

Above: A classic approach shot of a VMFA-251 F/A-18C about to land on the USS George Washington in the Persian Gulf. (US Navy)

Below: An F/A-18A of No.3 Squadron, Royal Australian Air Force, seen at low-level over the Australian bush. (RAAF)





An EF-18A of Ala 12, Spanish Air Force, trailing vortices from its wingtips.

MCDONNELL DOUGLAS F-18 HOFIG

Gary Madgwick updates the story of this powerful dual-role fighter and attack aircraft.

All photographs by or via the author unless credited otherwise.

THE first part of the F-18 Hornet story was told in *Scale Aircraft Modelling* some 10 years ago, in Volume 10 Number 7. Since then, the Hornet has not only entered service with a number of air arms, but also seen combat use, its crowning glory being over Iraq in the 1991 Gulf War where it fought with the US Navy, US Marine Corps, and the Canadian Armed Forces. Hornets have also been heavily involved in the Bosnian War.

DEVELOPMENT

The Hornet has survived all its early problems and become one of the great combat aircraft which is still selling to new customers from all corners of the globe. It is in much demand and is a prized mount for its pilots. One of the amazing things about the F-18 is the number of improvements that have been incorporated over the years, including a brand new aircraft in the shape of the next-generation F-18E/F for the 21st Century.

Above right: A CF-188A of No.410 Squadron, Canadian Armed Forces, seen at Cold Lake CFB in 1994. Right: A Finnish F-18D seen over a typical winter landscape.

AIRCRAFT IN DETAIL







The old F/A-18A and two-seat B Hornets were retired from front-line service with the US Navy and Marine Corps by 1995, which was one of the shortest front-line careers of any modern aircraft. The replacement F/A-18C and corresponding two-seat D are almost totally new aircraft with just the extethe early customers have also updated their aircraft to C/D standard or developed their own fixes for the early problems of warload and range. The Canadians designed a 480-US gal (1800-litre) external tank to supplement the original 330-US gal tanks.

Although the airframe design has only changed in small ways since it entered service the interior has changed in almost every instance. The airframe modifications that have mostly resulted from structural improvements have included the filling-in of the LEX slots, strengthened fuselage behind

the cockpit, LEX fences and vertical tail strengthening. Both the LEX fences and tail bases of the vertical tails caused by the LEX rior resembling the original design. Most of vortices at high angles of attack To find a fix, interest is that the Canadian Hornets have a slightly longer LEX fence than other users.

From 1987, the F/A-18C and D models started to enter service with the United States Navy and Marine Corps. These are similar in appearance to the A/B models with the only visible differences being the AN/ALQ-165 fairings on the fuselage behind the canopy and on either side of the fuselage just behind the nose cone. The C/D

strengthening have been retro-fitted to all the Hornets around the world. The reason why these modifications were necessary was because structural cracks were found in the an eight month test programme was initiated which not only found the solution but also the correct size and placement. Of particular





Right: Ranged on the forward flightdeck of the USS Dwight D Eisenhower in 1994, these F/A-18C Hornets are from VFA-131 and VFA-136. (Andy Sheppard)

model also carries another AN/ALR-165 and AN/ALR-67 antenna under the front fuselage. However, under the skin a new AKY-14 Mission Computer and a faster processor has been fitted. A new APG-73 radar has also been developed together with an ALQ-165 jammer system. The C/D model introduced the NACES ejection seat and associated survival equipment.

From 1989 onwards night attack capability was added with the GEC Avionics night vision goggles. A Hughes AAR-50 FLIR pod within the thermal imaging navigation set (TINS) pod, linked to the Kaiser HUD. A Night Vision Goggles (NVG) compatible cockpit has also been developed to maintain the effectiveness of the goggles. The C/D version was also one of the first military combat aircraft to be fitted with black boxes fully integrated into the fuel and engine management system together with all the mission systems and a built-in test facility.

From 1992, a new engine was introduced. This is the more powerful General Electric F-404-GE-402 and has 20 percent more thrust than the original F-404-GE-400. The first Hornets to be fitted were those export models for Kuwait. However, it seems likely that all the USN and USMC aircraft will be retro-fitted with the new engine. The performance of the F/A-18C has been stated as a maximum speed of more than Mach 1.8, approach speed of 134 knots, combat ceiling of 50,000 feet, combat radius of 290 nautical miles, and an unrefuelled ferry range with external tanks of 1,800 nautical miles.

Above left: An F/A-18C of VFA-15, embarked on the USS John F Kennedy, seen at RNAS Yeovilton in 1996. Left: Also seen at the same time at Yeovilton, this F/A-18C is from the above aircraft's sister squadron on the deployment, VFA-87.

Right: Seen at RAF Brize Norton in 1992, this VFA-83 F/A-18C was embarked on the USS Saratoga. Middle right: An F/A-18C of VFA-125, basking in the sun at NAS Leemoore in 1995. Bottom right: A VFA-131 F/A-18C aboard the USS Dwight D Eisenhower in 1994. (Andy Sheppard)

NIGHT ATTACK VERSION

Whilst the USN dual seat versions remain as a trainer, the USMC quickly saw the potential of this version and developed a dedicated all weather/night attack version by having a Weapons System Officer (WSO) to operate a night attack weapons system which has been installed in the rear cockpit. This is fully combat capable with controls on both

