

Twenty-sixth of the Second Series

FRIEND or FOE?

Two Twin-tailed British Bombers :
Whitley and Manchester



WHITLEY : Twin fins and rudders above rectangular tailplane, set well inboard from tips, and strut-braced to fuselage; slight straight taper to all leading-edges. Stinger gun-turret; fixed tail wheel.

HERE are two well-known British heavy bombers which, though they fall into the same category in all essentials so far as visible externals are concerned, nevertheless have certain distinctive differences which will enable the learner-spotter to differentiate between them. Generally speaking, of course, the chief thing the spotter wants to know is whether the aircraft he sees approaching be "ours or theirs," but one can readily imagine special circumstances when it may be necessary for him to make a positive identification. The Armstrong Whitworth Whitley and the Avro Manchester are a pair which provide good exercise in this respect.

Two outstanding structural differences will at once be noticed from a glance at the accompanying illustrations. The Whitley has its twin fins and rudders set inboard from the tailplane tips whereas those of the Manchester are outriggered on the tips, and the latter, alone, possesses a dorsal gun turret. Both, it will be noted, have "stinger" turrets in the tails of their fuselages.

We are concerned, here, chiefly with the tail assemblies (the general characteristics of the Whitley having been dealt with in the first series of "Friend or Foe?" before details of the Manchester were released for publication), but it will be as well to mention briefly that, whereas the Whitley has a particularly long, rectangular fuselage and appears to fly in a nose-down attitude, the Manchester fuselage boasts quite a nice line, is deeper in section compared with its length, and has a gently curving underside. Incidentally, both have non-retracting tail wheels.

To compare their tail surfaces in detail, the Whitley conforms in this respect to the machine's general angularity. The fins and rudders,

which are strut-braced to the fuselage, sit atop the tailplane, have a straight slope to the leading-edges, flat apexes and vertical trailing-edges, but with the heels of the rudders slightly rounded off. Mass balances project from the tops of the rudders, the corners of which are also very slightly rounded.

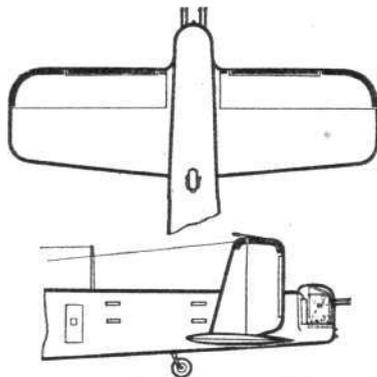
The tailplane, of moderate aspect-ratio, is practically a rectangle except that the corners of the broad tips are again slightly rounded; this is rather more noticeable on the elevators than at the extremity of the leading-edge which has an almost imperceptible straight taper.

The vertical tail surfaces of the Manchester are in distinct contrast. Of high aspect-ratio, they resemble elongated eggs, the greater portion of which project above the level of the tailplane; they are of cantilever construction and have no external strut-bracing.

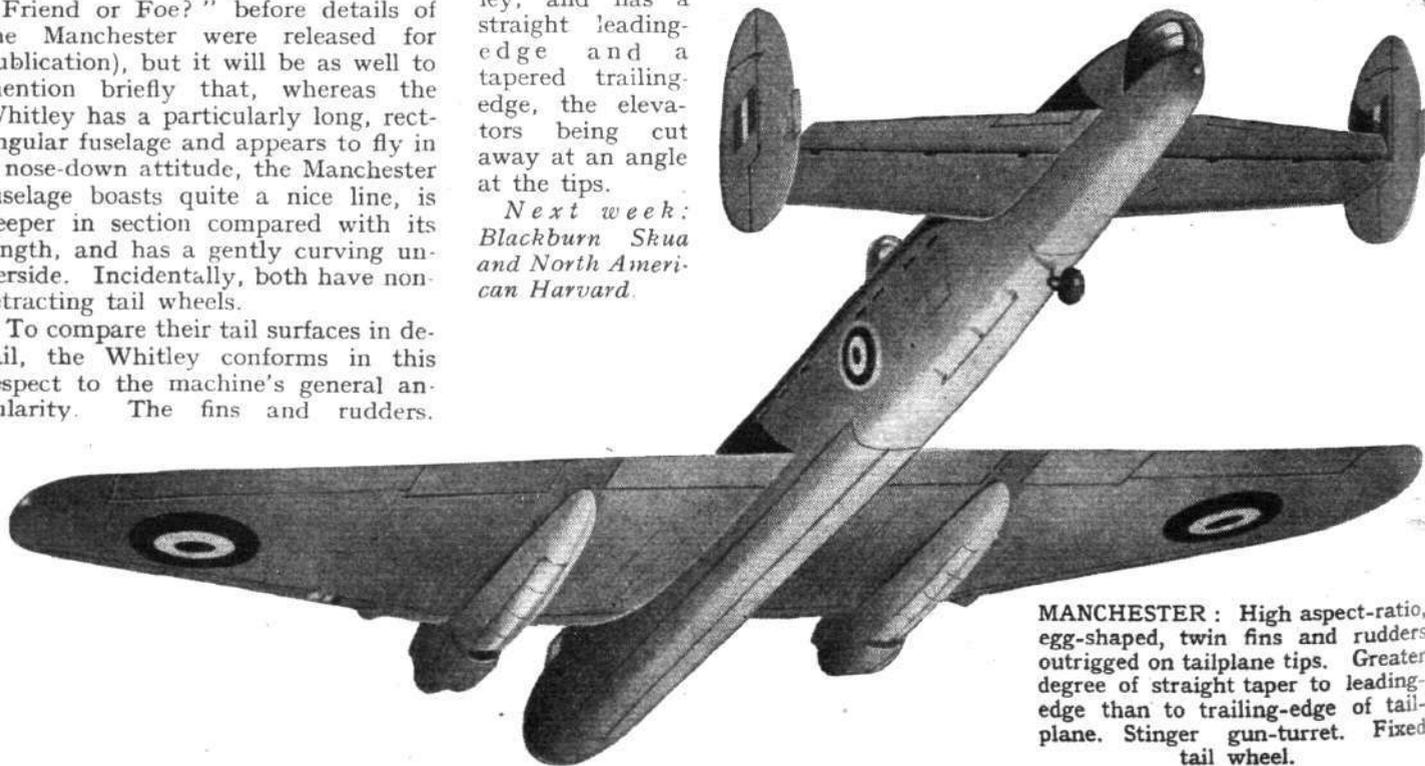
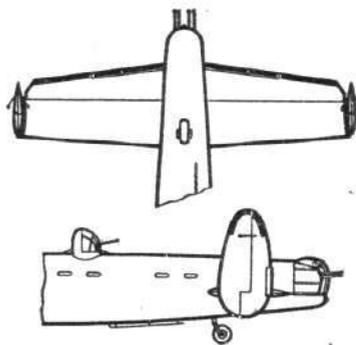
The tailplane is also of higher aspect-ratio than that of the Whitley, and has a straight leading-edge and a tapered trailing-edge, the elevators being cut away at an angle at the tips.

Next week: Blackburn Skua and North American Harvard.

WHITLEY V



MANCHESTER



MANCHESTER : High aspect-ratio, egg-shaped, twin fins and rudders outriggered on tailplane tips. Greater degree of straight taper to leading-edge than to trailing-edge of tailplane. Stinger gun-turret. Fixed tail wheel.