 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
MDE322001-1, -301, -303	Angle of Attack Test Set	NA17-15CAD-7 (IPB/OM)
MDE322612-1, -301	Frequency Control Test Set	NA17-15CAD-25 (OM) NA17-15CAD-26 (IPB)
MDE32274-303, -307	Electrical Power Test Set	NA17-15BAB-18 (OS/IPB)
MDE32284-1	Caution Light Relay Panel Tester	NA17-15B-16 (IPB/OM)
MDE32287-301, -303, -305	Automatic Pilot Test Set	NA17-15KK-8 (SI) NA17-15KK-9 (IPB)
MDE32288-1, -301	Electrical Power Test Harness	NA17-15CAD-31 (OM) NA17-15CAD-32 (IPB)
MDE32289-301, -303, -305, -307	Automatic Pilot System Test Harness	NA17-15KK-2 (OM/IPB)
MDE323161-1, -301	Angle of Attack Simulator	NA17-15CAD-15 (OS/IPB)
MDE323239-301	Environmental Pressure Simulator Test Set	NA17-15CAD-50 (OS/IPB)
MDE323824-301	Automatic Pilot Quick Trim Test Set	NA17-15CAD-57 (OS/IPB)
MDE32524-1, -301, -303	Ramp Control System Test Set, AN/PSM -19, -19A, -19B	NA17-15A-21 (OM) NA17-15A-22 (IPB)
MDE32535-1, -301, -303	Air Conditioning Test Set, AN/PSM-21	NA17-15BH-6 (SI/IPB)
MDE32600-301, -303, -305	Pneumatic Pressure Test Set	NA17-15GD-2 (OH) NA17-15GD-3 (IPB)
MDE32607-307	Air Data Computer Test Set	NA17-15CAD-2 (OS/IPB) NA17-15CAD-51 (OS/IPB)
MDE32607-313	Air Data Computer Test Set, AN/ASM -270B	NA17-15CAD-51 (OS/IPB)
MDE32783-301	Angle of Attack Test Set	NA17-15CAD-1 (OS/IPB)
MDE32783-303, -305	Angle of Attack System Test Set, AN/PSM-17B, C	NA17-15CAD-33 (OM) NA17-15CAD-34 (IPB)
MDE32799-1	Electro Hydraulic Servo Control Cylinder Test Panel	NA17-15B-15 (IPB/OM)
MDN32607-1, -3, -7	Air Data Computer Test Set	NA17-15CAD-51 (OS/IPB)
ME-30A/U	Voltmeter	NA17-15KC-7 (OS/IPB)
MK-20A/UP	Pressurization Kit	NA11-5-520
MT-2596B/ASM-50	Limiting Accelerometer Bracket	NA17-15KK-2 (OS/IPB)
MT-2694, A/ASM-50	Transducer Test Fixture	NA17-15KK-2 (OS/IPB)
NC-2A	Electric Mobile Power Plant	NA19-45A-503 (OS/OH/IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
NC-7B	Electric Mobile Power Plant	NA19-45-529 (OS/IPB)
NC-10	Electric Mobile Power Plant	NA19-45-5 (OS/OH/IPB)
NF105	Noise and Field Intensity Meter	T.O.33A1-4-49-1 (OM/IPB)
NR3	Air Conditioning Unit	NA19-60-512 (IPB/OM)
OA-7143A/APM-219	Amplifier Modulator Test Bench	NA16-350A7143-1 (OM) NA16-350A7143-2 (IPB)
OA-7144/APM-219	Control Antenna Test Bench	NA16-350A7144-1 (OM) NA16-350A7144-2 (IPB)
OA-7145/APM-219	Control Test Bench	NA16-350A7145-1 (OM) NA16-350A7145-2 (IPB)
OA-7146/APM-219	Radio Frequency Test Bench	NA16-350A7146-1 (OM) NA16-350A7146-2 (IPB)
OA-7147/APM-219	Test Bench - Recorder	NA16-30APM228-1 (OS) NA16-350A7147-1 (OM) NA16-350A7147-2 (IPB)
OA-7466/APM-228	Test Set, Group	NA16-30APM228-1 (OS) NA16-350A7466-1 (OM) NA16-305A7466-2 (IPB)
OTS565AM	Diluter Demand Oxygen Regulator Test Stand	NA17-15BC-505 (IPB/OM)
OTS566	Diluter Demand Oxygen Regulator Dial Indicator Test Stand	NA17-15BC-504 (IPB/OM)
PSA-200	Plug-in Spectrum Analyzer	NA16-45-473 (SI/IPB)
P4R15GB	Air Compressor	NA19-35-16 (IPB/OM)
RD4216-00	Phase Sensitive Preamplifier	NA17-15E-21 (MI/IPB)
RMU-8A	Type RMU-8A Reel Launcher	NA11-75-34 (OS/OH/IPB)
SG321	Function Generator	NA16-35SG321-1 (IPB/OM)
SM-355/ASM-62A	Environmental Pressure Simulator Test Set	NA17-15CAD-50 (OM/IPB)
TF-20, -1	Capacitance Type Liquid Quantity System Test Set	NA17-15BD-19 (OS/IPB)
TS-460C/U	Impedance Bridge	NA16-35TS460-501 (IPB/OH/OM)
TS-505/U	Electronic Multimeter	T.O.33A1-12-55-1 (OM) T.O.33A1-12-55-24 (IPB)
TS-1592C/ASM-50	Automatic Pilot Flight Controller Test Set	NA17-15KK-2 (OS/IPB)
TS-1593C/ASM-50	Automatic Pilot Test Set	NA17-15KK-2 (OS/IPB)
TS-1704/PSM-17	Angle of Attack Test Set	NW17-15CAD-7 (IPB/OM)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
TS-1709A/PSM-17	Angle of Attack Test Set	NW17-15CAD-7 (IPB/OM)
TS-1736	RF Power Test Set	NA16-30TS-1736 (IPB/SERV)
TS-2066/PSM-17	Angle of Attack Test Set	NW17-15CAD-7 (IPB/OM)
TS-2228A/APM-228	Radar Test Set	NA16-30APM228-1 (FMI) NA16-30APM228-2 (IPB)
TS-2451/ASN-54(V)	Flight Control System Test Set	NA17-15C-115 (OS/IPB)
TS-2452/ASN-54(V)	Flight Control System Test Set	NA17-15C-116 (OS/IPB)
TV-7/U	Electron Tube Tester	NA16-45-637 (OM/IPB)
TYPE C1	Weighing Kit	NA17-5CAA-501 NA17-5CAA-502
Type 1	Servo Position Indicator	NA05-55C-7 (OH) NA05-55C-8 (IPB)
T1000000	Hydraulic Test Stand	NA17-15BF-42 (OM)
T5-8008-106-00	Tensiometer	T.O.33A3-3-2-1 (OPER) T.O.33A3-3-2-4 (IPB)
T5147	Hydraulic Amplifier & Static Flow Test Bench	NA03-5MA-1 (OH) NA03-5MA-2 (IPB)
UG-1668/APM-228	Radio Waveguide Adapter	NA01-245FDB-2-6.7 (MIM) NA16-30APM228-1 (OS) NA16-30APM228-2 (IPB) NA16-45-384 (OM)
UG317A1	Thermistor Level Sensor Tester Assembly	NA17-15BD-12 (IPB/OS)
W2A1G0530	Associated Cable, AN/APM-216	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
W3A14G0525	Associated Cable, AN/APM-216	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
W4A14G0526	Associated Cable, AN/APM-216	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
W5A14G0539	Associated Cable, AN/APM-216	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
W6A14G0541	Associated Cables, AN/APM-216	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
1C2803G4	Electric Console	NA17-15AD-501 (OM) NA17-15AD-502 (IPB)
1C2862G2, 3	Carbon Seal Tester	NA17-15AE-501 (OM) NA17-15AE-502 (IPB)
1C2863G2, 3	Overtemperature Control	NA17-15AD-505 (OM) NA17-15AD-506 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
1C2873G1, 2, 3	Nozzle Actuator Governor Test Stand Tester	NA17-15BD-2 (OM) NA17-15BD-3 (IPB)
1C2874G1, 2, 3	Inlet Guide Vane and Afterburner Manifold Leak Tester	NA17-15BD-4 (OM) NA17-15BD-5 (IPB)
100628A	Engine Removal and Positioning Trailer	NA19-25E-13 (OS/REPAIR) NA19-25E-14 (IPB)
101-085-5	Pump Assembly, P/O AN/PSM-15, A	NA03-30GLM-4 (OH/IPB)
105GT1030-T3, -T5, -T7, -T9	Test Unit	NA17-15-12 (OM/IPB)
1101T1	Calibrated Light Source	NA17-15E-18 (OM) NA17-15E-19 (IPB)
123382	Intra Lens Test Set	NA17-15E-14 (OM) NA17-15E-15 (IPB)
123383	Focal Plane Shutter Test Set	NA17-15E-16 (OM) NA17-15E-17 (IPB)
13-7324-10	Power Supply	NA17-15E-22 (OS/IPB)
13A3422	Computer Control Test Set	T.O.33D3-24-13-1 (OM/IPB)
13A3670	Computer Amplifier Test Set	NA17-15CAE-10 (SI/IPB)
13A3680	Ground Speed Indicator Test Set	NA17-15CAE-11 (SI/IPB)
134GT1041-T1, -T3, -T5, -T7	Test Unit	NA17-15-12 (OM/IPB)
144194	Oxygen Trailer	NA19-25D-1 (OM/IPB)
145E05651	Transistorized Current Source	NA17-15B-46 (OS/IPB)
1810	Servo Position Indicator	NA05-55C-7 (OH) NA05-55C-8 (IPB)
182666	Servo Indicator	NA05-55C-7 (OH) NA05-55C-8 (IPB)
1890-0C51	50 Gallon Capacity Trailer	NA19-25D-11 (OH/OM) NA19-25D-12 (IPB)
2A63	Differential Amplifier	T.O.33A1-2-127-1 (SI/IPB)
2B67	Time Base Unit	T.O.33A1-5-212-1 (SI/IPB)
20756	Power Supply	NA17-15CAD-41 (OH/IPB)
208000	Inflight Refueling Probe Ground Check Adapter	NA03-100A-502 (IPB/OH)
21000T53-2	Disconnect Separation Test Stand	NA17-15B-21 (IPB/OM)
21285A	Multivoltage Power Supply	NA17-15CAD-40 (OH/IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
21354	Power Supply	NA17-15CAA-47 (OM) NA17-15CAA-48 (IPB)
233439	Inertial Navigation Test Set, AN/ASM-272	NA17-15CAA-51 (OM) NA17-15CAA-52 (IPB)
257916	Electrical Power Test Set	T.O.33A1-7-50-1 (OM/SI/OH) T.O.33A1-7-50-4 (IPB)
268407-1	Compensation Adapter	NA17-15CAD-2 (IPB/OM)
268409-1	Gear Box Indicator	NA17-15CAD-2 (IPB/OM)
268410-1	Gear Box Indicator	NA17-15CAD-2 (IPB/OM)
272450-1A-1, -1B-1	Central Air Data Computer Test Stand	NA17-15CAD-44 (OM/IPB)
272450-2-1, -2A-1	Central Air Data Computer Test Set	NA17-15CAB-7 (OS/IPB/OH)
272451-1-1	Electrical Module Test Set	NA17-15CAD-49 (OM)
272451-1A-1, -1B-1	Electrical Module Test Set	NA17-15CAD-63 (OS/IPB)
272451-2-1, -2A-1	Electrical Module Test Set	NA17-15CAB-8 (OS/IPB)
272452-1-1	Pneumatic Module Test Set	NA17-15CAD-48 (OM)
272452-2-1	Pneumatic Module Test Set	NA17-15CAB-9 (OS/IPB)
30-014617-01	Universal Bench Test Set for Testing AN/APR-25	NA16-45-1247 (OS) NA16-45-1248 (SI) NA16-45-1249 (IPB)
301-2029	Voltmeter	T.O.33A1-12-807-1 (OM/IPB)
32E230071-1	Generator System Adapter Assembly	NA17-15CAD-31 (OM) NA17-15CAD-32 (IPB)
35-100	Hydraulic Check and Fill Stand	NA17-15BF-503 (OM)
356-5430	Six Channel Recording System	NA17-45-88 (IPB/OM)
374D1001	Fifteen (15) Ton Axle Jack	NA19-70-47 (OS/IPB)
38919-2	Side Oblique Camera Positioning System	NA10-10AR-3 (FM/OH) NA10-10AR-4 (IPB)
3917	Twenty (20) Ton Hydraulic Tripod Jack	NA19-70-45 (IPB/OH)
4000A	Engine Transportation and Positioning Trailer	NA19-25E-13 (OM) NA19-25E-14 (IPB)
4000-3089	Ratiometer	NA17-15CAD-43 (IPB/OH)
4000-315	Ratiometer	NA17-15CAD-42 (IPB/OH)
44600000	Precise Angle Indicator	NA17-15CAC-1 (SI/IPB)
486553-2	Recorder Test Set	NA16-45A-22 (OM/IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
486554-3	Magazine Test Set	NA17-15E-25 (OM/IPB)
486602-1	Power Supply Test Set	NA16-45A-23 (OM/IPB)
486873-2	Receiver Test Set	NA16-45A-21 (OM/IPB)
488D350G1	Amplifier Module and Sync Drive Test Set	NA17-15KK-5 (IPB/OM)
488D351G1, G2, G3	Controller and Sensor Test Set	NA17-15KK-6 (OS/IPB)
488D352G1	Force Transducer Test Fixture	NA17-15KK-7 (OS)
498225-1	Extender Board	NA16-30AAM16-1 (OM) NA16-30AAM16-2 (IPB)
498355-1	Test Point Junction Box	NA16-30AAM16-1 (OM) NA16-30AAM16-2 (IPB)
499000-1	Power Supply - Programmer Test Set	NA16-45-1226 (SI/IPB)
499006-1	Transmitter Test Set	NA16-45-1225 (SI/IPB)
499010-1	Command Computer Test Set	NA16-45-1224 (SI/IPB)
50700000	Precise Angle Indicator	NA17-15CAC-1 (SI/IPB)
516837-2	Bench Test Set	NA16-45-1217 (SI/IPB)
515852-1, -2	Cooler Test Bench Set	NA16-30AAM23-1 (OM/IPB)
516873-1	Forward Indicator Test Bench Set	NA16-45-1221 (OH/IPB)
516874-1	Radar Indicator Test Set	NA16-45-1220 (OH/IPB)
516875-1	Indicator Subassembly	NA16-45-1219 (FMI/IPB)
516887-1	Antenna Range Test Equipment	NA16-45-1218 (FMI/IPB)
520670	Bellmouth Bypass Valve Tester Assembly	NA17-15-13 (IPB,OM)
53D22020	Five Ton Jack Assembly (Nose Landing Gear)	NA19-70-43 (OS/OH) NA19-70-44 (IPB) NA19-70-49 (OS/OH/IPB)
53E040006-301	Inertial Navigation System Analyzer	NA17-15CAA-51 (OM) NA17-15CAA-52 (IPB)
53E040013-301	Radar Mapping Set Test Set, AN/APM-226	NA16-30APM226-1 (OM) NA16-30APM226-2 (IPB)
53E040014-301, -305	Radar Test Set, AN/APM-228, A	NA16-30APM228-1 (OM) NA16-30APM228-2 (IPB)
53E040015-1, -301	Test Set Electronic Altimeter	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
53E040017-1	Infrared Detection Set Analyzer, AN/AAM-16	NA16-30AAM16-1 (OM) NA16-30AAM16-2 (IPB)
53E040055-1	Multimeter, AN/USM-216 Digital	NA16-45-445 (IPB/INSTR)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
53E040064-301	Interconnecting Box	NA17-15B-53 (ORG/IM/IPB)
53E040083-1, -305	Transponder Test Set Group	NA16-30APM228-2 (OM) NA16-350A7466-1 (OM) NA16-350A7466-2 (IPB)
53E040153-1	Case and Cable Assembly	NA16-30APM228-1 (OM) NA16-30APM228-2 (IPB)
53E110044-1	Bleed Air System Hydrostatic Tester	NA17-15A-30 (OS/IPB)
53E190002-1, -21	HF Communications Test Group	NA16-30ARM86-1 (O/S/M & Repair) NA16-30ARM86-2 (IPB)
53E210001-303	Air Data Computer Test Set	NA17-15CAD-35 (OM) NA17-15CAD-36 (IPB)
53E210059-1	True Air Speed Test Set Tester	NA17-15CAD-51 (OS/IPB)
53E230064-1	Frequency Control Test Set	NA17-15CAD-25 (OM) NA17-15CAD-26 (IPB)
53E260024-1	Direct Radar Scope Camera Test Set	NA17-15E-8 (OH/IPB)
53E350001-1, -11	Inertial Navigation Set Test Bench Set	NA17-15CAA-47 (OM) NA17-15CAA-48 (OH/IPB)
53E350004-11	Platform Test Set	NA17-15CAA-49 (OM) NA17-15CAA-50 (IPB)
53E350012-3, -303	Navigational Computer Test Bench, AN/ASM-155, -296	NA17-15CA-33 (SI) NA17-15CA-34 (IPB)
53E350021-1, -11, -301	Inertial Navigation Set Test Bench Set	NA17-15CAA-47 (OM) NA17-15CAA-48 (OH/IPB)
53E350023-1	Back Up Attitude Reference Set Analyzer	NA17-15CAH-9 (OM) NA17-15CAH-10 (IPB)
53E350024-17	Test Bench, Backup Attitude Reference	NA17-15CAH-7 (OM) NA17-15CAH-8 (IPB)
53E350060	Inertial Navigation Set Test Bench Set	NA17-15CAA-47 (OM) NA17-15CAA-48 (OH/IPB)
53E370031-3, -303	Camera System Test Bench Set, LS-64A	NA17-15E-6 (OM) NA17-15E-7 (IPB)
53E370033-3, -303	Vertical Stabilized Camera Mount Test Bench Set	NA17-15E-9 (OM) NA17-15E-10 (IPB)
53E370123-1, -301	Recording Head Assembly Alignment Tool	NA16-45-1075 (OS/IPB)
53E370124-3, -301	Test Bench Assembly, AN/ASM-205, -205A	NA16-30ASM205-1 (OM) NA16-30ASM205-2 (IPB)
53E370314-1	Vertical Stabilized Mount Function Simulator	NA17-15E-9 (OM) NA17-15E-10 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
53E370315-1	Camera Bench Function Simulator	NA17-15E-6 (OM) NA17-15E-7 (IPB)
53E370316-1	Vertical Stabilized Mount Function Simulator	NA17-15E-9 (OM) NA17-15E-10 (IPB)
53E370317-1	Power Supply Test Load	NA17-15E-9 (OM) NA17-15E-10 (IPB)
53E370318-1	Camera Analyzer Counter Filter	NA17-15E-11 (OM) NA17-15E-12 (IPB)
53E370319-1	Camera Simulator Module Extender	NA17-15E-11 (OM) NA17-15E-12 (IPB)
53E370322-1	Cable Assembly, for Radar Recorder Test Set, AN/APM-192	NA16-30APM192-1 (OM) NA16-30APM192-2 (IPB)
53E410002-9	Infrared Recon Set Test Bench Assembly	NA16-30AAM17-1 (OM) NA16-30AAM17-2 (IPB)
53E410032-3, -303	Computer-Indicator Component Group	NA16-45-388 (OM) NA16-45-389 (IPB)
53E410044-19	IR Recon Cooler System Test Bench Set	NA16-30AAM23-1 (OM/IPB)
53E410047-1	RF-IF Unit Module Test Set	NA16-45-1134 (IPB)
53E410048-1	Power Distribution Module Test Set	NA16-45-1135 (IPB)
53E410049-1	Film Motor Drive Amp & Diode Matrix Test	NA16-45-1136 (IPB)
53E410050-1	Recorder Control Power Supply Test Set	NA16-45-1131 (IPB)
53E410051-1	Recorder Deflection Chain Module Test Set	NA16-45-1132 (IPB)
53E410052-1	Recorder Multi-Module Test Set	NA16-45-1133 (IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
53E410053-1	Recorder Power Supply (HU-LV) Test Set	NA16-45-1128 (IPB)
53E410054-1	Antenna Control Group Module Test Set	NA16-45-1129 (IPB)
53E410078-1	Sequencer & Associated Module Test Set	NA16-45-1130 (IPB)
53E410079-1	Time Generation Chain Test Set	NA16-45-1124 (IPB)
53E410080-1	Sync Demod & Associated Module Test Set	NA16-45-1125 (IPB)
53E410081-1	Motion Compensation Module Test Set	NA16-45-1126 (IPB)
53E410082-1	Sync x/x Verification Power Module Test Set	NA16-45-1127 (IPB)
53E410083-1	Data Film Evaluator, EH-64A	NA16-45-363 (OM) NA16-45-364 (IPB)
53E410225-1	Hara Analyzer Module Extender	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
53E410226-1	Hara Analyzer Module Extender, A-4	NA16-30APM216-1 (OM) NA16-30APM216-2 (IPB)
53E410182-1	Transponder Test Set Group, OA -7466/APM-228	NA16-350A7466-1 (OM) NA16-350A7466-2 (IPB) NA16-30APM228-1 (OM)
543953-3	Infrared Detecting Test Set	NA16-30AAM17-1 (OM) NA16-30AAM17-2 (IPB)
564	Oscilloscope	T.O.33A1-13-242-1 (SI/IPB)
6146	Universal EPUT and Timer, Model 6146	NA16-45-449 (OS/IPB)
62A122J1 (NT4)	Aircraft Universal Towbar Assembly	NA19-60-65 (OS/OH/IPB)
620-8414	Digital Ratiometer	NA17-15CAD-66 (SI/IPB)
651	Voltage to Frequency Converter	NA16-45-450 (IPB)
7085	Electrical Power Test Assembly	NA17-15BA-144 (IPB) NA17-15BA-518 (OH) NA17-15BA-517 (OM)
716B	Klystron, Power Supply	NA16-45-446 (IPB/SI)
775-451-9002	A.C. Voltmeter	NA17-15CAD-39 (IPB/OH)
803BAG	Alternating/Direct Current Differential Voltmeter	NA17-20AE-26 (CALIBRATION)
900593	Nitrogen & Air Servicing Trailer	NA19-25B-507 (IPB/OH)
901678, -1-1	Altitude Encoder Test Set	NA17-15CAD-54 (OM) NA17-15CAD-55 (IPB)
91H	Sensitive Radio Frequency Voltmeter, Model 91H	T.O.33A1-12-702-1 (OM/IPB)

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Table 1-5. Aerospace Ground Equipment (AGE) Part Numbers and Publication Coverage (CONT)

Part No.	Nomenclature	Publication No.
911B1	Data Recording System	NA17-15E-20 (IPB/SI)
93-1015-1	Digital Multimeter AN/ASM-216	NA16-30USM216-1 (OM/IPB)
931	DC Ammeter and Voltmeter, Model 931	T.O.33A1-12-220-1 (OS)

SECTION II

AEROSPACE GROUND EQUIPMENT

2-1. SPECIAL TOOLS AND TEST EQUIPMENT.

2-2. Special tools and test equipment required for engine start and run-up, ground handling, and servicing of the aircraft are listed in table 2-1.

2-3. STANDARD TEST EQUIPMENT.

2-4. Standard test equipment required for engine start and run-up, ground handling, and servicing of the aircraft is listed in table 2-2. Entries in the Required Range and Required Accuracy columns specify range and tolerance to facilitate selection of equivalent equipment when the recommended AGE is not available.

NOTE

The following items listed in tables 2-1 and 2-2 are manufactured by McDonnell Aircraft, St. Louis, Mo. 63106, unless otherwise specified.

Table 2-1. Special Tools and Test Equipment

Item No.	Nomenclature	AN Type Designation or Part Number	Use
1.	Strut, forward canopy safety	MDE32502-1	Para. 5-11
2.	Strut, aft canopy safety	MDE32503-1	Para. 5-11
3.	Clips, engine air ramp circuit breaker safety	MDE321041-1	Para. 5-148
4.	Lock, ram air turbine cockpit safety	MDE32406-1, -301	Para. 5-148
5.	Pin Assembly, ejection seat safety (BEFORE AFC 307).	MDE32722-301, -305, -307, -311 and -313	Para. 5-11
6.	Pin Assembly, ejection seat ground safety (AFTER AFC 307).	MDE32722-317, -327	Para. 5-11
7.	Strut, speed brake safety	MDE3219-301	Para. 5-169
8.	Pin, nose landing gear jacking lock	MDE32782-1	Para. 5-169
9.	Strut, auxiliary air door safety	MDE3253-301 or 32E050034-1	Para. 5-169
10.	Pin, nose landing gear door uplatch lock	MDE32147-1	Para. 5-169
11.	Pin, main landing gear inboard door lock	MDE32145-1	Para. 5-169
12.	Strut, nose landing gear actuator safety	MDE3238-1, -301, -303, -305, -307, and -309	Para. 5-169
13.	Hook Uplock Assembly, arresting	MDE32492-301	Para. 5-169
14.	Strut, main landing gear actuator safety	MDE321418-1, -301	Para. 5-169
15.	Strut, wing jury	MDE3207-1	Para. 5-169
16.	Strut, inflight refueling probe safety	MDE32868-1	Para. 5-169

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Table 2-1. Special Tools and Test Equipment (CONT)

Item No.	Nomenclature	AN Type Designation or Part Number	Use
17.	Lock Assembly, ram air turbine	MDE32127-1	Para. 5-169
18.	Pin, stores rack safety	MDE3254-301	Para. 5-207
19.	Pin, photoflash cartridge ejector door safety	53E370119-1, -2	Para. 5-215
20.	Pin, cassette ejector safety	53E370131-1	Para. 5-215
21.	Strut, radar mapping (SLR) radome jury	53E370133-301, -303	Para. 5-215
22.	Cover Kit, canopy, radome, and pitot	53E110000-1	Para. 5-226
23.	Cover, wheelwell honeycomb (151975t THRU 153115aa BEFORE AFC 230 PART III)	MDE32243-1(L), -2(R)	Para. 5-226
24.	Cover, wheelwell honeycomb (151975t THRU 153115aa AFTER AFC 230 PART III)	MDE32243-301(L), -302(R)	Para. 5-226
25.	Cover, engine air duct	MDE32720-303(L), -304(R)	Para. 5-226
26.	Guard, engine air duct	32E390046-1, -301(L), -2, -302(R)	Para. 5-226
27.	Cover Assembly, wing butt	MDE3221-301(L), -302(R)	Para. 5-226
28.	Cover, engine afterburner	MDE3215-301, -303	Para. 5-226
29.	Guard, engine air duct	MDE32786-301(L), -302(R)	Para. 5-226
30.	Cover, tri-camera oblique window	53E370005-1(L), -2(R)	Para. 5-251
31.	Cover, forward vertical window	53E370016-1	Para. 5-251
32.	Cover, aft panoramic window	53E370006-1	Para. 5-251
33.	Cover, tri-camera vertical window	53E370004-1	Para. 5-251
34.	Cover, forward oblique window	53E370003-1, -303	Para. 5-251
35.	Cover, viewfinder window	53E370134-1	Para. 5-251
36.	Frame, stress	MDE323071-1(L), -2(R)	Fig. 3-19
37.	Frame, stress	MDE323072-1(L), -2(R)	Fig. 3-19
38.	Frame, stress	MDE323073-1(L), -2(R)	Fig. 3-19
39.	Frame, stress	MDE323693-1(L), -2(R)	Fig. 3-19
40.	Adapter, socket assy	HT3203M	Table 3-1
41.	Adapter, socket assy	HT3304M	Table 3-1

CONTINUED

Table 2-1. Special Tools and Test Equipment (CONT)

Item No.	Nomenclature	AN Type Designation or Part Number	Use
42.	Adapter, socket assy	HT3305M	Table 3-1
43.	Adapter, socket assy	HT3306M	Table 3-1
44.	Adapter, socket assy	HT3407M	Table 3-1
45.	Adapter, socket assy	HT3408M	Table 3-1
46.	Box, interconnecting	J-2757/ASM	Para. 5-20
47.	Ladder, maintenance	MDE3269-303	Para. 5-11
48.	Pad, jack	MDE3206-301 or 53-E010004-1	Para. 5-109
49.	Adapter Bar	53E010005-1	Para. 5-109
50.	Fitting, wing tiedown	MDE32345-1, -2	Para. 5-89
51.	Ring, wing tiedown	MDE32346-1	Para. 5-89
52.	Pin, stores lowering lug	MDT3202-301	Para. 5-89
53.	Sling, hoisting	MDE32184-1	Para. 5-133
54.	Adapter, stabilator installation	MDE32326-1	Para. 5-138
55.	Sling, stabilator hoisting	MDE 3277-1	Para. 5-138
56.	Adapter Ring Assy, ext. store handling	MDE32198-1	Para. 5-138
57.	Spacer Bar, ext stores handling	MDE3288-13	Para. 5-138
58.	Sling, outer wing hoist	MDE3278-1	Para. 5-144
59.	Skid, arresting hook	MDE32508-1	Para. 5-278
60.	Pin, wing fold lockpin removal	MDE32863-1	Para. 8-29
61.	Fitting, filler	MDE321756-1	Para. 6-109
62.	Fitting, filler	32E320005-1	Para. 6-105
63.	Adapter, emergency starting	MDE322997-1	Para. 4-29
64.	Pin, countermeasures equipment door electrical disarming (AFTER AFC 332).	32E050049-1	Para. 5-169
65.	Hose Assembly, autopilot manifold	62A138D1 (Local Manufacture from BUWEPS Dwg. No. 62A138D1)	Para. 5-25
66.	Cable, ground crew adapter	MDE32870-301	Para. 5-41

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Table 2-1. Special Tools and Test Equipment (CONT)

Item No.	Nomenclature	AN Type Designation or Part Number	Use
67.	Adapter, engine start (153101z THRU 153115aa AFTER AFC 329)	32E390047-1	Para. 4-14
68.	Cap	32-58165-3	Para. 6-139
69.	Cable, lower block disconnect adapter	MDE322982-301	Para. 5-41
70.	Cable, intermediate block adapter	MDE32738-1	Para. 5-41
71.	Cage, tire	Local Manufacture. See figure 2-1.	Para. 6-114

Table 2-2. Standard Test Equipment

Item No.	Nomenclature	AN Type Designation or Part No.	Alternative Equipment Required Range	Alternative Equipment Required Accuracy	Use
1.	Power Source, external electrical Power Plant, mobile electric (Flight Line) Power Plant, mobile electric (Flight Line) Power Plant, mobile electric (Flight Line) Power Plant, mobile electric (Deck)	 NC-7B MMG2 NC-10 NC-2A	 200/115Vac, 400 Hz 3Ø; 28Vdc	 ±10 percent	Para. 5-15
2.	Power Source, external hydraulic Portable Aircraft Hydraulic Systems Test Stand (Flight Line) Cart, hydraulic (Deck)	 Model AHT-58 (Sun Electric Corp., Chicago, Ill. 60631) 11092 (Sprague Mfg. Co., Chicago, Ill. 60631)	 0-4500 psi 19GPM (3 micron filtration required)	 ±10 percent	Para. 5-25
3.	Air Conditioning Unit	NR-3 (Chrysler Corp, Airtemp Div., Dayton, Ohio.)			Para 5-34
4.	Coupling, equipment ground cooling	MS16051-1			Para. 5-34
5.	Fitting, external pressure suit cooling	56AT (Perfecting Service Co.)			Para. 5-34
6.	Towbar	NT-4			Para. 5-58
7.	Tiedown Assembly, aircraft mooring	PS4092 (Eastern Rotocraft Corp., Doylestown, Pa.)			Para. 5-81
8.	Chocks, wheel	NAF601628-1			Para. 5-73
9.	Jack, tripod	3917 (Regent Jack Mfg. Co., Downey, California, 90241)	20 ton		Para. 5-109
10.	Jack, axle	374D1001 (Sancor Corp., El Segundo, California)	15 ton		Para. 5-118
11.	Adapter, ring	SP2419 (The Spencer Turbine Co., Hardford, Conn. 06106)			Para. 5-89
12.	Trailer, air logistics	4000A (Hammond Mfg. Corp., Pasadena, California)			Para. 5-139

CONTINUED

Table 2-2. Standard Test Equipment (CONT)

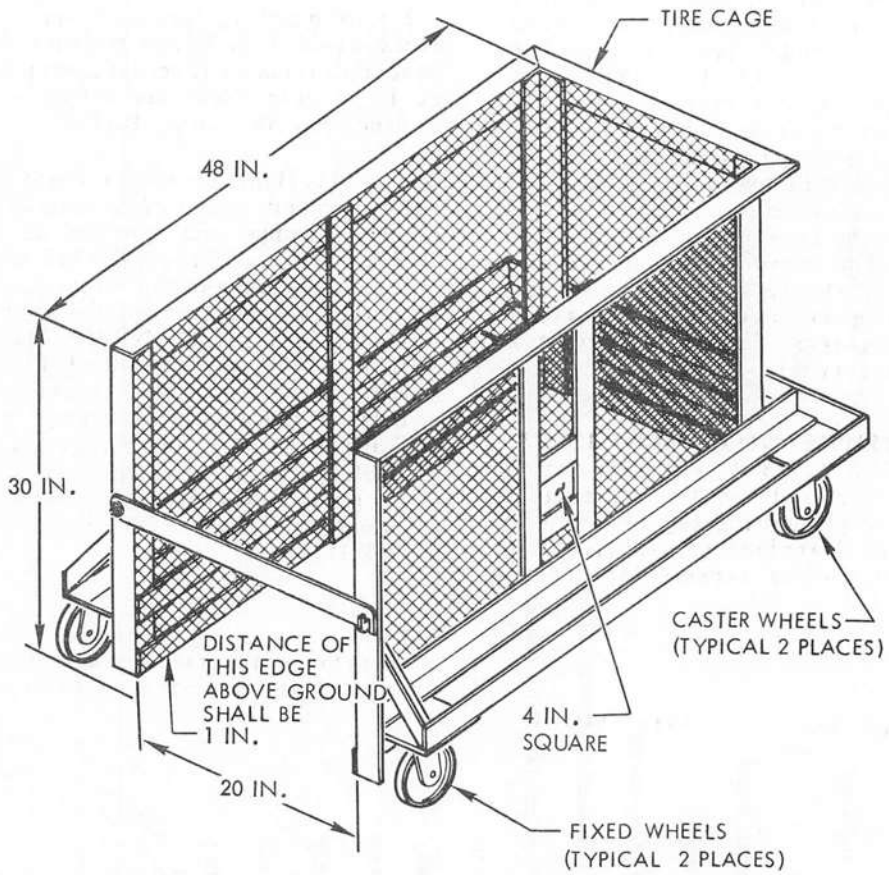
Item No.	Nomenclature	AN Type Designation or Part No.	Alternative Equipment Required Range	Alternative Equipment Required Accuracy	Use
13.	Adapter, probe refueling	208000 (Flight Refueling Div., Baltimore, Md.)			Para. 6-14
14.	Trailer, nitrogen servicing	900953 (Henry Spen and Co. Inc., Brooklyn, N.Y. 11207)	0-4500 psi 0-3000 psi	±2 percent ±2 percent	Para. 6-42
15.	Pre-Oiler	Pon-5A (Heat Exchangers, Inc.)			Para. 6-48
16.	Pre-Oiler	Pon-6 (Heat Exchangers, Inc.)			Para. 6-48
17.	Beaker		2 qt. graduated in ounces		Para. 6-48
18.	Bottle Assembly, drain	58A72B-77 (Bowser-Briggs Filtration Div., Cookeville, Tenn. 38501)			Para. 6-48
19.	Pressure Source, external pneumatic	900953 (Henry Spen and Co., Inc., Brooklyn, N.Y. 11207)	0-4500 psi 0-3000 psi	±2 percent ±2 percent	Para. 6-88
20	Wrench, torque	F200-I	0-200 in.-lbs	±2 percent	Para. 6-109
21.	Wrench, torque	F150-I	0-150 in.-lbs	±2 percent	Para. 6-97
22.	Check Stand, hydraulic	35-100, General Equipment and Mfg. Co. Inc., Louisville, Ky. 40213)			Para. 6-66
23.	Trailer, liquid oxygen servicing	1890-0C51			Para. 6-121
24.	Boots, protective	MIL-B-51176			Para. 6-121
25.	Shield, industrial face	F & L-F-36 (Type B)			Para. 6-121
26.	Apron, general purpose	MIL-A-41829			Para. 6-121
27.	Coveralls	MIL-C-14610			Para. 6-121
28.	Gloves, leather	FSKK-G-486, Type II			Para. 6-121
29.	Gun, grease	1034 (BE-GE Mfg. Co.)			Para. 6-150

CONTINUED

Table 2-2. Standard Test Equipment (CONT)

Item No.	Nomenclature	AN Type Designation or Part No.	Alternative Equipment Required Range	Alternative Equipment Required Accuracy	Use
30.	Power Unit, auxiliary	RCPP-105 (AiResearch), RCPT-105 (AiResearch) or MD-3			Para. 4-14
31.	Power Unit, auxiliary	GTC85-15 (AiResearch)			Para. 4-29
32.	Fitting, wye	K4449271			Para. 4-29
33.	Pump, hydraulic hand	2120 (BE-GE Mfg. Co.)			Para. 6-150
34.	Gage Assembly	MIL-G-8348	0-2000 psi		Para. 6-101
35.	Cart, additive dispensing	1001-101500			Para. 6-128
36.	Gloves, fuel resistant neoprene rubber	ZZ-G-381			Para. 6-128
37.	Boots, fuel resistant neoprene rubber	ZZ-530			Para. 6-128
38.	Wrench, torque	F100-I	0-100 in.-lbs		Para. 6-88
39.	Gage Assembly		0-200 psi		Para. 6-101
40.	Wrench, torque	F400-I	0-400 in.-lbs		Para. 5-25
41.	Gage Assembly		0-3000 psi		Para. 6-105
42.	Gage Assembly		0-1000 psi		Para. 6-114
43.	Gage Assembly		0-500 psi		Para. 6-114
44.	Wrench, torque	F50-I	0-50 in.-lbs		Para. 6-93

MATERIALS LIST		
NOMENCLATURE	STOCK SIZE	QUANTITY
ANGLE IRON	1/4 IN. X 2 IN.	40 FT.
FLAT STEEL	1/4 IN. X 2 IN.	10 FT.
EXPANDED METAL	30 IN. X 48 IN.	2
	20 IN. X 30 IN.	1
WHEELS	CASTER	2
	FIXED	2



FDC-2-1.1-(3)

Figure 2-1. Tire Cage

SECTION III

GENERAL INFORMATION

AIRCRAFT SYSTEMS DESCRIPTION

3-1. AIRCRAFT GENERAL ARRANGEMENT.

3-2. The general arrangement of the RF-4B aircraft is shown in figure 3-1.

3-3. GENERAL AIRFRAME.

3-4. **CONTROL SYSTEMS.** Lateral control is accomplished by simultaneous operation of the ailerons and spoilers. A stabilator, which functions as both a stabilizer and an elevator, provides longitudinal control. All control surfaces are hydraulically operated with the actuators being controlled by conventional stick and rudder pedals through mechanical linkage, which includes artificial feel systems in the rudder, stabilator, and lateral control systems. An aileron-rudder interconnector (ARI) which operates in conjunction with the Flight Control Group (automatic pilot) is also provided. The ARI automatically coordinates low airspeed turns by providing rudder displacement as a function of aileron displacement. The wings are equipped with hydraulically actuated, electrically controlled leading and trailing edge flaps, and speed brakes. A boundary layer control system (BLC) supplied by engine bleed air operates in conjunction with the leading and trailing edge flaps to increase lift and reduce turbulence during slow speed flight. Provision is made for pneumatic extension of flaps in the event of either electrical or hydraulic failure.

3-5. **Droop Ailerons. 153101z AND UP; ALSO, 151975t THRU 153100y AFTER AFC 218.** When the flap control switch is placed in the 1/2 or DN position, the ailerons move down together (droop) approximately 16 degrees to provide increased lift and slower landing speeds. A slotted leading edge stabilator provides increased longitudinal control during the flap and aileron droop operation. With flaps down, lateral movement of the control stick operates the ailerons and spoilers normally for lateral control.

3-6. **LANDING GEAR AND RELATED SYSTEMS.** Conventional tricycle type landing gear is retracted into the wing and forward fuselage by hydraulic power. Emergency pneumatic extension is provided to release and extend the gear if the hydraulic system fails. The nose wheel is steerable and hydraulically actuated. Nose gear extension for catapulting is pneumatically actuated. Multiple disc type brakes in each main gear are hydraulically actuated with emergency pneumatic actuation provided. The arresting hook is operated independently, being lowered by gravity and a precharged actuator and retracted by hydraulic power. A drag chute installation in the fuselage tail cone shortens landing runs ashore.

3-7. **HYDRAULIC AND PNEUMATIC SYSTEMS.**

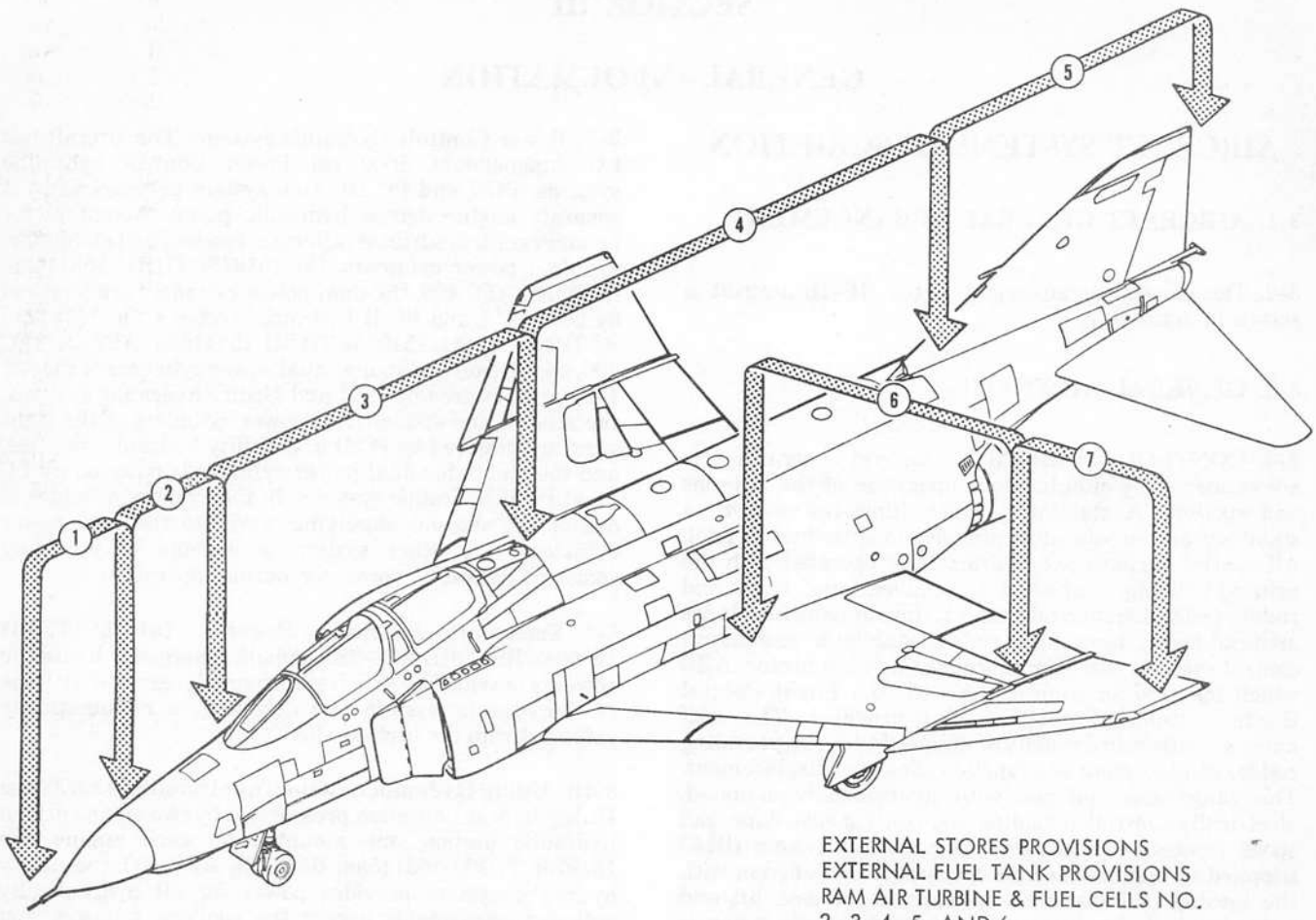
3-8. **Power Controls Hydraulic Systems.** The aircraft has two independent 3000 psi Power Control hydraulic systems (PC I and PC II), each system pressurized by a separate engine driven hydraulic pump. Actuators for primary control surfaces (ailerons, spoilers and stabilator) are dual power cylinders. On 151975t THRU 153115aa, BEFORE AFC 400, the dual power cylinders are powered by both PC I and PC II hydraulic systems. On 157342ao AND UP; ALSO, 151975t THRU 153115aa, AFTER AFC 400, the aileron and spoiler dual power cylinders of the left wing are powered by PC I and Utility hydraulic systems, the aileron and spoiler dual power cylinders of the right wing are powered by PC II and Utility hydraulic systems, and the stabilator dual power cylinder is powered by PC I and PC II hydraulic systems. In the event of a failure of one of the systems supplying power to the dual power cylinders, the other system is capable of providing sufficient hydraulic power for normal operation.

3-9. Emergency Hydraulic Power – 151975t THRU 153094x BEFORE AFC 220. Inflight emergency hydraulic power is provided by a hydraulic pump integrated with the PC I hydraulic system and driven by a pneumatically extended ram air turbine (RAT).

3-10. **Utility Hydraulic System.** The aircraft has a 3000 psi Utility hydraulic system pressurized by two engine driven hydraulic pumps, one mounted on each engine. On 151975t THRU 153115aa, BEFORE AFC 400, the utility hydraulic system provides power for all hydraulically actuated components except the spoilers, ailerson, and stabilator. On 157342ao AND UP; ALSO, 151975t THRU 153115aa, AFTER AFC 400, the Utility hydraulic system provides power for the aileron and spoiler dual power cylinders of the left and right wings in conjunction with PC I and PC II hydraulic systems, and power to all other hydraulically actuated components except the stabilator dual power cylinder. For contamination control requirements and procedures, see NAVAIR 01-245FDB-2-2.4.

3-11. **Pneumatic System.** A 3000 psi pneumatic system, charged by a hydraulically operated air compressor, provides for normal operation of the canopies, extension of the ram air turbine, film cassette ejector, and nose gear strut extension for carrier launch. The pneumatic system also provides emergency jettison of canopies, emergency extension of the landing gear and flaps, and emergency wheel brake application in the event of Utility hydraulic system failure. On 157342ao AND UP; ALSO 151975t THRU 153115aa, AFTER AFC 370, the pneumatic system provides emergency extension of the inflight refueling probe. 153101z THRU 153115aa BEFORE AFC 400, ALSO, 151975t THRU 153100y AFTER AFC 218 AND BEFORE AFC 400, the flap pneumatic system provides emergency extension of aileron droop cylinders.

3-12. On 151975t THRU 153115aa AFTER AFC 400 BUT BEFORE AFC 534, the ailerons will not extend to droop position because the emergency line to the shuttle valve on the droop cylinder is deleted. Refer to NAVAIR 01-245FDC-2-2.2 for additional information.



1 RADOME

PITOT STATIC PROBE
RADAR ANTENNA-RECEIVER

2 NOSE FUSELAGE

PHOTOGRAPHIC RECONNAISSANCE EQUIPMENT

3 FORWARD FUSELAGE

COCKPITS AND CONTROLS
NOSE LANDING GEAR
AIR CONDITIONING EQUIPMENT
RADAR MAPPING SET
COUNTER MEASURES RECEIVING SET
INFRARED RECONNAISSANCE SET
HYDRAULIC AND PNEUMATIC EQUIPMENT
INFLIGHT REFUELING PROBE
PRESSURIZATION EQUIPMENT
ENGINE AIR INTAKE DUCTS AND RAMPS
ENGINE FEED FUEL CELL

4 CENTER FUSELAGE

AERIAL PHOTOFLASH EQUIPMENT
CATAPULT HOLDBACK
ENGINES
EXTERNAL STORES PROVISIONS
EXTERNAL FUEL TANK PROVISIONS
RAM AIR TURBINE & FUEL CELLS NO. 2, 3, 4, 5, AND 6

5 AFT FUSELAGE

HF RADIO ANTENNA
STABILATOR COMPONENTS
RUDDER COMPONENTS
ARRESTING HOOK
DRAG CHUTE
VERTICAL FIN

6 INNER WING

LATERAL CONTROLS COMPONENTS
BOUNDARY LAYER CONTROL
LEADING AND TRAILING EDGE FLAPS
SPEED BRAKES
INTEGRAL FUEL TANKS
LANDING GEAR
BOUNDARY LAYER CONTROL
WING FOLD COMPONENTS
EXTERNAL FUEL TANK PROVISIONS

7 OUTER WING

LEADING EDGE FLAPS
BOUNDARY LAYER CONTROL
WINGFOLD COMPONENTS

FDC-2-1.1-(4)

Figure 3-1. General Arrangement

3-13. **ARMOR PROTECTION 157342ao AND UP, ALSO 151975t THRU 153115aa, AFTER AFC 472.** Armor plating may be installed to protect critical components in the hydraulic bay, oxygen bay and aft fuselage. Armor plates are secured to the lower side of doors 15, 16, 22, 23, and 28L/R. See figure 3-2.

3-14. ELECTRICAL POWER SUPPLY SYSTEM.

3-15. Electrical power is provided by two alternator type generators, one mounted on each engine. Self contained, hydraulically operated, constant speed drive units turn the generators at a constant speed, regardless of engine rpm. Output of the generators is 200/115Vac, 400 Hz, 3ϕ.

Capacity of each generator is 20 KVA or 30 KVA depending on which system is installed in the aircraft. Power conversion and distribution consists basically of separate left, right, and essential distribution for three-phase ac power, with a transformer-rectifier on each system to furnish 28Vdc power requirements. Auto-transformers provide 28 and 14Vac for equipment and lighting systems requiring this power. The aircraft is not equipped with a battery. External electrical power requirements are 200/115Vac, 400 Hz 3ϕ; refer to paragraph 5-14. Inflight emergency electrical power for selected essential circuits is provided by an ac generator driven by a ram air turbine (RAT). The RAT is normally retracted inside flush doors on the left side of the center fuselage and is extended by pneumatic pressure.

3-16. POWER PLANT SYSTEMS.

3-17. **POWER PLANT.** The aircraft is equipped with two J79 series axial-flow turbo-jet engines with variable afterburner thrust. Engines are mounted internally to the left and right of the fuselage keel. Engines incorporate a 17-stage compressor, of which the angles of the inlet guide vanes and the first six stages of stator vanes are variable. The combustion system consists of 10 individual combustion liners situated between an inner and outer combustion casing. A 3-stage turbine rotor is coupled directly to the compressor rotor. The afterburner system provides afterburner thrust variation through fuel flow scheduling and actuation of the variable area, converging-diverging type exhaust nozzles. The rotors are supported by three main bearings. Accessory housings on each engine provide pads for an ac generator and two hydraulic pumps. The 17th stage of the compressors are equipped to supply bleed air for BLC and other aircraft pneumatic requirements.

3-18. **AIR INDUCTION.** Independent and identical air induction is provided for each engine. Splitter type fixed ramp and intake ducts, integral with the fuselage, are located on each side of the rear cockpit. Inlet airflow for both combustion and engine cooling is controlled by a variable inlet duct ramp at the duct opening, and distributed by a variable bypass bellmouth ring located immediately forward of the engine air intake. Operation is automatically programmed for all engine requirements. Auxiliary air doors, on the bottom side of each engine compartment, provide an entrance for engine cooling air during landing gear down/slow flight conditions and during ground engine operation. When the landing gear is up, the auxiliary air doors are normally closed during flight, except when excessive pressure in the engine compartments causes the doors to open.

3-19. **FUEL SYSTEM.** Internal fuel storage consists of six interconnected, bladder type fuel cells in the fuselage and two integral fuel tanks created by structural members and skins of each inner wing section. The No. 1 fuselage cell, located aft of the aft cockpit bulkhead, is the engine feed cell. This cell, equipped with two fuel boost pumps, provides fuel flow under pressure or gravity fuel flow directly to the engines. The aircraft is equipped for two external pylon mounted 370 gallon wing tanks and/or a 600 gallon external centerline tank carried on a recessed bomb rack. Inflight refueling is accomplished through a hydraulically actuated probe mounted on the upper right side of the fuselage adjacent to the canopies. The internal and external fuel tanks are pressure refueled and defueled through a single point receptacle. Fuel transfer to the engine feed cell (No. 1) is accomplished by gravity and/or under pressure using dual hydraulically and electrically driven fuel transfer pumps. Transfer of internal wing tanks and external wing tanks fuel to the fuselage cells is accomplished by tank pressurization utilizing engine bleed air or external air pressure.

3-20. AVIONICS.

3-21. Electronic equipment installed in the aircraft consists of the following sets and systems. (Electronic Reconnaissance Systems are listed under a separate heading.)

a. Integrated Electronic Central AN/ASQ-88 and AN/ASQ-108 (CNI).

b. Navigation Computer Set AN/ASN-46, -46A.

c. Inertial Navigation Set AN/ASN-56 (INS) (151975t THRU 153100y BEFORE AFC 236).

d. Inertial Navigation Set AN/ASN-74 (INS) (153101z AND UP; ALSO 151975t THRU 153100y AFTER AFC 236).

e. Electronic Altimeter Set AN/APN-159.

f. Air Data Computer Set (ADC).

g. Flight Director Group (FDG).

h. Flight Control Group AN/ASA-32.

i. Attitude Heading Reference System AN/ASN-55 (AHRS).

j. Receiving-Decoding Group AN/ARA-63 (151975t THRU 157351aq AFTER 470 PART III).

k. Approach Power Compensator System (AFTER AFC 254).

3-22. **Integrated Electronic Central AN/ASQ-88 and AN/ASQ-108.** The Integrated Electronic Central AN/ASQ-88 and AN/ASQ-108 provides UHF voice communications, radio navigation and identification functions for the aircraft. Communications are provided by a 1750 channel UHF Radio Receiver-Transmitter, an auxiliary receiver and intercommunication equipment. Navigation functions are provided by Tactical Air Navigation (TACAN) and UHF automatic Direction Finding (ADF) equipment. The TACAN equipment also provides air-to-air ranging information (short range in miles). A Coder-Receiver-Transmitter unit automatically transmits identification information when properly interrogated.

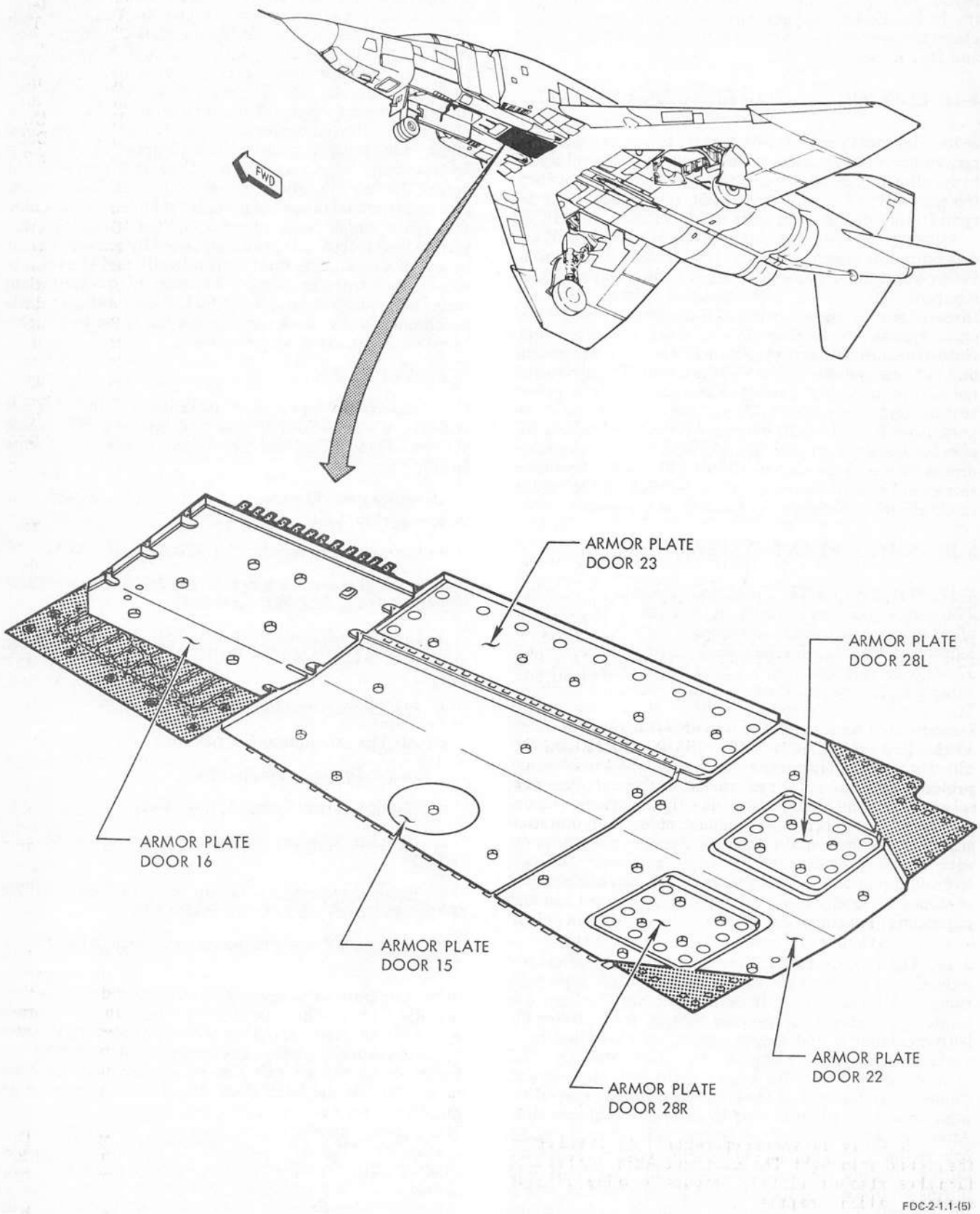


Figure 3–2. Armor Protection 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 472

3-23. **Navigational Computer Set AN/ASN-46, -46A.** The Navigational Computer Set AN/ASN-46, -46A is a latitude-longitude airborne analog computer system which with required system inputs, will make the following dead reckoning computations during flight: (1) The latitude and longitude of the present position of the aircraft. (2) The aircraft true ground track relative to true heading (drift angle). (3) The great circle distance (long range) from the present position of the aircraft of the selected target when the great circle distance to the target is more than 120 $\pm$10 miles. (4) The rhumb line (straight line) distance (short range) from the present position of the aircraft to the selected target when the great circle distance to the target is less than 120 $\pm$10 miles. (5) The great circle bearing from the present position of the aircraft to the selected target when the great circle distance to the target is more than 120 $\pm$10 miles, relative to true heading (relative bearing). (6) The rhumb line bearing from the present position of the aircraft to the selected target when the great circle distance is less than 120 $\pm$10 miles, relative to true heading. (7) The aircraft true ground speed. (8) The aircraft true ground track. Refer to NAVAIR 01-245FDB-2-6.2.

3-24. **Inertial Navigation Set AN/ASN-56. 151975t THRU 153100y BEFORE AFC 236.** The Inertial Navigation Set AN/ASN-56 (INS) utilizes a sensitive 3 axis gyro stabilized platform and velocity accelerometers to accurately measure change of velocity, distance traveled and latitude and longitude changes of position. These basic signals are utilized by the aircraft instrumentation and flight systems to provide a complete navigational and guidance system. Computers are also included within the INS to provide the following special functions to the reconnaissance systems: ground track angle, reference ground track angle, cross track velocity, drift angle, reference drift angle, vertical attack angle, climb angle, vertical velocity, and ground speed to altitude above terrain ratio.

3-25. **Inertial Navigation Set AN/ASN-74, 153101z AND UP, ALSO 151975t THRU 153100y AFTER AFC 236.** The Inertial Navigation Set AN/ASN-74 (INS) is an automatic inertial system capable of land based or carrier based operations. The accurate detection of motion and its conversion to velocity and change of position are the primary functions of the INS. The system continuously computes information regarding aircraft latitude, longitude, heading, pitch, roll, ground speed, vertical velocity, drift angle, autopilot steering signals, attack angle and climb angle. The computed outputs are supplied to aircraft avionics and reconnaissance equipment.

3-26. **Electronic Altimeter Set AN/APN-159.** The Electronic Altimeter Set provides radar altitude (absolute altitude above the terrain) to the Height Indicators in increments of feet. Each cockpit contains one Height Indicator; however, system operation is controlled from the aft cockpit Height Indicator only. Both Indicators incorporate a low altitude warning light which illuminates when the absolute altitude is 200 feet or less. The system contains a BIT function (built-in-test) which is used to verify the system operational status either on the ground or in flight. The Electronic Altimeter Set also furnishes absolute altitude outputs to other aircraft systems which require altitude information for computations and/or protection and a low altitude warning signal to the Radar Set AN/APQ-99. Refer to NAVAIR 01-245FDB-2-6.7.

3-27. **Air Data Computer Set.** The Air Data Computer Set (ADC) consists of various sensing elements on the aircraft exterior surfaces; it contains an Angle of Attack System, an Altitude Encoder Unit, and an Air Data Computer. The Angle of Attack System provides a visual indication of angle of attack to the forward and aft cockpits. The Air Data Computer converts the sensing element outputs into a pneumatic output, corrected static pressure, and electrical analog outputs. The Altitude Encoder Unit receives natural log of static pressure from Air Data Computer and converts it to a digital output of altitude for automatic altitude reporting.

3-28. **Flight Director Group.** The Flight Director Group (FDG) processes data from the Navigational Computer, the TACAN subsystem of the Integrated Electronic Central, the Loft Bomb Release Computer Set and Data Link System to provide a visual display of the navigation situation. The aircraft also processes and displays data from the Forward Looking Radar AN/APQ-99. The Flight Director Group consists of the Flight Director Computer, Mode Selector Control, Horizontal Situation Indicator, and Horizontal Situation Indicator Amplifier. The Flight Director Computer and Mode Selector Control supplies signals to the Horizontal Situation Indicator. The indicator provides the visual display of aircraft navigation situation. In addition, steering indications are displayed on the Attitude Indicator. Refer to NAVAIR 01-245FDB-2-6.2.

3-29. **Flight Control Group AN/ASA-32.** Flight Control Group (FCG) AN/ASA-32 comprises a group of components which is integrated with functions of other systems, sets and components to form an operational automatic flight control system (AFCS). Attitude and directional reference and error sensors are the Inertial Navigation Set (INS). The Air Data Computer Set provides altitude error sensors and signal gain scheduling for the FCG. AFCS provides inflight stability to the aircraft and relief to the pilot. The Aileron-Rudder Interconnect (ARI) System operates in conjunction with the AN/ASA-32 and automatically coordinates turns made at slow airspeeds with lowered flaps by providing rudder displacement as a function of aileron displacement.

3-30. **Attitude Heading Reference System AN/ASN-55.** The Attitude Heading Reference System AN/ASN-55 (AHRS) is a standby gyro-oriented, all-attitude and compass flight indicating system. In primary mode, pitch and roll signals are received from the Inertial Navigation Set. Refer to NAVAIR 01-245FDB-2-6.15.

3-31. **Receiving-Decoding Group AN/ARA-63 - 151975t THRU 157351aq AFTER AFC 470 PART III.** The receiving-decoding group is an all weather aircraft approach guidance system which provides steering information during a landing approach to an aircraft carrier or land base. The system receives coded microwave azimuth and elevation transmissions from ground or carrier based transmitters and decodes and displays these signals on the attitude indicator. Refer to NAVAIR 01-245FDB-2-6.24.

3-32. **Approach Power Compensator System.** The Approach Power Compensator System (APCS), AFTER AFC 254, provides automatic throttle control capability for the aircraft during landing. As the aircraft is maneuvered during the landing approach, the APCS continuously adjust engine thrust to achieve a preset angle of attack, which allows the pilot to concentrate on

aligning the aircraft with the glide slope. The APCS regulates engine thrust in full coordination with aircraft motions, thus reducing excessive speed during the approach. This results in fewer overshoots and missed approaches. APCS also assures adequate speed by maintaining optimum thrust during glide path corrections, thus preventing undershoots. Refer to NAVAIR 01-245FDC-2-3.4.

3-33. RECONNAISSANCE SYSTEMS.

3-34. **SENSOR CONTROL SYSTEM.** The Sensor Control System consists of various control panels, electrical and electronic components required to operate and control the reconnaissance sensors which photograph, map, and detect surveillance areas by use of camera, radar, and infrared detection methods. The reconnaissance sensor subsystems, controlled and operated by the Sensor Control System are as follows:

a. Photographic Reconnaissance Subsystem.

b. Radar Mapping Subsystem AN/APQ-102.

c. Infrared Detecting Subsystem AN/AAS-18.

d. Aerial Mapping and Reconnaissance Photographic Viewfinder Subsystem.

3-35. **Photographic Reconnaissance System.** The Photographic reconnaissance camera and related equipment provide the aircraft with the capability of recording terrain pictorially on photographic film. Camera equipment is utilized in three basic series of alternate configurations to provide flexibility for a wide range of missions including low altitude day or night photography, and high altitude day photography. Camera equipment is mounted in the nose section of the aircraft in a single compartment with three separate stations identified as Forward, Low Altitude, and High Altitude Stations. On 151975t THRU 157348aq, inflight positioning of cameras is provided for the Forward and Low Altitude Stations. On 157349aq AND UP, inflight positioning can be used in the Low Altitude Station as long as the three position manually positioned mount in the Forward Station is removed. Structurally mounted optical glass windows are provided for each basic and/or alternate camera installation. System operation is controlled and monitored from a series of panels mounted principally on the right console and main instrument panel of the Reconnaissance Systems Officer's cockpit. Limited alternate operation and/or initiation of Reconnaissance Systems Officer's selected system, is provided by a selector panel on the Pilot's main instrument panel. Low or medium altitude night photograph may be accomplished from all stations when equipped with selected cameras. Terrain illumination is provided by ejection of photoflash cartridges from four ejectors, internally mounted in the aft fuselage and enclosed by hydraulically actuated doors. On 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 460 (interim chaff capability), chaff can be ejected from the photoflash cartridge racks. Flash illumination and camera shutter trip pulses are coordinated by a light-sensitive detector mounted on the lower surface of the fuselage. On aircraft 151975t THRU 153115aa, expedited parachute delivery of film from the Low Altitude Station can be provided by inflight ejection of either in-flight processed film or exposed film in a ground recoverable cassette. All cameras are electrically operated or electrically controlled devices including self-contained film-transporting and shutter operating mechanisms, and in the case of the panoramic cameras, self-cycling scanner mechanisms. Film is loaded and attached to cameras in removable supply cassettes or magazines. Exposed film is stored in removable take-up cassettes power-driven from the camera mechanism. Inflight processing can be provided on certain selected camera configurations by special cassettes equipped with processing mat which is applied to exposed film as it is stored on the cassette take-up spool.

3-36. **Radar Mapping System AN/APQ-102.** The Radar Mapping System AN/APQ-102 is a side looking radar that records doppler phase histories of the terrain on either or both sides of the aircraft ground track. Seven modes of operation are available for selection. The radar information is recorded on a roll of film which is processed and correlated after the mission. In addition to the radar map the film contains range marks, altitude information and a data block containing important attitude and navigation information. The system is operated from the aft cockpit.

3-37. **Infrared Detecting Set AN/AAS-18.** The Infrared Detecting Set AN/AAN-18 produces a high resolution map of the terrain traversed by the aircraft. Unlike objects on the ground have temperature differences which radiate energy at different frequencies in the infrared spectrum. The infrared radiation is optically detected, converted into video signals, displayed on a cathode ray tube (CRT) and focused on film where it is permanently recorded. In addition to the infrared map, the film contains 5 mile fiducial marker and a data block with attitude, navigation and flight record information.

3-38. **Aerial Mapping and Reconnaissance Photographic Viewfinder System.** The Aerial Mapping and Reconnaissance Photographic Viewfinder System provides the pilot with a clear, unobstructed view of the terrain beneath and ahead of the aircraft. This aids in line of flight navigation and location of photographic target areas. The viewfinder provides both wide angle and narrow angle optical viewing, which is selected at the pilot's discretion. Separate reticles are provided for each view. A traveling grid is incorporated for verification of either the automatic or manual velocity/altitude (V/H) computation. The Viewfinder also has the capability of generating a manual V/H for use by the cameras and recorders in the event of an automatic V/H failure. In addition, the Viewfinder furnishes manual altitude signals to the Radar Mapping System in the event of an Electronic Altimeter Set failure.

3-39. **DATA DISPLAY SET AN/ASQ-90.** The Data Display Set AN/ASQ-90 provides the photographic and other reconnaissance sensor systems with a data block containing vital flight information. The data block is presented in binary form. The information contained in the data block is as follows: Flight record - squadron, detachment, sortie, date and time of day; Navigation information - latitude, longitude and heading; Attitude information - pitch, roll, drift, barometric altitude and radar altitude. On 157342ao AND UP, ALSO 151975t THRU 153115aa AFTER AFC 340, the data block also contains sensor identification data. The data block is distributed to the cameras and recorders upon demand and is recorded either on the margin of the film or between frames.

3-40. **FORWARD LOOKING RADAR SET AN/APQ-99.** The Forward Looking Radar Set AN/APQ-99 provides navigational information concerning terrain clearance and ground map data of the terrain within the flight path of the aircraft. The system incorporates three terrain clearance and two ground mapping modes of operation. The RSO is the prime operator of the system. However, terrain clearance modes (when selected by the pilot as warranted by flight conditions) will override radar pilot's selected modes. An Azimuth Range Indicator with scope controls is located in each cockpit. The Radar Set Control is located on the radar pilot's left console. Terrain information displayed can be recorded on film in still pictures by utilizing the Data Recording Camera Set KS-74A.

3-41. **Data Recording Camera Set KS-74A.** The function of the Data Recording Camera Set KS-74A is to photograph the Azimuth Range Indicator (Radar Set AN/APQ-99) and Data Display System data. The resulting film is utilized for radar mapping and ground evaluation of system performance. The system consists of a still picture recording camera and optical periscope assembly attached to the indicator, and the exposure frequency control unit mounted under the left console of the aft cockpit.

3-42. **HF RADIO SET AND SOUND RECORDER SYSTEM.**

3-43. **HF Radio Set AN/ARC-105.** The HF Radio Set AN/ARC-105 transmits and receives voice communication in the high frequency range to extend the communication capability beyond the range normally allowed by the UHF communication equipment. The HF radio set is controlled by the Radio Set Control on the RSO's right vertical panel. An HF-UHF Selector switch for preferential use of either radio set is provided in each cockpit. A shunt-fed type antenna utilizes the skin of the aircraft as the radiating element. The set provides selection of three modes of operation and selection of any of 28,000 channels.

3-44. **Sound Recorder System.** The Sound Recorder System is used to record selected transmissions of either the HF radio, UHF radio, or intercommunication station. The voice recorder unit is a small self- contained transistorized magnetic tape recorder located aft of the RSO's left console. Unit has erase, record, and playback (SELF TEST) capabilities. Tape for 60 minutes recording is contained in a removable cartridge assembly. Operation of the system automatically records all microphone audio outputs from selected communication or intercommunication station.

AIRCRAFT DIMENSIONS AND STATIONS

3-45. **PRINCIPAL DIMENSIONS.**

3-46. Approximate overall dimensions are shown in figure 3-3.

3-47. **STATIONS DIAGRAMS.**

3-48. Fuselage stations, water lines, and wing buttock lines which can be located by access door or other readily identifiable features on the aircraft are shown in figure 3-4.

AIRCRAFT ORIENTATION

3-49. **EXTERIOR ORIENTATION.**

3-50. The identification and location of principal external components is shown in figure 3-5.

3-51. **AIRCRAFT MARKINGS.**

3-52. **SERVICING AND HANDLING MARKINGS.** Identification of markings for servicing and handling points is provided by a chart located on the aft nose landing gear door. See figure 3-6.

3-53. **EXTERNAL ACCESS DOORS.** Doors are generally numbered consecutively from front to back with door 501 being the forward radome. Symmetrical left and right doors are assigned the same basic number with an L or R suffix denoting the individual door. Each door is marked in black lettering on the door surface with the number repeated on the surface adjacent to the door.

3-54. **STATIC DRAINS AND VENTS.**

3-55. Static drains and vents are shown in figure 3-7.

3-56. **MANUAL DRAINS.**

3-57. The location of all manually operated drains and the operating instructions for each drain is shown in figure 3-8.

3-58. **LANDING GEAR WHEEL WELLS ARRANGEMENT.**

3-59. Switches, gages, drains and disconnects in the main and nose landing gear wheel wells are shown in figure 3-9.

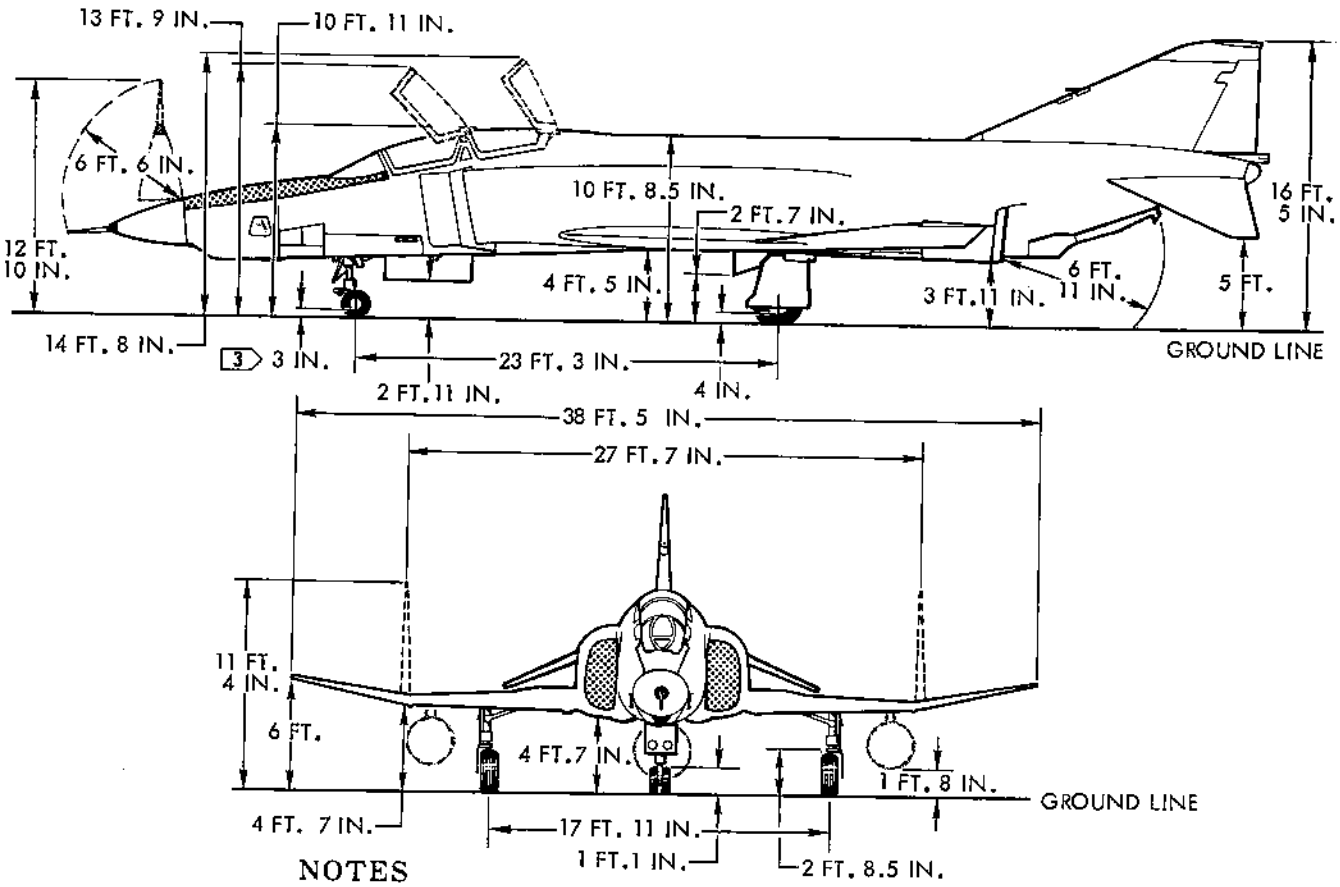
3-60. **COCKPIT ORIENTATION.**

3-61. Typical arrangements for the forward and aft cockpits are provided for general familiarization purposes only and is not intended to show every possible cockpit configuration. For information concerning operation and location of specific controls, refer to the applicable system manual.

3-62. **TYPICAL COCKPIT ARRANGEMENT.** See figures 3-10 and 3-11.

3-63. **IDENTIFICATION AND MODIFICATION PLATES.**

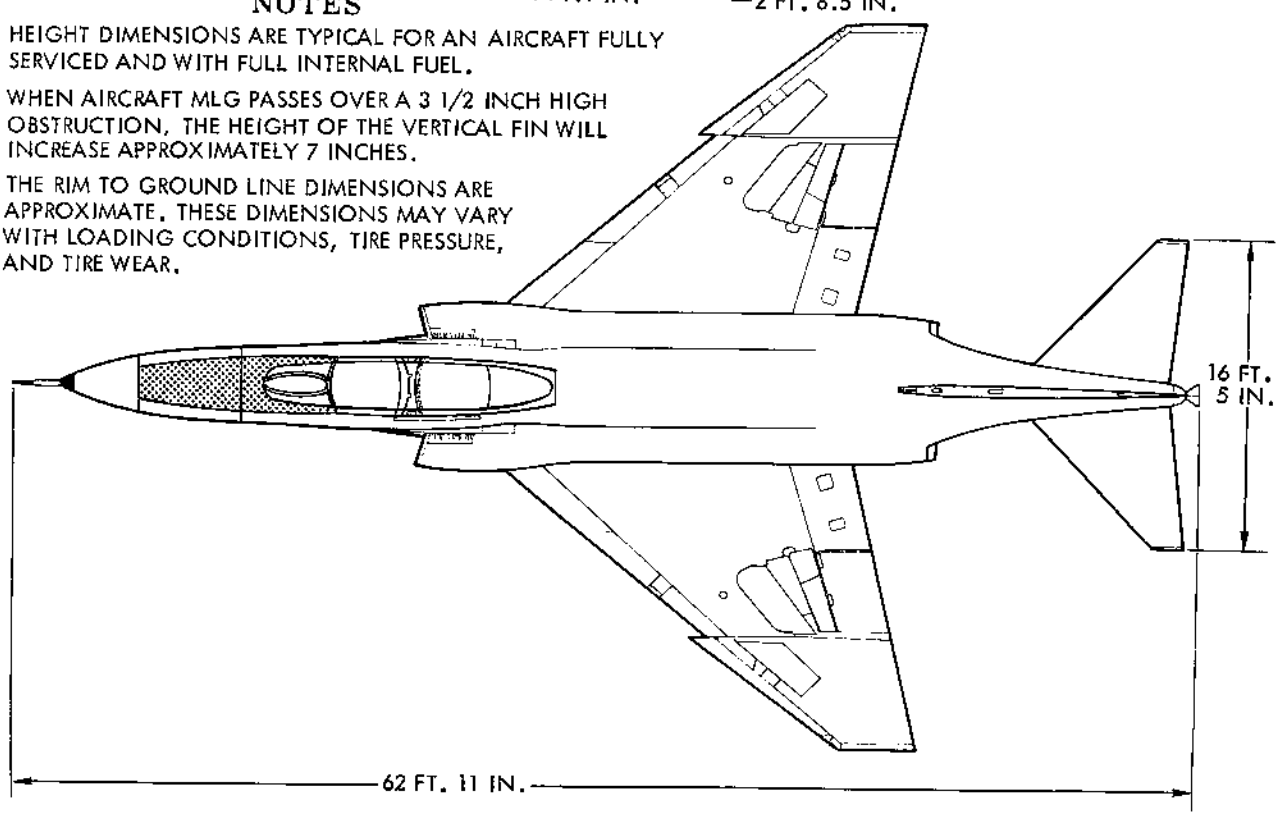
3-64. When a modification to the aircraft is accomplished by means of a technical directive (refer to table 1-2), the applicable directive number must be stamped on the modification plate on each major component affected. The location of the modification plates are shown in figure 3-12. The name of the manufacturer(s) and the manufacturer's Assembly Designation Number are also given.



NOTES

1. HEIGHT DIMENSIONS ARE TYPICAL FOR AN AIRCRAFT FULLY SERVICED AND WITH FULL INTERNAL FUEL.
2. WHEN AIRCRAFT MLG PASSES OVER A 3 1/2 INCH HIGH OBSTRUCTION, THE HEIGHT OF THE VERTICAL FIN WILL INCREASE APPROXIMATELY 7 INCHES.

3 THE RIM TO GROUND LINE DIMENSIONS ARE APPROXIMATE. THESE DIMENSIONS MAY VARY WITH LOADING CONDITIONS, TIRE PRESSURE, AND TIRE WEAR.



FDC-2-1.1-(6)

Figure 3-3. Principal Dimensions

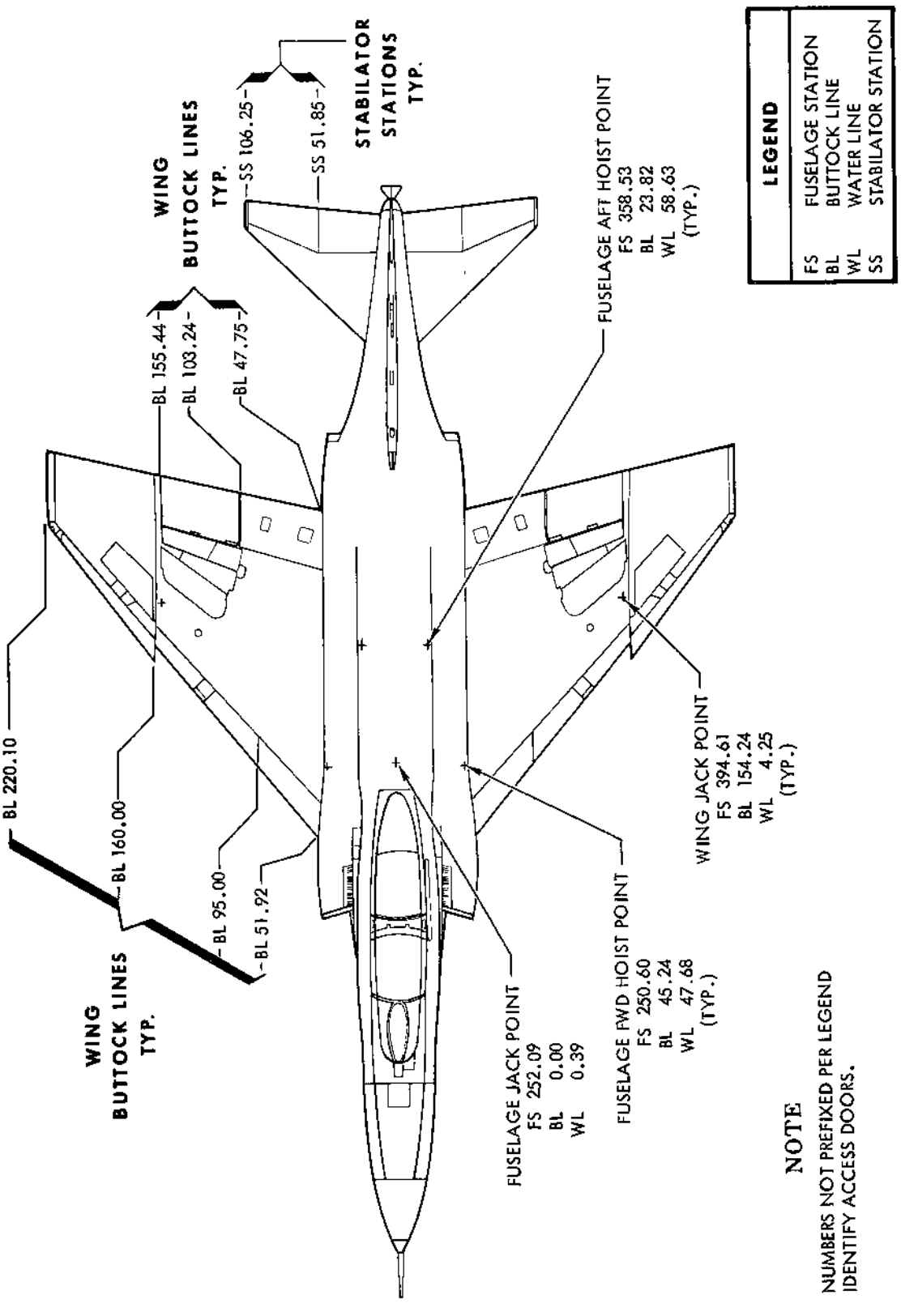


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Figure 3–4. Station Diagram (Sheet 1 of 2)

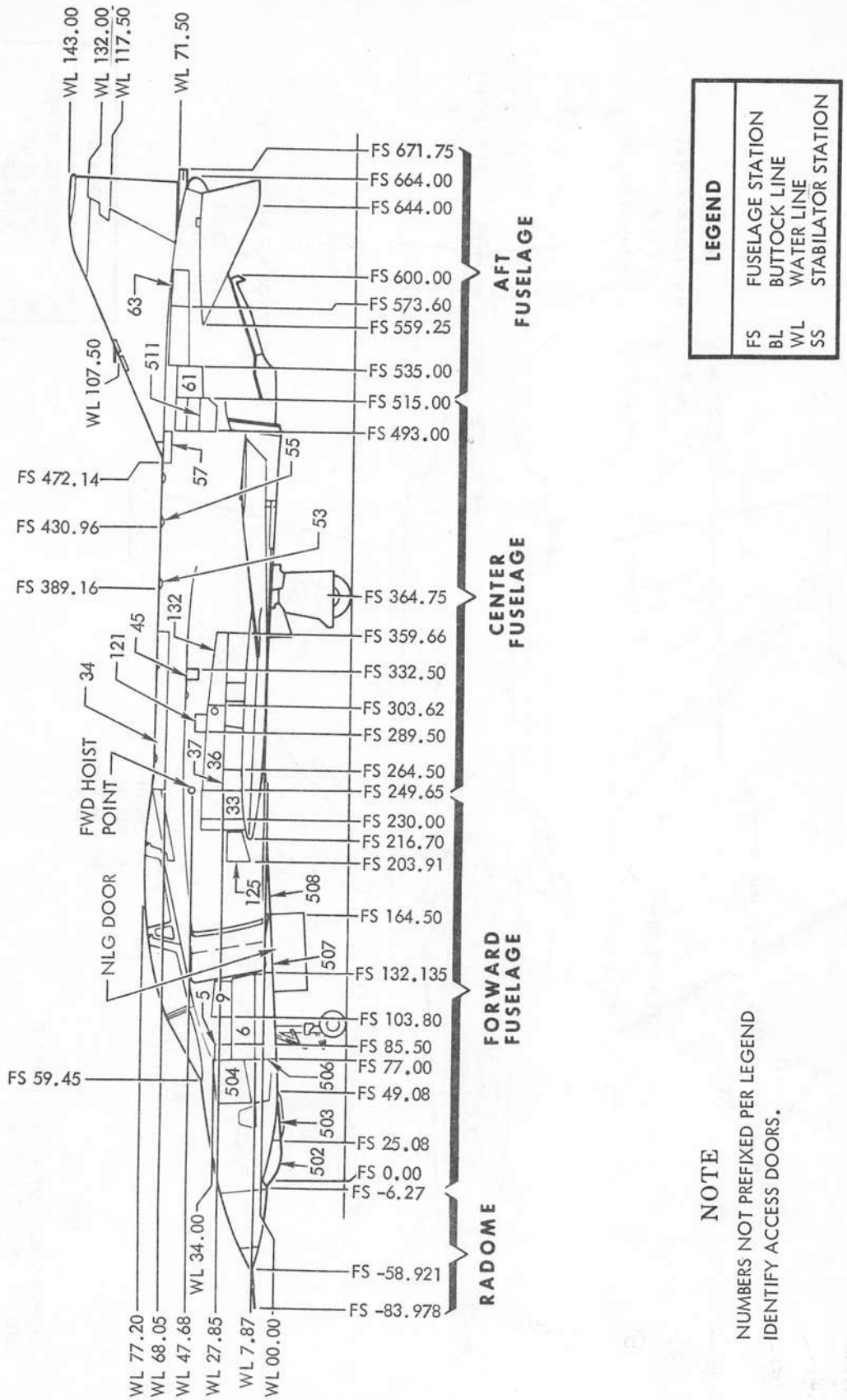

Figure 3-4. Station Diagram (Sheet 2 of 2)

1. UHF, ADF ANTENNA
2. RAIN REMOVAL NOZZLE
3. FORWARD AND AFT CANOPIES
4. INFLIGHT REFUELING PROBE
5. IFF ANTENNA
6. FUSELAGE LIGHT
7. UPPER TACAN ANTENNA
8. AFT FUSELAGE COOLING AIR DUCT
9. HF ANTENNA
10. ANTICOLLISION LIGHT
11. STABILATOR FEEL RAM AIR INLET
12. REMOVABLE FIN CAP (UPPER COMMUNICATIONS ANTENNA)
13. RUDDER
14. FUEL TANK VENT MAST
15. STABILATOR COVER FITTINGS (L/R)
16. STABILATOR
17. PHOTOFLASH CARTRIDGE EJECTOR DOORS (L/R)
18. FUEL TANK COOLING AIR VENT (L/R)
19. AFTERBURNER NOZZLE (L/R)
20. AFT FUSELAGE HOIST FITTING (L/R)
21. TRAILING EDGE FLAP (L/R)
22. AILERON (L/R)
23. SPOILERS (INBD AND OUTBD L/R)
24. OUTBD LEADING EDGE FLAP (L/R)
25. RAM AIR TURBINE DOORS
26. CENTER LEADING EDGE FLAP (L/R)
27. [1] INBD LEADING EDGE FLAP (L/R)
    [2] ACCESS DOOR 141 (L/R)
28. FWD FUSELAGE HOIST FITTING (L/R)
29. BELLMOUTH CONTROLLER PRESSURE EXHAUST (L/R)
30. AFT CANOPY MANUAL RELEASE HANDLE
31. UPPER VARIABLE RAMP BLEED AIR LOUVER (L/R)
32. AFT CANOPY NORMAL CONTROL BUTTONS
33. FWD CANOPY MANUAL RELEASE HANDLE
34. FWD CANOPY NORMAL CONTROL BUTTONS
35. COCKPIT ACCESS LADDER
36. ACCESS STEPS
37. HIGH ALTITUDE STATION CAMERA ACCESS DOOR (L/R)
38. EQUIP. REFRIGERATION UNIT RAM AIR INLET
39. LOW ALTITUDE STATION CAMERA SIDE WINDOW (L/R)
40. RADOME
41. PITOT/STATIC TUBE

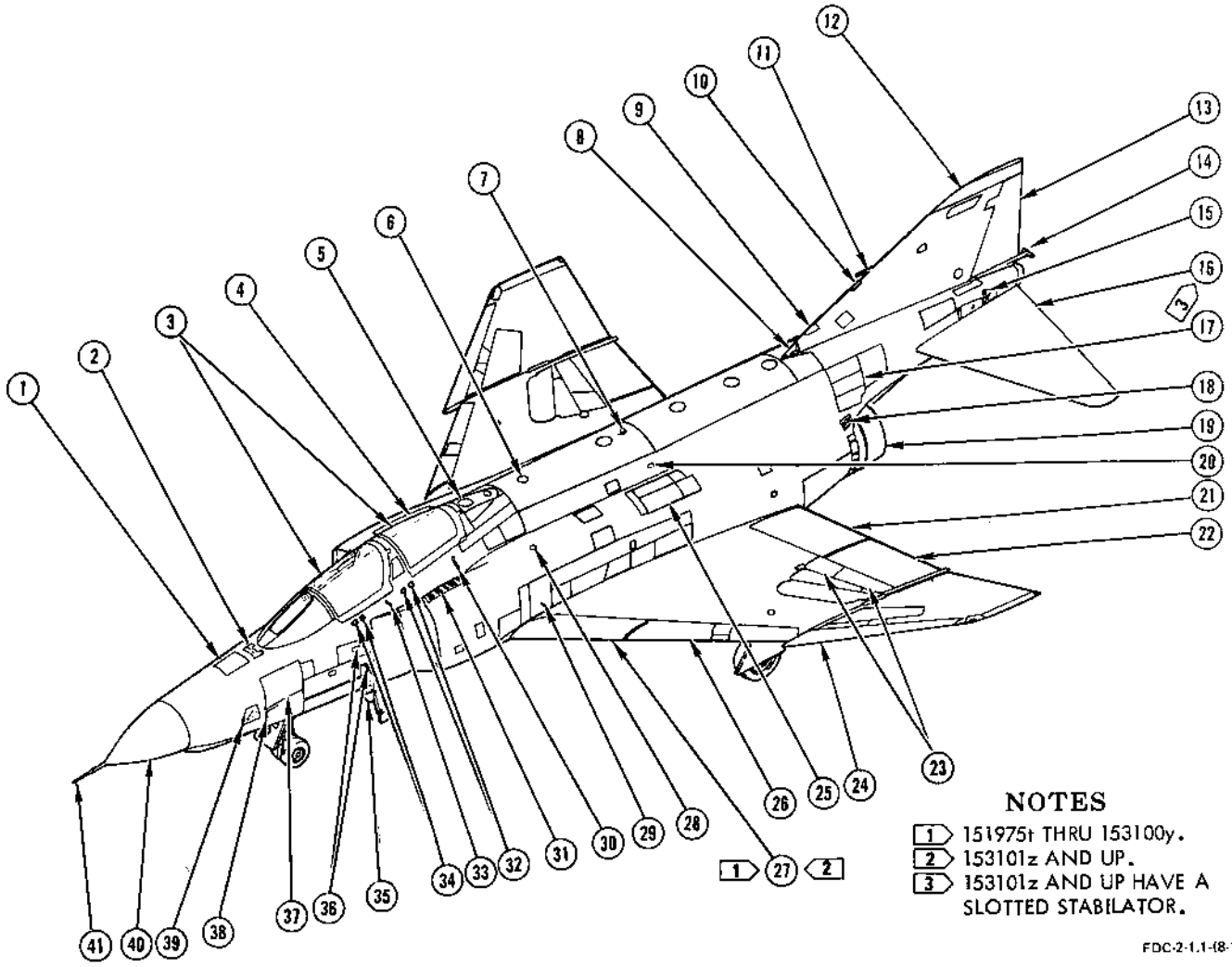

Figure 3-5. Exterior Orientation (Sheet 1 of 2)

42. TAIL LIGHT
43. FUEL VENT AND DUMP MAST (L/R)
44. JOIN-UP LIGHT (L/R)
45. WING FOLD LINE (L/R)
46. WING TIP POSITION LIGHT (L/R)
47. WING JACK POINT (L/R)
48. EQUIPMENT COOLING AIR EXHAUST
49. GROUNDING JACK
50. FORMATION LIGHT
51. CABIN PRESSURE EXHAUST
52. ENGINE AIR DUCT (L/R)
53. VARIABLE RAMP (L/R)
54. FIXED RAMP (L/R)
55. CABIN REFRIGERATION UNIT EXHAUST (L) EQUIPMENT REFRIGERATION UNIT EXHAUST (R)
56. RADAR MAPPING RADOME
57. ELECTRICAL RESISTANCE TEMPERATURE TRANSMITTER
58. CABIN REFRIGERATION UNIT RAM AIR INLET
59. ANGLE OF ATTACK TRANSMITTER
60. LOW ALTITUDE STATION CAMERA ACCESS DOOR
61. FWD STATION CAMERA ACCESS DOOR
62. FWD STATION OBLIQUE WINDOW
63. FWD STATION VERTICAL WINDOW
64. CASSETTE EJECTION DOOR
65. LOW ALTITUDE PANORAMIC WINDOW
66. HIGH ALTITUDE PANORAMIC WINDOW
67. APPROACH LIGHTS
68. LOWER UHF COMMUNICATIONS ANTENNA
69. TAXI LIGHT
70. NLG TIRE -18 X 5.5
71. RECONNAISSANCE EQUIPMENT BAY DOOR (L/R)
72. LOWER TACAN ANTENNA
73. LOWER VARIABLE RAMP BLEED AIR LOUVERS (L/R)
74. INFRARED DETECTOR DOOR
75. PHOTOFLASH DETECTOR
76. CATAPULT TOW HOOK (L/R)
77. FUSELAGE JACK POINT
78. CENTERLINE STORE BOMB RACK ACCESS
79. MLG TIRE -30 X 7 .7
80. SPEED BRAKE (L/R)
81. ENGINE AUXILIARY AIR DOOR (L/R)
82. CL STORE SWAY BRACE (FWD & AFT, L/R)
83. CENTERLINE STORE FIN RESTRAINT (L/R)
84. CATAPULT HOLDBACK FITTING DOOR
85. AFT FUSELAGE TIEDOWN ACCESS COVER
86. JET BLAST SHINGLES
87. ARRESTING HOOK
88. AFT FUSELAGE COOLING AIR EXIT (L/R)
89. FUEL TANK VENT MAST DRAIN
90. DRAG CHUTE DOOR OVERCENTER HANDLE

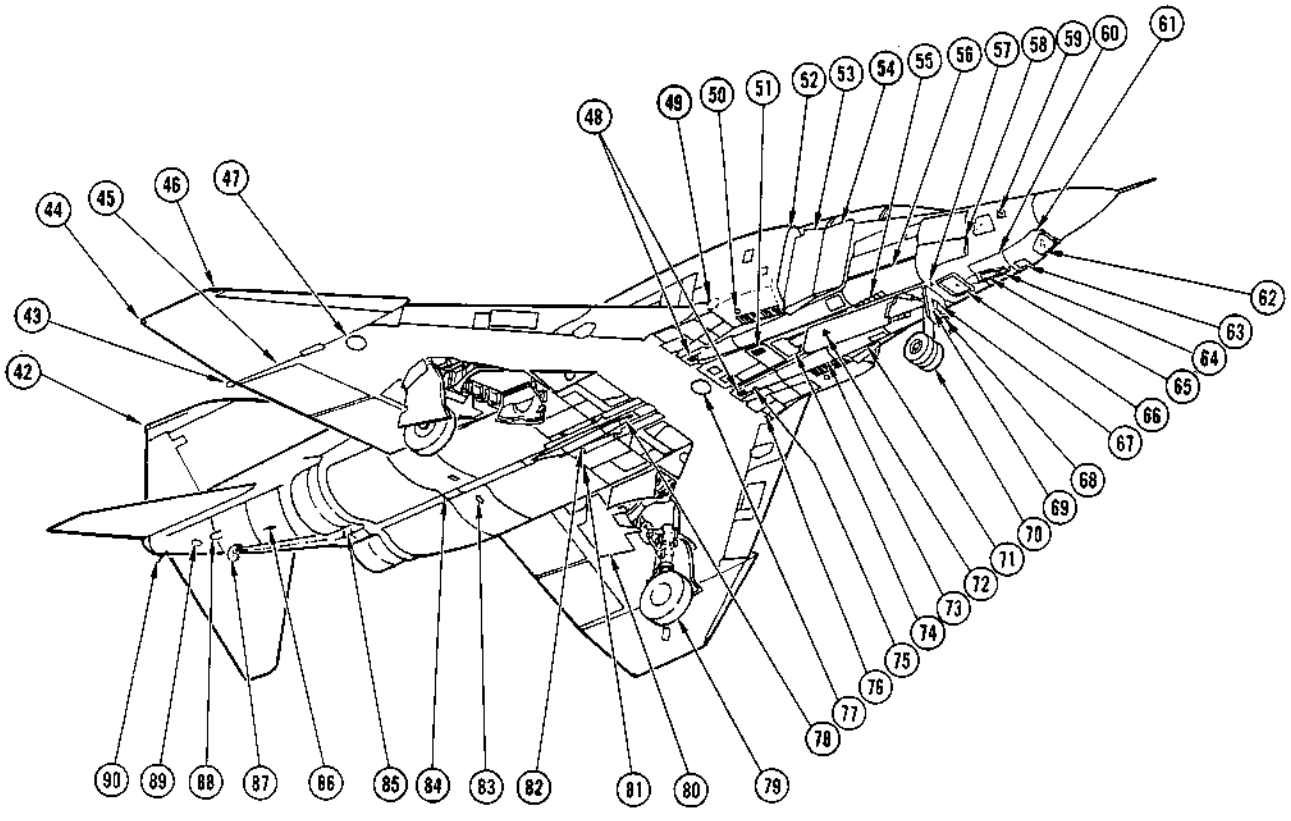

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Figure 3–5. Exterior Orientation (Sheet 2 of 2)

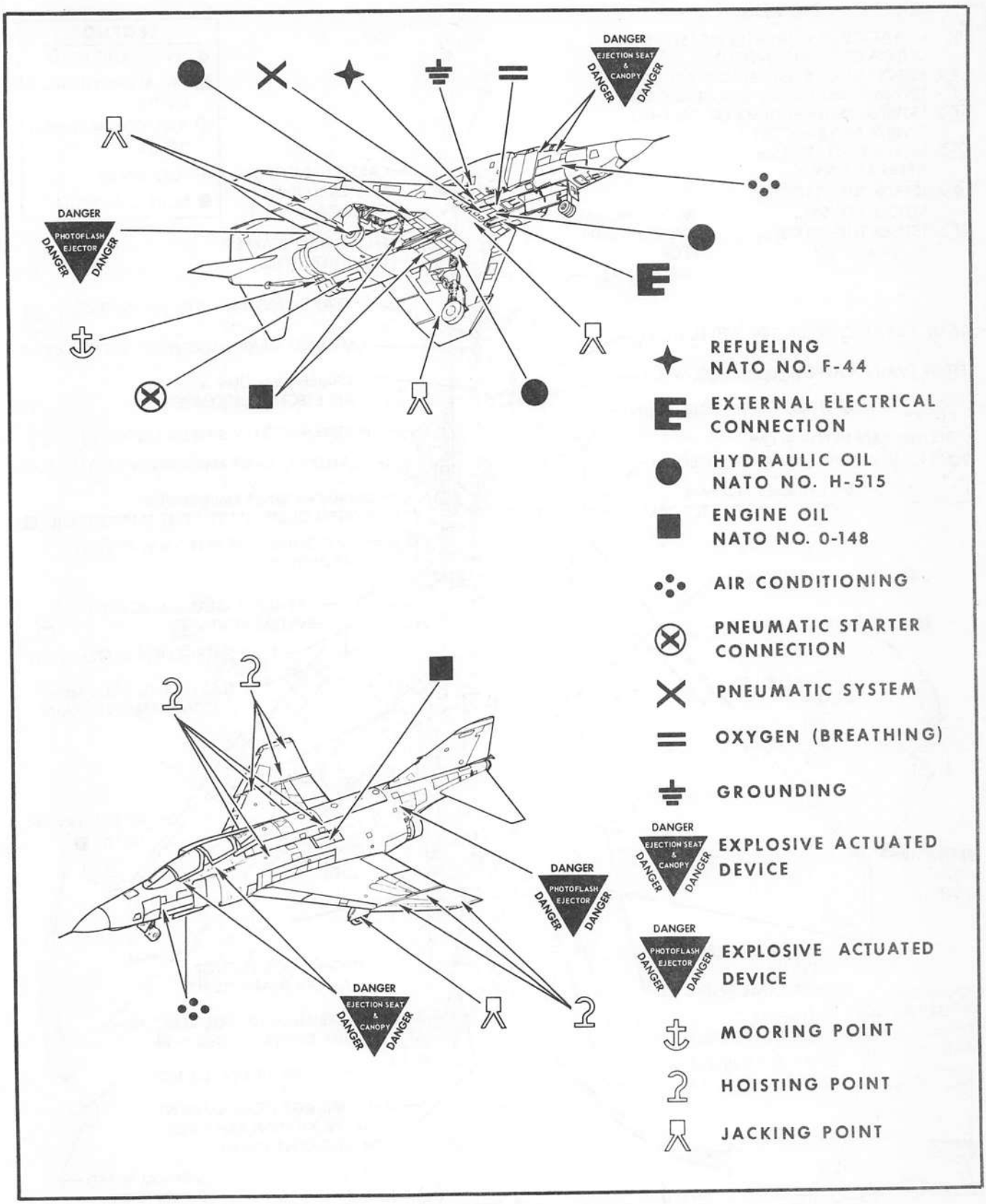

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Figure 3–6. Servicing and Handling Markings

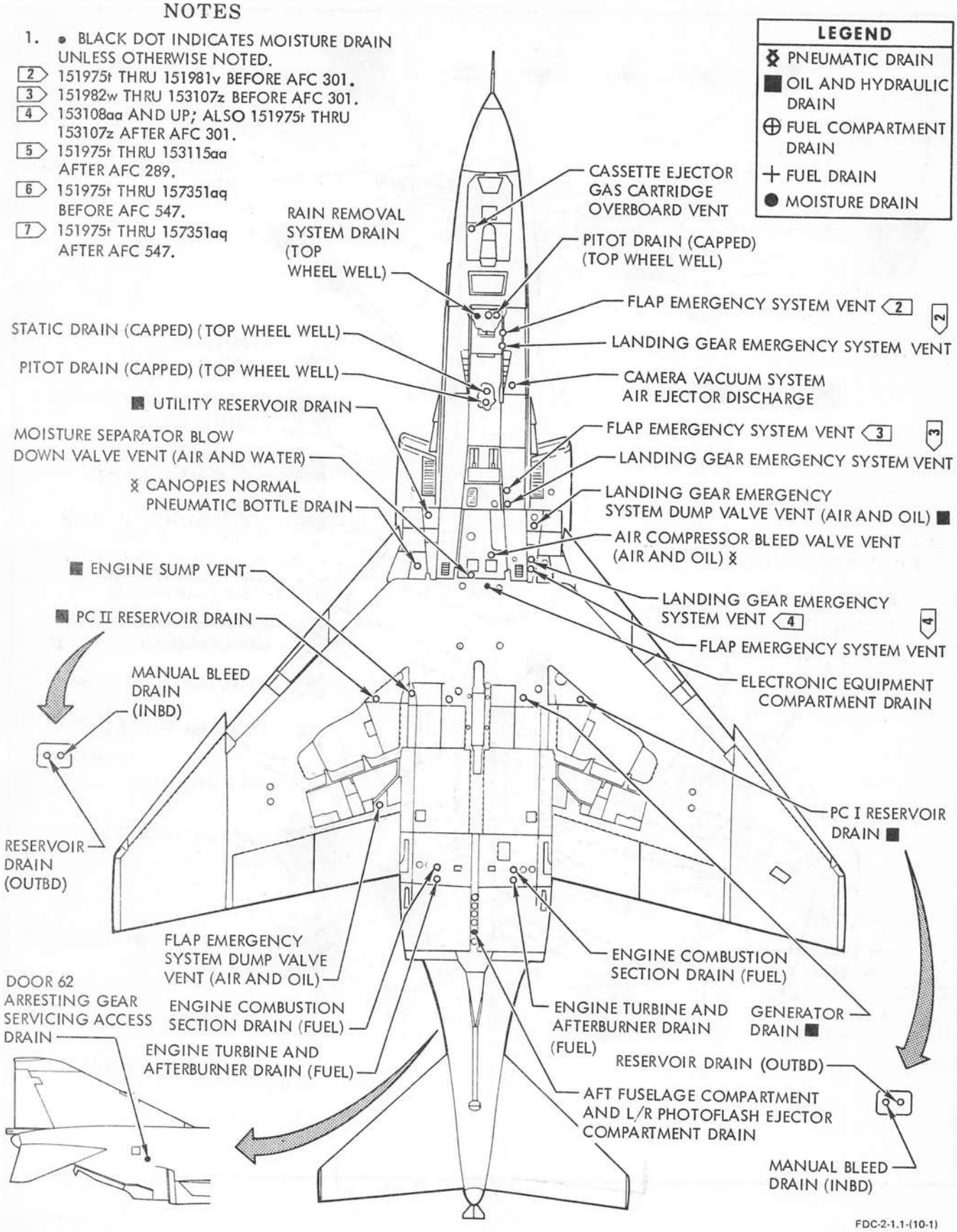


Figure 3–7. Exterior Drains and Vents (Sheet 1 of 2)

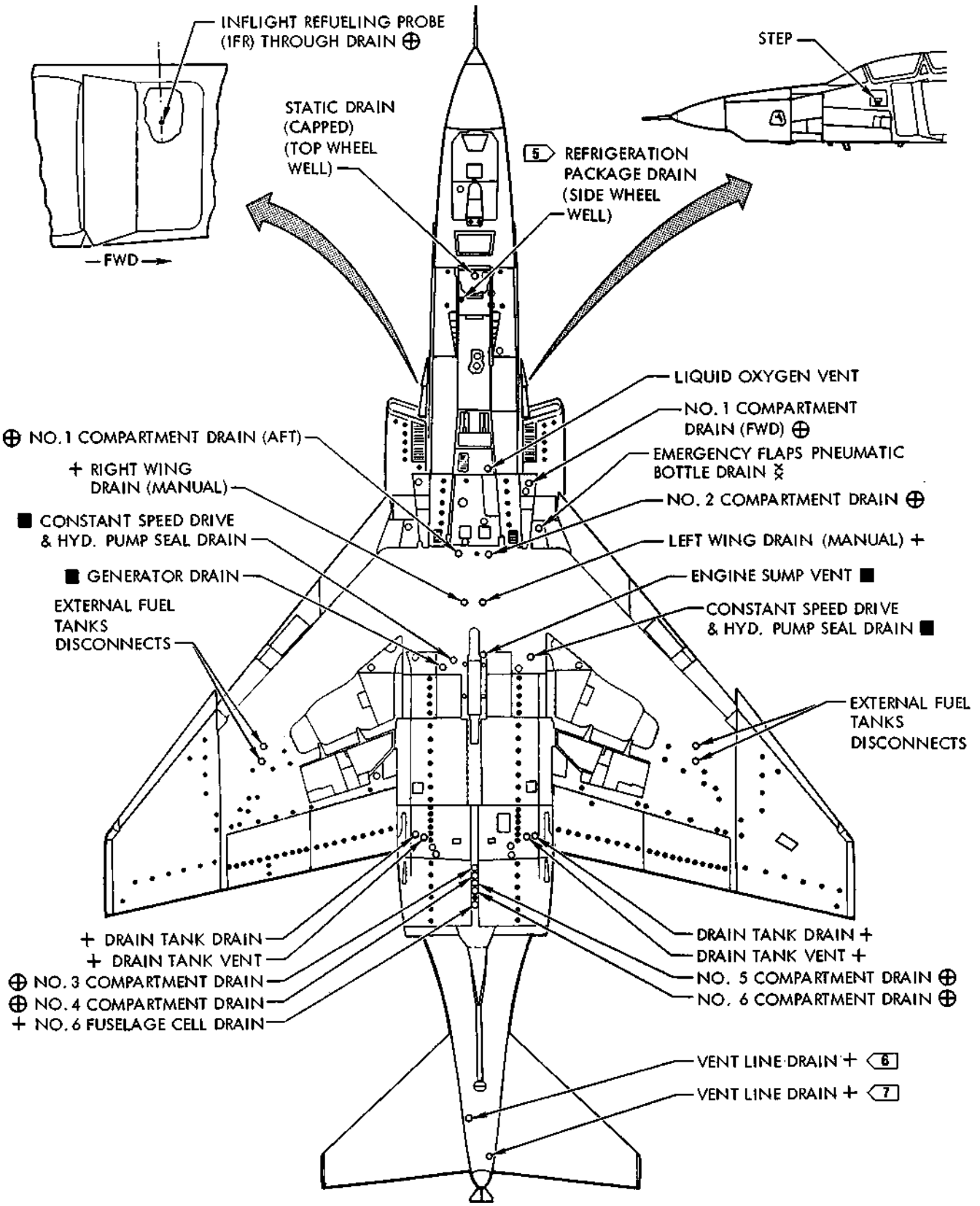


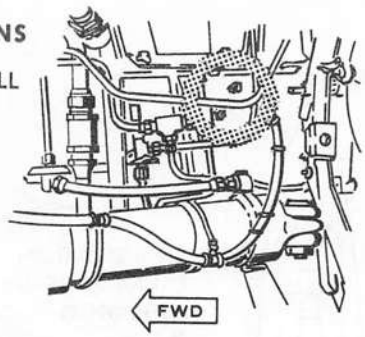
Figure 3–7. Exterior Drains and Vents (Sheet 2 of 2)

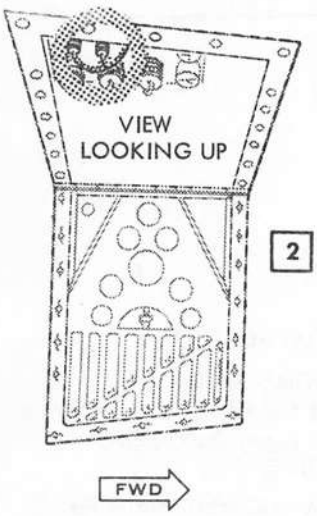
1 PITOT AND STATIC DRAINS

ACCESS.....NOSE WHEEL WELL (OVERHEAD).

TO OPEN.....UNSCREW CAP.

TO CLOSE....TIGHTEN CAP.



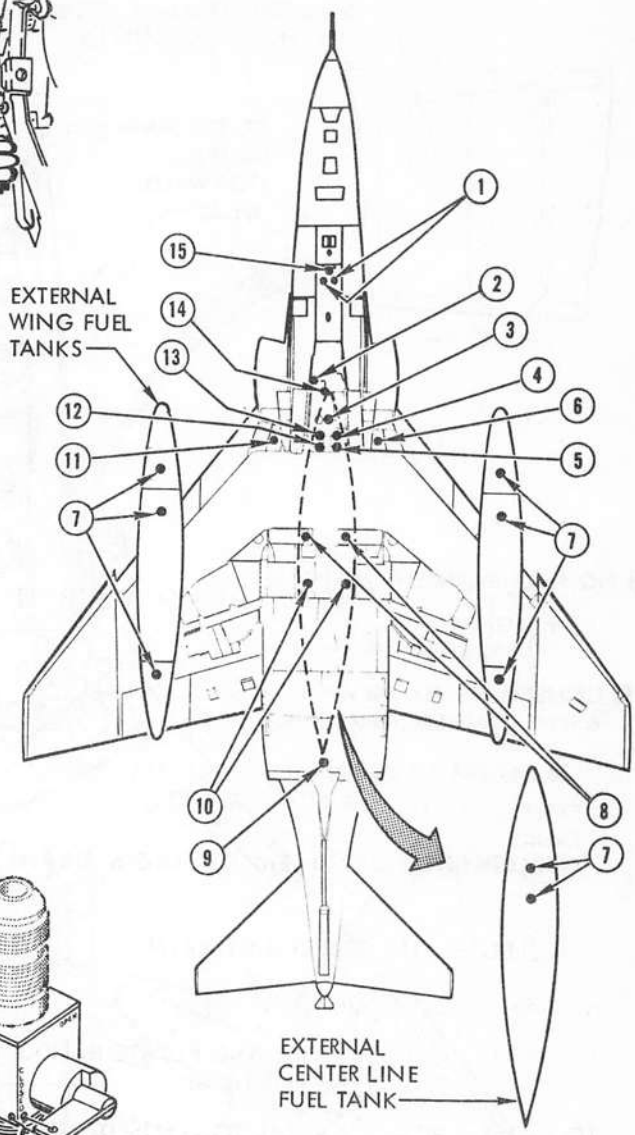


2 PITOT AND STATIC DRAINS

ACCESS.....DOOR 16.

TO OPEN....UNSCREW CAP.

TO CLOSE...TIGHTEN CAP.

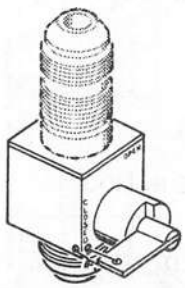


3 BOOST PUMP MANIFOLD DRAIN

ACCESS.....DOOR 22.

TO OPEN....CUT LOCKWIRE AND ROTATE HANDLE TO OPEN POSITION.

TO CLOSE...ROTATE HANDLE TO CLOSED POSITION. SAFETY USING LOCKWIRE. <3>



4 FUSELAGE CELL NO. 2 DRAIN

ACCESS.....DOOR 28L.

TO OPEN....CUT LOCKWIRE AND ROTATE HANDLE TO OPEN POSITION.

TO CLOSE...ROTATE HANDLE TO CLOSED POSITION. SAFETY USING LOCKWIRE. <3>

5 STRAINER REPLACEMENT ELBOW DRAIN

ACCESS . . . . . DOOR 28R.

6 EMERGENCY FLAPS AIR BOTTLE DRAIN

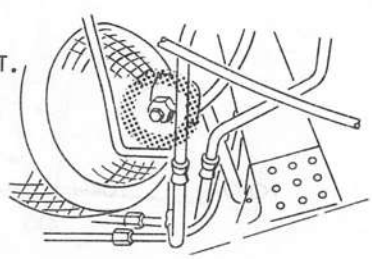
WARNING

WHEN DRAINING AIR BOTTLES, STAND CLEAR OF AIR BLAST. DO NOT FACE OR STAND IN FRONT OF VALVE. LOOSEN DRAIN VALVE VERY SLOWLY.

ACCESS.....DOOR 30L.

TO OPEN....TURN VALVE VERY SLOWLY.

TO CLOSE...TIGHTEN VALVE AND TORQUE TO 80 IN.-LBS.



7 EXTERNAL TANK DRAINS

TO OPEN....INSERT SCREWDRIVER IN SLOT AND TURN CLOCKWISE 90 DEGREES TO LOCK IN OPEN POSITION.

TO CLOSE....TURN COUNTER-CLOCKWISE.

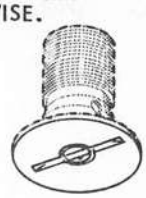


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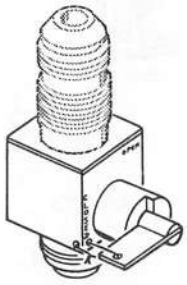
Figure 3-8. Manual Drains (Sheet 1 of 3)

8 WING TANK FUEL DRAINS

ACCESS . . . . DOORS 73L/R AND 74 L/R

TO OPEN . . . INSERT SCREWDRIVER IN SLOT, PUSH UP AND TURN 90 DEGREES IN EITHER DIRECTION TO LOCK IN OPEN POSITION.

TO CLOSE . . . TURN 90 DEGREES AND RELEASE.

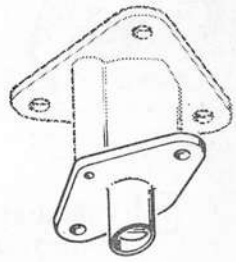


9 FUSELAGE CELL NO. 6

ACCESS . . . . BETWEEN AFTERBURNER NOZZLES

TO OPEN . . . INSERT SCREWDRIVER IN SLOT AND TURN COUNTERCLOCKWISE 35 DEGREES AND HOLD.

TO CLOSE. . . RELEASE.

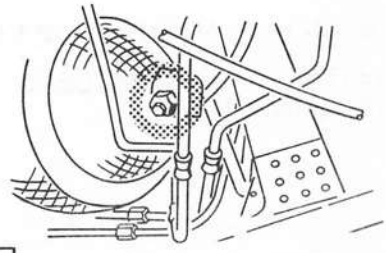


10 ENGINE MANIFOLDS (LEFT AND RIGHT)

ACCESS . . . . DOOR 81

TO OPEN . . . CUT LOCKWIRE AND ROTATE HANDLE TO OPEN POSITION.

TO CLOSE . . . ROTATE HANDLE TO CLOSED POSITION. SAFETY USING LOCKWIRE. 3



11 NOSE GEAR STRUT EXTENSION AND NORMAL CANOPY AIR BOTTLE DRAIN

WARNING

WHEN DRAINING AIR BOTTLES , STAND CLEAR OF AIR BLAST. DO NOT FACE OR STAND IN FRONT OF VALVE. LOOSEN DRAIN VALVE VERY SLOWLY.

ACCESS . . . . DOOR 30R

TO OPEN . . . TURN VALVE VERY SLOWLY.

TO CLOSE . . . TIGHTEN VALVE AND TORQUE TO 80 IN.-LBS.

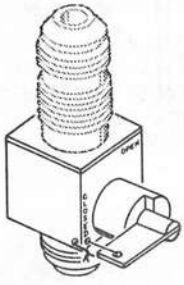
12 STRAINER REPLACEMENT ELBOW DRAIN

13 FUSELAGE CELL NO.1 DRAIN

ACCESS . . . . DOOR 22R

TO OPEN . . . CUT LOCKWIRE AND ROTATE HANDLE TO OPEN POSITION.

TO CLOSE . . ROTATE HANDLE TO CLOSED POSITION. SAFETY USING LOCKWIRE. 3



14 CANOPY EMERGENCY AIR BOTTLE DRAINS

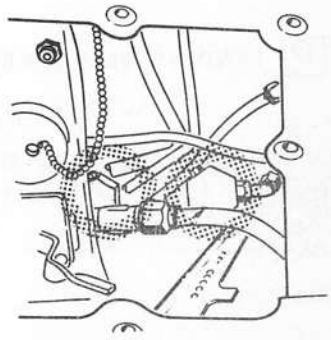
WARNING

WHEN DRAINING AIR BOTTLES, STAND CLEAR OF AIR BLAST. DO NOT FACE OR STAND IN FRONT OF VALVE. LOOSEN DRAIN VALVE VERY SLOWLY.

ACCESS . . . . DOOR 16

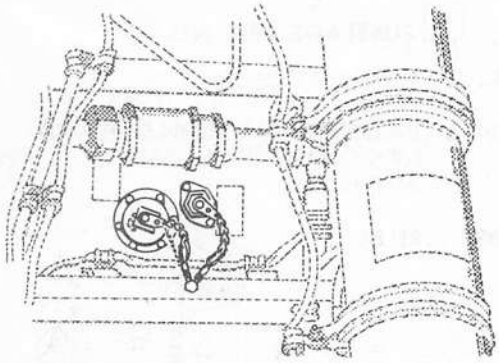
TO OPEN . . . TURN VALVE VERY SLOWLY.

TO CLOSE. . . TIGHTEN VALVE AND LOCKWIRE. 3



FDC-2-1.1-(11-2)

Figure 3–8. Manual Drains (Sheet 2 of 3)

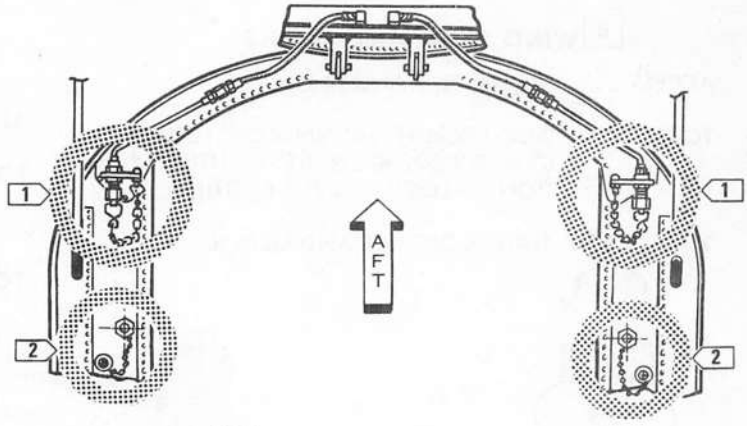


15 PRESSURE TEST FITTING (COCKPIT DRAIN)

ACCESS. . . . . NOSE WHEEL WELL (OVERHEAD)

TO OPEN . . . . CUT LOCKWIRE AND REMOVE CAP.

TO CLOSE . . . . REPLACE CAP AND SAFETY USING LOCKWIRE. 〈3〉

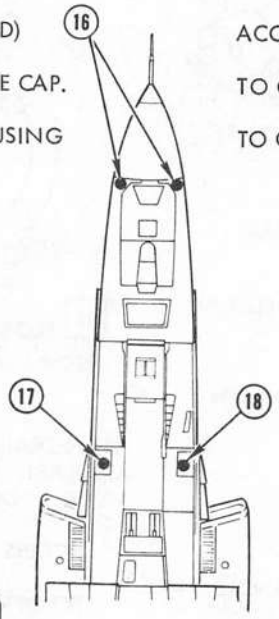


16 PITOT AND STATIC DRAINS

ACCESS. . . . . DOOR 501 (RADOME)

TO OPEN . . . . . REMOVE CAPS.

TO CLOSE . . . . . REPLACE CAPS.

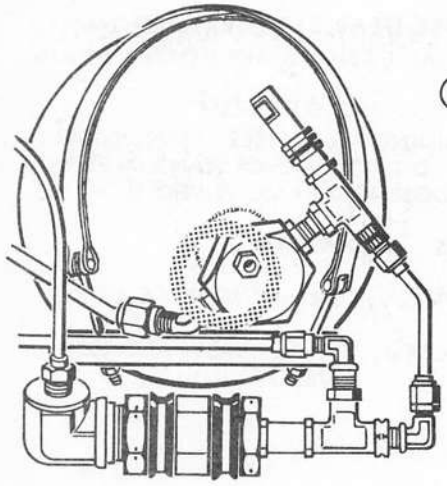


NOTES

〈1〉 BEFORE AFC 323.

〈2〉 AFTER AFC 323.

〈3〉 USE MS20995NC32 LOCKWIRE.



17 LANDING GEAR AIR BOTTLE DRAIN

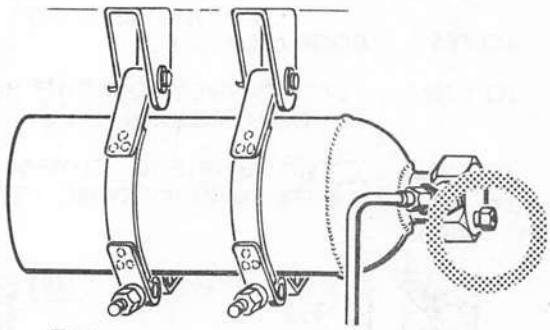
WARNING

WHEN DRAINING AIR BOTTLES, STAND CLEAR OF AIR BLAST. DO NOT FACE OR STAND IN FRONT OF VALVE. LOOSEN DRAIN VALVE VERY SLOWLY.

ACCESS . . . . . DOOR 507L

TO OPEN . . . . . TURN VALVE VERY SLOWLY

TO CLOSE . . . . . TIGHTEN VALVE AND TORQUE TO 80 IN.-LBS.



18 BRAKE AIR BOTTLE DRAIN

WARNING

WHEN DRAINING AIR BOTTLES, STAND CLEAR OF AIR BLAST. DO NOT FACE OR STAND IN FRONT OF VALVE. LOOSEN DRAIN VALVE VERY SLOWLY.

ACCESS . . . . . DOOR 507R

TO OPEN . . . . . TURN VALVE VERY SLOWLY

TO CLOSE . . . . . TIGHTEN VALVE AND TORQUE TO 80 IN.-LBS.

FDC-2-1.1-(11-3)

Figure 3-8. Manual Drains (Sheet 3 of 3)

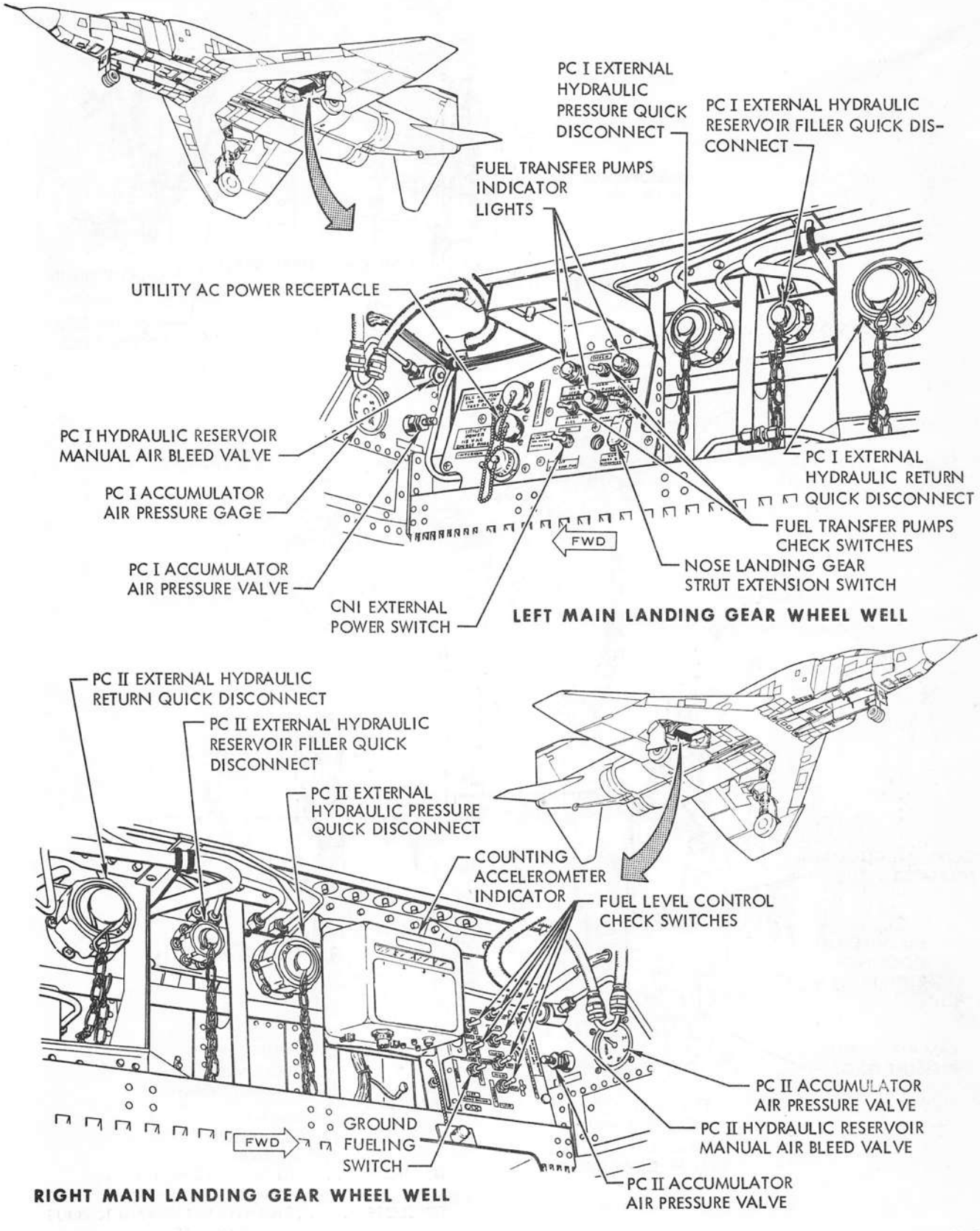


Figure 3-9. Landing Gear Wheel Wells Arrangement (Sheet 1 of 2)

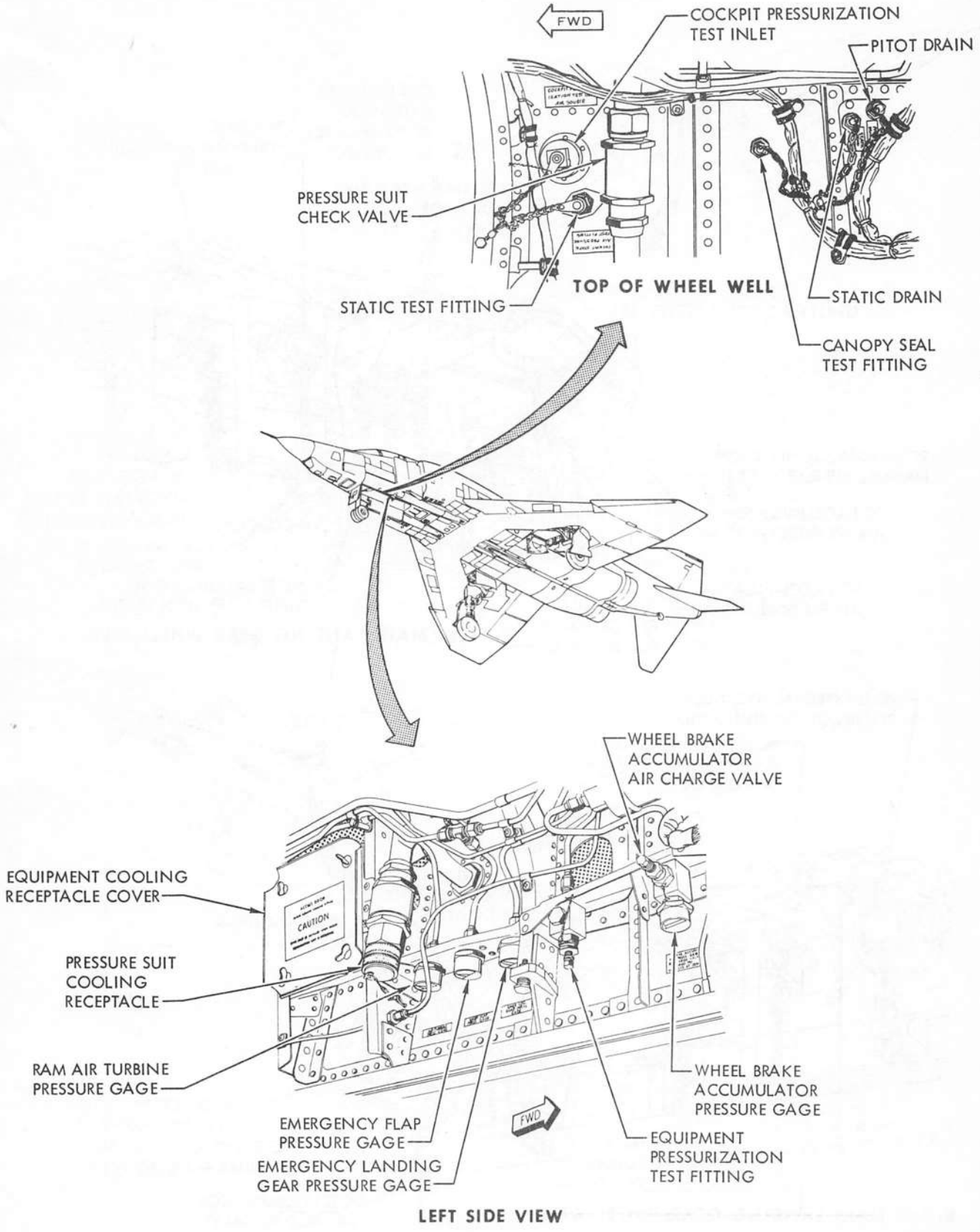
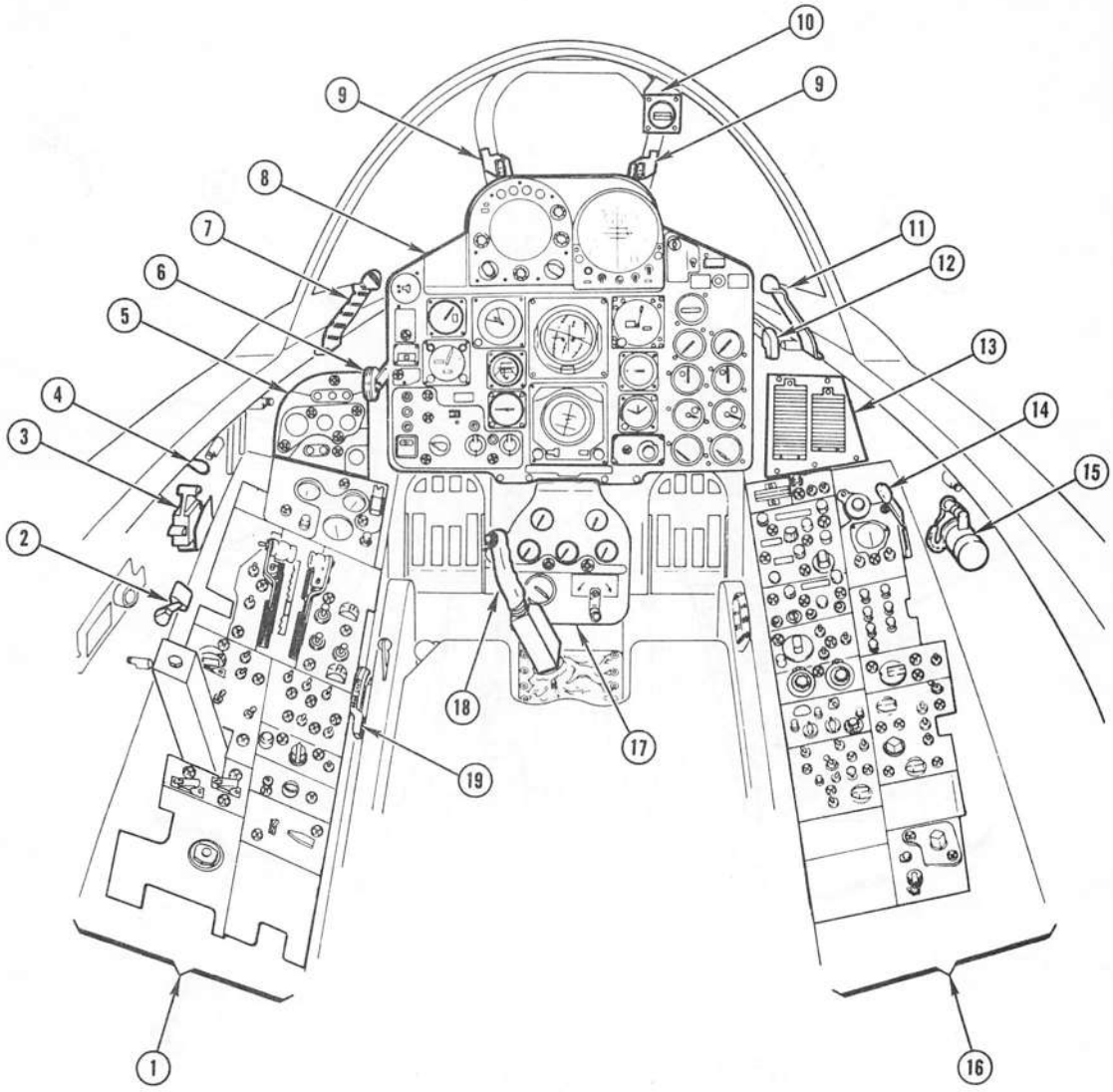


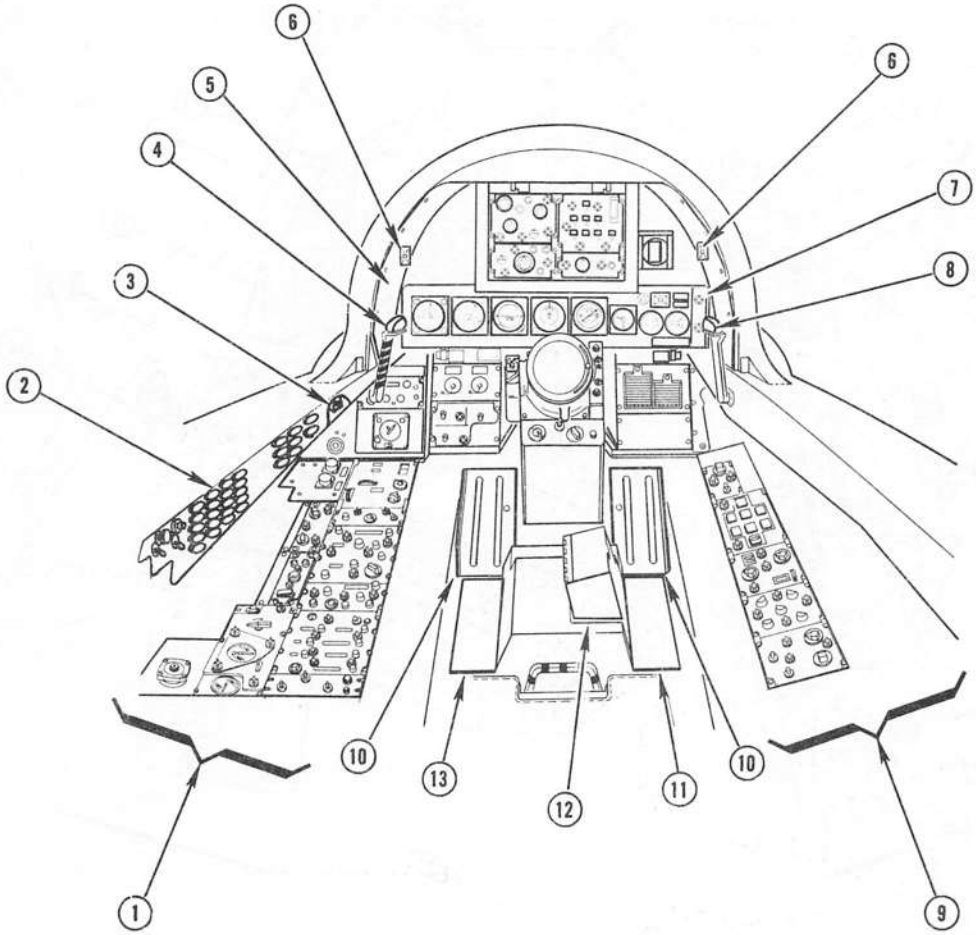
Figure 3-9. Landing Gear Wheel Wells Arrangement (Sheet 2 of 2)



INDEX NO.	NOMENCLATURE	INDEX NO.	NOMENCLATURE
1	LEFT CONSOLE PANELS	11	MANUAL CANOPY UNLOCK HANDLE
2	EMERGENCY RAM AIR TURBINE CONTROL HANDLE	12	ARRESTING GEAR CONTROL HANDLE
3	FLAP CONTROLS	13	RIGHT VERTICAL PANEL
4	CANOPY CONTROL HANDLE	14	FOOT HEAT-DEFOG CONTROL LEVER
5	LEFT VERTICAL PANEL	15	UTILITY SPOT AND FLOODLIGHT
6	LANDING GEAR CONTROL HANDLE	16	RIGHT CONSOLE PANELS
7	FWD CANOPY INTERNAL JETTISON HANDLE	17	PEDESTAL PANEL
8	MAIN INSTRUMENT PANEL	18	CONTROL STICK
9	ANGLE OF ATTACK INDEXER LIGHTS	19	DRAG CHUTE HANDLE
10	STANDBY COMPASS		

FDC-2-1.1-(13)

Figure 3–10. Typical Forward Cockpit Arrangement



INDEX NO.	NOMENCLATURE	INDEX NO.	NOMENCLATURE
1	LEFT CONSOLE PANELS	8	CANOPY MANUAL UNLOCK HANDLE
2	NO. 1 CIRCUIT BREAKER PANEL		
3	CANOPY CONTROL HANDLE	9	RIGHT CONSOLE PANELS
4	AFT CANOPY INTERNAL JETTISON HANDLE	10	FOOT RAMPS
		11	NO. 2 CIRCUIT BREAKER PANEL
5	INSTRUMENT PANEL LIGHT CURTAIN	12	MAP AND DATA CASE
		13	NO. 3 CIRCUIT BREAKER PANEL
6	ANGLE OF ATTACK INDEXER LIGHTS		
7	INSTRUMENT PANEL		

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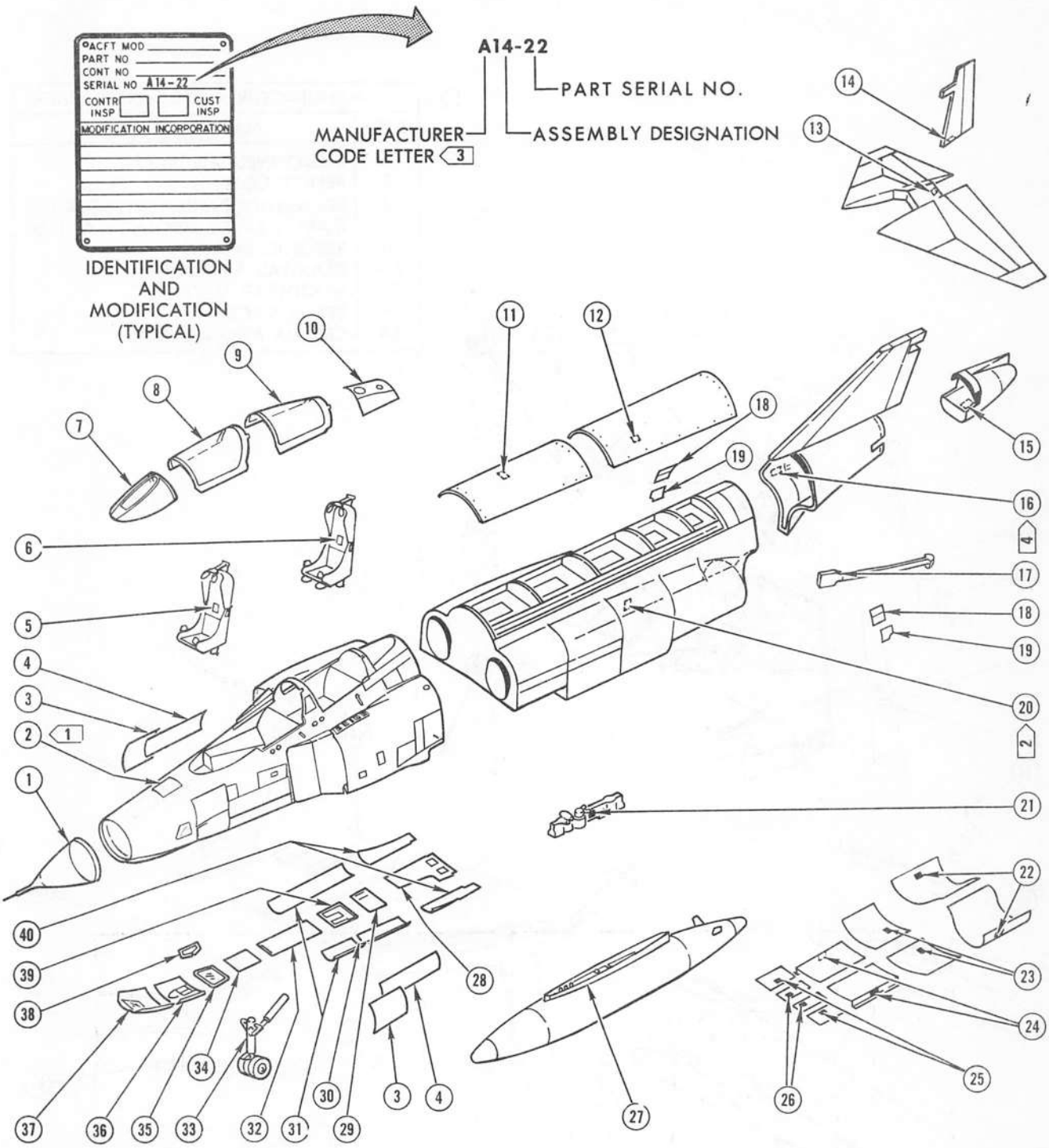
Figure 3-11. Typical Aft Cockpit Arrangement



NOTES

1. LOCATED IN NOSE LANDING GEAR WHEEL WELL (AFT RH CORNER).
2. LOCATED IN RH ENGINE BAY ON KEEL WEB, ACCESSIBLE THROUGH DOOR 83R.
3. SEE MANUFACTURER CODE LETTER INDEX LOCATED ON SHEET 2.
4. LOCATED ON BULKHEAD FORWARD OF, AND ACCESSIBLE THROUGH, DOOR 65.

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Figure 3–12. Identification and Modification Plates (Sheet 1 of 3)

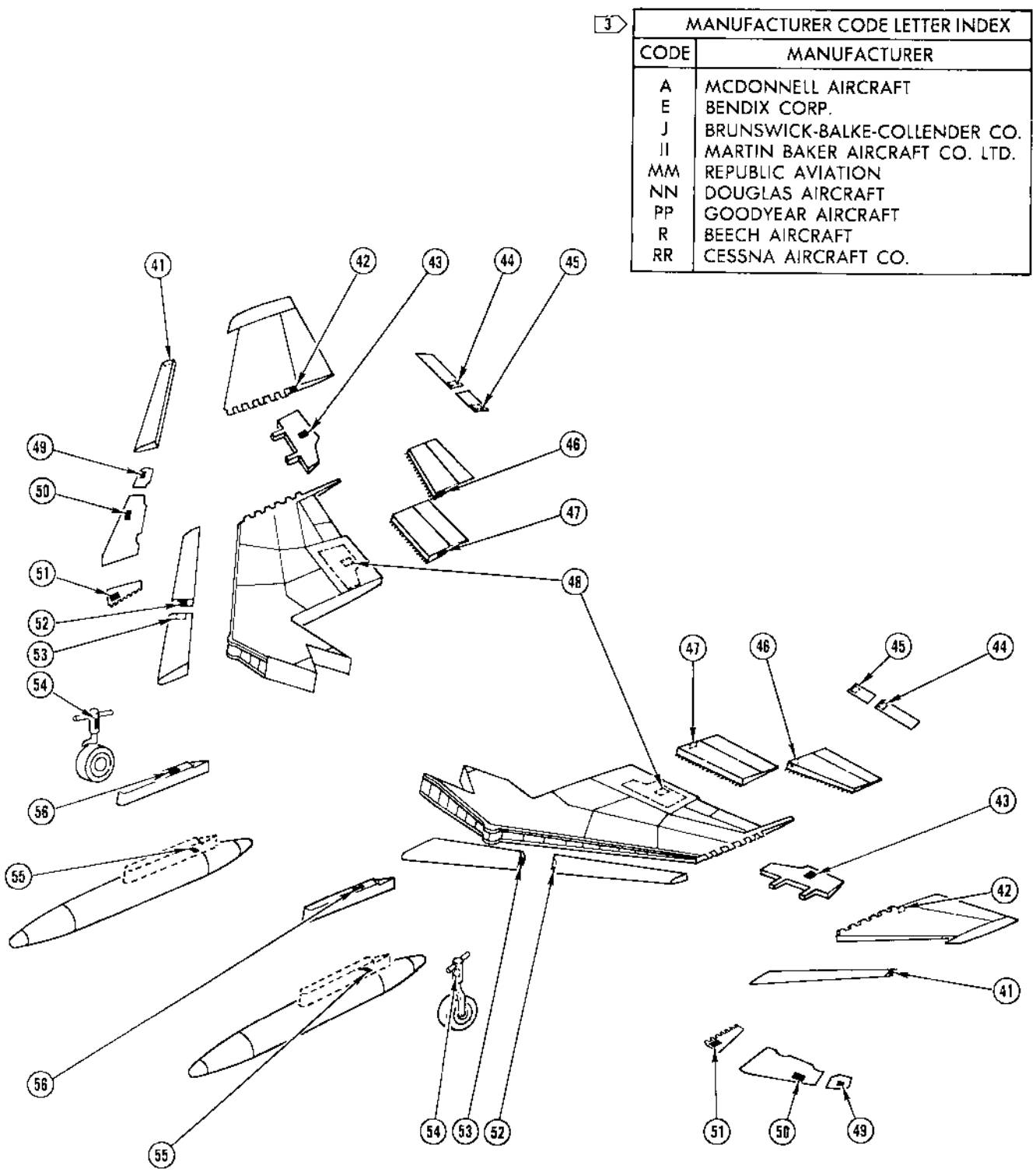


Figure 3-12. Identification and Modification Plates (Sheet 2 of 3)

INDEX NO.	NOMENCLATURE	MFG CODE LETTER	ASSEMBLY DESIGNATION
1	RADOME ASSEMBLY	A	1
2	FORWARD FUSELAGE ASSEMBLY	A	2
3	L/R DOOR ASSEMBLY (DOOR NO. 504)	A	66
4	L/R DOOR ASSEMBLY (DOOR NO. 6)	A	60
5	PILOT'S EJECTION SEAT ASSEMBLY	II	3
6	RECON. SYSTEM OFFICER'S EJECTION SEAT ASSY.	II	6
7	WINDSHIELD ASSEMBLY	PP	4
8	FORWARD CANOPY ASSEMBLY	PP	5
9	AFT CANOPY ASSEMBLY	PP	7
10	DOOR ASSEMBLY (DOOR NO. 19)	A	49
11	DOOR ASSEMBLY (DOOR NO. 34)	A	15
12	DOOR ASSEMBLY (DOOR NO. 48)	A	16
13	STABILATOR ASSEMBLY	MM	28
14	RUDDER ASSEMBLY	MM	26
15	TAIL CONE ASSEMBLY	MM	25
16	AFT FUSELAGE ASSEMBLY	A	24
17	ARRESTING HOOK ASSEMBLY	A	23
18	PHOTOFLASH EJECTOR DOORS	A	69
19	L/R DOOR ASSEMBLY (DOOR NO. 511)	A	68
20	CENTER FUSELAGE ASSEMBLY	A	14
21	AERO 27A BOMB RACK ASSEMBLY	RR	45
22	L/R DOOR ASSEMBLY (DOOR NO. 96)	MM	19
23	L/R DOOR ASSEMBLY (DOOR NO. 92)	MM	18
24	L/R DOOR ASSEMBLY (DOOR NO. 83)	MM	17
25	L/R DOOR ASSEMBLY (DOOR NO. 82)	MM	20
26	L/R AUXILIARY ENGINE AIR DOOR ASSY	A	21
27	CENTERLINE FUEL TANK STRUCTURAL ASSY	A	47
28	DOOR ASSEMBLY (DOOR NO. 22)	A	12
29	DOOR ASSEMBLY (DOOR NO. 16)	A	61
30	DOOR ASSEMBLY (DOOR NO. 508)	A	63
31	L/R DOOR ASSEMBLY (DOOR NO. 507)	A	63
32	NOSE LANDING GEAR AFT DOOR ASSEMBLY	R	11
33	NOSE LANDING GEAR SHOCK STRUT ASSY	E	13
34	NOSE LANDING GEAR FWD DOOR ASSY	R	10
35	DOOR ASSEMBLY (DOOR NO. 505)	A	67
36	DOOR ASSEMBLY (DOOR NO. 503)	A	65
37	DOOR ASSEMBLY (DOOR NO. 502)	A	64
38	VIEW FINDER WINDOW ASSY	A	70
39	DOOR ASSEMBLY (DOOR NO. 509)	A	58
40	L/R DOOR ASSEMBLY (DOOR NO. 510)	A	59
41	L/R OUTBOARD LEADING EDGE FLAP	NN	40
42	L/R OUTER WING ASSEMBLY	NN	39
43	L/R SPEED BRAKE	A, R	37
44	L/R OUTBOARD SPOILER ASSEMBLY	R	34
45	L/R INBOARD SPOILER ASSEMBLY	R	33
46	L/R AILERON	R	36
47	L/R INNER WING TRAILING EDGE FLAP	A, R	35
48	CENTER SECTION WING ASSEMBLY	A	29
49	MAIN LANDING GEAR OUTBD DOOR ASSY	A, R	55
50	L/R MAIN LANDING GEAR STRUT DOOR ASSY	R	31
51	L/R MAIN LANDING GEAR INBD DOOR ASSY	R	32
52	L/R CENTER LEADING EDGE FLAP	A, R	30
53	L/R INBOARD LEADING EDGE FLAP	A, R	41
54	L/R MAIN LDG GEAR SHOCK STRUT ASSY	E	38
55	EXT WING FUEL TANK STRUCTURAL ASSY	A	53
56	EXT WING FUEL TANK EJECTOR PYLON ASSY	A, RR	54

FDC-2-1.1-(15-3)

Figure 3-12. Identification and Modification Plates (Sheet 3 of 3)

ACCESS AND INSPECTION OPENINGS

3-65. MAINTENANCE ACCESS PROVISIONS.

3-66. **RADOME OPENING AND CLOSING.** See figure 3-13.

3-67. **Tools and Equipment.**

Wrench, torque, (20, table 2-2)

3-68. **Manpower Requirements.**

a. Three men required.

3-69. **Radome Opening.**

a. Open the forward camera access door 502.

b. Working through access door 502, depress the two radome attach bolt lockpins located at approximately 4 and 8 o'clock positions on forward bulkhead.

NOTE

When the lockpins are fully depressed, the opposite end of the pins will protrude from the exterior surface of the aircraft.

c. Using a 7/32 inch allen wrench, back out the two radome attach bolts. (See view A-A.)

d. Open the radome (forward and up) until struts (2) are latched.

3-70. **Radome Closing.**

a. While manually supporting radome, depress the two jury strut latch handles (1) and slowly lower the radome.

b. *Torque radome attach bolts 100-140 inch-pounds, lock attach bolts by pushing the two attach bolt lockpins in flush with aircraft mold line. See section B-B.*

NOTE

Bolts (3) must contact the fuselage bulkhead when the radome is closed and radome attach bolts torqued 100 to 140 inch-pounds.

c. *Check the two radome swaybrace bolts (3) for contact between bolt heads and fuselage bulkhead. If out of adjustment, open the radome. Loosen jam nut on bolt(s) and adjust as required. Tighten jam nuts when adjustments are complete.*

d. *Close the forward camera access door 502.*

3-71. AIRFRAME ACCESS DOORS.

3-72. **GENERAL.** Access doors provide access to various electrical, hydraulic and mechanical components and are classified as external and internal doors.

3-73. **Hi-Torque Fastener Removal and Installation.** Numerous access door fasteners are special fasteners, which require the use of a hi-torque bolt adapter assembly for removal and installation. Fasteners which have a hi-torque driving recess require a different driver blade and adapter for each thread size. The proper size driver blade must be used to prevent damage to fastener recess and tool. Table 3-1 lists the appropriate adapter assembly for each fastener size.

Table 3-1. Hi-Torque Bolt Adapters

Hi-Torque Fastener Size	Socket Adapter Assembly (with blade)
#10-32	HT3203M (40, table 2-1)
1/4-28	HT3304M (41, table 2-1)
5/16-24	HT3305M (42, table 2-1)
3/8-24	HT3306M (43, table 2-1)
7/16-20	HT3407M (44, table 2-1)
1/2-20	HT3408M (45, table 2-1)

CAUTION

Use of any tool other than specific adapter listed will result in damage to fasteners.

3-74. **EXTERNAL ACCESS DOORS.** External access doors which can be opened or removed for maintenance access, are numbered and located as shown in figure 3-14. Doors required for frequent access are hinged and fastened with quick release fasteners or latches. All other doors are fastened with screws or bolts.

3-75. Form-In-Place Seals. Form-in-place door seal prevents water from entering a compartment. Numerous doors require a form-in-place seal. When a door that requires a form-in-place seal is opened or removed, the seal shall be inspected for damage, and if found to be defective or damaged, the seal shall be repaired or replaced. For form-in-place seal repair or replacement, refer to NAVAIR 01-245FDA-3-1.6.

3-76. **Care and Handling of Access Doors.** Most of the external access doors are stressed doors which carry a substantial load when installed. Use extreme care in handling these doors to prevent damage such as nicks, scratches, and dents. Avoid the use of screwdrivers or similar tools to pry the door open. For repair of doors which have been damaged, refer to NAVAIR 01-245FDA-3-1.3.

3-77. **External Access Doors.** See figure 3-14.

3-78. **External Access Door Fasteners.** Refer to table 3-2 and coordinate with figure 3-14 for external access doors.

Table 3-2. External Access Door Fasteners

Door No.	View	Door Fasteners
		NOTE For external access door index numbers, see figure 3-14.
501	LS	Refer to Radome Opening and Closing
502	B	Hinged. Mechanical latching mechanism secured with two latch handles and quick release fasteners.
503	B	Hinged. Mechanical latching mechanism secured with two latch handles and quick release fasteners.
**504L	LS	Hinged. Quick release fasteners (21)
**504R	RS	Hinged. Quick release fasteners (21)
505	B	[8] Hinged. AN509—10R15 (19) [9] Hinged. 3MFR509—10R15 (19)
506 L & R	B	Hinged. AN509-416R13 Screw (24)
507L	B	Hinged. Quick release fasteners (17)
507R	B	Hinged. Quick release fasteners (28)
508	B	Hinged. Quick release fasteners (16)
509	B	Hinged. Quick release fasteners (14)
510 L & R	B	Quick release fasteners (35)
511L	LS	NAS333CFA6-5 Bolt (26) NAS334CFA7-5 Bolt (22)
511R	RS	NAS333CFA6-5 Bolt (26) NAS334CFA7-5 Bolt (22)
512	LS	AN509-10R10 Screw (16)
513L	LS	AN509-10R14 Screw (30) AN509-416R20 Screw (1)
513R	RS	AN509-10R14 Screw (30) AN509-416R20 Screw (1)
514 L & R	B	Hinged. Quick release fasteners (10)
515	B	Hinged. AN509-10R17 Screw (8)
3	RS	AN509-10R10 Screw (16)
**5L	LS	AN509-10R12 Screw (42)
**5R	RS	AN509-10R12 Screw (42)
6L	LS	AN509-10R15 Screw (71)

CONTINUED

Table 3-2. External Access Door Fasteners (CONT)

Door No.	View	Door Fasteners
6R	RS	AN509-10R13 Screw (85)
7	LS	Hinged. H7200S1 Latch
**9L	LS	AN509-10R11 Screw (76) AN509-416R13 Screw (3)
**9R	RS	AN509-10R11 Screw (76) AN509-416R13 Screw (3)
10L	LS	NAS333CFA5 Bolt (22)
10R	RS	NAS333CFA5 Bolt (22)
12L	LS	NAS333CFA6-5 Bolt (41)
12R	RS	NAS333CFA6-5 Bolt (41)
15	B	9M142-400-5 Assembly (1)
16	B	Hinged. Quick release fasteners (14)
**19	T	Hinged. Quick release fasteners (43)
**21 L & R	T	AN509-10R13 Screw (117)
**22	B	See figure 3-15.
**23	B	Hinged. Quick release fasteners (13)
24 L & R	B	AN509-10R13 Screw (33)
25 L & R	B	AN509-10R15 Screw (43)
26 L & R	B	Hinged. Quick release fasteners (7)
27 L & R	B	AN509-10R13 Screw (41)
28 L & R	B	Hinged. Quick release fasteners (10)
29 L & R	B	AN509-10R15 Screw (41)
30 L & R	B	AN509-10R14 Screw (37)
31L	LS	AN509-10R12 Screw (52)
31R	RS	AN509-10R12 Screw (52)
33L	LS	AN509-10R13 Screw (107)
33R	RS	AN509-10R13 Screw (107)
**34	T	NAS333CFA11 Bolt (2) NAS334CFA6 Bolt (314)
35	T	NAS334CFA5-5 Bolt (16) 294347-5-8 Screw (1)
**36L	LS	See figure 3-15.

