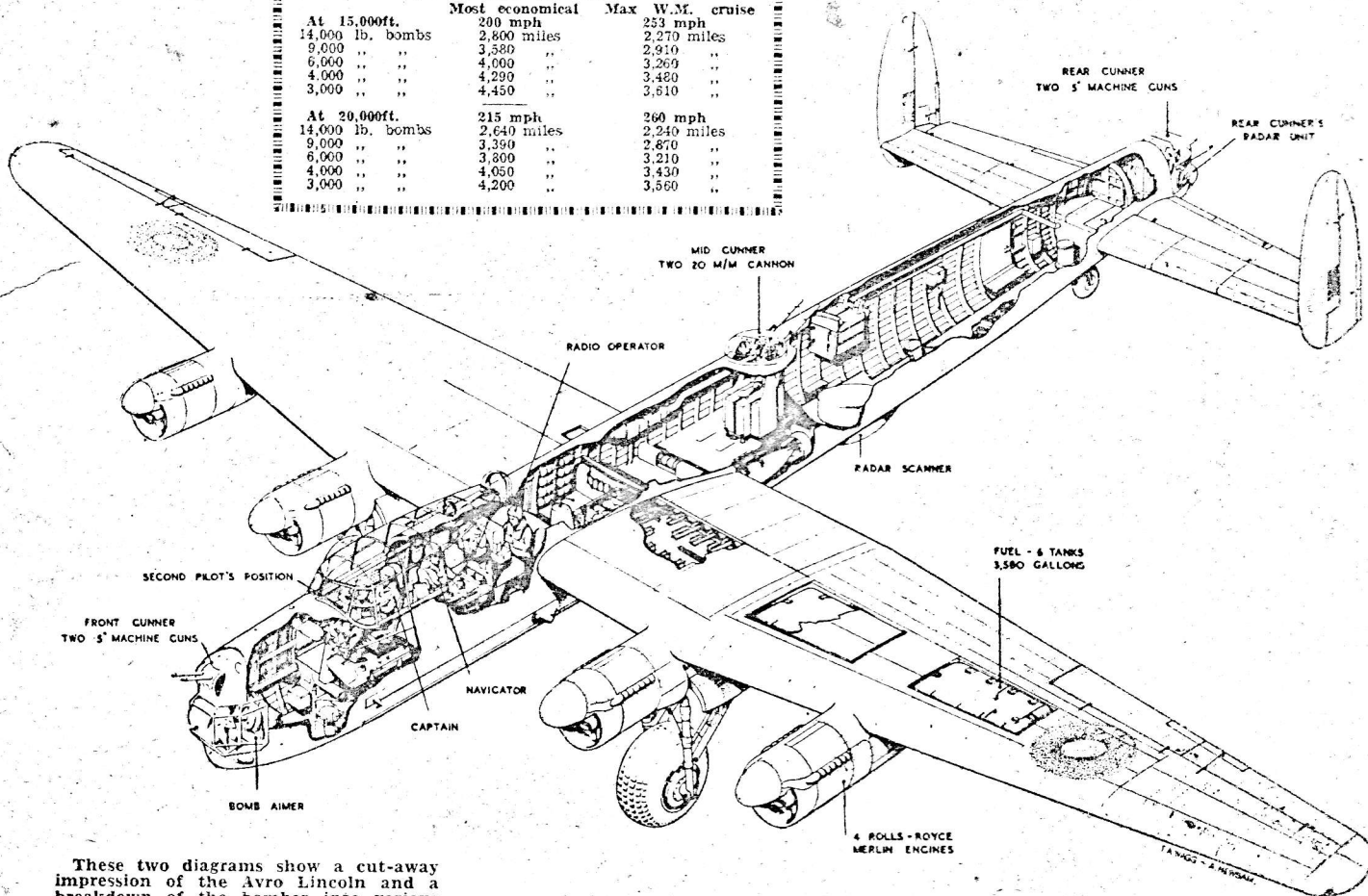


Have You Seen These?

| LOADS AND RANGES | | | |
|------------------|-----------------|-------------|-------------|
| | Most economical | Max | W.M. cruise |
| At 15,000ft. | 200 mph | 253 mph | |
| 14,000 lb. bombs | 2,800 miles | 2,270 miles | |
| 9,000 " " | 3,580 " " | 2,910 " " | |
| 6,000 " " | 4,000 " " | 3,200 " " | |
| 4,000 " " | 4,290 " " | 3,480 " " | |
| 3,000 " " | 4,450 " " | 3,610 " " | |
| At 20,000ft. | 215 mph | 260 mph | |
| 14,000 lb. bombs | 2,640 miles | 2,240 miles | |
| 9,000 " " | 3,390 " " | 2,870 " " | |
| 6,000 " " | 3,800 " " | 3,210 " " | |
| 4,000 " " | 4,050 " " | 3,430 " " | |
| 3,000 " " | 4,200 " " | 3,560 " " | |



These two diagrams show a cut-away impression of the Avro Lincoln and a breakdown of the bomber into various sections to illustrate how assembly is planned. Additional information concerning the Lincoln was recently released by the Air Ministry, and the salient features are listed below:

Many proven features of the Avro Lancaster have been included in the design of the new Lincoln, and where possible similar components have been used.

The Avro Lincoln has a wing span of 120 feet and the fuselage is 78 feet 8½ inches long. It is 17 feet 3½ inches high.

Rolls Royce Merlin 85 motors power the Lincoln Mk I and Merlin 68 motors power the Lincoln Mk II.

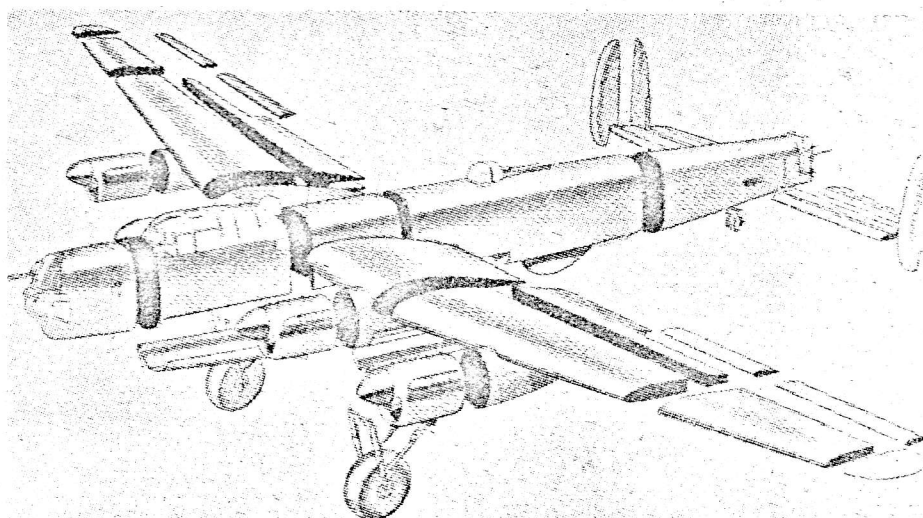
With no comparable British type in existence the Avro Lincoln will become the standard heavy bomber of the RAF.

In addition to manufacture in England by A. V. Roe & Co. Ltd. the Avro Lincoln X has been made in Canada and the Avro Lincoln XXX is being made in Australia.

All the latest developments in radar are incorporated in the 4½ tons of military equipment carried by the Lincoln. One of the most recent additions is a complete radar unit for rear gunner which enables him to sight his two .5 machine-guns at the enemy target even though he cannot see it.

The front gun turret, also fitted with two .5 machine-guns, is aimed and fired by the air bomber (formerly bomb-aimer) who remains all the time in his seat at the bomb aiming position.

The mid-upper turret is fitted with two 20mm. cannon.



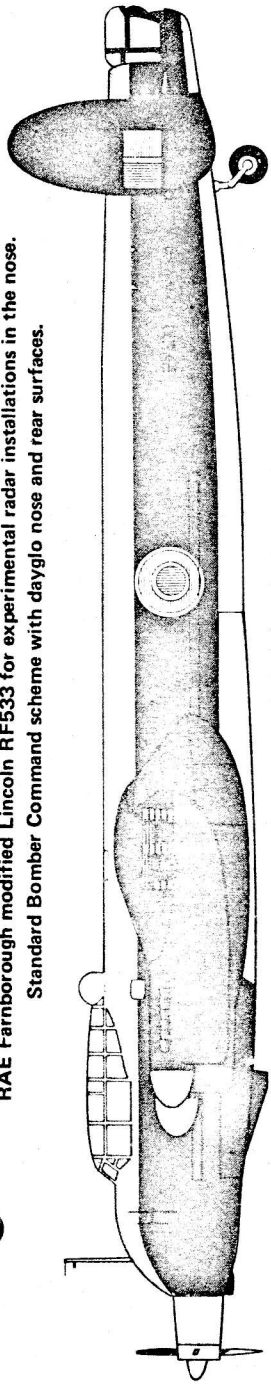
The total weight of bombs, fuel, military equipment and crew is 19½ tons, or 54 per cent. of the gross weight.

The seven members of the crew are as follows: Pilot, 2nd Pilot, Navigator, Wireless Operator, Front Gunner, Air Bomber, Mid-Gunner and Rear Gunner.

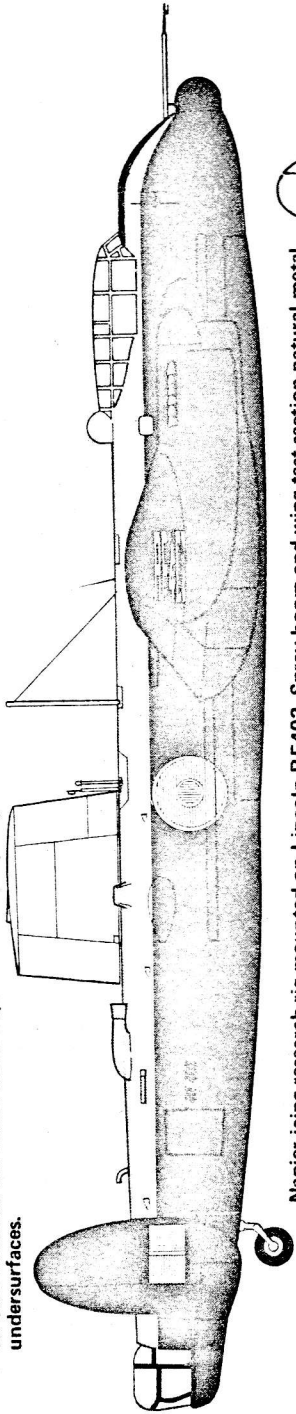
The maximum all-out level speed is 314 mph at 18,000 feet.

Maximum normal fuel capacity is 3580 gallons.

