

STANDARD AIRCRAFT CHARACTERISTICS  
F2H-2,2N "BANSHEE"

MCDONNELL

Standard Aircraft Characteristics NAVAER 1335A (REV. 1-49)

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**POWER PLANT**

NO. & MODEL....(2) J34-WE-34  
 MFR.....Westinghouse  
 TYPE.....11 Stg. Axial Compr.  
           2 Stg. Turbine  
 ENG. LENGTH.....120"  
 ENG. DIAMETER.....50"

**RATINGS**

Lbs. ● Rpm ● Alt.

T. O. 3,250 12,500 S.S.L.

MIL. 3,250 12,500 S.S.L.

NORM. 2,650 11,800 S.S.L.

SPEC. NO. WAGT-24C4D-2B

**MISSION AND DESCRIPTION**

The Model F2H-2 airplane is a single place, two engine, jet propelled, long range fighter incorporating droppable tip tanks. Designed to be either land or carrier based, the airplane is equipped with an electrically actuated, fully retractable, tricycle landing gear, folding outer panels, an arresting hook with cable expelling mechanism, and conventional catapult equipment.

Stressed metal skin construction is employed throughout with all surfaces being of the full cantilever type. The control systems are conventional with the exception of the aileron system which incorporates hydraulic boost. The split flaps, speed brakes, and trim tabs are all electrically actuated. In addition to conventional items, pilot equipment includes an ejection seat and cabin pressurization.

**WEIGHTS**

Loadings	Lbs.	L.F.
EMPTY.....	11,146....	
BASIC.....	11,859....	
DESIGN.....	16,400	6.4
COMBAT.....	15,640	6.4
MAX.T.O..(Field)	23,200*	4.5
(Cat.)	23,200....	
MAX.LAND (Field)	16,500....	
(Arrest)	15,300....	

All weights are actual.  
 \*Maximum anticipated loading.

**FUEL AND OIL**

Gals.	No. Tanks	Location
789	3	Fuse, S.S.
88	2	Wing, S.S.
400	2	Wing, Drop

FUEL GRADE....115/145  
 FUEL SPEC....MIL-F-5572

**OIL**

CAPACITY (Gals).....14  
 GRADE.....1010  
 SPEC.....MIL-O-6081

**ORDNANCE****GUNS**

No.	Size	Location	Eds.
4	20mm M-3	Nose	600

**Fire Control**

AFCS.....Mk. 6 Mod. 0

**Bombs and Rockets**

Type	Size	Location	No.
Bombs	100#	Wings	8
Bombs	250#	Wings	4
Bombs	500#	Wings	2
HVAR	5"	Wings	8
HPAG	5"	Wings	8

8 - Aero 14A Combination Bomb  
 Racks and Rocket Launchers

MAX. BOMB CAP.....1,540 lbs.

**DIMENSIONS**

WING AREA.....294 sq. ft.  
 SPAN.....44' - 10"  
 LENGTH.....40' - 2"  
 HEIGHT.....14' - 6"  
 TREAD.....13' - 8"  
 M.A.C.....7' - 4"

**ELECTRONICS**

RADIO VHF.....AN/RC-1 or 1A  
 VHF TRANS. REC.....AN/ARC-27  
 (P.S.I.-Repl.for AN/ARC-1)  
 UHF D.F.....AN/ARA-25  
 (Planned Service Install.)  
 RADIO COMPASS.....AN/ARN-6  
 HOMING.....AN/ARR-2A  
 RADIO HOMING.....AN/ARN-21  
 (P.S.I.-Repl.for AN/ARR-2A  
 and AN/ARN-6)  
 RADIO ALTIMETER.....AN/AFN-1  
 IFF.....AN/APX-6  
 RADAR.....AN/APG-30