CONTINUED

Table 3-2. External Access Door Fasteners (CONT)

Door No.	View	Door Fasteners
**36R	RS	See figure 3-15.
37L	LS	See figure 3-15.
37R	RS	See figure 3-15.
38 L & R	T	NAS333CFA5-5 Bolt (27) NAS334CFA6-5 Bolt (24)
**39L	LS	See figure 3-15.
**39R	RS	See figure 3-15.
40L	LS	9M142-250-5 Assembly (1)
40R	RS	9M142-250-5 Assembly (1)
41 L & R	T	9M142-350-5 Assembly (1)
42L	LS	NAS333CFA5 Bolt (3) 294346-5-8 Screw (1)
42R	RS	NAS333CFA5 Bolt (3) 294346-5-8 Screw (1)
**43L	LS	NAS333CFA5 Bolt (26)
**43R	RS	NAS333CFA5 Bolt (26)
44	T	NAS334CFA5-5 Bolt (15) 294347-5-8 Screw (1)
**45	T	NAS333CFA5 Bolt (61)
**46	RS	See figure 3-15.
47L	LS	NAS333CFA5-5 Bolt (65) NAS334CFA6 Bolt (2)
47R	RS	NAS333CFA5-5 Bolt (63) NAS334CFA6 Bolt (2)
**48	T	NAS334CFA6 Bolt (278)
49	T	NAS334CFA5-5 Bolt (17) 294347-5-8 Screw (1)
**50	T	[4] NAS333CFA5 Bolt (18) [4] 294346-5-8 Screw (1) [5] 3MFR333CFA5 Bolt (19)
**51	T	[4] NAS333CFA5 Bolt (37) [5] 3MFR333CFA5 Bolt (34)
53	T	NAS334CFA5-5 Bolt (17) 294347-5-8 Screw (1)
54L	LS	Quick release fastener (6)
54R	RS	Quick release fastener (6)

CONTINUED

Table 3-2. External Access Door Fasteners (CONT)

Door No.	View	Door Fasteners
55	T	NAS334CFA5-5 Bolt (17) 294347-5-8 Screw (1)
56	T	NAS334CFA6 Bolt (17) 294347-5-8 Screw (1)
**57	T	NAS334CFA6 Bolt (54) NAS335CFA6-5 Bolt (2)
58	RS	NAS334CFA6 Bolt (24)
61	LS	AN509-416R13 Screw (51)
62	RS	Hinged. Quick release fastener (2)
63	LS	AN509-416R13 Screw (60) AN509-516R12 Screw (2)
64	RS	AN509-416R13 SCrew (84)
65	RS	AN509-416R13 Screw (60) AN509-516R12 Screw (2)
66 L & R	T	NAS334CFA6 Bolt (23) NAS335CFA10 Bolt (8)
67 L & R	T	NAS333CFA5 Bolt (12) NAS334CFA7 Bolt (3)
68	LS	AN509-10R13 Screw (39)
69	LS	AN509-10R10 Screw (8)
70	LS	AN509-10R9 Screw (3)
**72 L & R	B	See figure 3-15.
**73 L & R	B	Quick release fasteners (8)
**74 L & R	B	Hinged. Quick release fasteners (19)
**75 L & R	B	Hinged. Quick release fasteners (12)
76 L & R	B	Hinged. Quick release fasteners (3)
**78	B	Hinged. Quick release fasteners (13)
**80	B	Hinged. Quick release fasteners (14)
81 L & R	B	Hinged. Hydraulically actuated

CONTINUED

Table 3-2. External Access Door Fasteners (CONT)

Door No.	View	Door Fasteners
		CAUTION For internal structural support, when securing doors 82 L and R, insure that internal attach bolts are installed and safetied with MS20995NC40 lockwire.
**82 L & R	B	Hinged. Quick Release Fasteners (5) NAS1305-4H Bolt (2)
		WARNING When opening Doors 83 L/R, do not use openings in bracket at aft outboard end of door as a handhold. Serious personal injury can result.
**83 L & R	B	Hinged. Quick release fasteners (28) AN6-12A Bolt (1) AN6-14A Bolt (1) AN4-6A Bolt (3)
**86 L & R	B	See figure 3-15.
**87 L & R	B	See figure 3-15.
**88 L & R	B	See figure 3-15.
89 L & R	B	*NAS584-6 Bolt (41)
**92 L & R	B	Hinged. 32-32518-3 Bolt (3) (Doors 83 and 96 must be opened first)
		CAUTION Use only 3MFRA123-3-5P bolts or authorized substitute when installing door 95, or compass operation will be affected.
95	B	*3MFRA123-3-5P bolt (36)
**96 L & R	B	Hinged. 32-32517-3 Bolt (4) Quick release fasteners (11)
100 L & R	T	AN509-416R19 Screw (1)
**101 L & R	T	See figure 3-15.
**102 L & R	T	See figure 3-15.
103 L & R	T	*NAS584-10 Bolt (19)

CONTINUED

Table 3-2. External Access Door Fasteners (CONT)

Door No.	View	Door Fasteners
104 L & R	T	Hinged. AN509-10R10 Screw (6)
105 L & R	T	AN509-10R8 Screw (6)
106L	LS	Quick release fasteners (4)
106R	RS	Quick release fasteners (4)
107	LS	Hinged. Mechanically actuated 32-33267 Latch Assembly
**108 L & R	T	See figure 3-15.
**109 L & R	T	See figure 3-15.
**110 L & R	T	*NAS583-5 Bolt (23) *NAS584-6 Bolt (1)
**111 L & R	T	See figure 3-15.
**112 L & R	T	See figure 3-15.
117 L & R	T	AN509-10R13 Screw (24) NAS334CFA5 Bolt (2)
120	B	Hinged. Quick release fasteners (8)
121L	LS	See figure 3-15.
121R	RS	See figure 3-15.
123 L & R	B	NAS333CFA6-5 Bolt (17)
125L	LS	[1] AN509-10R12 Screw (68) [2] AN509-10R10 Screw (68)
125R	RS	[1] AN509-10R12 Screw (68) [2] AN509-10R10 Screw (68)
**127L	LS	AN509-10R12 Screw (46)
**127R	RS	AN509-10R12 Screw (46)
**128L	LS	AN509-10R12 Screw (75)
**128R	RS	AN509-10R12 Screw (75)
129 L & R	B	NAS333CFA10 Bolt (12)
130L	LS	NAS333CFA5-5 Bolt (42) NAS334CFA7 Bolt (1)
130R	RS	NAS333CFA5-5 Bolt (42) NAS334CFA7 Bolt (1)
131L	LS	9M141A1 Screw (1)
131R	RS	9M141A1 Screw (1)

CONTINUED

Table 3-2. External Access Door Fasteners (CONT)

Door No.	View	Door Fasteners
**132L	LS	NAS333CFA5 Bolt (107) NAS334CFA6 Bolt (6)
**132R	RS	NAS333CFA5 Bolt (107) NAS334CFA6 Bolt (6)
[7] 141 L & R	T & B	Refer to NAVAIR 01-245FDA-3-1.3.
[6] 148 L & R	T	See figure 3-15.
[7] 149 L & R	T	AN509-10R11 Screw (4)
[3] 602 L & R	B	See figure 3-15.
[3] 603 L & R	T	NAS333CFA4 Bolt (16)
[3] 604 L & R	B	NAS333CFA5 Bolt (8)
[5] 622	RS	3MFR333CFA4-5 Bolt (18)

NOTES:

[1] 151975t THRU 151983w.

[2] 153089x AND UP.

[3] AFTER AFC 218.

[4] BEFORE AFC 332.

[5] AFTER AFC 332.

[6] AFTER AFC 230 (Part III).

[7] 153101z AND UP. ALSO ALL AIRCRAFT AFTER AFC 218.

[8] 151975 THRU 153115.

[9] 157342 AND UP.

10. Coat all removable fasteners with Corrosion Preventive Compound MIL—C—16173, Grade 4, prior to installation.

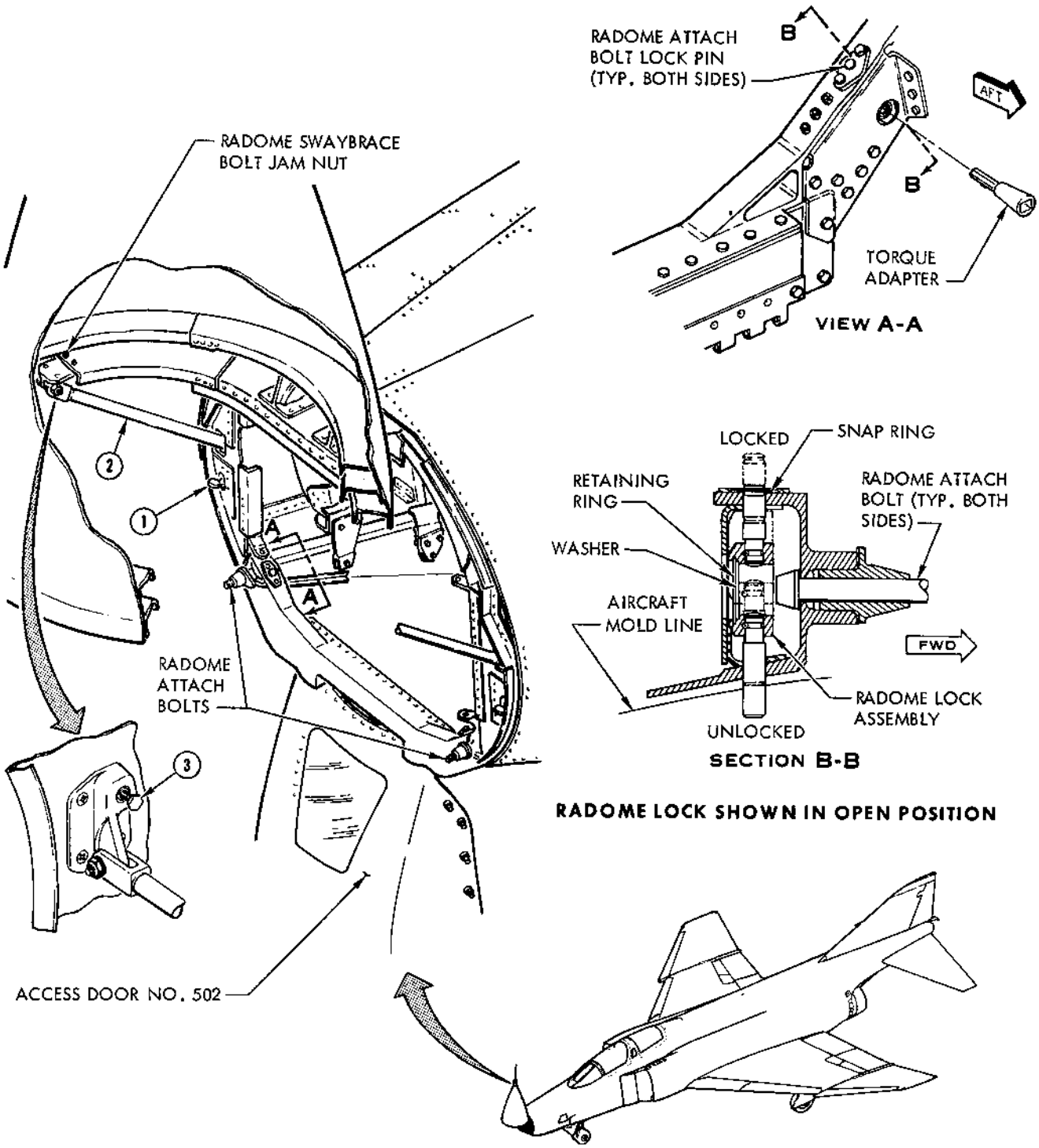
11. Doors having fasteners of the same diameter with different lengths requiring installation in specific holes are illustrated separately. Refer to paragraph 3—78.

12. *This symbol indicates Hi—Torque Fasteners. Remove and install only with proper adapter. Refer to Table 3—1.

13. **This symbol indicates doors which must be installed or replaced with stress frames to accomplish certain maintenance operations. Refer to paragraph 3—82.

CAUTION

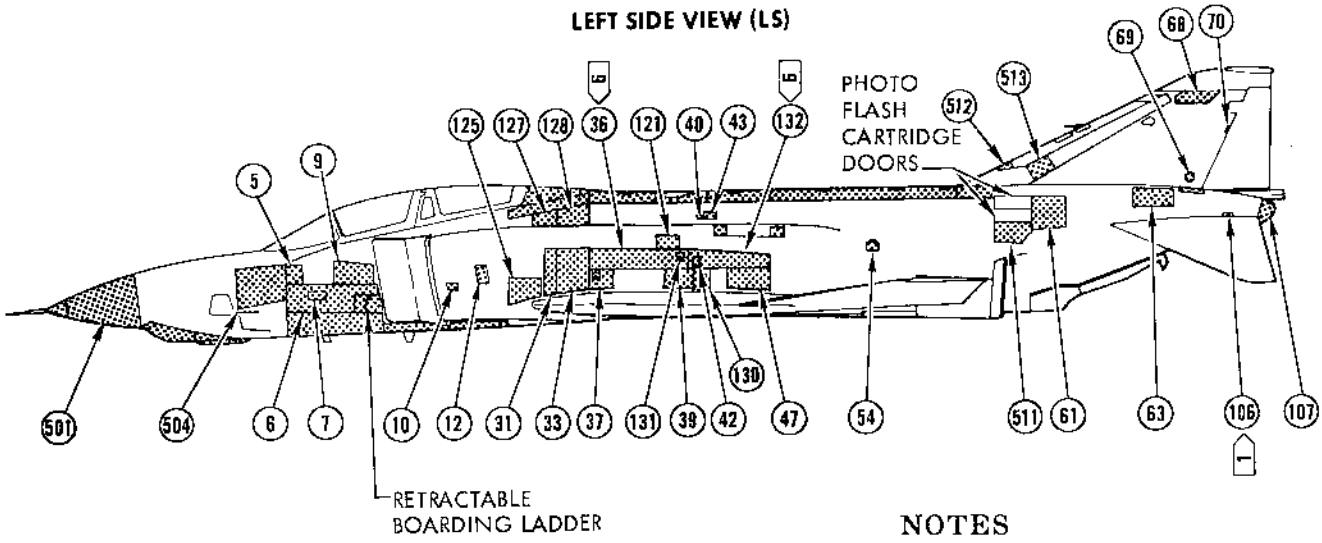
Ensure the sleeve bolt of each quick release fastener is fully retracted before opening door. Avoid using the retracted sleeve bolt as a support for holding door open or damage to the sleeve bolt or retaining ring may result.



1	JURY STRUT LATCH HANDLE (TYP. BOTH SIDES)
2	JURY STRUT (TYP. BOTH SIDES)
3	RADOME SWAYBRACE BOLT (TYP. BOTH SIDES)

FDC-2-1.1-(16)

Figure 3-13. Radome Opening and Closing



CAUTION

USE EXTREME CAUTION WHEN OPENING OR REMOVING DOORS WITH ANTENNAS INSTALLED. DO NOT ALLOW DOORS TO HANG BY THE COAX CABLES, OR DAMAGE TO THE CABLES WILL RESULT. WHEN DOORS ARE REMOVED, HANDLE WITH CARE AND STORE IN A PADDED RACK TO PREVENT CHIPPING OF THE COATING.

NOTES

[1] 151975t THRU 153096y.

[2] 153101z AND UP; ALSO 151975t THRU 153100y AFTER AFC 218.

[3] AFTER AFC 218.

[4] AFTER AFC 230, PART III.

[5] AFTER AFC 332.

[6] DURING REMOVAL OR INSTALLATION OF ACCESS DOORS 36 L/R AND 132 L/R, IT MAY BE NECESSARY TO JACK THE AIRCRAFT TO REDUCE MISALIGNMENT AND RESULTING DAMAGE TO FASTENERS. REFER TO PARAGRAPH TITLED MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS.

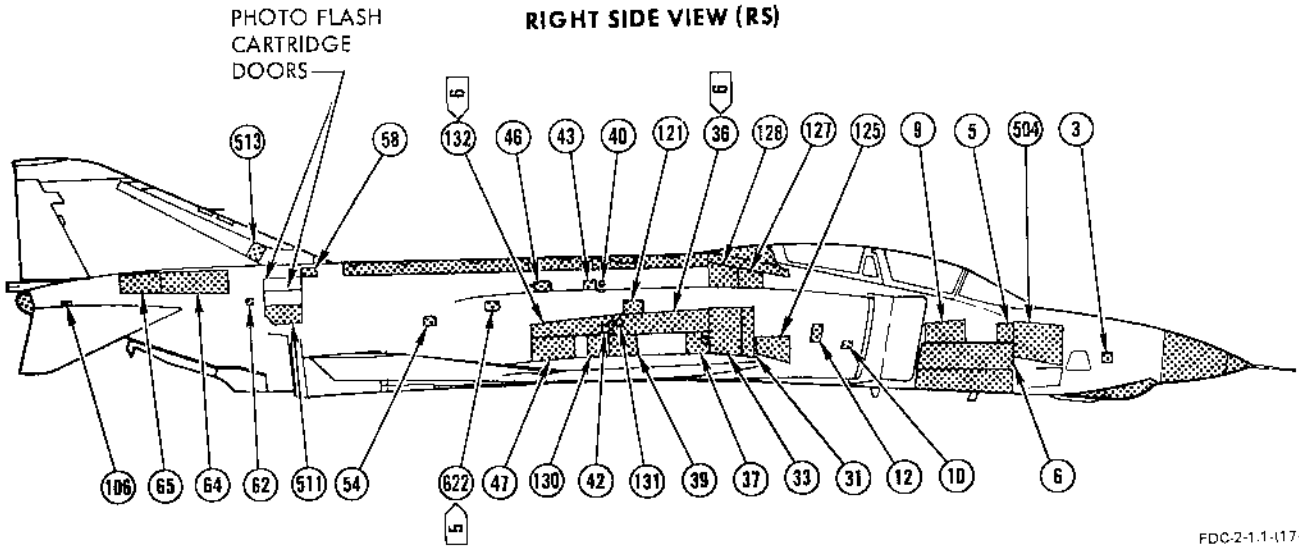


Figure 3-14. External Access Doors (Sheet 1 of 3)

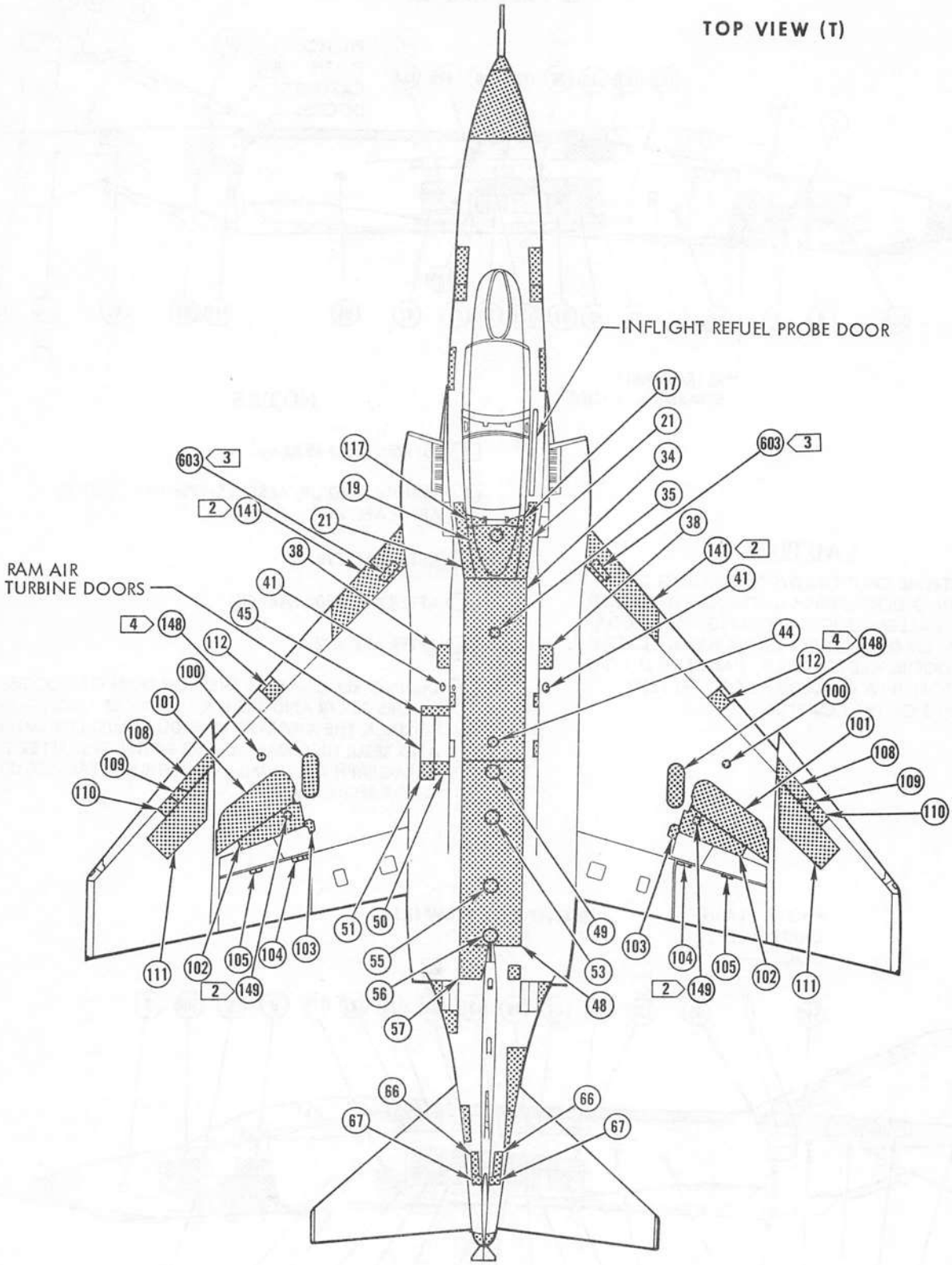
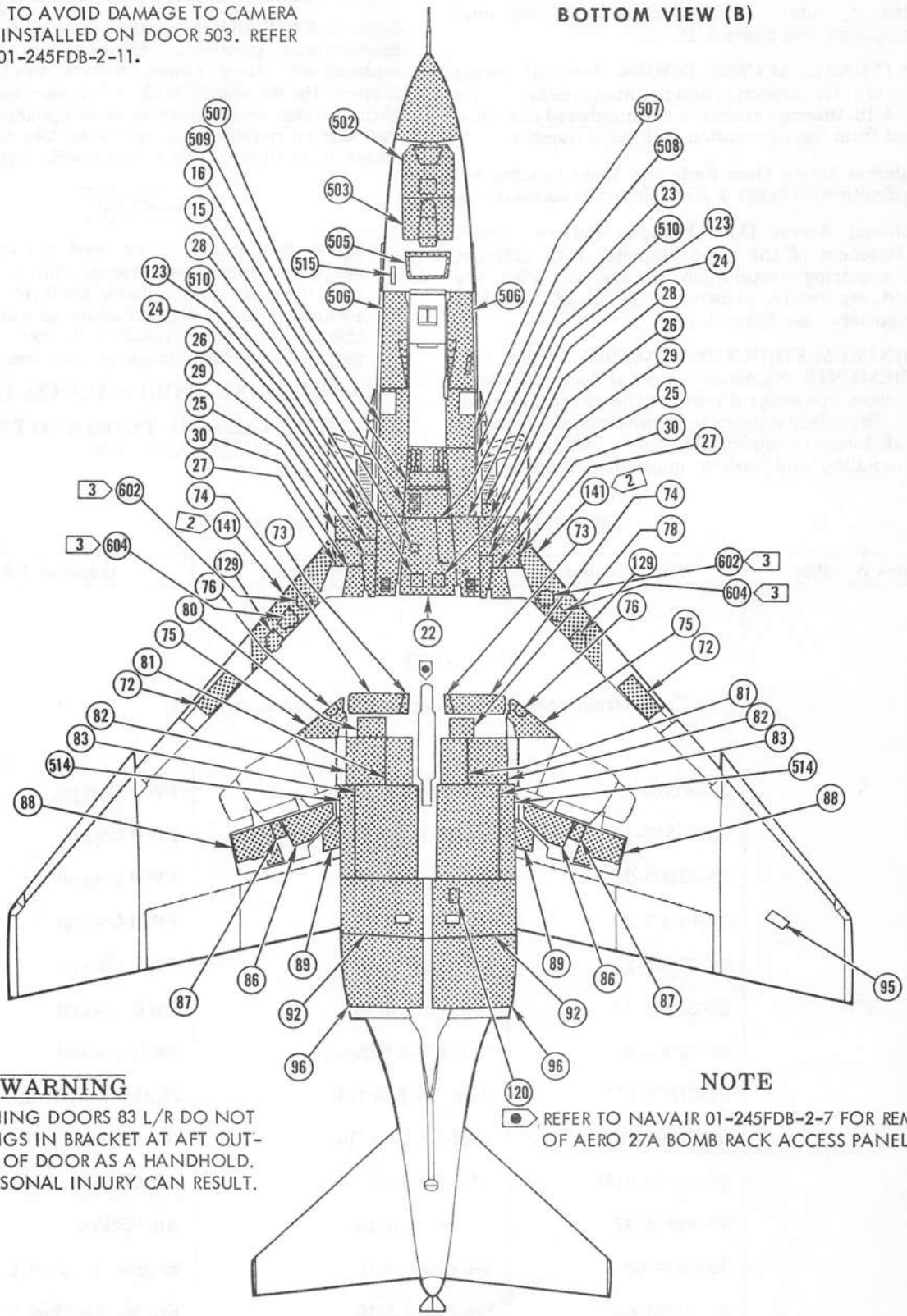


Figure 3–14. External Access Doors (Sheet 2 of 3)

CAUTION

CARE MUST BE EXERCISED IN OPENING DOORS 502 AND 503 TO AVOID DAMAGE TO CAMERA EQUIPMENT INSTALLED ON DOOR 503. REFER TO NAVAIR 01-245FDB-2-11.



WARNING

WHEN OPENING DOORS 83 L/R DO NOT USE OPENINGS IN BRACKET AT AFT OUTBOARD END OF DOOR AS A HANDHOLD. SERIOUS PERSONAL INJURY CAN RESULT.

NOTE

● REFER TO NAVAIR 01-245FDB-2-7 FOR REMOVAL OF AERO 27A BOMB RACK ACCESS PANELS.

FDC-2-1.1-(17-3)

Figure 3-14. External Access Doors (Sheet 3 of 3)

3-79. External Access Door Fastener Patterns. Doors having fasteners of the same diameter with different lengths, requiring installation in specific holes are illustrated separately, showing a detail of the door fastener pattern. See figure 3-15.

3-80. INTERNAL ACCESS DOORS. Internal access doors provided for inspection and maintenance are shown in figure 3-16. Internal doors are not numbered and must be located from the illustration and index number.

3-81. Internal Access Door Fasteners. Refer to table 3-3 and coordinate with figure 3-16 for internal access doors.

3-82. Internal Access Door Fastener Patterns. Doors having fasteners of the same diameter with different lengths, requiring installation in specific holes are illustrated separately, showing a detail of the door fastener pattern. See figure 3-17.

3-83. MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS. Numerous external doors and some internal doors are integral parts of the aircraft stressed structure. To prevent damage to the aircraft and maintain structural integrity during hoisting, jacking, towing, ground handling and various maintenance operations, certain access doors shall be installed. See figure 3-18 for minimum structural access door and fastener requirements for the operation being performed.

3-84. ACCESS DOOR STRESS FRAMES. To facilitate maintenance operations, certain access doors may be replaced with stress frames. Stress frames have the same shape as the doors they replace, but have large cutouts to permit access and inspection of components behind the door during maintenance operation. See figure 3-19 for access doors that may be replaced with stress frames.

WARNING

Stress frames are to be used during ground operations only. Stress frames shall be removed and the skin panel doors shall be installed securely prior to flight. Failure to comply with this warning could result in serious injury to personnel and/or damage to equipment.

3-85. EXTERNAL STORES ACCESS DOORS.

3-86. EXTERNAL FUEL TANKS AND PYLON ACCESS DOORS. See figure 3-20.

Table 3-3. Internal Access Door Fasteners

Index Number	Part Number	Door Fasteners	Access or Location
		NOTE	
		For internal access door index numbers, see figure 3-16.	
4L	53-80513-15	98292-1-120 Fastener (2)	FWD Cockpit
4R	53-80513-16	98292-1-120 Fastener (2)	FWD Cockpit
6L	32-81003-9	See figure 3-16.	FWD Cockpit
6R	32-81003-10	See figure 3-16.	FWD Cockpit
7L	32-31261-21	See figure 3-16.	FWD Cockpit
7R	32-31261-22	See figure 3-16.	FWD Cockpit
8	32-81004-5	NAS229-8 Screw (7)	FWD Cockpit
10	32-31800-0159	AN3-5A Bolt (14)	NLG Wheel Well
11	32-31800-187	AN3-5A Bolt (14)	NLG Wheel Well
12	32-30170-0177	AN3-5A Bolt (14)	Aft Cockpit
13	32-34014-37	See figure 3-16.	Aft Cockpit
14L	32-3003-63	See figure 3-16.	Engine Air Duct L
14R	32-30003-64	See figure 3-16.	Engine Air Duct R

CONTINUED

Table 3-3. Internal Access Door Fasteners (CONT)

Index Number	Part Number	Door Fasteners	Access or Location
5 **15L	32-19427-23	NAS1303-6 Bolt (28)	Inboard LE Flap L
5 **15R	32-19427-24	NAS1303-6 Bolt (28)	Inboard LE Flap R
5 **16L	32-19411-47	See figure 3-16.	Inboard LE Flap L
5 **16R	32-19411-48	See figure 3-16.	Inboard LE Flap R
10 17	32-30051-263	NAS464P3A5 Bolt (11)	Aft Cockpit
9 17	32-09470-3	NAS464P3A6 Bolt (11)	Aft Cockpit
18	32-30051-63	NAS464P3A3 Bolt (20)	Access Door 117L
8 19	32-31043-2219	See figure 3-16.	Aft Cockpit
15 19	53-31025-11	AN3-5A Bolt (33)	Aft Cockpit
20	32-32081-193	See figure 3-16.	Right Engine Bay
21	32-32081-205	See figure 3-16.	Right Engine Bay
22L	32-11189-29	See figure 3-16.	Outboard Spoiler L
22R	32-11189-30	See figure 3-16.	Outboard Spoiler R
23	32-32046-1441	AN3-5A Bolt (65)	Access Door 74R
24	32-32046-1019	LS10W Screw (2)	Access Door 74R
25	32-32047-1405	3M33-3-3A Bolt (18)	Access Door 74L
6 26	32-32081-199	See figure 3-16.	Right Engine Bay
7 26	32-32081-759 & -761	See figure 3-16.	Right Engine Bay
11 27	32-05339-1017	11 3M33-3-4A Bolt (30)	Right Engine Bay
28	32-32046-67	AN3-5A Bolt (30)	Access Door 81R
30L	32-32081-207	See figure 3-16.	Engine Bay L
30R	32-32081-208	See figure 3-16.	Engine Bay R
33L	53-32541-047	NAS464P3A7 Bolt (24)	Photoflash Cartridge Ejector Well L
33R	53-32541-048	NAS464P3A7 Bolt (24)	Photoflash Cartridge Ejector Well R
34L	53-32541-173	NAS464P3A7 Bolt (28)	Photoflash Cartridge Ejector Well L
34R	53-32541-173	NAS464P3A7 Bolt (28)	Photoflash Cartridge Ejector Well R
36	32-32295-9	3M33-3-2A Bolt (36)	Keel, Left Engine Bay
37	32-32047-1021	3M33-3-3A Bolt (18)	Keel, Left Engine Bay
38	32-32047-1017	3M33-3-3A Bolt (18)	Keel, Left Engine Bay

CONTINUED

Table 3-3. Internal Access Door Fasteners (CONT)

Index Number	Part Number	Door Fasteners	Access or Location
[11] 39	32-05339-1071	[11] 3M33-3-4A Bolt (28)	Left Engine Bay
40	32-32081-485 & 487	See figure 3-16.	Left Engine Bay
41L	32-11181-301	See figure 3-16.	Access Door 101L
41R	32-11181-301	See figure 3-16.	Access Door 101R
42	32-32046-1319	[14] LS10W Screw (6)	Access Door 81L
[12] 42	32-32046-1537	[14] LS10W Screw (6) LN10 Nut (6)	Access Door 81L
42	32-32046-1979	[14] LS10W Screw (6) LN10 Nut (6)	Access Door 81L
[12] 42	32-32046-2297	[14] LS10W Screw (6) LN10 Nut (6)	Access Door 81L
43	32-32081-209	See figure 3-16.	Left Engine Bay
[12] 44	32-32046-1347	32-32477-3 Thumbscrew (1)	Access Door 81L
[12] 44	32-32046-2293	32-32477-3 Thumbscrew (1)	Access Door 81L
[12] 45	32-32046-1157	[14] LS10W Screw (4)	Access Door 81L
[12] 45	32-32046-1533	[14] LS10W Screw (4) LN10 Nut (4)	Access Door 81L
[12] 45	32-32046-2283	[14] LS10W Screw (4) LN10 Nut (4)	Access Door 81L
46L	32-11096-303	NAS1306-13W Bolt (11)	MLG Wheel Well L
46R	32-11096-303	NAS1306-13W Bolt (11)	MLG Wheel Well R
47	A6913-1024-1	A6913-1024-1 Assembly	Access Door 74L
[12] 47	32-32046-1535	[14] LS10W Screw (2) LN10 Nut (2)	Access Door 81L
[13] 48	32G32047-139	3M33-3-3A Bolt (9)	Engine Bay L
49	32-32046-1365	See figure 3-16.	Access Door 74L
50	32-32046-1347	32-32477-3 Thumbscrew (1)	Access Door 74L
51	32-32046-273	See figure 3-16.	Access Door 76L
52L	32-11095-601	*HT4UA6 Bolt (28)	Access Door 74L
52R	32-11095-601	*HT4UA6 Bolt (28)	Access Door 74R
53	32-32052-121	NAS229-13 Screw (40)	Access Door 34 (under #2 fuel cell)
54L	32-32016-123	See figure 3-16.	Engine Bay L

CONTINUED

Table 3-3. Internal Access Door Fasteners (CONT)

Index Number	Part Number	Door Fasteners	Access or Location
54R	32-32016-124	See figure 3-16.	Engine Bay R
55L	32-32016-105	AN515-8R7 Screw (4)	Engine Bay L (Fwd)
55R	32-32016-105	AN515-8R7 Screw (4)	Engine Bay R (Fwd)
56	32-32052-117	NAS229-13 Screw (22)	Access Door 34 (under #2 fuel cell)
57	32-32052-119	NAS229-13 Screw (34)	Access Door 34 (under #2 fuel cell)
58	32-32052-0123	NAS229-12 Screw (41)	Access Door 34 (under #2 fuel cell)
59L	32-11034-301	*HT4UA5 Bolt (11)	Access Door 510L
59R	32-11034-301	*HT4UA5 Bolt (11)	Access Door 510R
60L	53-34032-027	AN3-5A Bolt (20)	Access Door 510L
60R	53-34032-027	AN3-5A Bolt (20)	Access Door 510R
61	53-31025-0409	See figure 3-16.	Access Door 22
62L	32-11094-601	See figure 3-16.	Access Door 22
62R	32-11094-602	See figure 3-16.	Access Door 22
64L	53-34032-03	AN3-5A Bolt (43)	Access Door 510L
64R	53-34032-05	AN3-5A Bolt (50)	Access Door 510R
65L	53-34032-111	AN3-5A Bolt (15)	Access Door 510L
65R	53-34032-135	AN3-5A Bolt (14)	Access Door 510R
66L	32-31696-37	AN3-4A Bolt (12)	Access Door 22
66R	32-31696-38	AN3-4A Bolt (12)	Access Door 22
69	32-31800-145	AN3-5A Bolt (14)	NLG Wheel Well
70	32-83090-301	See figure 3-16.	NLG Wheel Well
72	53-46502-91	AN3-3A Bolt (14)	NLG Aft Door
73	53-46521-1 & -3	See figure 3-16.	NLG FWD Door
74L	32-31348-029	AN3-4A Bolt (14)	FWD Cockpit
74R	32-31348-030	AN3-4A Bolt (14)	FWD Cockpit

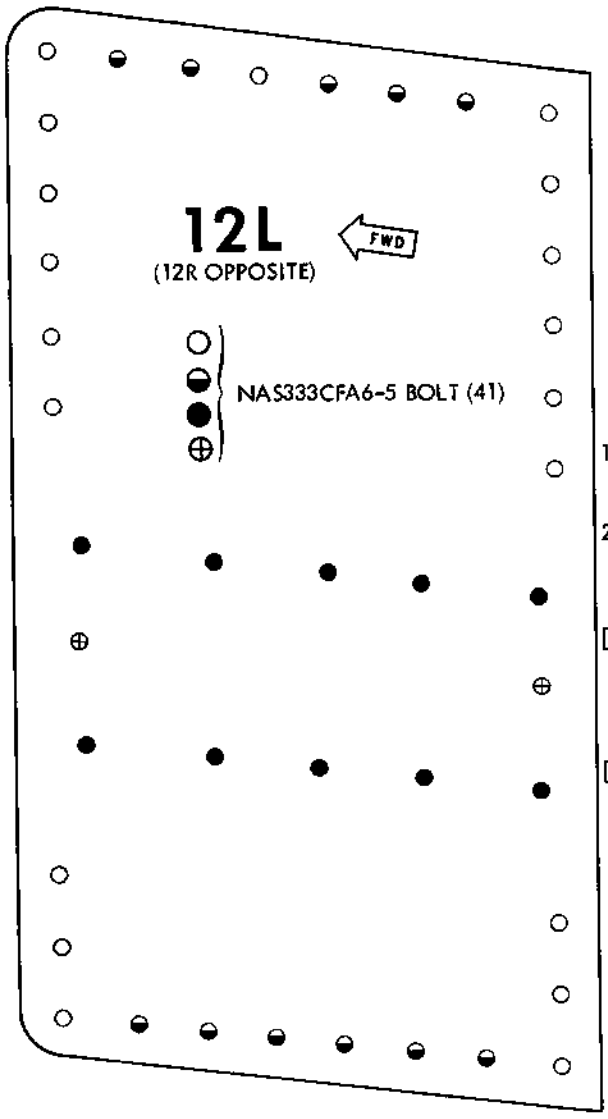
NOTES:

1. Coat all removable fasteners with corrosion preventive compound MIL-C-16173 Grade IV, prior to installation.

CONTINUED

Table 3-3. Internal Access Door Fasteners (CONT)

Index Number	Part Number	Door Fasteners	Access or Location
NOTES: (CONT) 2. Doors having fasteners of the same diameter with different lengths requiring installation in specific holes are illustrated separately. See figure 3-17. 3. *This symbol indicates hi-torque fasteners which must be removed and installed with hi-torque bolt adapters. Refer to table 3-1. 4. **This symbol indicates structural doors which must be installed or replaced with stress frames when performing certain maintenance operations. Refer to paragraph 3-82. [5] 151975t THRU 153100y. [6] 151975t THRU 151979u. [7] 151980v AND UP. [8] 153095y AND UP. [9] AFTER AFC 316. [10] BEFORE AFC 316. [11] AFTER AFC 332. [12] When removing center fuselage internal keel web doors, failure to replace doors or cutting of security chains can cause detrimental effects such as fire access from one engine cavity to the other increases, centerline stores cartridges can overheat, or engine performance due to cross ducting of engine air can decrease. [13] 151975t THRU 153115aa AFTER AFC 373 Part II. [14] Use caution when installing doors fastened with LS10W screws to insure that doors are properly secured. [15] 151975t THRU 153094x			

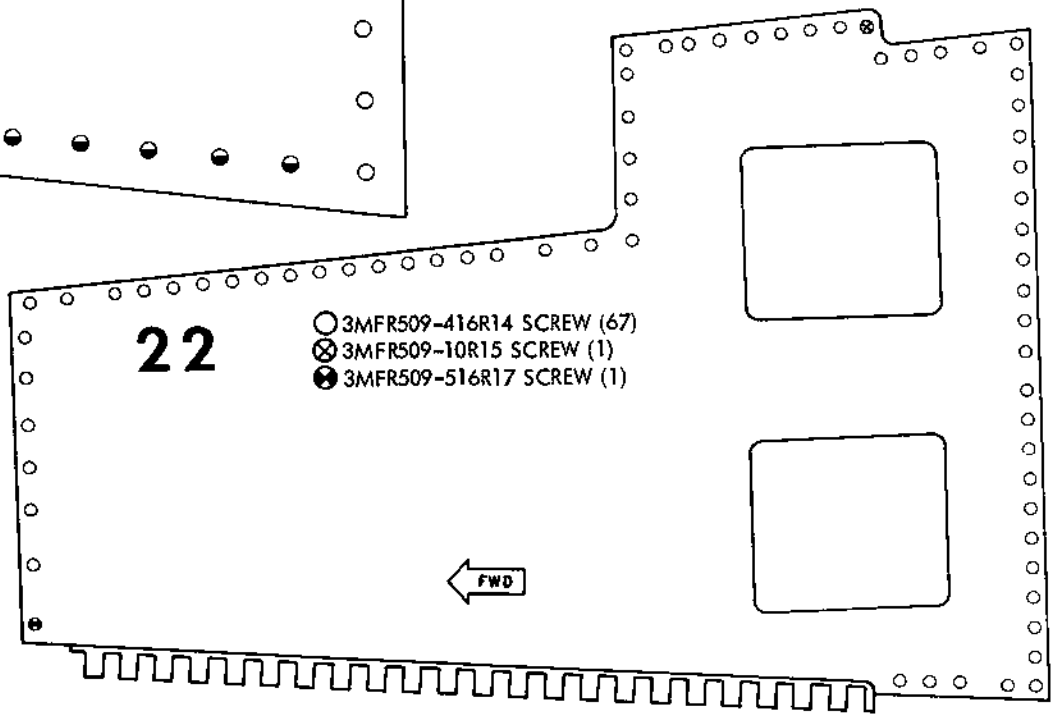


NOTES

1. COAT ALL REMOVABLE FASTENERS WITH MIL-C-16173, GRADE 4, CORROSION PREVENTIVE COMPOUND PRIOR TO INSTALLATION.
2. *INDICATES HI-TORQUE FASTENERS. REMOVE AND INSTALL ONLY WITH PROPER ADAPTER. REFER TO PARAGRAPH TITLED HI-TORQUE FASTENERS REMOVAL AND INSTALLATION.

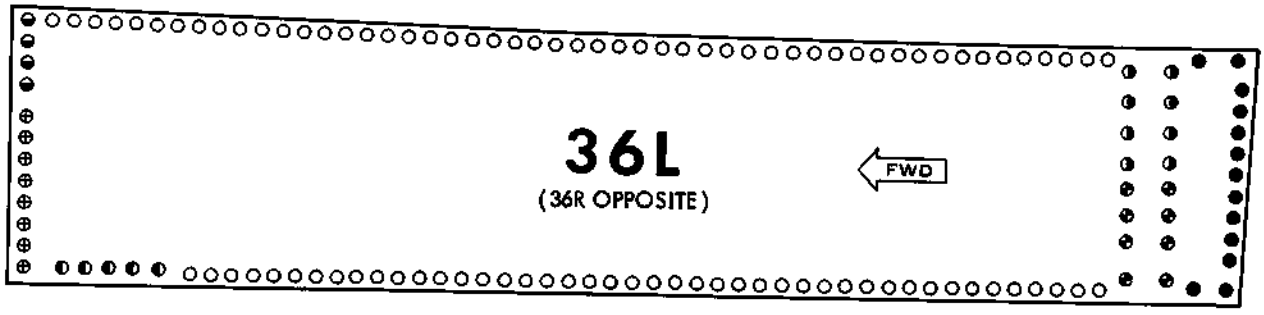
[3] QUANTITIES OF 3M386-4-11 FASTENERS HAVE BEEN FURNISHED BY THE SCREW VENDOR WITH THE HEADS IMPROPERLY MARKED AS NAS584-11X. THE NAS584-11X IS INTERCHANGEABLE WITH 3M386-4-11 AND MAY BE USED UNTIL SUPPLY IS DEPLETED.

[4] REPLACE 3MFR584-5 FASTENER BOLT WITH 3MFR584-6 BOLT. CHANGE DUE TO INCREASED SKIN THICKNESS.



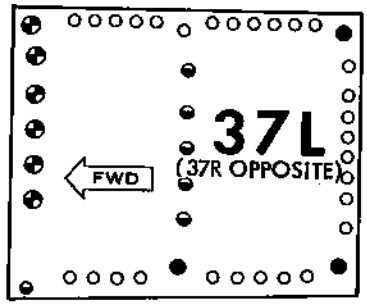
FDC-2-1.1-(18-1)

Figure 3-15. External Access Door Fastener Patterns (Sheet 1 of 7)

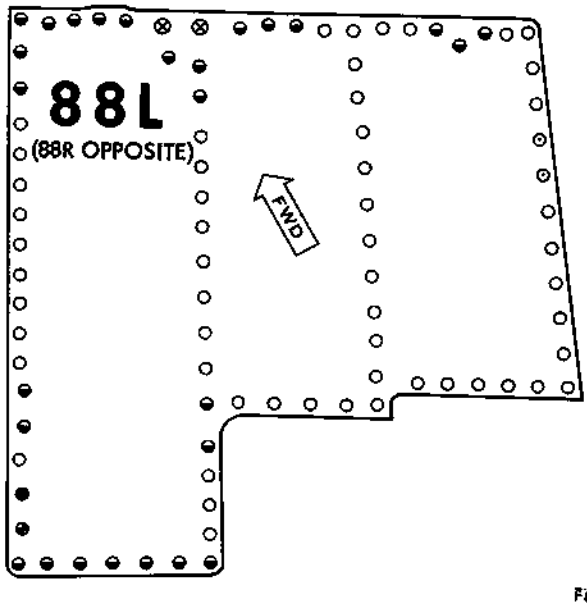


- 3MFR334CFA6 BOLT (95)
- 3MFR335CFA7-5 BOLT (4)
- 3MFR334CFA15-5 BOLT (8)
- 3MFR334CFA12 BOLT (8)
- 3MFR335CFA13-5 BOLT (8)
- 3MFR333CFA5 BOLT (13)
- 3MFR335CFA6-5 BOLT (5)

- 3MFR334CFA10-5 BOLT (29)
- 3MFR333CFA5-5 BOLT (6)
- 3MFR335CFA7-5 BOLT (3)
- 3MFR336CFA16 BOLT (6)

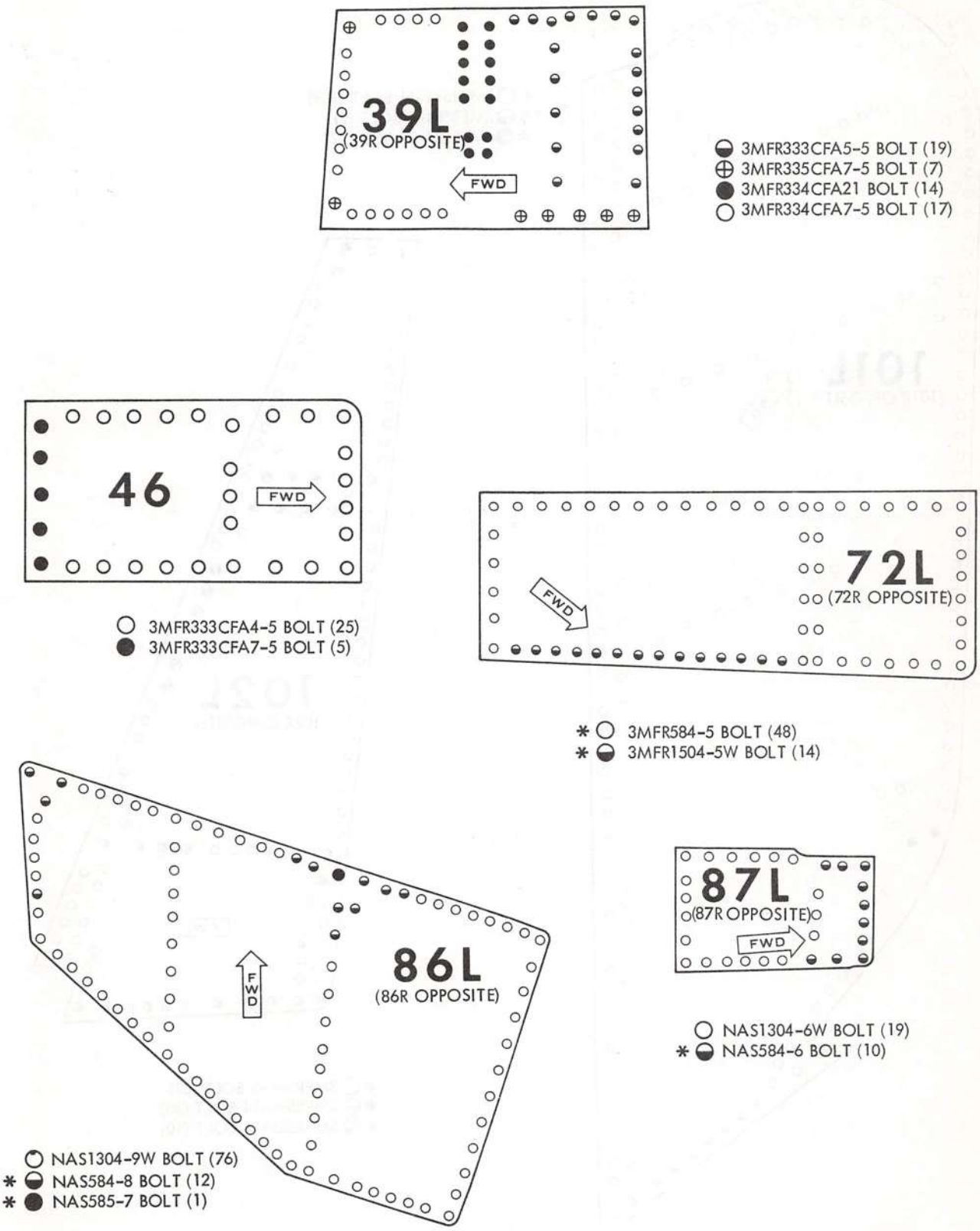


- NAS1304-7W BOLT (55)
- * NAS584-7 BOLT (27)
- * NAS585-8 BOLT (2)
- * NAS585-5 BOLT (1)
- NAS464P5LA-5 BOLT (1)
- NAS464P5LA4 BOLT (2)



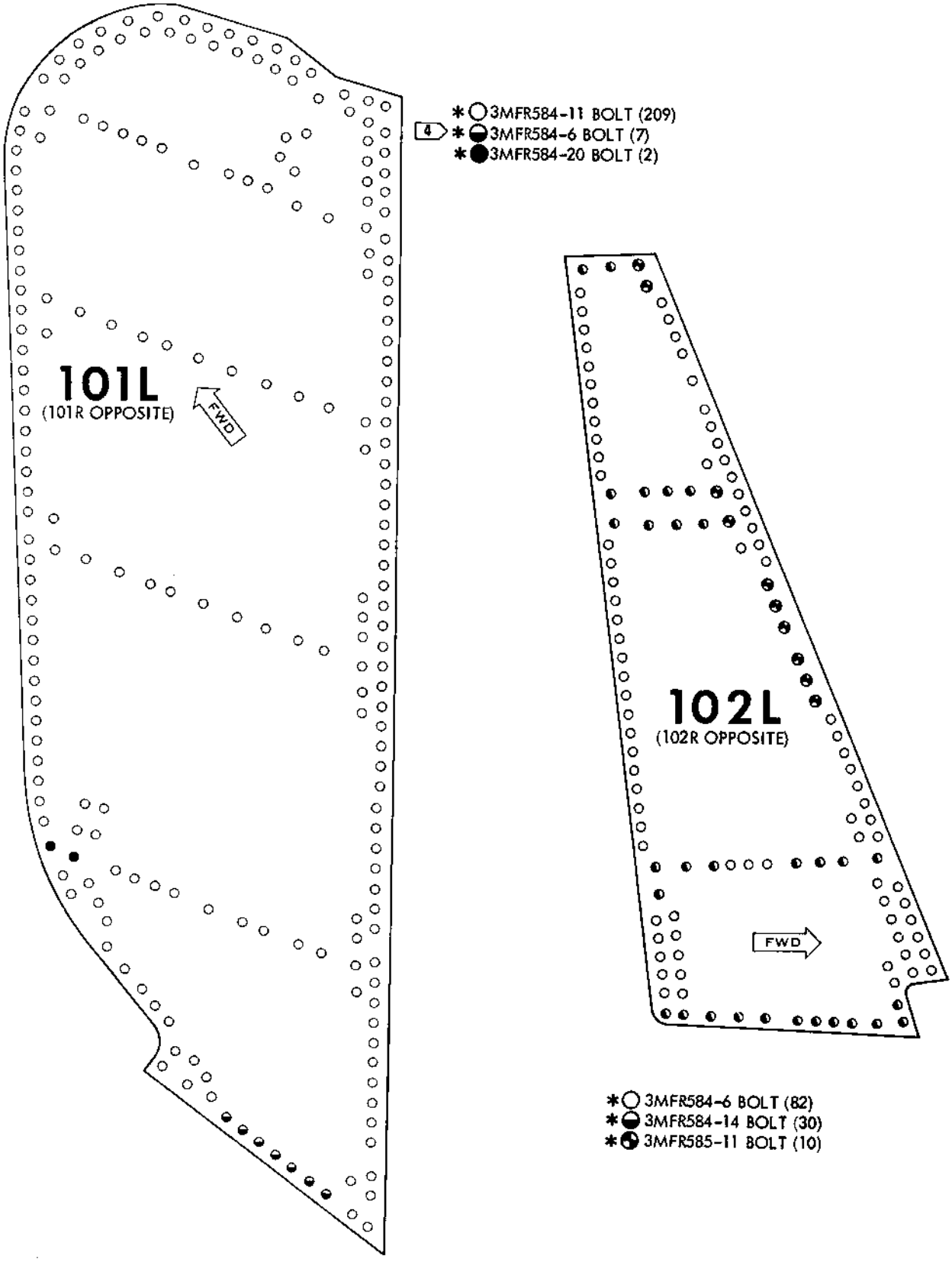
FDC-2-1.1-[illegible]

Figure 3-15. External Access Door Fastener Patterns (Sheet 2 of 7)



FDC-2-1.1-(18-3)

Figure 3–15. External Access Door Fastener Patterns (Sheet 3 of 7)



FOC-2-1.1-(18-4)

Figure 3–15. External Access Door Fastener Patterns (Sheet 4 of 7)

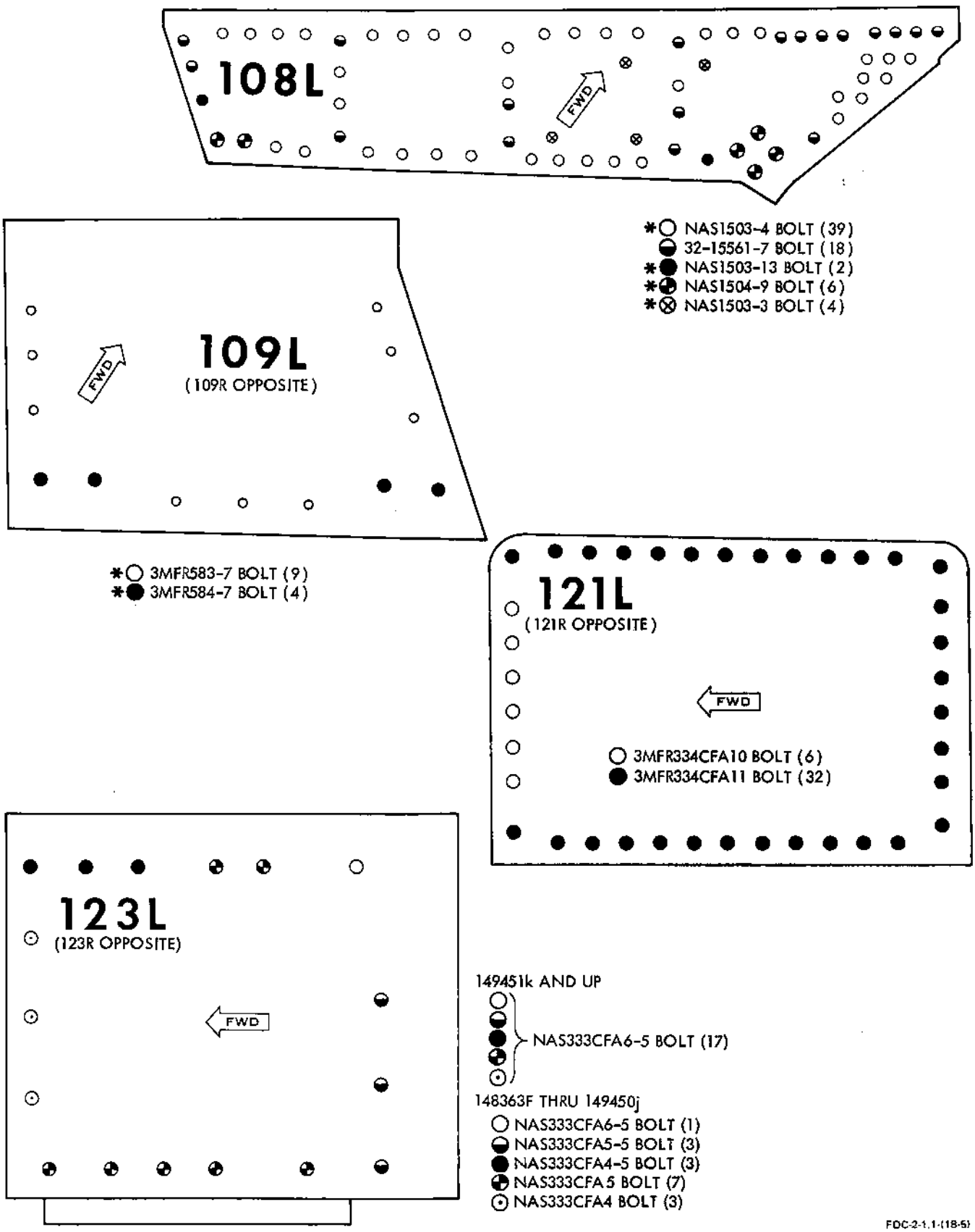


Figure 3–15. External Access Door Fastener Patterns (Sheet 5 of 7)

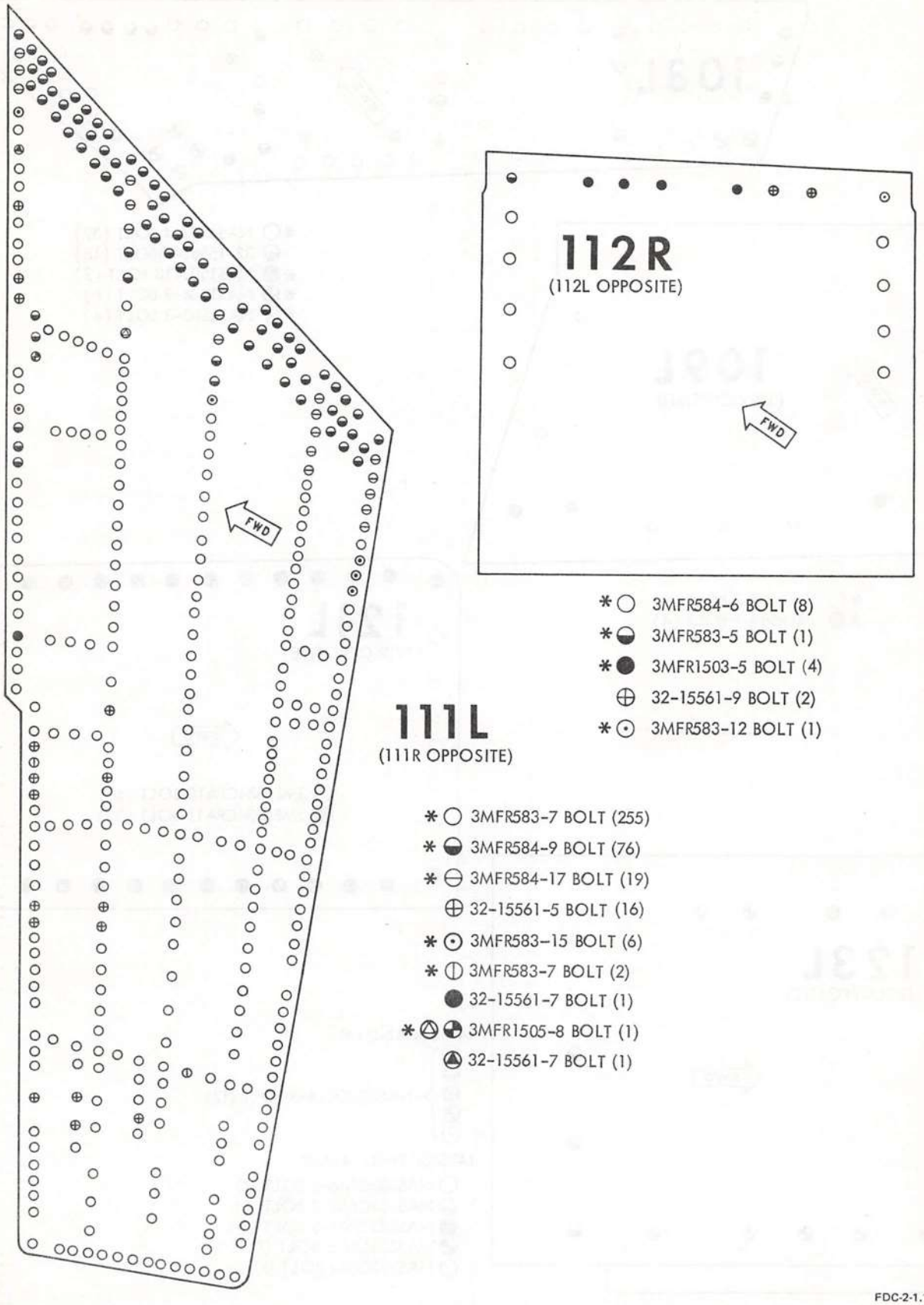
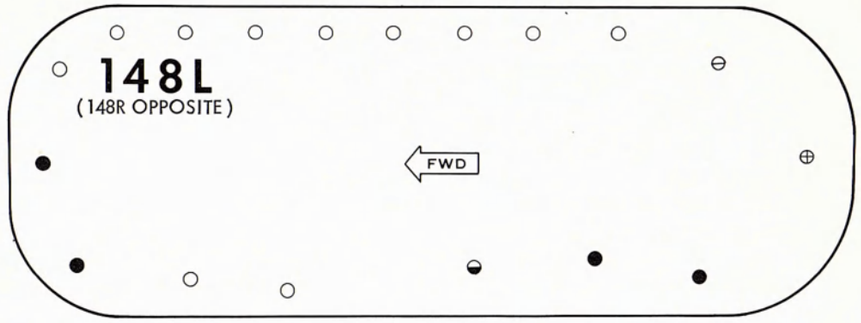
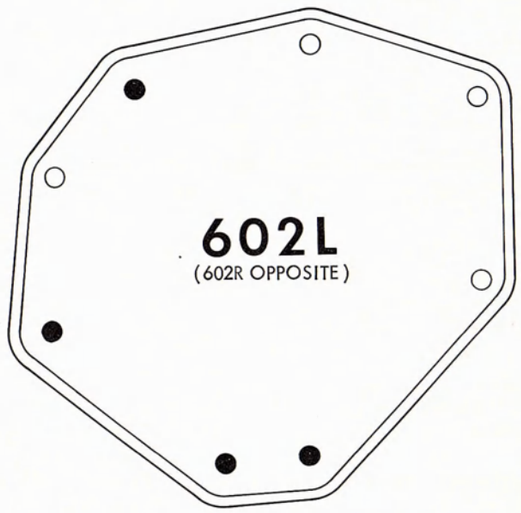


Figure 3-15. External Access Door Fastener Patterns (Sheet 6 of 7)



151975t THRU 153115aa AFTER AFC 230 (PART III).

- * ○ 3MFRA584-12 BOLT (11)
- * ⊖ 3MFRI503-10 BOLT (1)
- * ◒ 3MFRA584-16 BOLT (1)
- * ● 3MFRA584-20 BOLT (5)



151975t THRU 153100y AFTER AFC 218.

- ○ NAS333 CFA BOLT (4)
- ● 32-09942-3 BOLT (4)

FDC-2-1.1-(18-7)

Figure 3-15. External Access Door Fastener Patterns (Sheet 7 of 7)

NOTES

1. REFER TO PARAGRAPH TITLED INTERNAL ACCESS DOORS FOR DOOR FASTENERS AND DOOR FASTENER PATTERNS.

[2] 151975f THRU 153100y.

[3] AFTER AFC 332.

CAUTION

BEFORE FLIGHT, ALL FASTENERS ON ALL ACCESS DOORS MUST BE PROPERLY INSTALLED AND TIGHTENED. GUARD AGAINST ANY MISSING, DEFECTIVE, BROKEN, OR IMPROPERLY INSTALLED FASTENERS.

WHEN REMOVING CENTER FUSELAGE INTERNAL KEEL WEB DOORS (75 THRU 82), FAILURE TO REPLACE DOORS OR CUTTING OF SECURITY CHAINS CAN CAUSE DETRIMENTAL EFFECTS SUCH AS: FIRE ACCESS FROM ONE ENGINE CAVITY TO THE OTHER INCREASES, CENTERLINE STORES CARTRIDGES CAN OVERHEAT, OR ENGINE PERFORMANCE DUE TO CROSS DUCTING OF ENGINE AIR CAN DECREASE.

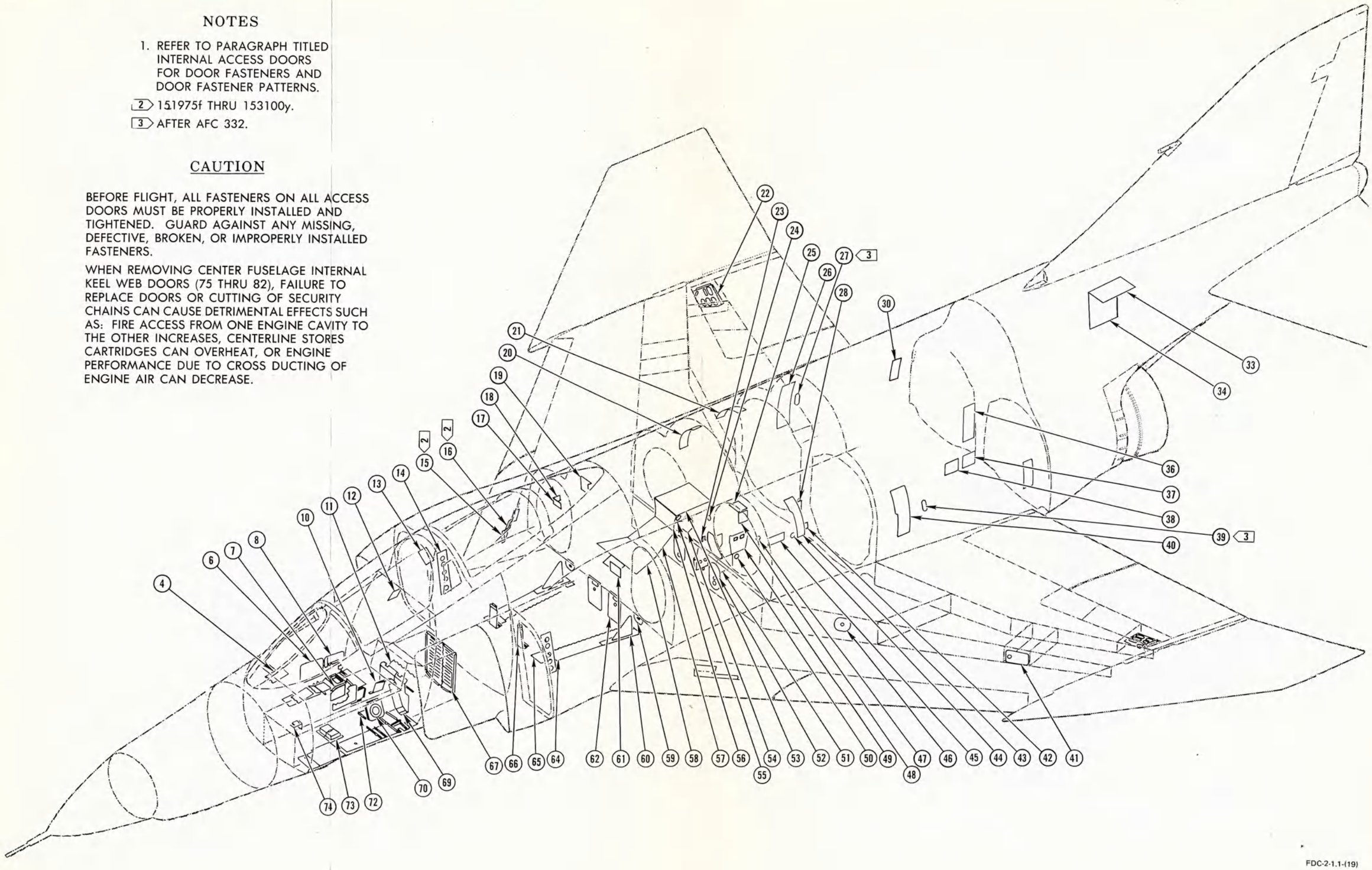
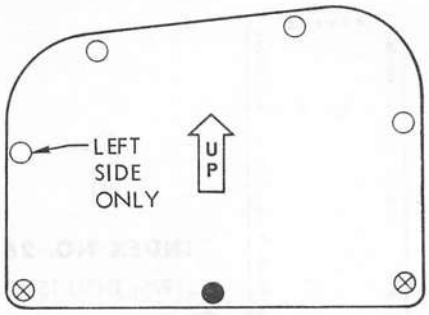


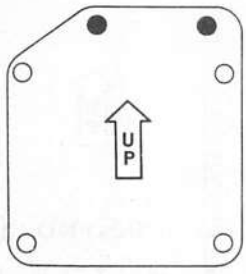
Figure 3–16.

Figure 3–16. Internal Access Doors



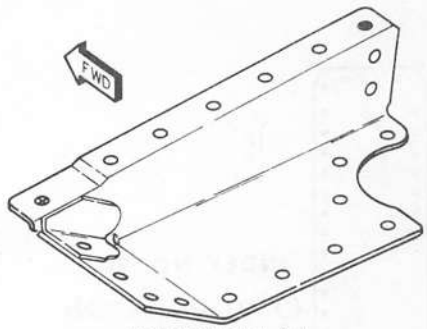
INDEX NO. 6

⊙ 98292-1-100 FASTENER (4) LEFT SIDE
○ 98292-1-100 FASTENER (3) RIGHT SIDE
● 98292-1-150 FASTENER (1)
⊗ 98292-2-160 FASTENER (2)
LEFT HAND DOOR SHOWN, RIGHT HAND DOOR OPPOSITE EXCEPT AS SHOWN.



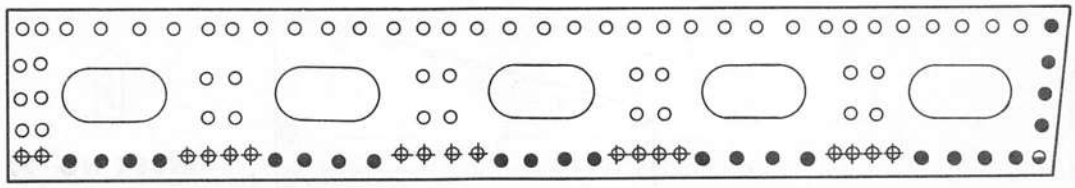
INDEX NO. 7

○ 98292-1-120 FASTENER (4)
● 98292-2-160 FASTENER (2)
LEFT HAND DOOR SHOWN
RIGHT HAND DOOR OPPOSITE



INDEX NO. 13

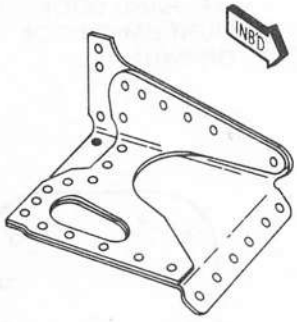
○ AN3-4A BOLT (18)
⊕ AN3-5A BOLT (1)
● NAS229-11 SCREW (1)



UP

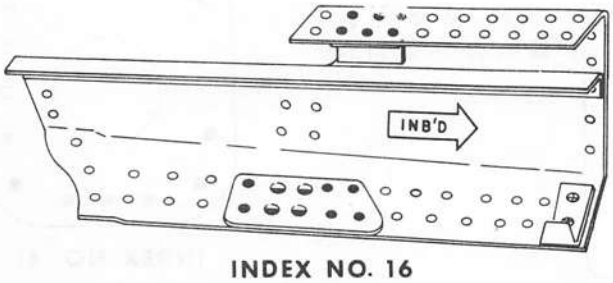
INDEX NO. 14

○ AN3H5A BOLT (56)
● AN3H6A BOLT (24)
* ⊖ NAS583-8 SCREW (1)
* ⊕ NAS583-6 SCREW (18)
LEFT HAND DOOR SHOWN
RIGHT HAND DOOR OPPOSITE



INDEX NO. 15

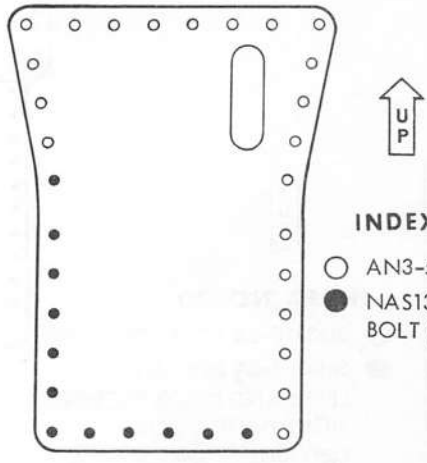
○ NAS1303-6 BOLT (29)
LEFT HAND DOOR SHOWN
RIGHT HAND DOOR OPPOSITE



INDEX NO. 16

151975f THRU 153100y

○ NAS1303-5 BOLT (49)
● NAS333CFA6 BOLT (12)
⊖ NAS334CFA6-5 BOLT (4)
⊕ NAS1304-5 BOLT (2)
LEFT HAND DOOR SHOWN
RIGHT HAND DOOR OPPOSITE



INDEX NO. 19

○ AN3-5A BOLT (21)
● NAS1303-7
BOLT (12)

FDC-2-1.1-(20-1)

Figure 3-17. Internal Access Door Fastener Patterns (Sheet 1 of 3)

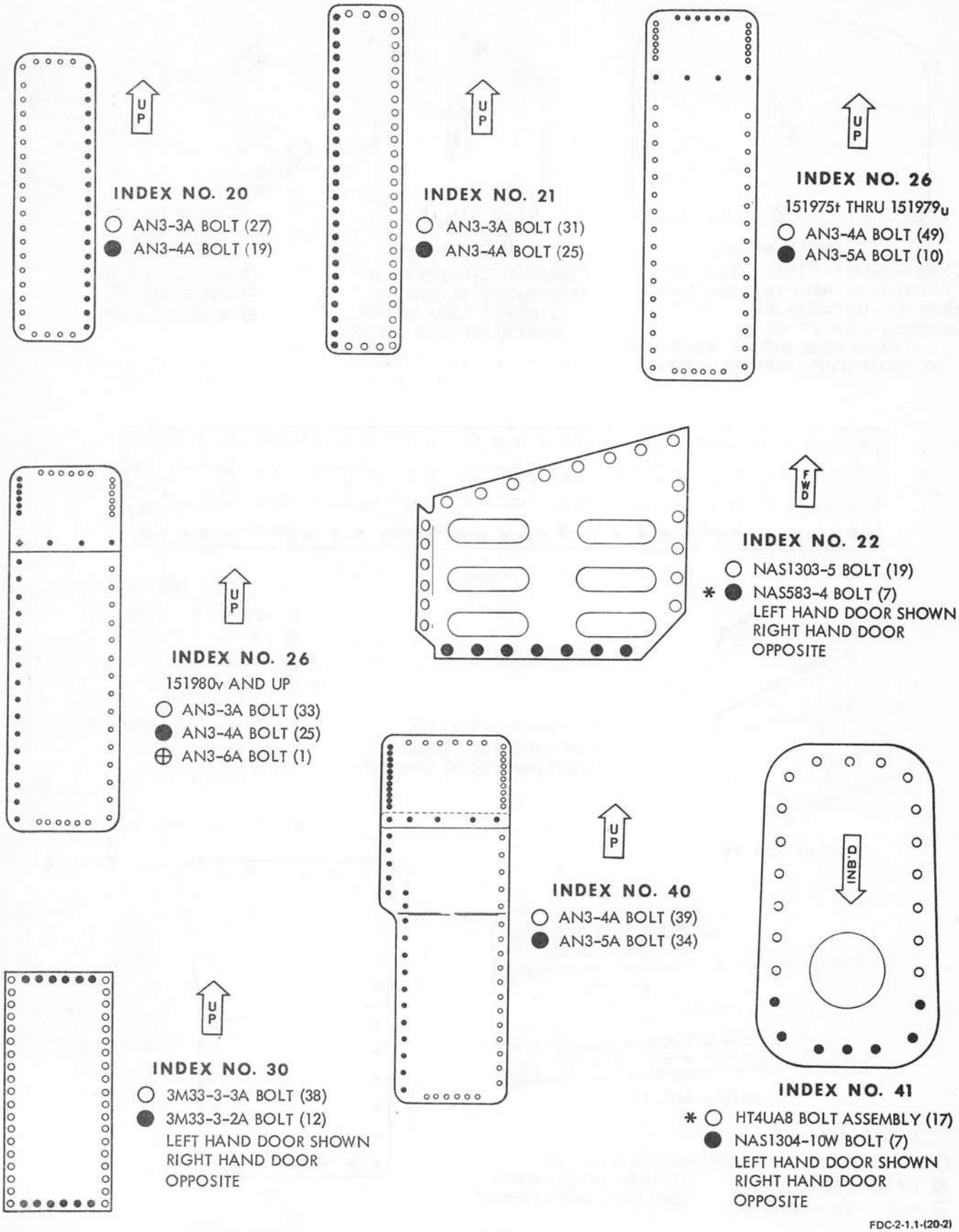


Figure 3–17. Internal Access Door Fastener Patterns (Sheet 2 of 3)

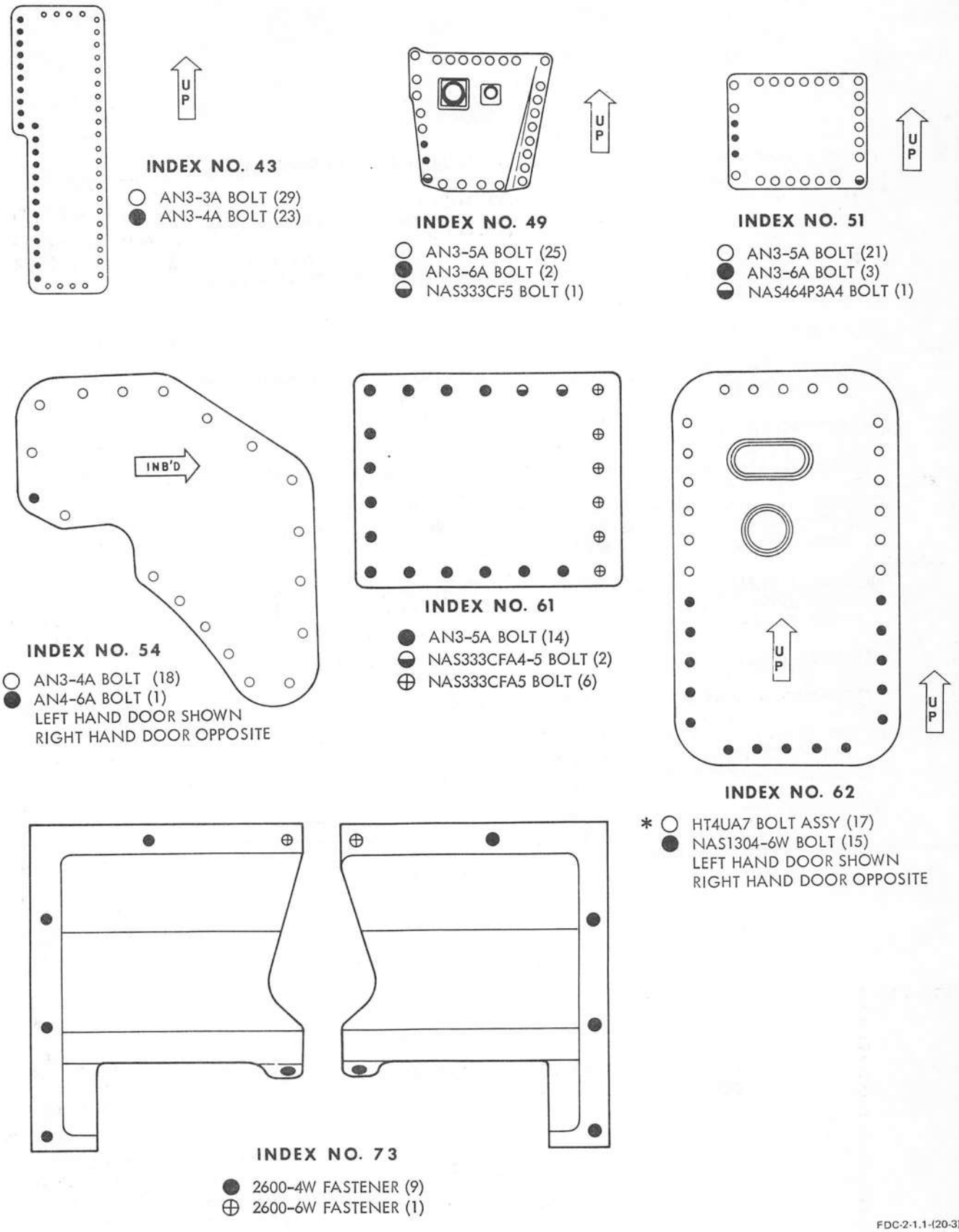


Figure 3–17. Internal Access Door Fastener Patterns (Sheet 3 of 3)

NOTES

[1] 30 SECOND ENGINE RUN-UP TIME LIMIT DUE TO ENGINE COMPARTMENT OVER-TEMPERATURE LIMITATION.

[2] NO RUN-UP TIME LIMIT, PROVIDED DOORS 81 L & R REMAIN OPEN AT ALL TIMES.

[3] DOORS 72, 101, 102 AND 109 MAY BE REPLACED BY STRESS FRAMES TO FACILITATE MAINTENANCE. FOR PART NUMBERS AND FASTENERS, REFER TO PARAGRAPH TITLED ACCESS DOOR STRESS FRAMES.

[4] REFER TO PARAGRAPH TITLED EXTERNAL ACCESS DOORS FOR TYPES FASTENERS REQUIRED.

[5] REFER TO PARAGRAPH TITLED INTERNAL ACCESS DOORS FOR DOOR LOCATION AND TYPES OF FASTENERS REQUIRED.

[6] REFER TO NAVAIR 01-245FDB-2-3.1.

[7] DURING JACKING OF A DEFUELED AIRCRAFT, THESE DOORS MAY BE OMITTED.

[8] WHILE TOWING A DEFUELED AIRCRAFT, THE FASTENERS REQUIRED ALONG BOTH SIDES OF THESE DOORS MAY BE REDUCED TO EVERY FOURTH FASTENER. FORWARD AND AFT EDGES REMAIN AS NOTED.

[9] WHILE TOWING A DEFUELED AIRCRAFT, THE FASTENERS REQUIRED ALONG BOTH SIDES OF THESE DOORS MAY BE REDUCED TO EVERY THIRD FASTENER. FORWARD AND AFT EDGES REMAIN AS NOTED.

[10] 151975t THRU 153100y.

[11] REFER TO PARAGRAPH TITLED ENGINE RUN-UP PROCEDURE IN SECTION IV.

[12] DOORS 101 L & R OR APPLICABLE STRESS FRAMES SHALL BE INSTALLED WHEN PC I/PC II HYDRAULIC SYSTEMS ARE PRESSURIZED (EITHER BY EXTERNAL POWER SOURCE OR ENGINE OPERATION).

[13] AFTER AFC 400, DOORS 101 L & R OR APPLICABLE STRESS FRAMES SHALL BE INSTALLED WHEN UTILITY, PC I/PC II HYDRAULIC SYSTEMS ARE PRESSURIZED (EITHER BY EXTERNAL POWER SOURCE OR ENGINE OPERATION).

CAUTION

ALL DOOR FASTENERS REFERRED TO ON THIS CHART MUST BE INSTALLED TIGHT DURING THE APPROPRIATE OPERATION TO PREVENT DAMAGE TO THE AIRFRAME.

FDC-2-1.1-(21-1)

Figure 3–18. Minimum Structural Access Door Requirements (Sheet 1 of 5)

OPERATIONS		MINIMUM DOORS OR MEMBERS INSTALLED	4 MINIMUM FASTENERS REQUIRED
LANDING GEAR DROP CHECK (OR WHEN MLG DOORS ARE UP AND LOCKED)		DOORS 75 L & R	ALL
		DOORS 101 L & R 13 3 12	SEE DETAIL
INBOARD LEADING EDGE FLAP OPERATION (OR WHEN FLAP IS UP AND LOCKED)		INTERNAL DOORS 5 10 32-19411 AND 32-19427	ALL 5
		DOOR 101 L & R 13 3 12	SEE DETAIL
CENTER LEADING EDGE FLAP OPERATION (OR WHEN FLAP IS UP AND LOCKED)		DOORS 72 L & R 3, 112 L&R AND 32-19270 PANEL.	ALL
		DOORS 101 L & R 13 3 12	SEE DETAIL
OUTBOARD LEADING EDGE FLAP OPERATION (OR WHEN FLAP IS UP AND LOCKED)		DOORS 108 L & R, 109 L & R, 3 110 L & R, 111 L & R AND 101 L & R 13 3 12	SEE DETAIL
TRAILING EDGE FLAP OPERATION (OR WHEN FLAP IS UP AND LOCKED)		DOORS 86 L & R, 88 L & R AND 101 L & R 13 3 12	SEE DETAIL
FOLD AND SPREAD WINGS (OR FOLD AND INSTALL WING JURY STRUT)		DOORS 111 L & R AND 101 L & R 13 3 12	SEE DETAIL
AILERON AND SPOILER OPERATION		DOORS 101 L & R 13 3 12 AND 102 L & R 3	SEE DETAIL
SPEED BRAKE OPERATION (OR WHEN SPEED BRAKE IS UP AND LOCKED)		DOORS 87 L & R	ALL
		DOORS 86 L & R, 88 L & R AND 101 L & R 13 3 12	SEE DETAIL
RAM AIR TURBINE EXTENSION AND RETRACTION		DOORS 50 AND 51	EVERY OTHER HOLE
		DOOR 45	AFT EDGE-ALL, REMAINING THREE EDGES - EVERY FOURTH HOLE.
		DOORS 101 L & R 13 3 12	SEE DETAIL
ENGINE RUN-UP 11	2 IDLE	DOORS 83 L & R, 92 L & R AND 96 L & R	ALL
		DOORS 101 L & R 13 3 12	SEE DETAIL
	1 ALL RPM (LIMITED)	DOORS 92 L & R AND 96 L & R	ALL
		DOORS 101 L & R 13 3 12	SEE DETAIL
	2 ALL RPM (UNLIMITED)	DOORS 73 L & R, 74 L & R, 78, 80, 82 L & R, 83 L & R, 92 L & R AND 96 L & R	ALL
		DOORS 101 L & R 13 3 12	SEE DETAIL
TOWING		DOORS 5 L & R, 9 L & R, 34 8, 48 8, 57 9, 57 L & R 9 AND 153 9	EACH CORNER AND EVERY OTHER HOLE

(CONTINUED)

FDC-2-1.1-(21-2)

Figure 3-18. Minimum Structural Access Door Requirements (Sheet 2 of 5)

OPERATIONS	MINIMUM DOORS OR MEMBERS INSTALLED	4 MINIMUM FASTENERS REQUIRED
TOWING (CONT.)	DOORS 21 L & R, 22, 127 L & R, 128 L & R, 36 L & R, 132 L & R, 39 L & R	EACH CORNER AND EVERY THIRD HOLE
	DOORS 19, 23, ENGINE COMPARTMENT DROPOUT LINKS 6	ALL
JACKING (AXLE OR TRIPOD). NOTE DOORS OR MEMBERS NOTED MAY BE REMOVED WHILE THE AIRCRAFT IS AT REST ON JACKS BUT SHALL BE INSTALLED AS NOTED WHILE THE AIRCRAFT IS BEING RAISED OR LOWERED CAUTION WHEN AIRCRAFT GROSS WEIGHT EXCEEDS 40,000 LBS. ENGINE DROPOUT LINKS AND FRONT SPAR INTERNAL INBOARD DOOR SHOULD NOT BE REMOVED EITHER WHEN JACKING OR AT REST ON JACKS.	FRONT SPAR INTERNAL INBOARD DOORS 32-11094, DOORS 5 L & R, 9 L & R, 34, 43 L & R, 46, 48, 57 AND 504 L & R	EACH CORNER AND EVERY OTHER HOLE
	DOORS 21 L & R, 22, 127 L & R 128 L & R, 36 L & R 7, 132 L & R 7	EACH CORNER AND EVERY THIRD HOLE
	ENGINE COMPARTMENT DROPOUT LINKS 6 DOORS 19, 23 AND 39 L & R	ALL
HOISTING	DOORS 5 L & R, 9 L & R, 34, 43 L & R, 48, 57 AND 504 L & R	EACH CORNER AND EVERY OTHER HOLE
	DOORS 21 L & R, 22, 127 L & R, 128 L & R, 36 L & R, 132 L & R AND 39 L & R	EACH CORNER AND EVERY THIRD HOLE
	ENGINE COMPARTMENT DROPOUT LINKS 6	ALL
WHEN UTILITY, PC I AND/OR PC II HYDRAULIC SYSTEMS ARE PRESSURIZED (EITHER BY EXTERNAL POWER SOURCE OR ENGINE OPERATION)	DOORS 101 L & R 13 3 12	SEE DETAIL

FDC-2-1.1-(21-3)

Figure 3-18. Minimum Structural Access Door Requirements (Sheet 3 of 5)

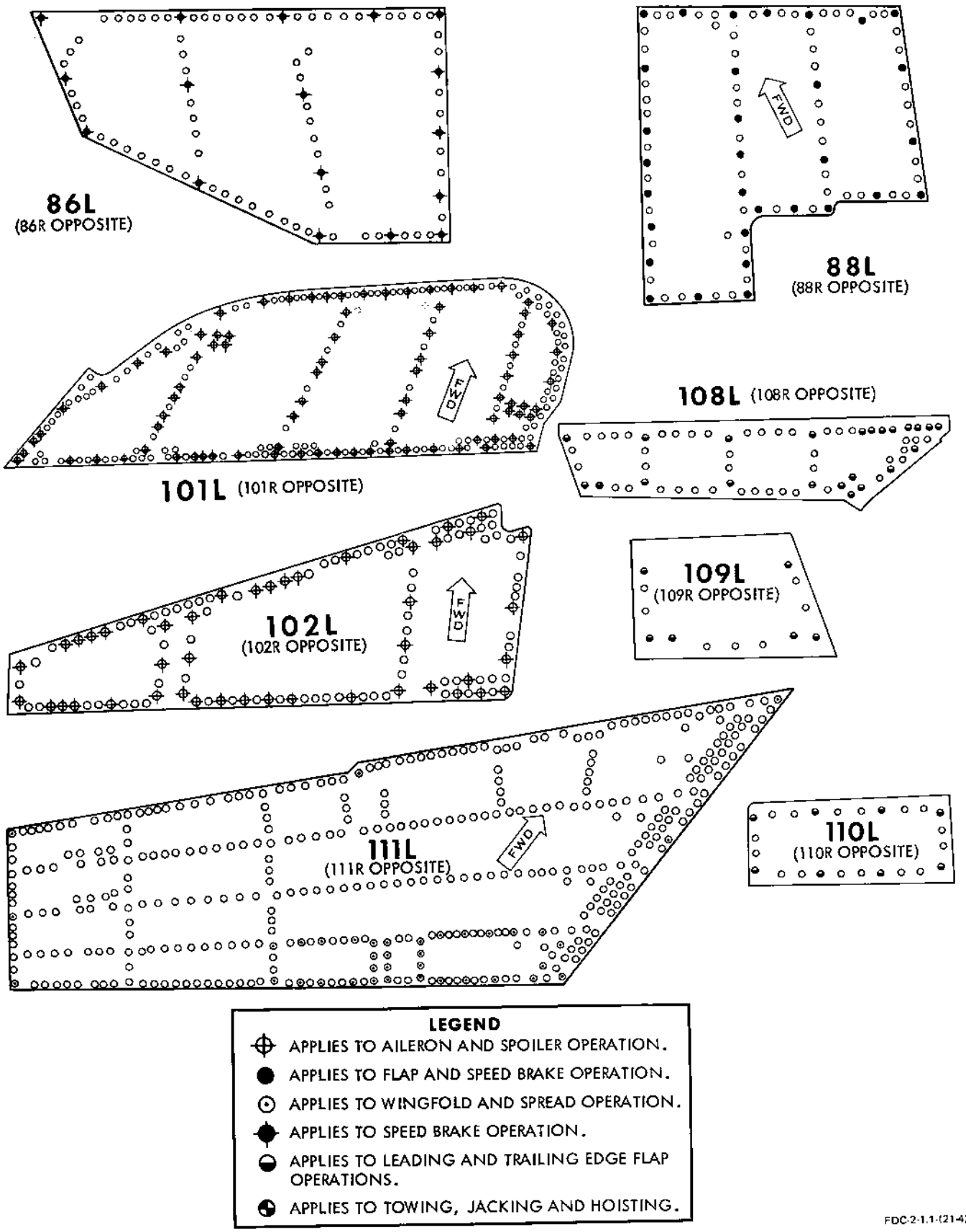
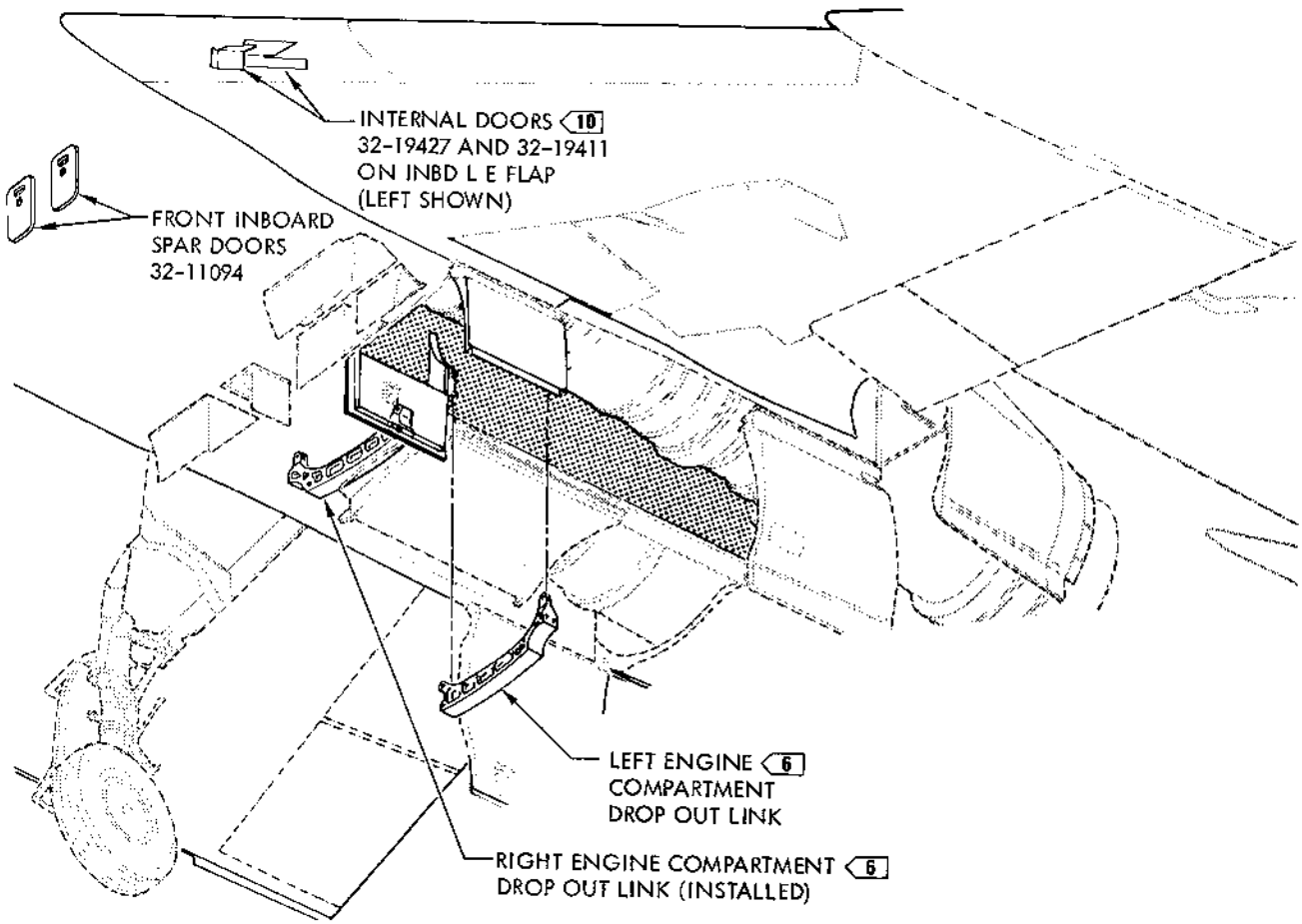
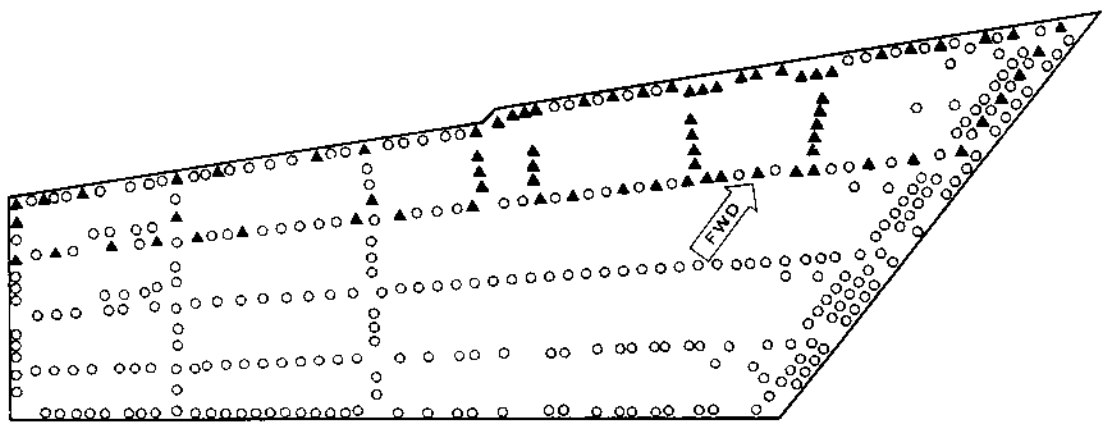


Figure 3-18. Minimum Structural Access Door Requirements (Sheet 5 of 4)





111L (111R OPPOSITE)

LEGEND
▲ APPLIES TO OUTBOARD LEADING EDGE FLAP OPERATION

FDC-2-1.1-(21-5)

Figure 3–18. Minimum Structural Access Door Requirements (Sheet 5 of 5)

CAUTION

ALL STRESS FRAME SCREWS MUST BE INSTALLED AND TORQUED WHEN USING STRESS FRAMES TO REPLACE ACCESS DOORS. REFER TO PARAGRAPH TITLED MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS.

WARNING

THESE STRESS FRAMES ARE TO BE USED DURING GROUND OPERATIONS ONLY. STRESS FRAMES MUST BE REMOVED AND THE ACCESS DOORS MUST BE INSTALLED SECURELY PRIOR TO FLIGHT.

NOTES

1. DOORS 72, 101, 102, AND 109 CAN BE REPLACED BY STRESS FRAMES TO FACILITATE MAINTENANCE. REFER TO PARAGRAPH TITLED MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS.
2. LEFT STRESS FRAMES SHOWN, RIGHT OPPOSITE.
3. TORQUE BOLTS AS FOLLOWS:
   NAS583 BOLTS 15-25 INCH-POUNDS.
   NAS584 AND NAS1504 BOLTS 40-60 INCH POUNDS.
   NAS-585 BOLTS 65-90 INCH-POUNDS.
   INDICATES HI-TORQUE FASTENERS WHICH MUST BE REMOVED AND INSTALLED WITH HI-TORQUE ADAPTER. REFER TO PARAGRAPH TITLED HI-TORQUE FASTENERS REMOVAL AND INSTALLATION.

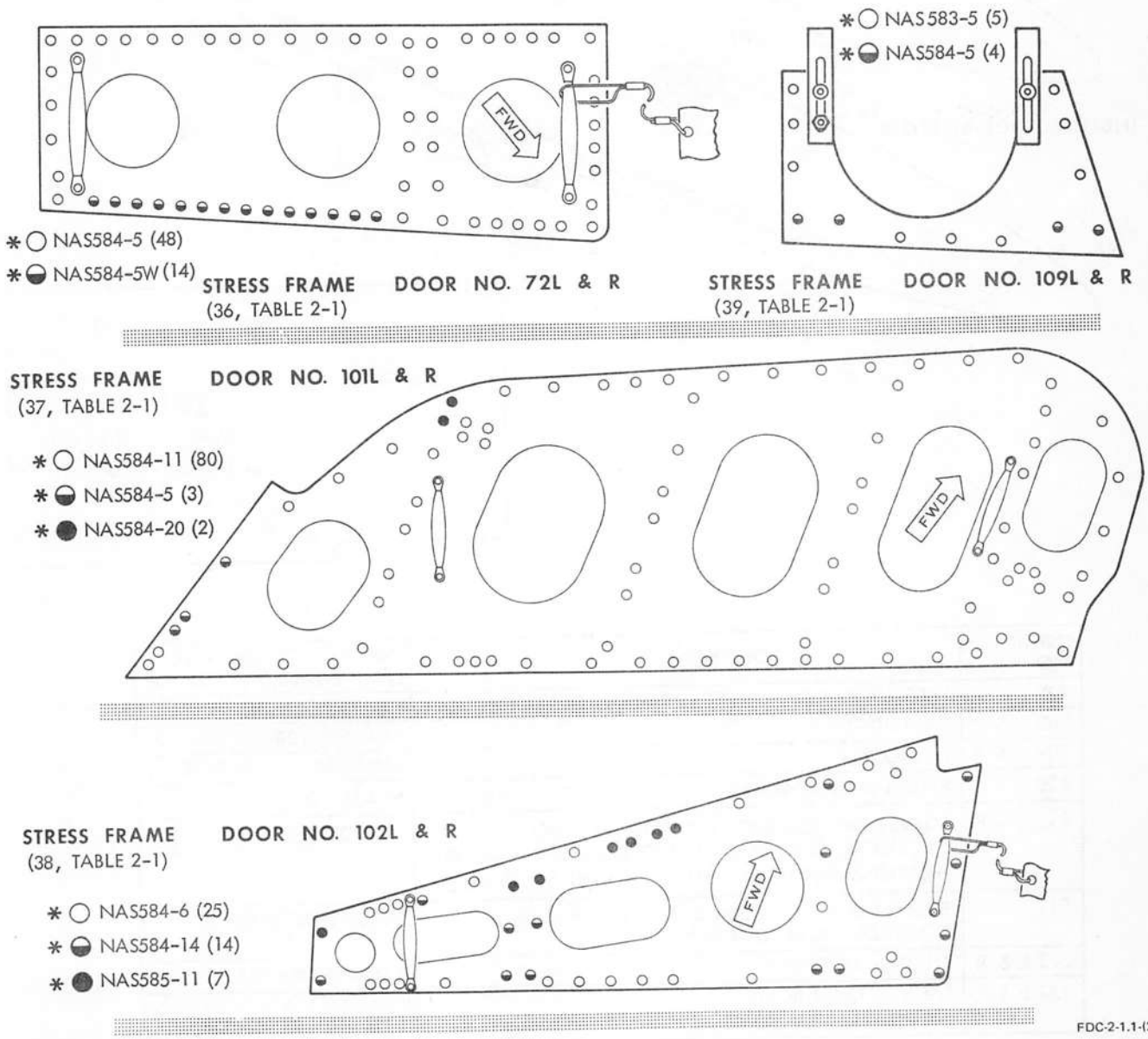
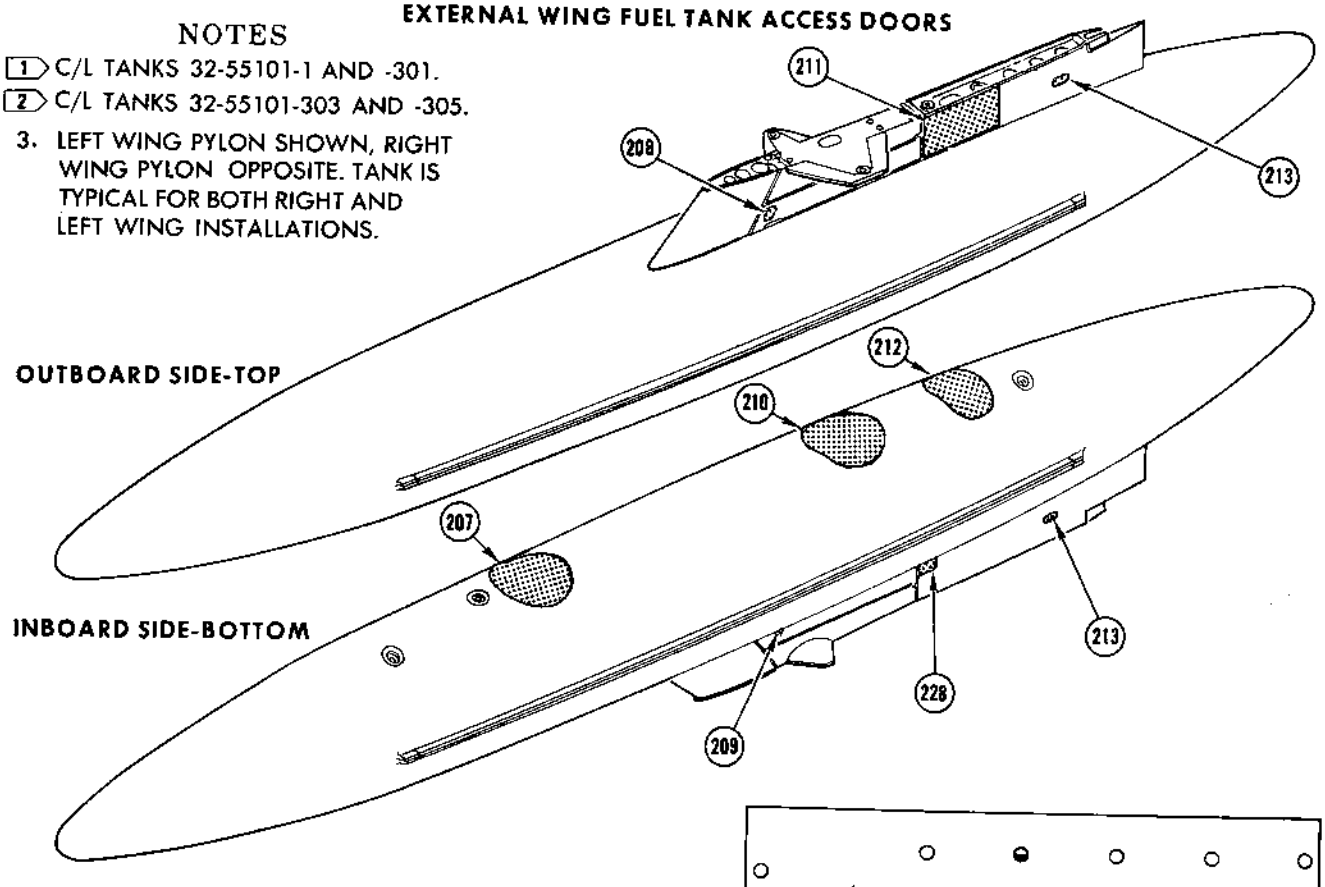


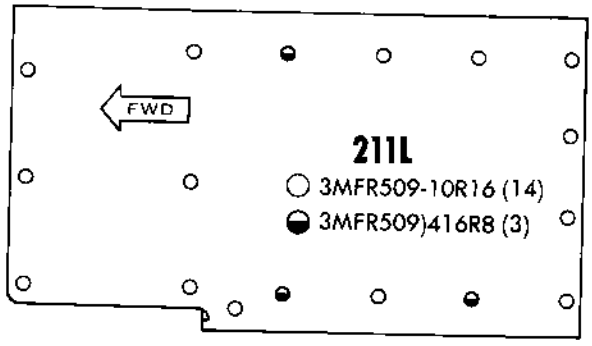
Figure 3-19. Access Door Stress Frames

EXTERNAL WING FUEL TANK ACCESS DOORS

NOTES

1. C/L TANKS 32-55101-1 AND -301.
2. C/L TANKS 32-55101-303 AND -305.
3. LEFT WING PYLON SHOWN, RIGHT WING PYLON OPPOSITE. TANK IS TYPICAL FOR BOTH RIGHT AND LEFT WING INSTALLATIONS.

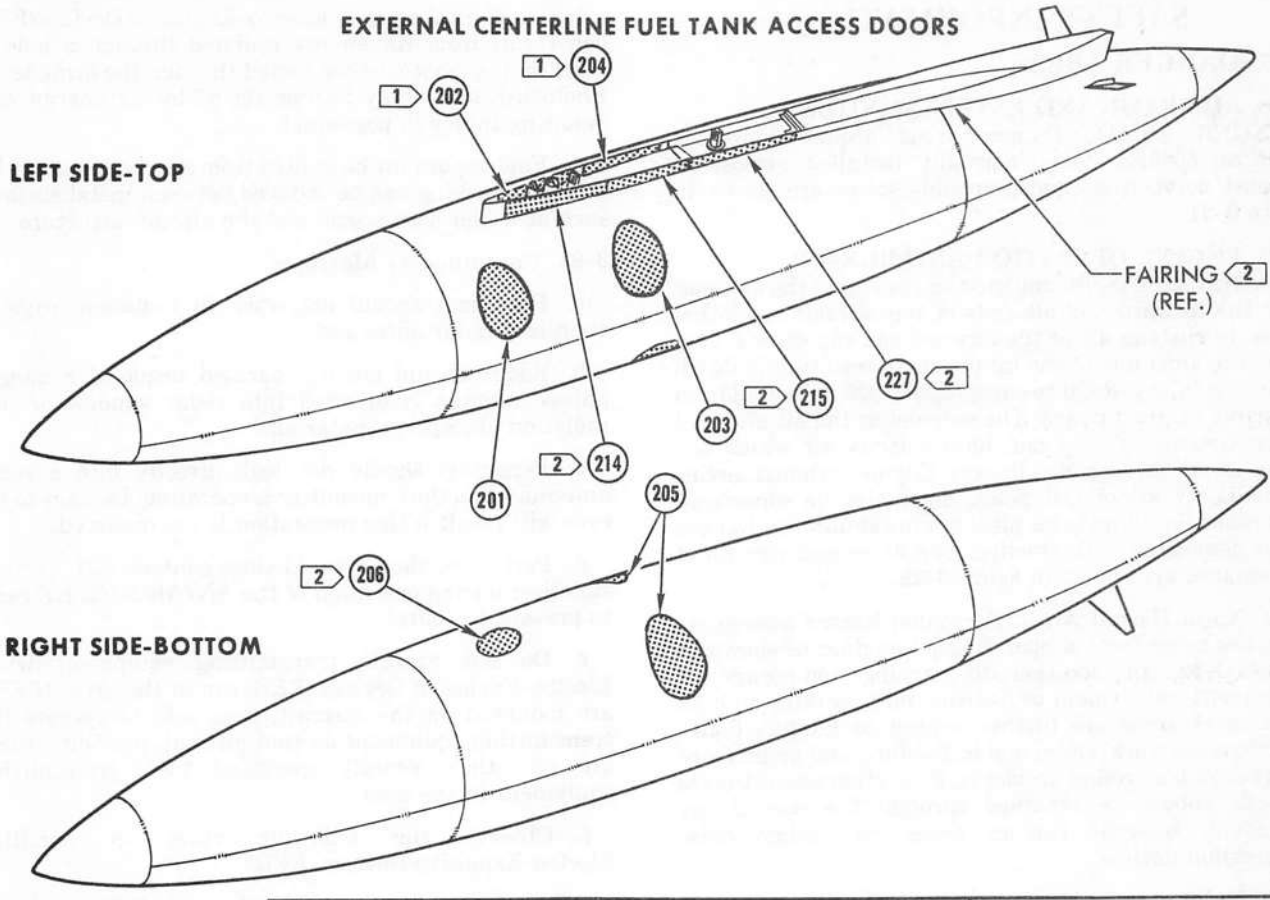




DOOR NO.	EQUIPMENT	DOOR FASTENERS AND NO. REQUIRED PER DOOR
207	PRESSURIZATION VALVES, DRAIN VALVE	HT4U3 BOLT (16)
208 L & R	CARTRIDGE	3MFR509-10R9 SCREW (2)
209 L & R	FIRING PIN	3MFR509-10R9 SCREW (2)
210	PYLON MOUNT BOLTS	HT4U5 BOLT (20)
211 L & R	ADJUSTABLE BEARING PAD, EXTERNAL FUEL TANK ELECTRICAL, FUEL AND AIR DISCONNECTS, MULTIPLE WEAPONS ELECTRICAL, PYLON MOUNT BOLTS	(SEE DETAIL)
212	FUEL AND AIR DISCONNECT FITTINGS, FUEL CONTROL VALVE, DRAIN VALVE	HT4U3 BOLT (16)
213 L & R	ELECTRICAL CHECK	AIRLOCK FASTENERS (2)
228 L & R	TANK ATTACH BOLTS	3MFR509-10R14 SCREW (2) 3MFR509-416R8 SCREW (1)

FDC-2-1.1-(23-1)

Figure 3-20. External Fuel Tanks and Pylon Access Doors (Sheet 1 of 2)



	DOOR NO.	EQUIPMENT	DOOR FASTENERS
	201	AIR PRESS. RELIEF VALVE AND FUEL DRAIN FITTING	HT 4U4 BOLT (24) 1 HT 4U4 BOLT (20) 2
1	202	FUEL, AIR, AND ELECTRICAL DISCONNECTS	3MFR509-10R7 SCREW (4)
	203	PILOT VALVE AND DISCONNECT COUPLINGS	HT 4U4 BOLT (24) 1 HT 4U4 BOLT (20) 2
1	204	EJECTION RACK ADJUSTMENT	SEE DETAIL
	205 L & R	SUSPENSION LUGS AND LOW LEVEL SHUTOFF VALVE	HT 4U4 BOLT (24) 1 HT 4U4 BOLT (20) 2
2	206	AIR PRESSURE RELIEF VALVE	HT 4U4 BOLT (20)
2	214	FUEL, AIR, AND ELECTRICAL DISCONNECTS	3MFR509-10R10 SCREW (4)
2	215	EJECTOR FOOT ADJUSTMENT	SEE DETAIL
2	227	AFT SUSPENSION LUG	3MFR509-10R6 SCREW (4)

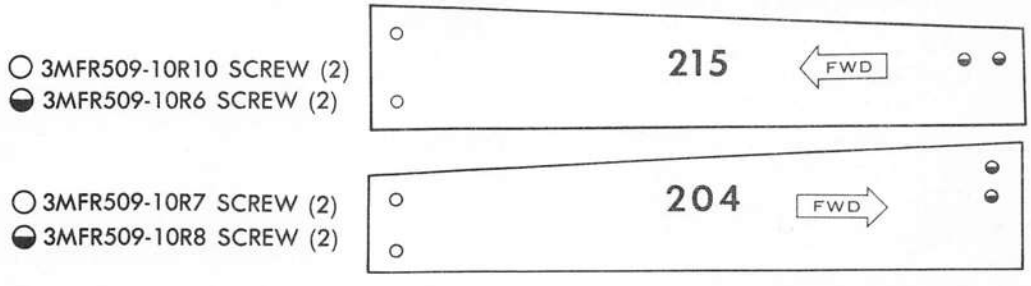


Figure 3–20. External Fuel Tanks and Pylon Access Doors (Sheet 2 of 2)

SAFETY INFORMATION

3-87. DANGER AREAS.

3-88. **AIRFRAME AND EXTERNAL STORES DANGER AREAS.** Danger areas around moveable surfaces, ejection seats, normally installed explosives, exhaust ports, tires, and droppable stores are shown in figure 3-21.

3-89. **ENGINE OPERATION AND RUN-UP DANGER AREAS.** During ground run-up of the engines, both the forward and aft ends of the aircraft are lethal areas. In rushing air at the forward end can draw a man into or against one of the intake ducts resulting in death or serious injury. Refer to paragraph 5-225 for installation of engine air duct guard. The exhaust at the aft end (tail pipes) consists of very hot, high velocity air which can cause death or serious injury. Engine exhaust areas, immediately aft of tail pipes, must also be considered hazardous for 15 minutes after engine shutdown. Danger areas associated with starting, operation and run-up of the engines are shown in figure 3-22.

3-90. **Noise Hazard Areas.** Personnel hazard also exists from the noise level of operating jet engines as shown in figure 3-22. In addition to causing temporary or permanent impairment of hearing, men working in high noise level areas are further subject to fatigue, faulty maintenance work, emotional irritability, and an increase in preventable ground accidents. Protection against noise hazards should be obtained through the use of ear defenders, selected run-up areas and other noise suppression devices.

3-91. **RADIATION HAZARD AREAS.** All radio and radar transmitters are sources of electromagnetic radiation. Radar operation is the principal source of personnel radiation injury. Additional radiation potential hazards exist from the accidental firing of Electro-Explosive Devices (EED) and from the accidental ignition of fuel vapors. Minimum safe distances from radio and radar transmitting antennas are shown in figure 3-23, and should be strictly observed. Radio frequency radiation (RF energy) hazards exist as follows:

a. Prolonged exposure to RF energy can be injurious to personnel in the form of radiation damage to the body. An RF burn hazard also exists in the proximity of the vertical stabilizer during operation of the AN/ARC-105 HF radio.

b. Accidental firing of Electro-Explosive Devices (EED) can result from RF energy radiated through a hole or crack in the device, or conducted through the firing leads. Photoflash bulbs may also be set off by RF energy with resulting injury to personnel.

c. Fuel vapor may be ignited from sparks caused by RF energy. Sparking can be induced between metal surfaces such as a fuel hose nozzle and the aircraft structure.

3-92. **Precautionary Measures.**

a. Personnel should not work in radiation areas of energized radar antennas.

b. Radar should not be operated inside of a hangar unless antenna is directed into radar window or into radiation absorption material.

c. Personnel should not look directly into a radar antenna when the transmitter is operating. Damage to the eyes will result if this precaution is not observed.

d. Personnel should avoid close contact with vertical stabilizer during operation of the AN/ARC-105 HF radio to prevent RF burn.

e. Do not operate transmitting equipment when Electro-Explosive Devices (EED) are in the area. If EED are mounted on the aircraft, it is safe to operate the transmitting equipment on that aircraft, providing there are no other aircraft operating their transmitting equipment in the area.

f. Observe the following rules in handling Electro-Explosive Devices (EED):

(1) All handling and loading of EED must be accomplished in an area free of strong HF radio signals.

(2) Keep EED in containers until ready for immediate installation.

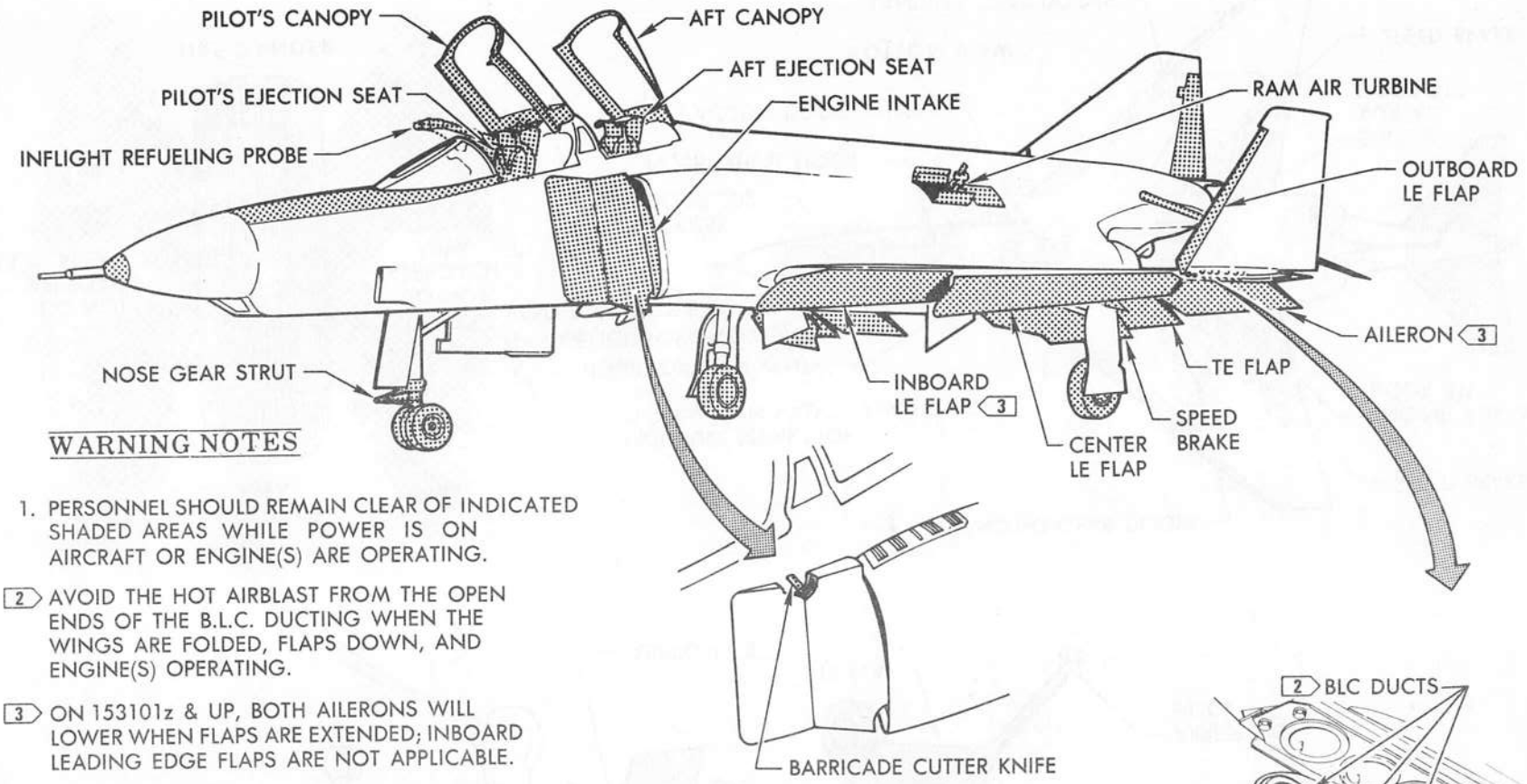
(3) Do not remove shorting clips until necessary.

(4) Do not permit EED electrical leads to come in contact with the aircraft structure.

(5) Avoid all unnecessary contact of hands with EED electrical leads to prevent the body of the handler from acting as a receiving antenna.

g. Do not perform any ground fueling operations when radar is operating within a 100 foot radius.

GENERAL DANGER AREAS – AIRFRAME



WARNING NOTES

1. PERSONNEL SHOULD REMAIN CLEAR OF INDICATED SHADED AREAS WHILE POWER IS ON AIRCRAFT OR ENGINE(S) ARE OPERATING.

2 AVOID THE HOT AIRBLAST FROM THE OPEN ENDS OF THE B.L.C. DUCTING WHEN THE WINGS ARE FOLDED, FLAPS DOWN, AND ENGINE(S) OPERATING.

3 ON 153101z & UP, BOTH AILERONS WILL LOWER WHEN FLAPS ARE EXTENDED; INBOARD LEADING EDGE FLAPS ARE NOT APPLICABLE.

4 AVOID TIRE AREA IF OVERHEATED BRAKES ARE SUSPECTED. IF NECESSARY TO APPROACH TIRE AREA, PROCEED CAUTIOUSLY AND ONLY FROM A FORE AND AFT DIRECTION. EXTREME DANGER EXISTS EVEN AFTER AIRCRAFT HAS STOPPED BECAUSE OF THE TIME REQUIRED FOR THE HEAT TO TRAVEL FROM THE BRAKES TO THE TIRE.

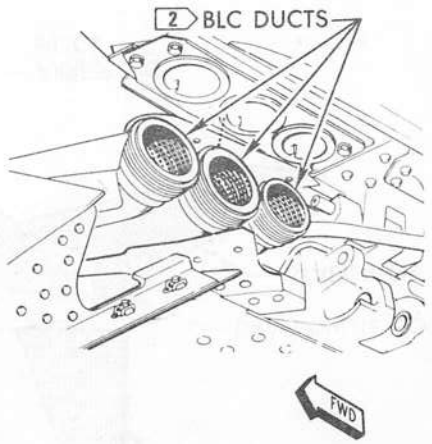
5 A POTENTIAL HAZARD EXISTS ON AIRCRAFT WITH PHOTO FLASH EJECTOR CARTRIDGES INSTALLED. ACCIDENTAL FIRING OF THE CARTRIDGE(S) CREATES HAZARDS IN THE AREA OF THE DOORS AND AN AREA EXTENDING APPROXIMATELY 420 FEET OUTBOARD OF THE AIRCRAFT.

6 A POTENTIAL HAZARD EXISTS IN AREA OF GAS GENERATOR OVERBOARD VENT ON AFT CAMERA ACCESS DOOR NO. 503. PERSONNEL MAY RECEIVE SERIOUS BURNS IF GAS GENERATOR IS FIRED.

7 AFTER AFC 332

8 DO NOT APPLY ELECTRICAL SOURCE OR MULTIMETER TO CANOPY JETTISON THRUSTERS ELECTRICAL RECEPTACLES AS THRUSTER WILL FIRE.

9 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 497.



FDC-2-1.1-(24-1)

Figure 3-21. Airframe and External Stores Danger Areas (Sheet 1 of 4)

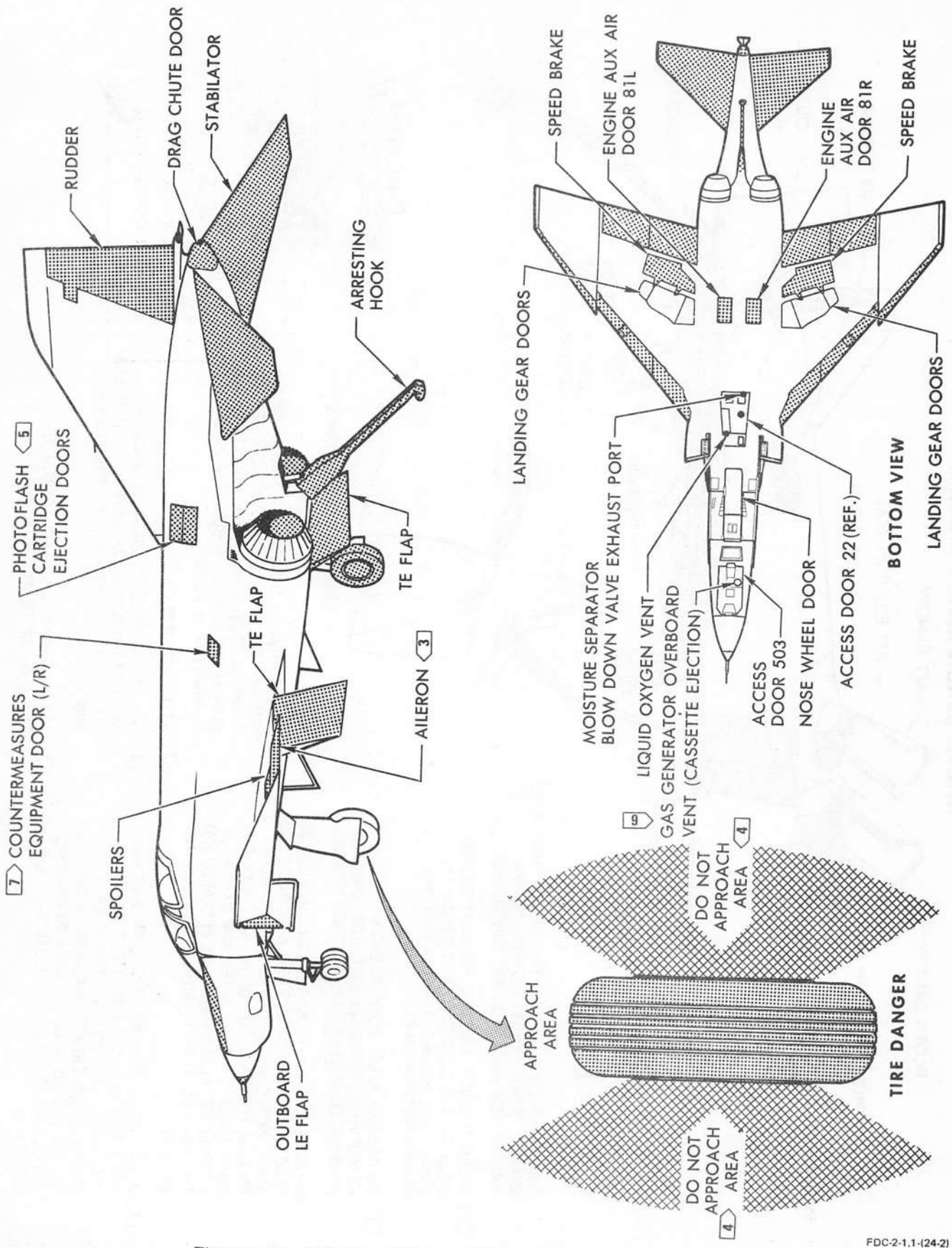


Figure 3-21. Airframe and External Stores Danger Areas (Sheet 2 of 4)

EXTERNAL STORES DANGER AREAS

NOTE

EXTERNAL FUEL TANKS, ATTACHED TO THE WING PYLON STATIONS OR TO THE CENTERLINE RACK ARE DROPPABLE WHEN EXPLOSIVE CARTRIDGES ARE LOADED. IMMEDIATE AREAS MUST BE CONSIDERED DANGEROUS FOR MAINTENANCE PERSONNEL. REFER TO PARAGRAPH TITLED EXTERNAL STORES SAFETY DEVICES.

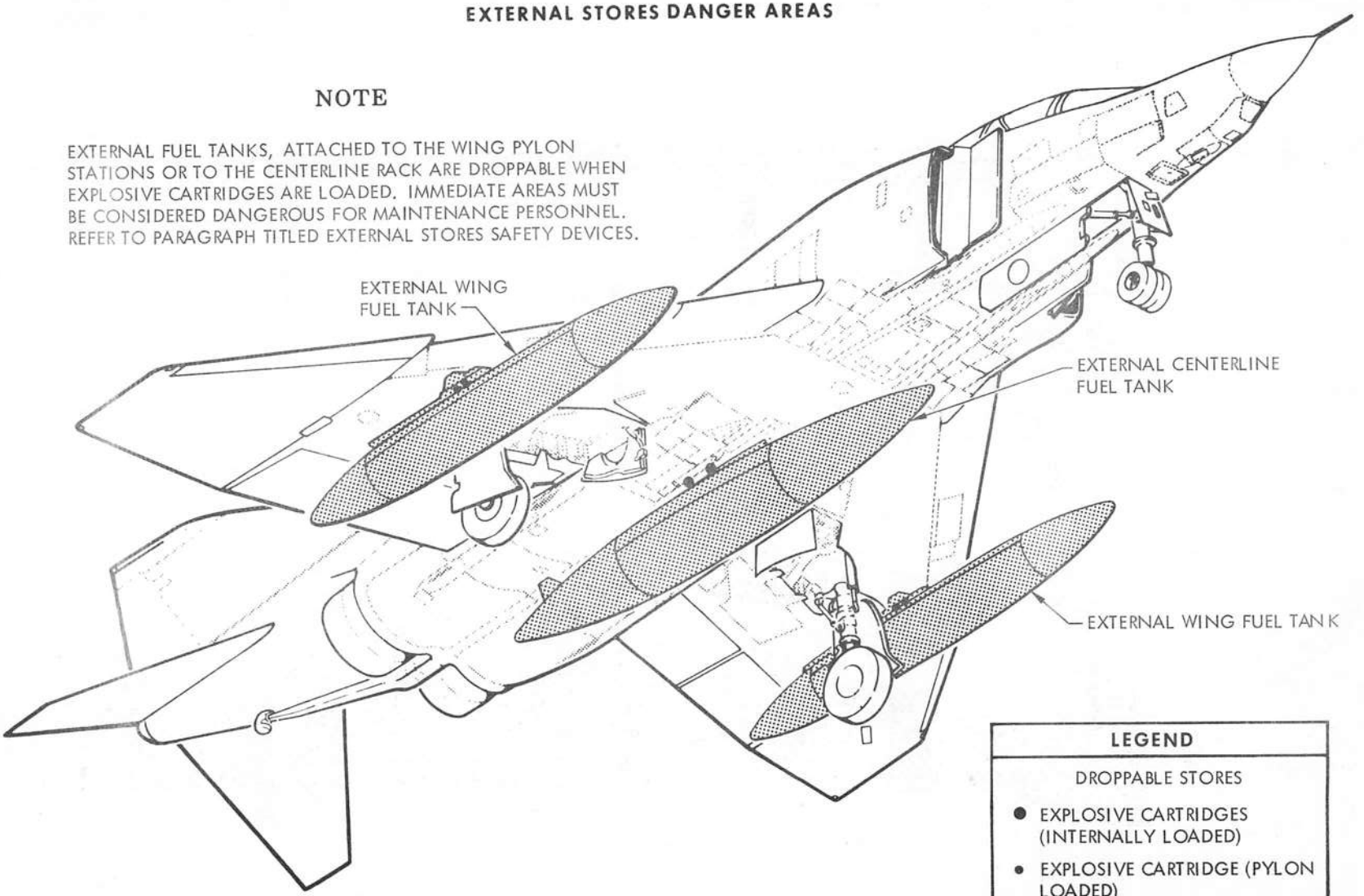


Figure 3-21. Airframe and External Stores Danger Areas (Sheet 3 of 4)

FDC-2-1.1-(24-3)

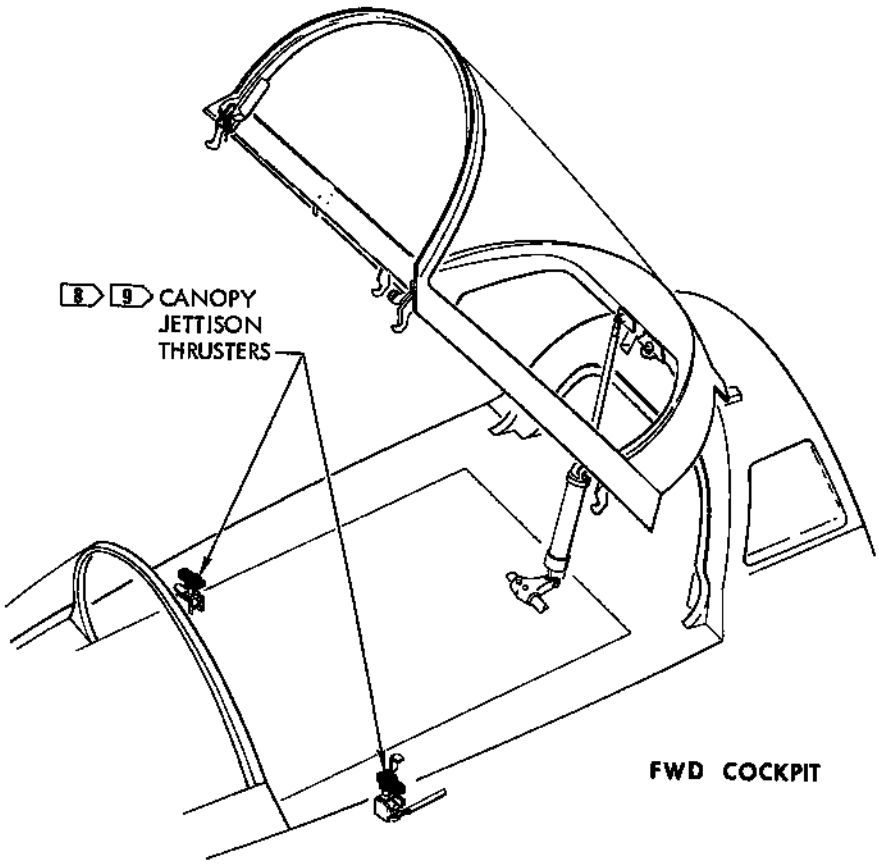


Figure 3-21. Airframe and External Stores Danger Areas (Sheet 4 of 4)

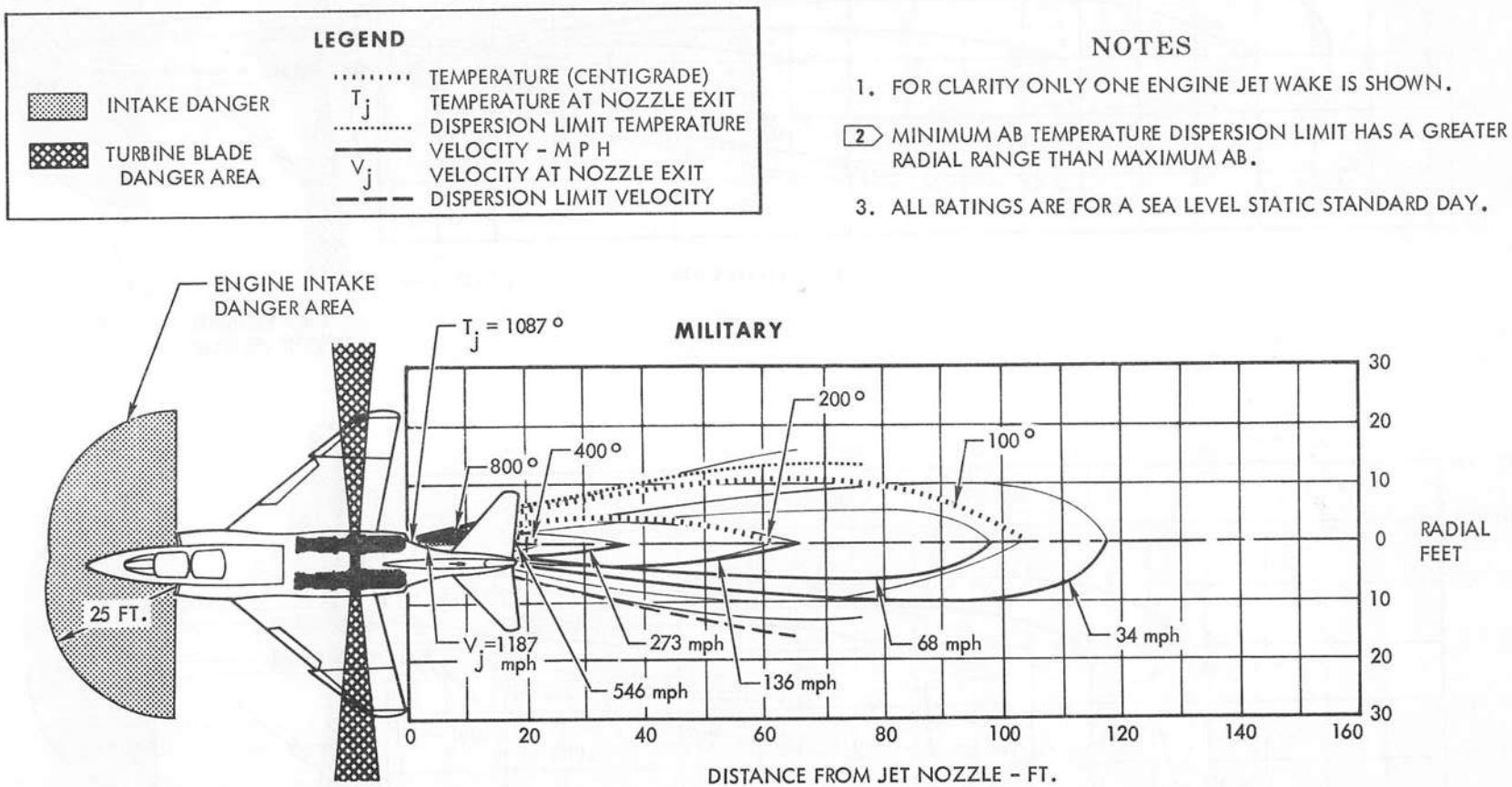
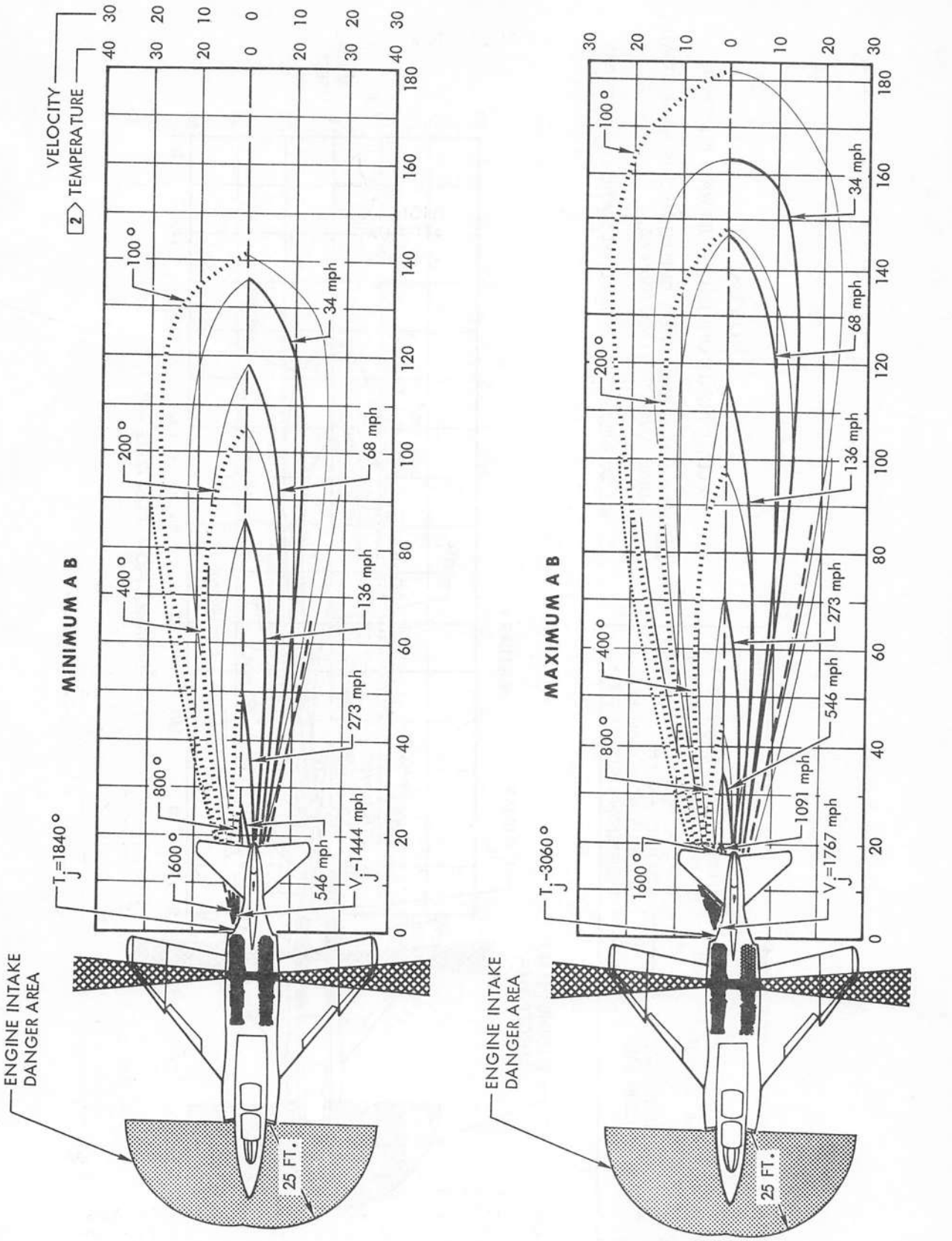


Figure 3-22. Engine Run-up Danger Areas (Sheet 1 of 8)



FDC-2-1.1-(25-2)

Figure 3-22. Engine Run-up Danger Areas (Sheet 2 of 8)

EAR PROTECTORS

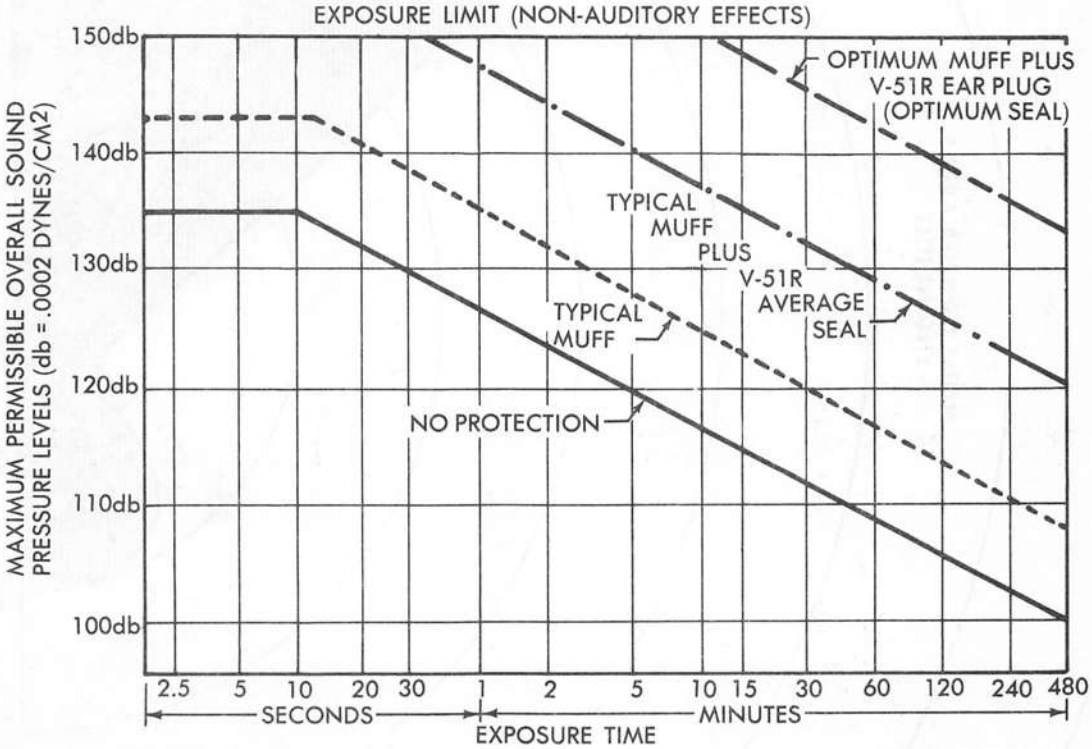
NAVY EARMUFF
(372-8A-N)

FLIGHT DECK SOUND
ATTENUATING HELMET
(372-9HA)

NAVY EARMUFF
WITH GROUND
COMMUNICATIONS
(372-8BM)

EAR PLUG (V-51R)
USED WITH 372-8A-N
OR 372-9HA EAR
PROTECTION DEVICES.

NOISE LEVEL EXPOSURE LIMITS



EXPOSURE CRITERIA FOR JET TYPE NOISE. THE MAXIMUM PERMISSIBLE OVERALL SOUND PRESSURE LEVEL OF JET EXHAUST NOISE IS GIVEN AS A FUNCTION OF THE AVERAGE DAILY EXPOSURE TIME FOR THE PROTECTED AND UNPROTECTED EAR.

FDC-2-1.1-(25-3)

Figure 3-22. Engine Run-up Danger Areas (Sheet 3 of 8)

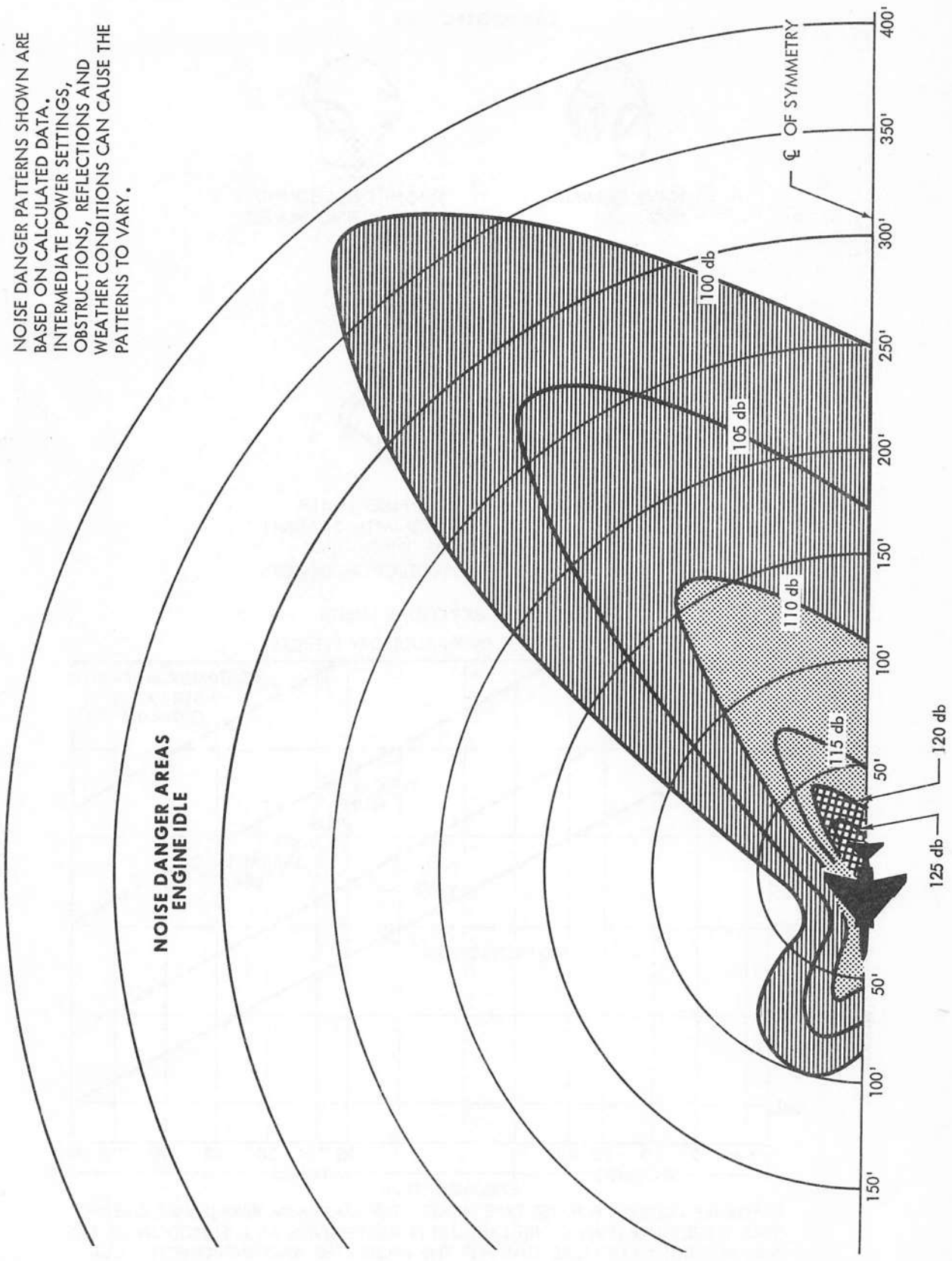


Figure 3-22. Engine Run-up Danger Areas (Sheet 4 of 8)

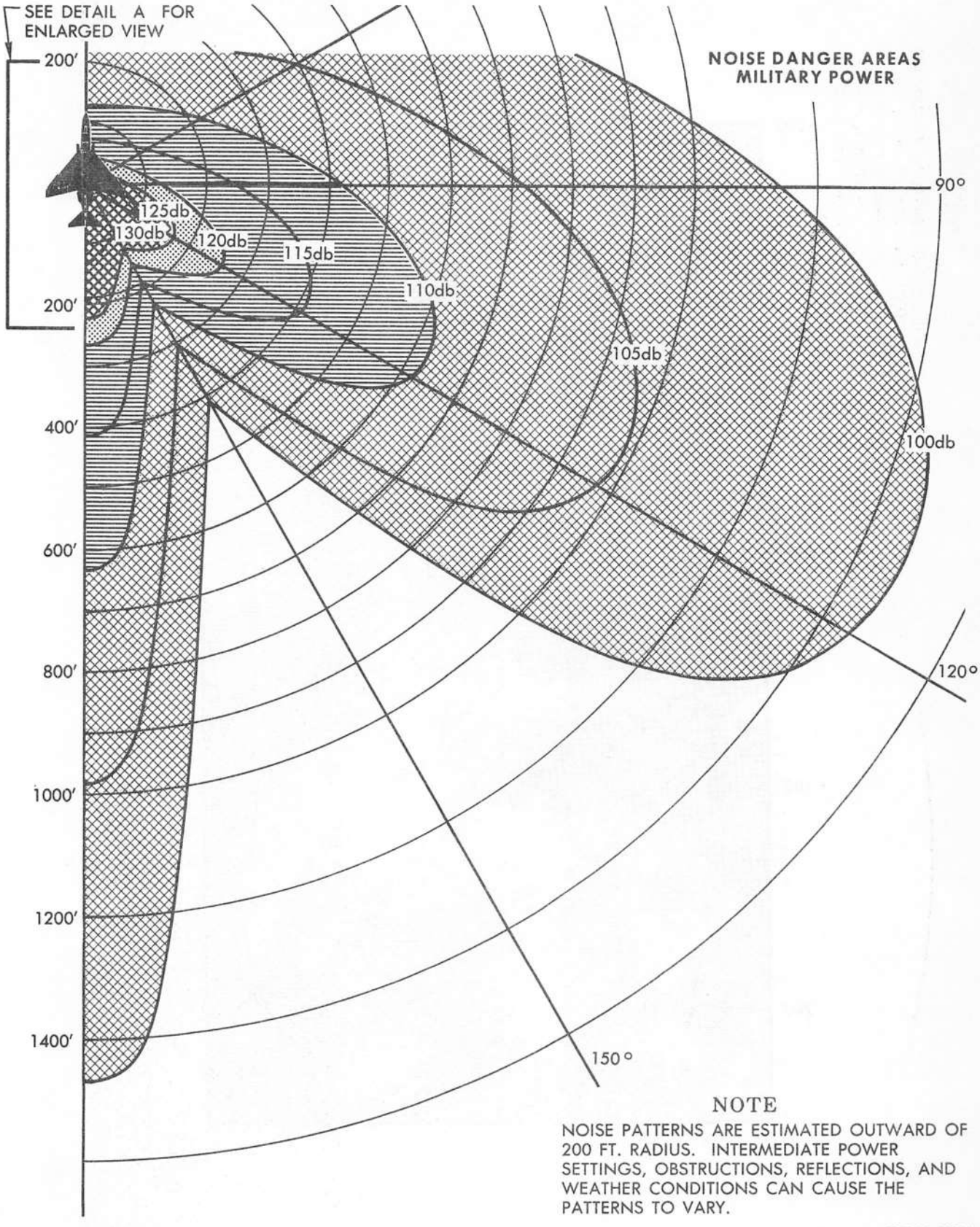
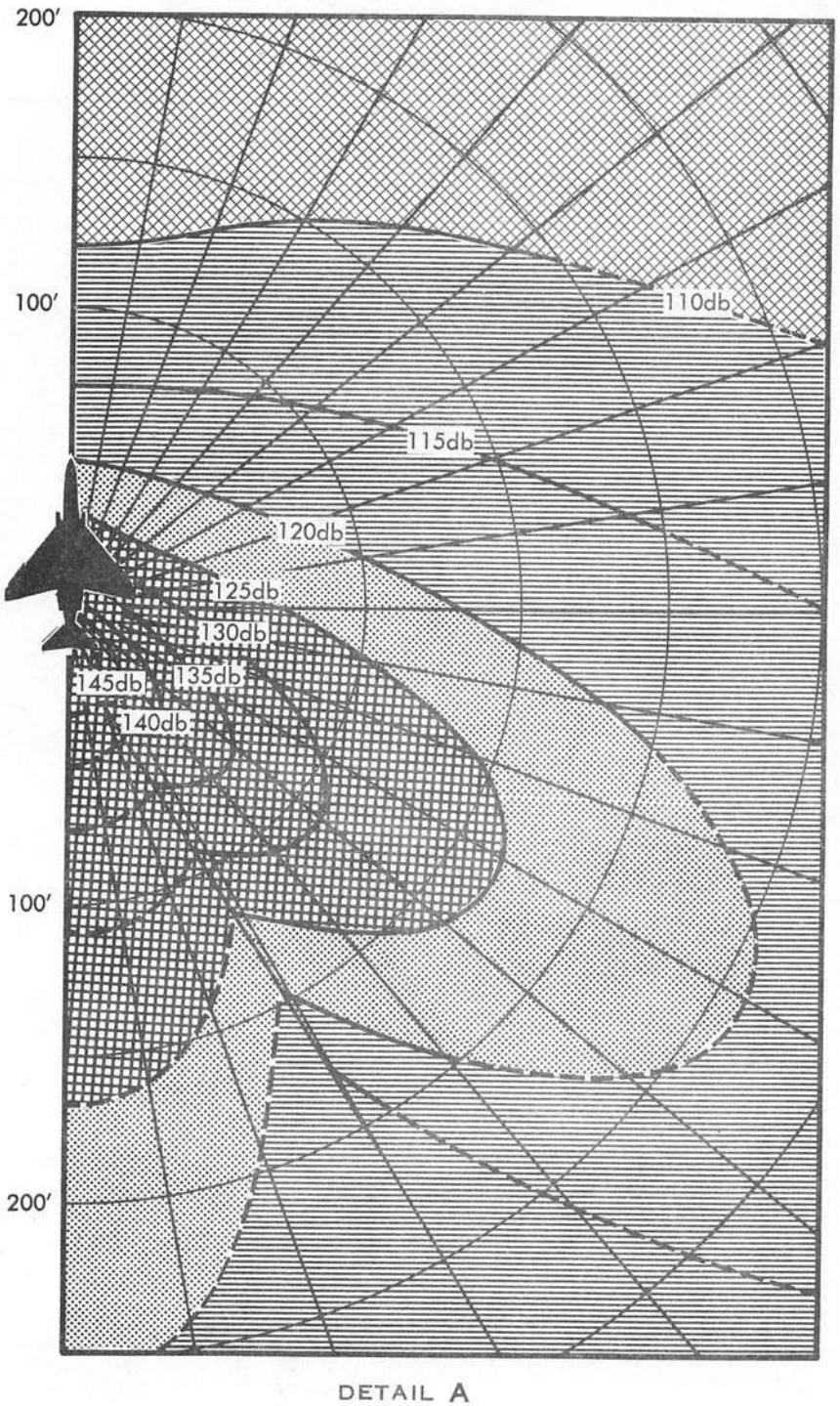


Figure 3-22. Engine Run-up Danger Areas (Sheet 5 of 8)



FDC-2-1.1-(25-6)

Figure 3-22. Engine Run-up Danger Areas (Sheet 5 of 8)

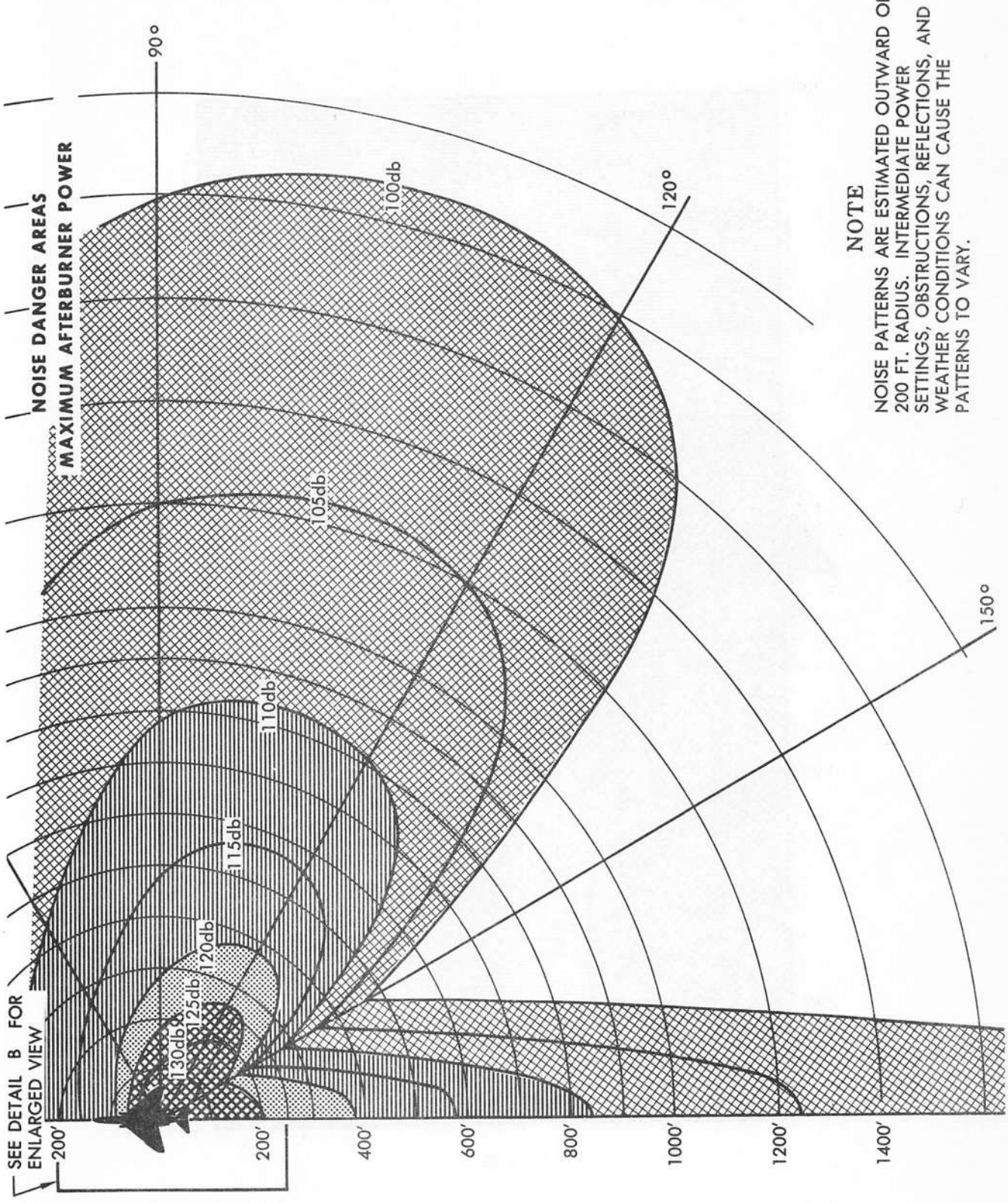


Figure 3-22. Engine Run-up Danger Areas (Sheet 7 of 8)

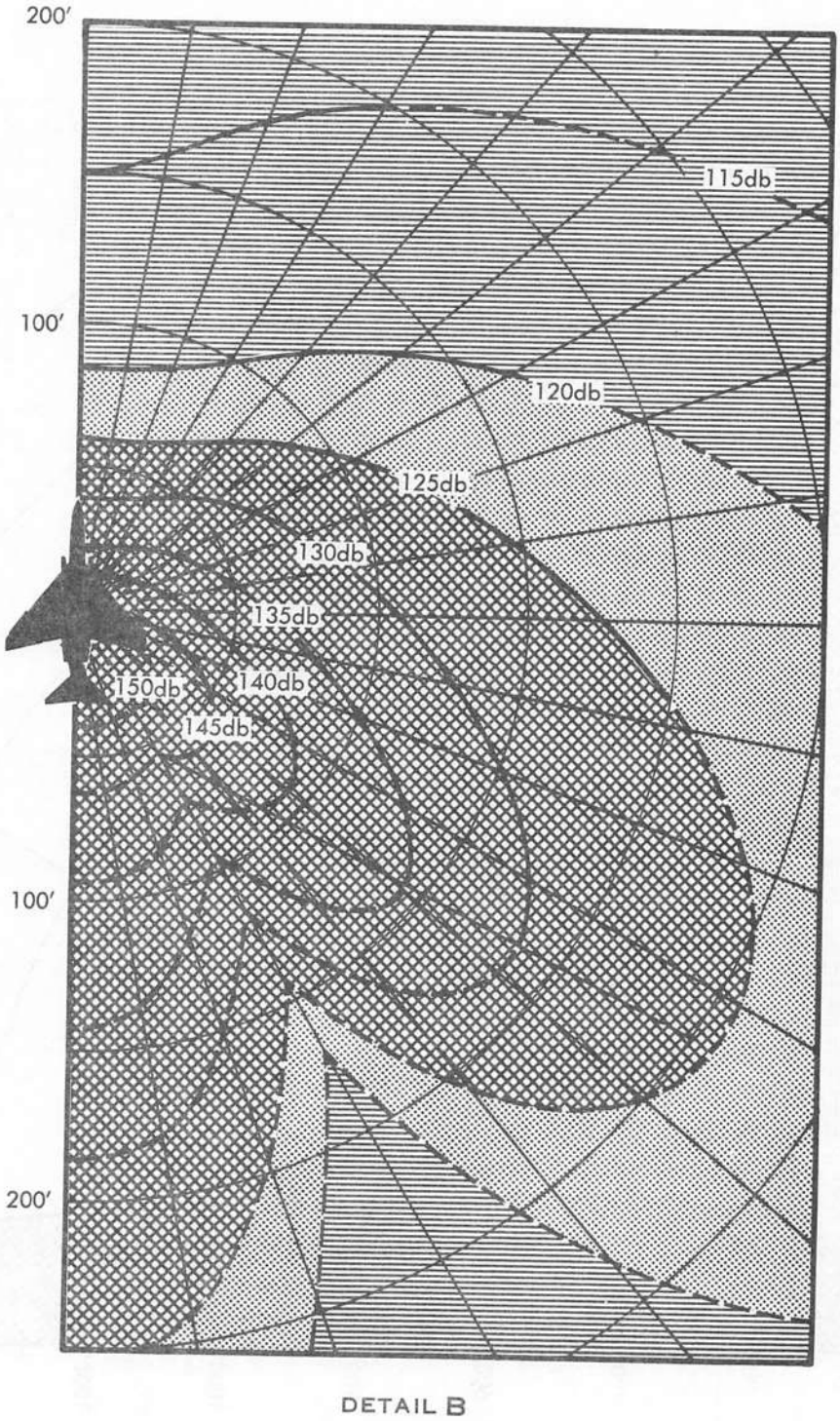


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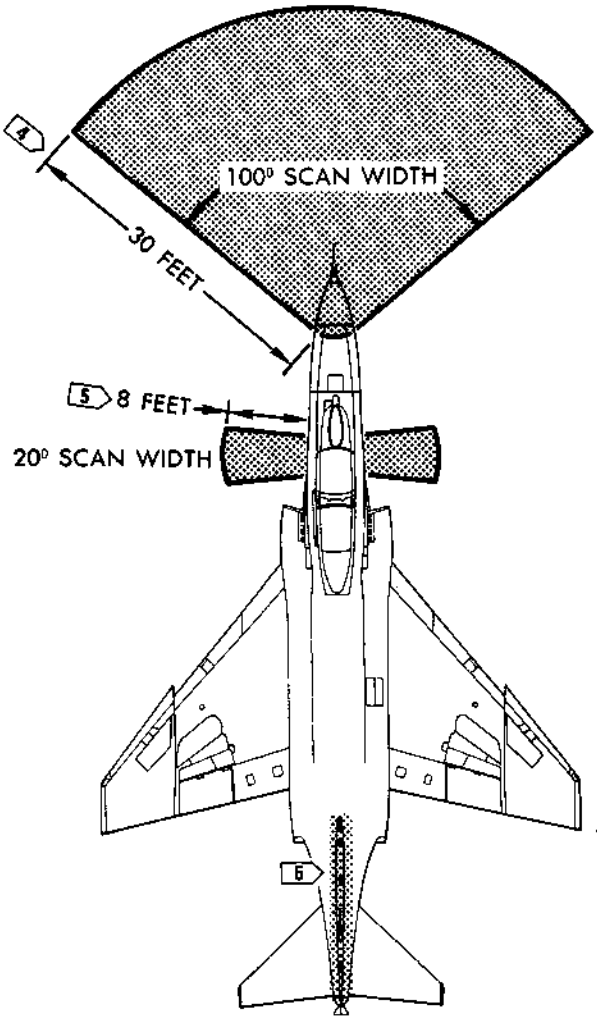
Figure 3-22. Engine Run-up Danger Areas (Sheet 8 of 8)



WARNING

PERSONNEL SHALL STAY CLEAR OF RF RADIATION HAZARD ZONES. ALL RF TRANSMITTING EQUIPMENT SHALL BE TURNED OFF WHEN ELECTRO-EXPLOSIVE DEVICES (EED) ARE IN THE AREA.

