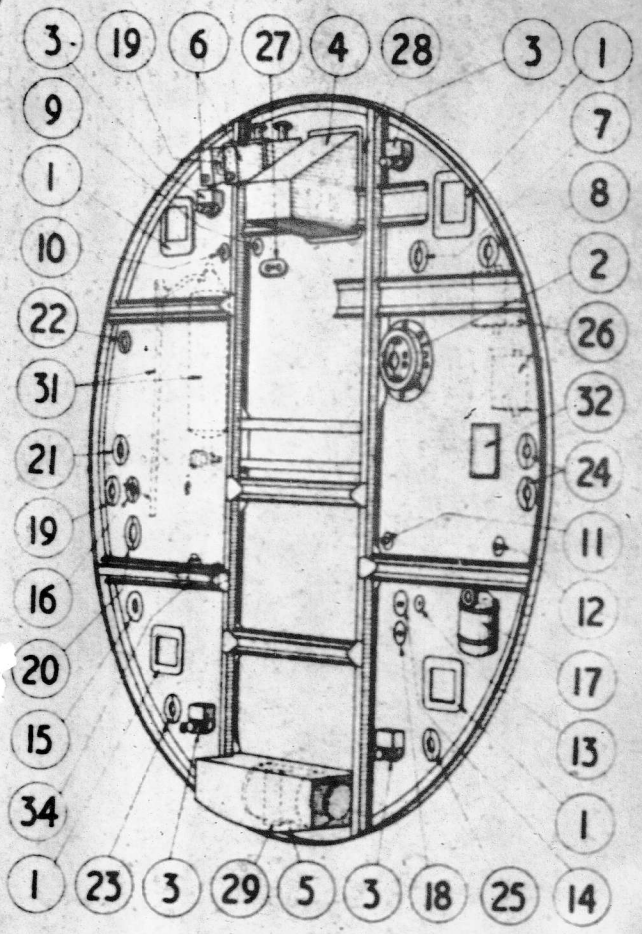


INBOARD

REFERENCES

1. SEALING WASHERS AT CUT-OUTS FOR SUB-FRAME LUGS
2. COVER FOR COUPLING OF ACCESSORY GEARBOX DRIVE
3. FLAME SWITCHES - FOUR ON EACH FIREWALL
4. COVER FOR ENGINE CONTROL COUNTERSHAFT.
5. OIL AND WATER DRAINS TANK
6. OIL SEPARATOR TANKS. TWO ARE ON STARBOARD INBOARD FIREWALL, ONE ON PORT INBOARD FIREWALL, NONE ARE ON OUTBOARD FIREWALLS
7. FAIRLEAD FOR ELECTRICAL SERVICES CABLE
8. FAIRLEAD FOR ENGINE SERVICES CABLE
9. BOOST PIPE CONNECTOR
10. DOPER PIPE CONNECTOR
11. FUEL VENT PIPE CONNECTOR
12. AIR SUPPLY PIPE CONNECTOR
13. FAIRLEAD FOR FUEL FLOWMETER CABLE
14. FAIRLEAD FOR FLAME SW AND PRESSURE CUT-OUT CABLES
15. FAIRLEAD FOR ENGINE STARTER CABLE
16. FAIRLEAD FOR IGNITION CABLE
17. FUEL FILTER
18. FAIRLEAD FOR ACCESSORY DRAIN - INBOARD FIREWALL
19. FAIRLEAD FOR CABIN HEATER COOLANT PIPES - INBOARD
20. FAIRLEAD FOR OIL SUPPLY PIPE [FIREWALL
21. FAIRLEAD FOR OIL RETURN PIPE
22. FAIRLEAD FOR OIL VENT PIPE
23. FAIRLEAD FOR FIRE EXTINGUISHER PIPE - ONE BOTTLE SYSTEM
24. FAIRLEADS FOR FIRE EXTINGUISHER PIPES - TWO BOTTLE SYSTEM
25. FAIRLEAD FOR FEATHERING UNIT SUPPLY PIPE
26. FUEL PUMP SUPPRESSORS - INBOARD FIREWALLS
27. FAIRLEAD FOR OIL SEPARATOR PIPES - INBOARD FIREWALLS
28. FAIRLEAD FOR BOOST CUT-OUT CABLE
29. FEATHERING PUMP ON AFT FACE OF FIREWALLS
30. DOPER VALVE ON AFT FACE OF OUTBOARD FIREWALLS
31. OIL AND WATER TRAP ON AFT FACE OF PORT INBOARD FIREWALLS
32. NOMENCLATURE CARD HOLDER
33. DELAY ACTION SWITCH ON AFT FACE OF OUTBOARD FIREWALLS
34. REGULATOR VALVE ON AFT FACE OF STARBOARD INBOARD FIREWALL

