

CHAPTER 4

BOMBING EQUIPMENT

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Introduction

1. The bombing equipment of this aircraft is carried on the inboard universal pylons and, when fitted, leaves no provision for the carrying of the inboard drop fuel tanks. The following alternative bombing equipment may be carried on each universal pylon:-

- (1) One 1,000 lb. bomb.
- (2) One fire bomb.
- (3) One practice bomb carrier which will

accommodate up to two 25 lb. practice bombs.

In the normal bomb installation, the two bombs are released simultaneously, but the practice bomb carriers are provided with their own release mechanisms and auto selectors which permit the bombs to be released individually. A description of the electrical installation and the operation of the release and fuzing mechanisms is contained in Sect.5, Chap.1, Group G.1 of this volume. Bomb installations generally, are described in A.P.1664C, Vol.1.

DESCRIPTION

Controls

2. The bombs are released by depressing the Bomb/R.P. push switch on the top of the control column handgrip, after they have been selected and fuzed by operation of the Bomb/R.P. selector switch and Fuzing selector switch located on the Bomb/R.P. control panel on the cabin port shelf. A switch, marked 'NORMAL/PRACTICE', which is located inside the pylon and is accessible via a hinged access panel, is used to select the electrical supply to either the normal release unit, or to the practice bomb carrier via a butt connection (Sect.5, Chap.1, Group G.1). When practice bombs are carried, this switch must be placed into the 'PRACTICE' position. For all other installations, it must be left in the 'NORMAL' position. The practice bombs are released unfuzed, but fuzing selection must be made, or the electro-magnetic release mechanism will fail to operate.

3. When necessary, the stores on the universal pylons may be jettisoned by using a switch on the R.P. selector panel above the port instrument panel, and another switch, adjacent to it, is used to jettison the drop fuel tanks from the outboard pylons. A bar above the switches, when pulled down, operates the two switches together, thus making provision for the simultaneous jettisoning of stores from both inboard and outboard pylons. The De-fuzing switch, located on the Bomb/R.P. control panel on the cabin port shelf, must be operated to De-fuze before the bombs can be jettisoned. When the Jettison switch is used, the practice bombs, if fitted, are jettisoned complete with their carriers.

Pylon and bomb attachment

4. The inboard pylon, which is of light alloy construction, is described and illustrated in Sect.3, Chap.2 and a cut-away depicted in Sect.2, Chap.2,

Fig.3, shows the release mechanism, together with other items that concern the installation of external stores. The pylons are bolted to the wings and are, therefore, not capable of being jettisoned. They can, however, be removed and cover plates are provided to seal the holes in the wings which are left exposed when removal is effected.

5. Each inboard pylon contains two No.3, Mk.1 fuzing units for tail and/or tail and nose fuzing of the stores, and a No.1, Mk.1 E.M. release unit, by which the store is attached to the pylon. The release unit is provided with a crutching nut with which the store is finally tightened up against the sole plate of the pylon during loading. The release unit is electrically operated for normal release and for jettisoning of stores during flight, but a mechanical jettison and re-set mechanism is provided for operation of the release unit during servicing. The mechanical mechanism is operated by a pair of press buttons, one of which is fitted flush with the skin on either side of the pylon, the port button being for jettison and the starboard for re-set. The jettison and re-set mechanism is illustrated in Sect.2, Chap.2, Fig.3 and 4. For details of the electrical fuzing and release units, reference should be made to A.P.4343X, Vol.1, Sect.5.

SERVICING

Armament safety break

6. An armament safety plug, located in the port stub wing, must be removed from its socket during the loading of stores and servicing of the equipment, except when carrying out functional checks. The plug, which is fitted with a red warning pennant, is accessible via a small hinged door which is fitted in a panel under the wing just forward of the main spar pin joint. The door is provided with a toggle fastener to facilitate access. In addition, ensure that the usual armament safety precautions are

strictly observed.

NOTE...

The pennant must not be removed from the safety plug.