NOTES

1. SHADED AREAS EXCEED THE BIOLOGICAL SAFE LIMIT OF 0.01 WATTS/CM2.
2. DISTANCES SHOWN ARE CALCULATED UPON THE OPERATION OF THE FIRE CONTROL SYSTEM BEAM CENTER INTENSITY.
3. IF MORE THAN ONE AIRCRAFT IS TRANSMITTING AT THE SAME TIME, THE DISTANCES GIVEN IN THE TABLE BELOW MUST BE MULTIPLIED BY THE SQUARE ROOT OF THE NUMBER OF AIRCRAFT IN THE VICINITY OF THE PERSONNEL, EED, OR FUEL HANDLING.

4 OPERATION OF AN/APQ-99 FORWARD LOOKING RADAR.

5 OPERATION OF AN/APQ-102 RADAR MAPPING SET. REFER TO NAVAIR 01-245FDB-2-6.8 FOR INSTALLATION OF RADIATION COVERS.

6 OPERATION OF HF COMMUNICATIONS ANTENNA, AN/ARC-105 HF RADIO.

OPERATING TRANSMITTERS	MINIMUM SAFE DISTANCE FROM ANTENNA IN FEET			
	PERSONNEL	EED (EXPOSED)	EED (ASSEMBLED)	FUEL HANDLING
ALL TRANSMITTERS	23	1198	125	37
ALL TRANSMITTERS EXCEPT THE HF RADIO	23	54	32	37
FORWARD-LOOKING RADAR AN/APQ-99	22	26	19	36
RADAR MAPPING (SLIDE LOOKING) RADAR AN/APQ-102	8	15	11	5
IFF-SIF KY-532/ASQ	3	39	20	1
HF RADIO AN/ARC-105	2	1197	120	1
UHF RADIO RT-546A/ASQ-19	1	35	14	1
TACAN RT-736/ASQ-88	1	8	4	1
RADAR ALTIMETER AN/APN-159	1	4	2	1

FDC-2-1.1-(26)

Figure 3-23. Radiation Danger Areas

SECTION IV

ENGINE OPERATION

PRERUN PRECAUTIONS AND PREPARATION

4-1. FOREIGN OBJECT DAMAGE (FOD) PREVENTION.

4-2. Ingestion of foreign objects into gas turbine engines is a major cause of unscheduled repair and replacement of the engines. The prevention of foreign object damage must be constantly emphasized by all maintenance personnel. Preventive procedures and policies must be conscientiously and rigidly adhered to at all times. See figure 4-1. The following precautions, when conscientiously applied, form the basis for a sound foreign object damage preventive program.

a. Account for each nut, bolt, washer, lockwire, etc., used or replaced during any aircraft or engine maintenance.

b. Do not start an engine before accounting for every tool and all equipment used in vicinity, and thoroughly inspecting inlet duct area for loose objects.

c. Frequently police lanes where vehicles and personnel cross the engine operating areas.

d. When transporting engines on dollies or trucks, assure that inlet sections of the engines are adequately covered.

e. When moving aircraft to another location, tugs should be used in lieu of taxiing.

f. Vacuum clean all areas in and around engine inlet ducts and engine nacelles after any maintenance or before and after installing an engine.

g. Use care when operating an engine on the ground or deck. Use no more power than necessary. This will reduce suction power of the engine.

h. Never wear loose clothing or carry rags or gloves in pockets when walking around engines in operation.

i. Install intake screens during ground run-up. Refer to paragraph 5-225.

4-3. STRUCTURAL DAMAGE PREVENTION.

4-4. Because of stress exerted on the airframe during operation of the engines, certain structural access doors and fasteners must be in place during engine runup to prevent structural damage to the aircraft. Refer to paragraph 3-82.

4-5. ENGINE PRERUN PRECAUTIONS.

4-6. The following list of precautions should be observed as applicable to either test stand or aircraft prior to engine run. Refer to NAVAIR 01-245FDC-1 and NAVAIR 01-245FDC-6 for additional checks and inspections.

a. Check hydraulic pumps and engine accessories for security and leaks.

b. Inspect electrical and plumbing connections for security.

c. Check engine mounts for security.

d. Check exhaust gas thermocouple harness and teleflex cable housings for security.

e. Visually inspect for oil and fuel leaks.

f. Check exhaust nozzle, AB flame holder, torch igniter, and third-stage turbine disk, for visible damage.

g. Ensure that engine vent and drain lines are clear and undamaged.

h. Inspect exhaust nozzle for cleanliness and possible excess accumulation of fuel or oil.

i. Ensure that engine oil system is serviced; refer to paragraph 6-47. Check filler and overflow caps for security.

4-7. PREPARATION FOR ENGINE OPERATION.

4-8. The following preparations are recommended to afford protection for personnel and equipment:

a. Face aircraft into wind if possible.

b. Use blast fence in limited area or clear area aft of exhaust nozzle. Refer to paragraph 3-86. If a muffler is to be used, see that the exhaust nozzle is properly aligned and fitted, and will not be restricted in its movement.

c. Assure that all equipment and tools are cleared from under, around, and on the aircraft.

d. Install wheel chocks, holdback provisions, and mooring lines as required. Refer to paragraph 4-59 for catapult holdback fitting attachment. When holdback or mooring is applied, ensure security of deck or ramp anchors.

e. Remove all protective covers from aircraft and store in secure area.

f. Inspect engine air ducts for cleanliness, foreign objects, loose screws, and freedom from damage.

CAUTION

Deck or ramp area within 15 ft. radius of intake ducts must be clear and clean to protect engine from FOD.

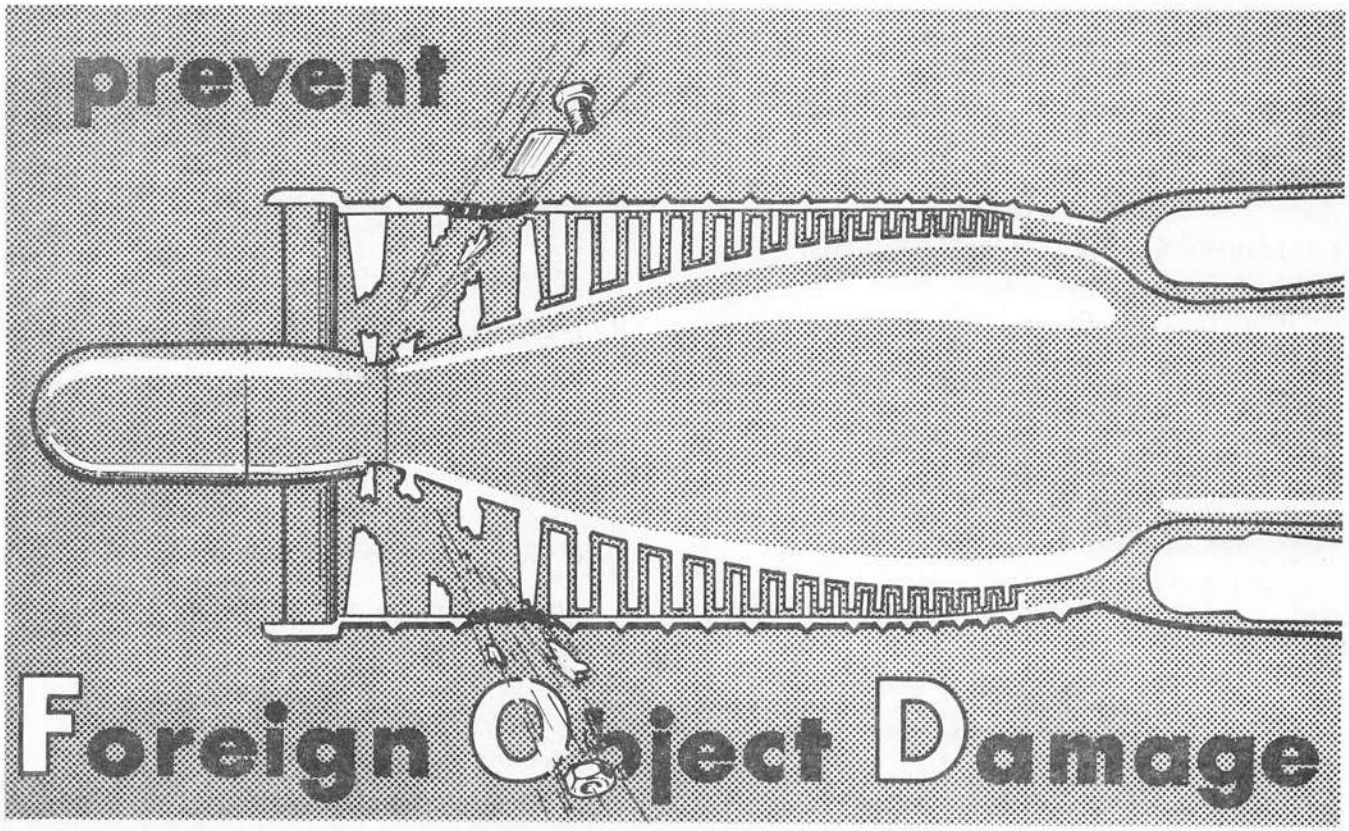
g. Install engine air duct guards.

h. Ensure installation of main and nose landing gear actuator safety struts and ground safety devices as required. Refer to Safety Devices, section V.

i. Make certain that all personnel are clear of engine intake and exhaust danger areas. Refer to paragraph 3-86.

WARNING

All personnel required to remain in the vicinity of operating jet engines must wear approved ear protection to prevent possible damage to hearing or to nervous system.



INSTRUCTION

- MAINTENANCE PERSONNEL IN FLIGHT LINE AREA TO BE THOROUGHLY BRIEFED ON IMPORTANCE OF MAINTAINING AS CLEAN AN AREA AS POSSIBLE.
- INDIVIDUALS TO CONSCIENTIOUSLY PRACTICE PICKING UP ANY OBSERVED FOREIGN OBJECT AT ANY TIME.
- AIRCRAFT OPERATING PERSONNEL TO AVOID RUN-UPS OR TAXIING INTO EXHAUST BLASTS OF OTHER AIRCRAFT.
- AIRCRAFT OPERATING PERSONNEL REPORT IMMEDIATELY UNSATISFACTORY CONDITIONS OF OPERATING SURFACES WHEN ENCOUNTERED.

INSPECTION

- INSPECT OPERATING SURFACES DAILY FOR CHIPPING AND DETERIORATION.
- INSPECT AREAS NORMALLY CROSSED OR ENTERED INTO BY TRANSIT VEHICLES FOR MATERIAL CARRIED BY TRUCK TIRES, ETC.
- AFTER EACH MAINTENANCE OPERATION INVENTORY ALL TOOLS AND PARTS.
- INSPECT THE INLET DUCT AREA FOR ALL FOREIGN OBJECTS.

PREVENTION

- PERIODIC GENERAL PHYSICAL PICKUP BY MAINTENANCE PERSONNEL ("POLICE-THE-AREA").
- AVAILABILITY OF STRATEGICALLY LOCATED AND APPROPRIATELY MARKED FOREIGN OBJECT DAMAGE RECEPTACLES.
- PROTECTIVE SCREENS USED WHEN APPROPRIATE.
- ARTICLES OF CLOTHING AND PERSONAL EFFECTS PROPERLY FITTED, AND SECURE.

FDC-2-1.1-(27)

Figure 4–1. FOD Prevention

ENGINE STARTING HOOKUP

4-9. STARTING AIR SUPPLY REQUIREMENTS.

4-10. The engine is started by air impingement with the turbine. Air flow and pressure requirements for starting vary with ambient temperature as follows:

Turbine Impingement Per General Electric Model Specifications

Ambient Temp	Air flow in lbs per minute	Air Pressure	Air Temp
−65 degrees F	250	74.3 psig	352 degrees F degrees F
60 degrees F	178	60.5 psig	474 degrees F
135 degrees F	159	54.3 psig	545 degrees F

4-11. PREFERRED ENGINE STARTING METHODS.

4-12. A single RCPP105, RCPT105, or MD-3 auxiliary power unit (APU) is capable of supplying adequate compressed air and meeting the necessary ac and dc electrical power requirements for impingement starting.

4-13. **APU HOOKUP FOR STARTING - APU CONTROLLED FROM FORWARD COCKPIT.** See figure 4-2.

4-14. **Tools and Equipment.**

Power unit, auxiliary, (30, table 2-2)
Connection, (optional), ground intercommunication (See figure 5-7)
[1] Adapter, engine start, (67, table 2-1)
[1] 153101z THRU 153115aa AFTER AFC 329.

4-15. **Manpower Requirements.**

a. Four men required.

4-16. **APU Hookup Procedure.**

a. Open access door 26L and connect ac electrical power cable to external electrical power receptacle.

NOTE

On aircraft 153101z THRU 153115aa AFTER AFC 329, an engine start adapter is required to connect air supply hose to engine starting air receptacle.

b. Open access door 120 and connect air supply hose to engine starting air receptacle.

WARNING

A safety line must be installed across air supply hose connections to prevent hose from whipping in if hose becomes disconnected during engine start.

c. Install a safety line across air supply hose connections.

d. Connect remote control cable to remote control cable receptacle located inside access door 120.

e. Start APU.

f. Place APU transfer switch to PILOT position.

g. Place APU ac power switch to ON position.

h. Place APU output air switch to 5:1 position.

i. Place L/R generator switches in forward cockpit to EXT position.

WARNING

Prior to selecting starting air from APU, assure that air hose and electrical cables are properly connected. To avoid injuries, assure that all personnel are clear of the starting area.

j. Air to the aircraft starting system and the valve on the APU are not controlled from the forward cockpit.

NOTE

In an emergency, air to the aircraft can be stopped by placing APU output air selector switch in OFF position.

4-17. **APU Shutdown Procedure.**

NOTE

Prior to APU shutdown or removal of ac electrical power from the aircraft after engines are started, assure that L/R generator switches in forward cockpit, are placed in GEN position.

WARNING

Do not exceed idle RPM prior to disconnecting air supply hose. If starter valve malfunctions in the open position, air pressure is forced back through the engine starting air receptacle which could result in injury to personnel.

a. Place L/R generator switches in forward cockpit to GEN position.

b. Place APU ac power switch to OFF position.

c. Place APU output air switch to OFF position.

d. Shutdown APU.

WARNING

Assure that compressed air is dissipated from air supply hose prior to disconnecting hose from engine starting air receptacle. When disconnected, air pressure could cause air supply hose to whip resulting in injury to personnel.

e. Disconnect air supply hose from engine starting air receptacle.

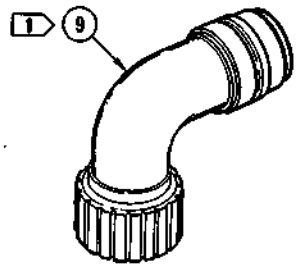
f. Disconnect remote control cable and ac electrical power cable from aircraft.

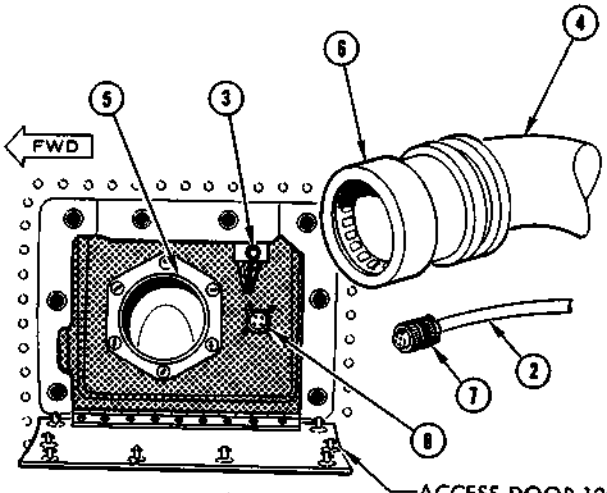
g. Close access doors 120 and 26L.

1. AC ELECTRICAL POWER CABLE
2. REMOTE CONTROL CABLE
3. IMPINGEMENT START AIR DOOR SHUTOFF SWITCH
4. AIR SUPPLY HOSE
5. ENGINE STARTING AIR RECEPTACLE
6. ENGINE STARTING AIR HOSE COUPLING
7. REMOTE CONTROL CABLE CONNECTOR
8. REMOTE CONTROL CABLE RECEPTACLE
9. ENGINE START ADAPTER

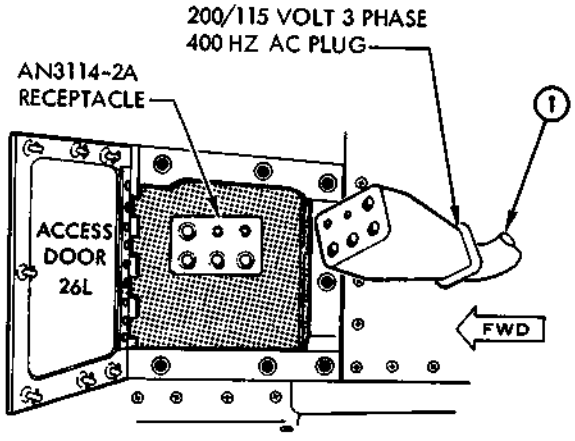
NOTE

[1] 153101z THRU 153115aa AFTER AFC 329.

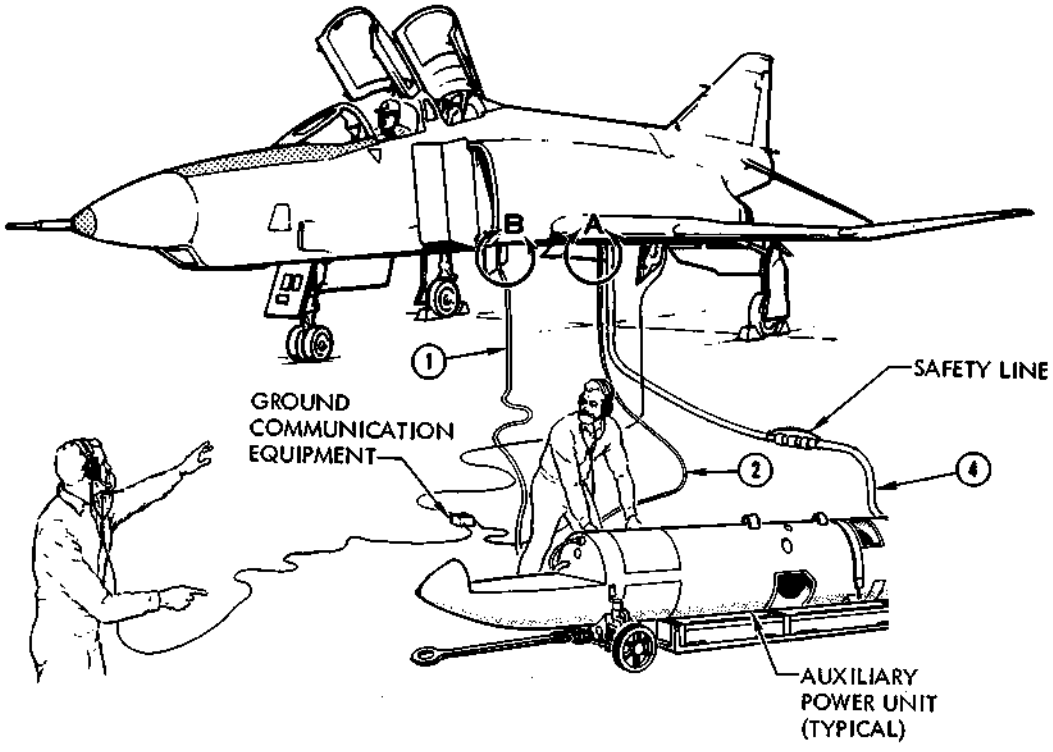




DETAIL A
ENGINE STARTING AIR



DETAIL B
EXTERNAL ELECTRICAL POWER



FDC-2-1.1-(28)

Figure 4-2. Preferred Auxiliary Power Unit Hookup for Engine Start

4-18. *Quality Assurance Summary.*

a. *Assure that air supply hose and electrical cables are removed from aircraft.*

b. *Assure that access doors 120 and 26L are closed and secured.*

4-19. APU HOOKUP FOR STARTING - APU CONTROLLED FROM GROUND. See figure 4-2.

4-20. Tools and Equipment.

Power unit, auxiliary, (30, table 2-2)
Connection, ground intercommunication, (optional), (figure 5-7)
1 Adapter, engine start, (67, table 2-1)
1 153101z THRU 153115aa AFTER AFC 329.

4-21. Manpower Requirements.

a. Four men required.

4-22. APU Hookup Procedure.

a. Open access door 26L and connect ac electrical power cable to external electrical power receptacle.

NOTE

On 153071z THRU 153115aa AFTER AFC 329, an engine start adapter is required to connect air supply hose to engine starting air receptacle.

b. Open access door 120 and connect air supply hose to engine starting air receptacle.

WARNING

A safety line must be installed across air supply hose connections to prevent hose from whipping if hose becomes disconnected during an engine start.

c. Install a safety line across air supply hose connections.

d. Connect jumper plug to APU remote control cable.

e. Start APU.

f. Place APU transfer switch to POD position.

g. Place APU ac power switch to ON position.

h. Place L/R generator switches in forward cockpit to EXT position.

WARNING

Prior to selecting air from APU, assure that air hose and electrical cables are properly connected. To avoid injuries, assure that all personnel are clear of starting area.

i. When air for starting engines is needed, place APU output switch to 5:1 position.

j. Engine START switch, for control of impingement starting selector valves, must be operated from forward cockpit.

NOTE

In an emergency, air to the aircraft can be stopped by placing APU output air selector switch in OFF position.

4-23. APU Shutdown Procedure.

NOTE

Prior to APU shutdown or removal of ac electrical power from aircraft after engines are started, assure that L/R generator switches in forward cockpit are placed in GEN position.

WARNING

Do not exceed idle RPM prior to disconnecting air supply hose. If starter valve malfunctions in the open position, air pressure is forced back through the engine, starting receptacle which could result in injury to personnel.

a. Place L/R generator switches in forward cockpit to GEN position.

b. Place APU ac power switch to OFF position.

c. Place APU output air switch to OFF position.

d. Shutdown APU.

WARNING

Assure that compressed air is dissipated from air supply hose prior to disconnecting hose from engine starting air receptacle. When disconnected, air pressure could cause air supply hose to whip resulting in injury to personnel.

e. Disconnect air supply hose from engine starting air receptacle.

f. Disconnect remote control cable from aircraft (if utilized).

g. Disconnect ac electrical power cable from aircraft.

h. Close access doors 120 and 26L.

4-24. *Quality Assurance Summary.*

a. *Assure that air supply hose and electrical cables are removed from aircraft.*

b. *Assure that access doors 120 and 26L are closed and secured.*

4-25. EMERGENCY ENGINE STARTING METHODS.

NOTE

Emergency starting procedures are to be utilized only when normal starting procedures cannot be performed.

4-26. In an emergency, two GTC 85-15 (AiResearch) starting units can be connected to the aircraft through a Y duct fitting to supply adequate compressed air for impingement starting. Forward cockpit control of the air supply from both units is essential for efficient engine starts. Control of the units is accomplished by using the Emergency Starting Adapter MDE322997-1 cable assembly. The cable assembly provides an electrical connection between the remote control cable receptacles on the aircraft and the starter control cables of the two GTC 85 starting units. This arrangement provides forward cockpit control of the starting units air supply system. AC electrical power may be supplied by an NC-7 or similar

unit.

4-27. If Emergency Starting Adapter MDE322997-1 is not used, the impingement starting selector valve cannot be energized from the forward cockpit. Therefore, ground crew personnel must position the air valve switch on each APU to start and stop the flow of starting air.

4-28. **APU HOOKUP FOR EMERGENCY STARTING - APU CONTROLLED FROM FORWARD COCKPIT.** See figure 4-3.

4-29. **Tools and Equipment.**

Power unit, auxiliary (2 required), (31, table 2-2)
Fitting, wye, (32, table 2-2)
Adapter, emergency starting, (63, table 2-1)
Power source, external electrical, (1, table 2-2)
Connection, ground intercommunication, (optional), (figure 5-7)
[1] Adapter, engine start, (67, table 2-1)
[1] 153101z THRU 153115aa AFTER AFC 329.

4-30. **Manpower Requirements.**

a. Four men required.

4-31. **APU Hookup Procedure.**

a. Open access door 120 and connect cable from emergency starting adapter to remote control cable receptacle.

b. Connect control cable from each APU to input receptacles on junction box of emergency starting adapter.

NOTE

On 153101z THRU 153115aa AFTER AFC 329, an engine start adapter is required to connect the Y fitting to engine starting air receptacle.

c. Connect Y fitting to engine starting air receptacle.

d. Connect air supply hose from each APU to Y fitting.

e. Open access door 26L and connect ac electrical power cable to external electrical power receptacle.

f. Place L/R generator switches in forward cockpit to EXT position.

WARNING

Prior to selecting starting air from APU, assure that air hose and electrical cables are properly connected. To avoid injuries, assure that all personnel are clear of starting area.

g. Start both APUs.

h. The control valves on both APUs and the impingement starting selector valves are now controlled from the forward cockpit.

NOTE

In an emergency, air to the aircraft can be stopped by placing the MASTER switch on each APU in the OFF position.

4-32. **APU Shutdown Procedure.**

NOTE

Prior to APU shutdown or removal of ac electrical power from the aircraft after engines are started, assure that L/R generator switches in forward cockpit are placed in GEN position.

WARNING

Do not exceed idle RPM prior to disconnecting air supply hose. If starter valve malfunctions in the open position, air pressure is forced back through the engine starting air receptacle which could result in injury to personnel.

a. Place L/R generator switches in forward cockpit to GEN position.

b. Shutdown both APUs.

WARNING

Assure that compressed air is dissipated from air supply hose prior to disconnecting hose from engine starting receptacle. Air pressure could cause air supply hose to whip resulting in injury to personnel.

c. Disconnect air supply hoses and Y fitting from engine starting air receptacle.

d. Disconnect emergency starting adapter cable from remote control cable receptacle.

e. Disconnect APU control cables from input receptacles on junction box of emergency starting adapter.

f. Disconnect ac electrical power cable from aircraft.

g. Close access doors 120 and 26L.

4-33. *Quality Assurance Summary.*

a. *Assure that air supply hoses, Y fitting, and all electrical cables are removed from aircraft.*

b. *Assure that access doors 120 and 26L are closed and secured.*

4-34. **APU HOOKUP FOR EMERGENCY STARTING - APU CONTROLLED FROM GROUND.** See figure 4-3.

4-35. **Tools and Equipment.**

Power unit, auxiliary (2 required), (31, table 2-2)
Fitting, wye, (32, table 2-2)
Power source, external electrical, (1, table 2-2)
[1] Adapter, engine start, (67, table 2-1)
[1] 153101z THRU 153115aa AFTER AFC 329.

4-36. **Manpower Requirements.**

a. Four men required.

4-37. **APU Hookup Procedure.**

a. Open access door 26L and connect ac electrical power cable to the external electrical power receptacle.

NOTE

On 153101z THRU 153115aa AFTER AFC 329, an engine start adapter is required to connect Y fitting to engine starting air receptacle.

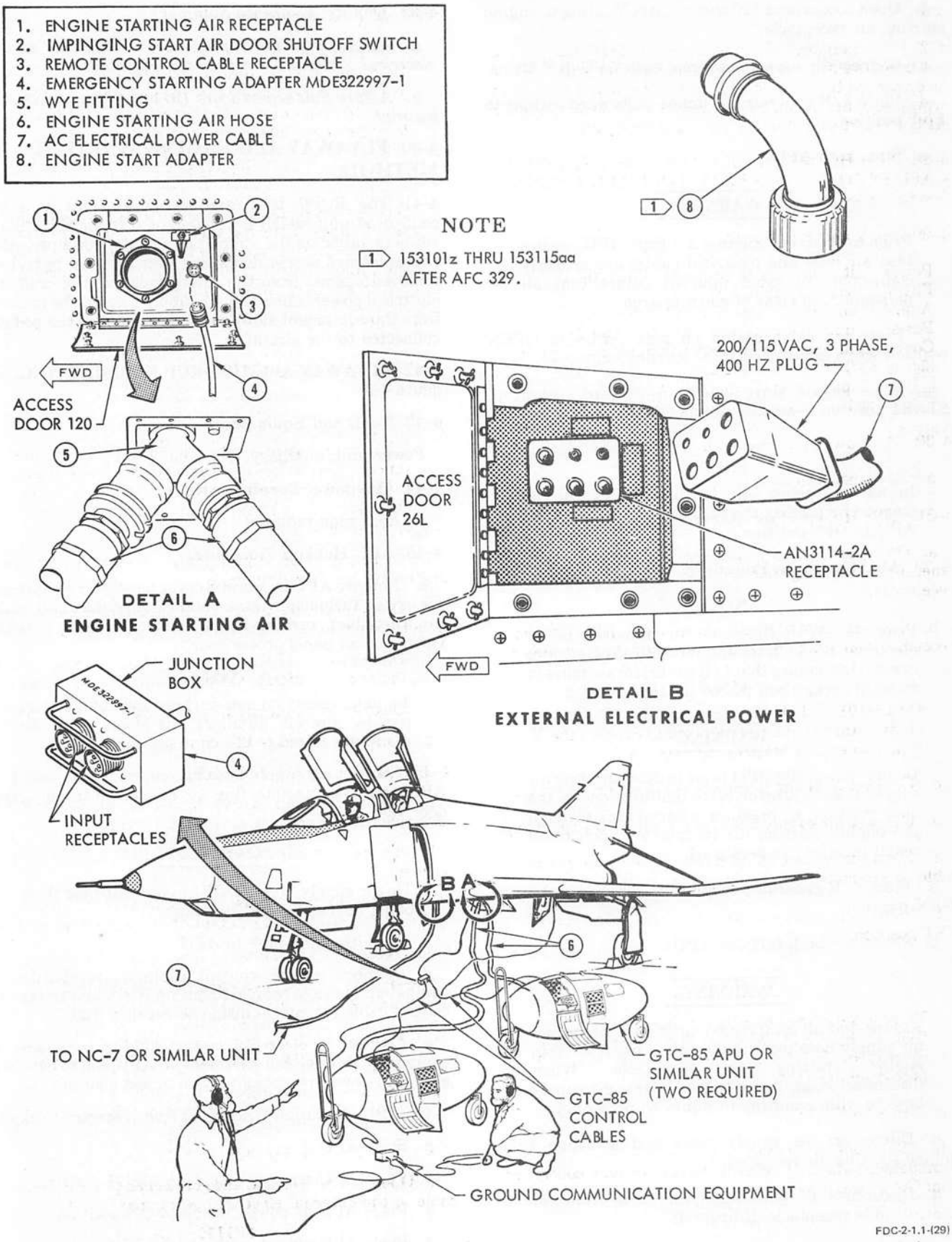


Figure 4–3. Auxiliary Power Unit Hookup for Emergency Engine Start

b. Open access door 120 and connect Y fitting to engine starting air receptacle.

c. Connect air supply hose from each APU to Y fitting.

d. Place L/R generator switches in forward cockpit to EXT position.

e. Start both APUs.

WARNING

Prior to selecting starting air from APU, assure that air hose and electrical cables are properly connected. To avoid injuries, assure that all personnel are clear of starting area.

f. Place air valve switch on both APUs to OPEN position when air is needed for starting engine.

g. Move engine start switch in forward cockpit to START position to actuate impingement starting selector valves.

NOTE

In an emergency, air to the aircraft can be stopped by placing the MASTER switch on each APU in OFF position.

4–38. **APU Shutdown Procedure.**

NOTE

Prior to APU shutdown or removal of ac electrical power from the aircraft after engines are started, assure that L/R generator switches in forward cockpit are placed in GEN position.

WARNING

Do not exceed idle RPM prior to disconnecting air supply hose. If starter valve malfunctions in the open position, air pressure is forced back through the engine starting air receptacle which could result in injury to personnel.

a. Place L/R generator switches in forward cockpit to GEN position.

b. Shutdown both GTC–85 APUs.

WARNING

Assure that all compressed air is dissipated from air supply hose prior to disconnecting hose from engine starting air receptacle. When disconnected, air pressure could cause air supply hose to whip resulting in injury to personnel.

c. Disconnect air supply hoses and Y fitting from engine starting air receptacle.

d. Disconnect dc power adapter cable from remote control cable receptacle (if utilized).

e. Disconnect ac electrical power cable from aircraft.

f. Close access doors 120 and 26L.

4–39. *Quality Assurance Summary.*

a. *Assure that air supply hoses, Y fitting, and all electrical cables are removed from aircraft.*

b. *Assure that access doors 120 and 26L are closed and secured.*

4–40. FLYAWAY APU ENGINE STARTING METHOD.

4–41. The RCPP 105 auxiliary power unit is a pod configured unit which is capable of starting the engines while installed on the aircraft as a centerline store. After the necessary access doors and panel covers have been removed/opened from the starting pod and aircraft, the electrical power cables and air supply hose can be removed from the equipment stowage compartment in the pod and connected to the aircraft.

4–42. **FLYAWAY APU HOOKUP FOR STARTING.** See figure 4–4.

4–43. **Tools and Equipment.**

Power unit, auxiliary, (30, table 2–2)

4–44. **Manpower Requirements.**

a. Four men required.

4–45. **APU Hookup Procedure.**

a. Remove APU access and cover panels for compressed air outlet, turbine air intake and exhaust ducts, oil cooler air inlet duct, turbine access, and equipment stowage. Open control panel access door.

NOTE

To gain access to top turbine air intake duct panels, aircraft auxiliary air doors must be manually forced to the close position.

b. Connect air supply hose to compressed air outlet on APU and to engine starting air receptacle inside access door 120.

CAUTION

Tie air supply hose to APU to prevent hose from being burned by APU exhaust.

c. Tie air supply hose to APU.

d. Connect remote control cable to receptacle, in equipment stowage compartment on APU, and to remote control cable receptacle inside access door 120.

e. Connect ac electrical power cable to receptacle in equipment stowage compartment on APU and to external electrical power receptacle inside access door 26L.

4–46. APU Operation Controlled from Forward Cockpit.

a. Start APU.

b. Place APU transfer switch to PILOT position.

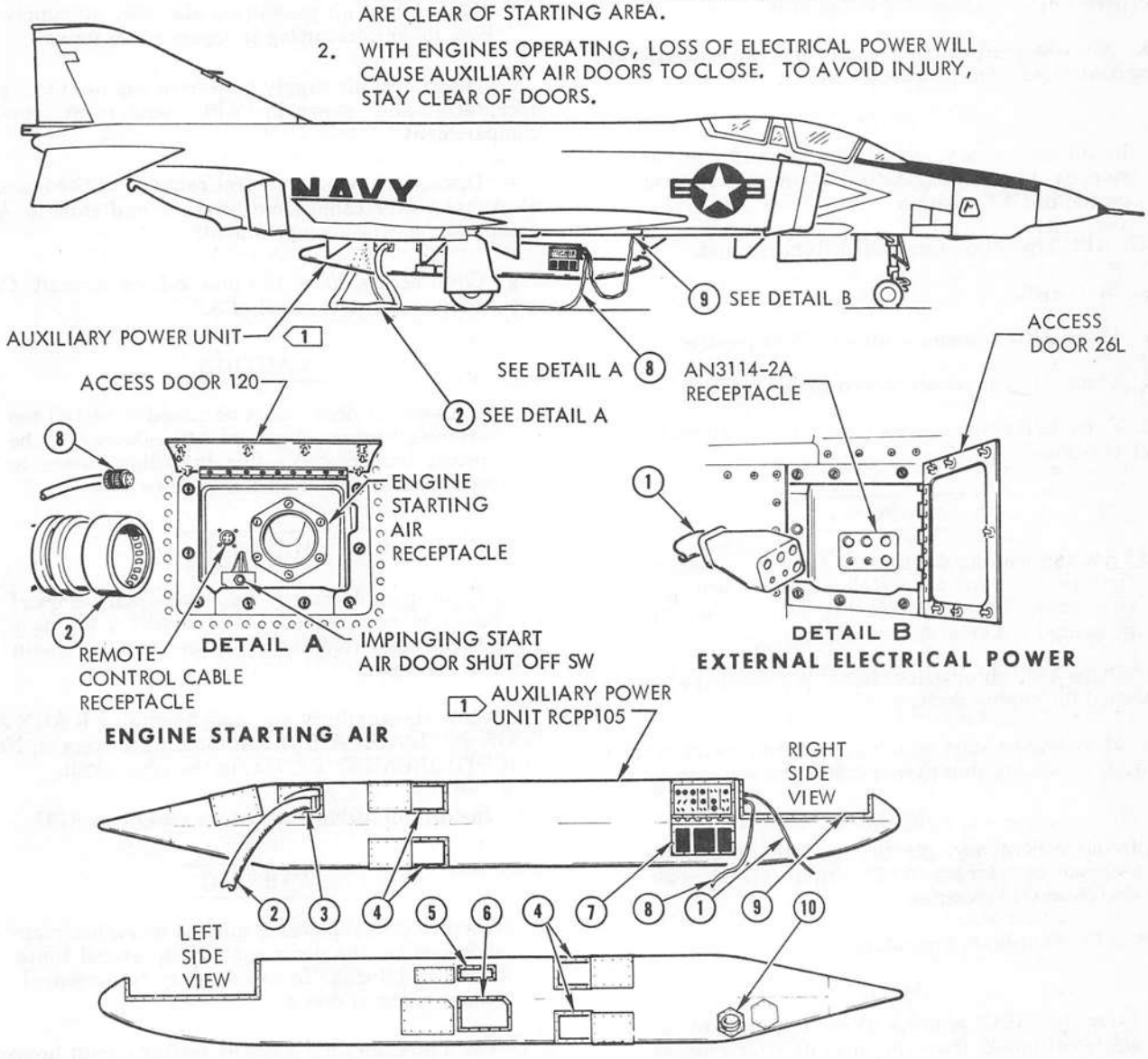
c. Place APU ac power switch to ON position.

d. Place APU output air switch to 5:1 position.

e. Place L/R generator switches in forward cockpit to EXT position.

WARNING

1. PRIOR TO SELECTING STARTING AIR FROM POWER UNIT, ASSURE THAT ALL HOSE AND ELECTRICAL CABLES ARE PROPERLY CONNECTED. TO AVOID INJURY, ASSURE THAT ALL PERSONNEL ARE CLEAR OF STARTING AREA.
2. WITH ENGINES OPERATING, LOSS OF ELECTRICAL POWER WILL CAUSE AUXILIARY AIR DOORS TO CLOSE. TO AVOID INJURY, STAY CLEAR OF DOORS.



NOTE

1 TO INSTALL AUXILIARY POWER UNIT IN CENTERLINE STORE CONFIGURATION, REFER TO NAVAIR 01-245 FDB-2-7.

1. AC ELECTRICAL POWER CABLE
2. AIR SUPPLY HOSE
3. COMPRESSED AIR OUTLET
4. TURBINE AIR INTAKE DUCT
5. OIL COOLIER AIR INLET DUCT
6. TURBINE ACCESS
7. CONTROL PANEL ACCESS DOOR
8. REMOTE CONTROL CABLE
9. EQUIPMENT STOWAGE COMPARTMENT
10. TURBINE EXHAUST DUCT

FDC-2-1.1-(30)

Figure 4–4. Flyaway Auxiliary Power Unit Hookup for Engine Start

WARNING

Prior to selecting starting air from APU, assure that air hose and electrical cables are properly connected. To avoid injuries, assure that all personnel are clear of starting area.

f. Air to aircraft starting system and valve on APU are now controlled from forward cockpit.

NOTE

In an emergency, air to the aircraft can be stopped by placing APU output air selector switch in OFF position.

4-47. APU Operation Controlled from Ground.

a. Start APU.

b. Place APU transfer switch to POD position.

c. Place APU ac power switch to ON position.

d. Place L/R generator switches in forward cockpit to EXT position.

WARNING

Prior to selecting starting air from APU, assure that air hose and electrical cables are properly connected. To avoid injuries, assure that all personnel are clear of the starting area.

e. Place APU air output switch to 5:1 position when air is needed for engine starting.

f. Move engine start switch in forward cockpit to start position to actuate impingement starting selector valves.

NOTE

In an emergency, air to the aircraft can be stopped by placing APU output air selector switch in OFF position.

4-48. APU Shutdown Procedure.

NOTE

Prior to APU shutdown or removal of ac electrical power from the aircraft after engines are started, assure that L/R generator switches in forward cockpit are placed in GEN position.

WARNING

Do not exceed idle RPM prior to disconnecting air supply hose. If starter valve malfunctions in open position, air pressure is forced back through engine starting air receptacle which could result in injury to personnel.

a. Place L/R generator switches to GEN position.

b. Place APU ac power switch to OFF position.

c. Place APU output air switch to OFF position.

d. Shutdown APU.

WARNING

Assure that all compressed air is dissipated from air supply hose prior to disconnecting hose from engine starting air receptacle. When disconnected, air pressure could cause air supply hose to whip resulting in injury to personnel.

e. Disconnect air supply hose from engine starting air receptacle and stow in APU equipment stowage compartment.

f. Disconnect remote control cable (if utilized) and ac electrical power cable from aircraft, and stow in APU equipment stowage compartment.

g. Close access doors 120 and 26L on aircraft. Close access door to control panel of APU.

CAUTION

Auxiliary air doors must be closed to install top turbine air intake covers on APU. Doors must be opened immediately after installing covers to prevent overheating of the engines.

WARNING

Auxiliary air doors will snap shut when electrical power is removed from the auxiliary air door system. To avoid injury to personnel, remain clear of doors.

h. Close the auxiliary air doors by pulling R AUX AIR DOOR and L AUX AIR DOOR circuit breakers on No. 1 CIRCUIT BREAKER PANEL in the aft cockpit.

i. Install top turbine air intake covers on APU.

WARNING

When electrical power is applied to auxiliary air door system, the doors may cycle several times before stabilizing. To avoid injury to personnel, remain clear of doors.

j. Open auxiliary air doors by setting circuit breakers pulled in step h.

k. Stow cables and hose. Install APU access and cover panels for compressed air outlet, turbine air intake and exhaust ducts, oil cooler air inlet duct, turbine access, and equipment. Close control panel access door.

4-49. *Quality Assurance Summary.*

a. *Assure that access doors 120 and 26L are closed and secured.*

b. *Assure that pod enclosed equipment is properly stowed, and all doors and panels replaced and secured on auxiliary power unit.*

c. *Assure that circuit breakers in aft cockpit which control auxiliary air doors have been set.*

GROUND OPERATION OF ENGINE

4-50. GENERAL.

4-51. All ground operations will be monitored by qualified personnel. A supervisor will be stationed outside of the aircraft, on the left side in full view of the operator actually controlling the engine. The supervisor will be in constant intercom contact with the operator at all times.

4-52. ENGINE PRERUN CHECKS.

4-53. Perform the following checks on controls and components prior to initiating engine start.

a. Check seats in both cockpits for safety pin installation.

b. Ensure all engine control circuit breakers are set. Refer to NAVAIR 01-245FDB-2-3.1.

c. Ensure all switches are in normal or OFF position.

d. Ensure landing gear handle is in GEAR DOWN position and flap control switch is in UP position.

CAUTION

Do not attempt to start engine with flaps in down position. With flaps down, air needed for starting will be exhausted through BLC resulting in a false start.

e. Ensure engine control box torque shaft bolt properly engages the undercut of engine crossover shaft.

f. Check engine throttle operation for freedom of movement, full travel and bolts installed and secured, then position to OFF.

g. Ensure cabin pressure regulator (aft cockpit) is lockwired in FLIGHT position.

h. Ensure bellmouth is fully closed prior to start.

NOTE

External electrical power must be connected, and both generator control switches positioned to EXT for the following checks.

i. Check engine indicators for zero or applicable positioning.

j. Check warning lights for operation.

k. Check engine fire and aft fuselage overheat lights for operation.

l. Check fuel quantity gage operation by placing fuel quantity indicator check switch in CHECK position.

m. Check hydraulic reservoirs for proper service, refer to paragraph 6-65.

4-54. PRESTART PROCEDURES.

4-55. After maintenance involving engine controls or plumbing, a Prestart (engine rotation without ignition) is recommended prior to the initial engine start. The following procedure is used for Prestart.

a. Connect starting air source and external electrical power. See figure 4-2 and refer to paragraph 4-13.

b. Generator control switches – position to EXT

c. Engine Master switch – position to ON

d. With throttle lever at OFF, energize selected starter circuit with Engine Start switch.

e. Check for oil and hydraulic pressure indications and increase in engine speed.

f. At 14 to 16 percent engine speed, move throttle forward into afterburner detent. When 500 pph fuel flow is indicated (or 30 seconds have elapsed), chop throttle to OFF. Ensure fuel flow drops to zero.

g. Continue motoring for 5 seconds to purge engine of fuel, then deenergize the starter circuit (Engine Start switch to neutral position).

h. During engine coastdown, check for proper drainage, leaks, and unusual noises.

NOTE

Allow 30 seconds for engine to drain after pre-start check. If coastdown was of short duration, ensure engine rotates freely before attempting start.

4-56. ENGINE START PROCEDURE.

4-57. See table 4-1. The PROCEDURE column contains starting sequence of operations, and the RESULTS column defines the limits and indications that should be obtained. For additional engine operation limits and requirements, refer to NAVAIR 01-245FDB-2-3.1. Engine controls and indicators are shown in figure 4-5.

NOTE

Smoke abatement system, AFTER AFC 373, operating instructions are contained in NAVAIR 01-245FDC-2-3.3.

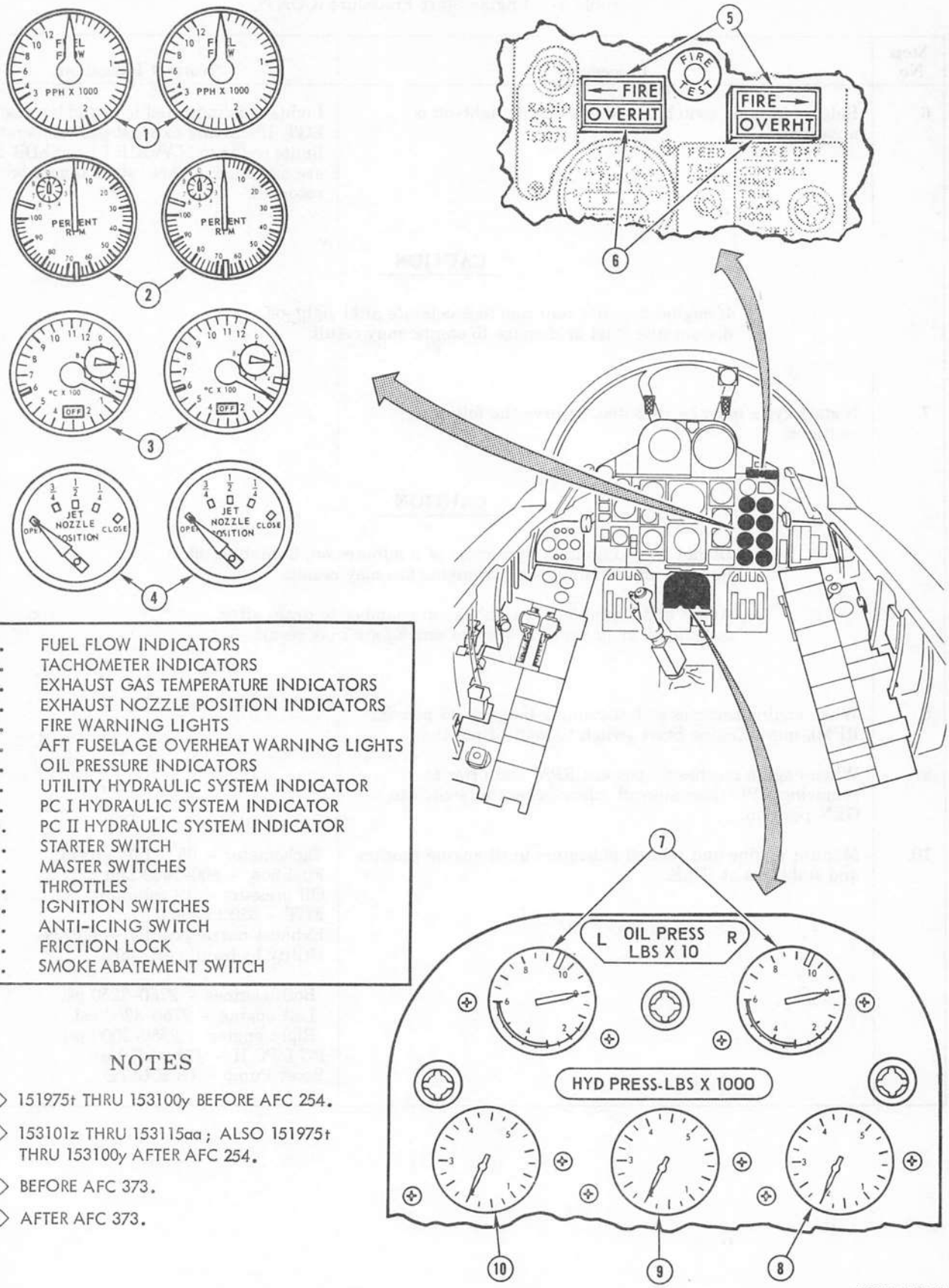
Table 4-1. Engine Start Procedure

Step No.	Procedure	Normal Indication
	WARNING Assure Engine Starting Unit (APU) is parked at least 10 feet from aircraft, and exhaust is directed away from all aircraft, armament, and fuel tanks.	
1.	Hookup and operate engine starting unit (APU). Refer to paragraph 4-40.	Monitor APU for 115Vac, 400 Hz current stabilization.
	CAUTION Do not attempt to start engine with the flaps in down position or air exhausted through BLC will cause a false start.	
2.	Position both generator control switches to EXT position.	
3.	Position Engine Master switch to ON.	
	CAUTION If there is no indication of oil pressure within 30 seconds after start cycle begins, shut down immediately and investigate or damage to engine will result.	
4.	Place Engine Start switch to L (left engine) or R (right engine) position to deliver impingement air to selected engine.	Tachometer will indicate engine rotation in percent of military RPM.
	CAUTION If engine does not light-off by time fuel flow reaches 500 to 800 pph or within 15 seconds after fuel flow or pressure is indicated, chop throttle to full OFF position and release ignition button to avoid potential fire hazard from unburned fuel.	
5.	At 10 percent RPM, depress ignition button and simultaneously advance throttle beyond, then back to IDLE detent. Hold ignition button until engine light-off occurs.	Engine should light off at approximately 10 to 16 percent rpm with a fuel flow of 500 to 800 pph.

CONTINUED

Table 4-1. Engine Start Procedure (CONT)

Step No.	Procedure	Normal Indication
6.	Release ignition switch as soon as engine light-off is apparent.	Light-off is indicated by a sudden rise in EGT. If starting exhaust gas temperatures limits (refer to NAVAIR 01-245FDB-2-3.1) are exceeded, a "hot" start should be recorded.
	CAUTION If engine does not continue to accelerate after light-off, discontinue start or damage to engine may result.	
7.	If start cycle must be repeated, observe the following cautions:	
	CAUTION Do not exceed ignition duty cycle of 2 minutes on, 3 minutes off, 2 minutes on, 23 minutes off or engine fire may result. Allow 1 to 3 minutes for combustion chamber to drain after attempted, or no ignition start or enging fire may result.	
8.	When engine becomes self-sustaining (approx. 45 percent RPM), move Engine Start switch to neutral position.	
9.	When engine reaches 65 percent RPM and prior to removing APU from aircraft, place generator switch to GEN position.	
10.	Monitor engine and related indicators until engine reaches and stabilizes at IDLE.	Tachometer - 65 $\pm$1.0 percent Fuel flow - 800-1400 pph Oil pressure - 12 psi (min) EGT - 320 to 400°C Exhaust nozzle position - OPEN Utility hydraulic pressure Both engines - 2750-3250 psi Left engine - 2750-3250 psi Right engine - 2550-3000 psi PC I/PC II - 2750-3250 psi Boost Pump - OPERATE



1. FUEL FLOW INDICATORS
2. TACHOMETER INDICATORS
3. EXHAUST GAS TEMPERATURE INDICATORS
4. EXHAUST NOZZLE POSITION INDICATORS
5. FIRE WARNING LIGHTS
6. AFT FUSELAGE OVERHEAT WARNING LIGHTS
7. OIL PRESSURE INDICATORS
8. UTILITY HYDRAULIC SYSTEM INDICATOR
9. PC I HYDRAULIC SYSTEM INDICATOR
10. PC II HYDRAULIC SYSTEM INDICATOR
11. STARTER SWITCH
12. MASTER SWITCHES
13. THROTTLES
14. IGNITION SWITCHES
15. ANTI-ICING SWITCH
16. FRICTION LOCK
[3] 17. SMOKE ABATEMENT SWITCH

NOTES

[1] 151975t THRU 153100y BEFORE AFC 254.

[2] 153101z THRU 153115aa ; ALSO 151975t THRU 153100y AFTER AFC 254.

[3] BEFORE AFC 373.

[4] AFTER AFC 373.

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Figure 4–5. Engine Controls and Indicators (Sheet 1 of 3)

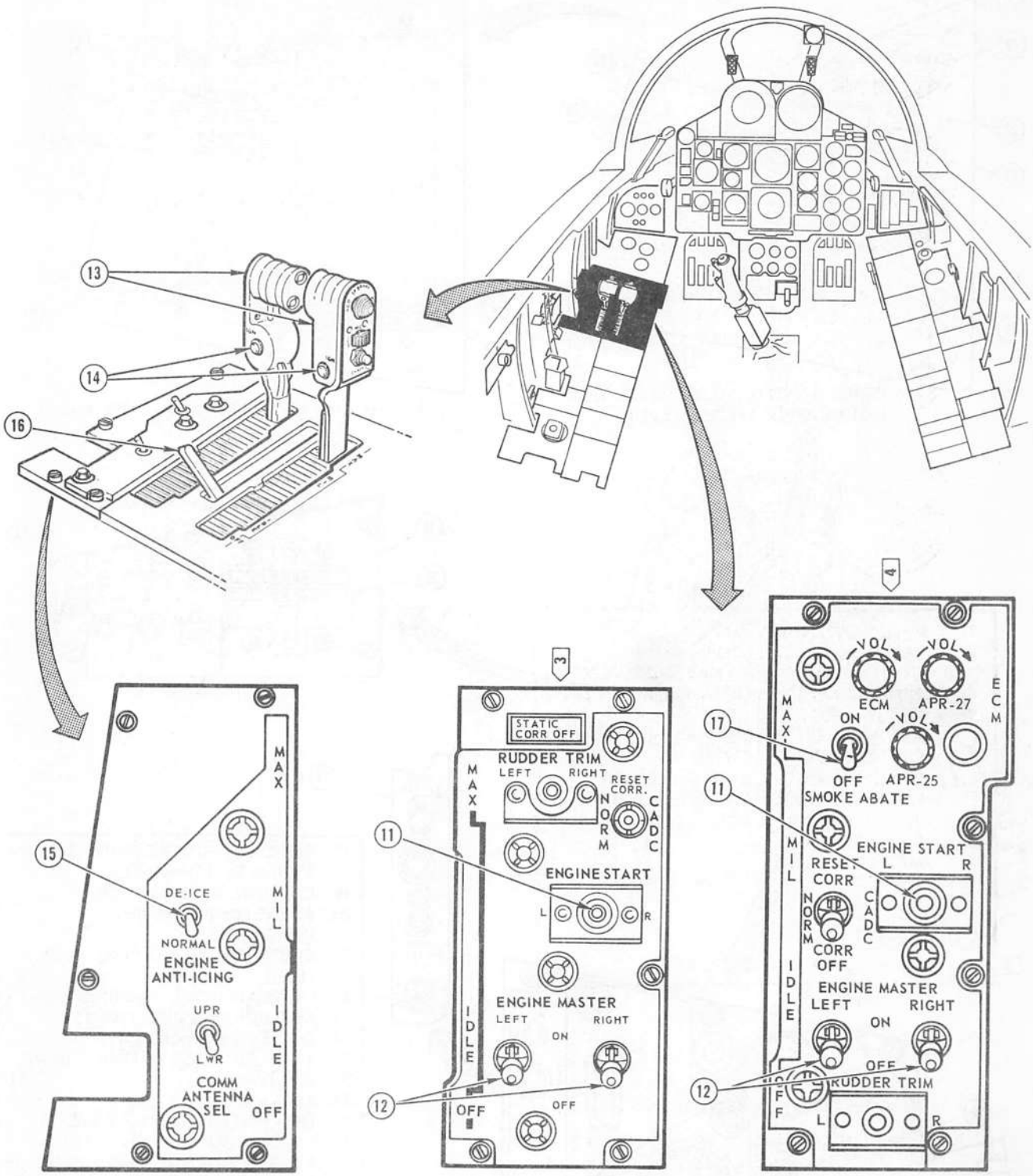

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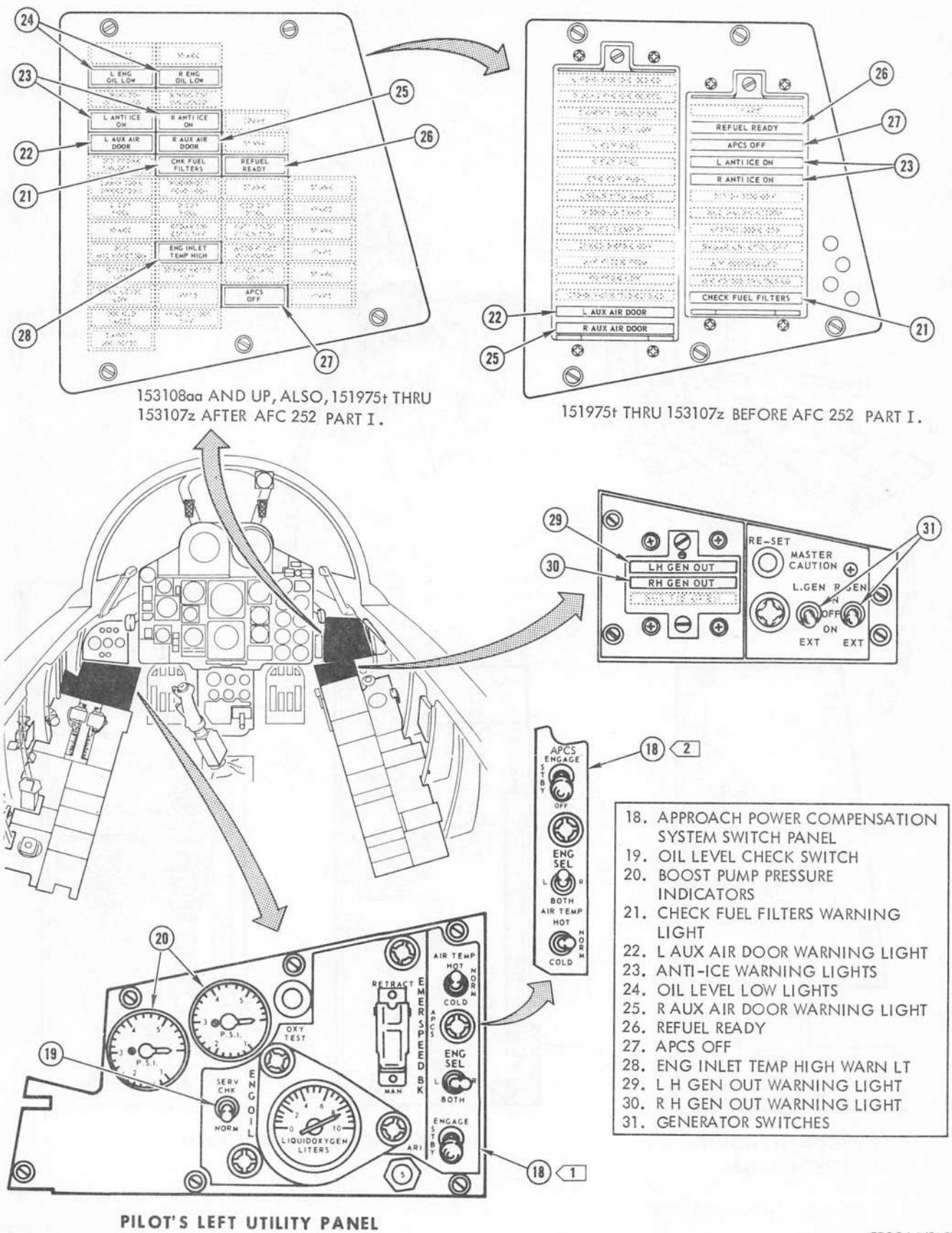
Figure 4–5. Engine Controls and Indicators (Sheet 2 of 3)



18. APPROACH POWER COMPENSATION SYSTEM SWITCH PANEL
19. OIL LEVEL CHECK SWITCH
20. BOOST PUMP PRESSURE INDICATORS
21. CHECK FUEL FILTERS WARNING LIGHT
22. L AUX AIR DOOR WARNING LIGHT
23. ANTI-ICE WARNING LIGHTS
24. OIL LEVEL LOW LIGHTS
25. R AUX AIR DOOR WARNING LIGHT
26. REFUEL READY
27. APCS OFF
28. ENG INLET TEMP HIGH WARN LT
29. L H GEN OUT WARNING LIGHT
30. R H GEN OUT WARNING LIGHT
31. GENERATOR SWITCHES

Figure 4-5. Engine Controls and Indicators (Sheet 3 of 3)

4-58. HOLD BACK FOR ENGINE RUN-UP.

4-59. The catapult holdback fitting is used to secure the aircraft during ground or deck operation of the engine. See figure 4-6 for installation of the catapult holdback fitting. Tie down the aircraft as required by station or carrier policy after holdback is tensioned and chocks are positioned. Refer to section V for aircraft tie down procedures.

4-60. AIRFRAME ENGINE RUN-UP PRECAUTIONS.

4-61. The following ground operation precautions should be observed during engine runs on an airframe installed engine.

a. Hold flight control stick in neutral position during engine ground run to prevent overheating of stabilator control surface by engine exhaust wake.

b. Doors 92L/R and 96L/R should be closed during high RPM runs to prevent engine compartment from overheating. A limit of 30 seconds should be observed for runs at Military rating and above when these are the ONLY doors closed.

c. Auxiliary air doors (81L/R) must be open during ground run-up. Install auxiliary air door safety struts on door actuators to hold doors open if electrical power is interrupted.

d. Do not attempt to start engines with flaps in down position. If flaps are down, air needed for engine starting will be exhausted through the BLC.

e. Do not time engine acceleration with flaps down. If flaps are down, air needed for engine acceleration will be exhausted through the BLC.

f. Actuation of one power control hydraulic system during single engine operation will cause the inactive system reservoir to show a fluid level reading beyond the indicated FULL mark. Do not drain off fluid. When the previously inactive system is operated, the reservoir will either indicate FULL (SYS. PRESS) or require servicing if hydraulic fluid has spilled from the overboard drain line.

g. Do not actuate ailerons or spoilers during single engine operation. During single engine operation, only one of the two hydraulic systems required for the dual system actuators is pressurized. Movement of the flight controls in this condition could result in cavitation of the actuators.

4-62. FUEL TRANSFER LIMITATIONS.

4-63. Engines will be operated by ground crews on internal fuel only, except as outlined in step a below. The fuel transfer switches will be positioned as follows:

INT WING TRANS - STOP TRANS
EXT TRANS - OFF

CAUTION

When transferring fuel to fuselage cells during ground operation of engines, do not exceed a fuel load of 6500 pounds in fuselage cells or fuel may be dumped from vent mast resulting in a fire. Relocation of aft fuel vent system drain line per AFC 547 will allow fuel to vent overboard and minimize aft fuselage fire hazard.

a. Fuel transfer into fuselage may be commenced when total fuselage fuel level is 2000 pounds or less as indicated on the sector portion of the fuel quantity gauge. Fuel transfer into fuselage cells must be stopped when the sector indicates a level of 6500 pounds.

b. Engine operation must be suspended any time fuel starts to spill from vent mast.

4-64. ENGINE RUN-UP PROCEDURE.

4-65. Engine run-up procedure and checks to be accomplished on aircraft systems during engine run-up are shown in table 4-2. It is intended that these procedures supplement but not replace the engine turn-up maintenance requirements for engine operation, refer to NAVAIR 01-245FDB-2-3.1.

NOTE

One engine at a time should be run up to determine that all components (pumps, generators, valves, etc.) of each engine are performing their required function.

Table 4-2. Engine Run-Up and Check Procedure

1.START ENGINE AND CHECK.		
(a) Starting EGT (refer to Engine Start Procedures)	L Eng.____°C	R Eng.____°C
(b) Hydraulic pressure indication		
(c) Idle RPM (64 percent to 66 percent rpm)	L Eng.____percent	R Eng.____percent

NOTE

Adjust idle speed as required.

(1) Oil Pressure (12 psi minimum)	L Eng.____psi.	R Eng.____psi.

CONTINUED

Table 4-2. Engine Run-Up and Check Procedure (CONT)

(2) EGT (320° to 400°C)	L Eng.___°C	R Eng.___°C
(3) Fuel Boost Pump Operation	L Eng.___psi.	R Eng.___psi.
(4) Fuel Flow (800 to 1400 pph)	L Eng.___pph.	R Eng.___pph.
(5) Exhaust Nozzle Position (3/4 to 7/8)	L Eng.___.	R Eng.___.
(6) Pneumatic Pressure (2650 psi minimum)	___psi	
(7) Utility Hydraulic Pressure		
Both Engines Operating (2750 to 3250 psi)	___psi	
Left Engine Operating (2750 to 3250 psi)	L Eng.___psi.	
Right Engine Operating (2550 to 3000 psi)		R Eng.___psi.
(d) Power Control I (2750 to 3250 psi)	L Eng.___psi.	
(e) Power Control II (2750 to 3250 psi)		R Eng.___psi.
2. CHECK AIRCRAFT AND ENGINE.		
(a) For external fluid leakage.	L Eng.___	R Eng.___
(b) Bleed air system for leakage at couplings.	L Eng.___	R Eng.___
3. CHECK EXHAUST NOZZLE.		
(a) Proper operation	L Eng.___.	R Eng.___.
4. CHECK ALL REQUIRED WARNING LIGHTS OUT.		
5. CHECK THAT GENERATOR SWITCH IS IN "GEN"		
6. CHECK FOR FUMES IN COCKPIT:		
(a) 70 per cent engine RPM and canopies closed.	L Eng.___.	R Eng.___.

NOTE

Ensure that all required access doors are closed at engine speeds above idle. Refer to paragraph 3-82.

7. ACCELERATE ENGINE TO 80-85 PERCENT RPM AND PLACE ANTI-ICING SWITCH TO ON.		
(a) EGT should rise approximately 10°C.	L Eng.___°C.	R Eng.___°C.
(b) Return switch to OFF.		
8. ADVANCE THE THROTTLE SLOWLY UNTIL EGT STABILIZES AT 625°C ±10°C.		

CONTINUED

Table 4-2. Engine Run-Up and Check Procedure (CONT)

NOTE

When compressor inlet temperature (CIT) is 4.4°C and below, the engine speed will be less than 100 per cent. (Refer to NAVAIR 01 -245FDB-2-3.1.)

(a) If the engine speed is less than 100 per cent, advance the throttle slowly until 100 (±0.5) per cent engine speed is first indicated. EGT should remain at 625°C (±10°C) with CIT above 4.4°C.

CAUTION

Avoid overspeed and overtemperature conditions or damage to engine will result.

9. ADVANCE THE THROTTLES TO MILITARY POSITION AND RECORD THE FOLLOWING:

NOTE

Engine speed should remain at military RPM (determined in step 8) and EGT at specified limit. If either engine speed or EGT is not within limits, retard throttle to IDLE. Make adjustment to engine speed and EGT as required.

After engines have stabilized at military for 5 minutes, record initial oil pressure of 100 percent RPM on pressure sensitive tape and attach to front cockpit instrument panel next to applicable oil pressure indicator. This must be done at every initial engine run, engine change or whenever any component in the oil system is changed.

(a) RPM	L Eng.____percent	R Eng.____percent
(b) Oil Pressure (45 to 75 psi)	L Eng.____psi	R Eng.____psi

NOTE

Temperatures given for EGT are computed for Standard Day engine operation. For engine operation in an environment other than Standard Day, refer to NAVAIR 01-245FDB-2-3.1, for engine operation limitations.

(c) EGT 625°C ±10°C	L Eng.____°C	R Eng.____°C
(d) Fuel Boost Pump Operation	L Eng.____psi	R Eng.____psi
(e) Fuel Flow (7000 to 10,000 pph)	L Eng.____pph	R Eng.____pph
(f) Exhaust Nozzle Position (1/4 to 3/8)	L Eng.____.	R Eng.____.

CONTINUED

Table 4-2. Engine Run-Up and Check Procedure (CONT)

(g) Utility Hydraulic Pressure

(1) Both Engines Operating (2750 to 3250 psi) ____psi

(2) Left Engine Operating (2750 to 3250 psi) L Eng.____psi.

(3) Right Engine Operating (2250 to 3000 psi) R Eng.____psi.

(h) Power Control I (2750 to 3250 psi) L Eng.____psi.

(i) Power Control II (2750 to 3250 psi) R Eng.____psi.

(j) Pneumatic Pressure psi

CAUTION

During engine run-up with flaps full up, if opposite engine has a rise in rpm above 67.5 percent, a drop in EGT of more than 20°C, or a drop of more than 50 pph in fuel flow, a defective bleed air check valve is incicated on that engine. This check, performed with the flaps in any position other than full up, is invalid.

10. CHECK MAIN GENERATOR SYSTEM:

NOTE

Check out generator system using generator test set hooked up in AFT cockpit.

(a) For proper voltage output from each generator. L Eng.____. R Eng.____.

(b) For proper frequency of each generator. L Eng.____. R Eng.____.

(c) For paralleling (if required). L Eng.____. R Eng.____.

(d) For proper real and reactive load division. L Eng.____. R Eng.____.

(e) For proper operation of GEN OUT and BUS TIE caution lights. L Eng.____. R Eng.____.

11. CHECK AFTERBURNER.

(a) EGT at light-off. L Eng.____°C. R Eng.____°C.

(b) Modulation L Eng.____. R Eng.____.

(c) Maximum stabilized EGT. L Eng.____°C. R Eng.____°C.

(d) Exhaust nozzle position. L Eng.____. R Eng.____.

12. CHECK THROTTLES.

(a) For proper operation of friction lever. L Eng.____. R Eng.____.

(b) For full travel and freedom of movement, also from aft cockpit on dual control installations. L Eng.____. R Eng.____.

CONTINUED

Table 4-2. Engine Run-Up and Check Procedure (CONT)

(c) Perform a manual throttle rigging check (engine operating) if engine or main fuel control was replaced.

13. CHECK THROTTLE CATAPULT RETAINING GRIPS:

(a) For proper alignment with throttle grip in MILITARY. L Eng.____. R Eng.____.

(b) For proper alignment with throttle grip in maximum AFTERBURNER. L Eng.____. R Eng.____.

14. ACCELERATION/DECELERATION CHECKS:

CAUTION

During throttle bursts and chops, monitor EGT and be alert for compressor stalls. If engine stalls, chop throttle to IDLE, immediately. If necessary, stopcock engine to break the stall.

NOTE

If minimum (IDLE above 30,000 feet) fuel flow drops below limits given in NAVAIR 01-245FDB-2-3.1, during snap decel check (with engine operating):

1. Observe position of cam notch thru rig pin port of main fuel control.

2. Perform snap decel to IDLE and observe position of cam notch thru rig pin port of main fuel control.

a. If cam notch position varies, perform a Control Box Wear Check and system Rigging Check. Refer to NAVAIR 01-245FDC-2-3.4.

b. If minimum fuel flow drops below value given and Control Box Wear Check is within limits, the fuel flow transmitter or indicator may be at fault. Check indicating system per NAVAIR 01-245FDC-2-4.1.

c. Do not reject a main fuel control for low fuel flow readings until above checks have been performed.

(a) Throttle – Chop to 90 percent rpm.

(b) Throttle – Burst to MIL.

(c) Throttle – Chop to 80 percent rpm.

(d) Throttle – Burst to MIL.

(e) Throttle – Chop to IDLE.

(f) Throttle – Burst to MIL.

(g) Throttle – Slow decel to 90 percent rpm.

CONTINUED

Table 4-2. Engine Run-Up and Check Procedure (CONT)

(h) Throttle - Slow decel to IDLE.

(i) Throttle - Burst to MIL.

(j) Throttle - Advance to Min AB.

(k) Check for smooth light-off.

(l) Check instrument values:

(1) AB light-off time. (3 sec. max.)	L Eng.___sec.	R Eng.___sec.
(2) RPM drop-off.	L Eng.___percent	R Eng.___percent
(3) RPM (military).	L Eng.___percent	R Eng.___percent
(4) EGT	L Eng.___°C.	R Eng.___°C.

(m) Throttle - MAX

(n) Check for smooth thrust increase.

(o) Throttle - Min AB.

(p) Check for smooth thrust decrease.

(q) Throttle - MIL

(r) Throttle - Burst to Min AB.

(s) Throttle - Burst to MAX.

(t) Throttle - IDLE

(u) Throttle - Burst to MAX.

(v) Throttle - IDLE

(w) Throttle (when rpm drops to 80 percent) - MIL

15. DECELERATE TO IDLE (FLAPS UP):

(a) Accelerate to military.	L Eng.___sec.	R Eng.___sec.

16. DECELERATE TO IDLE (FLAPS UP):

(a) Accelerate to afterburner.	L Eng.___sec.	R Eng.___sec.

NOTE

Do not time engine accelerations during throttle bursts with flaps down.

17. DECELERATE TO IDLE.

CAUTION

To prevent damage to wingfold bellows, do not lower flaps with engine(s) operating above idle and wings folded.

CONTINUED

Table 4-2. Engine Run-Up and Check Procedure (CONT)

CAUTION

To prevent heat damage to leading edge wing rib do not operate engine(s) at military rpm longer than one minute with flaps down.

FOD resulting from bleed air check valve failure can cause major damage to ducting downstream of the valve. Assistance of a depot level maintenance activity may be required to inspect and insure integrity of ducting.

18. CHECK BLC SYSTEM: (Operate Flaps)

(a) For airflow at nozzles.

(b) For evidence of malfunction of bleed air shutoff and check valves.

19. CHECK UTILITY SYSTEMS:

(a) Anti-G valve for airflow.

(b) Foot heat and defog control for discharge of warm air.

NOTE

Check rain removal only with flaps full down and engines operating below 88 per cent rpm.

(c) Rain removal system for air flow.

(d) Cabin and equipment refrigeration unit ram air exhaust ducts for airflow.

(e) Place cockpit heat switch in COLD, HOT and back to COLD. Note temperature change. Place switch in AUTO position.

20. CHECK CONTROL SYSTEMS:

(a) With wing area clear, spread wings.

(b) Operate all flight controls. Man outside observes operation.

(c) When clear signal is given by outside man operate following: flaps (note indicator), aileron position (note indicator), stabilator trim (note indicator), rudder position (note indicator), zero all trim controls; speed brake (note light).

21. CHECK FUEL SYSTEM:

CONTINUED

Table 4-2. Engine Run-Up and Check Procedure (CONT)

CAUTION

Observe ground operation fuel transfer limitations; refer to paragraph 4-62. Improper fuel transfer could create a fire hazard.

NOTE

Hydraulic driven fuel transfer pumps operate only during AB operation on 153095y AND UP, ALSO 151975t THRU 153094x AFTER AFC 273.

(a) Internal tank pressures.

(b) External tank pressures.

(c) External centerline fuel transfer to fuselage.

(d) External wing fuel transfer to fuselage.

(e) Internal wing fuel transfer to fuselage.

22. SHUT DOWN ENGINES. Refer to paragraph 4-68.

4-66. POST-INSTALLATION INITIAL ENGINE RUN-UP CHECK.

4-67. Perform all checks shown in table 4-2 on initial run up after installation of engine in airframe.

4-68. ENGINE SHUTDOWN PROCEDURE.

a. Operate engine at IDLE for 3 to 5 minutes (taxi time may be included).

b. Position throttle to OFF.

c. During coastdown, check for leaks, unusual noises, and proper drainage.

4-69. POST-ENGINE SHUTDOWN PROCEDURE.

NOTE

Oil level check is to be made with aircraft parked on level ground and engines not operating.

WARNING

Stay clear of engine exhaust nozzle for 15 minutes after shutdown and at all times when vapors are seen coming out of the nozzle. These vapors may be highly explosive.

a. Check engine oil level immediately after shutdown, and reservice as required within 30 minutes. Refer to paragraph 6-47.

b. Assure that fuel control is in OFF position.

c. Inspect exhaust nozzle segments for cracks, distortion, and missing parts.

d. Inspect AB section for soot swirles, hot spots, and discoloration which would indicate faulty fuel nozzles.

e. Inspect the air intake ducts and compressor section for damage, defects, and foreign objects.

4-70. RECORDING ENGINE OPERATION DATA.

a. Record engine operation data in applicable log or form as follows:

(1) Beginning of run and end of run time (hours and tenths).

(2) Total run time.

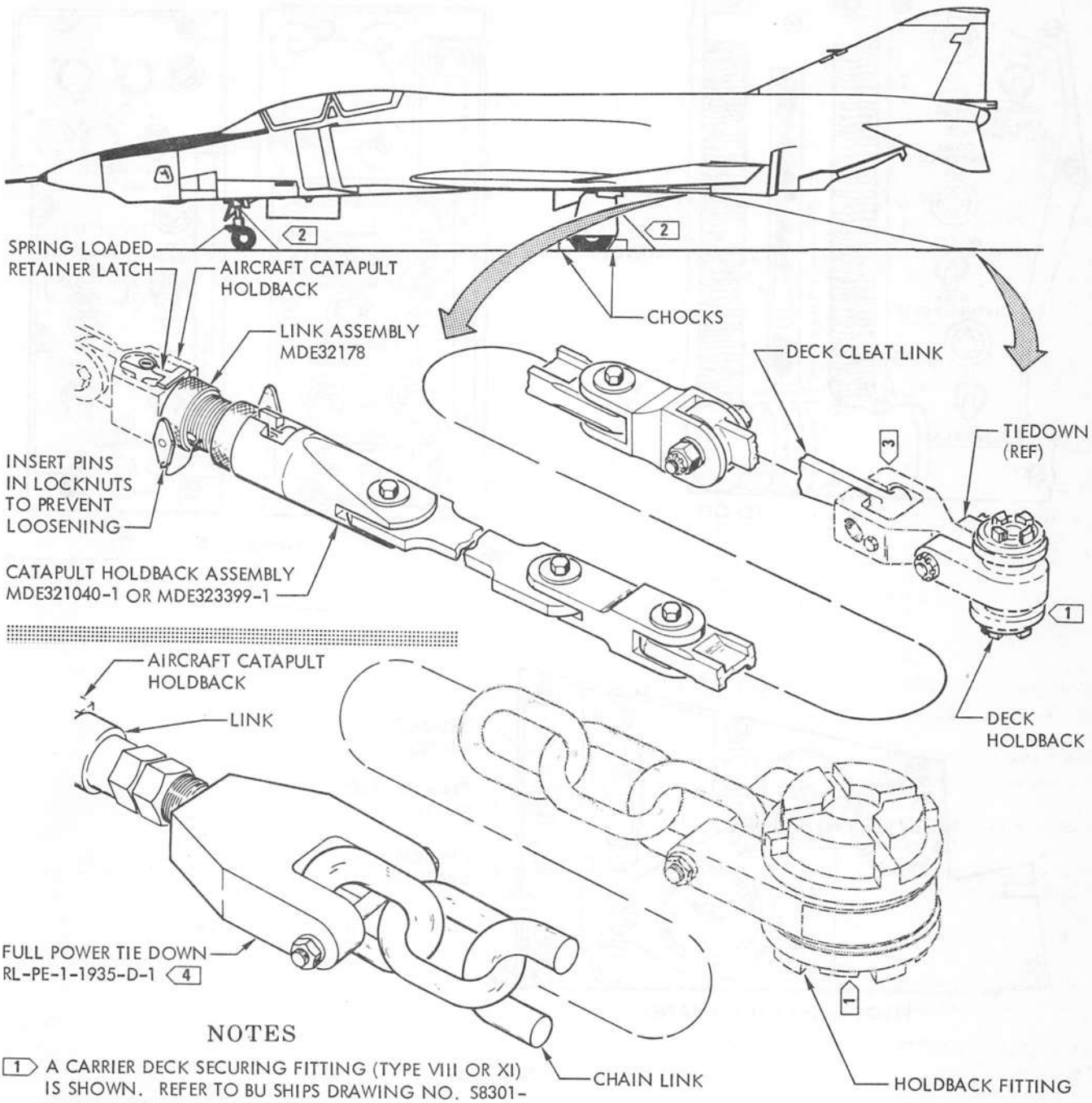
(3) Total AB time.

(4) Number of starts.

(5) Specify fuel used.

4-71. EMERGENCY ENGINE SHUTDOWN.

4-72. In an emergency or when required by operating conditions, the throttle may be moved immediately to OFF position from any power setting. On aircraft equipped with Automatic Power Compensation System (APCS), the APCS must be disengaged prior to throttle operation; see figure 4-7. When operation of cockpit controls will not shutdown the engines, shutdown can be accomplished by actuation of the fuel control clevis arms by ground personnel; see figure 4-7.



NOTES

1. A CARRIER DECK SECURING FITTING (TYPE VIII OR XI) IS SHOWN. REFER TO BU SHIPS DRAWING NO. S8301-1127265 FOR DETAILS OF THIS TYPE OF FITTING.
2. TIE DOWN THE AIRCRAFT AS REQUIRED BY STATION OR CARRIER POLICY AFTER THE HOLDBACK IS TENSIONED AND THE CHOCKS POSITIONED. REFER TO AIRCRAFT TIEDOWN PROCEDURES IN SECTION V.
3. FABRICATE LOCALLY AND PROOF TEST TO 70,000 POUNDS.
4. TO BE MANUFACTURED BY ACTIVITIES AUTHORIZED FOR DEPOT LEVEL MAINTENANCE ONLY. CHAIN NOT INCLUDED.

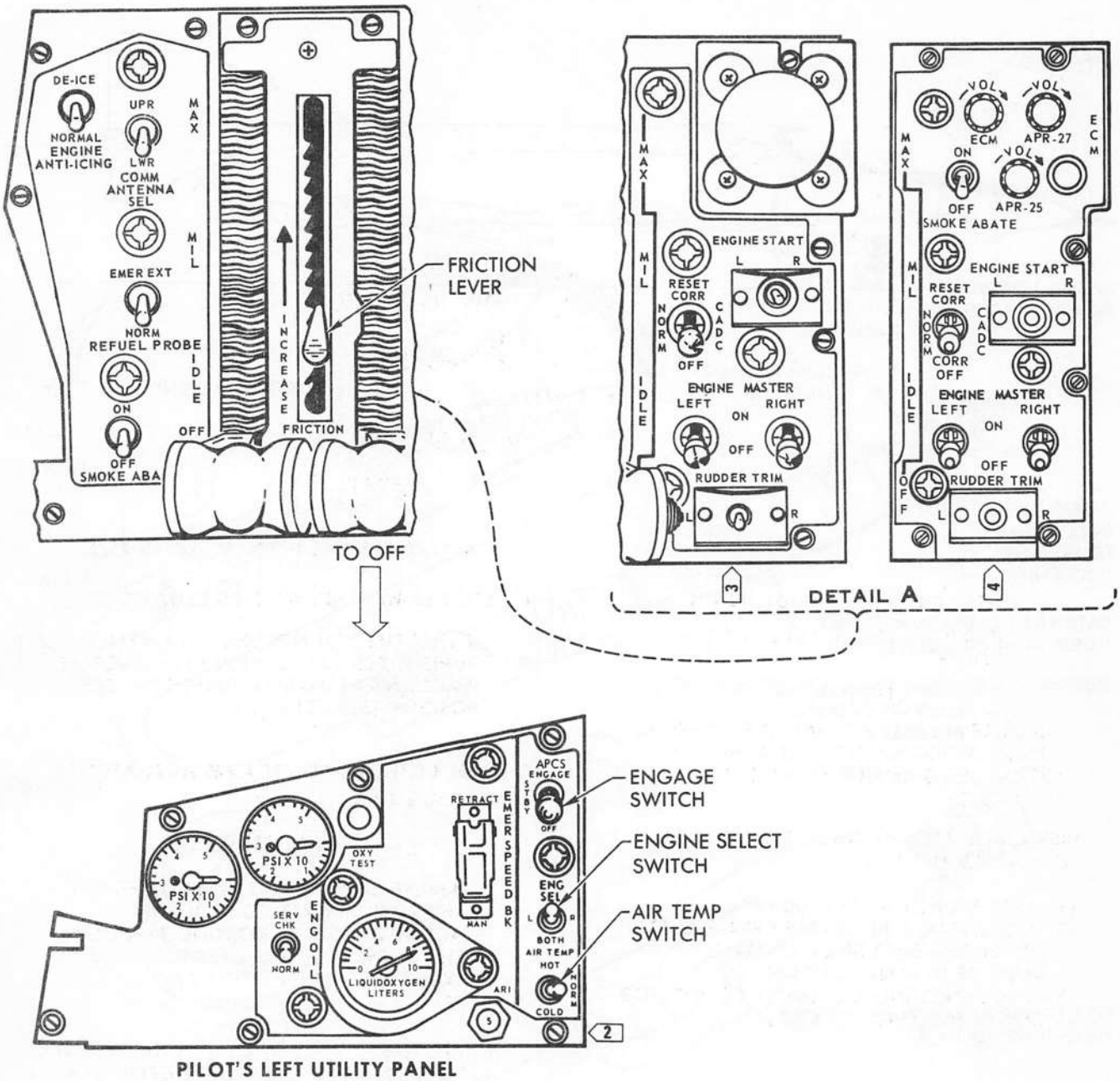
FULL POWER TIEDOWN ASSEMBLY

CAUTION

ONLY ONE ENGINE AT A TIME WILL BE RUN TO FULL POWER WHEN USING EITHER OF THESE HOLDBACK ARRANGEMENTS.

FDC-2-1.1-(32)

Figure 4–6. Engine Run–Up Holdback



PILOT'S LEFT UTILITY PANEL

NOTES

1. IF THROTTLE SYSTEM FRICTION CANNOT BE OVERCOME OR IF THE MAN IN FORWARD COCKPIT IS NOT CAPABLE OF MOVING THROTTLE LEVER AFT, REMOVE FORWARD CLEVIS BOLT AND MOVE CLEVIS ARM AFT TO MAIN FUEL CONTROL OFF POSITION.

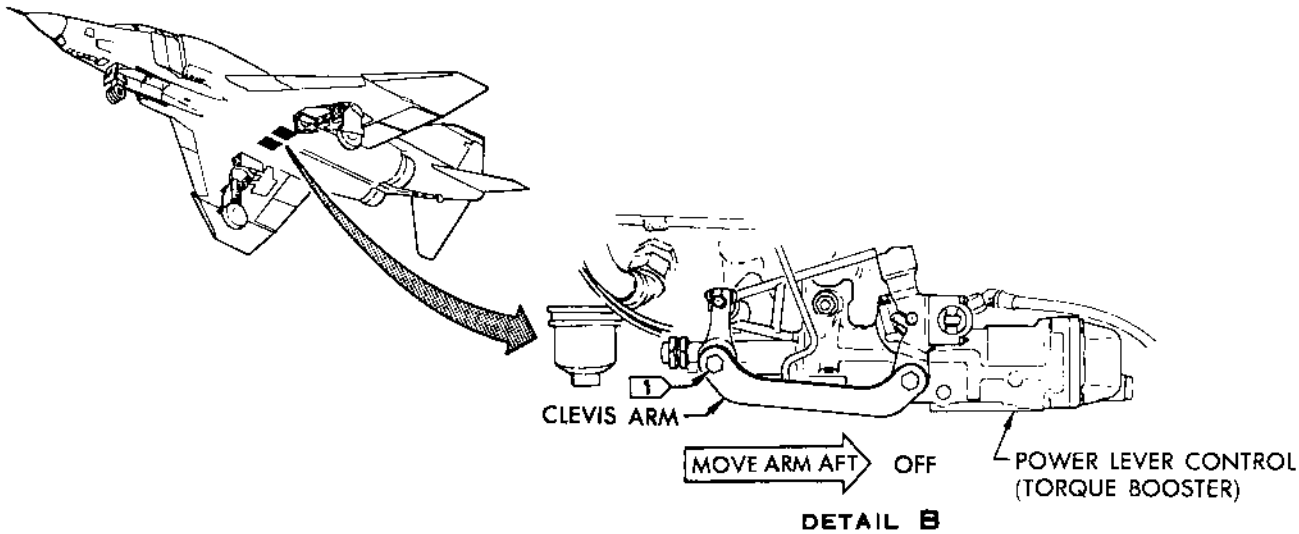
2. 153101z AND UP; ALSO 151975t THRU 153100y AFTER AFC 254.

3. 151975t AND UP BEFORE AFC 373.

4. 151975t AND UP AFTER AFC 373.

FDC-2-1.1-(33-1)

Figure 4-7. Emergency Engine Shutdown (Sheet 1 of 2)



DETAIL B

EMERGENCY APCS SHUTDOWN

(THROTTLE UNDER AUTOMATIC CONTROL)

CAUTION

THROTTLE MUST BE ADVANCED BEYOND RANGE OF TORQUE BOOSTER MINIMUM SPEED (IDLE) STOP BEFORE APCS WILL DISENGAGE.

DISENGAGE APCS BY ONE OF THE FOLLOWING METHODS:

(1) APCS SWITCH TO STANDBY POSITION.
(2) MOMENTARILY PLACING SP BRAKE SWITCH TO IN (THE EMER SP BRAKE SWITCH MUST BE IN MAN POSITION).
(3) DISCONNECTING ELECTRICAL CONNECTOR TO POWER LEVER CONTROL

THIS WILL ALLOW ENGINE TO BE SHUTDOWN BY PREFERRED OR ALTERNATE EMERGENCY PROCEDURE.

PREFERRED EMERGENCY SHUTDOWN

IN AN EMERGENCY SITUATION THROTTLES MAY BE MOVED TO OFF FROM ANY POWER SETTING.

NOTE

PLACE FRICTION LEVER IN AFT POSITION TO RELEASE THROTTLE FRICTION.

ALTERNATE EMERGENCY SHUTDOWN

A ENGINE MASTER SWITCH ACTUATION.

IF THROTTLE WILL NOT SHUTDOWN ENGINE AND THERE IS ELECTRICAL POWER ON AIRCRAFT, PLACE ENGINE MASTER SWITCH IN OFF POSITION (SEE DETAIL A).

B FUEL CONTROL CLEVIS ARM ACTUATION (GROUND AID).

WARNING

ASSURE SAFETY STRUT IS INSTALLED ON THE AUXILIARY AIR DOOR (81 L/R) ACTUATOR BEFORE WORKING THROUGH THE DOOR. THE AUXILIARY AIR DOORS WILL CLOSE WHEN ELECTRICAL POWER IS INTERRUPTED

IF THROTTLE OR ENGINE MASTER SWITCH WILL NOT SHUTDOWN ENGINE, HAVE GROUND MAN GAIN ACCESS TO MAIN FUEL CONTROL CLEVIS ARM THROUGH AUXILIARY AIR DOOR (81 L/R) AND MOVE CLEVIS ARM AFT (SEE DETAIL B).

FDC-2-1.1-(33-2)

Figure 4–7. Emergency Engine Shutdown (Sheet 2 of 2)

SECTION V

GROUND HANDLING

GROUND HANDLING PRECAUTIONS

5-1. ELECTRICAL GROUNDING.

5-2. To guard against the danger of static electricity, the aircraft must be effectively grounded during all servicing and maintenance operations, and when hangared, tied down or parked. Aircraft grounding is provided by the GROUND receptacle, located on the right side of the fuselage, forward of the wing leading edge junction. The receptacle requires the use of an MS25384 plug on the grounding cable.

5-3. ACCESS DOOR REQUIREMENTS FOR GROUND HANDLING.

5-4. Ground handling of the aircraft with certain stressed access doors removed can result in damage to the structural and dimensional integrity of the airframe. Any aircraft undergoing maintenance which requires the removal of stressed access doors, must be carefully checked for the installation of specified door and fasteners prior to any good handling operation. Refer to paragraph 3-82.

5-5. AIRCRAFT WALKWAYS.

5-6. Permissible aircraft walkways are shown in figure 5-1.

COCKPIT ENTRY AND EXIT

5-7. GENERAL.

5-8. Normal entry into the cockpit is by a retractable boarding ladder and kick-in steps on the left side of the aircraft just forward of the left engine intake duct. A walkway on top of the left engine intake duct allows access to the aft cockpit. The canopies are pneumatically actuated and controlled by push buttons beneath the canopy sills on the left side of the fuselage.

5-9. Canopies can be manually unlocked and opened by means of retractable handles located below the canopy sills. A latch in the center of the handle must be depressed to extend the handle which is then rotated to unlock canopy. The canopy must be raised manually and the safety strut installed to retain canopy in the open position.

5-10. COCKPIT ENTRY. See figure 5-2.

5-11. TOOLS AND EQUIPMENT.

Strut, forward canopy safety, (1, table 2-1)
Strut, aft canopy safety, (2 table 2-1)
Ladder, maintenance, (47, table 2-1)
Pin assembly, ejection seat safety, (5 or 6, table 2-1)

5-12. PROCEDURE.

NOTE

The boarding ladder is mechanically linked to access door 507L, Radar Mapping Radome to prevent extension when the door is open.

a. Release boarding ladder by pulling out on lever recessed in the flush mounted lower step of ladder (detail A).

NOTE

If canopies fail to operate, service pneumatic system. Refer to paragraph 6-87, or manually unlock and open canopies. Refer to paragraph 8-6.

b. Open canopy by depressing OPEN button.

WARNING

Canopy safety strut must be installed after canopy is open to prevent inadvertent canopy closing.

c. After canopy is open, install safety strut around canopy actuator. Refer to paragraph 5-147.

d. After the forward canopy is open, the maintenance ladder may be used in place of the aircraft boarding ladder (detail B). Install ladder with hooks over left forward cockpit sill and the support against fuselage.

WARNING

Before entering cockpit, ejection seat safety devices must be installed to prevent inadvertent ejection seat operation.

e. Install ejection seat safety devices. Refer to paragraph 5-147.

5-13. COCKPIT EXIT.

WARNING

Ejection seat safety devices must remain installed to prevent inadvertent ejection seat operation.

a. Remove maintenance ladder from left forward cockpit sill if applicable.

b. Open access door 28R and check pneumatic system manifold pressure gage for an indication of 2750 psi minimum (detail C). If pressure is below 2750 psi, service the pneumatic system. Refer to paragraph 6-47.

WARNING

Push forward canopy "open" button before removing safety strut to insure that there is no "close" air pressure on actuating cylinder. Failure to comply could result in injury to personnel.

c. Depress OPEN button.

d. Remove canopy safety strut.

WARNING

To prevent personal injury, ensure the cockpit sills are clear of all objects before depressing CLOSE button.

NOTES

1 BEFORE AFC 230 PART III.

2 AFTER AFC 230 PART III.

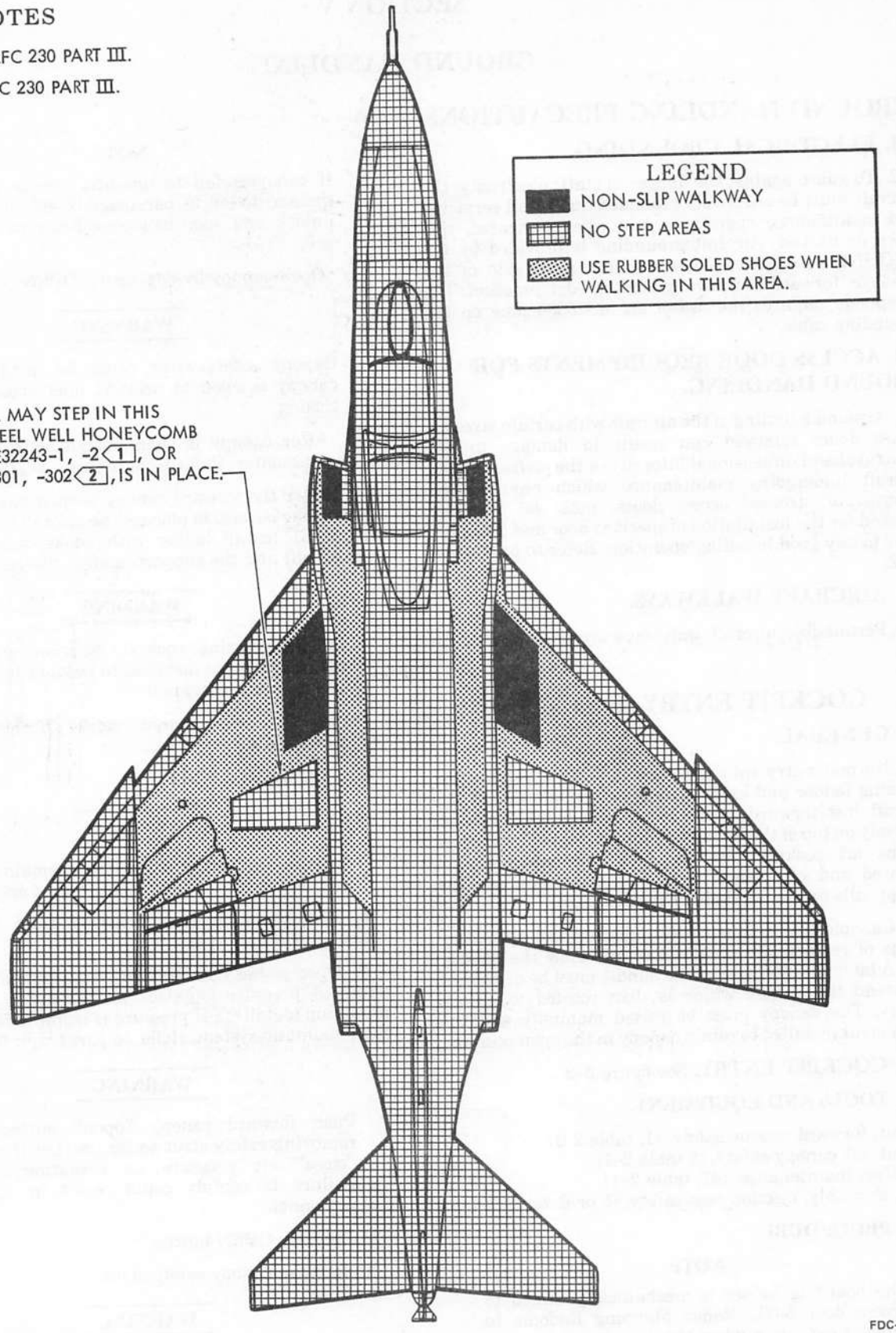


Figure 5-1. Aircraft Walkways

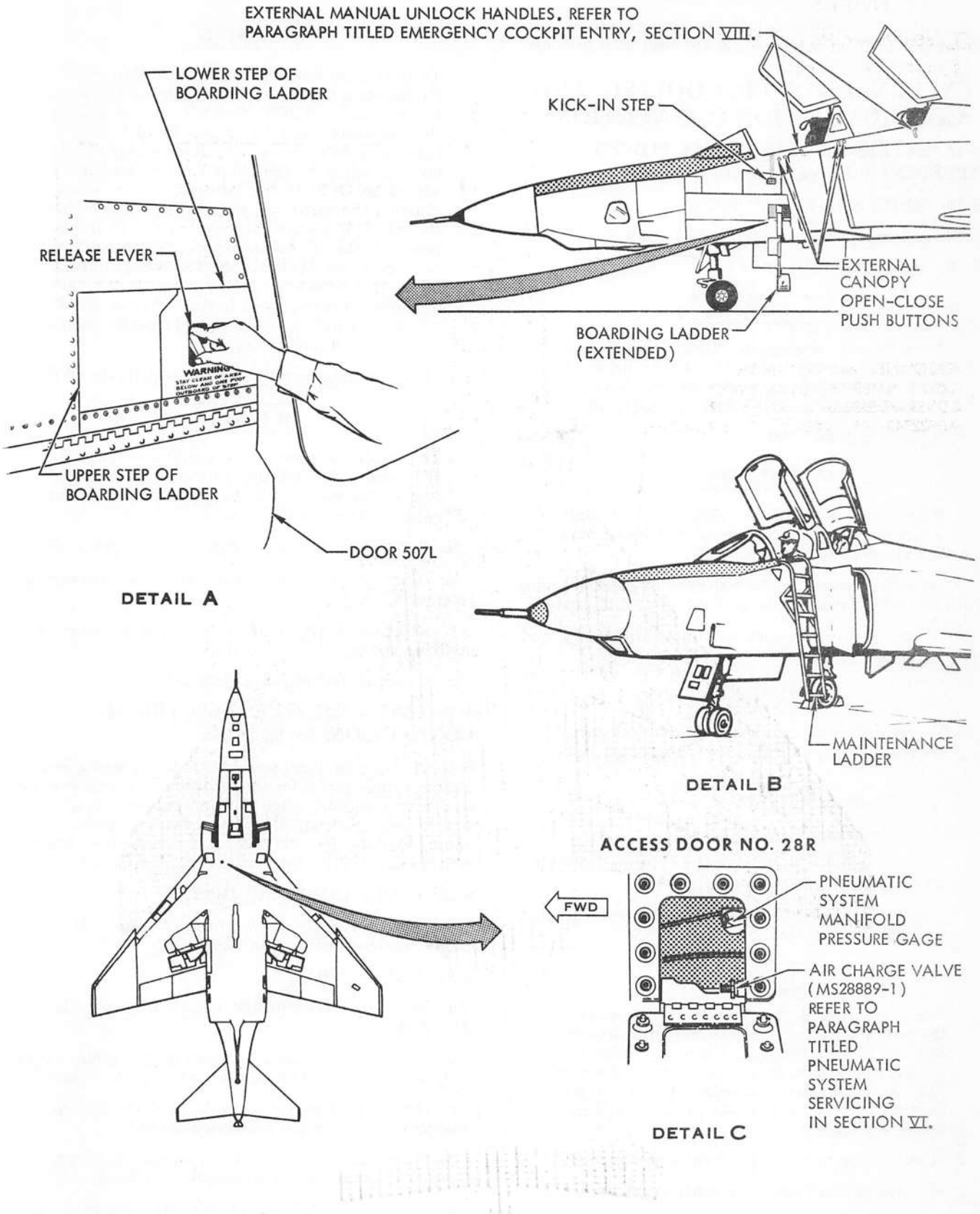


Figure 5–2. Cockpit Entry and Exit

e. Close canopy by depressing CLOSE button.

f. Retract boarding ladder by lifting bottom step towards aircraft until both steps are flush with fuselage.

EXTERNAL POWER, COOLING, AND COMMUNICATION CONNECTIONS

5-14. **EXTERNAL ELECTRICAL POWER APPLICATION.** See figure 5-3.

5-15. **TOOLS AND EQUIPMENT.**

Power source, external electrical, (1, table 2-2)

5-16. **APPLYING POWER.**

WARNING

Aircraft with armament aboard should have applicable safety pins installed prior to connection of electrical power. Refer to NAVAIR 01-245FDB-2-7 and NAVAIR 01-245FD-75.

a. Open access door 26L.

CAUTION

When using AN3430-1A, -2A, -5 or -7 cable, assure pin F in the cable is insulated from ground and all other circuits.

b. With power unit output switches off, align cable plug with aircraft receptacle and push up until fully seated.

c. Start power unit and wait until frequency and output voltage are stable.

CAUTION

To prevent damage to the aircraft electrical system, the output of the power unit must be as follows:

(a) Ac Voltage: 115 $\pm$2.5Vac.

(b) Ac Frequency: 400 $\pm$4 Hz.

d. Assure switches and controls in Ground Checklist are positioned as specified. See figure 5-3.

e. Assure circuit breakers in Circuit Breaker Checklist are positioned as required. See figure 5-3.

WARNING

When applying electric and hydraulic power to the aircraft, electrical power must be connected first and disconnected last. Failure to follow this sequence will cause engine auxiliary air doors to close, speed brakes (if extended) to retract, and hydraulic driven fuel transfer pumps in fuel cells 4 and 6 to operate.

f. Position the power unit output switches to ON.

g. Position aircraft generator control switches L & R to EXT.

h. Determine if instrument bus power and/or recon. bus power are required. If required, see figure 5-3 to determine proper position of switches.

5-17. **REMOVING POWER.**

WARNING

To prevent personal injury, if the INST BUS GRD PWR switch has been engaged, the switch must be returned to NORM (normal) prior to placing the generator control switches to OFF. Due to holding circuits, the switch will not automatically drop out when the generator control switches are placed to OFF. If the external power source remains energized, the instrument bus remains energized. When applying electric and hydraulic power to the aircraft, electrical power must be connected first and disconnected last. Failure to follow this sequence will cause engine auxiliary air doors to close, speed brakes (if extended) to retract, and hydraulic driven fuel transfer pumps in fuel cells 4 and 6 to operate.

a. Position the generator control switches to OFF.

WARNING

To provide the crewmembers with an emergency IFF signal after ejection, if the emergency IFF switch was secured prior to application of ground power, release switch.

b. Turn applicable power unit output switches off.

c. Disconnect cable and plug assembly from aircraft receptacle.

d. Reset all circuit breakers that were pulled prior to applying power.

e. Close and secure access door 26L.

5-18. **LINE ANALYZERS ELECTRICAL CONNECTION.** See figure 5-4.

5-19. A multiple junction box (interconnecting box) is used to supply power for the operation of one to five line analyzers and/or digital multimeter, singly or simultaneously, from a single mobile electrical power plant. Outlets on the interconnecting box provide 200/115Vac, 400 Hz, 3Ø power and 28Vdc power.

5-20. **TOOLS AND EQUIPMENT.**

Power source, external electrical, (1, table 2-2)
Box, interconnecting, (46, table 2-1)

5-21. **CONNECTION.**

a. Make sure that mobile electrical power plant is turned off.

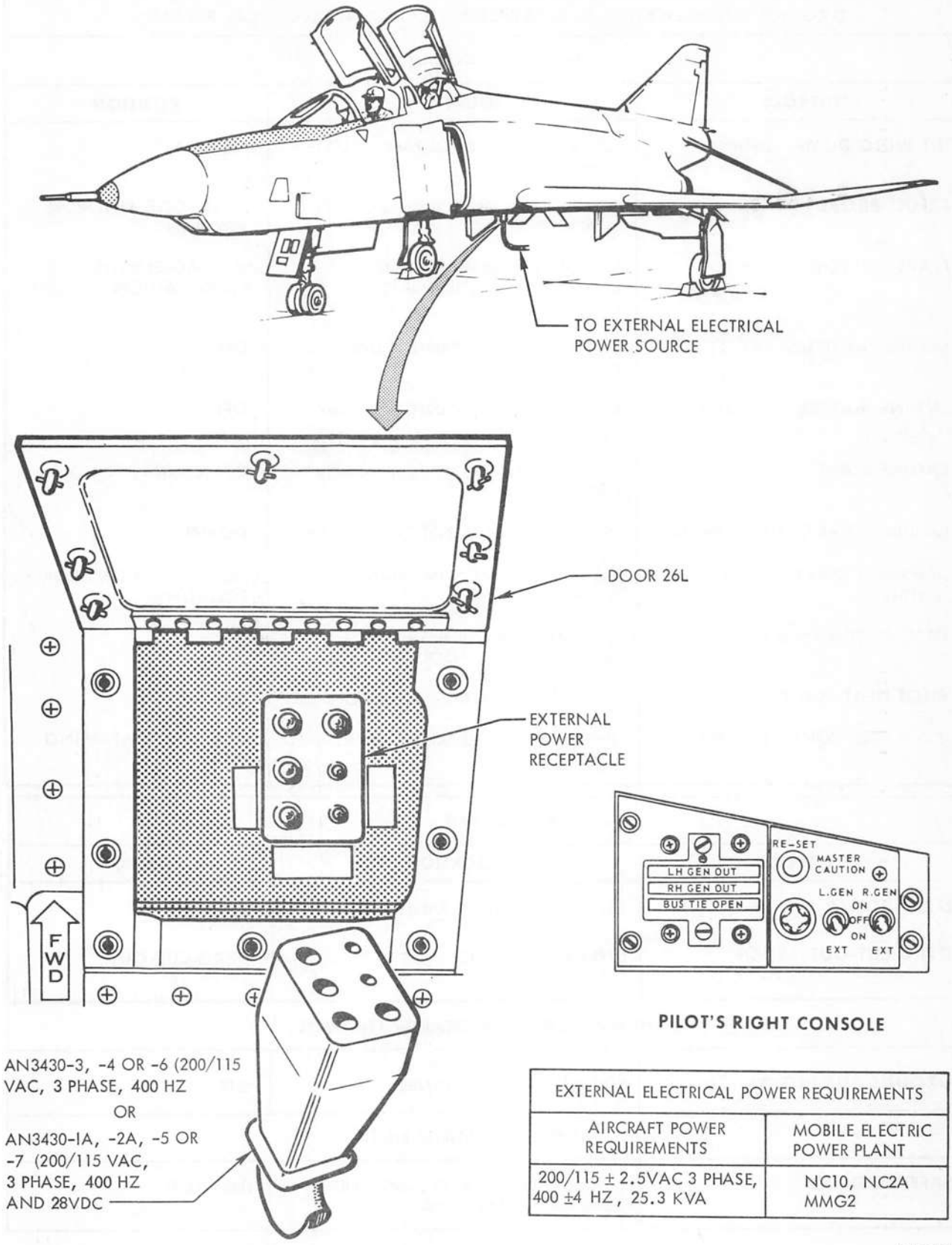
b. Connect a safety grounding cable from interconnecting box to electrical power plant chassis.

c. Determine that both the AC and DC switches on interconnecting box are positioned to OFF.

d. Connect P1 (T-connector) of interconnecting box to external electrical power receptacle on aircraft.

e. Connect 200/115Vac, 400 Hz, 3Ø output cable from electrical power plant to P1 (T-connector) of interconnecting box.

f. Connect 28Vdc output cable from electrical power



EXTERNAL ELECTRICAL POWER REQUIREMENTS	
AIRCRAFT POWER REQUIREMENTS	MOBILE ELECTRIC POWER PLANT
200/115 ± 2.5VAC 3 PHASE, 400 ±4 HZ, 25.3 KVA	NC10, NC2A MMG2

FDC-2-1,1-(36-1)

Figure 5–3. External Electric Power Application (Sheet 1 of 4)

GROUND CHECK LIST (PRIOR TO APPLYING EXTERNAL ELECTRICAL POWER)		
FORWARD COCKPIT		
CONTROLS	**LOCATION**	**POSITION**
INT WING DUMP SWITCH	FUEL SYSTEM CONTROL PANEL - LEFT CONSOLE	**NORMAL**
1 **REFUEL PROBE** SWITCH	FUEL SYSTEM CONTROL PANEL - LEFT CONSOLE	MUST AGREE WITH PROBE POSITION
FLAPS SWITCH	IMMEDIATELY ABOVE ENGINE CONTROL PANEL (OUTBOARD) LEFT CONSOLE	MUST AGREE WITH FLAPS POSITION
ENGINE THROTTLES	ENGINE CONTROL PANEL (OUTBOARD) LEFT CONSOLE	**OFF**
ENGINE MASTER SWITCHES (L & R)	ENGINE CONTROL PANEL (INBOARD) LEFT CONSOLE	**OFF**
ENGINE START SWITCH	ENGINE CONTROL PANEL (INBOARD) LEFT CONSOLE	**OFF** (CENTER POSITION)
LANDING GEAR CONTROL HANDLE	LEFT SIDE OF MAIN INSTRUMENT PANEL	**DOWN**
ARRESTING GEAR CONTROL HANDLE	RIGHT SIDE OF MAIN INSTRUMENT PANEL	MUST AGREE WITH HOOK POSITION
GEN SWITCHES (L & R)	GENERATOR CONTROL SWITCH PANEL - RIGHT CONSOLE	**OFF**
PITOT HEAT SWITCH	RIGHT UTILITY PANEL - RIGHT CONSOLE	**OFF**
WING FOLD CONTROL SWITCH	UNDER WING FOLD PANEL - RIGHT CONSOLE	MUST AGREE WITH WING POSITION

AFT COCKPIT		
CONTROLS	**LOCATION**	**POSITION**
RADAR **POWER** SWITCH	RADAR SET CONTROL PANEL	**OFF**
GYRO CUT-OUT SWITCH	UPPER RIGHT CORNER - AFT	**GYRO CUT-OUT**
RIGHT MAIN LANDING GEAR WHEEL WELL		
GROUND FUELING SWITCH	WHEEL WELL SWITCH PANEL	**OFF**
ARMAMENT STATIONS		
SAFETY DEVICES	MISSILE LAUNCHERS, PYLONS, AND BOMB RACK SAFETY PINS	INSTALLED

FDC-2-1.1-(36-2)

Figure 5-3. External Electric Power Application (Sheet 2 of 4)

NOTES

1. REFUEL PROBE SHOULD BE RETRACTED OR SAFETY STRUT INSTALLED AND THE REFUEL PROBE SWITCH PLACED IN THE RETRACT POSITION TO PREVENT EXCESSIVE OPERATION OF THE FUEL BOOST PUMP.
2. THE ESSENTIAL DC TEST AND GROUND POWER PANEL IS LOCATED AT THE AFT END OF THE AFT COCKPIT LEFT CONSOLE BEFORE AFC 332. AFTER AFC 332 PANEL IS LOCATED IN FORWARD COCKPIT RIGHT CONSOLE.
3. BUS ENERGIZED FOR GROUND OPERATION.
4. 151975t THRU 153094x.
5. 153095y AND UP.
6. 151975t THRU 153100y BEFORE AFC 227.
7. 153101z AND UP, ALSO 151975t THRU 153100y AFTER AFC 227.
8. 151975t THRU 151983w.
9. AFTER AFC 370.

CIRCUIT BREAKER CHECK LIST (PRIOR TO APPLYING EXTERNAL ELECTRICAL POWER)

A. SET THE FOLLOWING CIRCUIT BREAKERS:

REF DES	NOMENCLATURE	C/B PANEL	ZONE	BUS ENERGIZED
4-CB306	28VAC AUTO XFMR	1	10G	INST 28VAC
4-CB307	6 RH 28VAC ØC XFMR	1	6G	6 R 14VAC AND R 28VAC
	7 RH 14/28VAC ØC XFMR			7 R 14VAC ØC AND R 28VAC ØC
4-CB308	6 LH 14/26VAC XFMR	1	6F	6 L 14VAC AND L 28VAC
	7 RH 14/28VAC ØB XFMR			7 R 14VAC ØB AND R 28VAC ØB
4-CB310	UTILITY PWR D C	2	2H	
4-CB314	RH XFMR RECT ØA	1	7G	R 28VDC AND ESS 28VDC
4-CB315	RH XFMR RECT ØB	1	8G	
4-CB316	RH XFMR RECT ØC	1	9G	
4-CB320	LH XFMR RECT ØA	1	7F	L 28VDC
4-CB321	LH XFMR RECT ØB	1	8F	
4-CB322	LH XFMR RECT ØC	1	9F	
49-CB310	WARN LTS PWR	1	1M	
49-CB312	WARN LTS CONT	1	1N	

B. PULL THE FOLLOWING CIRCUIT BREAKERS AS REQUIRED:

REF DES	NOMENCLATURE	C/B PANEL	ZONE	PURPOSE
71-CB309	ANGLE OF ATTACK HTR	1	7L	PULL IF AIRCRAFT IS ON JACKS TO PREVENT ENERGIZING ANGLE OF ATTACK PROBE HEATER.
71-CB316	ANGLE OF ATTACK CASE HTR	1	7M	
31-CB305	BELMTH PITOT HTR	1	6Q	PULL IF AIRCRAFT IS ON JACKS TO PREVENT ENERGIZING BELLMOUTH PITOT HEATER.
29-CB301	CKPT HT & VENT	1	8L	PULL IF EXTENDED USE OF GROUND POWER IS ANTICIPATED TO REDUCE GROUND OPERATION TIME.
29-CB302	CKPT HT & VENT	1	8K	
8 89-CB303	DATA ANNO	3	1A	
89-CB304	DATA ANNO	3	2B	
89-CB305	DATA ANNO	3	2A	
33-CB301	OXYGEN GAGE	1	2H	PULL IF LOX CONVERTER IS NOT INSTALLED TO PREVENT DAMAGE TO OXYGEN GAGING SYSTEM.

FDC-2-1,1-(36-3)

Figure 5-3. External Electric Power Application (Sheet 3 of 4)

B. PULL THE FOLLOWING CIRCUIT BREAKERS AS REQUIRED: (CONT)

REF DES	NOMENCLATURE	C/B PANEL	ZONE	PURPOSE
7-CB333 7-CB336 7-CB338	RH MAIN FUEL CONT INTER WING FUEL TRANS CONT EXT WING FUEL TRANS	1 1 1	5E 11E 10D	PULL IF GROUND POWER IS TO BE APPLIED FOR MORE THAN 1 HOUR TO PREVENT FUEL SPILLAGE.
18-CB302	LG & FLAP PIN	1	3K	PULL IF GROUND POWER IS TO BE APPLIED WITH THE FLAPS IN ANY POSITION OTHER THAN FULL UP.
81-CB303 81-CB304	L.H.T.O.T. PWR R.H.T.O.T. PWR	1 1	2Q 2R	PULL IF EGT THERMO-COUPLE LEADS ARE DISCONNECTED.
7-CB335 [9] 7-CB358	IFR PROBE PWR EMER IFR PROBE	1 1	10A 9S	PULL TO PREVENT ACTUATION OF INFLIGHT REFUELING PROBE WHEN RIGHT ENGINE AIR DUCT GUARD IS INSTALLED.

GROUND POWER SWITCHES			
SWITCH		DIRECTION OF HANDLE MOVEMENT	LOCATION
NOMENCLATURE	POSITIONS		
[4] INST BUS GRD PWR SW	NORM	FORWARD	NO. 1 CIRCUIT BREAKER PANEL
	TEST	AFT [3]	
RECON BUS GRD PWR SW	NORM	FORWARD	NO. 1 CIRCUIT BREAKER PANEL
	TEST	AFT [3]	
[5] INST BUS GRD PWR SW	(NOT IDENTIFIED)	FORWARD [3]	ESSENTIAL DC TEST AND GROUND POWER PANEL [2]
		AFT	
RECON BUS GRD PWR SW	(NOT IDENTIFIED)	FORWARD [3]	ESSENTIAL DC TEST AND GROUND POWER PANEL [2]
		AFT	

FDC-2-1.1-(36-4)

Figure 5-3. External Electric Power Application (Sheet 4 of 4)

plant to J6 on interconnecting box.

g. Apply external electrical power, omitting those steps performed as part of this procedure. Refer to paragraph 5-14.

h. Position AC and DC switches on interconnecting box to ON. Indicator lights (ØA, ØB, ØC, and 28Vdc) come on, indicating power is available at the receptacles. Position AC and DC switches on interconnecting box to OFF.

i. Line analyzers for Infrared Detecting Set, Forward Looking Radar, Radar Mapping System, Photographic Reconnaissance (Camera) Systems, and Inertial Navigation Set can be connected to any of J1, J2, J3, and J4 receptacles. Digital Multimeter AN/USM-216 may also be connected to any of these receptacles. The analyzer for the Air Data Computer Set can be connected only to the J5 outlet.

5-22. **DISCONNECTION.**

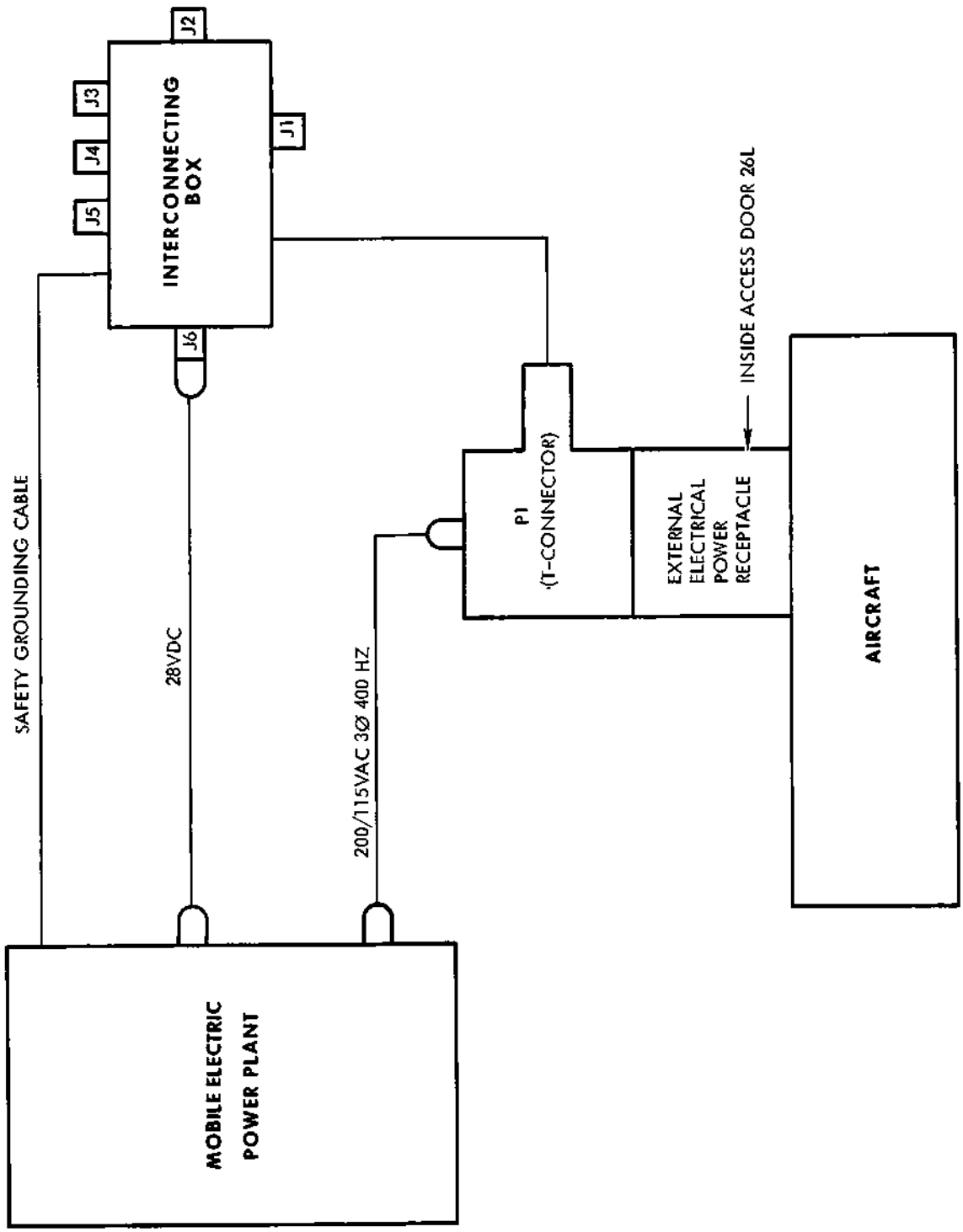
a. Position AC and DC switches on interconnecting box to OFF.

b. Turn off mobile electrical power plant.

c. Disconnect line analyzers and/or digital multimeter from interconnecting box.

d. Disconnect 200/115Vac, 400 Hz, 3Ø power cable from P1 (T-connector) of interconnecting box.

e. Disconnect P1 (T-connector) of interconnecting box from external electrical power receptacle on aircraft.



FDC-2-1.1-(37)

Figure 5–4. Line Analyzers Electrical Connection

f. Disconnect 28Vdc power cable from J6 on interconnecting box.

g. Disconnect safety grounding cable from electric power plant.

5-23. **EXTERNAL HYDRAULIC POWER APPLICATION.** See figure 5-5.

NOTE

For hydraulic system components allowable leakage rates, refer to NAVAIR 01-245FDB-2-2.4.

5-24. The aircraft has separate hydraulic power receptacle for each of its three hydraulic systems, PC I, PC II, and Utility.

5-25. **TOOLS AND EQUIPMENT.**

Wrench, torque, (40, table 2-2)
Power source, external hydraulic, (2, table 2-2)
* Hose assembly, autopilot manifold, (65, table 2-1)

NOTES: * Required for hydraulic power application to all three hydraulic systems from one hydraulic power source.

5-26. **INDIVIDUAL HYDRAULIC SYSTEM (ONE HYDRAULIC CART FOR EACH SYSTEM).**

5-27. **Connection.**

a. Before connecting external hydraulic power, make certian that reservoir and accumulator(s) of system(s) concerned are properly serviced. Refer to Hydraulic and Pneumatic Systems Servicing in section VI.

b. Remove dust caps from aircraft pressure and return receptacles.

c. Remove dust plugs from hydraulic cart hoses and connect hoses to aircraft receptacles.

d. Tighten coupling nut clockwise by hand until there is a distinct clicking noise and nut cannot be tightened further by hand.

e. Connect dust caps from aircraft receptacles to hydraulic cart hose dust plugs to prevent contamination.

NOTE

Electric power is required to operate utility hydraulic subsystems and for cockpit indication of PC I and PC II hydraulic system pressure.

WARNING

When applying electric and hydraulic power to the aircraft, electrical power must be connected first and disconnected last. Failure to follow this sequence will cause engine auxiliary air doors to close, speed brakes (if extended) to retract, hydraulic driven fuel transfer pumps in fuel cells 4 and 6 to operate, missile cavity doors in forward missile wells to open, and corner reflector (if extended) to retract.

f. Apply external electrical power to aircraft. Refer to paragraph 5-14.

CAUTION

Before applying external hydraulic power, refer to paragraph 3-82.

WARNING

AFTER AFC 400, stay clear of ailerons, spoilers, and rudder when the utility hydraulic system is pressurized, to prevent personal injury.

g. Start hydraulic cart in accordance with hydraulic cart instructions and apply hydraulic power to aircraft.

5-28. **Disconnection.**

WARNING

When applying electric and hydraulic power to the aircraft, electrical power must be connected first and disconnected last. Failure to follow this sequence will cause engine auxiliary air doors to close, speed brakes (if extended) to retract, and hydraulic driven fuel transfer pumps in fuel cells 4 and 6 to operate.

a. Shut down hydraulic cart.

b. Disconnect hydraulic cart hoses from aircraft receptacles.

c. *Replace dust caps on aircraft receptacles and dust plugs on hydraulic cart hoses.*

d. Remove external electrical power from aircraft.

5-29. **COMBINED HYDRAULIC SYSTEMS (ONE HYDRAULIC CART FOR ALL THREE SYSTEMS).**

NOTE

The autopilot manifold hose assembly is designed primarily for various operational and functional checkouts of the autopilot system; however, it can be utilized for other uses if the need arises. This hydraulic power application cannot be used for accurate control surface movement checks because of the low flow rate.

CAUTION

Do not use autopilot manifold hose assembly for landing gear operations. Due to low flow rate (below 10 GPM) when utilizing manifold the inboard door and uplock will operate out of sequence.

5-30. **Connection.**

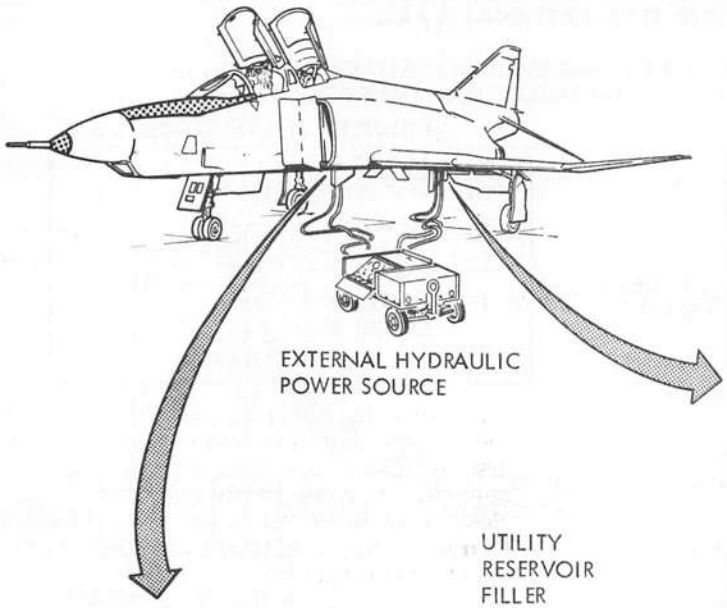
NOTE

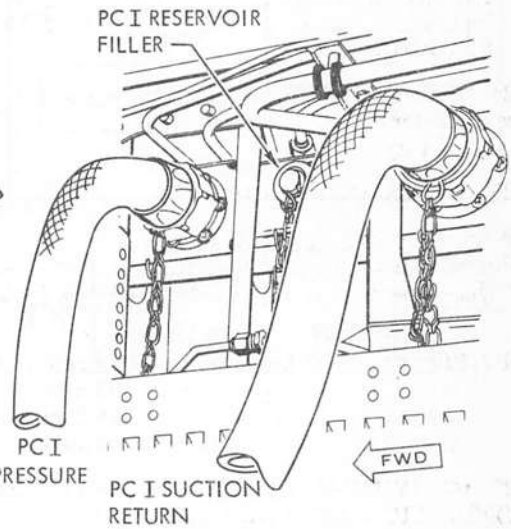
There is adequate flow for most system functional checks if systems which demand constant flow are turned off. The following systems components if not being tested, should be turned off:

Air compressor
Radar
Hydraulically operated fuel transfer pumps

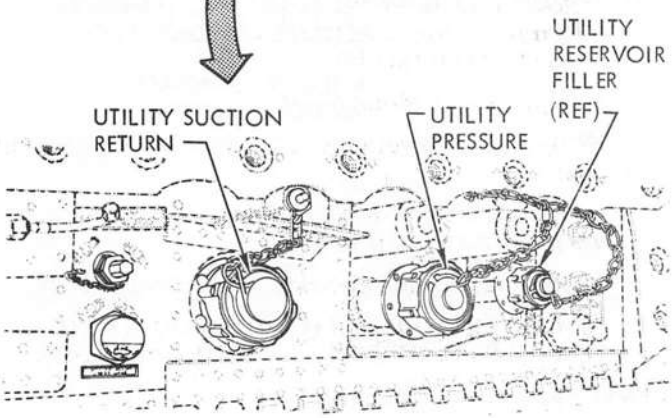
a. Before connecting external hydraulic power, check to make certain that reservoirs and accumulators of all systems are properly serviced. Refer to Hydraulic and

HYDRAULIC POWER CONNECTIONS





4 PC I/PC II HYDRAULIC CONNECTIONS (TYPICAL)



UTILITY HYDRAULIC CONNECTIONS

NOTES

1 IF THERE IS ADEQUATE-SIZE PLUMBING FROM THE RESERVOIR TO THE PUMP SUCTION INLET, A JUMPER IS NOT NEEDED.

2 SET THE 4-WAY VALVE ON CART RESERVOIR TO POSITION SHOWN.

3 AUTOPILOT MANIFOLD HOSE ASSEMBLY.

4 PC I CONNECTIONS IN THE LEFT MAIN GEAR WHEEL WELL ARE SHOWN. PC II CONNECTIONS ARE IDENTICAL TO PC I AND ARE LOCATED IN RIGHT MAIN GEAR WHEEL WELL.

CAUTION

PC I, PC II AND UTILITY SYSTEM RESERVOIRS MUST BE PROPERLY SERVICED WHEN ONLY ONE HYDRAULIC SYSTEM IS PRESSURIZED DURING CONTROL STICK MOVEMENT, TO PREVENT DAMAGE TO THE UNPRESSURIZED SYSTEM RESERVOIR(S). ALSO, CONTROL STICK MOVEMENT MUST BE HELD TO A MINIMUM WHEN PC I, PC II AND UTILITY SYSTEMS ARE NOT SIMULTANEOUSLY PRESSURIZED TO PREVENT PARTIAL CAVITATION OF THE UNPRESSURIZED DUAL ACTUATORS.

WARNING

ON 157342aa AND UP; ALSO 151475t THRU 153115aa AFTER AFC 400, STAY CLEAR OF AILERONS, SPOILERS, AND RUDDER WHEN THE UTILITY HYDRAULIC SYSTEM IS PRESSURIZED, TO PREVENT INJURY TO PERSONNEL.

FDC-2-1.1-(38-1)

Figure 5–5. External Hydraulic Power Application (Sheet 1 of 2)

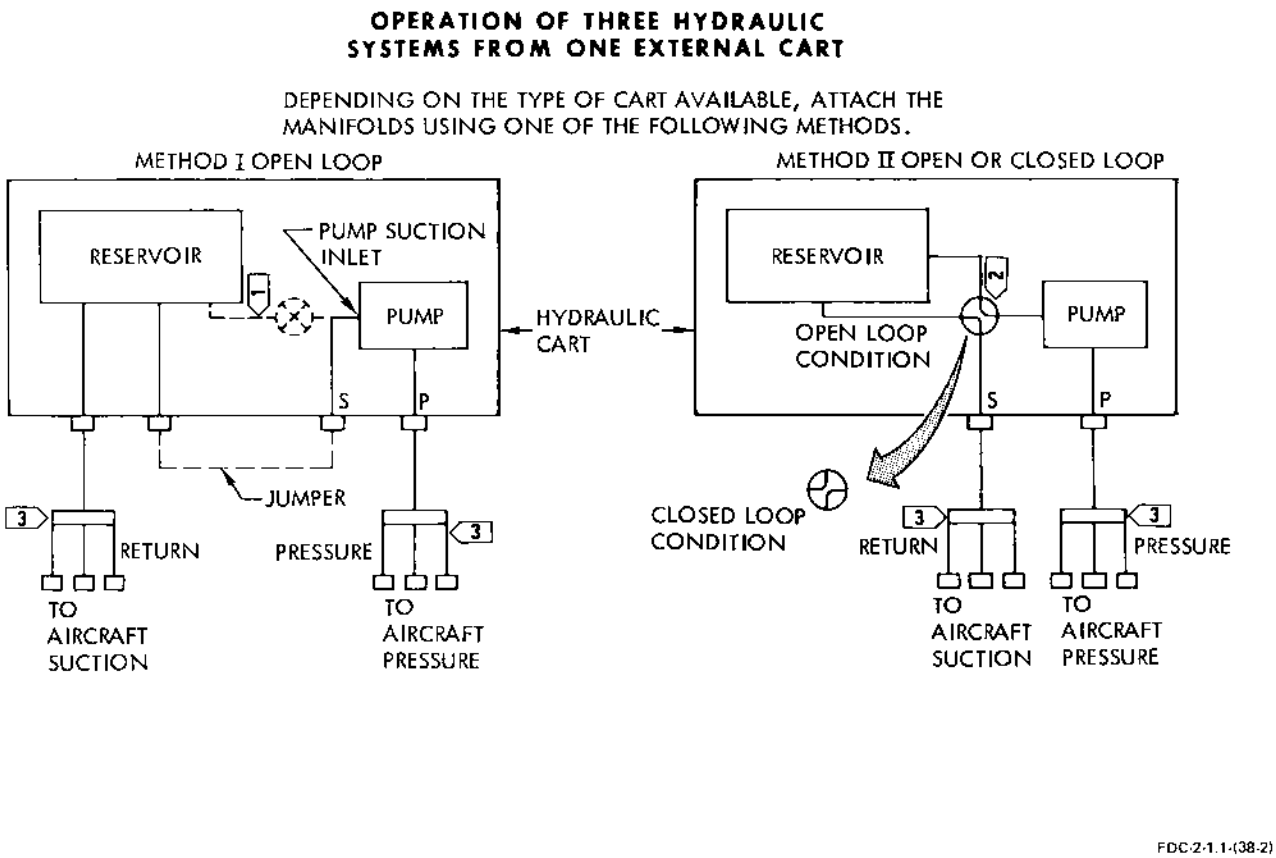


Figure 5–5. External Hydraulic Power Application (Sheet 2 of 2)

Pneumatic Systems Servicing in section VI.

b. Remove dust caps from aircraft pressure and return receptacles.

c. Remove dust plugs from hydraulic cart hoses and manifold hoses.

d. Connect manifold hoses to hydraulic cart hoses.

e. Connect manifold hoses to aircraft receptacles.

f. Tighten all coupling nuts clockwise by hand until there is a distinct clicking noise and nut cannot be tightened further by hand.

g. Torque pressure hose coupling nuts to 240 inch–pounds and return hose coupling nuts to 360 inch–pounds.

h. Connect dust caps from aircraft receptacles to manifold hose dust plugs to prevent contamination.

NOTE

Electric power is required to operate utility hydraulic subsystems and for cockpit indication of PC I and PC II hydraulic system pressure.

WARNING

When applying electric and hydraulic power to aircraft, electrical power must be connected first and disconnected last. Failure to follow this sequence will cause engine auxiliary air doors to close, speed brakes (if extended) to retract, and hydraulically operated fuel transfer pumps in fuel cells 4 and 6 to operate.

i. Apply external electrical power to aircraft. Refer to paragraph 5-14.

CAUTION

Before applying external hydraulic power refer to paragraph 3-82.

WARNING

AFTER AFC 400, stay clear of ailerons, spoilers, and rudder when the Utility Hydraulic system is pressurized to prevent personal injury.

j. Start hydraulic cart in accordance with hydraulic cart instructions.

k. The aircraft hydraulic systems must be operated in open loop with hydraulic cart reservoir; see Method I. This method allows all three aircraft hydraulic system reservoirs to empty into hydraulic cart reservoir when outlet lines are connected to aircraft.

CAUTION

The aircraft hydraulic system reservoirs will empty into reservoir of hydraulic cart during systems operation. The fluid level of hydraulic cart must be low enough to accomodate fluid from all three of aircraft hydraulic system reservoirs. Approximately 5 gallons of fluid from aircraft hydraulic system reservoir will be added to hydraulic cart reservoir. Insure that gage reading on hydraulic cart reservoir is no more than 1/2 to 3/4 full.

l. It is not recommended that the hydraulic cart be operated in closed loop, see Method II; however, if it becomes a necessity the following circumstances will arise:

(1) PC I reservoir will exhaust its fluid and cause overfilling of PC II and utility reservoirs.

(2) The overfilled PC II and utility reservoirs will dump excess hydraulic fluid overboard through PC II and utility reservoir overboard drain lines.

CAUTION

Assure that all reservoirs are serviced if PC II and utility reservoirs dump excess hydraulic fluid overboard.

m. Apply hydraulic power to aircraft.

5-31. Disconnection.

WARNING

When applying electric and hydraulic power to the aircraft, electrical power must be connected first and disconnected last. Failure to follow this sequence will cause engine auxiliary air doors to close, speed brakes (if extended) to retract, and hydraulic driven fuel transfer pumps in fuel cells 4 and 6 to operate.

a. Shut down hydraulic cart.

b. Disconnect manifold hoses from aircraft receptacles and hydraulic cart hoses.

c. *Replace dust caps on aircraft receptacles, hydraulic cart hoses, and manifold hoses.*

d. Remove external electrical power from aircraft.

e. *Service all reservoirs.* Refer to Hydraulic and Pneumatic Systems Servicing in section VI.

5-32. EXTERNAL COOLING AIR APPLICATION. See figure 5-6.

5-33. When certain electronic equipment is operated with the engines off, the application of external cooling air is required. External cooling air is supplied to a receptacle in the nose landing gear wheel well. A separate receptacle, adjacent to the equipment cooling air receptacle, is provided to supply external cooling air for the aircrewmen's pressure suits.

NOTE

For cooling air requirements, refer to NAVAIR 01-245FDC-2-2.5.

5-34. TOOLS AND EQUIPMENT.

Air conditioning unit, (3, table 2-2)
Coupling, equipment ground cooling, (4, table 2-2)
Fitting, external pressure suit cooling, (5, table 2-2)

5-35. EQUIPMENT COOLING CONNECTION.

a. Remove cover plate from equipment ground cooling receptacle by loosening the four winged quick-release fasteners.

b. Insert cooling air hose coupling into aircraft receptacle and turn coupling nut clockwise until a tight seal is obtained.

c. Insure air conditioning unit is set to deliver the amount of cooling air given on the applicable ground cooling requirements chart. Refer to NAVAIR 01-245FDC-2-2.5.

NOTE

Immediately after applying equipment ground cooling air, make sure the ram air check valve is closed by feeling for air exhausting overboard through the equipment refrigeration ram air inlet and exit. If air is exhausting overboard, the equipment should be shut down and the malfunctioning check valve corrected.

d. Start and operate air conditioning unit in accordance with unit instructions.

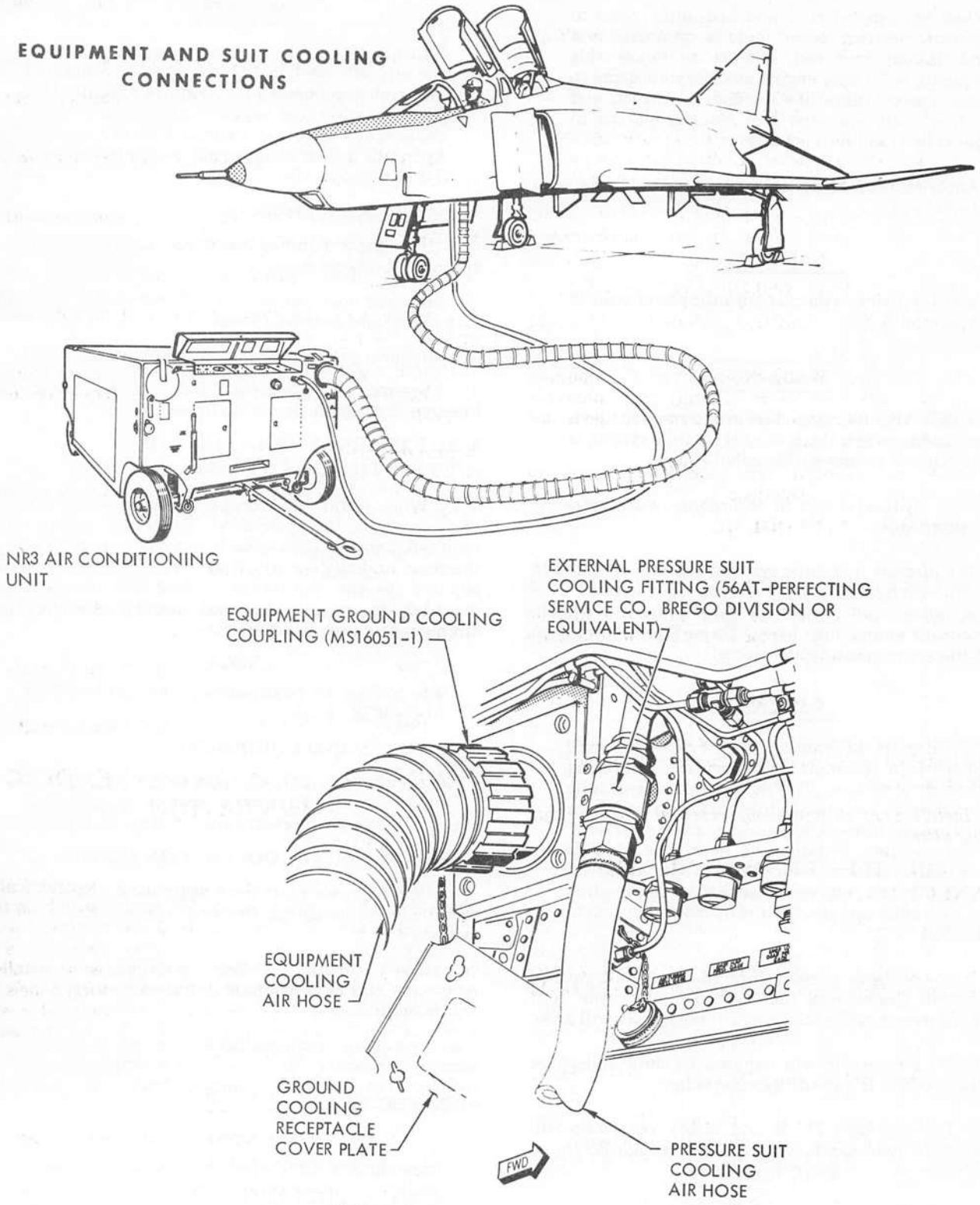


Figure 5-6. External Cooling Air Application

5-36. EQUIPMENT COOLING DISCONNECTION.

a. Turn off air conditioning unit.

b. Remove cooling air hose from aircraft receptacle by turning coupling nut counterclockwise.

CAUTION

Equipment ground cooling receptacle cover plate must be installed when cooling air hose is disconnected from aircraft.

c. *Install cover plate on equipment ground cooling receptacle and tighten four winged quick-release fasteners.*

5-37. PRESSURE SUIT COOLING CONNECTION.

a. Remove plug assembly from external pressure suit cooling fitting.

b. Connect cooling air hose to aircraft fitting by pulling back on hose connector sleeve, pushing hose connector over aircraft fitting, and then releasing sleeve. Hose is now locked onto aircraft fitting.

c. Start and operate air conditioning unit in accordance with unit instructions.

5-38. PRESSURE SUIT COOLING DISCONNECTION.

a. Turn off air conditioning unit.

b. Remove cooling air hose from aircraft fitting by pulling back on hose connector sleeve and pulling hose connector from aircraft fitting.

CAUTION

Pressure suit cooling fitting plug assembly must be installed when cooling air hose is disconnected from aircraft.

c. *Install plug assembly on external pressure suit cooling fitting.*

5-39. GROUND INTERCOMMUNICATION CONNECTION. See figure 5-7.

5-40. Communication is provided by the intercommunication subsystem of of the aircraft CNI system. A receptacle in the left MLG wheel well provides connections for communications between ground and the cockpits.

5-41. TOOLS AND EQUIPMENT.

Power, external electrical, (200/115Vac, 400 Hz, 3Ø), (1, table 2-2)
Cable, lower block disconnect adapter, (69, table 2-1)
Cable, intermediate block adapter, (70, table 2-1)
Cable, ground crew adapter, (66, table 2-1)
Headset and Microphone, crewmember
Headset and Microphone, ground crew

5-42. CONNECTION.

NOTE

If engines are operating, no external power is necessary.

a. Apply external electrical power to aircraft. Refer to paragraph 5-14.

b. Connect crewmember headset and microphone in cockpit.

c. Position controls in cockpit as follows:

(1) BEFORE AFC 433 PART II, position rotary selector to NOR.

(2) AFTER AFC 433 PART II, position rotary selector to NORM.

(3) In forward cockpit, on Intercommunication Station, place switch in HOT MIC.

(4) Set volume control as required.

d. Connect ground crew headset and microphone to ground crew adapter cable.

e. In left wheel well, remove receptacle cover marked INTERCOM, and connect ground crew adapter cable to INTERCOM receptacle.

5-43. DISCONNECTION.

a. In left wheel well, disconnect ground crew adapter cable from INTERCOM receptacle.

b. *Screw receptacle cover over receptacle after ground crew adapter cable is removed.*

c. Disconnect ground crew headset and microphone from ground crew adapter cable.

d. Disconnect crewmember headset and microphone in cockpit.

e. Remove external electrical power from aircraft.

WING FOLDING AND SPREADING OPERATION

5-44. GENERAL.

5-45. Normal wing fold operation is hydraulically actuated and electrically controlled from a switch on the pilot's right console. Wings can be folded or spread with engine(s) operating or with external electrical and hydraulic power applied. Wing jury strut must be installed at each wing fold hinge to stabilize outer wing panels in the folded position when hydraulic and electrical power are removed. In an emergency, wings can be manually folded; refer to paragraph 8-27.

CAUTION

Do not fold wings when wind velocities in excess of 60 knots are anticipated.

5-46. WING FOLDING.

5-47. TOOLS AND EQUIPMENT.

Strut, wing jury, (15, table 2-1)

5-48. MANPOWER REQUIREMENTS.

a. Two men required.

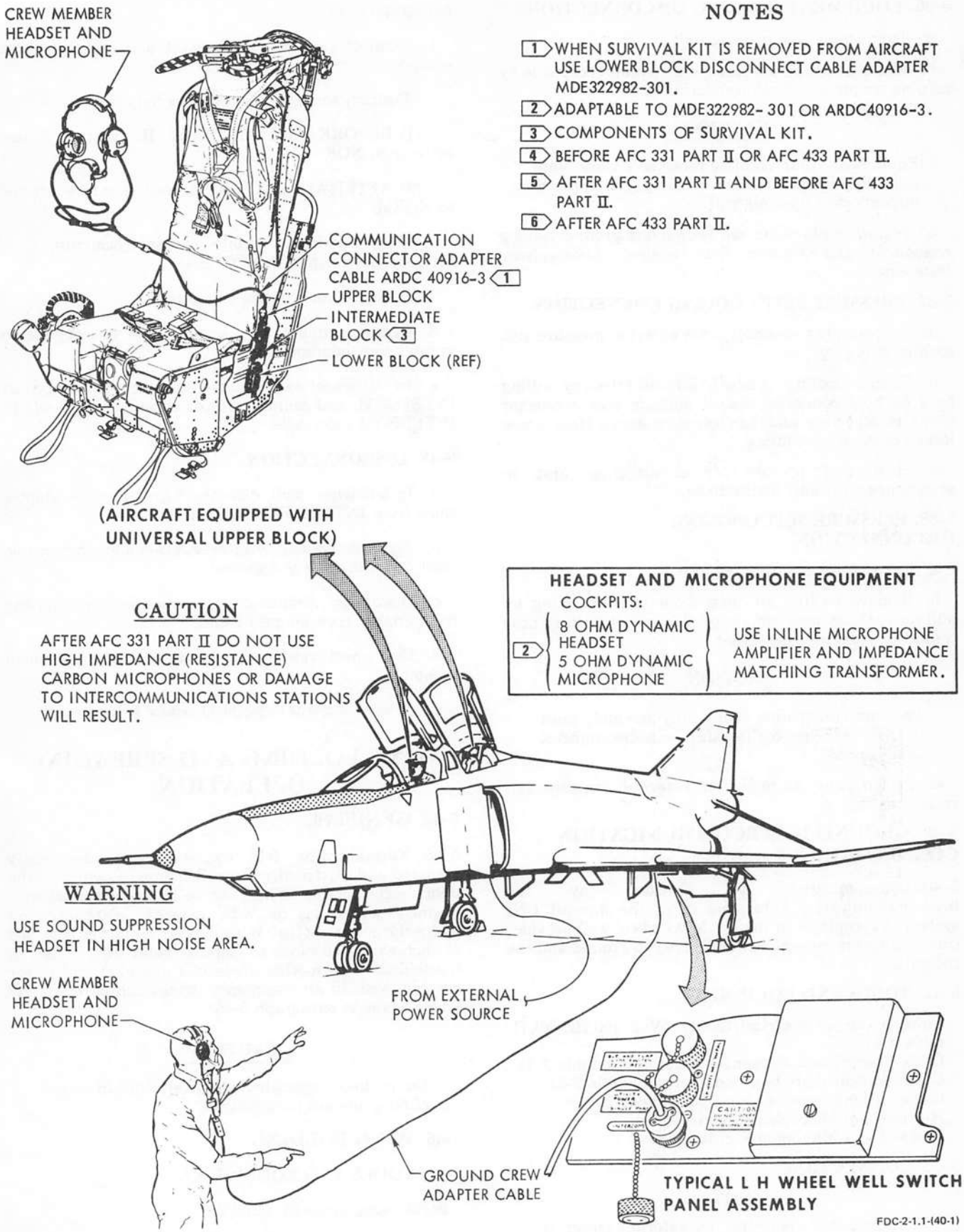


Figure 5-7. Ground Intercommunication Connection (Sheet 1 of 2)

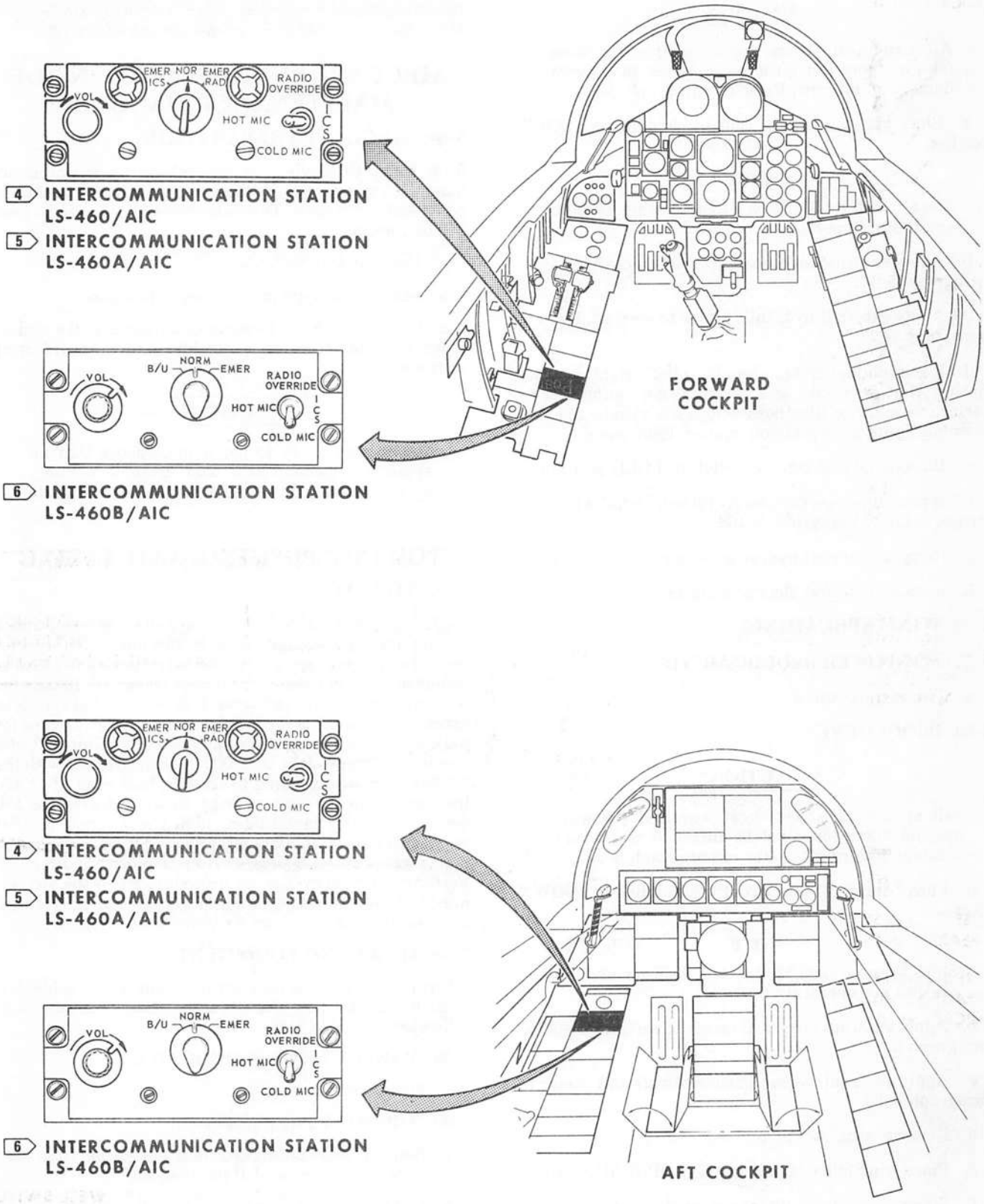


Figure 5–7. Ground Intercommunication Connection (Sheet 2 of 2)

5-49. PROCEDURE.

CAUTION

All structural access doors required for wing folding operation must be installed to prevent damage to aircraft. Refer to paragraph 3-82.

a. Place landing gear control handle in DOWN position.

NOTE

Steps b and c may be omitted if either or both engines are operating.

b. Apply external electrical power to aircraft. Refer to paragraph 5-14.

c. Apply external hydraulic power to aircraft. Refer to paragraph 5-23.

d. Raise manual lockpin handle (pilot's right console). Ensure that wing pin lock warning flags (upper wing surface near hinge line, both wings) are visible and that warning lights illuminate on caution light panel.

e. Place wing fold control switch in FOLD position.

f. When wings are completely folded, install wing jury struts. Refer to paragraph 5-168.

g. Remove external hydraulic power.

h. Remove external electrical power.

5-50. WING SPREADING.

5-51. MANPOWER REQUIREMENTS.

a. Two men required.

5-52. PROCEDURE.

CAUTION

All structural access doors required for wing folding operation must be installed to prevent damage to aircraft. Refer to paragraph 3-82.

a. Place landing gear control handle in DOWN position.

NOTE

Steps b and c may be omitted if either or both engines are operating.

b. Apply external electrical power to aircraft. Refer to paragraph 5-14.

c. Apply external hydraulic power to aircraft. Refer to paragraph 5-23.

d. Remove wing jury strut.

e. Place wing fold control switch in SPREAD position.

f. When wings are fully spread, push manual lock pin handle down (flush with console surface).

g. Remove external hydraulic power.

h. Remove external electrical power.

5-53. *Quality Assurance Summary. Ensure that wing pin lock warning flags (upper wing surface near hinge line, both wings) have retracted flush with wing surface and that warning lights on caution light panel are off.*

AIRCRAFT BEING PLACED INSIDE MAINTENANCE HANGERS

5-54. AIRCRAFT PREPARATION.

5-55. Prior to moving an aircraft into a maintenance hangar, remove all explosive armament, including photoflash cartridges. The following explosive items need not be removed:

a. Ejection seat propellants.

b. Seat and canopy gas cartridge initiators.

c. Cartridges for jettisoning of external tanks and/or other external store on centerline and outboard wing stations.

WARNING

To prevent injury to personnel, ensure that all applicable ejection seat and armament safety pins are installed prior to moving an aircraft into a hanger.

TOWING, PUSHING, AND TAXING

5-56. TOWING.

5-57. When towing the aircraft, a man must be stationed in the forward cockpit who is familiar with cockpit controls and experienced with braking operation. Turning radius and towbar hook-up to nose wheel are illustrated in figure 5-8. The aircraft should not be towed at speeds in excess of 5 mph. The aircraft can be moved backward for parking or positioning using the towbar. The aircraft at a maximum gross weight of 58,000 lbs. can be towed with the towbar without exceeding the design load limit of 11,400 lbs. applied to the nose gear at either 0 degrees or 180 degrees from the forward direction. The design load limit is reduced to 5700 lbs. when the towing force is applied at $\pm$45 degrees or $\pm$135 degrees from the forward direction. Perform Emergency Towing procedure when the aircraft must be towed in heavy snow, mud, or other rough terrain, or when the aircraft must be towed with a flat tire.

5-58. TOOLS AND EQUIPMENT.

Strut, main landing gear actuator safety, (14, table 2-1)
Strut, nose landing gear actuator safety, (12, table 2-1)
Towbar, (6, table 2-2)

5-59. MANPOWER REQUIREMENTS.

a. Five men required.

5-60. AIRCRAFT PREPARATION.

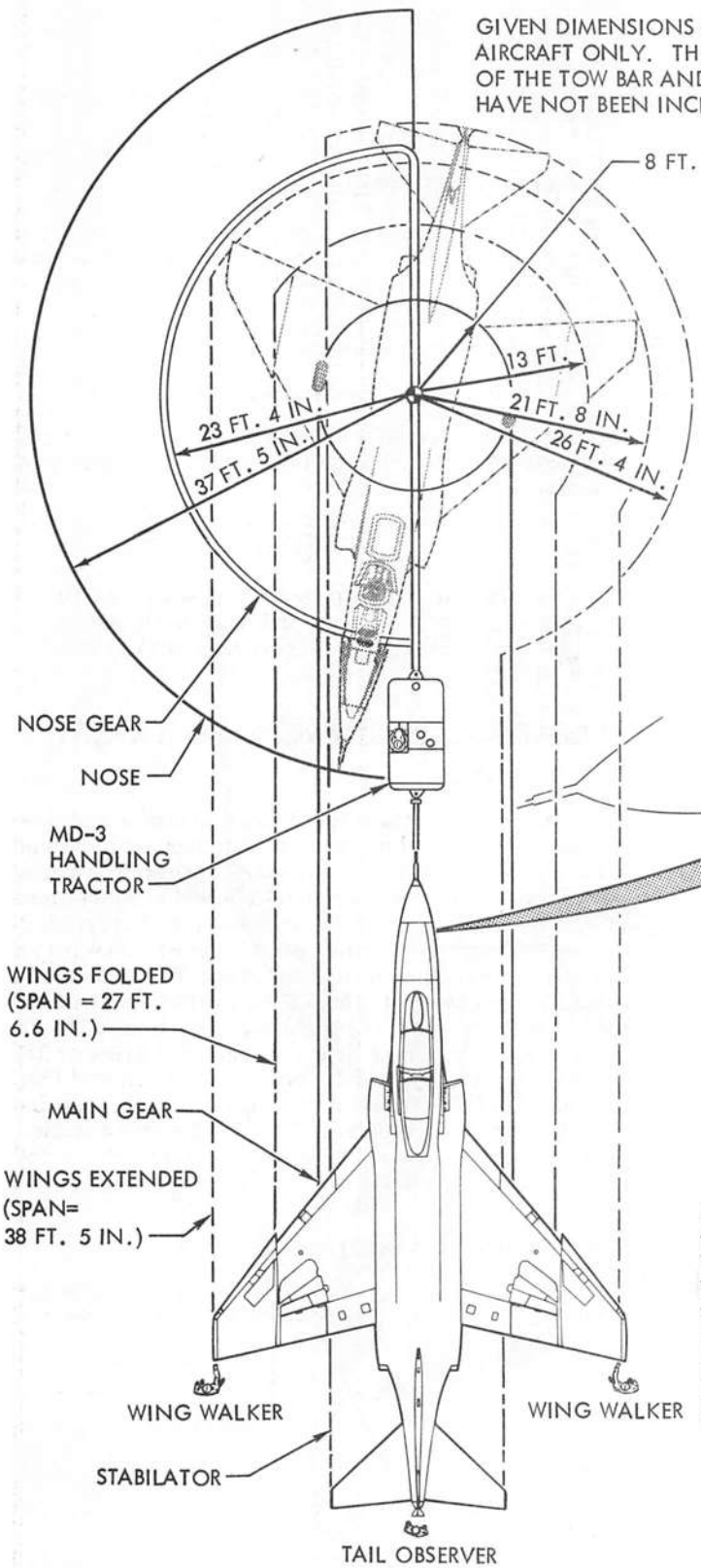
a. Remove nose landing gear jacking lock pin from nose wheel steering power unit if applicable.

b. Install main landing gear actuator safety struts and nose landing gear actuator safety strut. Refer to paragraph 5-168.

c. Check emergency wheel brake pressure gage (on right side of nose landing gear wheel well on 151975t

NOTE

GIVEN DIMENSIONS ARE FOR AIRCRAFT ONLY. THE LENGTH OF THE TOW BAR AND TRACTOR HAVE NOT BEEN INCLUDED.

