CHAPTER

# 3

# TAIL UNIT

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## General

1. The tail unit is built up on the end of twin booms. The fins, which are integral with the booms, support the tail plane in front and rear fittings. There are two split rudders which employ continuous torque tubes; the lower ends are spigoted forming hinge points on the fin rear spar, which also accommodates the end hinge fittings for the elevator. There are also two other elevator hinge fittings which are arranged on the tail plane rear spar. A servo trim-tab operated from the cockpit is provided on the elevator, but the trim-tabs located at the base of each rudder may only be adjusted when the aircraft is on the ground.

## Tail boom

2. Each tail boom is a metal oval-section structure, with ten diaphragms spaced along the length and reinforced with longitudinal stringers (*see fig.* 1). The boom-to-wing joint diaphragm is an L-section casting, while the rear end diaphragms, which are pressed to shape, are riveted to the front and rear spars of the fin. Access to flying control cables is provided by hand holes covered by screwed panels in either side of the boom. A rear end fairing which is detachable from the port boom carries the tail light.

## Fin

3. The fin is constructed of front and rear light-alloy channel-section spars, pressed ribs and L-shaped stringers riveted to the skin. The spars, the lower ends of which are riveted to the tail boom diaphragms, accommodate the tail plane attachment fittings. The rear spar also houses the elevator end hinge fittings, and the rudder top and bottom hinge fittings.

## Rudder

4. The rudder is a split component comprising two sections which are joined by a continuous rudder post tube, two channel-section front spars, and light-alloy flanged ribs. There is a built-up housing in the rudder horn for accommodation of the balance weight. Top and bottom hinges are provided by spigots in sleeved fittings which are riveted to each end of the rudder post tube.

## Tail plane

5. The tail plane is constructed of front and rear light-alloy channel-section spars, with nose and main ribs and transverse stringers. The component is covered by alclad sheet riveted to spars, ribs, and stringers. The incidence is adjustable by means of a serrated fitting located at the leading edge of either end rib and engages in a similar fitting on the fin inboard face (*see Sect.* 4, *Chap.* 3). Two hinges are located on the rear spar for elevator attachment.

## Elevator

6. The elevator comprises a single channel-section spar with light-alloy ribs and a built-in torque tube, the ends of which bear spigots for location in end hinges which are mounted in the fin shroud. Two hinge fittings are also positioned on the spar. Suitably reinforced ribs are employed to carry the external balance weights.

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