PERFORMANCE SUMMARY						
TAKE-OFF LOADING CONDITION		(1) FIGHTER Full Internal	(3) FIGHTER 2-200 Gal. Tanks	(5) GRD. SUPPORT 2-200Gal.Tanks 8-5" HVAR Rock.	(6) GRD. SUPPORT 2-200Gal.Tanks 4-5" HVAR Rock. 4-250# Bombs	
TAKE-OFF WEIGHT	lb.	17,742	20,612	21,852	22,312	
Fuel (Fixed/Drop)	lb.	5,262/-	5,262/2,400	5,262/2,400	5,262/2,400	
Payload (Ammunition/Rockets/Bombs)	lb.	372	372	372/1,120	372/1,580	
Wing loading	lb./sq.ft.	60.3	70.2	74.4	75.9	
Stall speed - power-off	kn.	105	111	115	116	
Take-off run at S.L. - calm	ft.	1,680	2,350	2,700	2,880	
Take-off run at S.L. 25 kn. wind	ft.	1,020	1,480	1,740	1,860	
Take-off to clear 50 ft. - calm	ft.	--	--	--	--	
Max. speed/altitude (A)	kn./ft.	478/S.L.	462/10,000	417/30,000	394/33,000	
Rate of climb at S.L.	fpm (B)	6,300	3,910 (A)	3,300 (A)	2,900 (A)	
Time: S.L. to 20,000 ft.	min. (B)	3.9	6.5 (A)	8.3 (A)	10.6 (A)	
Time: S.L. to 30,000 ft.	min. (B)	6.7	11.5 (A)	16.8 (A)	24.4 (A)	
Service ceiling (100 fpm)	ft. (B)	49,100	44,800 (A)	35,200 (A)	32,500 (A)	
Combat range	n.mi.	790	1,280	855	775	
Average cruising speed	kn.	430	435	395	390	
Cruising altitude(s)	ft.	40,000	40,000	30,000/35,000	30,000/35,000	
Combat radius	n.mi.	295	540	290	265	
Average cruising speed	kn.	430	435	405	400	
COMBAT LOADING CONDITION		(2) CLEAN	(4) CLEAN			
COMBAT WEIGHT	lb.	15,640	17,742			
Engine power		Military	Military			
Fuel	lb.	3,157	5,262			
Combat speed/combat altitude	kn./ft.	462/35,000	458/35,000			
Rate of climb/combat altitude	fpm/ft.	3,200/35,000	2,500/35,000			
Combat ceiling (500 fpm)	ft.	49,500	47,500			
Rate of climb at S.L.	fpm	7,300	6,300			
Max. speed at S.L.	kn.	506	504			
Max. speed/altitude	kn./ft.	506/S.L.	504/S.L.			
LANDING WEIGHT						
Fuel	lb.	1,203	1,325			
Stall speed - power-off	kn.	91	91			
Stall speed - with approach power	kn.	86	86			

