

CHAPTER 2

MAIN PLANE

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GENERAL (fig. 1)

1. The main plane is a cantilever structure which is sharply tapered in both plan form and thickness. It is made of a channel-section main spar joined by light-alloy ribs to a false rear spar. The whole structure is covered with a light-alloy skin, riveted to the spars, ribs and spanwise stringers. The leading-edge structure forward of the main spar, incorporating the air-intake ducts, is fabricated as a unit and riveted to the main spar as a complete assembly. The front portion of the tail boom is integral with the main plane structure. Illustrations of the aileron, dive brake and flap will be found in Sect. 5.

2. Provision is made to accommodate four flexible fuel tanks in each wing; access to the tanks is gained through detachable panels in the underside of the wing. The undercarriage diaphragm, fabricated as a separate structure, is assembled to the wing outboard of the stub fuel tank bay. An engine air-intake duct, located in each wing leading edge at the root end, runs diagonally through the wing, emerging at the root end rib. The air-intake for the cabin blower is positioned in the port wing leading edge, and the cooling duct for the air compressor and generator in the starboard wing leading edge. Both ducts are just outboard of the engine air-intakes. Navigation lights are housed in the all-metal wing tips, which are attached to the wing end ribs by countersunk screws and

anchor nuts. An R.I. compass is mounted in the starboard wing.

ATTACHMENT POINTS

3. There are three wing-to-fuselage attachment points; one at the top and bottom of the front spar, secured to the attachment fittings at fuselage bulkhead No. 4, and the third, a drag member forward of the main spar, is attached to a fitting on fuselage bulkhead No. 3. Details of the wing to fuselage attachment points are illustrated in Sect. 5.

4. The tail boom is attached to the stub boom, which is integral with the wing. Each boom and stub boom is provided with an L-section casting riveted to the respective joint ends; the joint assembly is made with 22 special bolts.

SPARS

5. The main spar is a channel-section light-alloy pressing comprising three lengths bolted and riveted together with butt and strap joints. The top and bottom light-alloy booms, which taper in plan form and elevation, are riveted to the spar flanges. The top and bottom booms are shaped at the root end to receive the shanks of the wing attachment fittings. The spar is further strengthened by numerous extrusions riveted to the web. The false rear spar is a simple light-alloy channel-section pressing with the top and bottom booms riveted to the flanges.

DRAG MEMBER

6. The drag member is a light-alloy channel-section member forward of the main spar. The fork end of the drag member is attached to bulkhead No. 3.

RIBS

7. The ribs are light-alloy pressings with flanged edges and lightening holes. All the ribs up to and including rib 6 are strengthened for various purposes such as the accommodation of wing tanks, attachment of undercarriage, tail boom and drop tanks. These strengthened ribs which are known as heavy ribs, are illustrated in fig. 2 and 3.

AILERONS

8. Each aileron is constructed of a single light-alloy spar, to which are attached the

main ribs and nose ribs, the whole being covered with alclad sheet. Each aileron is attached to the main spar by three hinges and has a balance tab fitted at the inboard end.