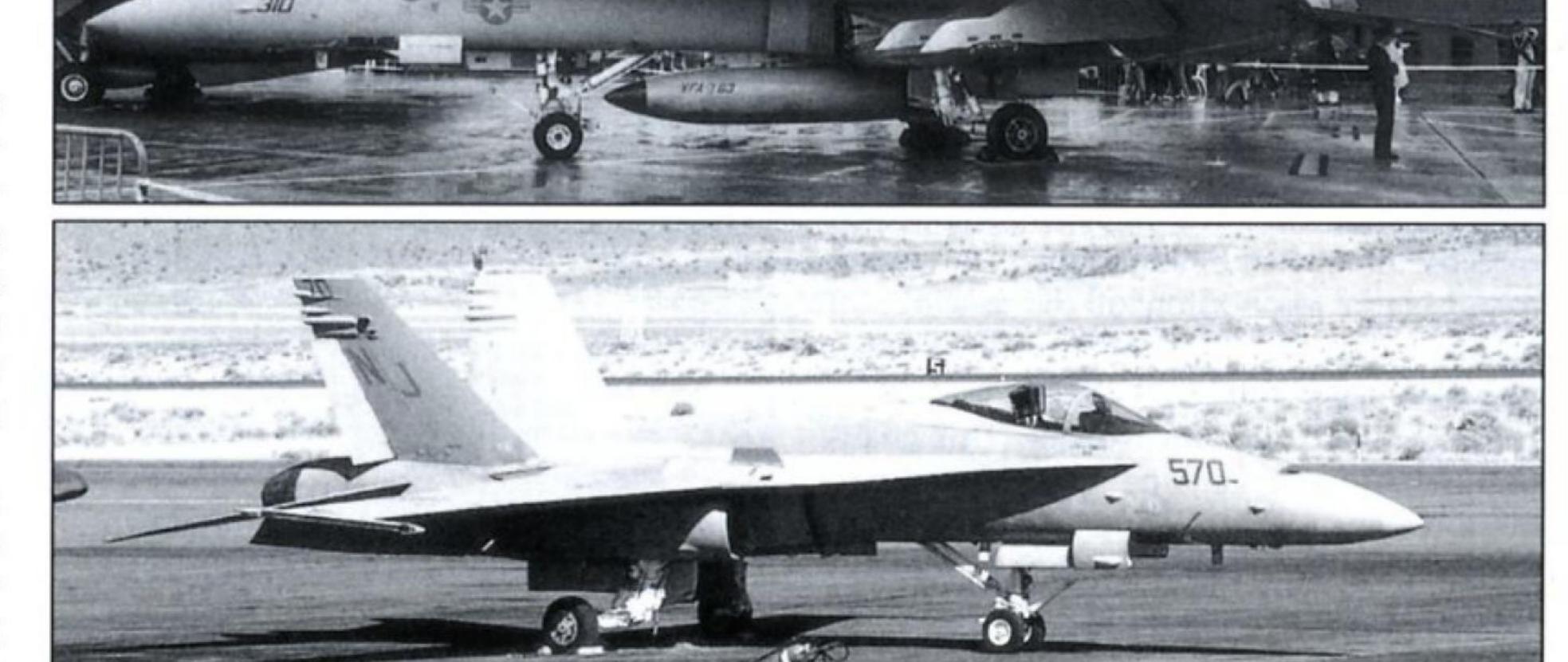
The Marines are planning to operate six Squadrons of F/A-18D's. They also operate the aircraft in the Fast Forward Air Controller (FAC) role replacing the OA-4M Skyhawk. One of the main modifications to be added to this version has been the multisensor integration pack (MSI). This is intended to keep the crew's workload at a manageable level despite increases in new sensors and weapons. Its computer receives inputs from all the on board sensors, then correlates them and displays them as a single target on the pilot's display. The MSI can be used in the air-to-air and air-to-ground modes in both active or passive states.

COMBAT OPERATIONS

Since it first went to war in 1986, during Operation Prairie Fire, the Hornet has seen action in every conflict that the US Military has been involved in.

President Ronald Reagan took on Libya's Colonel Muahmar Ghaddafi as the chief sponsor of international terrorism, and in the verbal war that followed this declaration, Libya proclaimed the entire Gulf of Sidra as its own territorial waters. He then declared that anyone crossing the 'Line of Death',

This view of a VFA-136 F/A-18C shows some useful details of the type in its onboard 'stowed' state. (Andy Sheppard)





which stretched across the Gulf from Tripoli to Benghazi, would be attacked. The American fleet only had to cross this imagitional maritime law and defend itself. It was then able to attack Libya as punishment for any unlawful attacks.

In the Gulf in March 1986 was the US Sixth Fleet with the carrier USS Coral Sea (CV-43). She had embarked a trial air wing which included F/A-18As, A-6Es, EA-6Bs, EA-3Bs, E-2Cs and SH-3Hs. It was not however, until a terrorist bomb in a West Berlin disco which killed and injured

American servicemen and was easily traced back to Libya, that direct action against Ghaddafi took place. On the evening of 14 nary line which was contrary to all interna- April 1986, a combined strike was launched against Libya with the Coral Sea's Hornets attacking several military sites, including SAM sites against which HARM missiles were used. The squadrons involved were VFA-131 'Wildcats', VFA-132 'Privateers' (since disestablished), and Marine squadrons VMFA-314 'Black Nights' and VMFA-323 'Death Rattlers'. No casualties or losses were reported to the Hornet fleet or Navy aircraft in general.



Right: An F/A-18C assigned to the US Navy's test and evaluation squadron VX-4. Below right: A Mairine Corps F/A-18C of VMFA-232 with HARM missiles ready for a mission during Operation Desert Storm.

DESER'T STORM

Just over four year's later another Middle Eastern dictator threatened the international community and the oil rich countries surrounding the Persiam Gulf. Iraq's President Saddam Hussein inwaded Kuwait and then directly threatened Saudi Arabia, and with it a substantial proportion of the world's oil reserves. President George Bush forged a huge military coalition of 28 nations to force Iraq's withdrawal from Kuwait. This coalition was to become the greatest military build up since World War 2 and included in the air element were Hornets from the US Navy, US Marine Corps, and the Canadian Armed Forces.

In both the USN and USMC the Hornet had become a standard light attack aircraft. 19 American and three Canadian squadrons with 220 aircraft between them took part in Operations Desert Shield and Desert Storm. They flew 11,000 combat missions with over 30,000 hours of flight time and with a mission rate of over 90 percent. Two US Navy Hornets were lost in action, whilst another four were hit - three by surface-to-air missiles (SAMs), and one by anti-aircraft artillery (AAA) - but returned to base.

The first loss was on 17 January 1991, the aircraft being BuNo 163484 flown by Lieutenant Commander Michael Scott 'Spike' Speicher of VFA-81 'Sunliners' flywas on 5 February 1991, an aircraft flown by Lt Robert J. Dwyer of VFA-87 'Golden Warriors' flying from USS Theodore Roosevelt (CVN-71). No further details are known, but both pilots were killed in action.

Two Hornets from VFA-81 scored the only two fixed-wing kills by US Navy aircraft when they short down two Iraqi MiG-21s on 17 January 1991. Desert Storm also saw the first operational deployment of F/A-18D Night Attack Hornets when VMFA





(AW)-121 'Green Knights' were deployed as part of the 1st Marine Expeditionary Force/3rd Marine Air Wing, Marine Air Group 11, and based at Sheikh Isa, Bahrain.

Both the Navy and Marine Corps have had aircraft stationed in Saudi Arabia or on ing from the USS Saratoga (CV-60), who the carriers around the area since the end of was hit by a SA-6 SAM. The second loss the Gulf War as part of Operations 'Southern Watch' and 'Safe Haven'. More recently, carriers have been back in the Persian Gulf during a build-up of military equipment in another potential showdown with Iraq. On this occasion Saddam Hussain backed down and no military action was necessary. F/A-18C and D Hornets were again deployed as part of this exercise with increased responsibilities as since 1991 they have replaced the A-6 Intruder as the standard medium attack aircraft in the US Navy arsenal.



BALKANS CONFLICT

One of the most ruthless wars in central Europe has taken place over the past five years. With the break-up of the former Yugoslavia, the Serbian, Croatian and Bosnian factions started to fight among themselves in what became a major human tragedy. In order to stop the fighting, NATO stepped in as a peace-keeping force.

Firstly, as far as air operations were concerned, a 'No-Fly' policy was introduced under the code name of 'Deny Flight'. The skies over Bosnia were patrolled by armed fighter aircraft from NATO which included both US Navy and Marine Corps Hornets. This, however, did not stop the ground war and finally the world went to the help of this beleaguered nation in the form of IFOR with air support under the codename Operation 'Deliberate Force.' This has been on-going since 1995, and at its peak saw USMC F/A-18Ds in action with more than 100 FAC and night attack sorties being flown against Serb

US Navy aircraft involved in the operations have flown from the carriers in the Mediterranean and Adriatic, whilst the Marine Corps aircraft have been shore-based at Aviano AB in Italy. Though the situation has remained calm recently, the military presence remains as a deterrent against future violent outbreaks.

