FLIGHT International, S January 1980 9

Brown remains unconvinced on AV-8B
US DEFENCE SECRETARY Harold
Brown has declined to comment on
the status of the AV-8B Advanced Har-
rier in the 1981 defence budget. He
has indicated that he remains scepti-
cal of purchasing the McDonnell Douglas V/Stol aircraft for the US Marine Corps. "I think the AV-8B is a good thing to have around. But the question is, is it worth paying the extra price and the price in reduced total numbers of aircraft ... in order to get the Vtol capability. There is a division in opinion within the defence department on this, he says.
Last year Brown overrode both Marine Corps and Navy recommenda-tions and deleted AV-8B funds from the 1980 budget request. Congress re-stored the money. There is a chance, however, that if the AV-8B is not in-cluded in the 1981 request, previewed by Congress last December, the 1980 money will not be made available.

For the AV-8B to enter Marine Corps service in 1985, money for pilot pro-duction of 12 aircraft must be pro-vided in the upcoming budget.
Other customers for the AV-8B are being sought to increase orders and ensure production. Britain has been approached to get the Royal Air Force to buy AV-8B to replace Harriers. About 60 aircraft are required initially with a further 40 in the long run. British Aerospace is pro-posing development of a Harrier GR.5, fitted with a new, metal wing optimised for air combat. This re-quires impeccable stall and post-stall behaviour.

It is now being suggested that Britain buys AV-8Bs fitted with the BAe Big Wing rather than the Mc-Donnell Douglas carbon-fibre wing. As BAe would probably insist on assembly of any AV-8Bs bought by the RAF, this option would deprive the British

company of valuable experience with the advanced material.
Britain was expected to have made some response to the US approach by the end of 1979. The loss of YAV-8B prototype No 2 on the eve of an RAF evaluation appears to have delayed any reply. The second proto-type was the most representative air-craft. It would take some time to modify YAV-8B No 1, which was used mainly for vertical and short take-off trials, to the later standard.

British Prime 'Minister Margaret Thatcher made only "a passing men-tion" of the AV-8B on her visit to the US. British industry has an al-most 50 per cent involvement in the AV-8B. British Aerospace would build the centre and aft fuselage sections, Rolls-Royce would provide the Pega-sus 11 engine, Dowty the undercar-riage, Smiths the HUD, Dunlop the brakes and Lucas the generator.

Bell's mast-mounted sensor
ONE of the features of the Advanced
Scout Helicopter (ASH) which the US
Army is preparing to order is a mast-
mounted sight—roughly equivalent to
the periscope of a submarine, though
not retractable. The theory is that a television search and tracking camera and a laser ranger and designator are mounted sight—roughly equivalent to the rotor head.

The helicopter hovers behind cover showing only the sighting device to the enemy. The scout element of an anti-tank helicopter team is thus able to remain largely hidden as it searches for and designates targets. The missile-firing helicopters in the team can lurk further back entirely out of sight and, with Hellfire missiles, fire from cover at a tank designated by the almost hidden scout.

The problem is to develop a mount-ing which will keep the camera and laser sight in a stable attitude and isolate them from the vibration of the rotor. A stationary mast has to be in-stalled inside the turning rotor shaft. Through it passes the many leads needed to power the camera and laser, transmit the signals back into the cockpit, steer the camera and designator, and power and control the stabilisation actuators and, possibly, attitude and rate gyros. Earlier trials indicate that the duct within the stationary mast might have a diameter up to 4in.
Hughes Helicopters actually demon-strated a mast-mounted sight during the Paris Air Show last June. The par-ticular drive arrangement of the Hughes rotor head makes it particu-larly easy to arrange the duct, and, says Hughes, the natural smoothness of the 500D five-blade rotor minimises unwanted vibration (Flight for June 16, 1979, page 2158). The Hughes

demonstrator only had the Martin Marietta camera system installed. Aerospatiale and Sfim in France have experimented with stabilised turrets and MBB is to fit a Sfim turret above the rotor head of a B0105.

Bell Helicopter first suggested mast-mounted sensors to the US Army in November 1976 and was told to de-velop a system to be installed in an OH-58C using Rockwell electronics. A dummy system was flown to assess aerodynamic effects on the helicopter and the effect of the helicopter on the sight. Flight-testing of a full sight system was to be completed last month and the system was to be delivered to the US Army for operational trials. During 1978, Bell also studied mounting a Tow sight above the rotor head of an AH-1G Cobra anti-tank helicopter. The standard Tow sight is much heavier than sensors so far mast-mounted. The company has shown an illustration of a mast-mounted sight on the Bell conception of the ASH, which is basically an OH-58C with a four-blade, soft-in-plane main rotor and the new bearingless

Bell's ASH proposal has a mast-mounted sight
and four-bladed rotor

tail rotor. Hughes claims to have de-signed and flown its mast-mounted sight in a matter of months. Bell has worked rather more slowly and it may be that the full potential of the Rock-well sight will be attained only with the smoother four-blade rotor or with the later vibration-absorbing rotor mountings.

Sixth UK F-T31 crash this year
A US AIR FORCE F-111E of the 20th
Tactical Fighter Wing, RAF Upper
Heyford, crashed in south-west Scot-
land on December 19 killing both
crew members. This is the sixth UK-
based F-lll to be lost this year; six crewmen have been killed.
In the latest incident the aircraft had just completed a practice bomb-ing run on the Jurby range, Isle of Man, when radio contact was lost. The aircraft came down 12 n.m. north of Newton Stewart in the wooded and mountainous Glen Trool area, some

40 miles from the range. As we go to press it is not known if the crew tried to eject.
The major portion of the 20th TFW F-111E which crashed in the Wash, near Boston, on December 12 has still to be located. From the wreckage recovered the US Air Force has con-firmed that the two crew members are dead. The aircraft crashed while in a holding pattern over the Wash waiting to enter the Wainfleet range. The aircraft was not on a low-level