

Fastest aircraft in the show was Lightning F.3 XP697. Note the cambered wing—outer portions of the leading edge are extended—and large ventral tank

Air Force recently used live Napalm at some of its public displays.) Even so, the three Services gave convincing proof of the sort of treatment that can be meted out to “brush-fire” warmongers.

Research aircraft demonstrated their functions very cleverly—particularly the Handley Page H.P.115 which showed, among other things, its control over Dutch roll—but inside the exhibition there was little in the way of entirely new projects. Helicopters had a whale of a time, and airliners and transports by thoughtful flying underlined their individual virtues—although it would have been nice to have seen just one or two more low passes by the rock-steady Super VC10.

Static display

Exhibits in the static park included a lot of old friends wearing this year’s fashions. Doyen of the gathering was undoubtedly the Airspeed (or should it be Hawker Siddeley?) Ambassador G-ALZP equipped as the Decca demonstrator and looking like new. With two turbo-prop engines in lieu of the existing radials, the Ambassador, always a handsome aircraft, would bear comparison with anything there; one did, in fact, serve as a test-bed for the Eland, see page 319.

Service exhibits included a Victor B.2 and a Vulcan B.2, both in low-level camouflage and armed with Blue Steel. The

Farnborough Report

Fewer frolics: solid achievement the theme

Illustrated mainly with Air Pictorial photos

IT WAS NOTICEABLE during the flying displays how everyone perked up when Ranald Porteous, in the Beagle Mk. 11, made it clear that he was going to give yet another of his unforgettable aerobatic performances. For the most part, Farnborough 1964 seemed more staid than in previous years and although the prime object of the S.B.A.C. show is to promote the sale of British aircraft, it was evident that even the hard-headed customer enjoyed a spot of the spectacular.

Fine showmanship was displayed by the R.A.F.’s “Red Pelicans” and the Gnat team from 4 F.T.S. (who *do* call themselves the “Yellowjacks”, despite official reluctance to confirm such a name). Spectators reared on Treble-One’s Hunters and “The Firebirds” (56 Squadron Lightnings) might find Gnats and Jet Provosts rather tame, but modern fighters are far too expensive to be subjected to more aerobatics than is necessary.

The tri-Service demonstration of how to capture an enemy-held airfield by airborne assault was most impressive—fighters, helicopters and transports accounting for over one hundred “aircraft movements” in ten minutes. The ground-attack prelude would have been enlivened by a few fireworks, let off on the field as in pre-war Hendon days—which the Services wanted to do—but this idea was vetoed by the heavy hand of someone. (The Swiss



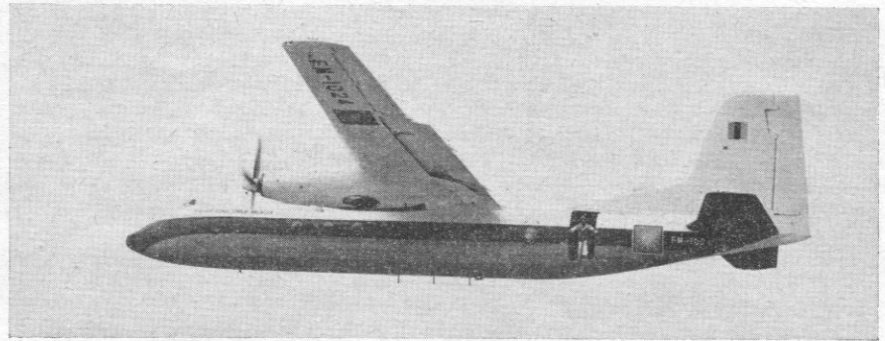
ABOVE: The first Super VC10, G-ASGA, flew on all days except Sunday, when it was replaced by B.U.A.’s first Standard VC10, G-ASIW

BELOW: Hawker Siddeley’s H.S.125 demonstrator, G-ASEC, with red and pale blue trim. Orders for fourteen more 125s have been announced