Other F/A-18 Hornet operators have also been part of the air operations over Bosnia, with Spain flying their EF-18A+ Hornets on SEAD support missions in support of strike packages. These aircraft were also based at Aviano AB and both aircraft and crews came

Left: This F/A-18D of VMFA(AWA)-332 is refuelling from a USAF KC-135 tanker of the 100th ARW based at RAF Mildenhall.



F-18 HORNET KITS, ACCESSORIES AND DECALS

1:144th scale: MATCHBOX PK058 F/A-18A; REVELL RV4075 F/A-18A 1:72nd scale: AIRFIX AX04032 F/A-18A; FUJIMI FU72007 F-18C; FU72035 EF-18A(C.15); FU72039 F/A-18B; HASEGAWA HADT010 F/A-18A; HADT011 TF-18A; HADT112 F-18C; HADT125 F/A-18C; HADT133 F/A-18D; HAET1 F/A-18C; HAET2 F/A-18D; HASP151 (Ltd Ed) F/A-18C; HASS12 F/A-18A; ITALERI IT093 F/A-18F; IT154 RF-18A; IT161 F/TF-18A; REVELL RV4303 F/A-18C 1:48th scale: HASEGAWA HAP24 F/A-18A; HAP26 F/A-18C; HAPT103 (Ltd Ed) F/A-18A 'Blue Angels'; HAPT106 (Ltd Ed) F/A-18C VFA-37; HAPT107 (Ltd Ed) F/A-18C 'Golden Dragon'; HAPT110 (Ltd Ed) F/A-18 'Maces'; ITALERI IT824 RF-18A; IT827 F/A-18A; REVELL RV4561 F-18A; TESTORS TES524 F-18 1:32nd scale: HASEGAWA HAS23 F-18A Prototype

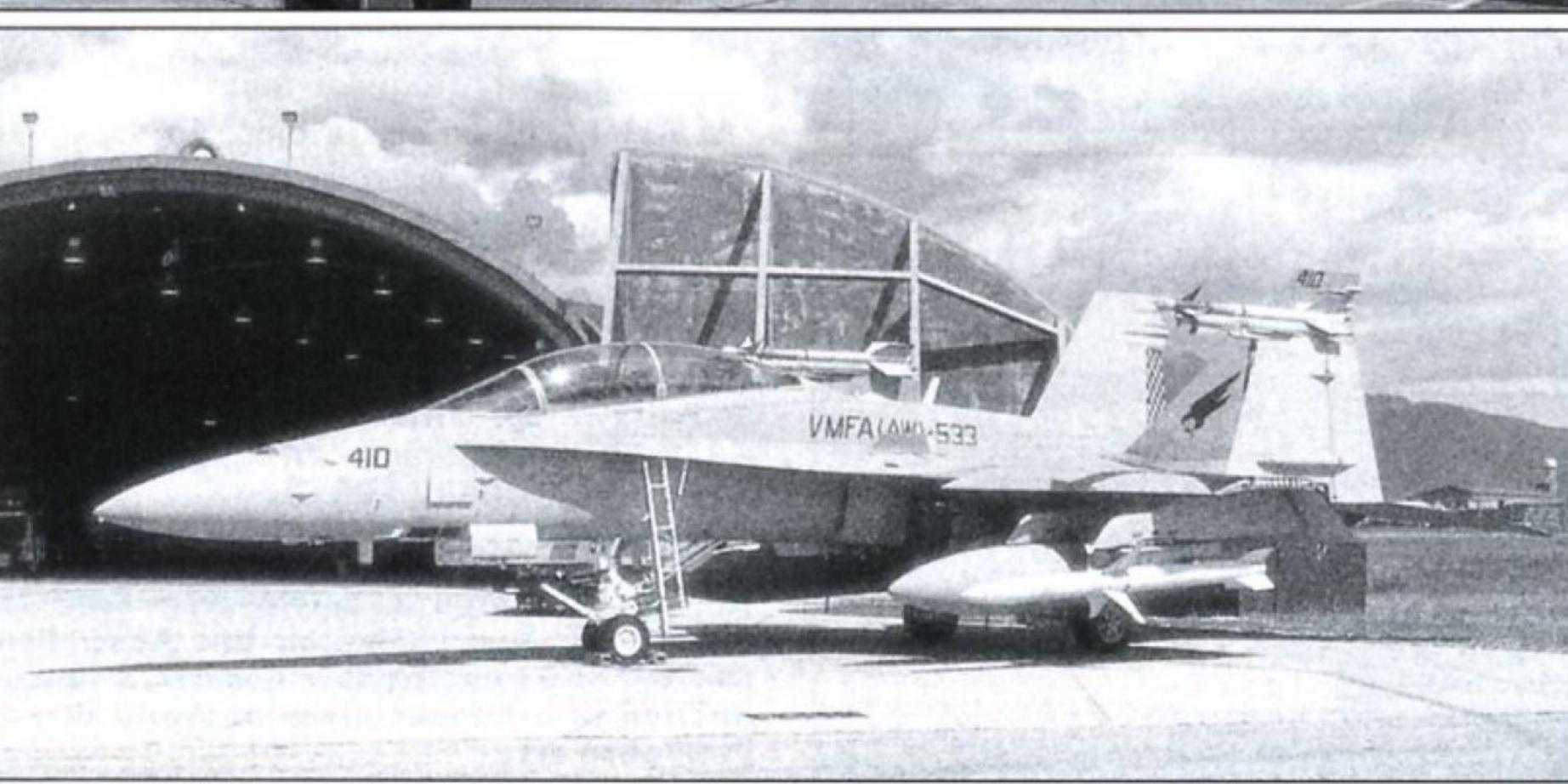
1:72nd scale: AEROCLUB ABEJ017 SJU9-10 Ejection seats; AIRWAVES AEC72026 F/A-18 Cockpit set; AEC72027 F/A-18 Canopy set; EDUARD ED72158 F-18A Detail set; TRUE DETAILS TD72409 SJU-17/A Ejection seats; VERLINDEN VL0415 SJU-5/A Ejection seats; VL0591 TF/F-18 Update set 1:48th scale: EDUARD ED48048 F/A-18 Detail set; TRUE DETAILS TD48407 NACES SJU-17 Ejection seats; VERLINDEN VL0410 Ejection seats; VL0689 F/A-18 A/C Hornet update set 1:32nd scale: PARAGON DESIGNS PAR32003 F/A-18A, F/A-18C, CF-188 Conversion; PAR32004 SJU-5 F-18 Seat

1:72nd scale: AUSSIE DECALS AUS72012; AUS72013; HI-DECAL HD72023; HD72027; HD72034; PD DECALS PD72003; PROPAGTEAM PPT72010; REPLISCALE RS1013; RS1016; SUPERSCALE SS72457); SS72467; SS72494; SS72540; SS72550; SS72551; SS72560; SS72564); SS72575; SS72578 SS72620; SS72633; SS72651; SS72652; SS72702; TECHMOD TM72076

1:48th scale: AUSSIE DECALS AUS48010; HI-DECAL HD48004; HD48006; HD48008; PD DECALS PD48003; REPLISCALE RS5013; RS5016; RS5017; RS5032; SUPERSCALE SS48191; SS48237; SS48274; SS48313; SS48321; SS48322; SS48333; SS48343; SS48346; SS48418; SS48439; SS48440; SS48502; SS48609; SS48610; YELLOWHAMMER YH4813

1:32nd scale: AUSSIE DECALS AUS32004; SUPERSCALE SS32048; SS32050; SS32059; SS32060; SS32070; SS32083; SS32104; SS32114; SS32115; SS32130





An F/A-18D of VMFA(AW)-224 prepares to taxi at Aviano AB in December 1995 during Operation Deliberate Force. (USAF)

from the operational squadrons Ala 12 and Canada also deployed CF-188A Hornets to Aviano in 1997, the first time they had operated outside Canada on a major scale since withdrawal from Germany in 1992.