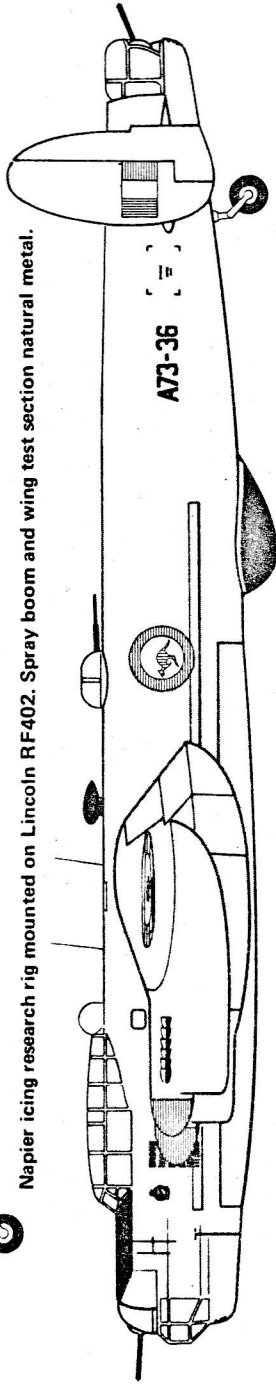
RAE Farnborough modified Lincoln RF533 for experimental radar installations in the nose.
Standard Bomber Command scheme with dayglo nose and rear surfaces.



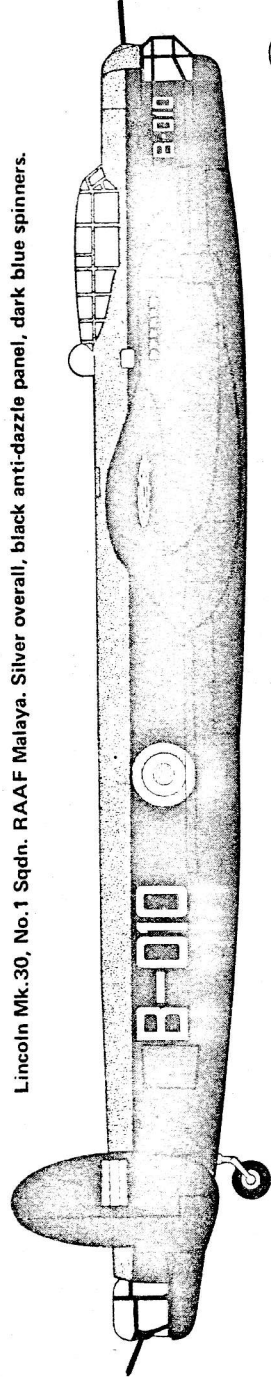
RF530 mounted the Naiad ducted spinner turboprop engine installation. Standard scheme but with natural metal undersurfaces.



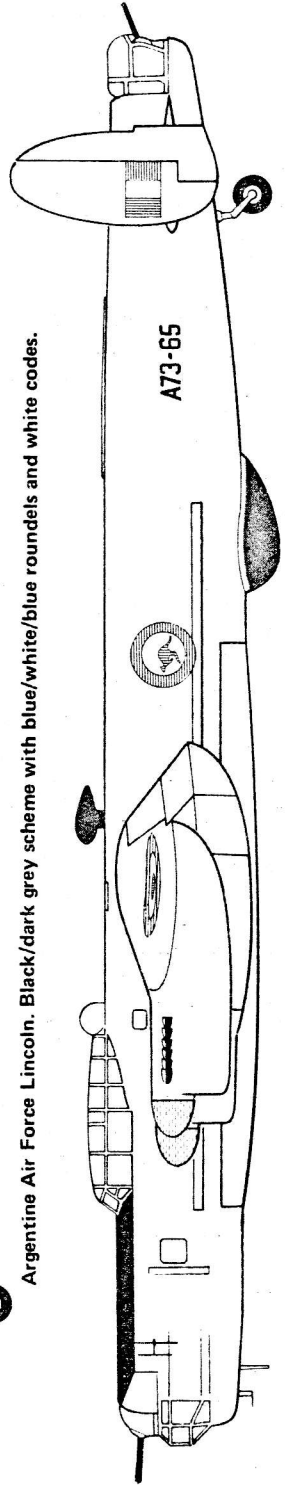
Napier icing research rig mounted on Lincoln RF402. Spray boom and wing test section natural metal.



Lincoln Mk.30, No.1 Sqdn. RAAF Malaya. Silver overall, black anti-dazzle panel, dark blue spinners.



Argentine Air Force Lincoln. Black/dark grey scheme with blue/white/blue roundels and white codes.

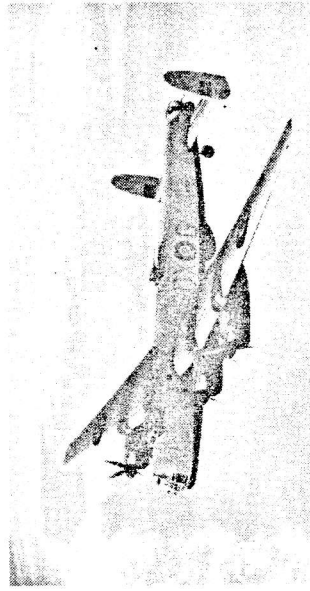


Lincoln Mk.31 of No.10 Sqdn RAAF. Silver overall, black anti-dazzle panel, medium blue spinners.

The Lincoln was used for several experimental purposes including the trial installation of the early jet and prop-jet engines. A Bristol Phoebus engine was fitted into the bomb bay of this Lincoln. The conversion was the first of many undertaken by Napier Flight Development for other aero engine companies.

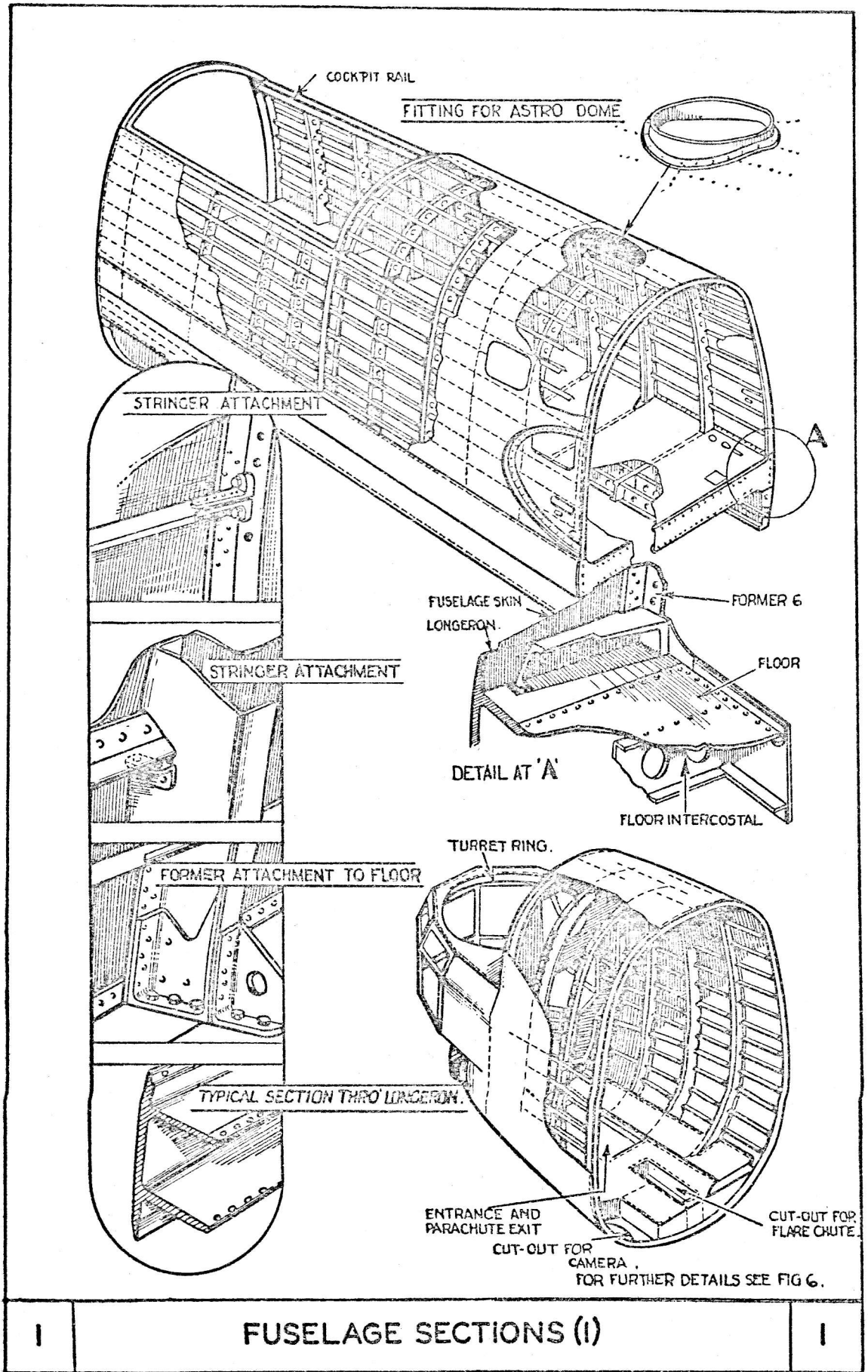


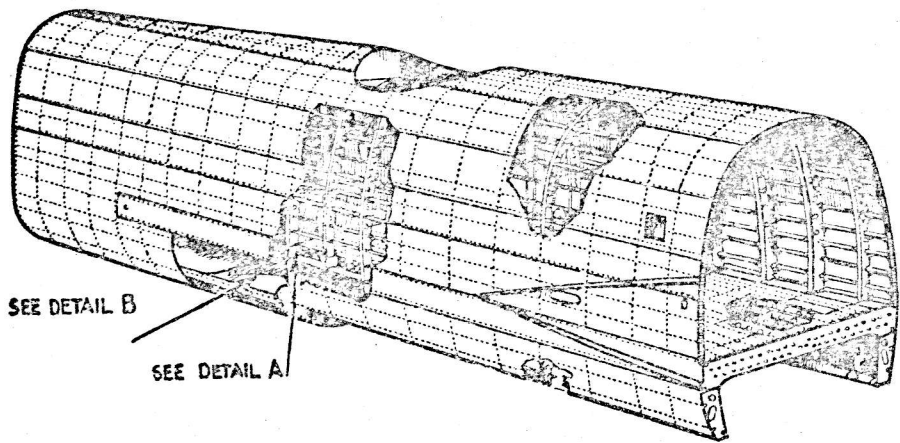
A Lincoln Mk.31 of No.10 Sqdn. RAAF. Note the 6ft 6ins extension to the fuselage forward of the cockpit. These aircraft were used for a variety of tasks but were mainly concerned with over water patrol duties. A total of 19 examples were built.



Lincoln B2, F.35, of No.57 Sqdn. All white upper surfaces. Grey codes.

