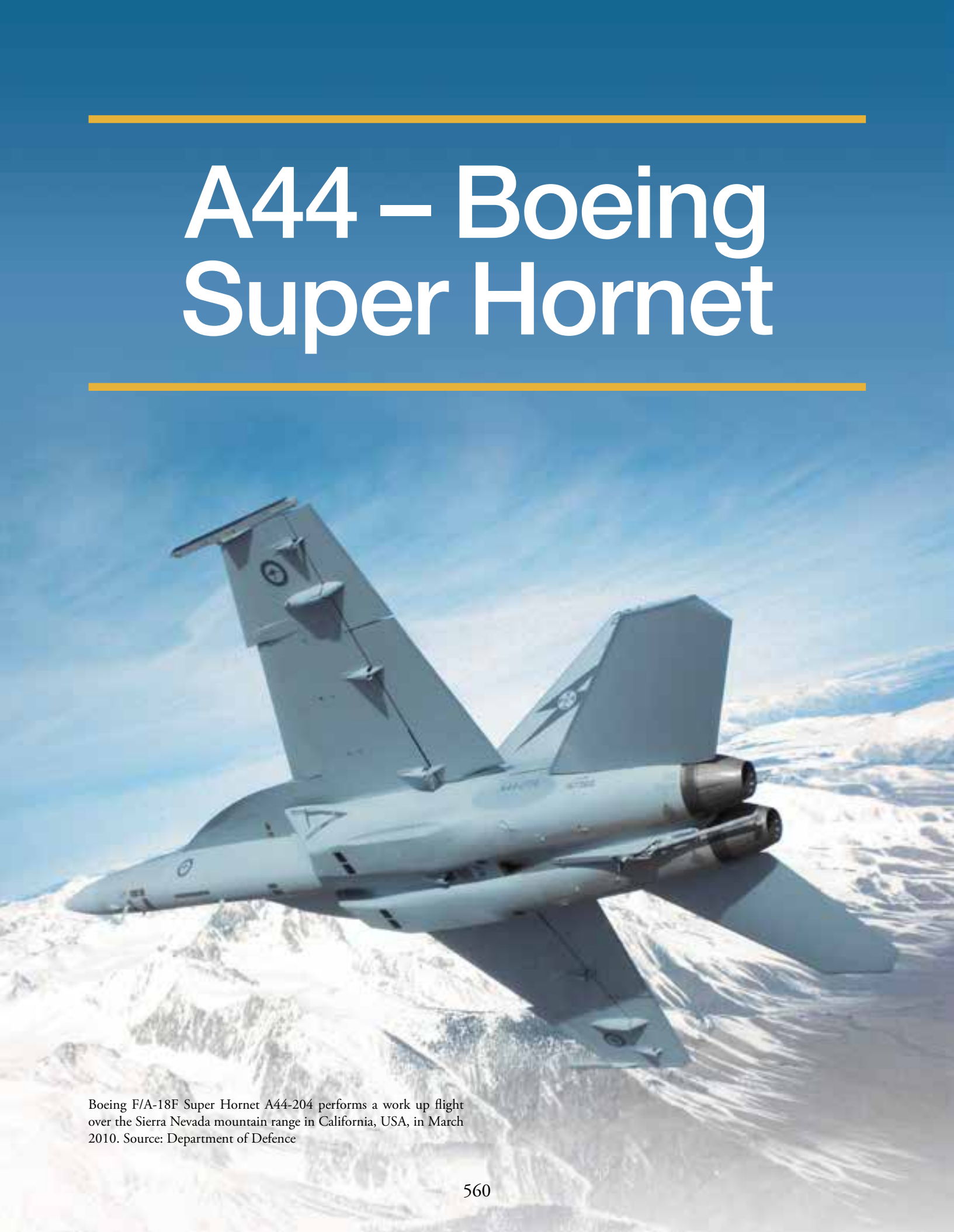
A44 – Boeing Super Hornet



Boeing F/A-18F Super Hornet A44-204 performs a work up flight over the Sierra Nevada mountain range in California, USA, in March 2010. Source: Department of Defence