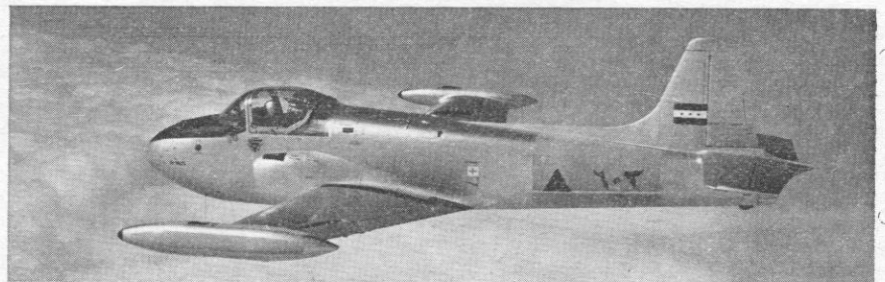


weapon fits the Vulcan without difficulty, but the lower-slung Victor necessitates a folding tail-fin which turns through 90 deg. to assume its normal configuration on Blue Steel as the undercarriage of the Victor retracts after taking off; and of course, *vice versa* before landing. The Victor, which was from Wyton, carried the badges of both squadrons based there (Nos. 100 and 139) as well as the station badge. Similarly the Vulcan from Scampton carried not only the station badge, but those of Nos. 27, 83, and 617 Squadrons – a visible sign of a new servicing organisation in Bomber Command. In this system, aircraft are allocated to the station, instead of the squadron; they are maintained and serviced by the centralised organisation and used by whichever squadron requires the aircraft at the time. Aircrew, of course, remain within the squadron organisation; thus a crew from, say, 617 Squadron may be operating a Vulcan in one exercise, which the week before was being flown by a crew from perhaps No. 27. The system, first introduced into the R.A.F. in flying training schools in 1939, has much to recommend it, and permits the maximum and most economical use of available aircraft and equipment.

In some ways the best of the Service exhibits was that staged by Coastal Command around a Shackleton from 120 Squadron. It presented a very informative picture of the functions of the Command, as well as displaying some of the weapons it uses, including sonobuoys for anti-submarine operations and examples of the Mk. 30 acoustic homing torpedo. The



FM-1024, the fifth of eight Handley Page Herald 401s for the Royal Malaysian Air Force, dropped paratroops during some of the displays



This Jet Provost Mk. 52, the third of a batch for the Iraqi A.F., had "603" printed in small letters for those who can't read Arabic

exhibit also revealed that in 1963 Coastal Command – whose area of responsibility for air-sea rescue includes all U.K. waters and Gibraltar – rescued 191 people, assisted 535 others, in addition to 102 casualty evacuations and 413 "mercy missions"

flown during the heavy snows that year.

Handley Page were well represented in the aircraft park, not only by the R.A.F. Victor but also by the H.P.115 "slim-delta" (XP841) and two Heralds, the Series 200 G-ASVO, and one of the Series 400 machines being built for the Royal Malaysian Air Force. The latter, serialised FM-1024, is the fifth of eight for the R.M.A.F. and looked particularly smart in its dark blue, light blue and yellow markings; it later showed its good handling characteristics at low speeds, in the flying display, and proved that it is quite happy dropping troops at only 95 knots. The Herald was fully described in Air Test No. 29 (September 1961) and its subsequent performance in service in many parts of the world confirms our opinion at that time that in its class there is no better value for money.

Short Brothers and Harland had both the enormous Belfast XR364, the third built, and the relatively diminutive Turbo-Skyvan G-ASCN. The Belfast was later joined by its two predecessors, XR362 and '3, when it took part in the flying. The Turbo-Skyvan despite, or possibly because of, its angularity is a most attractive little aircraft. It is severely functional, obviously tough, and the amount of space inside it is astonishing. In the subsequent flying, it appeared to handle well, and if the price is right its future is assured.