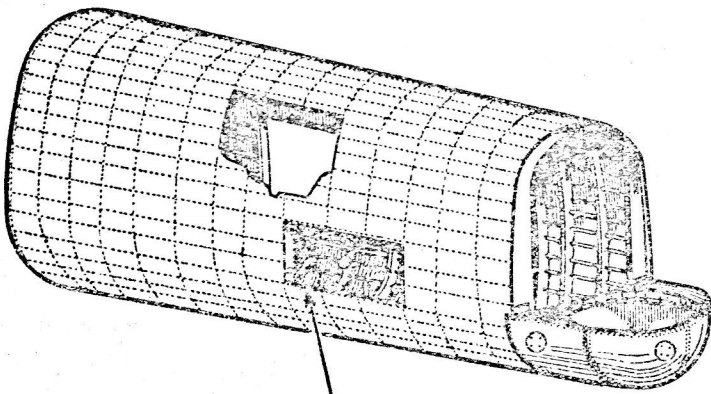




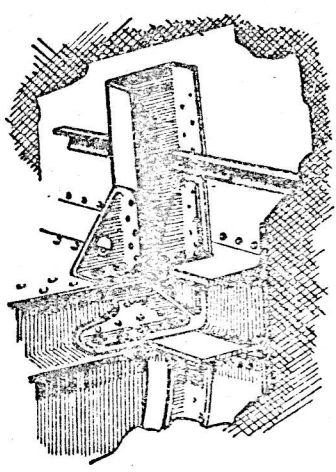


SEE DETAIL B

SEE DETAIL A

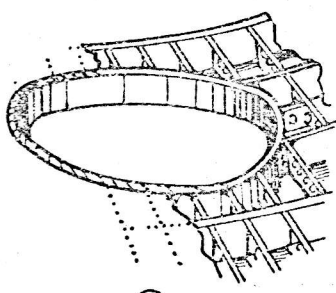


FOR FUSELAGE STRUCTURE
AT TAIL PLANE CUT-OUT SEE
DETAIL C BELOW.



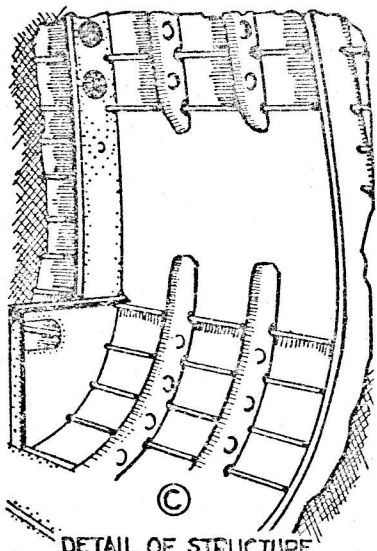
(A)

DETAIL OF FLOOR JOINT
AT FORMER 22



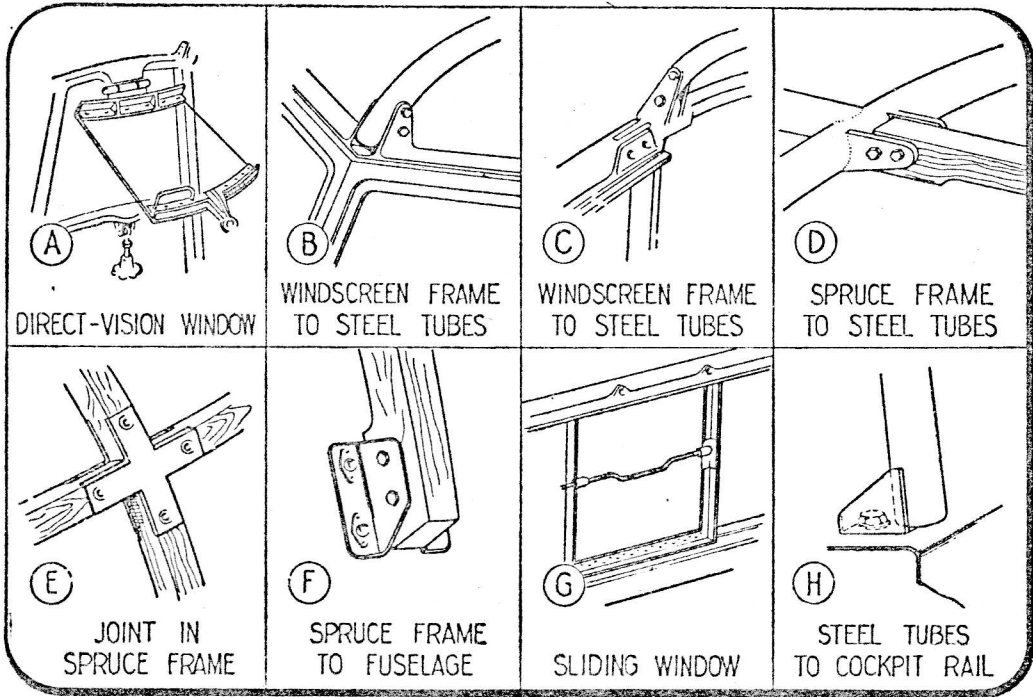
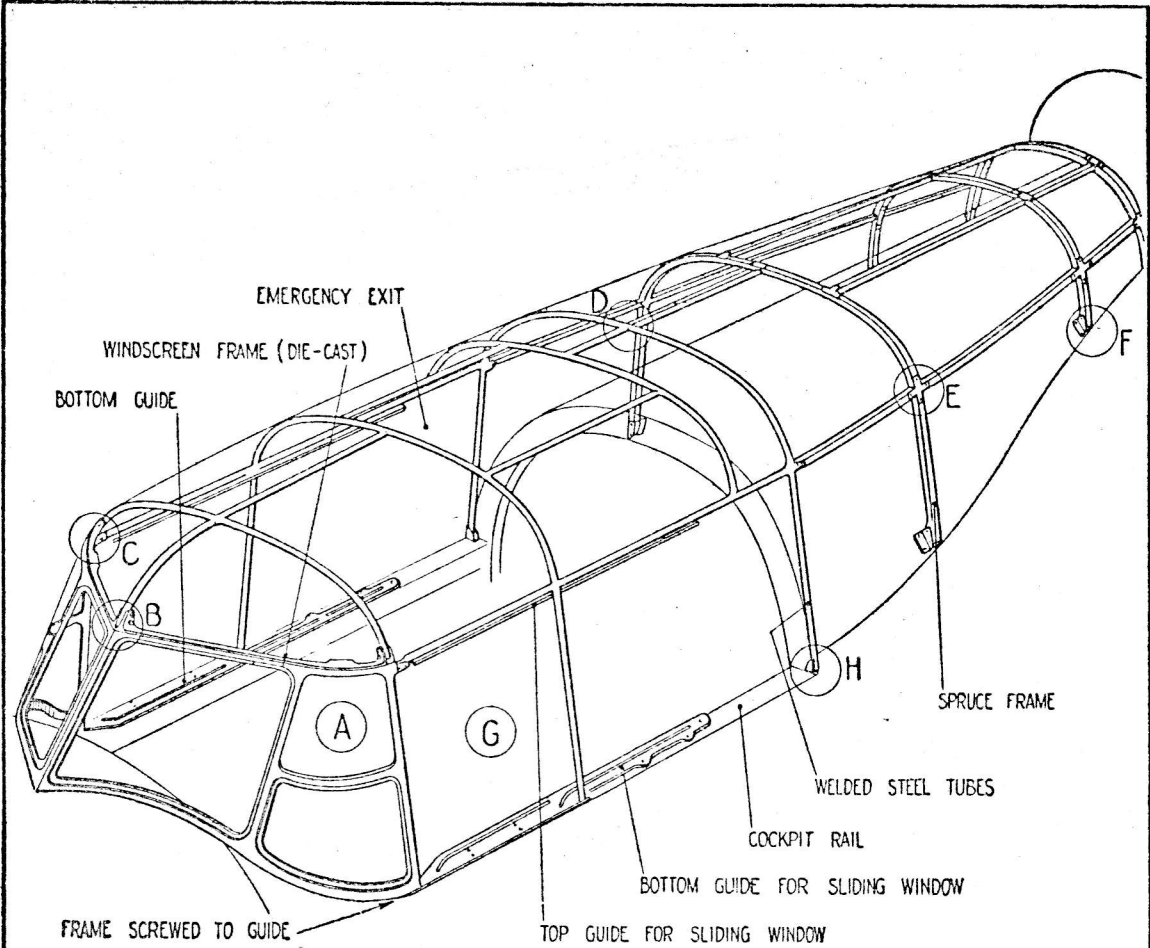
(B)