HORNET OPERATORS

United States Navy

The largest user of the Hornet is the US Navy, with at the last count 28 operational squadrons, along with a number of aircraft assigned to test and evaluation squadrons. With the down-sizing of the US military, 10 other squadrons have disestablished Hornet operations. Strike Fighter Squadrons are all designated VFA whilst Fighter Composite Squadrons are numbered VFC. Test unit aircraft do not carry VFA or VFC markings.

United States Marine Corps

The USMC has 14 Marine Fighter Attack Squadrons (VMFA) all flying the F/A-18C, and a further six Marine All-Weather Fighter Attack Squadrons (VMFA (AW)) fly the F/A-18D. They also have one Training Squadron (VMFAT) with both C and D models, whilst two other squadrons have been deactivated.

The largest user after the United States is the Canadian Armed Forces. 98 CF-188As and 40 CF-188Bs were ordered in 1980, with the first aircraft being flown in 1982. The main difference between Canadian and American aircraft is the carriage of a searchlight in the port side of the front fuselage, and the CF-188 also carries a civilian ILS system.

Hornets replaced the CF-101 Voodoo, CF-104 Starfighter and CF-5 Freedom Fighter, and eight squadrons have operated the type, but after the withdrawal of Nos.439

Above left: An F/A-18D of VMFA(AW)-242. Left: Outside a Hardened Aircraft Shelter at Aviano AB, this VMFA(AW)-533 F/A-18D was also deployed for Operation Deliberate Force missions over Bosnia..





and 421 Squadrons from the First Air Division at Baden-Soellingen in Germany and the re-organisation of the Canadian Armed Forces, Hornets now only fly with four operational squadrons, one training squadron, and one test unit.

Canadian aircraft taking part in Desert Storm and Deliberate Force under the Canadian codename Operation 'Friction.' were from Nos.409 and 439 Squadrons from Baden- Soellingen and were based at Doha, Qatar. They arrived on 6 October 1990, and started flying Combat Air Patrols (CAPs) the next day. Over the course of the deployment crews came from all of the squadrons whilst Nos.416 and 439 Squadrons operated as a combined unit under the command of No.439. This unit was nicknamed the 'Desert Cats' as both Nos.416 and 439 have 'big cats' in their official unit titles. A total of 40 aircraft served in the Gulf with a maximum of 26 deployed at any one time. The last aircraft returned to Baden-Soellingen on 21 March 1991. With the subsequent withdrawal from Germany, all the Hornets had returned to Canada by 19 January 1993.

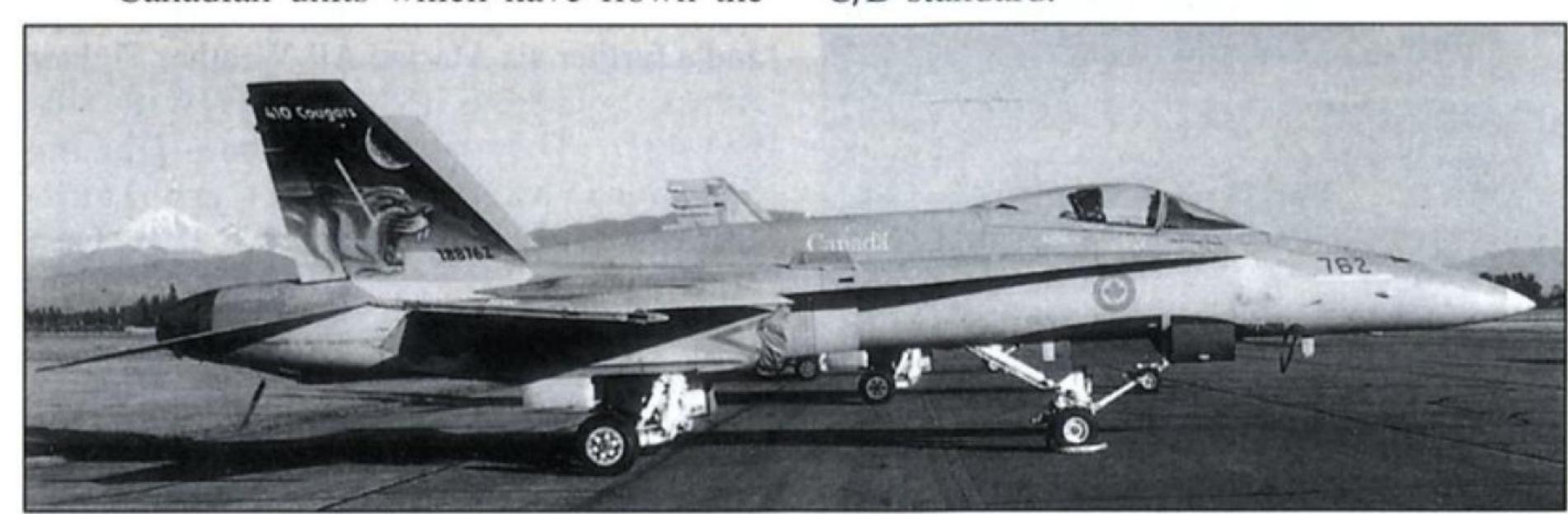
Canadian units which have flown the

Hornet are Nos. 409 'Night Hawks'; 410 'Cougars'; 416 'Lynx'; 421 'Red Indian'; 425 'Alouette'; 433 'Porcupines'; 439 'Sabre-toothed Tiger' and 441 'Silver Fox' Squadrons, and the Aerospace Engineering Test Establishment (AETE). Current units are Nos.410, 416, 433, 439, 441 Squadrons and the AETE.

One of the real highlights seen at air shows over the years have been the elaborate, often stylish, and sometimes bright colour schemes applied to some of the Canadian aircraft, including tiger stripes, commemorative D-Day markings, and individual unit anniversary markings.

Australia

The Royal Australian Air Force is the next largest user of the Hornet, with 57 F/A-18As and 18 F/A-18Bs. These were ordered after the TFF competition in 1981. The first aircraft were delivered in 1984 and all subsequent aircraft were built by GAF of Australia, with the last F/A-18A being delivered in May 1990. All the aircraft have gone through a mid-life upgrade similar to the C/D standard.





Left: This CF-188A of No.416 Squadron was one of the Gulf War 'Desert Cats' aircraft. Below left: This CF-188B of No.441 Squadron, seen in 1994, was one of a number of aircraft with a full-colour flag on the fin during D-Day anniversary events.