REMOVAL INSTRUCTIONS

INBOARD FIREWALLS ONLY

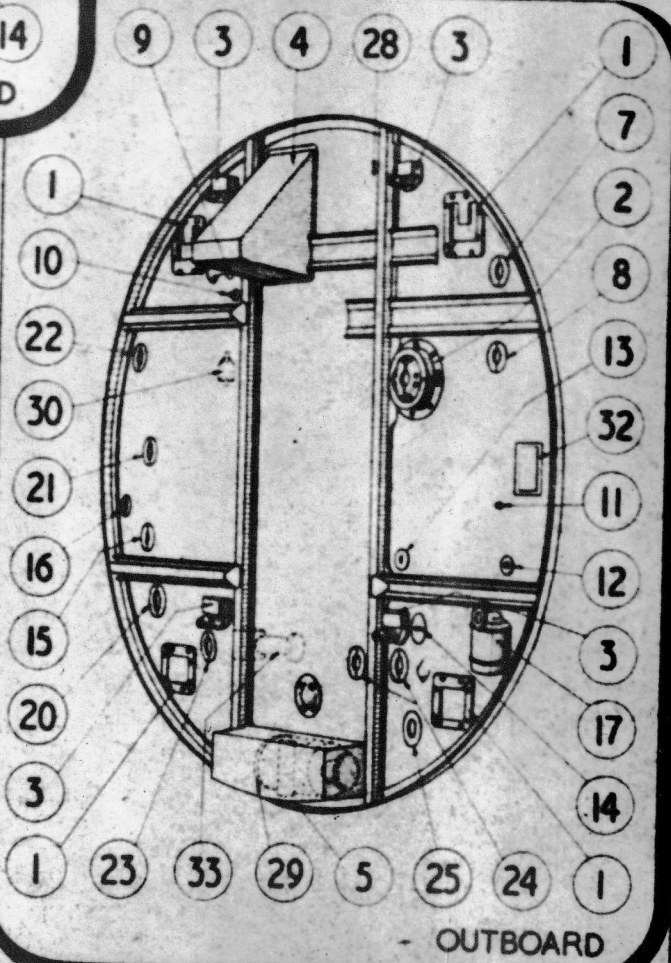
DISCONNECT ACCESSORY DRAINPIPE AT 'T' PIECE AFT OF FIREWALL
DISCONNECT PIPES TO OIL SEPARATOR TANKS AT AUXILIARY GEARBOX
DISCONNECT PIPE TO OIL-WATER TRAP AT 'T' PIECE, AND DELIVERY PIPE TO PRESSURE REGULATING VALVE AT FIREWALL - UNCLIP PIPES
REMOVE PULSOMETER PUMP. SEE FIG. 14
DISCONNECT BOOST AND DOPER PIPES AT UNIONS, AND UNCLIP FROM REAR FACE OF FIREWALL

OUTBOARD FIREWALLS ONLY

DISCONNECT ELECTRICAL CABLES GOING AFT AT TERMINAL BLOCKS ON REAR FACE OF FIREWALL
DISCONNECT BOOST PIPE AT UNION, AND FUEL SUPPLY PIPE TO DOPER VALVE AT 'T' PIECE, AND UNCLIP PIPES FROM REAR FACE OF FIREWALL

INBOARD AND OUTBOARD FIREWALLS

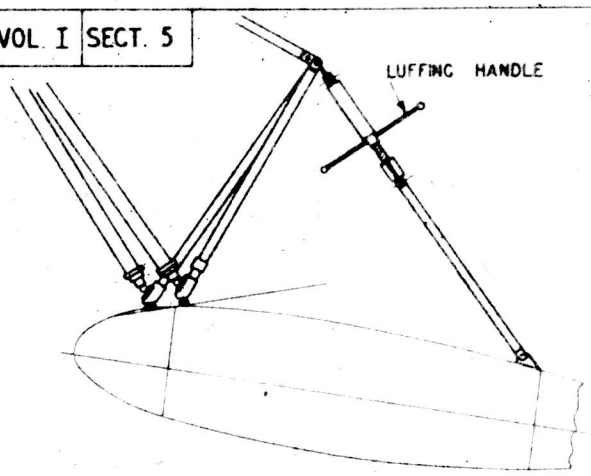
REMOVE ALL SPLIT FAIRLEADS IN ORDER THAT PIPES AND CABLES CAN BE WITHDRAWN THROUGH FIREWALL
DISCONNECT AIR SUPPLY PIPE AT UNION ON AFT FACE OF FIREWALL, AND UNCLIP
THE OIL TANK BEING EMPTY, DISCONNECT THE PIPE FROM THE OIL TANK TO THE FEATHERING PUMP AT THE PUMP, AND REMOVE PUMP
REMOVE CONTROL COVER FROM FIREWALL AND DISCONNECT ENGINE CONTROL RODS AT TURNBUCKLES
UNCLIP IGNITION CABLES FROM AFT FACE OF FIREWALL
DISCONNECT FUEL VENT PIPE AT UNION ON AFT FACE OF FIREWALL
DISCONNECT PIPE TO FUEL FILTER AT CONNECTION ON AFT FACE OF FIREWALL
REMOVE SEALING WASHERS AT CUT-OUTS FOR SUB-FRAME LUGS
UNBOLT AND REMOVE CLIPS SECURING FIREWALL TO SUB-FRAME
HOLDING FIREWALL SECURELY, DRAW FORWARD OFF SUB-FRAME LUGS ALLOWING ALL PIPES AND CABLES TO PASS THROUGH FIREWALL



