

# Developments in the V-Force

THE FIRST VICTOR B.2 squadron to be equipped with Blue Steel—No. 139 (Jamaica) Squadron at Wittering, Northants—is now operational with its new weapon, and will be followed shortly by the other Victor unit at Wittering, No. 100 Squadron. The first Vulcan B.2 units—Nos. 27, 83 and 617 Squadrons at Scampton—became operational with Blue Steel early last year.

Last month, on 4th February, R.A.F. Wittering was host to the Press, partly to show off No. 139's Blue Steels but also to make known the V-force's new low-level strike capability and for the A.O.C.-in-C., Air Marshal Sir John Grandy, to give a "presentation" of Bomber Command as a whole. Some of the points made, Bomber Command's roles and the philosophy of the deterrent, are dealt with in the article by Mr. Peet on page 64 of this issue, but several new factors emerged from the presentation.

Bomber Command comprises four main forces: the medium bomber force of Vulcan B.2s and Victor B.2s which will eventually be armed throughout with Blue Steel; a small tactical bomber force of Valiants, centred on Marham and assigned to NATO; a photographic force of Valiants and Canberras (which are usefully employed in peacetime on survey work); and a tanker force of Valiants (later to receive Victor tankers) which supports not only Bomber Command but Fighter Command and the Fleet Air Arm as well.

Total uniformed strength is about 21,000 men and women of whom just under 11,000 serve in the medium bomber force. The Vulcans come under No. 1 Group with bases in the north, and the Victors No. 3 Group with bases in East Anglia; the latter group is also responsible for the Valiants and P.R. aircraft.

## Low-level advantages

The V-bombers are now capable of operating at low level—"under 1,000 ft."—and can also launch Blue Steel at low level. This capability, apart from making detection more difficult, by coming in under an enemy radar screen, can also be used to complicate the defender's task, with attacking aircraft sneaking in at all levels.

Penetration of enemy defences, said the A.O.C.-in-C., depended on six factors: aircraft performance, evasive routeing, high- and low-level flying, electronic countermeasures ("Window" still finds a very useful place, together with today's sophisticated ECM equipment), the success of earlier strikes, and stand-off weapons.

A performance graph was then flashed, all too briefly, on the screen from which it seemed that at high level (around the 55,000-ft. mark) the Vulcan B.2 has a speed of Mach 0.94 and the Victor B.2 Mach 0.93. At low level the Victor comes

out first at about Mach 0.79 with the Vulcan doing 0.75 and the older Valiant not much behind that. Performances were based on the penetration of a line extending 1,350 nautical miles from Murmansk in the north to Odessa in the south. Bomber Command, said Air Marshal Grandy, can aim to penetrate that line anywhere, or fly around the ends.

Later, the medium bomber force's radius of action was given as approximately: 1,500 n. miles at low level; 2,000 n. miles at high level; and 2,500 n. miles "plus" with flight-refuelling. Blue Steel's range was virtually unaffected at low level and it was emphasised that low-level strikes, including launching of the stand-off bomb, could be carried out in all weathers.

Bomber Command also has an important role in limited wars, and in this connection a slide was shown giving average reinforcement times from the U.K. to overseas bases: Malta—2 hours 30 minutes; Cyprus—3 hours 45 minutes; Aden—7 hours (with one "precautionary" flight-refuelling); Gan—11 hours (two refuellings); and Singapore—15 hours (three refuellings).

With conventional high-explosive bombs the V-bombers pack a heavy punch. For use in limited wars (another slide) the Victor, thanks to its rather neat bomb-stowage arrangements, can carry thirty-five 1,000-pounders, the Vulcan and Valiant twenty-one each. The slide also showed that the Canberra carries six 1,000-pounders, the Scimitar four, Sea Vixen two and Hunter two.

At the end of his talk the A.O.C.-in-C. made the point that no one can create a nuclear deterrent overnight (Britain has

spent some £1,000 million during the past decade on creating, maintaining and perfecting hers), but the V-force is now a "practised release-system". He added that one can't remain static in ideas; one must therefore modernise equipment and tactics.

Evidence of both was provided by the sight at Wittering of Victor B.2 XL513 armed with Blue Steel and with grey-green upper surfaces (see photo, page 67), intended to camouflage it at low level. It is expected that all the V-bombers will eventually be camouflaged, the loss of white topsides being of little disadvantage as there are few aircraft that can operate higher than the "Vs".

## Relatively minor mods.

The V-bombers, it was stated, have required only relatively minor modifications to suit them for low-level work and, since their speeds are lower than that of TSR-2, they do not need the latter's special contour-following radar. Crews did not find anything impossible in flying the "Vs" at low level, and the Air Marshal stressed that this low-level capability is in existence now.

Any doubts there might be that low-level flying is beyond the capability of the V-bombers, which were of course designed originally for operation at very high altitudes, could be countered by the thought that, as a deterrent, the Victors and Vulcans in the actual strike force would only have to make their deterrent flight once—and it would not be of undue importance if their airframes were over-fatigued after that.

As a reminder that Bomber Command's reaction time is still as good as ever, four visiting Vulcans—drawn from Nos. 9, 12 and 35 Squadrons from Coningsby—were scrambled at Wittering in 1 minute 35 seconds.

*FAR EASTERN ARGOSIES.—As a follow-up to the article "Argosies at Benson" in last month's issue, we publish this photo by D. W. Taylor of Argosy C.1s in service with No. 215 Squadron at Changi, Singapore. Aircraft shown are (front to rear): XP444, XR107, XR108, XP448, XP450, XP445*

