

# F-22 team sets crucial funding targets

GRAHAM WARWICK/WASHINGTON DC

THE LOCKHEED Martin/Boeing/Pratt & Whitney F-22 team has signed to milestones which must be met if production of the US Air Force fighter is to be approved at the end of 2000.

The most challenging milestone, says programme general manager Bob Rearden, is to begin flight testing the Block 3.0 software in the F-22 before a US Defense Acquisition Board meeting set for next December to decide whether to approve low-rate initial production (LRIP).

The software milestone is part of a revised contract signed by the team after Congress blocked the LRIP decision set for this month. The \$1.08 billion agreement covers manufacture of six more production-representative test vehicles (PRTVs) and long-lead funding for 10 LRIP Lot 1 aircraft.

Rearden says the milestones agreed for next year include:

- completing the final air vehicle production readiness review – described as “low risk”;

- flying development aircraft 4003, 4004, 4005 and 4006 – expected between March and October;

- completing fuselage, wing and empennage mate of aircraft 4008 – described as “doable”;

- completing static testing – expected by September;

- initiating fatigue testing and complete 40% of the first life – also expected by September.

Two software milestones have been agreed. The most challeng-

ing, Rearden says, is the Congressionally mandated requirement to begin testing the “unique functionality” of the Block 3.0 software release in the F-22.

The Block 3.0 avionics software introduces sensor fusion capability. A reduced-scope release, Block 3S, will fly in the F-22 in the middle of next year. Rearden says the full Block 3.0 release is due for delivery by the end of October, allowing it to fly in the F-22 in November. This represents an acceleration of

60 days over the previous schedule.

Block 3.0 also requires upgrades to the F-22's head-down displays. The software and hardware “is on track, but there is not a lot of margin”, Rearden says. To meet the Congressional requirement to begin unique functionality testing by year-end, the team plans to start radar testing early.

The second software milestone agreed for 2000 is to complete the critical design review on the Block 3.1 software, set to fly in mid-2001.

Three other milestones have been agreed, Rearden says: initiating radar cross-section flight testing; starting high-angle-of-attack tests with weapon-bay doors open; and beginning air-to-air missile separation testing. The latter will involve an unguided AIM-9 launch from a side bay and an inert AIM-120 ejection from a main bay.

The new agreement means the team is now under contract to produce 17 F-22s – nine development aircraft and eight PRTVs. The six PRTVs added to the programme will be used for follow-on testing, Rearden says. □



Crucial F-22 milestones include first flights of four aircraft and new software

## USAF to fit F-15Cs with secret active-array radar

THE US AIR FORCE is to equip a squadron of Boeing F-15Cs with a secretly developed active-array radar to gain operational experience with the technology before the Lockheed Martin/Boeing F-22 Raptor enters service.

“The number of aircraft to have the radar is limited by funding,” says USAF F-15 system programme office director Col Scott Britten. “It’s enough to prove the concept, generate tactics and build confidence in the technology.”

The Raytheon APG-63(V)2 radar is a development of the upgraded APG-63(V)1 now in operational testing and being retrofitted to USAF F-15Cs. While the (V)1 upgrade replaces the APG-63's processor, receiver/exciter and other electronics to improve supportability, the (V)2 replaces the original mechanically scanned antenna with an active electronic scanned array (AESA).

Advantages of the active array include longer detection range and multi-target tracking capability, says Britten. He plays down reports that the modified F-15s will be used for cruise missile defence, adding: “We will look at the benefits in all domains, against targets of all classes.”

The F-15 will be the first fighter to enter service with an AESA when 18 aircraft at Elmendorf AFB, Alaska, are fitted with the new radar at the end of 2000.

So far, one aircraft has been modified for development and

operational utility testing, accumulating 320h of failure-free use – 165h in the air. More testing in January will include development of tactics exploiting the radar's unique capabilities, says Britten.

Development and production of the (V)2 radars will be relatively inexpensive at \$277 million, he says, because it builds on the (V)1 programme. More F-15s may be upgraded, depending on a retirement plan being drawn up. Procurement cuts mean the USAF will have to keep some in service to complement F-22s.

Although the availability of an AESA is expected to stimulate export interest in the F-15, “the radar is not releasable yet”, adds Britten. □

### NEWS IN BRIEF

#### ■ KLM ALLIANCE

KLM and Continental Airlines have agreed to form an alliance, advancing plans for establishing the “Wings” global grouping with partners Alitalia and Northwest Airlines. The latter's bid for a controlling stake in Continental is the main logjam facing the alliance.

#### ■ HIGH SPIRITS

Australian low-cost start-up Spirit Airlines aims to start operations by June on the Melbourne-Sydney-Brisbane triangle with two Boeing 737-400s and plans to add Perth, Darwin, Townsville and Cairns services later.

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