Loading of stores

7. The procedure for the loading of external stores and a description of the equipment to be used will be found in A.P.1664C, Vol.1, while the Air Armament Transporter, which is used for transporting the store to the aircraft, is described in A.P.1664D, Vol.1, Part 1, Sect.1, Chap.8. The procedure for the loading of a typical store, is as follows:-

- (1) Remove armament safety plug (Para.6), and ensure that the usual armament safety precautions are strictly observed.
- (2) Position the transporter so that the suspension lug of the store is under the release unit in the pylon.
- (3) Ensure that the suspension lug (No.27, Mk.1, Stores Ref.12A/2034 for bombs, and No.29, Mk.1, Stores Ref.12A/2076 for all other stores), is fitted in accordance with the instructions given in fig.1. This is important.
- (4) Remove the access panels concerning the release unit crutching nut from the top of the wing and open the panel giving access to the 'NORMAL/PRACTICE' switch in the pylon (Sect.2, Chap.4, Fig.2).

NOTE...

With the 'NORMAL/PRACTICE' switch placed in the 'PRACTICE' position, the release units in the pylon are electrically inoperative, the electrical supply being directed to release units in the practice bomb carriers.

- (5) Ensure that the release unit is assembled in the pylon with the engraved arrow pointing forward.
- (6) Ensure that the release mechanism is functioning correctly by operating the jettison and re-set mechanism a number of times by pressing on the buttons on either side of the pylons. Finally, press the button on the starboard side of the pylon to re-set the mechanism.
- (7) Unscrew the crutching nut approximately 0.75 in.
- (8) Position Type C hoists (Stores Ref.4G/3360) on spigots (fig.1).
- (9) Position a Type E sling belt (Stores Ref.4G/2873) under the store and connect and operate the hoists (A.P.1664C, Vol.1) until the store suspension lug enters the hooks of the release unit.
- (10) Raise the store until the suspension lug of the store engages with the release hooks and trips them into the closed position, thus securing the store. Continue slowly, the raising of the store until it comes up against the sole plate at the bottom of the pylon, at the same time tightening the crutching nut by use of the spanner (Part No. B.204233).
- (11) Check that the release unit is correctly cocked by carrying out the electrical cocking test described in Sect.5, Chap.1, Group G.1 of this volume.
- (12) Remove the rubber sealing plugs from the sighting holes in each side of the pylon in the region of the jettison and re-set mechanism, and by viewing through these

holes, check that a clearance has been maintained between the top of the release unit housing and the bottom of the plungers of the jettison and re-set mechanism. This gap must not exceed 0.10 in. The release unit must be in this position before the buttons will operate the mechanism.

- (13) Remove the hoists (A.P.1664C, Vol.1).
- (14) Tighten the crutching nut, this time with an Acratork Mk.6 - Model B.3 torque spanner, set to 80, + 2 - 0 lb. ft. for the 1,000 lb. bomb, or fire bomb, and to 20, + 2 - 0 lb. ft. for the practice bomb carrier.

NOTE...

The torque spanner must be adjusted to the setting by applying the wrench to the setting rig (Stores Ref.11A/4075). The spanner and the method of setting it, is described in A.P.1464B, Vol.1, Part 2, Sect.3, Chap.4).

- (15) Repeat the checks carried out in sub-para.11 and 12.
- (16) Connect fuzing unit cables to store as applicable.
- (17) Re-fit access panels, after ensuring that the 'NORMAL/PRACTICE' switch is set to 'NORMAL' for normal stores, or to 'PRACTICE' if practice bomb carriers are fitted. Re-fit rubber plugs in sighting holes.

Fuzing units

8. The fuzing units are operated by the Fuzing selector switch located on the Bomb/R.P. selector panel on the cabin port shelf. They must be checked for correct functioning as described in A.P.4343X, Vol.1, which also gives instructions for the inserting of the fuzing cables. When testing, an external electrical supply should be connected, to avoid running down the aircraft's batteries.

Checking release units

9. With bombs removed, the release units are checked for correct functioning as follows:-

- (1) Connect an external electrical supply.
- (2) Open the panel giving access to the 'NORMAL/PRACTICE' switch in the pylon and ensure that it is set at 'NORMAL'.
- (3) Make the appropriate selection for bomb release (Para.2), operate the push switch on the control column handgrip and ensure that the release hooks open. Switch off the selector switches.
- (4) Operate the re-set button of the jettison and re-set mechanism (starboard button) to close the release unit hooks. Operate the De-fuzing switch and then the bomb jettison switch (Para.3). The hooks should open.
- (5) Return the switches to normal and disconnect the external supply. Replace the access panels.