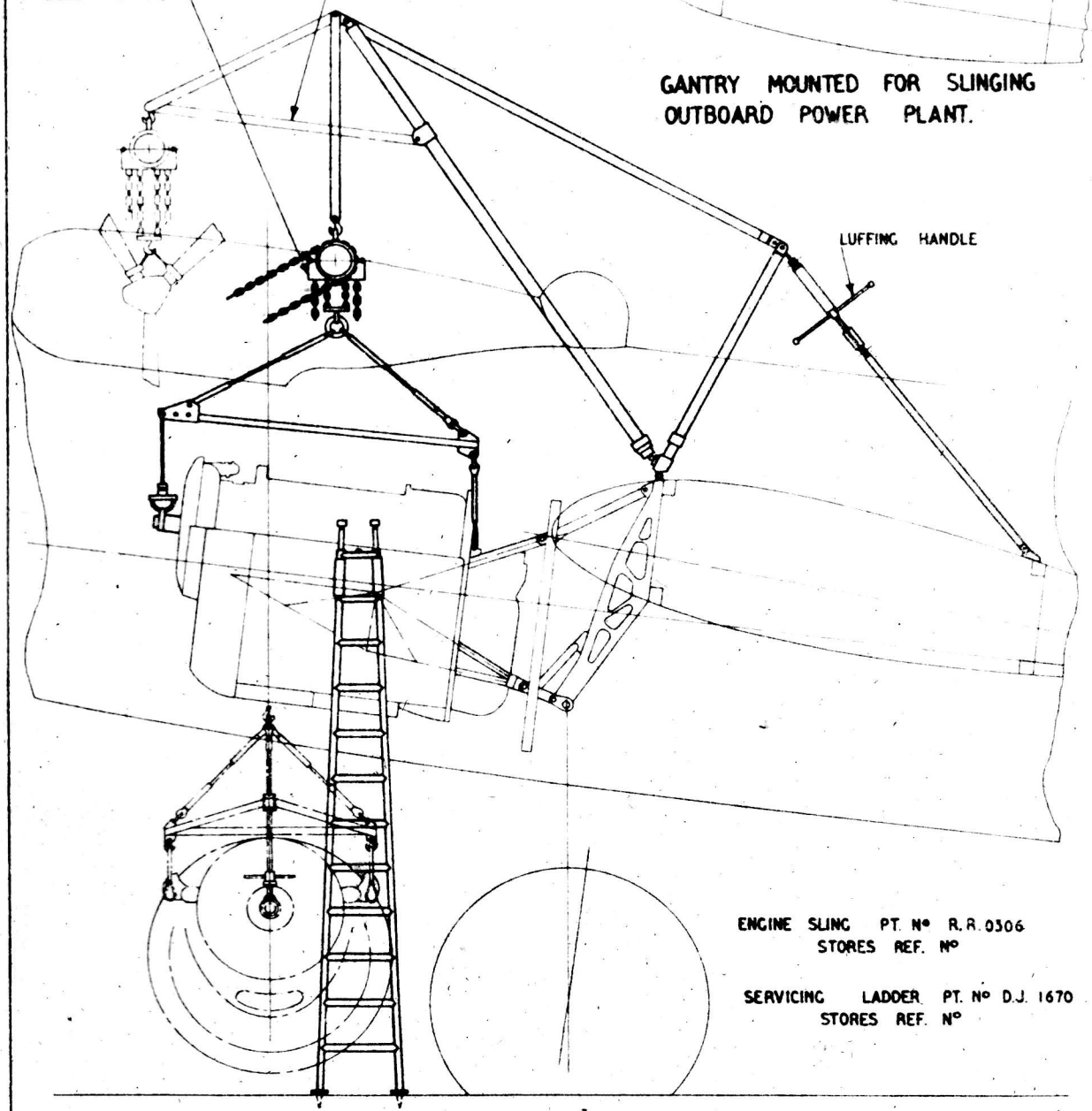
OUTBOARD

FIG. 9

FIREWALL DETAILS



GANTRY MOUNTED FOR SLINGING OUTBOARD POWER PLANT.