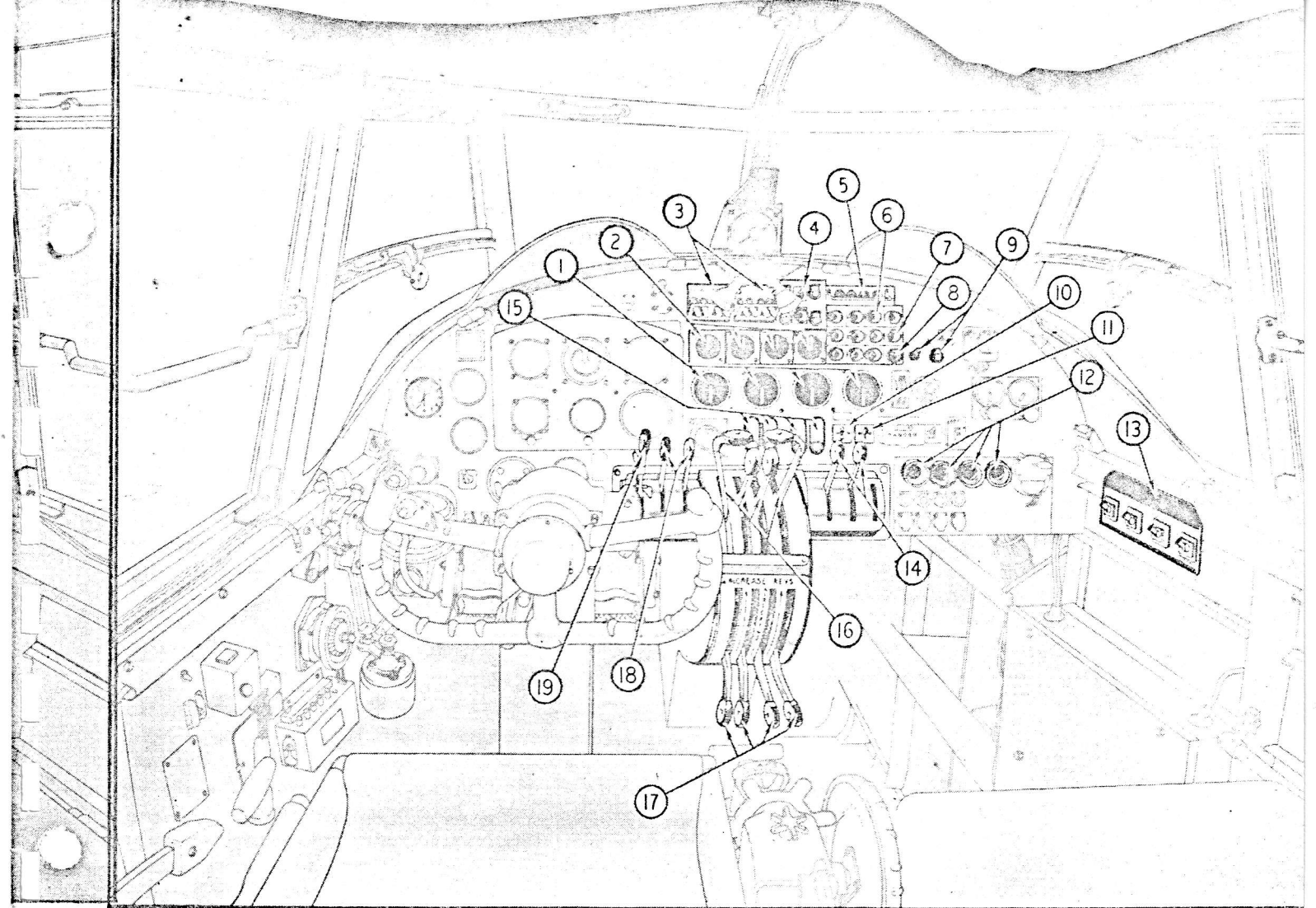
DETAIL OF RING IN
REAR CENTRE SECTION FLOOR



(C)

DETAIL OF STRUCTURE
FORMERS 35 TO 38 .





Starting, running and stopping

- Engine speed indicators (4) ... 1**
- Boost gauges (4) 2**
- Ignition switches (8) 3**

Two sets of 4, switches of each set operate independently, or in unison by using bridge plate.

- Supercharger M.S.-AUTO switch, warning lamps (4) and test push-button 4**

Electro-pneumatically controlled —
 — not operative if air pressure is below 160 lb. per sq. in.
 Switch up — M.S.
 Switch down — AUTO (F.S. gear automatically engaged by altitude switch at pre-determined height).
 Warning lamp — red when F.S. gear engaged.
 Test push-button — press to short altitude switch for ground testing.

- Slow-running cut-off switches (4) protected by guard rail... .. 5**

Not operative if air pressure is below 160 lb. per sq. in.
 Switch down — IDLE CUT-OFF — for starting, stopping and parking.
 Switch up — ENGINE ON — when engines running smoothly.

Fuel

- Engine priming push-buttons (4) 8**
 Carburetors primed by switching on electric fuel pumps.

- Priming master switch and warning lamp 9**

- Master fuel cocks, starboard (2) 14**
 Lever up — ON.
 Lever down — OFF.

- Master fuel cocks, port (2) ... 18**
 Lever up — ON.
 Lever down — OFF.

- Starting push-buttons (4) ... 6**

- Booster coil push-buttons (4)... 7**

- Oil pressure gauges (4)... .. 15**

- Throttle control levers (4) ... 16**
 Stop provided in each gate, full movement gives maximum boost.
 Friction adjuster on R.H. side of quadrant.

- Boost cut-out control 19**
 Inoperative on Lincoln Mk. 30 aircraft.

Propellers

- Feathering push-buttons (4) ... 12**

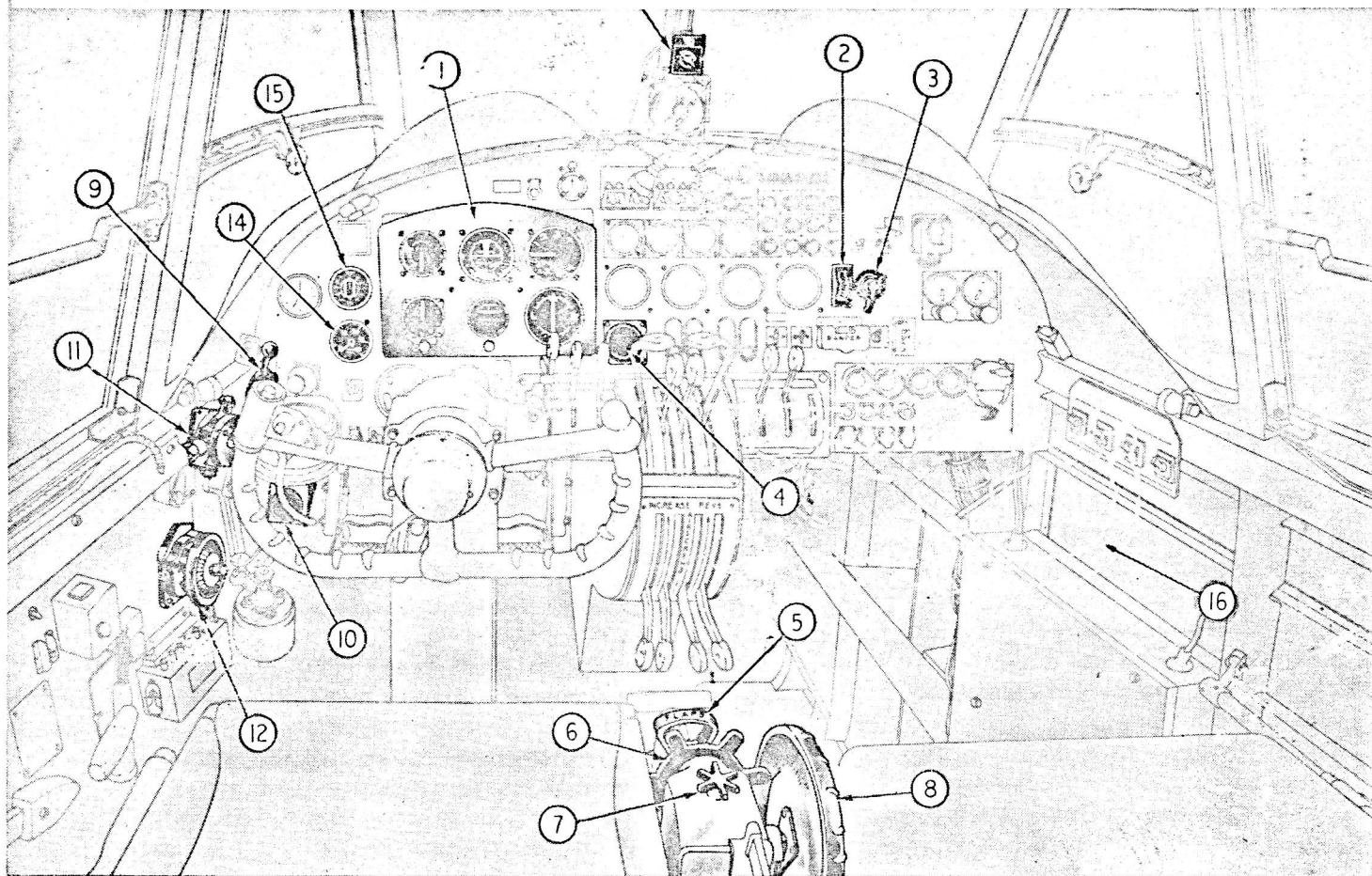
- Propeller control levers (4) ... 17**
 Levers up — INCREASE REVS.
 Levers down — DECREASE REVS.
 Friction adjuster on L.H. side of quadrant.

Miscellaneous

- Air cleaner switch 10**
 Not operative if air pressure is below 160 lb. per sq. in. Not operative unless undercarriage retracted. Switch up — Cleaners held "in" by spring-return pneumatic jacks. Switch down — Cleaners pushed "out".

- Hot and cold air-intake switch... 11**
 Not operative if air pressure is below 160 lb. per sq. in. Electro-pneumatically controlled.

- Radiator shutter control override switches (4) 13**
 Switches up — AUTOMATIC — for starting engines and for take-off.
 Switches down — OPEN — for taxiing only. Not operative if air pressure is below 160 lb. per sq. in.



Flying controls

Aileron trimming tab control handwheel 6

Operate in natural sense. Nearby indicator shows tab position.

Rudder trimming tab control handwheel 7

Operate in natural sense. Nearby indicator shows tab position.

Elevator trimming tab control handwheel 8

Operate in natural sense. Nearby indicator shows tab position.

Automatic pilot, Mk. VIII

Clutch lever 9

Air pressure and trim gauge ... 10

Cock 11

A stop prevents movement of cock control to OUT—with this installation gyro unit is always on.

Azimuth control 12

Selector switch 13

Lever to left — JINK
Lever vertical — OFF.
Lever to right — COURSE.

Flaps

Flaps position indicator... .. 4

Flaps control handle 5

Operate in natural sense. A spring-loaded catch indicates neutral position, to which handle must be returned as soon as position indicator shows desired setting. No indicator switch.