## NOTES

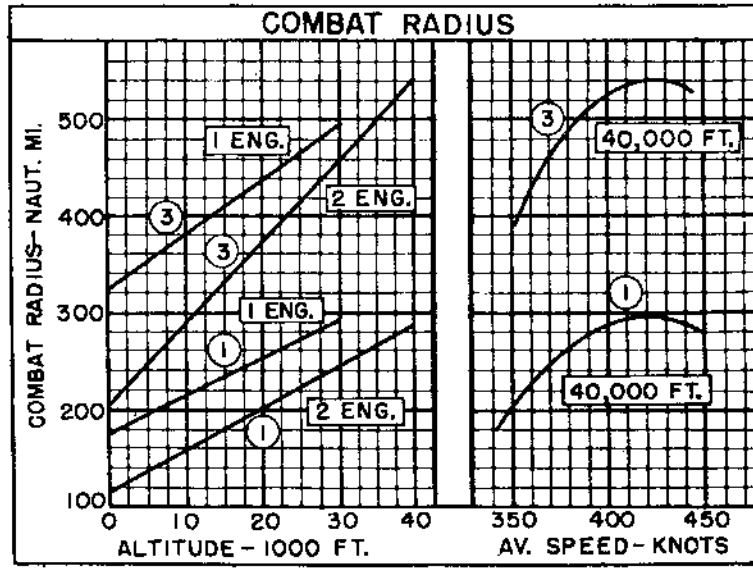
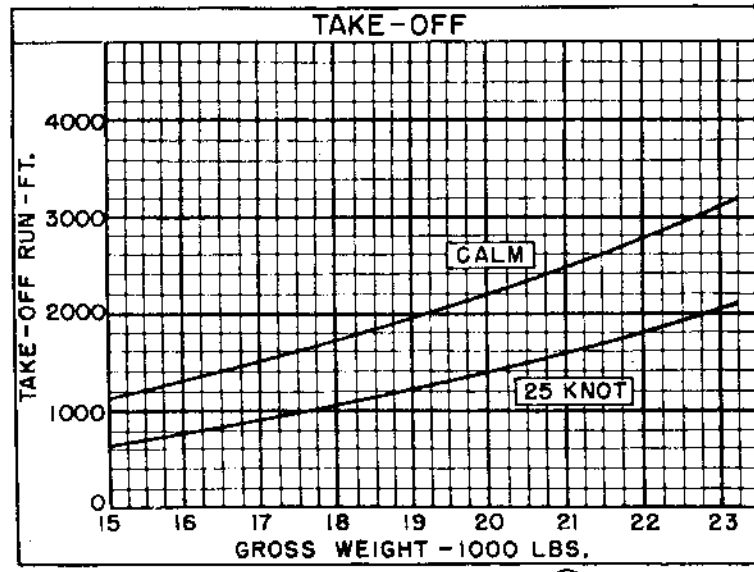
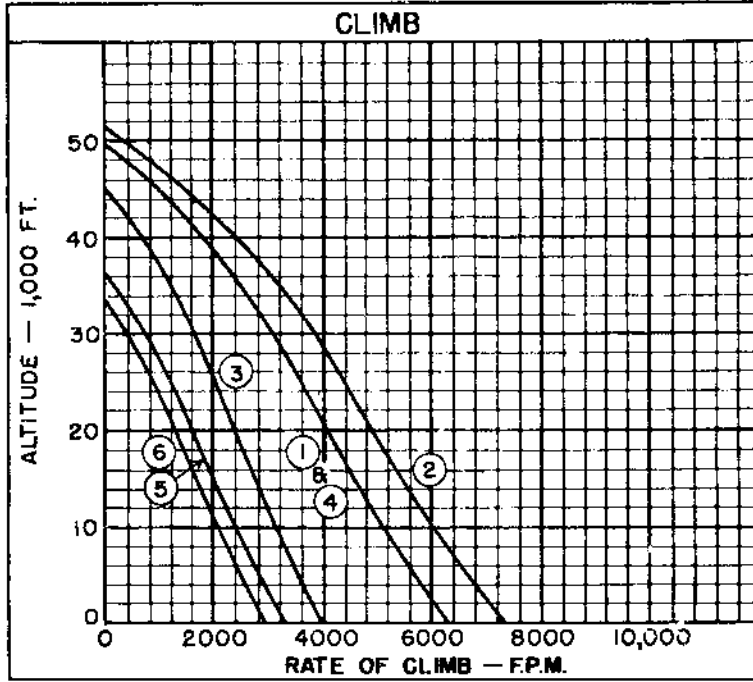
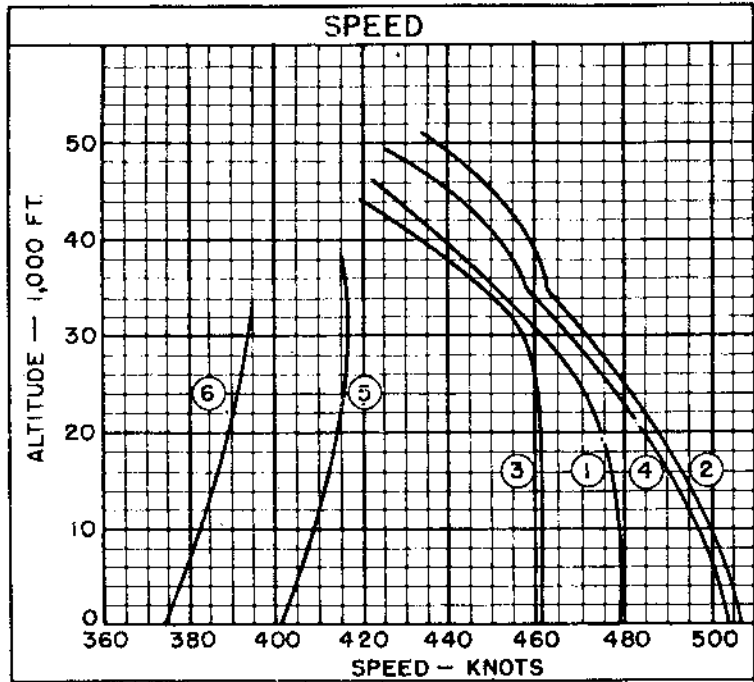
- (A) Normal Power  
(B) Military Power

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Performance is based on NATO flight test of the F2H-2 airplane.  
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Radius and range are based on flight test fuel consumption increased by 5%.

Spotting: 200 ft. length is required to spot 27 airplanes (wings folded) on the 96 ft. wide deck immediately aft of the forward ramp on the CV-9 class carrier.

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Standard Aircraft Characteristics NAVAL 1335F (REV. 2-50)

○ LOADING CONDITION COLUMN NUMBER

## NOTES

GENERAL PURPOSE AND ESCORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.

CLIMB: To 40,000 feet at military power.