ENGINE SLING PT. N° R.R.0306
STORES REF. N°

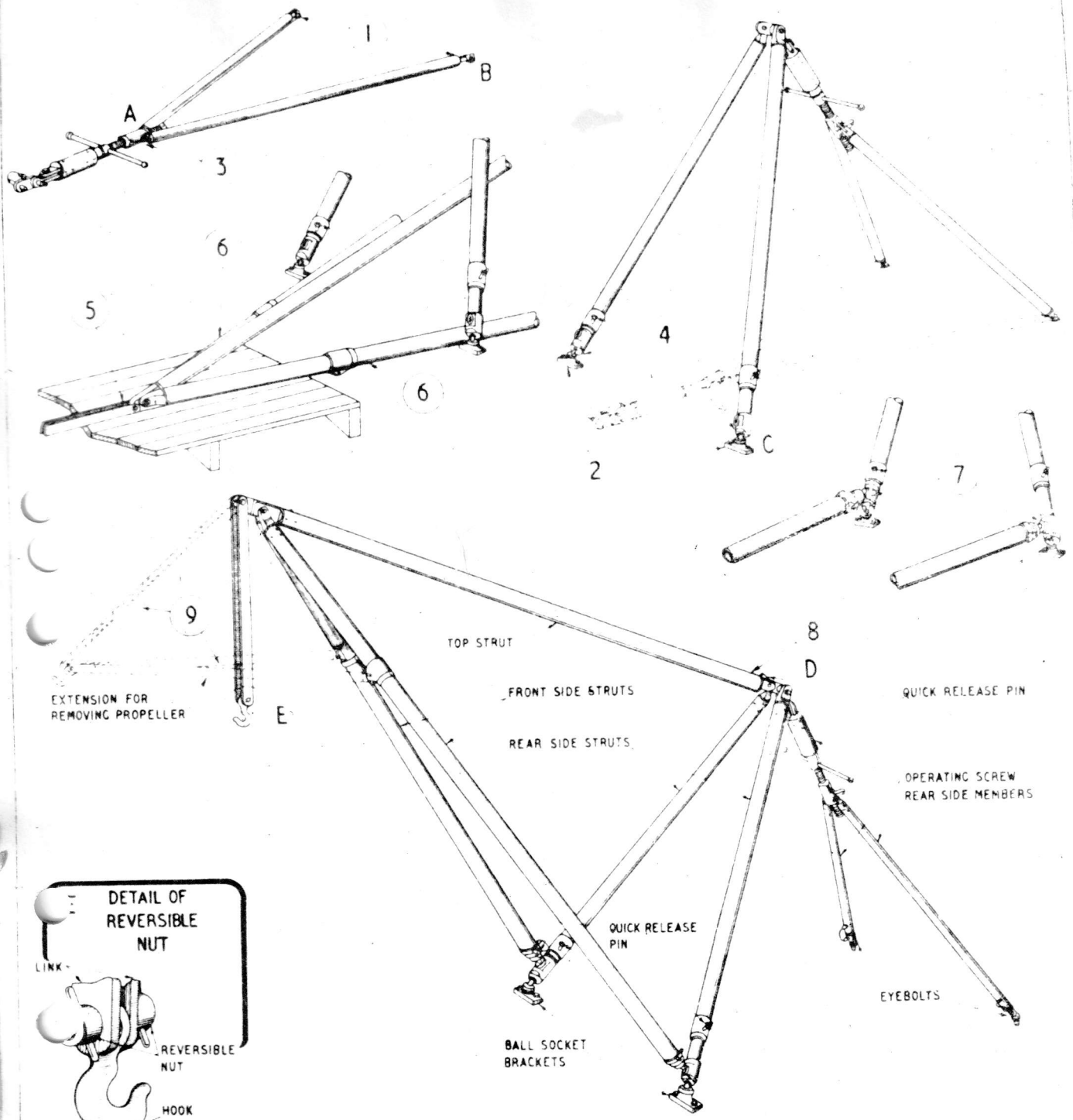
SERVICING LADDER PT. N° D.J. 1670
STORES REF. N°