Miscellaneous

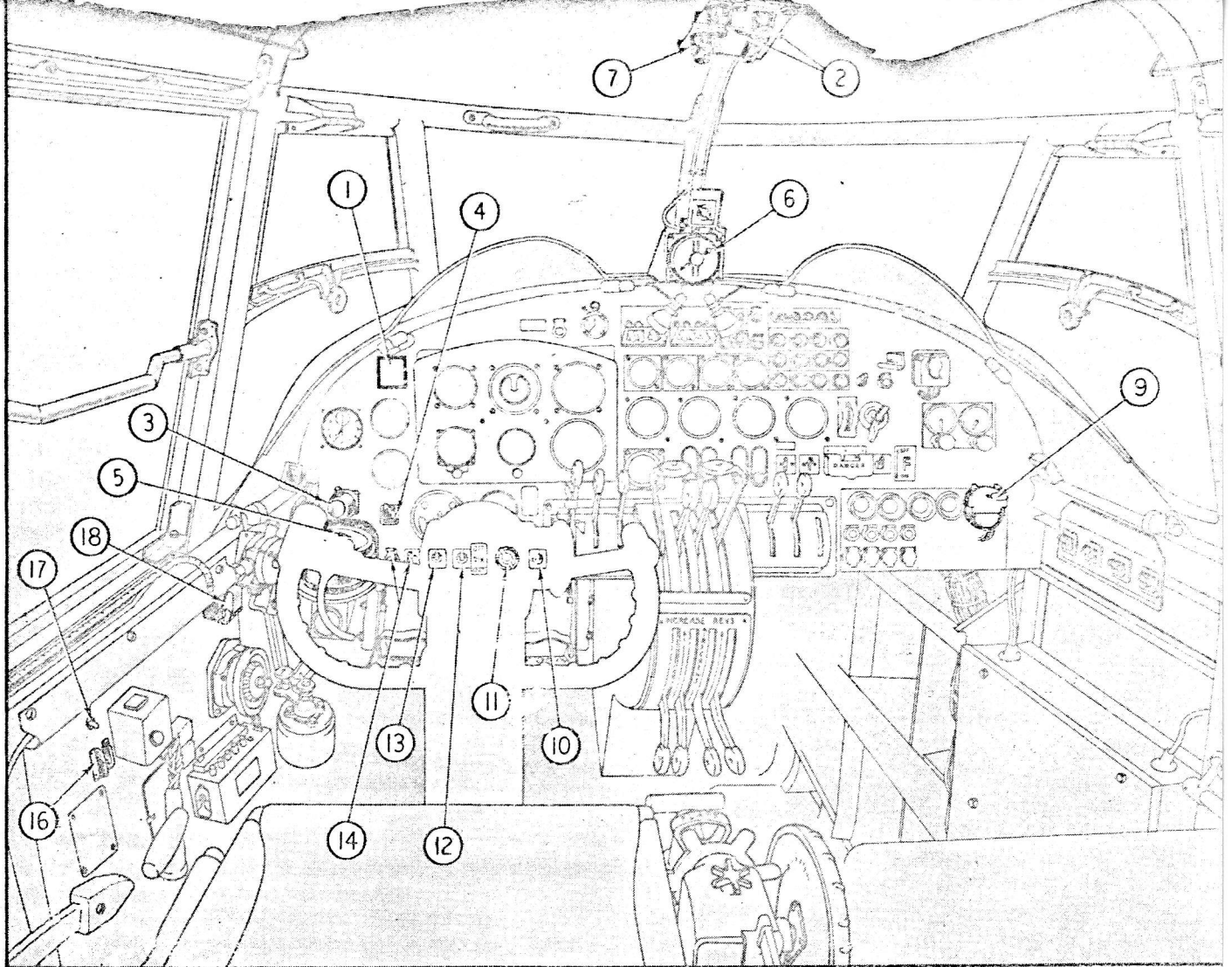
Instrument-flying panel 1

Suction gauge 2

Vacuum change-over switch ... 3

NORMAL — Single pump connected to instrument-flying panel, other two pumps to bomb sight and computer, with branch to special equipment when fitted.
EMERGENCY — Connections reversed.

Dual control handwheel... .. 16



Navigational

A.S.I. correction card holder... 1

Magnetic compass lamp switch 3

Magnetic compass 5

D.R. compass repeater 6

Navigation lamps switch ... 12
Up — OFF. Middle — DIM. Down — BRIGHT. Master switch (14) must be ON.

Isolation switch for navigator's telephone 17

Signalling

Downward identification lamp colour selection switch 4
Up — RED. Middle — GREEN. Down — AMBER.

Signalling switchbox 9
R.H. switch not connected.

Resin lamps OFF-ON switch... 13
Master switch (14) must be ON. Colour selection switch on panel on starboard side forward of front spar.

Distress switch 16

Call lamp and push-button ... 18

Lighting

U.V. lighting, switches 2

Repeater compass lamp switch 7

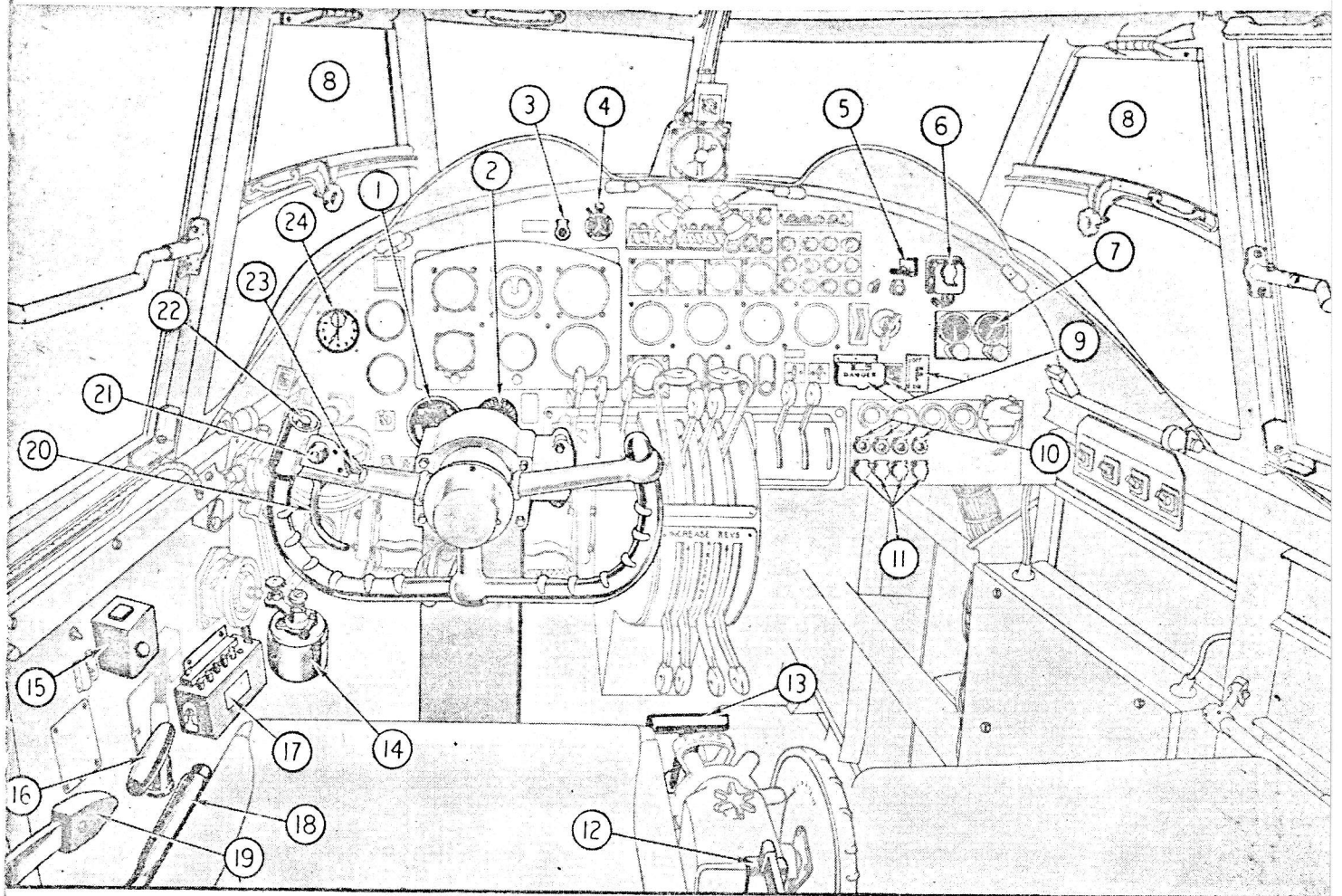
Cockpit floodlight switches (2) 8

Glider tow tail lamp switch ... 10

Landing lamps switch 11
Left — Lamps OFF and retracted. Vertical — LOW. Lamps on and beam dipped. Right — HIGH. Normal beam. Master switch (14) must be ON.

External lamps, warning lamp and master switch 14
Operation of master switch to OFF extinguishes all external lights.

3 NAVIGATIONAL, SIGNALLING AND LIGHTING EQUIPMENT 3



Operational

Camera warning lamp 3

Glider release handle 13

Bomb door lever 19

Lever up — doors closed.
Lever down — doors open. Bomb release system inoperative until doors partly open.
To open bomb doors by hand pump for bombing up requires fifteen minutes strenuous pumping and it is recommended that doors are opened by pilot before switching off engines.

Bomb release button 22

Operation releases single bomb or sticks of bombs fuzed and selected by air bomber.

Alighting gear

Alighting gear position indicator 1

Indicator becomes operative when GROUND/FLIGHT switch turned to FLIGHT.

Two green lights — locked DOWN.
Two red lights — unlocked. No light — locked UP. A warning horn sounds if either inboard throttle closed unless undercarriage is locked DOWN.

Alighting gear control lever... 12

Operate in natural sense. Spring-loaded safety bolt must be held out while lever raised; re-engagement automatic when lever pushed down.

Brakes

Brakes lever 20

Brakes lever parking catch ... 23

Emergency

Bomb jettison handle 5

To jettison bombs, pull handle.

Containers jettison push-button (shielded) 6

Jettison containers before jettisoning bombs.

Destructor OFF-ON switch and push-buttons (buttons shielded) 9

Fire warning lamps (4) ... 10

Fire extinguisher push-buttons (4) (shielded) 11

Fuel jettison handle 16

Miscellaneous

Triple air-pressure gauge ... 2

Watch holder 4

Oxygen flow and contents gauges 7

Direct-vision windows 8

To open, rotate knob counter-clockwise, and pull down; pull handle inwards.