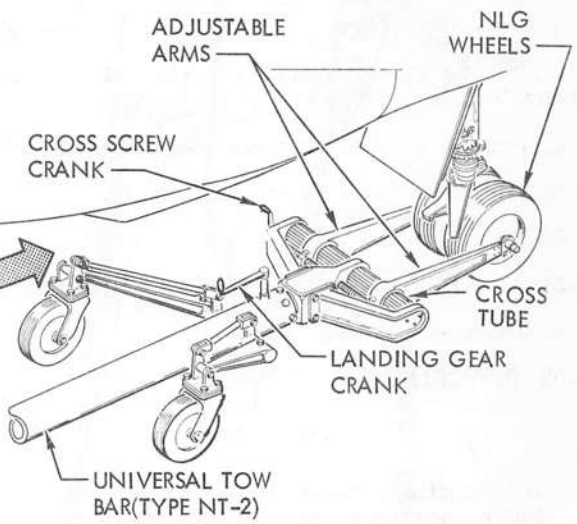


TOWING OPERATION

CAUTION

DO NOT START OR STOP SUDDENLY OR TOW AT HIGH SPEEDS.

POWER ASSISTED BRAKING IS LIMITED TO SIX (6) TO EIGHT (8) FIRM BRAKE APPLICATIONS. FURTHER USE OF BRAKES WILL RESULT IN LOSS OF POWER ASSIST. IT MAY BE NECESSARY TO USE THE EMERGENCY BRAKE TO STOP THE AIRCRAFT.



WARNING

DO NOT USE EMERGENCY AIR BRAKE WHEN HOT BRAKE CONDITIONS EXIST UNLESS ABSOLUTELY NECESSARY TO AVOID LOSS OF AIRCRAFT OR TO PREVENT INJURY TO PERSONNEL. COMBUSTIBLE MATERIALS SUCH AS OIL, GREASE, OR HYDRAULIC FLUID MAY COLLECT IN THE WHEEL BRAKE ASSEMBLY. THE COMBINATION OF HEATED COMBUSTIBLES AND THE SUDDEN INTRODUCTION OF HIGH PRESSURE AIR COULD RESULT IN AN EXPLOSION.

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Figure 5–8. Towing (Sheet 1 of 3)

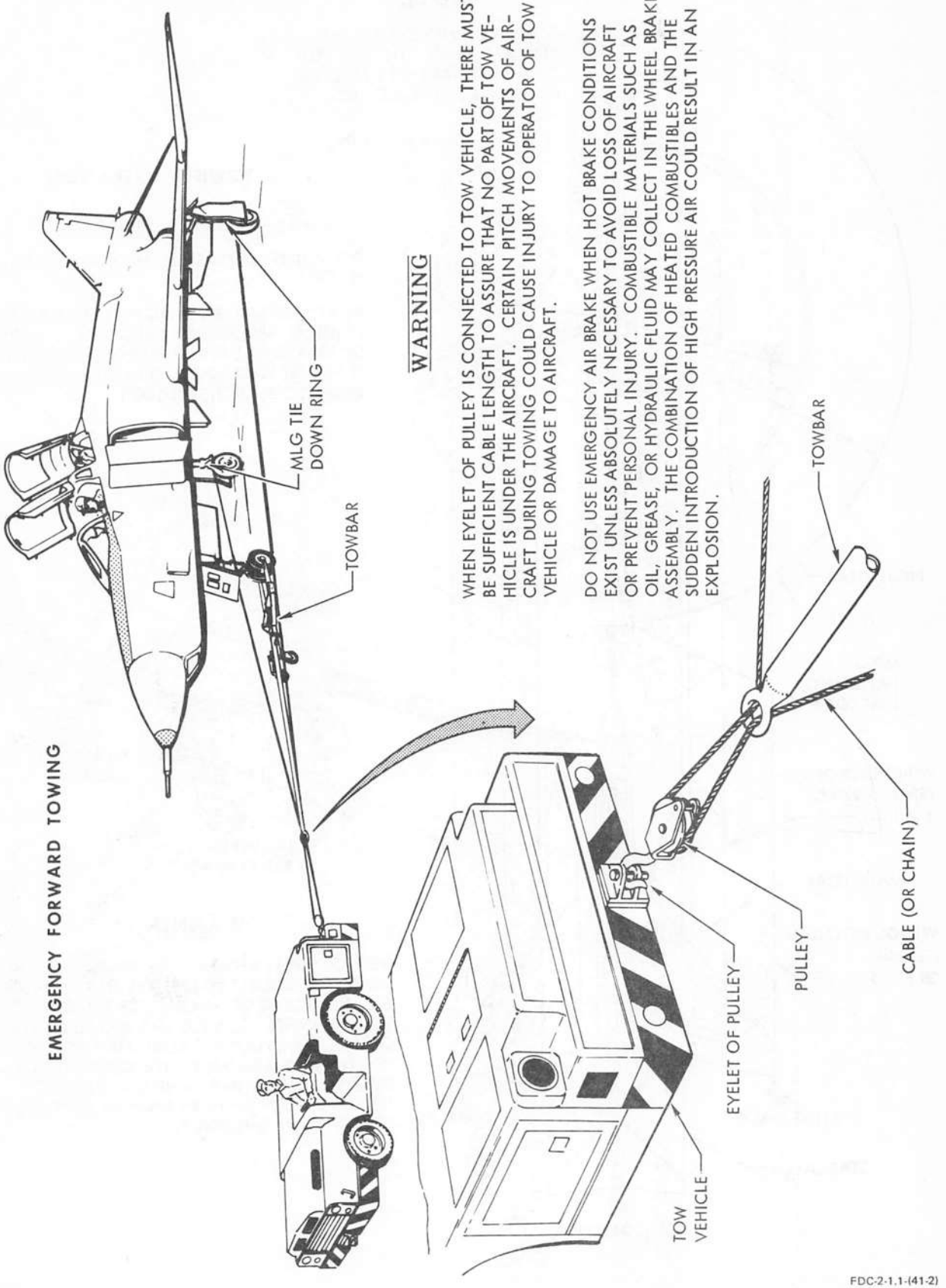


Figure 5–8. Towing (Sheet 2 of 3)

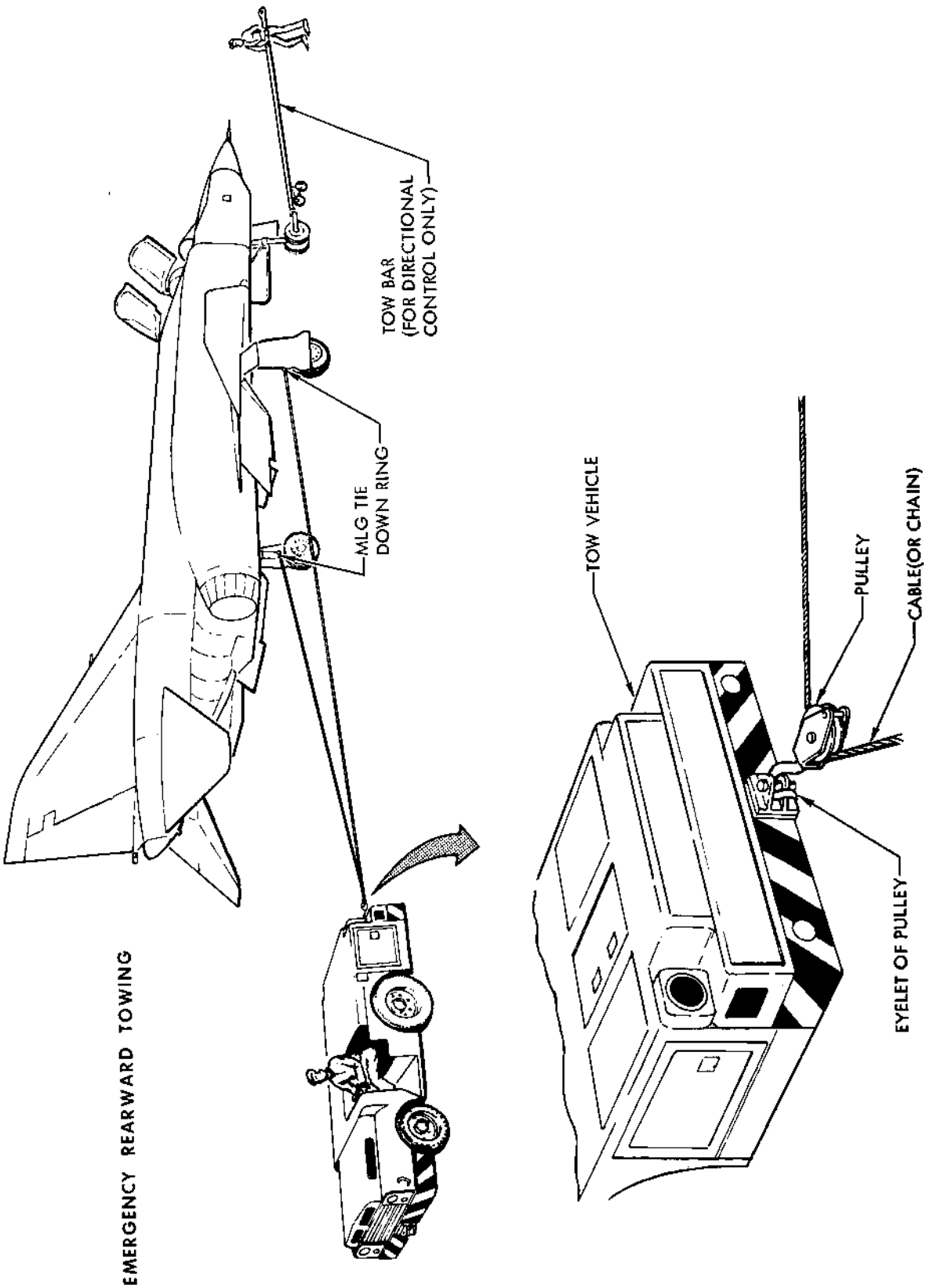


Figure 5–8. Towing (Sheet 3 of 3)

THRU 153115aa, BEFORE AFC 474, and on forward cockpit right hand console on 157342ao AND UP; ALSO 151975t THRU 153115aa, AFTER AFC 474) for pressure indication of 1500 psi or greater. If pressure indication is below 1500 psi, the basic pneumatic system must be serviced. Refer to paragraph 6-87.

d. Before towing aircraft, close and secure access doors, and engine drop-out links. Refer to paragraph 3-82.

5-61. **TOWBAR HOOK-UP.** See figure 5-8.

CAUTION

The towbar should be used when towing on hard surfaces only. Towing with a towbar only on soft surfaces may exceed the designed load limit causing structural damage to the aircraft.

a. Roll towbar up to nose gear wheels with adjustable arms positioned to provide the widest possible opening between axle pins.

b. Adjust height of arms by turning towbar landing gear crank until arms are aligned horizontally with nose gear axle.

c. Rotate towbar cross screw crank until adjustable arm axle pins engage recesses in nose gear axle.

d. Continue adjusting arms until holes in the arms align with holes in the towbar cross tube. Lock the arms in position by inserting lock pins, provided with towbar, through aligned holes.

e. Lift towbar wheels clear of ground by rotating tow bar landing gear crank until sufficient clearance for towing is obtained.

5-62. **NORMAL TOWING.**

CAUTION

Do not start or stop suddenly or tow at high speeds.

a. Ensure that all external power is removed from aircraft, and that all obstacles are clear of towing area.

NOTE

On 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 474, emergency brake pressure can be monitored from gage located adjacent to right vertical panel in forward cockpit.

b. Station a man in forward cockpit to apply brakes as required. Also, station one man at each wing tip, and one man near tail of aircraft while towing.

CAUTION

To prevent damage to gyro stop pins, the aircraft should not be moved for a period of approximately 30 minutes after electrical power has been turned off.

c. Assure that 30 minutes have elapsed since removal of external electrical power from aircraft to be towed.

d. Turning aircraft with towbar 90 degrees to axis of aircraft will provide shortest overall turning radius. Avoid extensive use of brakes.

CAUTION

Power assisted braking is limited to six to eight firm brake applications. Further use of brakes will result in loss of power assist. It may be necessary to use the emergency brake to stop aircraft.

WARNING

Do not use emergency air brake when hot brake conditions exist unless absolutely necessary to avoid loss of aircraft or to prevent injury to personnel. Combustible materials such as oil, grease, or hydraulic fluid may collect in the wheel brake assembly. The combination of heated combustibles and the sudden introduction of high pressure air could result in an explosion.

e. Tow aircraft.

5-63. **EMERGENCY TOWING - FORWARD.**

a. Connect towbar to nose landing gear.

b. Connect a cable (or chain) to tie down ring on one main landing gear strut.

c. Run cable forward to eyelet on towbar.

d. Insert cable through eyelet on towbar from bottom to top.

e. Place cable around a pulley equipped with an eyelet.

f. Insert cable back through eyelet of towbar from top to bottom.

g. Run cable to other main landing gear strut and connect cable to tie down ring on strut.

CAUTION

Connect eyelet of pulley, not eyelet of towbar, to the tow vehicle to prevent damage to aircraft structure.

h. Connect eyelet of pulley to hook on tow vehicle and tow the aircraft as described in Normal Towing. Refer to paragraph 5-62.

5-64. **EMERGENCY TOWING - REARWARD.**

a. Connect towbar to nose landing gear.

b. Connect end of cable (or chain) to tie down ring on one main landing gear strut.

c. Run cable out behind aircraft.

d. Place cable around a pulley equipped with an eyelet.

e. Run cable to other main landing gear strut and connect cable to tie down ring on strut.

WARNING

When eyelet of pulley is connected to tow vehicle, there must be sufficient cable length to assure that no part of tow vehicle is under the aircraft. Certain pitch movements of aircraft during towing could cause injury to operator of tow vehicle or damage to aircraft.

f. Connect eyelet of pulley directly to hook on tow vehicle and assure that no part of tow vehicle is under aircraft.

g. Tow aircraft using towbar for directional control only.

5-65. **COLD WEATHER TOWING PRECAUTIONS.**

a. Towing speed should be reduced to a minimum on snow and ice because of reduced braking efficiency.

b. Avoid use of excessive power when towing in extreme cold. High breakaway loads imposed by snow, ice, or frozen tires may result in damage to landing gear or connected components.

c. Avoid towing the aircraft through wet or slushy areas.

d. Exercise caution when towing in extreme cold to avoid excessive landing gear shock strut movement which will result in possible seal damage.

5-66. **PUSHING.**

5-67. When pushing the aircraft, a man must be stationed in the forward cockpit who is familiar with cockpit controls and experienced with braking operation. Push and no push areas on the aircraft must be observed to avoid damage to airframe components.

5-68. **TOOLS AND EQUIPMENT.**

Strut, main landing gear actuator safety, (14, table 2-1)
Strut, nose landing gear actuator safety, (12, table 2-1)
Pins, main landing gear inboard door lock, (11, table 2-1)
Pin, nose landing gear door uplatch lock, (10, table 2-1)
Strut, wing jury (if wings are folded), (15, table 2-1)

5-69. **PROCEDURE.** See figure 5-9.

a. Install main and nose landing gear actuator safety struts, main landing gear inboard door lock pins, nose landing gear door uplatch lock pin, and wing jury struts (if wings are folded). Refer to paragraph 5-168.

b. Station a man in the forward cockpit to apply brakes as required.

CAUTION

Power assisted braking is limited to six to eight firm brake applications. Further use of the brakes will result in loss of power assist making it necessary to use the emergency brake to stop the aircraft.

c. Check emergency wheel brake pressure gage (on right side of nose landing gear wheel well on 151975t THRU 153115aa, BEFORE AFC 474, on forward cockpit right hand console on 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 474) for a pressure indication of 1500 psi or greater. If pressure indication is below 1500 psi, the basic pneumatic system must be serviced. Refer to paragraph 6-87.

WARNING

Do not use emergency airbrake when hot brake conditions exist unless absolutely necessary to avoid loss of aircraft or to prevent injury to personnel. Combustible materials such as oil, grease, or hydraulic fluid may collect in the wheel brake assembly. The combination of heated combustibles and sudden introduction of high pressure air could result in an explosion.

d. With full internal fuel and with the aircraft on a smooth, hard level surface, a minimum of 15 men are required for pushing.

e. The pivot points and turning radii for pushing are the same as for towing the aircraft. See figure 5-9.

f. The following areas are permissible for pushing:

FORWARD PUSHING

Main landing gear shock strut and wheel
Nose landing gear shock strut and wheel
Aft fuselage in area of arresting hook
Wing fold areas (only if wing jury struts are installed)

REARWARD PUSHING

Engine intake duct
Main landing gear shock strut and wheel
Nose landing gear shock strut and wheel
Leading edge of wing (only if leading edge flaps are fully retracted)
Wing fold areas (only if wing jury struts are installed)

5-70. **TAXIING.** High takeoff gross weight combined with the small wheels and tires dictate that a positive technique be used while taxiing this aircraft. Taxiing precautions, turning radii, and stopping distances for various aircraft weight and ramp conditions are given in figure 5-10.

CAUTION

All access doors must be installed and secured before taxiing the aircraft to prevent damage to aircraft structure.

WARNING

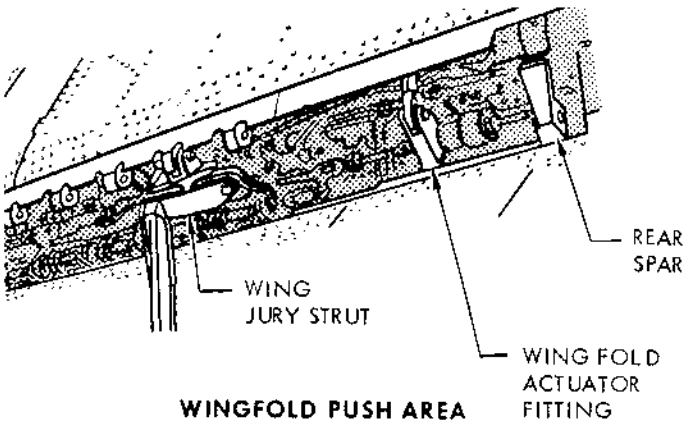
Do not use emergency airbrake when hot brake conditions exist unless absolutely necessary to avoid loss of aircraft or prevent personnel injury. Combustible materials such as oil, grease, or hydraulic fluid may collect in the wheel brake assembly. The combination of heated combustibles and the sudden introduction of high pressure air could result in an explosion.

a. Remove wheel chocks.

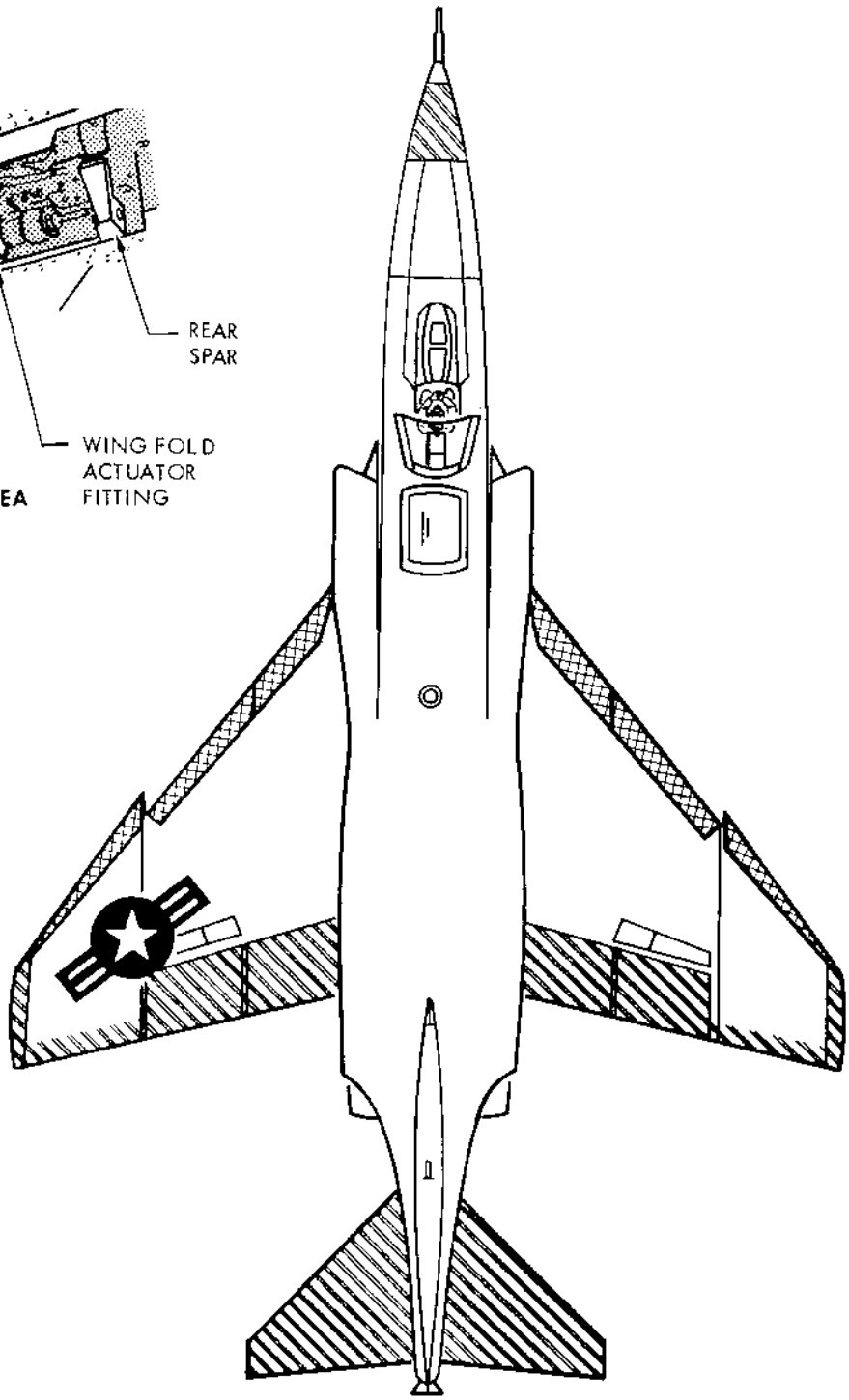
b. Engage nose gear steering, and add power as required on both engines to start aircraft moving.

c. After aircraft is moving, check brakes and reduce power.

d. Taxi at lowest practicable rpm.



WINGFOLD PUSH AREA



LEGEND

NO PUSH AREAS

PUSH ONLY IF LEADING EDGE FLAPS ARE FULLY RETRACTED

NO PUSH AREA WHEN WINGS ARE FOLDED

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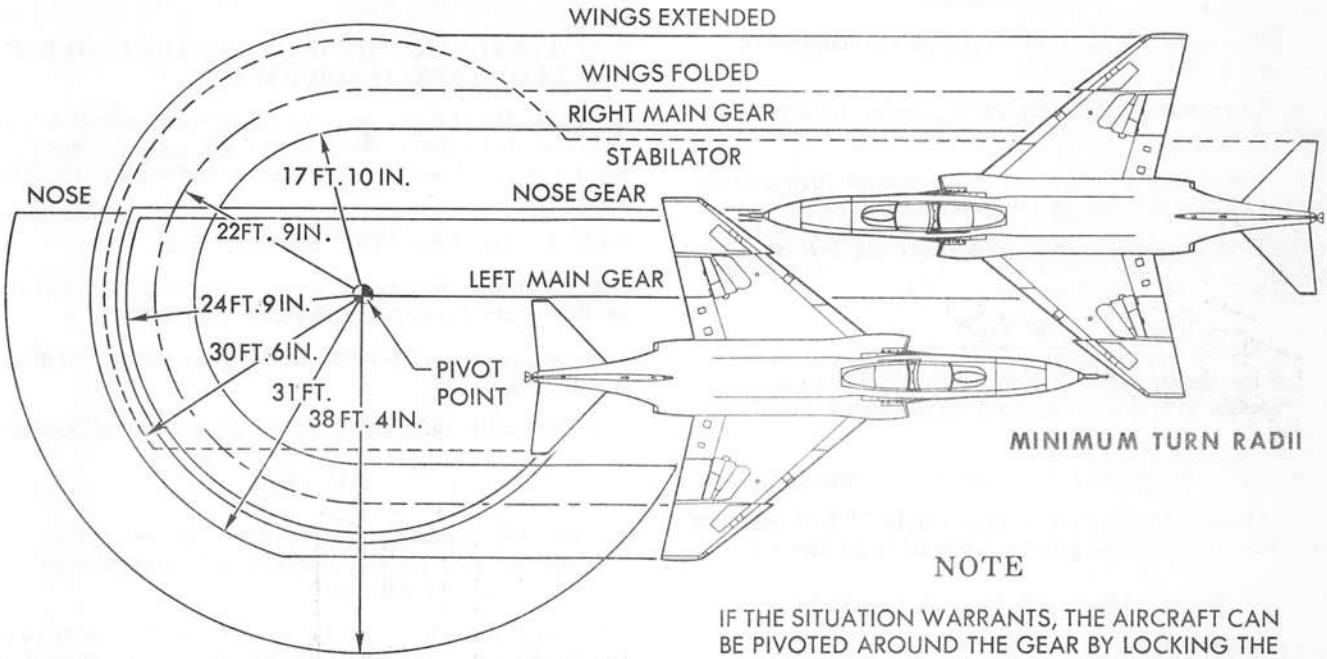
Figure 5-9. Pushing



NOTE

IF THE SITUATION WARRANTS, THE AIRCRAFT CAN BE PIVOTED AROUND THE GEAR BY LOCKING THE APPLICABLE BRAKE, HOWEVER DOING SO SCUFFS THE LOCKED TIRE EXCESSIVELY.

WARNING

DO NOT USE EMERGENCY AIR BRAKE WHEN HOT BRAKE CONDITIONS EXIST UNLESS ABSOLUTELY NECESSARY TO AVOID LOSS OF AIRCRAFT OR TO PREVENT INJURY TO PERSONNEL. COMBUSTIBLE MATERIALS SUCH AS OIL, GREASE, OR HYDRAULIC FLUID MAY COLLECT IN THE WHEEL BRAKE ASSEMBLY. THE COMBINATION OF HEATED COMBUSTIBLES AND THE SUDDEN INTRODUCTION OF HIGH PRESSURE AIR COULD RESULT IN AN EXPLOSION.

CAUTION

DO NOT ATTEMPT TO TURN THE AIRCRAFT WITH THE NOSE STRUT FULLY EXTENDED.

UNDER HIGH GROSS WEIGHT CONDITIONS, THE TURN RADIUS SHOULD BE INCREASED TO RELIEVE SIDE LOADS ON THE MAIN GEAR AND TIRES.

EXTENSIVE USE OF BRAKES CAN RESULT IN TIRE AND/OR WHEEL FAILURE DUE TO OVERHEATING.

STOPPING DISTANCE

ESTIMATED DISTANCES REQUIRED TO BRING AIRCRAFT TO A STOP FROM TAXIING SPEEDS ARE PRESENTED BELOW FOR VARIOUS RUNWAY CONDITIONS.

GROSS WEIGHT = 32,000 LB.

TAXI SPEED (MPH)	DRY RAMP (FT)	DRY DECK (FT)	WET RAMP (FT)	WET DECK (FT)
30	130	144	202	296
20	58	64	91	134
10	15	16	23	33
5	4	4	6	8

GROSS WEIGHT = 40,000 LB.

TAXI SPEED (MPH)	DRY RAMP (FT)	DRY DECK (FT)	WET RAMP (FT)	WET DECK (FT)
30	137	151	214	315
20	61	68	96	143
10	15	17	24	36
5	4	4	6	9

GROSS WEIGHT = 48,000 LB.

TAXI SPEED (MPH)	DRY RAMP (FT)	DRY DECK (FT)	WET RAMP (FT)	WET DECK (FT)
30	140	155	220	328
20	62	69	99	149
10	16	17	25	
5	4	4	6	10

FDC-2-1.1-(43)

Figure 5–10. Taxiing

CAUTION

Use nose gear steering for directional control to minimize brake heating.

e. Use nose gear steering, when possible, for directional control.

f. Use steady pressure on brake pedals during brake operation. Do not ride or pump the brakes.

g. Taxi at slow speeds and make as few stops as possible.

CAUTION

Slow down aircraft before entering a turn to reduce side loads imposed on airframe during turn.

h. Aircraft must be slowed down before entering a turn.

i. Make turns as wide as practicable, 75 foot radius if possible, at speeds no greater than 12 to 13 knots.

PARKING AND TIEDOWN

5-71. **PARKING.**

5-72. Aircraft parking on a standard apron is illustrated in figure 5-11. All applicable parking precautions should be observed. If the aircraft is to be parked during inclement weather and freezing temperatures, the procedure for prevention of water entry into boundary layer control ducts should be performed.

5-73. **TOOLS AND EQUIPMENT.**

Chocks, wheel, (8, table 2-2)
Strut, main landing gear actuator safety, (14, table 2-1)
Strut, nose landing gear actuator safety, (12, table 2-1)
Pin assembly, ejection seat safety, (5 or 6, table 2-1)

5-74. **MATERIALS.**

Pressure Sensitive Tape, (2 inch width), HH-I-595

5-75. **PRECAUTIONS.** Aircraft should be parked headed into the wind if high or gusty winds are anticipated. Canopies and radome should not be opened in winds of 50 knots or greater. Outer wings should not be folded or allowed to remain folded when winds exceed 60 knots. Wing flaps and speedbrakes must be retracted when foul weather is expected. Evacuation of the aircraft is recommended when winds in excess of 80 inots are anticipated. Winds in excess of 107 knots would be required to move a 31,000 pound aircraft, however, damage from flying debris in winds above 80 knots could be extensive.

5-76. **PROCEDURE.**

a. After the aircraft is in its designated parking area and the engines are shut down, double chock both main landing gear wheels.

b. Install main and nose landing gear actuator safety struts. Refer to paragraph 5-168.

c. Install ejection seat safety devices. Refer to paragraphs 5-158 and 5-163.

d. Fold the wings if required and weather permits. Refer to paragraph 5-46.

e. Install applicable protective covers and guards. Refer to paragraph 5-225.

5-77. **PREVENTION OF WATER ENTRY INTO BLC DUCTS ON PARKED AIRCRAFT.**

5-78. Leading Edge Flaps. Apply pressure sensitive tape (HH-I-595) to the leading edge flaps/wing junctures to completely seal the upper surface of the wing in the BLC duct area.

5-79. Trailing Edge Flaps. See figure 5-11.

a. With the trailing edge flaps up and locked, and the spoiler neutralized, pull the right aileron down.

b. Apply tape (HH-I-595) at the forward top end of the trailing edge flap.

c. Manually push the aileron back to neutral position.

CAUTION

Do not manually raise either spoiler unless aileron is held in the up position, to prevent bent push rods and bellcranks.

d. With the aileron in the up position, manually raise the inboard spoiler and apply tape to the spoiler well as illustrated.

e. Return spoiler to neutral position.

f. Repeat entire procedure for opposite wing.

CAUTION

Ensure all tape is removed prior to operating flaps.

5-80. **NORMAL AIRCRAFT TIEDOWN.** See figure 5-12.

5-81. **TOOLS AND EQUIPMENT.**

Tiedown assembly, aircraft mooring (14 required), (7, table 2-2)
Chocks, wheel, (8, table 2-2)

5-82. **MANPOWER REQUIREMENTS.**

a. Two men required.

5-83. **TIEDOWN ATTACHMENT.**

NOTE

Additional tiedown rings can be installed at the wing tank pylon attach point to supplement normal aircraft tiedown when inclement weather is anticipated. Refer to paragraph 5-87.

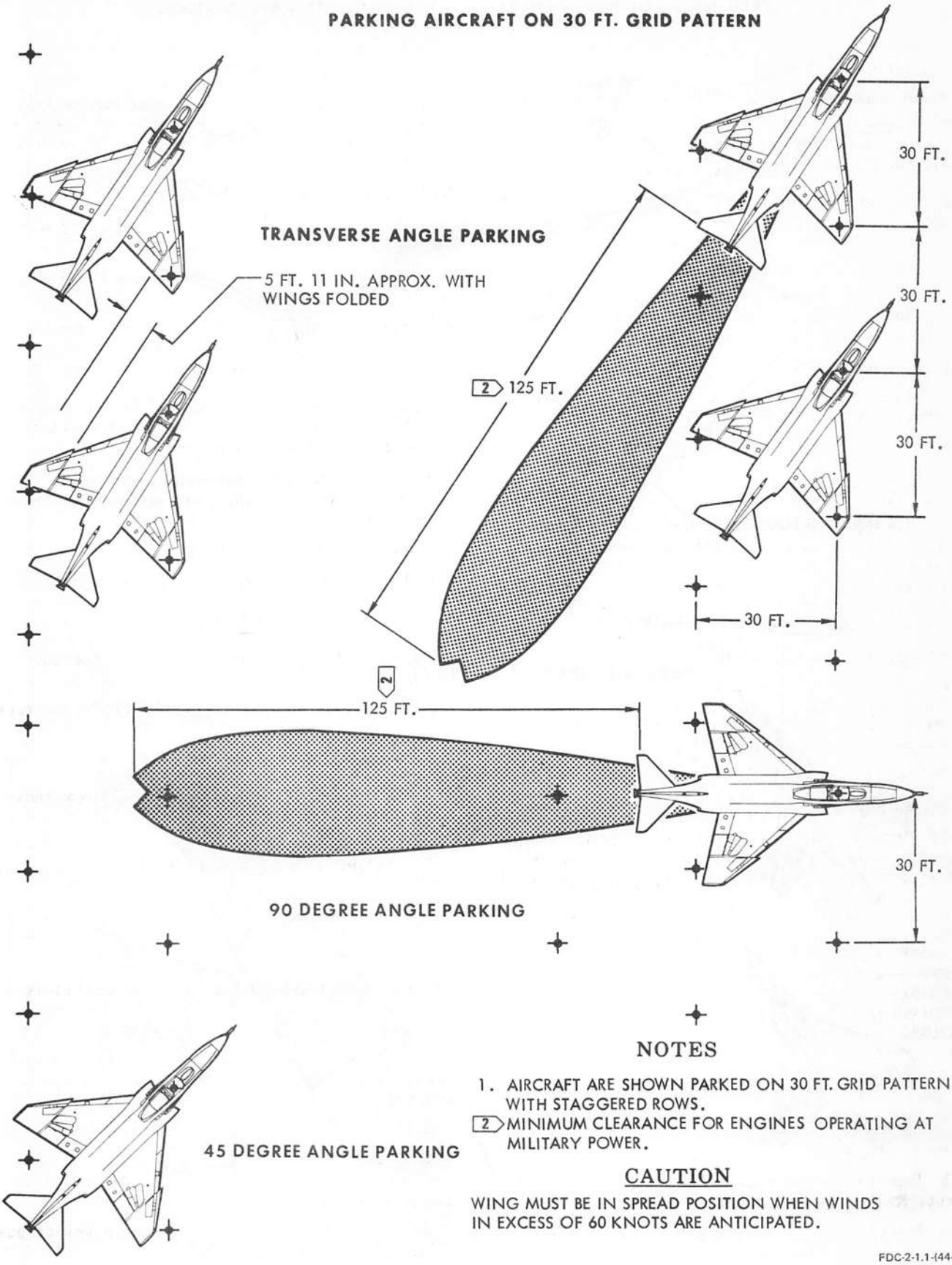
a. Ensure main landing gear wheels are securely chocked.

b. Attach chain and hook assembly to aircraft tiedown fitting.

c. Attach adjustable hook assembly to deck fitting or pad eye. See detail A.

d. With quick release lever in the locked position, push chain lock towards chain pocket.

e. Determine approximate chain length required and insert appropriate chain link into chain pocket. Ensure



NOTES

1. AIRCRAFT ARE SHOWN PARKED ON 30 FT. GRID PATTERN WITH STAGGERED ROWS.
2. MINIMUM CLEARANCE FOR ENGINES OPERATING AT MILITARY POWER.

CAUTION

WING MUST BE IN SPREAD POSITION WHEN WINDS IN EXCESS OF 60 KNOTS ARE ANTICIPATED.

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Figure 5–11. Parking (Sheet 1 of 2)

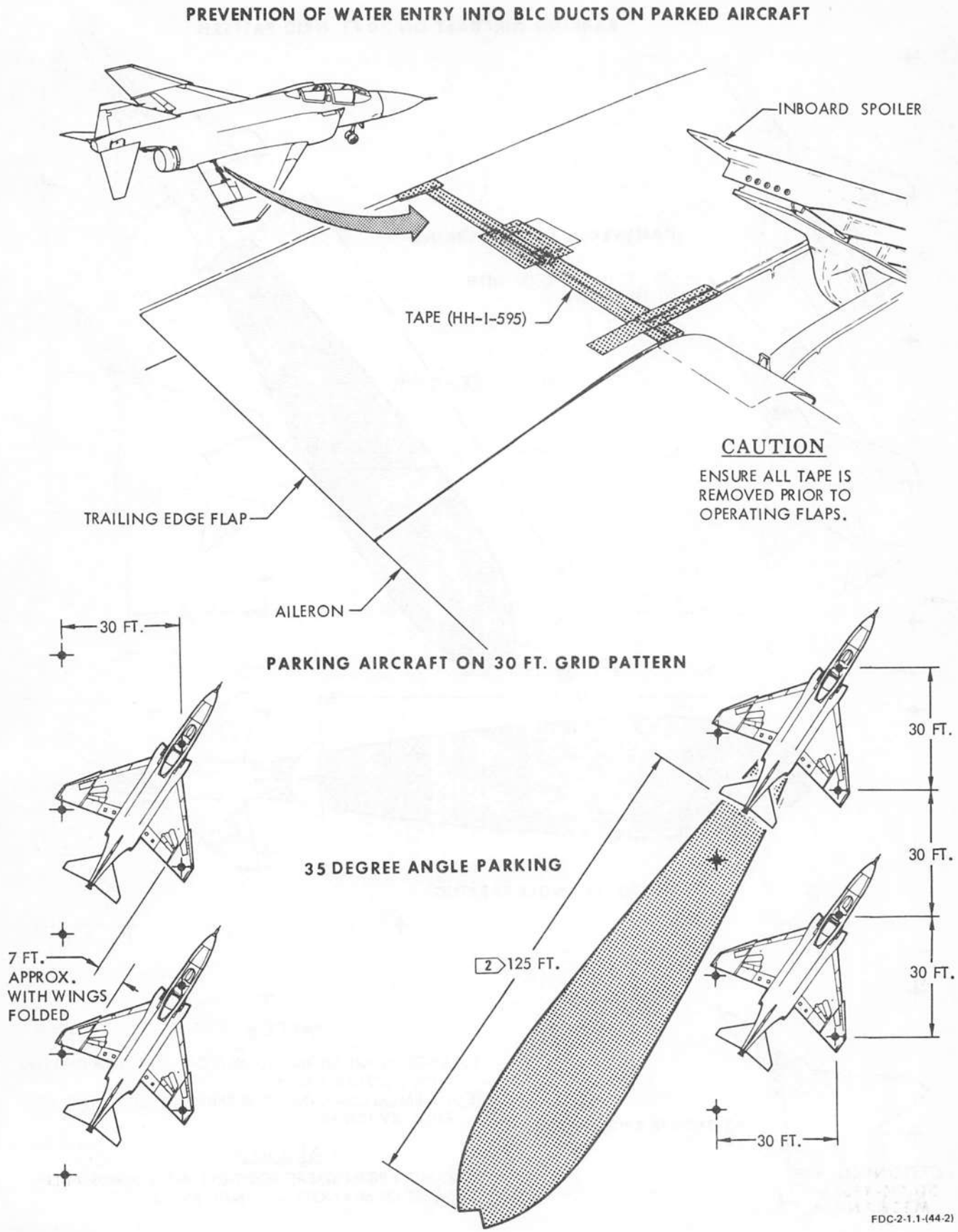
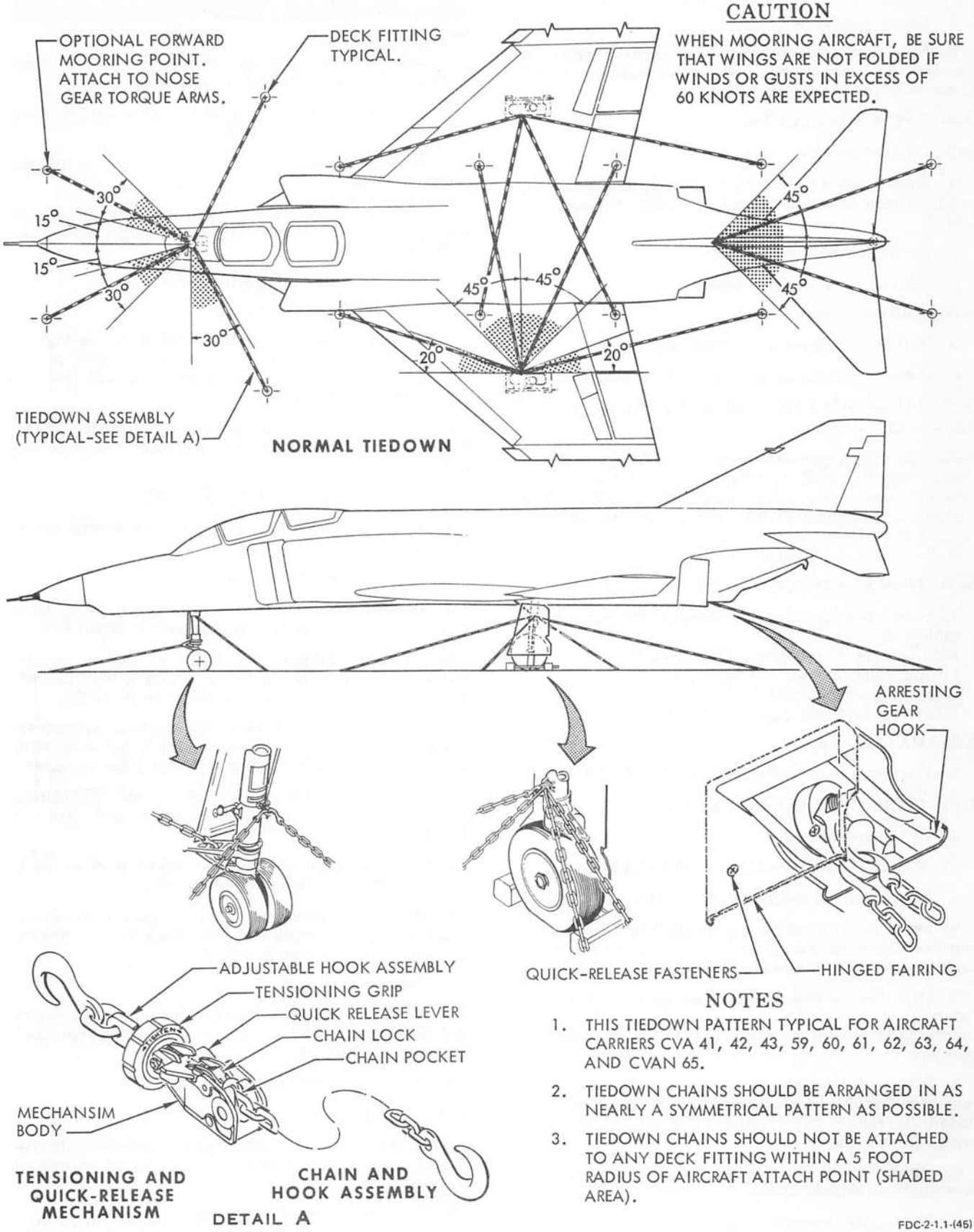


Figure 5–11. Parking (Sheet 2 of 2)



NOTES

1. THIS TIEDOWN PATTERN TYPICAL FOR AIRCRAFT CARRIERS CVA 41, 42, 43, 59, 60, 61, 62, 63, 64, AND CVAN 65.
2. TIEDOWN CHAINS SHOULD BE ARRANGED IN AS NEARLY A SYMMETRICAL PATTERN AS POSSIBLE.
3. TIEDOWN CHAINS SHOULD NOT BE ATTACHED TO ANY DECK FITTING WITHIN A 5 FOOT RADIUS OF AIRCRAFT ATTACH POINT (SHADED AREA).

FDC-2-1.1-(45)

Figure 5–12. Normal Aircraft Tiedown

that chain link bottoms in pocket.

f. Release chain lock.

g. Make final adjustment by turning tensioning grip in the direction indicated by arrows on tensioning grip until tiedown assembly is snug.

5-84. **TIEDOWN RELEASE.**

5-85. **Normal Release.**

a. Loosen tiedown assembly by turning tensioning grip in the opposite direction indicated by arrows on tensioning grip.

b. Push chain lock aft.

c. Lift chain out of chain pocket.

5-86. **Quick Release.**

a. Pull quick release lever downward.

b. Rotate quick release lever up and remove chain link.

5-87. **TIEDOWN FOR AIRCRAFT ON JACKS.** See figure 5-13.

5-88. Aircraft supported on three tripod jacks can be tied down utilizing AGE tiedown rings installed on the external wing pylon attach posts at B.L. 132.50. This tiedown arrangement permits cycling of both the main landing gear and nose landing gear. If centerline store is installed, refer to paragraph 5-98.

5-89. **TOOLS AND EQUIPMENT.**

Tiedown assembly, aircraft mooring, (12 required), (7, table 2-2)
Ring, adapter (1 required), (11, table 2-2)
Fitting, wing tiedown, (50, table 2-1)
Ring, wing tiedown, (51, table 2-1)
Pin, stores lowering lug, (52, table 2-1)

5-90. **MATERIALS.**

Sealing compound, synthetic glass, MIL-S-7126 Type II

5-91. **MANPOWER REQUIREMENTS.**

a. Two men required.

5-92. **WING TIEDOWN RING INSTALLATION.**

a. Remove access doors 100L and 100R.

b. Insert stores lowering lug pin shaft into key hole in cap (detail A) until first pin on tool shaft can be rotated 90 degrees counterclockwise and extends suspension lug.

c. Push down on tool shaft until second pin on tool shaft enters key hole and can be rotated 90 degrees counterclockwise to hold suspension lug in extended position.

d. If second pin does not align with key hole slot, remove tool shaft and insert square handle into cap socket (detail B). Rotate cap counterclockwise one turn and repeat steps b and c.

e. Remove plate from bottom of suspension lug by removing two attach screws.

f. Place wing tiedown ring over extended lug with tiedown rings pointing forward.

g. Place wing tiedown fitting inside wing tiedown ring and around extended suspension lug, making certain that rectangular slot in fitting is aligned with slot in lug (detail D).

h. Insert retainer through rectangular slot in wing tiedown fitting and into slot in suspension lug.

i. Turn wing tiedown ring 90 degrees so that tiedown rings are pointing outboard (detail D).

j. Remove tools shaft from key hole to retract suspension lug.

k. Lock suspension lug into position by inserting square handle into cap socket (detail B) and turning cap clockwise until tight.

l. Remove square handle from cap.

NOTE

Steps m and o may be omitted if sealing compound remained installed (undamaged) on top edge of socket when access doors 100L and 100R were removed.

m. Apply sealing compound around top edge of cap socket where access doors 100L and 100R mate with cap socket (detail G).

n. Install access doors 100L and 100R.

o. Trim excess sealing compound from around access doors 100L and 100R (detail G).

5-93. **TIEDOWN ATTACHMENT.**

a. To gain access to aft fuselage tiedown fitting, open hinged arresting hook fairing as shown in detail E.

b. To utilize catapult tow hooks as tiedown points, adapter rings must be used in conjunction with aircraft mooring tiedown assemblies as shown in detail C.

c. Attach chain and hook of aircraft mooring tiedown assemblies to wing tiedown rings, catapult tow hooks (with adapter rings), and aft fuselage tiedown rings as shown.

d. Attach adjustable hook assembly of aircraft mooring tiedown assemblies to deck fittings or pad eyes (as illustrated).

e. With quick release lever in locked position, push chain lock towards chain pocket (detail F).

f. Determine approximate chain length required and insert appropriate chain link into chain pocket. Ensure that chain link bottoms in pocket.

g. Release chain lock.

h. Make final adjustment by turning tensioning grip in direction indicated by arrows on tensioning grip until tiedown assembly is snug.

5-94. **TIEDOWN RELEASE.**

5-95. **Normal Release.**

a. Loosen tiedown assembly by turning tensioning grip in opposite direction indicated by arrows on tensioning grip (detail F).

b. Push chain lock aft.

c. Lift chain out of chain pocket.

d. Disconnect tiedown assemblies from aircraft tiedown

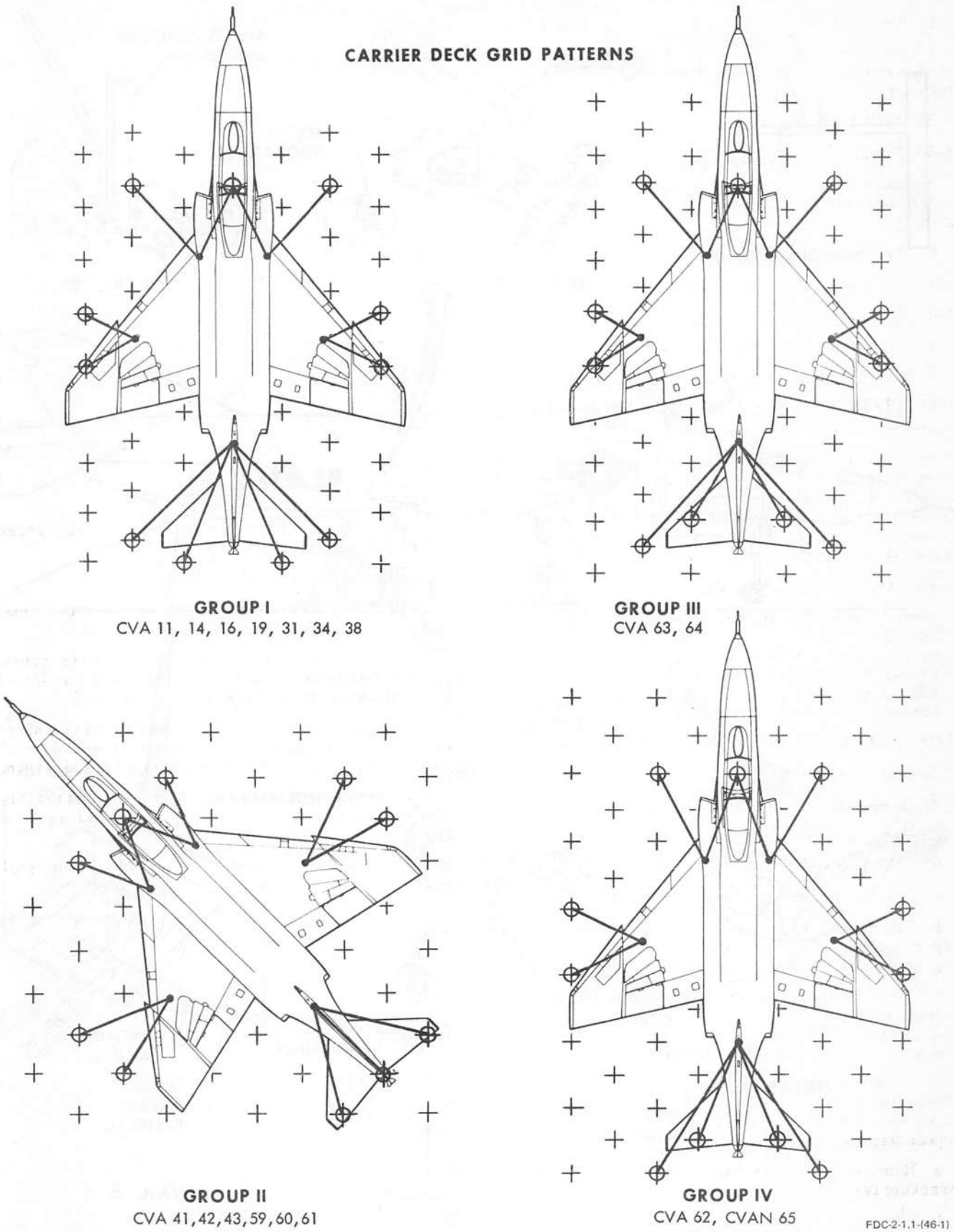


Figure 5–13. Tiedown For Aircraft On Jacks (Sheet 1 of 3)

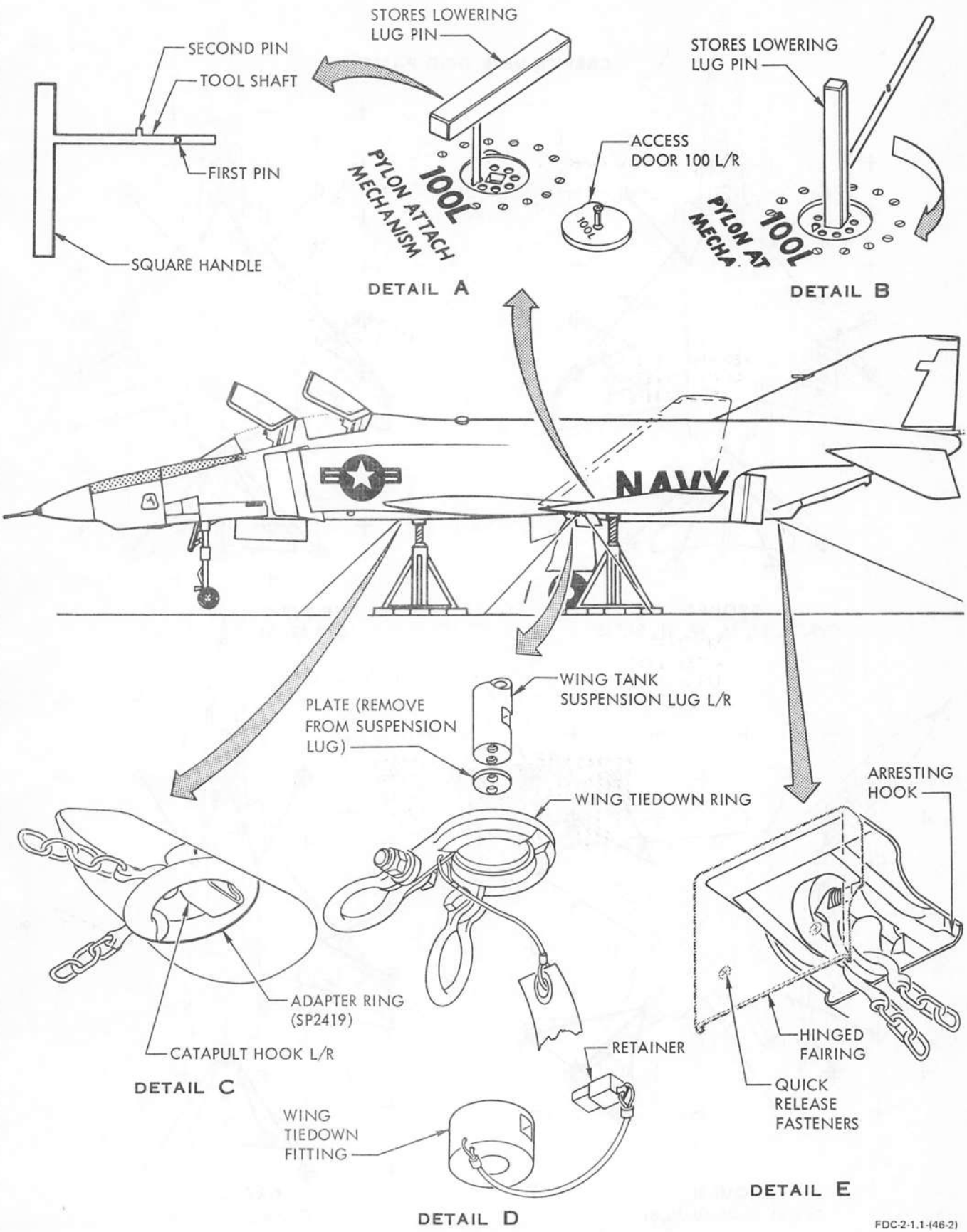
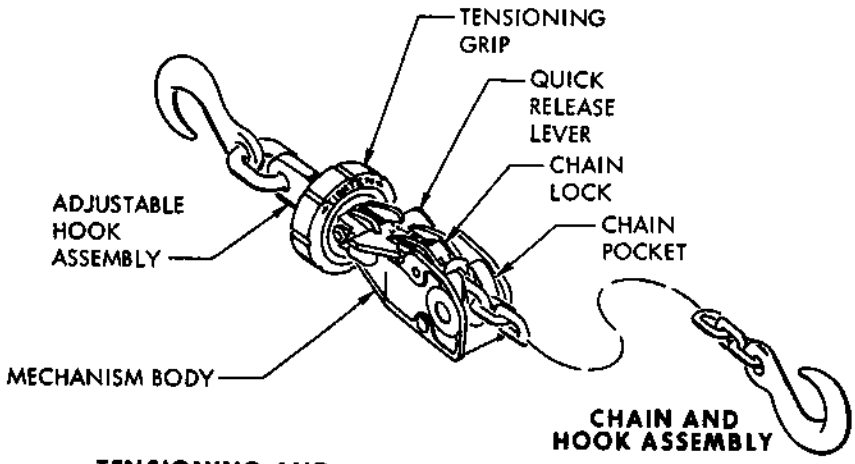
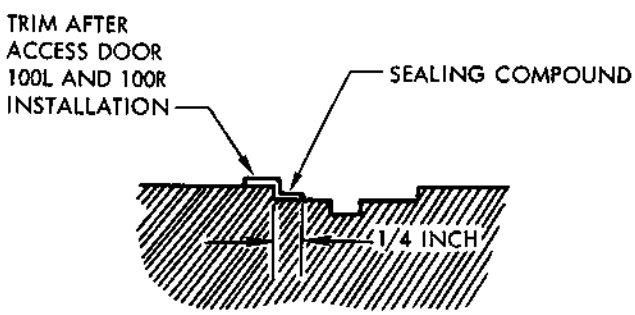


Figure 5-13. Tiedown For Aircraft On Jacks (Sheet 2 of 3)



DETAIL F



DETAIL G

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Figure 5-13. Tiedown For Aircraft On Jacks (Sheet 3 of 3)

points and from deck fittings.

5-96. Quick Release.

a. Pull quick release lever downward (detail F).

b. Rotate quick release lever up and remove chain link.

c. Disconnect tiedown assemblies from aircraft tiedown points and from deck fittings.

5-97. WING TIEDOWN RING REMOVAL.

a. Remove access door 100L and 100R.

b. Insert stores lowering lug pin handle into cap socket (detail B) and turn cap counterclockwise 2 turns.

c. Insert tool shaft into key hole in cap (detail A) until first pin on tools shaft can be rotated 90 degrees counterclockwise and extends suspension lug.

d. Push down on tool shaft until second pin on tool shaft enters key hole and can be rotated 90 degrees counterclockwise to hold suspension lug in extended position.

e. If second pin does not align with key hole slot, remove tool shaft and insert square handle into cap socket (detail B). Rotate cap counterclockwise one turn and repeat steps c and d.

f. Remove retainer from rectangular slot in wing tiedown fitting (detail D).

g. Remove wing tiedown fitting from inside of wing tiedown ring (detail D).

h. Remove wing tiedown ring from extended suspension lug.

i. Install plate on bottom of suspension lug with two attach screws.

j. Remove tool shaft from key hole to retract suspension lug.

k. Secure suspension lug by inserting square handle into cap socket (detail B) and turn cap clockwise two turns.

l. Remove square handle from cap.

NOTE

Steps m and o may be omitted if sealing compound remained installed (undamaged) on top edge of cap socket when access doors 100L and 100R were removed.

m. Apply sealing compound around top edge of cap socket where access doors 100L and 100R mate with cap socket (detail G).

n. Install access doors 100L and 100R.

o. Trim excess sealing compound from around access doors 100L and 100R (detail G).

5-98. TIEDOWN FOR AIRCRAFT ON JACKS WITH CENTERLINE STORE ABOARD. See figure 5-14.

5-99. TOOLS AND EQUIPMENT.

Tiedown assembly, aircraft mooring, (16 required), (7, table 2-2)

Ring, adapter (2 required), (11, table 2-2)

5-100. MANPOWER REQUIREMENTS.

a. Two men required.

5-101. TIEDOWN ATTACHMENT.

a. Attach four chain and hook assemblies (aircraft mooring tiedown assemblies) to each of the main landing gear tiedown rings (detail A).

b. To utilize catapult tow hooks as tiedown points, adapter rings must be used in conjunction with aircraft mooring tiedown assemblies. Attach two chain and hook assemblies (aircraft mooring tiedown assemblies) to each catapult tow hook (with adapter ring) (detail B).

c. Attach four chain and hook assemblies (aircraft mooring tiedown assemblies) to aft fuselage tiedown ring (detail C).

d. Attach adjustable hook assemblies of aircraft mooring tiedown assemblies to deck fitting or pad eyes (as illustrated).

e. With quick release lever in locked position, push chain lock towards chain pocket (detail D).

f. Determine approximate chain length required, and insert appropriate chain link into chain pocket. Ensure that chain link bottoms in pocket.

g. Release chain lock.

h. Make final adjustment by turning tensioning grip in direction indicated by arrows on tensioning grip until tiedown assembly is snug.

5-102. TIEDOWN RELEASE.

5-103. Normal Release.

a. Loosen tiedown assembly by turning tensioning grip in opposite direction indicated by arrows on tensioning grip (detail D).

b. Push chain lock aft.

c. Lift chain out of chain pocket.

d. Disconnect tiedown assemblies from aircraft tiedown points and from deck fittings.

5-104. Quick Release.

a. Pull quick release lever downward (detail D).

b. Rotate quick release lever up and remove chain link.

c. Disconnect tiedown assemblies from aircraft tiedown points and from deck fittings.

5-105. HEAVY WEATHER TIEDOWN.

5-106. For heavy weather tiedown, perform Tiedown for Aircraft on Jacks. Refer to paragraph 5-87. See figure 5-15 for arrangement of tiedown assemblies. This arrangement provides for maximum limitations of 100 knots winds. Both canopies must be closed and wings in spread condition. All gear must be double checked.

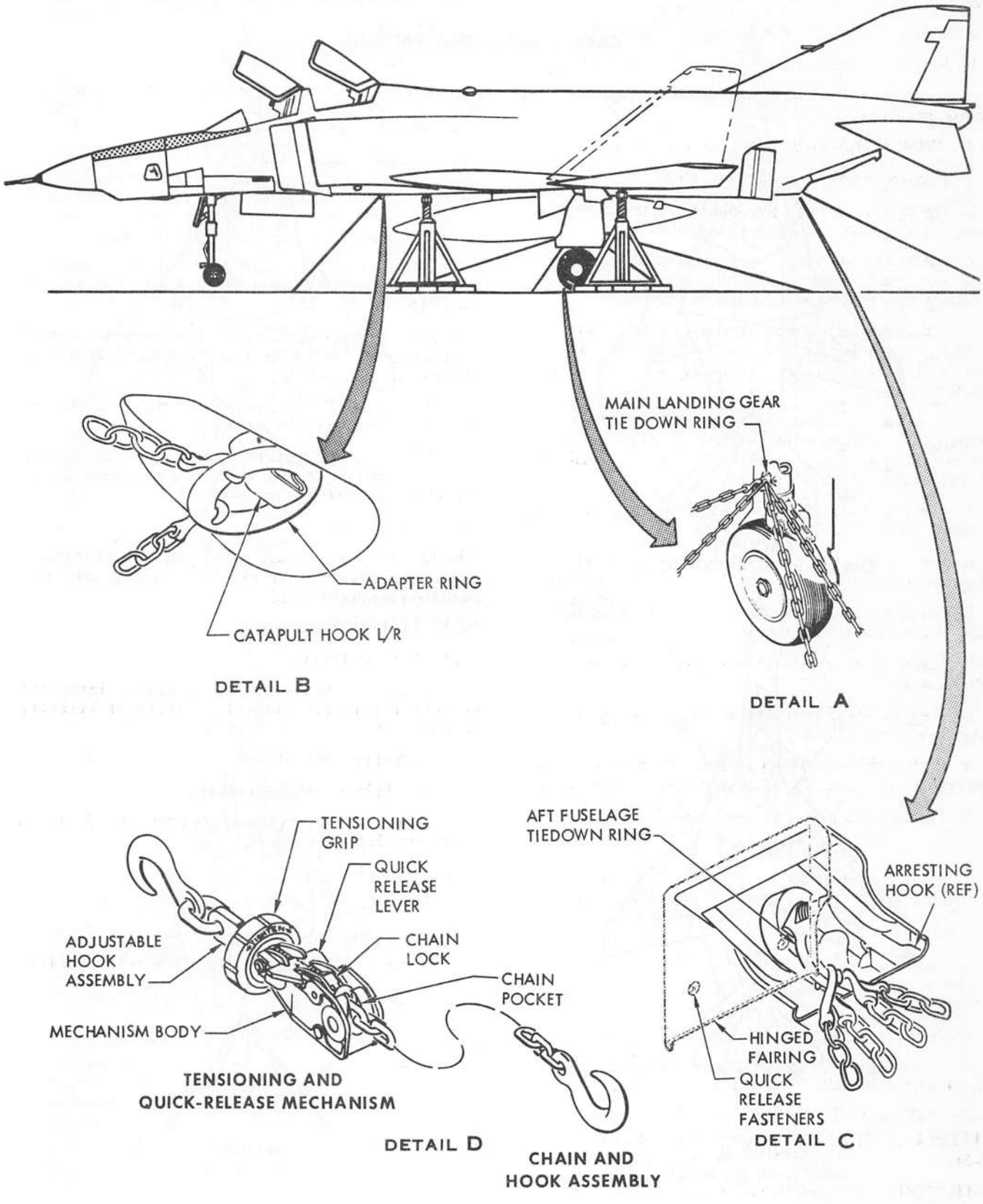


Figure 5–14. Tiedown For Aircraft On Jacks With Centerline Store Aboard (Sheet 1 of 2)

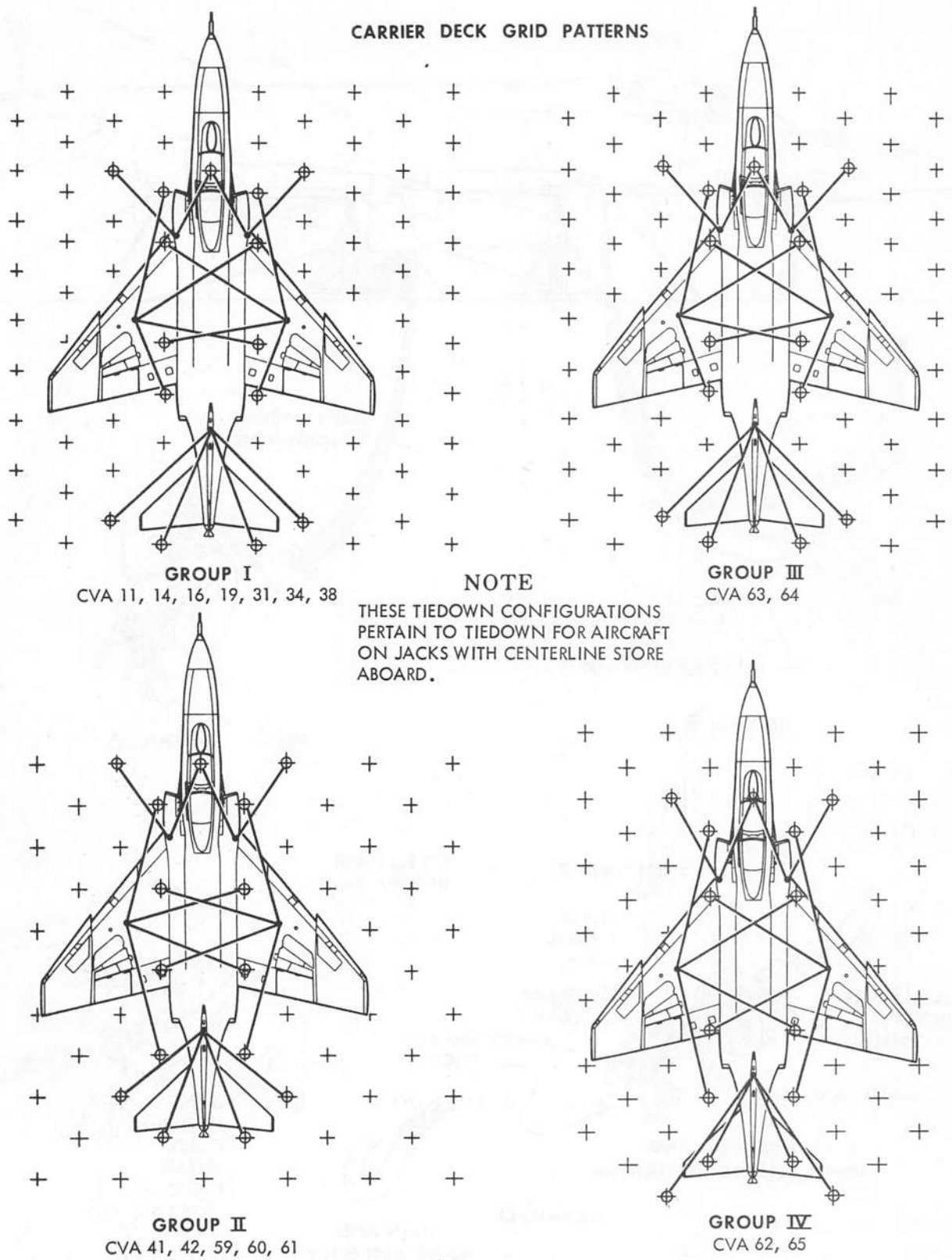


Figure 5-14. Tiedown For Aircraft On Jacks With Centerline Store Aboard (Sheet 2 of 2)

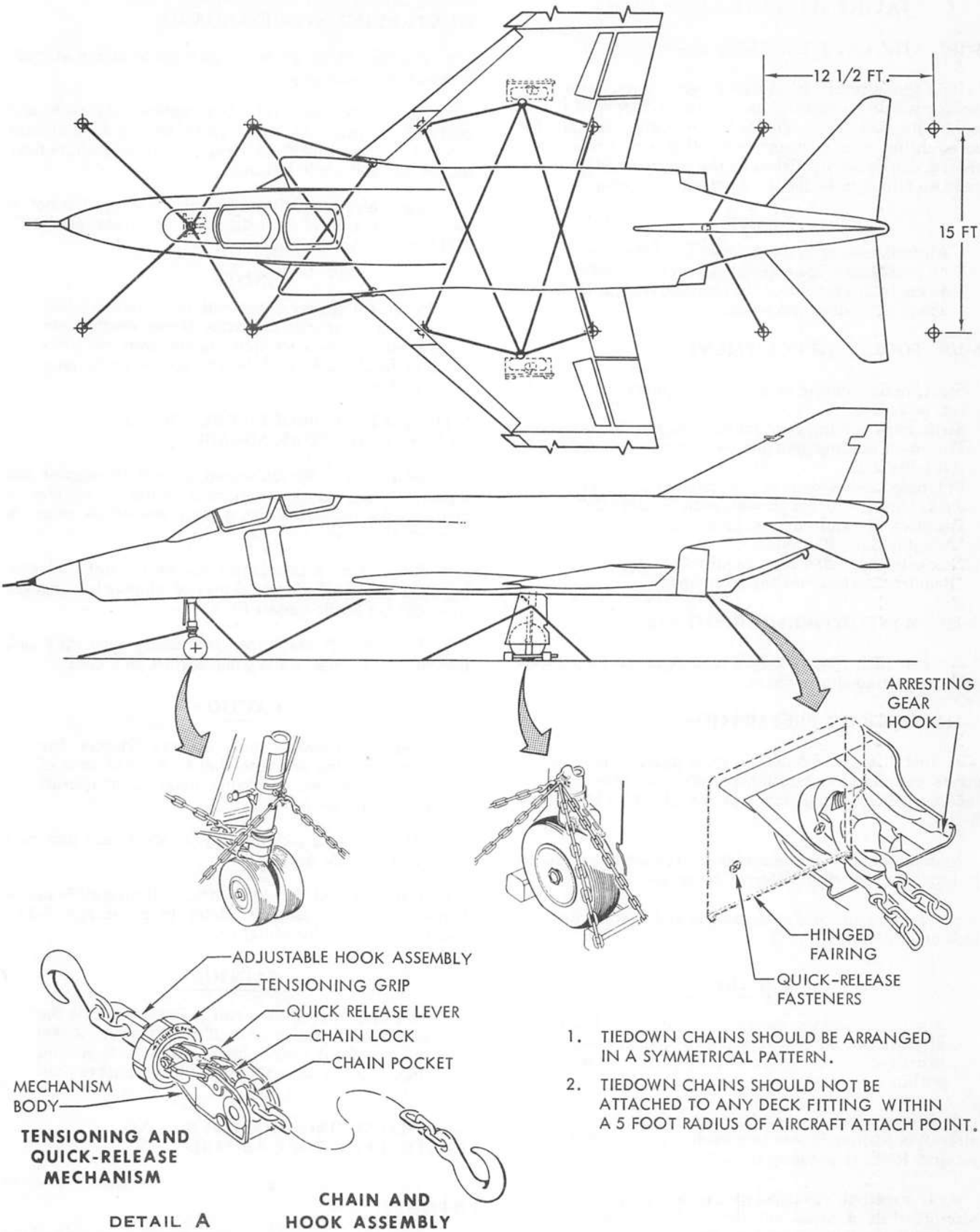


Figure 5–15. Tiedown For 100 Knot Wind

JACKING AND LEVELING

5-107. AIRCRAFT JACKING. See figure 5-16.

5-108. The aircraft is provided with three structural jacking points for jacking the entire aircraft with tripod jacks and jack pads. Jacking the entire aircraft for boresighting gun pods or with other centerline store aboard, can be accomplished by the use of an adapter bar and two tripod jacks for the fuselage jack point.

NOTE

Aircraft resting on the jacks will withstand winds up to 40 knots. For exposure to winds in excess of 40 knots, aircraft should be removed from jacks or adequate tiedown provided.

5-109. TOOLS AND EQUIPMENT.

Strut, main landing gear actuator safety (2 required), (14, table 2-1)
Strut, nose landing gear actuator safety, (12, table 2-1)
Pin, main landing gear inboard door lock (2 required), (11, table 2-1)
Pin, nose landing gear door uplatch lock, (10, table 2-1)
Jack, tripod - 20 Ton (3 required), (9, table 2-2)
Pad, jack (3 required), (48, table 2-1)
*Adapter Bar, (49, table 2-1)
*Jack, tripod - 20 Ton (1 required), (9, table 2-2)
*Required with centerline store aboard.

5-110. MANPOWER REQUIREMENTS.

a. Four men required. Five men required for aircraft with centerline store aboard.

5-111. AIRCRAFT PREPARATION.

a. Install main and nose landing gear actuator safety struts, main landing gear inboard door lock pins, and nose landing gear door uplatch lock pin. Refer to paragraph 5-168.

b. Install structural access doors required for aircraft jacking and lowering. Refer to paragraph 3-82.

c. Install a jack pad at each wing and forward fuselage jack point (detail A).

CAUTION

Maximum jacking weight is 54,700 lbs. Entire aircraft can be jacked with any combination of armament and external fuel tanks attached within this weight limit.

d. If aircraft is to be secured on jacks, ensure that aircraft is positioned over appropriate grid pattern before jacking. Refer to paragraph 5-87 or 5-98.

e. If external electrical power is to applied to the aircraft while on jacks, pull the circuit breakers specified on Circuit Breaker Check List. Refer to paragraph 5-14.

f. Ensure radar package is in stowed position before jacking or lowering aircraft.

5-112. JACKING PROCEDURE - NO CENTERLINE STORE ABOARD.

a. Position three 20 ton tripod jacks under aircraft beneath each jack pad.

b. Raise jack rams until firm against jack pads and continue to raise all three jacks evenly to maintain aircraft in a level attitude. Keep jack ram locknuts near locked position while jacking.

c. Raise aircraft to desired height. If aircraft is not to be boresighted, level aircraft. Refer to paragraph 5-127. Tighten jack ram locknuts.

NOTE

Structural access doors can be removed while aircraft is at rest on jacks. Gross weight over 40,000 lbs. requires that engine drop-out links and front (L & R) inboard spar doors remain installed.

5-113. JACKING PROCEDURE - WITH CENTERLINE STORE ABOARD.

a. Position two 20 ton tripod jacks with adapter bar under fuselage so that spherical center of adapter is beneath fuselage jack point and centerline store is between the jacks.

b. Raise jacks with adapter bar evenly until adapter bar is in level attitude and center of adapter bar engages the jack pad firmly (detail B).

c. Position a 20 ton tripod jack under each wing jack pad, and raise jacks until snug against jack pads.

CAUTION

Operation director must observe adapter bar during raising and lowering to prevent ends of adapter bar from damaging underside of aircraft due to uneven jacking.

d. Raise all four jacks evenly, keeping each jack ram locknut near locked position.

e. Raise aircraft to desired height. If aircraft is not be boresighted, level aircraft. Refer to paragraph 5-127. Tighten jack ram locknuts.

CAUTION

Structural access doors can be removed while the aircraft is at rest on jacks. If weight is over 40,000 lbs., the front spar inboard doors (L & R) and engine compartment drop-out links must remain installed.

5-114. LOWERING PROCEDURE - NO CENTERLINE STORE ABOARD.

a. Install landing gear safety devices. Refer to paragraph 5-168.

b. Install structural access doors required for jacking and lowering. Refer to paragraph 3-82.

c. Clear area beneath aircraft.

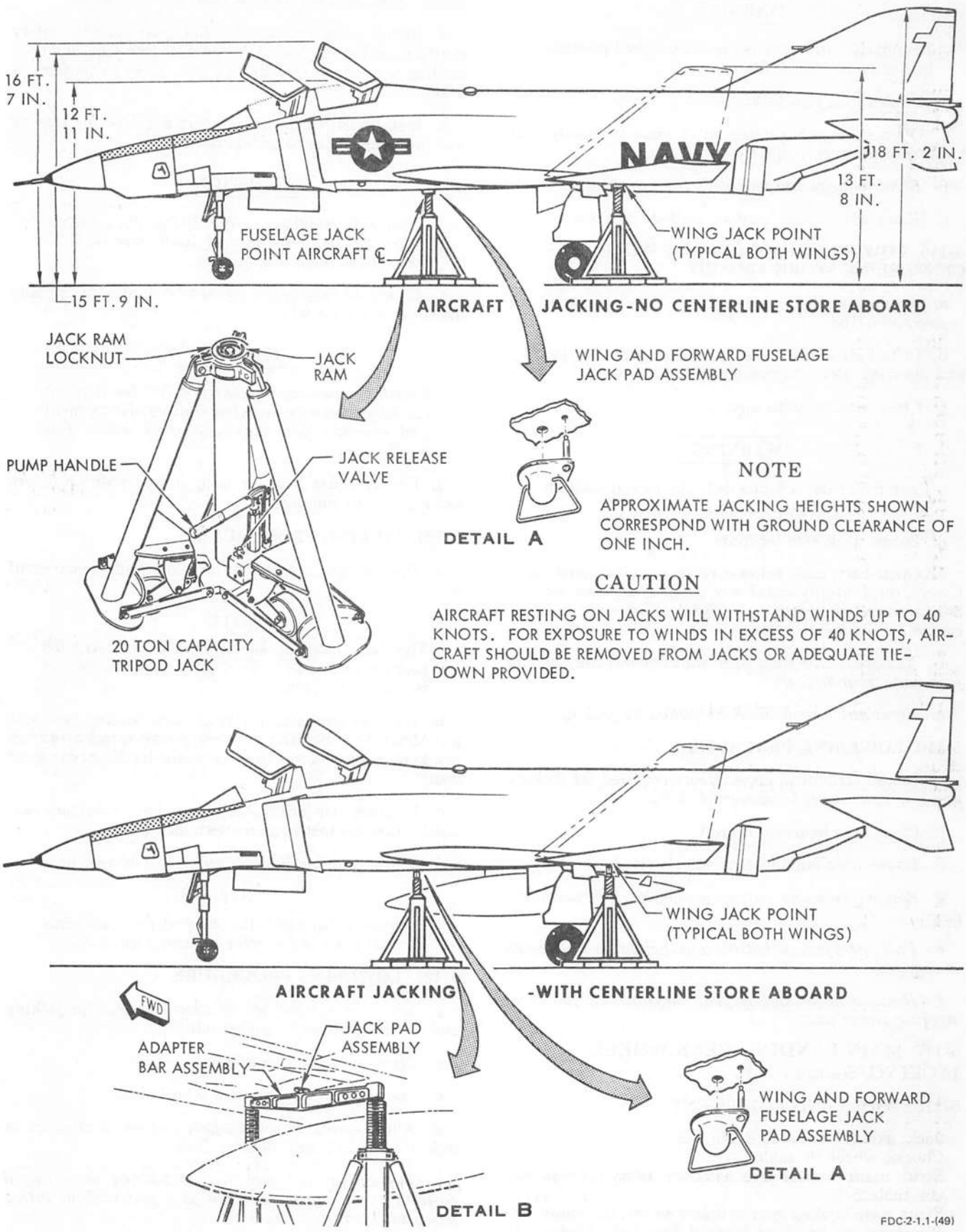


Figure 5–16. Aircraft Jacking

WARNING

Keep jack ram locknuts near the locked position in the event of jack failure.

d. Loosen jack ram locknuts.

e. Open each jack release valve simultaneously and lower aircraft evenly and slowly.

f. *Remove jacks and jack pads from aircraft.*

g. *Reset any circuit breakers pulled for jacking.*

5-115. LOWERING PROCEDURE - WITH CENTERLINE STORE ABOARD.

a. Install landing gear safety devices. Refer to paragraph 5-168.

b. Install structural access doors required for jacking and lowering. Refer to paragraph 3-82.

c. Clear area beneath aircraft.

WARNING

Keep jack ram locknuts near the locked position in the event of jack failure.

d. Loosen jack ram locknuts.

e. Open each jack release valve simultaneously and lower aircraft evenly and slowly. Adapter bar must be held level by the two center jacks. Rate of lowering must be controlled by operation director.

f. *Remove center jacks with adapter bar, wing jack and jack pads from aircraft.*

g. *Reset any circuit breakers pulled for jacking.*

5-116. LOWERING PROCEDURE.

a. Install structural access doors required for jacking and lowering. Refer to paragraph 3-82.

b. Clear area beneath aircraft.

c. Lower nose landing gear wheels slowly.

d. Remove jack and pull spring-loaded jack pad latch down.

e. *Pull up on jack pad fitting and then lower until latch is engaged.*

f. *Remove nose landing gear jacking lock pin from steering power unit.*

5-117. MAIN LANDING GEAR WHEEL JACKING. See figure 5-17.

5-118. TOOLS AND EQUIPMENT.

Jack, axle (15 ton), (10, table 2-2)
Chocks, wheel, (8, table 2-2)
Strut, main landing gear actuator safety (2 required), (14, table 2-1)
Strut, nose landing gear actuator safety, (12, table 2-1)
Pin, main landing gear inboard door lock (2 required), (11, table 2-1)
Pin, nose landing gear door uplatch lock, (10, table 2-1)

5-119. AIRCRAFT PREPARATION.

a. Install main and nose landing gear actuator safety struts, main landing gear inboard door lock pins, and nose landing gear door uplatch lock pin. Refer to paragraph 5-168.

b. Install structural access doors required for jacking and lowering. Refer to paragraph 3-82.

CAUTION

If aircraft weight is over 40,000 lbs., engine drop-out links and inboard front spar (L & R) doors must remain installed.

c. Chock the nose landing gear wheels and the opposite main landing gear wheel.

CAUTION

Maximum jacking weight is 54,700 lbs. Aircraft can be jacked with any combination of armament and external fuel tanks attached within this weight limit.

d. Ensure radar package is in stowed position before jacking or lowering aircraft.

5-120. JACKING PROCEDURE.

a. Open hinged access door on main landing gear strut door.

NOTE

The jack pad is spring-loaded to retracted position and must be held extended until contact is made with jack.

b. Lift jack pad latch inside of main landing gear axle nut (detail C) and withdraw spring-loaded jack pad from inside of hinged access door on main landing gear strut door.

c. Position axle jack under jack pad and raise jack ram until a firm contact is made with jack pad.

d. Raise main landing gear wheel to desired height.

NOTE

For removal and installation of access doors while aircraft is on jacks, refer to paragraph 3-82.

5-121. LOWERING PROCEDURE.

a. Install structural access doors required for jacking and lowering. Refer to paragraph 3-82.

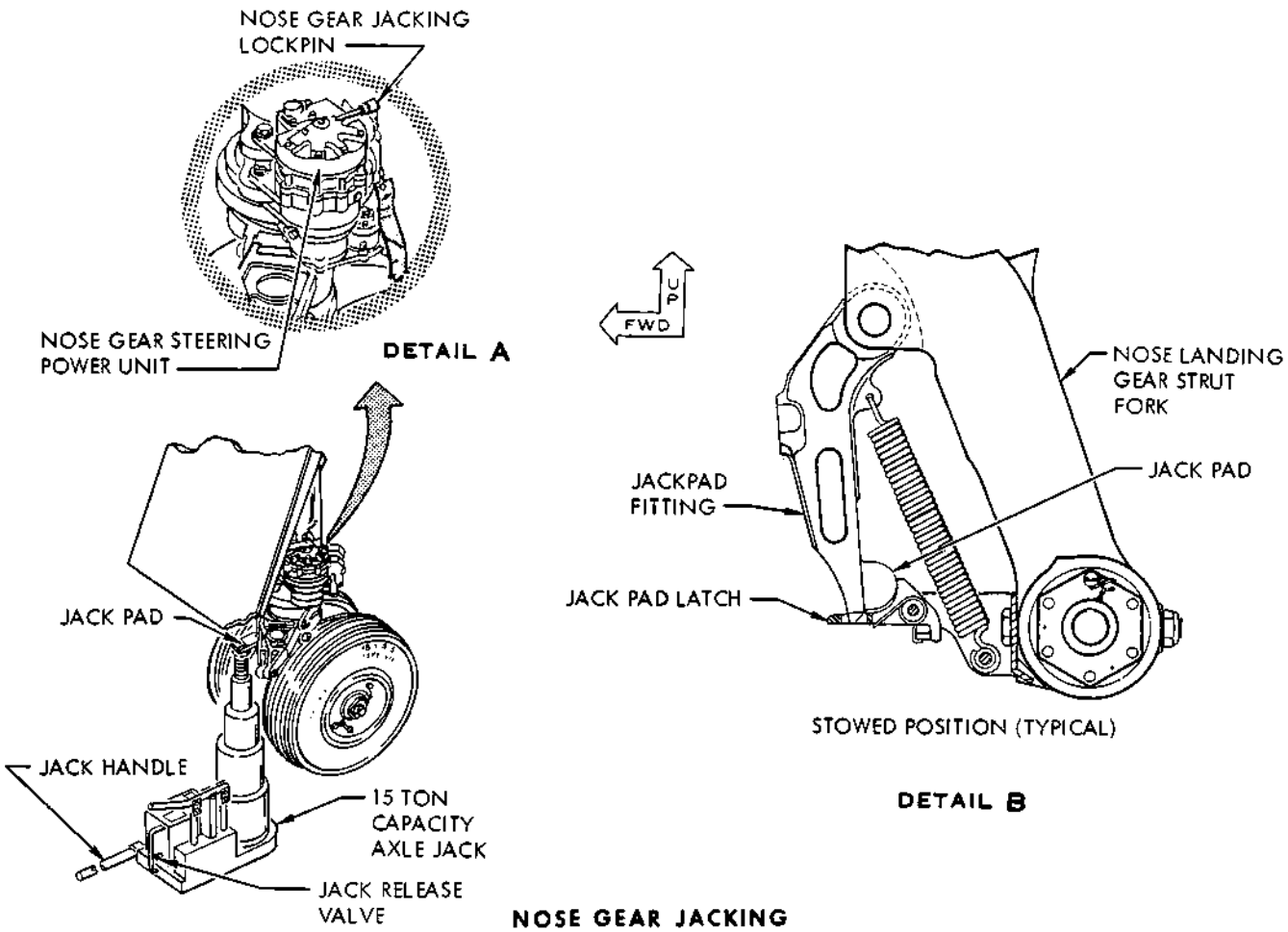
b. Clear area beneath aircraft.

c. Lower main landing gear wheel slowly.

d. Allow spring to retract jack pad when pressure of jack is off of jack pad. Remove jack.

e. *Determine that jack pad is latched in retracted position by trying to withdraw jack pad without lifting jack pad latch.*

f. *Close and secure hinged access door on main landing gear strut door.*



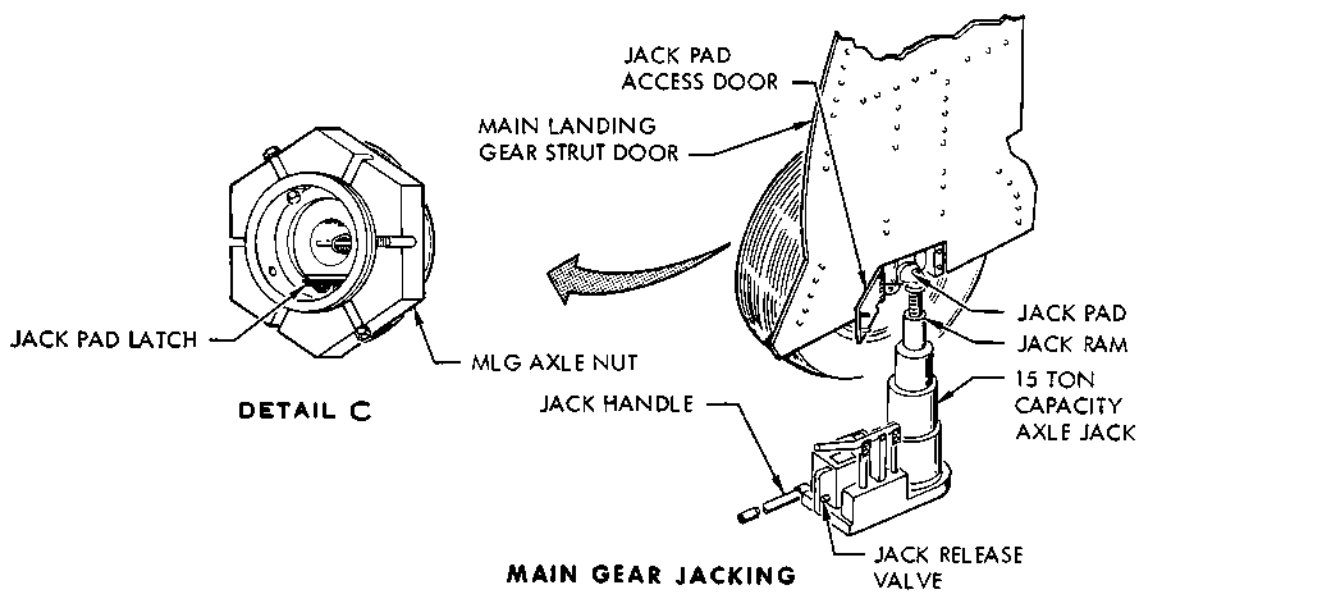


Figure 5–17. Wheel Jacking

5-122. **NOSE LANDING GEAR WHEEL JACKING.** See figure 5-17.

5-123. **TOOLS AND EQUIPMENT.**

Jack, axle (15 ton), (10, table 2-2)
Pin, nose landing gear jacking lock, (8, table 2-1)
Chocks, wheel, (8, table 2-2)
Strut, main landing gear actuator safety (2 required), (14, table 2-1)
Strut, nose landing gear actuator safety, (12, table 2-1)
Pin, main landing gear inboard door lock (2 required), (11, table 2-1)
Pin, nose landing gear door uplatch lock, (10, table 2-1)

5-124. **AIRCRAFT PREPARATION.**

a. Install main and nose landing gear actuator safety struts, main landing gear inboard door lock pins, and nose landing gear door uplatch lock pin. Refer to paragraph 5-168.

b. Install structural access doors required for jacking and lowering. Refer to paragraph 3-82.

CAUTION

If aircraft weight is over 40,000 lbs., engine drop-out links and inboard front spar (L & R) doors must remain installed.

c. Install nose landing gear jacking lock pin in steering power unit with nose gear wheels as close as possible (within 10 degrees) to normal aft trail position (detail A).

d. Chock main landing gear wheels.

CAUTION

Maximum jacking weight is 50,000 lbs. Aircraft can be jacked with any combination of armament and external fuel tanks attached within this weight limit.

f. Ensure radar package is in stowed position before jacking or lowering aircraft.

5-125. **JACKING PROCEDURE.**

a. Depress jack pad latch and rotate jack pad fitting to extended position (detail B).

b. Position jack beneath jack pad fitting and raise jack ram until firm contact is made with jack pad.

c. Raise nose landing gear wheels to desired height.

NOTE

For removal and installation of access doors while aircraft is on jacks, refer to paragraph 3-82.

5-126. **LOWERING PROCEDURE.**

a. Install structural access doors required for jacking and lowering. Refer to paragraph 3-82.

b. Clear area beneath aircraft.

c. Lower nose landing gear wheels slowly.

d. Remove jack and pull spring-loaded jack pad latch down.

e. Pull up on jack pad fitting and then lower until latch is engaged.

f. Remove nose landing gear jacking lock pin from steering power unit.

5-127. **AIRCRAFT LEVELING.** See figure 5-18.

5-128. Leveling of the aircraft on jacks can be accomplished with a precision spirit level, leveling bar, and the aircraft structural leveling brackets located in the nose gear wheel well. For procedure and structural points used for leveling the aircraft with a transit, refer to NAVAIR 01-245FDA-3-1.1.

5-129. **TOOLS AND EQUIPMENT.**

Level, spirit, Maximum length - 10 inches
Leveling bar, 19.25 x 1.0 inch, local manufacture from 1.0 inch square steel stock

5-130. **MANPOWER REQUIREMENTS.**

a. Three men required.

5-131. **PROCEDURE.**

a. Remove all dirt and debris from the leveling brackets.

b. Place leveling bar across the aft leveling brackets. Position spirit level on top of the leveling bar.

c. Jack the left or right wing jack until the bubble in the spirit level is in the exact center of the scale. Tighten jack ram locknuts.

d. Reposition leveling bar and spirit level across the forward and aft leveling brackets.

e. Jack the fuselage jack(s) until the bubble in the spirit level is in the exact center of the scale. Tighten jack ram locknuts.

f. Remove the leveling bar and spirit level.

g. Repeat steps b through f until the bubble in the spirit level is in the exact center of the scale and no further jack adjustments are necessary.

HOISTING AIRFRAME AND COMPONENTS

5-132. **AIRCRAFT HOISTING.**

5-133. Hoisting of a complete aircraft and/or an aircraft with components removed and in different configurations is shown in figure 5-19.

5-134. **TOOLS AND EQUIPMENT.**

Sling, hoisting, (53, table 2-1)

5-135. **MANPOWER REQUIREMENTS.**

a. Three men required.

5-136. **PROCEDURE.**

a. Observe all notes and cautions contained in figure 5-19.

b. Place landing gear control handle in GEAR DOWN position.

c. Remove four fuselage hoist fitting covers.

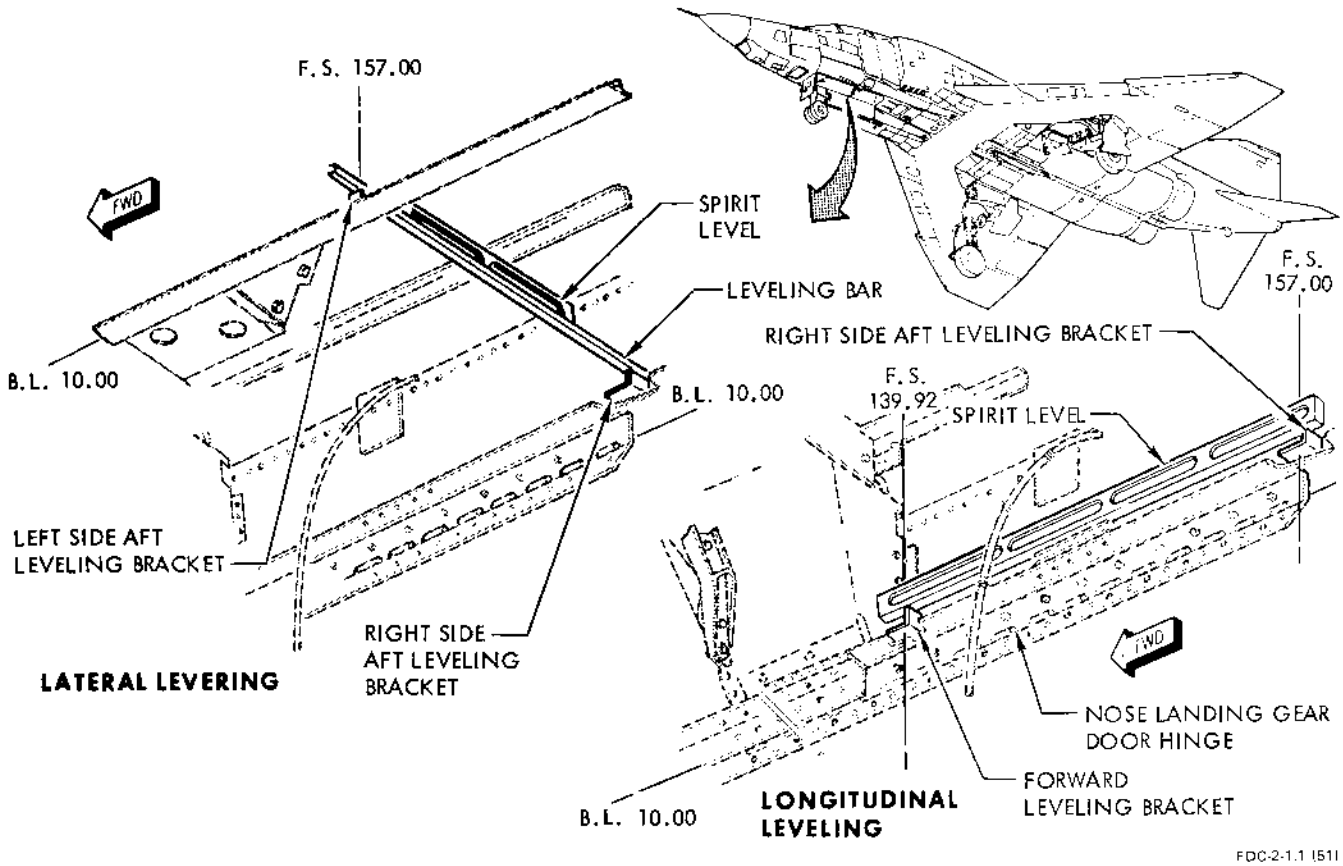


Figure 5–18. Aircraft Leveling

NOTE

Inspect aircraft hoist fittings, both before and after the hoisting operation for cracks, distortion, and bolt hole elongation.

d. Suspend hoisting sling from crane hook and position the crane hook over the aircraft so that the sling may be attached.

e. Attach each of the cables of the sling to the aircraft with the longer cables at the forward hoist points; tighten threaded handle assemblies into aircraft hoist fittings.

f. Attach at least 3 guy lines from the aircraft tiedown rings to the crane to steady the aircraft.

g. Take up the slack in the hoisting cables, then hoist and/or lower the aircraft smoothly to avoid excessive load factor.

5–137. *Quality Assurance Summary.*

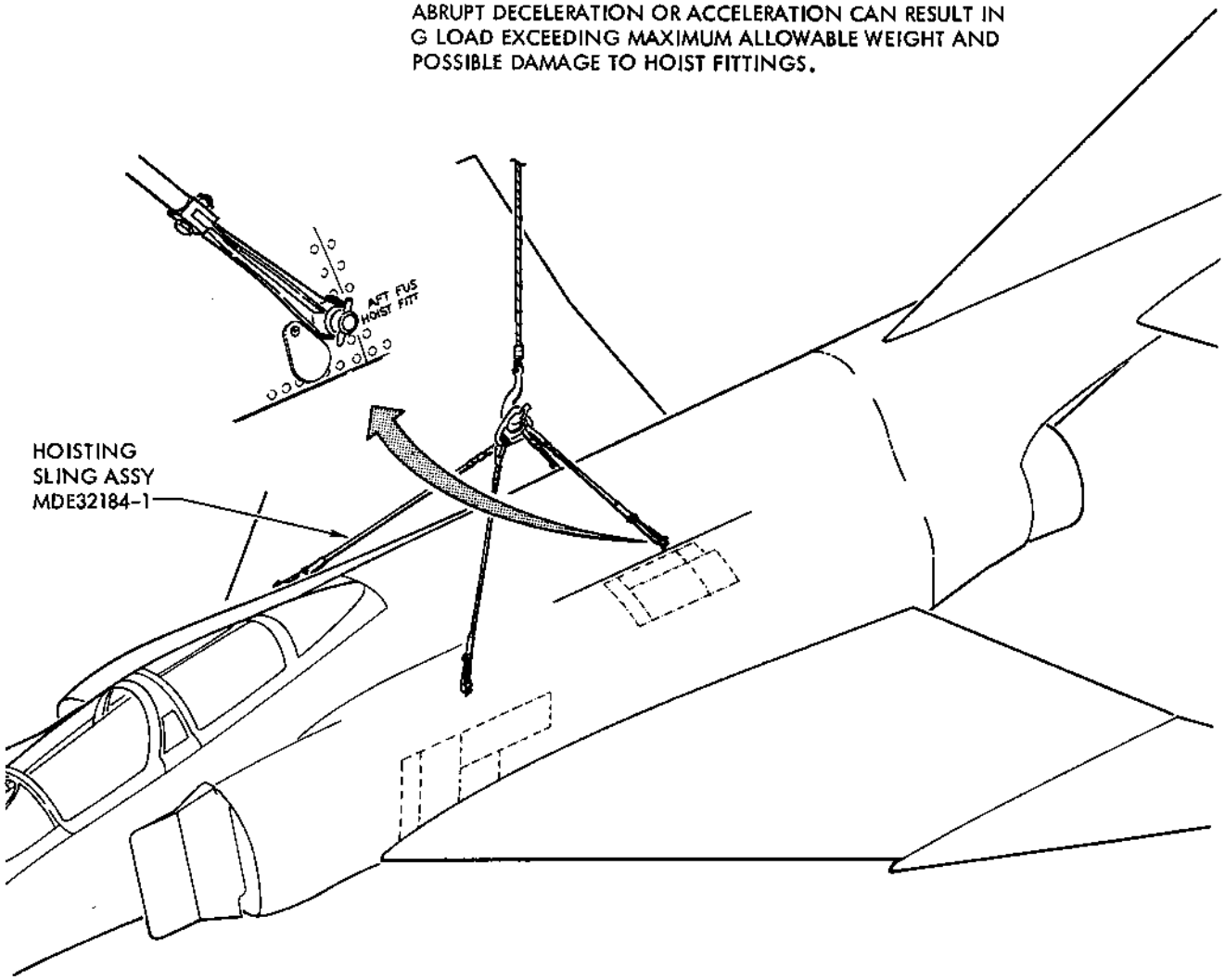
a. *Inspect hoist fittings after removal of sling.*

b. *Replace fuselage hoist fitting covers.*

5–138. **STABILATOR HOISTING.** See figure 5–20.

CAUTIONS

1. THE LINE OF ACTION OF THE LIFTING CRANE ON THE HOISTING RING MUST FALL WITHIN THE PYRAMID OUTLINED BY FOUR CABLES OF THE HOISTING SLING.
2. INSURE THAT ENGINE COMPARTMENT DROPOUT LINKS AND MIMIMUM STRUCTURAL ACCESS DOORS REQUIRED FOR HOISTING ARE INSTALLED. REFER TO PARAGRAPH TITLED MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS, SECTION III.
3. AIRCRAFT MUST BE HOISTED AND LOWERED SMOOTHLY. ABRUPT DECELERATION OR ACCELERATION CAN RESULT IN G LOAD EXCEEDING MAXIMUM ALLOWABLE WEIGHT AND POSSIBLE DAMAGE TO HOIST FITTINGS.

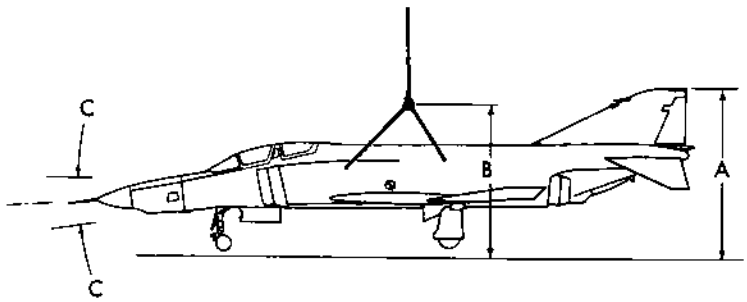


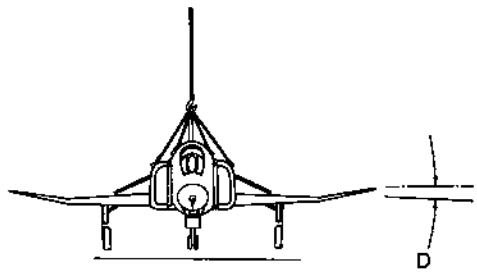
NOTES

1. MAXIMUM AIRCRAFT WEIGHT FOR HOISTING IS 42,000 LBS.
2. THE AIRCRAFT C. G. MUST BE BETWEEN F. S. 311 AND F. S. 330 WHEN HOISTING.
3. THE AIRCRAFT CAN BE HOISTED WITH FUEL AND/OR EXTERNAL STORES ABOARD PROVIDING TOTAL WEIGHT AND C. G. ARE WITHIN LIMITS SPECIFIED.

FDC-2-1.1-(52-1)

Figure 5-19. Aircraft Hoisting (Sheet 1 of 3)





A - HIGHEST POINT OF AIRCRAFT IN HOISTED POSITION.

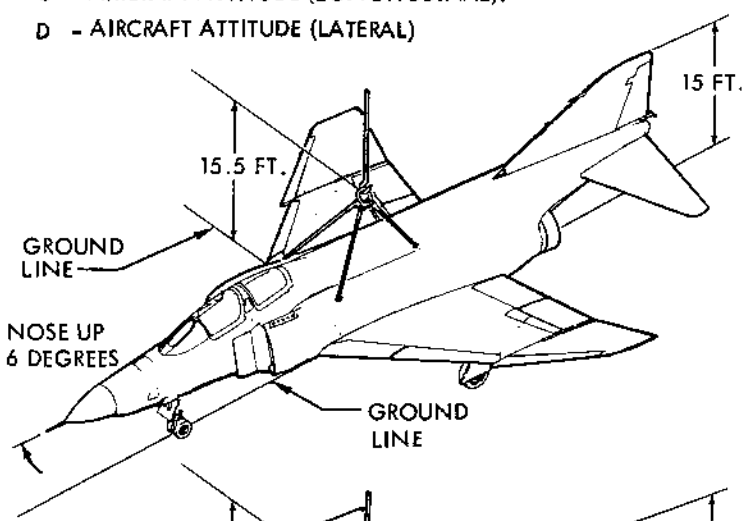
B - HEIGHT OF CONVERGING POINT OF FOUR HOIST SLING LANYARDS.

C - AIRCRAFT ATTITUDE (LONGITUDINAL).

D - AIRCRAFT ATTITUDE (LATERAL)

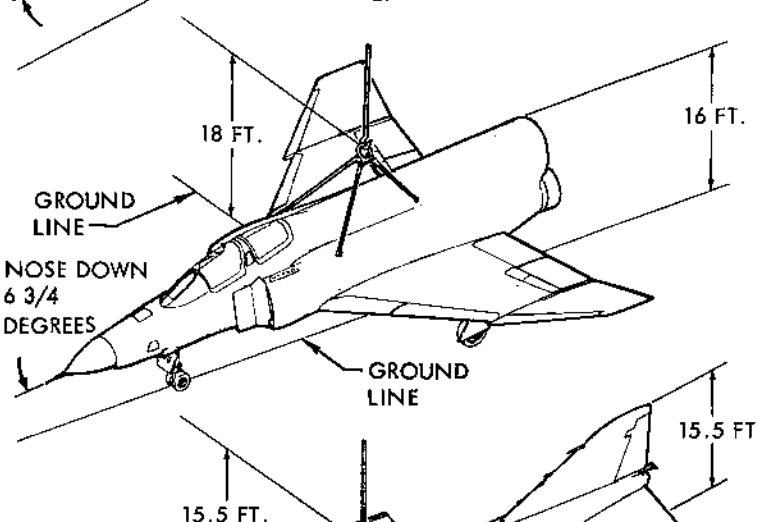
NOTES

1. ALL DIMENSIONS ARE WITH LOWEST WHEEL TWO INCHES OFF GROUND.
2. THE LINE OF ACTION OF THE LIFTING CRANE ON THE HOISTING RING MUST FALL WITHIN THE PYRAMID OUTLINED BY THE FOUR HOIST CABLES OF THE HOIST SLING.
3. DIMENSION D, UNLESS OTHERWISE NOTED, IS IN ZERO DEGREES.



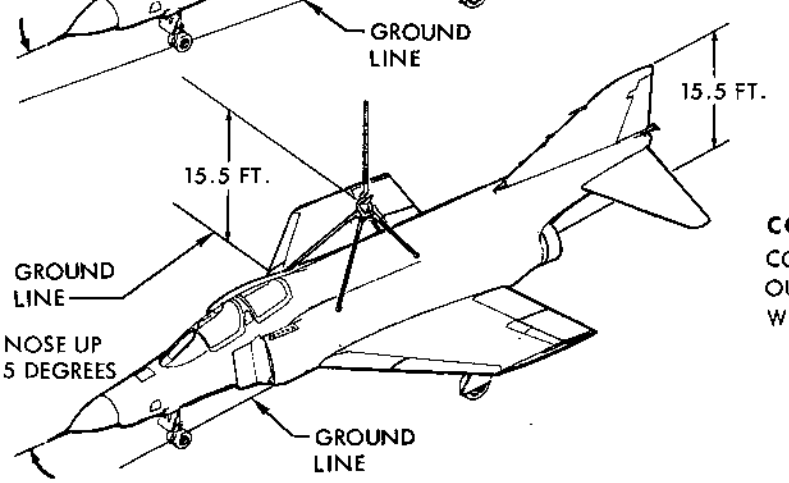
CONDITION 1

BASIC TAKEOFF GROSS WEIGHT, LESS USABLE FUEL, ENGINE OIL, CREW, AND ARMAMENT.
WEIGHT = 28,331 POUNDS



CONDITION 2

CONDITION 1, LESS FUSELAGE (AFT OF F S 515 0), FIN, RUDDER AND STABILATOR.
WEIGHT = 26,336 POUNDS

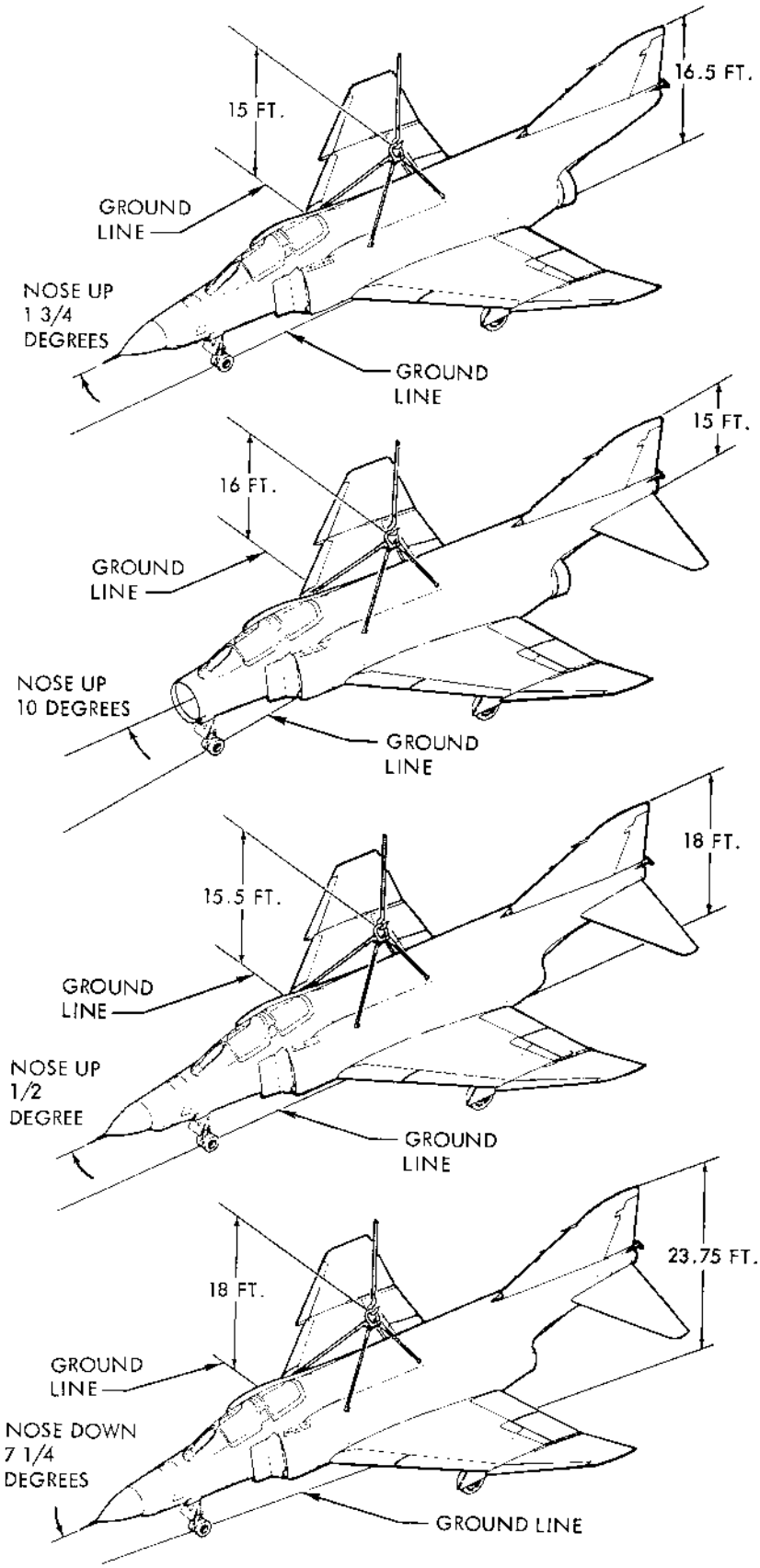


CONDITION 3

CONDITION 1, LESS BOTH OUTER WINGS.
WEIGHT = 27,767 POUNDS

FDC-2-1.1-(52-2)

Figure 5–19. Aircraft Hoisting (Sheet 2 of 3)



CONDITION 4

CONDITION 1, LESS STABILATOR
WEIGHT = 27,691 POUNDS

CONDITION 5

CONDITION 1, LESS RADAR PACKAGE.
WEIGHT= 27,671 POUNDS

CONDITION 6

CONDITION 1, LESS ONE ENGINE.
WEIGHT = 24,453 POUNDS
DIMENSION D = 2 1/2 DEGREES

CONDITION 7

CONDITION 1, LESS BOTH ENGINES.
WEIGHT = 20,575 POUNDS

FDC-2-1.1-152-3I

Figure 5-19. Aircraft Hoisting (Sheet 3 of 3)

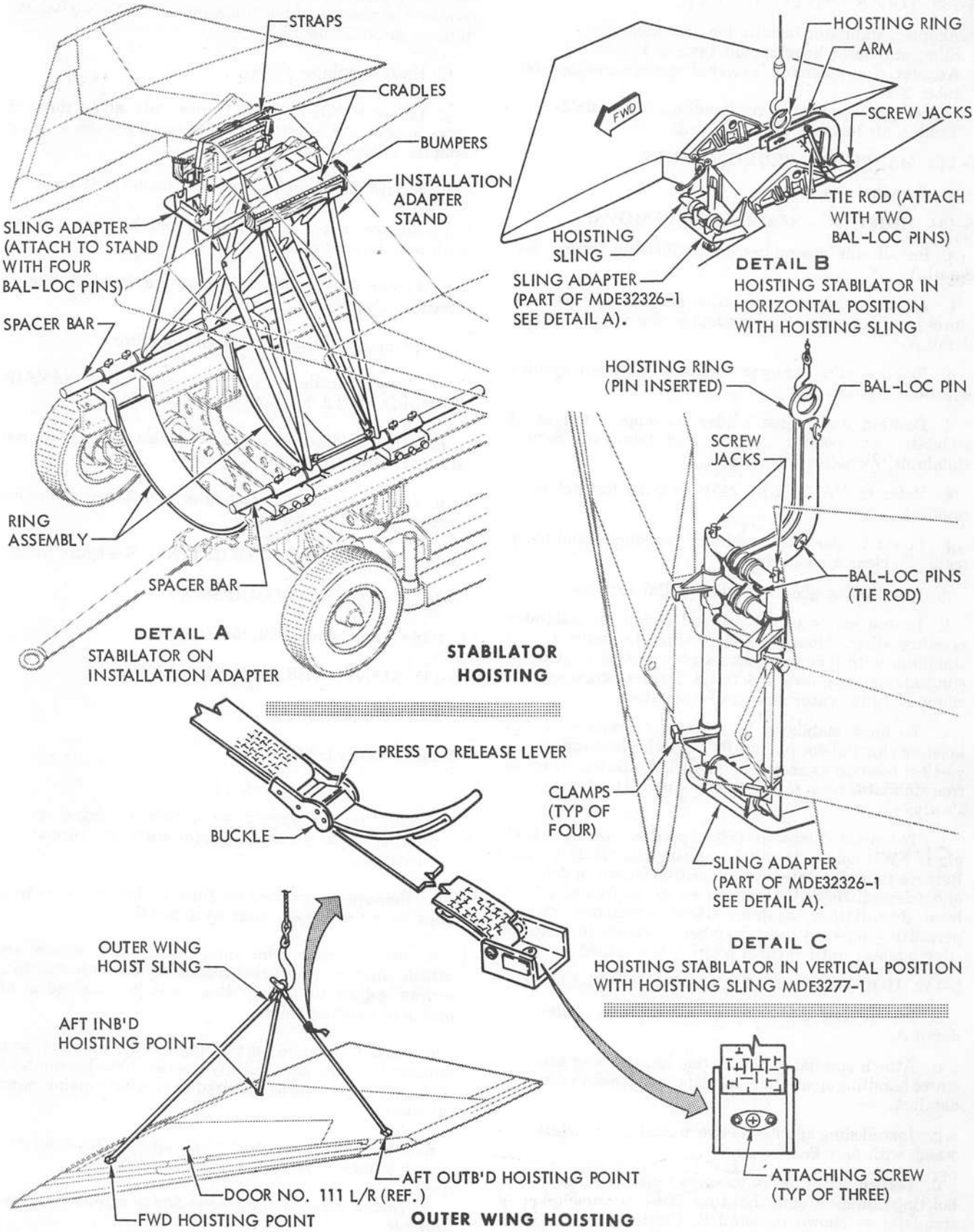


Figure 5-20. Airframe Components Hoisting

5-139. **TOOLS AND EQUIPMENT.**

Adapter, stabilator installation, (54, table 2-1)
Sling, stabilator hoisting, (55, table 2-1)
Adapter ring assembly, external stores handling, (56, table 2-1)
Spacer bar, external stores handling, (57, table 2-1)
Trailer, air logistics, (12, table 2-2)

5-140. **MANPOWER REQUIREMENTS.**

a. Three men required.

5-141. **HOISTING - STABILATOR REMOVAL.**

a. Install ring assemblies on air logistics trailer. See detail A.

b. Attach stabilator installation adapter and external stores handling spacer bars to adapter ring assemblies. See detail A.

c. Remove sling adapter (attached between cradles with four Bal-loc pins).

d. Position and adjust trailer to support weight of stabilator on padded cradles and bumpers. Secure stabilator to cradles with straps.

e. Refer to NAVAIR 01-245FDC-2-2.2 for stabilator removal.

f. Lower trailer after stabilator is removed and move trailer to clear aircraft area.

g. Install sling adapter with four Bal-loc pins.

h. Loosen screw jack to spread clamp on stabilator hoisting sling. Mount hoisting sling to underside of stabilator with forward cross member resting in yokes of sling adapter as shown in detail B. Tighten screw jacks to clamp sling to center section of stabilator.

i. To hoist stabilator in horizontal position, install hoisting ring Bal-loc pin in AFT hole with hoisting ring in vertical position as shown in detail B. Unfasten straps to free stabilator from installation adapter. Hoist stabilator slowly.

j. To hoist stabilator in vertical position, install Bal-loc pin in FWD hole so that hoisting ring can rotate in arm. Remove tie rod, rotate arm to position shown in detail C, and reinstall tie rod. Unfasten straps to free stabilator from installation adapter. Hoist stabilator slowly, permitting forward cross member to rotate in yokes of sling adapter until vertical position is attained.

5-142. **HOISTING - STABILATOR INSTALLATION.**

a. Install ring assemblies on air logistics trailer. See detail A.

b. Attach stabilator installation adapter and external stores handling spacer bars to adapter ring assemblies. See detail A.

c. Install sling adapter, between cradles on installation stand, with four Bal-loc pins.

d. Loosen screw jacks to spread clamp on stabilator hoisting sling. Mount hoisting sling to underside of stabilator as shown in detail B. Tighten screw jacks to clamp sling to center section of stabilator.

e. To hoist stabilator in horizontal position, install hoisting ring Bal-loc pin in AFT hole with hoisting ring in vertical position as shown in detail B. Ensure that tie rod is attached to arm and hoisting sling base with two Bal-loc pins as shown in detail B.

f. Hoist stabilator slowly.

g. Lower stabilator onto trailer, and allow forward cross member of hoisting sling to rest in yokes of sling adapter as shown in detail B.

h. Secure stabilator to cradles of trailer with straps.

i. Remove sling adapter (attached between cradles with four Bal-loc pins).

j. Loosen screw jacks to spread clamp on stabilator hoisting sling.

k. Remove hoisting sling from stabilator.

l. Raise trailer and refer to NAVAIR 01-245FDC-2-2.2 for stabilator installation.

m. After stabilator is installed, unfasten straps to free stabilator from installation adapter.

n. Lower trailer after stabilator is installed and move trailer to clear aircraft area.

5-143. **OUTER WING HOISTING.** See figure 5-20.

5-144. **TOOLS AND EQUIPMENT.**

Sling, outer wing hoist, (58, table 2-1)

5-145. **MANPOWER REQUIREMENTS.**

a. Two men required.

5-146. **PROCEDURE.**

NOTE

Wing screws should be carefully tagged as removed to assure reinstallation in correct location.

a. Remove screws from the three designated outer wing hoist fitting points on outer wing panel.

b. Remove caps from sling hoist fitting screws and attach sling to wing panel attach points with attaching screws. Adjustable leg of sling must be attached at aft outboard hoisting point.

c. Adjust outboard leg of sling to take up slack, or to support the wing panel in any position from horizontal to 40 degrees up at tip, as required to facilitate maintenance operation.

d. After hoisting is completed, remove sling from wing attach points by removing attaching screws.

e. *Install caps on sling hoist fitting screws to protect threads.*

f. *Reinstall and torque structural screws removed from outer wing hoist fitting points in step a.*

GROUND SAFETY AND PROTECTIVE DEVICES

5-147. COCKPIT AND CANOPY SAFETY DEVICES. See figure 5-21.

5-148. TOOLS AND EQUIPMENT.

Strut, forward canopy safety, (1, table 2-1)
Strut, aft canopy safety, (2, table 2-1)
Clips, engine air ramp circuit breaker safety, (3, table 2-1)
Lock, ram air turbine cockpit safety, (4, table 2-1)

5-149. FORWARD AND AFT CANOPY SAFETY STRUTS. Forward and aft canopy safety struts are used to prevent accidental closing of canopies.

5-150. Installation.

CAUTION

Do not substitute the forward canopy saftety strut for the aft canopy safety strut. This may place the aft canopy in a partially closed position and will result in jettisoning the canopy during maintenance procedures.

MDE32502-1 forward canopy safety strut and MDE32503-1 aft canopy safety strut cannot be used on canopy actuating cylinder assemblies which have shear pins with protruding heads.

When installing or removing safety strut, avoid scratching, nicking, gouging or in any way damaging exposed piston of actuating cylinder.

a. Place safety struts around extended piston rods of canopy actuating cylinders with long leg of strut bearing against cylinder body.

b. Insert Bal-loc pin through strut flanges to hold strut in place.

5-151. Removal.

WARNING

Push canopy open buttons before removing safety struts to ensure that there is no close air pressure on actuating cylinders. Failure to comply could result in injury to personnel.

a. Depress button on head of pin.

b. Pull pin out of strut flanges.

c. Remove strut from around piston rod of actuating cylinder.

5-152. ENGINE AIR RAMP CIRCUIT BREAKER SAFETY CLIPS. Engine air ramp circuit breaker safety clips are used to prevent accidental actuation of engine air ramp when performing maintenance on ramp or in the ramp area.

5-153. Installation.

a. Pull ramp control circuit breakers (35CB310 and 35CB311) located on No. 1 Circuit Breaker Panel.

b. Place safety clips over exposed portion of circuit breakers.

c. Place streamer over edge of cockpit so as to be visible from the exterior of the aircraft.

5-154. Removal.

a. Remove safety clips from exposed portion of circuit breakers on No. 1 Circuit Breaker Panel.

b. Set ramp control circuit breakers (35CB310 and 35CB311) on No. 1 Circuit Breaker Panel.

5-155. RAM AIR TURBINE COCKPIT SAFETY LOCK. The ram air turbine cockpit safety lock is used to safety the ram air turbine handle in the cockpit to the IN position to prevent accidental actuation of turbine release mechanism when working in the vicinity of ram air turbine doors.

5-156. Installation.

a. Loosen lock screw and move block down by means of the thumbscrew.

b. Slip drilled end of lock over nut on ram air turbine handle up-stop.

c. Tighten thumbscrew to bring block up to bear against ram air turbine handle and force it to the up-stop.

d. Safety lock by adjusting lock screw back down against safety lock housing.

e. Place streamer over edge of cockpit so as to be readily visible from the exterior of the aircraft.

5-157. Removal.

a. Loosen lock screw by turning it away from safety lock housing.

b. Loosen thumbscrew to move block away from ram air turbine handle.

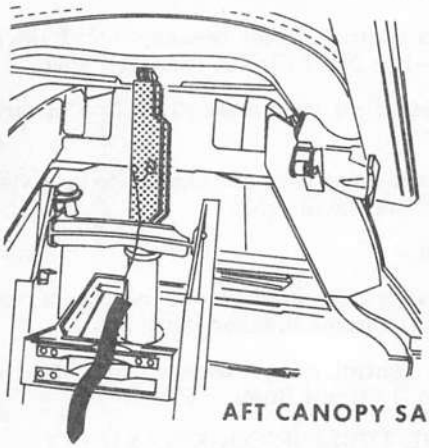
c. Remove safety lock from ram air turbine handle.

5-158. EJECTION SEAT SAFETY DEVICES 151975t THRU 153115aa BEFORE AFC 307. See figure 5-22.

5-159. The ejection seat safety pin assembly is used on the forward and aft cockpit ejection seats, when the aircraft is on the ground, to prevent accidental ejection of seat and seat components, and to prevent contamination of the survival kit fittings.

WARNING

If canopy initiator safety pins are removed, exercise caution when working in vicinity of initiator firing linkage to prevent inadvertent firing of initiator. Do not stow flight equipment or personal items in the vicinity of canopy initiator firing linkage. Stowing or removing of these items can cause inadvertent initiator firing, and if not removed can prevent ejection sequence.



AFT CANOPY SAFETY STRUT

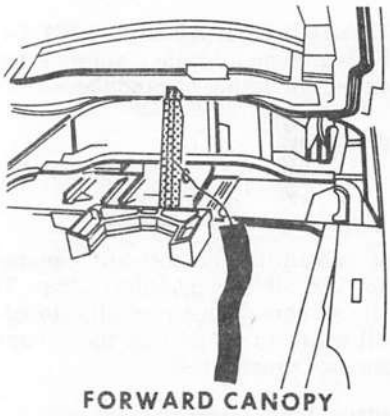
CAUTION

TO PREVENT DAMAGE TO CANOPY ACTUATING CYLINDERS, DO NOT USE MDE32502-1 OR MDE32503-1 CANOPY SAFETY STRUTS ON CANOPY ACTUATING CYLINDER ASSEMBLIES WHICH HAVE SHEAR PINS WITH PROTRUDING HEADS.

WHEN INSTALLING OR REMOVING SAFETY STRUT, TAKE CARE TO AVOID SCRATCHING, NICKING, GOUGING, OR IN ANY WAY DAMAGING EXPOSED PISTON OF ACTUATING CYLINDER.

WARNING

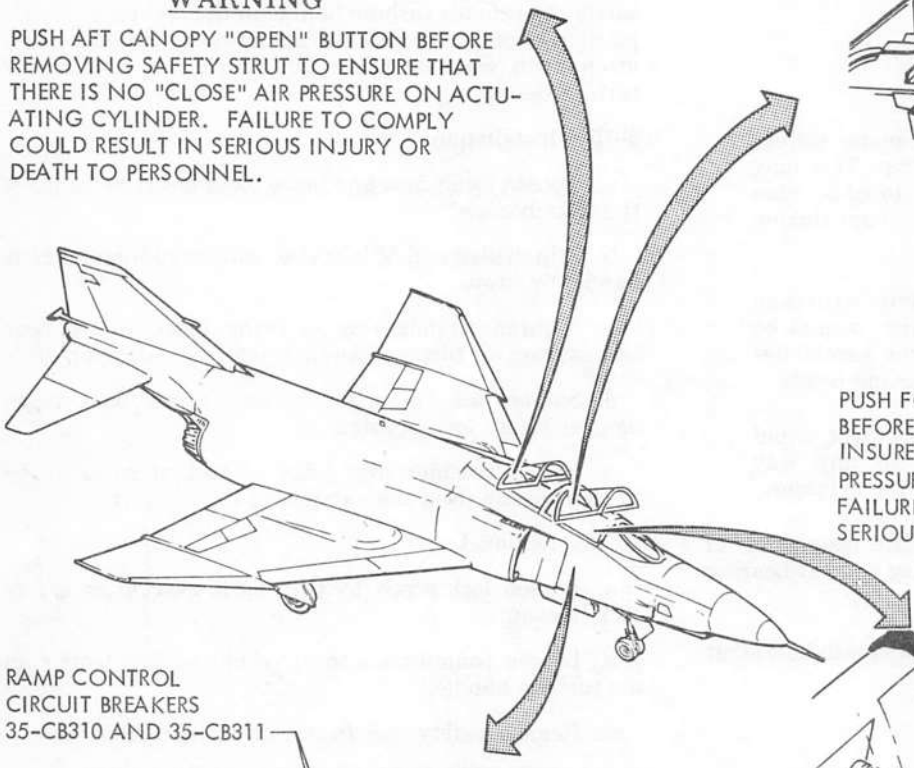
PUSH AFT CANOPY "OPEN" BUTTON BEFORE REMOVING SAFETY STRUT TO ENSURE THAT THERE IS NO "CLOSE" AIR PRESSURE ON ACTUATING CYLINDER. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DEATH TO PERSONNEL.



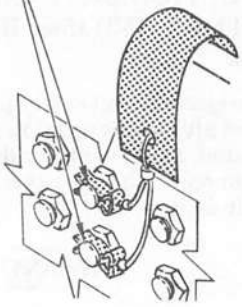
FORWARD CANOPY SAFETY STRUT

WARNING

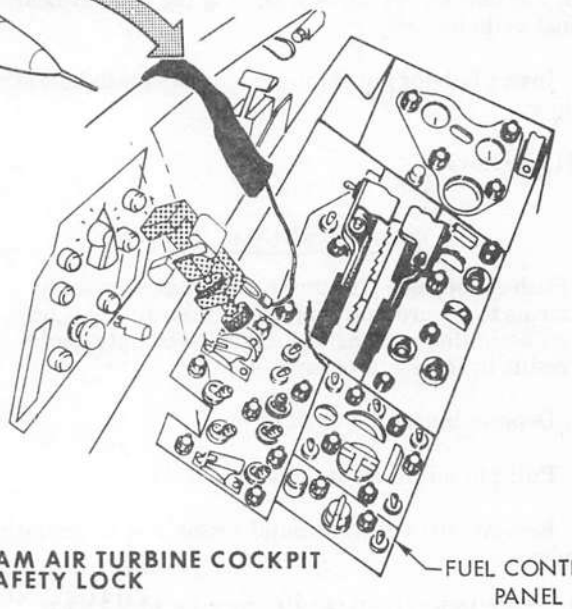
PUSH FORWARD CANOPY "OPEN" BUTTON BEFORE REMOVING SAFETY STRUT TO INSURE THAT THERE IS NO "CLOSE" AIR PRESSURE ON ACTUATING CYLINDER. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DEATH TO PERSONNEL.



RAMP CONTROL CIRCUIT BREAKERS 35-CB310 AND 35-CB311



ENGINE AIR RAMP CIRCUIT BREAKER SAFETY CLIPS



RAM AIR TURBINE COCKPIT SAFETY LOCK

FUEL CONTROL PANEL

FDC-2-1.1-(54)

Figure 5-21. Cockpit and Canopy Safety Devices

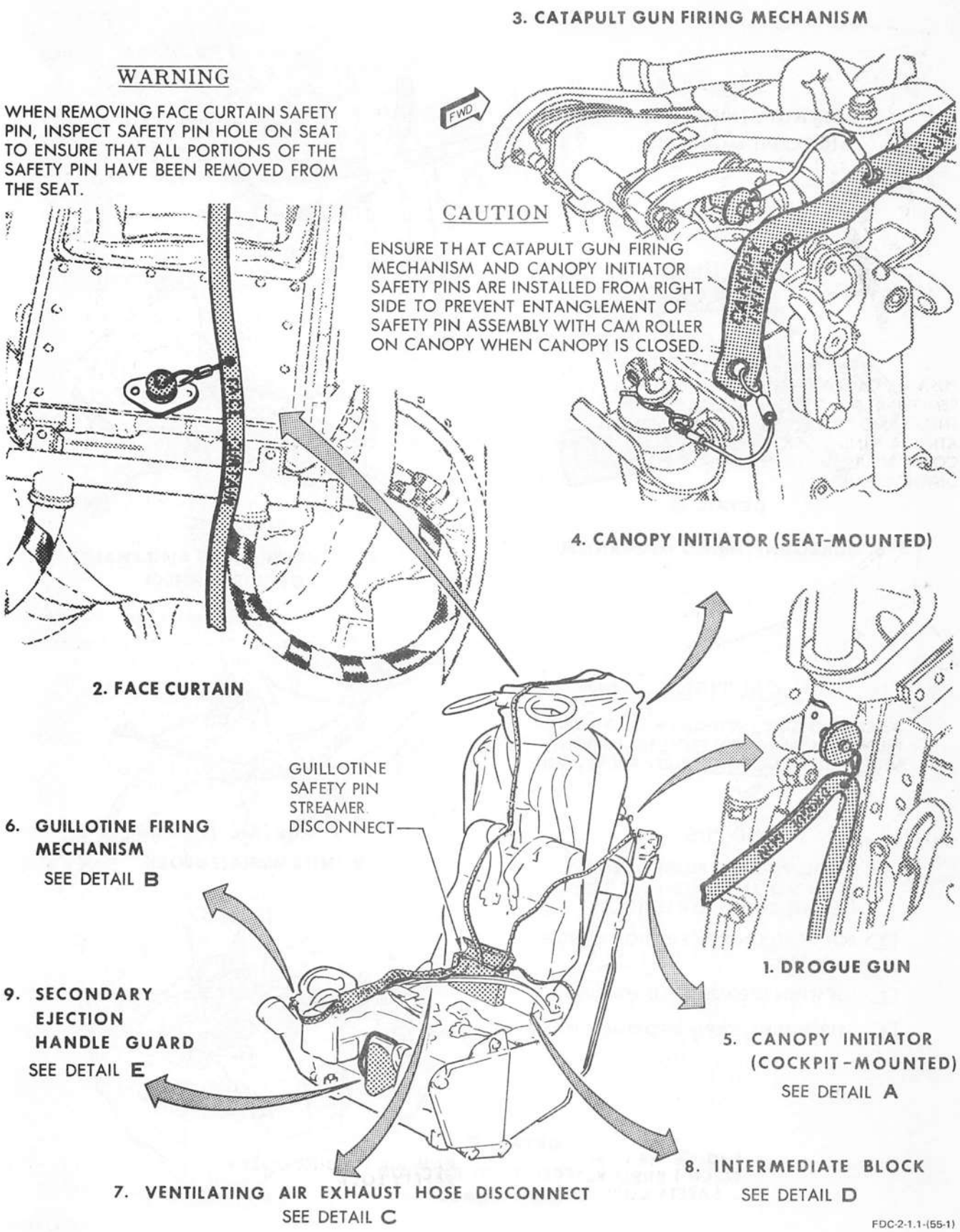
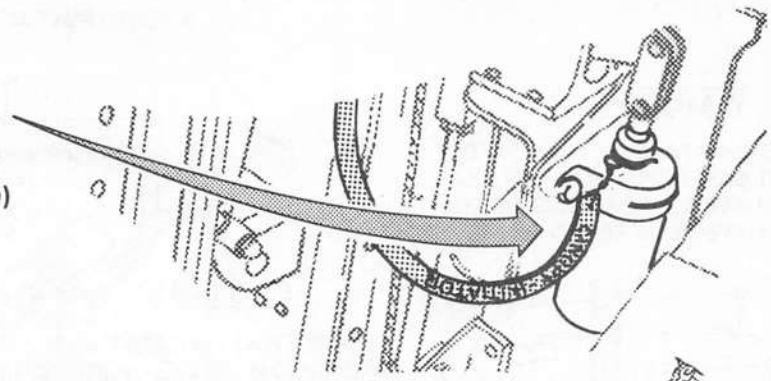
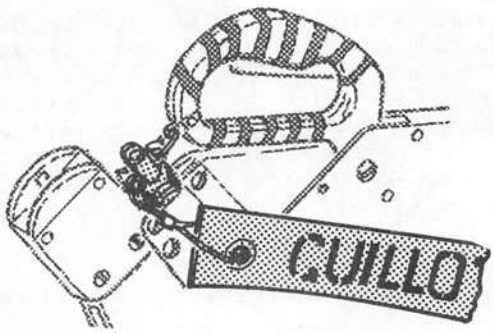


Figure 5-22. Ejection Seat Safety Devices – 151975t THRU 153115aa BEFORE AFC 307 (Sheet 1 of 2)

DETAIL A

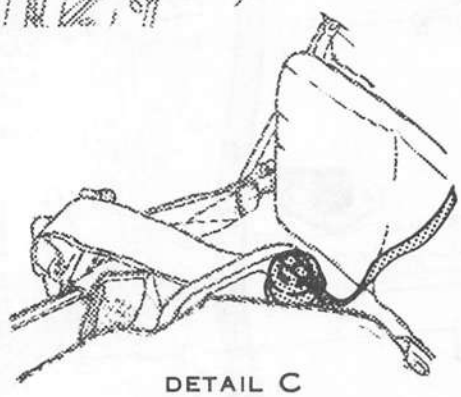
5. CANOPY INITIATOR (COCKPIT MOUNTED)





DETAIL B

6. GUILLOTINE FIRING MECHANISM



DETAIL C

[4] 7. VENTILATING AIR EXHAUST HOSE DISCONNECT

CAUTION

DEPRESS BUTTONS ON HEAD OF SAFETY PINS PRIOR TO PULLING PINS FROM THE VARIOUS UNITS WHEN REMOVING SAFETY PIN ASSEMBLY.

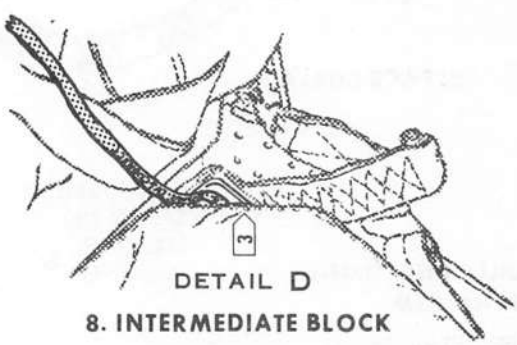
NOTES

1. INSTALL PINS AND PLUGS CAREFULLY IN THE SEQUENCE SHOWN. BE SURE THEY ARE COMPLETELY SEATED.

[2] ROTATE SECONDARY EJECTION HANDLE GUARD UP.

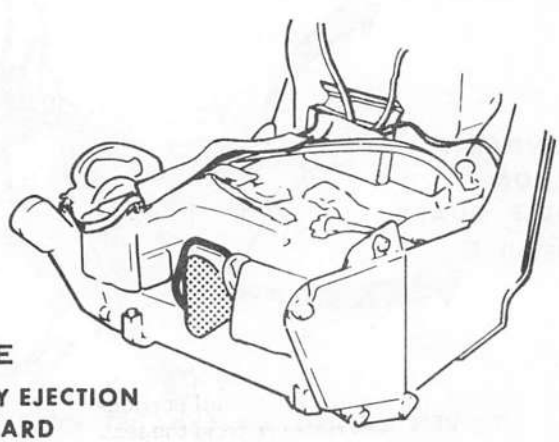
[3] USE WHEN UPPER BLOCK IS REMOVED.

[4] 151975t THRU 153097y BEFORE ACC 78.



DETAIL D

8. INTERMEDIATE BLOCK



DETAIL E

[2] 9. SECONDARY EJECTION HANDLE GUARD

FDC-2-1.1-(55-2)

Figure 5–22. Ejection Seat Safety Devices – 151975t THRU 153115aa BEFORE AFC 307 (Sheet 2 of 2)

5-160. TOOLS AND EQUIPMENT.

Pin assembly, ejection seat safety, (5 or 6, table 2-1)

5-161. INSTALLATION.

a. Insert drogue gun safety pin into hole provided in drogue gun housing.

b. Insert face curtain safety pin into hole located on top surface of face curtain container.

CAUTION

Ensure that the catapult gun firing mechanism and canopy initiator safety pins are installed from the right side to prevent entanglement of the safety pin assembly with cam roller of canopy, when canopy is closed.

c. Install ejector gun safety pin in safety pin hole of catapult gun firing mechanism sear.

d. Install canopy initiator safety pin through the hole provided in upper portion of seat mounted initiator.

e. Install canopy initiator safety pin through hole provided in upper portion of cockpit mounted initiator.

f. Install guillotine safety pin in safety pin hole of the guillotine firing mechanism sear.

g. Insert exhaust hose plug into ventilating air exhaust hose disconnect of the survival kit.

h. Install composite disconnect dust plug into the intermediate block.

i. Rotate secondary ejection handle guard up.

5-162. REMOVAL.

CAUTION

When removing safety pins, depress button on head of pin.

a. Remove composite disconnect dust plug from intermediate block.

b. Remove exhaust hose plug from ventilating air exhaust hose disconnect on the survival kit.

c. Remove guillotine safety pin from guillotine firing mechanism sear.

d. Remove canopy initiator safety pin from upper portion of cockpit mounted initiator.

e. Remove canopy initiator safety pin from upper portion of seat mounted initiator.

f. Remove ejector gun safety pin from catapult gun firing mechanism sear.

WARNING

When removing face curtain safety pin, inspect safety pin hole on seat to insure that all portions of the safety pin have been removed from the seat.

g. Remove face curtain safety pin from top surface of face curtain container.

h. Remove drogue gun safety pin from drogue gun housing.

5-163. EJECTION SEAT SAFETY DEVICES 157342ao AND UP, ALSO 151975t THRU 153115aa, AFTER AFC 307. See figure 5-23.

5-164. The ejection seat safety pin assembly is used on the forward and aft cockpit ejection seats when the aircraft is on the ground, to prevent accidental ejection of seat and seat components, and to prevent contamination of the survival kit fittings.

WARNING

Ensure all pins of ejection seat ground safety pin assembly are installed and secondary ejection handle guard is rotated up before working in cockpit. Do not stow flight equipment or personal items in the vicinity of seat mounted initiator firing linkage. Stowing or removing of these items can cause inadvertent initiator firing, and if not removed can prevent ejection sequence.

5-165. TOOLS AND EQUIPMENT.

Pin assembly, ejection seat ground safety, (6, table 2-1)

5-166. INSTALLATION.

a. Insert drogue gun safety pin into hole provided in drogue gun housing.

b. Insert face curtain safety pin into hole located on top surface of face curtain container.

c. Install ejector gun safety pin in safety pin hole of catapult gun firing mechanism sear.

d. Install canopy initiator safety pin through hole provided in upper portion of seat mounted initiator.

e. Install canopy initiator safety pin through hole provided in upper portion of cockpit mounted initiator.

f. Install guillotine safety pin in safety pin hole of guillotine firing mechanism sear.

g. Insert safety pin in rocket pack firing mechanism.

h. Install composite disconnect dust plug into the intermediate block if upper block is removed.

i. Rotate secondary ejection handle guard up.

5-167. REMOVAL.

CAUTION

When removing safety pins, depress button on head of pin.

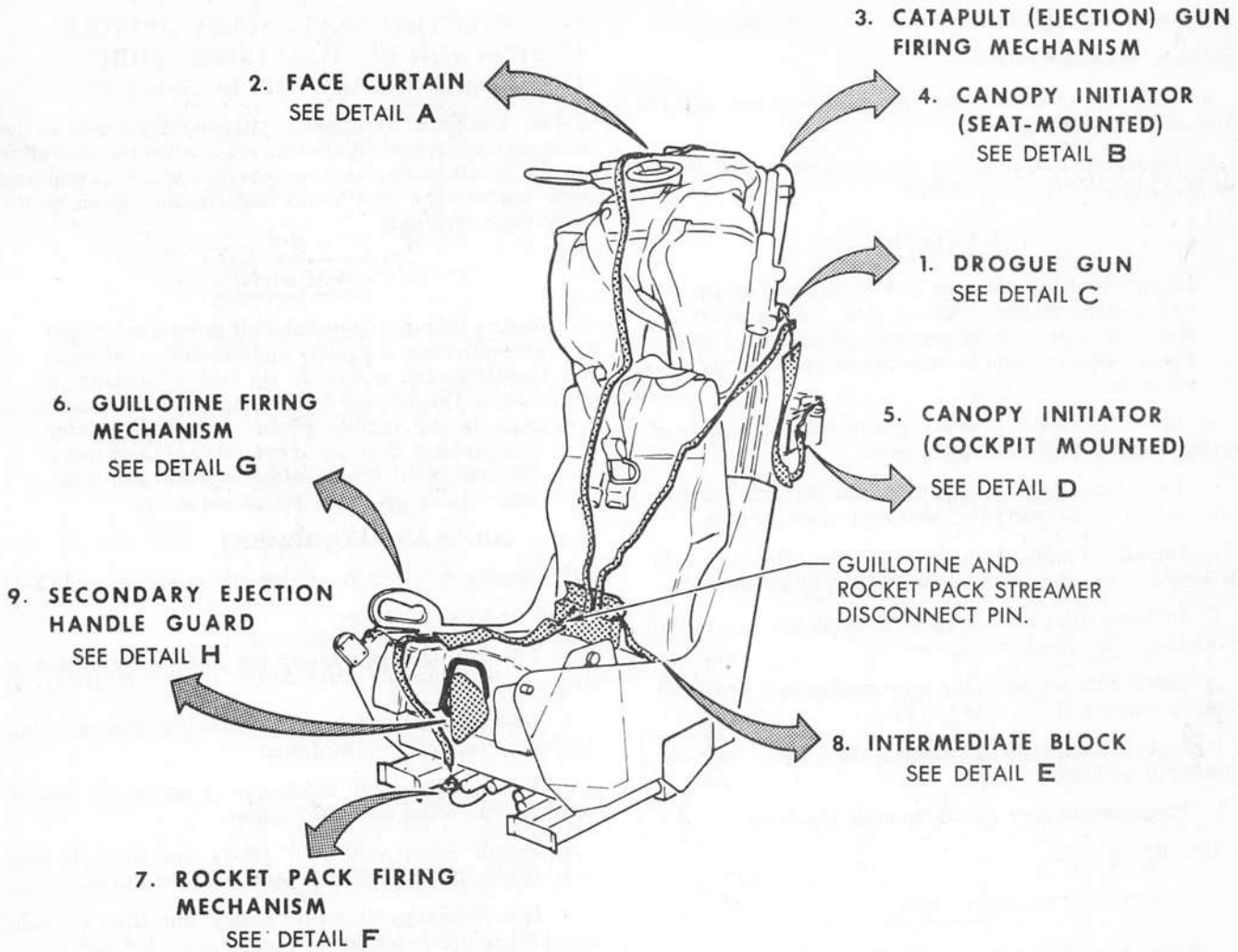
a. Remove composite disconnect dust plug from intermediate block.

b. Remove safety pin from rocket pack firing mechanism.

c. Remove guillotine safety pin from guillotine firing mechanism sear.

d. Remove canopy initiator safety pin from upper portion of cockpit mounted initiator.

e. Remove canopy initiator safety pin from upper portion of seat mounted initiator.



NOTES

1. INSTALL PINS AND PLUG CAREFULLY IN THE SEQUENCE SHOWN. BE SURE THEY ARE COMPLETELY SEATED.

[2] USE WHEN UPPER BLOCK IS REMOVED.

[3] MDE32722-317 EJECTION SEAT GROUND SAFETY PIN ASSEMBLY SHOWN. MAY BE USED AS ALTERNATE FOR MDE32722-327.

[4] MDE32722-327 EJECTION SET GROUND SAFETY PIN ASSEMBLY SHOWN. MAY BE USED AS ALTERNATE FOR MDE32722-317.

[5] MDE32722-331 EJECTION SEAT GROUND SAFETY PIN ASSEMBLY SHOWN. USABLE AFTER ACC 187 BUT BEFORE ACC 224.

[6] COMPONENT OF EJECTION SEAT.

[7] MDE32722-339 EJECTION SEAT GROUND SAFETY PIN ASSEMBLY SHOWN. USABLE AFTER ACC 224.

[8] ROTATE SECONDARY EJECTION HANDLE GUARD UP.

FDC-2-1.1-(56-1)

Figure 5-23. Ejection Seat Safety Devices – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 1 of 6)

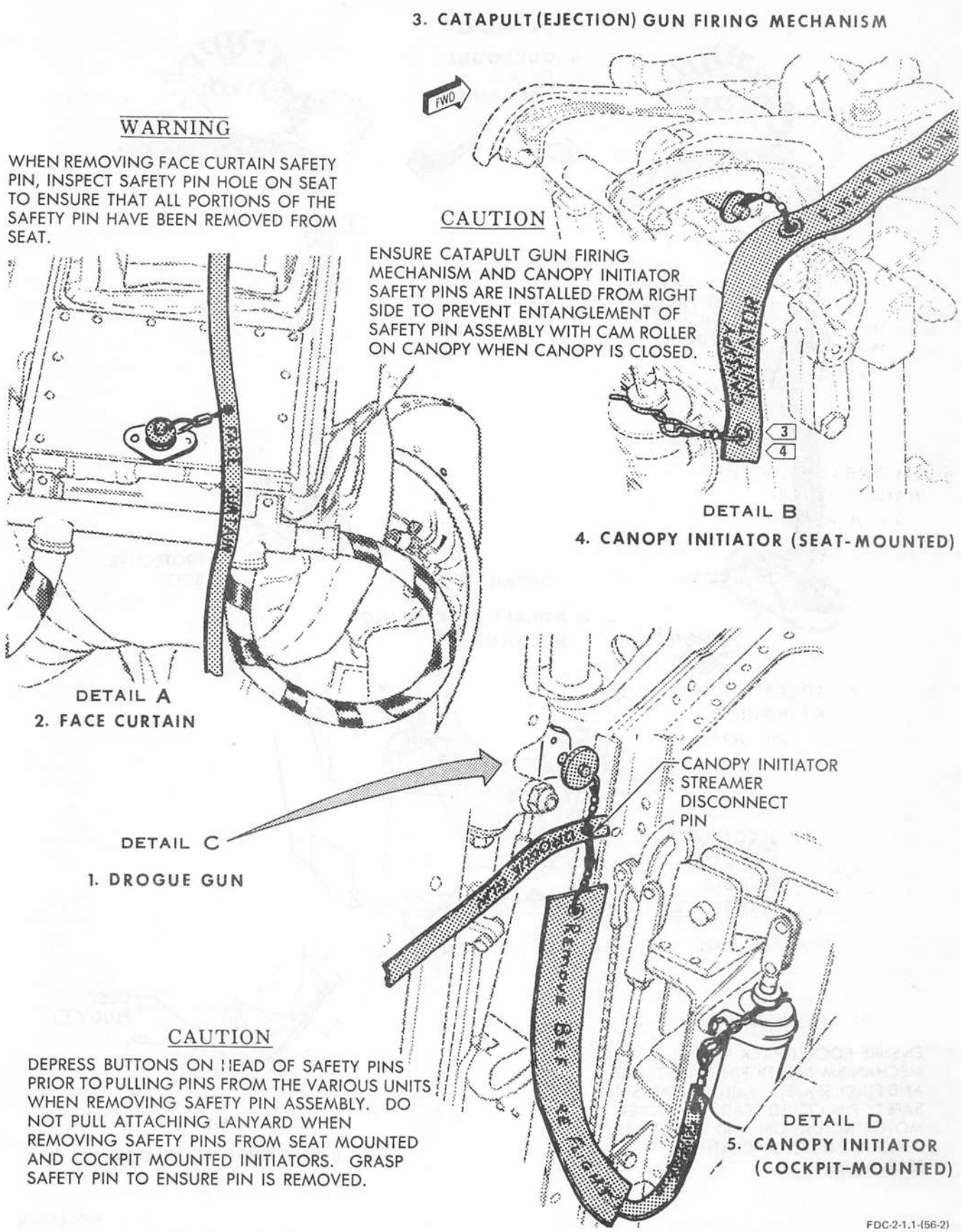


Figure 5-23. Ejection Seat Safety Devices – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 2 of 6)

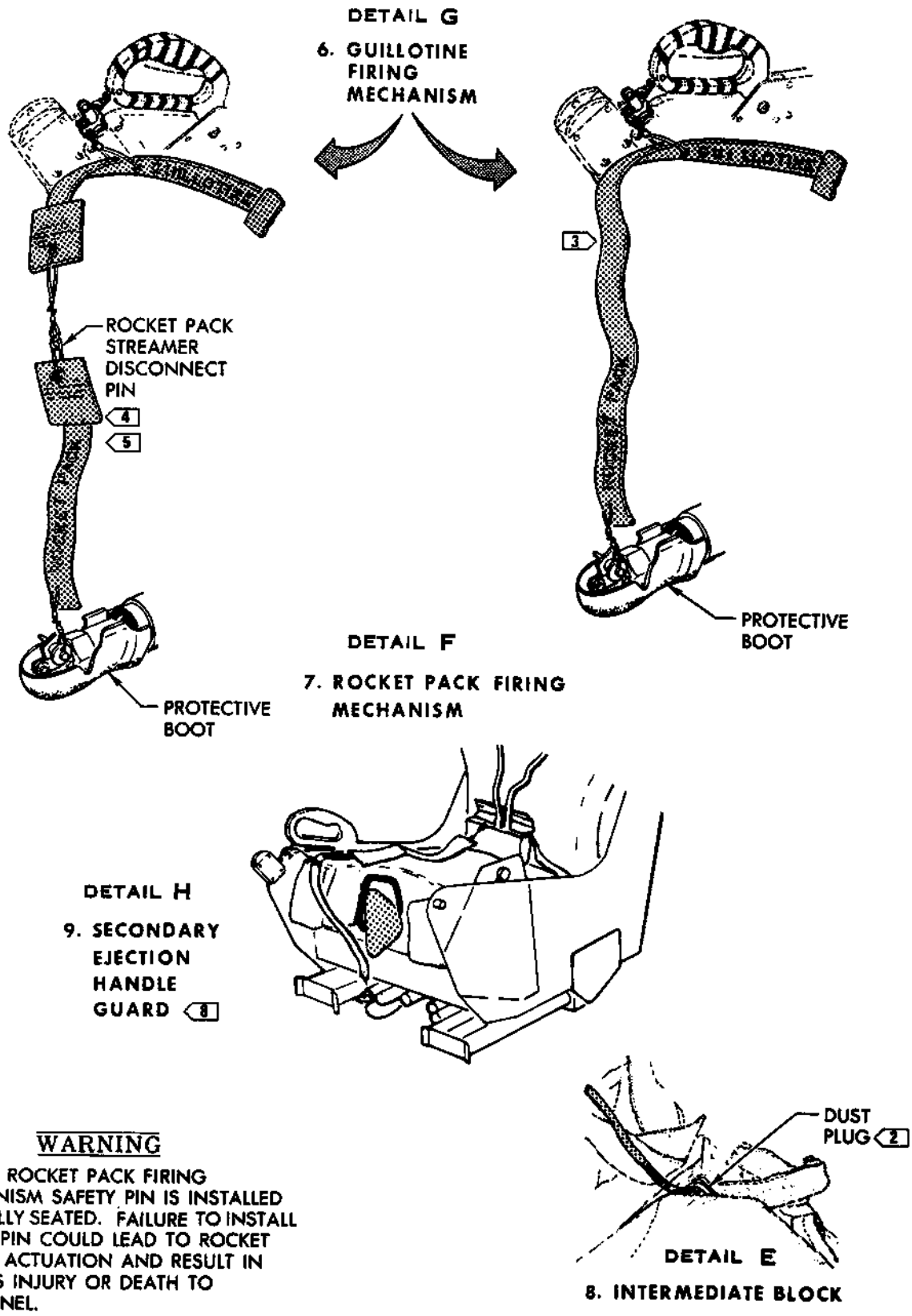


Figure 5–23. Ejection Seat Safety Devices – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 3 of 6)

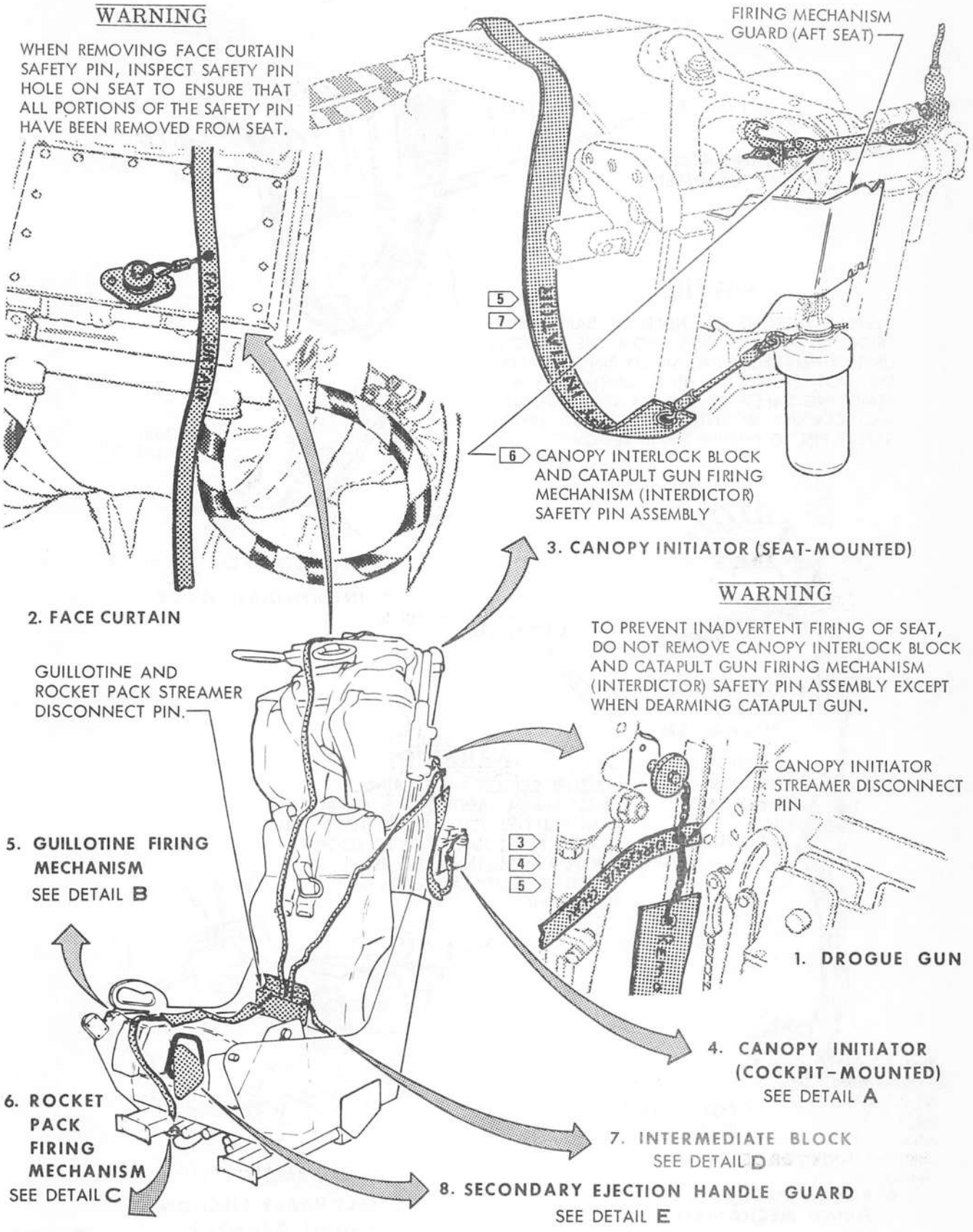


Figure 5–23. Ejection Seat Safety Devices – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 4 of 6)

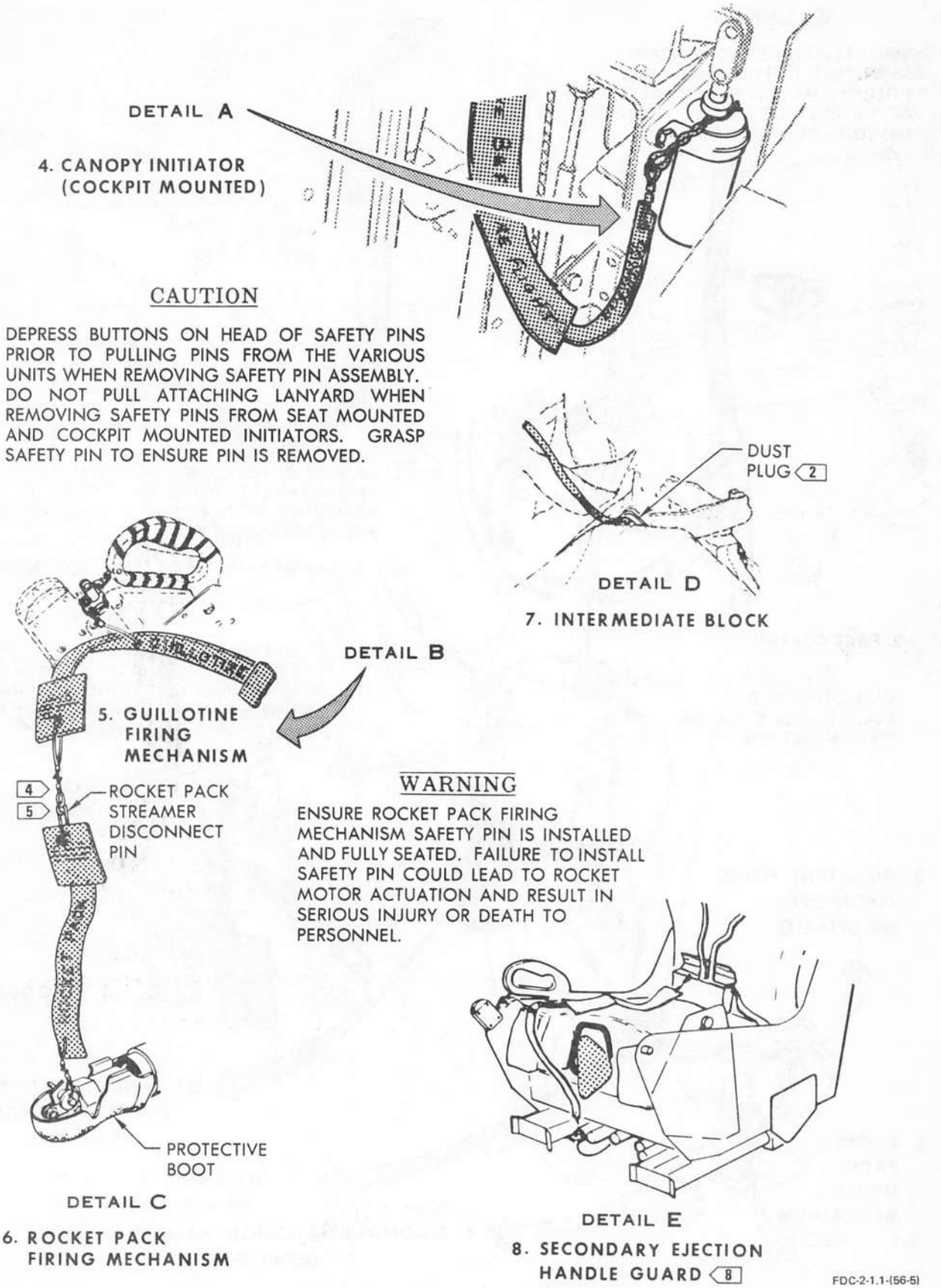


Figure 5–23. Ejection Seat Safety Devices – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 5 of 6)

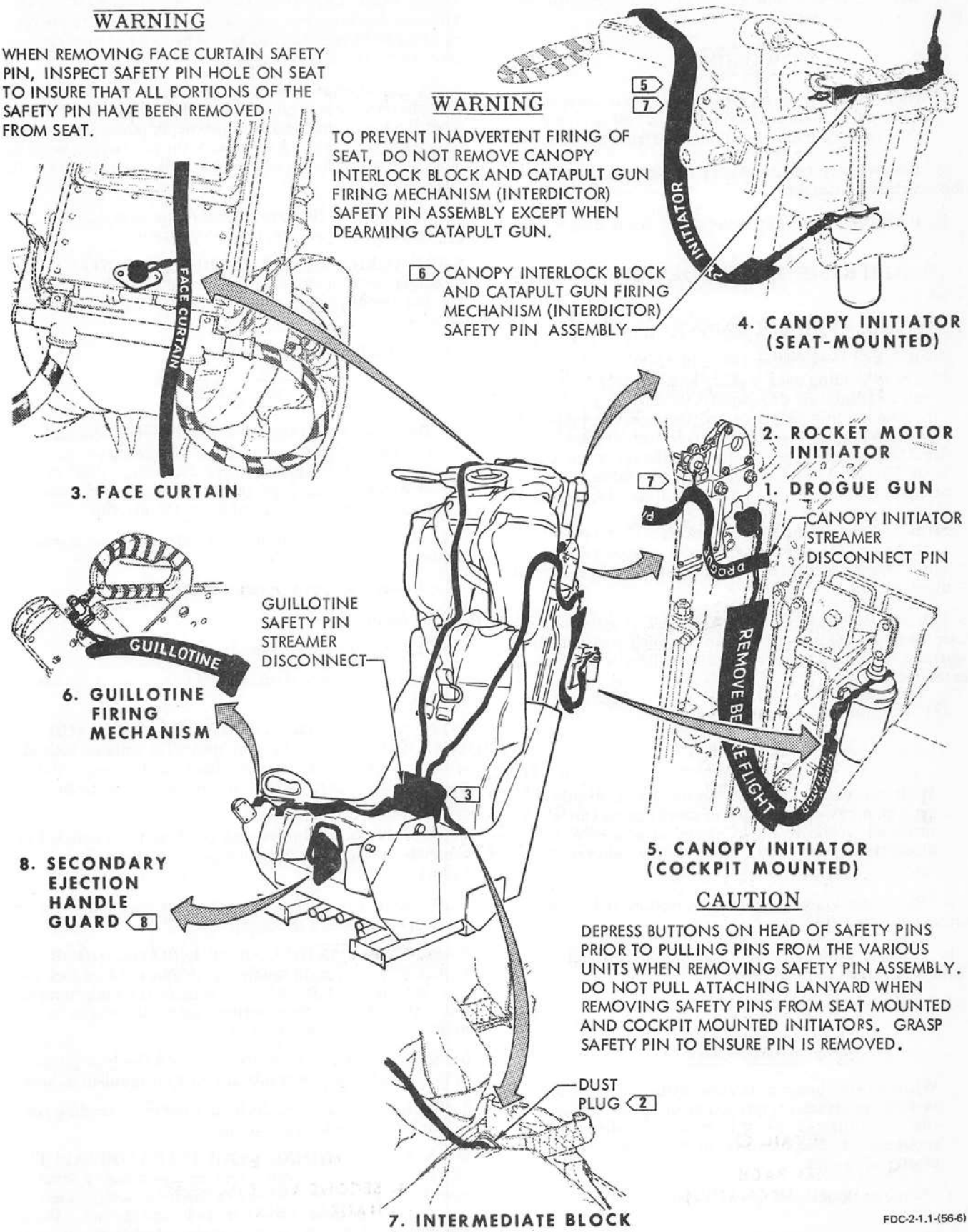


Figure 5-23. Ejection Seat Safety Devices – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 6 of 6)

f. Remove ejector gun safety pin from catapult gun firing mechanism sear.