SLINGING INBOARD POWER PLANT

FIG. 8

POWER PLANT SLINGING

FIG. 8



VIEW SHOWING GANTRY ERECTED ON INBOARD ENGINE

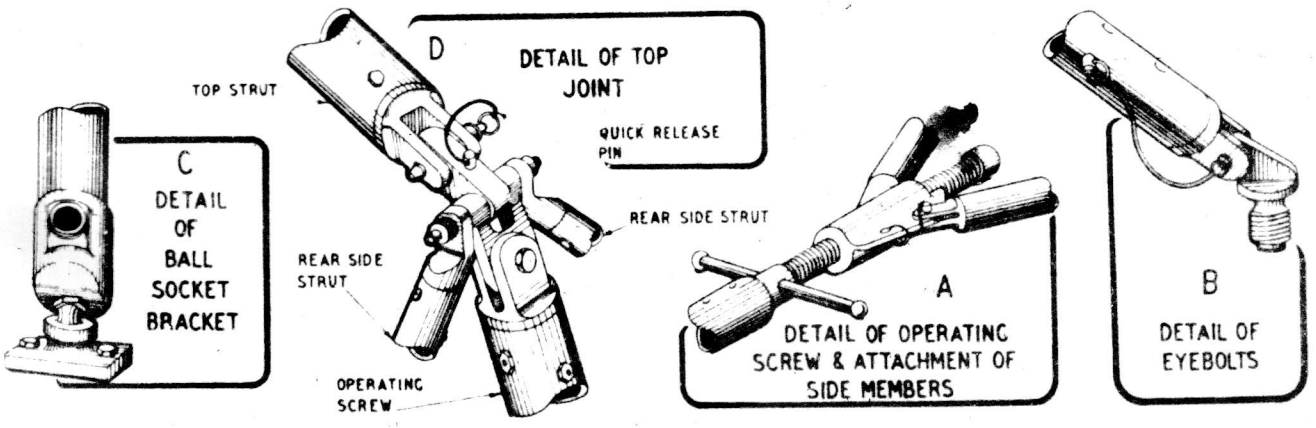


FIG. 7

ERECTING ENGINE CHANGING GANTRY

FIG. 7

ERECTING ENGINE CHANGING GANTRY

Key to fig.7.

General note

The power plant changing gantry, Pt.No.1/U.746 (Stores Ref.26EA/32084) is provided for use when a crane is not available. The aircraft must be in the tail down position in order to use the gantry. The rear cowling panels are first removed and a wooden platform Pt.No. 1/U.743 (Stores Ref.26.EA/32085) placed in position. The procedure given below for erecting the gantry, and the instructions on the labels on its parts, should be carefully followed.

Erecting gantry at inboard engine

1. Remove two plugs from holes in engine rib top booms just forward of rear spar and screw in eyebolts Pt.No.2/U.746.
2. Through holes in hinged fairing panel (which need not be lifted) remove plugs from top of undercarriage support beams and fit two ball socket brackets Pt.No.11/U.634, using bolts Pt.No.6A1/8L.
3. Attach rear strut Pt.No.1/U.749 to eyebolts and to operating screw Pt.No.1/U.735.

   Note.- Top joint Pt.No.1/U.646 is permanently attached to operating screw.
4. Fit ball ends of rear side struts Pt.No.1/U.750 and 2/U.750 in ball socket brackets, raise operating screw and secure side struts at top joint. Screw down caps on to ball socket brackets.
5. Assemble hook Pt.No.6/U.634, link pin Pt.No.7/U.634 and reversible nuts Pt.No.8/U.634 on links Pt.No.3/U.634, and attach links to top strut Pt.No.1/U.648.

   Note.- The recessed ends of the reversible nuts should be on the inner side.
6. Attach front side struts Pt.No.1/U.751 and 2/U.751 to forward end of top strut.

7. Place ball ends of front side struts in sockets on rear side struts, and screw down caps.

8. Raise top strut and secure at top joint with quick-release pin provided.

To remove propeller

9. Remove reversible nuts from pin securing hook, fit extension members Pt.No.1/U.752 and 1/U.753 (Stores Ref.26.EA/32086) to pin and replace nuts, turning recessed ends outward. Swing links forward and attach extension members to sleeves on front side struts by pip release pins.

Erecting gantry at outboard engine.

10. Remove plug forward of rear spar from hole in top boom of centre engine rib and screw in eyebolt Pt.No.3/U.746.

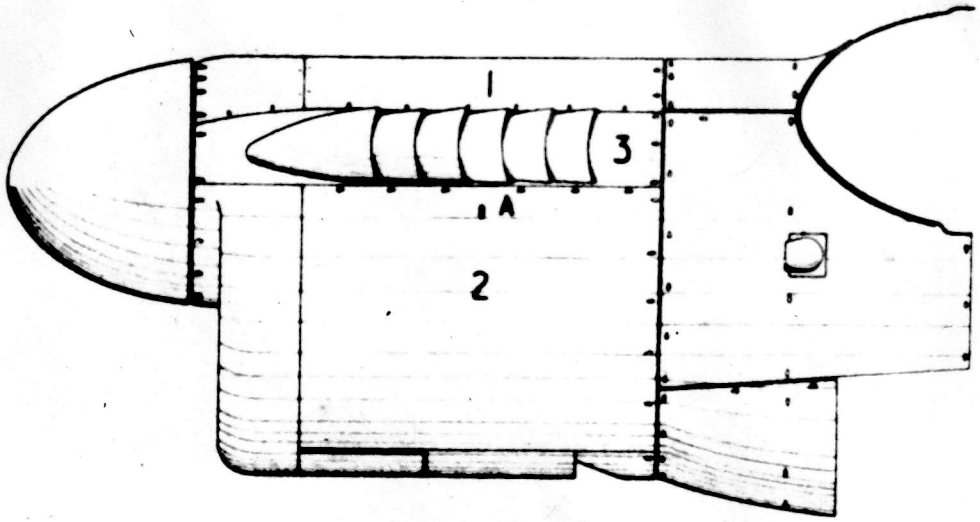
11. Remove plugs from front spar and screw in two ball sockets Pt.No. 10/U.634.