Windscreen de-icing pump ... 14

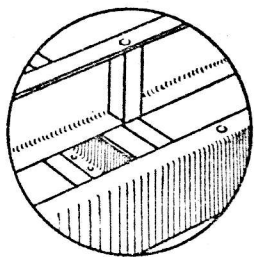
Volume controller 15

Transmitter-receiver controller 17

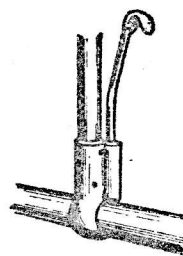
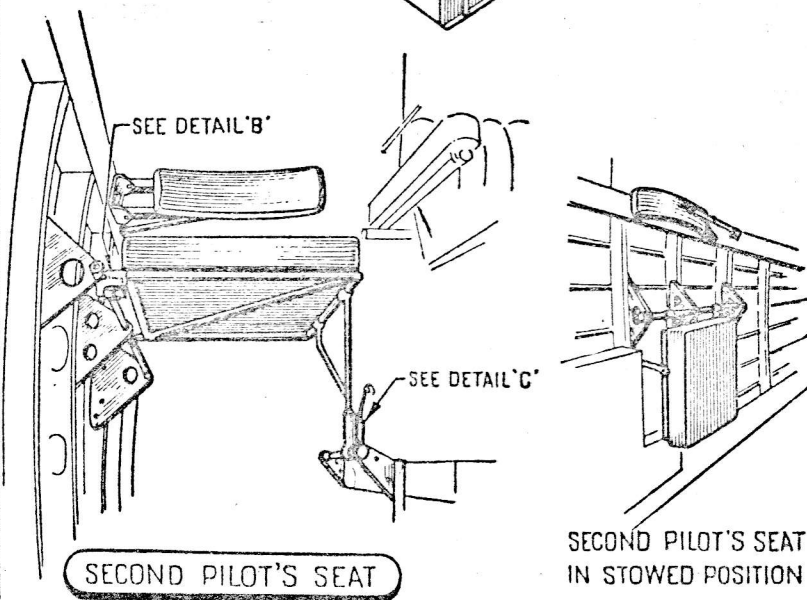
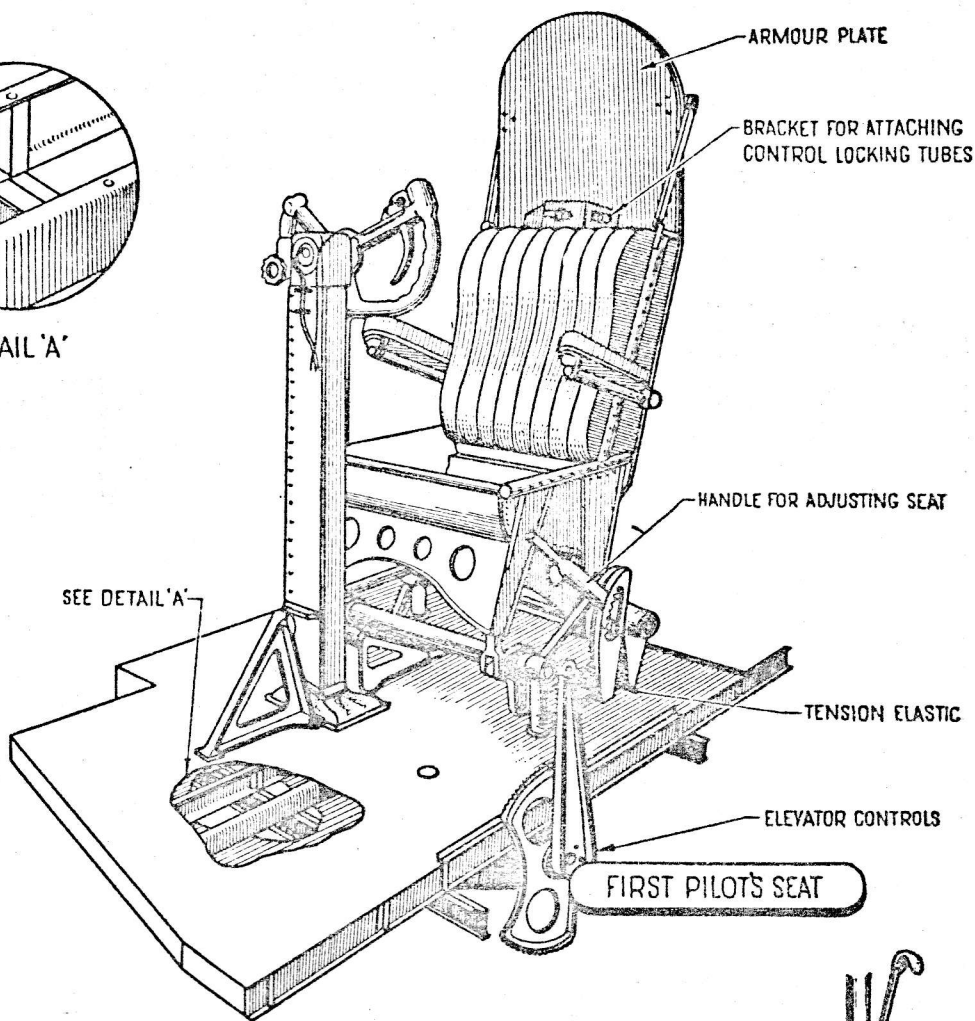
Seat-adjusting lever 18

Press-to-transmit push-button... 21

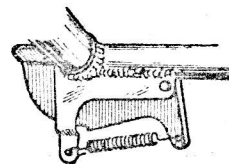
Time clock 24



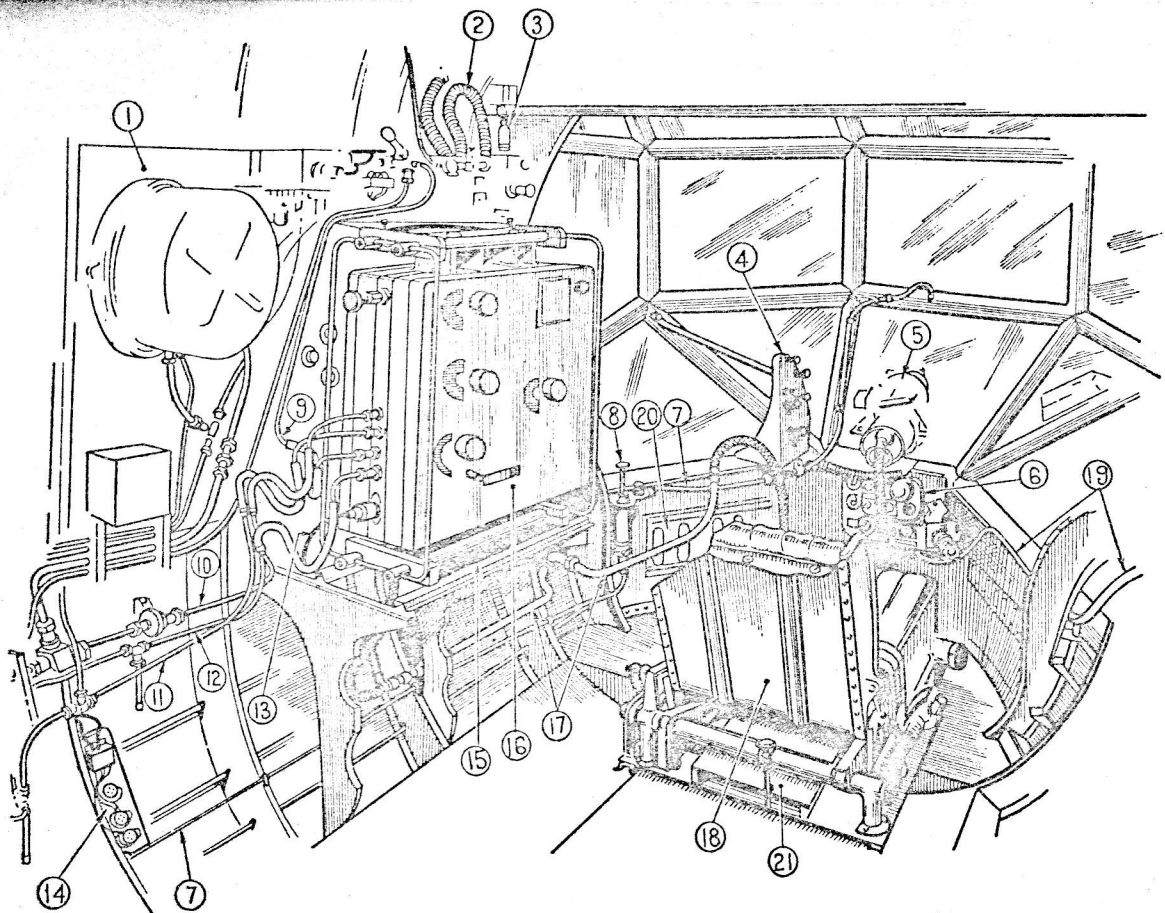
DETAIL 'A'



DETAIL 'C'



DETAIL 'B'



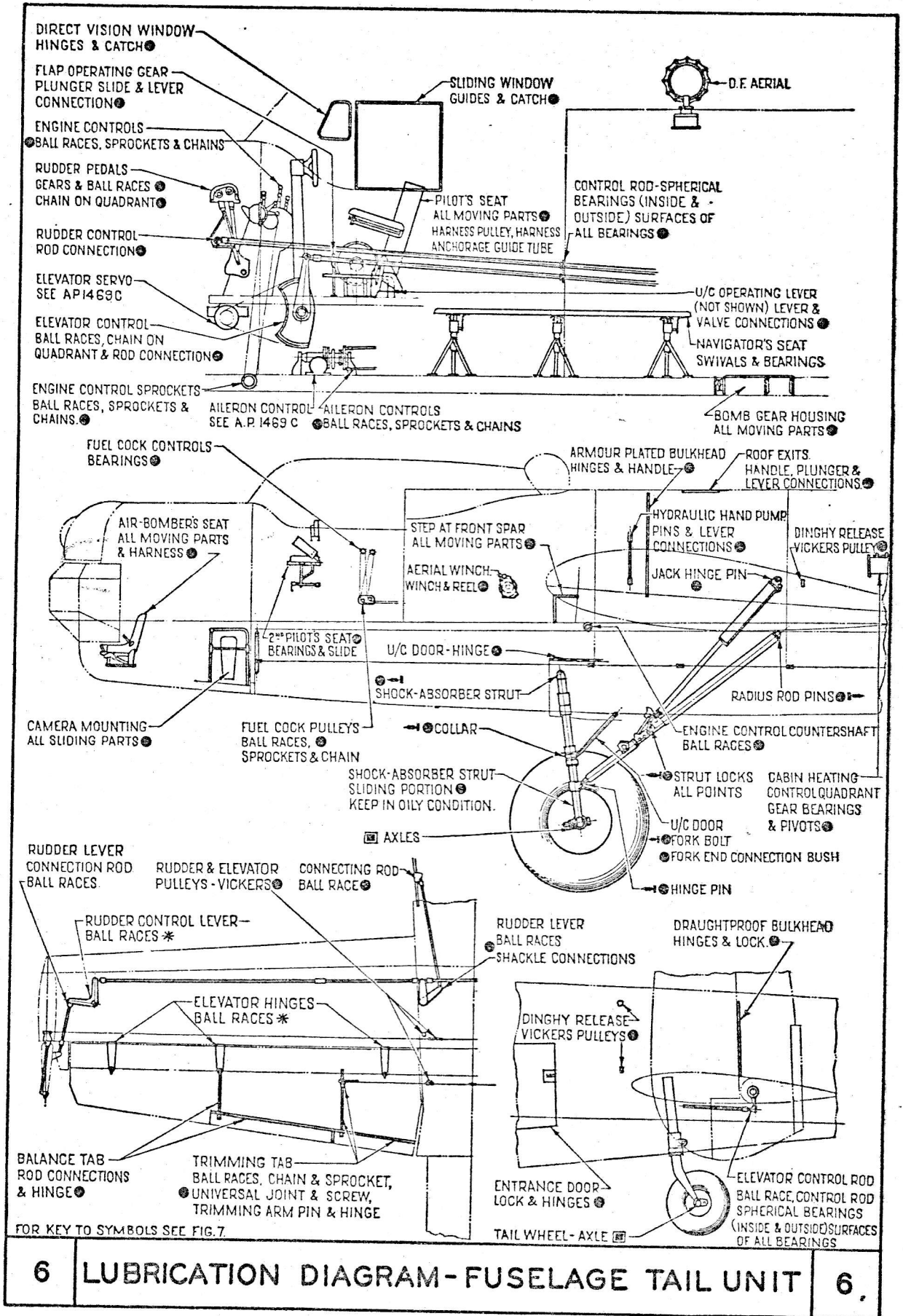
• KEY •

- | | |
|--|---|
| 1 AUTO. PILOT PANEL | 13 ELECTRICAL LEAD TO COMPUTER |
| 2 OXYGEN PIPE | 14 CAMERA HEATER |
| 3 INTER-COM. | 15 COMPUTER MOUNTINGS |
| 4 BOMB SIGHT MTG. BKT. | 16 COMPUTER |
| 5 BOMB SIGHT (PART) | 17 VACUUM PIPE |
| 6 BOMB SIGHT CONTROL PANEL | 18 AIR-BOMBER'S SEAT |
| 7 GLYCOL SPRAY-PIPE | 19 ELECTRICAL SUPPLY LEAD FROM AIR-BOMBER'S PANEL TO BOMB SIGHT CONTROL |
| 8 GLYCOL PUMP | 20 LOUVRE |
| 9 BOMB SIGHT-AUTO. PILOT SUPPLY | 21 MAP STOWAGE |
| 10 BOMB SIGHT-AUTO. PILOT EXHAUST | |
| 11 A.S.I. SYSTEM- PITOT LINE | |
| 12 A.S.I. SYSTEM- STATIC LINE | |
| FOR DETAILS OF AIR BOMBER'S PANEL - PORT - SEE FIG. 2 | FOR DETAILS OF AIR-BOMBER'S PANEL - ST'BD. - SEE FIG. 3. |