WARNING

When removing face curtain safety pin, inspect safety pin hole on seat to insure that all portions of the safety pin have been removed from the seat.

g. Remove face curtain safety pin from top surface of face curtain container.

h. Remove drogue gun safety pin from drogue gun housing.

5-168. **AIRFRAME SAFETY DEVICES.** See figure 5-24.

5-169. **TOOLS AND EQUIPMENT.**

Strut, speed brake safety, (7, table 2-1)
Pin, nose landing gear jacking lock, (8, table 2-1)
Strut, auxiliary air door safety, (9, table 2-1)
Pin, nose landing gear door uplatch lock, (10, table 2-1)
Pin, main landing gear inboard door lock, (11, table 2-1)
Strut, nose landing gear actuator safety, (12, table 2-1)
Hook Uplock Assembly, arresting, (13, table 2-1)
Strut, main landing gear actuator safety, (14, table 2-1)
Wing jury strut, (15, table 2-1)
Strut, inflight refueling probe safety, (16, table 2-1)
Lock Assembly, ram air turbine, (17, table 2-1)
Pin, countermeasures equipment door electrical disarming, (64, table 2-1)

5-170. **SPEED BRAKE SAFETY STRUT.** A safety strut is used to safety the speed brake in the open position when working in or near the speed brake well with the surface extended.

5-171. **Installation.**

WARNING

With power applied to the utility hydraulic system, inadvert retraction of speed brakes can be initiated as the result of electrical sequence or discontinuity in the speed brake electrical system.

a. Place strut around extended piston rod of speed brake actuating cylinder.

b. Insert upper and lower Bal-loc pins through strut flanges to retain strut in place.

5-172. **Removal.**

WARNING

With power applied to the utility hydraulic system, inadvertent retraction of speed brakes can be initiated as the result of electrical sequence or discontinuity in the speed brake electrical system.

a. Remove upper and lower Bal-loc pins from strut flanges.

b. Remove strut from around extended piston rod of speed brake actuating cylinder.

5-173. **NOSE LANDING GEAR JACKING LOCK PIN.** The nose landing gear jacking lock pin is used to prevent rotation of the nose landing gear wheels when jacking nose gear by means of an axle jack.

5-174. **Installation.** Insert the nose landing gear jacking lock pin into the hole on the vertical shaft which protrudes from the top of the nose wheel steering power unit on the nose landing gear shock strut with the nose gear wheels as close as possible to the normal aft trail position (within 10 degrees).

5-175. **Removal.** Remove nose landing gear jacking lock pin from nose wheel steering power unit.

5-176. **AUXILIARY AIR DOOR SAFETY STRUT.** The auxiliary air door safety strut is used to prevent auxiliary air door from closing when access through this door is required.

5-177. **Installation.**

WARNING

Doors will snap shut immediately upon reduction of engine RPM below electrical generator line speed (slightly under 53 percent, engine RPM), or at any time electrical power is interrupted with hydraulic power remaining on the aircraft.

a. Place safety strut around extended piston rod of actuating cylinder.

b. Insert lock pin through flanges of strut.

5-178. **Removal.**

a. Remove lock pin from flanges of strut.

b. Remove safety strut from piston rod of actuating cylinder.

5-179. **NOSE LANDING GEAR DOOR UPLATCH LOCK PIN.** The nose landing gear door uplatch lock pin is used to prevent accidental closing of the nose landing gear aft door when performing maintenance in the nose landing gear wheel well.

5-180. **Installation.** Insert lock pin into the uplatch lock pin hole in the nose landing gear aft door mechanism linkage.

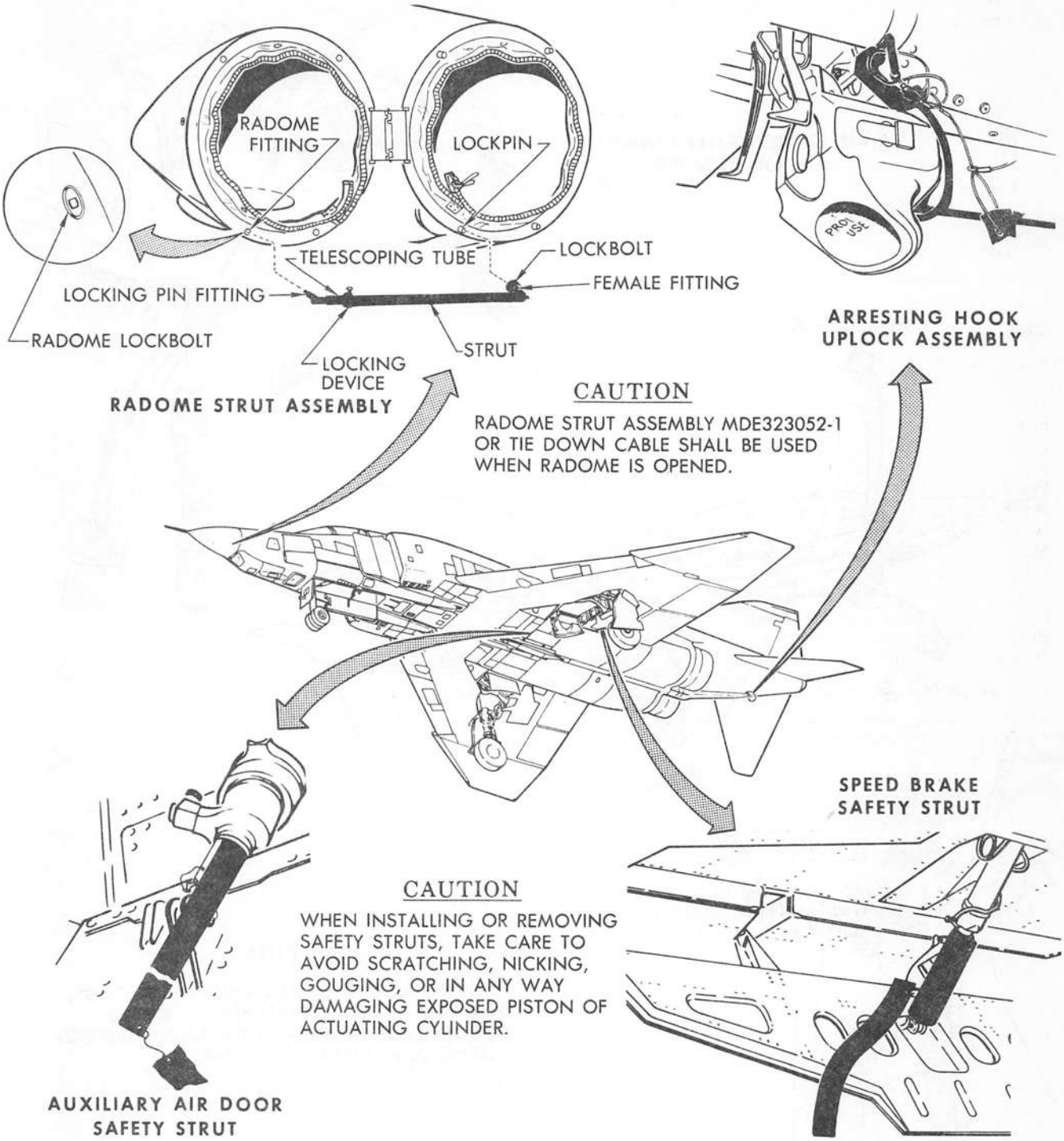
5-181. **Removal.** Remove lock pin from nose landing gear aft door mechanism linkage.

5-182. **MAIN LANDING GEAR INBOARD DOOR LOCK PIN.** The main landing gear inboard door lock pin is used to prevent accidental closing of the main landing gear inboard door when performing maintenance in the main landing gear wheel well.

5-183. **Installation.** Insert lock pin into the lock pin hole in the main landing gear inboard door mechanism linkage.

5-184. **Removal.** Remove lock pin from main landing gear inboard door mechanism linkage.

5-185. **NOSE LANDING GEAR ACTUATOR SAFETY STRUT.** The nose landing gear actuator safety strut is used to assure a positive lock of the nose landing gear in the down position for ground operations. It is recommended that the strut be installed when the aircraft is on the ground with the gear extended. Strut must be installed during maintenance.



CAUTION

RADOME STRUT ASSEMBLY MDE323052-1 OR TIE DOWN CABLE SHALL BE USED WHEN RADOME IS OPENED.

CAUTION

WHEN INSTALLING OR REMOVING SAFETY STRUTS, TAKE CARE TO AVOID SCRATCHING, NICKING, GOUGING, OR IN ANY WAY DAMAGING EXPOSED PISTON OF ACTUATING CYLINDER.

WARNING

DOORS WILL SNAP SHUT IMMEDIATELY UPON REDUCTION OF ENGINE RPM BELOW ELECTRICAL GENERATOR LINE SPEED (SLIGHTLY UNDER 55% ENGINE RPM), OR AT ANY TIME ELECTRICAL POWER IS INTERRUPTED WITH HYDRAULIC POWER REMAINING ON.

WARNING

WITH POWER APPLIED TO THE UTILITY HYDRAULIC SYSTEM, INADVERTENT RETRACTION OF SPEED BRAKES CAN BE INITIATED AS THE RESULT OF ELECTRICAL SEQUENCE OR DISCONTINUITY IN THE SPEED BRAKE ELECTRICAL SYSTEM.

FDC-2-1.1-(57-1)

Figure 5–24. Airframe Safety Devices (Sheet 1 of 5)

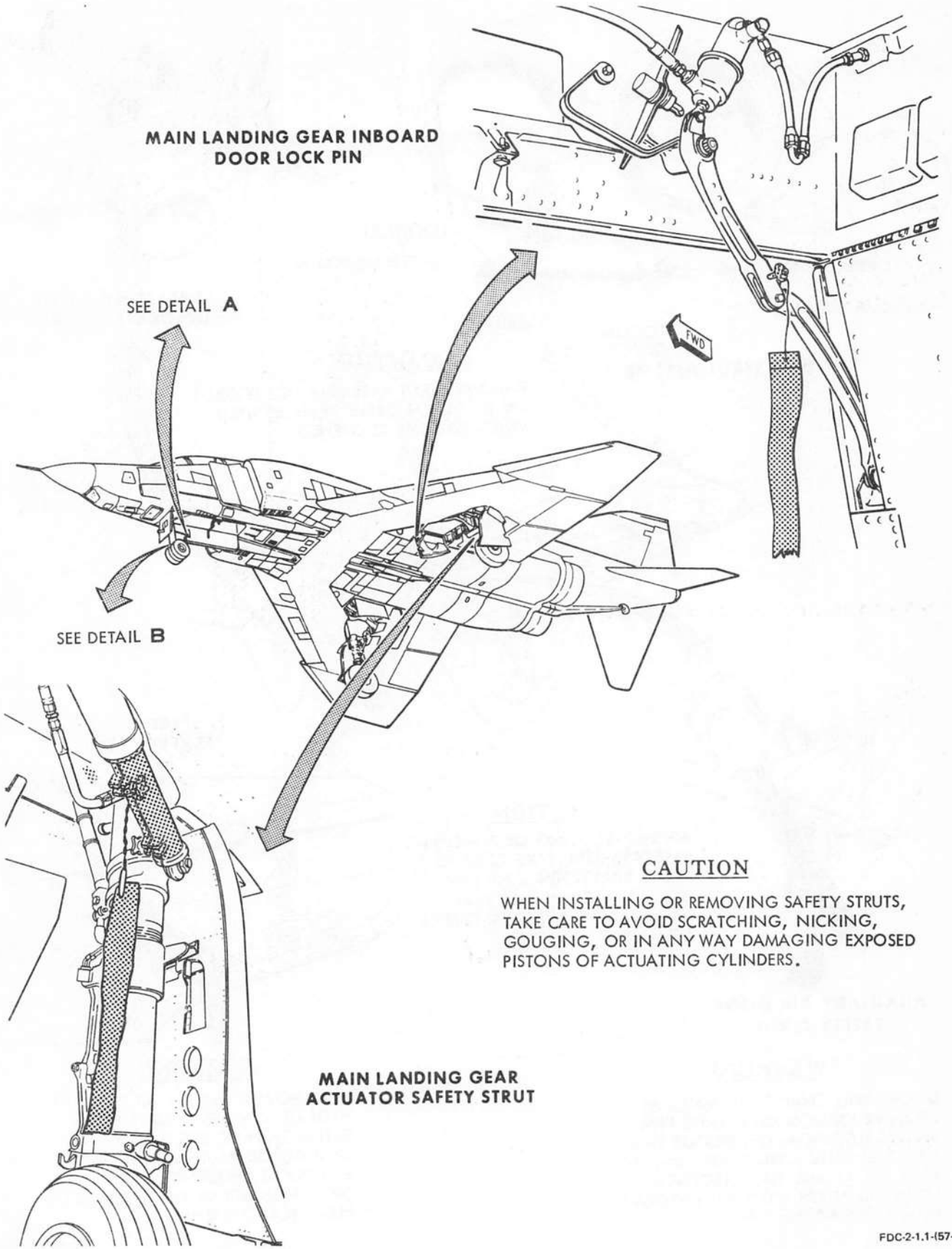


Figure 5-24. Airframe Safety Devices (Sheet 2 of 5)

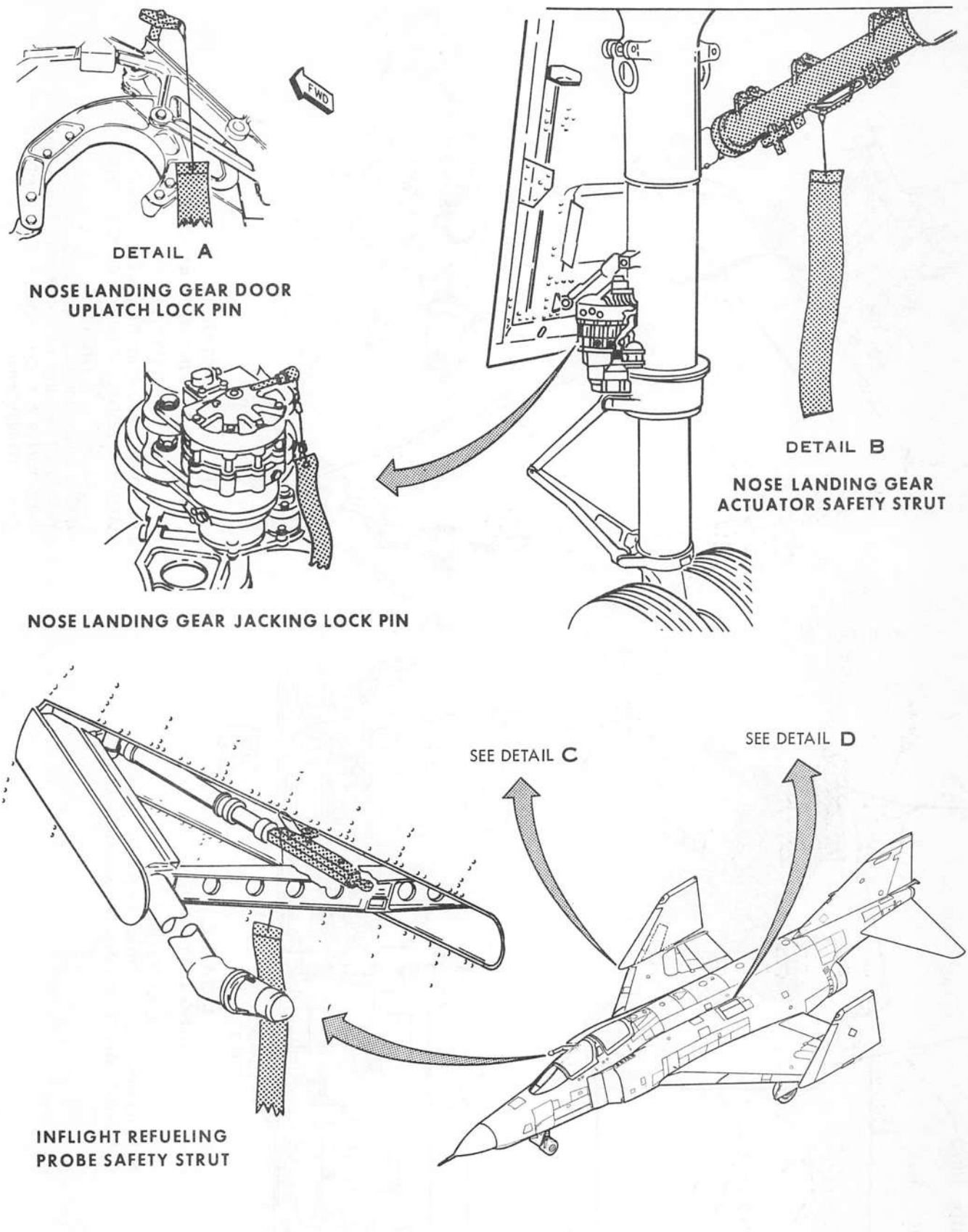
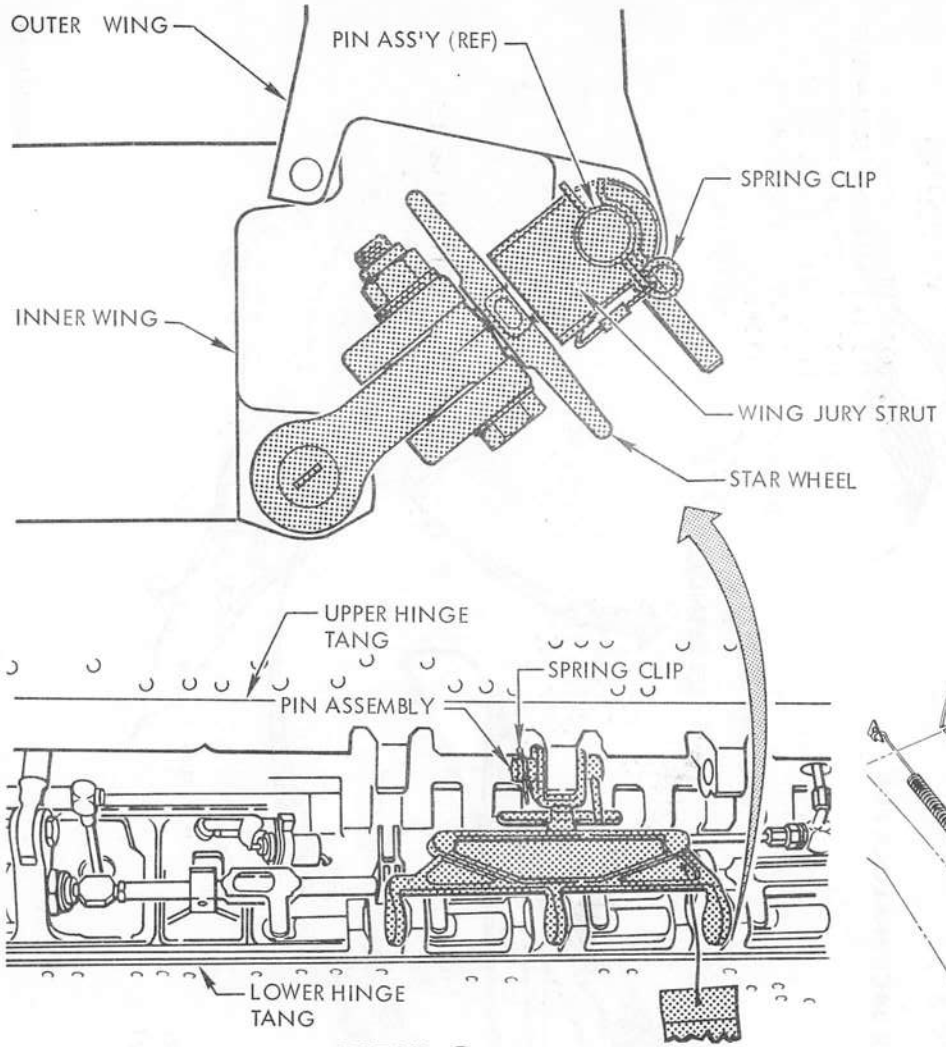


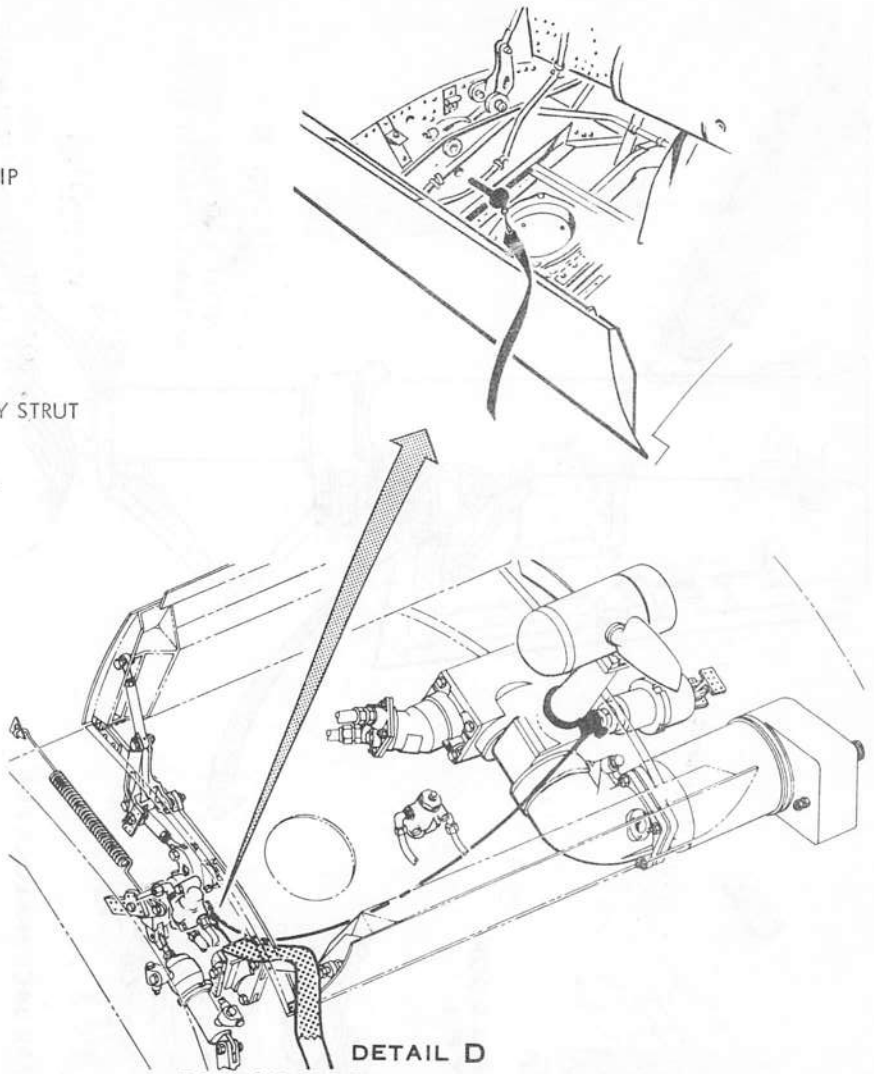
Figure 5–24. Airframe Safety Devices (Sheet 3 of 5)



DETAIL C
WING JURY STRUT

CAUTION

REFER TO MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS BEFORE FOLDING OR SPREADING WINGS.



DETAIL D
RAM AIR TURBINE LOCK ASSEMBLY (R.A.T.)

CAUTION

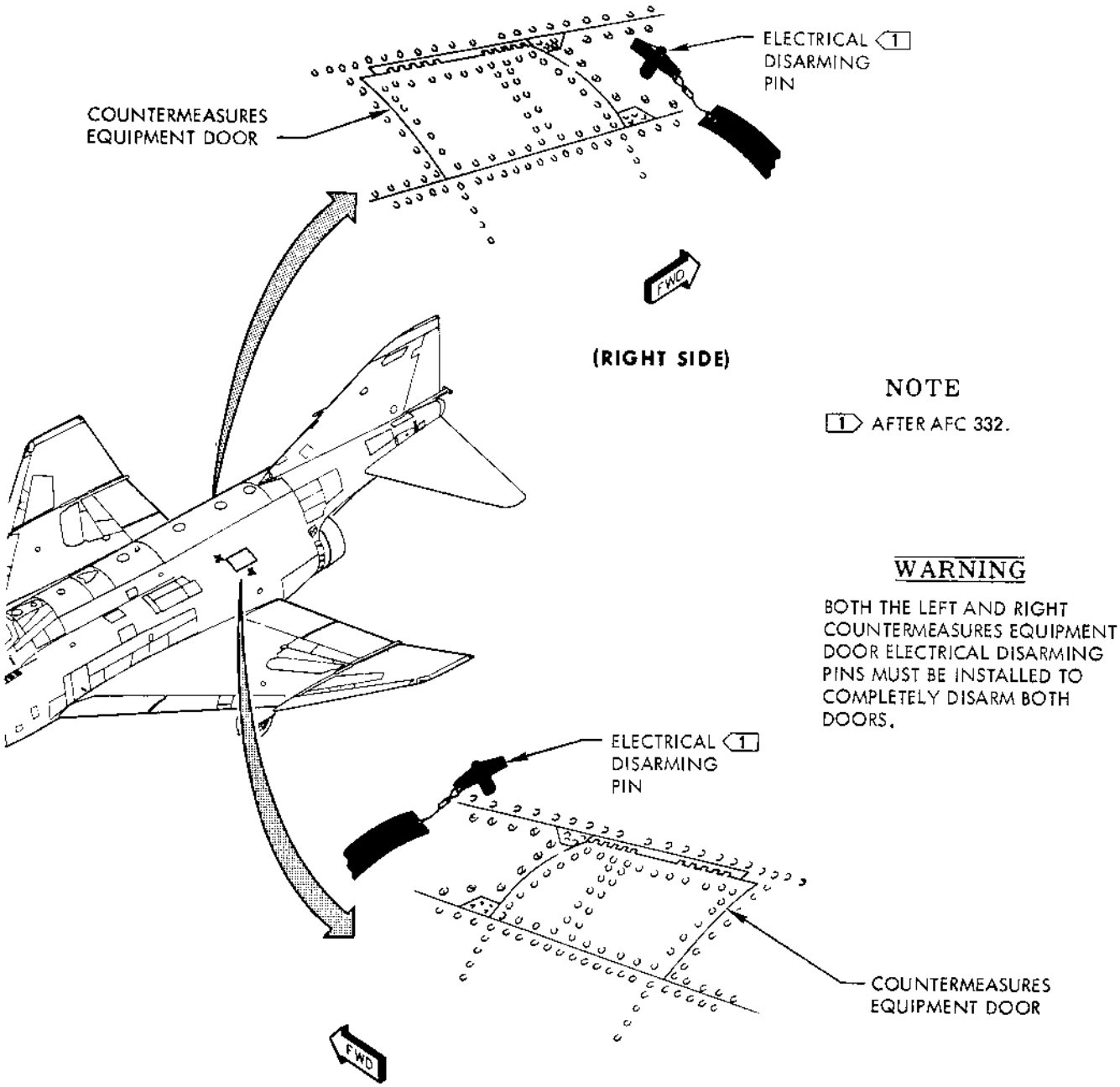
REFER TO MINIMUM STRUCTURAL ACCESS DOOR REQUIREMENTS BEFORE EXTENDING OR RETRACTING R.A.T.

WARNING

BEFORE REMOVING LOCK ASSEMBLY, MAKE CERTAIN THAT R.A.T. HANDLE IN FORWARD COCKPIT IS IN THE DOWN (R.A.T. OUT) POSITION, TO PREVENT INJURY TO PERSONNEL.

Figure 5-24. Airframe Safety Devices (Sheet 4 of 5)

FDC-2-1.1-157-4)



COUNTERMEASURES EQUIPMENT DOOR
ELECTRICAL DISARMING PIN

FDC 2-1.1-(57-5)

Figure 5-24. Airframe Safety Devices (Sheet 5 of 5)

CAUTION

When installing or removing safety strut, do not scratch, nick, gouge, or in any way damage exposed piston of actuating cylinder.

5-186. Installation.

a. Open safety strut and place around extended piston rod of nose landing gear drag brace actuator.

b. Close safety strut, and secure by placing hand knob bolts into slots and tightening as required.

5-187. Removal.

a. Loosen hand knob bolts and remove from slots in safety strut.

b. Open safety strut and remove from extended piston rod of nose landing gear drag brace actuator.

5-188. **ARRESTING HOOK UPLOCK ASSEMBLY.** The arresting hook uplock assembly is used to prevent accidental extension of the arresting hook when personnel are working in the area beneath the arresting hook.

5-189. Installation.

a. Install the uplock assembly around the throat of arresting hook near hook point.

b. Insert pin into fitting on one side of hook, through the holes in aircraft structure, and through the opposite fitting.

5-190. Removal.

a. Remove pin which was inserted through uplock assembly and aircraft structure.

b. Remove uplock assembly from around throat of arresting hook.

5-191. **MAIN LANDING GEAR ACTUATOR SAFETY STRUT.** The main landing gear actuator safety strut is used to assure a positive lock of the main landing gear in the down position for ground operations. It is recommended that the strut be installed when the aircraft is on the ground with the gear extended. Strut must be installed during maintenance.

CAUTION

When installing or removing safety struts, do not scratch, nick, gouge, or in any way damage exposed piston of actuating cylinder.

5-192. Installation.

a. Open safety strut and place around extended piston rod of main landing gear side brace actuator.

b. Close safety strut and secure by placing hand knob bolts into slots and tightening as required.

5-193. Removal.

a. Loosen hand knob bolts and remove from slots in safety strut.

b. Open safety strut and remove from extended piston rod of main landing gear side brace actuator.

5-194. **WING JURY STRUT.** The wing jury strut is used to stabilize the outer wing panel when the wing is in the folded position.

5-195. Installation.

a. Insert triple plug lower section of strut into lower hinge tangs and rotate jury strut up.

CAUTION

To minimize the loads imposed on the wing fold cylinder and actuator fitting, adjust the wing jury strut to its shortest possible length for a snug fit with the rib lug holes during strut installation.

b. Adjust wing jury strut to shortest possible length by turning star wheel.

c. Insert pin assembly through strut fork and upper wing hinge track.

d. Insert spring clip through hole in pin.

5-196. Removal.

a. Remove spring clip from hole in pin.

b. Remove pin assembly from strut fork and upper wing hinge track.

c. Rotate jury strut down and remove triple plug lower section of strut from lower hinge tangs.

5-197. **INFLIGHT REFUELING PROBE SAFETY STRUT.** The inflight refueling probe safety strut is used to prevent accidental retraction of inflight refueling probe when performing maintenance in the probe area.

5-198. Installation.

a. Place strut around extended piston rod of probe actuating cylinder, with closed side of strut on top.

b. Insert one Bal-loc pin through holes in strut flanges.

c. Rotate strut 180 degrees and insert remaining Bal-loc pin through holes in strut flanges.

5-199. Removal.

a. Remove Bal-loc pin from top of strut.

b. Rotate strut 180 degrees and remove remaining Bal-loc pin.

c. Remove strut from around extended piston rod of probe actuating cylinder.

5-200. **RAM AIR TURBINE LOCK ASSEMBLY.** The ram air turbine lock assembly is used to secure the turbine in the extended position and the doors in the open position. The lock assembly is installed on the ram air turbine strut and actuator lever on the left side of the upper fuselage center section.

5-201. Installation.

NOTE

The ram air turbine must be extended before installing the ram air turbine lock assembly.

a. Install clevis of lock assembly around ram air turbine power unit strut and secure by inserting lock pin through clevis and eyebolts provided on the aircraft structure.

b. Insert other lock pin of the lock assembly into the hole provided in the actuation lever located near the forward wall of the turbine well.

5-202. Removal.

WARNING

Before removing lock assembly, make certain that the ram air turbine handle in forward cockpit is in the down or ram air turbine out position.

a. Remove lock pin from hole in actuation lever located near the forward wall of the turbine well.

b. Remove lock pin securing clevis to aircraft structure.

c. Remove clevis of lock assembly from around ram air turbine power unit strut.

5-203. COUNTERMEASURES EQUIPMENT DOOR ELECTRICAL DISARMING PIN AFTER AFC 332. The countermeasures equipment door electrical disarming pin is used to prevent inadvertent energization of the dispenser circuit and/or equipment door cylinder solenoid valve close circuit.

5-204. Installation.

a. Depress button on end of pin and insert pin into receptacle located adjacent to countermeasures equipment door until pin bottoms against fuselage skin.

b. Release button on end of pin.

5-205. Removal.

WARNING

Before removing pin, ensure DISPENSER SELECTOR SWITCH on integrated control panel is in OFF position.

a. Depress button on end of pin.

b. Pull pin from receptacle.

5-206. EXTERNAL STORES SAFETY DEVICES. See figure 5-25.

5-207. TOOLS AND EQUIPMENT.

Pin, stores rack safety, (18, table 2-1)

5-208. STORES RACK SAFETY PIN - OUTBOARD WING PYLONS. The stores rack safety pin, outboard pylon, is used to mechanically and electrically render the pylon jettison mechanism inoperative when tank or multiple ejector rack is installed and the aircraft is not flying.

5-209. Installation.

CAUTION

Always insert pin from the outboard side of the pylon. Keep button fully depressed until pin is completely inserted.

a. Depress button on head of pin.

b. Insert pin into hole provided on the outboard side of the outboard pylon near access door 208L/R.

5-210. Removal.

a. Depress button on head of pin.

b. Remove pin from hole on the outboard side of the outboard pylon near access door 208L/R.

5-211. STORES RACK SAFETY PIN - CENTERLINE STORES. The stores rack safety pin, centerline stores, is used to mechanically and electrically render the centerline stores rack inoperative when the centerline stores rack is loaded and aircraft is not flying.

5-212. Installation.

WARNING

Install auxiliary air door safety strut before installing safety pin.

a. Install auxiliary air door safety strut. Refer to paragraph 5-168.

b. Working through access door 81R, remove small safety pin access plate from keel web.

c. Depress button on head of pin.

d. Insert pin through access plate (in keel web) into recess provided in centerline stores.

5-213. Removal.

WARNING

Install auxiliary air door safety strut before removing safety pin.

a. Install auxiliary air door safety strut. Refer to paragraph 5-168.

b. Depress button on head of pin.

c. Remove pin from access plate in keel web.

d. Install small safety pin access plate on keel web.

5-214. RECONNAISSANCE SYSTEM SAFETY DEVICES. See figure 5-26.

5-215. TOOLS AND EQUIPMENT.

Pin, photoflash cartridge ejector door safety, (19, table 2-1)
Pin, cassette ejector safety, (20, table 2-1)
Strut, radar mapping (SLR) radome jury, (21, table 2-1)

5-216. PHOTOFLASH CARTRIDGE EJECTOR DOOR SAFETY PIN. The photoflash cartridge ejector door safety pin is used to mechanically lock the photoflash cartridge ejector doors in the open position when performing maintenance in the ejector compartment and/or loading photoflash cartridges.

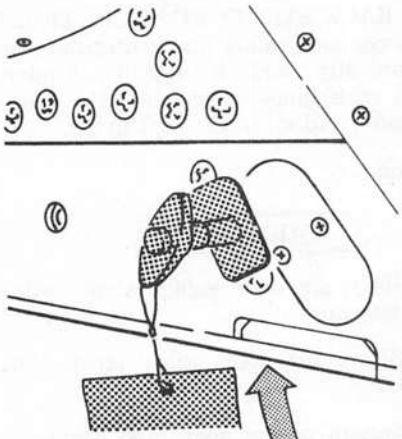
5-217. Installation.

a. Squeeze spring clip and remove from pin.

b. Insert pin through hole in structure, through holes in spring clip, and into socket provided.

c. Position clip to retain pin in socket.

STORES RACK SAFETY PIN (OUTBOARD WING PYLONS)

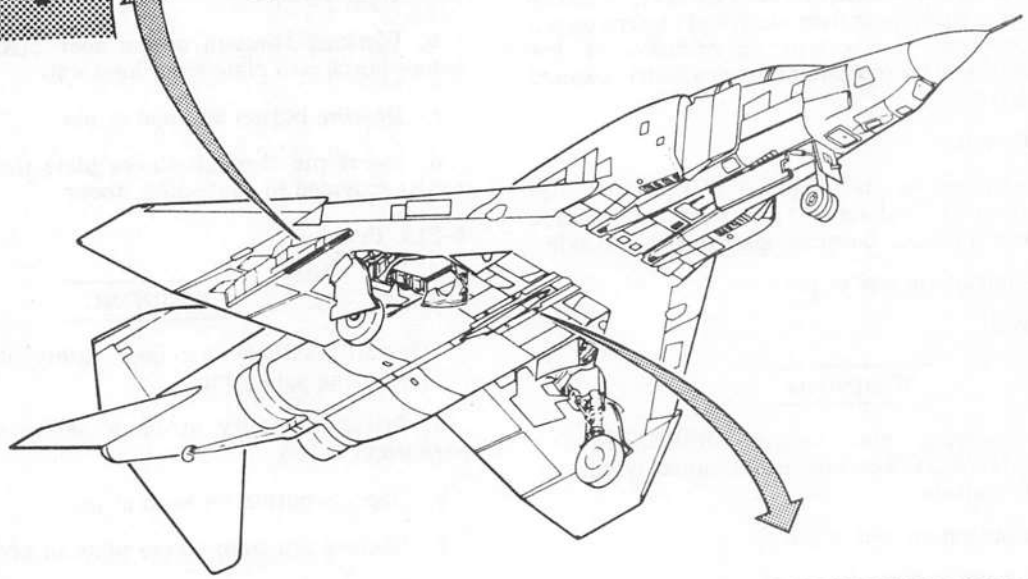


CAUTION

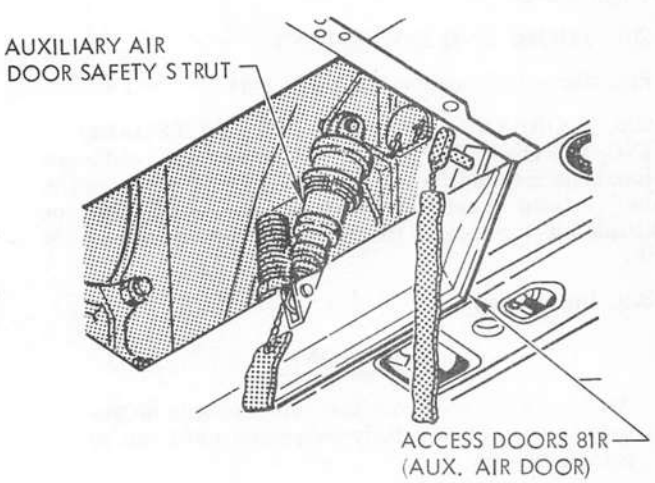
ALL ARMAMENT AND EXTERNAL STORES SAFETY DEVICES MUST BE REMOVED BEFORE FLIGHT.

CAUTION

ALWAYS INSERT PIN FROM THE OUTBOARD SIDE OF PYLON. KEEP BUTTON FULLY DEPRESSED UNTIL PIN IS COMPLETELY INSERTED.



STORES RACK SAFETY PIN (CENTERLINE STORES)



WARNING

TO PREVENT PERSONAL INJURY, INSTALL AUXILIARY AIR DOOR SAFETY STRUT BEFORE INSTALLING OR REMOVING PIN. REFER TO PARAGRAPH TITLED ARMAMENT AND EXTERNAL STORES SAFETY DEVICES.

FDC-2-1.1-(58)

Figure 5-25. External Stores Safety Devices

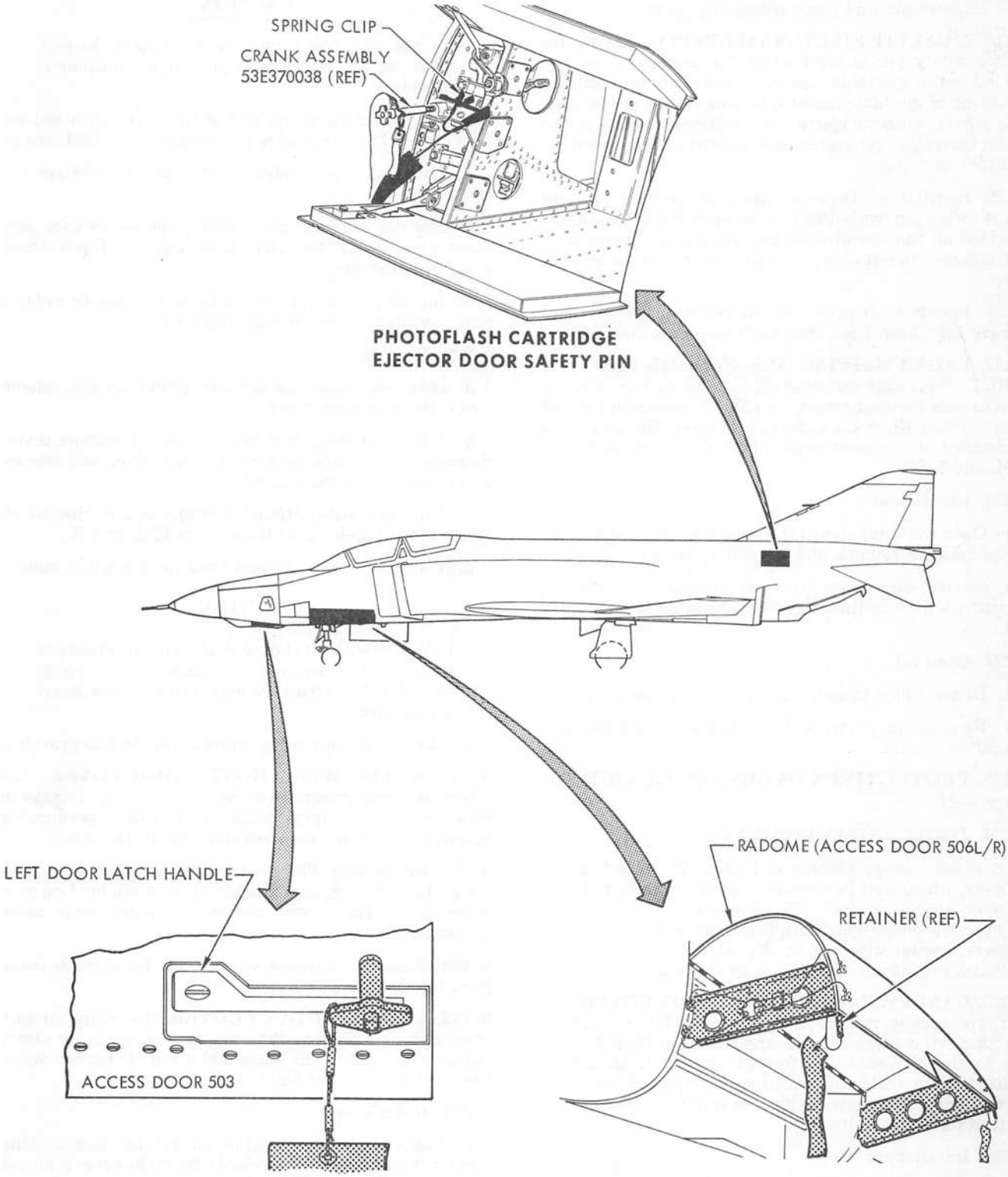


Figure 5–26. Reconnaissance System Safety Devices

5-218. Removal.

a. Squeeze spring clip.

b. Remove pin and place spring clip on pin.

5-219. CASSETTE EJECTOR SAFETY PIN. The cassette ejector safety pin is used when the aircraft is on the ground with ejectable cassette installed, and during mounting of ejectable cassette to door frame. Its purpose is to prevent cassette ejection by positioning safety pin to route cartridge generated gas overboard in event of inadvertent firing.

5-220. Installation. Depress button on head of pin and insert safety pin (with door open or closed) into receptacle provided on the low altitude camera station access door 503, adjacent to left door latch. Release button on head of pin.

5-221. Removal. Depress button on head of pin and remove safety pin from receptacle on access door 503.

5-222. RADAR MAPPING (SLR) RADOME JURY STRUT. The radar mapping (SLR) radome jury strut is used to hold the radar mapping (SLR) radomes in the full open position when the radome(s) is open. The jury strut is installed at the lower edge of both sides of access doors 506L and 506R.

5-223. Installation.

a. Open radar mapping (SLR) radome and position jury struts between radome and aircraft structure.

b. Secure each jury strut to radome and aircraft structure with four thumb screws, two at each end of jury strut.

5-224. Removal.

a. Remove four thumb screws from each jury strut.

b. Remove jury struts from between radome and aircraft structure.

5-225. PROTECTIVE COVERS AND GUARDS. See figure 5-27.

5-226. TOOLS AND EQUIPMENT.

Cover kit, canopy radome and pitot, (22, table 2-1)
Cover, wheel well honeycomb, (23 or 24, table 2-1)
Cover, engine air duct, (25, table 2-1)
Cover assembly, wing butt, (27, table 2-1)
Cover, engine afterburner, (28, table 2-1)
Guard, engine air duct, (26 or 29, table 2-1)

5-227. CANOPY, RADOME, AND PITOT COVER KIT. The canopy, radome, and pitot cover kit protects the canopies, windshield, radome, and pitot tube from damage due to the elements and foreign objects. It should be utilized when inclement weather is expected, or when there is danger of the windshield or canopy surfaces being marred from any source.

5-228. Installation.

CAUTION

Do not slide cover over canopies or allow buckles or Bal-loc pins to damage surface of canopies and windshield.

a. Place canopy cover over windshield and canopies. Loop center straps around the fixed ramp support vane and pull aft to buckle.

CAUTION

Do not pull cover taut over canopies. Inspect cover straps after rains and ajust tension if necessary.

b. Secure straps at aft end of the cover with Bal-loc pins inserted in receptacles provided in doors 128L and R.

c. Loop straps, at windshield area, around fuselage and tighten.

d. Slip radome cover over radome and secure to canopy cover by pressing the velcro tape together. Close zipper and tighten straps.

e. Install pitot cover over tube and secure to radome cover by pressing velcro tape together.

5-229. Removal.

a. Separate velcro tape between pitot tube and radome cover. Remove pitot cover.

b. Unbuckle strap and open zipper on radome cover. Separate velcro tape between radome cover and canopy cover. Remove radome cover.

c. Unbuckle strap around fuselage, below windshield, and remove Bal-loc pins from doors 128L and R.

d. Unbuckle straps around fixed ramp support vane.

CAUTION

Lift cover without sliding or allowing hardware to contact the aircraft. Damage to canopies, windshield, or structure may result if cover is slid across them.

e. Remove canopy cover. Store covers in bag provided.

5-230. WHEEL WELL HONEYCOMB COVER. The wheel well honeycomb cover is used to prevent damage to the wheel well honeycomb area when performing maintenance which involves stepping on the wings.

5-231. Installation. Place cover over honeycomb area on top surface of wing, immediately above main landing gear wheel wells. The rubber pad on the underside of cover prevents slipping.

5-232. Removal. Remove wheel well honeycomb cover from top surface of wing.

5-233. ENGINE AIR DUCT COVER. The engine air duct cover is used to prevent dirt, rain, and foreign objects from entering the engine air ducts and bleed air louvers when the aircraft is not on flight status.

5-234. Installation.

a. Place cover over engine air intake duct making certain that the inboard forward edge of the cover is placed over the fixed ramp of the duct.

b. Pull cover back over nacelle until the Bal-loc pin holes in the aft corners of the cover are aligned with the mating holes in the nacelle (inboard side).

c. Insert Bal-loc pins and hood elastic straps to take up slack from edges of cover.

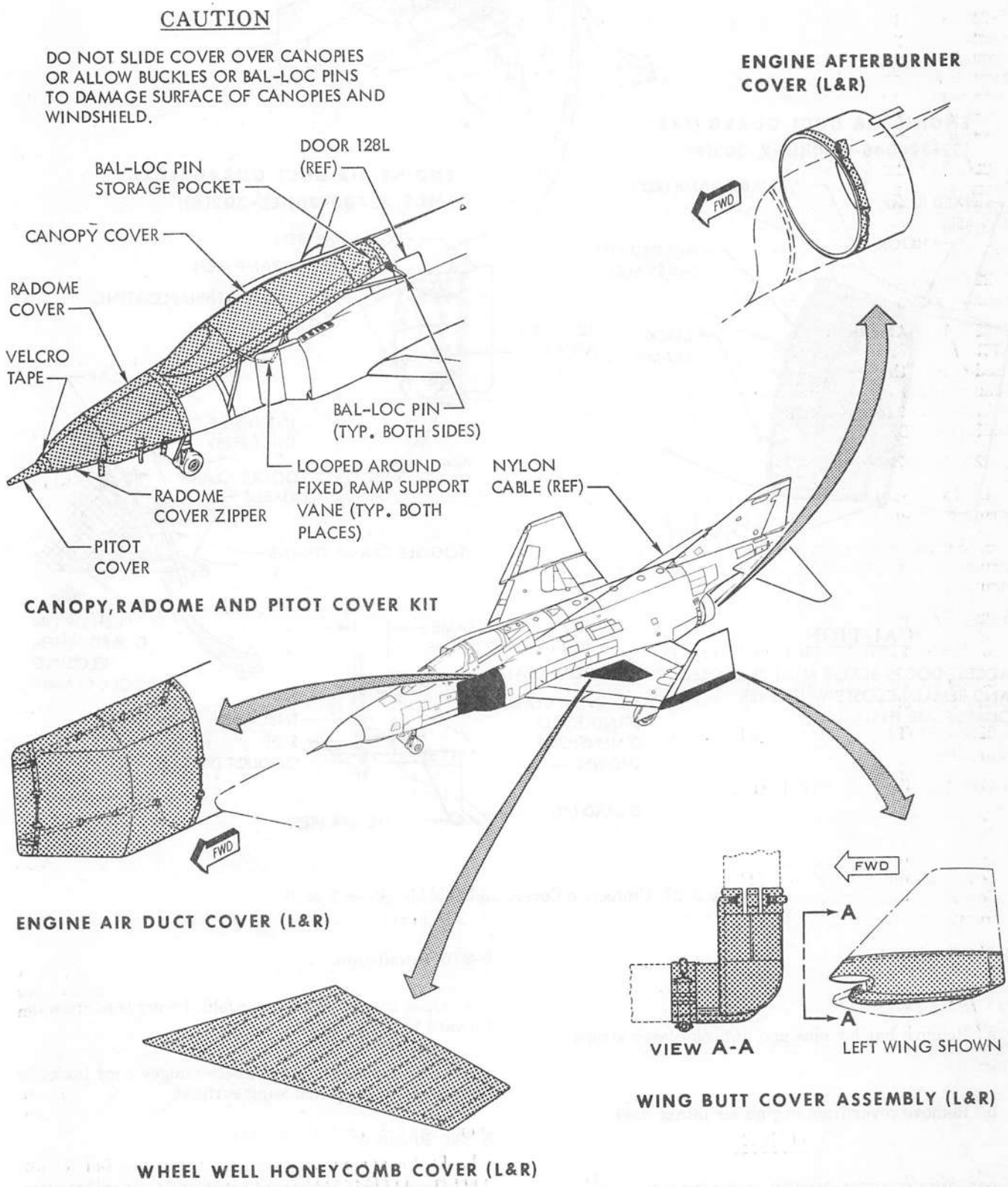


Figure 5–27. Protective Covers and Guards (Sheet 1 of 2)

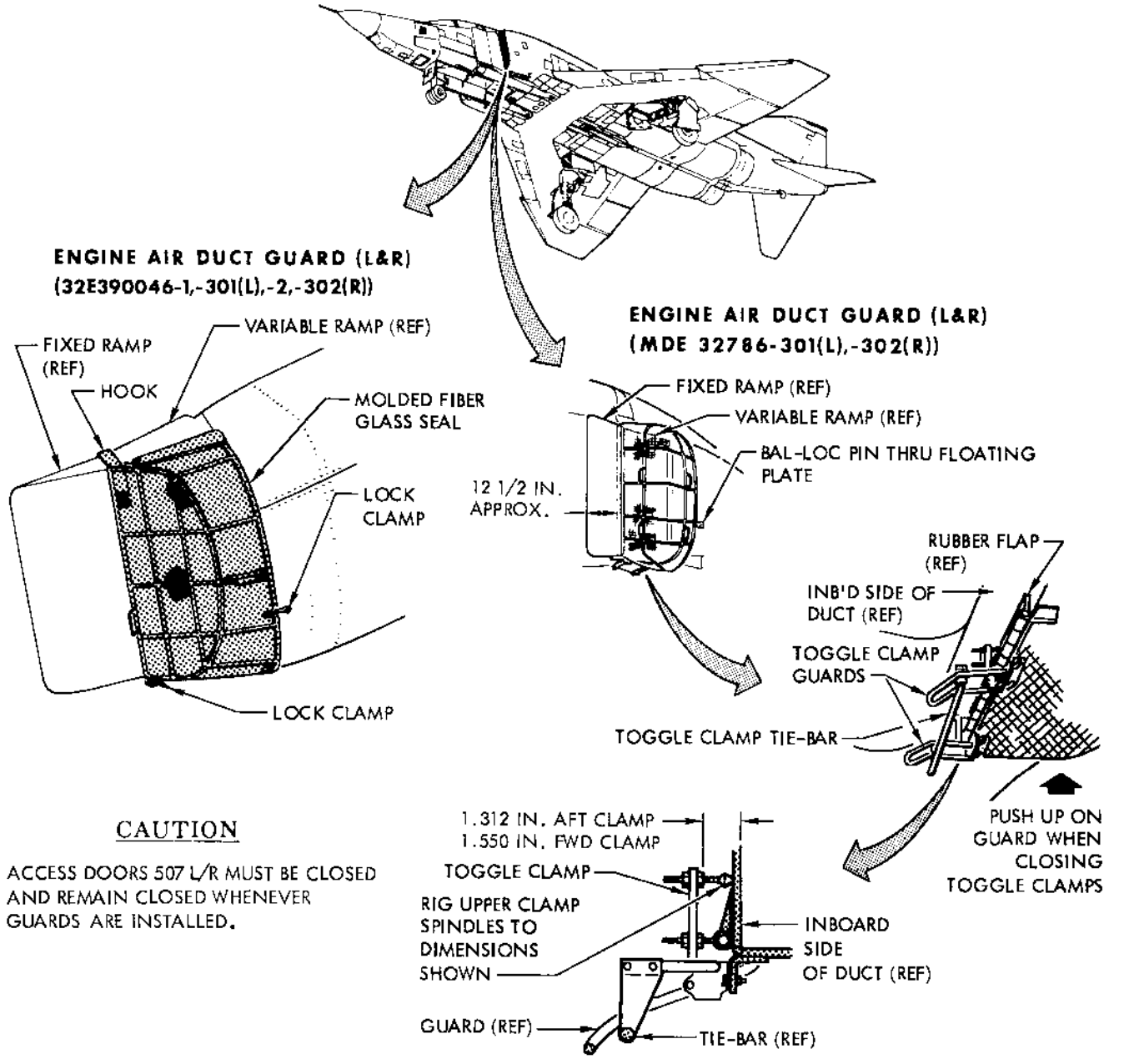


Figure 5-27. Protective Covers and Guards (Sheet 2 of 2)

5-235. Removal.

a. Remove Bal-loc pins and unhook elastic straps.

b. Remove cover from engine air intake duct.

5-236. **WING BUTT COVER ASSEMBLY.** The wing butt cover assembly is used to protect the exposed wing fold mechanism from snow, ice, and foreign materials when the aircraft has its wings folded and is not on flight status.

5-237. Installation.

a. Open cover and slip over folded wing joint from the forward to aft direction.

b. Snap fasteners and connect bungee cord hooks to hold cover snug against wing surfaces.

5-238. Removal.

a. Disconnect bungee cord hooks and unsnap fasteners.

b. Slip cover off of folded wing joint from aft to forward direction.

5-239. **ENGINE AFTERBURNER COVER.** The engine afterburner cover is used to prevent entry of moisture and foreign matter which could damage the engine. It should be utilized when the aircraft is not on flight status.

5-240. **Installation.** Place cover over engine afterburner and tighten elastic strap assembly on forward edge of cover until cover is secure.

5-241. **Removal.** Loosen elastic strap assembly on forward edge of cover and remove cover from engine afterburner.

5-242. **Removal.**

a. Press firmly on the cover and remove the Bal-loc pins.

b. Remove cover from total temperature sensor.

5-243. **ENGINE AIR DUCT GUARD MDE32786-301(L), -302(R).** The engine air duct guard is used to prevent entry of foreign objects into engine air intake duct when the engine is being operated for checkout with the aircraft on the ground.

CAUTION

To prevent damage, exercise extreme care when handling the light weight air duct guards.

5-244. **Installation.**

CAUTION

Access doors 507L/R must be closed whenever guards are installed.

a. Place guard over engine air intake duct with forward edge of guard positioned approximately 12-1/2 inches from leading edge of fixed ramp and aft edge of guard covering the projecting ends of the variable ramp.

b. Line up floating plate on guard with hold in outside of duct and insert Bal-loc pin.

c. Push upward against bottom of guard with shoulder to position guard. Rotate tie-bar inward to close toggle clamps. With toggle clamps over center position, the upper spindle of each clamp should bear against the inboard face of the fixed ramp.

5-245. **Removal.**

a. Rotate tie-bar outward to open toggle clamps.

b. Remove Bal-loc pin from floating plate.

c. Remove guard from engine air intake duct.

5-246. **ENGINE AIR DUCT GUARD 32E390046-1, -301(L), -2, -302(R).** The engine air duct guard is used to prevent entry of foreign objects into engine air intake duct when the engine is being operated for checkout with the aircraft on the ground.

CAUTION

To prevent damage, exercise extreme care when handling the light weight air duct guards.

5-247. **Installation.**

a. Raise guard until hook, on upper inboard edge of guard, engages aircraft fixed ramp.

b. Slide guard aft until molded fiberglass seal is seated on leading edge of duct lip.

c. Secure lock clamp on lower inboard edge of guard to fixed ramp.

d. Secure lock clamp on aft portion of guard to leading edge of duct lip.

e. Check spring-loaded hinged section of guard for proper engagement of variable ramp.

5-248. **Removal.**

a. Loosen lock clamp from leading edge of duct lip.

b. Loosen lock clamp from lower portion of fixed ramp.

c. Raise guard until hook, on upper inboard edge of guard, is clear of fixed ramp and remove guard.

5-249. **CAMERA WINDOW COVER ASSEMBLIES.** See figure 5-28.

5-250. The camera window cover assemblies are used to protect the camera window(s) from damage caused by dust, sand and other weather elements, as well as inadvertent contact with foreign objects during periods of aircraft maintenance and/or servicing. Covers should be utilized when the aircraft is not on flight status.

5-251. **TOOLS AND EQUIPMENT.**

Cover, tri-camera oblique window, (30, table 2-1)
Cover, forward vertical window, (31, table 2-1)
Cover, aft panoramic window, (32, table 2-1)
Cover, tri-camera vertical window, (33, table 2-1)
Cover, forward oblique window, (34, table 2-1)
Cover, viewfinder window, (35, table 2-1)

5-252. **Installation.**

CAUTION

Inspect window cover seals to assure they are free of foreign objects (sand, grit, debris etc.) to prevent damage to the window.

NOTE

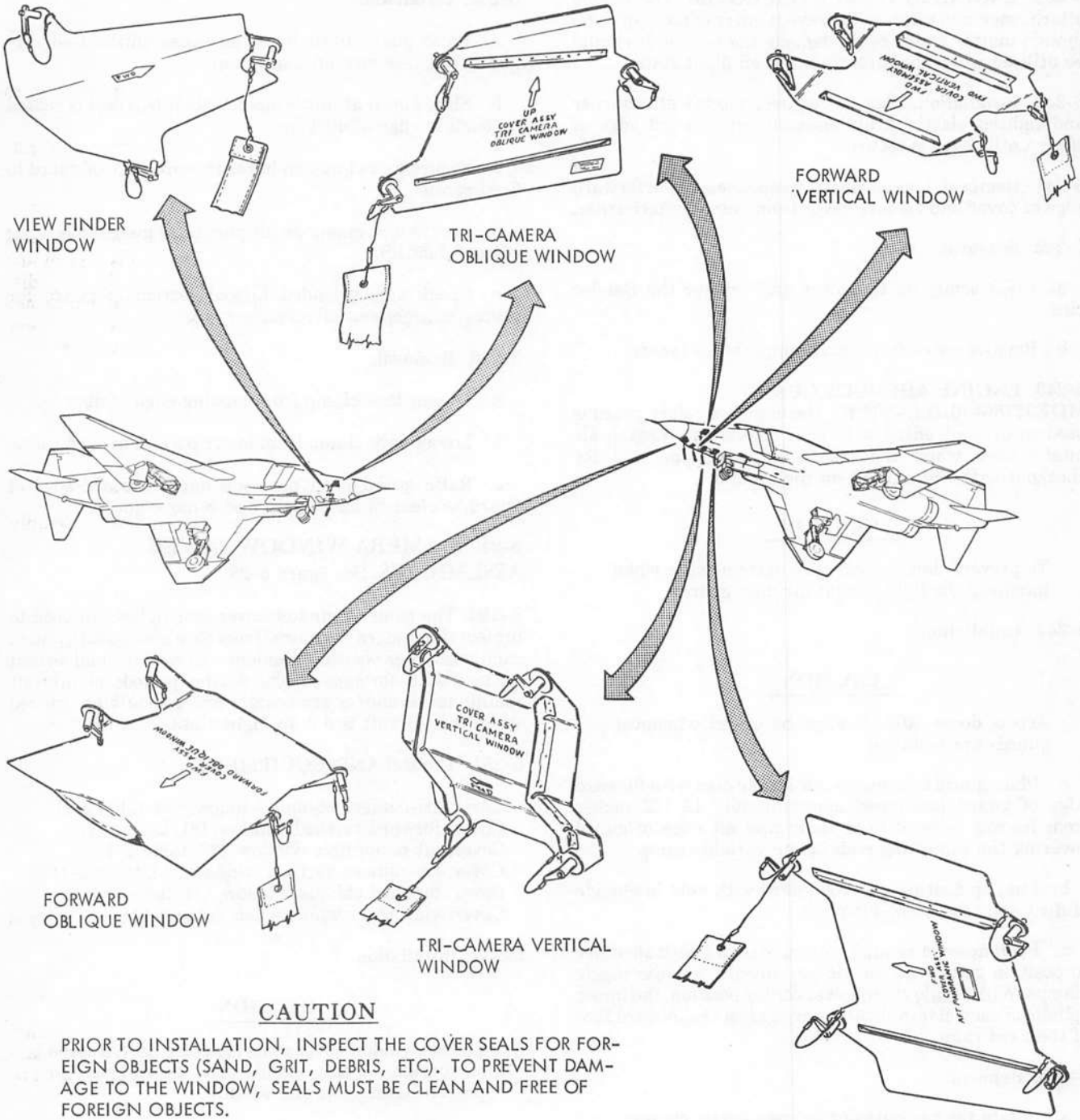
The aft panoramic window cover assembly can be installed only when access door 505 is closed.

Bal-loc pin receptacles are of the spring-loaded self-sealing type and automatically retract when the pin is inserted.

a. Position cover assembly over window.

b. Depress Bal-loc pin plunger and insert pin through cover attach holes into the fuselage receptacle until it bottoms. Release plunger.

c. Repeat step b with the remaining Bal-loc pins.



CAUTION

PRIOR TO INSTALLATION, INSPECT THE COVER SEALS FOR FOREIGN OBJECTS (SAND, GRIT, DEBRIS, ETC). TO PREVENT DAMAGE TO THE WINDOW, SEALS MUST BE CLEAN AND FREE OF FOREIGN OBJECTS.

TO PREVENT DAMAGE TO THE WINDOW DURING REMOVAL, DO NOT SLIDE THE COVER OVER THE WINDOW NOR ALLOW BAL-LOC PINS OR OTHER FOREIGN OBJECTS TO CONTACT THE WINDOW.

NOTES

[1] THE AFT PANORAMIC WINDOW COVER ASSY MAY BE INSTALLED ONLY WHEN ACCESS DOOR NUMBER 505 IS CLOSED.

2. BAL-LOC PIN RECEPTACLES ARE OF THE SPRING LOADED SELF SEALING TYPE AND AUTOMATICALLY RETRACT WHEN THE PIN IS INSERTED.

FDC-2-1.1-(61)

Figure 5-28. Camera Window Cover Assemblies

5-253. Removal.

CAUTION

To prevent damage to the window during removal, do not slide the cover over the window nor allow Bal-loc pins or other foreign objects to contact the window.

a. Depress Bal-loc pin plungers.

b. Remove Bal-loc pins from cover attach holes and release pin plungers.

c. Remove cover assembly.

5-254. **OPTICAL VIEWFINDER COVER.**

5-255. The eye lens on the optical viewfinder located on the main instrument panel of the forward cockpit should be covered with protective lens cover (furnished with instrument) at all times when viewfinder is not being operated.

CAUTION

If eye lens is left uncovered, sunlight focusing through the viewfinder optics can result in internal burn damage.

FLIGHT PREPARATION

5-256. **COCKPIT AREA SAFETY CHECK.** See figures 5-29 and 5-30.

WARNING

Failure to check any of the items listed can endanger the life of the aircrewman by preventing the proper seat ejection sequence during an emergency. Also, the loss of the canopy in flight can result if certain of these items are not positioned as described. For ejection seat lockwire and lead seal installations, refer to NAVAIR 01-245FDC-2-2.1.

5-257. **ASSISTANCE TO AIRCREW.** See figure 5-31.

5-258. Minimal assistance to aircrew consists of removing the ejection seat safety pin assemblies and assuring proper connection of upper block personnel leads.

5-259. **PROCEDURE.**

a. Remove all safety pins of the ejection seat safety pin assembly except the face curtain safety pin and the catapult gun firing mechanism safety pin. Refer to paragraph 5-158 or 5-163.

NOTE

Ventilating air hose connector will have visible yellow band when correctly joined.

b. Assist aircrew, if required, in connection of oxygen/communication connection, anti-G hose, and ventilating air hose (when applicable) to universal upper block.

c. Remove catapult gun firing mechanism safety pin. Refer to paragraph 5-158 or 5-163.

d. Remove face curtain safety pin. Refer to paragraph 5-158 or 5-163.

e. Fold lanyards and place ejection seat safety pin assembly into bag.

f. Hand ejection seat safety pin assembly bag to aircrewman for stowage in the cockpit.

g. Remove maintenance ladder or retract aircraft boarding ladder as applicable.

5-260. **CATAPULTING.** See figure 5-32.

5-261. The following procedures must be performed immediately prior to launch. The sequence is typical and may be varied to suit local preferences. To expedite launch, several of the procedures may be performed simultaneously; however, close coordination between catapult officer, pilot, and catapult crew is required.

5-262. **AIRCRAFT PRELAUNCH PROCEDURES.**

a. Attach catapult holdback assembly to deck.

b. Position aircraft for catapulting.

c. Attach catapult holdback assembly to aircraft.

d. Taxi aircraft forward to tension catapult assembly.

e. Perform flight control checks.

f. Check for proper pneumatic system pressure.

CAUTION

After extending nose strut for catapult shot, do not allow basic pneumatic system to build up over 2000 psi. Pneumatic system pressure can be lowered by cycling ram air turbine.

g. Extend nose strut.

h. Connect bridle to catapult shuttle.

i. Attach catapult bridle to aircraft.

j. Tension catapult bridle.

k. Perform final visual check of aircraft for security of doors, flaps down and proper catapult hookup.

5-263. **CATAPULT HOLDBACK ASSEMBLY ATTACHMENT.**

a. Open catapult holdback fitting door on aircraft. Manually pull holdback fitting down, lift latch on holdback door and retract holdback fitting until it locks in latch on holdback door.

b. Insert tension bar in aircraft catapult holdback fitting.

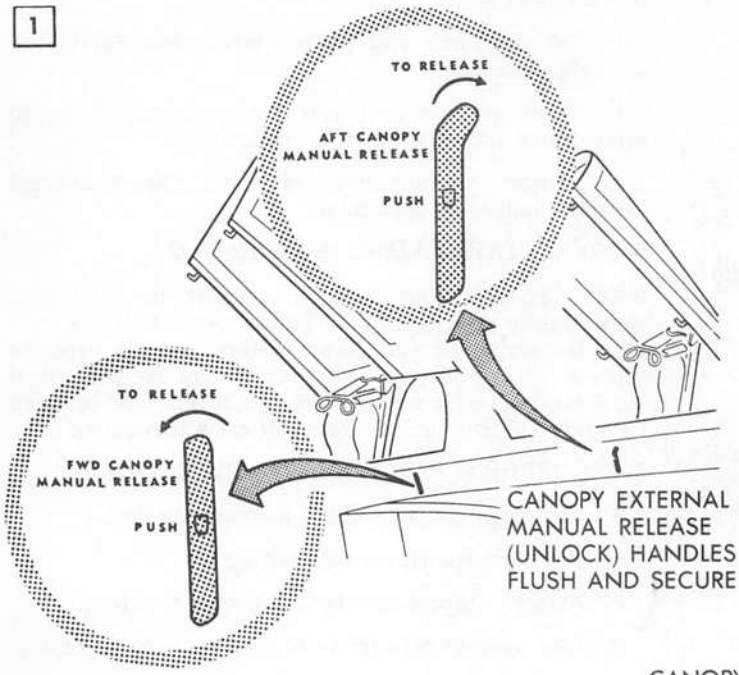
c. Couple catapult holdback assembly to aircraft by placing terminal fitting over entended end of tension bar.

5-264. **NOSE STRUT EXTENSION.**

CAUTION

Minimum pneumatic system pressure prior to nose strut extension is 2750 psi. On 151975t THRU 151980v BEFORE AFC 242, nose strut extension switch has a detent in NORM position. Toggle must be pulled out to be put in EXT position or damage to switch will result.

1



NOTES

1. EJECTION SEAT SAFETY PIN ASSEMBLY. REFER TO PARAGRAPH TITLED EJECTION SEAT SAFETY DEVICES. ASSEMBLY MUST BE REMOVED PRIOR TO FLIGHT.
2. ON SEATS EQUIPPED WITH DROGUE GUN COCKED INDICATOR.
3. FINGER RING INSTALLED ON IFF SWITCH BRACKET RELEASE PIN AFTER ACC 38.

WARNING

THE FOLLOWING ITEMS ARE THE NORMAL PREFLIGHT POSITIONS OF THE CANOPY AND EJECTION SEAT COMPONENTS (IN BOTH COCKPITS), AND MUST BE CHECKED PRIOR TO EACH FLIGHT. FAILURE OF ANY OF THE ITEMS TO BE IN THE PROPER POSITION CAN ENDANGER THE LIFE OF THE AIRCREWMAN BY PREVENTING THE PROPER EJECTION SEQUENCE OR LOSS OF THE CANOPY IN FLIGHT.

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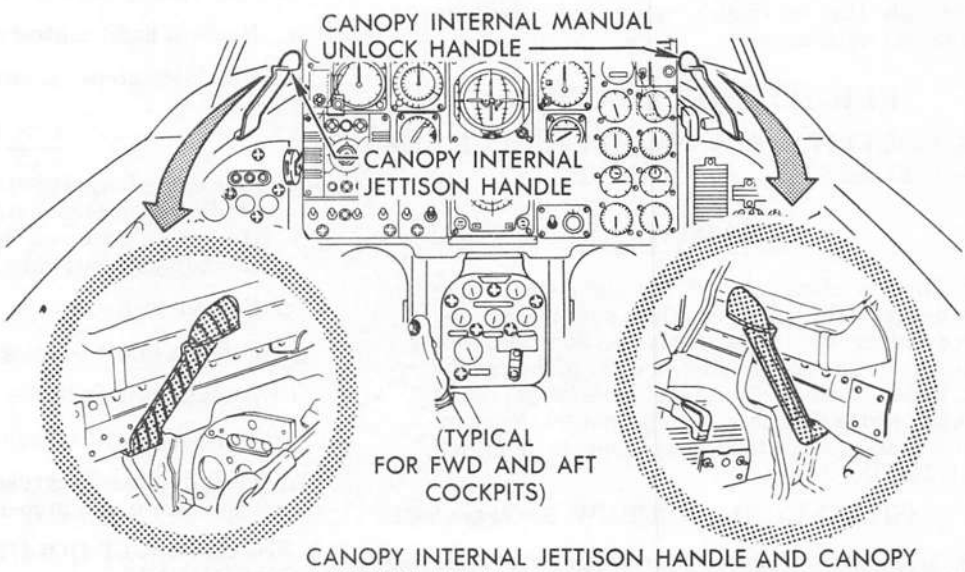
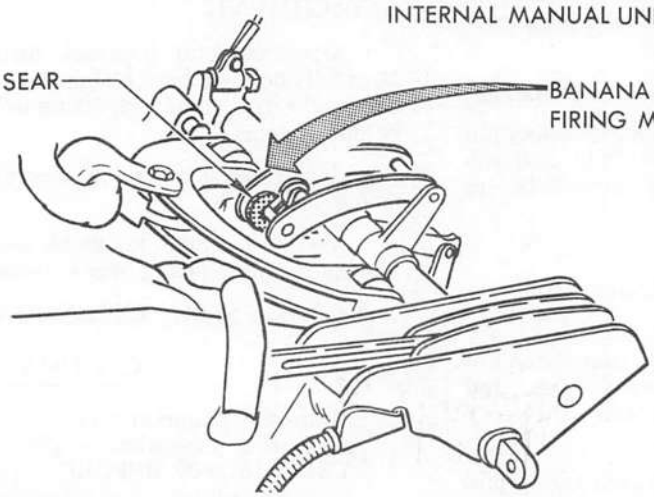


CANOPY INTERNAL JETTISON HANDLE AND CANOPY INTERNAL MANUAL UNLOCK HANDLE IN FORWARD POSITION.

3



FDC-2-1.1-(62-1)

Figure 5-29. Cockpit Area Safety Check – 151975t THRU 153115aa BEFORE AFC 307 (Sheet 1 of 6)

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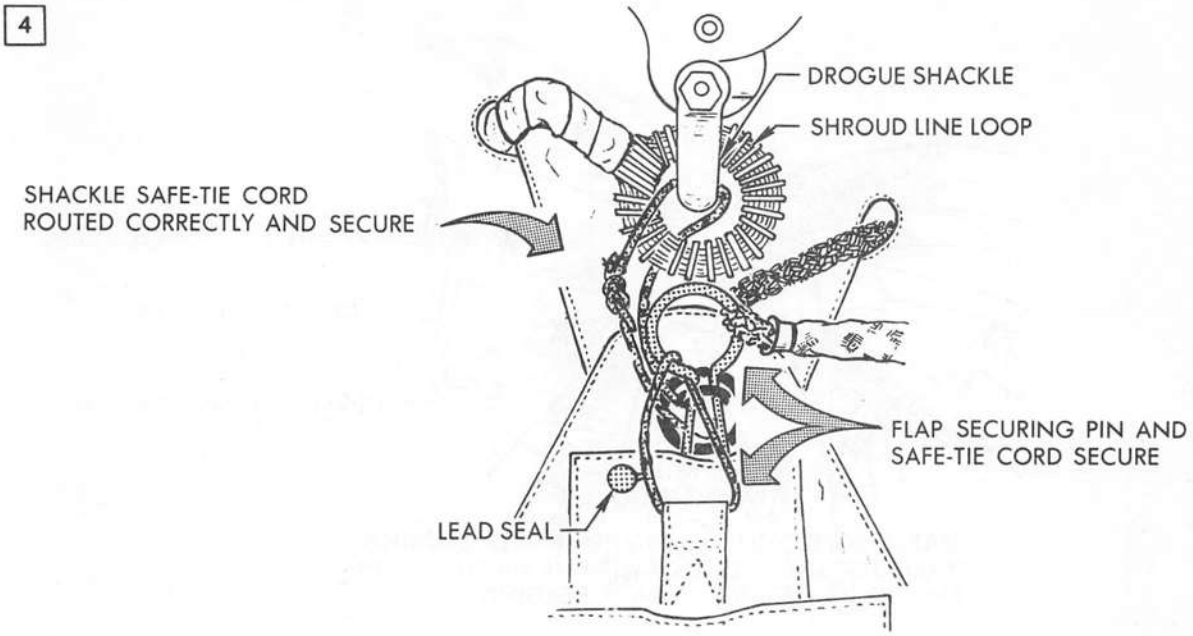

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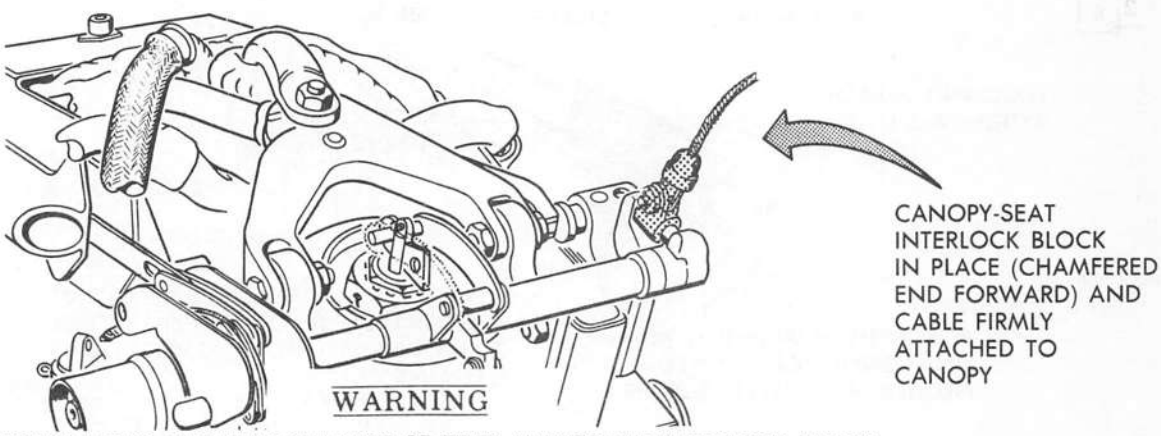

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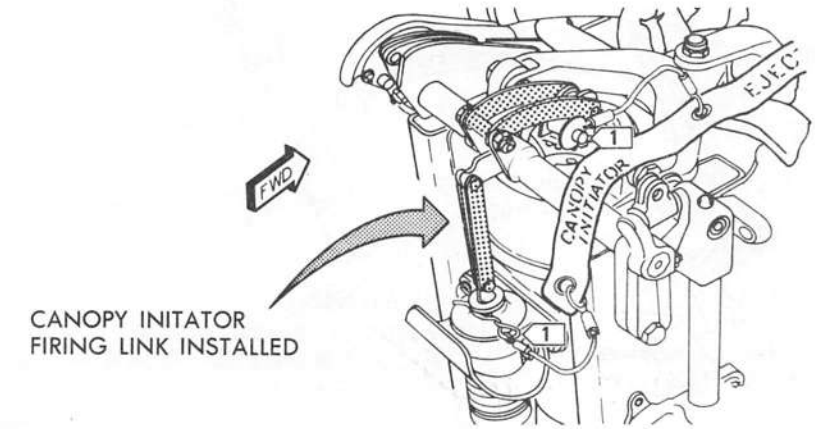
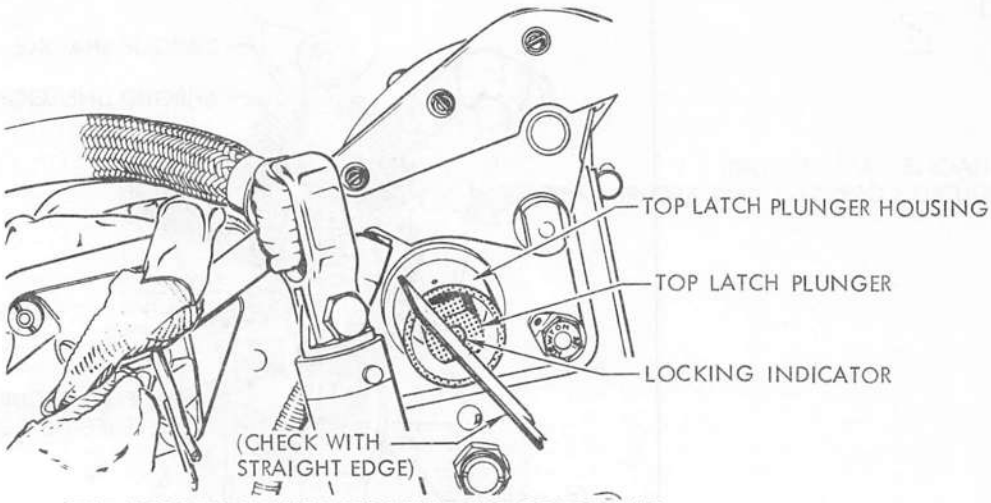


FDC-2-1.1-(62-2)

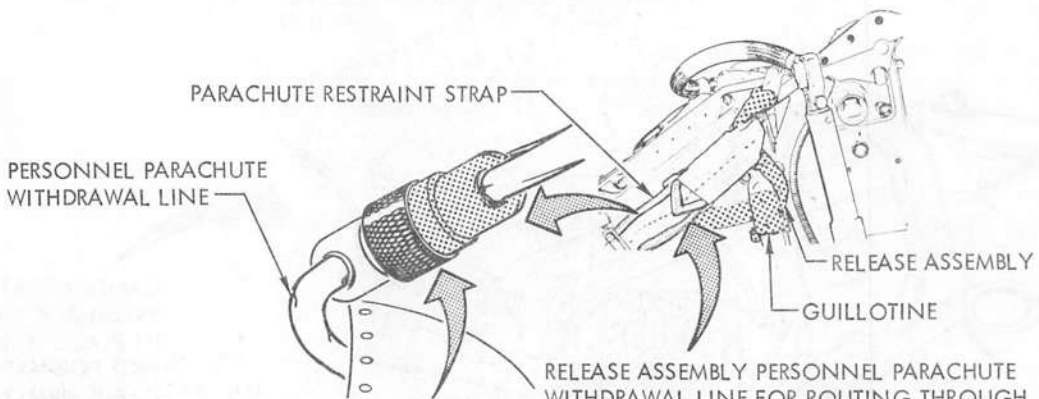
Figure 5–29. Cockpit Area Safety Check – 151975t THRU 153115aa BEFORE AFC 307 (Sheet 2 of 6)

7



SEAT IS PROPERLY INSTALLED WHEN END OF LOCKING INDICATOR AND TOP LATCH PLUNGER ARE FLUSH WITH EACH OTHER AND WITH PLUNGER HOUSING.

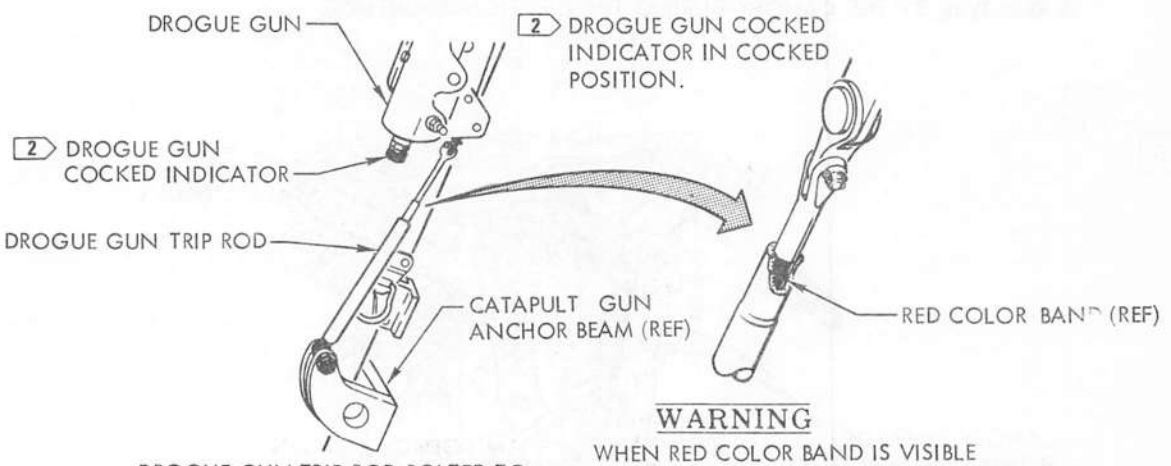
8



RELEASE ASSEMBLY PERSONNEL PARACHUTE WITHDRAWAL LINE FOR ROUTING THROUGH GUILLOTINE ASSEMBLY AND UNDER AFT RESTRAINT STRAP.

PERSONNEL PARACHUTE WITHDRAWAL LINE CONNECTOR FOR PROPER CONNECTION AND SWIVEL ACTION.

9



DROGUE GUN TRIP ROD BOLTED TO ANCHOR BEAM AND ENGAGED TO GUN.

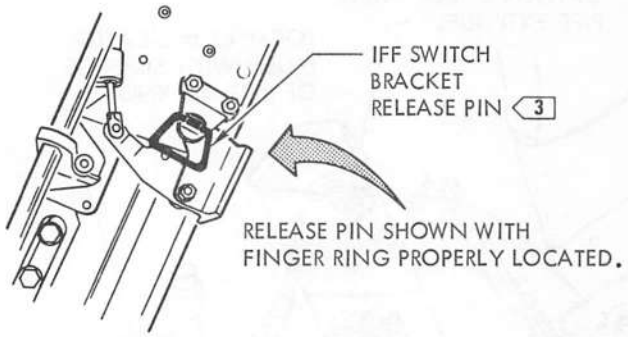
WARNING

WHEN RED COLOR BAND IS VISIBLE ABOVE OUTER BARREL, SEAT IS NOT PROPERLY INSTALLED.

FDC-2-1.1-(62-3)

Figure 5-29. Cockpit Area Safety Check - 151975t THRU 153115aa BEFORE AFC 307 (Sheet 3 of 6)

10



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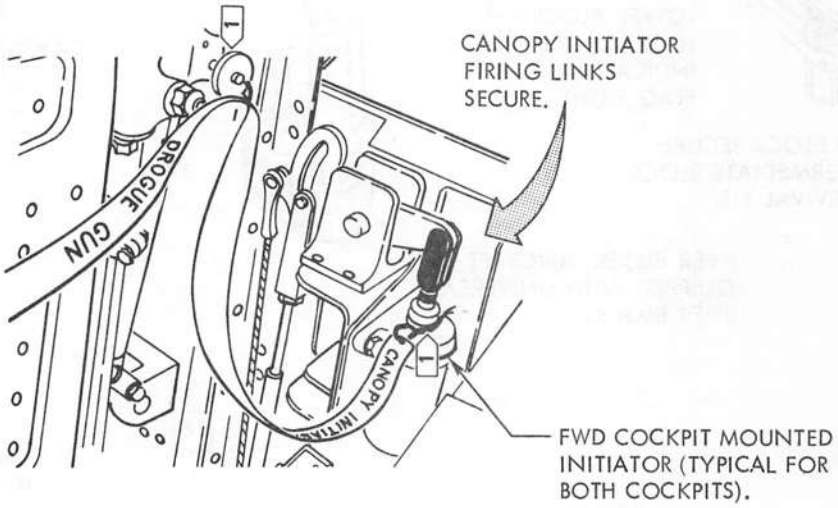

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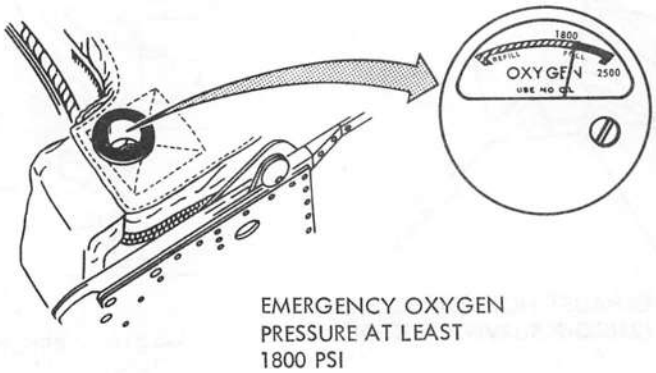


FDC-2-1.1-(62-4)

Figure 5-29. Cockpit Area Safety Check - 151975t THRU 153115aa BEFORE AFC 307 (Sheet 4 of 6)

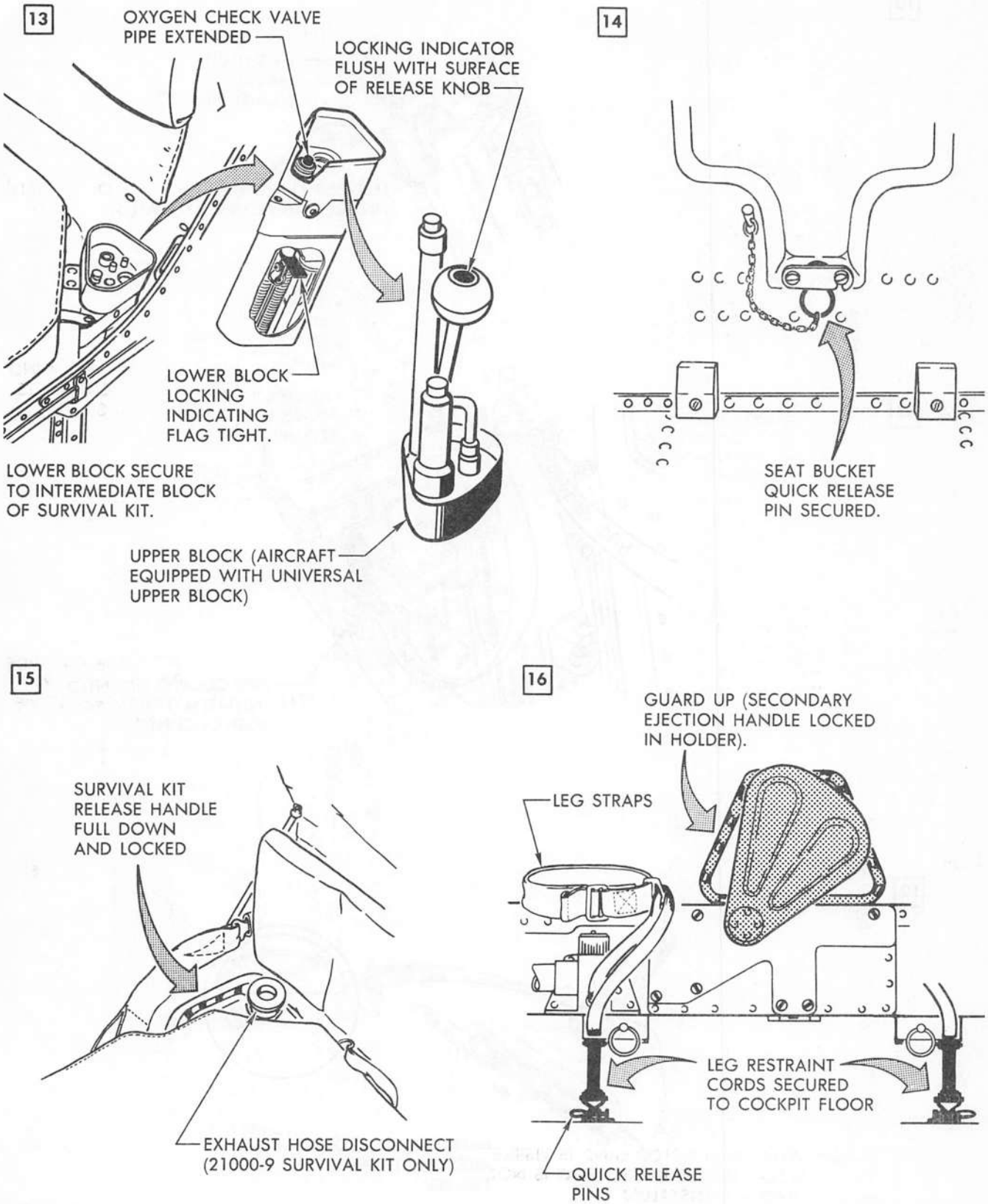


Figure 5-29. Cockpit Area Safety Check – 151975t THRU 153115aa BEFORE AFC 307 (Sheet 5 of 6)

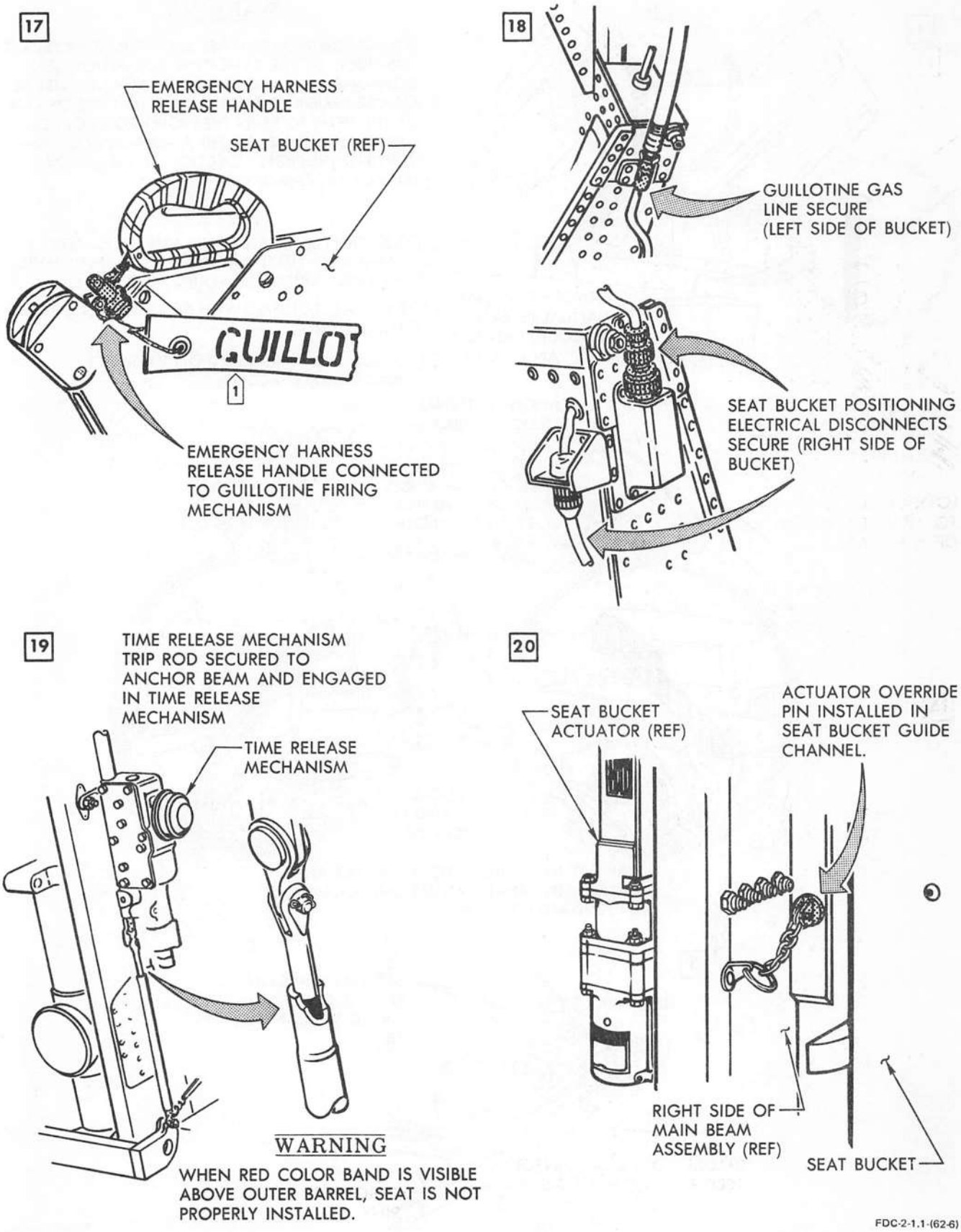
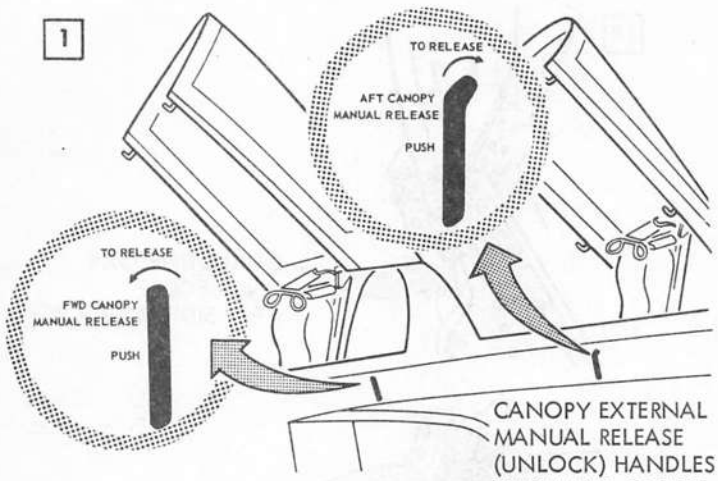


Figure 5–29. Cockpit Area Safety Check – 151975t THRU 153115aa BEFORE AFC 307 (Sheet 6 of 6)

1



CANOPY EXTERNAL MANUAL RELEASE (UNLOCK) HANDLES FLUSH AND SECURE

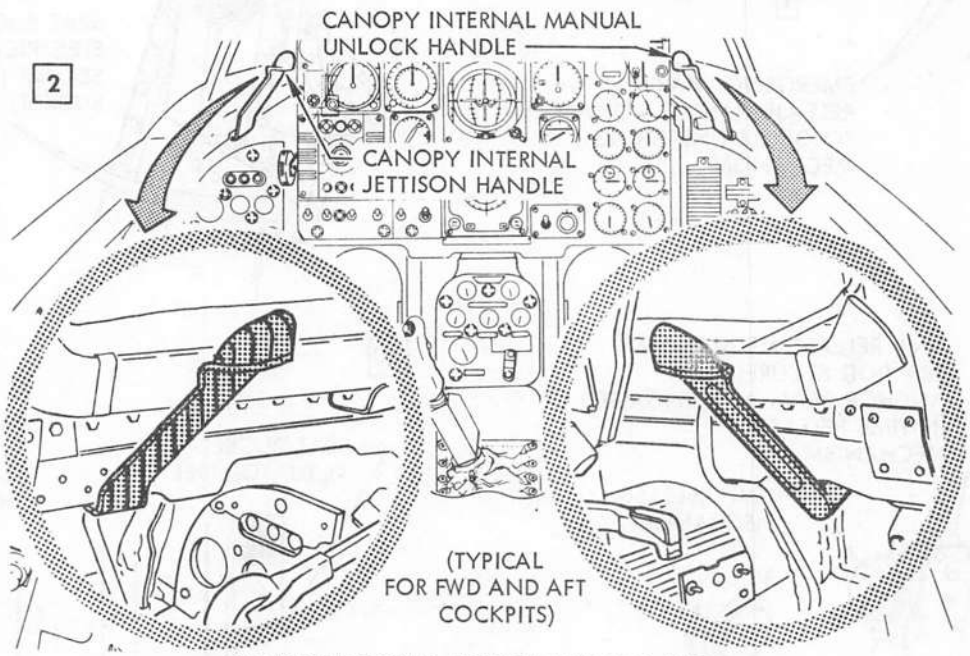
WARNING

THE FOLLOWING ITEMS ARE THE NORMAL PREFLIGHT POSITIONS OF THE CANOPY AND EJECTION SEAT COMPONENTS (IN BOTH COCKPITS), AND MUST BE CHECKED PRIOR TO EACH FLIGHT. FAILURE OF ANY OF THE ITEMS TO BE IN THE PROPER POSITION CAN ENDANGER THE LIFE OF THE AIRCREWMAN BY PREVENTING THE PROPER EJECTION SEQUENCE OR LOSS OF THE CANOPY IN FLIGHT.

NOTES

1. EJECTION SEAT SAFETY PIN ASSEMBLY. REFER TO PARAGRAPH TITLED EJECTION SEAT SAFETY DEVICES. ASSEMBLY MUST BE REMOVED PRIOR TO FLIGHT.
2. ON SEATS EQUIPPED WITH DROGUE GUN COCKED INDICATOR.
3. FINGER RING INSTALLED ON IFF SWITCH BRACKET AFTER ACC 38.

2



CANOPY INTERNAL JETTISON HANDLE AND CANOPY INTERNAL MANUAL UNLOCK HANDLE IN FORWARD POSITION.

3

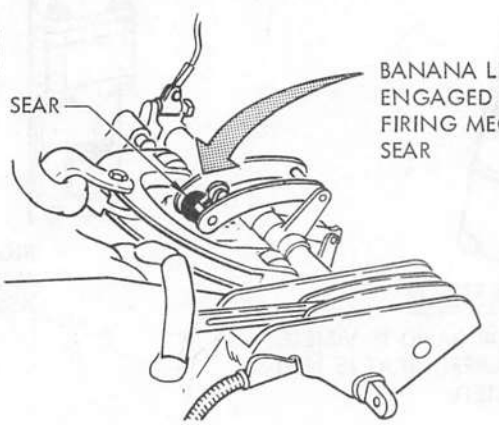


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Figure 5-30. Cockpit Area Safety Check - 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 1 of 7)

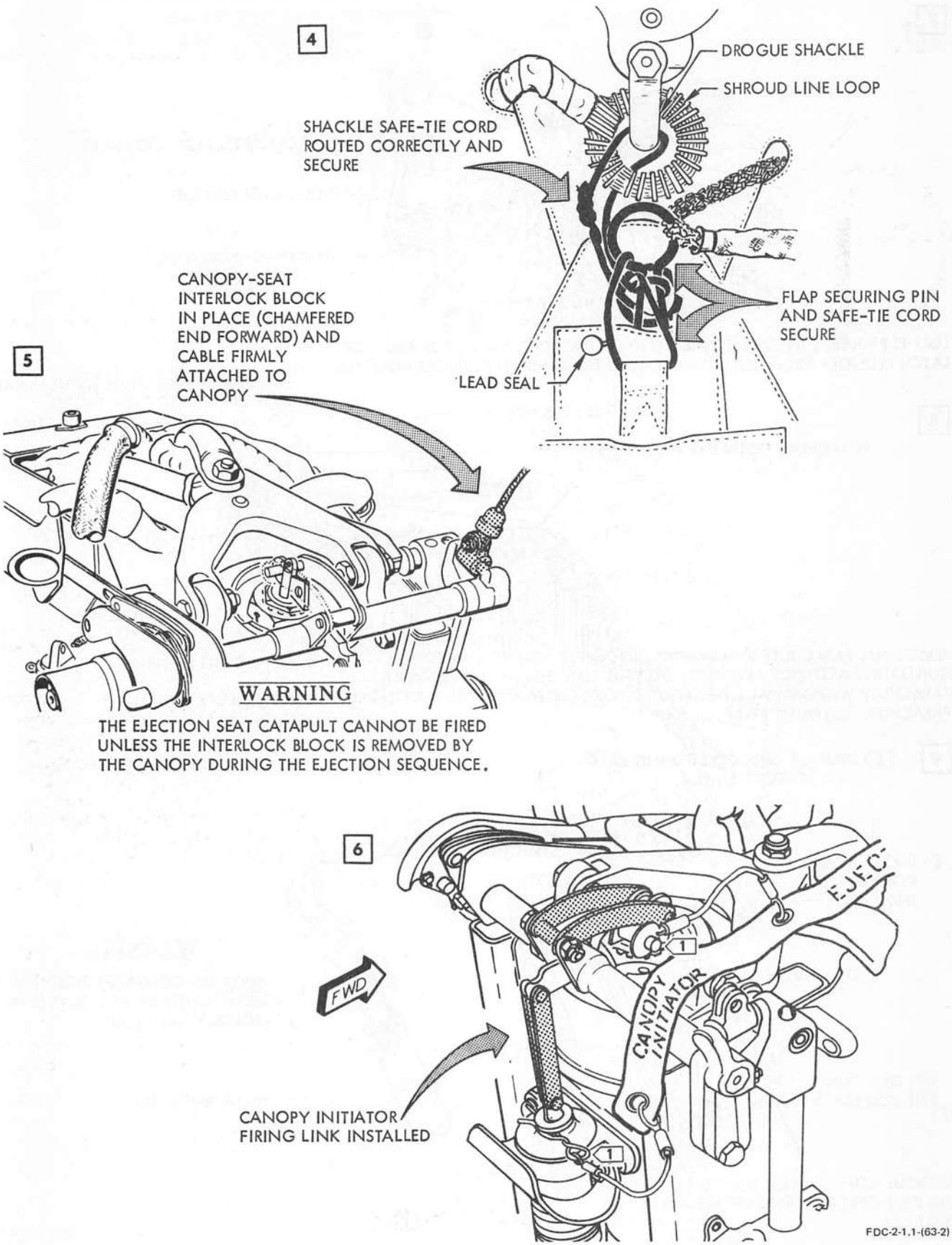

Figure 5–30. Cockpit Area Safety Check – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 2 of 7)

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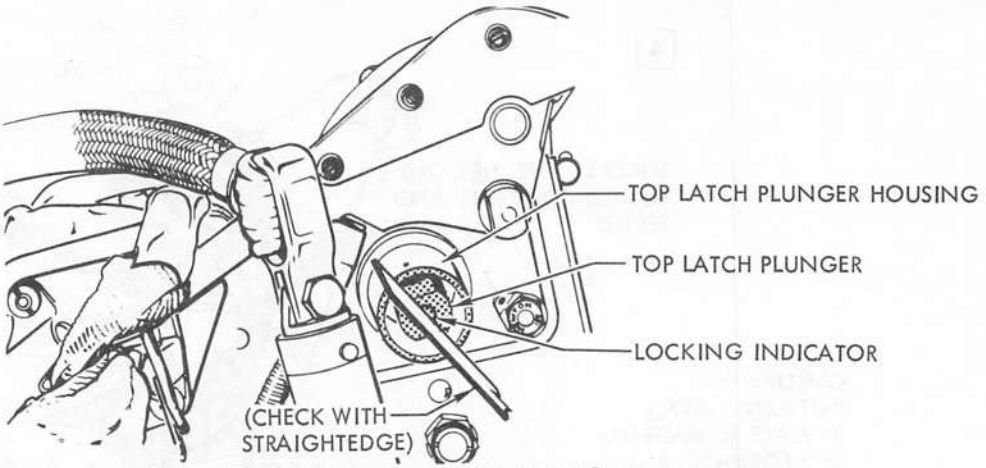

SEAT IS PROPERLY INSTALLED WHEN END OF LOCKING INDICATOR AND TOP LATCH PLUNGER ARE FLUSH WITH EACH OTHER AND WITH PLUNGER HOUSING.

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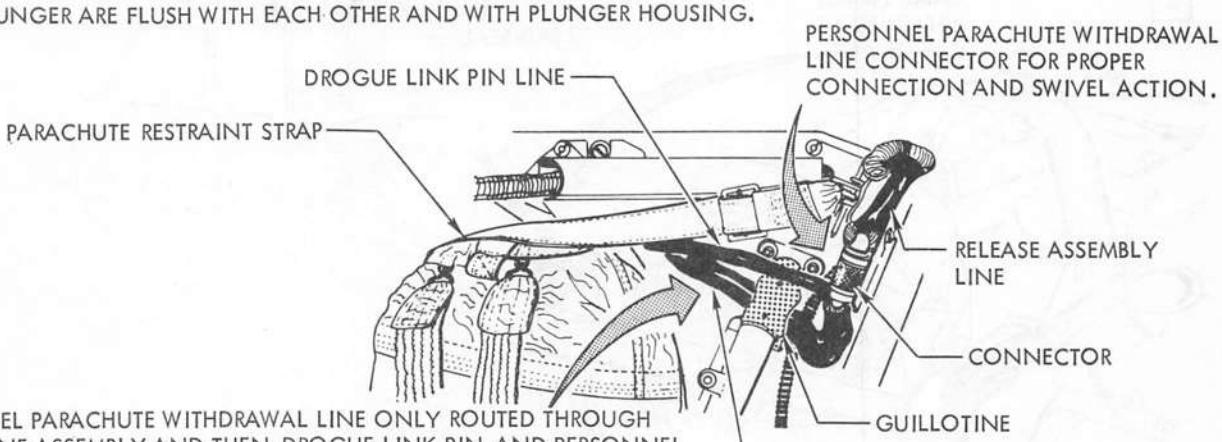
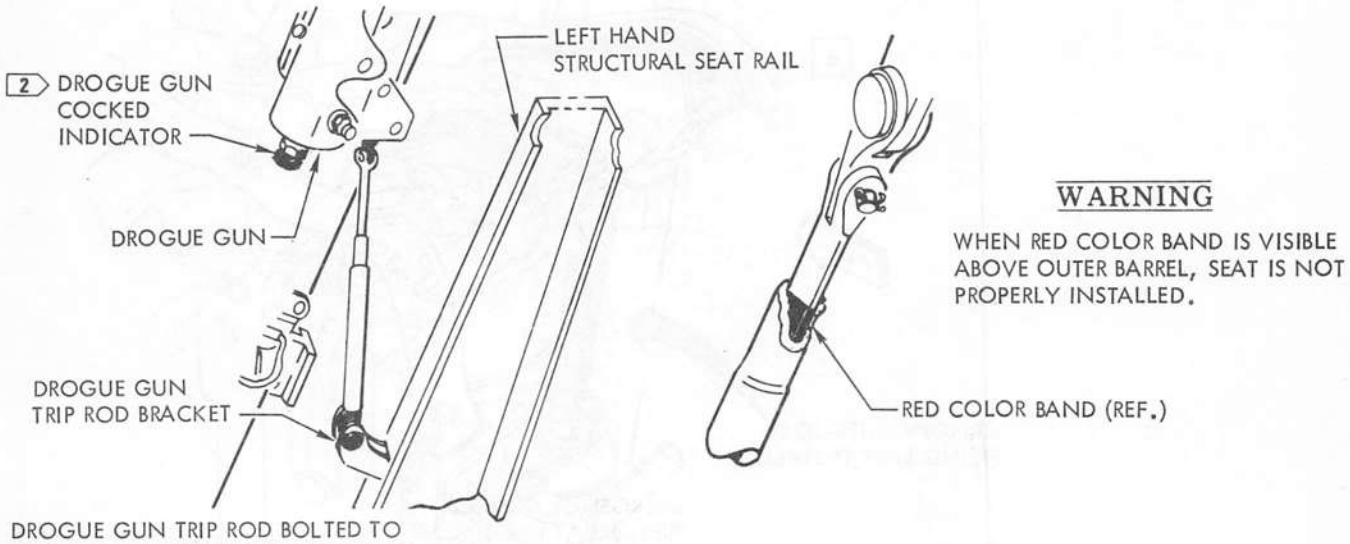


PERSONNEL PARACHUTE WITHDRAWAL LINE ONLY ROUTED THROUGH GUILLOTINE ASSEMBLY AND THEN DROGUE LINK PIN AND PERSONNEL PARACHUTE WITHDRAWAL LINES ROUTED FORWARD AND UNDER PERSONNEL PARACHUTE RESTRAINT STRAP.

9 2 DROGUE GUN COCKED INDICATOR IN COCKED POSITION.



WARNING

WHEN RED COLOR BAND IS VISIBLE ABOVE OUTER BARREL, SEAT IS NOT PROPERLY INSTALLED.

DROGUE GUN TRIP ROD BOLTED TO BRACKET ON LEFT HAND STRUCTURAL SEAT RAIL.

FDC-2-1.1-(63-3)

Figure 5-30. Cockpit Area Safety Check – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 3 of 7)

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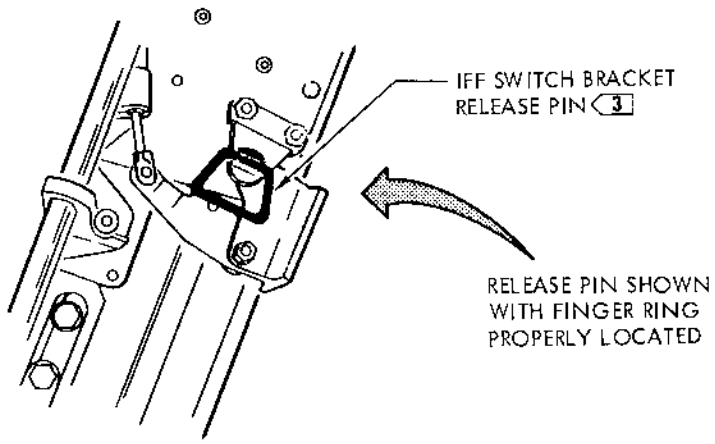

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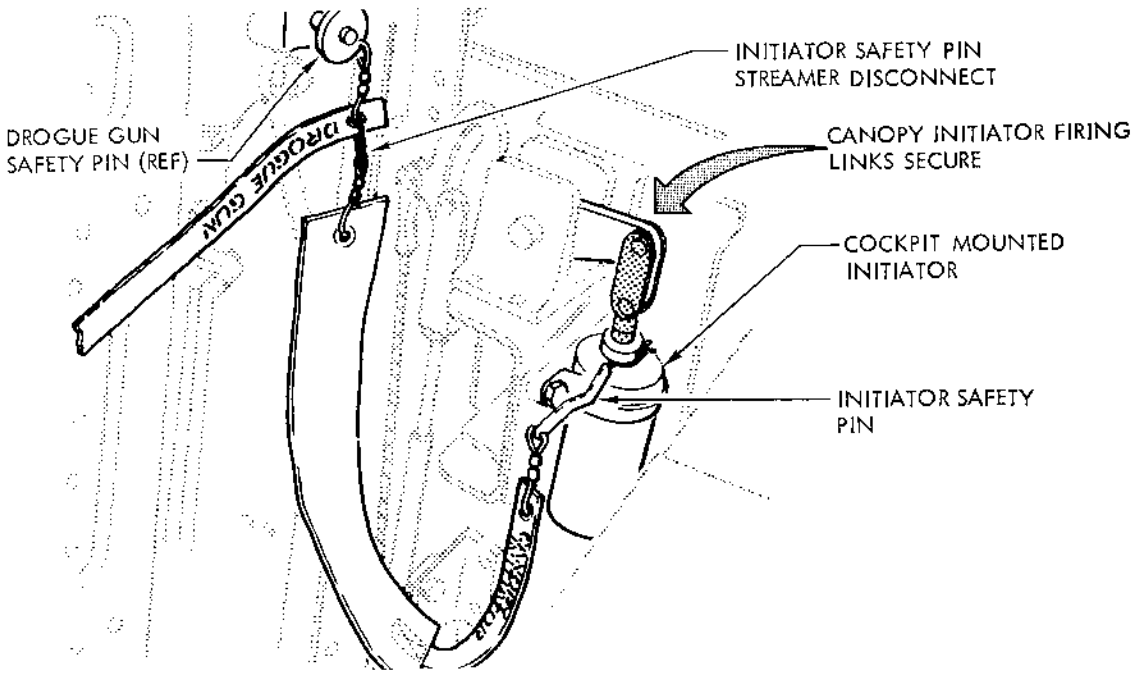

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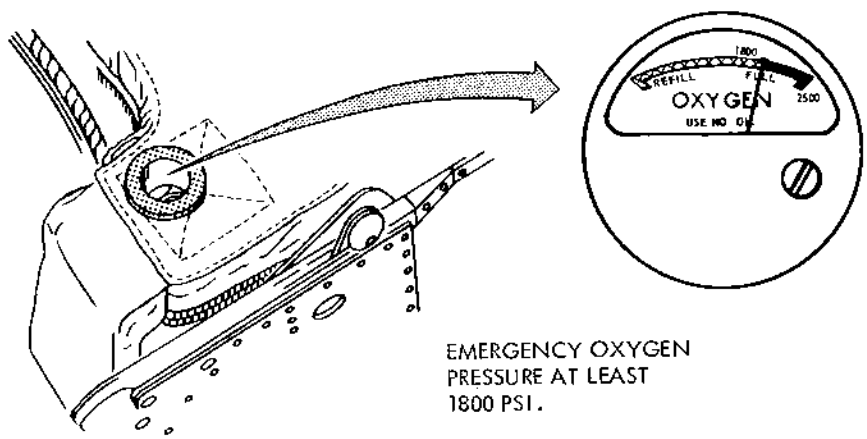

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Figure 5-30. Cockpit Area Safety Check – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 4 of 7)

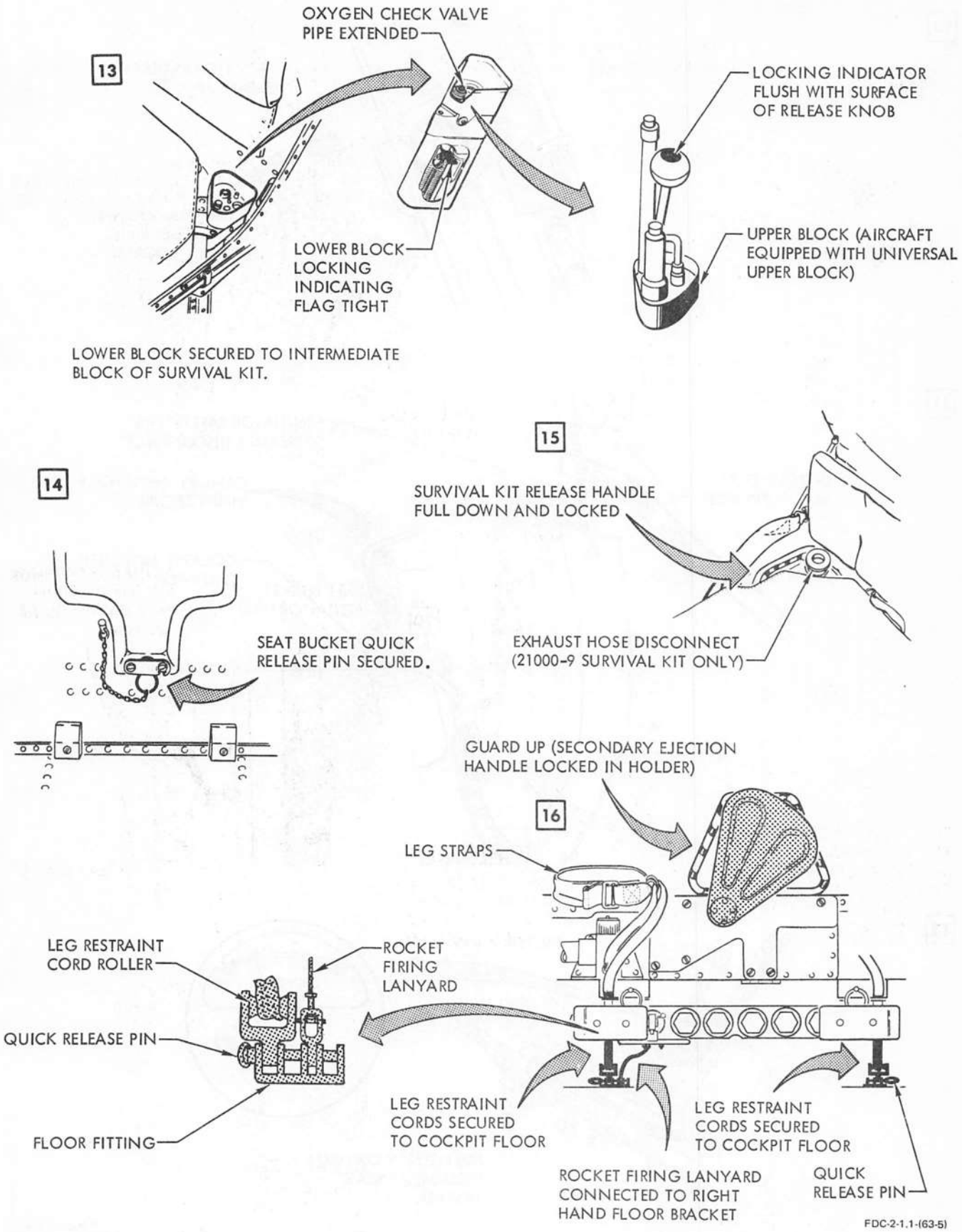

Figure 5-30. Cockpit Area Safety Check – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 5 of 7)

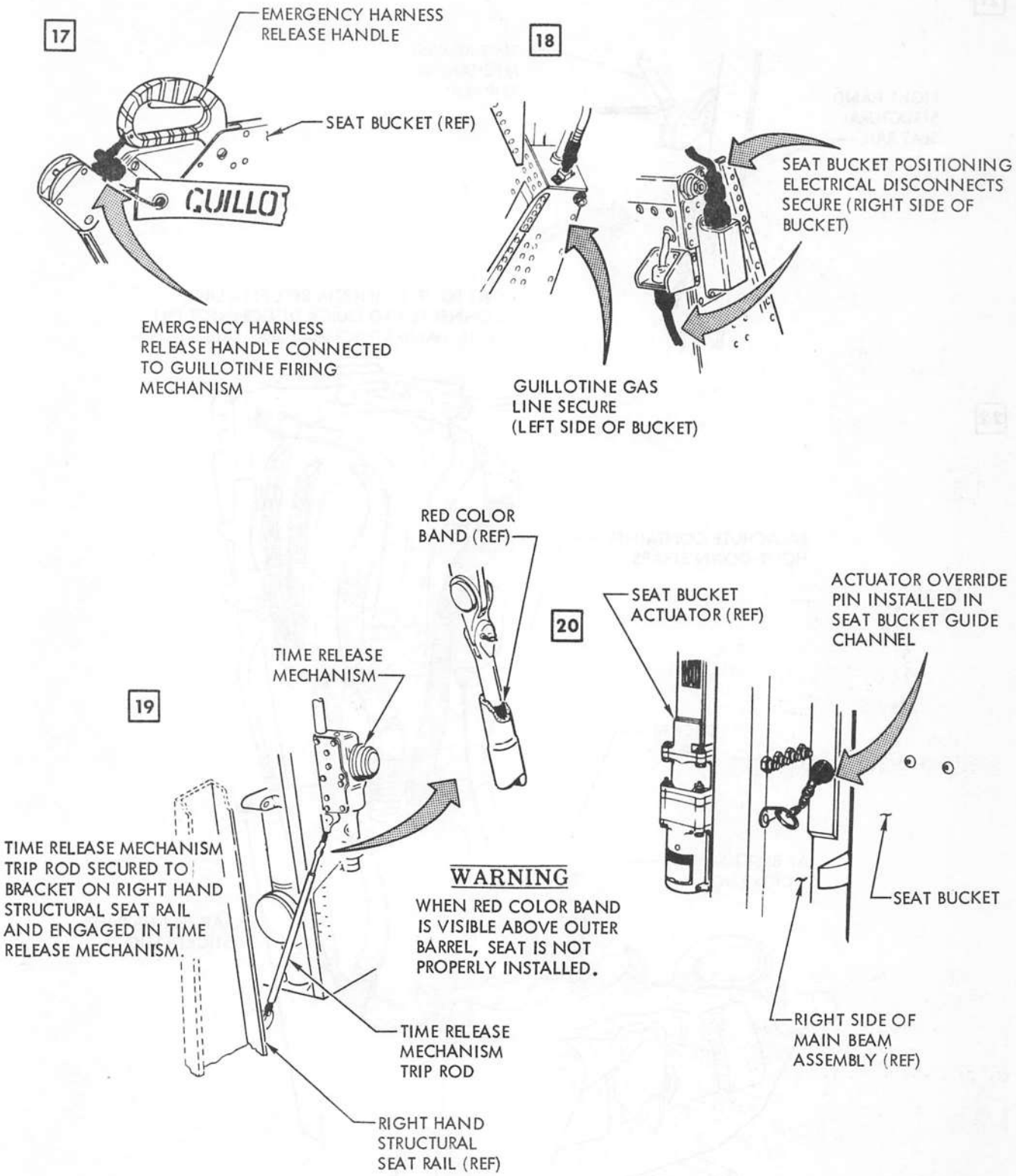

Figure 5-30. Cockpit Area Safety Check - 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 6 of 7)

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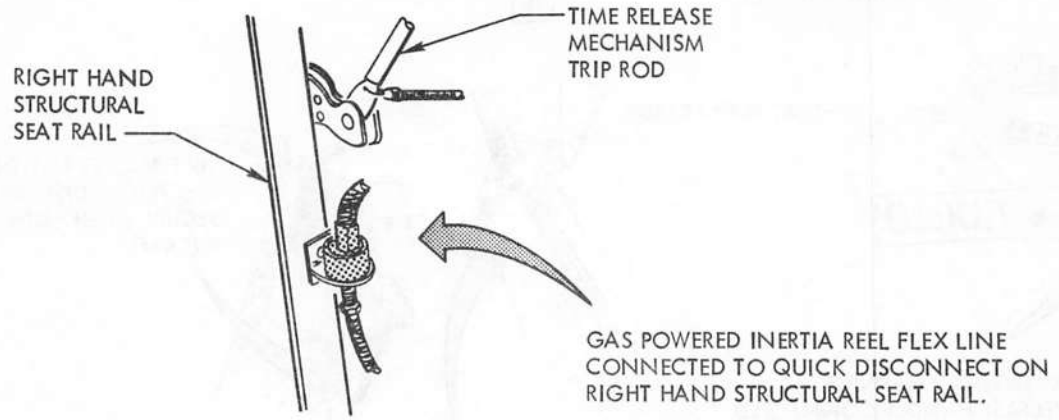

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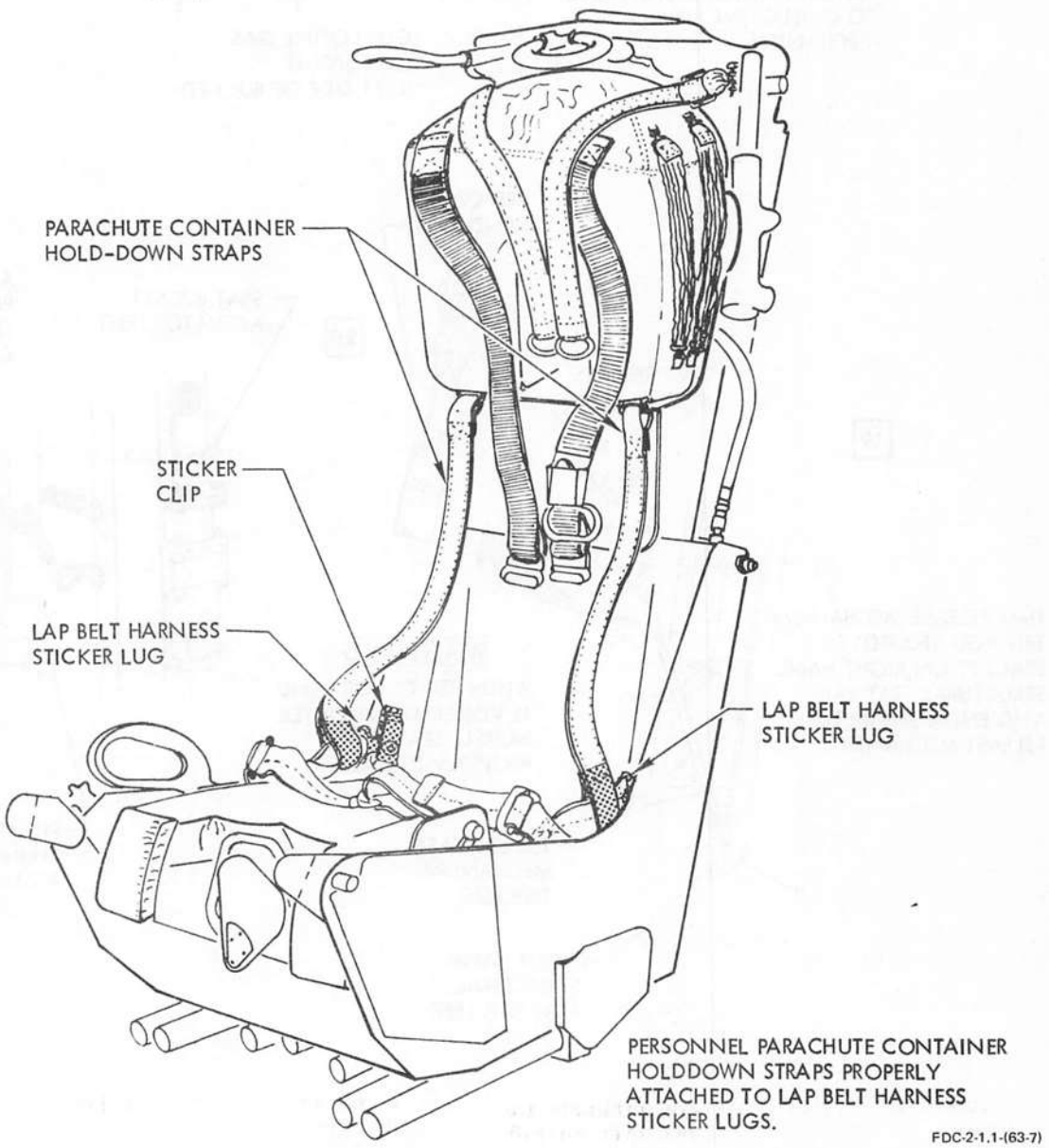
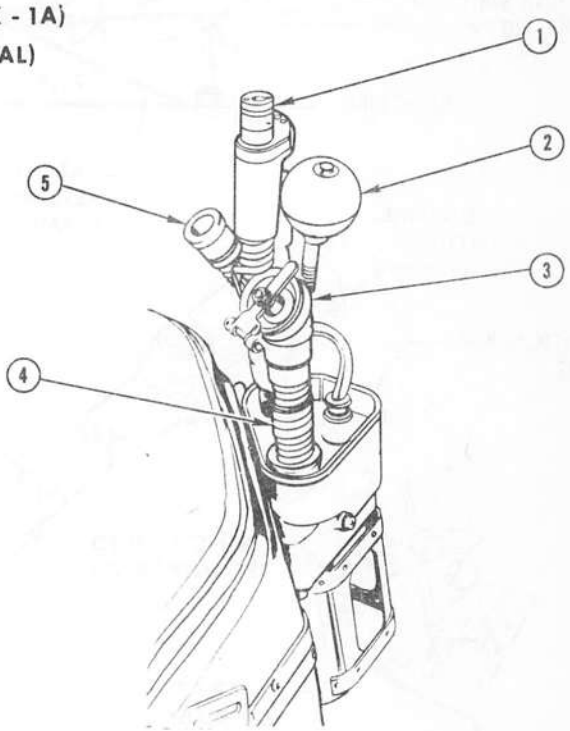


Figure 5–30. Cockpit Area Safety Check – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 7 of 7)

31D1277-1 (TYPE RSSK - 1A)
SURVIVAL KIT (TYPICAL)



1. OXYGEN/COMMUNICATION LINE CONNECTORS
2. DISCONNECT LANYARD KNOB
3. ANTI-G CONNECTOR
4. ANTI-G HOSE
5. VENTILATING AIR CONNECTOR

UNIVERSAL UPPER BLOCK

FDC-2-1.1-(64)

Figure 5–31. Assistance To Aircrew

a. Extend nose strut by momentarily placing nose strut extension switch (located in left main landing gear wheel well) in EXT position.

5–265. **CATAPULT BRIDLE ASSEMBLY ATTACHMENT.**

a. Place apex of bridle around catapult shuttle.

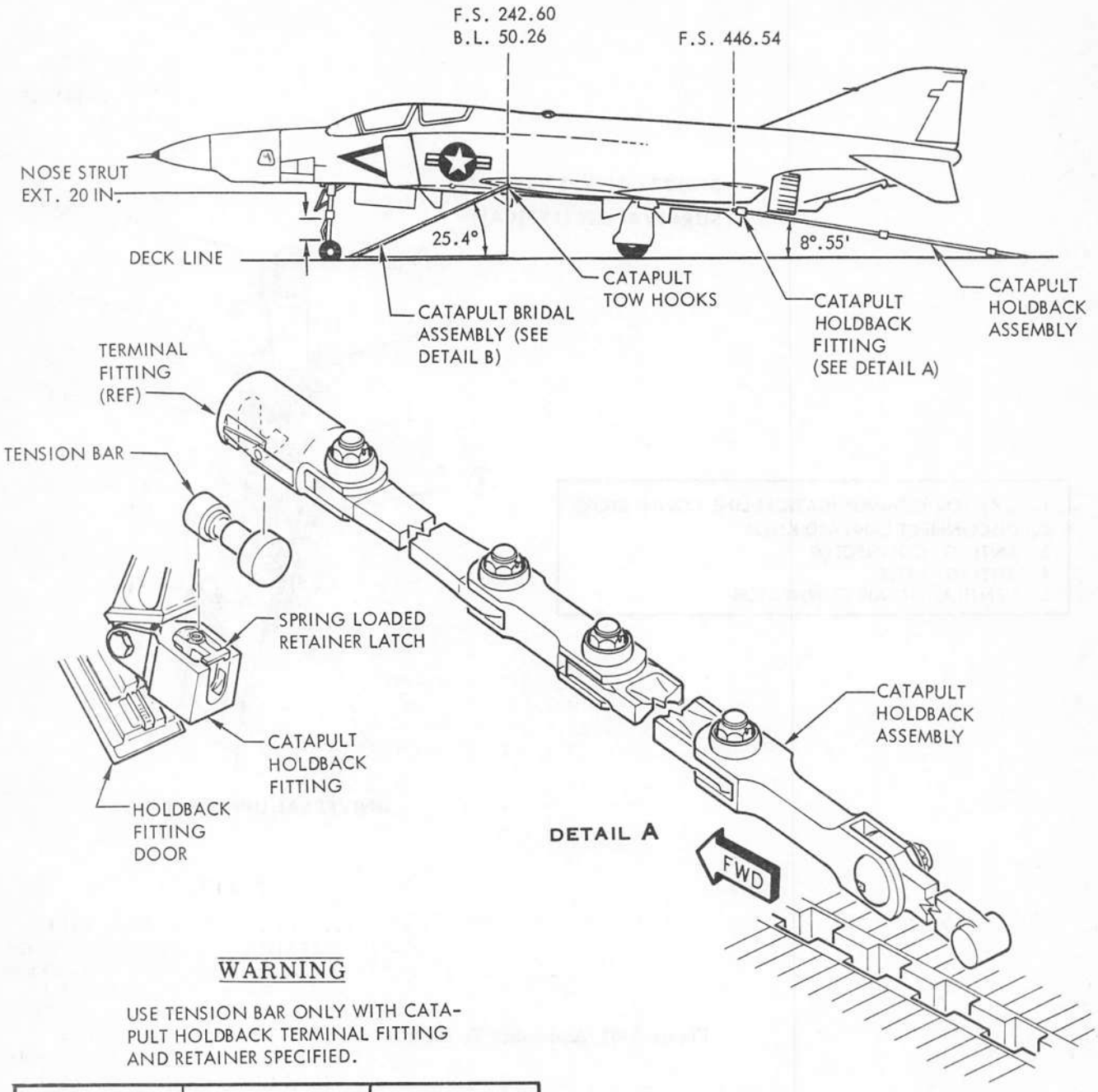
CAUTION

Ensure that catapult bridle eye terminals are securely and properly positioned over aircraft catapult tow hooks and that bridle is properly positioned over catapult shuttle.

b. Place bridle cable eye terminals over aircraft catapult tow hooks, and apply tension.

5–266. **ARRESTED LANDING OPERATIONS.**

5–267. In the event of a hook retraction malfunction following an arrested landing, the downward force of the hook must be prevented from engaging subsequent cables as the aircraft is being moved. An arresting hook skid permits the arresting hook to ride over the cables without entanglement.



WARNING

USE TENSION BAR ONLY WITH CATAPULT HOLDBACK TERMINAL FITTING AND RETAINER SPECIFIED.

TENSION BAR	CATAPULT HOLDBACK ASSEMBLY	TERMINAL FITTING (REFERENCE)
MDE322937-5 OR NAEL506409-1	MDE323399-1	NAEL6114742
MDE322937-5 OR NAEL506409-1	NAEL609789-1 〈1〉	NAEL609789-4

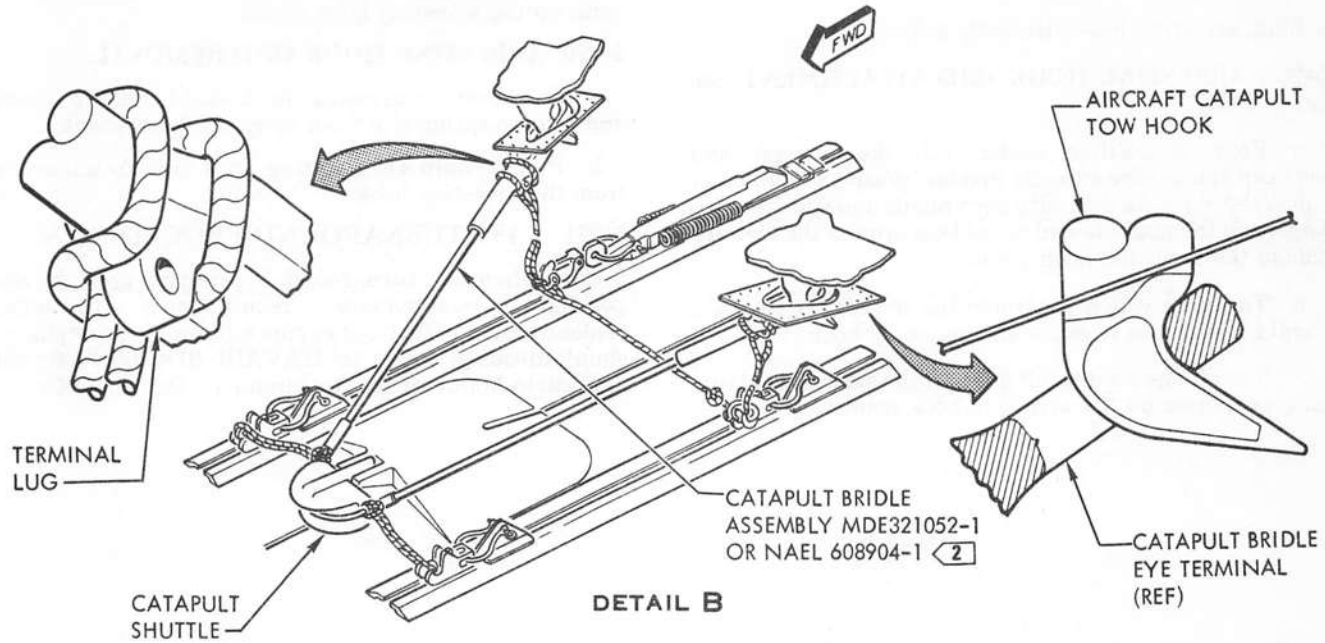
NOTES

〈1〉 MDE321040-1 CATAPULT HOLDBACK ASSEMBLY MODIFIED WITH NAEL 609789-4 TERMINAL FITTING.

〈2〉 REFER TO NAEL DWG. NO. 505151 REV. A AND CATAPULT DECK GEAR AND ACCESSORIES SERVICE BULLETIN NO. 117 FOR LANYARD HOOKUP OF MARK 2 BRIDLE ARRESTER.

FDC-2-1.1-(65-1)

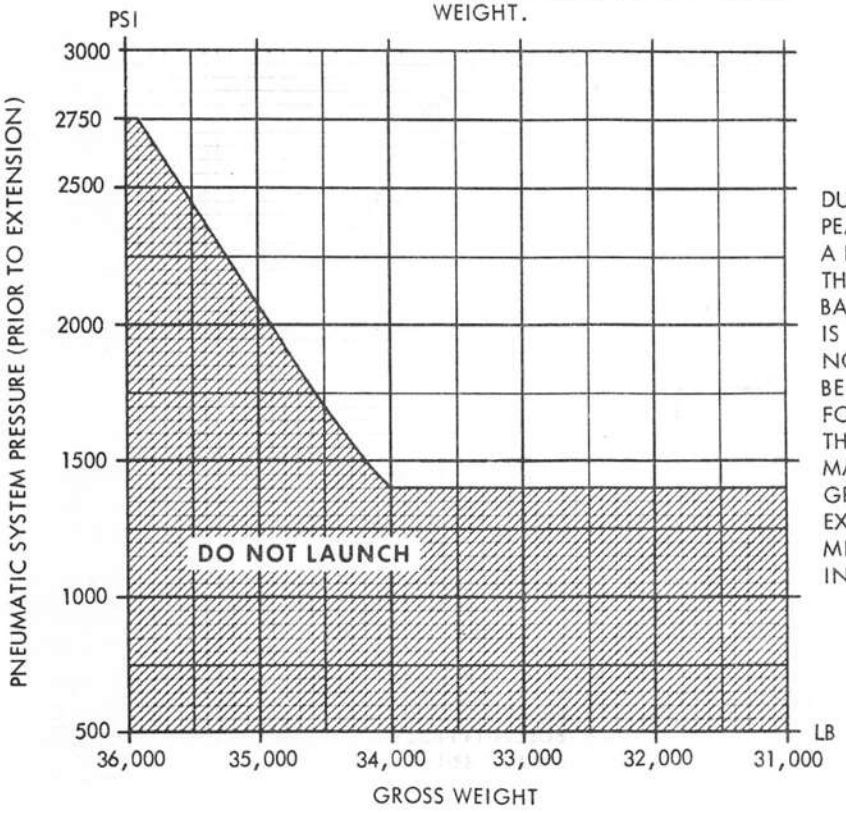
Figure 5-32. Catapulting (Sheet 1 of 2)



PNEUMATIC SYSTEM PRESSURE MINIMUMS FOR CARRIER QUALIFICATION FLIGHTS

CAUTION

THE MINIMUM PRESSURES ARE TO BE USED DURING CARRIER QUALIFICATIONS ONLY. DO NOT LAUNCH THE AIRCRAFT IF THE PNEUMATIC SYSTEM PRESSURE IS BELOW THE MINIMUM REQUIRED FOR THE LAUNCH GROSS WEIGHT.



NOTE

DURING CARRIER QUALIFICATIONS, THE REPEATED NOSE STRUT EXTENSIONS PLACE SUCH A HEAVY LOAD ON THE PNEUMATIC SYSTEM THAT SYSTEM PRESSURE CAN NOT BE BUILT BACK UP TO NORMAL. ALTHOUGH 2750 PSI IS THE NORMAL MINIMUM PRESSURE FOR NOSE STRUT EXTENSION, THIS MINIMUM MAY BE LOWERED AS GROSS WEIGHT DECREASES FOR CARRIER QUALIFICATION PURPOSES. THIS CURVE SPECIFIES THE MINIMUM PNEUMATIC SYSTEM PRESSURE FOR A SPECIFIC GROSS WEIGHT. SATISFACTORY NOSE STRUT EXTENSIONS CAN BE OBTAINED AT THESE MINIMUMS. HOWEVER, THERE IS A DECREASE IN ANGLE OF ATTACK ON TAKEOFF.

FDC-2-1.1-(65-2)

Figure 5–32. Catapulting (Sheet 2 of 2)

5-268. TOOLS AND EQUIPMENT.

Skid, arresting hook, (63, table 2-1)

5-269. ARRESTING HOOK SKID ATTACHMENT. See figure 5-33.

a. From a position underneath the aircraft and between the engine exhaust nozzles, grasp the handle of the arresting hook skid with both hands and slide the two fingers on the opposite end of the skid around the forward side of the arresting hook point.

b. The tube which separates the fingers on the skid should rest in the recess of the arresting hook.

c. The plunger on the left finger of the skid should latch on a projection on the arresting hook point.

d. Raise the handle on the skid until the spring clip locks on the arresting hook shank.

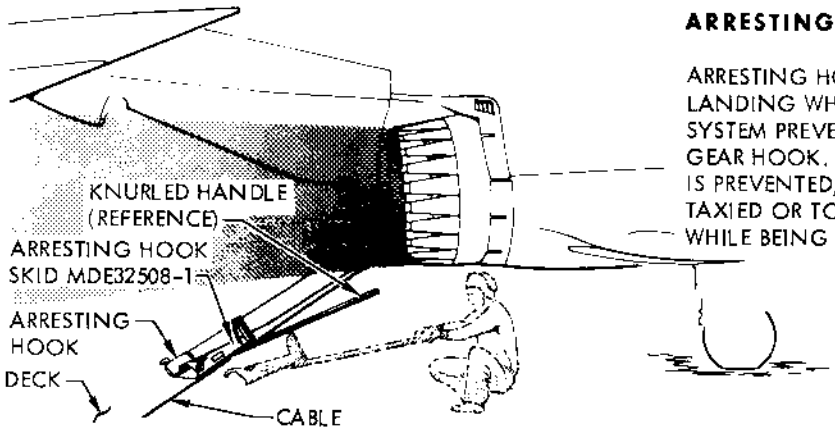
5-270. ARRESTING HOOK SKID REMOVAL.

a. Pull down on arresting hook skid handle to unlock and release spring clip from arresting hook shank.

b. Pull forward on arresting hook skid to unlatch it from the arresting hook.

5-271. FAST TURNAROUND PROCEDURES.

5-272. When fast turnaround is required, preflight and postflight maintenance requirements (including replenishment of fuel and engine oil) can be accomplished simultaneously. Refer to NAVAIR 01-245FDC-6, and applicable Maintenance Requirements Cards (MRC).



ARRESTING HOOK SKID ATTACHMENT

ARRESTING HOOK SKID IS USED AFTER ARRESTED LANDING WHEN MALFUNCTION OF ARRESTING GEAR SYSTEM PREVENTS RETRACTION OF ARRESTING GEAR HOOK. WITH SKID IN PLACE, HOOK ENGAGEMENT IS PREVENTED, PERMITTING AIRCRAFT TO BE TAXIED OR TOWED OVER ARRESTING CABLES WHILE BEING REMOVED FROM DECK.

FDC-2-1.1-(66)

Figure 5-33. Arresting Hook Skid Attachment

SECTION VI

SERVICING

REPLENISHABLE MATERIALS

6-1. GENERAL.

6-2. Materials required for routine replenishment of aircraft systems are listed in table 6-1.

Table 6-1. Replenishable Materials

Materials	U.S. Gallons	Imperial Gallons	Specifications	NATO Number
JP-4 Engine Fuel	(See Fuel Capacity In This Section)		MIL-T-5624	F-40
JP-5 Engine Fuel	(See Fuel Capacity In This Section)		MIL-T-5624	F-44
Gas Turbine Lub. Oil	16	13	MIL-L-23699	0-156
Gas Turbine Lub. Oil	16	13	MIL-L-7808	0-148
Hydraulic Oil	24	19	MIL-H-5606	H-515
Lubricating Oil	As Required		MIL-L-6085	0-147
Liquid Oxygen	As Required		MIL-0-27210 Type II	
Nitrogen (Gaseous)	As Required		BB-N-411 Type 1, Class 1, Grade B	

FUEL CAPACITY

6-3. GENERAL.

6-4. The fuel capacities are given in table 6-2.

Table 6-2. Fuel Capacities

Tanks	Fully Serviced			Usable Fuel		
	Gallons	Pounds (JP-4)	Pounds (JP-5)	Gallons	Pounds (JP-4)	Pounds (JP-5)
FUSELAGE CELL 1				231	1501	1571

CONTINUED

Table 6-2. Fuel Capacities (CONT)

Tanks	Fully Serviced Gallons	Fully Serviced Pounds (JP-4)	Fully Serviced Pounds (JP-5)	Usable Fuel Gallons	Usable Fuel Pounds (JP-4)	Usable Fuel Pounds (JP-5)
FUSELAGE CELL 2				221	1437	1503
FUSELAGE CELL 3				164	1066	1115
FUSELAGE CELL 4				221	1437	1503
FUSELAGE CELL 5				201	1307	1367
FUSELAGE CELL 6				235	1528	1598
TOTAL FUSELAGE FUEL	1298	8437	8827	1273	8275	8657
INTERNAL WING TANKS	638	4147	4338	630	4095	4284
TOTAL INTERNAL FUEL	1936	12584	13165	1903	12370	12940
EXTERNAL WING TANKS	744	4836	5059	740	4810	5032
INTERNAL FUEL PLUS EXTERNAL WING TANKS	2680	17420	18224	2643	17180	17973
EXTERNAL CENTER TANK	602	3913	4094	600	3900	4080
INTERNAL FUEL PLUS EXTERNAL CENTER TANK MAXIMUM FUEL LOAD	2538	16497	17259	2503	16270	17021
TOTAL INTERNAL PLUS ALL EXTERNAL TANKS	3282	21333	22318	3234	21080	22053

NOTE

1. Fuel weights are based on 6.5 pounds per gallon for JP-4 fuel and 6.8 pounds per gallon for JP-5 fuel, at 60 degrees Fahrenheit fuel temperature. If greater accuracy is required, the fuel density should be determined.

FUEL SYSTEM

6-5. **NORMAL REFUELING.** See figures 6-1 and 6-2.

6-6. The aircraft is pressure fueled and defueled through a single point MS28518-1, Type A-4 receptacle located on the underside of the fuselage and accessible through access door 26R. The receptacle is a standard bayonet lock-type fueling nozzle is locked in the receptacle. The fuel system is designed to be pressure fueled at 50 psi, not to exceed 55 psi. External electrical power is required for normal refueling operations. All internal tanks and the external centerline tanks are vented during refueling through the vent mast on the aft end of the fuselage. The external wing tanks vent through the dump masts in each wing.

6-7. **TOOLS AND EQUIPMENT.**

Fuel servicing equipment
Power source, external electrical, (1, table 2-2)

6-8. **MATERIALS.**

Turbine fuel, aviation, Grades JP-4 or JP-5, MIL-T-5624

6-9. **MANPOWER REQUIREMENTS.**

a. Four men required.

6-10. **PROCEDURE.**

a. Observe all applicable fueling precautions. See figure 6-2.

b. Ground the aircraft, refueling equipment and external electrical power equipment.

c. Position cockpit switches and controls as follows:

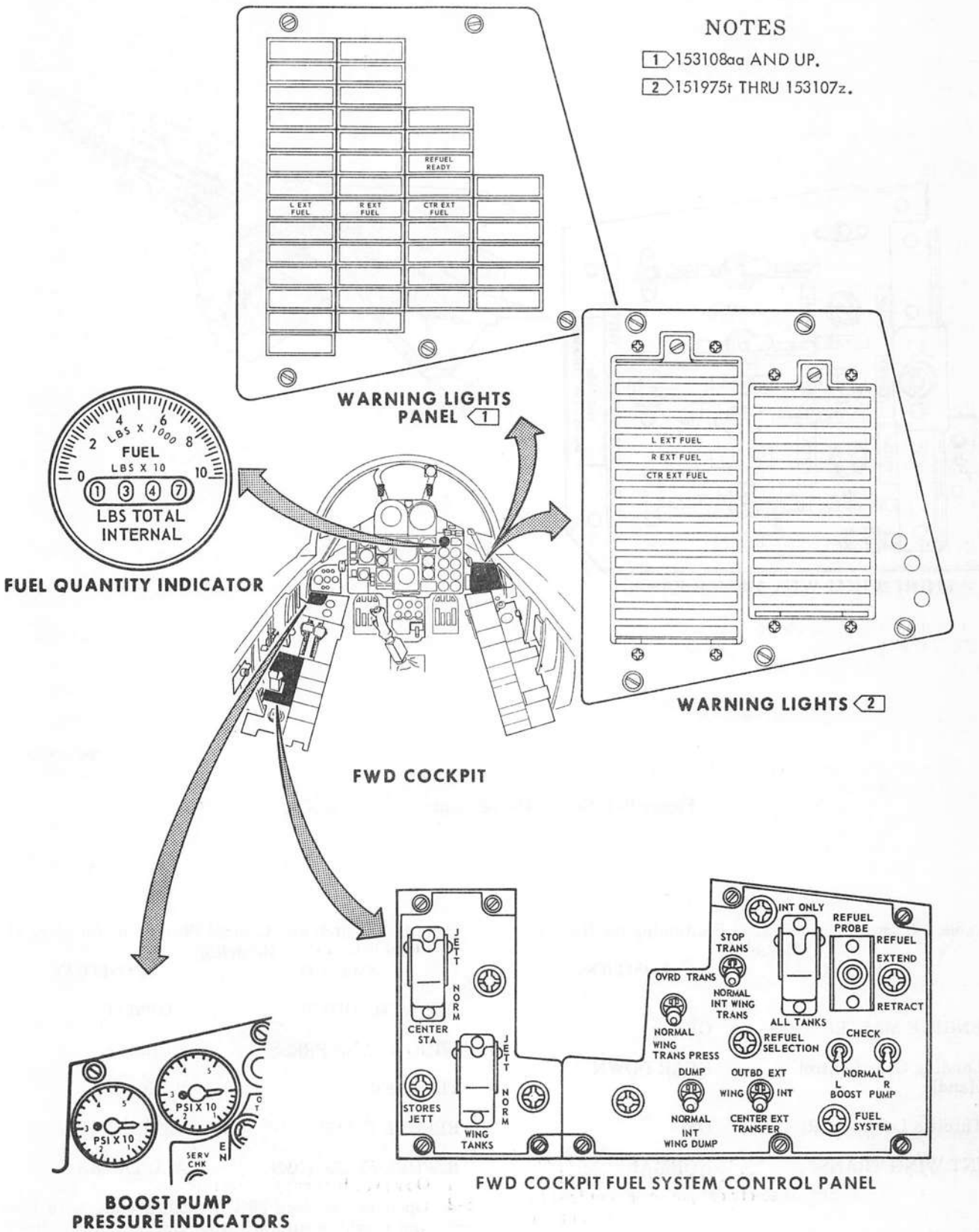
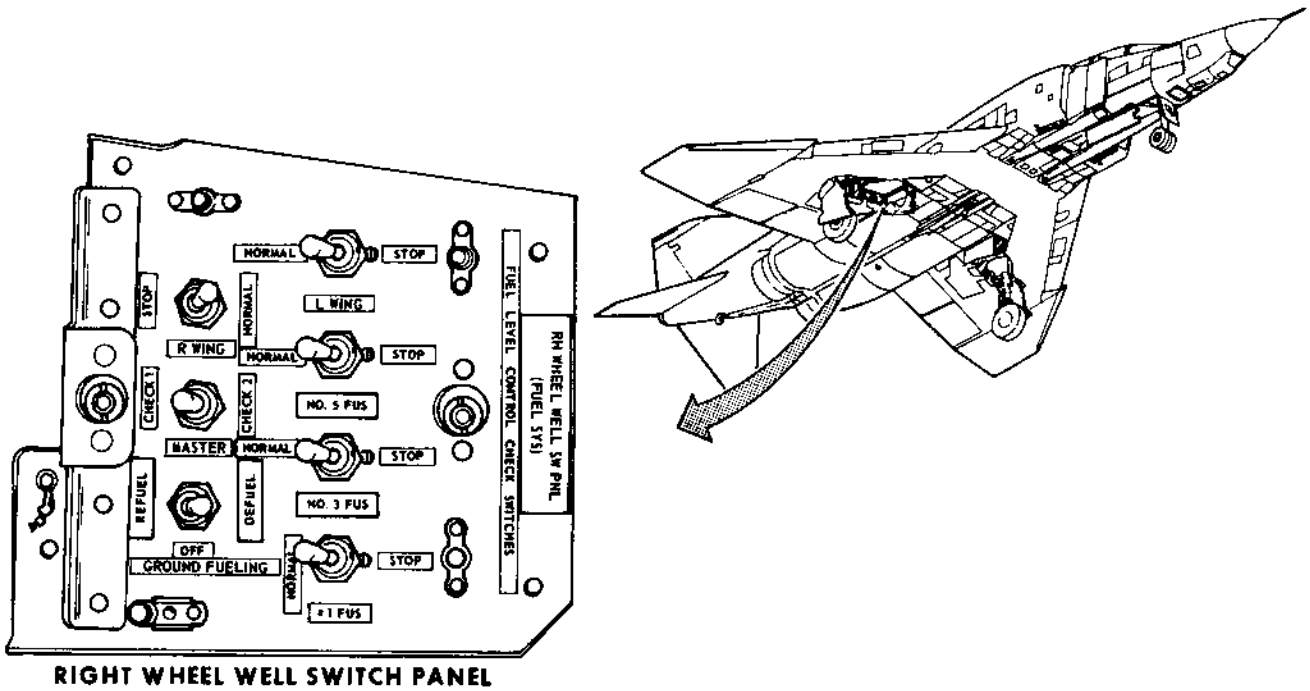


Figure 6–1. Refuel–Defuel Controls (Sheet 1 of 2)



FDC-2-1.1-(67-2)

Figure 6-1. Refuel-Defuel Controls (Sheet 2 of 2)

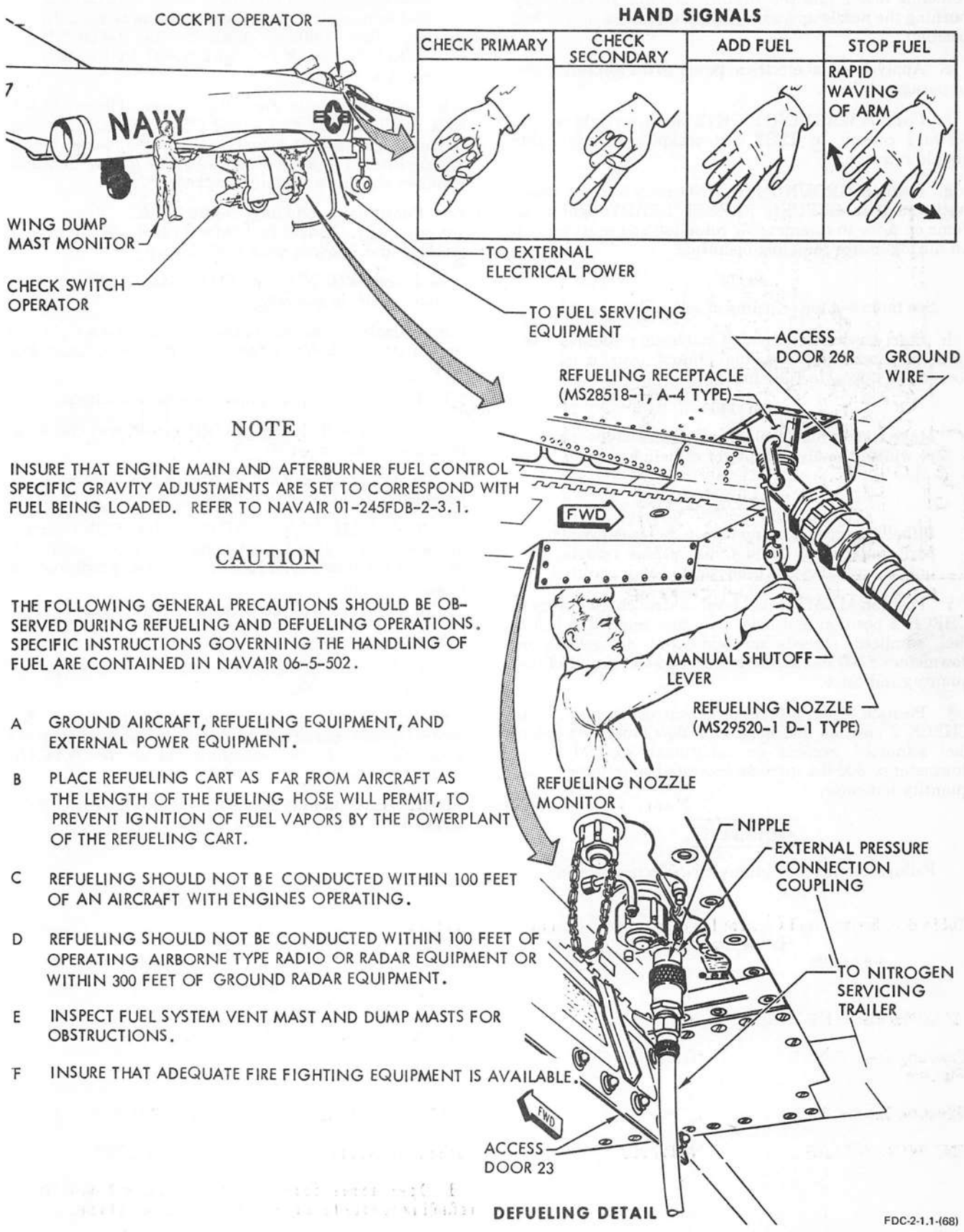
Table 6-3. Switch and Control Positioning for Normal Refueling

SWITCH	POSITION
ENGINE MASTER (L/R)	OFF
Landing Gear Control Handle	GEAR DOWN
Throttle Levers (L/R)	OFF
INT WING TRANS	NORMAL

Table 6-3. Switch and Control Positioning for Normal Refueling

SWITCH	POSITION
INT WING DUMP	NORMAL
WING TRANS PRESS	NORMAL
TRANSFR	WING INT
REFUEL PROBE	RETRACT
REFUEL SELECTION	ALL TANKS

d. Open access door 26R. Attach ground wire from refueling nozzle to aircraft grounding receptacle. Insert



NOTE

INSURE THAT ENGINE MAIN AND AFTERBURNER FUEL CONTROL SPECIFIC GRAVITY ADJUSTMENTS ARE SET TO CORRESPOND WITH FUEL BEING LOADED. REFER TO NAVAIR 01-245FDB-2-3.1.

CAUTION

THE FOLLOWING GENERAL PRECAUTIONS SHOULD BE OBSERVED DURING REFUELING AND DEFUELING OPERATIONS. SPECIFIC INSTRUCTIONS GOVERNING THE HANDLING OF FUEL ARE CONTAINED IN NAVAIR 06-5-502.

A GROUND AIRCRAFT, REFUELING EQUIPMENT, AND EXTERNAL POWER EQUIPMENT.

B PLACE REFUELING CART AS FAR FROM AIRCRAFT AS THE LENGTH OF THE FUELING HOSE WILL PERMIT, TO PREVENT IGNITION OF FUEL VAPORS BY THE POWERPLANT OF THE REFUELING CART.