CRUISE-OUT: At V for long range at 40,000 feet. External tanks dropped when empty.

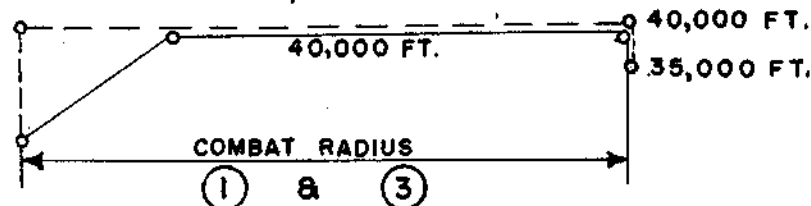
DESCEND: To 35,000 feet. (No fuel used, no distance gained.)

COMBAT: At 35,000 feet for 20 minutes at military power. (Assume combat concluded at cruise-back altitude)

CRUISE-BACK: At V for long range at 40,000 feet.

RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.

$$\text{COMBAT RADIUS} = \text{CLIMB} \div \text{CRUISE-OUT} = \text{CRUISE-BACK}$$

GROUND SUPPORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.

CLIMB: To altitude for maximum radius (30,000 feet) at normal power.

CRUISE-OUT: At V for long range at 30,000 feet. External tanks dropped when empty.

DESCEND: To sea level (No fuel used, no distance gained.)

LOITER: 10 minutes at V for maximum endurance at sea level.

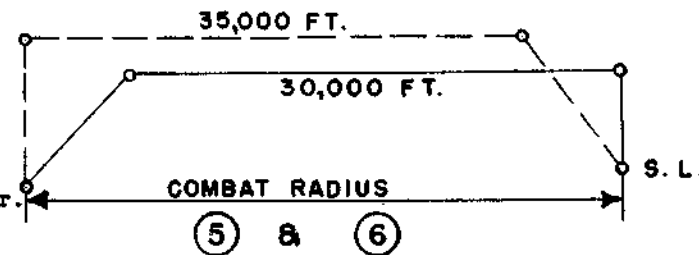
DROP BOMBS AND FIRE EXTERNAL ROCKETS

COMBAT: At sea level for 10 minutes at military power.

CLIMB: To altitude for maximum radius (35,000 feet) at nor. pr.

CRUISE-BACK: At V for long range at 35,000 feet.

RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.



The night fighter version of this airplane is the F2H-2N. It has an elongated nose with same gun installation as F2H-2; additional electronic equipment, auto-pilot, and 82 pounds of ballast replaces armament fire control, oxygen equipment, instruments, and pneumatic controls. Weight and performance are same as those of the F2H-2.

# NOTES

## F2H-2N ELECTRONICS

VHF RELAY SYSTEM.....AN/ARC-28  
 VHF TRANS. - REC.....AN/ARC-27  
 (P.S.I. Repl. for AN/ARC-28)  
 UHF D. F.....AN/ARA-25  
 (Planned Service Installation)  
 RADIO COMPASS.....AN/ARN-6  
 RADIO HOMING.....AN/ARN-21  
 (P.S.I. Repl. for AN/ARR-2A & AN/ARN-6)  
 RADIO ALTIMETER.....AN/APN-1  
 HOMING.....AN/ARR-2A  
 IFF.....AN/APX-6  
 IFF (I-R UNIT).....AN/APX-17  
 RADAR.....AN/APS-19A  
 or RADAR.....AN/APG-36A

## F2H-2N ORDNANCE

No.	Size.	GUNS		Rds.
		Location		
4	20mm M-3	Nose		600

## FIRE CONTROL

Illuminated Sight....Mk. 20 Mod. 0

The photographic version of this airplane is the F2H-2P. It has an elongated nose in which cameras are carried; no guns are installed; no ballast is carried; basic weight is 10 pounds greater than F2H-2. Performance is same as that of F2H-2.