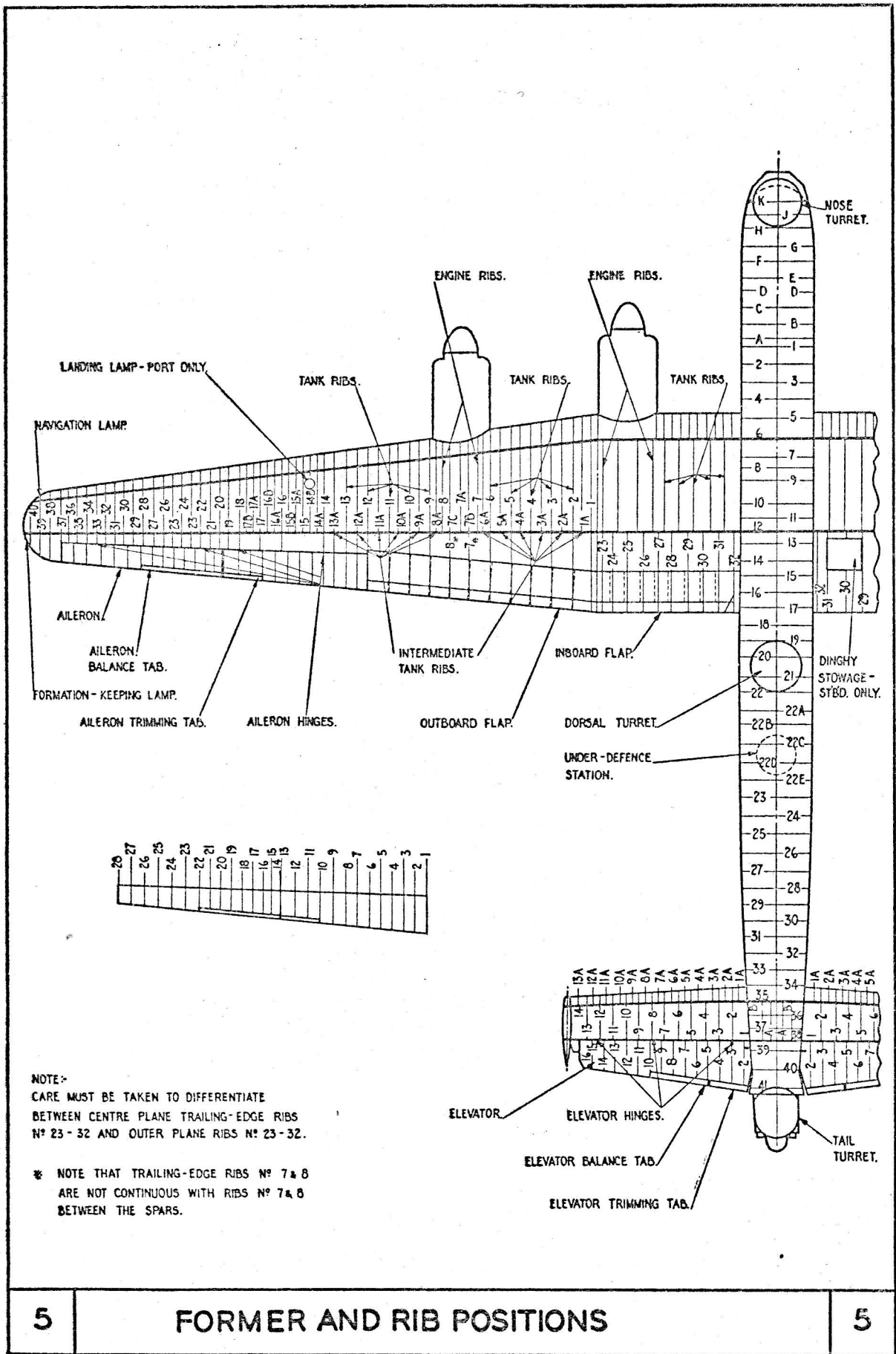
1

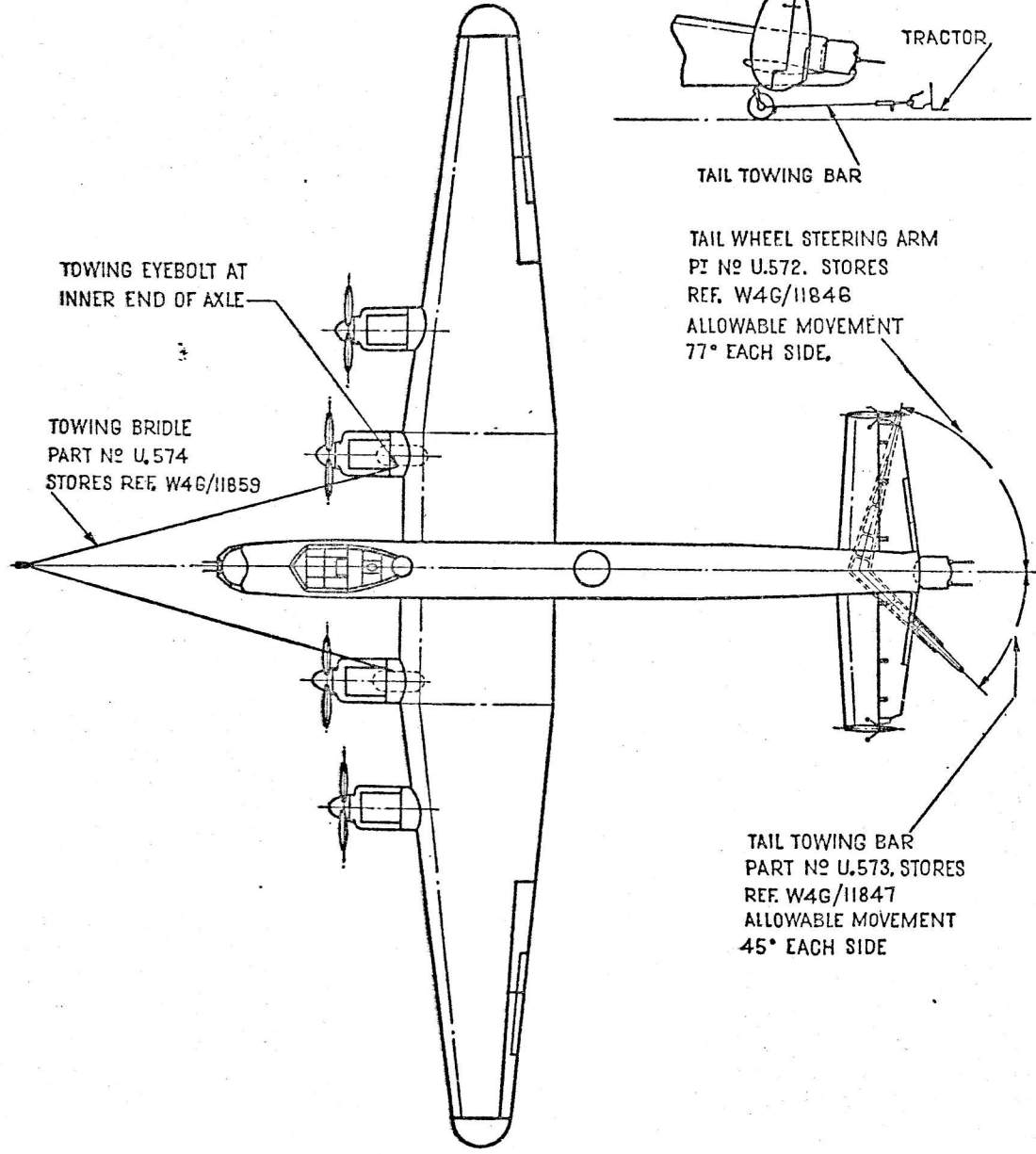
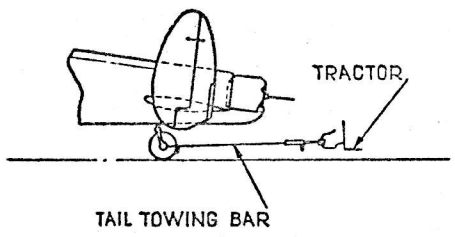
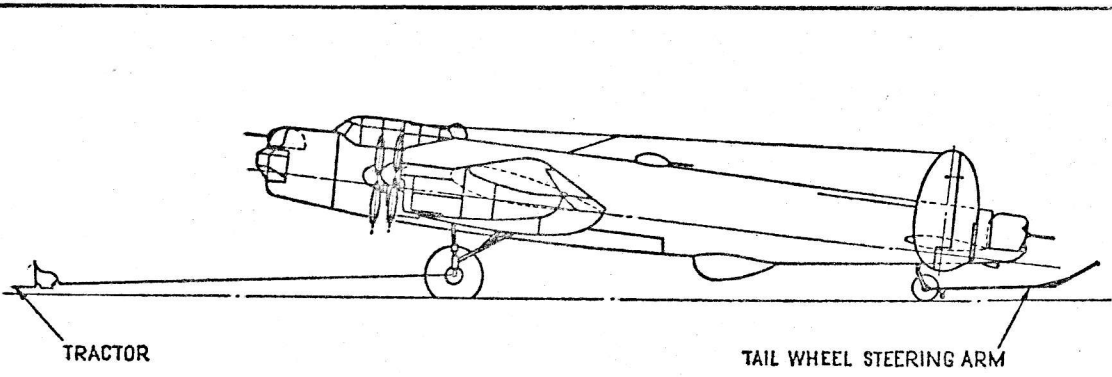
AIR BOMBER'S STATION