Boeing F/A-18F Super Hornet A44-216 of No 1 Squadron positions for air-to-air refuelling with an Airbus KC-30A of No 33 Squadron in February 2013. Source: Department of Defence

Concerned over the need for a 'bridging air combat capability' between the retirement of the RAAF's aging F-111s in 2010 and the achievement of full operational capability with the F-35 Joint Strike Fighter, the Australian Government announced in March 2007 the intention to purchase twenty-four Boeing (formerly McDonnell Douglas) F/A-18F Super Hornet Block II two-seat multirole fighter-bombers.

The order was reviewed and confirmed by the newly-elected Australian Government in late 2007, and the first Australian Super Hornet (A44-201) first flew from Boeing's St Louis facility on 20 July 2009. Rapid delivery of all twenty-four aircraft to the RAAF was facilitated by the fact that Boeing had consistently delivered Super Hornets to the United States Navy (USN) ahead of schedule.

RAAF aircrew began training with the USN in California soon after the contract was announced. No 1 Squadron RAAF based at Amberley received its first aircraft in March 2010 and declared Initial Operational Capability (IOC) just days after the last RAAF F-111s were retired in early December 2010. With more aircraft delivered, No 6 Squadron later took over the role of providing conversion training for the type. Delivery of all twenty-four aircraft (A44-201 to A44-224) was completed by October 2011 and Final Operational Capability (FOC) was declared in December 2012.

First flown in November 1995 and built in both single (F/A-18E) and two-seat (F/A-18F) forms, the Super Hornet is larger than the 'Classic' F/A-18A/B Hornet. Its longer fuselage allows for more fuel and future avionics upgrades, wing area is increased by twenty-five per cent and span by nearly twenty per cent but the airframe has forty-two per cent fewer structural parts. The new General Electric F414 engine offers thirty-five per cent more thrust than the F404 in the Classic and the leading edge extensions, so significant for the Classic Hornet's maneuverability, are larger on the Super Hornet and offer even more controllability, especially in pitch. The two additional underwing hard points (for a total of eleven) allow more flexible choice of weapons.

The F/A-18F Block II package acquired by the RAAF includes installed engines and six spares, Link 16 connectivity, LAU-127 guided missile launchers and a towed decoy. The accompanying APG-79 radar is a defining addition to the Super Hornet, allowing multiple tasks to be performed simultaneously and lending itself to the two-crew model. The air intakes are rectangular and are among the features that enable the Super Hornet to offer a substantially lower radar cross section than the Classic which, combined with an integrated defensive electronic countermeasures suite, offers increased combat survivability.

In February 2009, the Australian Government announced that twelve of the twenty-four Super

Boeing F/A-18F Super Hornet A44-201 manoeuvres over Rawah, Iraq, during an Operation *Okra* sortie in November 2017. Source: Department of Defence

Boeing F/A-18F Super Hornet A44-204 of No 1 Squadron awaits its next sortie during Exercise *Thai Boomerang* in September 2019. Note the thirty-six bomb mission markings from Operation *Okra* below the aircraft serial number on the nose. Source: Department of Defence

Hornets would be wired on the production line for future modification as E/A-18G Growler electronic attack aircraft. While the last twelve airframes were so delivered, the conversion option was not taken up and was replaced in February 2013 with the announcement that Australia would purchase an additional twelve new production airframes delivered as EA-18G Growlers (see entry A46 in the third series). The first E/A-18G for Australia was rolled out on 29 July 2015.

No 1 Squadron's Super Hornets had achieved FOC in time to commit an air component in support of coalition operations against the Islamic State in Iraq. In September 2014, under Operation *Okra*, six RAAF F/A-18Fs joined an Airbus KC-30A tanker and a Boeing E-7A Wedgetail AEW&C aircraft in deploying to the United Arab Emirates to take part in operations against Islamic State militants. By early October, the Super Hornets were undertaking strike missions, the first by the RAAF since the 2003 deployment of Classic Hornets for the invasion of Saddam Hussein's Iraq under Operation *Falconer*.