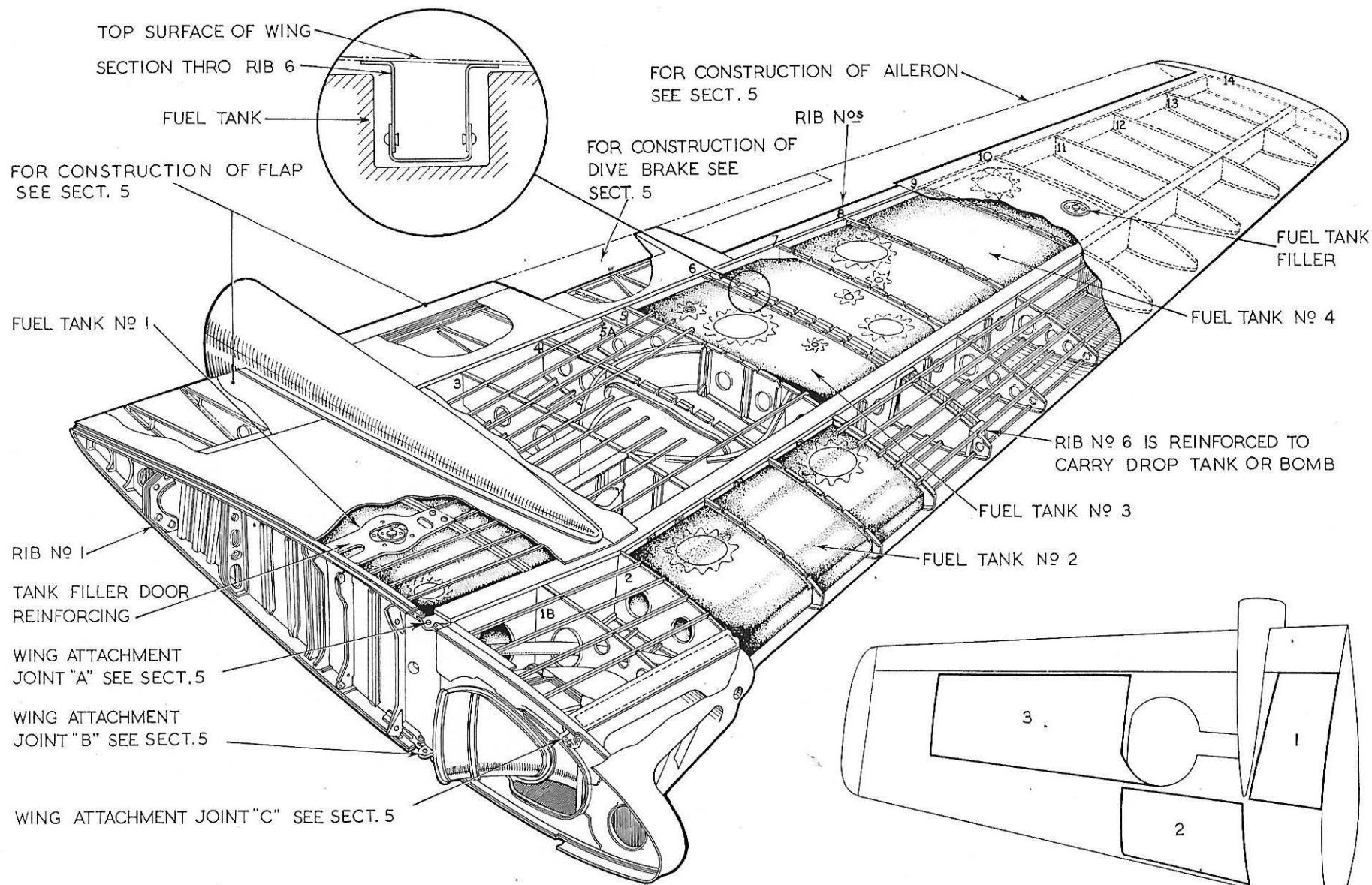
FLAPS

9. The inner and outer flaps, of all-metal construction, are interconnected by a torque tube. The ribs, to which the hinge brackets are attached, are reinforced.

DIVE BRAKES

10. The dive brakes are of all-metal construction with a single light-alloy spar and pressed ribs. The two hinges are located on reinforced ribs, and the jack ram is attached to a casting bolted to the skin.