12. Anchor rear strut Pt.No.1/U.747 at eyebolt by quick-release pin, and fit operating screw Pt.No.1/U.735 to rear strut.

13. Proceed as from item 4 for inboard engine, after ensuring that struts are correctly adjusted (see labels on struts).

COWLINGS FORWARD OF COWLING RING

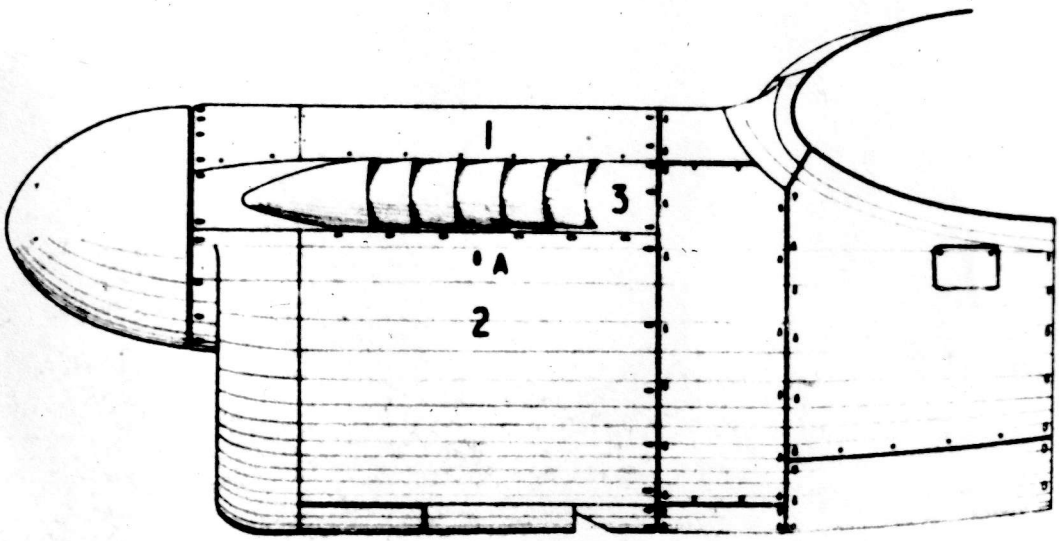
TO DISENGAGE COWLINGS RELEASE "DZUS" FASTENERS. ON PANELS MARKED 2 ALSO INSERT HOOK ON TOP RUNG OF SERVICE LADDER AT A AND PUSH UP TO RELEASE LOCKING CATCH. PANELS MARKED 1 AND 2 ARE HINGED AND NOT NORMALLY REMOVED. THESE PANELS MUST BE SWUNG OPEN BEFORE EXHAUST PANEL MARKED 3 CAN BE REMOVED.