Other small aircraft were the Beagle range, including a production 206 in R.A.F. insignia and with 310-h.p. Rolls-Royce Continental GIO-470As, and its civilian twin (G-ASMK) bearing a price label of £35,000. It seemed a pity that the prototype Beagle 242 (G-ASTX), which



ABOVE: Hawker Siddeley Hunter "580", in desert camouflage but devoid of national insignia, believed to be an F.6 converted to Mk. 9 standard

BELOW: First flown on 27th August, the Beagle 242 (G-ASTX) is a revised version of the 218 using metal instead of plastics construction



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although a revised version of the 218 (metal instead of plastics) was one of the few new aircraft in the show, was not available for close inspection, but this was offset to some extent by the machine's appearance in the flying demonstrations; the 242 made its first flight on 27th August.

The remainder of the park was occupied by the numerous exhibits of the three major constructors, BAC, Hawker Siddeley, and Westland. Largest of these was the Super VC10 (G-ASGA), which seemed to be begging topical questions by the omission of any airline name in its smart dark blue and silver livery; in contrast, the One-Eleven (G-ASJE) was clearly marked British United Airways.

The fastest aircraft present, Lightning F.3 XP697, was parked alongside the BAC 221, resplendent in a new blue and silver paint scheme. This 221 (WG774) was formerly the Fairey FD.2 Delta world speed record-holder, which provided the interesting thought that R.A.F. pilots of today are flying as routine aircraft which, with all their operational equipment, are

faster than a record-breaker of not so many years ago.

A Middle Eastern touch was lent by a Jet Provost Mk. 52 in Iraqi Air Force markings (one of a batch of six for the sixth air force to adopt the type) and a Hunter in dark and light brown desert camouflage but with no markings except the Hawker Siddeley emblem on the fin and the serial 580; of unspecified Mark, this Hunter is presumably one of the F.6s refurbished for re-sale. Mention must also be made of the variety of weapons displayed on a Wessex Mk. 5 (Commando version) and the vortex generators appearing on the wings of the Buccaneer S.2; incidentally, the land-based Buccaneers for the South African Navy are now known to have the designation Mk. 50