Hornets serve with No. 2 OCU; Nos.3, 75 and 77 Squadrons, and the Aircraft Research and Development Unit (ARDU).

The major difference between Australian Hornets and those in US service is the deletion of the catapult front undercarriage arm. Internally, they differ considerably with radios and equipment suitable for their own needs. Recent upgrades have resulted in engine and radar upgrades, ECM package and a weapons upgrade with the BAe AMRAAM missile. The RAAF has recently started a study to look at the replacement of the Hornets due to the changing needs of the region. The F/A-18E/F and Eurofighter will be high on the list as suitable replacements.

Spain

Spain was the next country to order the Hornet, designating their aircraft EF-18As and Bs. Recently they have undergone a modernisation which has given them the updated designations EF-18A+ and B+. The Hornets were ordered in 1983 and comprised 60 single-seat and 12 two-seat aircraft. Deliveries began in 1986 with four two-seaters arriving at Zaragoza.

A little-known fact is that the Spanish Government had cleared its Hornets for operations during Desert Storm and that they were in the workshops preparing to deploy to Bahrain when the war finished. However, some had already been deployed operationally to Son San Juan AB, Majorca, to provide air cover for USAF B-52s staging through Moron.

Actual combat deployment of Spanish Hornets occured in 1994 when aircraft of both 12 and 15 ALA deployed to Aviano AB in Italy for operations over Bosnia as part of Deliberate Force. They dropped their first weapons in anger on 25 May 1995 when two EF-18A+s dropped 1,000lb GBU-16 laserguided bombs on Serb targets near Pale.

In 1995 it was announced that 24 ex-US Navy aircraft were being purchased to form a third squadron, later followed by an order for six more. These have all gone through an upgrade to bring them to the '+' configuration. Some of these ex-US machines still carry the 'aggressor' camouflage scheme applied whilst serving with the US Navy in the 'adversary' role. All the Spanish Hornets are due to go through a mid-life upgrade from 1999.

Current operational units are Grupos (ALAs) 12, based at Torrejon; 15, based at Zaragoza; 21, based at Moron, and the CLAEX test squadron, based at Torrejon.

Switzerland

The Swiss purchase of the Hornet was a long and drawn-out affair which was initially resolved in 1988 with 26 single-seat and

Above left: Canadian Hornets have worn some elaborate special markings - this No.410 Squadron example was seen in 1993. Left: Just visible on this Australian No.77 Squadron F/A-18's nose is a reproduction of a famous piece of World War 2 P-40 nose art.

MCDONNELL DOUGLAS F-18 HORNET SPECIAL SCHEMES



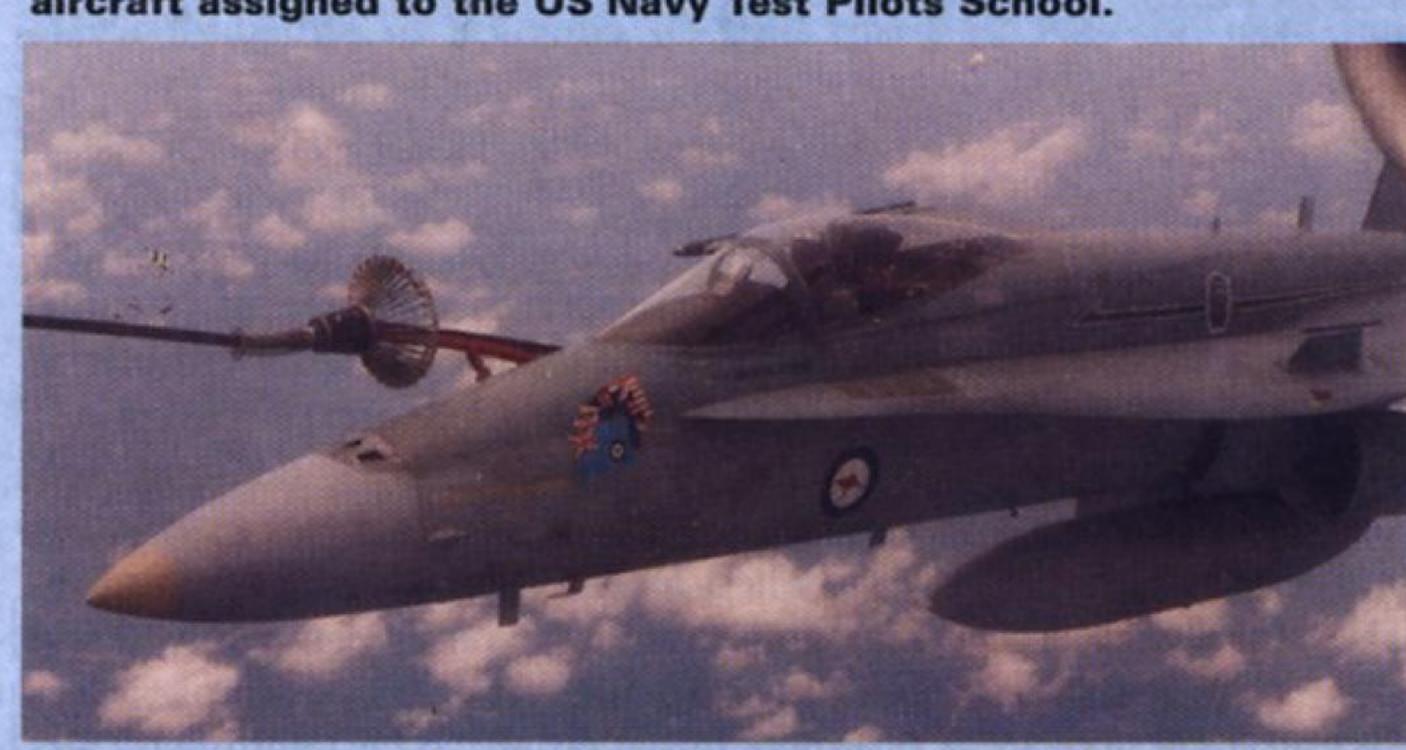
Below left: Seen in 1995, this Hornet wears one of the 'aggressor' finishes applied to the 'adversary' unit VF-45. Below right: Wearing the number '7', this is the Blue Angels' two-seat F/A-18B.

Above: Seen with an aircraft in 'normal' low-visiblity markings, this colourful F/A-18C is VFA-131's 'CAG Bird'. (US Navy)





This TF-18B wears the attractive white and red livery applied to aircraft assigned to the US Navy Test Pilots School.



Above: Another view of the nose of the F/A-18A of No.77 Squadron RAAF, pictured at the foot of the preceding page.