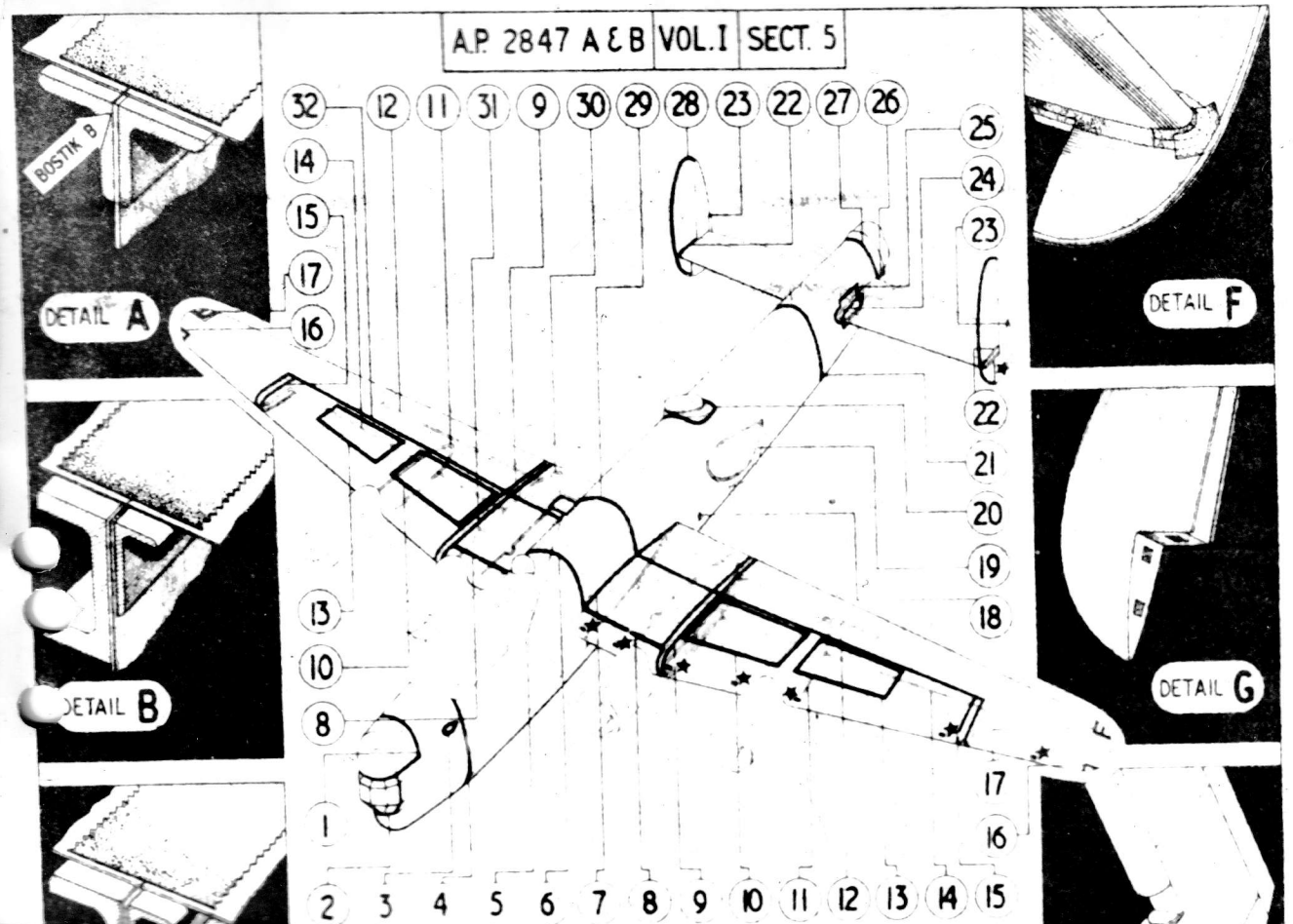
INBOARD ENGINE

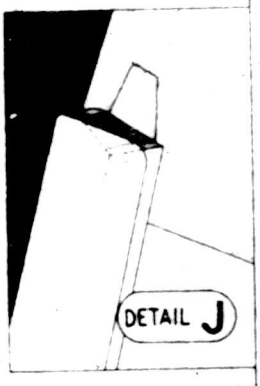
FAIRINGS AFT OF COWLING RING

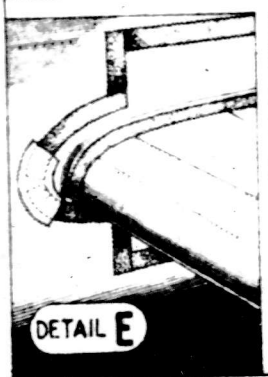
THESE ARE DISENGAGED BY RELEASING THE "DZUS" FASTENERS AND MAY BE REMOVED IN ANY ORDER.