FIG. 1. MAINPLANE



REMOVABLE PANELS ON UNDERSIDE OF WING

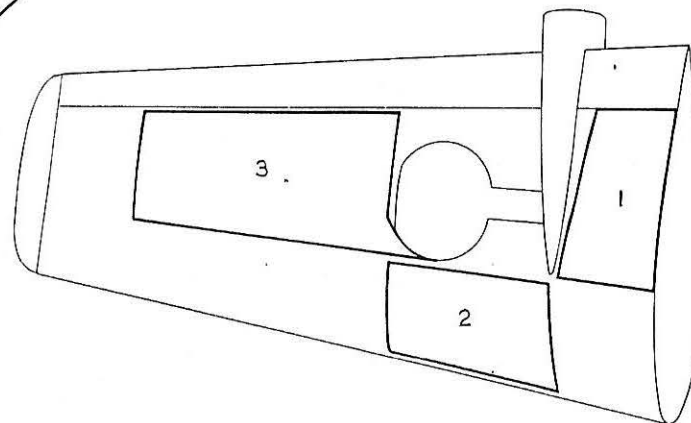
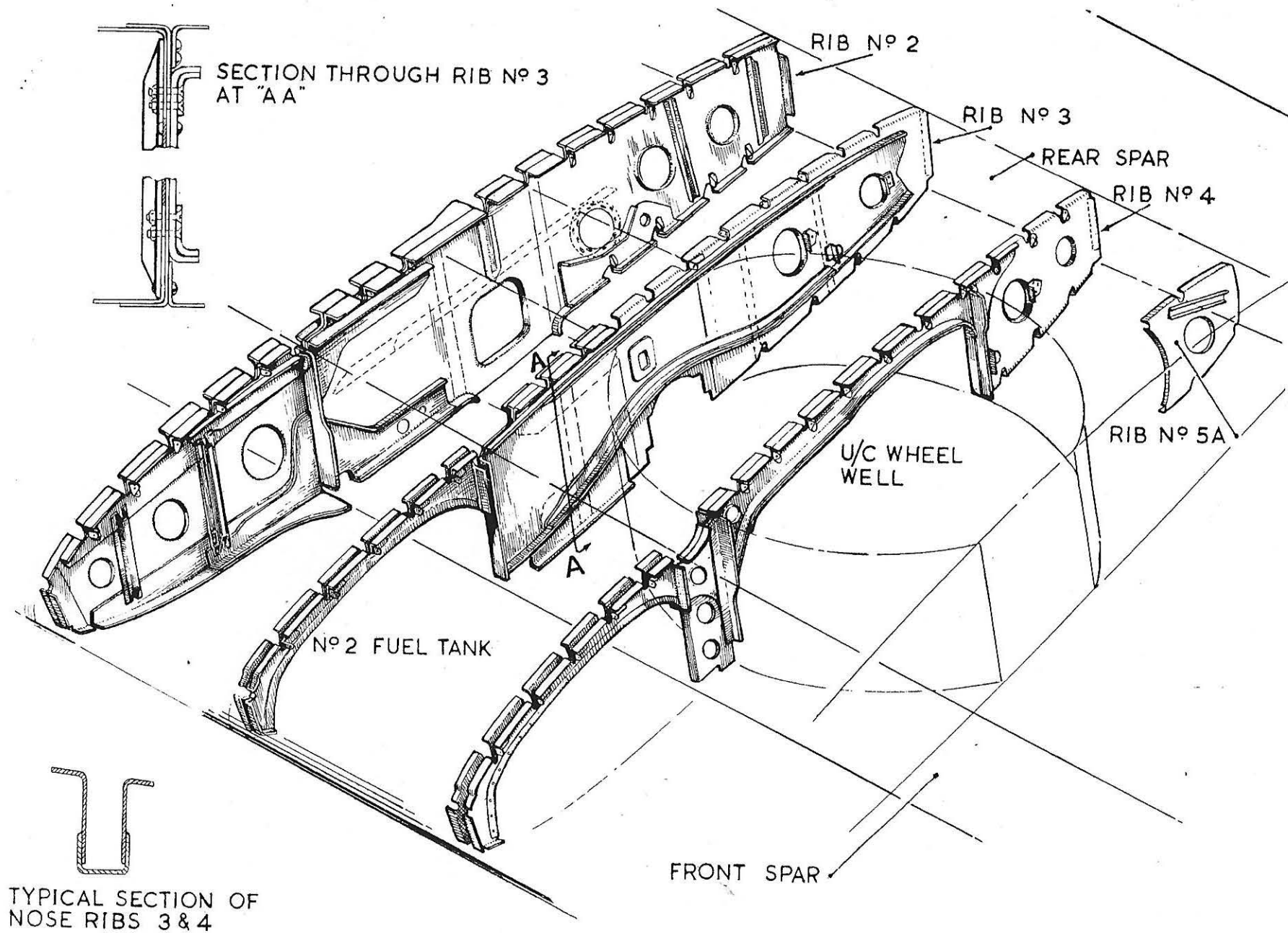