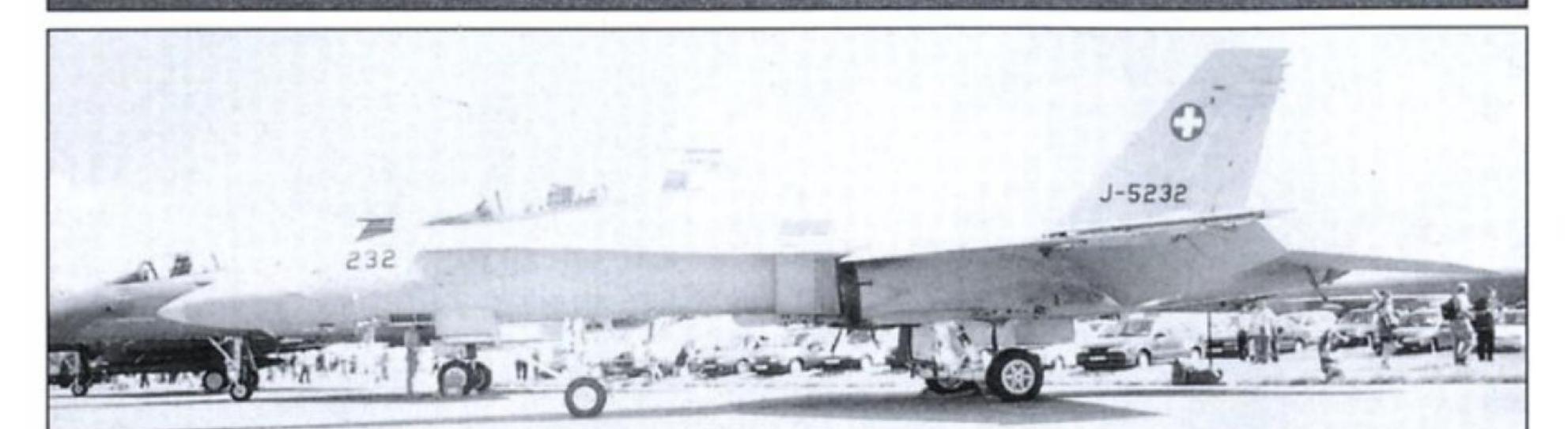
This CF-188A was specially marked for the D-Day 50th Anniversary Flypast in 1994.



Above: A No.3 Squadron RAAF F/A-18A, marked for the unit's 50th Anniversary. Below: The Canadians take Tiger Meets seriously! Careful examination of the inner fin reveals a tiger's head design.







Canadian aircraft. The first Hornet for

Finland, an F-18D, took to the air in the US

on 21 April 1995, and then flew to Finland

on 7 November that year. The first locally-

assembled aircraft was handed over in

September 1996 and all aircraft are expected

and SAAB 35S Drakens and will operate in

all of the three air defence regions, each of

which is allocated a single wing of aircraft.

First to convert was HavLLv 21 (21

Squadron), part of the Satakunda Wing and

based at Pirkkala AFB. The second was

HavLLv 31 (31 Squadron), part of the

Kareten Wing based at Kuopio-Rissala AFB.

The last squadron to convert will be HavLLv

11 (11 Squadron), based at Rovaniemi AFB

will not take place before the year 2000, and

Kuwait is the only Middle Eastern country to

operate the Hornet. Its interest in the type

goes back to before the Gulf War, when it

perceived a threat from Iran in 1987.

Subsequently, an order was placed in 1988

for 32 F/A-18Cs and eight F/A-18Ds to

replace Mirage F1-CKs and A-4KU

Skyhawks. However, before the Hornets

could be delivered, events in the region took

January 1992, with six aircraft being in place

in time to take part in the flypast to com-

memorate the first anniversary of the

Liberation of Kuwait. The Hornets all fly

from Ahmad al Jaber AB which was rebuilt

after the war, and serve with Nos.9 and 25

Squadrons which operate jointly from the

base. No.9 Squadron is responsible for air

The F-18s were finally delivered in

over with the invasion of Kuwait by Iraq.

12 Drakens will soldier on until then.

Kuwait

The Hornets are replacing the MiG-21s

to be delivered by August 2000.

eight two-seat aircraft being ordered. However, that was not the end of the story, as legal action and an appeal by the French President meant that the Hornets had to be re-ordered in 1991. It was not until June 1993 that contracts were finally placed with McDonnell Douglas, with contractual issues stating that deliveries had to commence before the year 2000.

The first Swiss Hornet was rolled out in January 1996 and the second the following month. All the remaining aircraft are being locally assembled at the Swiss Aircraft and System Co (F+W) at Emman, and deliveries are scheduled to be completed by November 1999. The two-seat aircraft flying with 'GRD', one of which was seen at the 1997 RIAT, are actively testing the aircraft and its systems. The squadrons designated to operassystems as part of the Lapland Wing. This however ate the Hornets are Fliegerstaffel 16 and 17, both based at Payerne. The type is replacing the Mirage IIIS.

Finland

Finland is the last European country to order the Hornet. 57 F/A-18Cs and seven F/A-18Ds were finally ordered in May 1992, after more than two years of evaluation by the Finnish Air Force which included looking at the F-16 Fighting Falcon, SAAB Gripen, Dassault Mirage 2000-5 and the MiG-29. The evaluations included deployment of aircraft to Finland for up to a month, and tests were carried out with the other Finnish Air Force assets including Command and Control networks.

Sub-contractors are building the aircraft as part of the offset agreements by Valmet. The contract has been followed by a further order for weapons, maintenance and training systems. The order was placed through the US Navy, as is normal in the case of Foreign Military Sales, who are nominally involved in product support, with actual work undertaken by McDonnell Douglas.

The Finnish Hornets are operated in the air superiority role only, and as a direct result are designated F-18s, rather than F/A-18s. They are armed with AIM-9M Sidewinder and AIM-120B AMRAAM missiles, and carry a searchlight in the port forward fuselage in similar fashion to the fit on

Seen at the 1994 International Air Tattoo, this F/A-18D is one of the Kuwaiti machines.

Left: A Spanish EF-18B seen during Operation Deny Flight over Bosnia in 1995. Below left: A Swiss F/A-18D photographed at The International Air Tattoo in 1997.

The Kuwaiti aircraft are designated KAF-18C and KAF-18D and like the Canadian and Finnish machines, carry a searchlight in the port side of the forward fuselage. They also wear a rather striking camouflage scheme. Kuwait has a need for a further 12 aircraft in the long term.

Malaysia

With sales opportunities in the Far East never far from the surface, McDonnell have invested heavily in their sales drive through out the region. To date two countries have ordered the Hornet, the first of which was two-seat strike aircraft. These were ordered in 1993 as part of a package which also are operated by No.18 Squadron in the in 1997, although crew training had started as far back as 1994 with the US Navy at China Lake.

The second Far Eastern order for the Hornet, them has been found.

THE FUTURE

general layout and appearance.

The F/A-18E is one-third bigger, has ed Joint Strike Fighter.

defence whilst No.25 is assigned the air-toground role.