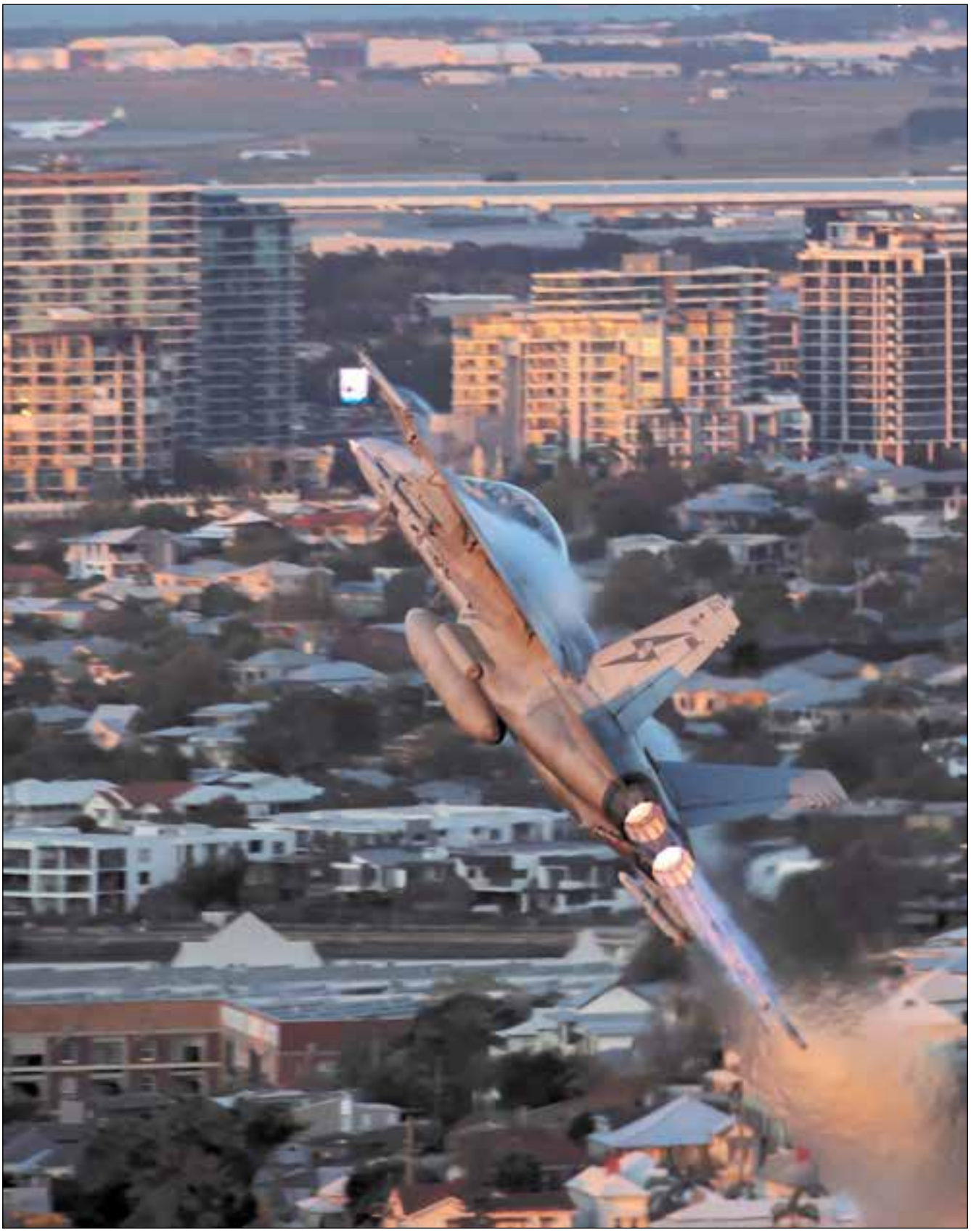
In March 2015, Classic Hornets replaced the Super Hornets on operations. They had completed 418 sorties, over 3361 combat flying hours, released 278 precision-guided munitions and achieved a mission success rate of approximately ninety-seven per cent without loss.