Flying display

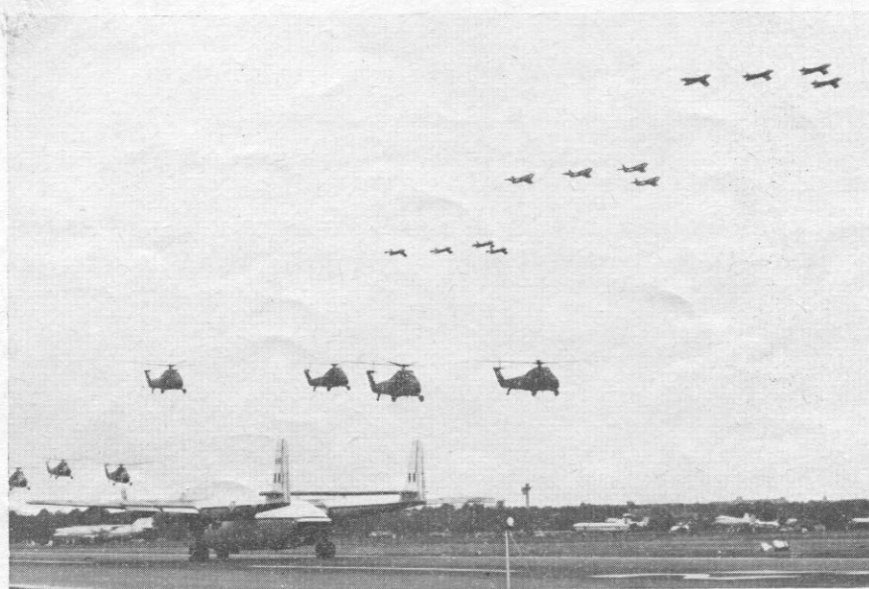
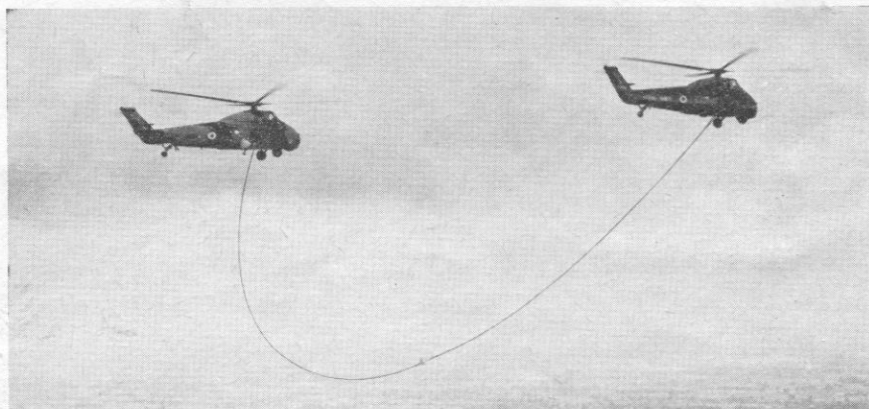
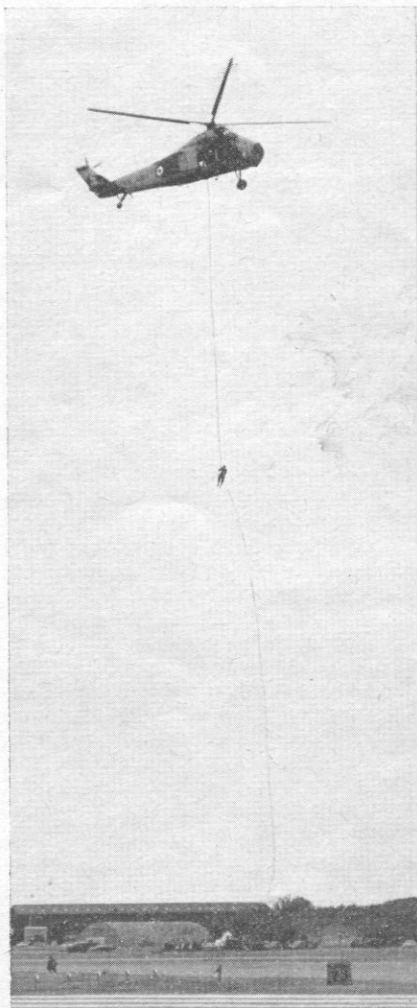
The flying display comprised three elements. There were the usual manufacturers' demonstrations; half-way through there was a combined Services demonstration of airborne assault techniques; and the display concluded with a purely R.A.F. item, although later in the week "Sky-

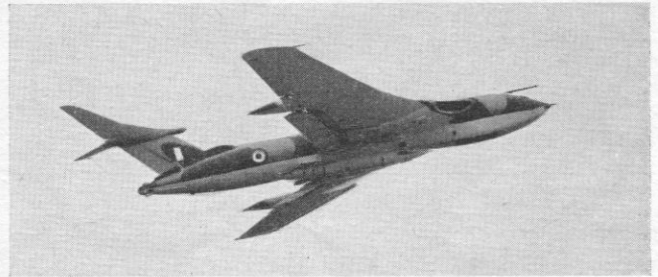
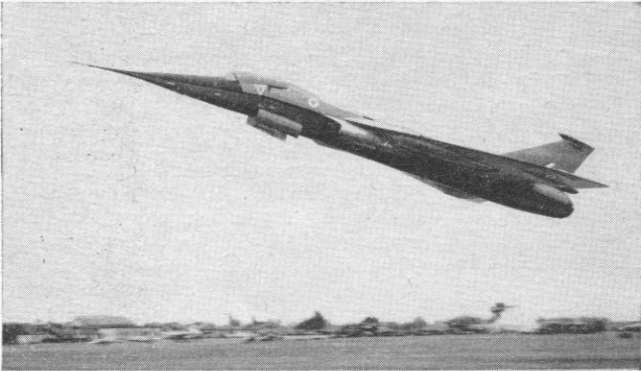
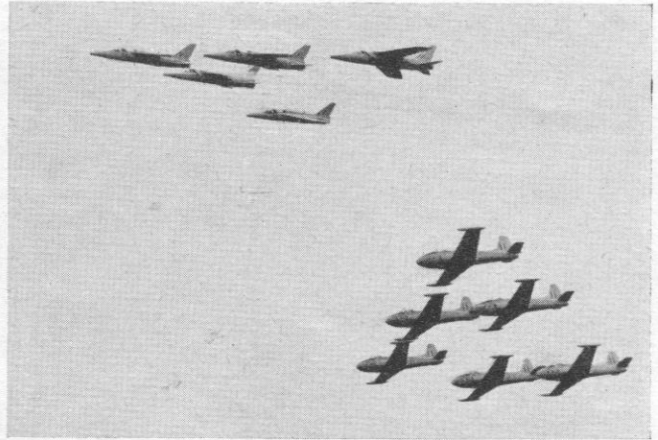
divers" made their appearance and there was some breezy flying by Turbulents of the "Tiger" Club.

