



enced and capable in aircraft design and manufacturing and we really needed to supply considerably less assistance to them. Probably our biggest contribution was providing the F-16 as a start line," explains Lee, a former F-2 programme director.

LARGER WING

Externally, the F-2 features a 25% larger wing, a 1m-longer fuselage, enlarged horizontal stabiliser and reinforced canopy. The most significant changes are internal, with the installation of a Mitsubishi Electric active phased array radar and integrated electronic warfare system, a home-grown mission computer, Japan Aviation Electronics inertial reference system and Shimadzu and Yokogawa displays.

The transfer of US technology attracted

considerable criticism early in the programme, but Japanese technology has also been fed back to the USA, such as the use of Invar steel in tooling for the wing. "That technology has been made available to new programmes, like the F-22 and Joint Strike Fighter, and there will be some infusion of co-cured composite technology [used for the wing]," explains Don Jones, Lockheed Martin F-2 programme director.

Japan's Technical Research and Development Institute has completed about 600 out of a planned 900 test flights to date. The four-phase test programme, using two XF-2A and two tandem-seat XF-2B prototypes, had been due to be wrapped up by March 1999.

This will now be extended by nine months because of recently discovered wing cracking and flutter problems (*Flight International*, 5-11

August, P23). Mitsubishi is now working on some "minor structural strengthening" to remedy the problem, which "...we expect will be incorporated into the first [production] wing", says Jones. Under the Japanese-US workshare agreement, Lockheed Martin and engine supplier GE have around a 40% share of the F-2's production value. Ishikawajima-Harima Heavy Industries will build the fighter's GE F110-129 powerplant locally under licence.

Lockheed Martin now has two years of production orders in hand for a total of 19 F-2 shipsets and will shortly begin negotiations for a third batch of nine for fiscal year 1998/9. It is due to deliver the first aft fuselage to Mitsubishi in November and the initial leading edge flap, stores management set and electronic data entry unit by the end of 1998.

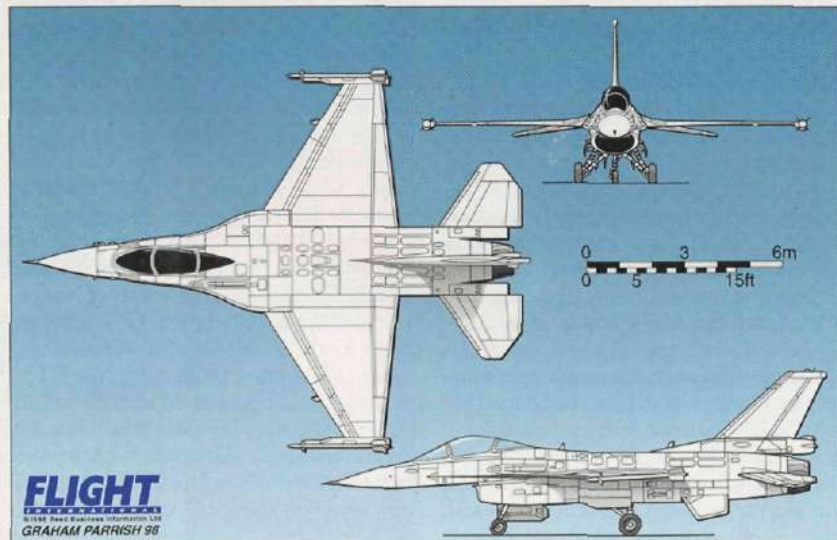
Delivery of the first US-built F-2 wingbox to Nagoya is scheduled for the first quarter of next year. "We will build eight out of the 10 left-hand wings, but because it's a leader-follower type arrangement, the first four to five aircraft will be built with Mitsubishi wings," says Jones.

F-2 SQUADRON

The Japan Air Self-Defence Force plans to form its first F-2 squadron at Misawa AB in March 2000 and to take delivery of a total of 130 aircraft by 2011. Irrespective of whether Fort Worth is still producing F-16s by then, Lockheed Martin does not anticipate any problems with supporting the Japanese programme over that time. The only F-16 item common to the F-2 is the data entry unit, which Jones anticipates Japan may eventually replace with an improved system.

With Japan looking for replacement transport and maritime patrol aircraft and South Korea seeking a follow-on F-X fighter to the KFP early in the next century, and given the need of both countries to sustain domestic aerospace industries, Lee foresees "potential for a lot more" collaborative efforts to take place in the future. □

MITSUBISHI F-2 SPECIFICATIONS



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Length overall	15.52m	Powerplant	General Electric F110-GE-129
Wing span overall	11.13m	Power (each)	29,600lb (132kN)
Height overall	4.96m	Operating weight empty	12,000kg
Tailplane span	6.05m	Maximum fuel weight	3,602kg
Wheelbase	4.05m	Maximum take-off weight	22,100kg