In May 2017, No 1 Squadron returned to operations over Iraq and also Syria for a final rotation. During this period over 376 sorties were flown by RAAF F/A-18Fs, comprising 3091 combat flying hours and the employment of a further 398 precision guided munitions in support of the international effort to combat the Islamic State.

Following capture of the last remaining Islamic State-held areas in December 2017, it was announced that the strike component of the Air Task Group (ATG) would return to Australia. Fittingly, the F/A-18F, having flown the first strike missions over Iraq in 2014, would also fly the last combat sortie of Operation *Okra* on 14 January 2018.

Until late 2016, No 6 Squadron had been providing F/A-18F operational conversion training. However, No 6 Squadron was soon to receive twelve E/A-18G Growlers and operate the aircraft as a frontline squadron. To prepare for this transition, the RAAF's entire fleet of twenty-four F/A-18F Super Hornets was consolidated in No 1 Squadron and aircrew began conducting operational conversion training in the United States (US) through integration into VFA-106, one of the USN's Training Squadrons.

No 1 Squadron maintained an indigenous training capability for F/A-18F aircrew to bridge the



Boeing F/A-18F Super Hornet A44-202 of No 1 Squadron flies over the Brisbane River during the Riverfire event in September 2019. Source: Department of Defence

gap for those returning from the US and to provide some 'in house' conversion training at a reduced capacity. The start of 2020 saw the inception of 82 Wing Training Fight which has allowed Australian-based conversion courses to return to Amberley in a more substantial capacity.

Whilst the F/A-18F Super Hornet is stationed at RAAF Amberley, it is regularly involved in training detachments both here in Australia and further abroad. These exercises, such as *Pitch Black, Thai Boomerang* and *Red Flag* help develop the Super Hornet's interoperability, maintain strong connections with our local partners in the Asia-Pacific region and with our enduring strategic partners around the world.

The close cooperation between the RAAF and the USN enables the RAAF to regularly update its Super Hornet fleet in parallel with software and hardware enhancements for the USN, such that the aircraft are now significantly more capable than they were at the time of delivery. Consequently, from a training, sustainment and employment perspective the RAAF Super Hornet has surpassed its original purpose of being an interim or bridging capability, and is now firmly entrenched as a valuable and fully operational component of Australia's air combat force.

TECHNICAL DATA: Boeing F/A-18F Super Hornet

DESCRIPTION:

Two-seat multi-role fighter.

POWER PLANTS:

Two 97.86kN (22 000lb) thrust (with afterburner) General Electric F414-GE-400 turbofans.

DIMENSIONS:

Span (with wingtip missiles) 13.68m (44ft 10.5in); length 18.38m (60ft 3.5in); height 4.88m (16ft 0in).

WEIGHTS:

Operating empty 14 862kg (32 764lb), maximum take-off (from land) 30 209kg (66 600lb).

ARMAMENT:

One M61A2 20mm cannon in nose; external ordnance up to max load of 8029kg (17 700lb) including AIM-120 advanced medium range air-to-air missile (AMRAAM), AIM-9X Sidewinder short range air-to-air missile, Joint Direct Attack Munition (JDAM) and Laser JDAM, conventional and laser-guided bombs, AGM-154 Joint Stand-Off Weapon (JSOW) and AGM-84 Harpoon anti-ship missile.

PERFORMANCE:

Max speed at altitude Mach 1.6 (1700km/h/1056mph); combat ceiling over 15 240m (50 000ft); range (clean with two Sidewinders) 2361km (1467 miles); ferry range with two Sidewinders and three 1817-litre (480usgal) external tanks 3074km (1910 miles).