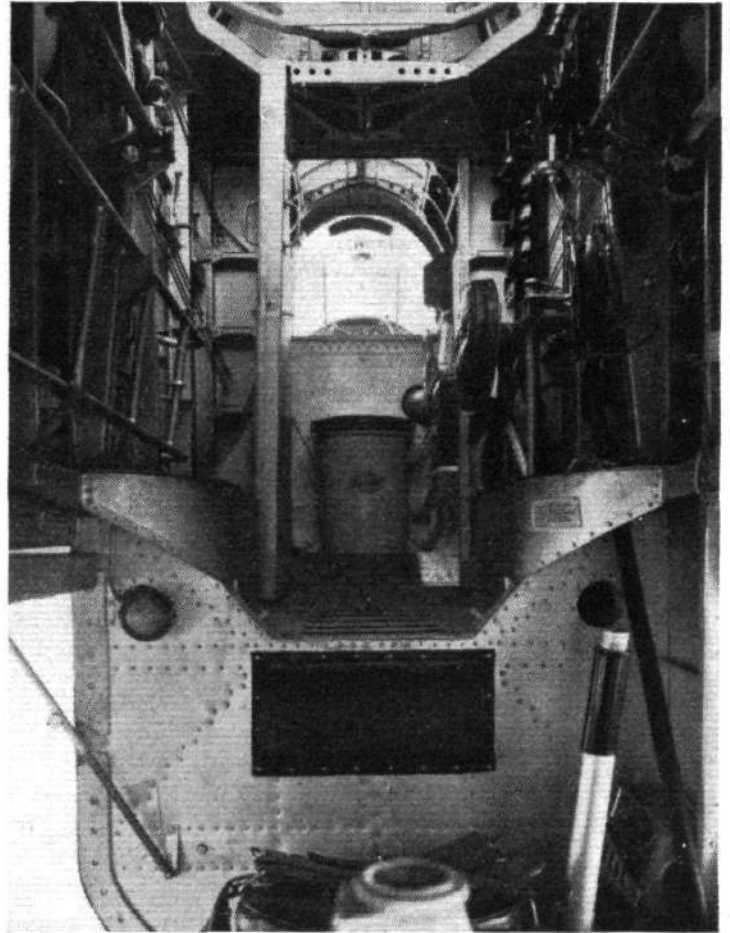


Two interiors which give some idea of the extensive equipment. On the left is the pilot's cockpit with dashboard and controls. Below is a view looking forward from the lower aft gun position. The top gunner's swivelling seat can be seen on the right.



The joint between middle and nose portions is of a totally different kind. Owing to the fact that much equipment, and certain highly stressed structure members, are involved at this point, it has been necessary to design a form of "four point mounting" with very substantial bolts and lugs for carrying the concentrated stresses at these points. On the other hand, the task of connecting and disconnecting the front or nose portion from the middle portion of the fuselage is greatly facilitated.

So carefully has been the jiggling of the fuselage portions on their various stages that when the three main parts meet at the end of the shop, no jig is necessary for their assembly. The middle portion has inserted in the place where ultimately the wing centre-section will go a dummy undercarriage on which the fuselage is transported to Radlett. This dummy undercarriage forms the support while the fuselage is finally assembled and the few remaining items of equipment installed. When the last cover strip of the joints in the skin has been put in place, the fuselage, now complete, is wheeled into the dope shop.

In the construction of the Hampden wing the key member is the large single main spar. This takes all the bending loads, while sheer and torsion bracing is provided by the spar box and the stressed-skin covering. The

main spar has flanges of built-up construction, consisting of two extruded T-sections placed side by side, a plain, heavy-gauge strip on top of the two Ts, and a thin sheet-metal covering strip which forms part of and serves as attachment for the rest of the sheet covering.

Generally the vertical and diagonal braces between spar flanges are duralumin tubes, but in places where concentrated stresses are found, or where certain components or equipment have to be attached to the wing structure, the braces are of built-up box-section. These sections are of very simple construction, consisting of two channels opposite one another, with the free edges turned outwards, and two flat strips on the other two sides. By this arrangement the lines of rivets are very accessible.

The spar "box" comprises a solid front wall or false spar, the rib channels and tubular braces. The box is, for ease of manufacture, built on to the centre-section main spar in five units. The trailing portion of the wing is of similar construction, but of lighter gauge material in view of the lower stresses in it. Instead of a false spar of



Two stages in the final assembly of wing and fuselage at the Radlett works. Note that the machine now rests on its proper undercarriage.