Malaysia which operates eight F/A-18D included MiG- 29s. The Malaysian aircraft ground attack and naval strike roles and are based at Butterworth AB. Deliveries started

involving four F/A-18Cs and four F/A-18Ds was placed by Thailand in 1996 with contracts signed in 1997. However, with the recession hitting the region the order has since been cancelled, with the deposit lost. It currently appears that the US Navy will acquire the aircraft, as no other customer for

The next generation of Hornets has now entered production in the shape of the F/A-18E and F models, known initially as the Super Hornet. In similar style to the secondgeneration Harrier, McDonnell Douglas has developed the new version of the Hornet with little in common in structural terms with the preceding variants other than the

more powerful engines, advanced avionics, and also incorporates a degree of 'stealth' technology with the use of Radar Absorbent Material (RAM) in some areas. With prototypes having already been undergoing service trials for some time, actual productionwas halted recently due to wing drop problems, but these have now been resolved and building of the first 12 examples has resumed, initial orders so far totalling 62 aircraft. The F/A-18E and F will see the US Navy and Marine Corps well into the next century until the introduction of the project-

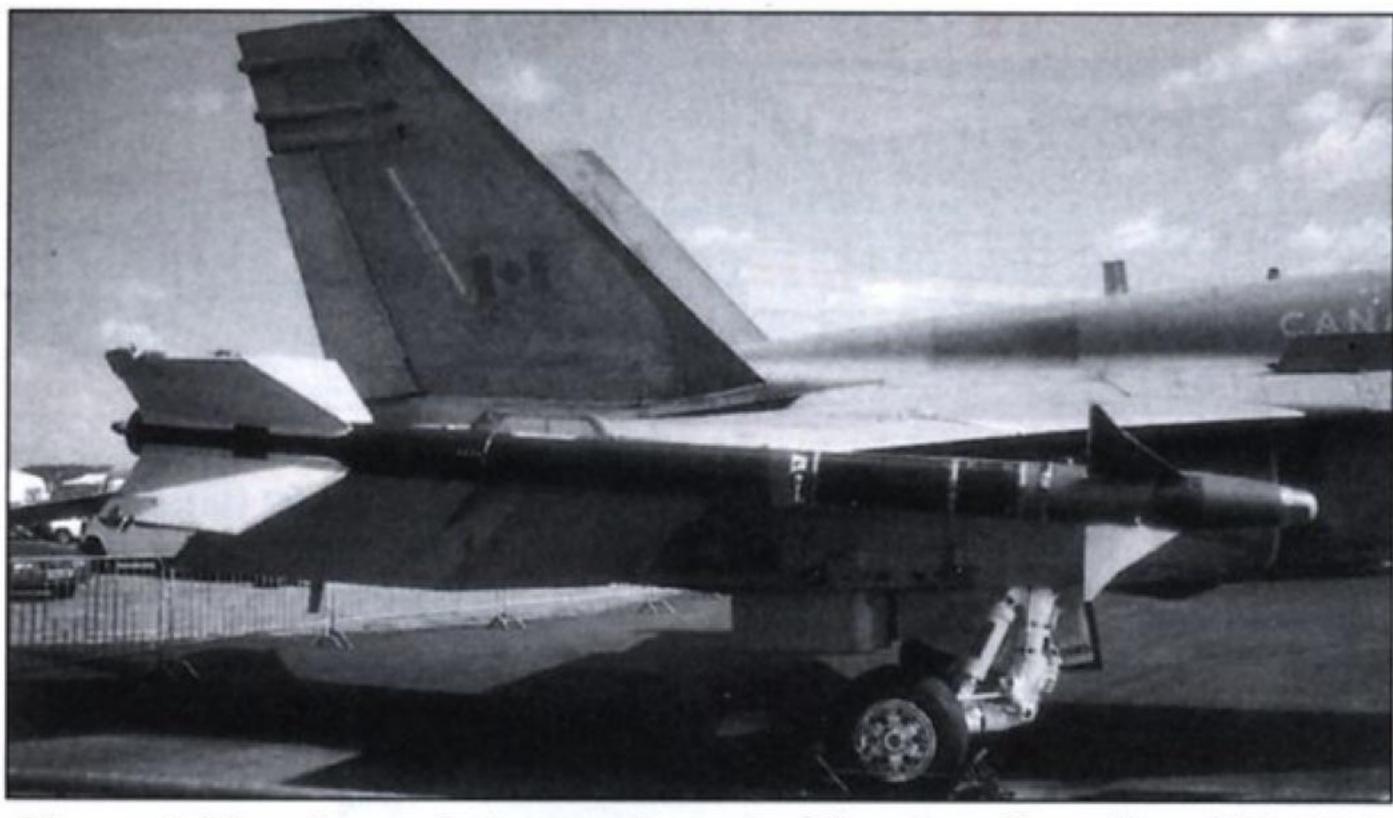
MCDONNELL DOUGLAS F-18 HORNET IN CLOSE-UP



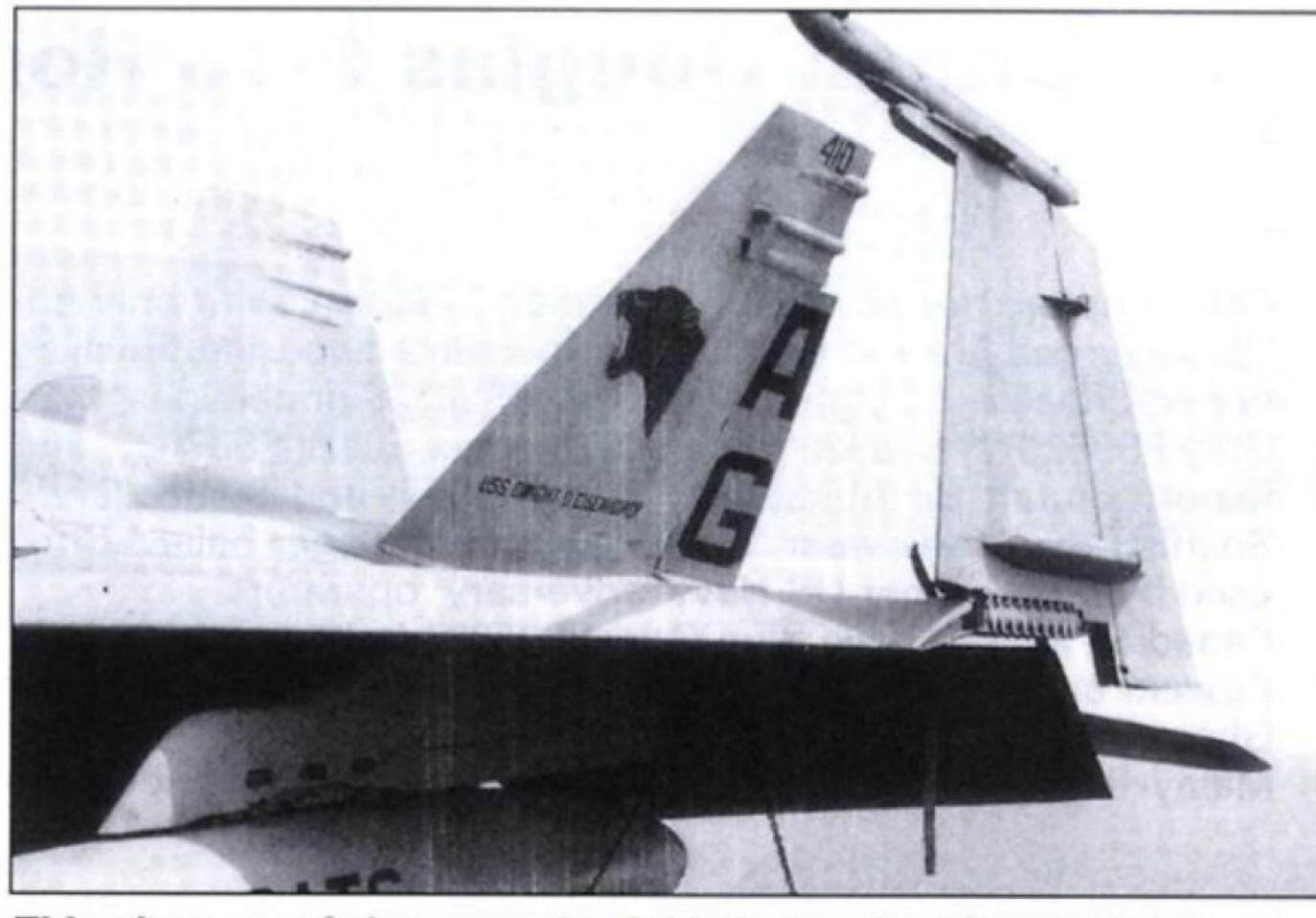
The forward fuselage of an F/A-18C, showing the inflight refuelling probe, boarding ladder, and various antennae. Note the black tape over the rescue panel and other panel edges. (Andy Sheppard)