C REFUELING SHOULD NOT BE CONDUCTED WITHIN 100 FEET OF AN AIRCRAFT WITH ENGINES OPERATING.

D REFUELING SHOULD NOT BE CONDUCTED WITHIN 100 FEET OF OPERATING AIRBORNE TYPE RADIO OR RADAR EQUIPMENT OR WITHIN 300 FEET OF GROUND RADAR EQUIPMENT.

E INSPECT FUEL SYSTEM VENT MAST AND DUMP MASTS FOR OBSTRUCTIONS.

F INSURE THAT ADEQUATE FIRE FIGHTING EQUIPMENT IS AVAILABLE.

Figure 6-2. Refueling-Defueling

refueling nozzle into the aircraft refueling receptacle by pushing the nozzle up and turning it clockwise into locked position.

e. Apply external electrical power to the aircraft. Refer to paragraph 5-14.

f. Position WARNING LIGHTS switch on right console forward cockpit to TEST. All cockpit warning lights should come on.

g. Position GROUND FUELING switch (right wheel well panel) to REFUEL. REFUEL READY light must come on prior to commencing refueling and must remain on during entire refueling operation.

NOTE

See table 6-4 for refueling of selected tanks only.

h. Start servicing equipment and begin refueling. If the refueling nozzle has a manual shutoff lever, it must be locked fully open to start fuel flow.

NOTE

Make master fuel level control checks (steps i and j) within the first minute of refueling.

CAUTION

If fuel flow does not stop within 30 seconds when performing steps i and j, discontinue refueling until discrepancy has been isolated and corrected.

i. Position MASTER fuel level control check switch to CHECK 1 position and hold. Fuel flow must stop before fuel admitted exceeds an additional 45 gallons on flowmeter or 300 lbs. increase indicated on counter of fuel quantity indicator.

j. Position MASTER fuel level control check switch to CHECK 2 position and hold. Fuel flow must stop before fuel admitted exceeds an additional 45 gallons on flowmeter or 300 lbs. increase indicated on counter of fuel quantity indicator.

WARNING

Failure of internal plumbing of external wing tank can result in overfilling of the tank causing fuel to be emitted from the wing dump mast. To stop fuel spillage, position the GROUND FUELING switch on right wheel well switch panel to OFF.

k. If external tanks are being refueled, observe that L EXT FUEL, R EXT FUEL, and CTR EXT FUEL no flow warning lights go out, then come on when corresponding external tank has filled. External tanks having indicator windows should be visually checked.

l. Continue refueling until fuel flow stops automatically. Observe fuel quantity indicator for correct fuselage and internal wing tank capacity.

m. *Place GROUND FUELING switch to OFF and turn off fuel servicing equipment.*

n. *Remove refueling nozzle and disconnect ground wire. Install refueling adapter cap or nozzle. Close door 26R.*

o. Perform fuel boost pumps operational check.

(1) Actuate R BOOST PUMP switch and check for pressure indication of 30 $\pm$5 psi.

(2) Actuate L BOOST PUMP switch and check for pressure indication of 30 $\pm$5 psi.

(3) Pull LH BOOST PUMP NORM CONT circuit breaker for low speed boost pump operation. Actuate L BOOST PUMP switch and check for pressure indication of 8 psi minimum.

(4) Set LH BOOST PUMP NORM CONT circuit breaker.

(5) *Turn off and disconnect external electrical power. Close access door 26L.*

p. *Ensure that engine main and afterburner fuel control specific gravity adjustments are set to correspond with fuel used for refueling. Refer to NAVAIR 01-245FDB-2-3.1.*

q. Ensure that all tanks being refueled have been fully serviced.

Table 6-4. Switch Positioning for Selective Refueling

Tanks Refueling	Switch	Position
WARNING To prevent exceeding the aft C.G. limits, the internal wing tanks must be completely filled when refueling.		
CAUTION Fuel pressure from servicing equipment must not exceed 55 psi. When external tanks are being refueled, ensure that air flows from both wing dump masts.		
Total internal only (with external tanks aboard)	REFUEL SELECTION	INT ONLY
Fuselage cells only	REFUEL SELECTION L WING check R WING check	INT ONLY STOP (hold) STOP (hold)
NOTE Electrical power must be OFF when refueling internal wing tanks.		
Internal wing tanks only	REFUEL SELECTION	INT ONLY
External wing tanks only (no centerline tank aboard)	REFUEL SELECTION	ALL TANKS
NOTE With GROUND FUELING switch in REFUEL, disconnect electrical connectors (7-P904 and 7-P803) to left and right external wing tank fuel shutoff valves in door 101 L/R area. If external centerline tank is installed, with GROUND FUELING switch in OFF, disconnect electrical connector (7-P406) to external centerline tank fuel shutoff valve in door 22 area.		
	L WING check R WING check MASTER check	STOP (hold) STOP (hold) CHECK 1 or 2 (hold)
External centerline tank only	REFUEL SELECTION	ALL TANKS

CONTINUED

Table 6-4. Switch Positioning for Selective Refueling (CONT)

Tanks Refueling	Switch	Position
NOTE With GROUND FUELING switch in REFUEL, disconnect electrical connector (7-P406) to external centerline tank fuel shutoff valve in door 22 area.		
	GROUND FUELING L WING check R WING check	OFF STOP (hold) STOP (hold)

6-11. DUAL POINT REFUELING.

6-12. Dual point refueling can be accomplished by servicing the aircraft simultaneously through the normal ground refueling receptacle and the air refueling probe. Refer to paragraphs 6-5 and 6-13.

6-13. GROUND REFUELING WITH INFLIGHT REFUELING PROBE. See figure 6-3.

6-14. TOOLS AND EQUIPMENT.

Power source, external electrical, (1, table 2-2)
Power source, external hydraulic, (2, table 2-2)
Adapter, fuel servicing equipment probe refueling, (13, table 2-2)
Strut, inflight refueling probe safety, (16, table 2-1)

6-15. MATERIALS.

Turbine Fuel, aviation Grades JP-4 or JP-5, MIL-T-5624

6-16. MANPOWER REQUIREMENTS.

a. Four men required.

6-17. PROCEDURE.

a. Observe all applicable fueling precautions. See figure 6-2.

b. Ground the aircraft, refueling equipment, and external electrical power equipment.

c. Position cockpit switches and controls as indicated in table 6-3.

NOTE

For selective refueling see table 6-4.

d. Apply external electrical power to the aircraft. Refer to paragraph 5-14.

e. Apply external hydraulic power to the utility hydraulic system. Refer to paragraph 5-23.

f. Position REFUEL PROBE switch to EXTEND position to extend inflight refuel probe. Attach inflight refueling probe safety strut to actuator. Refer to paragraph 5-168.

g. Remove external hydraulic power.

h. Attach probe adapter to inflight refueling probe.

CAUTION

Do not permit inflight refueling probe structure to support weight of refueling nozzle and hose. Support hose with a work stand or ladder to prevent damage to probe structure.

i. Attach refueling nozzle to probe adapter.

NOTE

For dual point refueling, connect servicing equipment to ground refueling receptacle as provided in normal refueling procedure. Refer to paragraph 6-5.

j. Position WARNING LIGHTS switch to TEST. All cockpit warning lights should come on.

k. Position GROUND FUELING switch (right wheel well panel) to REFUEL. REFUEL READY light must come on prior to commencing refueling and must remain on during entire refueling operation.

CAUTION

Fuel pressure from servicing equipment must not exceed 55 psi.

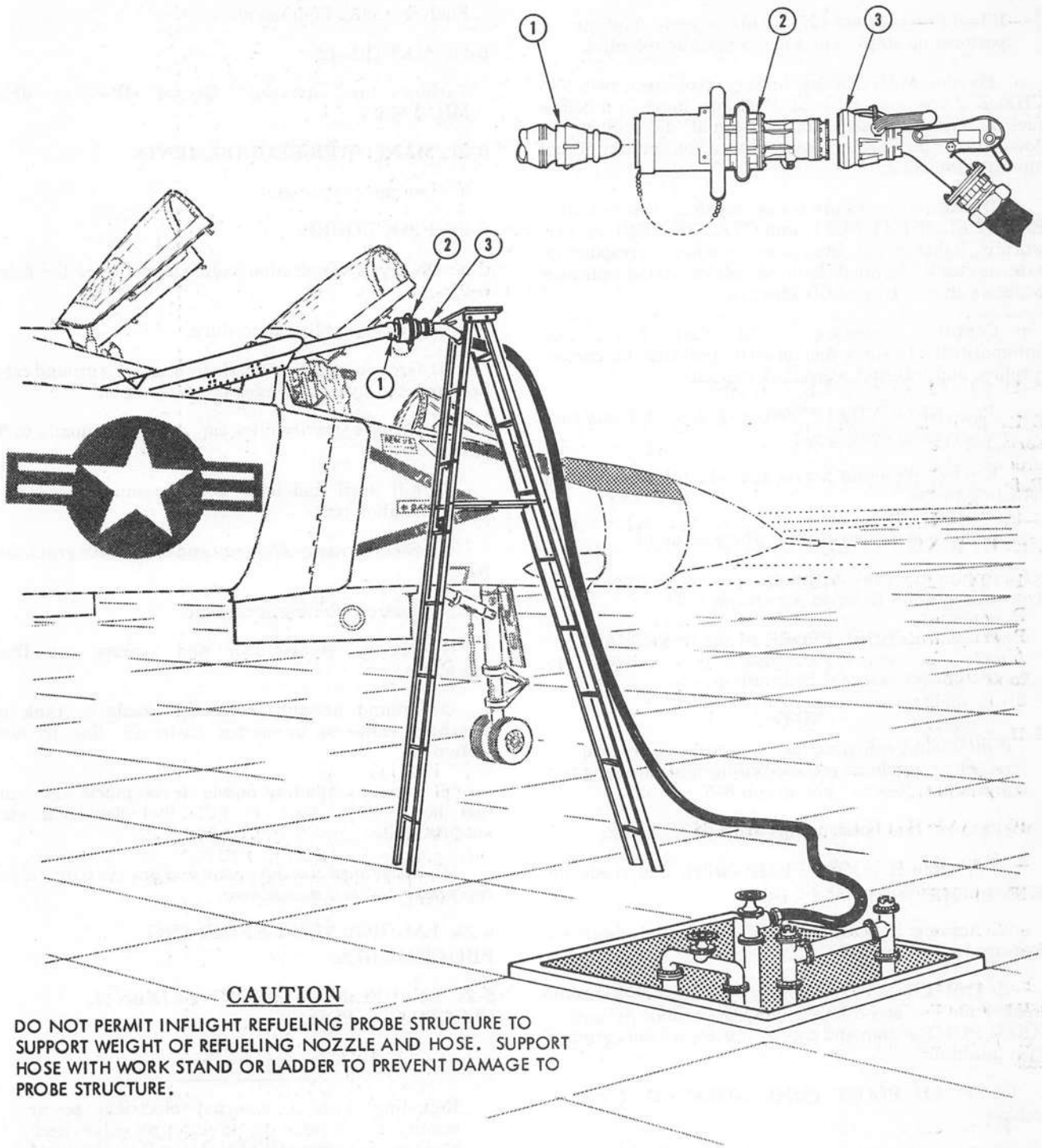
When external wing tanks are being refueled, assure air flows from both wing dump masts.

l. Start servicing equipment and begin refueling. If the refueling nozzle has a manual shut off lever, it must be locked fully open to start fuel flow.

NOTE

Make master fuel level control checks (steps m and n) within the first minute of refueling.

m. Position MASTER fuel level control check switch to CHECK 1 position and hold. Fuel flow must stop before fuel admitted exceeds an additional 45 gallons on flowmeter or 300 lbs. increase indicated on counter of fuel quantity indicator.



1	NOZZLE ASSEMBLY (TYPE MA-2)
2	ADAPTER (P/N208000)
3	STANDARD TYPE D-1 PRESSURE REFUELING NOZZLE

FDC-2-1.1-(69)

Figure 6-3. Ground Refueling With Inflight Refueling Probe

CAUTION

If fuel flow does not stop within 30 seconds when performing steps m and n, discontinue refueling.

n. Position MASTER fuel level control check switch to CHECK 2 position and hold. Fuel flow must stop before fuel admitted exceeds an additional 45 gallons on flowmeter or 300 lbs. increase indicated on counter of fuel quantity indicator.

o. If external tanks are being refueled, observe that L EXT FUEL, R EXT FUEL, and CTR EXT FUEL no flow warning lights go out, then come on when corresponding external tank has filled. External tanks having indicator windows should be visually checked.

p. Continue refueling until fuel flow stops automatically. Observe fuel quantity indicator for correct fuselage and internal wing tank capacity.

q. *Place GROUND FUELING switch to OFF and turn off fuel servicing equipment.*

r. Remove refueling nozzle and adapter from inflight refueling probe.

s. Remove safety strut from probe actuator.

t. Apply external hydraulic power to the utility hydraulic system. Refer to paragraph 5-23.

u. Position REFUEL PROBE switch to RETRACT.

v. Disconnect external hydraulic power.

NOTE

If dual point refueling has been utilized, remove refueling nozzle as provided in normal refueling procedure. Refer to paragraph 6-5.

w. Perform fuel boost pumps operational check.

(1) Actuate R BOOST PUMP switch and check for pressure indication of 30 $\pm$5 psi.

(2) Actuate L BOOST PUMP switch and check for pressure indication of 30 $\pm$5 psi.

(3) Pull LH BOOST PUMP NORM CONT circuit breaker for low speed boost pump operation. Actuate L BOOST PUMP switch and check for pressure indication of 8 psi minimum.

(4) Set LH BOOST PUMP NORM CONT circuit breaker.

(5) *Turn off and disconnect external electrical power. Close access door 26L.*

x. *Insure that inflight refueling probe is properly retracted.*

y. *Insure that engine main and afterburner fuel control specific gravity adjustments are set to correspond with fuel used for refueling. Refer to NAVAIR 01-245FDB-2-3.1.*

6-18. DIRECT REFUELING OF AIR REFUELING STORE - BUDDY TANK.

6-19. **TOOLS AND EQUIPMENT.**

Fuel Servicing Equipment

6-20. **MATERIALS.**

Turbine fuel, aviation, Grades JP-4 or JP-5, MIL-T-5624

6-21. **MANPOWER REQUIREMENTS.**

a. Two men required.

6-22. **PROCEDURE.**

a. Observe all applicable fueling precautions. See figure 6-2.

b. Gravity refueling procedure:

(1) Ground refueling nozzle by attaching ground cable to unpainted hydraulic lines in nose section.

(2) Remove gravity filler cap and insert nozzle to fill tank.

(3) Fill until fuel level is approximately one inch below the filler port.

(4) *Secure gravity filler cap and disconnect grounding wire.*

c. Pressure refueling procedure:

(1) Remove access door and remove cap from receptacle.

(2) Ground pressure refueling nozzle to tank by attaching cable to unpainted hydraulic line in nose section.

(3) Connect refueling nozzle to receptacle and start fuel flow. When tank is full, fuel flow will stop automatically.

(4) *Disconnect fueling nozzle and ground wire. Install receptacle cap and access door.*

6-23. EMERGENCY REFUELING PROCEDURES.

6-24. **REFUELING WITHOUT EXTERNAL ELECTRICAL POWER.**

CAUTION

Refueling without external electrical power eliminates the refueling level control valve check and the indication of fuel capacity. If level control valve fails, overfilling will result in fuel spillage from the vent mast and possible rupture of fuel cells.

6-25. **Tools and Equipment.**

Fuel Servicing Equipment

6-26. **Materials.**

Turbine fuel, aviation, Grades JP-4 or JP-5, MIL-T-5624

6-27. Manpower Requirements.

a. Two men required.

6-28. Aircraft Preparation.

a. Perform the following steps before engine shutdown to condition fuel system for refueling.

(1) Position switches as follows:

SWITCH	POSITION
WING TRANS PRESS	NORMAL
INT WING TRANS	NORMAL
TRANSFER	WING INT
INT WING DUMP	NORMAL
REFUEL SELECTION	ALL TANKS

(2) Pull REFUEL PROBE circuit breaker (No. 1 Circuit Breaker Panel).

(3) Position REFUEL PROBE switch (Fuel System Control Panel) to REFUEL.

(4) REFUEL READY light must come on.

(5) Record amount of internal fuel shown on fuel quantity indicator.

(6) Shut down engines but do not turn ENGINE MASTER switches off until generators drop off line (approximately 55 percent engine RPM).

b. Position REFUEL PROBE switch to RETRACT. Set REFUEL PROBE circuit breaker.

6-29. Procedure.

a. Observe all applicable fueling precautions. See figure 6-2.

b. Open access door 26R. Attach ground wire from refueling nozzle to aircraft grounding receptacle. Insert refueling nozzle into refueling receptacle by pushing up and turning clockwise into locked position.

CAUTION

Fuel pressure from servicing equipment must not exceed 55 psi.

When external wing tanks are being refueled, assure air flows from both wing dump masts.

c. Start servicing equipment and begin refueling.

d. Continue refueling until fuel flow stops automatically. Determine amount of fuel delivered by fuel servicing equipment and add to quantity recorded at time of engine shut down. This total should approximately equal summated quantity of applicable tanks as shown in fuel capacity tables. Refer to paragraph 6-4.

NOTE

Some external wing tanks and external centerline tanks are equipped with full indicator windows for visual check.

e. Turn off servicing equipment.

f. *Remove refueling nozzle, ground wire, and close access door 26R.*

g. *Ensure that all tanks being refueled have been fully serviced.*

h. *Ensure REFUEL PROBE switch is returned to RETRACT position, and REFUEL PROBE circuit breaker is set.*

i. *Ensure engine main and afterburner fuel control specific gravity adjustments are set to correspond with fuel used for refueling. Refer to NAVAIR 01-245FDB-2-3.1.*

6-30. REFUELING WITH ENGINE(S) OPERATING.

WARNING

Refueling with engine or engines operating is considered an emergency procedure and should be used only when warranted by circumstances.

6-31. Tools and Equipment.

Fuel Servicing Equipment

6-32. Materials.

Turbine fuel, aviation, Grades JP-4 or JP-5, MIL-T-5624

6-33. Manpower Requirements.

a. Four men required.

6-34. Procedure.

a. Observe all applicable fueling precautions. See figure 6-2.

b. Ground aircraft and refueling equipment.

c. Operate engine or engines at IDLE.

d. Position switches (Fuel System Control Panel) as follows:

SWITCH	POSITION
WING TRANS PRESS	NORMAL
INT WING TRANS	NORMAL
TRANSFER	WING INT
INT WING DUMP	NORMAL
REFUEL SELECTION	INT ONLY or ALL TANKS

e. Pull REFUEL PROBE circuit breaker (No. 1 circuit breaker panel).

f. Position REFUEL PROBE switch to REFUEL.

g. Open access door 26R. Attach ground wire from refueling nozzle to aircraft grounding receptacle. Insert refueling nozzle into refueling receptacle by pushing up and turning clockwise into locked position.

NOTE

For selective refueling, refer to paragraph 6-5.

CAUTION

Fuel pressure from servicing equipment must not exceed 55 psi.

When external wing tanks are being refueled, assure air flows from both wing dump masts.

Monitor vent mast, wing dump masts, and buddy tank vent (if installed) at all times and cease refueling immediately, if fuel begins to spill from any vent.

h. Start servicing equipment and begin refueling.

NOTE

Make master fuel level control checks (steps i and j).

Refueling operation may be stopped at any time by placing REFUEL PROBE switch to EXTEND or RETRACT.

i. Position MASTER fuel level control check switch to CHECK 1 position and hold. Fuel flow must stop before fuel admitted exceeds an additional 45 gallons on flowmeter or 300 lbs. increase indicated on counter of fuel quantity indicator.

CAUTION

If fuel flow does not stop within 30 seconds when performing steps i and j, discontinue refueling until discrepancy has been isolated and corrected.

j. Position MASTER fuel level control check switch to CHECK 2 position and hold. Fuel flow must stop before fuel admitted exceeds an additional 45 gallons on flow meter or 300 lbs. increase indicated on counter of fuel quantity indicator.

k. If external tanks are being refueled, observe that L EXT FUEL, R EXT FUEL and CTR EXT FUEL no flow warning lights go out, then come on when corresponding external tank has filled. External tanks having indicator windows should be visually checked.

l. Continue refueling until fuel flow stops automatically.

m. Observe fuel quantity indicator for correct internal fuel capacity. Sector (top) of indicator indicates fuselage cells No. 1 thru No. 6 fuel only and counter (bottom) indicates total internal fuel.

n. Turn off servicing equipment.

o. *Remove refueling nozzle, disconnect ground wire, and close access door 26R.*

p. *Position REFUEL PROBE switch to RETRACT. Set REFUEL PROBE circuit breaker.*

q. *Ensure all tanks being refueled have been fully serviced.*

r. *Ensure engine main and afterburner fuel control specific gravity adjustments are set to correspond with fuel used for refueling. Refer to NAVAIR 01-245FDB-2-3.1.*

6-35. REFUELING FUSELAGE TANKS ONLY WITH RUPTURED INTERNAL WING TANKS. See figure 6-4.

NOTE

The following procedures are to be used to refuel the fuselage fuel tanks when the internal wing tanks cannot be fueled because of leaks or other malfunction.

WARNING

In order to insure that the aircraft takeoff CG will be within limits, it is imperative that the following loading requirements, for aircraft with both crew members aboard, be met.

6-36. Loading Requirements for Aircraft With Ruptured Internal Wing Tank(s) and Fuselage Tanks Only Refueled.

a. All equipment (radar, etc.) or equivalent ballast installed.

b. Fuselage fuel tanks 1, 2, 3, 4, 5, and 6 full of fuel.

c. Pylons at armament stations 2 and 8 removed.

d. Two missiles installed in forward missile wells and no missiles installed in aft missile wells.

e. Cameras and mounts or equivalent ballasts installed in camera stations I (93 pounds), II (99 pounds), and III (247 pounds).

f. External wing tanks and/or external centerline tank may be installed.

6-37. Ground Refueling.

a. Observe all applicable fueling precautions. See figure 6-2.

b. In access door 22 area, disconnect the left and right internal wing tank pressure regulator inlet lines. Plug the lines and cap the regulators to prevent bleed air from flowing out holes in the internal wing tank(s).

c. Install blind flanges in the left and right internal wing fuel transfer lines. Locally manufacture blind flanges to the configuration of the gask-o-seals. Install blind flanges over the gask-o-seals.

d. Disconnect electrical connector from the refuel shutoff valve in access door 22 area.

e. Disconnect and cap the left and right internal wing tank pressure vacuum-relief valves and lines.

f. Position INT WING DUMP switch on forward cockpit fuel system control panel to DUMP.

g. To refuel through single point ground refueling receptacle, perform steps h thru j. To refuel through the inflight refueling probe, perform steps k thru m.

h. Place REFUEL SELECTION switch to INT ONLY.

i. In the right hand wheel well, hold the L WING and R WING switches in the STOP position while refueling.

j. Refuel aircraft in accordance with paragraph 6-13.

k. Position REFUEL PROBE switch on forward cockpit fuel system control panel to REFUEL.

l. Place REFUEL SELECTION switch to INT ONLY.

m. Refuel aircraft in accordance with paragraph 6-13.

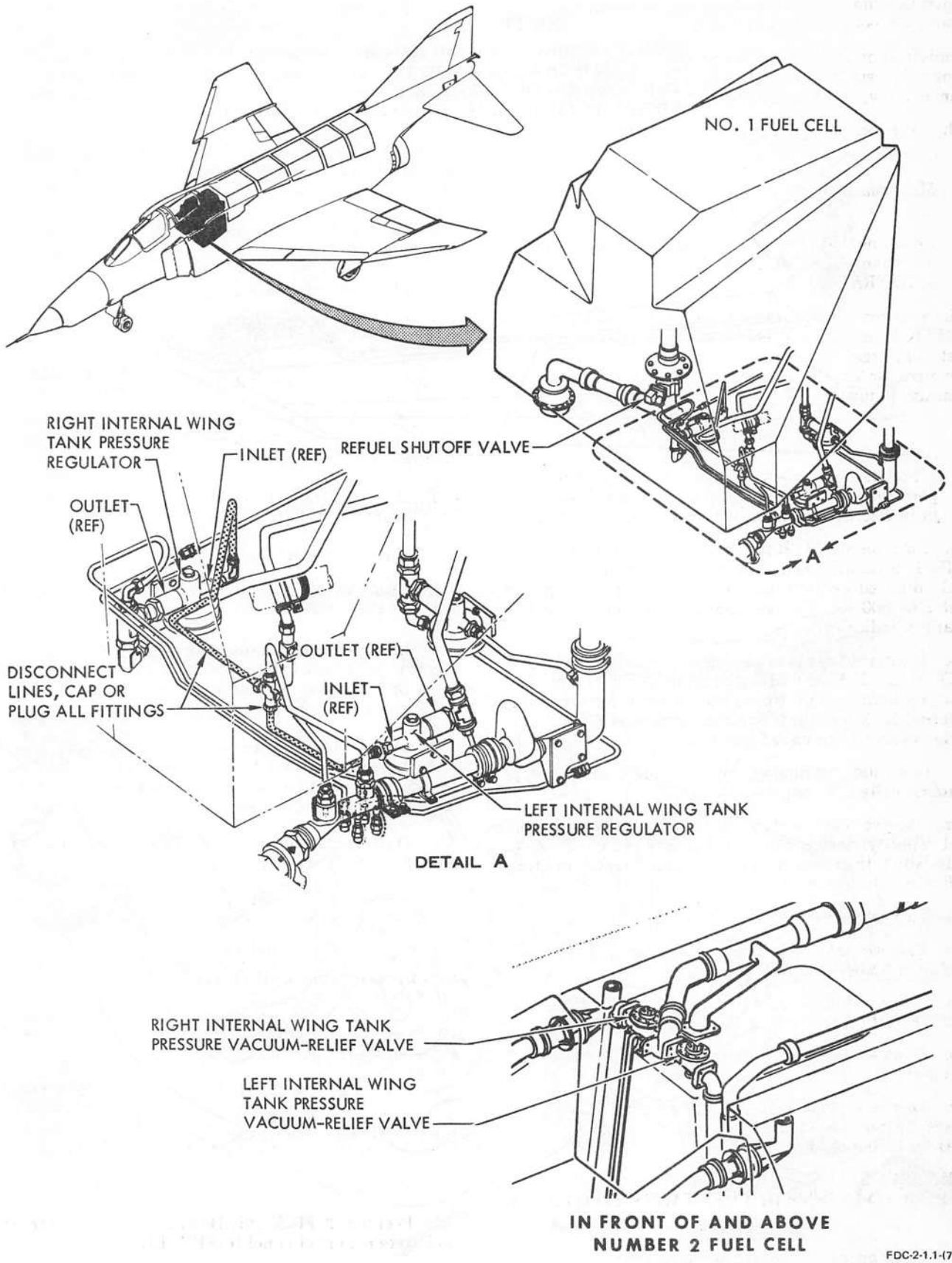
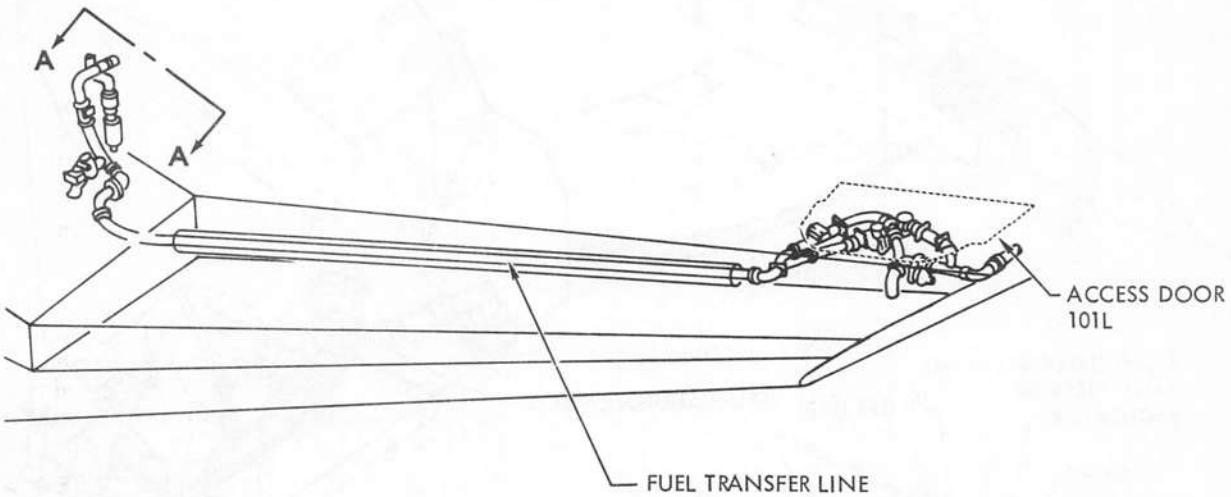


Figure 6–4. Refueling Fuselage Tanks Only With Ruptured Internal Wing Tanks (Sheet 1 of 2)

NOTE

LOCALLY MANUFACTURE BLIND FLANGE FROM 0.032 INCH ALUMINUM TO THE CONFIGURATION OF GASK-O-SEAL WITHOUT THE CENTER HOLE.



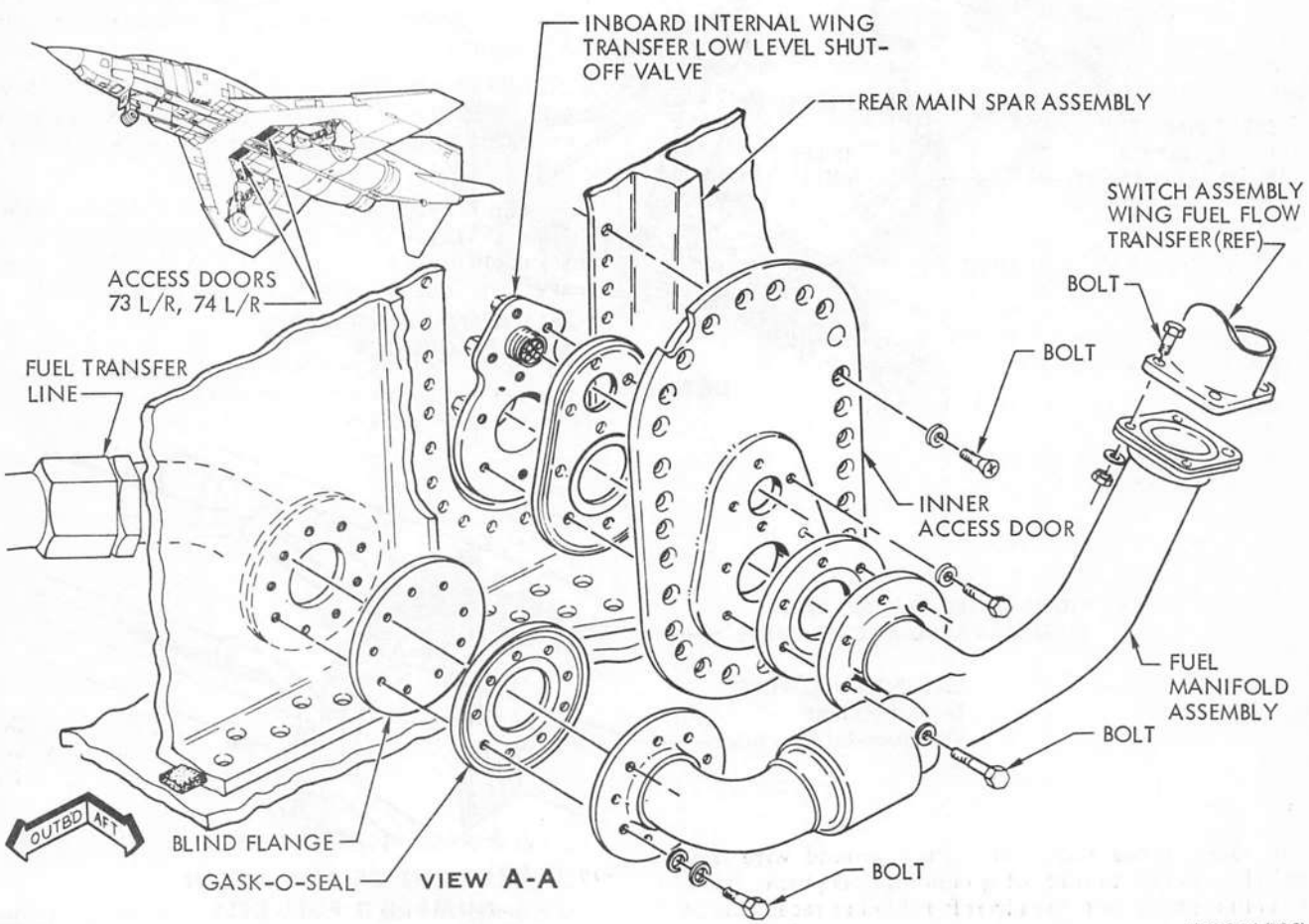


Figure 6–4. Refueling Fuselage Tanks Only With Ruptured Internal Wing Tanks (Sheet 2 of 2)

6-38. **Ground Preparation for Inflight Refueling.** Perform steps b thru f of paragraph 6-37.

6-39. **Restoring Fuel System to Normal.**

a. In access door 22 area, remove caps and connect the left and right internal wing tanks pressure regulators inlet lines to the pressure regulators.

b. Remove blind flanges from the left and right internal wing fuel transfer lines. Connect wing fuel transfer lines.

c. In access door 22 area, connect electrical connector to refuel shutoff valve.

d. Remove caps from left and right internal wing tank pressure vacuum-relief valves and lines, and connect lines to valves.

e. Position INT WING DUMP switch on forward cockpit fuel system control panel to NORMAL.

f. Apply external electrical power to aircraft. Refer to paragraph 5-14.

g. Position remaining fuel system control panel switches to their normal flight positions.

h. Remove external electrical power.

6-40. **NORMAL DEFUELING.** See figures 6-1 and 6-2.

6-41. The aircraft is defueled through the same single point receptacle utilized for refueling. Defueling is accomplished by operating the aircraft fuel system in the same manner that it operates during flight except that fuel is pumped out of the refueling receptacle instead of flowing to the engines. Fuel from the internal wing tanks and all external tanks must be first transferred to the fuselage cells by externally applied pneumatic or gaseous pressurization.

6-42. **TOOLS AND EQUIPMENT.**

Fuel servicing equipment
Power source, external electrical, (1, table 2-2)
Trailer, nitrogen servicing, (14, table 2-2)

6-43. **MANPOWER REQUIREMENTS.**

a. Four men required.

6-44. **PROCEDURE.**

NOTE

Refer to NAVAIR 01-245FDC-2-3.3 for fuel system inerting procedures, if required.

a. Observe all applicable fueling precautions. See figure 6-2.

b. Ground the aircraft, refueling equipment, and external power equipment.

c. Position cockpit switches and controls as indicated in table 6-3.

d. Open access door 26R. Attach ground wire from refueling nozzle to aircraft grounding receptacle. Insert refueling nozzle into the aircraft refueling receptacle by pushing up, turning clockwise into locked position.

e. Open access door 26L and apply external electrical power to the aircraft. Refer to paragraph 5-14.

f. Position WARNING LIGHTS switch to TEST. All cockpit warning lights should come on.

g. Position GROUND FUELING switch to REFUEL. The fuselage pressure - vacuum relief valve is open if the REFUEL READY warning light comes on. Reposition GROUND FUELING switch to OFF.

NOTE

Place INT WING TRANS switch to STOP TRANS to defuel fuselage cells only.

h. Connect line from external air or nitrogen pressure equipment to FUEL TRANS PNEU CHARGE FITTING in access door 23. Adjust pressure regulator on servicing trailer to 250 psig.

i. Position GROUND FUELING switch on right wheel well panel to DEFUEL.

NOTE

If only fuselage cells, or fuselage cells and internal wing tanks are being defueled, omit steps j, k, m, and n. Step 1 must be performed in any defuel operation when a centerline external tank is installed.

j. Place EXTERNAL switch to CENTER EXT, to defuel external centerline tank. CTR EXT FUEL no flow warning light will come on momentarily and then go out, indicating tank is defueling. Continue to defuel until CTR EXT FUEL no flow warning light comes on, indicating tank is empty.

k. Place TRANSFER switch to OUTBD EXT, to defuel external wing tanks. L EXT FUEL and R EXT FUEL no flow warning lights will come on momentarily and then go out, indicating tanks are defueling.

l. On 153108aa AND UP, ALSO, 151975t THRU 153107z AFTER AFC 249 PART II, with a centerline fuel tank installed, pull the FUEL VALVE POWER circuit breaker (No. 1 Circuit Breaker Panel in aft cockpit).

NOTE

If FUEL VALVE POWER circuit breaker is not pulled, defueling will cease when the automatic fuel transfer system is automatically energized. If this condition occurs, perform the following to restore defuel operations:

(1) Position GROUND FUELING switch to REFUEL.

(2) Return GROUND FUELING switch to DEFUEL and perform step 3 as soon as defuel valve opens.

(3) Pull FUEL VALVE POWER circuit breakers.

m. Continue to defuel until L EXT FUEL and R EXT FUEL no flow warning lights comes on, indicating that tanks are empty, then place TRANSFER switch to WING INT.

n. *Reset FUEL VALVE POWER circuit breaker (if applicable).*

o. When defueling is complete, as indicated by the fuel quantity indicator, or flowmeter on the fueling equipment, position GROUND FUELING switch to OFF.

p. *Remove fuel servicing hose nozzle and disconnect*

ground wire. Close access door 26R.

q. Disconnect nitrogen or air supply hose from FUEL TRANS PNEU CHARGE FITTING in access door 23.

r. *Close access door 23.*

s. Disconnect external electrical power from aircraft.

t. *Close access door 26L.*

6-45. DEFUELING EXTERNAL TANKS REMOVED FROM AIRCRAFT.

6-46. Procedures for the removal and installation of external tanks and for the defueling of tanks removed from the aircraft are contained in NAVAIR 01-245FDC-2-3.3.

ENGINE OIL SYSTEM

6-47. SYSTEM SERVICING. See figure 6-5.

6-48. TOOLS AND EQUIPMENT.

Pre-Oiler, (15, table 2-2)
or
Pre-Oiler, (16, table 2-2)
Breaker, (17, table 2-2)
Bottle assembly, drain, (18, table 2-2)
Hose, overflow, 2 Foot Length

6-49. MATERIALS.

Lubricating oil, gas turbine aircraft, MIL-L-23699, (Primary)
Lubricating oil, gas turbine aircraft, MIL-L-7808, (Alternate)

6-50. MANPOWER REQUIREMENTS.

a. Two men required.

NOTE

The engine oil tank shall be serviced as soon as practicable after engine shutdown.

The aircraft shall be parked on level ground, since the oil level in the tank is affected by engine/aircraft attitude.

Prior to servicing the oil tank, assure that the pre-oiler is adequately filled with the specified gas turbine aircraft lubricating oil.

6-51. PROCEDURE FOR PON-5A.

a. Disconnect the pressure caps from the fill and overflow adapter assemblies on the engine oil servicing bracket. (See detail A.)

b. Remove dirt, dust, and foreign matter from adapter assemblies and hose adapters.

NOTE

When the short overflow hose is attached to the overflow adapter assembly on the engine, about 10 to 12 ounces of oil will overflow initially due to the air pressure in the oil tank.

Overflow hose must be free of loops or kinks which may trap return oil to prevent it from draining into the overflow beaker.

c. Connect the short overflow hose to the overflow adapter on the engine and allow the initial oil surge to drain into a two quart capacity beaker graduated in ounces (detail A).

NOTE

Assure that the fill hose is full of oil prior to attaching it to the engine.

d. Connect the fill hose to the fill adapter on the engine.

e. Turn bleed valve on the pre-oiler to the CLOSED position.

f. Place the pump handle in the HIGH SPEED HIGH VOLUME position during normal servicing of the oil tank (detail C).

NOTE

Maintain a pressure of 0 to 75 psi indicated on the pressure gage mounted on the pre-oiler. (See detail B.)

The outer scale of the meter is calibrated in ounces. The inner scale of the meter is calibrated in quarts.

Outer Scale: 1 Revolution (360 degrees)=32 Ounces, (1 Quart)

Inner Scale: 1 Revolution (360 degrees)=16 Quarts, (4 Gallons)

When the oil begins to flow from the overflow hose, pump one additional pint of oil, and record total amount of oil dispensed from the pre-oiler.

g. Pump the handle slowly and steadily until the oil begins to overflow. Allow the overflow oil to flow into the plastic beaker.

h. Disconnect the fill hose from the fill adapter.

NOTE

Terminate draining from the overflow hose only when a thin stream of oil is apparent (1/8 in. dia. or less).

i. Disconnect the overflow hose from the overflow adapter and record the total quantity of oil drained into the overflow beaker in steps c and g.

CAUTION

Dispose of all overflow oil and do not allow it to re-enter the engine oil tank.

j. *Tabulate engine oil consumption by subtracting the quantity of oil in the overflow beaker from the total quantity dispensed from the pre-oiler.*

k. *Record the engine oil consumption in the appropriate engine log.*

l. *Perform a visual inspection of the engine and engine compartment for indication of oil leaks.*

m. *Install the pressure caps on the fill and overflow adapters.*

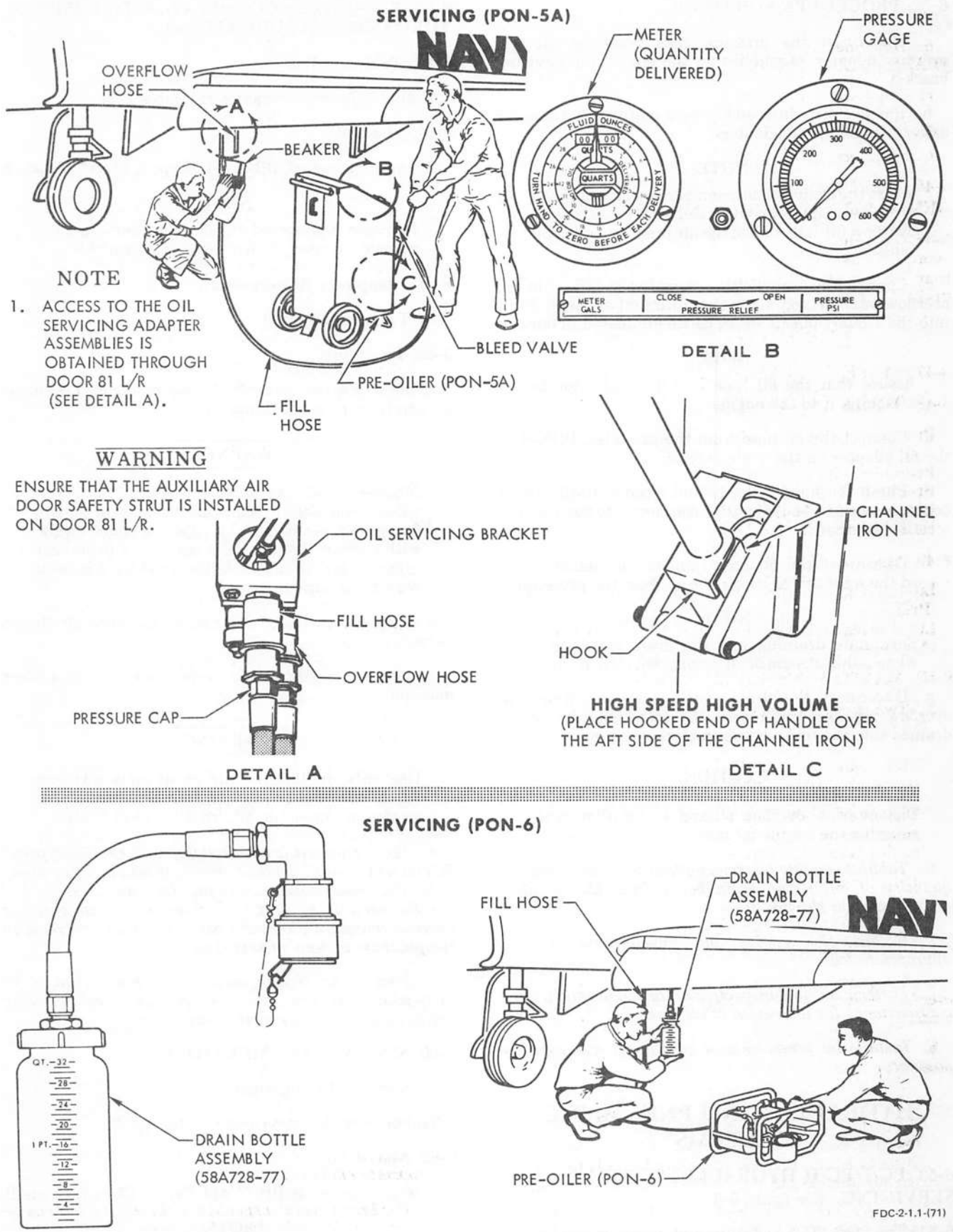


Figure 6–5. Engine Oil Servicing

6-52. PROCEDURE FOR PON-6.

a. Disconnect the pressure caps from the fill and overflow adapter assemblies on the engine oil servicing bracket.

b. Remove dirt, dust, and foreign matter from adapter assemblies and hose adapters.

NOTE

When the drain bottle assembly is attached to the overflow adapter, about 10 to 12 ounces of oil will overflow initially due to the air pressure in the oil tank.

c. Connect the drain bottle assembly 58A72B-77 to the overflow adapter and allow the initial oil surge to drain into the 1 quart plastic drain bottle graduated in ounces.

NOTE

Assure that the fill hose is full of oil prior to attaching it to the engine.

d. Connect the fill hose from the pre-oiler, PON-6 to the fill adapter on the engine (detail A).

e. Pump the handle slowly and steadily until the oil begins to overflow and allow the overflow oil to flow into the plastic drain bottle.

f. Disconnect the fill hose from the fill adapter and record the quantity of oil dispensed from the pre-oiler.

NOTE

Terminate draining into the drain bottle only when a thin stream of oil is apparent (1/8 in. dia.).

g. Disconnect the drain bottle assembly from the overflow adapter and record the total quantity of oil drained into the drain bottle in steps c and e.

CAUTION

Dispose of all overflow oil and do not allow it to re-enter the engine oil tank.

h. *Tabulate engine oil consumption by subtracting the quantity of oil in the drain bottle from the quantity dispensed from the pre-oiler.*

i. *Record the engine oil consumption in the appropriate log.*

j. *Perform a visual inspection of the engine and engine compartment for indication of oil leaks.*

k. *Install the pressure caps on the fill and overflow adapters.*

HYDRAULIC AND PNEUMATIC SYSTEMS

6-53. PC I/PC II HYDRAULIC SYSTEM SERVICING. See figure 6-6.

6-54. The PC I/PC II hydraulic system is serviced by first servicing system and reservoir accumulators, and then servicing the system reservoirs.

6-55. RESERVOIR ACCUMULATOR (PC I) 151975t THRU 153094x BEFORE AFC 220.

6-56. Tools and Equipment.

Trailer, nitrogen servicing, (14, table 2-2)

6-57. Materials.

Nitrogen (gaseous), BB-N-411 Type I, Class 1, Grade B

NOTE

Nitrogen is preferred for servicing, but clean, dry air may be used if nitrogen is not available.

6-58. Manpower Requirements.

a. Two men required.

6-59. Procedure.

a. Relieve system pressure by depressing PC I reservoir accumulator pressure dump valve.

WARNING

MS28889-1 air charge valve does not contain a valve core. Before removing valve cap, ensure swivel hex nut is tight by applying slight torque with wrench. Remove valve cap slowly to prevent injury to eyes from possibility of sudden release of high penumatic pressure.

b. Connect servicing trailer to accumulator air charge valve.

c. Loosen air charge valve swivel hex nut 1-3/4 turns maximum.

WARNING

Use only dry filtered air or gaseous nitrogen BB-N-411. Never use oxygen or hydrogen to service accumulator; the result could be fatal.

d. *Charge reservoir accumulator to 2000 (±50) psi at 70°F (21.1°C), while holding reservoir accumulator dump valve depressed during servicing. Increase pressure 100 psi for each 20°F (6.7°C) increase in temperature, or decrease pressure 100 psi for each 20°F (6.7°C) decrease in temperature at time of servicing.*

e. *Tighten air charge valve swivel hex nut to 50-70 inch-pounds, relieve hose pressure, disconnect servicing trailer, and install air charge valve cap.*

6-60. SYSTEMS ACCUMULATORS.

6-61. Tools and Equipment.

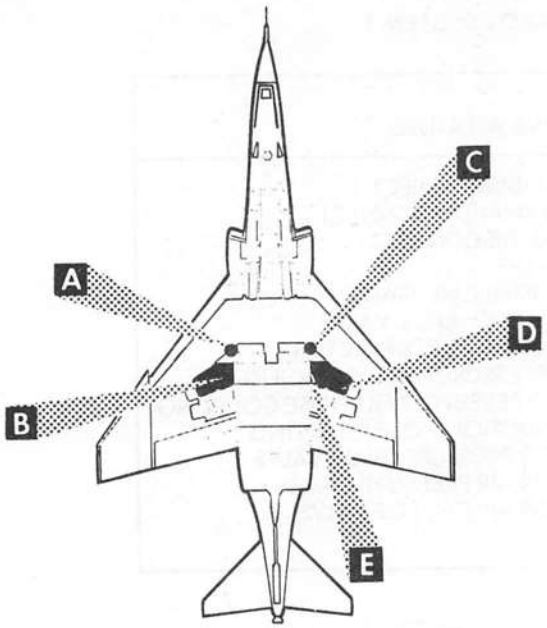
Trailer, nitrogen servicing, (14, table 2-2)

6-62. Materials.

Nitrogen (gaseous), BB-N-411 Type I, Class 1, Grade B

NOTE

Nitrogen is preferred for servicing, but clean, dry air may be used if nitrogen is not available.



POWER CONTROL SYSTEM II

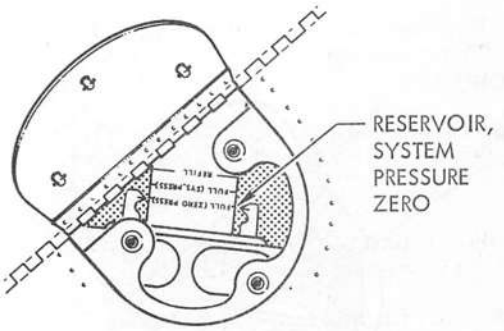
CAUTION

WHEN CONNECTING EXTERNAL HYDRAULIC POWER, MAKE CERTAIN THAT THE SUPPLY (RETURN) LINE DISCONNECT IS PROPERLY CONNECTED BEFORE TURNING ON THE START SWITCH. A CLOSED COUPLING WILL CAUSE PRESSURE AND FLUID LEVEL BUILDUP IN THE RESERVOIR AND BLOW UP THE RESERVOIR.

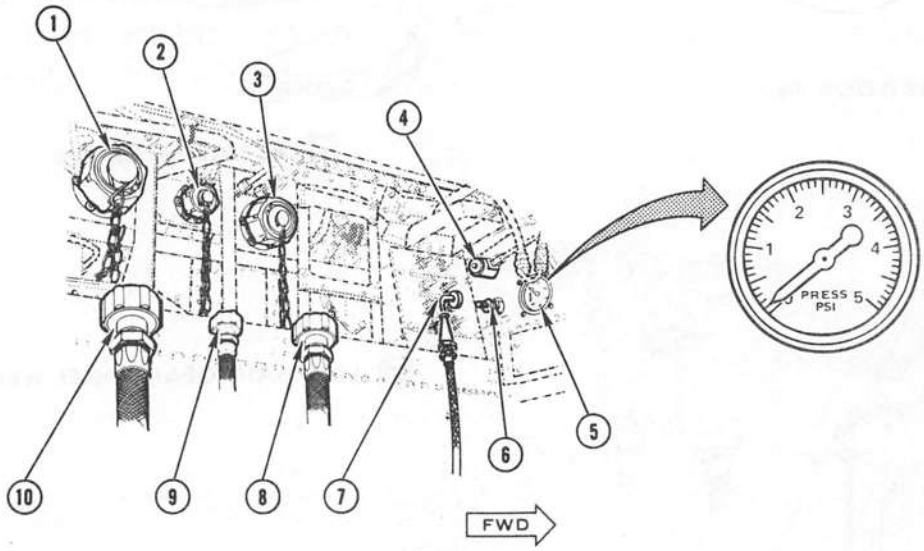
WHEN STARTING AND UPON COMPLETION OF RESERVOIR FILLING, DEPRESS THE RESERVOIR AIR BLEED VALVE UNTIL A CLEAR STREAM OF FLUID FLOWS.

NOTE

[1] 151975t THRU 153094x BEFORE AFC 220



A ACCESS DOOR 76R



B RIGHT MAIN GEAR WHEEL WELL

FDC-2-1.1-(72-1)

Figure 6-6. PC I/PC II Hydraulic System Servicing (Sheet 1 of 2)

POWER CONTROL SYSTEM I

INDEX NO.	NOMENCLATURE
1	SUCTION LINE EXTERNAL DISCONNECT
2	RESERVOIR FILL LINE EXTERNAL DISCONNECT
3	PRESSURE LINE EXTERNAL DISCONNECT
4	RESERVOIR AIR BLEED VALVE
5	SYSTEM ACCUMULATOR PRESSURE GAGE
6	SYSTEM ACCUMULATOR AIR CHARGE VALVE
7	ACCUMULATOR SERVICING HOSE CONNECTOR
8	HYDRAULIC TEST STAND PRESSURE HOSE COUPLING
9	HYDRAULIC CHECK STAND RESERVOIR FILL HOSE COUPLING
10	HYDRAULIC TEST STAND SUCTION HOSE COUPLING
11	RESERVOIR ACCUMULATOR PRESSURE DUMP VALVE
12	RESERVOIR ACCUMULATOR AIR PRESSURE GAGE
13	RESERVOIR ACCUMULATOR AIR CHARGE VALVE

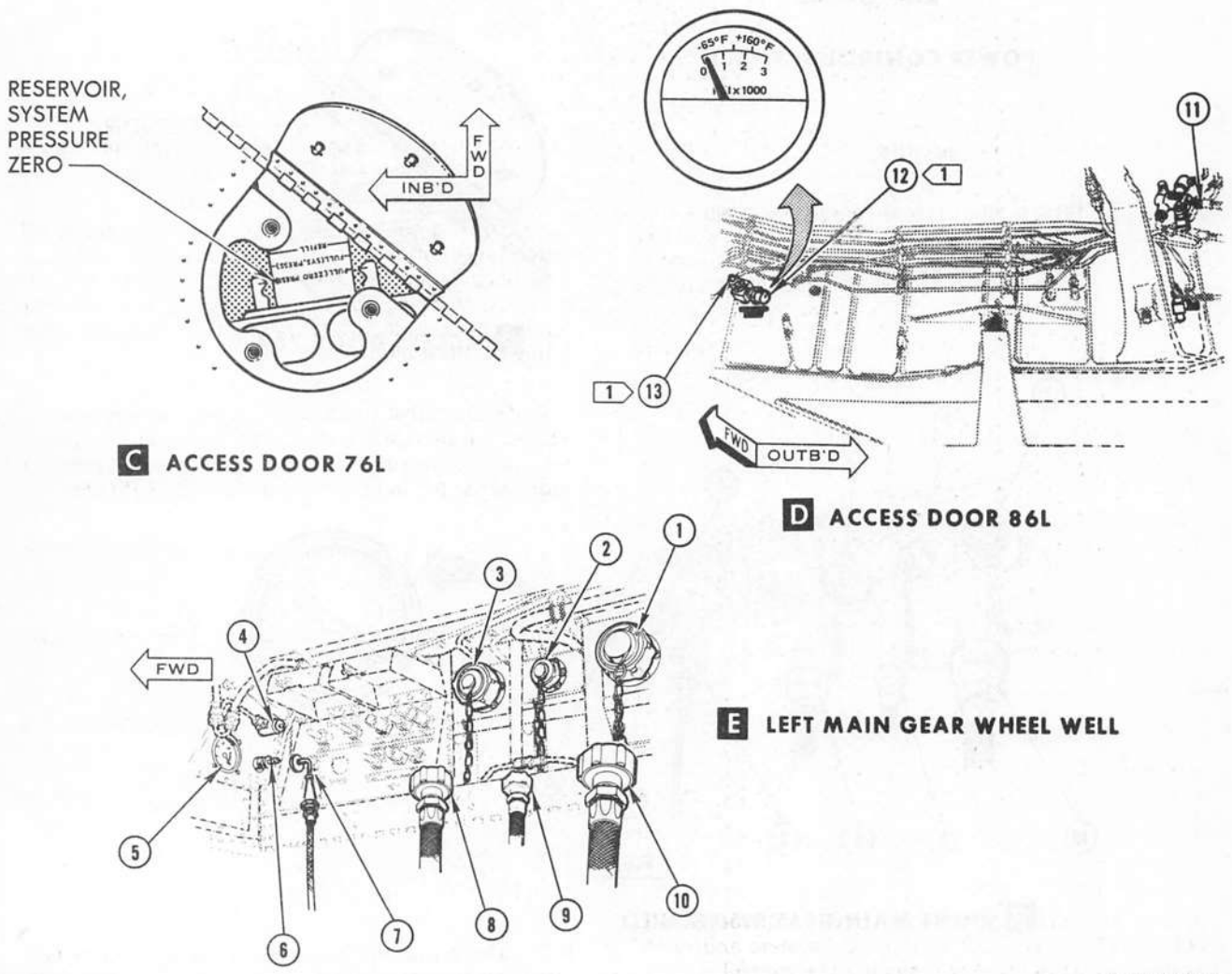


Figure 6–6. PC I/PC II Hydraulic System Servicing (Sheet 2 of 2)

6-63. Manpower Requirements.

a. Two men required.

6-64. Procedure.

a. On 151975t THRU 153094x BEFORE AFC 220, relieve PC I system pressure by depressing PC I reservoir accumulator pressure dump valve, and relieve PC II system pressure by slowly moving the control stick.

b. On 153095x AND UP, ALSO 151975t THRU 153094x AFTER AFC 220, relieve PC I and/or PC II system pressure by slowly moving the control stick.

WARNING

MS28889-1 air charge valve does not contain a valve core. Before removing valve cap, ensure swivel hex nut is tight by applying slight torque with wrench. Remove valve cap slowly to prevent injury to eyes from possibility of sudden release of high pneumatic pressure.

c. Connect servicing trailer to accumulator air charge valve.

d. Loosen air charge valve swivel hex nut (1-3/4 turns maximum).

WARNING

Use only dry filtered air or gaseous nitrogen. Never use oxygen or hydrogen to service accumulators; the result could be fatal.

e. *Charge accumulator to 1000 (±50) psi at 70°F (21.1°C). Increase pressure 40 psi for 20°F (6.7°C) increase in temperature, or decrease pressure 40 psi for each 20°F (6.7°C) decrease in temperature at time of servicing.*

f. *Tighten air charge valve swivel hex nut to 50-70 inch-pounds, relieve hose pressure, disconnect servicing trailer, and install air charge valve cap.*

6-65. SYSTEMS RESERVOIRS.

6-66. Tools and Equipment.

Portable aircraft hydraulic systems test stand, (2, table 2-2)
Check stand, hydraulic, (22, table 2-2)

6-67. Materials.

Hydraulic Fluid, MIL-H-5606

6-68. Manpower Requirements.

a. Two men required.

6-69. Procedure.

a. On 151975t THRU 153094x BEFORE AFC 220, relieve PC I system pressure by depressing PC I reservoir accumulator pressure dump valve, and relieve PC II system pressure by slowly moving the control stick.

b. On 153095x AND UP, ALSO, 151975t THRU 153094x AFTER AFC 220, relieve PC I system and/or PC II system pressure by slowly moving the control stick.

c. On 151975t THRU 153094x BEFORE AFC 220, check air charge pressure of reservoir accumulator for 2000 ±50 psi. Service accumulator if necessary. Refer to paragraph 6-55.

d. Check air charge pressure of system accumulator for 1000 ±50 psi. Service accumulator if necessary. Refer to paragraph 6-60.

e. Two methods for filling the reservoirs are provided as follows:

NOTE

Reservoir filling by method (1), filters fluid through check stand filter and one aircraft filter in reservoir fill line. However, filling by method (2), filters fluid through test stand filter only; therefore assure that reservoir filling source filters are clean at all times.

(1) Fill reservoir with the hydraulic check stand by connecting servicing hose to external disconnect reservoir fill and pump hand pump to fill reservoir to FULL (ZERO PRESS). Depress reservoir air bleed valve at intervals during filling and after filling to bleed off any air.

CAUTION

When using a test stand with a fill pump capability, relief valve should be set below 75 psi and flow should be no greater than 3/4 gpm for PC systems reservoirs.

(2) Fill reservoir with hydraulic test stand fill pump by connecting suction hose to external disconnect suction fitting. Start fill pump and fill reservoir to FULL (ZERO PRESS). Depress reservoir air bleed valve at intervals during filling and after filling to bleed off any air.

f. Connect test stand pressure and suction hoses to PC system serviced in step e (PC I and/or PC II) and pressurize system(s) to 3000 psi. Check reservoir indicator(s) for indication of FULL (SYS PRESS).

g. If reservoir(s) is below proper level, repeat steps e and f.

h. If reservoir(s) is above proper level, depress air bleed valve and drain off fluid to proper level.

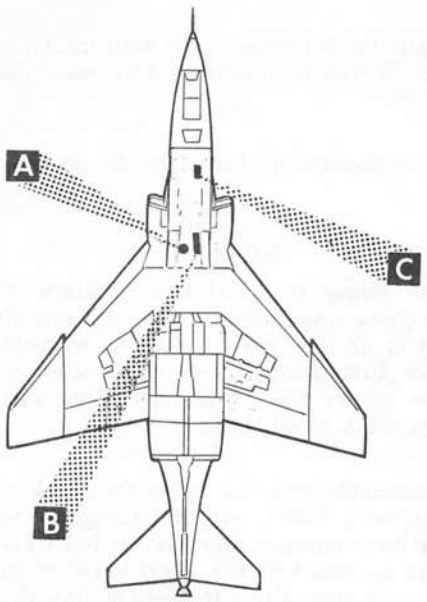
i. *Remove hydraulic test stand and check stand from aircraft and plug hose fittings.*

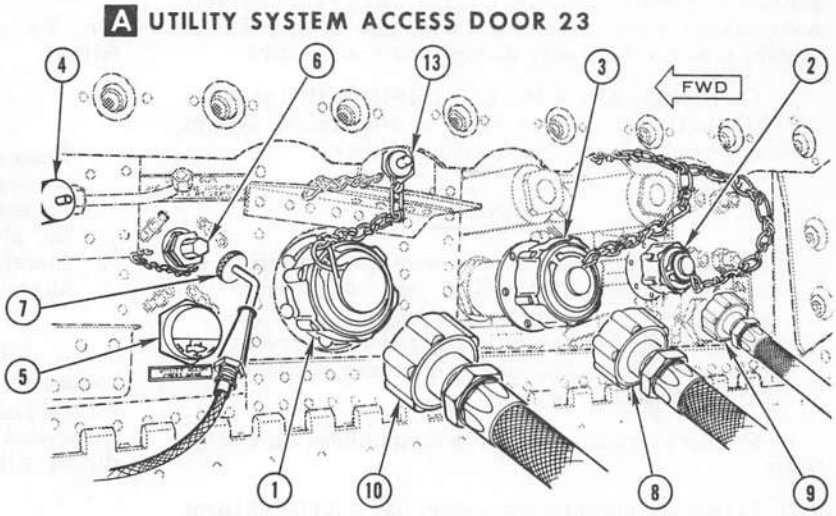
j. *Cap the aircraft external disconnects.*

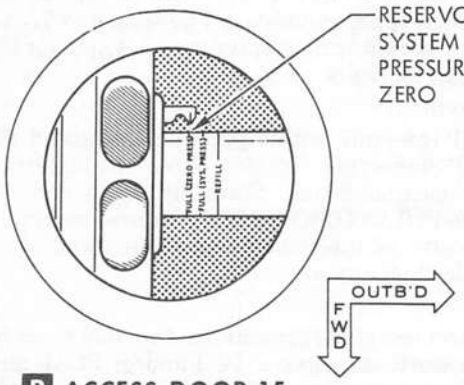
6-70. **UTILITY HYDRAULIC SYSTEM SERVICING.** See figure 6-7.

6-71. The utility hydraulic system is serviced by first servicing the wheel brake and system accumulators, and then servicing the system reservoir.

6-72. WHEEL BRAKE ACCUMULATOR.





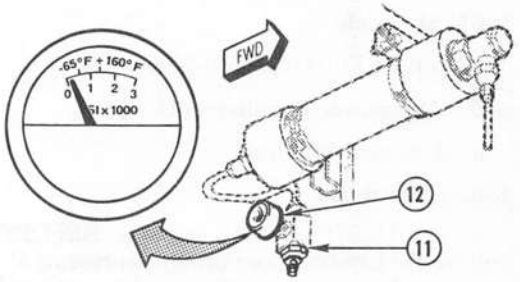


CAUTION

WHEN CONNECTING EXTERNAL HYDRAULIC POWER, MAKE CERTAIN THAT THE SUPPLY (RETURN) LINE DISCONNECT IS PROPERLY CONNECTED BEFORE TURNING ON THE START SWITCH. A CLOSED COUPLING WILL CAUSE PRESSURE AND FLUID LEVEL BUILD UP IN THE RESERVOIR AND BLOW UP THE RESERVOIR.

WHEN STARTING AND UPON COMPLETION OF RESERVOIR FILLING, DEPRESS THE RESERVOIR AIR BLEED VALVE UNTIL A CLEAR STREAM OF FLUID FLOWS.

1	SUCTION LINE EXTERNAL DISCONNECT
2	RESERVOIR FILL LINE EXTERNAL DISCONNECT
3	PRESSURE LINE EXTERNAL DISCONNECT
4	RESERVOIR AIR BLEED VALVE
5	SYSTEM ACCUMULATOR PRESSURE GAGE
6	SYSTEM ACCUMULATOR AIR CHARGE VALVE
7	ACCUMULATOR SERVICING HOSE CONNECTOR
8	HYDRAULIC TEST STAND PRESSURE HOSE COUPLING
9	HYDRAULIC-CHECK STAND RESERVOIR FILL HOSE COUPLING
10	HYDRAULIC TEST STAND SUCTION HOSE COUPLING
11	BRAKE ACCUMULATOR AIR CHARGE VALVE
12	BRAKE ACCUMULATOR AIR PRESSURE GAGE
13	AIR COMPRESSOR ELECTRICAL CUT-IN CUT-OUT SWITCH



FDC-2-1.1-(73)

Figure 6–7. Utility Hydraulic System Servicing

6-73. **Tools and Equipment.**

Trailer, nitrogen servicing, (14, table 2-2)

6-74. **Materials.**

Nitrogen (gaseous), BB-N-411, Type I, Class 1, Grade B

NOTE

Nitrogen is preferred for servicing, but clean, dry air may be used if nitrogen is not availabe.

6-75. **Manpower Requirements.**

a. Two men required.

6-76. **Procedure.**

a. Relieve system pressure by pumping rudder-brake pedals.

b. Connect servicing trailer to wheel brake accumulator air charge valve.

WARNING

MS28889-1 air charge valve does not contain a valve core. Before removing valve cap, ensure swivel hex nut is tight by applying slight torque with wrench. Remove valve cap slowly to prevent injury to eyes from possibility of sudden release of high pneumatic pressure.

c. Loosen air charge valve hex nut 1-3/4 turns maximum.

NOTE

On 151975t THRU 153107z BEFORE AFC 231, increase or decrease accumulator charge pressure 30 psi for each 10°F (5.6°C) change in temperature. On 153108aa AND UP; ALSO, 151975t THRU 153107z AFTER AFC 231, increase or decrease accumulator charge pressure 20 psi for each 10°F (5.6°C) change in temperature.

WARNING

Use only dry filtered air or nitrogen. Never use oxygen or hydrogen to service accumulator; the result could be fatal.

d. On 151975t THRU 153107z BEFORE AFC 231, charge accumulator to 1500 $\pm$50 psi at 70°F (21.1°C).

e. On 153108aa AND UP; ALSO, 151975t THRU 153107z AFTER AFC 231, charge accumulator to 1000 $\pm$50 psi at 70°F (21.1°C).

f. *Tighten air charge valve hex nut to 50-70 inch-pounds, relieve hose pressure, disconnect servicing trailer, and install air charge valve cap.*

6-77. **SYSTEM ACCUMULATOR.**

6-78. **Tools and Equipment.**

Trailer, nitrogen servicing, (14, table 2-2)

6-79. **Materials.**

Nitrogen (gaseous), BB-N-411, Type I, Class 1, Grade B

NOTE

Nitrogen is preferred for servicing, but clean, dry air may be used if nitrogen is not available.

6-80. **Manpower Requirements.**

a. Two men required.

6-81. **Procedure.**

a. Relieve system pressure by pumping brake pedals.

b. Connect servicing trailer to system accumulator air charge valve, using connector.

WARNING

MS28889-1 air charge valve does not contain a valve core. Before removing valve cap, ensure swivel hex nut is tight by applying slight torque with wrench. Remove valve cap slowly to prevent injury to eyes from possibility of sudden release of high pneumatic pressure.

c. Loosen air charge valve hex nut 1-3/4 turns maximum.

WARNING

Use only dry filtered air or gaseous nitrogen. Never use oxygen or hydrogen to service accumulator; the result could be fatal.

d. Charge accumulator to 1000 $\pm$50 psi at 70°F (21.1°C).

NOTE

Increase or decrease above pressure 45 psi for each 20°F (11°C) change in above temperature.

e. *Tighten air charge valve hex nut to 50-70 inch-pounds, relieve hose pressure, disconnect servicing trailer, and install air charge valve cap.*

6-82. **SYSTEM RESERVOIR.**

6-83. **Tools and Equipment.**

Portable aircraft hydraulic systems test stand, (2, table 2-2)
Check stand, hydraulic, (22, table 2-2)

6-84. **Materials.**

Hydraulic fluid, MIL-H-5606

6-85. **Manpower Requirements.**

a. Two men required.

6-86. **Procedure.** Reservoir may be serviced with system pressurized or unpressurized, depending on servicing equipment available.

NOTE

Reservoir filling by method a filters fluid through check stand filter and one aircraft filter in reservoir fill line. However, filling by method b filters fluid through test stand filter only; therefore assure that reservoir filling source filters are clean at all times.

CAUTION

If a hydraulic system test stand with a fill capability is used to service reservoirs, check fill pump pressure relief valve setting. Relief valve setting should be 75 psi maximum and flow of 5 gpm maximum should not be exceeded. A hand pump filler should be used whenever possible.

Do not exceed 75 psi at 5 gpm at external disconnect reservoir fill.

a. System Unpressurized.

(1) Place the following units in the prescribed positions:

Land Gear – Down
Flaps – Up
Arresting Gear – Up
Inflight Refueling Probe – In
Rudder – Neutral
Speed Brakes – Up (closed)
Wings – Folded or Spread

(2) Relieve system pressure by pumping rudder–brake pedals.

(3) On 151975t THRU 153107z BEFORE AFC 231, check wheel brake accumulator pressure gage for 1500 $\pm$50 psi indication. Service accumulator if necessary. Refer to paragraph 6–72.

(4) On 153108aa AND UP; ALSO, 151975t THRU 153107z AFTER AFC 231, check wheel brake accumulator pressure gage for 1000 $\pm$50 psi indication. Service accumulator if necessary. Refer to paragraph 6–72.

(5) Check system accumulator pressure gage for 1000 $\pm$50 psi indication. Service accumulator if necessary. Refer to paragraph 6–77.

(6) Connect hydraulic check stand to reservoir fill external disconnect.

(7) Fill reservoir to FULL (ZERO PRESS) mark on reservoir indicator. Depress reservoir air bleed valve during filling. Release bleed valve when a steady stream of fluid flows from drain.

(8) Disconnect check stand hose from aircraft fitting.

(9) Connect test stand pressure and suction hoses to utility system and pressurize system to 3000 psi. Check reservoir indicator for indication of FULL (SYS PRESS).

(10) If reservoir is below proper level, repeat steps (6) thru (9).

(11) If reservoir is above proper level, depress air bleed valve and drain off fluid to proper level.

(12) *Remove hydraulic test stand from aircraft and plug hose fittings.*

(13) *Cap aircraft external disconnects.*

b. System Pressurized (AHT–58 Test Stand).

(1) Connect test stand pressure and suction lines to aircraft pressure and suction external disconnects.

(2) Apply normal pressure 3000 psi to system and put control surfaces in neutral.

(3) For AHT–58 test stand, depress PRESS TO FILL valve and FILLER BLEED VALVE on test stand until fluid level of aircraft reservoir indicates FULL (SYS PRESS). Depress reservoir air bleed valve at intervals during filling and after filling to bleed off any air.

(4) *Remove hydraulic test stand from aircraft and plug hose fittings.*

(5) *Cap aircraft external disconnects.*

6-87. **PNEUMATIC SYSTEM SERVICING.** See figure 6–8.

6-88. **TOOLS AND EQUIPMENT.**

Pressure source, external pneumatic, (19, table 2–2)
Wrench, torque, (38, table 2–2)

6-89. **MANPOWER REQUIREMENTS.**

a. Two men required.

6-90. **PRESSURIZATION.**

NOTE

Service pneumatic system with gaseous nitrogen or clean dry air.

CAUTION

Do not charge pneumatic system with the aircraft air compressor except as directed for performance of essential maintenance procedures. Using aircraft air compressor for charging system will greatly reduce compressor life and also requires more frequent replacement of chemical drier cartridge.

a. Open door 28R.

WARNING

MS28889–1 air charge valve does not contain a valve core. Before removing valve cap, ensure swivel hex nut is tight by applying slight torque with wrench. Remove valve cap slowly to prevent injury to eyes from possibility of sudden release of high pneumatic pressure.

b. Remove cap from charge valve and connect pressure source to basic pneumatic system air charge valve. Open door 16.

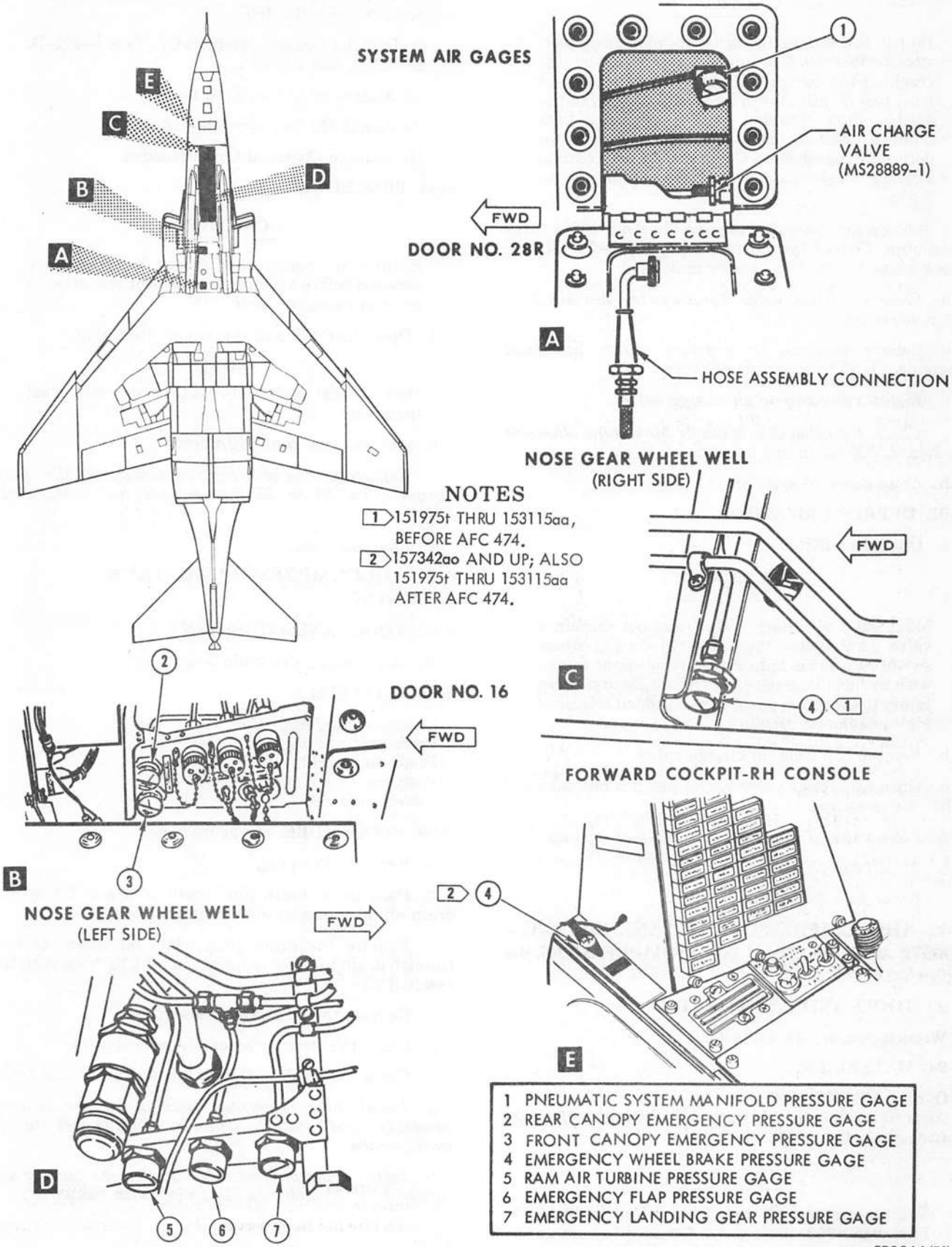


Figure 6–8. Pneumatic System Servicing

CAUTION

Do not fast charge the aircraft basic pneumatic system. Restrict flow from charging unit by just cracking the control valve. It should require at least two (2) minutes to completely recharge the system. Slow charging prevents repeated heat buildup within the bottle which has a deteriorating effect on the inner surface coating, causing it to break down, and let contamination set in.

c. Loosen air charge valve swivel hex nut 1-3/4 turns maximum. Charge system to 3100 $\pm$100, $-$50 psi, and check gages 1 thru 7 for proper indication.

d. *Close air charge valve. Torque swivel hex nut 50 to 70 inch-pounds.*

e. Relieve pressure in pressure source hose and disconnect hose from air charge valve.

f. *Install valve cap on air charge valve.*

g. *Check for allowable leakage. Maximum allowable leakage is 300 psi in one hour.*

h. *Close doors 16 and 28R.*

6-91. **DEPRESSURIZATION.**

a. Open door 28R.

WARNING

MS28889-1 air charge valve does not contain a valve core. Before removing valve cap, ensure swivel hex nut is tight by applying slight torque with wrench. Remove valve cap slowly to prevent injury to eyes from possibility of sudden release of high pneumatic pressure.

b. Remove cap from air charge valve.

c. Open air charge valve swivel hex nut one turn and allow air to escape.

d. *Close valve. Torque nut 50 to 70 inch-pounds.*

e. *Install cap on air charge valve.*

f. *Close door 28R.*

6-92. **AIR COMPRESSOR OIL TANK FILLING - 890272 AND 890272-01 AIR COMPRESSORS.** See figure 6-9.

6-93. **TOOLS AND EQUIPMENT.**

Wrench, torque, (44, table 2-2)

6-94. **MATERIALS.**

O-ring, MS29561-110
Aircraft instrument lubricating oil, FSN 9150-753-4667
Lockwire, MS20995NC32

CAUTION

The air compressor must be serviced with oil, FSN 9150-753-4667, only. Other oils contain certain additives which are detrimental to compressor operation. The following oils conform to FSN 9150-753-4667:

(1) Lehigh Chemical Products Co., Type L-401-D, L-402-D, and KC-85A.

(2) Anderson Oil Co., Type L-245X.

(3) Penola Oil Co., Formula 3123.

(4) Tenneco Chemical Corp., Nuodex.

6-95. **PROCEDURE.**

CAUTION

Ensure air compressor oil tank is properly serviced before and after compressor operation to prevent excessive wear.

a. Open door 28L and remove oil filler plug.

NOTE

Door 22 must be closed to obtain a correct oil level indication.

b. *Add oil until tank overflows.*

c. *Replace O-ring on filler plug and install filler plug. Torque plug 10 to 25 inch-pounds and safety with lockwire.*

d. *Close door 28L.*

6-96. **AIR COMPRESSOR OIL TANK DRAINING.**

6-97. **TOOLS AND EQUIPMENT.**

Wrench, torque, (38, table 2-2)

6-98. **MATERIALS.**

Lockwire, MS20995NC32
Preformed packing, 902-7-146-70
Preformed packing, 906-4-146-70
Preformed packing, 906-5-146-70
Solvent, PD-680

6-99. **PROCEDURE.** See figure 6-9.

a. Remove filler plug.

b. Push in on drain plug (push to drain) fitting and drain all oil into a suitable container.

c. Remove the drain plug when oil ceases to flow through drain to allow sediment in tank to drain with the residual oil.

d. Remove the oil strainer assembly.

e. Clean the strainer assembly with solvent.

f. Clean the inside of the tank with solvent and drain.

g. *Install new preformed packing on the strainer assembly and install strainer. Torque 60 to 70 inch-pounds.*

h. *Install drain plug with new Preformed packing and torque 60 to 70 inch-pounds. Safety with lockwire.*

i. *Service air compressor oil tank. Refer to paragraph 6-92.*

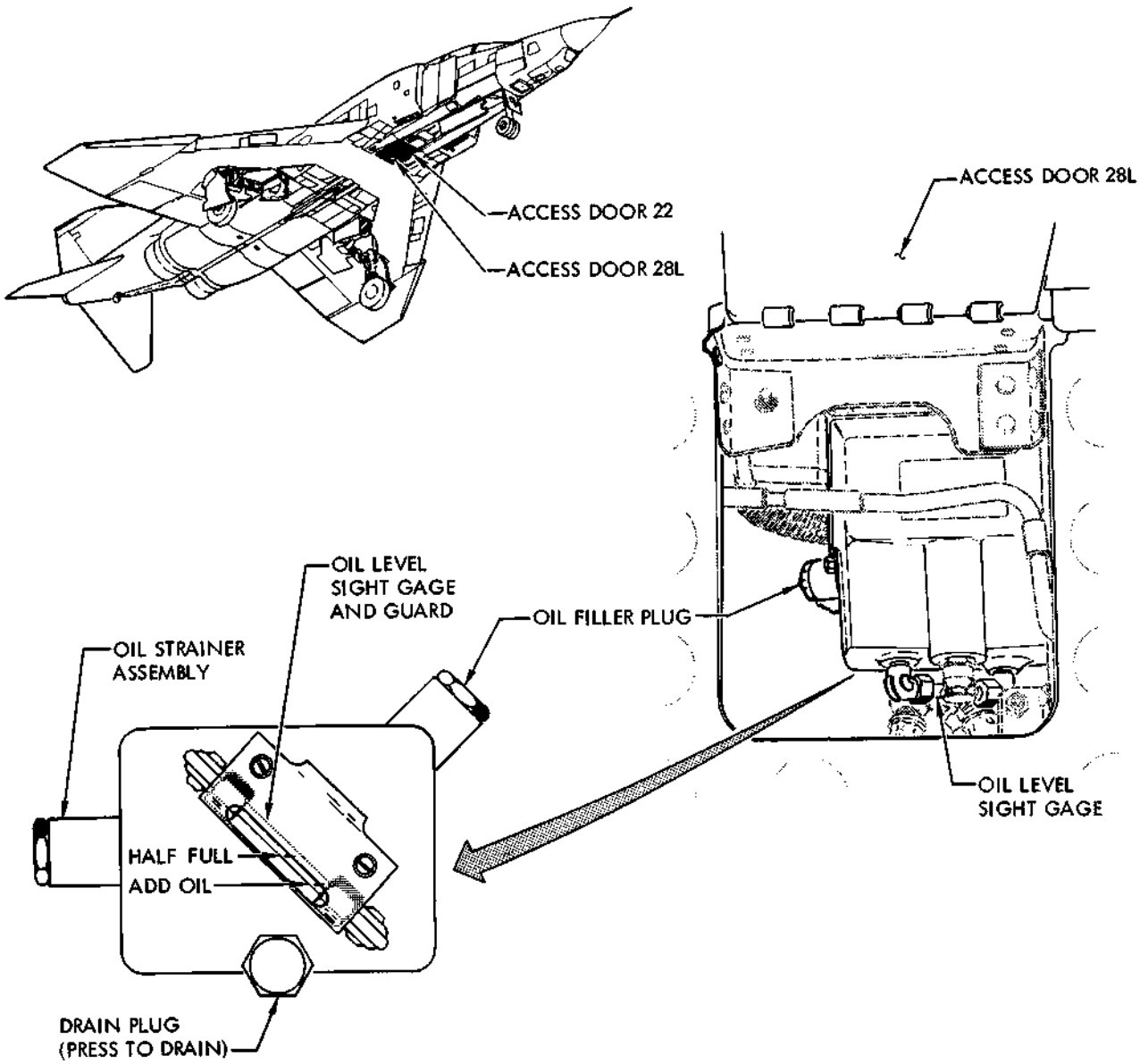
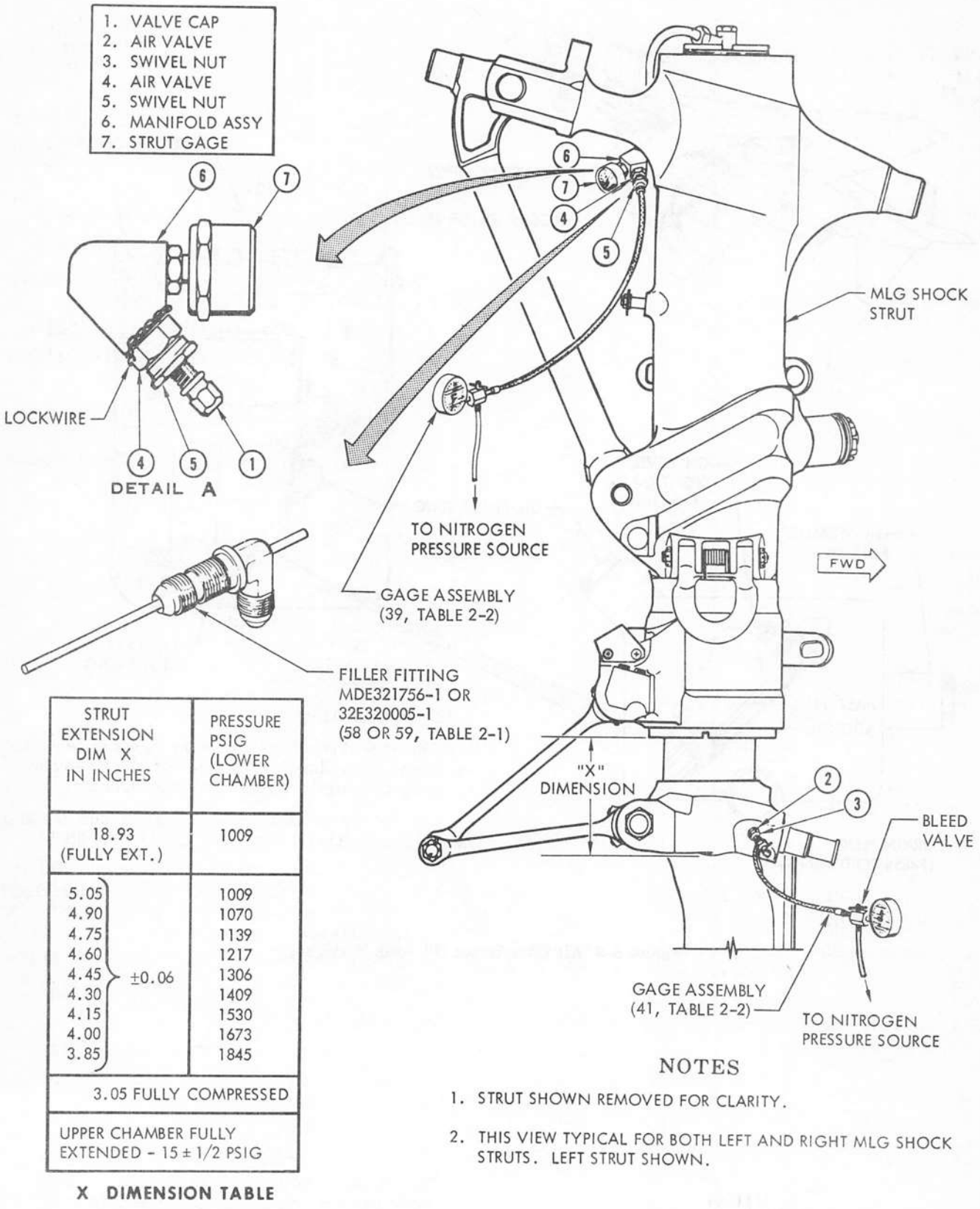


Figure 6-9. Air Compressor Oil Tank Servicing



STRUT EXTENSION DIM X IN INCHES		PRESSURE PSIG (LOWER CHAMBER)
18.93 (FULLY EXT.)		1009
5.05	±0.06	1009
4.90		1070
4.75		1139
4.60		1217
4.45		1306
4.30		1409
4.15		1530
4.00		1673
3.85		1845
3.05 FULLY COMPRESSED		
UPPER CHAMBER FULLY EXTENDED - 15 ± 1/2 PSIG		

X DIMENSION TABLE

NOTES

1. STRUT SHOWN REMOVED FOR CLARITY.
2. THIS VIEW TYPICAL FOR BOTH LEFT AND RIGHT MLG SHOCK STRUTS. LEFT STRUT SHOWN.

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Figure 6-10. MLG Shock Strut Servicing BEFORE AFC 230

LANDING GEAR AND RELATED SYSTEMS

6-100. MAIN LANDING GEAR SHOCK STRUT SERVICING - BEFORE AFC 230 PART III. See figure 6-10.

6-101. TOOLS AND EQUIPMENT.

Gage assembly, (34, table 2-2)
Trailer, nitrogen servicing, (BB-N-411, Type I, Class 2), (14, Table 2-2)
Gage assembly, (39, table 2-2)
Wrench, torque, (38, table 2-2)

6-102. MATERIALS.

Hydraulic fluid, MIL-H-5606

6-103. PROCEDURE.

CAUTION

Rate of discharge is established by amount swivel nut is loosened. Valve may be damaged if nut is loosend more than two turns.

a. Remove valve cap (1) from lower chamber air valve (2) and loosen swivel nut (3) to slowly discharge air from lower chamber.

b. Attach gage assembly to lower chamber valve and nitrogen pressure source. Inflate chamber until strut extends a minimum of 1/2 inch.

c. Record pressure in lower chamber and refer to X dimension table. Determine X dimension corresponding to pressure reading.

CAUTION

To prevent damage to strut, do not inflate lower chamber above 1845 psi.

d. Inflate lower chamber until dimension obtained in step c is reached.

e. *Torque swivel nut on air valve (2) 50 to 70 inch-pounds.*

f. *Remove gage assembly, check for leaks, and install valve cap. Tighten valve cap to extreme finger-tightness.*

g. Remove valve cap (1) from upper chamber air valve (4) and loosen swivel nut (5) to slowly discharge air from upper chamber.

h. Attach hydraulic fluid filler hose to air valve and pump 8 to 16 ounces of hydraulic fluid into upper chamber. Slightly loosen hose connection at intervals to permit trapped air to bleed off. Remove filler hose to check fluid level in strut.

CAUTION

If less than 8 ounces (1/2 pint) drains from filler port when hose is removed, strut is not full.

i. Continue pumping fluid into strut until strut is full.

CAUTION

Check upper chamber air charge for 113 psi before servicing. If pressure has increased above maximum, the seal between the upper and lower chamber is defective and must be replaced.

j. Attach gage assembly to upper chamber air valve (4) and inflate to 113 psi.

CAUTION

Do not use strut gage (7) to measure pressure.

k. *Torque swivel nut (5) 50 to 70 inch-pounds.*

l. *Remove gage assembly, check for leaks and install valve cap (1). Tighten valve cap finger tight.*

6-104. MAIN LANDING GEAR SHOCK STRUT SERVICING - AFTER AFC 230 PART III. See figure 6-11.

6-105. TOOLS AND EQUIPMENT.

Gage assembly, (39, table 2-2)
Trailer, nitrogen servicing BB-N-411, Type I, Class 2 Grade B, (14, table 2-2)
Gage assembly, (41, table 2-2)
Wrench, torque, (40, table 2-2)
Fitting, filler, (62, table 2-1)
Wrench, torque, (38, table 2-2)

6-106. MATERIALS.

Hydraulic fluid, MIL-H-5606
Lockwire, MS20995NC40
O-ring, MS28778-5
O-ring, MS28775-012

6-107. PROCEDURE.

a. Remove valve caps (1) from air valves (2) and (3) of upper and lower chambers. Loosen swivel nuts (4) and (5) to slowly discharge pressure from both chambers.

b. Remove fluid bolt (9), O-rings (7) and (8) and manifold assembly (6) from strut. Install filler fitting.

c. Attach hydraulic fluid filler hose to filler fitting. Fill upper chamber with hydraulic fluid until a minimum of 8 ounces (1/2 pint) of fluid drains from filler fitting vent tube. Remove filler fitting.

d. Lubricate new O-rings (7) and (8) with hydraulic fluid. Install new MS28775-012 O-ring (8) on fluid bolt. Place bolt in manifold assembly and install new MS28778-5 O-ring (7) on bolt.

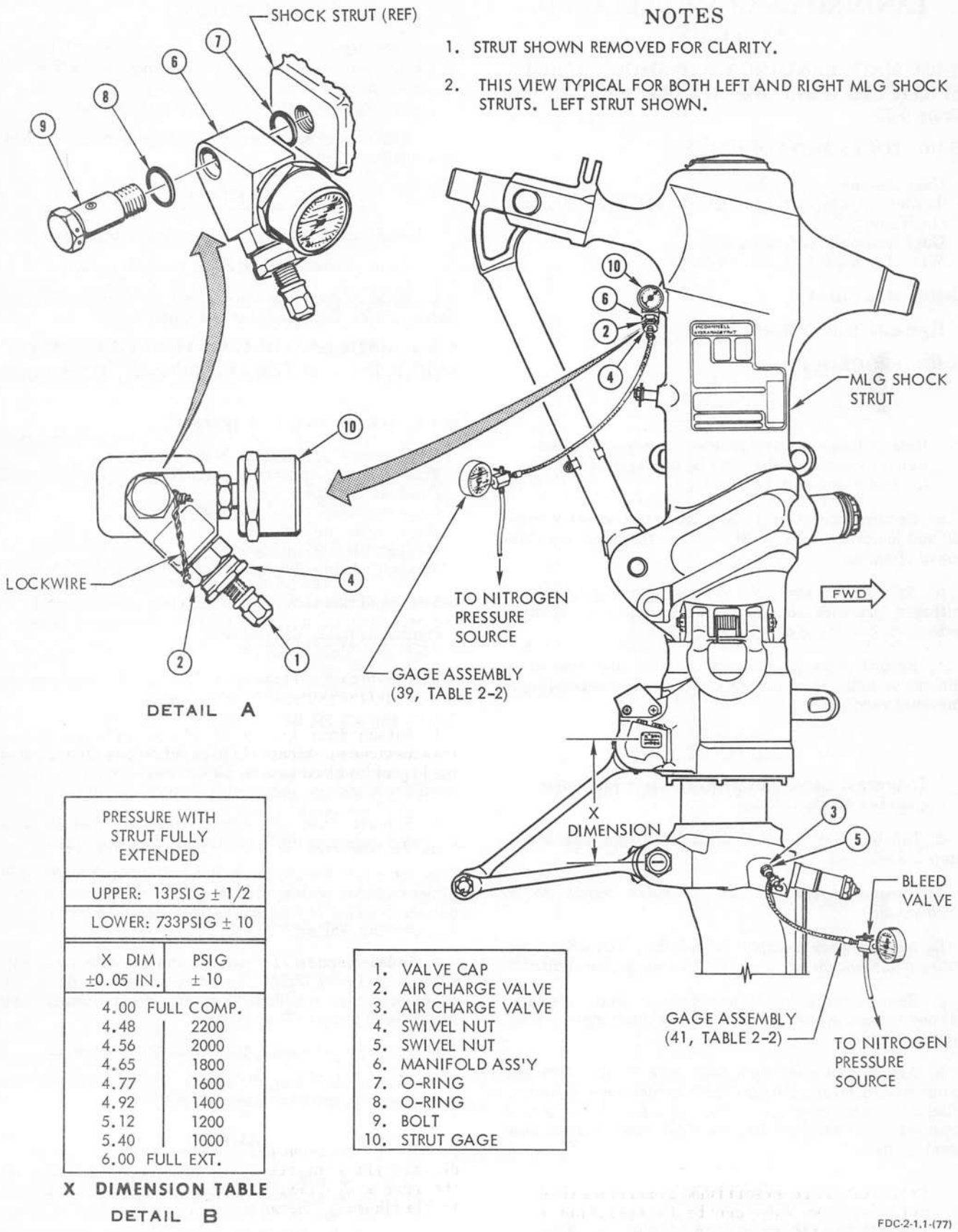
e. Install assembled manifold assembly on strut.

f. *Torque fluid bolt (9) 180 to 200 inch-pounds and safety with lockwire to manifold (6).*

CAUTION

Do not use strut gage (10) to measure pressure while inflating upper chamber. The gage is not accurate enough to be used for servicing, and could result in over or under inflation causing damage to strut.

g. Attach gage assembly to nitrogen pressure source



PRESSURE WITH STRUT FULLY EXTENDED	
UPPER: 13PSIG ± 1/2	
LOWER: 733PSIG ± 10	
X DIM ±0.05 IN.	PSIG ± 10
4.00	FULL COMP.
4.48	2200
4.56	2000
4.65	1800
4.77	1600
4.92	1400
5.12	1200
5.40	1000
6.00	FULL EXT.

X DIMENSION TABLE

DETAIL B

Figure 6-11. MLG Shock Strut Servicing AFTER AFC 230

and upper chamber air valve (2).

CAUTION

Check upper chamber air charge for 96 psi before servicing. If pressure has increased above maximum, the seal between the upper and lower chamber is defective and must be replaced.

h. Inflate upper chamber to 94 $\pm$2 psi.

i. *Torque swivel nut (4) to 70 inch-pounds.*

j. *Remove gage assembly, check for leaks and install valve cap (1). Tighten valve cap finger-tight.*

CAUTION

To prevent damage to strut, do not exceed 2500 psi when performing step k.

k. Attach gage assembly to lower chamber air valve (3). Inflate until X dimension is 6.00 inches.

l. Open bleed valve on gage assembly until strut starts to compress. Tighten bleed valve and read the pressure.

m. Determine X dimension corresponding to pressure reading obtained in step l. See X dimension table. Continue bleeding pressure from lower chamber until X dimension is reached.

n. *Torque swivel nut (5) 50 to 70 inch-pounds. Remove gage assembly, check for leaks, and install valve cap.*

o. *Tighten valve cap finger-tight.*

6-108. NOSE LANDING GEAR SHOCK STRUT SERVICING. See figure 6-12.

6-109. TOOLS AND EQUIPMENT.

Wrench, torque, (38, table 2-2)
Gage assembly, (34, table 2-2)
Fitting, filler, (61 or 62, table 2-1)
Trailer, nitrogen servicing, (BB-N-411, Type I, Class 2 Grade B), (14, table 2-2)
Pressure source, external pneumatic, (19, table 2-2)
Power source, external electrical, (1, table 2-2)
Wrench, torque, (20, table 2-2)

6-110. MATERIALS.

Hydraulic fluid, MIL-H-5606
Lockwire, MS20995NC40
O-ring, MS24690-4

WARNING

Do not attempt to jack aircraft by overinflating either upper or lower chamber. Personal injury can result from strut failure.

6-111. PROCEDURE.

CAUTION

Rate of discharge is established by amount swivel nut is loosened. Valve may be damaged if nut is loosened more than two turns.

a. Remove valve cap (1) and loosen swivel nut (3) to slowly discharge air and fully compress strut.

b. Remove air charge valve (2) and install filler fitting.

c. Fill pneudraulic chamber with hydraulic fluid until fluid flows steadily and with no air bubbles from filler fitting vent tube.

d. Remove filler fitting and install air charge valve (2) and new O-ring (4).

e. Attach gage assembly (5) to air charge valve (2). Inflate pneudraulic chamber until the strut extends a minimum of 6 inches and tighten swivel nut (3). Wait 2 minutes and then loosen swivel nut (3) and allow strut to fully compress.

f. Repeat step e at least twice to dissipate air pocket in bottom of strut.

g. Tighten swivel nut (3), and remove gage assembly (5).

h. Apply external electrical power to aircraft. Refer to paragraph 5-14.

i. Service basic pneumatic system. Refer to paragraph 6-87.

WARNING

Do not operate the nose strut catapult extension system while the aircraft pneumatic system is being charged. Failure to comply with this warning can cause overpressurization of the strut resulting in possible injury to personnel and damage to the aircraft.

j. Inflate catapult extension chamber by moving switch in left MLG wheel well to EXT position.

k. Attach drain hose to air charge valve (2). Slowly loosen swivel nut (3) on air charge valve (2) to allow air and fluid spray to bleed into a can.

l. Repeat steps b, c, and d.

m. *Tighten body of air charge valve (2) 100 to 110 inch-pounds and safety air charge valve (2) to nut (6) with lockwire.*

n. Attach gage assembly (5) to air charge valve (2).

o. Inflate pneudraulic chamber to 647 $\pm$5 psi.

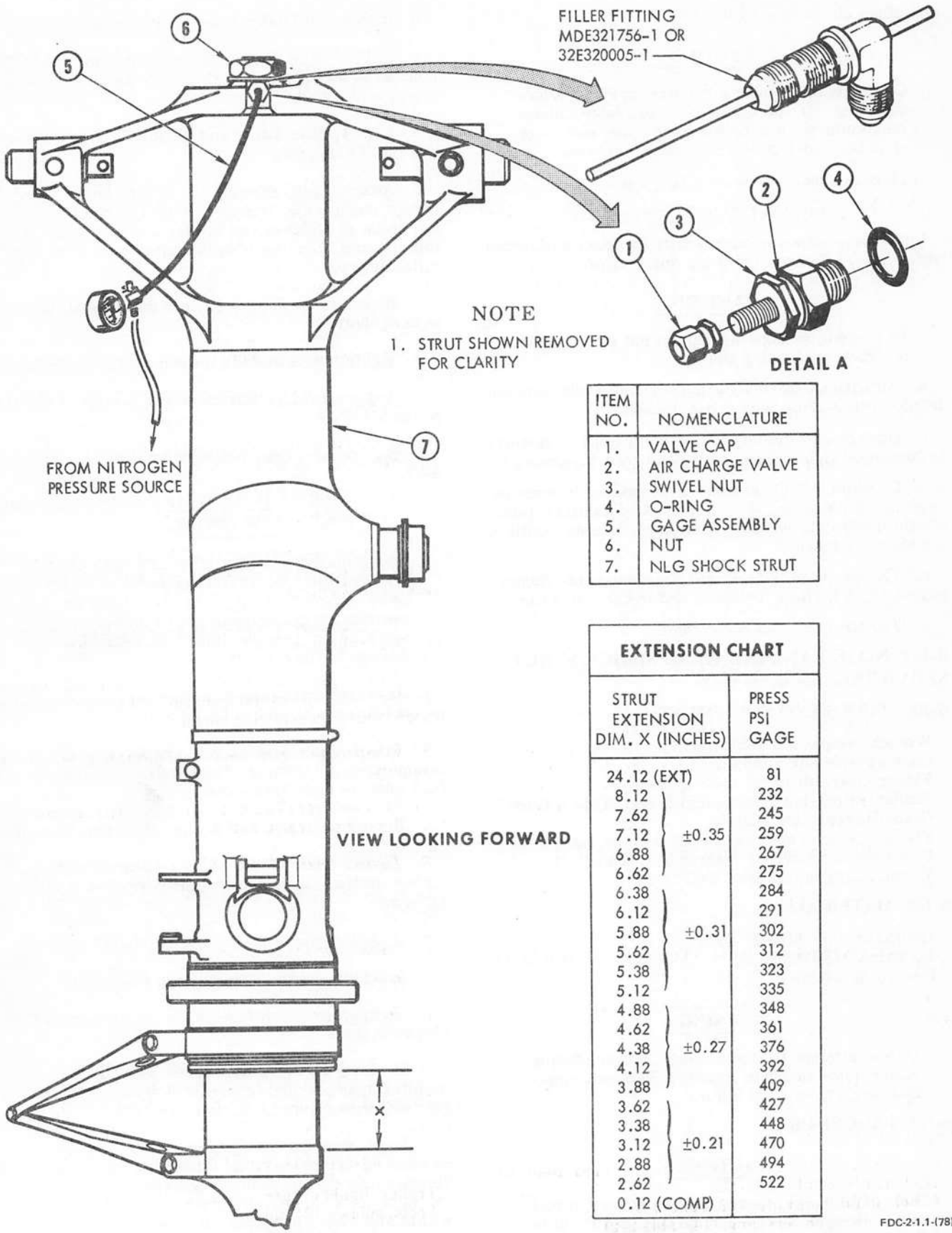
p. *Tighten swivel nut (3) 50 to 70 inch-pounds and check for leaks.*

q. Relieve air pressure from catapult extension chamber by depressing scissors switch on left MLG. Nose gear will then compress to static position.

r. Read pressure on gaging device (5). Find this pressure in extension table. Determine corresponding X dimension for strut pressure. If X dimension on strut is not the same as X dimension shown in the extension table within allowable tolerance, repeat steps g thru s.

s. *Install valve cap (1).*

t. Disconnect external electrical power.



ITEM NO.	NOMENCLATURE
1.	VALVE CAP
2.	AIR CHARGE VALVE
3.	SWIVEL NUT
4.	O-RING
5.	GAGE ASSEMBLY
6.	NUT
7.	NLG SHOCK STRUT

EXTENSION CHART

STRUT EXTENSION DIM. X (INCHES)		PRESS PSI GAGE
24.12 (EXT)		81
8.12	±0.35	232
7.62		245
7.12		259
6.88		267
6.62		275
6.38	±0.31	284
6.12		291
5.88		302
5.62		312
5.38		323
5.12		335
4.88	±0.27	348
4.62		361
4.38		376
4.12		392
3.88		409
3.62	±0.21	427
3.38		448
3.12		470
2.88		494
2.62		522
0.12 (COMP)		

FDC-2-1.1-(78)

Figure 6-12. NLG Shock Strut Servicing

6-112. INFLATION CHECK.

NOTE

Use following procedure only if proper fluid servicing has been assured.

a. Remove valve cap (1) and attach gage assembly (5) to air charge valve (2).

b. Loosen swivel nut (3) and read the pressure. Find this pressure in extension table. Determine corresponding X dimension for measured pressure. Inflate or deflate strut to produce X dimension on strut. Reread strut pressure, and repeat step if necessary to obtain correct pressure and extension. If leakage is evident, check strut in accordance with steps g thru s of empty strut servicing procedure.

c. *Tighten swivel nut (3) to 50 to 70 inch-pounds, check for leaks, and replace valve cap (1).*

6-113. **TIRE SERVICING.** See figure 6-13.

6-114. TOOLS AND EQUIPMENT.

Gage assembly, (43, table 2-2)
Gage assembly, (42, table 2-2)
Trailer, nitrogen servicing, (BB-N-411A, Type I, Class I, Grade B), (14, table 2-2)
Cage, tire, (71, table 2-1)

6-115. INFLATION PROCEDURE.

NOTE

All tires shall be inflated with nitrogen. In case of emergency, clean, dry air may be used. Do not use shop air.

WARNING

A tire cage must be positioned around tires during inflation to protect personnel in the event of an explosion. Always approach a tire from a forward or aft direction, never from the side. Never approach a tire if suspected to be overheated due to long taxi or hard brake application.

a. Position tire cage around tire.

b. Remove valve cap and connect gage assembly to pressure source and tire.

c. Inflate tire to proper pressure corresponding to aircraft gross weight. Refer to inflation charts. See figure 6-13.

d. *Remove gage assembly, check for leaks and install valve cap.*

e. Remove tire cage.

6-116. **ARRESTING GEAR VERTICAL DAMPER SERVICING.** See figure 6-14.

6-117. TOOLS AND EQUIPMENT.

Check Stand Adapter, (Locally Manufactured. Refer to NAVAIR 01-245FDC-2-2.3)
Check stand, hydraulic, (22, table 2-2)
Trailer, nitrogen servicing, (14, table 2-2)
Wrench, torque, (20 table 2-2)
Gage assembly, (34, table 2-2)
Wrench, torque, (38, table 2-2)

6-118. MATERIALS.

Nitrogen (gaseous), BB-N-411, Type I, Class 1, Grade B
Hydraulic fluid, MIL-H-5606
Lockwire, MS20995NC32
O-ring, MS28788-4

6-119. PROCEDURE.

a. Retract arresting hook. Refer to NAVAIR 01-245FDC-2-2.3.

b. Open access door 62.

c. Relieve air pressure in vertical damper cylinder by loosening bleed plug.

d. Remove bleed plug and O-ring.

e. Remove air charge valve cap and loosen swivel nut.

f. Attach check stand adapter to check stand and to air charge valve.

g. Pump hydraulic fluid through air charge valve until fluid flows from bleed plug port.

h. Disconnect check stand adapter from air charge valve and check stand.

i. *Replace O-ring and install bleed plug. Torque bleed plug to 80 to 100 inch-pounds and safety to air charge valve with lockwire.*

j. Connect gage assembly to nitrogen pressure source and to air charge valve.

k. Using gage assembly, charge vertical damper cylinder to pressure shown opposite ambient temperatures on servicing chart.

l. Compare pressure readings of aircraft gage and gage assembly.

m. Replace aircraft gage if variation with gage assembly should disagree by one half of one calibration increment.

n. *Tighten swivel nut to 50 to 70 inch-pounds.*

o. Remove gage assembly from air charge valve and nitrogen pressure source.

p. *Inspect for leaks around fittings.*

q. *Install air charge valve cap.*

r. *Close access door 62.*

LIQUID OXYGEN SYSTEM

6-120. **SYSTEM SERVICING - CONVERTER INSTALLED IN AIRCRAFT.** See figure 6-15.

6-121. TOOLS AND EQUIPMENT.

Trailer, liquid oxygen servicing, (23, table 2-2)
Boots, rubber, (24, table 2-2)
Shield, industrial face, (25, table 2-2)
Apron, general purpose, (26, table 2-2)
Gloves, rubber, (28, table 2-2)
Coveralls, (27, table 2-2)

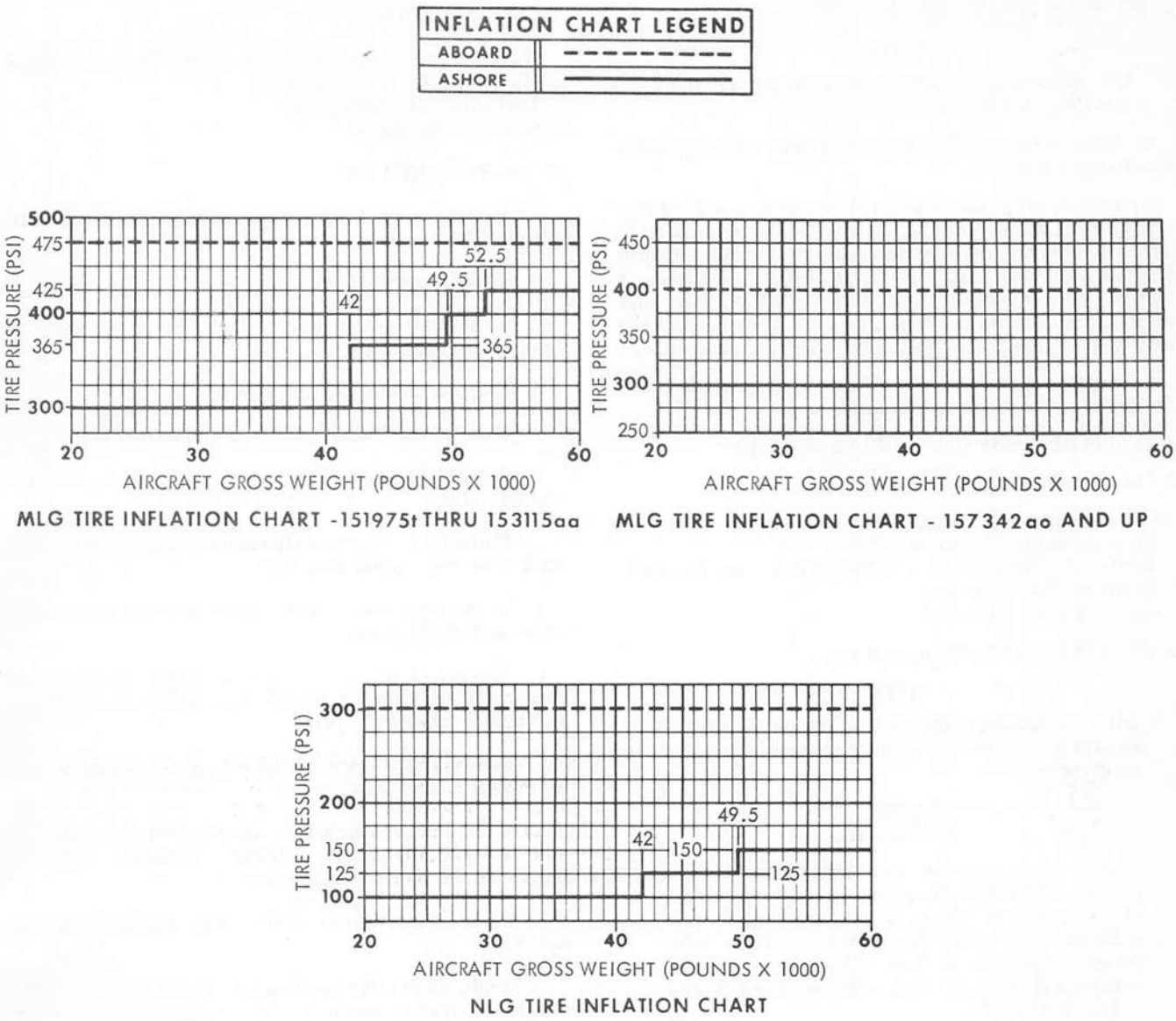


Figure 6–13. Tire Servicing

6–122. MATERIALS.

Liquid oxygen, MIL–O–27210, Type II

6–123. MANPOWER REQUIREMENTS.

a. Two men required.

WARNING

Due to hazards involved when handling liquid oxygen, all safety precautions must be observed during servicing operations.

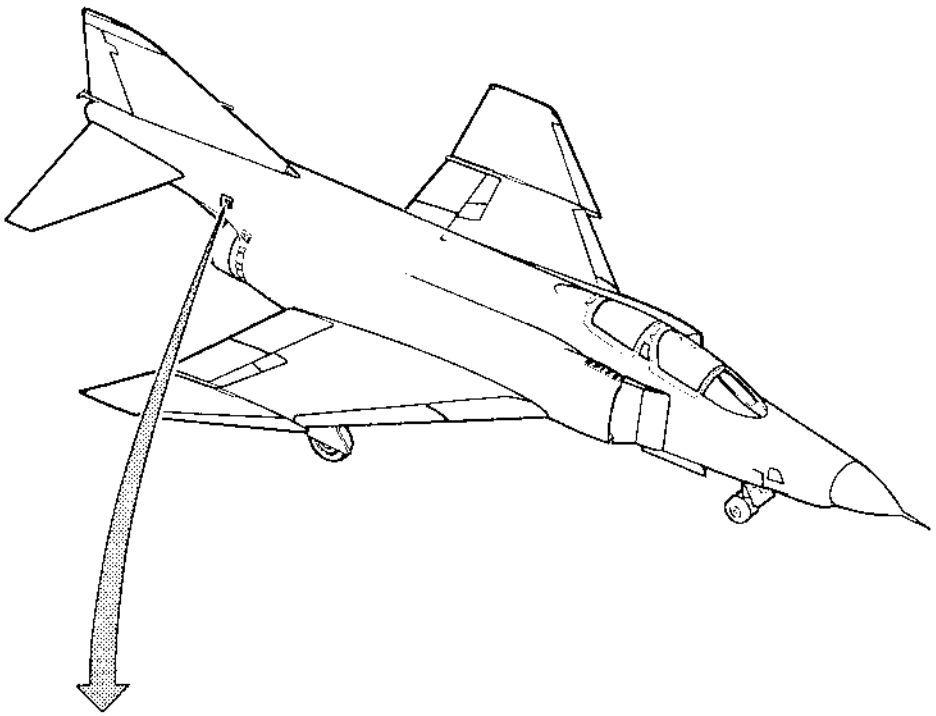
6–124. PROCEDURE.

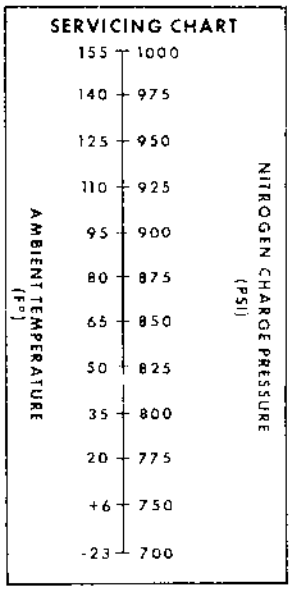
NOTE

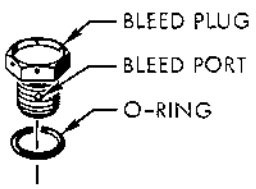
Refer to NAVAIR 19–25D–11, for servicing, repair, and operating instructions of the liquid oxygen servicing trailer.

a. Place liquid oxygen servicing trailer on the right side of aircraft.

b. Open access door 16 and lower door to second detent of door holding brackets.

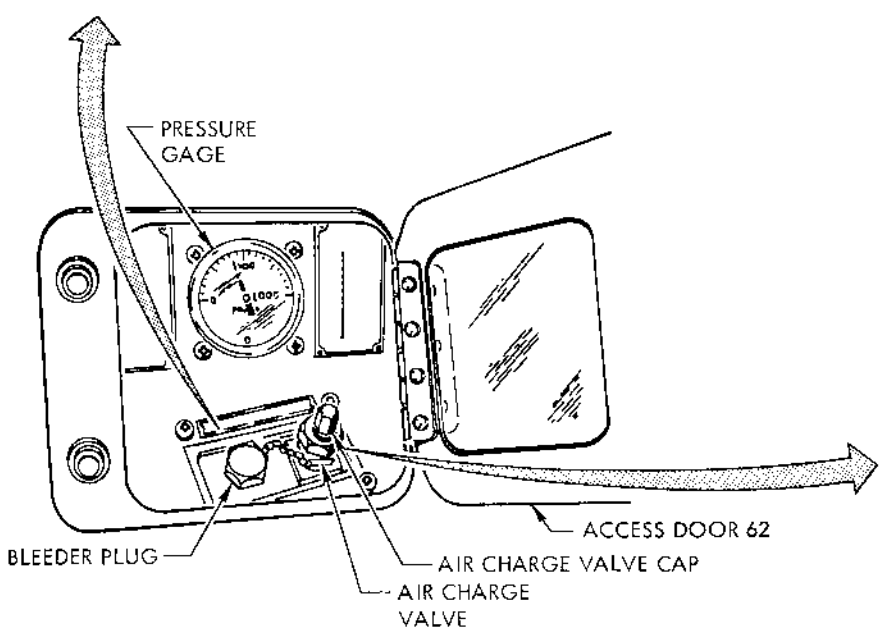






WARNING

IF THE CLEVELAND PNEUMATIC A-5750-31B AIR CHUCK IS USED, ENSURE THAT AN816-4 UNION IS INSTALLED ON THE END OF THE AIR CHUCK. UTILIZATION OF ANY OTHER UNION WILL RESULT IN INJURY TO PERSONNEL WHEN AIR PRESSURE IS APPLIED. THE SCHRADER 5784 AIR CHUCK CAN BE USED IN PLACE OF THE CLEVELAND PNEUMATIC A-5750-31B AIR CHUCK.



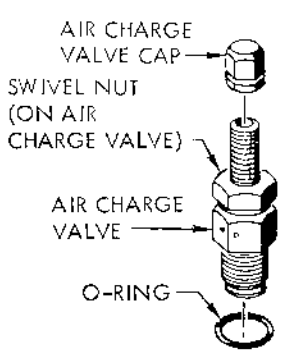


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Figure 6-14. Arresting Gear Vertical Damper Servicing

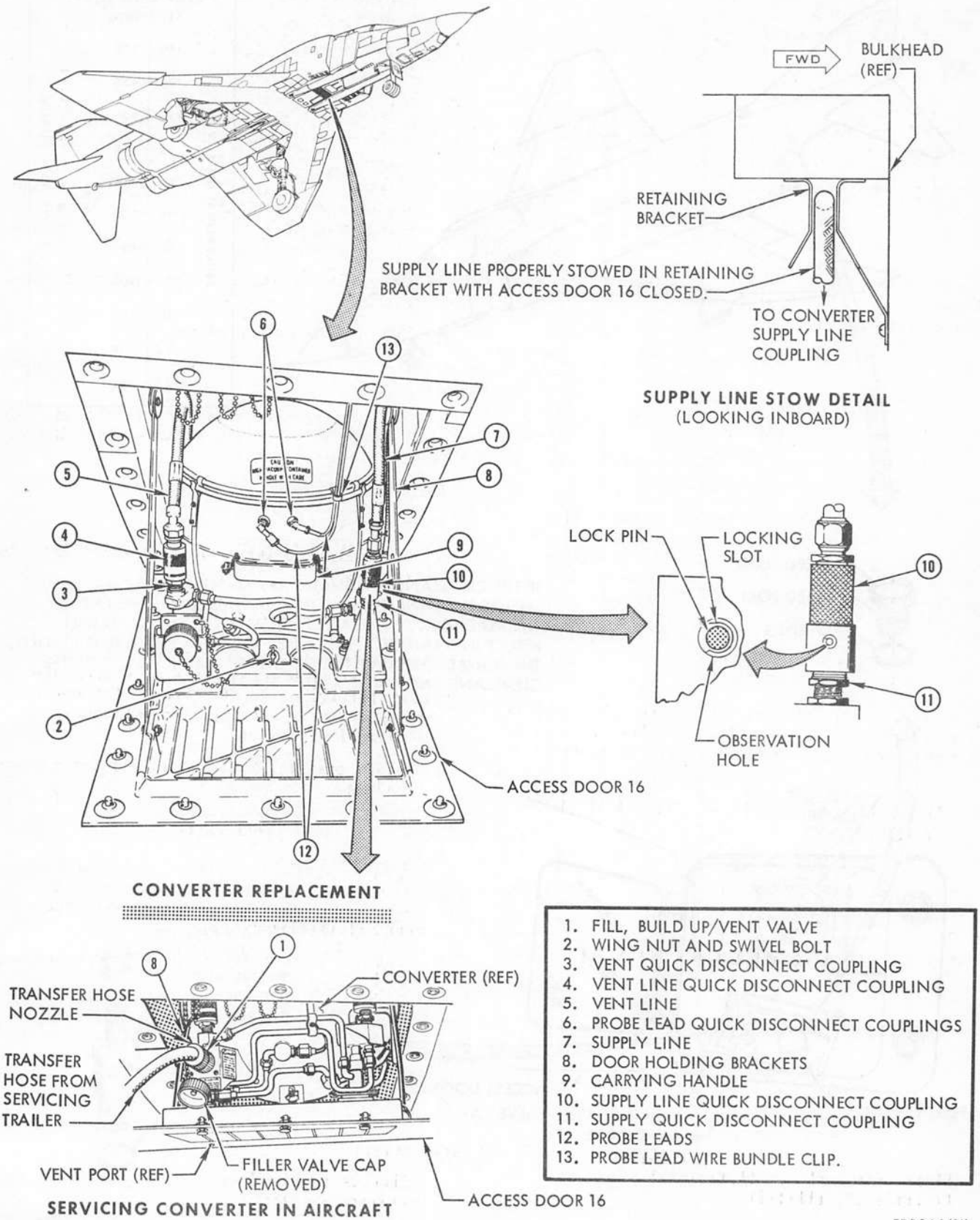


Figure 6-15. Liquid Oxygen Servicing

CAUTION

Exercise extreme care to prevent deformation of vent line and supply line. Minimum bend radius for vent line is 5.50 inches, for supply line 3.00 inches.

c. Remove cap from converter fill, build-up and vent valve (filler valve), and place a clean container under the valve vent port.

d. Pressurize servicing trailer to 45 psi, and purge transfer hose.

e. Connect transfer hose to converter. Open withdrawal valve on servicing trailer slightly. Allow a small amount of liquid oxygen to cool transfer hose and converter. Then slowly open withdrawal valve to transfer liquid oxygen to converter.

f. When a continuous stream of liquid oxygen flows from the vent port, close withdrawal valve on servicing trailer and remove transfer hose from converter.

NOTE

The filling time for the converter must not exceed 6 minutes at a filling pressure of 45 psi.

Due to moisture frozen within the converter filler valve, the check valve located within the filler valve may stick open after the transfer hose is removed causing valve leakage. If this condition is present, place cap on filler valve and allow the valve to warm up for several minutes. Remove cap and check valve for leakage. If leakage has ceased, replace cap and insure pressure build-up of the system is normal prior to flight.

g. *Install cap on fill, build-up and vent valve and close access door 16. Insure that the supply line slips into its retaining bracket as door 16 is being closed. See figure 6-15.*

6-125. SYSTEM SERVICING - CONVERTER REPLACEMENT.

6-126. Remove empty liquid oxygen converter from the aircraft and replace with a fully serviced converter. Refer to NAVAIR 01-245FDB-2-2.1.

SMOKE ABATEMENT SYSTEM-AFTER AFC 373.

6-127. **SYSTEM SERVICING.** See figure 6-16.

6-128. **TOOLS AND EQUIPMENT.**

Cart, additive dispensing, (35, table 2-2)
Gloves, fuel resistant neoprene rubber, (36, table 2-2)
Boots, fuel resistant neoprene rubber, (37, table 2-2)
Apron, general purpose, (26, table 2-2)
Shield, industrial face, (25, table 2-2)
Coveralls, (27, table 2-2)

6-129. **MATERIALS.**

CI2 Smoke abatement additive, FSN 6810-926-9028

6-130. **MANPOWER REQUIREMENTS.**

a. Two men required.

WARNING

CI2 is toxic in both liquid and vapor states. The liquid can be absorbed through the skin and is harmful to the eyes. The vapor may develop from an open container or spill, and is especially hazardous in an unventilated area.

6-131. **SAFETY PRECAUTIONS.** Due to the hazards involved when handling CI2 additive, the following safety precautions must be observed during the servicing operation.

a. The area in the vicinity of the aircraft must be well ventilated.

b. The aircraft must be grounded.

c. Servicing personnel must wear special protective clothing.

d. A CO_2 extinguisher should be available and any flame producing activity must not be less than fifty feet from the servicing operation.

6-132. **PROCEDURE.**

a. Open access door 81R.

b. Install auxiliary air door safety strut. Refer to paragraph 5-168.

WARNING

Use care when handling the hoses provided on the cart. Although the hose has a metal cover, the inner plastic liner may be broken if the hose is kinked or twisted allowing the resulting leakage to contaminate the area.

c. Remove dust caps from aircraft and cart overflow hose couplings.

WARNING

To prevent additive spillage and injury to personnel, assure overflow bottle on cart is attached to overflow hose prior to connecting hose to aircraft overflow coupling.

d. Connect overflow hose to aircraft overflow coupling.

e. Remove dust caps from aircraft and cart fill hose couplings.

f. Connect fill hose to aircraft fill coupling.

g. Reset meter dial on front of cart to zero by turning dial counter-clockwise.

h. Insert pump handle into pump socket located on front of cart.

i. Dispense additive into aircraft by pumping until additive flows into overflow bottle on cart.

j. Disconnect fill and overflow couplings.

k. *Install dust caps on aircraft and cart couplings.*

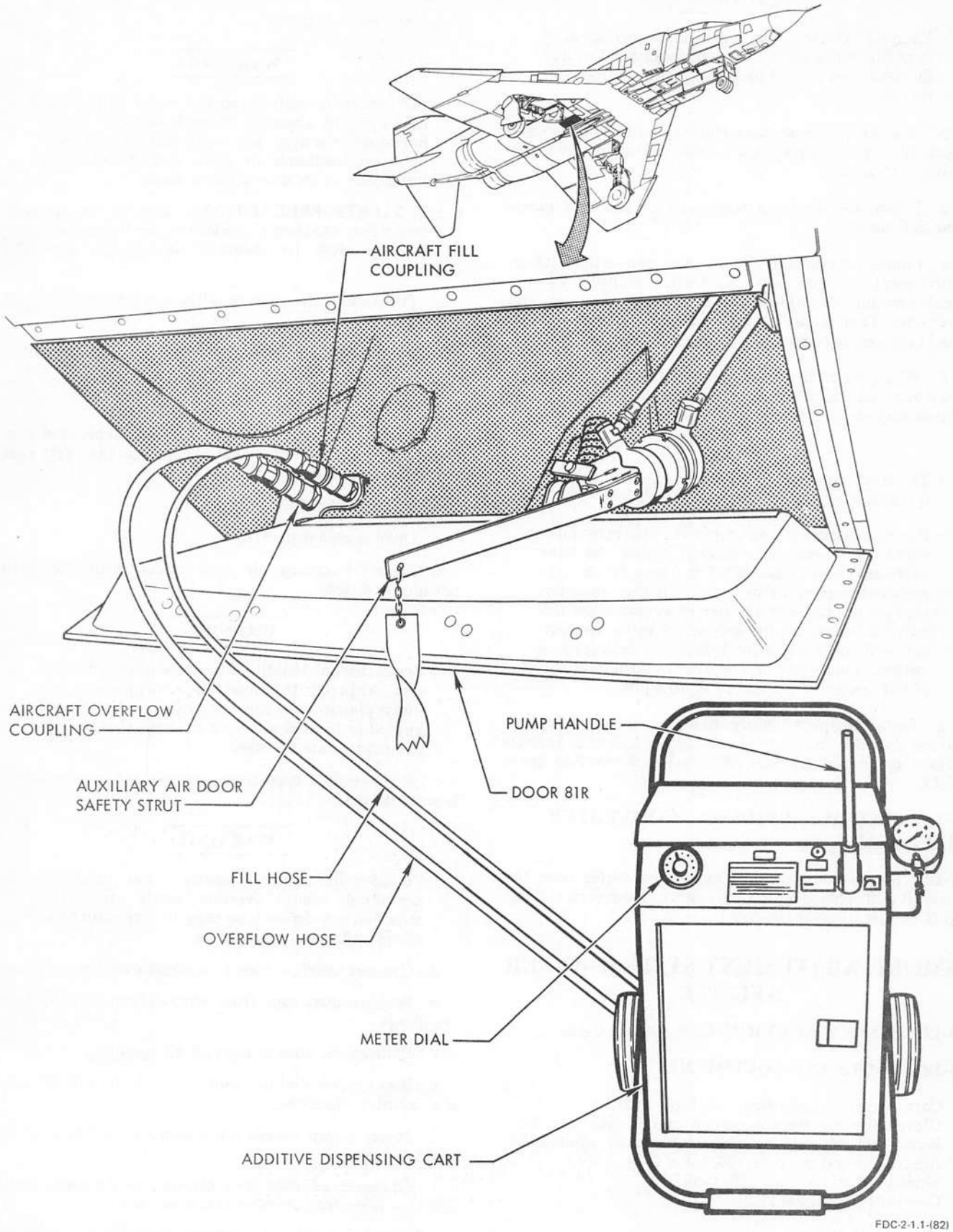


Figure 6-16. Smoke Abatement System Servicing AFTER AFC 373

6-133. SYSTEM DRAINING.

NOTE

See figure 6-16 for location of aircraft fill and overflow couplings.

6-134. TOOLS AND EQUIPMENT.

Gloves, fuel resistant neoprene rubber, (36, table 2-2)
Boots, fuel resistant neoprene rubber, (37, table 2-2)
Apron, general purpose, (26, table 2-2)
Shield, industrial face, (25, table 2-2)
Coveralls, (27, table 2-2)
Bucket, three gallon (or larger)

6-135. MANPOWER REQUIREMENTS.

a. Two men required.

WARNING

CI2 is toxic in both liquid and vapor states. The liquid can be absorbed through the skin and is harmful to the eyes. The vapor may develop from an open container or spill, and is expecially hazardous in an unventilated area.

6-136. SAFETY PRECAUTIONS. Due to the hazards involved when handling the CI2 additive, the following safety precautions must be observed during the draining operation.

a. The area in the vicinity of the aircraft must be well ventilated.

b. The aircraft must be grounded.

c. Servicing personnel must wear special protective clothing.

d. A CO_2 extinguisher should be available and any flame producing activity must not be less than 50 feet from the draining operation.

6-137. PROCEDURE.

a. Open access door 81R.

b. Install auxiliary air door safety strut. Refer to paragraph 5-168.

WARNING

The additive dispensing cart fill hose may be used to drain additive from smoke abatement system. To prevent additive spillage and injury to personnel, exercise extreme caution when disconnecting fill hose from dispensing cart.

c. Disconnect fill hose from additive dispensing cart.

d. Remove dust caps from aircraft and cart fill hose couplings.

e. Place the cart end of hose into bucket.

f. Connect hose to aircraft fill coupling. Additive will drain into bucket.

g. When additive has drained, disconnect fill hose from aircraft coupling.

h. *Install dust caps on aircraft and fill hose couplings.*

WARNING

Before removing hose from bucket, to prevent additive spillage and injury to personnel, permit residual additive to drain into bucket and wipe end of hose.

i. If fill hose from cart was used for draining install hose on cart.

j. Dispose of drained additive and bucket as prescribed by local directives.

k. Perform flushing procedure. Refer toparagraph 6-138.

6-138. SYSTEM FLUSHING.

NOTE

See figure 6-16 for location of aircraft fill and overflow couplings.

6-139. TOOLS AND EQUIPMENT.

Cart, additive dispensing, (35, table 2-2)
Gloves, fuel resistant neoprene rubber, (36, table 2-2)
Boots, fuel resistant neoprene rubber, (37, table 2-2)
Apron, general purpose, (26, table 2-2)
Shield, industrial face, (25, table 2-2)
Coveralls, (27, table 2-2)
Power source, external electrical, (1, table 2-2)
Pressure source, external pneumatic, (19, table 2-2)
Cap, (68, table 2-1)
Bucket, five gallon (or larger) (5 required)
Drain line (adaptable to aircraft smoke abatement system fill hose coupling)
CI2 drum, empty

6-140. MATERIALS.

Isopropyl alcohol, CMMITT-I-735 Grade A

6-141. MANPOWER REQUIREMENTS.

a. Two men required.

WARNING

CI2 is toxic in both liquid and vapor states. The liquid can be absorbed through the skin and is harmful to the eyes. The vapor may develop from an open container or spill, and is especially hazardous in an unventilated area.

6-142. SAFETY PRECAUTIONS. Due to the hazards involved when handling the CI2 additive, the following safety precautions must be observed during the flushing operation.

a. The area in the vicinity of the aircraft must be well ventilated.

b. The aircraft must be grounded.

c. Servicing personnel must wear special protective clothing.

d. A CO_2 extinguisher should be available and any flame producing activity must not be less than 50 feet from the flushing operation.

6-143. PROCEDURE - EXTERNAL ELECTRICAL POWER SOURCE APPLIED TO AIRCRAFT.

a. The additive dispensing cart may be used to flush the smoke abatement system.

WARNING

Before removing CI2 drum from additive dispensing cart, to prevent fluid spillage and injury to personnel, exercise extreme caution when disconnecting cart hoses.

b. Remove CI2 drum from inside dispensing cart in accordance with local directives.

c. Obtain an empty CI2 drum and flush with alcohol.

d. Fill drum with alcohol.

e. Install drum in additive dispensing cart.

f. Open access doors 81L/R.

g. Install auxiliary air door safety struts. Refer to paragraph 5-168.

WARNING

Use care when handling the hoses provided on the cart. Although the hose has a metal cover, the inner plastic liner may be broken if the hose is kinked or twisted allowing the resulting leakage to contaminate the area.

h. Remove dust caps from aircraft and cart fill and overflow hose couplings.

i. Connect fill and overflow hoses to aircraft couplings.

j. Reset meter dial on front of cart to zero by turning dial counter-clockwise.

k. Insert pump handle into pump socket on front of cart.

l. Dispense alcohol into aircraft by pumping until alcohol flows into overflow bottle on cart.

m. Disconnect overflow and fill couplings.

n. Install dust caps on aircraft and cart couplings.

o. Open access door 22 and assure that fuel manifold shutoff valves are closed.

p. Assure cap (32-58165-3) and clamp are installed on fuel manifold(s). Refer to NAVAIR 01-245FDC-2-3.1.

q. Place a 5 gallon bucket in position below doors 81L/R to catch flow from engine manifold fuel drain valves.

r. Place two 5 gallon buckets in position below door 22 to catch flow from fuel manifold elbow drain valves.

s. In access door 81L/R area, open engine manifold fuel drain valves.

t. In access door 22 area, open fuel manifold elbow drain valves.

NOTE

If the external electrical power source cannot be applied at aircraft receptacle, omit steps u thru ac and perform procedural steps in paragraph 6-144.

u. Apply external electrical power to aircraft. Refer to paragraph 5-14.

NOTE

External pneumatic pressure source must be capable of maintaining pressure of 160 to 250 psi at minimum flow of five pounds per minute.

v. Open access door 23 and connect external pneumatic pressure source to PNEU CHARGE fitting.

w. Energize regulator and relief valves to allow system pressurization by positioning WING TRANS PRESS switch, on forward cockpit fuel system control panel (left hand console), to OVRD TRANS.

x. Adjust external pneumatic pressure source to supply 250 psi maximum, 100 psi minimum.

WARNING

To prevent injury to personnel, ensure that drain buckets are properly positioned and personnel are clear of drains. When SMOKE ABATE switch is actuated, a pressurized mixture of alcohol, fuel, and CI2 additive will flow from drain valves.

y. Position SMOKE ABATE switch, on inboard engine control panel to ON for approximately 5 minutes.

z. Place SMOKE ABATE switch to OFF.

aa. Position WING TRANS PRESS switch to NORMAL.

ab. Close engine manifold fuel drain valves (door 81L/R area) and fuel manifold elbow drain valves (door 22 area).

ac. Remove external electrical power from aircraft.

ad. *Remove external pneumatic pressure source and close access door 23.*

ae. Close access door 22.

WARNING

Use care when handling the hoses provided on the cart. Although the hose has a metal cover, the inner plastic liner may be broken if the hose is kinked or twisted allowing the resulting leakage to contaminate the area.

af. Remove dust cap from aircraft fill hose coupling.

ag. Place a 5 gallon bucket below access door 81R.

ah. Place one end of a drain line into a 5 gallon bucket and connect other end to aircraft fill hose coupling.

ai. Disconnect drain line from aircraft fill hose coupling when alcohol/CI2 mixture has stopped draining from drain line.

aj. Install dust cap on aircraft fill hose coupling.

WARNING

To prevent additive spillage and injury to personnel, ensure a suitable container is used when CI2 additive is flushed from cart hoses.

ak. *Replace alcohol drum in additive dispensing cart with CI2 drum and flush cart hoses with CI2 additive to remove any trapped alcohol.*

al. Dispose of drained additive/alcohol/fuel mixture and buckets as prescribed by local directives.

MISCELLANEOUS SYSTEMS

6-144. PROCEDURE - EXTERNAL ELECTRICAL POWER SOURCE CANNOT BE APPLIED AT AIRCRAFT RECEPTICAL.

a. Perform steps a thru t in paragraph 6-143.

b. Open access door 23 and connect external pneumatic pressure source to PNEU CHARG fitting.

c. Disconnect aircraft electrical connectors from smoke abatement regulator and relief valve and from shutoff valve.

d. Connect and apply 28Vdc electrical power to regulator and relief valve. See table 6-5.

e. Adjust external pneumatic pressure source to supply 250 psi maximum, 100 psi minimum.

f. Connect and apply 28Vdc electrical power to shutoff valve. See table 6-5.

g. After approximately 5 minutes, remove electrical power from shutoff valve.

h. Remove electrical power source from connector on regulator and relief valve.

i. *Connect aircraft electrical connectors to regulator and relief valve and to shutoff valve. Secure connectors with lockwire.*

j. Close engine manifold fuel drain valves (door 81L/R area) and fuel manifold elbow drain valves (door 22 area).

k. Perform steps ad thru al in paragraph 6-143.

Table 6-5. Smoke Abatement Valve Energization

Valve	Connector	+28Vdc	-28Vdc
Regulator and relief valve	7J657	Pins 1 and 3	Pins 2 and 4
Shutoff valve	7J656	Pins 1 and 3	Pins 2 and 4

6-145. RAM AIR TURBINE SERVICING. See figure 6-17.

6-146. TOOLS AND EQUIPMENT.

Lock assembly, ram air turbine, (17, table 2-1)
Wrench, torque, (20, table 2-2)

6-147. MATERIALS.

Lubricating oil, MIL-L-23699
O-ring, S8316K6
Lockwire, MS20995NC32

6-148. PROCEDURE.

a. Extend R.A.T. by placing R.A.T. IN/R.A.T. OUT handle down.

b. Install ram air turbine lock assembly. Refer to paragraph 5-168.

c. Remove fill and oil level plug.

d. *Add oil to upper gear assembly oil fill plug port until oil flows from oil level check plug port.*

e. *Install oil level check plug.*

f. *Install O-ring on oil fill plug and install plug.*

g. Remove oil fill plug from the lower gear box.

h. *Add oil, as required, through oil fill port until oil level in the indicator assembly is between the fifth and sixth grids.*

i. *Install O-ring on oil fill plug and install plug. Torque to 75-125 in-lb and safety with lockwire.*

j. Assure all plugs are properly secured and check pneumatic system pressure for at least 2000 psi before retracting R.A.T.

k. Remove ram air turbine lock assembly.

l. Retract R.A.T. by placing R.A.T. IN/R.A.T. OUT handle in up position.

m. Service pneumatic system. Refer to paragraph 6-87.

6-149. RUDDER ROTARY DAMPER SERVICING. See figure 6-18.

6-150. TOOLS AND EQUIPMENT.

Gun, clean grease, (29, table 2-2)
or
Pump, hydraulic hand, (33, table 2-2)
Power source, external hydraulic, (2, table 2-2)

NOTE

The grease gun is required on dampers with a grease fitting and the hydraulic hand pump is used on dampers with a hydraulic fitting.

6-151. MATERIALS.

Hydraulic Fluid, MIL-H-5606

6-152. MANPOWER REQUIREMENTS.

a. Two men required.

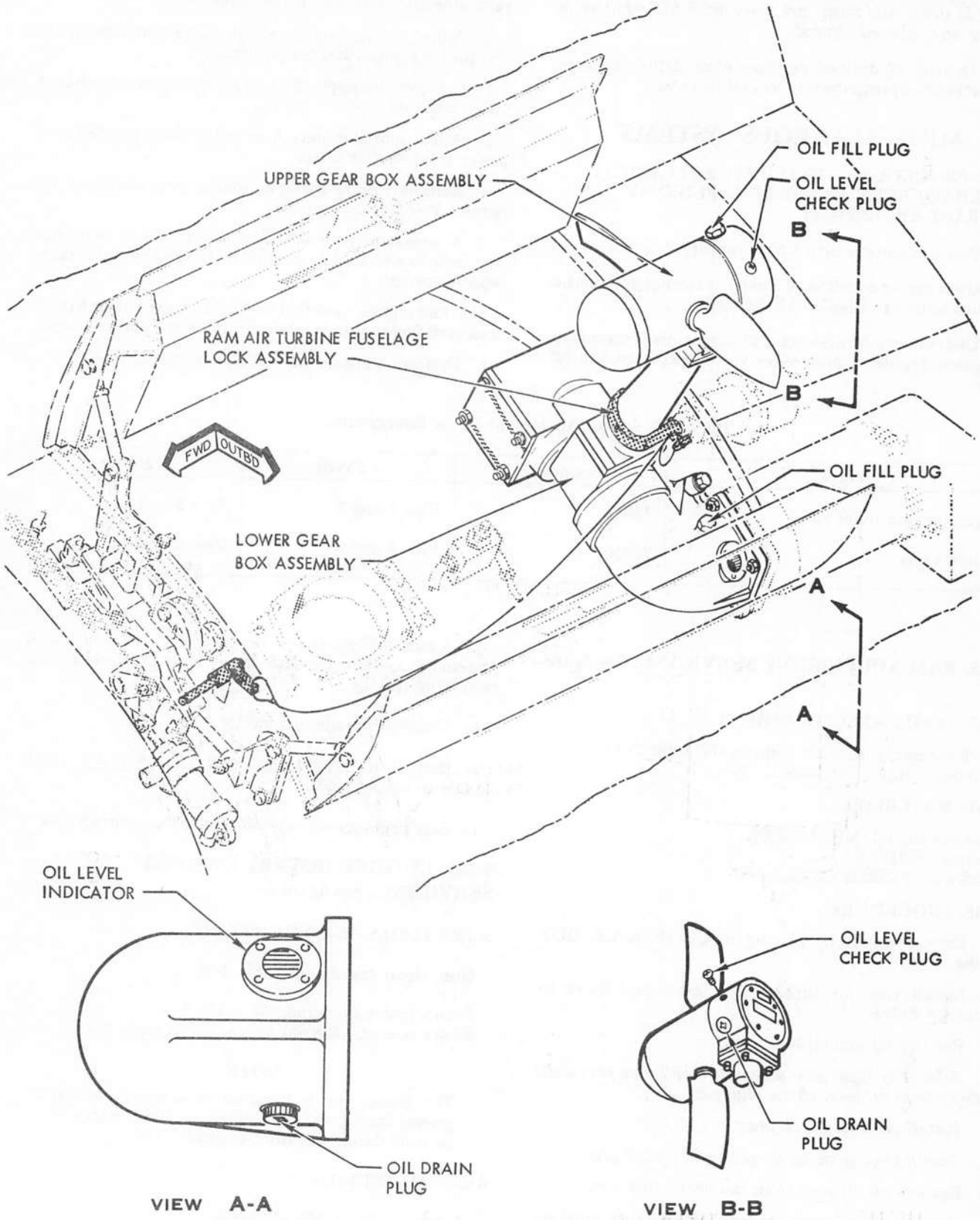


Figure 6–17. Ram Air Turbine Servicing

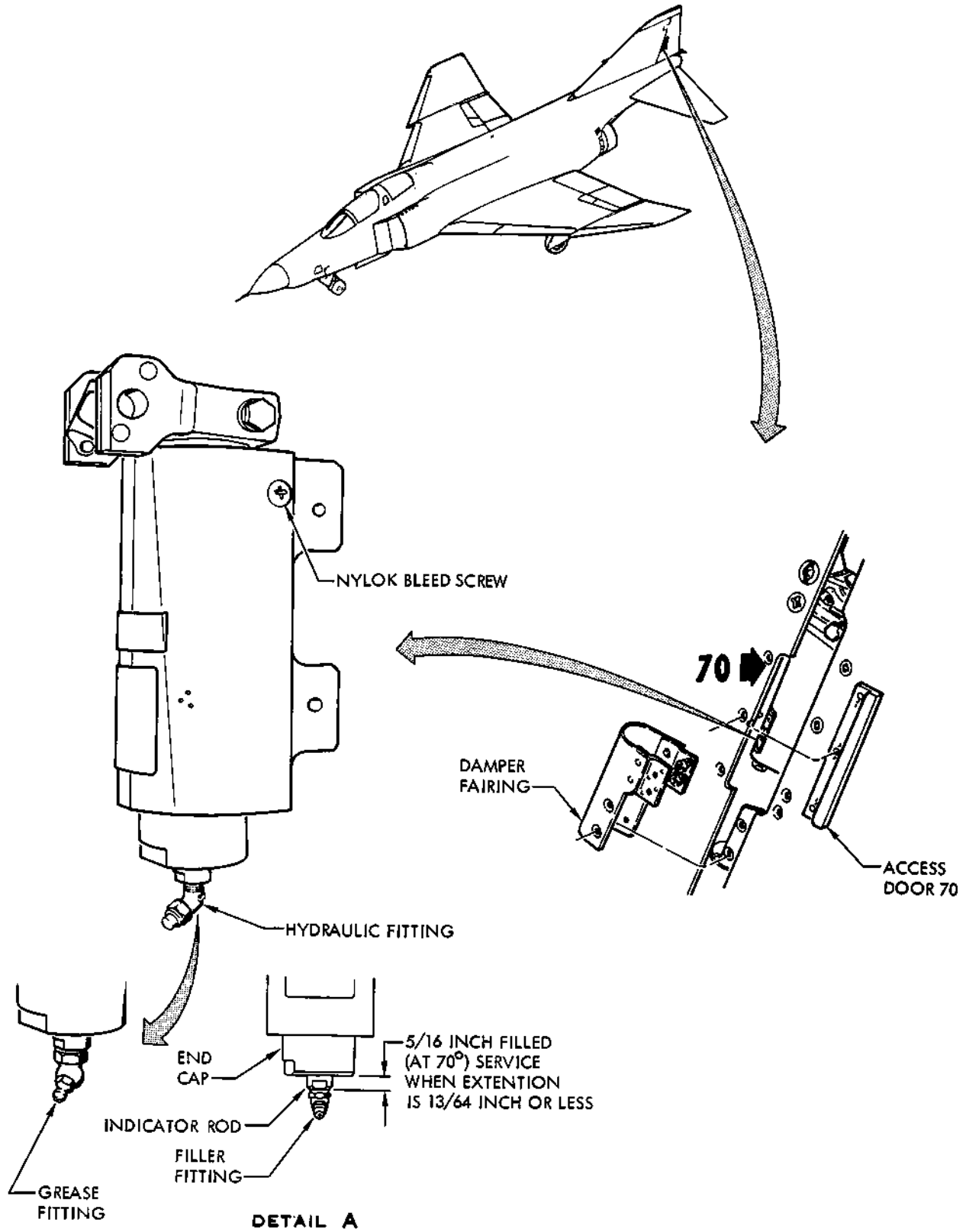


Figure 6–18. Rudder Rotary Damper Servicing

6-153. PROCEDURE.

a. Fill a clean grease gun or hydraulic hand pump as required with hydraulic fluid.

CAUTION

Service rotary damper with hydraulic fluid only. Do not use grease.

b. Assure electrical and hydraulic power are off.

c. Remove door 70 and damper fairing.

d. Remove filler cap on dampers so equipped. Hold hand pump or grease gun nozzle upward and pump out a small amount of hydraulic fluid to eliminate air within.

e. *Connect pump or gun nozzle to filler fitting and add hydraulic fluid until indicator extends 5/16 inch.*

CAUTION

Nozzle must remain connected to filler fitting throughout servicing and bleeding procedure to prevent air entrapment in damper. Repeat servicing procedure if connection is not maintained.

f. Apply external hydraulic power to the utility hydraulic system of the aircraft. Refer to paragraph 5-23.

g. Slowly actuate rudder ten times through full travel.

h. Loosen bleed screw approximately 1 full turn.

i. Slowly actuate rudder through its full travel until all signs of air escaping around bleed screw disappear.

CAUTION

Do not allow indicator rod to retract less than 13/64 inch during bleeding. Add hydraulic fluid as required during bleeding without disconnecting gun from filler fitting. It may be necessary to repeat steps f through i if an excessive amount of air is trapped in damper.

j. *Remove external hydraulic power. Tighten bleed screw and add hydraulic fluid to extend indicator rod on damper 5/16 inch. Install and tighten cap assembly on dampers so equipped.*

k. *Install damper fairing and door 70.*

SECTION VII

LUBRICATION

GENERAL REQUIREMENTS

7-1. GENERAL.

7-2. Special and standard equipment used in lubrication of the aircraft are shown in figure 7-1. Figure 7-2 contains a table of lubricants used on the aircraft and an example of the application symbols used on illustrations in this section. Refer to NAVAIR 01-245FDC-6 for specific lubrication intervals.

7-3. Miscellaneous components should be lubricated according to the following general procedures unless otherwise indicated on specific lubrication charts.

a. Coat connecting pins, bolts, bushings, etc., unless otherwise specified, with Grade A lubricant (MIL-L-3572) prior to assembly or installation.

b. Lubricate all open rollers, needle and ball bearings before final assembly with grease (MIL-G-23827) unless otherwise specified.

c. Use grease (MIL-G-6032) sparingly on fuel and oil tank opening gaskets. Grease may be omitted if proper sealing can be accomplished without lubrication.

d. Lubricate door latch keeper bushings each calendar inspection with lubricating oil (MIL-L-7870).

7-4. CLEANING LUBRICATED AREAS.

a. Clean all surfaces, points, fittings, etc., prior to application of lubricant.

b. If any lubricated part or assembly is cleaned by dipping into a solvent, lubricate part before storage or use.

c. If it is necessary to use a solvent for cleaning, use a clean cloth dipped in solvent, then squeezed out to prevent solvent from flowing over lubricated part.

7-5. USE OF GREASE GUNS.

a. The ends (nozzles or adapters) of grease guns must be wiped clean prior to use.

b. Apply lubricants sparingly to pressure type fittings, but insure lubricant appears around bushings and bearings.

c. Insure gun is thoroughly cleaned prior to changing types of lubricant in gun.

7-6. TELEFLEX CABLE LUBRICATION.

a. Lubricate threads on all connector nuts with anti-seize compound (TT-A-580).

b. Lubricate cables routed through plain conduits with a light coat of grease (MIL-G-23827) prior to installation.

c. Lubricate cables routed through teflon lined conduits with a light coat of grease (DC 33) prior to installation.

7-7. THREAD LUBRICATION.

7-8. When lubricating threads, insure proper lubricant for that specific component or system is used. When applying lubricant, precautions must be taken to assure lubricant does not enter the system causing system contamination.

7-9. PRECAUTIONS.

a. Apply lubricating compounds carefully and sparingly to male threads only, and only on that length of thread which will be engaged. Absolutely no compound will be allowed on end of fitting.

b. Start male threaded fittings into female fitting one or two turns before application of the lubricant. This will prevent lubricant from entering the system.

c. Grease shall not be applied with a paddle or stick which might peel, flake, powder, or splinter, causing contamination of the lubricant.

7-10. PROCEDURES.

a. Use anti-seize compound (TT-A-580) on male threads and metallic gaskets on fuel and oil system fittings.

b. Use pneumatic system grease (MIL-G-4343) on male threads of pneumatic systems fittings.

c. Cover threaded connections of oxygen system with teflon tape (MIL-T-27730). Apply tape carefully and sparingly to male threads only.

d. Use anti-seize thread compound (MIL-T-5544) on male threads of cockpit heating systems. Apply compound sparingly.

e. Use oil (MIL-H-6083) on fittings in hydraulic systems.

f. Use anti-seize compound (TT-A-580) on fittings of pitot and static systems.

g. Lubricate threads of adjustable parts such as tie-rods, turnbuckles, etc., before and after assembly with anti-seize compound (TT-A-580).

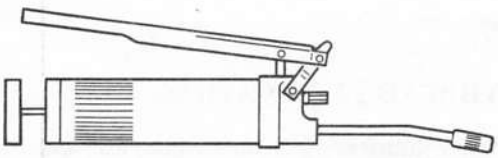
7-11. PACKING AND O-RING LUBRICATION.

a. Immerse synthetic rubber O-rings and AN6232 felt wipers, used in hydraulic system, in preservative oil (MIL-H-6083) prior to installation.

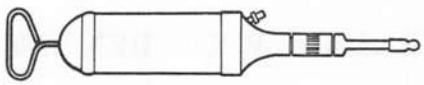
b. Coat synthetic rubber O-rings and packings, used in pneumatic system, lightly with grease (MIL-G-4343) prior to installation.

c. Coat synthetic rubber O-rings and packings, used in fuel system, lightly with petrolatum (VV-P-236) prior to installation.

GREASE GUNS

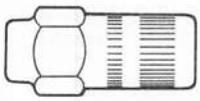


LEVER TYPE



PUSH TYPE

GREASE GUN ACCESSORIES

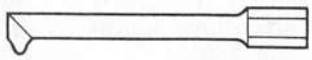


BALL TYPE NOZZLE

MAY BE USED ON ALL TYPES OF GREASE GUNS, FOR BALL TYPE FITTINGS.

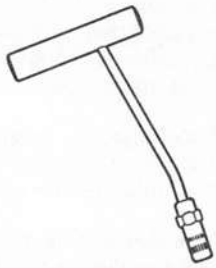
FLUSH TYPE NOZZLE

USED ON FLUSH TYPE FITTINGS, MAY BE USED ON BOTH LEVER AND PUSH TYPE GREASE GUNS.



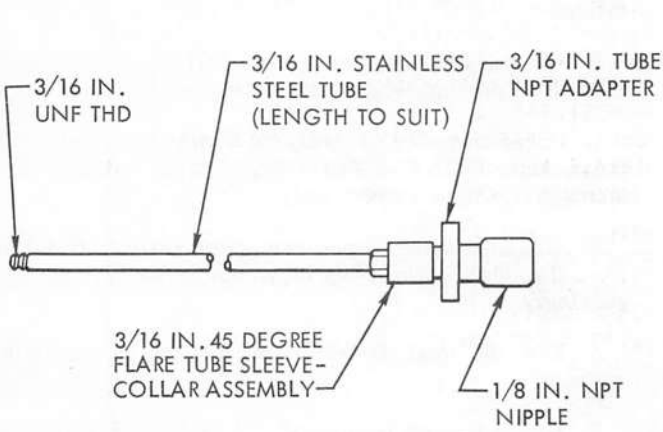
MDE 32447-1 90° FITTING ASSEMBLY

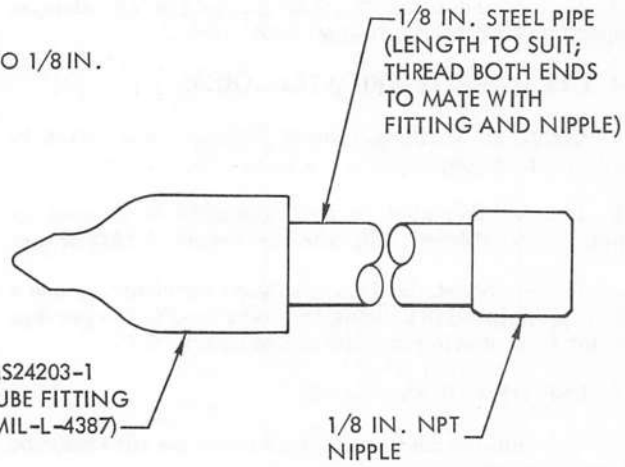
USED FOR LUBRICATION OF HARD TO REACH FLUSH TYPE FITTINGS. USED ON LEVER TYPE GREASE GUN.



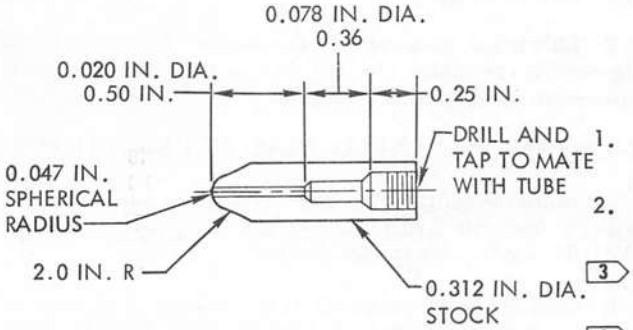
6319 T-HANDLE ADAPTER

USED ON BOTH LEVER AND PUSH TYPE GREASE GUNS. AIDS IN LUBRICATION OF HARD TO REACH BALL AND FLUSH TYPE FITTINGS.





4 3 LUBRICATION ADAPTER B



3 LUBRICATION ADAPTER A

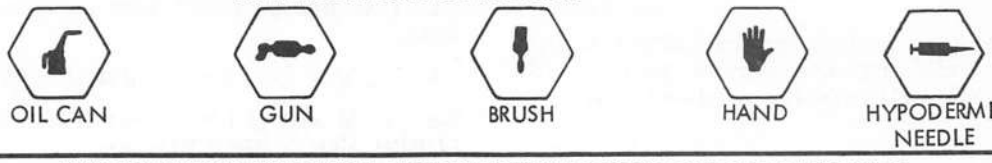
NOTES

1. THE NOZZLES AND ADAPTERS OF GREASE GUNS MUST BE WIPED CLEAN PRIOR TO USE.
2. GREASE GUN SHOULD BE CHECKED FOR PROPER LUBRICANT BEFORE ANY LUBRICATION IS PERFORMED.
3. ADAPTERS A AND B CAN BE LOCALLY MANUFACTURED FOR HARD TO REACH FITTINGS.
4. LINCOLN ENGINEERING PART NUMBER 5803 MAY BE USED AS AN ALTERNATE.

FDC-2-1.1-(85)

Figure 7-1. Lubrication Equipment

APPLICATION SYMBOLS



DASHED LINES INDICATE LUBRICATING POINTS ON OPOSITE SIDE

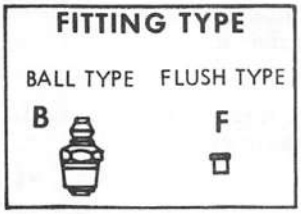
TABLE OF LUBRICANTS

SPEC	NATO	TYPE
MIL-T-5544	S-720	THREAD COMPOUND ANTI-SEIZE GRAPHITE-PETROLATUM
MIL-G-23827	G-354	GREASE, AIRCRAFT AND INSTRUMENT GEAR AND ACTUATOR SCREW
MIL-G-25760A SUPERSEDED BY MIL-G-81322	G-361	GREASE, AIRCRAFT, GENERAL PURPOSE, WIDE TEMPERATURE RANGE
MIL-G-3545 SUPERSEDED BY MIL-G-81322	G-359	GREASE, AIRCRAFT, HIGH TEMPERATURE
MIL-G-21164	G-353	GREASE, MOLYBDENUM DISULFIDE, FOR LOW AND HIGH TEMPERATURES
MIL-H-5606	H-515	HYDRAULIC FLUID, PETROLEUM BASE, AIRCRAFT, MISSILE AND ORDNANCE
MIL-L-3572	O-218	LUBRICANT, COLLOIDAL GRAPHITE IN OIL
MIL-G-4343	G-392	GREASE, PNEUMATIC SYSTEMS
MIL-L-7870	O-142	LUBRICATING OIL (GENERAL PURPOSE, LOW TEMPERATURE)
VV-L-800	O-190	LUBRICATING OIL, GENERAL PURPOSE, PRESERVATIVE (WATER-DISPLACING, LOW TEMPERATURE)
MIL-C-16173 (GRADE 2 AND 4)	C-618	CORROSION PREVENTIVE COMPOUND, SOLVENT CUTBACK, COLD-APPLICATION
VV-P-236	S-743	PETROLATUM, TECHNICAL
MIL-L-25681	S-1735	LUBRICATING OIL, MOLYBDENUM DISULFIDE, SILICON BASE, HIGH TEMPERATURE
MIL-G-26548		GREASE, GRAPHITE, COLLOIDAL LUBRICATING
SUPERSEDED BY MIL-G-81322	G-359	GREASE, AIRCRAFT, GENERAL PURPOSE WIDE TEMPERATURE RANGE
MIL-L-23699	0-156	LUBRICATING OIL, AIRCRAFT TURBINE ENGINES, SYNTHETIC BASE
MIL-L-19701		LUBRICANT, ALL WEATHER, SEMI-FLUID, OR AIRCRAFT ORDNANCE
MIL-C-6529 TYPE II GRADE 1100	C-609	CORROSION PREVENTIVE, AIRCRAFT ENGINE
DC33		SILICON COMPOUND

NOTES

1. WHERE MIL-G-25760 IS SPECIFIED FOR USE, THE A REVISION, OR LATER, MUST BE USED. EARLIER GREASES DO NOT CONTAIN ADEQUATE CORROSION INHIBITING INGREDIENTS.
2. FOR FREQUENCY OF LUBRICATION, REFER TO NAVAIR 01-245FDC-6.

FITTING TYPE



CAUTION

MIL-G-25760 IS NOT COMPATIBLE WITH OTHER LUBRICANTS. WHEN IT IS SPECIFIED FOR USE IN AN AREA PREVIOUSLY LUBRICATED WITH A DIFFERENT GREASE, CLEAN AWAY THE OLD LUBRICANT BEFORE APPLYING THE ABOVE ITEM.

FDC-2-1.1-(86)

Figure 7-2. Lubrication Symbols

7-12. EXTERNAL PIANO HINGE LUBRICATION.

7-13. Lubricate all external piano hinges (after cleaning and removal of cleaning agents, refer to NAVAIR 01-245FDB-2-1.2) with General Purpose Lubricating Oil, VV-L-800.

SYSTEM AND COMPONENT LUBRICATION

7-14. GENERAL.

7-15. Figures 7-3 through 7-43 contain detailed lubrication information pertaining to the system and components which require regular lubrication. Refer to NAVAIR 01-245FDC-6 for specified lubrication periods.

7-16. RAM AIR TURBINE ACTUATING SYSTEM LUBRICATION.