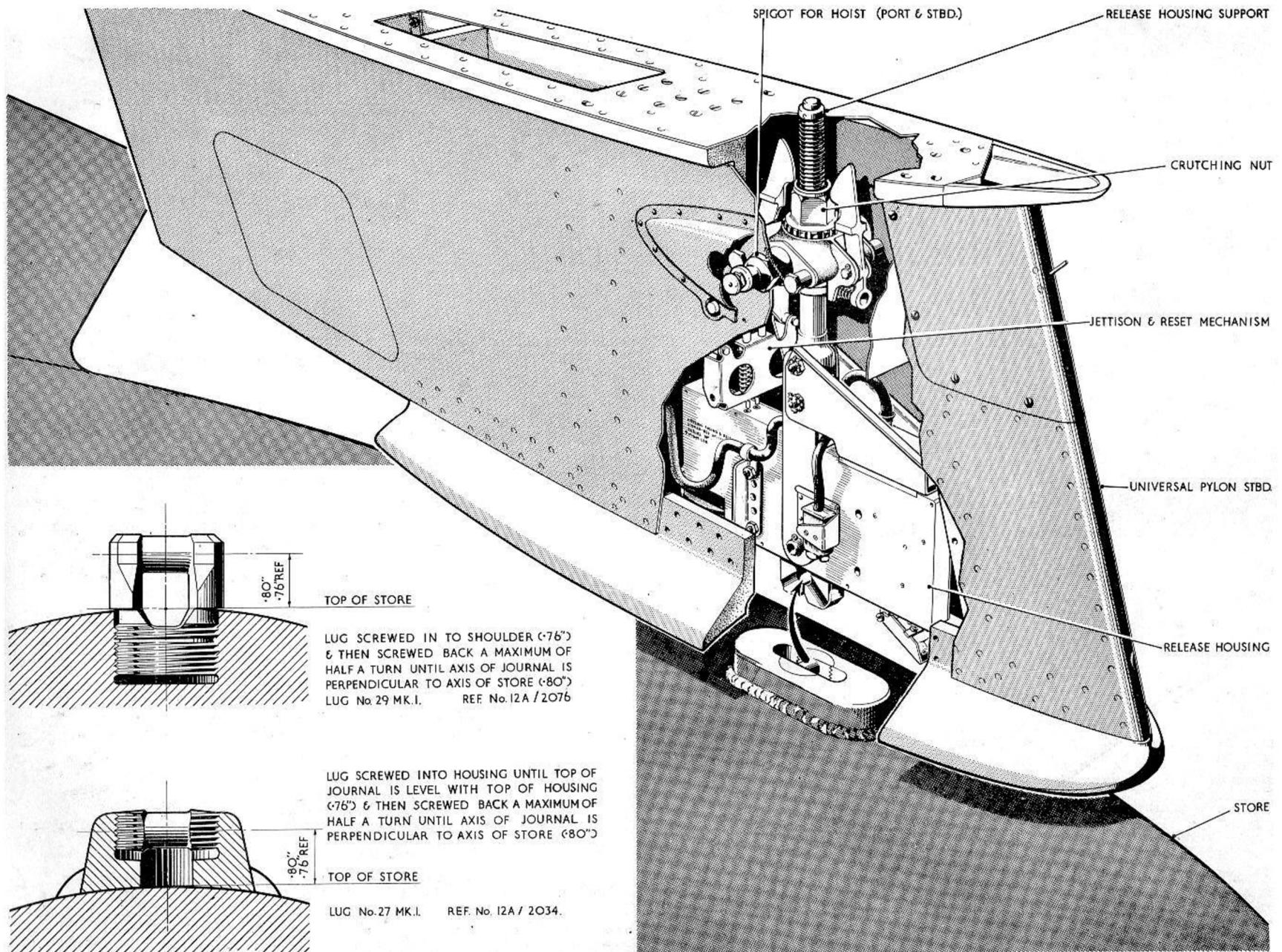


FIG. I BOMB INSTALLATION

A close-up, low-angle shot of an aircraft's internal wiring harness. The harness consists of numerous orange and white insulated wires, some of which are bundled together with black zip ties. The wires are installed in a metal channel within the aircraft's fuselage. In the upper left, a large, cylindrical component, possibly a motor or pump, is visible, with several wires attached to it. The overall environment is metallic and industrial.

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