FIG. 2. DETAILS OF HEAVY RIBS



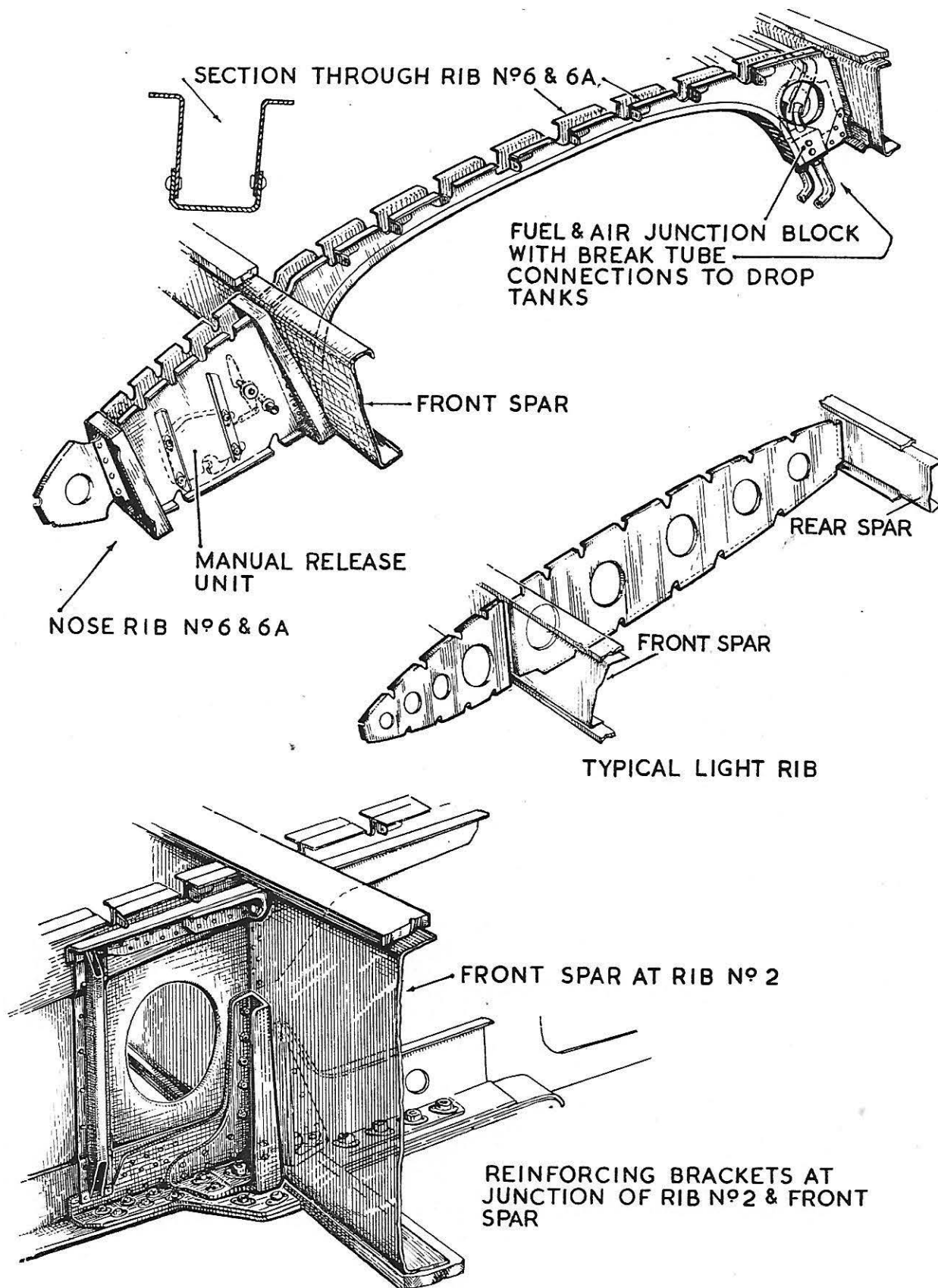


FIG 3. MAINPLANE DETAILS

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