7-17. TOOLS AND EQUIPMENT.

Power source, external pneumatic, (19, table 2-2)
Lock assembly, ram air turbine, (17, table 2-1)
Wrench, torque, (38, table 2-2)

7-18. MATERIALS.

Pin, cotter, MS24665-134 (2 reqd)

7-19. MANPOWER REQUIREMENTS.

a. Two men required.

7-20. PROCEDURE. See figure 7-44.

a. Insure that pneumatic system is at a minimum of 2000 psi. Refer to paragraph 6-87.

b. Extend turbine by pushing RAT IN - RAT OUT control handle DOWN.

c. Install turbine lock assembly. Refer to paragraph 5-168.

d. Remove door linkage attach bolts.

e. Remove turbine lock assembly. Refer to paragraph 5-168.

CAUTION

Assure that disconnected door linkage does not interfere with structure when operating ram air turbine or structural damage may result.

f. Manually hold doors open and retract turbine by placing RAT IN - RAT OUT handle in UP position.

g. Lubricate linkage rod end fittings.

h. Extend turbine and install lock assembly.

i. Reinstall door link attach bolts removed in step d. Torque attach bolt nuts 44-56 inch-pounds and install new cotter pins.

j. Insure that pneumatic system pressure is at a minimum of 2000 psi, then remove turbine lock assembly and retract turbine. Refer to paragraph 6-87.

7-21. *Quality Assurance Summary.*

a. *Door linkage attach bolts and cotter pins correctly installed.*

b. *Turbine doors down and flush with adjoining area.*

7-22. RAM AIR TURBINE POWER UNIT LUBRICATION PROCEDURE.

7-23. TOOLS AND EQUIPMENT.

Power source, external pneumatic, (19, table 2-2)
Lock assembly, ram air turbine, (17, table 2-1)

7-24. MATERIALS.

Masking tape
Corrosion preventive, aircraft engine, MIL-C-6529

7-25. MANPOWER REQUIREMENTS.

a. Two men required.

7-26. PROCEDURE. See figure 7-38.

a. Insure that pneumatic system is at a minimum of 2000 psi. Refer to paragraph 6-87.

b. Extend turbine by pushing RAT IN - RAT OUT control handle DOWN.

c. Install turbine lock assembly. Refer to paragraph 5-168.

d. Remove screws (1) and cover (2) from governor assembly.

NOTE

The exposed ends of flyweight assemblies (7), main torsion bars (8) and center bar (13) may exhibit signs of corrosion. This is not considered detrimental to governor operation. The only corrosion that is considered detrimental to governor operation is corrosion within the governor bearings which cannot be visually detected with complete disassembly of governor assembly. (Disassembly is not allowed at intermediate level maintenance.) The exposed surfaces of cover (2), housing (3), preload levers (9), end cap (11) and torque lever (12) may exhibit signs of corrosion/contamination product buildup which usually can be wiped off.

e. Wipe off, as much as possible, contamination/corrosion buildup on parts accessible through end cap (11).

f. Scrape off silicone sealant, if present, between cover (2) and mating end cap (11).

g. Lubricate blade thrust bearings (4) externally.

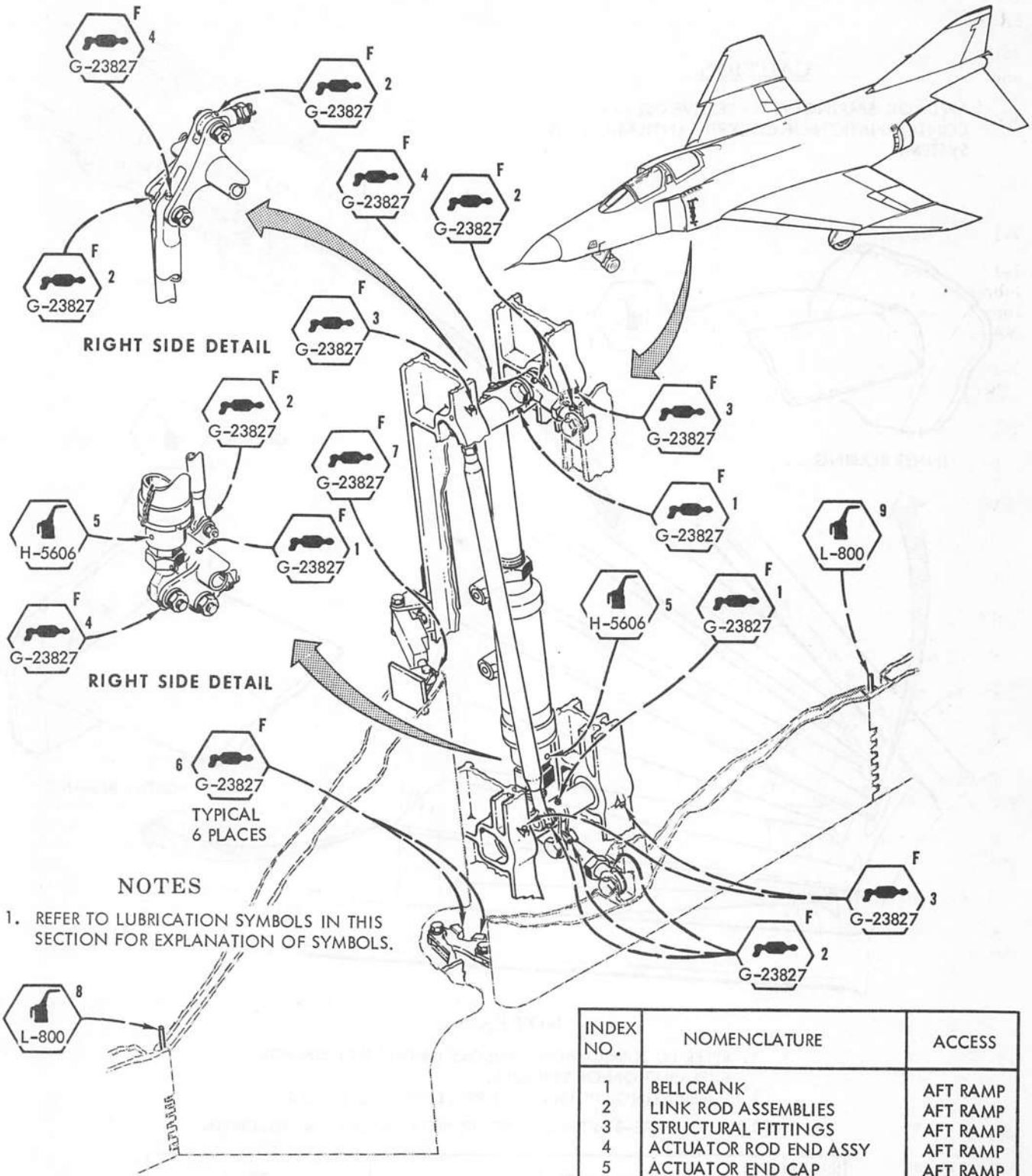
h. Rotate governor assembly clockwise (viewing end cap (11)) until the axis of both blades are in a horizontal position.

i. Apply masking tape across the lower half of end cap (11).

j. Pour approximately 4-6 ounces of lubricant into governor assembly through end cap (11).

k. Complete the masking of upper half of end cap (11).

l. Rotate governor assembly clockwise (viewing end



NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

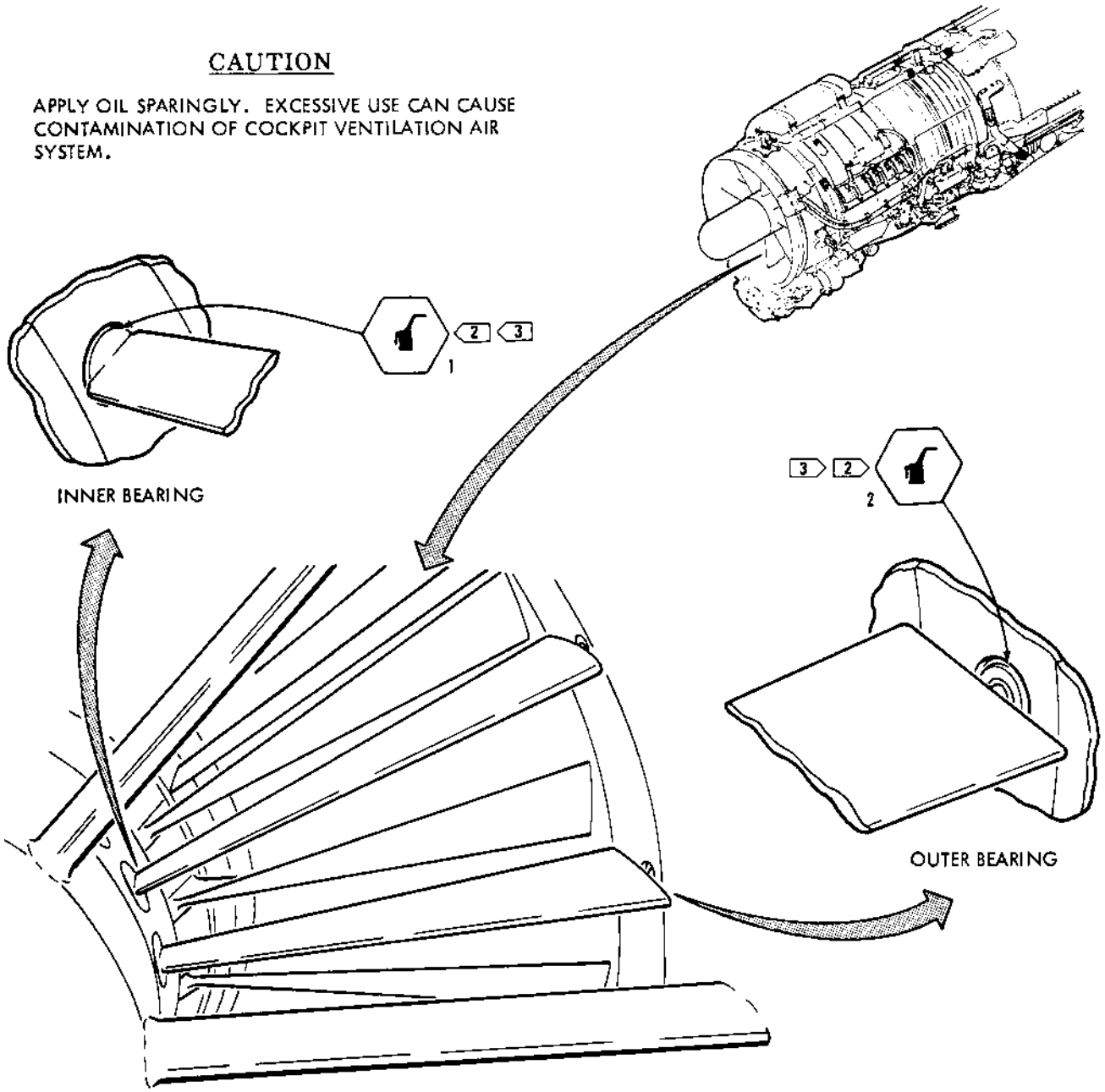
CAUTION

ASSURE THAT HYDRAULIC AND ELECTRICAL POWER ARE DISCONNECTED FROM THE AIRCRAFT BEFORE WORKING BEHIND THE VARIABLE RAMPS.

INDEX NO.	NOMENCLATURE	ACCESS
1	BELLCRANK	AFT RAMP
2	LINK ROD ASSEMBLIES	AFT RAMP
3	STRUCTURAL FITTINGS	AFT RAMP
4	ACTUATOR ROD END ASSY	AFT RAMP
5	ACTUATOR END CAP (FELT WIPER)	AFT RAMP
6	CONNECTOR LINKS	AFT RAMP
7	POTENTIOMETER ROD END	AFT RAMP
8	HINGE PIN	FWD RAMP
9	HINGE PIN	AFT RAMP

FDC-2-1.1-(87)

Figure 7-3. Variable Ramp Mechanism Lubrication



NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

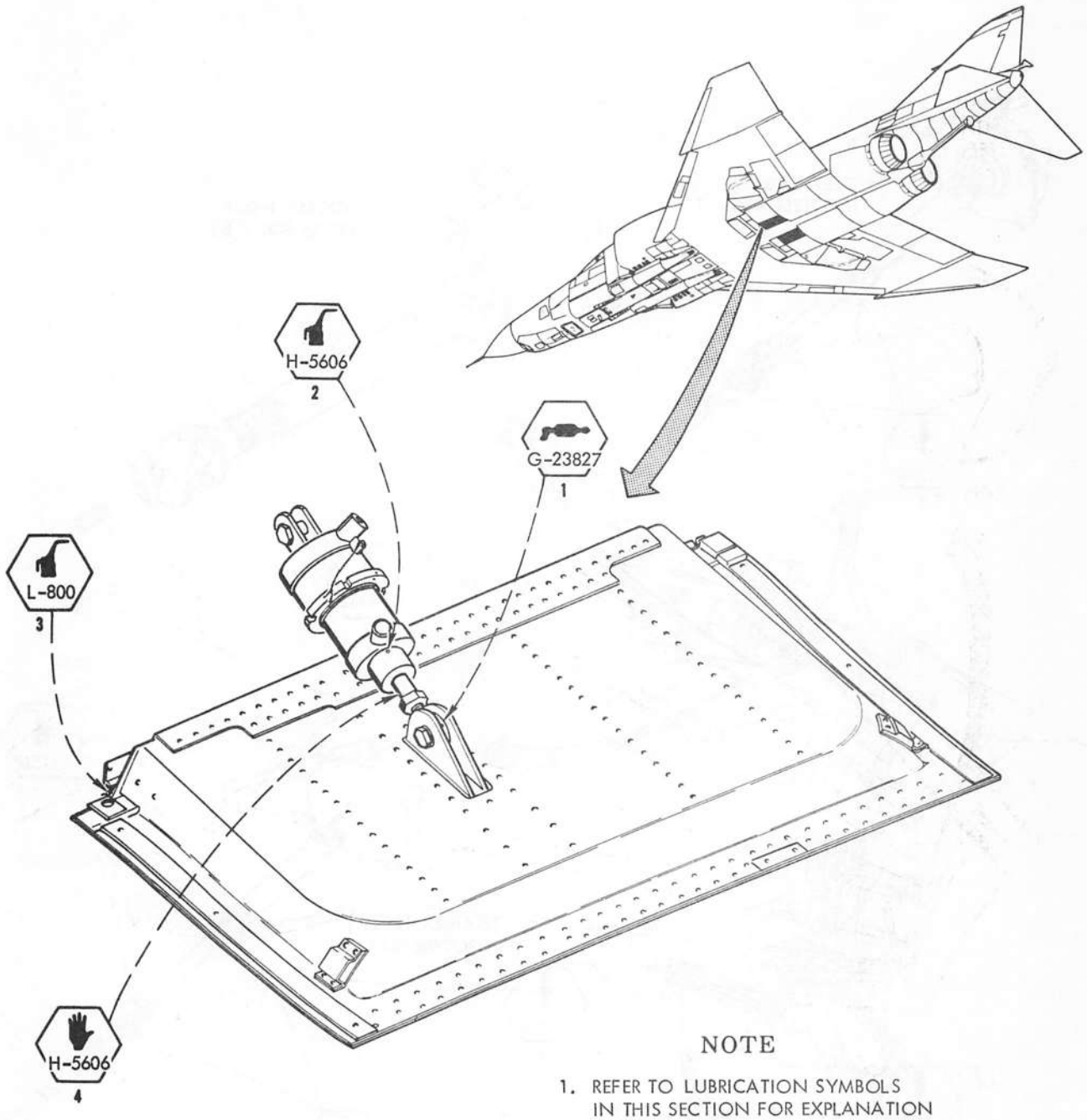
2 LUBRICATING OIL (MIL-L-23699), TYPICAL 20 PLACES.

3 ON J79-GE-8 AFTER J79-PPC-39, NO LUBRICATION REQUIRED.

INDEX NO.	NOMENCLATURE	ACCESS
1	ENGINE INLET DUCT VANES INNER BEARING	ENGINE INLET DUCT
2	ENGINE INLET DUCT VANES OUTER BEARING	ENGINE INLET DUCT

FDC-2-1.1-(88)

Figure 7-4. Engine Inlet Guide Vane Lubrication



NOTE

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

INDEX NO.	NOMENCLATURE	ACCESS
1	AUXILIARY AIR DOOR ACTUATOR ROD END	81 L/R
2	AUXILIARY AIR DOOR ACTUATOR FELT WIPER	81 L/R
3	AUXILIARY AIR DOOR HINGE PIN	81 L/R
4	EXPOSED PISTON ROD	81 L/R

FDC-2-1.1-(89)

Figure 7-5. Engine Auxiliary Air Doors Lubrication

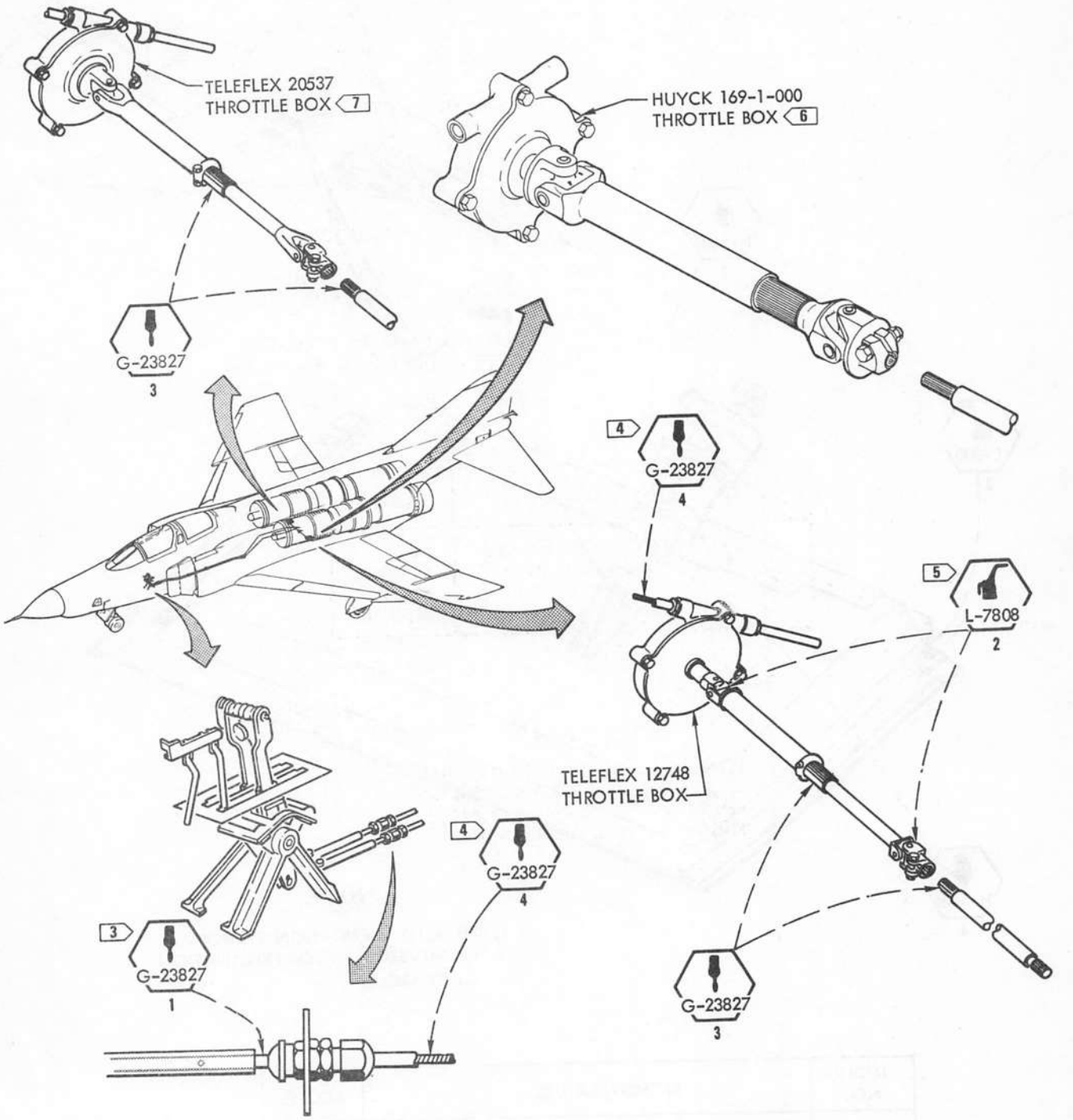


Figure 7–6. Airframe Engine Control System Lubrication (Sheet 1 of 2)

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

2. DO NOT LUBRICATE THROTTLE QUADRANT. QUADRANT SHAFT AND LOWER LEVER BUSHINGS ARE DRY FILM LUBRICATED. APPLICATION OF WET FILM LUBRICANT WILL INDUCE GALLING OF DRY FILM LUBRICANT CAUSING FRICTION ADJUSTMENT DIFFICULTY.

[3] LUBRICATE TELEFLEX C-6334 TELESCOPIC UNIT WITH THROTTLES IN CUTOFF POSITION.

[4] REMOVE CONTROL CABLES FROM UNLINED CONDUITS, CLEAN, VAPOR DEGREASE, RELUBRICATE WITH A LIGHT COAT OF GREASE AND REINSTALL.

[5] LUBRICATE THE TELEFLEX 12748 TORQUE SHAFT U JOINTS ONLY. DO NOT LUBRICATE TELEFLEX 20537 OR HUYCK 169-1-000 TORQUE SHAFT U JOINTS.

[6] DO NOT LUBRICATE HUYCK 169-1-000 THROTTLE BOX. ALL SURFACES OF HUYCK THROTTLE BOX WHICH REQUIRE LUBRICATION ARE DRY FILM LUBRICATED.

[7] DO NOT LUBRICATE TELEFLEX 20537 THROTTLE BOX. ALL SURFACES OR TELEFLEX 20537 THROTTLE BOX WHICH REQUIRE LUBRICATION ARE DRY FILM LUBRICATED.

8. ---DASH LINE INDICATE LUBE POINTS ON OPPOSITE SIDE.

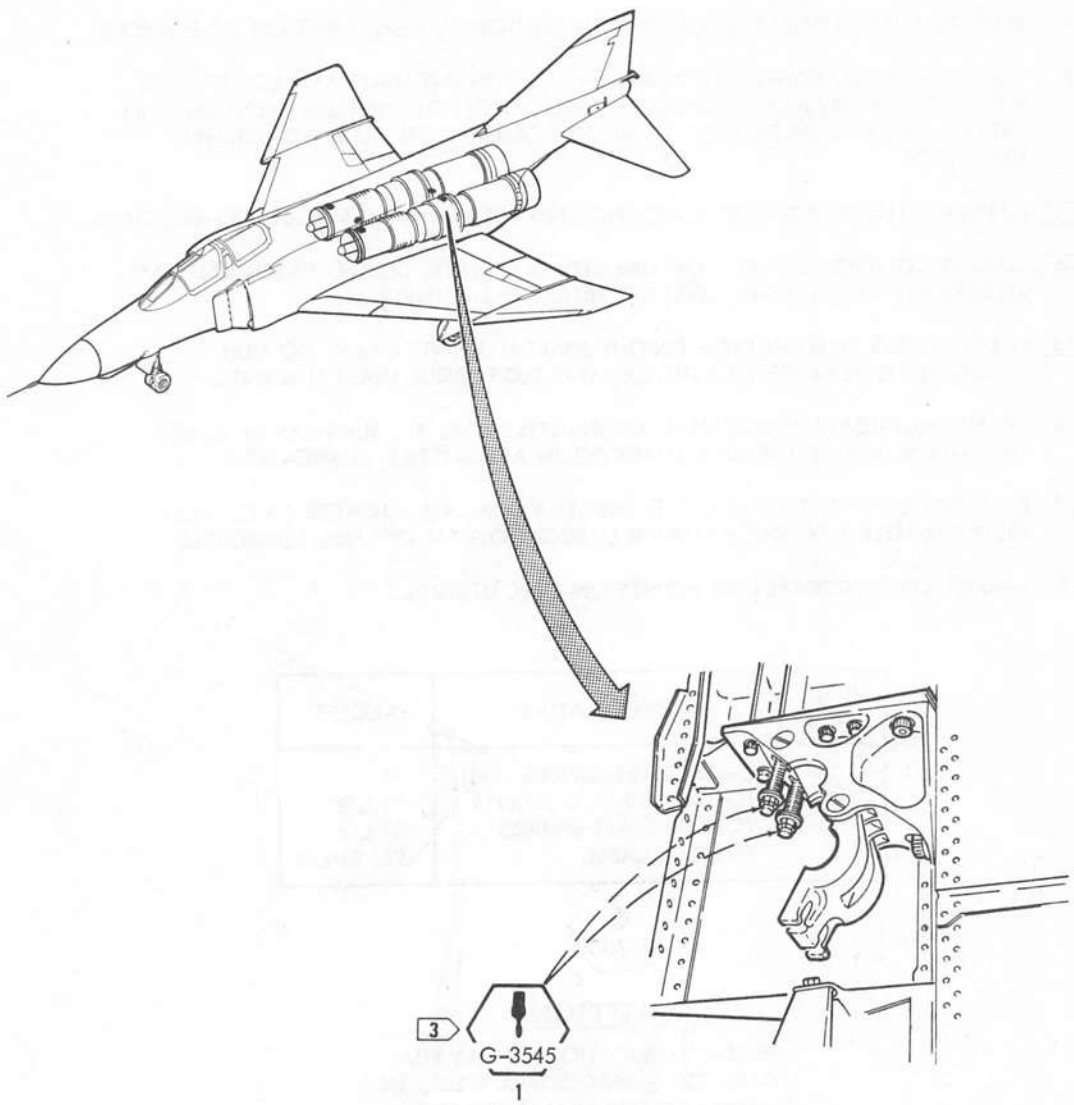
INDEX NO.	NOMENCLATURE	ACCESS
1	C-6334 TELESCOPING UNIT	9L
2	TORQUE SHAFT U JOINTS	81 L/R
3	TORQUE SHAFT SPLINES	81 L/R
4	TELEFLEX CABLE	9L, 81 L/R

CAUTION

PERIODIC LUBRICATION OF DRY FILM LUBRICATED SURFACES WILL RESULT IN REMOVAL OF DRY FILM LUBRICANT, BUILD-UP AND POSSIBLE BINDING.

FDC-2-1.1-(90-2)

Figure 7-6. Airframe Engine Control System Lubrication (Sheet 2 of 2)



INDEX NO.	NOMENCLATURE	ACCESS
1	MAIN ENGINE MOUNT EYE BOLTS	DOORS 92 L/R

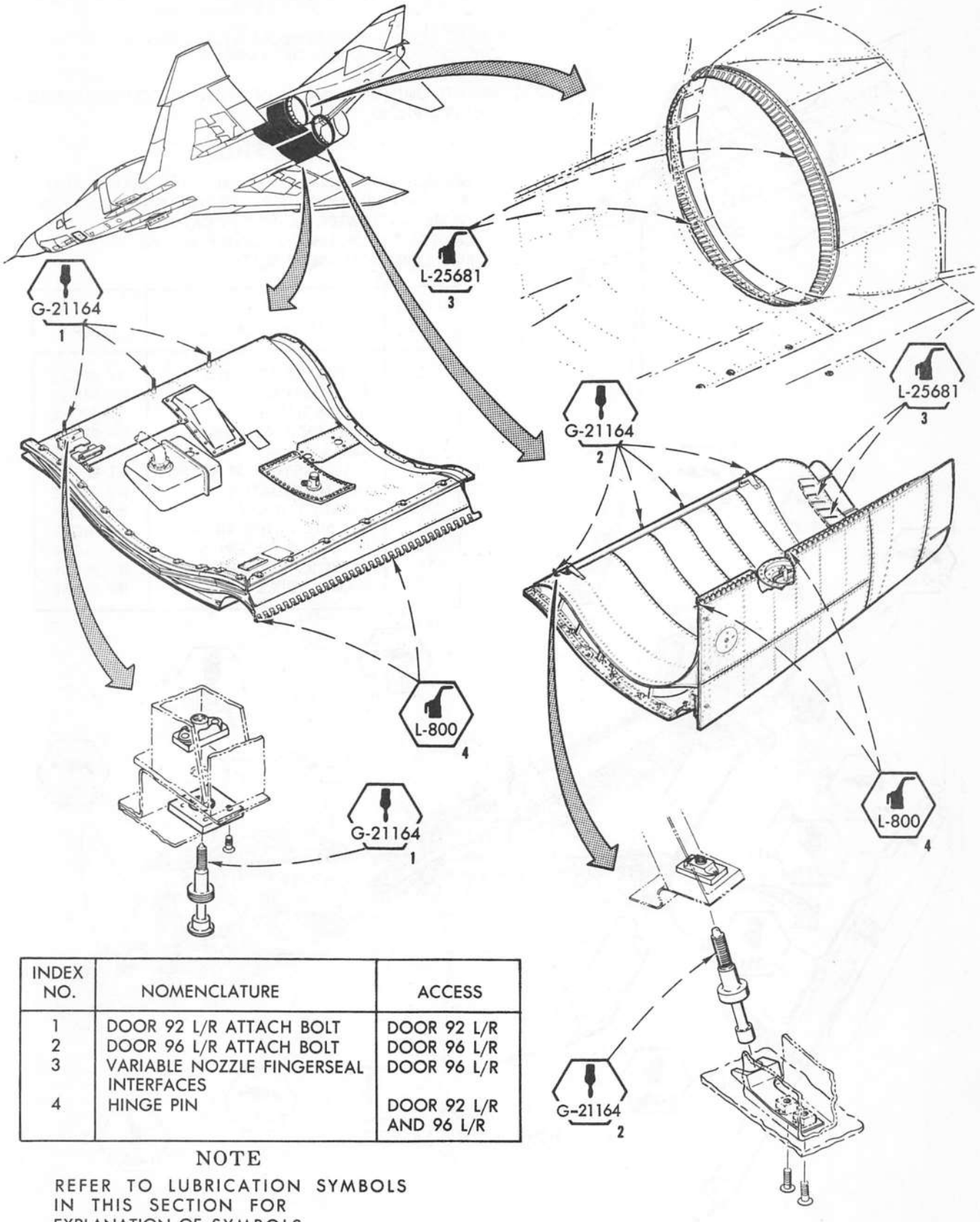
NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. ---DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

3 LUBRICATE THE MAIN MOUNT BOLTS ON 151975t AND UP THAT HAVE HAD THE CORROSION PROTECTION REMOVED, AT EVERY ENGINE CHANGE.

FDC-2-1.1-(91)

Figure 7-7. Engine Mounts Lubrication



INDEX NO.	NOMENCLATURE	ACCESS
1	DOOR 92 L/R ATTACH BOLT	DOOR 92 L/R
2	DOOR 96 L/R ATTACH BOLT	DOOR 96 L/R
3	VARIABLE NOZZLE FINGERSEAL INTERFACES	DOOR 96 L/R
4	HINGE PIN	DOOR 92 L/R AND 96 L/R

NOTE

REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

FDC-2-1.1-(92)

Figure 7–8. Engine Access Doors and Aft Fuselage Fingerseals Lubrication

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

[2] LUBRICATE OUTSIDE SURFACES OF PROBE NOZZLE WITH PETROLATUM (VV-P-236).

CAUTION

DO NOT APPLY ANY LUBRICANT OTHER THAN GREASE (MIL-G-21164) TO PORTIONS OF INFLIGHT REFUELING PROBE WHICH WERE PREVIOUSLY DRY FILM LUBRICATED, OR BINDING AND REMOVAL OF DRY FILM LUBRICANT WILL RESULT.

INDEX NO.	NOMENCLATURE	ACCESS
1	ACTUATOR ROD END	IFR PROBE
2	ROD ASSEMBLY	IFR PROBE
3	HINGE FITTING	IFR PROBE
4	BELLCRANK ASSEMBLY	IFR PROBE
5	ARM ASSEMBLY	IFR PROBE
6	LATCH ACTUATOR HOOKS	IFR PROBE
7	LATCH ACTUATOR	IFR PROBE
8	PROBE CYLINDER	IFR PROBE
9	CYLINDER WIPER RING	IFR PROBE
10	ACTUATOR PISTON	IFR PROBE
11	PROBE INNER TUBE	IFR PROBE
12	PROBE MIDDLE TUBE	IFR PROBE

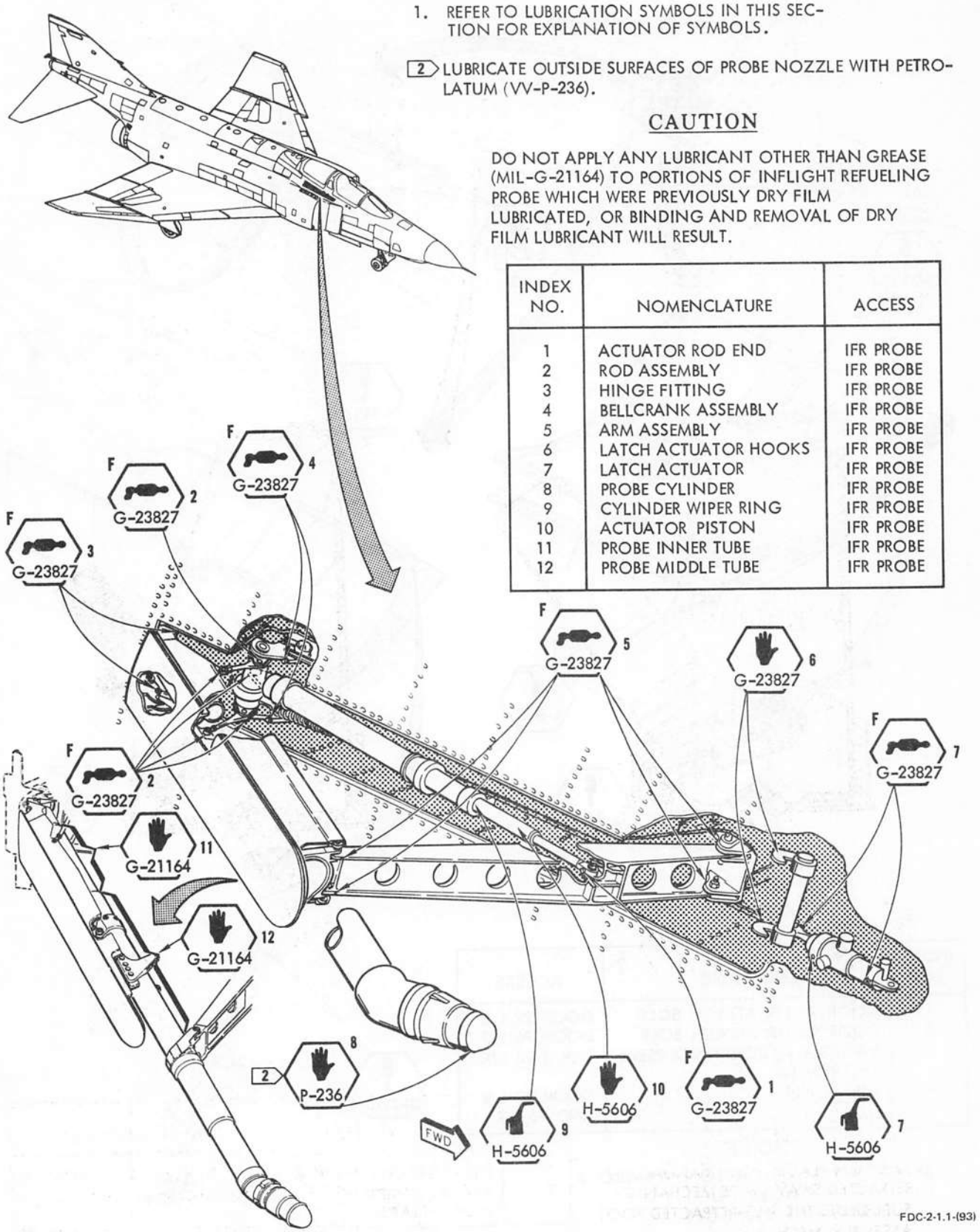
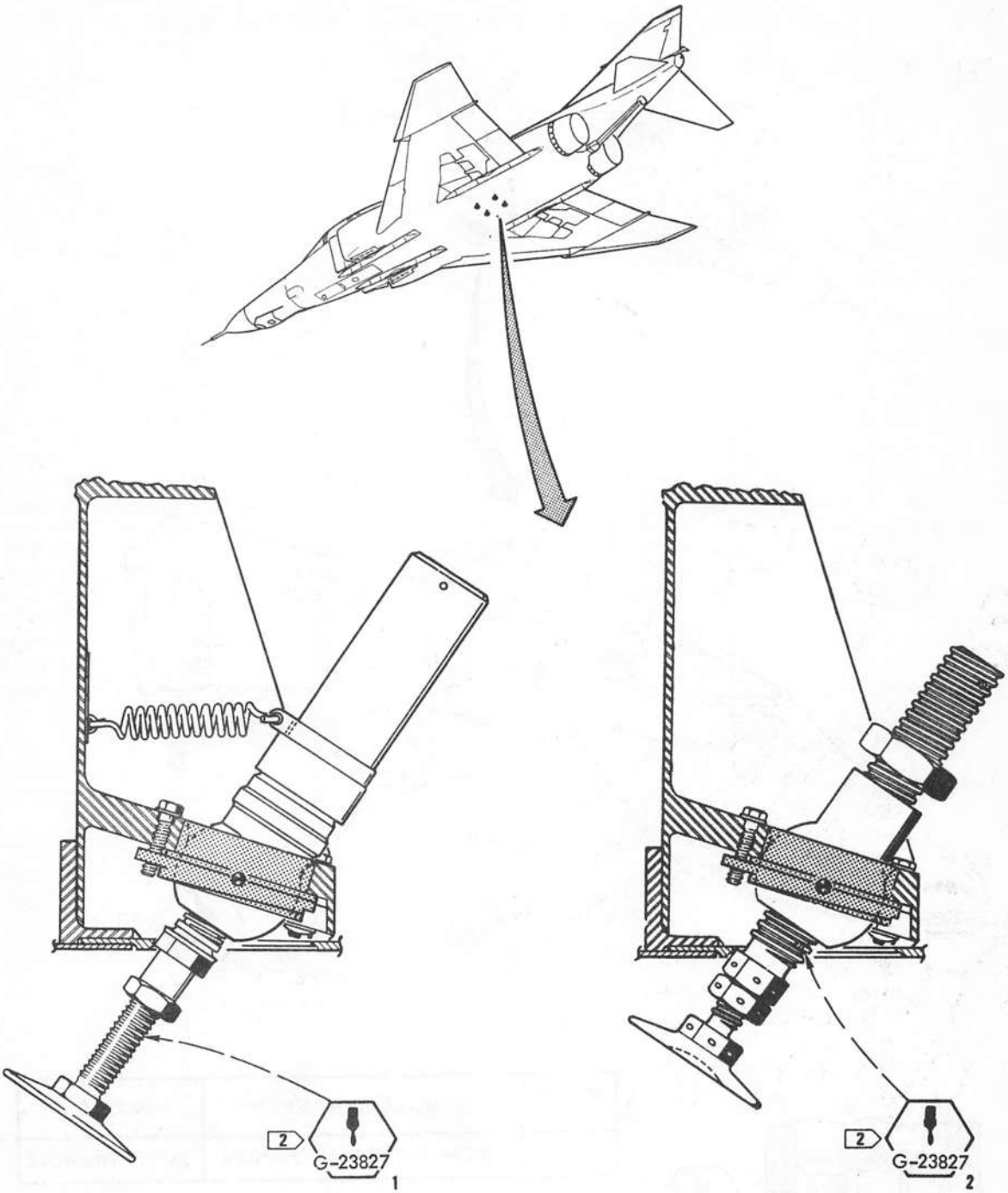


Figure 7-9. Inflight Refueling Probe Lubrication



NOTES

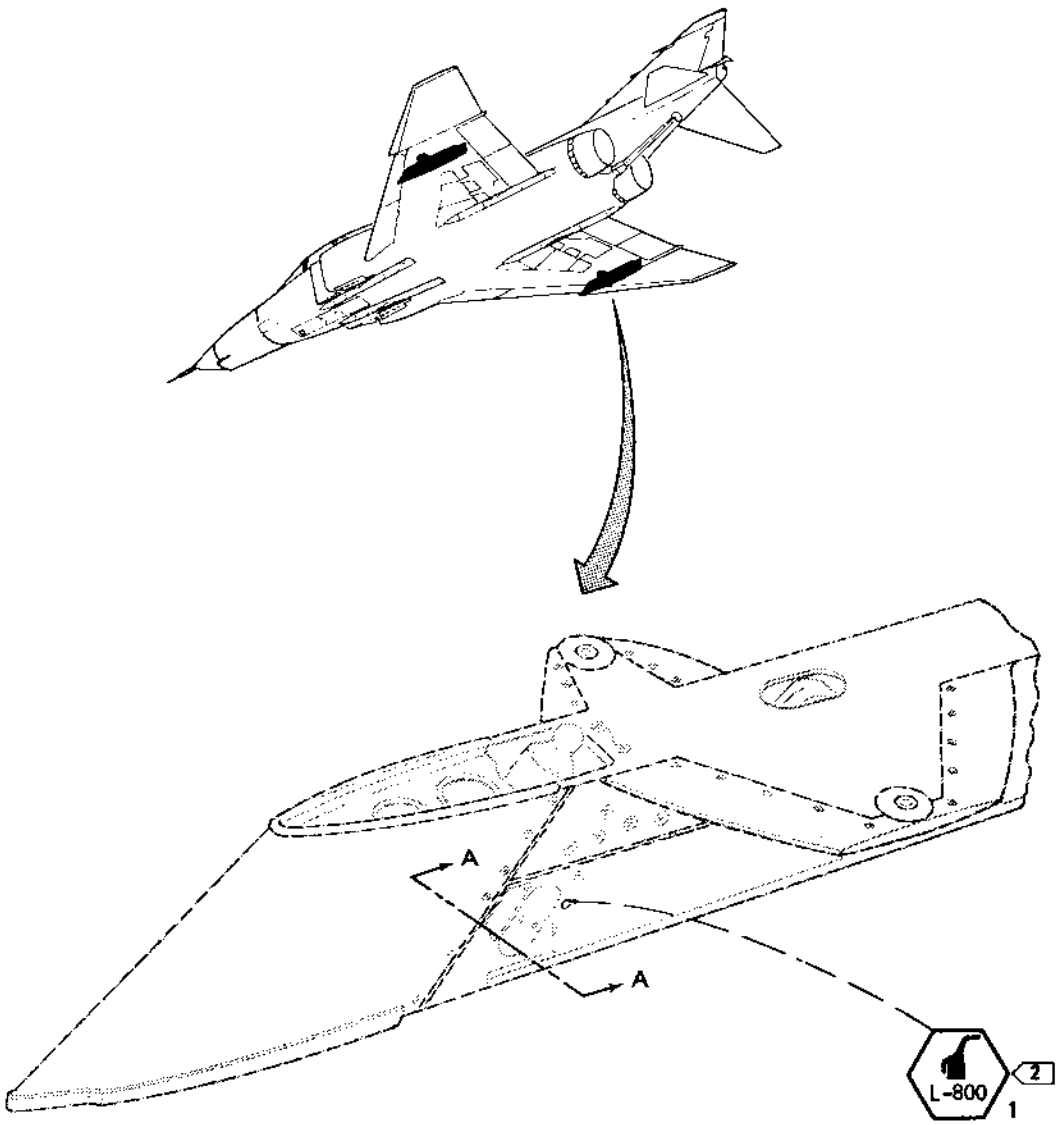
1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

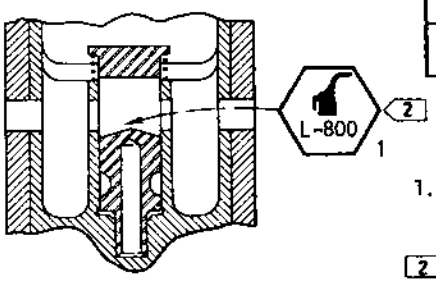
2 TYPICAL 4 PLACES. THE MANUALLY-RETRACTED SWAY BRACE MECHANISM SUPERSEDES THE SELF-RETRACTED FOOT ASSEMBLY MECHANISM.

INDEX NO.	NOMENCLATURE	ACCESS
1	SELF-RETRACTED FOOT ASSEMBLY THREADS	DOOR 74 L/R
2	MANUALLY-RETRACTED SWAY BRACE SCREW JACK THREADS	DOOR 74 L/R

FDC-2-1.1-(94)

Figure 7–10. Centerline Stores Swaybrace Lubrication





SECTION A-A

INDEX NO	NOMENCLATURE	ACCESS
1	PYLON JETTISON MECHANISM	SAFETY PIN HOLE

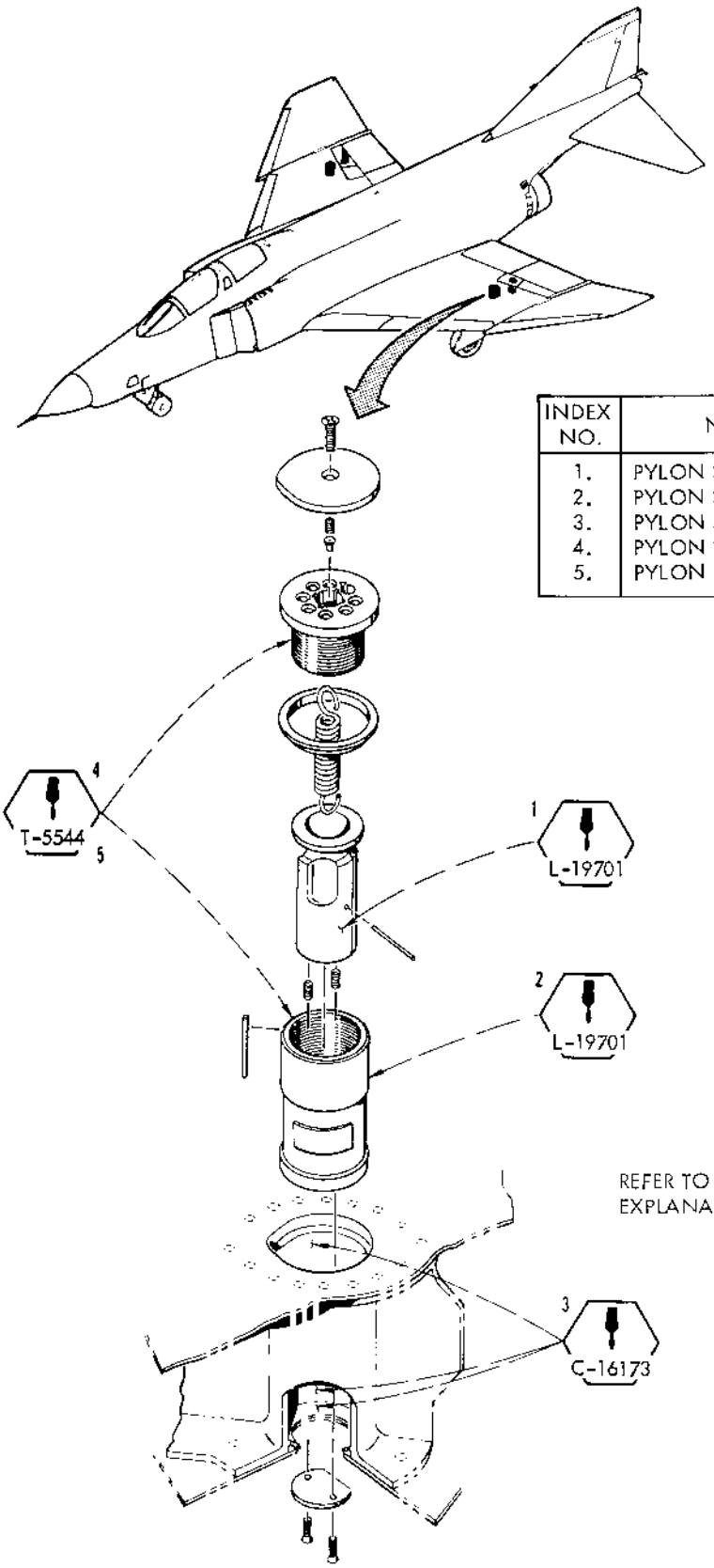
NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

(2) LUBRICATE THE EXTERNAL WING TANK PYLON JETTISON MECHANISM THROUGH THE SAFETY PIN HOLE. SEE NAVAIR 01-245FDC-2-3.3 FOR SERVICING AND DEPRESERVATION OPERATIONS OF TANK PRIOR TO INSTALLATION.

FDC-2-1.1-(95)

Figure 7-11. External Wing Tank Pylon Lubrication



INDEX NO.	NOMENCLATURE	ACCESS
1.	PYLON SUPPORT FITTING LUG	DOOR NO. 100 L/R
2.	PYLON SUPPORT FITTING SLEEVE	DOOR NO. 100 L/R
3.	PYLON SUPPORT FITTING BORE	DOOR NO. 100 L/R
4.	PYLON SUPPORT FITTING CAP	DOOR NO. 100 L/R
5.	PYLON SUPPORT FITTING SLEEVE	DOOR NO. 100 L/R

NOTE

REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

FDC 2 1.1-(96)

Figure 7-12. Outboard Wing Pylon Support Fitting Lubrication

INDEX NO.	NOMENCLATURE	ACCESS
1	GUIDE ROLLER	COCKPIT
2	PIN, PIVOT	INSTRUMENT PANEL

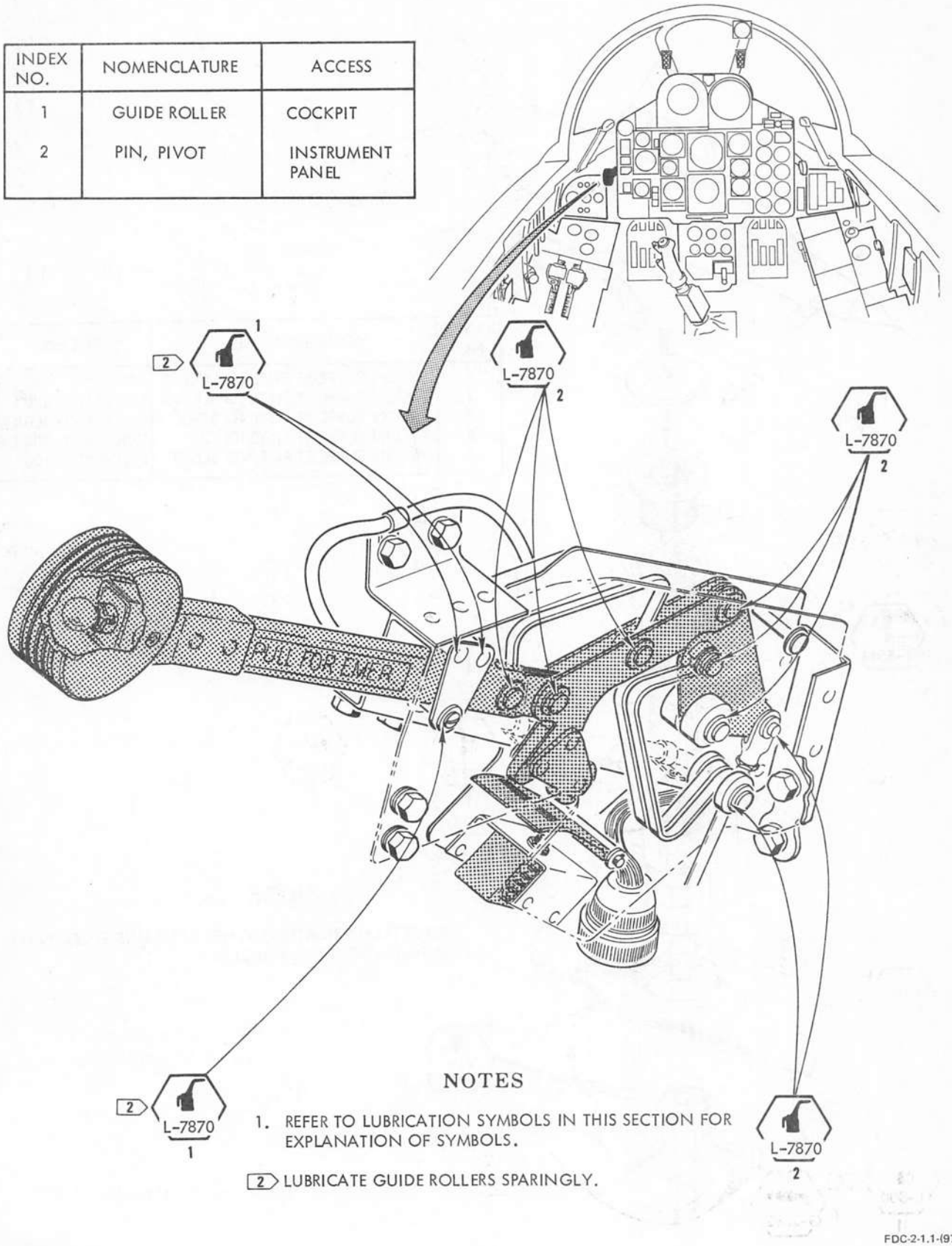


Figure 7-13. Landing Gear Control Handle Lubrication

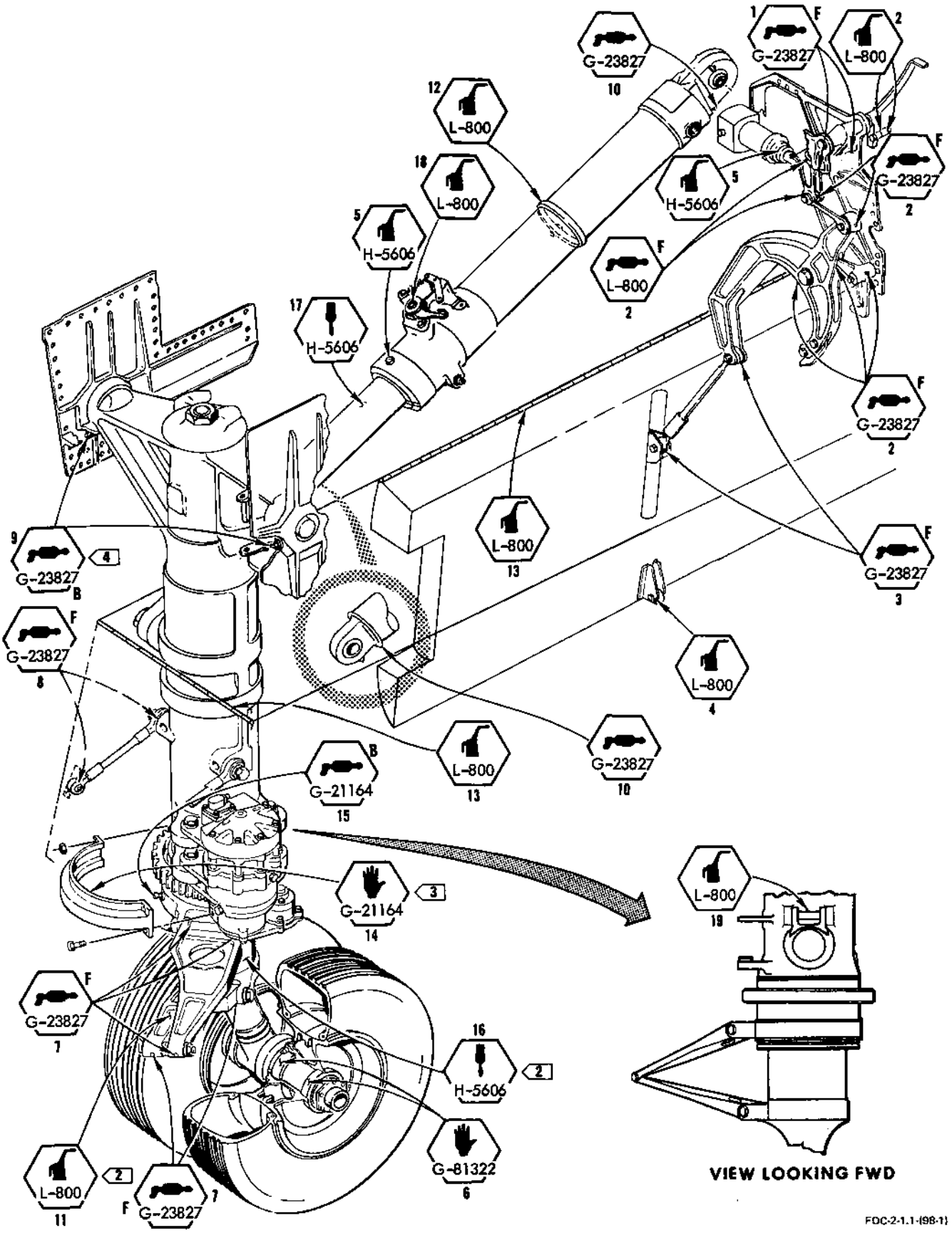


Figure 7-14. Nose Landing Gear Lubrication (Sheet 1 of 2)

1.	UPLOCK SUPPORT
2.	UPLOCK MECHANISM
3.	AFT DOOR DRIVE LINK ROD END
4.	ROLLER
5.	FELT WIPER
6.	WHEEL BEARINGS
7.	TORQUE ARMS
8.	LINK ASSY, FORWARD DOOR
9.	TRUNNIONS
10.	DRAG BRACE BEARING
11.	JACK PAD FITTING
12.	SEQUENCE VALVE CAM
13.	HINGE PIN
14.	TORQUE COLLAR & RING GEAR COVER
15.	TORQUE COLLAR BUSHINGS
16.	SHOCK STRUT PISTON
17.	DRAG BRACE PISTON
18.	TOGGLE ASSEMBLY
19.	TIE DOWN RING

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

[2] LUBRICATE JACK PAD FITTING AT POINT OF ROTATION.

CAUTION

CHECK MATING SURFACE OF JACK PAD FITTING POINT OF ROTATION FOR PAINT AND FOREIGN MATERIALS WHEN LUBRICATING.

[3] FILL COVERS TO 3/8 INCH DEPTH ON VERTICAL FACE AND INSTALL.

[4] LUBRICATE TRUNNIONS SPARINGLY.

CAUTION

EXCESSIVE LUBRICATION OF TRUNNIONS WILL CAUSE GREASE TO COLLECT ON CABIN AND/OR EQUIPMENT REFRIGERATION UNIT HEAT EXCHANGER.

5. --- DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

FDC-2-1.1-(98-2)

Figure 7-14. Nose Landing Gear Lubrication (Sheet 2 of 2)

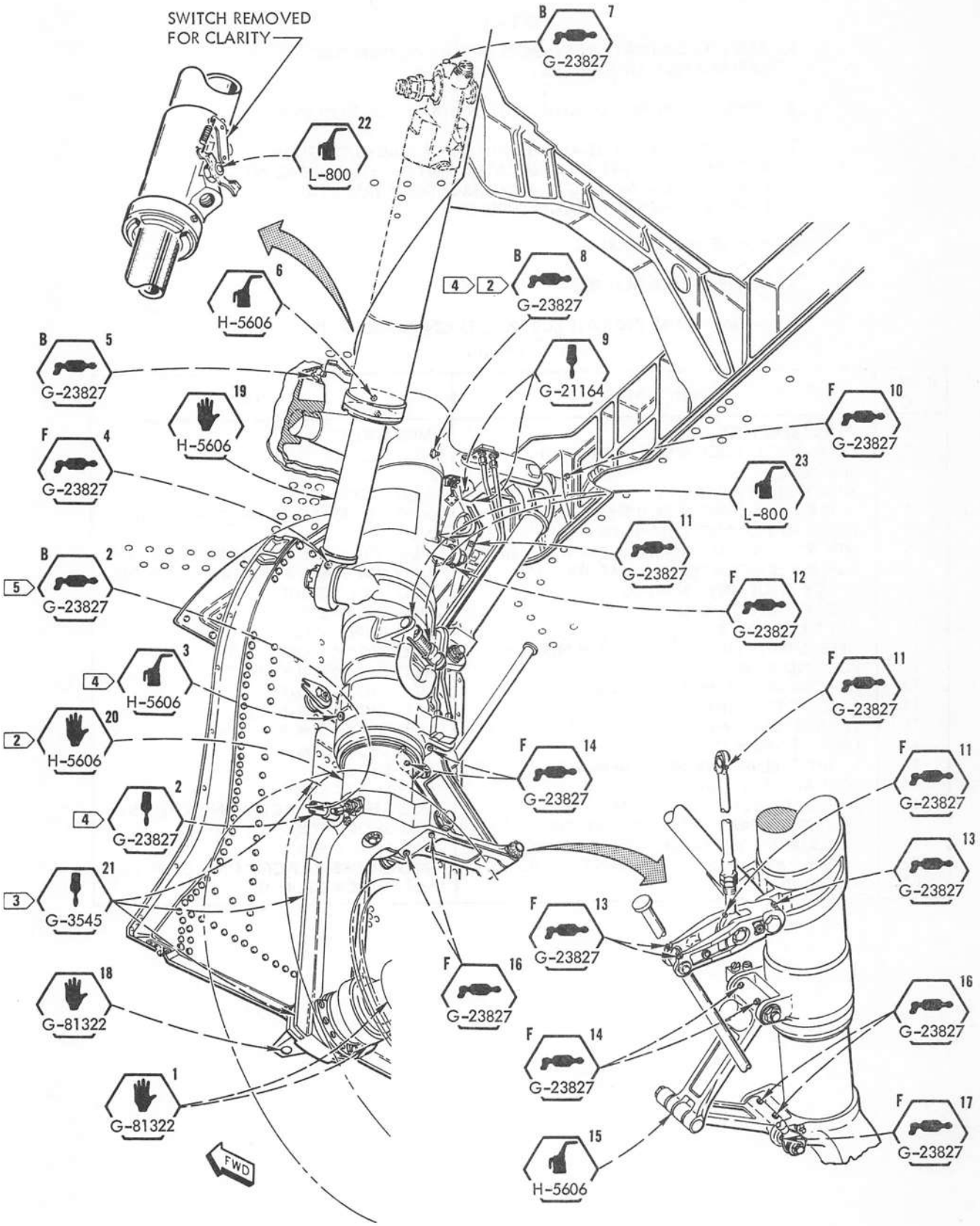


Figure 7-15. Main Landing Gear Lubrication (Sheet 1 of 2)

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

[2] LUBRICATE SPARINGLY WITH STRUT IN STATIC POSITION ONLY.

[3] DO NOT LUBRICATE 32-411700 STRUT DOOR TRACKS OR GUIDE BLOCKS AS THEY ARE PRE-LUBRICATED WITH DRY FILM LUBRICANT. LUBRICATE 32-41600 AND 32-41700 STRUT DOOR TRACKS AND GUIDE BLOCKS WITH GEAR EXTENDED.

[4] BEFORE AFC 230 PART III.

[5] AFTER AFC 230 PART III.

6. ---DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

INDEX NO.	NOMENCLATURE	ACCESS
1	WHEEL BEARINGS	MLG WHEELS
2	ECCENTRIC UPLOCK SLEEVE CONTACTING SURFACES	MLC SHOCK STRUT
3	SHOCK STRUT WIPER RING	MLG SHOCK STRUT
4	SIDE BRACE ACTUATOR ROD END BEARING	MLG SIDE BRACE ACTUATING CYLINDER
5	FORWARD TRUNNION BEARING	MLG WHEEL WELL
6	SIDE BRACE ACTUATING CYLINDER WIPER RING	MLG SIDE BRACE ACTUATING CYLINDER
7	SIDE BRACE ACTUATOR END CAP BEARING	MLG SIDE BRACE ACTUATING CYLINDER
8	SHOCK STRUT UPPER BEARING	MLG SHOCK STRUT
9	SHOCK STRUT DRAG LUG	MLG SHOCK STRUT
10	AFT TRUNNION BEARING	MLG WHEEL WELL
11	UPPER SHRINK LINK ROD END BEARINGS	MLG SHOCK STRUT
12	ROD END BEARINGS	MLG SHOCK STRUT
13	BELLCRANK ASSEMBLY BEARINGS	MLG SHOCK STRUT
14	UPPER TORQUE LINK PIN	MLG SHOCK STRUT
15	TORQUE LINK KNEE PIN	MLG SHOCK STRUT
16	LOWER TORQUE LINK PIN	MLG SHOCK STRUT
17	LOWER SHRINK LINK END BEARING	MLG SHOCK STRUT
18	AXLE AND AXLE JACK PAD	MLG SHOCK STRUT
19	SIDE BRACE ACTUATOR PISTON	MLG SIDE BRACE ACTUATING CYLINDER
20	LANDING GEAR SHOCK STRUT PISTON	MLG SHOCK STRUT
21	MLG STRUT DOOR TRACKS AND GUIDE BLOCKS	MLG SHOCK STRUT
22	TOGGLE ASSEMBLY	MLG SIDE BRACE ACTUATING CYLINDER
23	TIE DOWN RING	MLG SHOCK STRUT

FDC-2-1.1-(99-2)

Figure 7-15. Main Landing Gear Lubrication (Sheet 2 of 2)

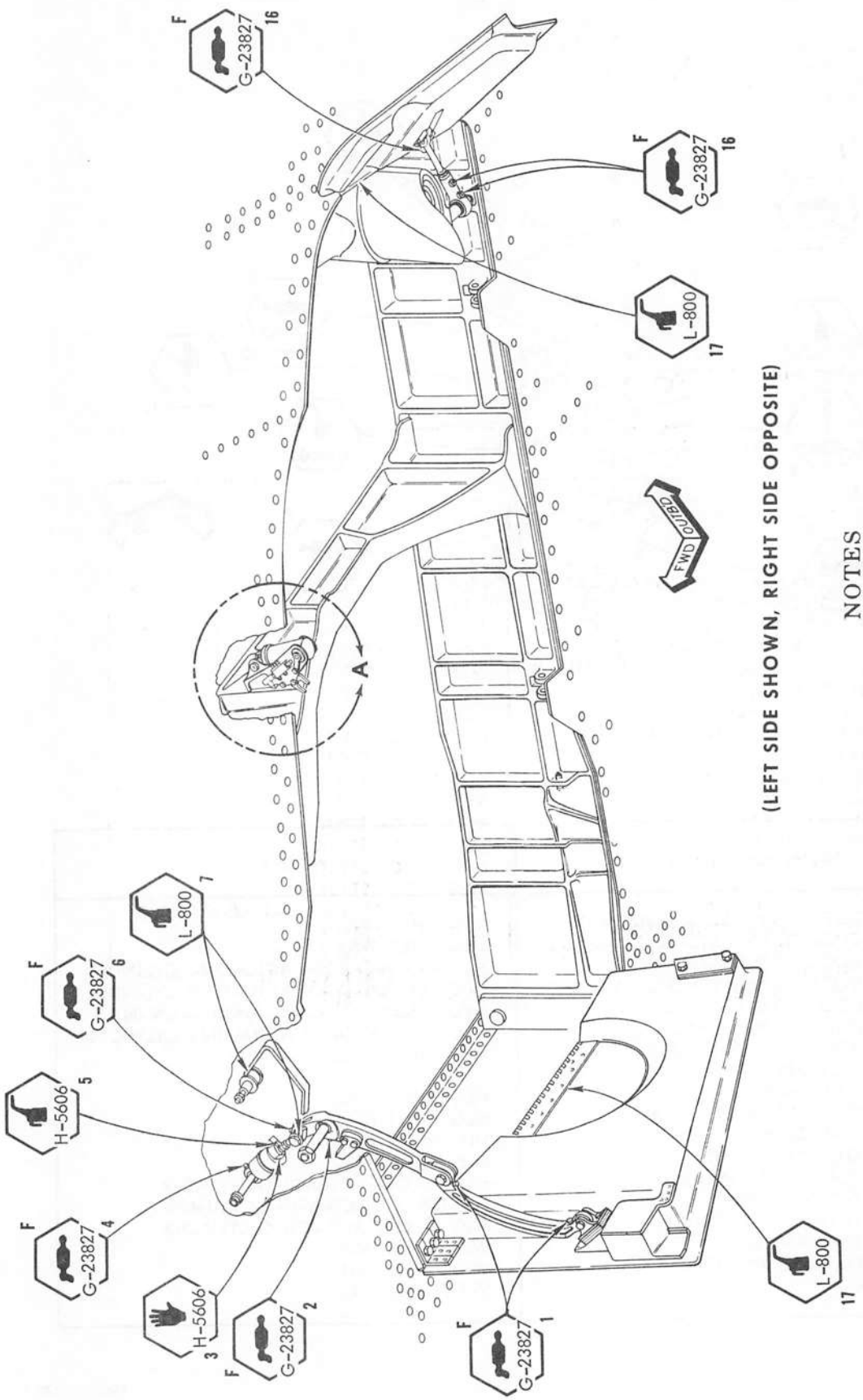
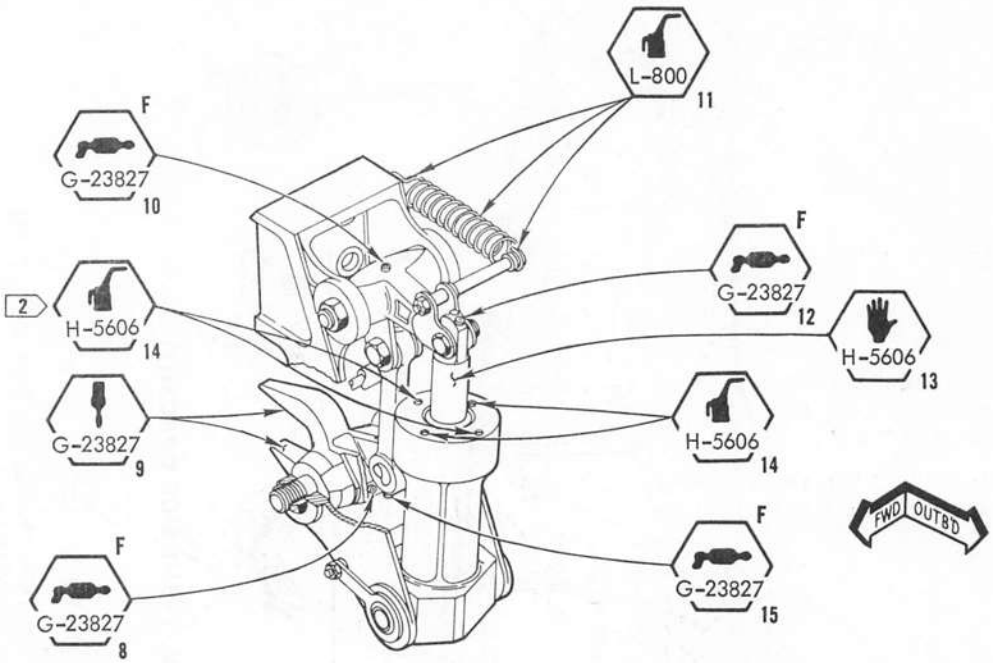


Figure 7-16. Main Landing Gear Doors and Uplatch Mechanism Lubrication (Sheet 1 of 2)

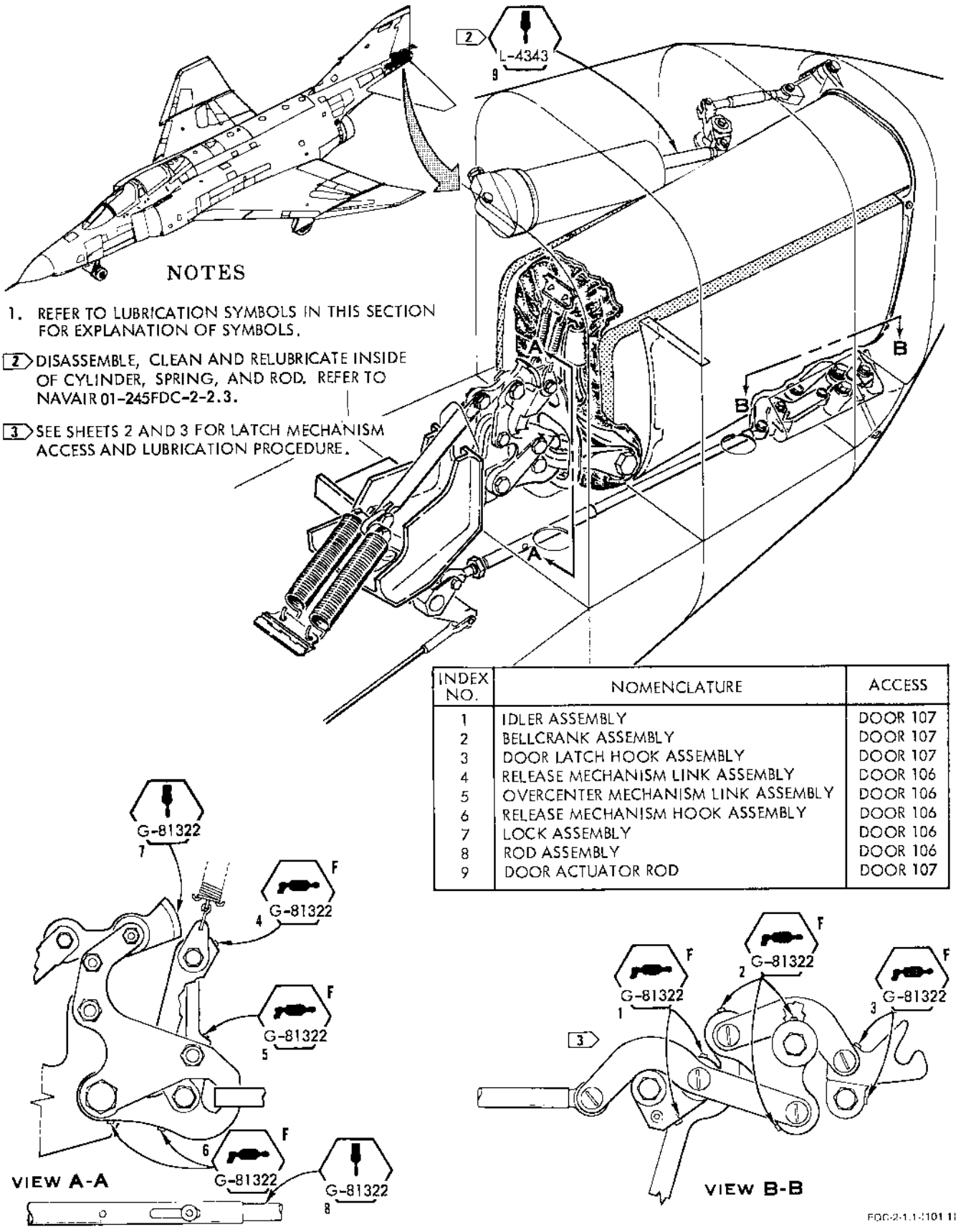


DETAIL A

INDEX NO.	NOMENCLATURE	ACCESS
1	INBOARD DOOR LINK ASSEMBLY BEARINGS	MLG WHEEL WELL
2	INBOARD DOOR CRANK ASSEMBLY BEARINGS	MLG WHEEL WELL
3	INBOARD DOOR CYLINDER PISTON	MLG INBOARD DOOR ACTUATING CYLINDER
4	INBOARD DOOR CYLINDER END CAP BEARING	MLG INBOARD DOOR ACTUATING CYLINDER
5	INBOARD DOOR CYLINDER WIPER RING	MLG INBOARD DOOR ACTUATING CYLINDER
6	INBOARD DOOR CYLINDER ROD END BEARING	MLG INBOARD DOOR ACTUATING CYLINDER
7	INBOARD DOOR MECHANISM SPRING ENDS (BEARING SURFACES)	MLG WHEEL WELL
8	UPLOCK HOOK BEARING	MLG WHEEL WELL
9	UPLOCK HOOK CONTACTING SURFACES	MLG WHEEL WELL
10	UPLOCK CRANK BEARING	MLG WHEEL WELL
11	UPLOCK EXTENSION SPRING	MLG WHEEL WELL
12	UPLOCK CYLINDER ROD END BEARING	MLG UPLOCK ACTUATING CYLINDER
13	UPLOCK CYLINDER PISTON	MLG UPLOCK ACTUATING CYLINDER
14	UPLOCK CYLINDER WIPER RING	MLG UPLOCK ACTUATING CYLINDER
15	UPLOCK LINK BEARING	MLG WHEEL WELL
16	OUTBOARD DOOR LINK ROD END BEARINGS	MLG WHEEL WELL
17	HINGE PIN	MLG WHEEL WELL

FDC-2-1.1-(100-2)

Figure 7-16. Main Landing Gear Doors and Uplatch Mechanism Lubrication (Sheet 2 of 2)



INDEX NO.	NOMENCLATURE	ACCESS
1	IDLER ASSEMBLY	DOOR 107
2	BELLCRANK ASSEMBLY	DOOR 107
3	DOOR LATCH HOOK ASSEMBLY	DOOR 107
4	RELEASE MECHANISM LINK ASSEMBLY	DOOR 106
5	OVERCENTER MECHANISM LINK ASSEMBLY	DOOR 106
6	RELEASE MECHANISM HOOK ASSEMBLY	DOOR 106
7	LOCK ASSEMBLY	DOOR 106
8	ROD ASSEMBLY	DOOR 106
9	DOOR ACTUATOR ROD	DOOR 107

Figure 7-17. Drag Chute Mechanism Lubrication (Sheet 1 of 3)

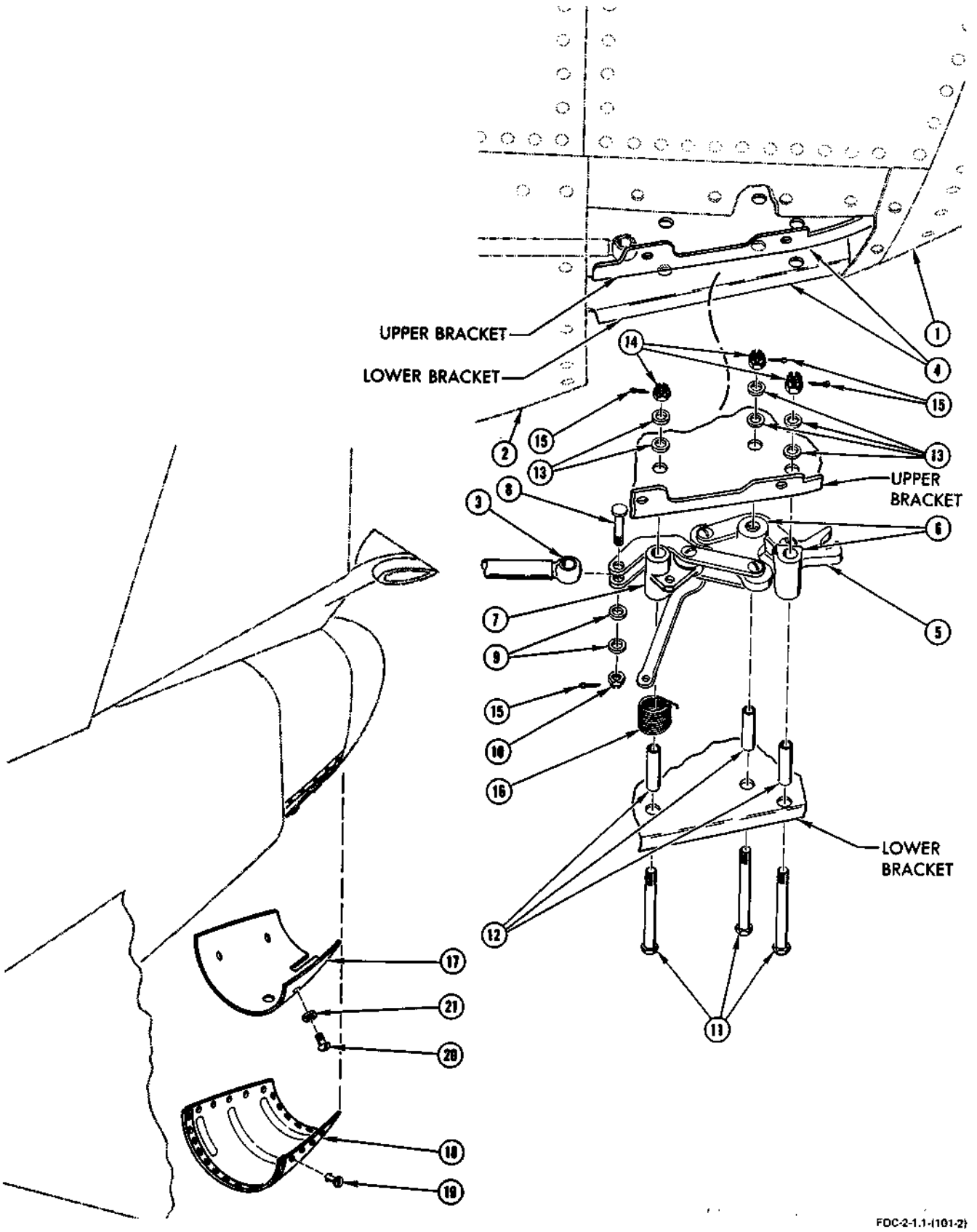


Figure 7-17. Drag Chute Mechanism Lubrication (Sheet 2 of 3)

MATERIALS

COTTER PIN (3 REQD) MS24665-134

LATCH MECHANISM LUBRICATION PROCEDURE

A OPEN DRAG CHUTE DOOR (1).

B REMOVE LOWER TAIL CONE PANEL (18) AND INSULATION BLANKET (17).

C DISCONNECT ACTUATING ROD (3) FROM LATCH MECHANISM (5).

D REMOVE MECHANISM MOUNTING BOLTS (11).

E COMPRESS SPRING (16) SO THAT SPRING TANG CLEARS HOLE IN LOWER MOUNTING PLATE (4) AND REMOVE LATCH MECHANISM FROM BETWEEN PLATES (4).

F LUBRICATE LATCH MECHANISM (SEE SHEET 1).

G INSTALL BLUSHING (12) IN FORWARD AND AFT LATCH MOUNTINGS.

H INSTALL SPRING (16) ON FORWARD MOUNTING.

I INSERT LATCH MECHANISM (5) BETWEEN MOUNTING PLATES (4) AND INSTALL SPRING (16) TANG IN HOLE IN LOWER MOUNTING PLATE (4).

J INSTALL MOUNTING BOLTS (11) AND TIGHTEN NUTS (14) 50 TO 70 INCH POUNDS. INSTALL COTTER PINS (15). ATTACH ACTUATING ROD (3) TO LATCH MECHANISM.

K ADJUST AND RIG DRAG CHUTE SYSTEM. REFER TO NAVAIR 01-245FDC-2-2.3.

L INSTALL INSULATION BLANKET (17) AND LOWER TAIL CONE AFT PANEL (18).

INDEX NO.	NOMENCLATURE	INDEX NO.	NOMENCLATURE
1	DRAG CHUTE DOOR	12	SLEEVE BUSHING
2	TAIL CONE ASSEMBLY	13	WASHER
3	ACTUATING ROD	14	NUT
4	MOUNTING PLATES	15	COTTER PIN
5	LATCH MECHANISM	16	LATCH RETURN SPRING
6	LATCH AFT MOUNTING	17	INSULATION BLANKET
7	LATCH FORWARD MOUNTING	18	LOWER TAIL CONE AFT PANEL
8	CLEVIS BOLT	19	LOWER TAIL CONE PANEL
9	WASHER		FASTENER (28 REQD)
10	NUT	20	BOLT (4 REQD)
11	BOLT	21	WASHER (4 REQD)

FDC-2-1.1-(101-3)

Figure 7-17. Drag Chute Mechanism Lubrication (Sheet 3 of 3)

cap (11)) approximately 15 to 20 times to insure complete lubrication of all governor components.

m. Reduce basic pneumatic system and ram air turbine actuation pressure to zero.

n. Remove RAT fuselage lock.

o. Remove masking tape from end cap (11).

p. Manually lower ram air turbine approximately 45 degrees and allow excess lubricant to drain into a catch-pan for approximately 15 minutes.

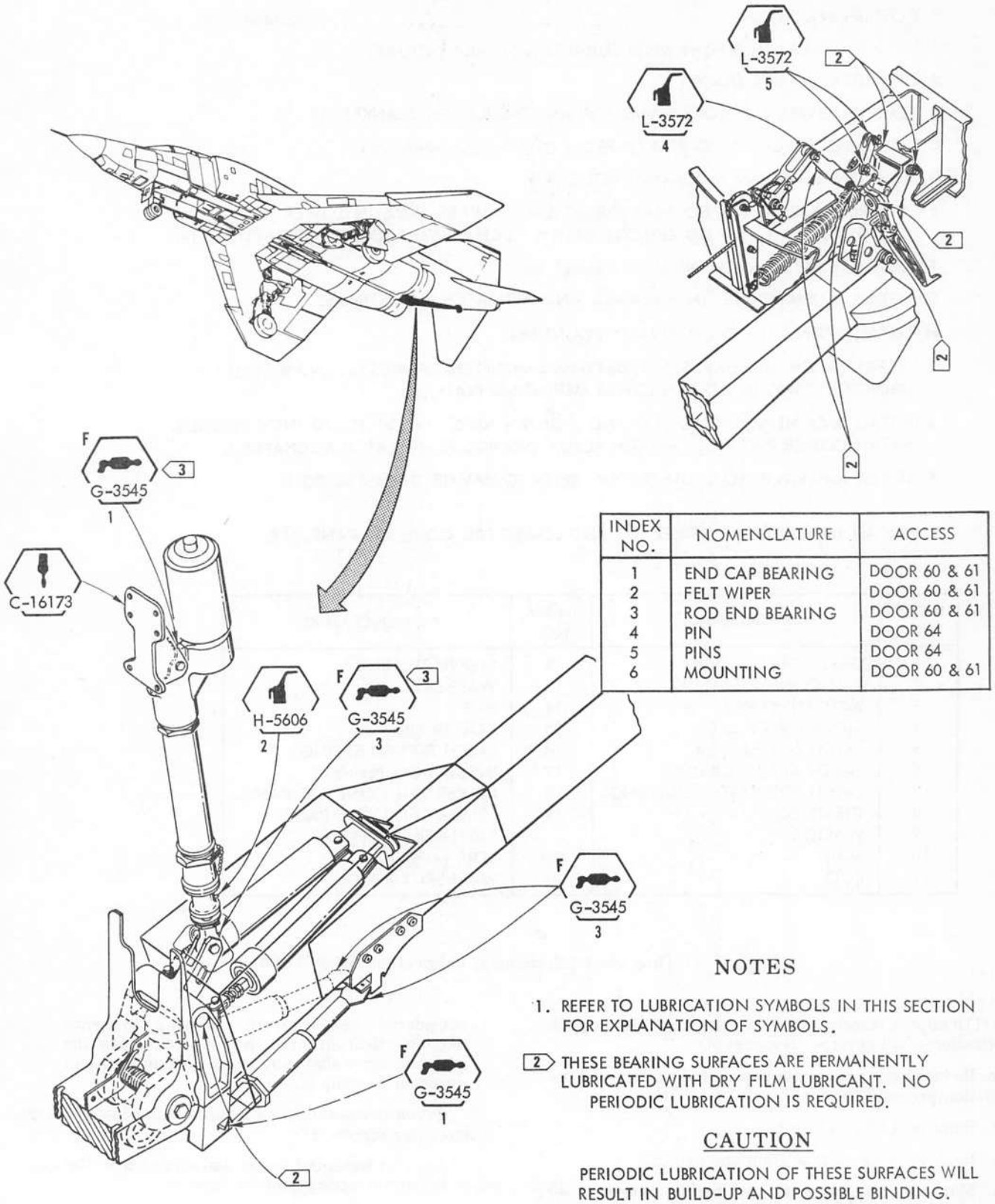
NOTE

Do not reapply slilicone sealant between cover (2) and end cap (11). Absence of this sealant is considered beneficial in allowing governor assembly to drain water that has leaked past the governor drive shaft and blades through holes in governor housing (3).

q. *Manually extend ram air turbine and install cover (2) and cover screws (1).*

r. Check for water in bumper pad shroud door. Remove water before retracting ram air turbine.

s. Insure that pneumatic system pressure is at a minimum of 2000 psi, then remove turbine lock assembly and retract turbine. Refer to paragraph 6-87.



INDEX NO.	NOMENCLATURE	ACCESS
1	END CAP BEARING	DOOR 60 & 61
2	FELT WIPER	DOOR 60 & 61
3	ROD END BEARING	DOOR 60 & 61
4	PIN	DOOR 64
5	PINS	DOOR 64
6	MOUNTING	DOOR 60 & 61

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

[2] THESE BEARING SURFACES ARE PERMANENTLY LUBRICATED WITH DRY FILM LUBRICANT. NO PERIODIC LUBRICATION IS REQUIRED.

CAUTION

PERIODIC LUBRICATION OF THESE SURFACES WILL RESULT IN BUILD-UP AND POSSIBLE BINDING.

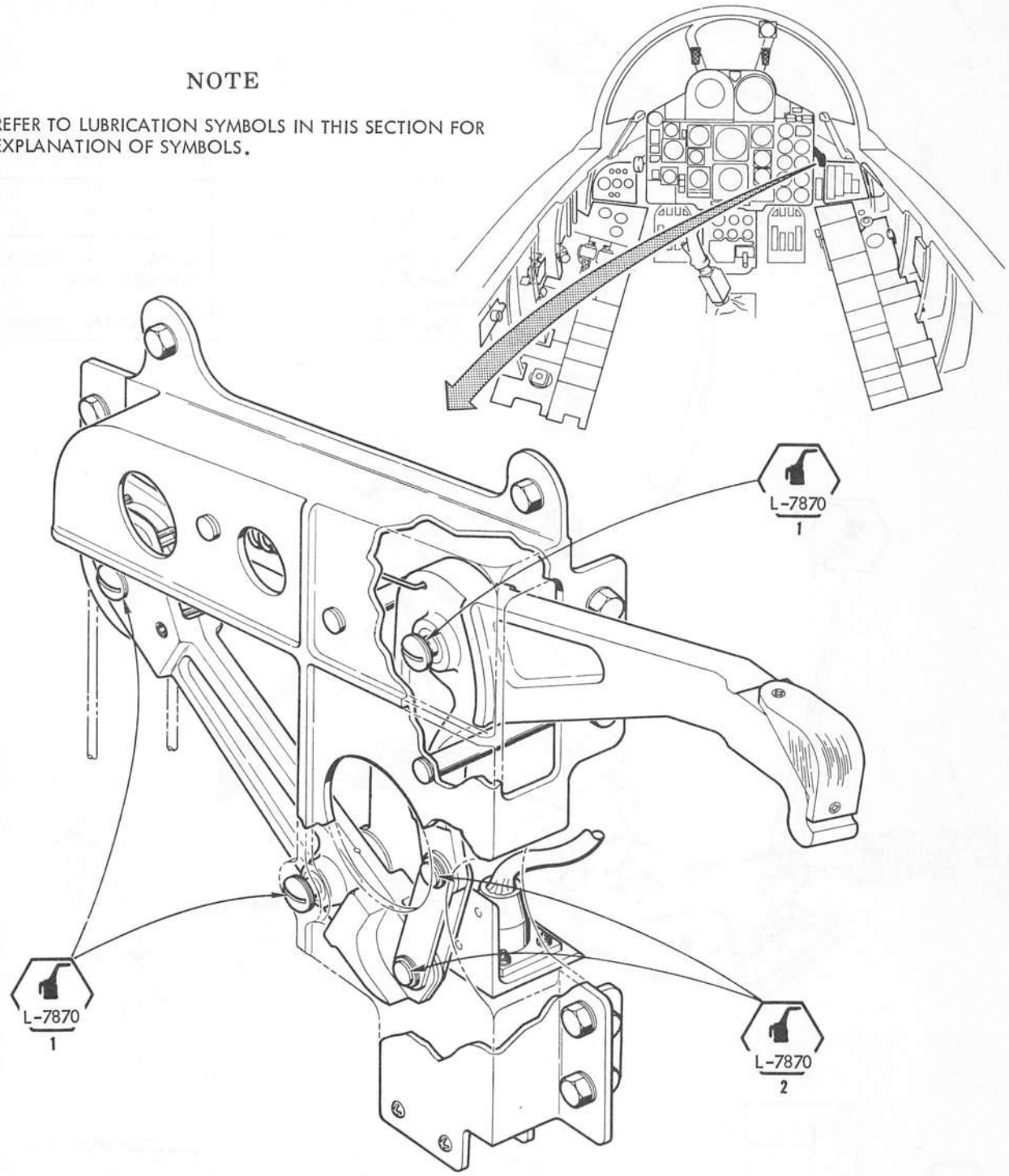
[3] USE SPECIAL T-HANDLE ADAPTER (6319) TO LUBRICATE THIS POINT.

FDC-2-1.1-(102)

Figure 7-18. Arresting Gear Lubrication

NOTE

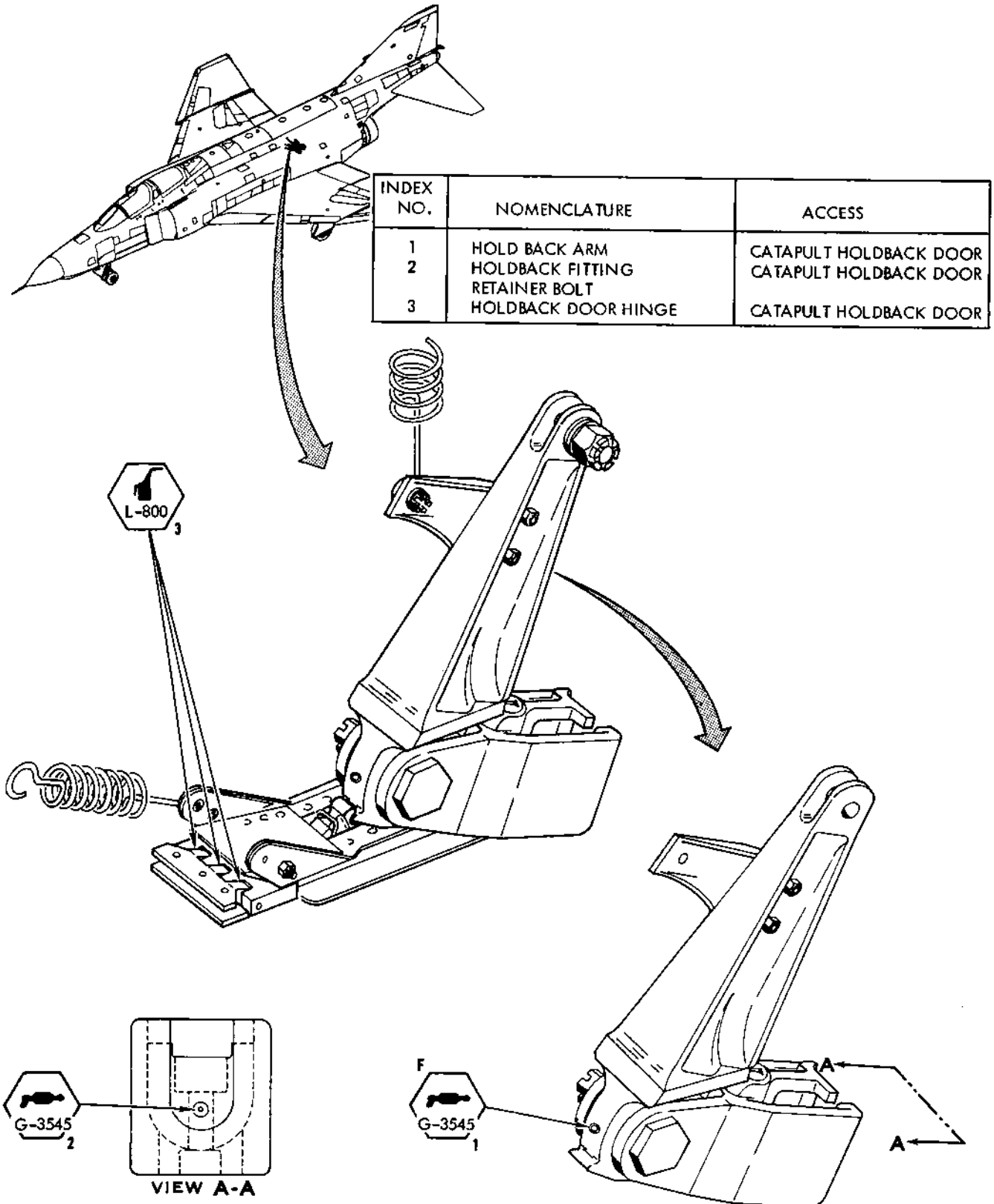
1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.



INDEX NO.	NOMENCLATURE	ACCESS
1	BOLT	FWD COCKPIT
2	PIN	FWD COCKPIT

FDC-2-1.1-(103)

Figure 7-19. Arresting Gear Control Handle Lubrication



INDEX NO.	NOMENCLATURE	ACCESS
1	HOLD BACK ARM	CATAPULT HOLDBACK DOOR
2	HOLDBACK FITTING RETAINER BOLT	CATAPULT HOLDBACK DOOR
3	HOLDBACK DOOR HINGE	CATAPULT HOLDBACK DOOR

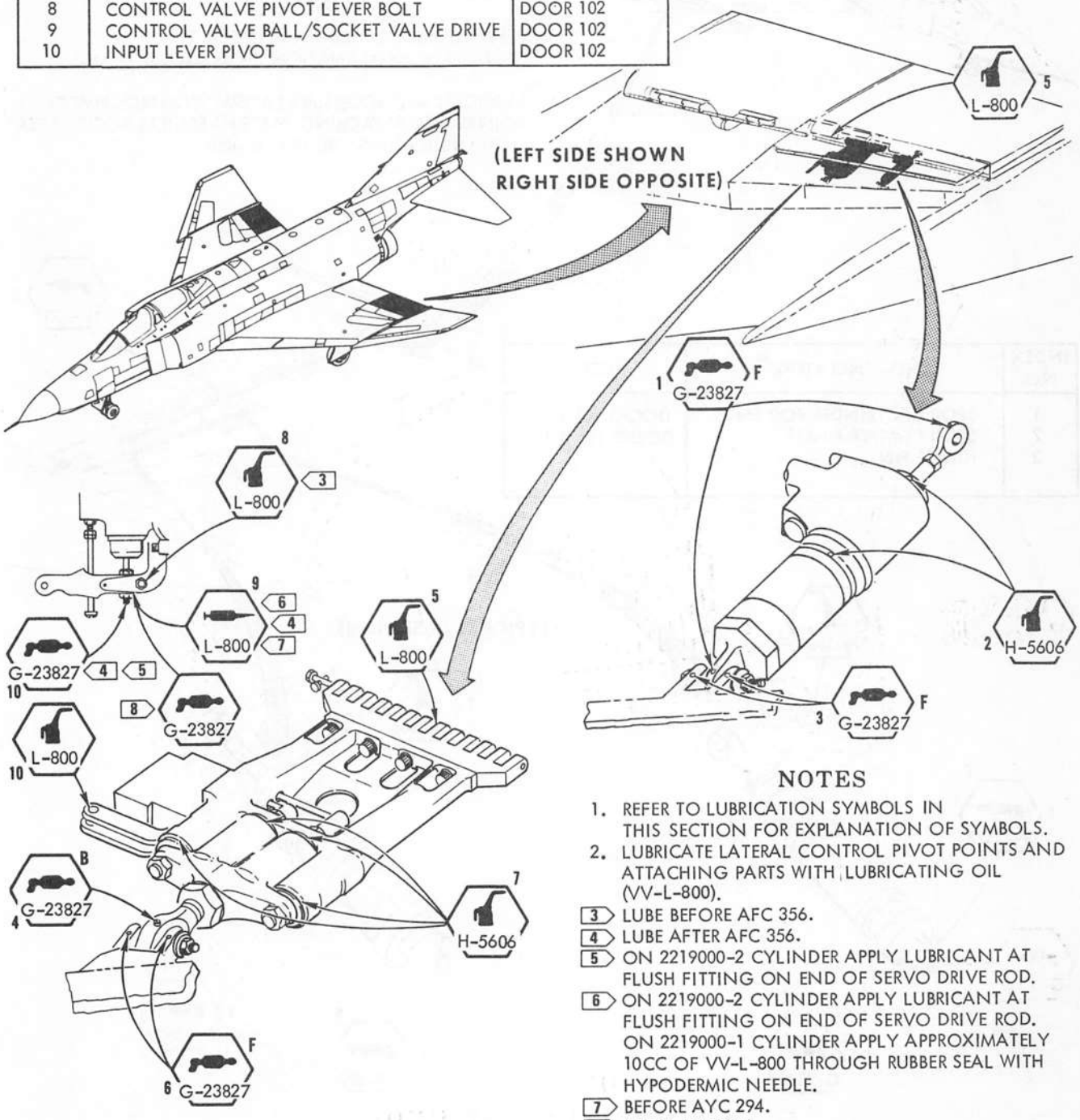
NOTE

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

FDC-2-1.1-(104)

Figure 7-20. Catapult Holdback Fitting Lubrication

INDEX NO	NOMENCLATURE	ACCESS
1	AILERON DAMPER ROD ENDS	DOOR 102 & 105
2	AILERON DAMPER WIPER RINGS	DOOR 102
3	AILERON DAMPER ATTACH FITTING	DOOR 102
4	AILERON POWER CYLINDER ROD END	DOOR 102
5	HINGE PIN AND HINGE TANGS	DOOR 102
6	AILERON ACTUATOR ATTACH FITTING	DOOR 102
7	AILERON ACTUATOR WIPER RINGS	DOOR 102
8	CONTROL VALVE PIVOT LEVER BOLT	DOOR 102
9	CONTROL VALVE BALL/SOCKET VALVE DRIVE	DOOR 102
10	INPUT LEVER PIVOT	DOOR 102



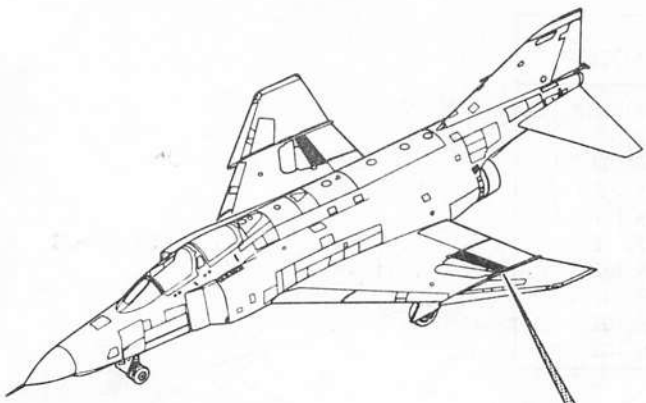
NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. LUBRICATE LATERAL CONTROL PIVOT POINTS AND ATTACHING PARTS WITH LUBRICATING OIL (VV-L-800).

[3] LUBE BEFORE AFC 356.
[4] LUBE AFTER AFC 356.
[5] ON 2219000-2 CYLINDER APPLY LUBRICANT AT FLUSH FITTING ON END OF SERVO DRIVE ROD.
[6] ON 2219000-2 CYLINDER APPLY LUBRICANT AT FLUSH FITTING ON END OF SERVO DRIVE ROD. ON 2219000-1 CYLINDER APPLY APPROXIMATELY 10CC OF VV-L-800 THROUGH RUBBER SEAL WITH HYPODERMIC NEEDLE.
[7] BEFORE AYC 294.
[8] AFTER AYC 294.

FDC-2-1.1-(105)

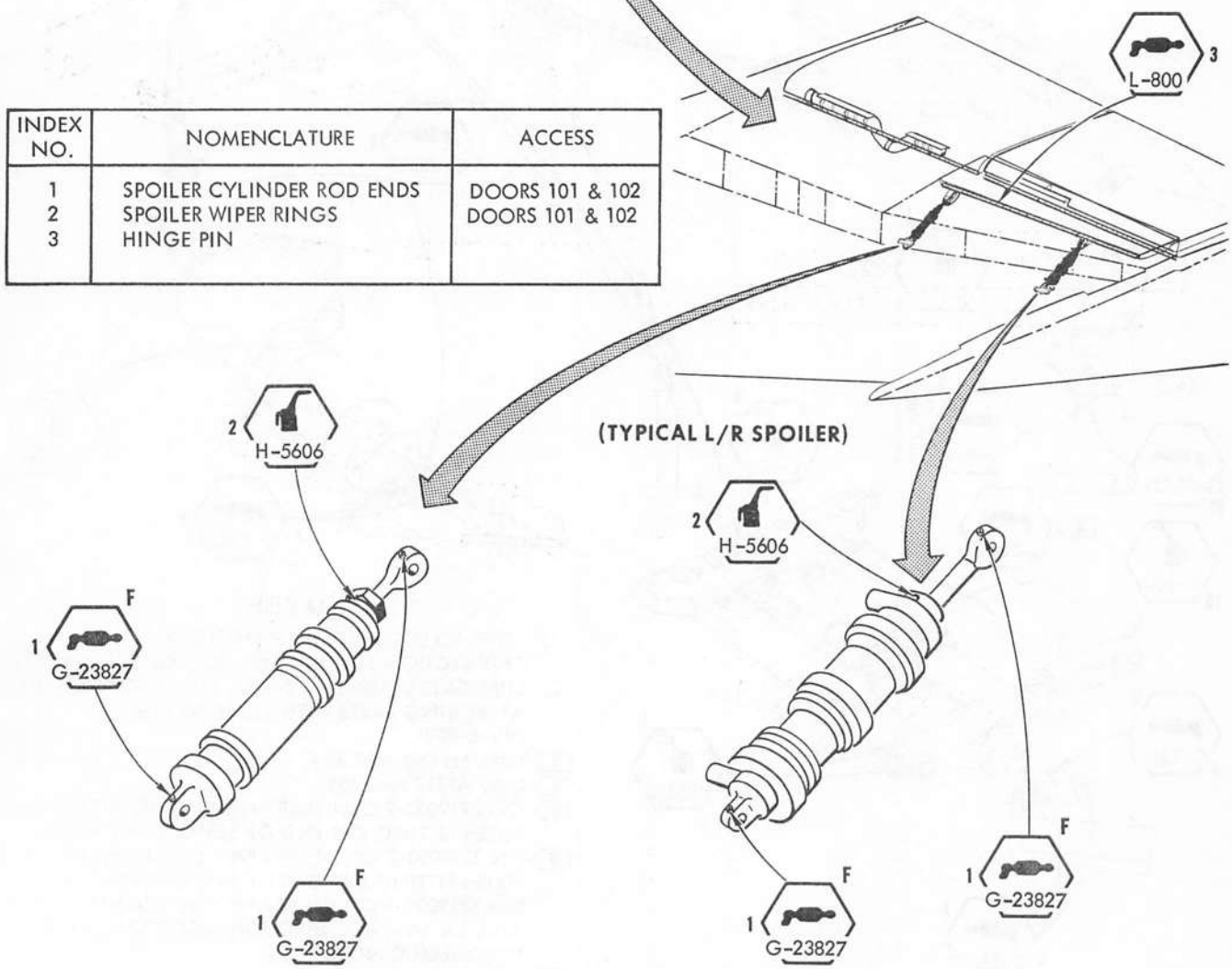
Figure 7-21. Aileron Lubrication



NOTES

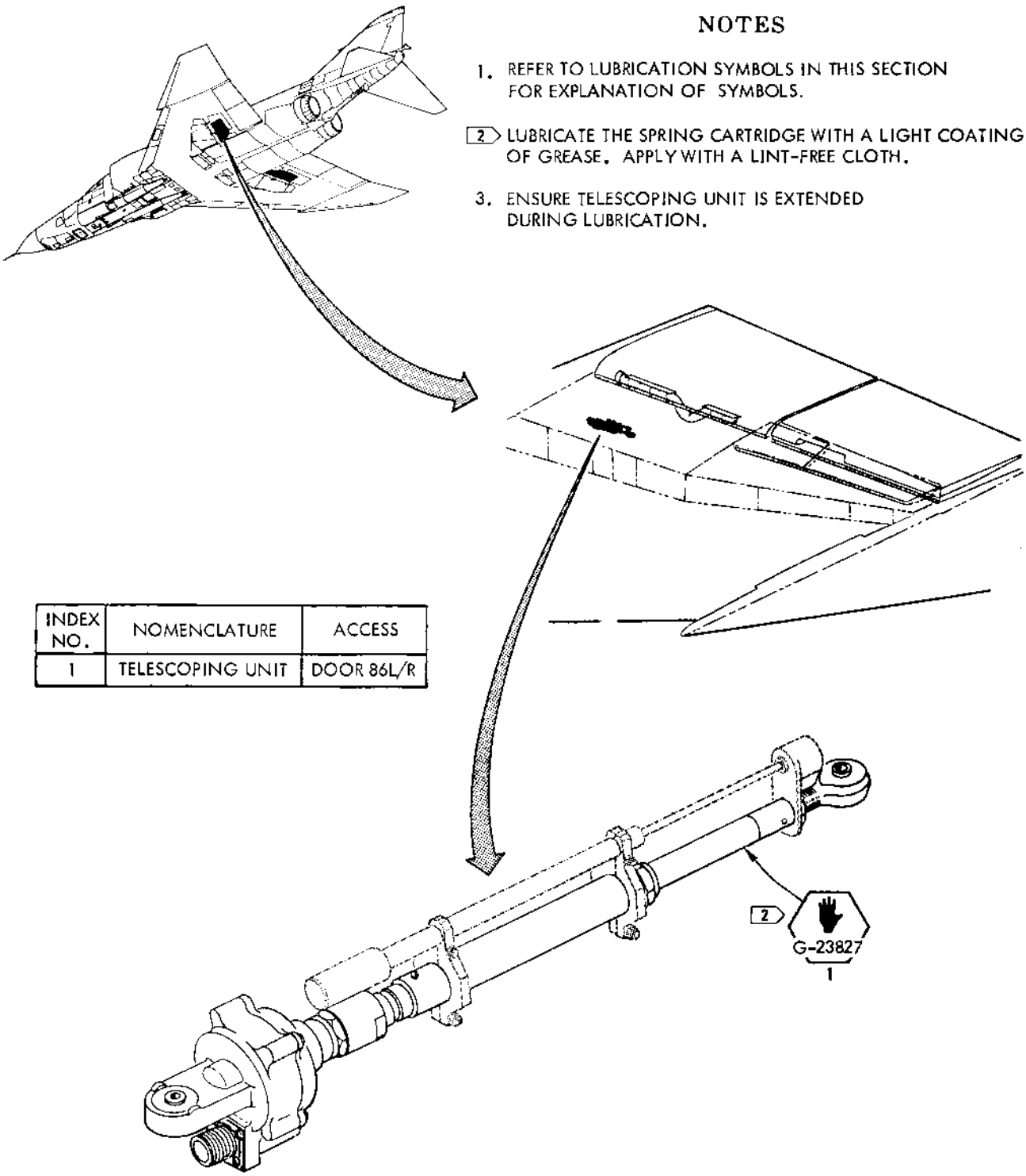
1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. LUBRICATE ALL ACCESSIBLE LATERAL CONTROL PIVOT POINTS AND ATTACHING PARTS IN SPOILER ACCESS AREA WITH LUBRICATING OIL (VV-L-800).

INDEX NO.	NOMENCLATURE	ACCESS
1	SPOILER CYLINDER ROD ENDS	DOORS 101 & 102
2	SPOILER WIPER RINGS	DOORS 101 & 102
3	HINGE PIN	



FDC-2-1.1-(106)

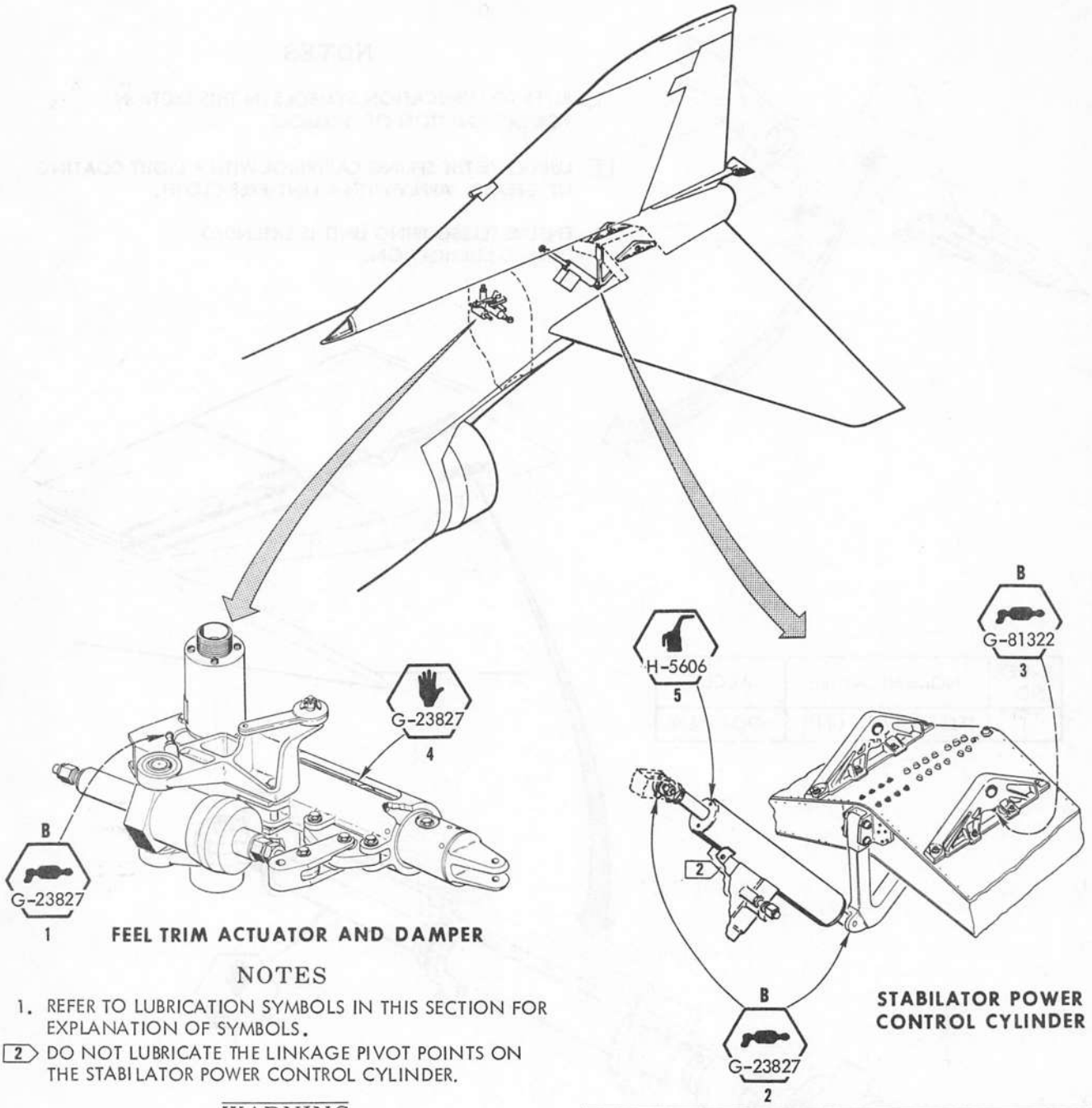
Figure 7-22. Spoiler Lubrication



INDEX NO.	NOMENCLATURE	ACCESS
1	TELESCOPING UNIT	DOOR 86L/R

FDC-2-1.1-(107)

Figure 7-23. Lateral Feel Trim Spring Cartridge Screwjack Acutator Lubrication



FEEL TRIM ACTUATOR AND DAMPER

STABILATOR POWER CONTROL CYLINDER

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. DO NOT LUBRICATE THE LINKAGE PIVOT POINTS ON THE STABILATOR POWER CONTROL CYLINDER.

WARNING

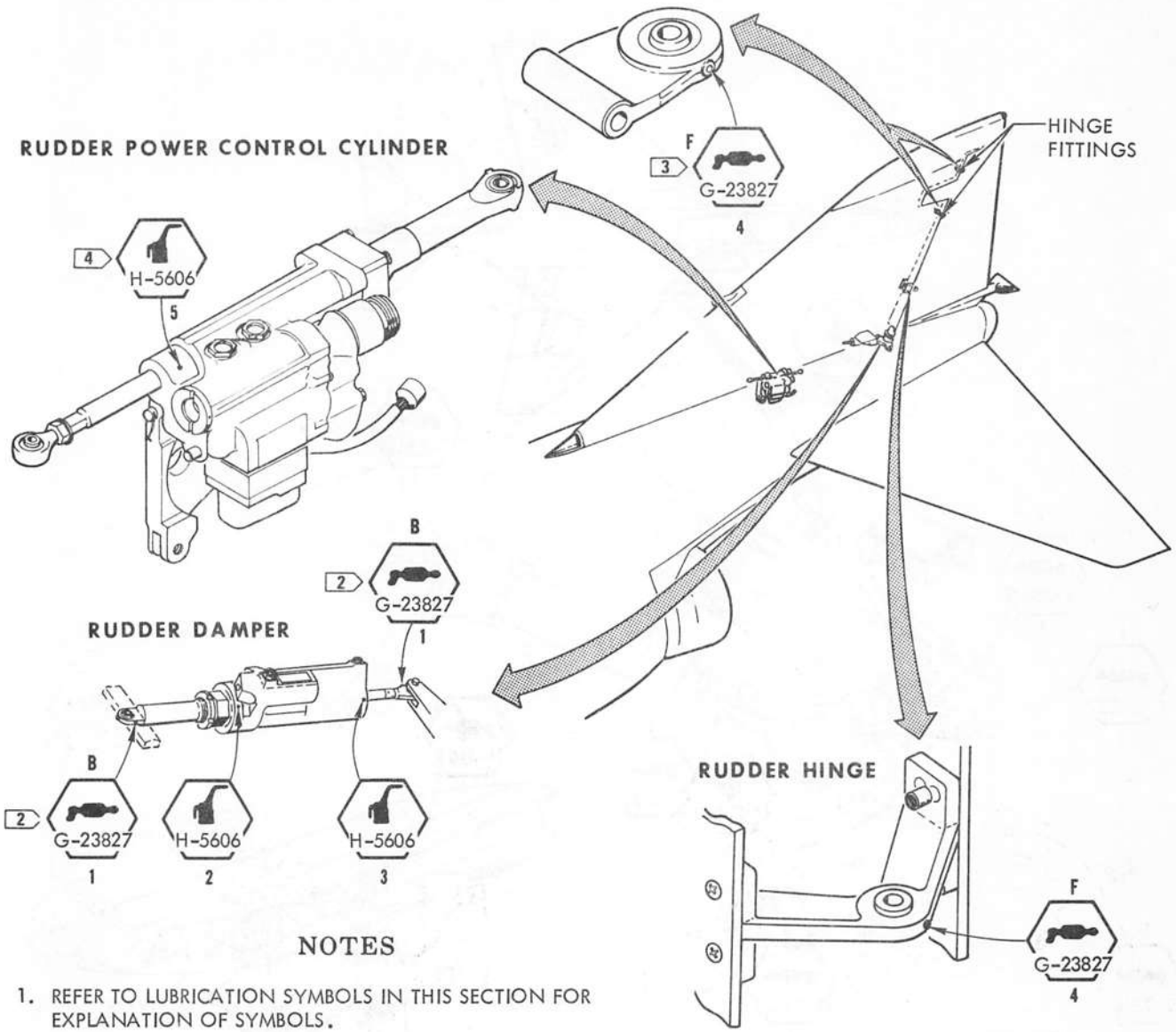
LUBRICATION OF THE LINKAGE PIVOT POINTS MAY REMOVE THE DRY FILM LUBRICANT AND INITIATE CORROSIVE ATTACK. SUCH EVENTS CAN CAUSE BINDING OF THE CYLINDER, CREATING HIGH FRICTIONAL FORCES RESULTING IN SEVERE PORPOISING.

3. --- DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

INDEX NO.	NOMENCLATURE	ACCESS
1	DAMPER TRUNNION SUPPORTS	DOOR 64
2	POWER CONTROL CYLINDER ROD ENDS	DOOR 63
3	HINGE FITTINGS	STAB. HINGE COVER PLATE L/R
4	FEEL TRIM SUPPORT CYLINDER	DOOR 64
5	BEARING	DOOR 63

FDC-2-1.1-(108)

Figure 7-24. Stabilator Control System Lubrication



NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

2 LUBRICATE THE ROD ENDS OF 32-69304-3 DAMPER ONLY. THE ROD ENDS OF 32-69304-301 DAMPER DO NOT REQUIRE LUBRICATION.

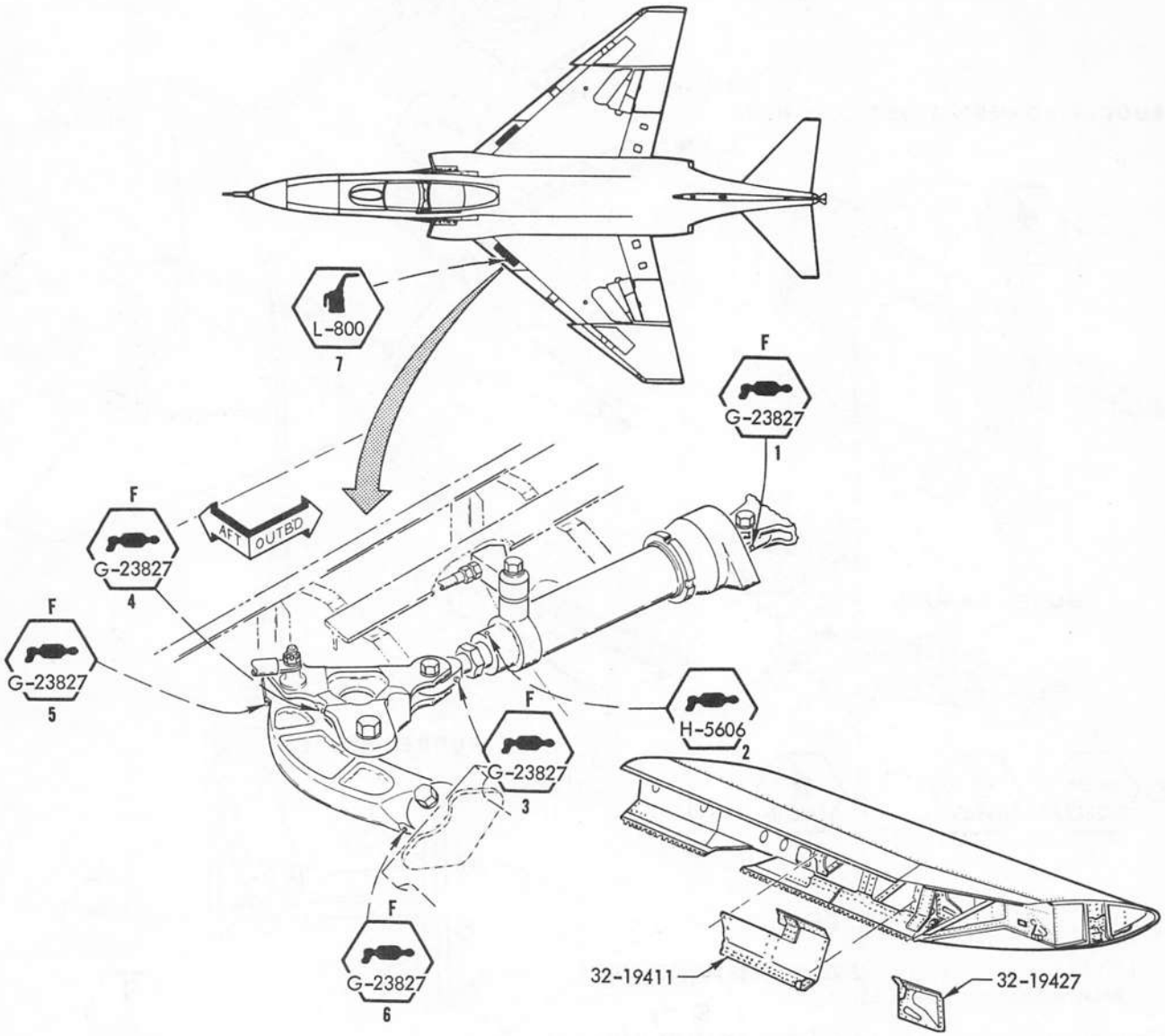
3 RUDDER HINGE WITHOUT GREASE FITTING REQUIRES BEARING TO BE LUBRICATED WITH LUBRICATING OIL (VV-L-800).

4 IF NO OIL HOLE IS PROVIDED, WIPE EXPOSED PISTON ROD WITH HYDRAULIC FLUID (MIL-H-5606).

INDEX NO.	NOMENCLATURE	ACCESS
1	RUDDER DAMPER CYLINDER ENDS	DOOR 66 R
2	RUDDER DAMPER END CAP	DOOR 66 R
3	RUDDER DAMPER BARREL	DOOR 66 R
4	RUDDER HINGE FITTINGS	RUDDER HINGE LINE
5	RUDDER POWER CONTROL CYLINDER	DOOR 66 L/R AND 67 L/R

FDC-2-1.1-(109)

Figure 7-25. Rudder Control System Lubrication



INDEX NO.	NOMENCLATURE	ACCESS
1	CYLINDER END CAP BEARING	32-19427
2	CYLINDER WIPER RING	32-19411
3	CYLINDER ROD END BEARING	32-19411
4	BELLCRANK BEARING	32-19411
5	DRIVE LINK BEARING	32-19411
6	LINK FITTING BEARING	32-19411
7	FLAP HINGE PIN	32-19411

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

FDD-2-1.1-(110)

Figure 7-26. Inboard Leading Edge Flap Lubrication - 151975t THRU 153100y BEFORE AFC 218

INDEX NO.	NOMENCLATURE	ACCESS
1	ACTUATING CYLINDER END CAP BEARING	DOOR NO. 72
2	FLAP HINGE PINS	
3	ACTUATING CYLINDER WIPER RING	DOOR NO. 112
4	DRIVE LINK HINGE PIN	DOOR NO. 112
5	UPPER BELLCRANK SUPPORT BEARING	DOOR NO. 112
6	DRIVE ROD BEARINGS	DOOR NO. 112
7	BELLCRANK BEARING	DOOR NO. 112
8	LOWER BELLCRANK SUPPORT BEARING	DOOR NO. 112
9	ACTUATING CYLINDER ROD END BEARING	DOOR NO. 112

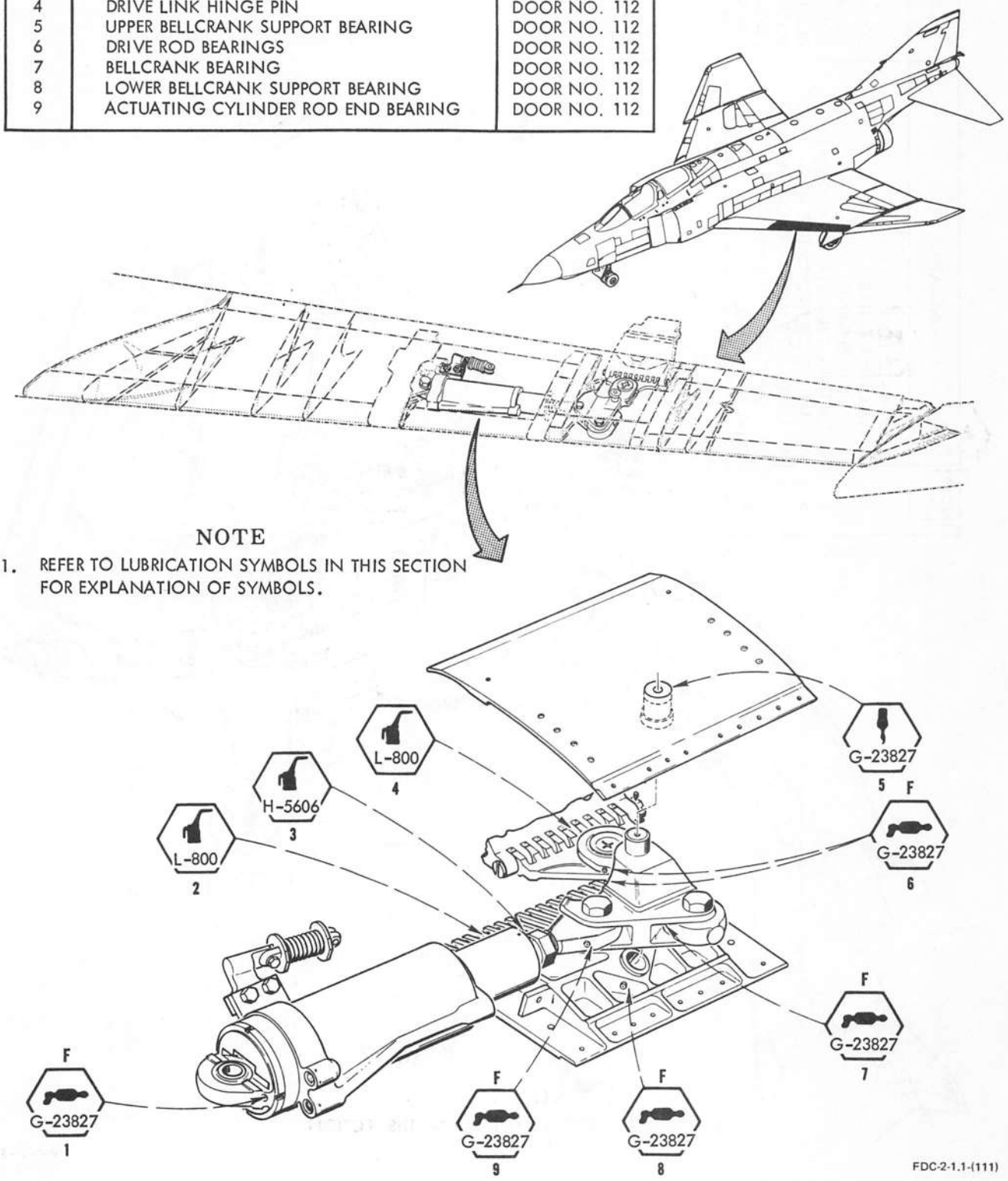


Figure 7-27. Center Leading Edge Flap Lubrication

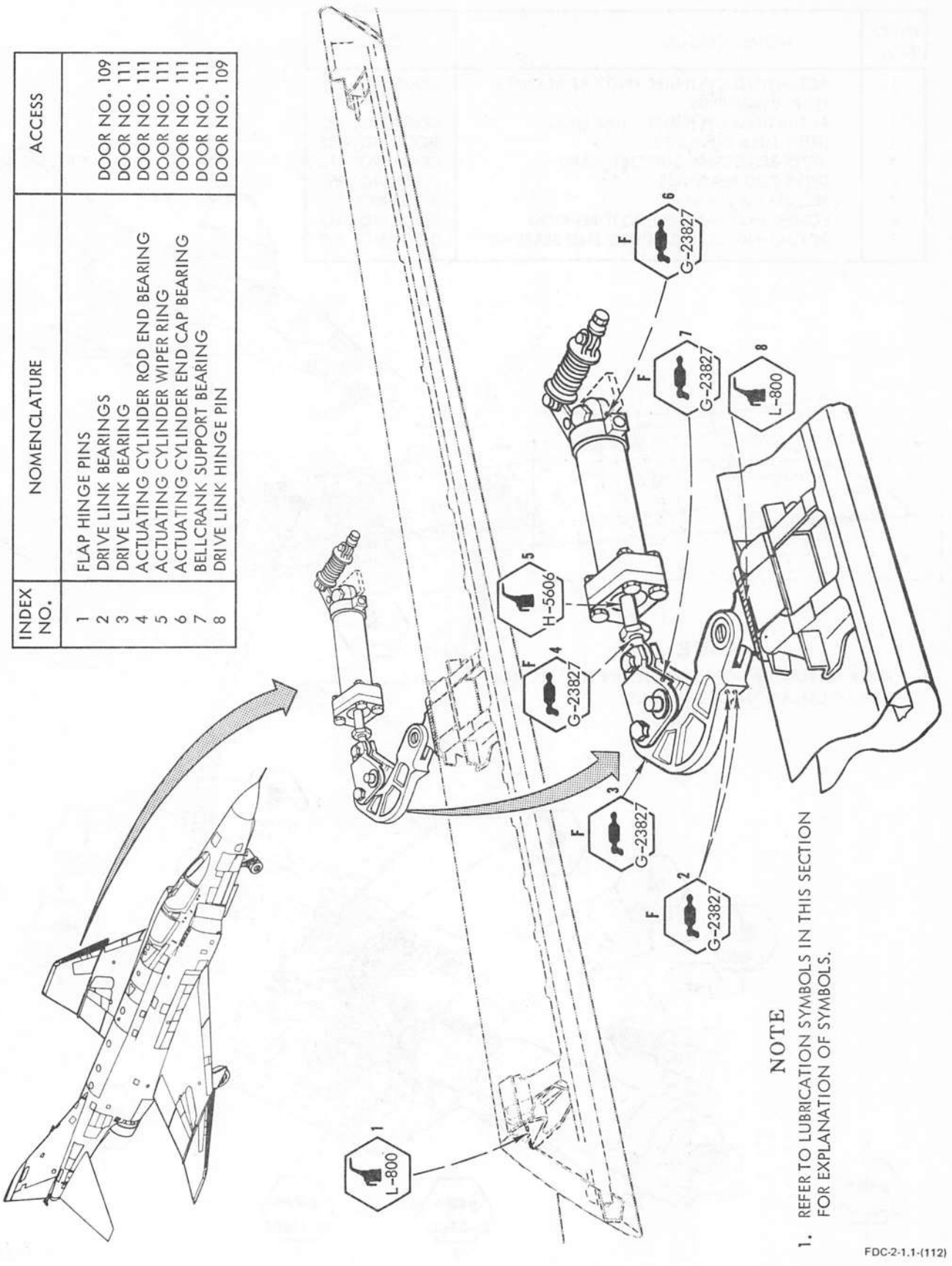
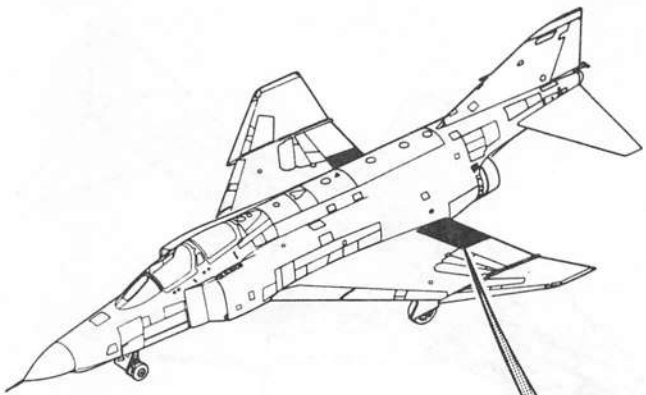


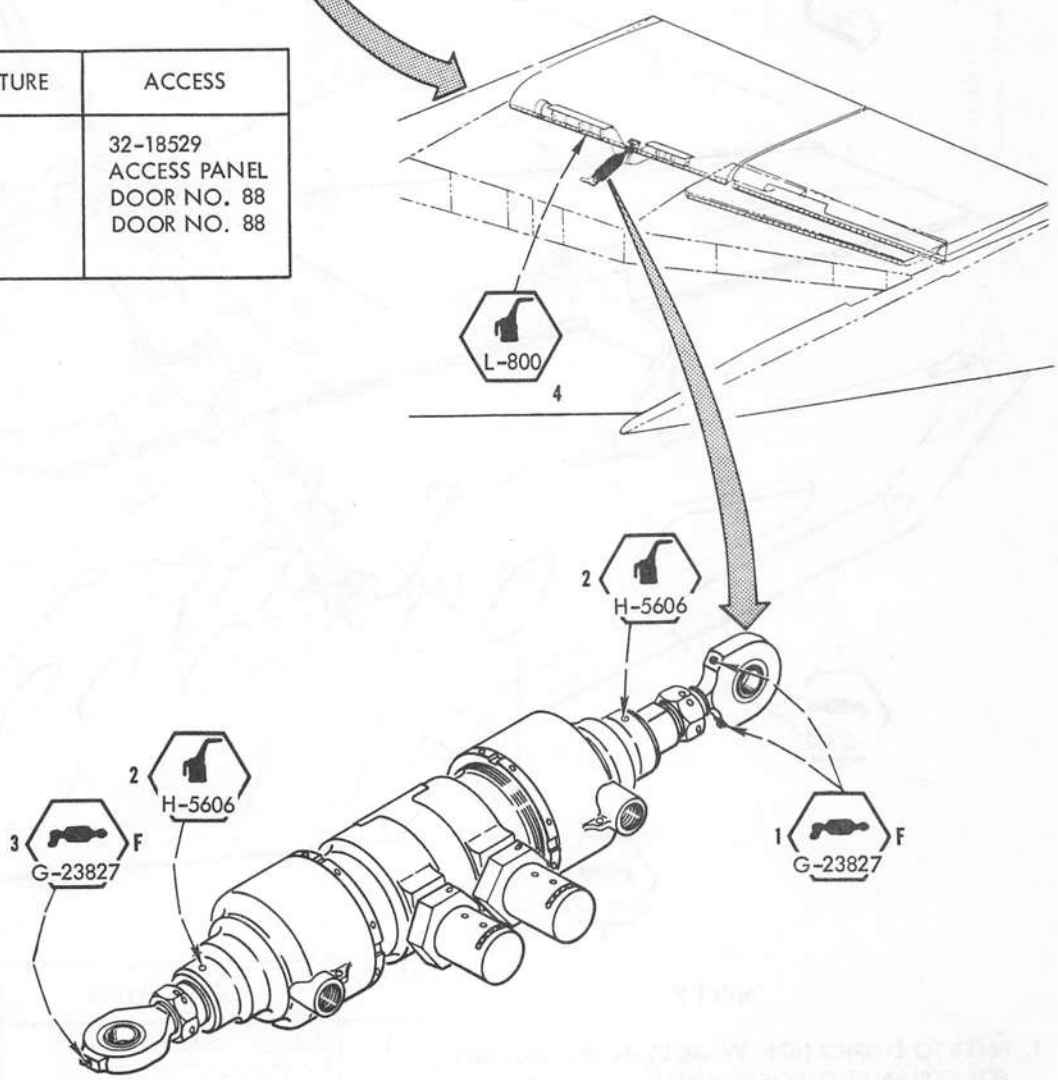
Figure 7-28. Outboard Leading Edge Flap Lubrication

NOTE

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

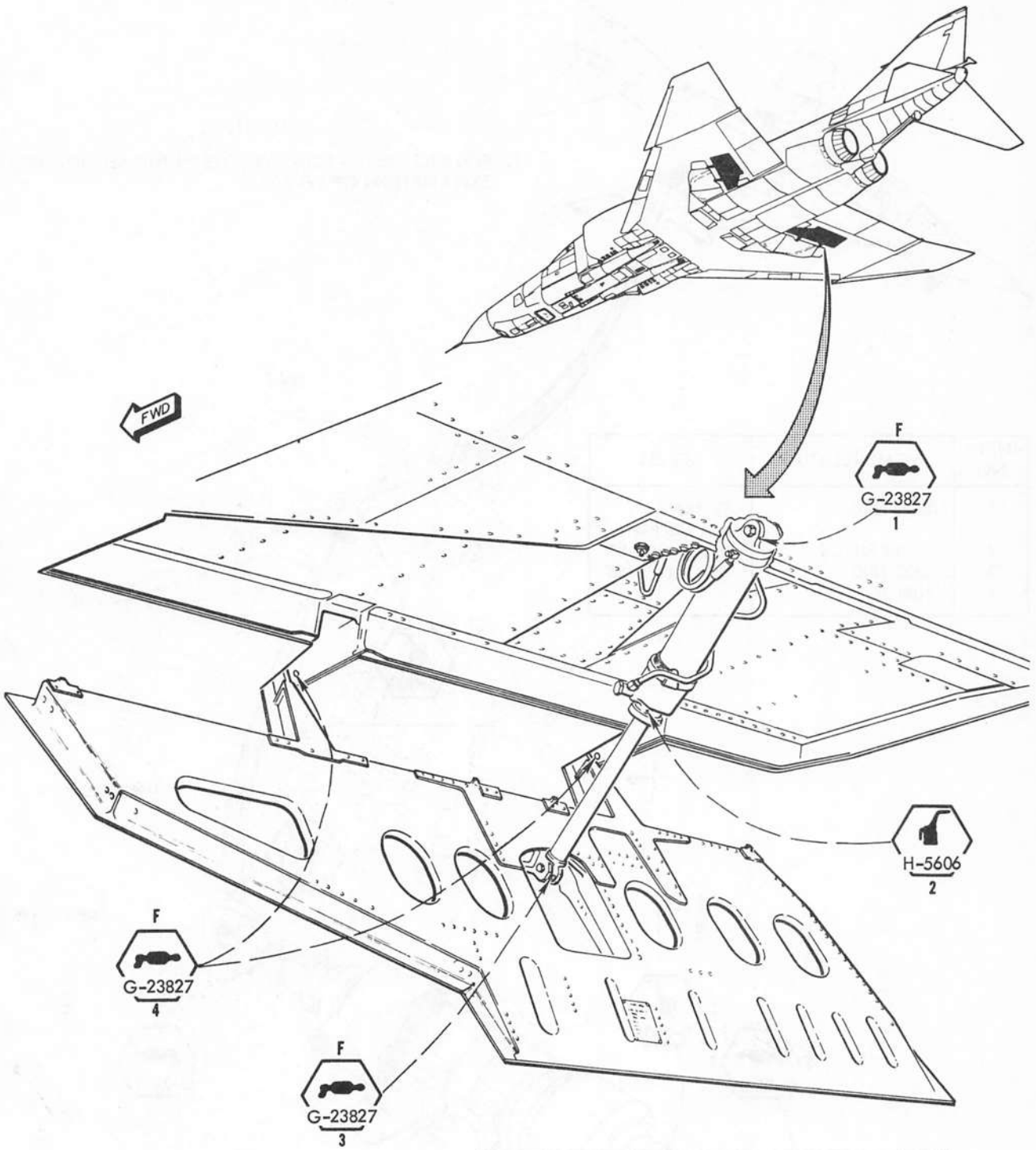


INDEX NO.	NOMENCLATURE	ACCESS
1	ROD END	32-18529 ACCESS PANEL
2	WIPER RINGS	DOOR NO. 88
3	ROD END	DOOR NO. 88
4	HINGE PIN	



FDC-2-1.1-(113)

Figure 7-29. Trailing Edge Flap Lubrication



NOTE

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

INDEX NO.	NOMENCLATURE	ACCESS
1	END CAP BEARING	SPEED BRAKE
2	CYLINDER WIPER RING	SPEED BRAKE
3	CYLINDER ROD END BEARING	SPEED BRAKE
4	HINGE BEARINGS	SPEED BRAKE

FDC-2-1.1-(114)

Figure 7-30. Speed Brake Lubrication

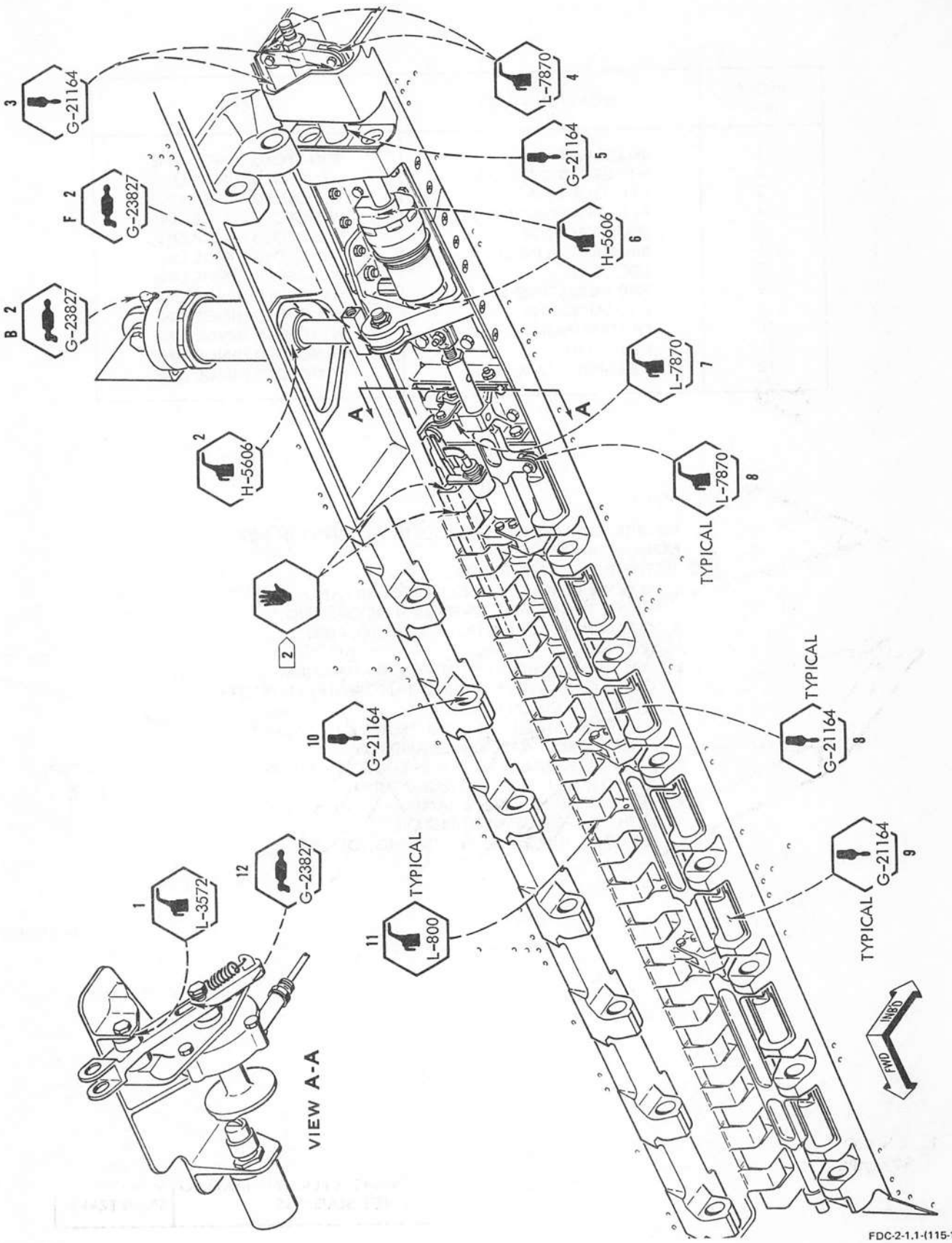


Figure 7-31. Wing Fold System Lubrication (Sheet 1 of 2)

INDEX NO.	NOMENCLATURE	ACCESS
1	BELLCRANK	WINGFOLD HINGE LINE
2	WINGFOLD CYLINDER	WINGFOLD HINGE LINE
3	AFT LOCK PINS	WINGFOLD HINGE LINE
4	AFT PIN ACTUATING BAR	WINGFOLD HINGE LINE
5	REAR ACTUATOR ROD	WINGFOLD HINGE LINE
6	PIN PULL CYLINDER	WINGFOLD HINGE LINE
7	LOCK PIN	WINGFOLD HINGE LINE
8	FWD ACTUATING BAR	WINGFOLD HINGE LINE
9	FWD LOCK PINS	WINGFOLD HINGE LINE
10	OUTER WINGFOLD LUGS	WINGFOLD HINGE LINE
11	HINGE PIN	WINGFOLD HINGE LINE
12	WINGFOLD CAM SLOT	WINGFOLD HINGE LINE

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. 151975† THRU 151977† AT PAR.
   1. REMOVE HINGE PIN AND INSPECT PIN AND HINGE TANGS FOR CORROSION OR GALLING.
   2. CLEAN HINGE TANG HOLES WITH SOLVENT (P-D-680).
   3. POLISH TANG HOLES WITH 400/500 ALUMINUM OXIDE GRIT (AVOID MAKING TANG HOLES OVERSIZE).
   4. RINSE AND CLEAN HOLES.
   5. APPLY MIL-C-5541 CHEMICAL TREATMENT TO TANG HOLES. FRESH WATER RINSE AND DRY.
   6. COAT TANG HOLES WITH MIL-C-16173 (GRADE 2) CORROSION PREVENTIVE COMPOUND.
   7. LUBRICATE WING HINGE TANGS AND HINGE PIN WITH VV-L-800 LUBRICATING OIL.
   8. REINSTALL HINGE PIN AND SPRING ROLL PIN.

FDC-2-1.1-(115-2)

Figure 7-31. Wing Fold System Lubrication (Sheet 2 of 2)

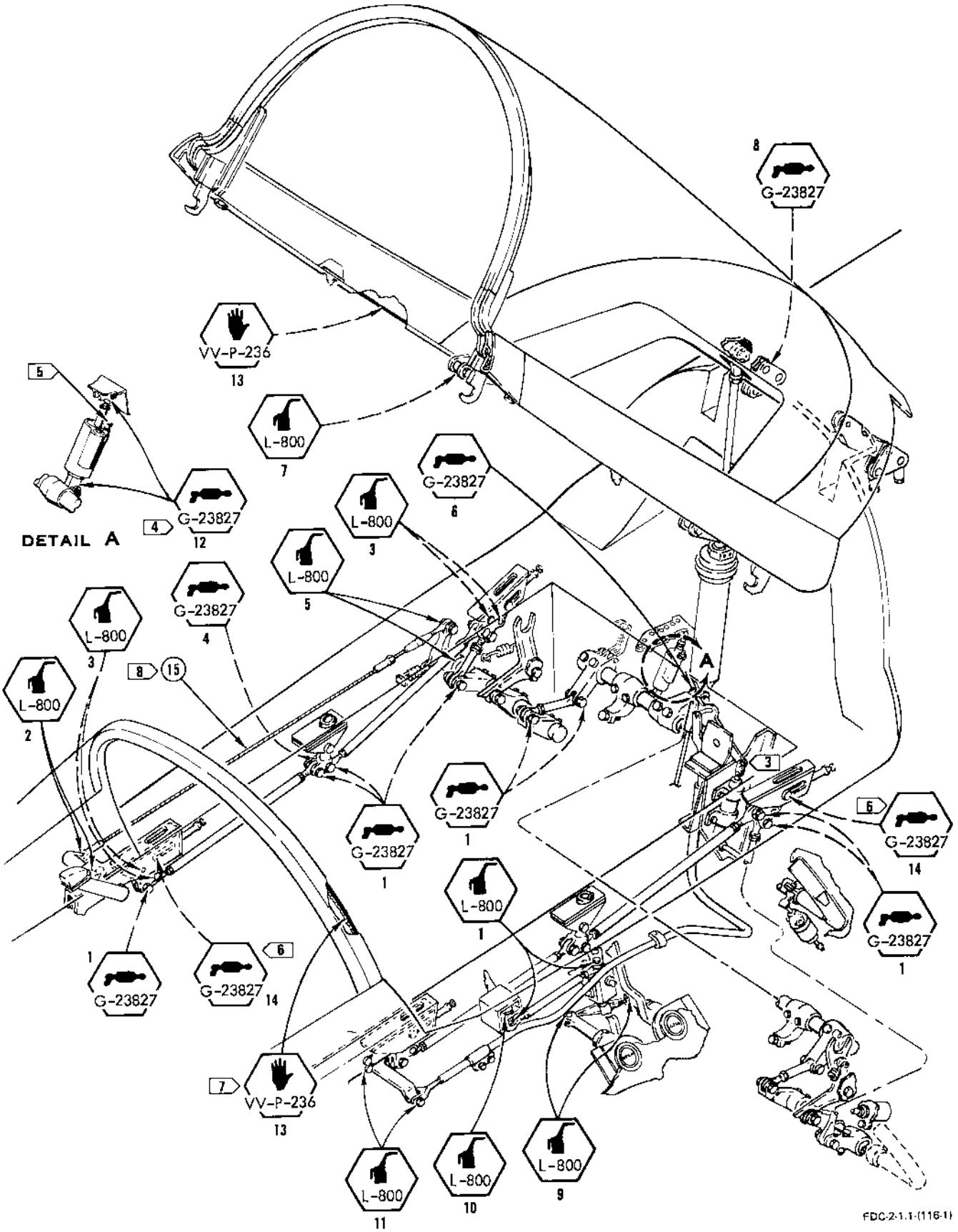


Figure 7–32. Forward Canopy Lubrication (Sheet 1 of 2)

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. ---DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

[3] LUBRICATION OF THE INITIATOR ACTUATING LINKAGE PIVOT POINTS MAY CAUSE THE LUBRICANT TO ENTER THE INITIATOR AND RENDER IT INOPERATIVE. DO NOT LUBRICATE THE PIVOT POINTS OF THE INITIATOR ACTUATING LINKAGE.

[4] 153095y AND UP; ALSO 151975t THRU 153094x, AFTER AFC 291.

[5] DO NOT INJECT GREASE INTO CANOPY DAMPER. REFER TO NAVAIR 03-5CHY-1 FOR CANOPY DAMPER SERVICING.

[6] LUBRICATE CANOPY LOCK ROLLERS WITH GREASE GUN ONLY WHEN GREASE FITTINGS ARE PROVIDED. LUBRICATE ROLLERS WITHOUT GREASE FITTING, WITH LUBRICATING OIL (VV-L-800),BY HAND.

[7] ON AIRCRAFT USING FABRIC COVERED SEAL, DO NOT LUBRICATE.

[8] DO NOT LUBRICATE. CABLE CONTROL ASSEMBLY IS PERMANENTLY LUBRICATED WITH MICRO-FINE GRAPHITE DURING MANUFACTURE. USE OF OIL COULD CAUSE GUMMING AND FREEZING OF CABLE.

INDEX NO.	NOMENCLATURE	ACCESS
1	ROD END BEARING	FWD COCKPIT
2	MANUAL CANOPY UNLOCK ARM AND SUPPORT PIN	FWD COCKPIT
3	LOCK ASSY	FWD COCKPIT
4	BELLCRANK	FWD COCKPIT
5	MANUAL RELEASE IDLER	FWD COCKPIT
6	PNEUMATIC CYLINDER ROD END	FWD COCKPIT
7	CAM FOLLOWER ROLLER	FWD COCKPIT
8	HINGE ASSY	FWD COCKPIT
9	PUSH BUTTON PLUNGER END	FWD COCKPIT
10	LEVER ASSY	FWD COCKPIT
11	EMERGENCY CANOPY RELEASE ARM AND SUPPORT PIN	FWD COCKPIT
12	CANOPY LOCKING MECHANISM DAMPER BEARINGS	FWD COCKPIT
13	CANOPY SEAL	FWD COCKPIT
14	CANOPY LOCK ROLLERS	FWD COCKPIT
15	EMERGENCY CANOPY CONTROL CABLE ASSEMBLY	FWD COCKPIT

FDC-2-1.1-(116-2)

Figure 7-32. Forward Canopy Lubrication (Sheet 2 of 2)

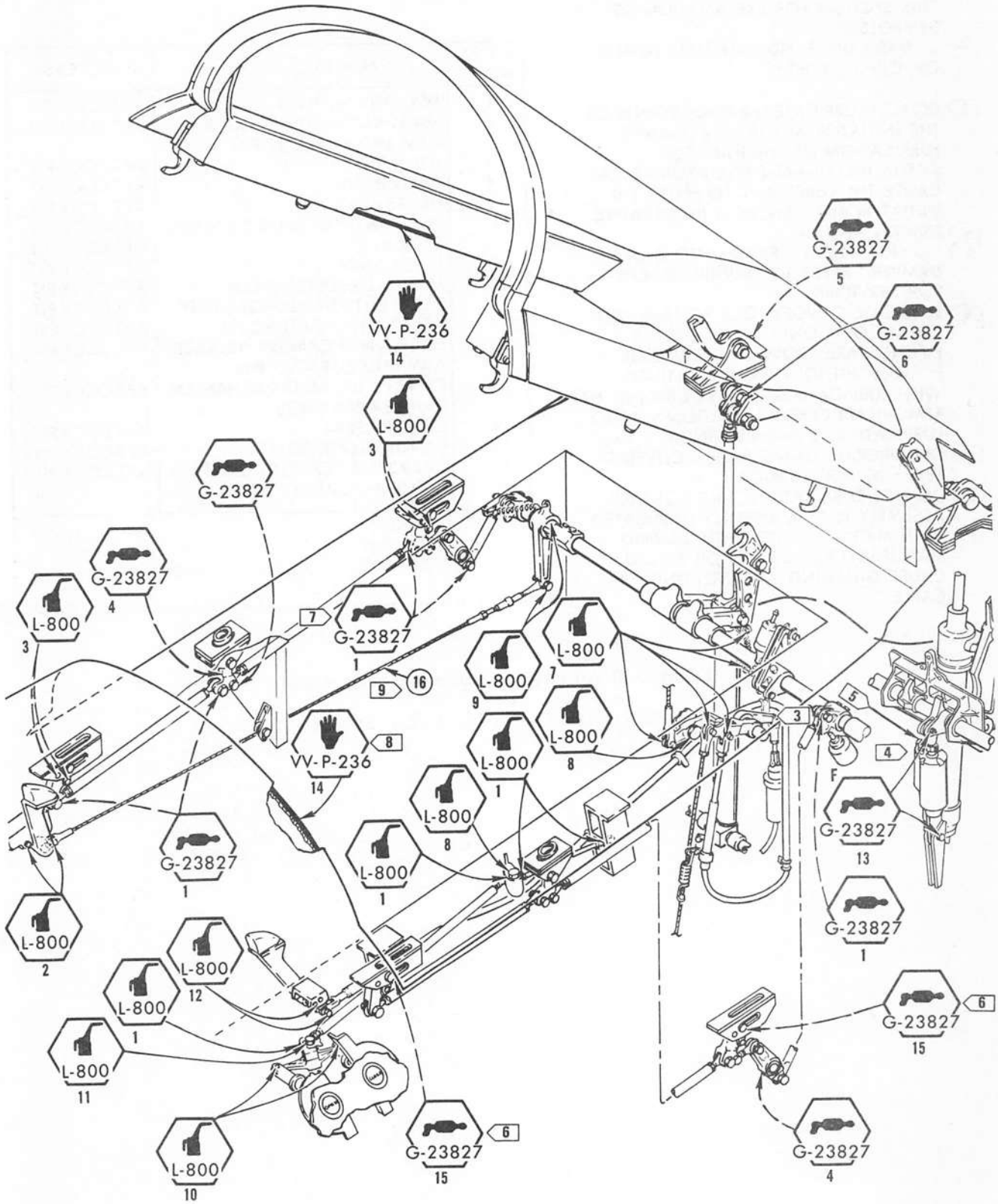


Figure 7–33. Aft Canopy Lubrication (Sheet 1 of 2)

NOTES

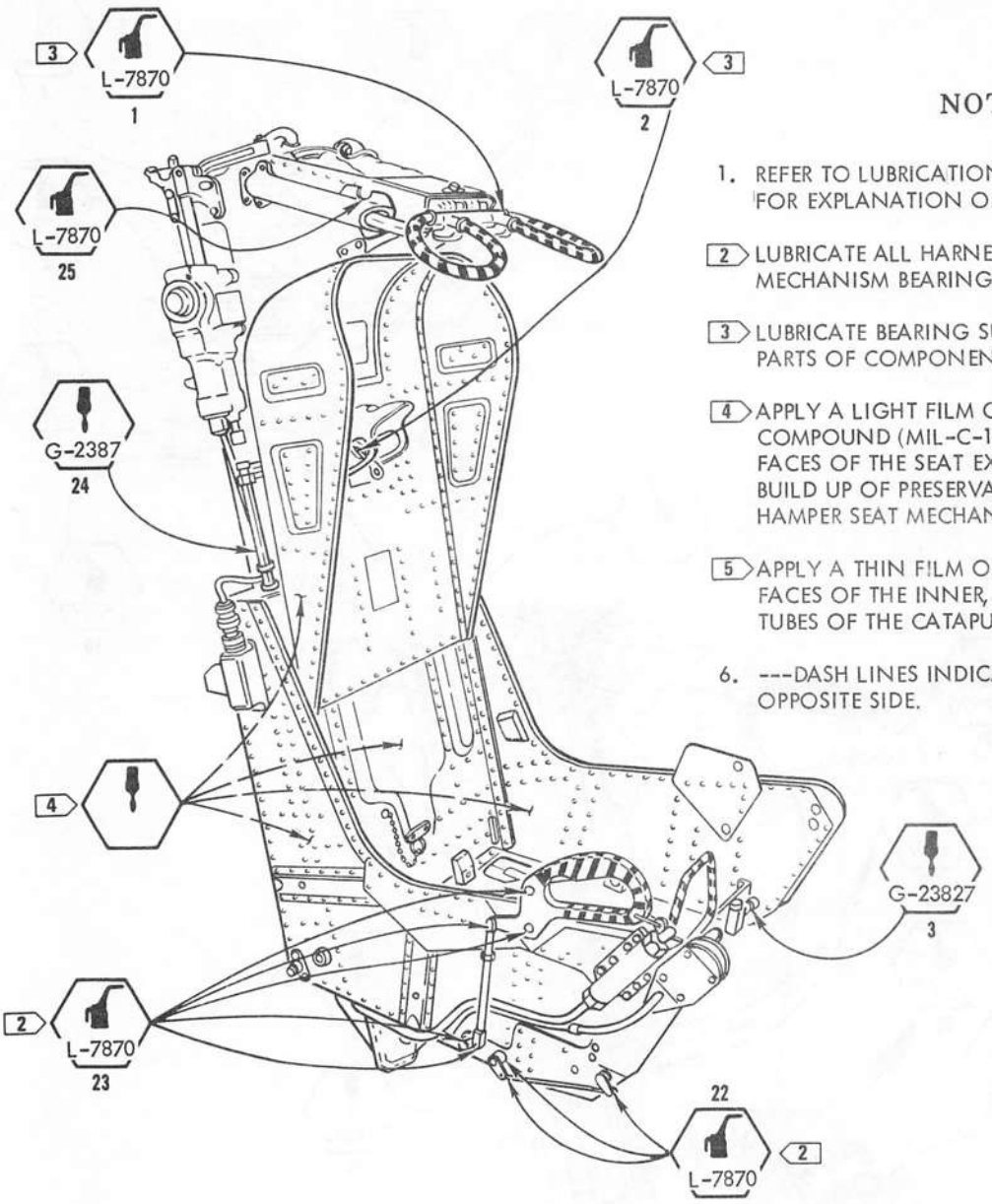
1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. - - -DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

[3] DO NOT LUBRICATE THE PIVOT POINTS OF THE INITIATOR ACTUATION LINKAGE. LUBRICATION OF THE INITIATOR ACTUATING LINKAGE PIVOT POINTS MAY CAUSE THE LUBRICANT TO ENTER THE INITIATOR AND RENDER IT INOPERATIVE.
[4] 153095y AND UP.
[5] DO NOT INJECT GREASE INTO CANOPY DAMPER. REFER TO NAVAIR 03-5CHY-1 FOR SERVICING.
[6] LUBRICATE CANOPY LOCK ROLLERS WITH GREASE GUN ONLY WHEN GREASE FITTINGS ARE PROVIDED. LUBRICATE ROLLERS WITHOUT GREASE FITTINGS, WITH LUBRICATING OIL, (VV-L-800) BY HAND.
[7] REMOVE AFT COCKPIT EJECTION SEAT TO LUBRICATE ROD END BEARING.
[8] ON AIRCRAFT USING FABRIC COVERED SEAL, DO NOT LUBRICATE.
[9] DO NOT LUBRICATE. CABLE CONTROL ASSEMBLY IS PERMANENTLY LUBRICATED WITH MICRO-FINE GRAPHITE DURING MANUFACTURE. USE OF OIL COULD CAUSE GUMMING AND FREEZING OF CABLE.

INDEX NO.	NOMENCLATURE	ACCESS
1	ROD END BEARING	AFT COCKPIT
2	MANUAL CANOPY UNLOCK ARM AND SUPPORT PIN	AFT COCKPIT
3	LOCK ASSY	AFT COCKPIT
4	BELLCRANK	AFT COCKPIT
5	HINGE ASSY	AFT COCKPIT
6	PNEUMATIC CYLINDER ROD END	AFT COCKPIT
7	CLEVIS	AFT COCKPIT
8	LEVER ASSY	AFT COCKPIT
9	MANUAL RELEASE IDLER	AFT COCKPIT
10	PUSH BUTTON PLUNGER END	AFT COCKPIT
11	BELLCRANK PIVOT POINT	AFT COCKPIT
12	EMERGENCY CANOPY RELEASE ARM AND SUPPORT PIN	AFT COCKPIT
13	CANOPY LOCKING MECHANISM DAMPER BEARINGS	AFT COCKPIT
14	CANOPY SEAL	AFT COCKPIT
15	CANOPY LOCK ROLLERS	AFT COCKPIT
16	EMERGENCY CANOPY CONTROL CABLE ASSEMBLY	AFT COCKPIT

FDC-2-1.1-(17-2)

Figure 7–33. Aft Canopy Lubrication (Sheet 2 of 2)



NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

2 LUBRICATE ALL HARNESS AND LEGLINE RELEASE MECHANISM BEARINGS AND BUSHINGS.

3 LUBRICATE BEARING SURFACES OF ALL MOVING PARTS OF COMPONENTS.

4 APPLY A LIGHT FILM OF CORROSION PREVENTIVE COMPOUND (MIL-C-16173, GRADE 4) TO ALL SURFACES OF THE SEAT EXCEPT THOSE AREAS WHERE BUILD UP OF PRESERVATIVE COMPOUND WOULD HAMPER SEAT MECHANISM ACTUATION.