The manufacturers' demonstrations did not differ appreciably from those in previous years; there were the usual short landings and take-offs, feathered aircrews, high- and low-speed runs, and occasional aerobatics. Notable among the aerobatics was the immaculate and unmistakable flying of Ranald Porteous in the Beagle Mk. 11 (260-h.p. RR.-Continental GIO-470-D). This demonstration was a little gem of flying on its own, and it seemed a pity to have one's attention distracted from it (though not very much) by the simultaneous pavane performed by the Beagle 206 and 242 closer to the runway. Other polished aerobatics were by the Jet Provost T.4 which included a six-turn spin, with rapid recovery, in its repertoire.

An item not hitherto seen was refuelling in the air by two Wessex helicopters of the Westland circus. The circus itself, comprising six different types, emitted smoke which resulted in some interesting airflow patterns becoming momentarily visible, particularly in quick stops and turns. West-

BELOW, LEFT: A 200-ft. rope descent from a Wessex HC.5. TOP, RIGHT: In-flight refuelling by two Wessexes. BOTTOM, RIGHT: Hunters and Scimitars providing cover to Wessexes and Argosies during the combined Services demonstration





TOP, LEFT: *One-Eleven G-AS7E* makes a slow pass. TOP, RIGHT: *Co-ordinated aerobatics* were provided by "The Yellowjacks" (Gnats) and "The Red Pelicans" (Jet Provosts). BOTTOM, LEFT: *The BAC 221, with nose drooped, proceeds at low speed and high angle of attack.* BOTTOM, RIGHT: *Victor B.2 XL190 with Blue Steel on its low-level run*

lands also demonstrated the SR-N5 hovercraft.

The Belfast, aided by the reversible props of its four Rolls-Royce Tynes, performed an immaculate three-point driving-school turn within the width of the runway, in order to taxi back at 180 deg. to its landing run. While it was doing this, the commentator said that it was capable of transporting 247 fully equipped troops or four Whirlwind helicopters, or a variety of other heavy loads, some of which were earlier seen in the aircraft park.

From the Service angle, two other makers' demonstrations were of interest. One was the astonishingly steep descent path of the Hawker Siddeley Andover (G-ARRV) which, coupled with its known tolerance of unprepared surfaces, suggests that it will possess unusual ability to operate from advanced landing fields. The second was the appearance of three Hawker Siddeley P.1127s. The P.1127 has long ago demonstrated its ability to perform like a Hunter as well as a helicopter; this is undoubtedly one of the most important developments in service aviation since the war. The fact that only three of these remarkable aircraft were seen airborne instead of a whole squadron is a shocking commentary on the delays that have beset both the development of the P.1127, and its even more important successor, the P.1154.