1

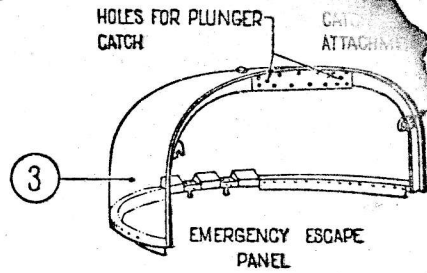
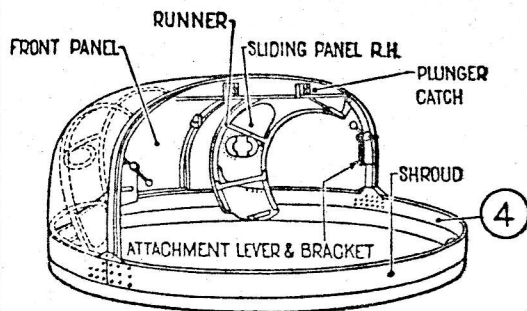


6 LUBRICATION DIAGRAM-FUSELAGE TAIL UNIT 6.



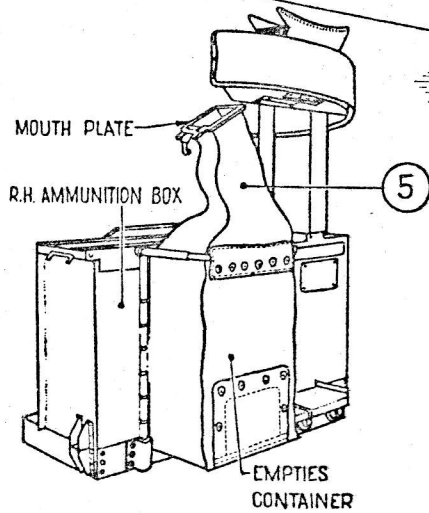
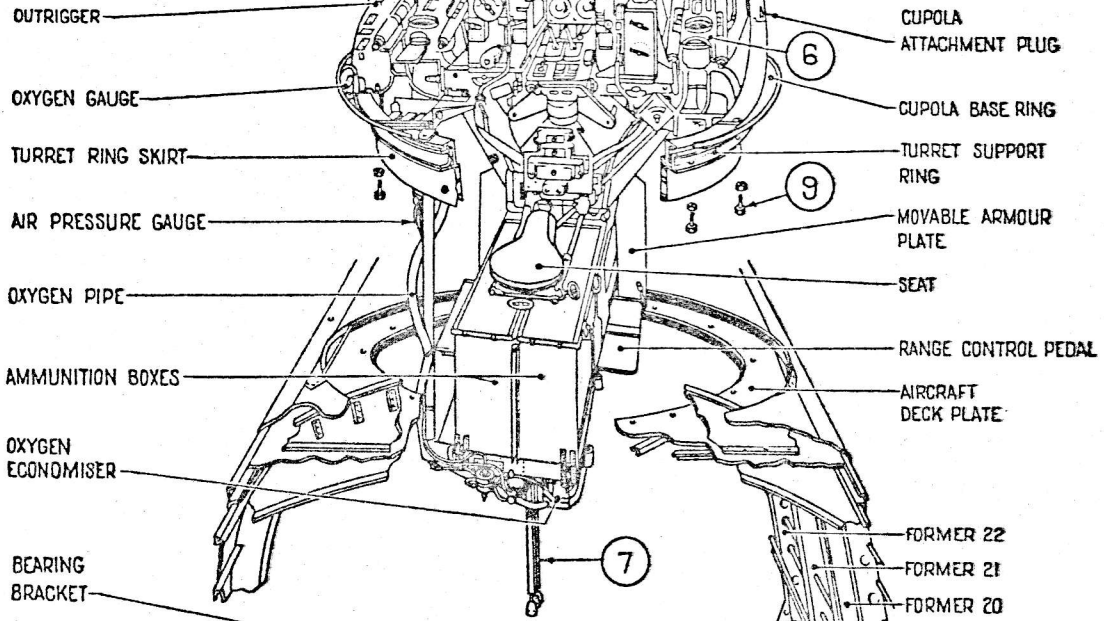


| | | |
|---|--------|---|
| 1 | TOWING | 1 |
|---|--------|---|

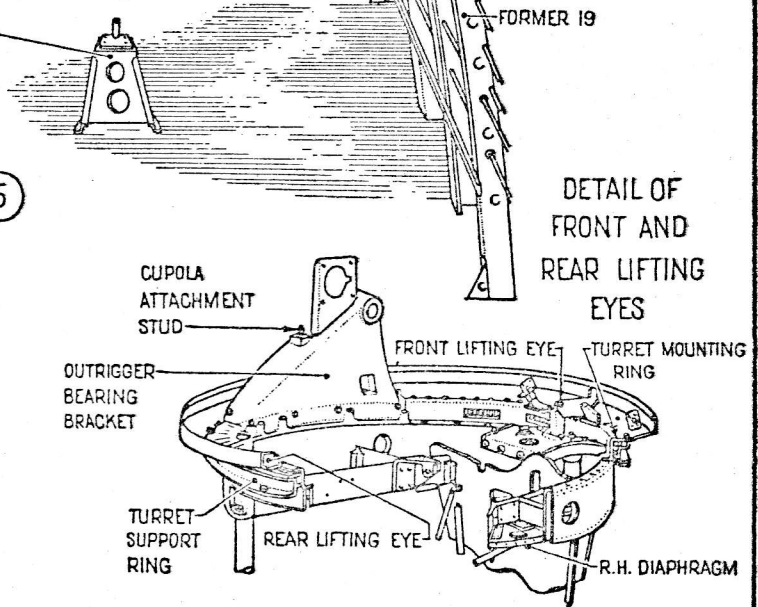


DETAIL OF CUPOLA (1)

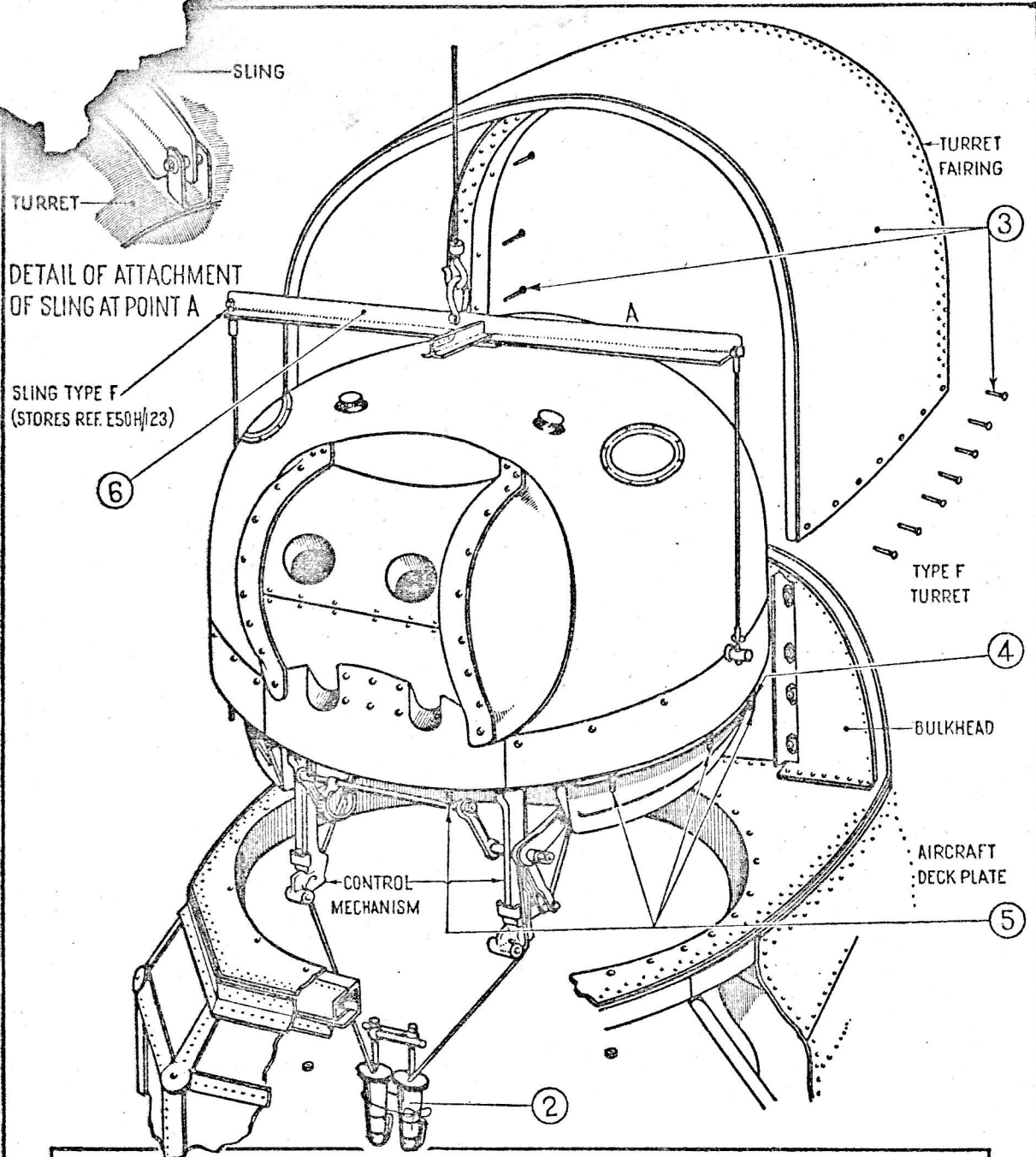
DETAIL OF CUPOLA (2)



DETAIL OF CANVAS EMPTIES CONTAINER



DETAIL OF FRONT AND REAR LIFTING EYES



REMOVAL INSTRUCTIONS

- | | |
|--|---|
| <p>1 SWITCH OFF POWER AT TURRET SUPPLY PANEL- STARBOARD SIDE OF AIRCRAFT.</p> <p>2 DETACH THE CONTROL HANDLES.</p> <p>3 UNSCREW, UNBOLT AND REMOVE FAIRING.</p> <p>4 DISCONNECT TURRET SUPPLY LEADS AT TERMINAL BLOCK AFT OF PORT EMPTIES CONTAINER.</p> | <p>5 REMOVE NUTS FROM TWELVE HOLDING DOWN BOLTS ON TURRET RING (8 LONG BOLTS FORWARD AND 4 SHORT BOLTS AFT.)</p> <p>6 ATTACH SLING TYPE F (STORES REF. E 50H/123) AND REMOVE TURRET FROM AIRCRAFT GREAT CARE MUST BE TAKE TO ENSURE THAT CONTROL MECHANISM DOES NOT FOUL SUPPORT STRUCTURE.</p> |
|--|---|