5 APPLY A THIN FILM OF LUBRICANT TO ALL SURFACES OF THE INNER, INTERMEDIATE, AND OUTER TUBES OF THE CATAPULT GUN.

6. ---DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

1. FACE CURTAIN HANDLE
2. HARNESS TAKE UP MECHANISM
3. LEG RESTRAINT LOCKING PLUNGERS
4. TORQUE TUBE BUSHING
5. SCISSORS RELEASE PLUNGER
6. SCISSORS MECHANISM
7. CATAPULT GUN FIRING MECHANISM
8. BANANA LINK
9. CANOPY INTERLOCK MECHANISM
10. CATAPULT FIRING LINKAGE
11. TOP LATCH MECHANISM
12. HARNESS RELEASE TORQUE SHAFT UPPER FITTING
13. CATAPULT GUN
14. HARNESS RELEASE TORQUE SHAFT
15. SEAT BUCKET GUIDE RAILS
16. SEAR AND ROLLER
17. LEG RESTRAINT RELEASE LINKAGE
18. SHOULDER HARNESS SNUBBER RELEASE HANDLE
19. GUILLOTINE FIRING MECHANISM
20. SECONDARY EJECTION HANDLE LINKAGE
21. GUILLOTINE BLADE ASSEMBLY
22. LEG RESTRAINT RELEASE LINKAGE
23. EMERGENCY HARNESS RELEASE HANDLE
24. HARNESS RELEASE TORQUE SHAFT
25. FACE CURTAIN FIRING LINKAGE
26. SLIPPERS

FDC-2-1.1-(118-1)

Figure 7–34. Ejection Seat Lubrication BEFORE AFC 307 (Sheet 1 of 2)

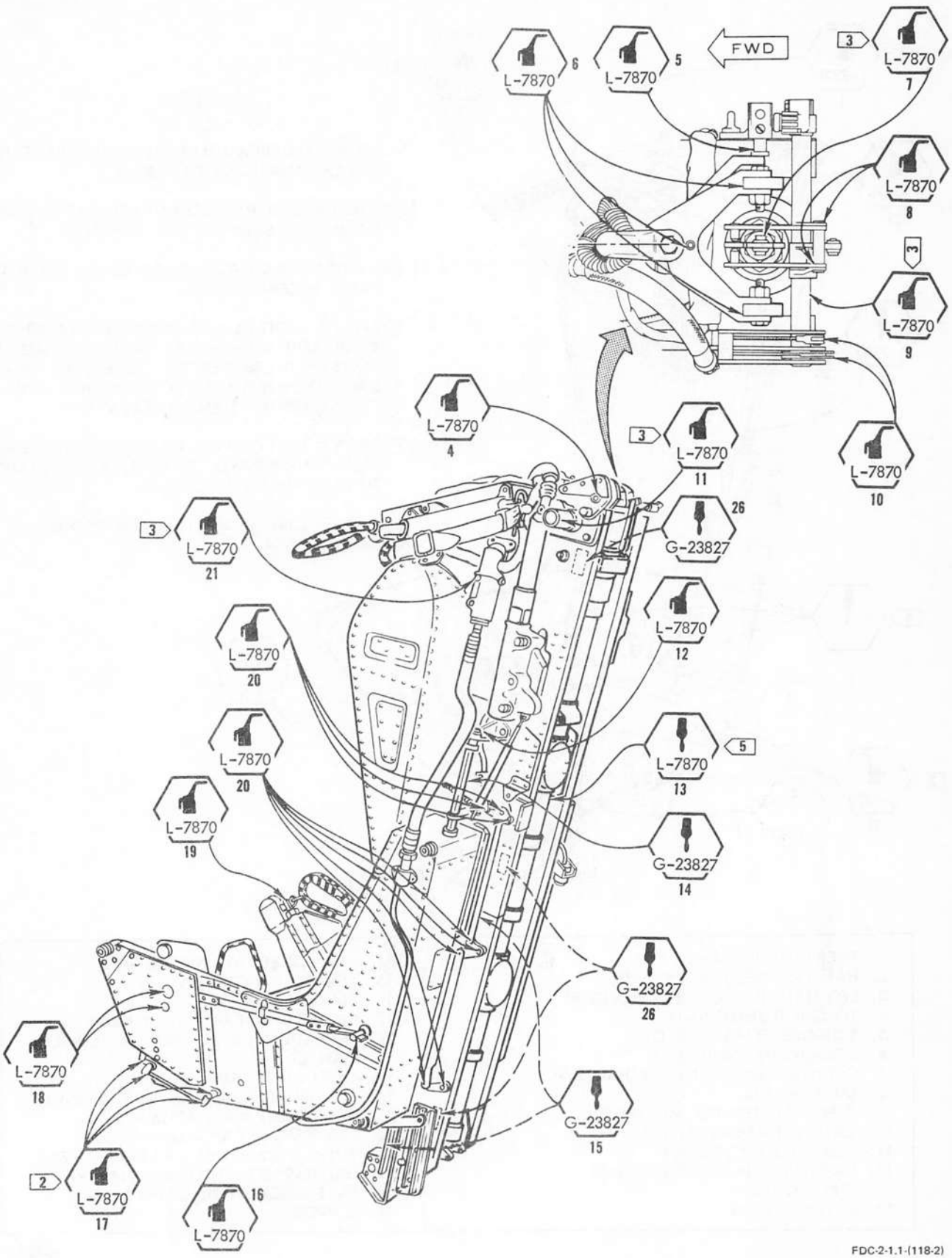


Figure 7-34. Ejection Seat Lubrication BEFORE AFC 307 (Sheet 2 of 2)

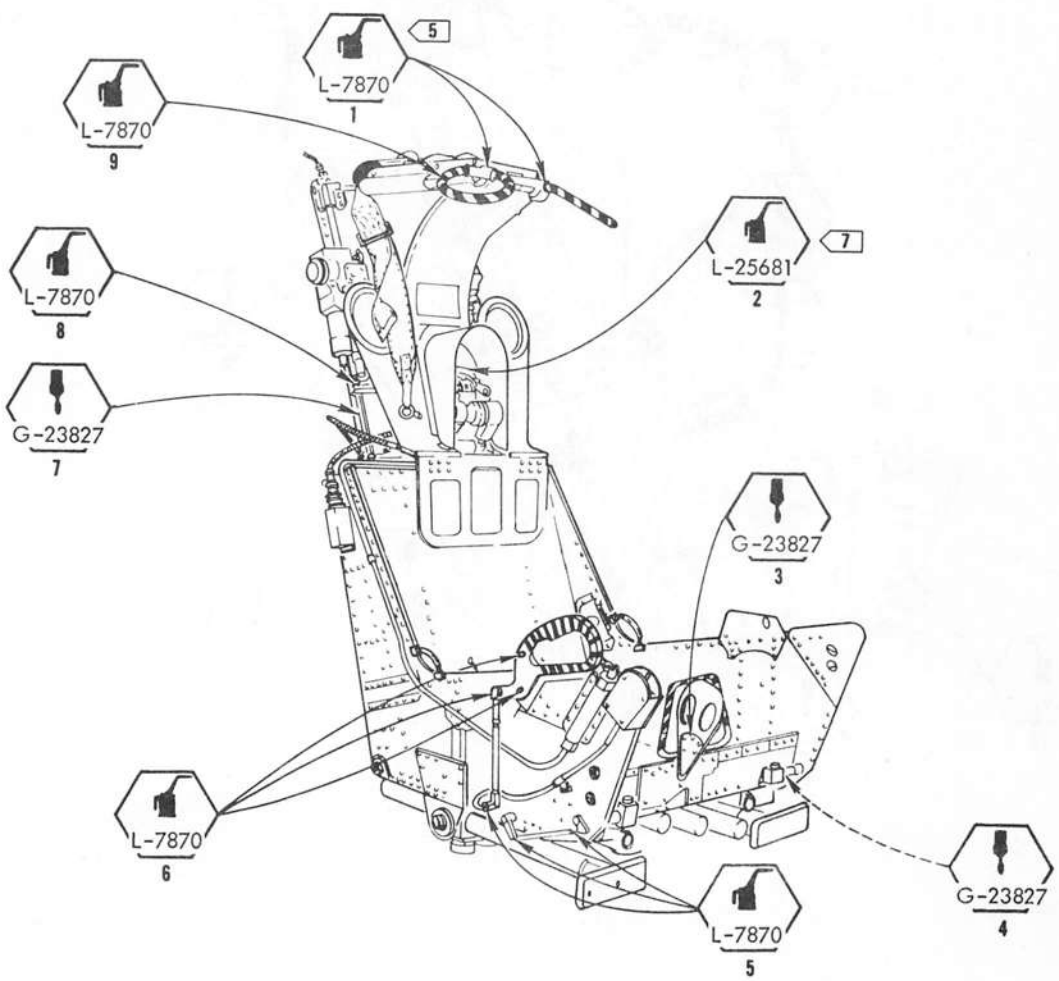
NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. LUBRICATE ALL HARNESS AND LEG LINE RELEASE MECHANISM BEARINGS AND BUSHINGS WITH LUBRICATING OIL (MIL-L-7870).
3. APPLY LIGHT COATING OF GREASE (MIL-G-23827) TO ALL BEARING SURFACES OF MAIN BEAM, SLIPPERS, AND SEAT BUCKET RUNNER GUIDE CHANNELS.
4. CLEAN ALL LUBRICATION POINTS AND SURFACES BEFORE APPLICATION OF LUBRICANT; WIPE OFF EXCESS LUBRICANT UPON COMPLETION.

[5] LUBRICATE BEARING SURFACES OF ALL MOVING PARTS OF COMPONENTS.

6. DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.

[7] ON 50-008-001 AND 50-008-001-3 TALLEY INERTIA REELS ONLY, COMPLETELY EXTEND BOTH LOOP STRAPS SIMULTANEOUSLY AND HOLD. APPLY ONE OR TWO DROPS OF LUBRICATING OIL TO REEL SHAFT AT INTERSECTION OF SHAFT AND BEARINGS. ALLOW OIL TO PENETRATE FOR ABOUT 1 MINUTE. WIPE OFF EXCESS OIL AND ALLOW STRAPS TO RETRACT.



FDC-2-1.1-(119-1)

Figure 7-35. Ejection Seat Lubrication – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 1 of 3)

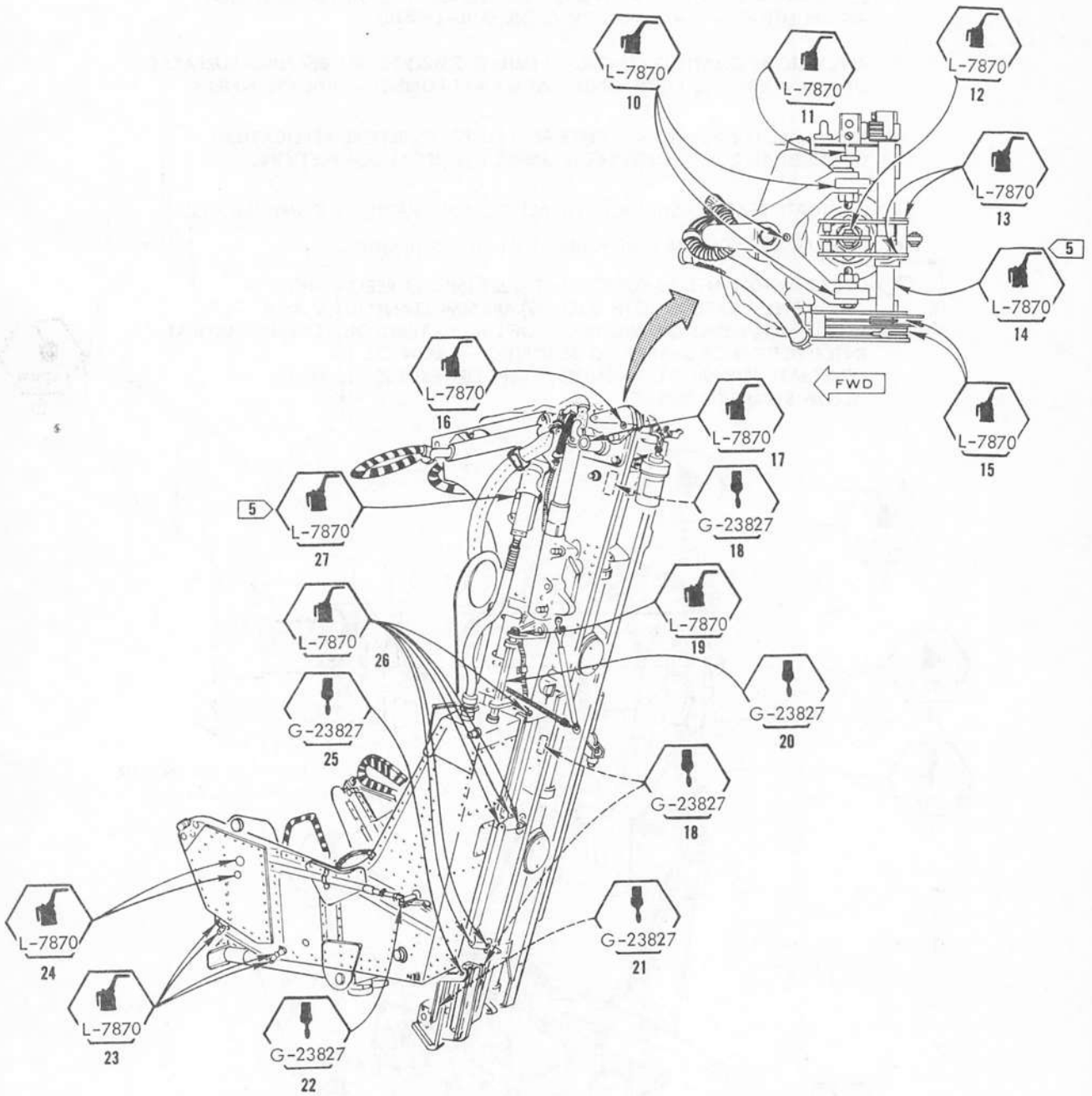
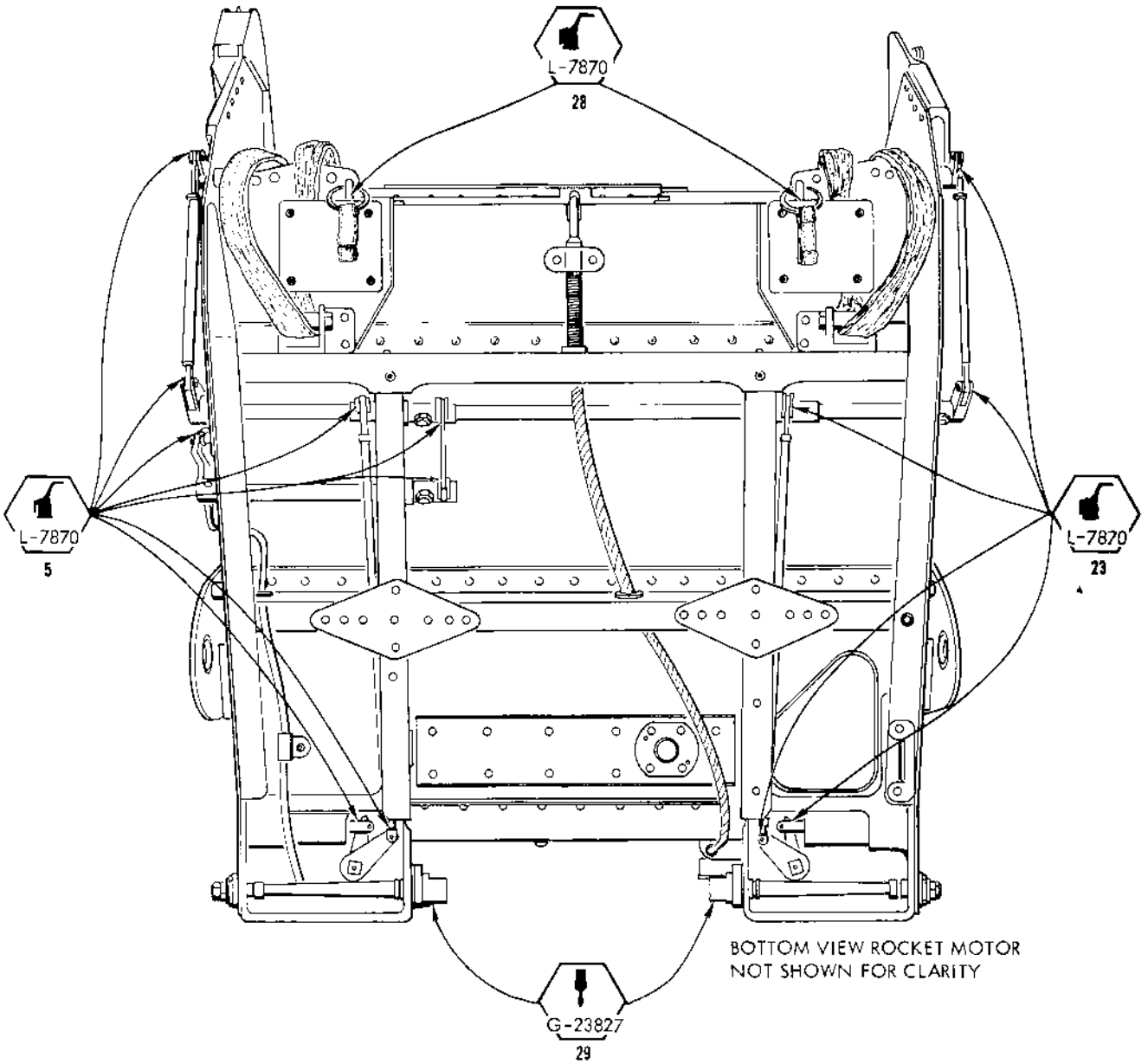


Figure 7-35. Ejection Seat Lubrication - 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 2 of 3)



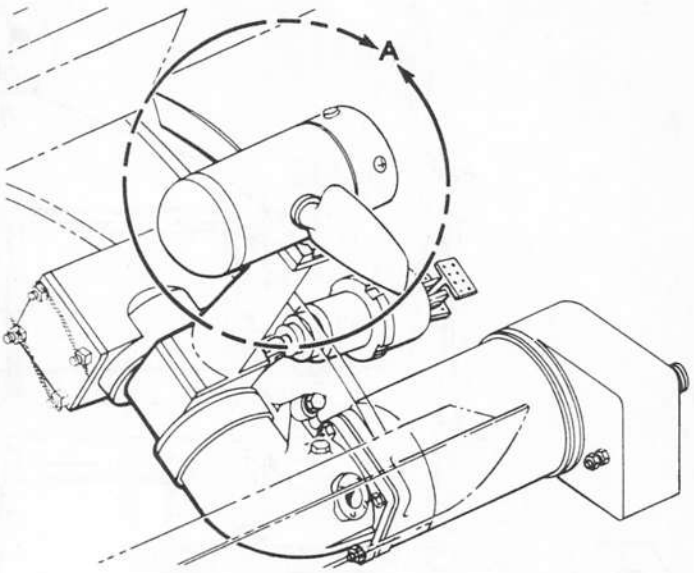
1	FACE CURTAIN HANDLE	14	TORQUE TUBE
2	INERTIA REEL AND LINKAGE	15	FIRING LINKAGE
3	GUARD PLATE PLUNGERS AND SPRINGS	16	TORQUE TUBE BUSHING
4	LEG RESTRAINT LOCKING PLUNGER	17	TOP LATCH MECHANISM
5	HARNESS RELEASE LINKAGE	18	SLIPPERS
6	EMERGENCY HARNESS RELEASE HANDLE	19	HARNESS RELEASE TORQUE SHAFT UPPER FITTING
7	HARNESS RELEASE TORQUE SHAFT	20	HARNESS RELEASE TORQUE SHAFT
8	HARNESS RELEASE TORQUE SHAFT UPPER FITTING	21	SEAT BUCKET RUNNER GUIDE CHANNELS
9	FACE CURTAIN FIRING LINKAGE	22	SEAR AND ROLLER
10	SCISSORS MECHANISM	23	HARNESS RELEASE LINKAGE
11	SCISSORS RELEASE PLUNGER	24	SHOULDER HARNESS RELEASE HANDLE
12	PRIMARY FIRING MECHANISM	25	ROCKET MOTOR GUIDE TRACK
13	BANANA LINKS	26	SECONDARY EJECTION MECHANISM
		27	GUILLOTINE ASSEMBLY
		28	SNUBBING ROD AND BUSHING
		29	SEAT BUCKET RUNNERS

FDC-2-1.1-(119-3)

Figure 7–35. Ejection Seat Lubrication – 157342ao AND UP; ALSO 151975t THRU 153115aa AFTER AFC 307 (Sheet 3 of 3)

RAM AIR TURBINE ASSEMBLY

INDEX NO.	NOMENCLATURE	NO. REQD	LUBRICATION REQ'D (EACH)
1	COVER SCREW	3	
2	COVER	1	
3	POWER UNIT HOUSING	1	AS REQ'D
4	BLADE THRUST BEARING	2	6 DROPS
5	BLADE	2	
6	TORSION BAR BEARING	4	AS REQ'D
7	FLYWEIGHT ASSEMBLY	2	AS REQ'D
8	MAIN TORSION BAR	2	AS REQ'D
9	PRELOAD LEVER	2	AS REQ'D
10	FLYWEIGHT BEARING	2	AS REQ'D
11	END CAP	1	AS REQ'D
12	TORQUE LEVER	1	AS REQ'D
13	CENTER TORSION BAR	1	AS REQ'D
14	FLYWEIGHT CAM	1	AS REQ'D
15	DRIVE ASSEMBLY BEARING	1	AS REQ'D
16	BLADE DRIVE GEAR	1	AS REQ'D



CAUTION

DO NOT DISASSEMBLE OR ADJUST OTHER THAN OUTLINED IN PROCEDURE. AVOID OVER LUBRICATION. DETAIL A SHOWN DISASSEMBLED FOR CLARITY.

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. --- DASH LINES INDICATE LUBE POINTS ON OPPOSITE SIDE.
3. REFER TO PARAGRAPH TITLED AIR TURBINE ACTUATING SYSTEM LUBRICATION IN THIS SECTION.

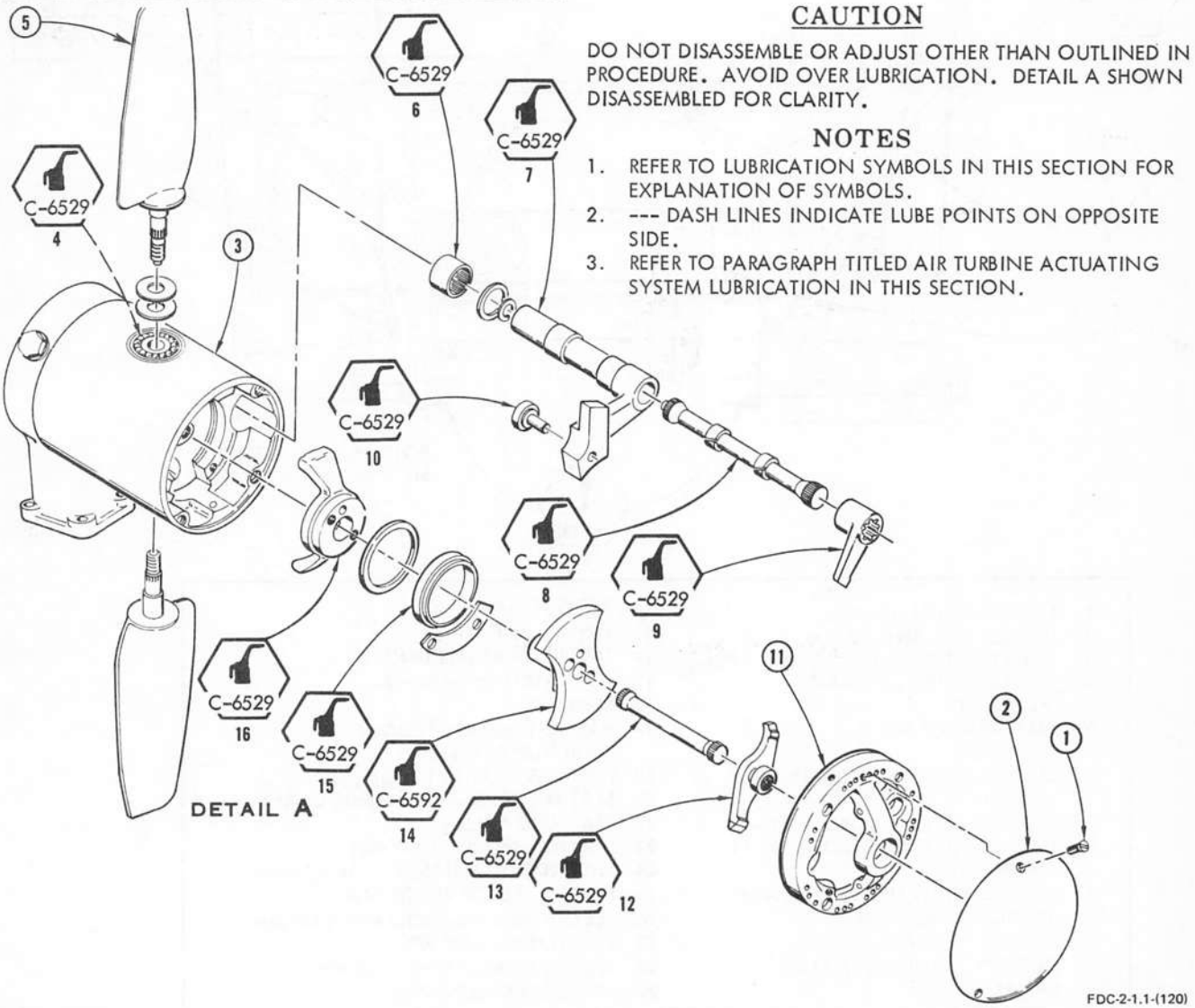
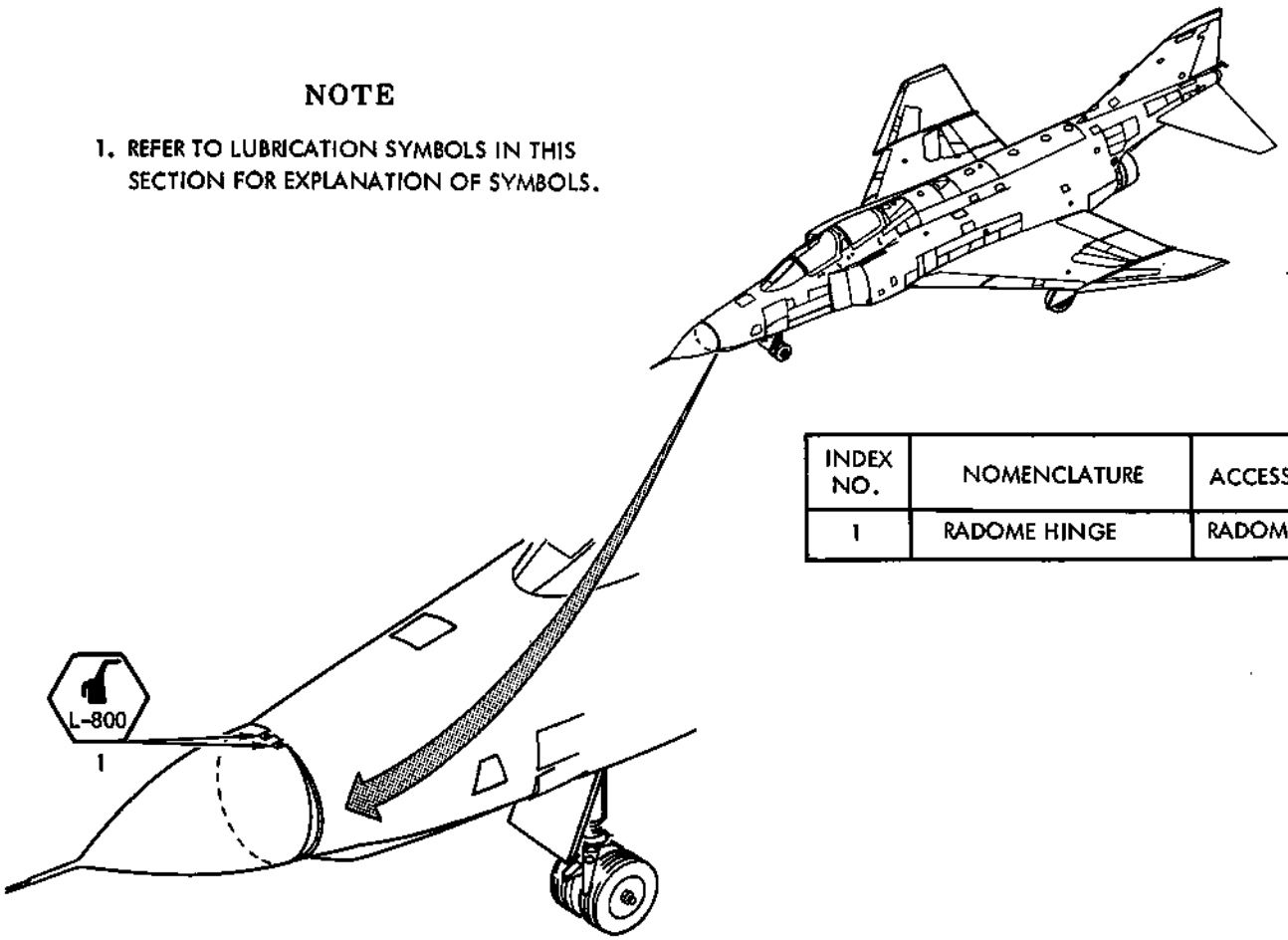


Figure 7-36. Ram Air Turbine Power Unit Lubrication

NOTE

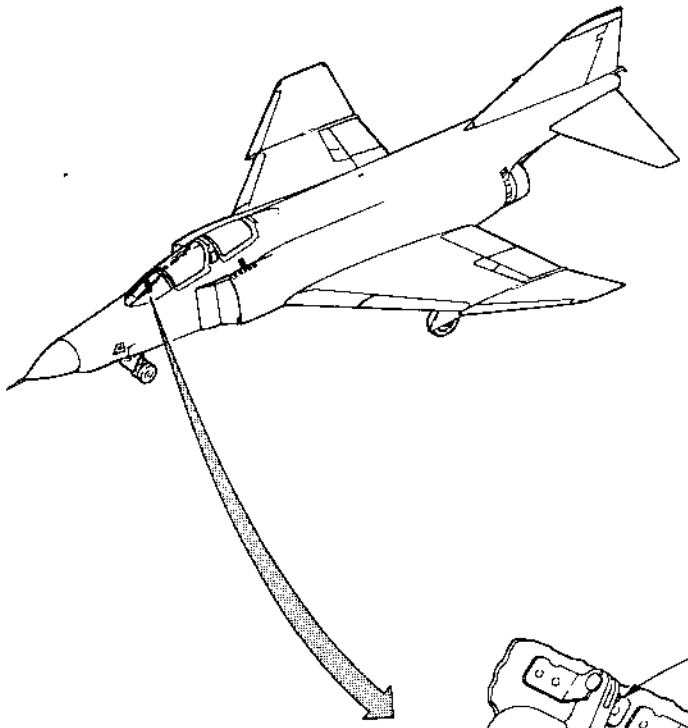
1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.



INDEX NO.	NOMENCLATURE	ACCESS
1	RADOME HINGE	RADOME

FDC-2-1.1-(121)

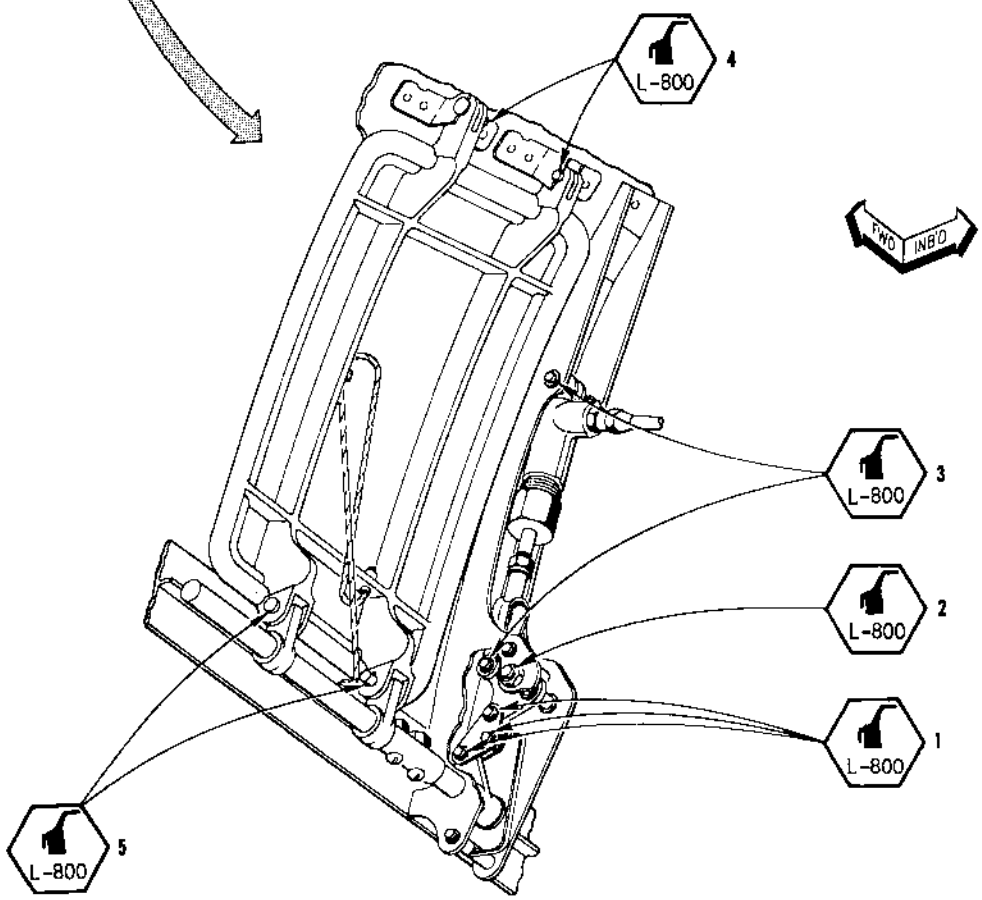
Figure 7-37. Radome Seal And Hinge Lubrication



NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. FWD DOOR SHOWN. LUBE POINTS SHOWN ALSO APPLY TO AFT DOOR, WHICH IS SIMILAR.

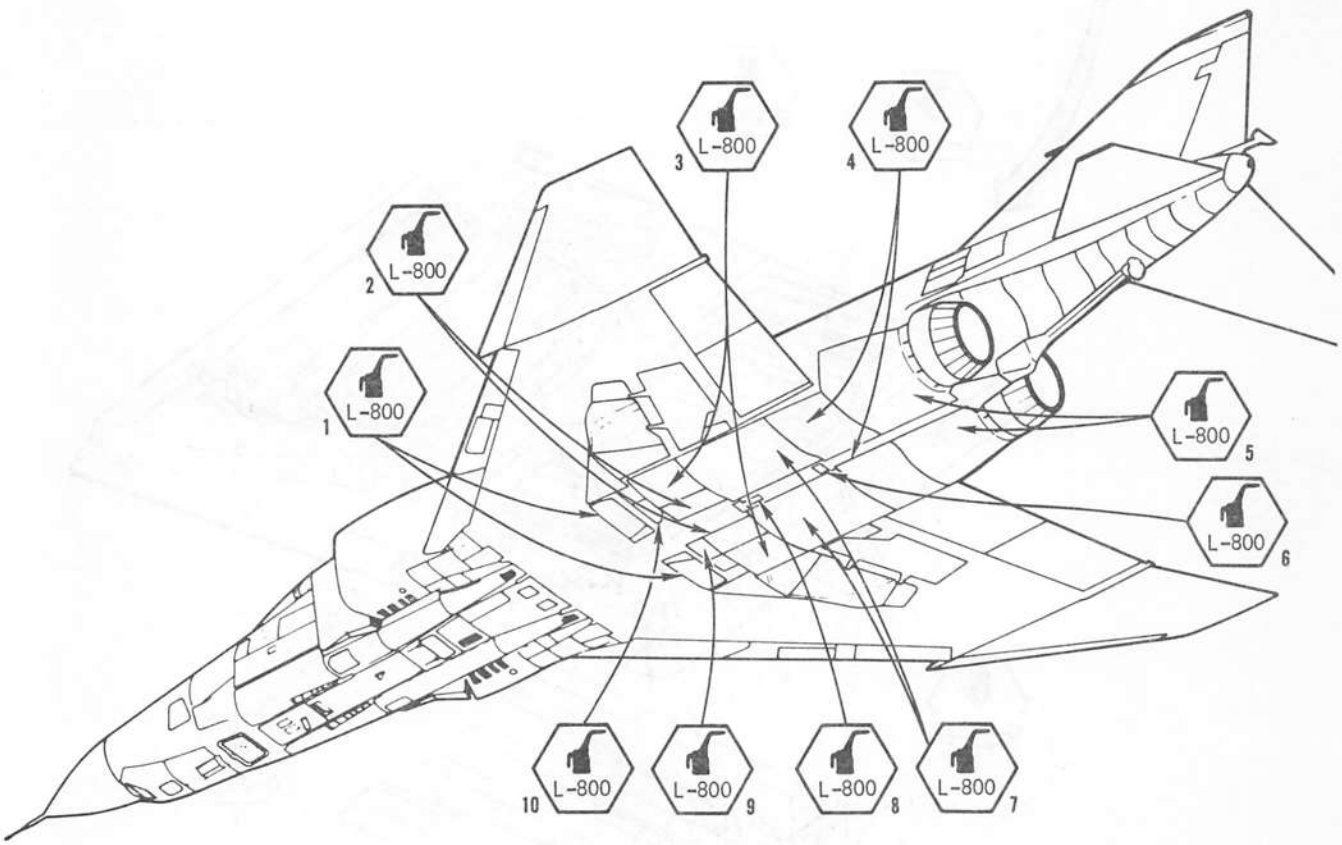
INDEX NO.	NOMENCLATURE	ACCESS
1	PINS	COCKPIT
2	BOLT	COCKPIT
3	PINS	COCKPIT
4	PINS	COCKPIT
5	PINS	COCKPIT



FDC-2-1.1-(122)

Figure 7-38. Forward and Aft Cockpit Pressure Equalization Doors Lubrication

INDEX NO.	NOMENCLATURE	ACCESS
1	HINGE PIN	DOOR 74 L/R
2	HINGE PIN	DOOR 81 L/R
3	HINGE PIN	DOOR 82 L/R
4	HINGE PIN	DOOR 92 L/R
5	HINGE PIN	DOOR 96 L/R
6	HINGE PIN	CATAPULT HOLDBACK DOOR
7	HINGE PIN	DOOR 83 L/R
8	HINGE PIN	CENTER STORE RACK ACCESS DOOR
9	HINGE PIN	DOOR 80
10	HINGE PIN	DOOR 78



NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

FDC-2-1.1-(123)

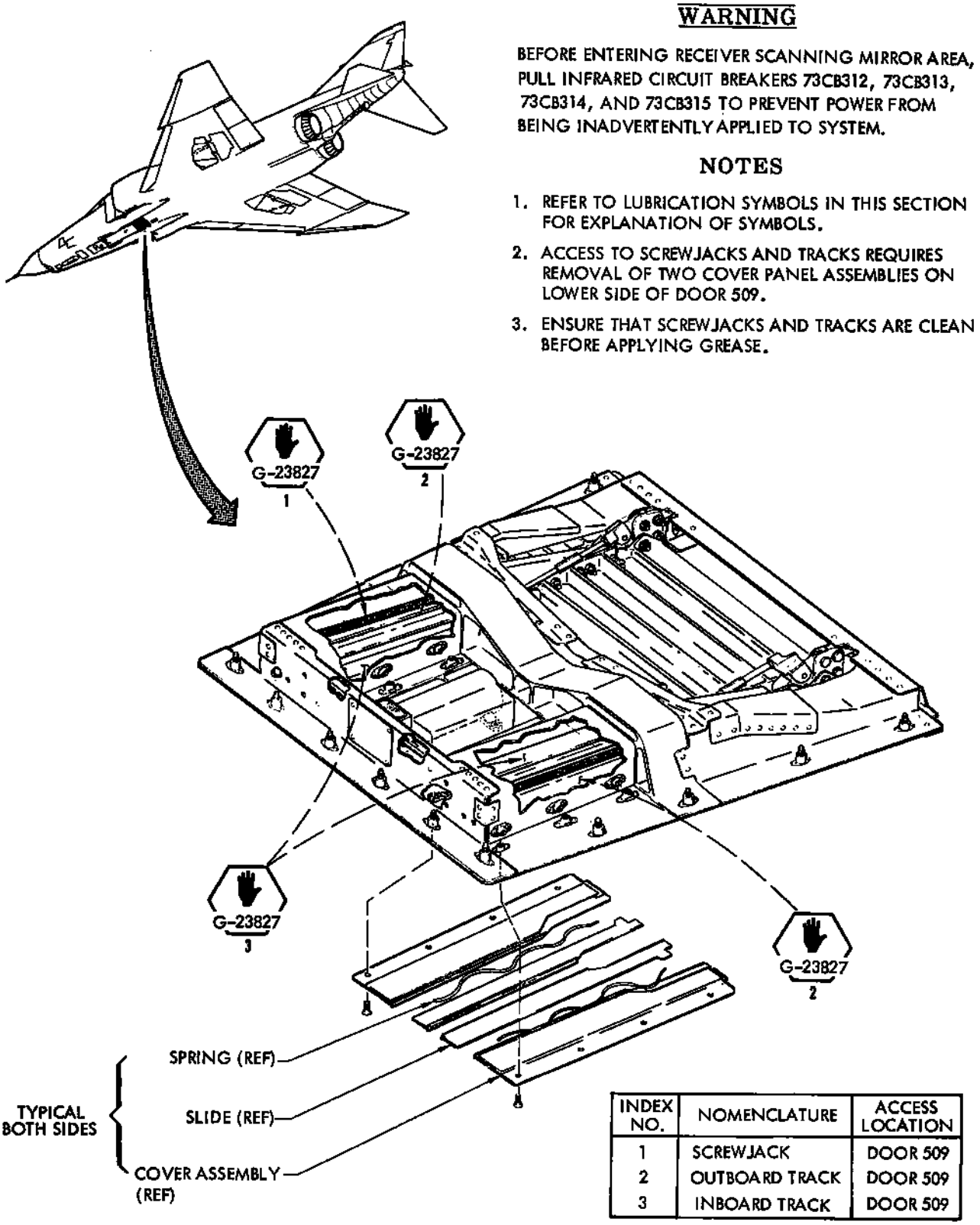
Figure 7-39. Center Fuselage Access Doors Lubrication

WARNING

BEFORE ENTERING RECEIVER SCANNING MIRROR AREA, PULL INFRARED CIRCUIT BREAKERS 73CB312, 73CB313, 73CB314, AND 73CB315 TO PREVENT POWER FROM BEING INADVERTENTLY APPLIED TO SYSTEM.

NOTES

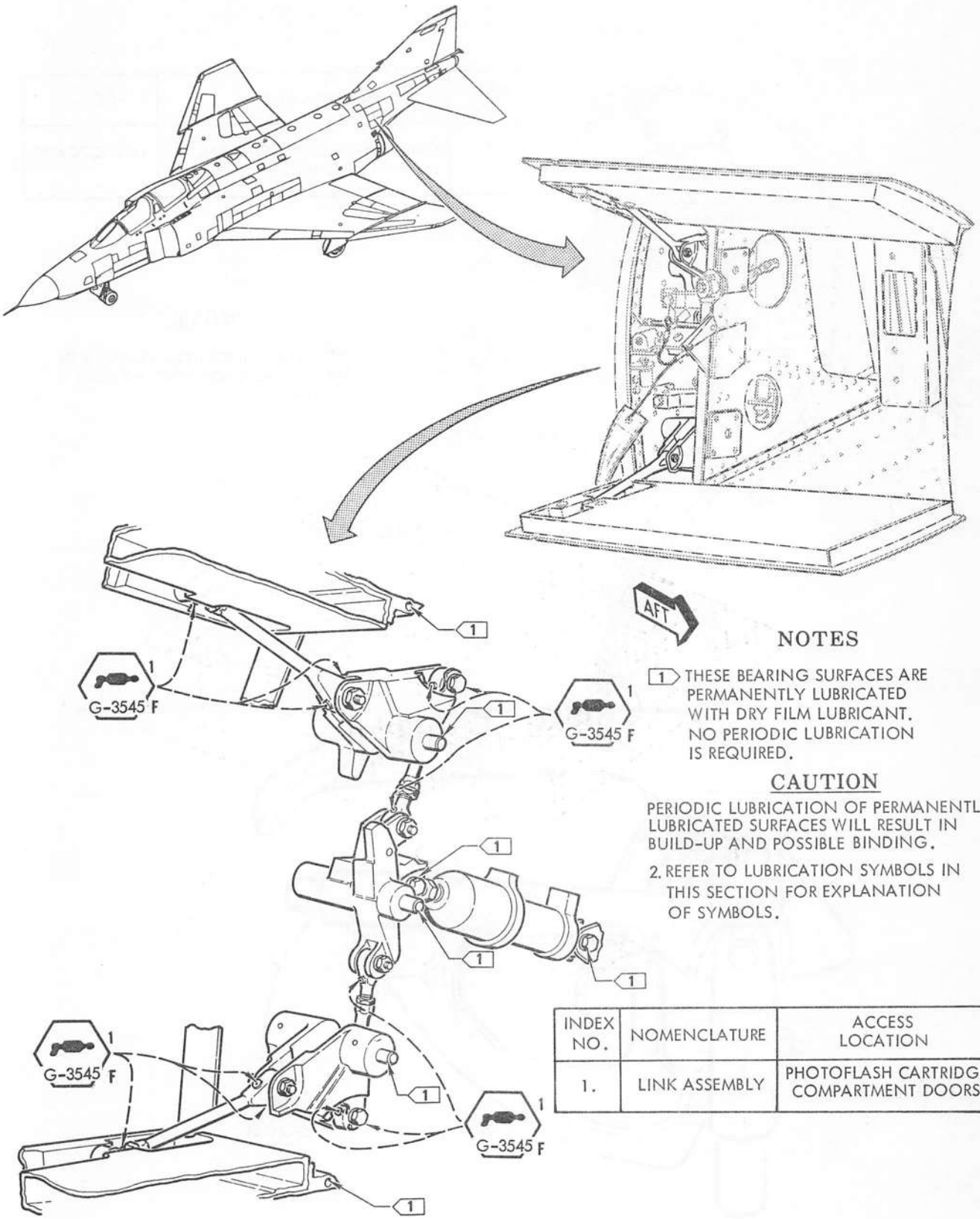
1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. ACCESS TO SCREWJACKS AND TRACKS REQUIRES REMOVAL OF TWO COVER PANEL ASSEMBLIES ON LOWER SIDE OF DOOR 509.
3. ENSURE THAT SCREWJACKS AND TRACKS ARE CLEAN BEFORE APPLYING GREASE.



INDEX NO.	NOMENCLATURE	ACCESS LOCATION
1	SCREWJACK	DOOR 509
2	OUTBOARD TRACK	DOOR 509
3	INBOARD TRACK	DOOR 509

FDC-2-1.1-(124)

Figure 7-40. IR Scanner Door Ramp Lubrication



NOTES

1. THESE BEARING SURFACES ARE PERMANENTLY LUBRICATED WITH DRY FILM LUBRICANT. NO PERIODIC LUBRICATION IS REQUIRED.

CAUTION

PERIODIC LUBRICATION OF PERMANENTLY LUBRICATED SURFACES WILL RESULT IN BUILD-UP AND POSSIBLE BINDING.

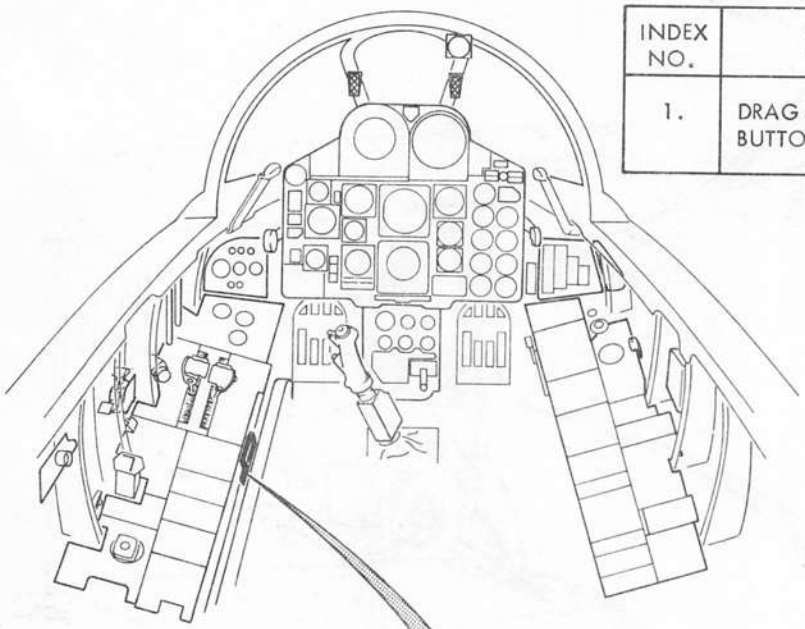
2. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.

INDEX NO.	NOMENCLATURE	ACCESS LOCATION
1.	LINK ASSEMBLY	PHOTOFLASH CARTRIDGE COMPARTMENT DOORS

FDC-2-1.1-(125)

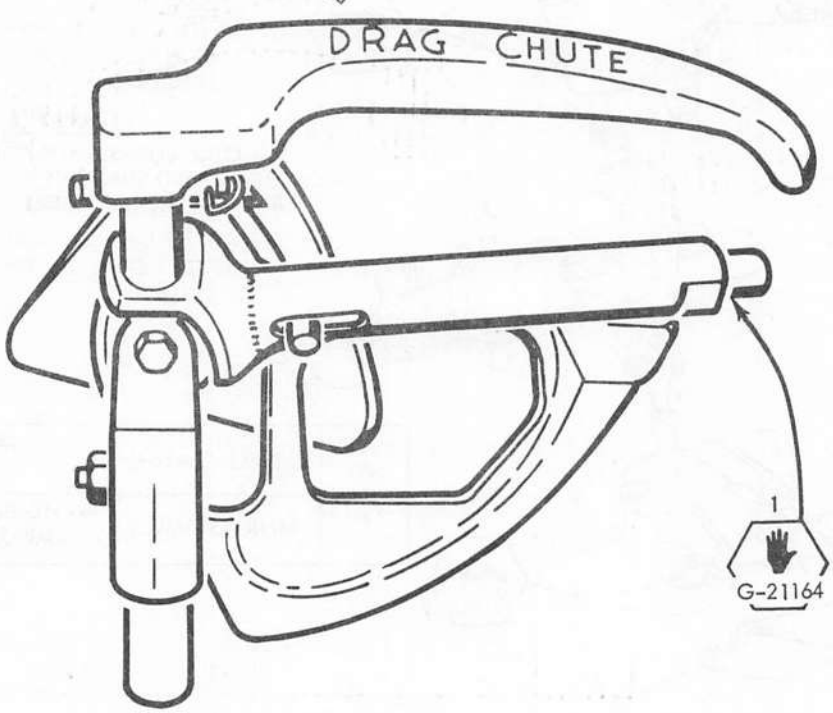
Figure 7-41. Photoflash Cartridge Compartment Door Mechanism Lubrication

INDEX NO.	NOMENCLATURE	ACCESS
1.	DRAG CHUTE CONTROL HANDLE BUTTON AND SHAFT	FWD COCKPIT



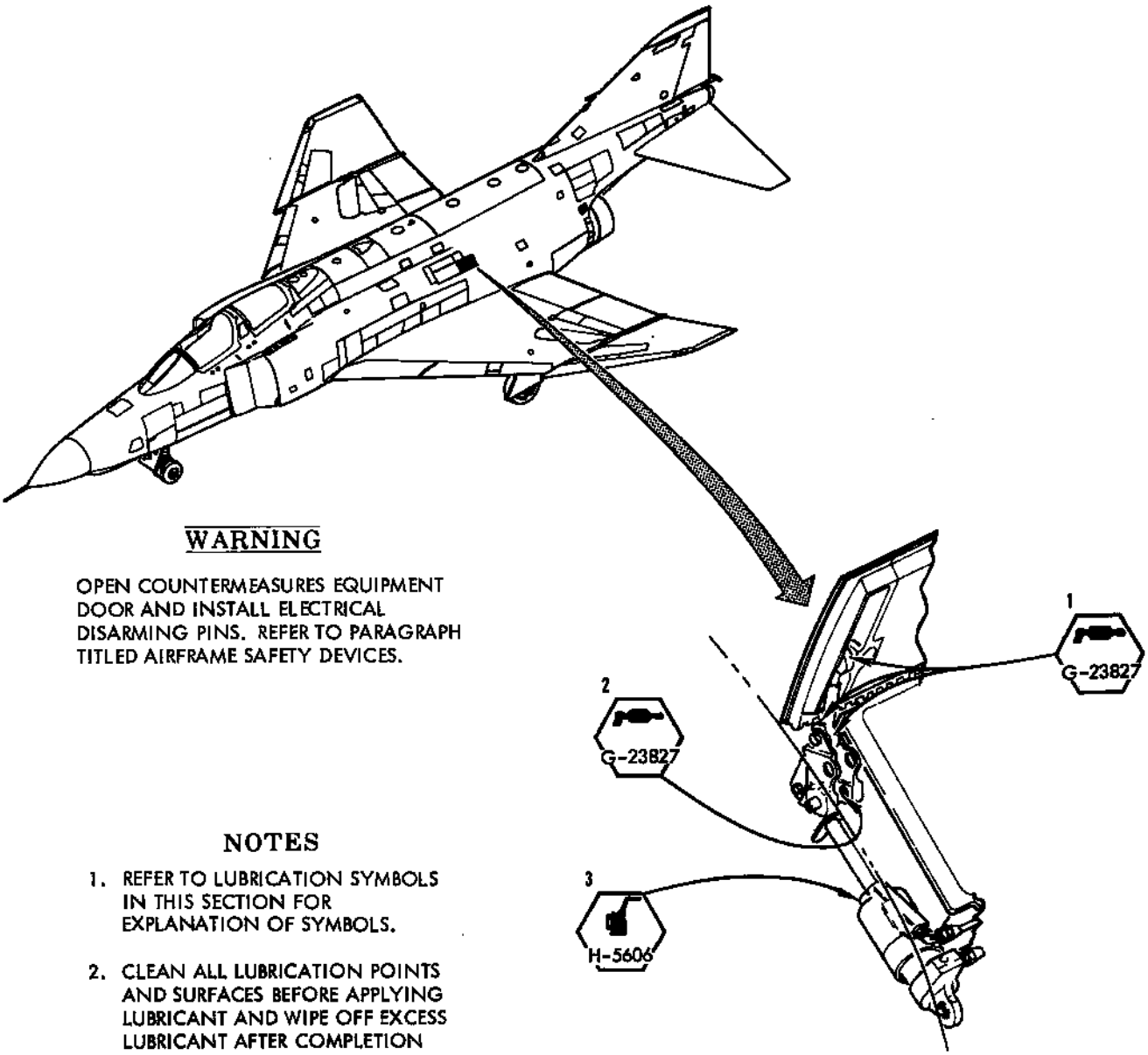
NOTE

REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.



FDC-2-1.1-(126)

Figure 7-42. Drag Chute Control Handle Lubrication



WARNING

OPEN COUNTERMEASURES EQUIPMENT DOOR AND INSTALL ELECTRICAL DISARMING PINS. REFER TO PARAGRAPH TITLED AIRFRAME SAFETY DEVICES.

NOTES

1. REFER TO LUBRICATION SYMBOLS IN THIS SECTION FOR EXPLANATION OF SYMBOLS.
2. CLEAN ALL LUBRICATION POINTS AND SURFACES BEFORE APPLYING LUBRICANT AND WIPE OFF EXCESS LUBRICANT AFTER COMPLETION OF LUBRICATION.
3. LEFT SIDE SHOWN. RIGHT SIDE OPPOSITE.

INDEX NO.	NOMENCLATURE	ACCESS
1	ACTUATOR ROD END	INSIDE COUNTERMEASURES EQUIPMENT DOOR
2	MECHANISM ROD END	INSIDE COUNTERMEASURES EQUIPMENT DOOR
3	ACTUATOR WIPER	INSIDE COUNTERMEASURES EQUIPMENT DOOR

FDC-2-1.1-(127)

Figure 7-43. Countermeasures Equipment Door Mechanism Lubrication AFTER AFC 332

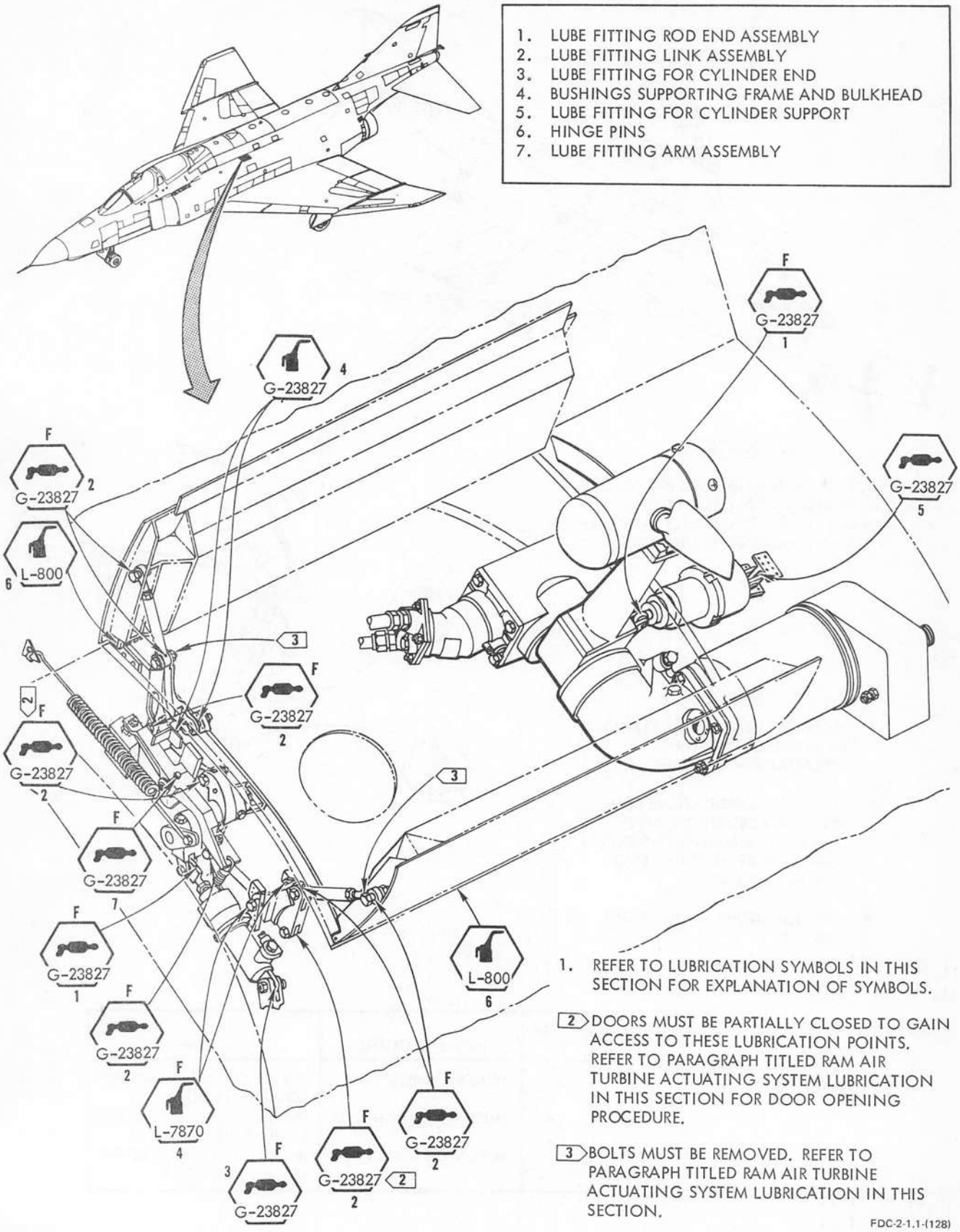


Figure 7-44. Ram Air Turbine Actuating System Lubrication

SECTION VIII

EMERGENCY PROCEDURES

GROUND HANDLING OF EMERGENCIES

8-1. **GENERAL.**

8-2. This section describes the recommended action to be taken and safety precautions to be observed in the event of fire, collapsed landing gear, blown tires and other specific emergencies. The procedures given are those thought to be peculiar to the aircraft, and no attempt is made to give standard fire-fighting, rescue, or crash procedures. Emergency procedures outlined herein should be used only at the discretion of crash crew or maintenance personnel.

8-3. **FIRE AND EXPLOSION VULNERABLE AREAS.**

8-4. **FLAMMABLE LIQUIDS, GASES, AND EXPLOSIVE DEVICES.** Figure 8-1 locates those areas containing reservoirs of flammable liquids, gases under pressure, and explosive devices considered particularly vulnerable to fire and explosion. Rescue and maintenance personnel should be aware of the location and the hazards associated with these components so that due care can be exercised when emergencies are encountered.

8-5. **External Stores and Pylons.** If time and conditions permit, an aircraft with external fuel tanks or other store still aboard after an emergency situation, should have safety pins installed to avoid inadvertent dropping or ejection of the stores. For installation of safety pins in centerline rack and two wing station fuel tank pylons, refer to paragraph 5-206.

8-6. **EMERGENCY COCKPIT ENTRY.** See figure 8-2.

8-7. **NORMAL COCKPIT ENTRY.**

WARNING

Normal cockpit entry is not possible with left engine running. Do not enter engine intake area. Personnel entering engine intake area may be drawn into the engine intake duct. Refer to paragraph 8-11.

a. If canopies appear intact, normal operation of push button pneumatic actuators is least hazardous and most feasible method of cockpit entry. Refer to Cockpit Entry and Exit in section V.

8-8. **MANUAL COCKPIT ENTRY.**

NOTE

Before canopies can be opened manually, normal canopy open buttons must be depressed.

a. Ensure that normal canopy open buttons have been depressed.

b. Depress push type latch in center of manual release handle to extend handle.

c. Rotate forward canopy manual release handle counterclockwise to unlock canopy.

d. Rotate aft canopy manual release handle clockwise to unlock canopy.

WARNING

When raised manually, canopies must be held or propped in open position to prevent them from closing.

e. Grasp front edge of canopy and lift to open.

8-9. **EMERGENCY CANOPY JETTISON.** Under emergency rescue conditions, closed canopies can be jettisoned blown free of the aircraft structure by means of percussion fired explosive initiators and stored compressed air. Canopies already open will not jettison and jettison procedure should not be initiated.

WARNING

If left engine is running, a safety line must be secured to person jettisoning canopies to avoid the possibility of being drawn into engine intake duct. Refer to paragraph 8-11.

a. Depress latch and open access door 7.

WARNING

When jettisoned, canopies will leave the aircraft with sufficient force to be hazardous to personnel in vicinity of the aircraft.

b. Grasp handle inside access door 7, extend lanyard, and pull hard.

8-10. **FORCED ENTRY THROUGH CANOPY GLASS.** In the event a jammed canopy or canopies cannot be opened manually and have failed to jettison, canopy plastic can be cut out.

NOTE

Keep in mind that a segment of canopy must actually be cut or chopped out, since canopy will not shatter.

Spraying canopy with CO_2 will remove some resilience from the plastic making chopper easier.

a. Spray CO_2 on canopy in area where the chopping is to be performed.

b. Using a fire axe or other sharp implement, chop parallel and as close as possible to canopy metal frame.

8-11. **EMERGENCY ENGINE SHUTDOWN.** See figure 8-3.

8-12. Any emergency which renders the crewman in the front cockpit unable to shutdown the engines presents a special hazard because of the proximity of the left engine air intake to the normal means of canopy operation and cockpit entry. If the aircraft is standing on its landing gear, or where warranted by circumstances, on its left

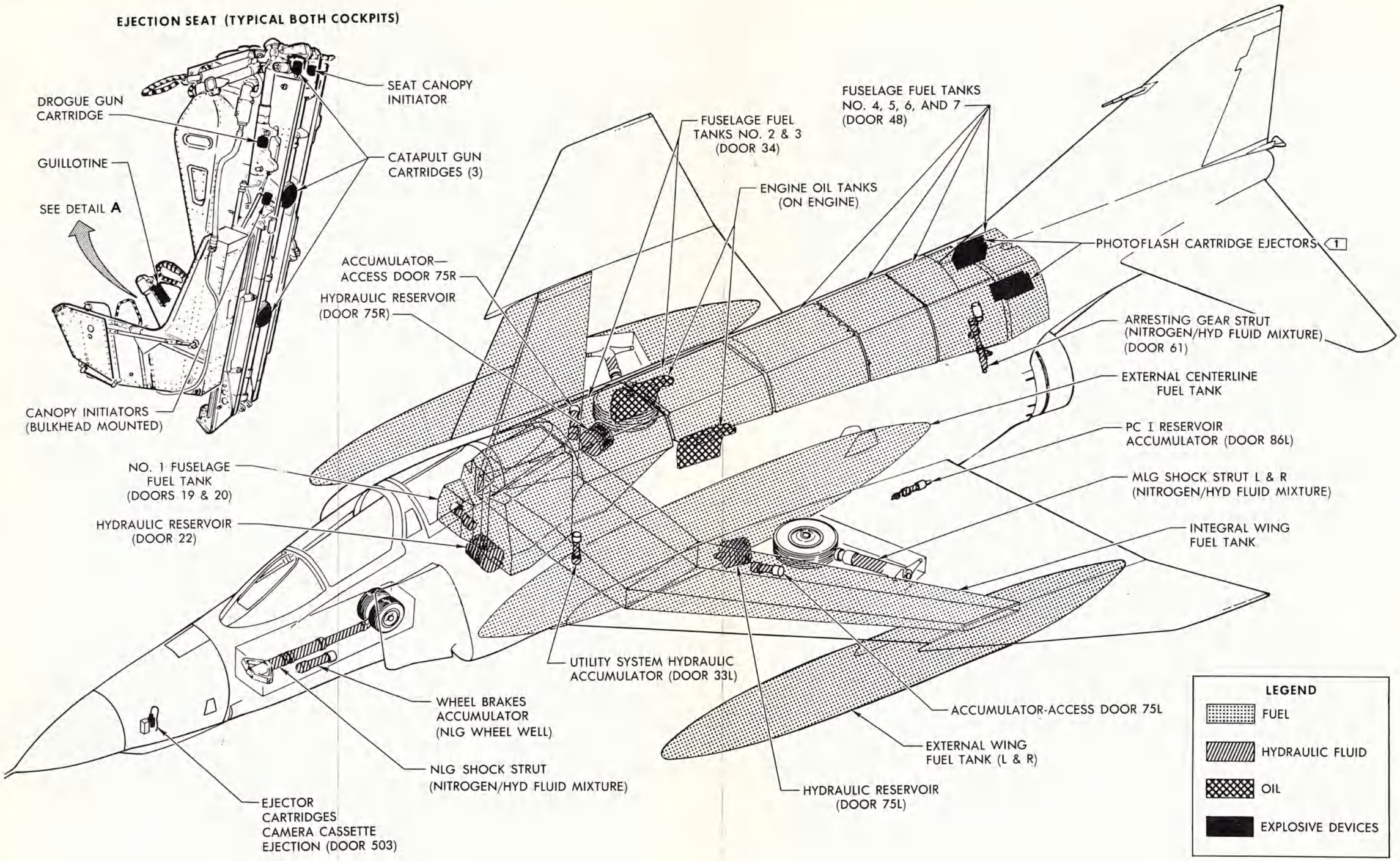


Figure 8–1. Location of Explosive Devices, Compressed Gases, and Reservoirs of Flammable Fluids (Sheet 1 of 2)

Figure 8–1.

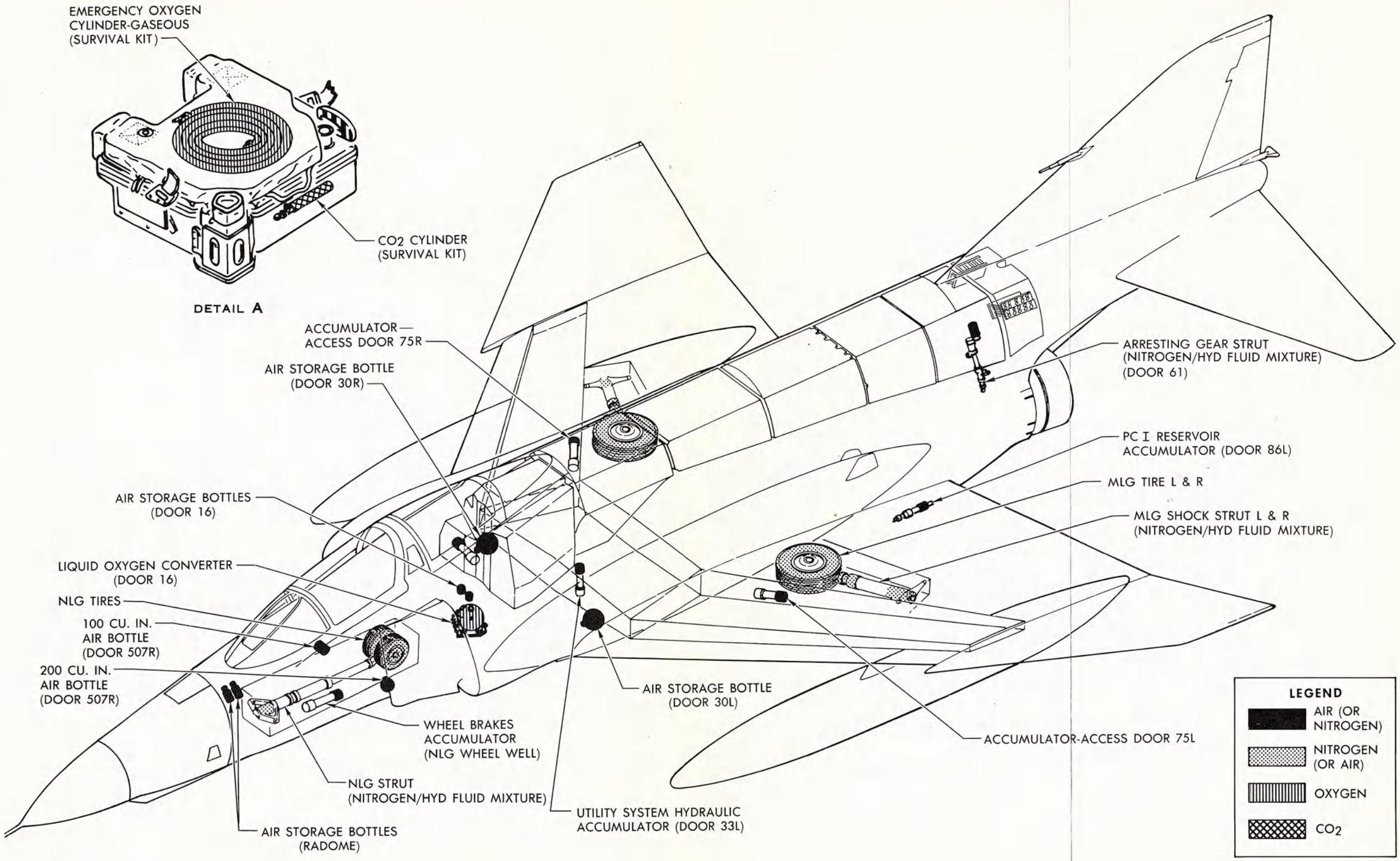


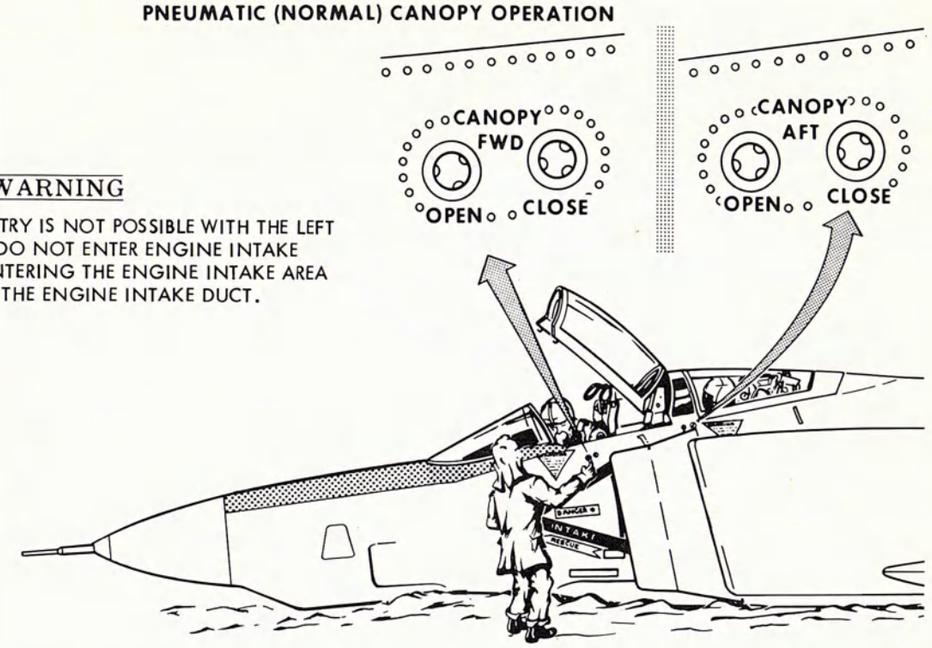
Figure 8–1. Location of Explosive Devices, Compressed Gases, and Reservoirs of Flammable Fluids (Sheet 2 of 2)

Figure 8–1.

PNEUMATIC (NORMAL) CANOPY OPERATION

WARNING

NORMAL COCKPIT ENTRY IS NOT POSSIBLE WITH THE LEFT ENGINE RUNNING. DO NOT ENTER ENGINE INTAKE AREA. PERSONNEL ENTERING THE ENGINE INTAKE AREA MAY BE DRAWN INTO THE ENGINE INTAKE DUCT.



MANUAL CANOPY UNLOCK AND OPENING OPERATION

NOTE

BEFORE THE CANOPIES CAN BE OPENED MANUALLY, NORMAL OPEN BUTTON MUST BE DEPRESSED.

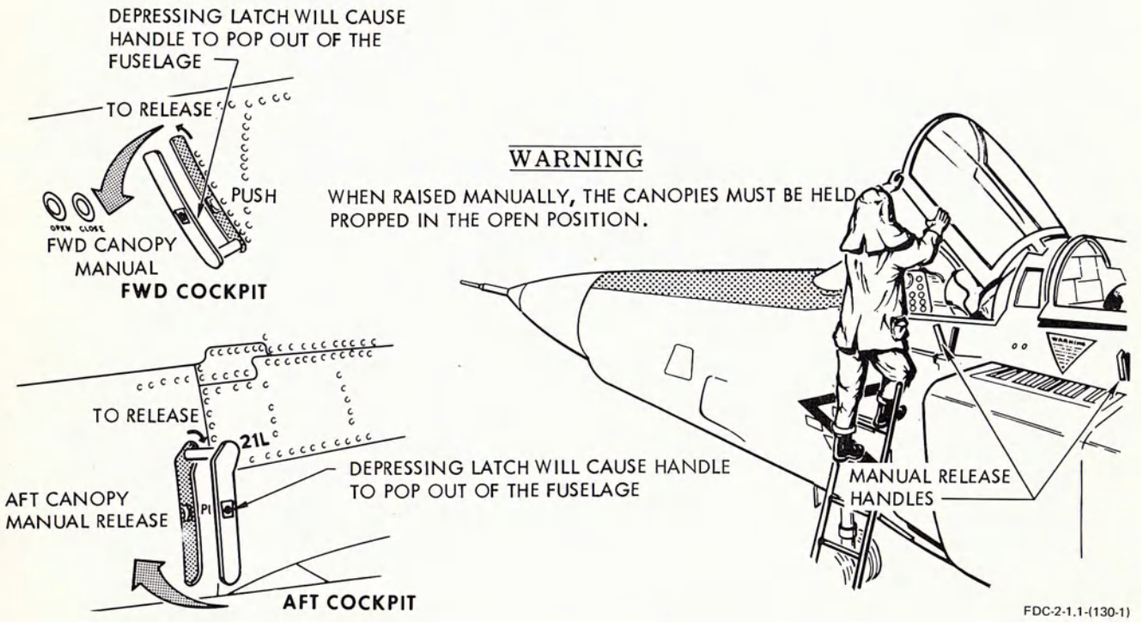


Figure 8-2. Emergency Cockpit Entry (Sheet 1 of 2)

EMERGENCY JETTISON OF CANOPIES

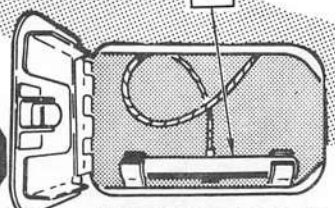
WARNING

IF THE LEFT ENGINE IS RUNNING, A SAFETY LINE MUST BE SECURED TO THE PERSON JETTISONING THE CANOPIES TO AVOID THE POSSIBILITY OF BEING DRAWN INTO THE ENGINE INTAKE DUCT.

PULL HANDLE TO JETTISON CANOPIES

DEPRESS LATCH TO OPEN ACCESS DOOR 7 [1]

GRASP HANDLE, EXTEND LANYARD AND PULL HARD [2]

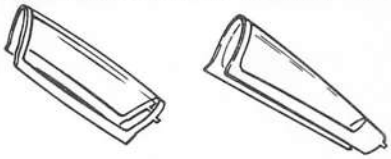


PULL HANDLE TO JETTISON CANOPIES

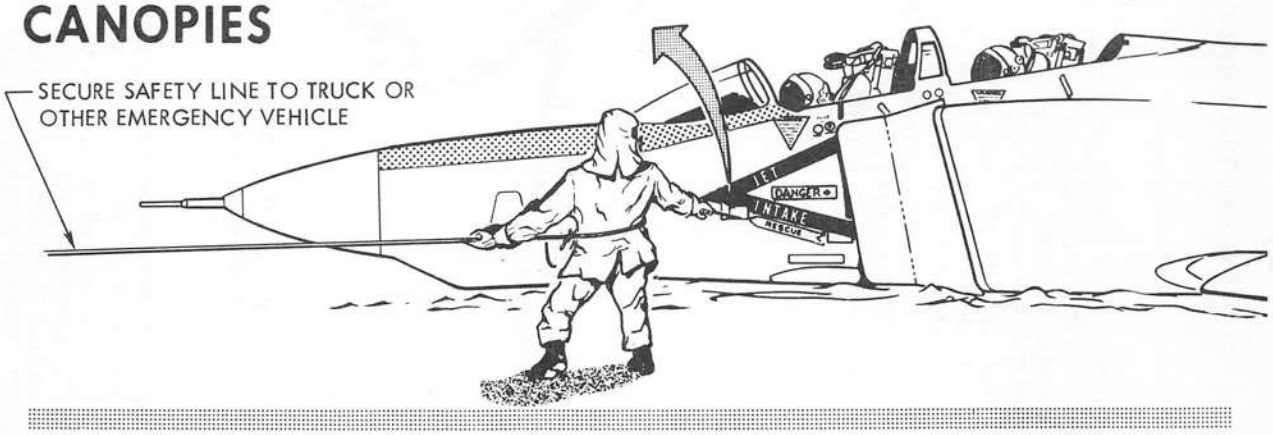
HANDLE INSIDE

WARNING

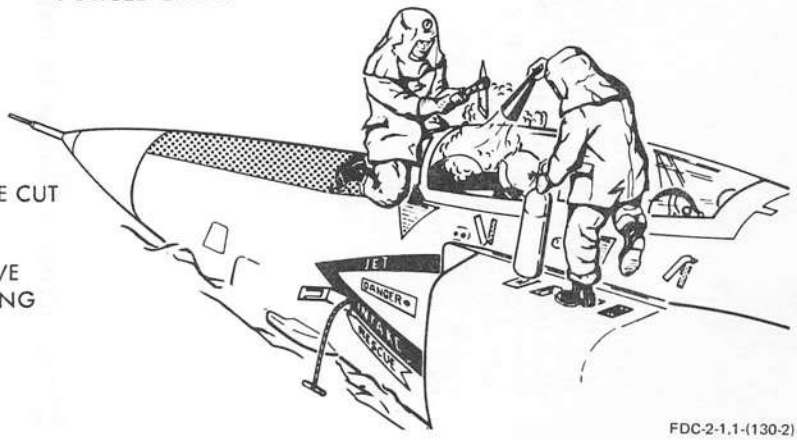
WHEN JETTISONED, CANOPIES WILL LEAVE THE AIRCRAFT WITH SUFFICIENT FORCE TO BE HAZARDOUS TO PERSONNEL IN VICINITY OF AIRCRAFT.



SECURE SAFETY LINE TO TRUCK OR OTHER EMERGENCY VEHICLE



FORCED ENTRY



NOTES

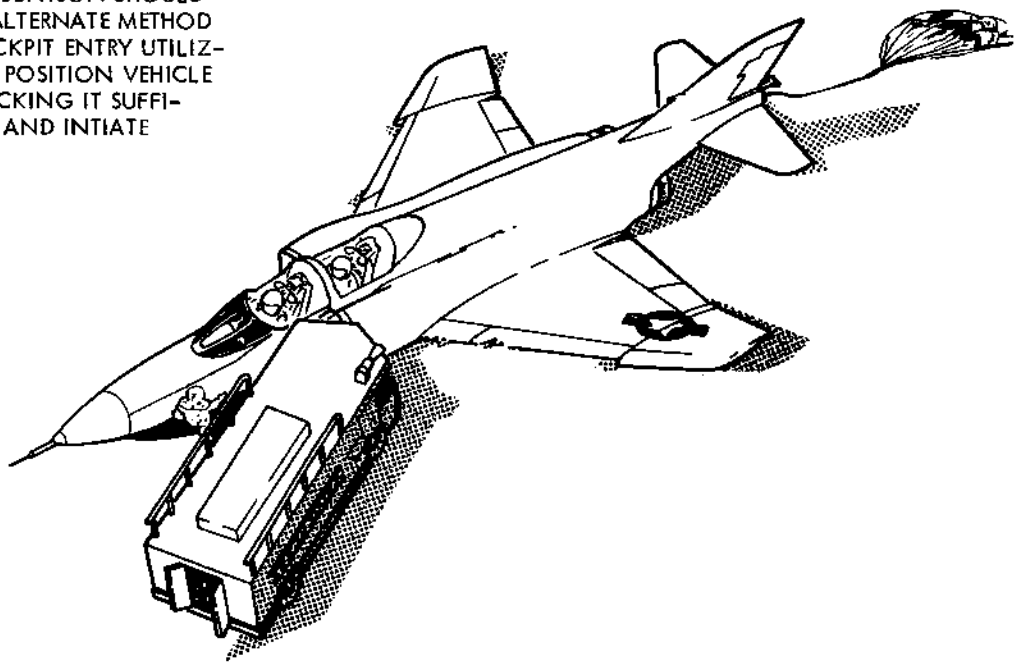
1. A SEGMENT OF PLASTIC MUST ACTUALLY BE CUT OR CHOPPED OUT.
2. SPRAYING CANOPY WITH CO_2 WILL REMOVE SOME RESILIENCE FROM THE PLASTIC MAKING CHOPPING EASIER.

FDC-2-1.1-(130-2)

Figure 8-2. Emergency Cockpit Entry (Sheet 2 of 2)

EMERGENCY ENGINE SHUTDOWN-COCKPIT ACCESS

ENGINES CAN ONLY BE SHUTDOWN BY OPERATION OF THROTTLE CONTROLS OR ENGINE MASTER SWITCHES WHICH SHUT-OFF ENGINE FUEL SUPPLY. THESE CONTROLS ARE LOCATED IN THE FORWARD COCKPIT. BECAUSE OF HAZARD OF JET ENGINE INTAKE, OPENING OF CANOPY FOR ACCESS TO THESE CONTROLS BY ANY MEANS OTHER THAN CANOPY JETTISON SHOULD NOT BE ATTEMPTED. SEE EMERGENCY COCKPIT ENTRY, ALTERNATE METHOD FOR APPROACH TO CANOPY JETTISON HANDLE AND COCKPIT ENTRY UTILIZING CRASH CREW VEHICLE IS SHOWN IN ILLUSTRATION. POSITION VEHICLE IN FRONT OF THE LEFT ENGINE AIR INTAKE THEREBY BLOCKING IT SUFFICIENTLY TO PERMIT A MAN TO REACH JETTISON HANDLE AND INTIATE CANOPY JETTISON.



A **PULL JETTISON HANDLE TO JETTISON CANOPIES**

NOTE

IF BOTH CANOPIES ARE OPEN, JETTISON WILL NOT FUNCTION. JETTISON INITIATORS WILL FIRE BUT CANOPIES WILL NOT LEAVE THE AIRCRAFT.

WITH THE CANOPIES JETTISONED, ENTRANCE TO THE FORWARD COCKPIT CAN POSSIBLY BE MADE DIRECTLY FROM THE CRASH VEHICLE OR FROM THE TOP OF THE FORWARD FUSELAGE. IF THIS IS NOT CONSIDERED FEASIBLE, CAREFUL APPROACH OVER THE WING AND CENTER FUSELAGE INTO THE COCKPIT CAN BE MADE. BOUNDARY LAYER CONTROL AIR WILL BE PRESENT AT LEADING AND TRAILING EDGE OF WING AND DIRECT CONTACT WITH THESE AREAS SHOULD BE AVOIDED.

Figure 8-3. Emergency Engine Shutdown (Sheet 1 of 3)

FDC-2-1.1-(131-1)

WARNING

WITH CANOPIES JETTISONED, EJECTION SEATS ARE ARMED WITH DANGEROUS DEVICES CAPABLE OF CAUSING DEATH OR SERIOUS INJURY TO BOTH PILOTS AND RESCUERS. STAY CLEAR OF EJECTION HANDLES AND DROGUE GUN AREAS.

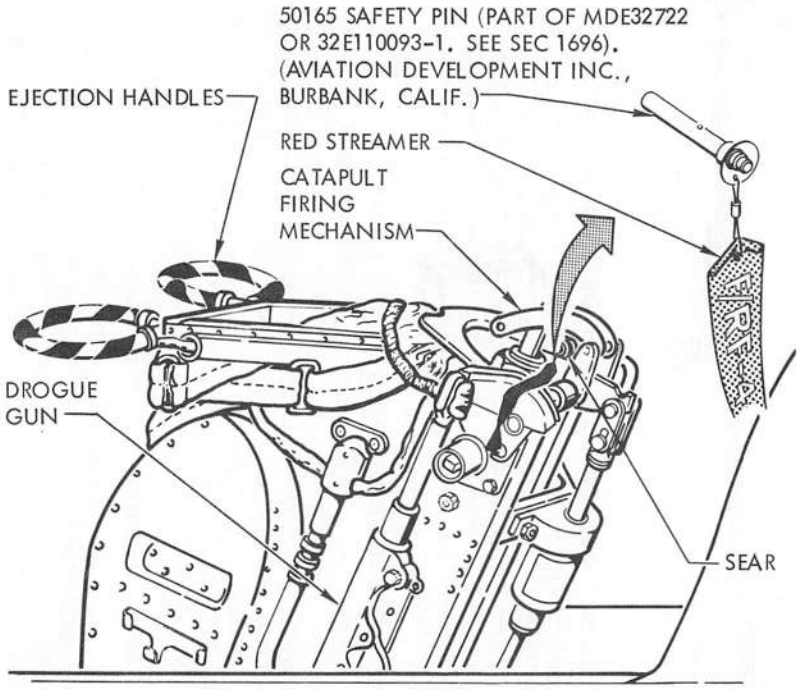
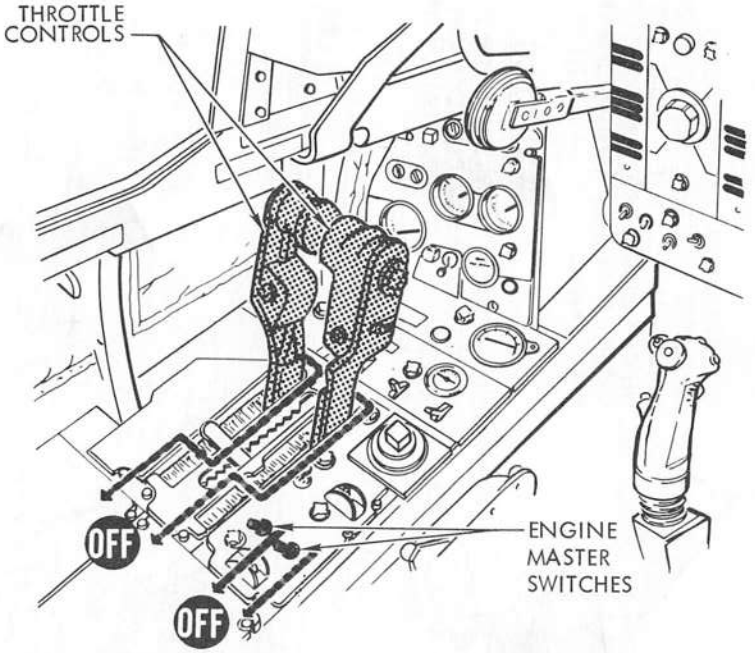


Figure 8-3. Emergency Engine Shutdown (Sheet 2 of 3)

B SAFETY EJECTION SEAT

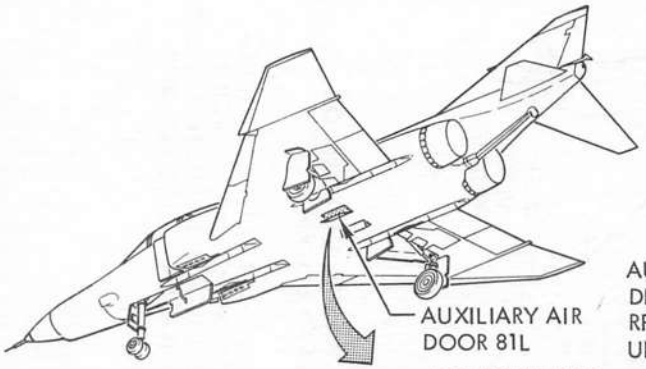
ACCESS TO ENGINE CONTROLS IN THE FORWARD COCKPIT MAY REQUIRE CLIMBING OVER THE PILOT'S SEAT. TO AVOID UNNECESSARY RISK, INSERT SAFETY PIN OR SUITABLE SUBSTITUTE IN SEAR OF CATAPULT FIRING MECHANISM. SEE EMERGENCY DEACTIVATION OF EJECTION SEATS.



C SHUT DOWN ENGINES WITH MASTER SWITCHES OR THROTTLE CONTROLS (FORWARD COCKPIT)

ENGINE MASTER SWITCHES AND THROTTLE CONTROLS ARE LOCATED ON LEFT CONSOLE OF FORWARD COCKPIT. ENGINES CAN BE SHUT DOWN BY POSITIONING ENGINE MASTER SWITCHES TO OFF AND/OR MOVING THROTTLE LEVERS OUTBOARD AND AFT TO FULL AFT POSITION.

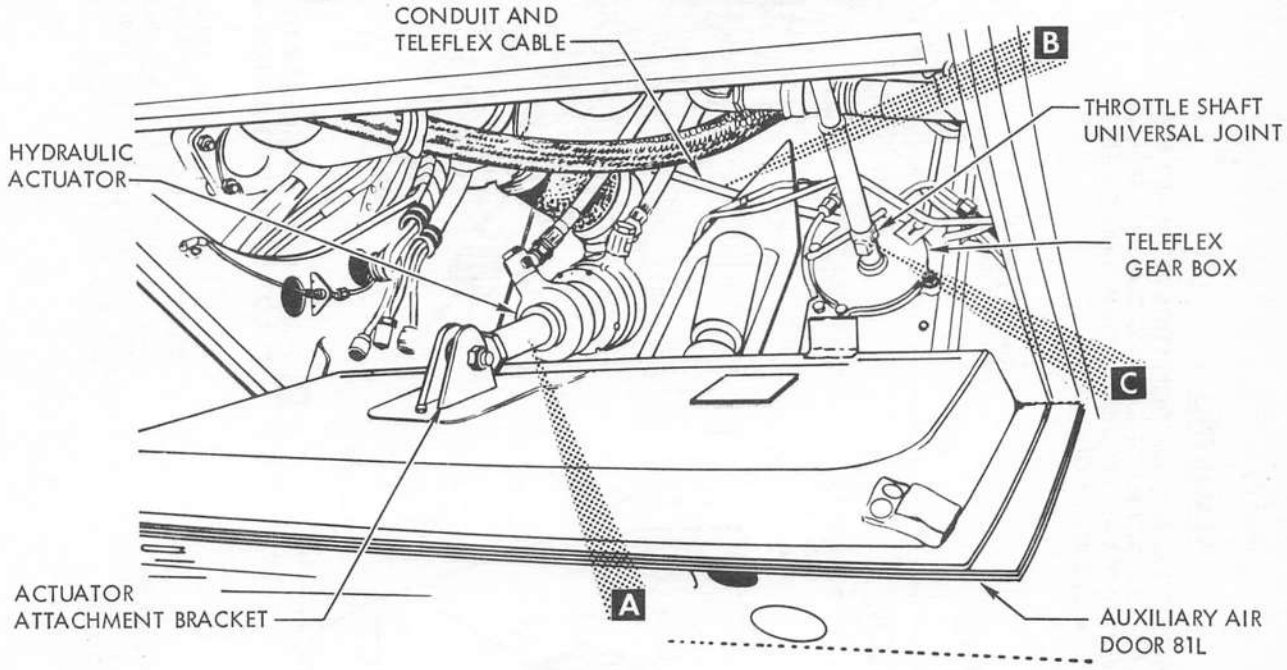
EMERGENCY ENGINE SHUTDOWN - EXTERNAL ACCESS



WITH THE AIRCRAFT STANDING ON ITS LEFT LANDING GEAR TO ALLOW ACCESS TO THE LEFT AUXILIARY AIR DOOR AN ALTERNATE METHOD OF EMERGENCY ENGINE SHUTDOWN WHICH DOES NOT REQUIRE ACCESS TO COCKPIT IS POSSIBLE. METHOD INVOLVES MANUAL OPERATION OF THE THROTTLE SHAFT EXTENDING FROM THE TELEFLEX GEAR BOX.

WARNING

AUXILIARY AIR DOOR WILL SNAP SHUT FROM RESIDUAL HYDRAULIC PRESSURE IMMEDIATELY UPON REDUCTION OF ENGINE RPM BELOW ELECTRICAL GENERATOR LINE SPEED (SLIGHTLY UNDER 50% ENGINE RPM).



A BLOCK DOOR OPEN OR DISABLE HYDRAULIC ACTUATOR

STAY CLEAR OF AUXILIARY AIR DOOR UNTIL IT HAS BEEN EFFECTIVELY BLOCKED OPEN OR THE HYDRAULIC ACTUATOR DISABLED. HEAVY WOOD BLOCK OR OTHER OBJECT JAMMED BETWEEN THE DOOR AND STRUCTURE OPENING SHOULD PREVENT DOOR FROM CLOSING ON OPERATOR'S HANDS OR ARMS. IF BLOCKING IS NOT AVAILABLE, USE FIRE AXE TO BREAK ACTUATOR ATTACHMENT BRACKET LOOSE FROM THE DOOR.

B CUT THROUGH CONDUIT AND TELEFLEX CABLE

THROTTLE SHAFT CAN BE ROTATED TO IDLE BY INSERTING A SCREWDRIVER IN UNIVERSAL JOINT OF THROTTLE SHAFT AND ROTATING COUNTERCLOCKWISE. ENGINE SHUTDOWN CAN ONLY BE ACCOMPLISHED AFTER CUTTING THROUGH THE TELEFLEX CABLE THAT CONNECTS THROTTLE SHAFT WITH COCKPIT CONTROLS. TELEFLEX CABLE CONSISTS OF A MULTIPLE STRAND STEEL CABLE ENCASED IN FIXED CONDUIT. THE USE OF A BOLT CUTTER, OR SIMILAR DEVICE TO CUT THROUGH CABLE IS REQUIRED.

C ROTATE THROTTLE SHAFT TO SHUT DOWN ENGINE

AFTER CUTTING TELEFLEX CABLE, CONTINUE TO ROTATE THROTTLE SHAFT COUNTERCLOCKWISE TO COMPLETE ENGINE SHUTDOWN. WITH LEFT ENGINE SHUTDOWN, FORWARD CANOPY CAN BE OPENED OR JETTISONED FOR ACCESS TO COCKPIT. RIGHT ENGINE CAN THEN BE SHUT DOWN WITH COCKPIT CONTROLS.

FDC-2-1.1-(131-3)

Figure 8-3. Emergency Engine Shutdown (Sheet 3 of 3)

landing gear only, the possibility exists of shutting down the left engine without access into the cockpit(s). This method shuts down the engine by manual rotation of the throttle shaft through the auxiliary air door on the underside of the aircraft. If external access in the manner described is not possible, access to the forward cockpit must be gained to shut down engines.

WARNING

Water, foam or CO_2 directed into engine(s) intake duct will probably result in fire or explosion. The deliberate introduction of FOD to bring about the disintegration of the engine is extremely hazardous. Flying debris and/or fire or possible explosion is the probable result.

8–13. EMERGENCY SEAT DEACTIVATION AND AIRCREW REMOVAL.

8–14. **NORMAL SEAT DEACTIVATION.** The canopies and ejection seats contain a series of explosive devices designed primarily to jettison the canopies and eject the crewmen during inflight emergencies. Under normal operation or in emergencies where time and condition permit, full deactivation of these devices is recommended prior to any activity in and around the cockpit. Refer to paragraph 5–158 or 5–163.

8–15. **EMERGENCY SEAT DEACTIVATION.** Under emergency conditions, but with the canopies aboard (not jettisoned), the seats can be considered relatively safe for rescue operations. With the canopies jettisoned, the element of risk is greatly increased and rescue personnel should be prepared for emergency safetying of the seat catapult gun firing mechanism prior to rescue operation. See figure 8–4.

8–16. **AIRCREW REMOVAL.** Aircrew removal consists of emergency deactivation of the ejection seat, figure 8–4, and separation of aircrewman from seat and parachute harness, figure 8–5.

WARNING

It is imperative that ejection seat be deactivated prior to entering cockpit to prevent inadvertent ejection seat operation.

a. Deactivate ejection seats. Refer to paragraph 8–15.

b. Release lap belt fittings, left and right.

c. Hold crewman upright. Squeeze handle of emergency harness release handle on right side of seat bucket and pull up to release leg restraint cords. Gas generating cartridge will fire, severing personnel parachute withdrawal line.

d. Release shoulder harness fittings. Lift latch cover plate and rotate knurled locking bar downward to release shoulder strap, left and right.

WARNING

When rescuing a crewmember, it is imperative that crewmember's oxygen mask be removed, or that face visor seal on pressure suit helmet be deflated. This action precludes any possibility of crewmember suffocating from lack of oxygen during rescue operation.

e. If crewmember is wearing a pressure suit helmet, deflate face visor seal by sliding button on oxygen regulator aft. Face mask may be rotated up or left in position.

f. If crewmember is wearing an oxygen mask, remove mask by depressing levers and pulling out fitting located on helmet.

g. Pull up on upper block release knob to disconnect personnel leads (upper block) from survival kit.

8–17. FIRE, CHEMICAL AND ELECTRICAL.

8–18. The aircraft is not equipped with fire extinguishing equipment. In the event of any ground fire, disconnect external electrical power and alert fire department immediately.

NOTE

The aircraft electrical system is not equipped with a battery, therefore all electrical power is cut off when external source is disconnected.

WARNING

Never use water on magnesium fire. Magnesium displaces hydrogen from the water, which may accumulate in sufficient quantities to cause a violent explosion.

8–19. **INTERNAL ENGINE FIRE.** In the event of an internal engine fire while attempting an engine start, proceed as follows:

a. Position throttles and ENGINE MASTER switches to OFF.

b. Continue to crank the engine and introduce CO_2 extinguishing agent into engine intake if fire continues.

c. If fire persists, stop cranking and introduce dry powder chemical agent into engine intake and tail pipe.

8–20. **ENGINE COMPARTMENT FIRE.** Fires in the engine compartment are accessible through the engine auxiliary air doors and access doors 74L/R.

a. Position throttle and ENGINE MASTER switches to OFF.

b. Introduce dry powder chemical agent through auxiliary air doors or other access doors as applicable.

WARNING

If aircraft hydraulic pressure is maintained, auxiliary air doors will snap shut immediately upon removal of electrical power. Keep hands clear of doors at all times.

8–21. OVERHEATED WHEELS AND TIRES.

8–22. Main landing gear tires are high pressure type. When subjected to overheating, they become extremely dangerous. Refer to paragraph 3–87. If overheated condition is suspected (extensive use of brakes, etc.) wire cages should be installed around the wheels to protect personnel from injury or aircraft from damage due to blow out. If wire cages are not available or wheels are so hot

EMERGENCY DEACTIVATION-EJECTION SEAT

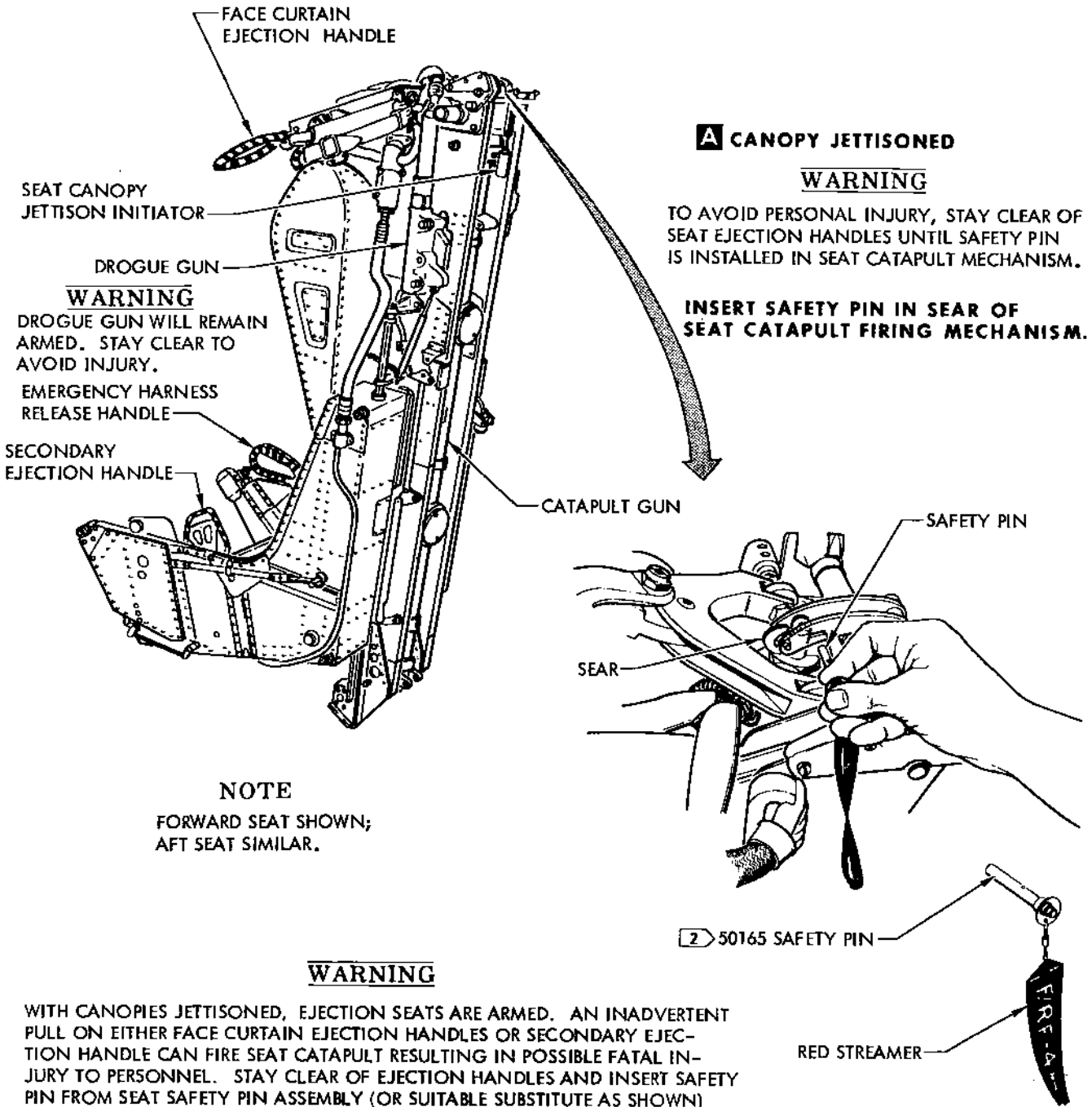
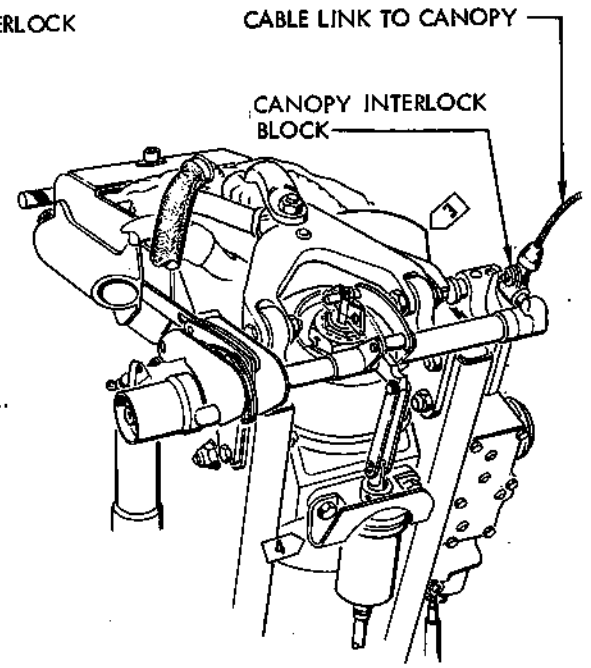


Figure 8-4. Emergency Seat Deactivation (Sheet 1 of 2)

B CANOPY NOT JETTISONED

WITH THE CANOPY INTACT AND FULLY OPEN (CANOPY INTERLOCK BLOCK OR INTERDICTOR SAFETY PIN ASSEMBLY INTACT) JETTISON OF THE CANOPY OR FIRING OF THE EJECTION SEAT IS IMPOSSIBLE AND THE COCKPIT IS RELATIVELY SAFE. HOWEVER, TO ENSURE PERSONAL PROTECTION, STAY CLEAR OF EJECTION HANDLES AND IF CONDITIONS PERMIT, INSTALL SAFETY PIN OR SUITABLE SUBSTITUTE IN SEAR OF SEAT FIRING MECHANISMS AS SHOWN. ON AIRCRAFT WITH INTERDICTOR SAFETY PIN INSTALLED, SEAR IS SAFE.



WARNING

SEAT DEACTIVATION PROCEDURES SHOWN HEREIN ARE EMERGENCY MEASURES TO PREVENT INJURY TO PERSONNEL. ALL SAFETY DEVICES SHOULD BE INSTALLED AS SOON AS CONDITIONS PERMIT. REFER TO PARAGRAPH TITLED EJECTION SEAT SAFETY DEVICES IN SECTION V.

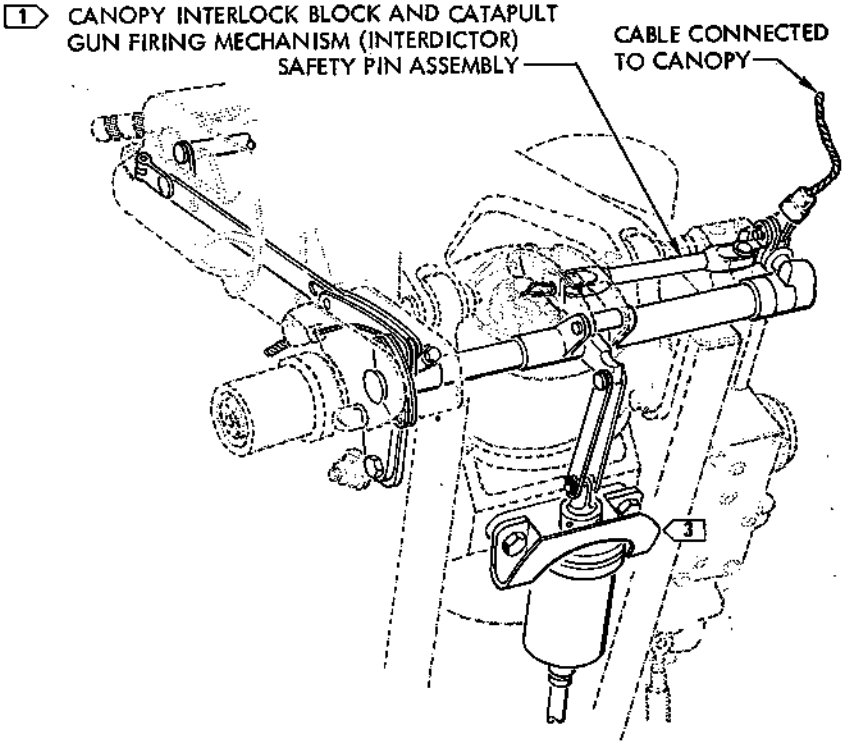
NOTES

[1] AFTER ACC 187.

[2] PART OF MDE32722 OR 32E110093-1. SEE SEC 1696.

[3] 157342aa AND UP, AND 151975t THRU 153115aa AFTER AFC 307.

[1] CANOPY INTERLOCK BLOCK AND CATAPULT GUN FIRING MECHANISM (INTERDICTOR) SAFETY PIN ASSEMBLY



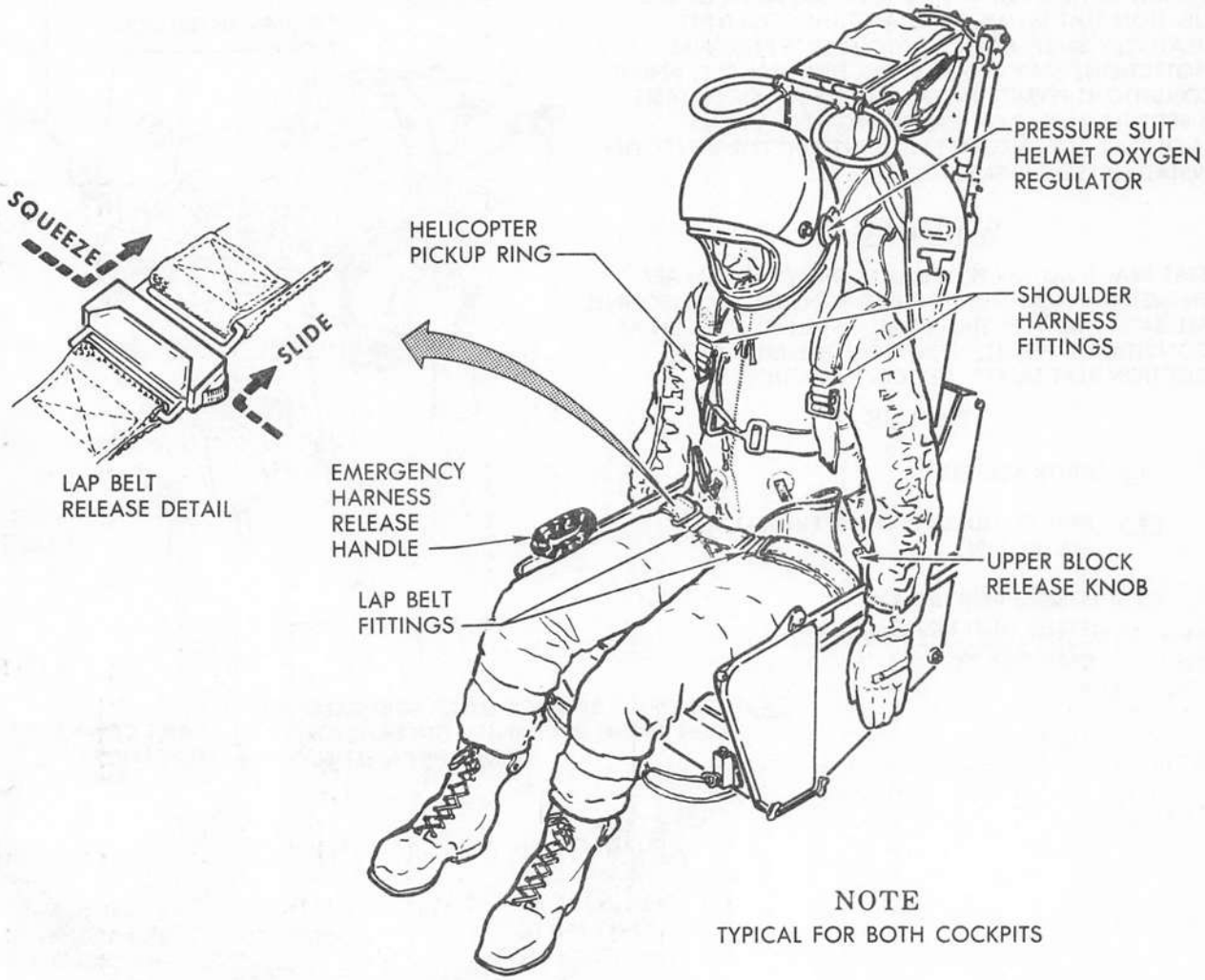
FDC-2-1.1-(132-2)

Figure 8-4. Emergency Seat Deactivation (Sheet 2 of 2)

SEPARATION OF CREWMAN FROM SEAT

WARNING

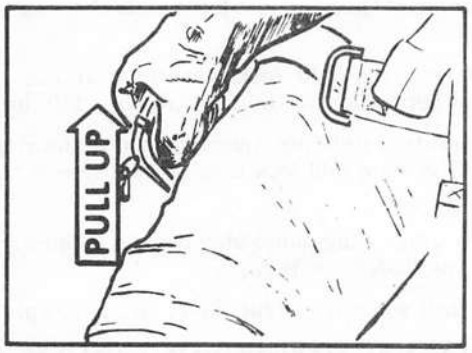
IT IS IMPERATIVE THAT THE EJECTION SEAT BE DEACTIVATED PRIOR TO ENTERING THE COCKPIT TO PREVENT INADVERTANT EJECTION SEAT OPERATION. REFER TO PARAGRAPH TITLED EMERGENCY SEAT DEACTIVATION IN THIS SECTION.



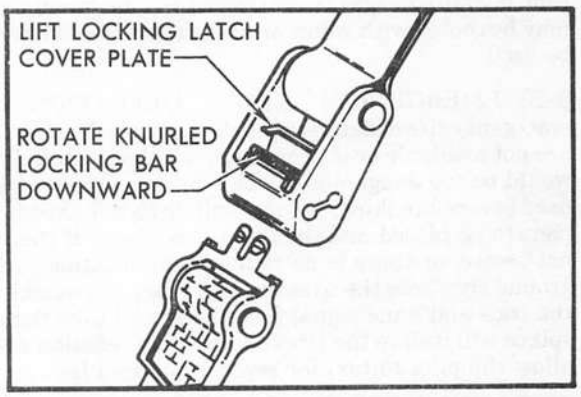
A RELEASE LAP BELT FITTINGS (LEFT AND RIGHT)

FDC-2-1.1-(133-1)

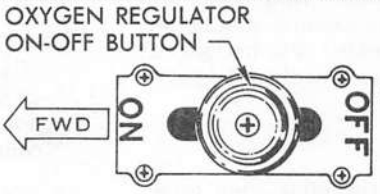
Figure 8–5. Aircrew Removal (Sheet 1 of 2)



B HOLD CREWMAN UPRIGHT. SQUEEZE HANDLE OF EMERGENCY HARNESS RELEASE HANDLE ON RIGHT SIDE OF SEAT BUCKET AND PULL UP TO RELEASE LEG RESTRAINT CORDS. GAS GENERATING CARTRIDGE WILL FIRE, SEVERING THE PERSONNEL PARACHUTE WITHDRAWAL LINE.



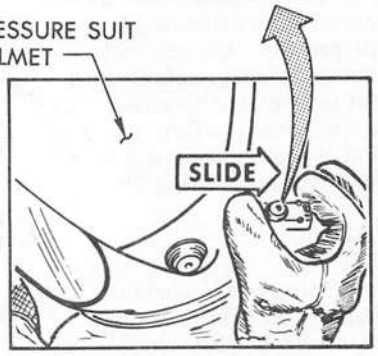
C RELEASE SHOULDER HARNESS FITTINGS. LIFT LOCKING LATCH COVER PLATE AND ROTATE KNURLED LOCKING BAR DOWNWARD TO RELEASE SHOULDER STRAP (LEFT AND RIGHT).

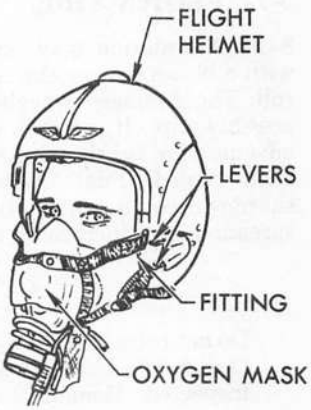


SLIDE BUTTON TO OFF POSITION TO DEFLATE FACE MASK SEAL.

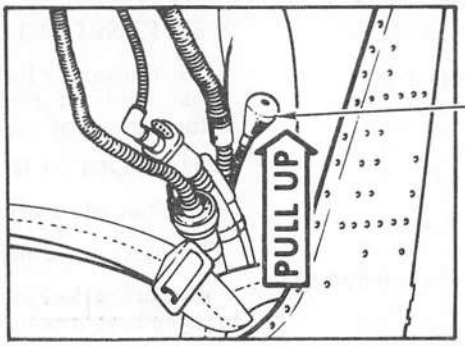
WARNING

WHEN RESCUING A CREWMEMBER, IT IS IMPERATIVE THAT THE CREWMEMBER'S OXYGEN MASK BE REMOVED, OR THAT THE FACE VISOR SEAL ON THE PRESSURE SUIT HELMET BE DEFLATED. THIS ACTION PRECLUDES ANY POSSIBILITY OF THE CREWMEMBER SUFFOCATING FROM LACK OF OXYGEN DURING THE RESCUE OPERATION.





D DEFLATE THE FACE VISOR SEAL ON THE PRESSURE SUIT HELMET BY SLIDING BUTTON AFT ON OXYGEN REGULATOR. FACE MASK MAY BE ROTATED UP OR LEFT IN POSITION. IF THE CREWMAN IS WEARING AN OXYGEN MASK, IT CAN BE REMOVED BY DEPRESSING LEVERS AND PULLING OUT FITTING FROM HELMET.



E PULL UP ON UPPER BLOCK RELEASE KNOB TO DISCONNECT PERSONNEL LEADS (UPPER BLOCK) FROM SURVIVAL KIT.

FDC-2-1.1-(133-2)

Figure 8–5. Aircrew Removal (Sheet 2 of 2)

that installing cages is considered too dangerous, wheels may be cooled with water or emergency tire deflaters may be used.

8-23. **EMERGENCY TIRE DEFLATION.** The emergency tire deflaters, figure 8-6, are used if wheel cages are not available or if tires are so hot that installing cages would be too dangerous. If the pilot is aware that he has used severe breaking, he may call or signal ahead for the pads to be placed and then taxi over them. If the pilot is not aware, or there is no radio communications, and the ground crew sees the tires smoking, they can quickly place the pads and hand signal the pilot to roll over them. The spikes will deflate the tires and the low deflation rate will allow the pilot to taxi for several hundred feet.

8-24. **COOLING HOT WHEELS WITH WATER.** If time does not permit the aircraft with hot wheels to stand and cool, water may be sprayed on the wheels. A stream of water whould be directed between the strut door and wheel. The operator of the hose should stand no closer than ten feet, and should be protected by a heavy wire screen. Apply water spray to wheel and tire for approximately two minutes. This procedure should be used only as an alternate method; repeated or unnecessary water cooling may cause warpage to wheel and brake parts.

8-25. **BLOWN TIRE.**

8-26. A situation may occur when the pilot must land with a blown tire, or the tire may rupture during ground roll. The damaged wheels will probably be very hot or possibly afire. If possible, do not shutdown engines until adequate fire fighting equipment is available or wheel has been cooled. Fuel drainage overboard after engine shutdown could contact the hot wheel causing a fire or spreading and increasing intensity of an existing fire.

CAUTION

Do not retract flaps on aircraft that has landed or taxied on a blown tire until flap seals have been inspected. Damage to flap and/or seals could occur during retraction, due to flap seals having been whipped out of place by abnormal forces.

8-27. **MANUAL WING FOLD.** See figure 8-7.

8-28. Under conditions prohibiting electric and hydraulic power on the aircraft, the wings can be manually unlocked and lifted to fold position.

8-29. **TOOLS AND EQUIPMENT.**

Pin, wing fold lock pin, removal, (60, table 2-1)
Strut, wing jury, (15, table 2-1)

8-30. **MANPOWER REQUIREMENTS.**

a. Four men required.

8-31. **PROCEDURE.**

a. Relieve utility hydraulic pressure by operating brakes and rudder.

b. Place wing fold wing pin pull handle in vertical position.

c. Remove inner wing fold bump fairing from the lower leading edge of the wing just forward of the wing fold lock pin.

d. Insert wing fold lock pin removal pin into the spherical depression in the forward wing fold lock pin.

e. Operate the sliding weight on the removal pin so as to drive the wing fold lock pins aft and free of the inner wing fold lugs.

f. The outer wing panel may now be manually pushed up into the folded position.

g. Install wing jury strut. Refer to paragraph 5-168.

8-32. **MANUAL OPENING OF LANDING GEAR DOORS.**

8-33. **MAIN GEAR DOORS.**

a. Dissipate utility hydraulic pressure by actuating brakes and rudder.

b. Apply external electrical power to the aircraft. Refer to paragraph 5-14.

NOTE

If external electrical power cannot be applied, loosen the coupling nuts on landing gear up and down line of the selector valve in the compartment behind access door 22.

c. Place landing gear control handle in the GEAR DOWN position.

d. Place a 3/8 inch rod, 8 inches long, through the 1/2 inch diameter hole just inboard of the inner gear door mount boss, on the aft side of the compartment under access door 75L/R.

e. Push outboard and up on the rod to push inboard gear door mechanism links overcenter, which will unlock the door.

f. Open outboard door by removing two screws that join door and door link lug.

g. Remove strut door by removing four screws which mount door to strut, then slide door down fork guides.

8-34. **NOSE GEAR DOORS.**

a. Remove three screws securing latch to door.

b. Remove two screws from aft door drive link attach fitting.

8-35. **FUSELAGE FUEL TANK RUPTURE.**

8-36. Rupture of fuselage fuel cells is most likely to occur as a result of fuel system malfunction or improper refueling operation.

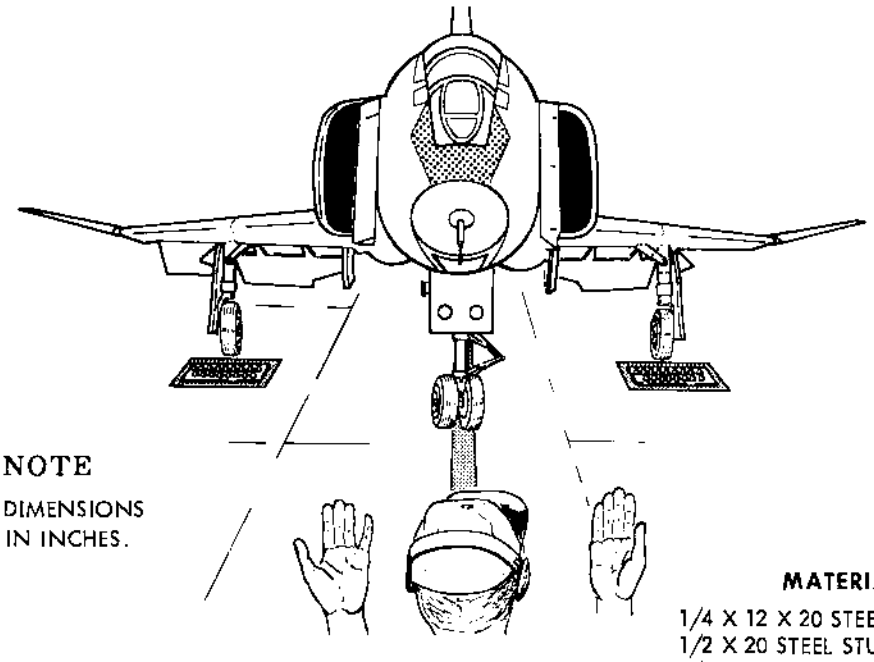
8-37. **PROCEDURE.**

a. Shut off external electrical and hydraulic power.

b. Alert fire department.

c. Confine leaking fuel with containers or other means to keep area around the aircraft as dry as possible.

d. With the fire department standing by, restore external electrical power to the aircraft and defuel. Refer to paragraph 6-40.

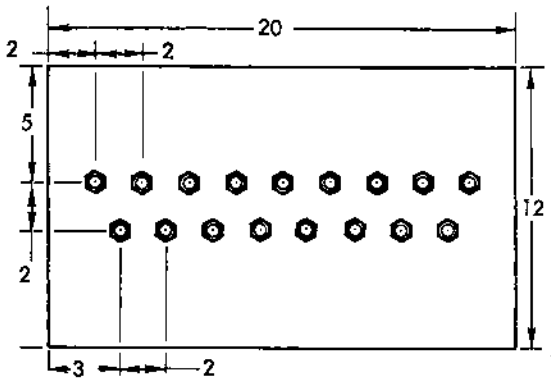


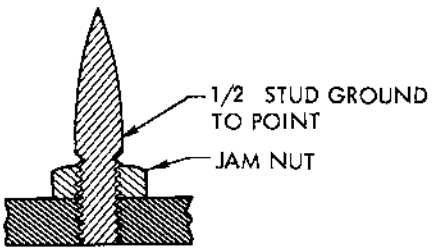
NOTE

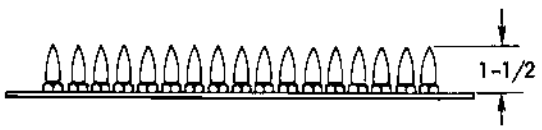
ALL DIMENSIONS ARE IN INCHES.

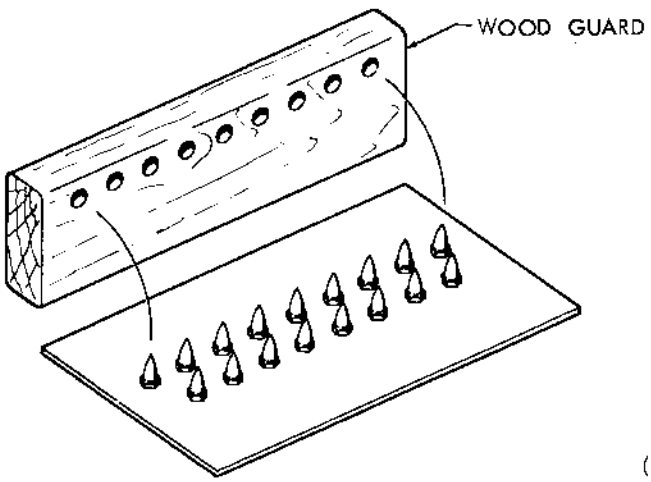
MATERIALS LIST

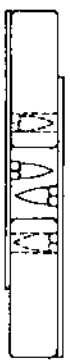
1/4 X 12 X 20 STEEL PLATES	(2 REQ)
1/2 X 20 STEEL STUDS	(34 REQ)
1/2 X 20 JAM NUTS	(34 REQ)
2 X 6 X 20 WOOD BOARDS	(2 REQ)











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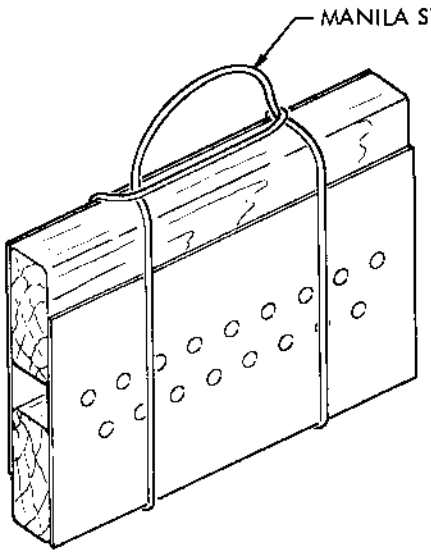

FDC-2-1.1-(134)

Figure 8–6. Emergency Tire Deflater

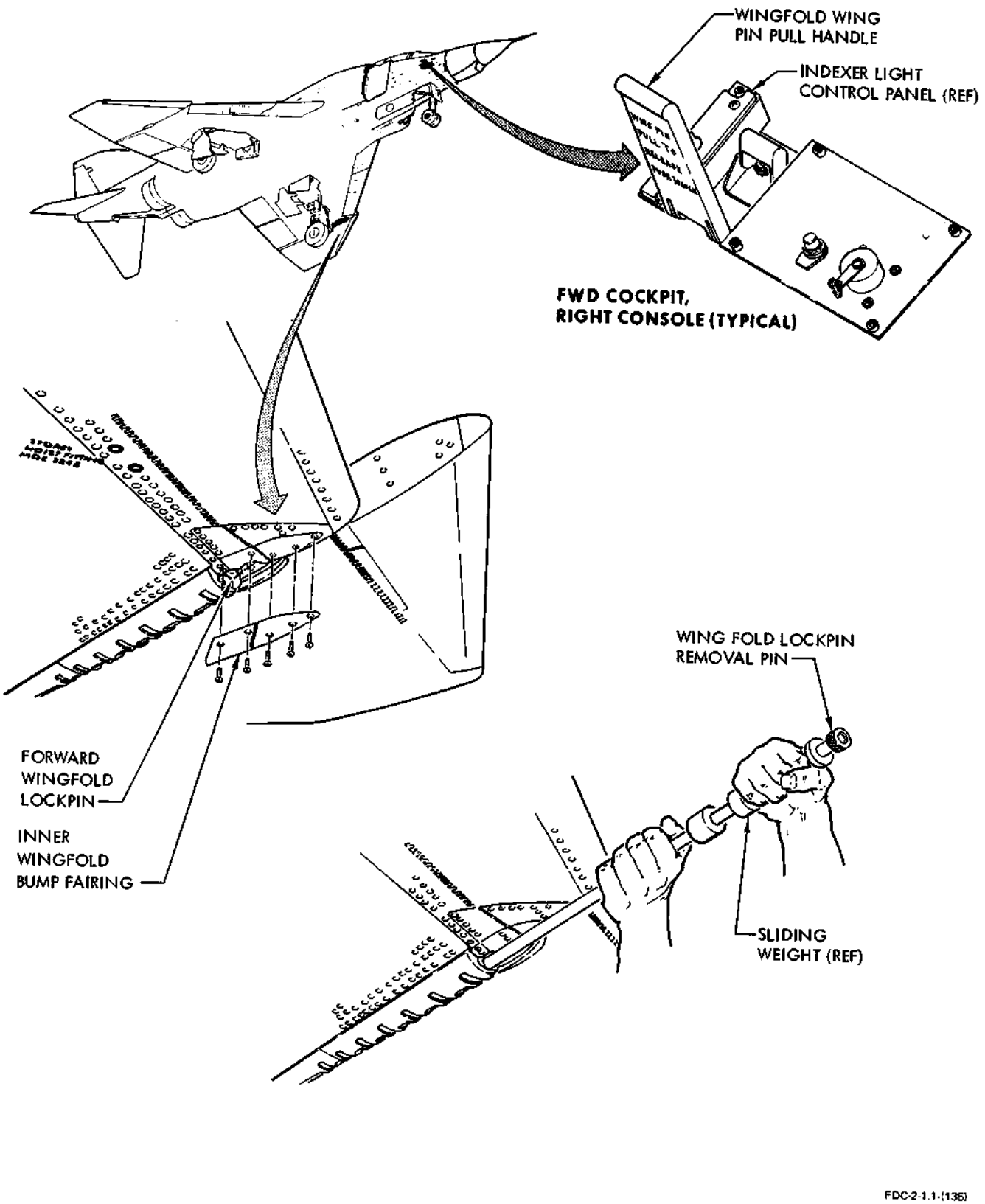

Figure 8–7. Manual Wing Fold

SECTION IX

MATERIALS LIST

CONSUMABLE MATERIALS

9–1. DESCRIPTION.

9–2. Consumable materials are those items consumed during the performance of routine and non–routine maintenance and during flight operations. These items generally consist of such materials as fuels, lubricants, sealants, cements, cleaning compounds, hydraulic fluids, paints, and solvents. When ordering consumable materials, refer to table 9–1 for information concerning the military specification or the manufacturer's part number. Some items will be authorized for local purchase and may not be assigned a federal stock number. Always use the recommended item for a specific maintenance application, as each item has been tested under all the extreme environmental conditions under which the aircraft will operate. Usage of the material as specified at the beginning of each maintenance procedure in the –2 series manuals is essential in achieving the reliability and designed service life of the aircraft.

9–3. MASTER CONSUMABLE MATERIALS LIST.

9–4. **PURPOSE.** The purpose of the Master Consumable Materials List, is to aid in determining the correct type and quantity of consumable items required for a given length of time. The –2 series manuals include a list of materials required for a given task at the beginning of each maintenance procedure. These items are listed under the heading of Materials List and include hardware and items construed as consumables. The Master Consumable Materials List is prepared with the thought of consumable materials being items such as cement, potting compound, grease, oil, hydraulic fluid, fuel, liquid oxygen, cleaning fluids and solvents, special safety wire, special abrasive papers, special tape and are supplied in a can, jar, bottle, tube, or bulk quantities, roll, spool or etc. For purposes stated herein hardware type consumable items and most raw materials are not listed such as cotter pins, washers, standard safety wire, standard abrasive papers, nut, bolts, O–rings, rivets, tubing, sheet metal, electrical hardware or wiring, grommets, etc.

9–5. **EXPLANATION.** Table 9–1, in conjunction with the Consumable Materials List of the NAVAIR 01–245FDB–2–1.2, contains all the consumable materials recommended for use during servicing and maintenance of the aircraft at the Intermediate and Organizational levels of maintenance. The column headings of table 9–1 are explained as follows:

NOMENCLATURE: The proper name of the item listed in the nomenclature column is the same as the assigned nomenclature specified by the latest military specification applicable to that material. Items not covered by existing military specifications are listed by the manufacturer's trade name. All items are listed in alphabetical order.

MIL. SPEC OF MFR PN/CODE: The military or federal specifications number is listed in this column. If a specification number has not been assigned, the manufacturer's part number and 5–digit code number are listed. Refer to Cataloging Handbook H4–2, Federal Supply Code for Manufacturer, for name and address of manufacturer. When an alternate material is known, it is listed in parenthesis following the prime listing.

ANTIDOTE: The antidote column provides information for maintenance personnel to administer first aid emergency treatment. First aid should be used as an emergency measure only. Medical personnel should be called in all cases of injury of disability. Additional information will be added when the data is established.

QUANTITY REQUIRED: This column specifies the amount of consumable materials required for one aircraft for a period of six months. These amounts have been adjusted to obtain the most practical container size available.

SPECIAL STORAGE REQUIREMENTS: The special storage requirements serve as a guide to personnel responsible for the storage of consumable materials. Some items require special environmental conditions necessary to achieve the expected shelf–life of the items. Special instructions for storage of these materials are included in this column.

HANDLING PRECAUTIONS: This column forewarns maintenance personnel who handle consumable materials of the possible dangers connected with the use of such items which may be flammable or toxic in nature. Strict adherence to the precaution stated in this column will preclude any personnel injury caused by improper handling or usage of these items.

Table 9–1. Master Consumable Materials List

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Abrasive, polishing, rare earth oxide, optical quantity, size B	MIL–P–3237		1 lb.		
Acetone, technical	O–A–51	Remove exposed person to fresh air. Wash skin with soap and water.	1 gal.	Store in tightly capped container at temperatures of 50° to 90°F.	Highly flammable or explosive (forced ventilation required). Toxic to skin and irritating to the eyes. Wear rubber gloves.
Adhesive	A2 Adhesive with E Activator/98911	Remove contaminated clothing. Wash skin or eyes with large amounts of water. Secure medical attention.	1 pt.	1 year, adhesive and activator not mixed.	Highly irritating to the eyes and skin. Use in well ventilated area. Use hand cream like Dupont PROTEK.
Adhesive	Silastic #140/71984		4 ozs.	Shelf life: 6 months at temperatures up to 90°F.	Use in well ventilated area.
Adhesive	Epon 828 Resin/86961				
Adhesive	Versamid 125 Resin/11884		1 pt.		
Adhesive, air drying, silicone rubber	MIL–A–25457 (Type I)		1 pt.		
Adhesive, acrylic base for acrylic plastics	MIL–A–8576 Supersedes MIL–A–25055	Wash skin with soap and water.	1 pt.	Store at temperatures not in excess of 50°F.	Avoid contact with skin and eyes. Adequate ventilation required.
Adhesive, epoxy resin, metal to metal structural bonding	MIL–A–8623 Type II		1 pt.		Avoid contact with skin and eyes.
Adhesive, polychoroprene	MIL–A–5540 Type II (MIL–A–5092)		1 pt.	Store in tightly closed container at lowest practical temperature.	Adequate ventilation required. Flammable.

CONTINUED

Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Adhesive, rubber base, general purpose	MIL–A–5092 Type II		1 gal.	Store at temperature not in excess of 50°F. Shelf life at above temperature is 6 to 9 months.	Mildly toxic. Flammable. Adequate ventilation required.
Adhesive, special, rapid room temperature curing solventless	No. 910/74364	Flush with fresh water. Obtain medical attention immediately.	1 oz.	Store in original container. Shelf life: 6 mo. in cool dry place.	Avoid prolonged breathing or contact with skin or eyes. Adequate ventilation required.
Adhesive, synthetic rubber	MIL–S–4383 (EC776/76381)		1 gal.	Store at temperatures not in excess of 50°F.	Adequate ventilation required. Flammable.
Alcohol, ethyl, specially denatured aircraft	MIL–A–6091	Move exposed person to fresh air. Induce vomiting if taken internally.	5 gal.	Store away from heat or sunlight.	Adequate ventilation required. Flammable. Deadly poison if taken internally.
Aluminum Wool	MIL–A–4864 Type II		1 roll		
Ammonium hydroxide, technical	O–A–451	Wash skin or eyes with water. Follow with boric acid solution in eyes.	6 qt.	Store away from heat or sunlight.	Adequate ventilation required. Toxic to skin and eyes. Do not inhale.
Anti–Seize compound, white lead base, general purpose (for threaded fittings)	TT–A–580 (Supersedes JAN–A–669)		1 lb.		Poison if taken internally. May cause skin irritation.
Anti–Seize compound, high temperature	MIL–A–907 (Same as C –5A/73165)		1 pt.		
Barrier material, water vapor–proof, flexible	MIL–B–131				

CONTINUED

Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Beeswax, technical grade	C-B-191	Wash exposed skin with soap and water.	2 lbs.	Store away from heat or sunlight.	May cause dermatitis. Use gloves.
Cement	2004 Supersedes M-3C/04622		4 ozs.	Store at temperatures not in excess of 40°F. Shelf life: 90 days.	Adequate ventilation required.
Cement, glyptal	ZV903/72799			Store at temperatures not in excess of 50°F.	Adequate ventilation required.
Cement, insulation	No. 1201/72799		8 ozs.	Store at temperatures not in excess of 50°F.	Adequate ventilation required.
Cement, synthetic rubber	MIL-A-5092 (EC847/76381)		1 qt.	Store at temperatures not in excess of 50°F.	Adequate ventilation required. Flammable.
Chemical films for aluminum and aluminum alloys (brush process)	MIL-C-5541		175 lbs.	Store in cool place away from heat or open flames.	Toxic to skin. Poison if taken internally. Harmful to eyes. Flammable.
Cleaner, alkaline	Turco 4090/ 61102	Wash skin with soap and water.	12 gals.	Store away from excessive heat.	Toxic to skin. Poison if taken internally. Adequate ventilation required. Do not use near sparks or open flames.
Cleaning compound, high pressure	MIL-C-22542				Protect the eyes. Avoid prolonged contact with skin.
Cleaning compound, aluminum surface, non -flame-sustaining	MIL-C-5410 Type II	Wash skin with soap and water and apply petroleum jelly. Wash eyes with cold water.	50 gals.		Adequate ventilation required. Toxic to skin. Harmful to eyes.
Cleaning compound, oxygen systems	MIL-C-8638		5 gals.	Store in cool place.	Flammable.

CONTINUED

Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Cleaning compound, solvent, for bore of small arms and automatic aircraft weapons	MIL–C–372		1 gal.		
Cleaning compound solvent, oil cooler	MIL–C–6864		2 qts.	Store in tightly capped container.	Flammable. Adequate ventilation required.
Cleaning compound solvent	MIL–S–18718		100 gals.	Store in tightly capped container at temperatures not in excess of 80°F.	Adequate ventilation required. Flammable.
Cloth, abrasive, crocus	P–C–458				
Cloth, polishing	Rymple Cloth #301/75271		1 roll		
Coating	6020A Scotchcast/76381		1 pt.		
Coating compound, metal pre–treatment resin–acid	MIL–C–8514 (MIL–C–15328)		4 kits	Store in tightly capped container at temperatures of 50° to 90°F and low humidity.	Adequate ventilation required. Flammable. Harmful to eyes and skin.
Compound	FS7370A/94580		4 ozs.		
Compound, aerodynamic fairing	EC1751/EC1752 04963		1 lb.		Toxic and flammable. Adequate ventilation required.
Compound, anti–fretting	688272/99167		1 lb.		
Compound, potting	EC1663B/A/ 76381	Skin: Wash 15 minutes with soap and water. Eyes: Wash with large amounts of water for 15 minutes, obtain first aid.	1 pt.	Store in cool place.	Toxic and Flammable. Avoid contact with skin or eyes. Wear rubber gloves and chemical type goggles when mixing. Adequate ventilation required.

CONTINUED

Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Compound, potting	RTV501 Silastic and Catalyst/ 71984	Flush skin or eyes with fresh water.	4 ozs.	Store in tightly capped container at temperatures not to exceed 70°F. Shelf life: 6 mo.	Avoid contact with skin or eyes.
Compound, sealing	EC1252/76381		1 tube		Adequate ventilation required. Toxic to skin.
Compound, silicone rubber	RTV 90 with L –24 Catalyst/ 01139	Wash skin with soap and water. Flush eyes with fresh water. Secure medical attention.	1 pt.	Store at temperatures not to exceed 80°F. Shelf life: 6 months refrigerated, 2 months ambient.	Toxic to skin and eyes.
Compound, vacuum sealing	953–0001/99313		3 tubes (RF–4B)		Avoid contact with skin.
Coolanol 25	807–63–000.01/ 53/76541		30 ozs.		
Cord, nylon (50 lb. line)	MIL–C–5040 Type II		1 spool		
Corrosion preventive, aircraft engine	MIL–C–6529 Type II Grade 1100			Cool place, well ventilated.	Flammable.
Corrosion preventive compound, solvent cutback, cold–application	MIL–C–16173 Grade 2		1 gal.		Adequate ventilation required. Flammable. Caustic.
Corrosion preventive compound, solvent cutback, cold–application	MIL–C–16173		1 gal.		Adequate ventilation required. Flammable. Caustic.
Corrosion preventive, fingerprint remover	MIL–C–15074				
Cramolin kit, cleaning	Vendor code 13101		1 kit		

CONTINUED

Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Desealant, integral fuel and oil tanks	MIL-D-9063 Type III Grade A		1 gal.		
Desiccants, activated for dynamic dehumidification	MIL-D-3716 Type I, Grade H				
Desiccants, activated, bagged, packaging use and static dehumidification	MIL-D-3464 Class 1		90 bags		
Dichloromethane, technical	MIL-D-6998 Grade B		1 pt.		Highly volatile. Ventilation required. Avoid skin and eye contact.
Duralac	D.T.D. 369A (British Spec.)		2 qts.	Store in tightly capped container at temperatures of 50° to 90°F.	
Enamel, alkyd, semi gloss (gray)	TT-E-529 Class A Color No. 26173		1 qt.		
Ethyl acetate, technical	TT-E-751		1 pt.		Avoid prolonged skin contact. Ventilation required.
Ethyl alcohol (ethanol)	O-E-760	Move exposed person to fresh air. Induce vomiting if taken internally.	5 gals.	In cool place.	Adequate ventilation required. Flammable. Deadly poison if taken internally. Damaging to eyes.
Ethylene glycol monoethyl ether, technical	TT-E-776		2 gals.		
Fluid, hydraulic (not for aircraft hydraulic system usage)	OS-45/76541	Wash skin with soap and water. Flush eyes with fresh water.	1 qt.		Avoid contact with eyes.
Flux, soldering	No. 1015/75297		1 can		

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Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Glass cleaner, liquid	P-G-406		2 gals.	Keep from freezing.	
Glycerol, technical	O-G-491		2 ozs.		Flammable.
Graphite, colloidal lubricant, pressure spray applied	MIL-G-26548		1 lb.		
Grease	D.T.D. 900/4408 (British Spec.)		8 ozs.		
Grease	Molykote M77/ 94499		3 lbs.		
Grease, aircraft and instrument, gear and actuator screw	MIL-G-23827 (Replaces MIL -G-3278, MIL -G-7118, MIL -G-15793 and MIL-G-7421)		8 lbs.		May cause skin irritation.
Grease, aircraft, ball and roller bearing	MIL-G-18709		1 lb.		
Grease, aircraft, fuel and oil resistant	MIL-G-27617 (Dupont Krytox)		1 lb.		
Grease, aircraft, general purpose, wide temperature range	MIL-G-81322 (Replaces MIL -G-25760, MIL -G-3545)		4 lbs.		
Grease, high temperature, lubricating	Plastilube Moly No. 3/02307		3 lbs.		
Grease, molybdenum disulfide (for low and high temperature)	MIL-G-21164 (Replaces MIL -G-7187)		4 lbs.		
Grease, plug valve, gasoline and oil resistant	MIL-G-6032		1 lb.		

CONTINUED

Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Grease, silicone (light consistancy)	DC 33/71984		24 ozs.		
Grease, stopcock high vacuum	/71984		1 pt.		
Grease, versi-lube	G-392/01139		1 lb.		
Helium, grade A, dry	90808		2 cyl.		
Hydraulic fluid, petroleum base, aircraft and ordnance	MIL-H-5606		55 gals.	Store in tightly capped container.	Flammable.
Hydraulic fluid, petroleum base, for preservation and testing	MIL-H-6083 Type II		6 gals.	Store in tightly capped container.	Flammable.
Indicator, humidity card, three spot, impregnated areas (cobaltous chloride)	MS20003		4 cards.		
Indicator, humidity plug, color change	MIL-I-26860 Type I		4 plugs.		
Insulation Sleeving, electrical, flexible, treated	MIL-I-3190		4 ft.		
Insulation tape, electrical, pressure sensitive, adhesive, plastic, low temperature application.	HH-I-595 Replaces MIL-I -7798-2 (2 in. width)		100 ft.		
Isopropyl alcohol	TT-I-735	Move person to fresh air. If swallowed, induce vomiting.	12 gals.	Store in tightly capped container at temperatures below 50°F.	Volatile and flammable. Deadly poison if taken internally. Adequate ventilation required.
Lacolene, solvent cleaning	R.J. Brown Co.		1 qt.		

CONTINUED

Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Lacquer, acrylic -nitrocellulose gloss (for aircraft use)	MIL-L-19537 Insignia White Color #517		3 ozs.		
Lacquer, filteray overcoat, type B	Dayglo Color Corp., Cleveland, Ohio		3 ozs.		
Leak detector, bubble	#417 Regal		1 pt.		
Leak test compound, oxygen systems	MIL-L-25567 Type I		8 ozs.		
Litharge, dry	MIL-L-1147		2 ozs.		Toxic if taken internally.
Lubricant, all-weather, semi-fluid, for aircraft ordnance	MIL-L-19701		1 lb.		Irritant to the eyes.
Lubricant, colloidal graphite in oil, medium	MIL-L-3572 Grade B		1 qt.		
Lubricant, dry film	Molykote X106A/ 94499		1 qt.		Flammable.
Lubricant, dry film lube lok	No. 4396/Electro -film Inc. North Hollywood, Calif.		1 can		
Lubricant, thread	C-100/73165		2 tubes		
Lubricating grease, high temp, ball and roller bearing	MIL-L-15719		1 lb.		Silicone fluid of this lubricant will produce mild irritation of eyes if introduced in even very small amounts, as by rubbing the eye with a finger contaminated with a trace of the grease.

CONTINUED

Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Grease, pneumatic system	MIL–G–4343		10 lbs.		
Lubricating oil, aircraft turbine engine, synthetic base	MIL–L–23699		110 gals.		May cause skin rash.
Lubricating oil, aircraft turbine engine, synthetic base	MIL–L–7808E		10 gals.		May cause skin rash.
Lubricating oil, general purpose low temperature	MIL–L–7870		2 gals.		Flammable.
Lubricating oil, general purpose, preservative (water displacing, low temperature)	VV–L–800		5 gals.		
Lubricating oil, gear, sub –zero	MIL–L–10324		1 qt.		Toxic to skin.
Lubricating oil, instrument aircraft low volatility	MIL–L–6085		4 gals.		Flammable.
Lubricating oil, jet engine	MIL–O–6081		55 gals.		Flammable.
Lubricating oil, low temperature weapons	MIL–L–14107		5 gals.		
Lubricating oil, molybdenum disulfide, silicone base, high temperature	MIL–L–25681		1 gal.		
Lubriplate	01139		6 ozs.		
Luminous paint, Dayglo 202–17 saturn yellow	Dayglo Color Corp., Cleveland, Ohio		3 ozs.		

CONTINUED

Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Methanol, methyl alcohol	O-M-232 Grade A	Move exposed person to fresh air.	5 gals.	Store away from heat or sunlight.	Adequate ventilation required. Flammable.
Methyl-ethyl-ketone (for use in organic coatings)	TT-M-261	Remove person to fresh air.	55 gals.	Store in temperatures not in excess of 80°F.	Highly flammable or explosive. Forced ventilation required.
Methyl-isobutyl-ketone (for use in organic coatings)	TT-M-268		2 gals.	Store away from heat or sunlight.	Adequate ventilation required. Flammable. Do not use near heat or flame.
Molding and potting compound, chemically cured, polyurethane (polyether based)	MIL-M-24041 (ProSeal 794 or PR 1547)		8 ozs.		
Molybdenum disulfide, technical lubrication grade	MIL-M-7866		1 lb.		
Monofilament, Silvercrest	G-4, 50 lbs. test 82110 or equal		1 spool.		
Naphtha, aliphatic	TT-N-95 Type II	Move person to fresh air.	5 gals.		Flammable. Toxic to skin and eyes.
Naphtha, aromatic	TT-N-97 Type I Grade B	Move person to fresh air.	55 gals.	Store at temperatures not in excess of 80°F.	Adequate ventilation required. Flammable and toxic.
Nitrogen, liquid	Linde 110/61637 BB-N-411 Type II, Class 1, Grade B		1 bottle.	Temperature must be kept below −197°C (the boiling point).	Extreme caution must be exercised. Handle in well-ventilated areas. Wear a face shield, leather gloves, and asbestos apron.
Nitrogen, gaseous	BB-N-411 Type I, Class 1, Grade B		27 cylinders.	Fasten securely in place.	Do not drop cylinder.
Oil, peanut	Z-O-35		5 ozs.		
Oxygen, aviator's breathing	MIL-O-27210 Type I, Grade B		2 cylinders.	Fasten securely in place.	Do not drop cylinder. Keep away from grease and oil. Flammable.

CONTINUED

Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Oxygen, aviator's breathing (liquid)	MIL–O–27210, Type II		300 gals.	Refer to BuAer Aviation clothing and survival equipment bulletin No. 5–56.	Refer to NA 06–30–501 field handling of liquid breathing oxygen.
Paper, kraft, untreated, wrapping	UU–P–268				
Parachute cloth, nylon	MIL–P–15415 Type I (Replaced by MIL–C–8021)		3 feet		
Penetrating oil, (for loosening frozen metallic parts)	VV–P–216		1 pt.		
Petrolatum, technical	VV–P–236		2 lbs.		
Pigment, magnesium silicate, dry (paint pigment)	MIL–P–15173 Type I		1 lb.		
Polish, plastic	P–P–560 (Replaces MIL –C–18767)		8 pts.		
Powder, talcum: plain and borated	U–T–30		4 ozs.		
Primer	No. 4094/71984		1 qt.		
Primer	EC1945 A/B/76381		1 qt.		
Primer	EC1694/76381		1 qt.	Store in cool place.	Local irritant to eyes, nose and throat. Flammable and toxic. Adequate ventilation required.
Primer	PR1523M83574		1 pt.	90 days shelf life below 80°F.	

CONTINUED

Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Putty, zinc chromate, general purpose	MIL-P-8116		10 lbs.		
Range marker, red	17012C Type 2R/79104 (Red)		1 envelope contains 12 markers		
Range marker, white	W4C/79104 (White)		1 envelope contains 12 markers		
Remover, paint and lacquer, solvent type	TT-R-248 Supersedes MIL-R-8633	Wash skin or eyes with water. Bathe eyes with boric acid solution.	100 gals.	Shelf life: 6 mos.	Adequate ventilation required. Toxic to skin and eyes. Flammable.
Repair material, rubber	FT-82/73842		2 sheets		
Repair material, rubber	fT-102/73842		2 sheets		
Rubbing compound (for lacquered surfaces)	TT-R-771 Type III (Replaces MIL -R-18552)		1 qt.		
Sealant	PR-710M/83574	Wash skin with soap and water.	6 qts.	Store at temperatures not in excess of 50°F.	Toxic to skin. Adequate ventilation required.
Sealant, compound	RT VT 102/01139		1 pt.		Adequate ventilation required. Toxic.
Sealing, compound	Coating 1169A, Catalyst 1169B/07432	Wash skin with soap and water.	6 ozs.		Adequate ventilation required. Flammable.
Sealing compound, elastomeric, accelerator required, aircraft structure	MIL-S-7124		6 ozs.	Store below 80°F	Mildly toxic. Flammable. Avoid skin contact.

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Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Sealing compound, electrical, silicone rubber, accelerator required	MIL–S–23586 Grade B, Type 2 Class optional		6 ozs.		Toxic and Flammable. Adequate ventilation required.
Sealant, fluorosilicone	Q94–031/71983 Supersedes Q94–011		1 qt.		
Sealant, silicone	HP–150/04628		1 gal.	Store at temperatures not in excess of 50°F.	Adequate ventilation required. Flammable.
Sealing compound, integral fuel tanks and fuel cell cavities, high adhesion, accelerator reqd	MIL–S–7502 Class A–1/2	Wash skin with soap and water.	3 kits	Store at temperatures not in excess of 50°F.	Toxic to skin.
Sealing compound, integral fuel tanks and fuel cell cavities, high adhesion, accelerator reqd	MIL–S–7502 Class B–1/2	Wash skin with soap and water.	2 kits	Store at temperatures not in excess of 50°F.	Toxic to skin.
Sealing locking and retaining compounds, single component, anaerobic	MIL–S–22473 Grade A	Wash skin or eyes with large amounts of water.	10 cubic centimeters	Store at temperatures not in excess of 50°F.	Adequate ventilation required. Flammable and toxic.
Sealing, locking and retaining compounds, single component	MIL–S–22473 Grade B	Wash skin or eyes with large amounts of water.	1 pt.	Store at temperatures not in excess of 50°F.	Toxic and Flammable. Adequate ventilation required.
Sealing, locking and retaining compounds, single component	MIL–S–22473 Grade C		30 cubic centimeters	Store at temperatures not in excess of 50°F.	Adequate ventilation required. Flammable and toxic.
Sealing, locking and retaining compounds, single component	MIL–S–22473 Grade E		40 cubic centimeters	Store at temperatures not in excess of 50°F.	Adequate ventilation required. Flammable and toxic.
Sealing, locking and retaining compounds, single component	MIL–S–22473 Grade T		8 ozs.	Store at temperatures not in excess of 50°F.	Adequate ventilation required. Flammable and toxic.

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Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Sealing, locking and retaining compound activator	MIL-S-22473 Grade N		4 ozs.		
Sealing compounds, non curing, polysulfide base	MIL-S-11030 (Replaces MIL -S-7126)		1 pt.	Store at temperatures not in excess of 50°F.	
Sealing compound, synthetic rubber, electric connector and electric systems, accelerator required	MIL-S-8516 (PR1422)	Wash skin with soap and water.	1 tube	Store at temperatures not in excess of 50°F.	Toxic to skin.
Sealing compound, temperature-resistant, integral fuel tanks and fuel cell cavities, high adhesion	MIL-S-8802 Class B-2	Wash skin with soap and water.	1 pt. kit	Store at temperatures not in excess of 80°F (shelf life 6 months)	Toxic to skin. Poison if taken internally.
Sepko cleaning detergent	Monarch Chemical Inc., Minneapolis, Minn. or equivalent		1 qt.		
Silicone compound	MIL-S-8660 (DC4/71984)		16 ozs.		
Silicone fluid, dimethyl polysiloxane	MIL-S-21568 (1.65 C.S.) DC200/71984		4 lbs.	Store at temperatures of 50° to 90°F in tightly capped container.	
Sleeving, heat shrinkable, yellow	CRN-T 3/64 in./08795		6 ft.		
Sleeving, heat shrinkable, white	CRN-T 1/16 in./08795		6 ft.		
Sleeving, heat shrinkable, blue	CRN-T 3/32 in./08795		6 ft.		

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Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Sleevin.g, heat shrinkable, red	CRN-T 1/8 in/08795		6 ft.		
Sleeving, heat shrinkable, green	CRN-T 3/16 in./08795		6 ft.		
Sleeving, heat shrinkable, slate	CRN-T 1/4 in./08795		6 ft.		
Sleeving, heat shrinkable, brown	CRN-T 3/8 in./08595		6 ft.		
Sleeving, heat shrinkable, black	CRN-T 1/2 in./08795		6 ft.		
Sleeving, heat shrinkable, black, brown, red, orange, yellow, green, blue, violet, gray, white, tan, and pink,	RNF 100/08795 Each color available in following sizes: 3/64, 1/16, 3/32, 1/8, 3/16, 1/4, 3/8, 1/2, 3/4, 1 and 1-1/2, 2, 3, and 4 inches		4 ft. length each color		
Sleeving, shrinkable, black	Thermofit Silicone 08795 Available in the following sizes: 1/4, 3/8, 1/2, 3/4, and 1 inch		10 feet each size		
Soap, laundry, low titer for low temperature washing	P-S-600		50 lbs.		Possibly skin irritating.
Solax 190	82628		1 qt.		
Solder, tin alloy, lead-tin alloy and lead alloy	QQ-S-571 Type (SN-60-W-AR -P2)		5 lb. spool		

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Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Solution	Tetra -Etch/17217	Wash skin with soap and water.	1 qt.		Toxic to skin. Flammable. Adequate ventilation required.
Solvent	SC150		1 gal.		
Solvent, cleaning	Mozel #18/11161		1 gal.	Store in tightly capped container at temperatures not in excess of 80°F.	Adequate ventilation required. Flammable. Toxic to skin.
Solvent, dry cleaning	P-D-680, Type I P-D-680, Type II		165 gals.	Store in tightly capped container at temperatures not in excess of 80°F.	Adequate ventilation required. Flammable. Avoid prolonged inhalation or skin contact.
Solvent, metriclene	Type M4/01630		1 gal.	Store in tightly capped container at temperatures not in excess of 80°F.	Adequate ventilation required. Flammable.
Solvent, safety	Mozel #8/11161		100 gals.	Store in tightly capped container at temperatures not in excess of 80°F.	Adequate ventilation required. Flammable.
Solvent, safety	Turco Solv/61102		100 gals.	Store in tightly capped container at temperatures not in excess of 80°F. Shelf life: 1 year.	Adequate ventilation required. Flammable.
Stabond	C136/83040		8 ozs.	Store in tightly capped container. Shelf life: 8 to 12 mos.	Adequate ventilation required. Toxic. Keep away from sparks or flame.
Standard test fluids; hydrocarbon	TT-S-735		1 qt.		

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Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Stripper, epoxy resin	Delchem 2236/86460	Wash skin or flush eyes with fresh water. Secure medical attention.	50 gals.	Store at temperatures not in excess of 80°F. Shelf life: 30 days.	Adequate ventilation required. Highly toxic to lungs and skin.
Tape	250M 3MC0		2 rools		
Tape, fiberglass	290 Polyken		2 rolls		
Tape, fiberglass, thermo setting (1 inch and 5 inches wide)	P–211/99742		1 roll	Store at 70°F for maximum life.	
Tape, lacing and tying, dacron non–slip treatment	Airtex No. 217 Class 2/91344		1 roll		
Tape, masking, paper pressure sensitive	UU–T–106 Type I (MIL–T –21595		5 rolls		
Tape, metallic	#850/76381		50 ft.		
Tape, pressure sensitive adhesive, waterproof for packaging	PPP–T–0060 Type II, Class 1		12 rolls	Store in a cool dry place.	
Tape, self–bonding, silicone rubber	MS70T09 –5/07099		3 rolls		
Tape, self–bonding, silicone rubber	Flexite T.G.L./03890		3 rolls		
Tape, silicone rubber, self bonding black guideline, 1 inch width, 0.040 inch thick	Level Wrap 40125 10017		1 roll		
Tape, teflon	No. 62 Scotch/76381 (Replaces X1133/76381)		2 rolls		

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Table 9-1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Tape, anti-seize, polytetrafluoroethylene, with dispenser	MIL-T-27730		1 roll		
Tape, teflon, silicone adhesive 1/2" width, 0.002 thick, color-clear	Temp. - R, Tape C/71643		1 roll		
Thinner, paint, volatile mineral spirits, petroleum spirits	TT-T-291 Grade I		5 gal.	Store at temperatures in excess of 80°F.	Adequate ventilation required. Flammable.
Thread compound, anti -seize, graphite petrolatum	MIL-T-5544		2 lbs.	Shelf life: 24 months.	
Thread, fiberglas sewing (hand stitching)	E-12/45255		2 spools		
Thread, fiberglas sewing (machine stitching)	E-18/45255		2 spools		
Thread, nylon	V-T-295 Type I, Class 1 Size E		1 spool		
Thread, nylon	V-T-295 Type I, Class 1 Size FF		1 spool		
Thread, nylon	V-T-295 Type II, No. 6, Class 1		1 spool		
Thread, nylon	V-T-295 Type II, Size B		1 spool		
Thread, nylon	V-T-295 Size A, Class 2		1 spool		

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Table 9–1. Master Consumable Materials List (CONT)

Nomenclature	Mil. Spec or Mfr PN/Code	Antidote	Qty Reqd (1 Acft per 6 Mo)	Special Storage Requirements	Handling Precautions
Tissue, cleaning silicon free	Commercial		25 boxes		
Trichloroethylene, technical	O–T–634 Type II	Move person to fresh air. Keep warm, administer oxygen.	2 quts.		Adequate ventilation required. Toxic to skin. Poison if taken internally.
Tubing, insulating extruded insulation tubing, electrical	MIL–I–22129 (AWG No. 9/99114)		3 ft.		
Tubing, insulating extruded teflon	MIL–I–22129 (AWG No. 10/99114)		3 ft.		
Tubing, surgical	1/2 inch Diameter		2 ft.		
Turbine fuel, aviation grades JP–4 and JP–5	MIL–T–5624	Move person to fresh air. Wash with soap and water.	144,000 gals.		Adequate ventilation required. Flammable. Irritating to skin.
Twine	MIL–T–713 Type P, Class 2		3 spools		
Varnish, moisture and fungus resistant	MIL–V–173		1 gal.	Store in tightly capped container at temperatures of 50° to 90°F.	Adequate ventilation required. Flammable.
Vulcaband	V36/83040		3 ozs.		
Water, distilled			5 gals.	Keep from freezing.	
Wax, paste	Commercial		8 ozs.		
Wire, steel, corrosion and heat resistant, safety, 1800°F.	MS9226–04		6 ft.		

GLOSSARY

A

ADC – Air data computer

ADF – Automatic direction finder

AFCS – Automatic flight control system

APCS – Automatic power compensation system

ARI – Aileron–rudder interconnect

B

BDHI – Bearing–distance–heading–indicator

BLC – Boundary layer control

E

EED – Electro–explosive device

F

FCG – Flight control group

FDG – Flight director group

FOD – Foreign object damage

H

HSI – Horizontal situation indicator

L

LABS – Low altitude bombing system

M

MCS – Missile control system

P

PC I – Power control hydraulic system I

PC II – Power control hydraulic system II

PPH – Pounds per hour

R

RAT – Ram air turbine

RIO – Radar intercept officer

V

VFRS – Vertical flight reference set

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