The combined Services item was a brilliant and perhaps unintentionally pointed demonstration of how vital the P.1127 and P.1154 type of aircraft is to all three services. The item concerns the seizure of

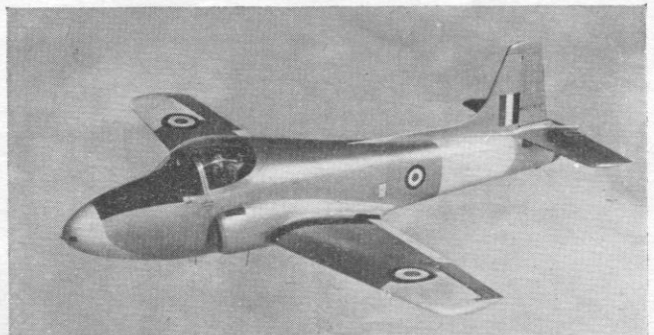
an enemy-held landing strip, capable of receiving the Hawker Siddeley Argosies which subsequently arrive with more troops and heavier stores. Military planners must long for the day when true VTOL aircraft free them from the need to tie nearly every operation to a potential airfield. The actual demonstration was magnificently done by the three Services with a speed and accuracy of timing which made nearly all the rest of the show seem slow and disjointed.

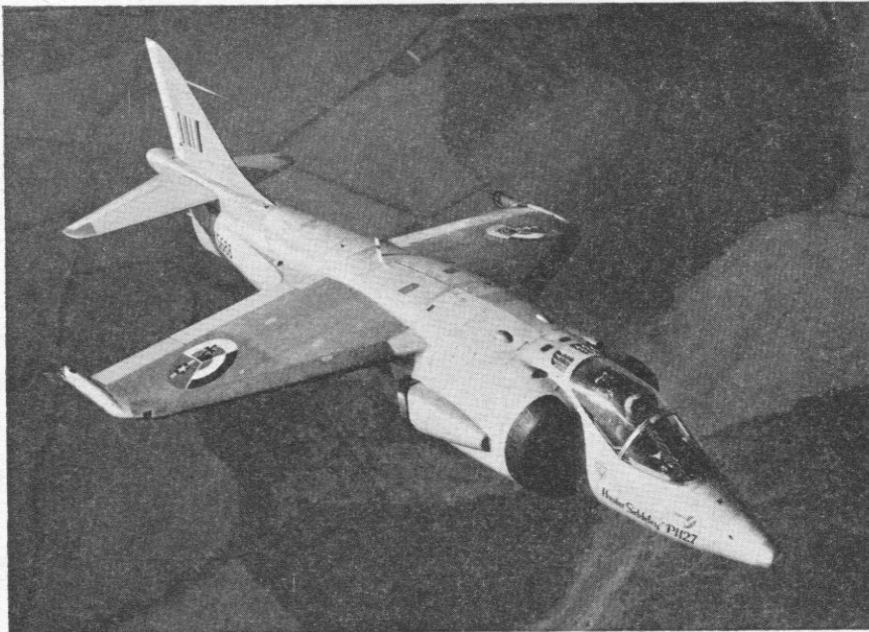
Three formations of eight Sea Vixens (890 Squadron), eight Scimitars (803 Squadron), and eight Hunters (1 and 54 Squadrons) provided cover whilst six R.A.F. Wessex 2s (18 Squadron), and six R.N. Wessex 5s (848 Squadron) landed a Royal Marine Commando, followed by guns and vehicles. Four Canberra B(I). 8s from 14 Squadron, Wildenrath, 2nd T.A.F., Germany, provided further support; finally six Argosies (114 and 267 Squadrons) landed on the captured "strip"

— actually the main Farnborough runway — carrying troops and heavier weapons. Sample loads were also picked up and removed by helicopters, and Royal Marines demonstrated rope descents (abseiling) from heights of 200 ft. This technique is used for example in jungle, where even helicopters cannot land. The whole item was a splendid demonstration of the efficiency of the Services in making the best use of existing equipment — and of the vital importance of giving them genuinely VTOL fighter and transport aircraft so that valuable effort need no longer be devoted to the capture of airstrips and landing grounds which may quite possibly be heavily defended.

