B-2 goes into USAF service

Northrop's B-2 stealth bomber aircraft entered service with the US Air Force on 17 December, when the second production aircraft was delivered to Whiteman AFB, Missouri. Two eight-aircraft squadrons with Air Combat Command's (ACC) 509th Bomb Wing at Whiteman, previously a Minuteman II ballistic-missile base, will be equipped with the B-2.

The first B-2 to enter service, dubbed ACC 1, is the eighth to be built by Northrop. The first production aircraft, air-vehicle number seven (AV7), has yet to fly as it has just undergone electromagnetic-compatibility and emissions-security ground testing. The AV7 will be one of five B-2s delivered to Whiteman in 1994.

The first six B-2s are engaged in full-scale development testing, which will continue until 1997. Some 1,500h of flight-testing have been completed so far. These six aircraft will be refurbished for delivery to Whiteman. Four of the 20-aircraft fleet will always be in some state of maintenance or modification, the Air Force says.

The first major modification will begin in 1996 at Whiteman, when early Block 10 aircraft are upgraded to Block 20 standard. A further upgrade, planned for 1997 at the Northrop-run Plant 42 in Palmdale, California, will take all the aircraft up to definitive Block 30 production standard.

Block 20 adds satellite navigation, improved avionics and software and expanded weapons capability, including carriage of the Northrop Tri-Service Stand-off Attack Missile. Block 30 introduces the final software, Milstar satellite-communications and the Joint Direct-Attack Munition.

The 509th Bomb Wing, formed in 1942 with the role of dropping atomic bombs, previously operated General Dynamics FB-111s at Pease AFB, New Hampshire. □

AMRAAM Harrier II Plus mooted

BY GRAHAM WARWICK
IN ATLANTA

The joint programme office managing the US/Italian/Spanish McDonnell Douglas (MDC) AV-8B Harrier II Plus plans to establish a requirement to arm the radar-equipped aircraft with the AIM-120 advanced medium-range air-to-air missile (AMRAAM) by late 1996.

The Italian navy, which has 16 Harrier II Plus on order and eight more on option, has a documented requirement for the AMRAAM on the short-take-off/vertical-landing aircraft. The Spanish navy, which has eight aircraft on order and may re-manufacture its ten EAV-8Bs to Harrier II Plus standard, has indicated a requirement for the AMRAAM. The Royal Navy is already integrating the AMRAAM on its FRS.2 Harriers.

The US Marine Corps has an intention, not yet funded, to arm its radar-equipped AV-8Bs with the medium-range fire-and-forget missile. The Marines have seven aircraft already in service, 20 more on order and plan to re-manufacture 73 day-attack AV-8Bs to Harrier II Plus night-attack/radar standard.

The principal air-to-air armament on the AV-8B is the short-range, heat-seeking AIM-9 Sidewinder. The radar-guided AMRAAM has been cleared for use by fleet MDC F-18 squadrons and the Harrier II Plus is equipped with a variant of the F-18's Hughes APG-65 radar.

A US Defense Acquisition Board review is planned for January, to release funding for the USMC AV-8B re-manufacturing programme: $150 million has been authorised to re-manufacture the first four aircraft in 1996. To avoid a break in production, MDC, British Aerospace and Hughes have been using company funds to protect the schedule.

The first Italian navy Harrier II Plus is due to be completed in February. The first three will be delivered to MCAS Cherry Point, Maryland, for pilot training and will be embarked on the carrier *Guiseppi Garibaldi* in June for sea trials. □

AMRAAM-armed RN FRS.2 sets the standard for Harrier armament

Starlifter wing repairs ahead of plan

The repair of wing cracks affecting the US Air Force's fleet of 244 Lockheed C-141B Starlifter transports is proceeding faster than expected. More than 80% of the fleet will be cleared for unrestricted flying by April 1994 — nine months ahead of schedule.

Al Hansen, Lockheed vice-president, airlift programme, says that, after the repairs, the C-141B fleet "...will be in its best shape for ten years". The repairs tackle cracking in weep holes, which allow fuel to flow between risers on the inside of the lower wing-skin.

Three repairs are being used, depending on the severity of cracking: drilling out the holes to eliminate the cracks; applying a boron-composite patch; or replacing the lower wing panel. According to the USAF, 122 aircraft need boron patches, 79 require drilled-out holes and 43 need new panels. Four C-141s were unrepairable and have been retired.

"The aircraft were not in as bad shape as feared," Hansen says, adding that the repairs will remove "totally" various restrictions imposed on C-141 operations. The work is being performed by the USAF, Lockheed and Chrysler Technologies Airborne Systems. Some 205 aircraft will have been repaired by April and the remainder by the end of 1994.

The US Department of Defense (DoD), meanwhile, has rejected Lockheed's unsolicited proposal to extend the Starlifter's service life to 85,000h. About half the fleet have logged between 35,000h and 40,000h, 41 have over 40,000h and 88 have under 35,000h, the Air Force says.

Hansen says that the DoD based its decision that the programme was uneconomic on a life extension to 65,000h, not to 85,000h as proposed.

He admits that a cost analysis based on a 65,000h service life makes the economics of the $25 million/aircraft upgrade "marginal". Lockheed has supplied data supporting an 85,000h life and hopes that its C-141B upgrade will be considered again in two years time, when the USAF decides whether to buy additional McDonnell Douglas C-17s, Lockheed C-5s or commercial freighters to meet its entire airlift needs. □