

Rafale relief

Barring a last-minute hitch, the signing of the Rafale production contract will ease tensions in the French aerospace industry



Deliveries of the first "half-squadron" of Rafales to the air force will begin in 2002

AS THE agility of the Dassault Rafale multi-role fighter is demonstrated in the skies above spectators at the Paris air show in June, the French aerospace industry will be breathing a sigh of relief following the signature of the first production contract.

Unless there is a last-minute hitch, the Délégation Générale pour l'Armement (DGA) will sign the go-ahead at the show for production of the first 48 aircraft. The agreement follows tough negotiations between Dassault and the DGA on pricing for the aircraft, and was announced in February only after Dassault agreed to reduce the cost of the Rafale by 10%.

At present, a total production of 294 Rafales is planned: 234 for the air force, 60 for the Navy. The multi-year order for 48 aircraft will bring to 61 the total production numbers agreed to date, and will see the first Rafale – a marine version – enter service in 2001. At present, production of one aircraft a month at Dassault's Marignanne, Bordeaux, site is planned, although a theoretical maximum of four a month could be built.

By mid-2001, according to Dassault, up to ten aircraft could be in service on board the carrier *Charles de Gaulle*. The Rafale will be operated alongside the Dassault Super Etendard initially, until the full complement of aircraft are in service, around 2010.

PRE-PRODUCTION AIRCRAFT

The air force will already have taken two or three pre-production two-seater Rafales, which will be used to validate air-to-ground capabilities. It will then take delivery during 2002 of its first "export" squadron of ten aircraft, which is being formed so that the French air force can demonstrate the Rafale in its operational guise to potential export customers. These will be configured in the air-to-air role, but will also, according to Dassault, have "some air-to-ground capability".

Development continues while production is ramped up, so the first Rafales are being delivered in four standards: F1, the first navy air-to-air standard, followed by F1-1, the first air force "export" versions. The F2 version incorporates the infra-red Mica air-to-air missile and helmet-mounted sight, while the definitive, F3 version, complete with all air-to-ground functions, will be the standard applied to all aircraft by 1997, which will be retrofitted progressively to earlier versions. Dassault points out, however, that

"...development does not stop there. The Rafale has enormous potential".

Flight testing so far has seen the Rafale build up a total of 3,500 flights, and about the same number of flight hours. Trials have shown that the gross weight of the aircraft can be increased from the specified 18t to more than 22t, which will help Dassault in the export campaign against the Eurofighter EF2000.

NAVIGATION UPGRADES

Low-altitude navigation has been proven, and the terrain-following capability will be upgraded progressively from its current pre-set mode to the full automatic terrain-following capability (part of the F3 standard). Dassault is also to accelerate introduction of the full NATO-standard MIDS multi-functional data system high-speed datalink to ensure compatibility of the marine version with the forthcoming Northrop Grumman Hawkeye electronic-surveillance aircraft.

The air-to-air mode of the Thomson-CSF/Dassault Electronique RBE-2 multi-mode radar has been fully demonstrated, along with "some" air-to-ground functions, says Dassault. The Thomson-CSF Radars and Countermeasures/Matra Défense/Dassault Electronique Spectra automatic self-protection system is now in flight-test aboard a *Mystère 20* and will be qualified in 1999, in time to equip the F1 and subsequent Rafales.

Of the four prototypes (two air force and two navy versions) the first, C01, has undergone engine testing and is laid up for the time being. The second, B02, is for weapons-system testing, while the third, N01 has been undergoing carrier-compatibility testing aboard the *Foche* (the *Clemenceau* was to be retrofitted for Rafale compatibility, but budget cuts have forced this to be abandoned, and the ship will be retired in July). The *Foche* is now to be used solely for carrier testing - so that the marine version of the Rafale will be operational aboard only the *Charles de Gaulle*, which is due to be launched in October 1998.

Dassault says that it is pushing Rafale export possibilities "...whenever we can see an opportunity". Having been excluded from the Norwegian contest, it is now hoping to win the United Arab Emirates order for 80 air-defence aircraft, and is also campaigning hard in "several" Asian countries, including Singapore and South Korea, as well as Australia. □