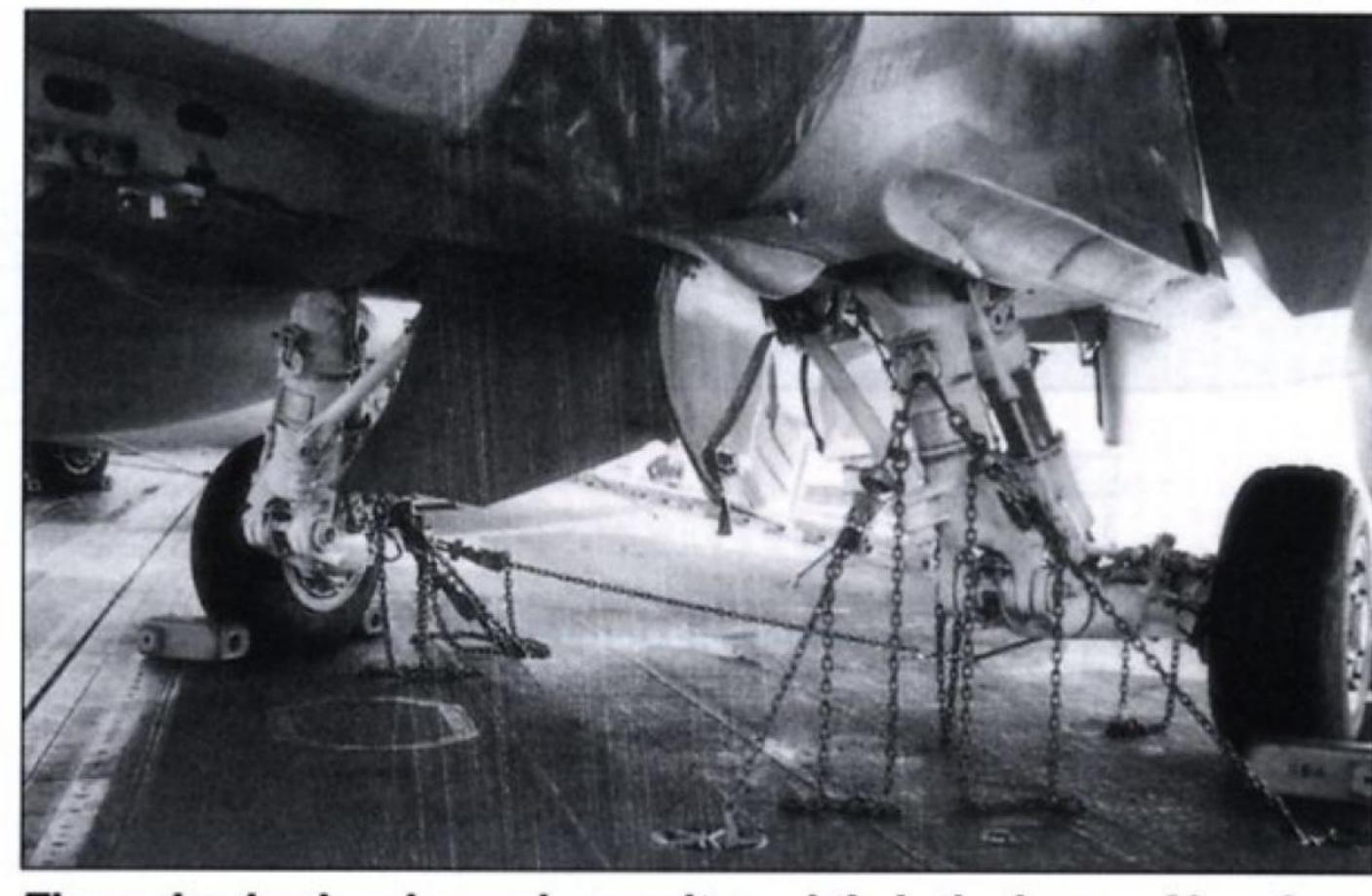
A close-up shot showing details of the nosewheel undercarriage unit and its tie-downs. (Andy Sheppard)



Above: This view of the starboard side of a Canadian CF-188A shows well the downward angle of the tip-mounted AIM-9 Sidewinder drill round, the 'kneed' undercarriage, and the position of the LEX fence. Note too the wingtip and fin formation 'slime' light strips. (Andy Sheppard) Below: The newest Hornet variant, the F/A-18F, ready for its first carrier-based catapult launch from the deck of the USS John C. Stennis in January 1997. (US Navy)



This close-up of the port wingfold shows the hinge point to good effect with the outer wing in the stowed position, and also gives some detail of the wing pylon and the tailfins. (Andy Sheppard)



The mainwheel undercarriage units and their tie-downs. Also clearly visible is the AIM-7 Sparrow missile recess. (Andy Sheppard)



This close-up of a Canadian machine shows not only the canopy in the open position, but also the 'false' painted one underneath.



McDonnell Douglas F-18 Hornet camouflage and markings

Artwork by Iain Ogilvie

Colour notes: Hornet finishes are fairly uniform, with only a few variations in camouflage schemes. US Navy and Marine Corps aircraft wear a two-tone finish consisting of Dark Ghost Gray FS36320 uppersurfaces and Light Ghost Gray FS36375 undersides. Markings are generally applied using Blue-Gray FS35237, FS36320 on FS36375 areas, Black FS37038, and in some cases White FS37875. Export aircraft for Australia, Finland, Spain and Switzerland are similarly finished, although a few

Export aircraft for Australia, Finland, Spain and Switzerland are similarly finished, although a few Spanish machines wear 'aggressor' camouflage, believed to be Brown FS30118 and Tan FS33531, used by their former US Navy 'adversary' operators.

Canadian aircraft have Blue-Gray FS35237 in place of FS36320 on the uppersurfaces.

Kuwaiti aircraft are finished in a three-tone finish of Blue-Gray FS35237, Gray FS36307, and Light Ghost Gray FS36375.

Malaysian aircraft are finished in an overall grey, possibly Gunship Gray FS36118.

