

Singaporean F-16D Block 52s reveal Israeli design heritage

DOUGLAS BARRIE/LONDON

SINGAPORE'S latest batch of Lockheed Martin F-16D Block 52 aircraft is believed to be undergoing a modification by Israel, drawing on elements of the Israeli air force's own F-16D Brakeet (Thunderbolt) strike aircraft.

The Republic of Singapore Air Force (RSAF) has 20 F-16D Block 52 aircraft on order. The first D model of a batch of 18C/Ds which are being procured has the same enlarged spine as the Israeli air force aircraft have.

Although the airframe modification for the RSAF's D model was implemented in the USA, both US and Israeli sources confirm that considerable technical assistance to the RSAF is coming from Israel.

Israeli F-16Ds carry additional avionics in the hump, including Elisra electronic countermeasures. A similar fit may be being provided to the RSAF.

The RSAF is also understood to be interested in acquiring an improved air-to-surface anti-radia-



The national insignia is Singaporean, but the hump has Israeli links

tion missile capability to supersede the AGM-45 Shrike. Sources indicate that its preferred option is the Raytheon AGM-88 High-speed Anti-Radar Missile (HARM). The Block 52 aircraft is HARM-capable. The RSAF's Block 50/52s are also known to be being wired for the carriage of non-US manufactured weaponry. Singapore is understood to have received its first batch of Rafael Python 4 high agility dogfight missiles in the latter half of 1997, although the RSAF officially denies that it has ordered the Python 4.

While the RSAF's only current air to air missile (AAM) is the semi-

active AIM-7 Sparrow, it is likely to move rapidly to procure an active radar guided AAM as soon as the Russian Vypel R-77 (AA-12 Adder) appears in the region.

The US Government, according to Washington sources, is unwilling to introduce the Raytheon AIM-120 AMRAAM active radar-guided AAM into the region until such time as a "like system" (ie the R-77) is in evidence.

The Royal Malaysian Air Force is expected to take deliveries of the R-77 during 1999 for its MAPO MiG-29 Fulcrums. Israel may also offer its Derby active radar-guided AAM to the RSAF. □

Sukhoi and Mikoyan told to co-ordinate fifth generation effort

THE RUSSIAN air force (RusAF) wants Sukhoi and the Mikoyan design bureau (OKB) to start to co-operate on fifth generation combat aircraft programmes.

The RusAF, despite being desperately short of cash, is pursuing next-generation fighter aircraft programmes.

Sukhoi and the Mikoyan OKB, however, have at least four such projects under way. The RusAF may be able to support one or two at a low funding level.

Mikhail Simonov, Sukhoi's general designer, says that his company and the Mikoyan OKB "...are close to signing a co-operation agreement to co-ordinate their efforts in the development of an advanced fighter for the air force".

Sukhoi has the S-37 and S-54 fighter developments under way, while MIG MAPO and the associated Mikoyan OKB have the Article 1.42 and LFI projects.

The Article 1.42, or MFI, prototype is expected to fly in August 1998, but only as a technology demonstrator. Sukhoi may want to draw on the aircraft's avionics for the S-37. □

German MoD pushes ambitious helicopter and missile wish list

ANDRZEJ JEZIORSKI/MUNICH

THE GERMAN defence ministry has prepared a lengthy procurement wish-list for the 1999 budget, including key helicopter and missile programmes, but it threatens to overload the parliamentary defence committee's ability to pass all the items this session.

According to sources in Bonn, it seems likely that several items will have to be delayed, and may not make it into next year's budget as a result of additional pressure caused by preparations for September's parliamentary election.

The list includes DM299 million (\$164 million) for the upgrade of 17 GKN Westland Sea Lynx Mk88s to Super Lynx standard. This was in question due to lobbying from supporters of the NH Industries NH90 multi-role heli-

copter (*Flight International*, 1-7 April), but is now "back on track" according to GKN Westland. Talks are still going on in an attempt to push down the price of the upgrade, and this item is due to be cleared by the end of May.

Production investment and series production of the NH90 is also on the list, with DM11.836 billion to be cleared to finance this by the end of June, although this project has been the subject of haggling among politicians recently. Quantity and unit price are still subject to negotiations with manufacturer NH Industries and partner companies Eurocopter, Agusta and Fokker Aerostructures.

The army is expecting purchase clearance for the first batch of 80 Eurocopter Tiger battlefield helicopters at a cost of DM4.826 billion. This project now seems more

secure than the NH90 purchase.

The Luftwaffe is now hoping to get clearance for the long-delayed replacement of its last two Boeing 707 transports by ex-Lufthansa Airbus A310s, at a cost of DM167 million. The air force says if this is not done in 1999, the veteran 707s will become much more maintenance-intensive and costly to run.

On the missiles front, June should see parliament debate the DM115 million definition phase of a medium range air-to-air missile to arm the Eurofighter 2000. The defence committee is urging the start of this project "without delay" in a European industrial partnership, while the controversial seeker selection remains unresolved (*Flight International*, 8-14 April).

Also in June, parliamentarians are due to tackle the DM390 million medium-range Trigat require-

ment for infantry and armoured vehicles. The long-range variant, the Trigat LR, to arm the Tiger helicopter, is notably off the list.

France has already withdrawn from the Trigat LR due to budget cuts. Programme sources say concerns with the missile's range, coupled with the long lead period before the French Tiger enters service in 2011, contributed to the decision. The interdiction variant of the Matra BAe Dynamics Apache and the Horus reconnaissance satellite were also cancelled.

The German MoD hopes for clearance in late April for the DM279 million upgrade of Patriot surface-to-air missiles to improve intercept capability against tactical ballistic missiles. The 1999 funding covers a radar upgrade, while the overall project will cost DM891 million. □