## F2H-2P ELECTRONICS

RADIO VHF.....AN/ARC-1 or -1A  
 VHF TRANS. - REC.....AN/ARC-27  
 (P.S.I. Repl. for ARC-1 or -1A)  
 RADIO COMPASS.....AN/ARN-6  
 HOMING.....AN/ARR-2A  
 RADIO HOMING.....AN/ARN-21  
 (P.S.I. Repl. for ARR-2A or ARN-6)  
 RADIO ALTIMETER.....AN/APN-1  
 IFF.....AN/APX-6  
 UHF D.F.....AN/ARA-25  
 (Planned Service Installation)

## F2H-2P CAMERAS

5 - E-17 Body Camera  
 1 - K-18 Body Camera  
 1 - AN-6A Gun Camera  
 5 - 6" K-17 Camera Cone  
 3 - 12" K-17 Camera Cone  
 1 - 24" K-17 Camera Cone  
 1 - 24" K-18 Camera Cone  
 1 - 36" K-18 Camera Cone  
 1 - S7S Strip Camera  
 1 - 100mm S7S Camera Cone  
 1 - 7" S7S Camera Cone  
 1 - Series 30 Scanner

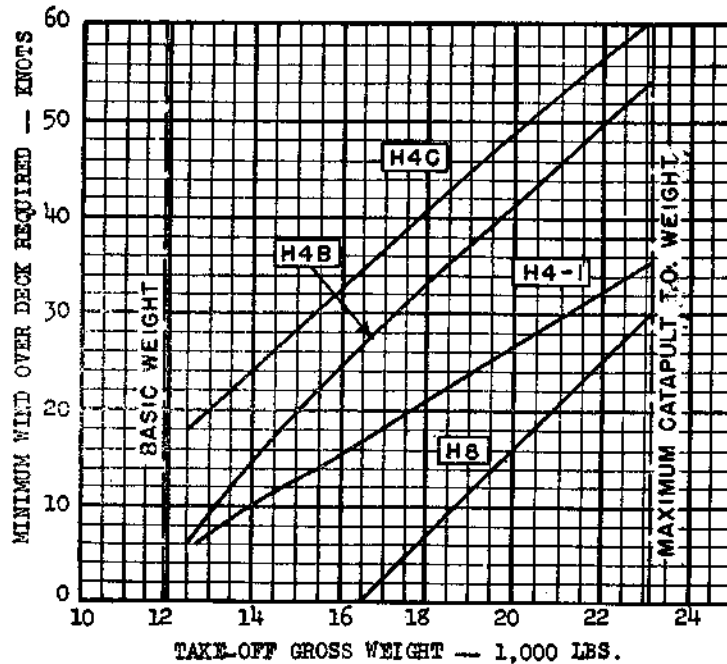
This chart supersedes previously issued charts for F2H-2 and F2H-2N dated 1 November 1949.  
 Reason for reissue: Flight test data available.

SUPPLEMENTAL

CARRIER SUITABILITY

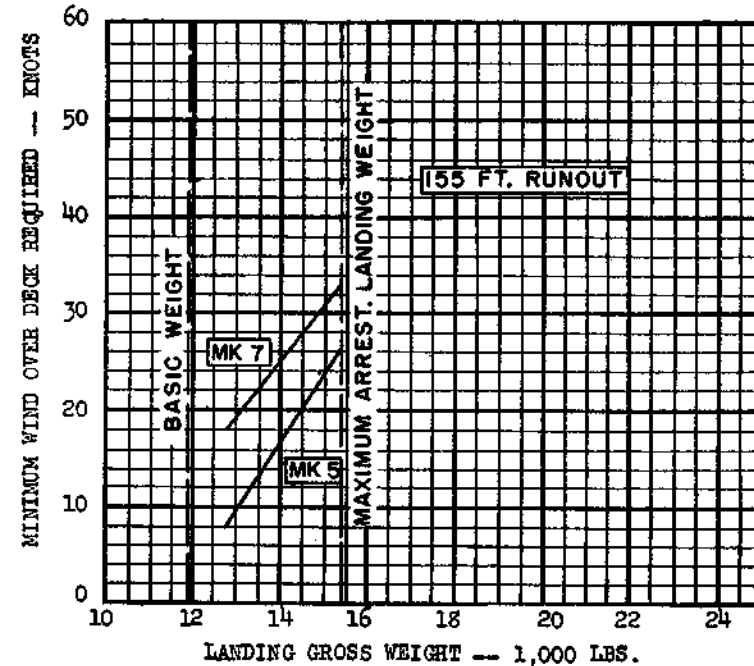
MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING  
VS. GROSS WEIGHT

Based on minimum safe take-off speed  
Service capacity pressure = 4,000 PSI



MINIMUM WIND OVER DECK REQUIRED FOR LANDING  
VS. GROSS WEIGHT

Based on approach speed of 1.2 power-off stall speed



NOTES

- (A) These curves should be used for planning purposes only. Actual catapult and arresting gear operation should be in accordance with applicable Aircraft Technical Orders, and Catapult and Arresting Gear Bulletins.
- (B) Based on NATC Flight Test.