Evidence of the deterrent was provided by a Victor followed by a Vulcan going past and out of sight at very low level, "beneath the radar". This was followed by the C.F.S. team of six Jet-Provosts, "The Red Pelicans", who performed immaculate formation aerobatics co-ordinated with a

Artist's impression of the BAC H.145, a pressurised successor to the Jet Provost. Powered by a Bristol Siddeley Viper II, it can climb to 30,000 ft. in 12.3 min. and can carry underwing stores for strike duties





Hawker Siddeley P.1127 XS688 was one of three "Tripartite" machines which showed something of their true operational capabilities—plus, of course, their outstanding V/STOL performance

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team of five Gnats, "The Yellowjacks", from No. 4 F.T.S., Valley. They emitted smoke, in three colours, red, white and blue, and together with a swift "scramble" by six Lightnings from 92 Squadron gave as a finale to the display, a fitting demonstration of the great skill with which the modern R.A.F. pilot handles his equipment. But one cannot help looking forward to the day when an R.A.F. squadron flying P.1154s has the opportunity to surpass even these fine displays.

New orders

As the S.B.A.C. show is really the "shop-window" for British aircraft, it must have been with considerable satisfaction that Hawker Siddeley were able to announce early in the week orders worth over £3 million for fourteen more H.S.125s, thirteen of which are for foreign owners.

H.S.125 sales now total forty-two: R.A.F. (20); Bristol Siddeley Engines (1); Fried. Krupp (2); U.S.A. and Canada (10); D.C.A., Australia (1); Qantas (2); Chartag, the Swiss charter company (1); U.K. buyers (2); other overseas customers (2); British Government mission in Washington (1).

Handley Page followed this with an announcement that Derby Airways have ordered two Series 200 Heralds, bringing Herald sales up to thirty-seven. Then came the news that Westland have received a repeat order for Scouts for the British Army; about forty Scouts are represented by this contract, which will roughly double the Army's present Scout establishment.

Rolls-Royce announced that the German Defence Ministry has chosen British engines for their VAK 191B V/STOL strike-fighter. The propulsion engine for this aircraft (see June issue, page 163) will now be the Rolls-Royce/MAN RB.193 incorporating Bristol Siddeley's vectored-

thrust system; the VAK 191B will also have two Rolls-Royce RB.162 lift jets.

Short Bros. made known several new versions of their Belfast including: an "airbus" accommodating 288 passengers on two decks which they are developing with B.E.A.'s short routes in mind; and a maritime reconnaissance version, with increased fuel capacity and a weapons bay in place of the loading ramp, offered as a Shackleton replacement.

As mentioned previously in *Air Pictorial*, BAC are developing a pressurised successor to the Jet Provost, the H.145; and elsewhere in the exhibition we heard news of possible Anglo-French co-operation on a new jet trainer and even a joint "COIN" type.

A most interesting entry into the transport field is the Britten-Norman BN-2 twin-engined feeder, which was shown in model form, in British Westpoint colours, but is expected to fly before the end of 1965. Aptly described as a "Rapid replacement", it seats ten, has a high wing, fixed undercarriage, and will be powered by two six-cylinder horizontally opposed engines, probably 200-h.p. Rolls-Royce Continentals.

Displayed by permission of the R.R.E. with the TSR-2 model on the BAC stand were some radar pictures showing what astonishing results can be obtained by a suitably equipped aircraft like the TSR-2, regardless of cloud-cover or weather.

Attracting continuous crowds was a major break-through in design exhibited on the British Oxygen stand. This was the "Featherstone-Kite Openwork Basket-weave Mk. I Gentleman's flying machine," designed by Emmett and shown in operation. It is quite unique; C.F.S. are likely to be interested as it is an obvious rival to the hitherto secret machine with a confidential name displayed at annual reunions.

LEFT: Weapons of the Wessex HC.5 include .303 machine guns, Nord SS.11 missiles, 2-in. rockets, and homing torpedoes. RIGHT: Vulcan B.2 XM595 from Scampton bears the badges of its station and Nos. 27, 83 and 617 Squadrons