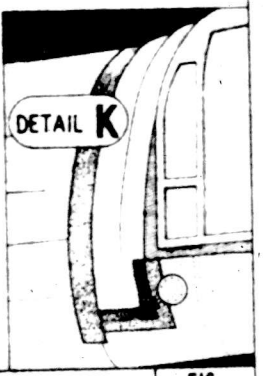


OUTBOARD ENGINE









1. 3" TAPE ROUND TURRET DRAUGHTSCREEN
2. 3" TAPE AT AIR BOMBER'S WINDOW
3. MADAPOLLAM PATCH ROUND AERIAL
4. 3" TAPE ROUND TRANSPORT JOINT AT FORMER E. INSERT A BEAD OF BOSTIK B BEFORE BOLTING UP SEE DETAIL A
5. 3" TAPE ROUND DINGHY STOWAGE COVER
6. 4" TAPE ROUND TRANSPORT JOINT AT FORMER 6 INSERT A BEAD OF BOSTIK B BEFORE BOLTING UP SEE DETAIL A
7. 4" TAPE AT WING ROOT INSERT A BEAD OF BOSTIK B BEFORE TAPING. SEE DETAIL D
8. 5" TAPE OVER JOINT AT FRONT SPAR. CUT TAPE AT END OF HINGED LEADING EDGE
9. TAPES ROUND WING GAP FAIRING 3" TAPES ON TOP TO FRONT SPAR 4" TAPES OVER NOSE AND UNDERSIDE
10. 5" TAPES AT No. 2 TANK ACCESS PANEL
11. 4" TAPES ROUND OUTBOARD NACELLE
12. 5" TAPES OVER FLAP HINGE
13. 5" TAPES AT No. 3 TANK ACCESS PANEL
14. 3" TAPES AT UNDERSIDE OF REAR SPAR SEE DETAIL B FOR INNER SECTION SEE DETAIL C FOR OUTER SECTION
15. 4" TAPES OVER OUTER PLANE JOINT FAIRING
16. 2" TAPE AT NAVIGATION LAMP WINDOW
17. 3" TAPE ROUND FORMATION-KEEPING LAMPS
18. 3" TAPES ON BOMB DOOR CURTAIN JOINTS
19. CUPOLA-TO-FUSELAGE JOINT. TWO MADAPOLLAM PATCHES AT FRONT AND 3" TAPE AT REAR
20. 3" TAPE AT DORSAL TURRET FAIRING
21. 3" TAPE ROUND TRANSPORT JOINT AT FORMER 27. INSERT A BEAD OF BOSTIK B BEFORE BOLTING UP. SEE DETAIL A
22. JOINT TAILPLANE TO FIN 4" TAPE FROM FRONT TO REAR SPAR TOP AND BOTTOM. DOUBLE 3" TAPES OVER LEADING EDGE AND MADAPOLLAM PATCH AT FRONT SEE DETAIL F
23. SPECIAL PATCHES OVER TOOLING HOLES. SEE DETAIL J
24. 4" TAPE ROUND TAILPLANE ROOT FAIRING. SEE DETAIL E
25. 4" TAPE ON FUSELAGE ROUND TAILPLANE ROOT FAIRING. MADAPOLLAM PATCH AT FRONT. SEE DETAIL E
26. 5" TAPE AT BASE OF TURRET DEFLECTOR. SEE DETAIL K
27. 5" TAPE ROUND JOINT AT TURRET DEFLECTOR AND FUSELAGE SEE DETAIL K
28. 3" TAPE ROUND LEADING EDGE OF FIN. SEE DETAIL F
29. 4" TAPE AT TRANSPORT JOINT FORMER 12. SEE DETAIL A
30. 4" TAPE ROUND INBOARD NACELLE VALANCE
31. MADAPOLLAM PATCH 3" WIDE ROUND BLISTER BOTH SIDES OF INBOARD NACELLES
32. 3" TAPE OVER REAR SPAR. SEE DETAIL B FOR CENTRE SECTION. SEE DETAIL C FOR OUTER SECTION

★ SPECIAL COVERS OVER B.B.P. 64/E.4112. ALSO PATCHES OVER TOOLING HOLES. SEE DETAILS G AND H

ALL TAPES AND PATCHES (MADAPOLLAM Q.I.D. 343) TO HAVE SERRATED EDGES.

METHOD OF TAPING:- APPLY VERY THIN COAT CERRIC Q. 3639 ADHESIVE, (STORES REF 33C/683) POSITION TAPE OR PATCH. BRUSH THROUGH WITH EVEN COAT OF ADHESIVE. ALLOW TO DRY FOR 5 MINUTES. APPLY FINAL COAT, ALLOW TO DRY FOR 15 MINUTES AND RECAMOUFLAGE.

FIG. 5

WEATHERPROOFING

FIG. 5

ASSEMBLY PANELS

Key to fig. 4.

1. Assembly panel, No.1 fuel tank, (under-surface)
(for corners see Notes A, B, C and D below)
Screws 231/D.2902 forward edge
Screws 230/D.2902 rear edge
Screws 1/SS.3753 inboard edge
Screws 1/SS.3754 outboard edge

A Forward edge 8 screws 36/D.4205.
Inboard edge 8 screws 36/D.4205.

B Forward edge 8 screws 36/D.4205.
Outboard edge 8 screws 35/D.4205

C Inboard edge 7 screws 36/D.4205
Rear edge 8 screws 36/D.4205

D Outboard edge 7 screws 35/D.4205
Rear edge 3 screws 35/D.4205 (nearest to corner)
5 screws 36/D.4205

NOTE.- Fit screws in panel unti they are $\frac{1}{4}$ in. to $\frac{3}{8}$ in. proud, apply "Heldite" to exposed shanks and underside of head and tighten up.

2. Joint covers screws 5/SS.3158 (top and bottom surface)

3. Joint covers bolts AS.1885/1.C. (top surface), and rivets 7/SS.3123 in sides of bottom panel.

4. Engine controls etc. assembly panel rivets 6/SS.3123.
In forward edge rivets 7/SS.3123.

5. Assembly panels No.2 and No.3 fuel tanks (top surface)
Bolts AS.1882/3.E. attaching panels to frames
4 Bolts AS.1882/4.E at each corner except where otherwise indicated.

6. 8 Bolts AS.1882/4.E at this corner only.

7. Assembly panels. Rivets 11/SS.3123.

8. Access doors. Screws 4/SS.3158.

9. Access panel. Screws 4/SS.3158 except in transport spar screws 5/SS.3158.

10. Assembly panels. Rivets 10/SS.3222 in cover, skin and intercostal.

11. Rivets 9/SS.3222 in panel and floor skin

12. Rivets 13/SS.3222 in attachment strip and panel.

13. Rivets 10/SS.3222 in intercostal, floor skin and panel.

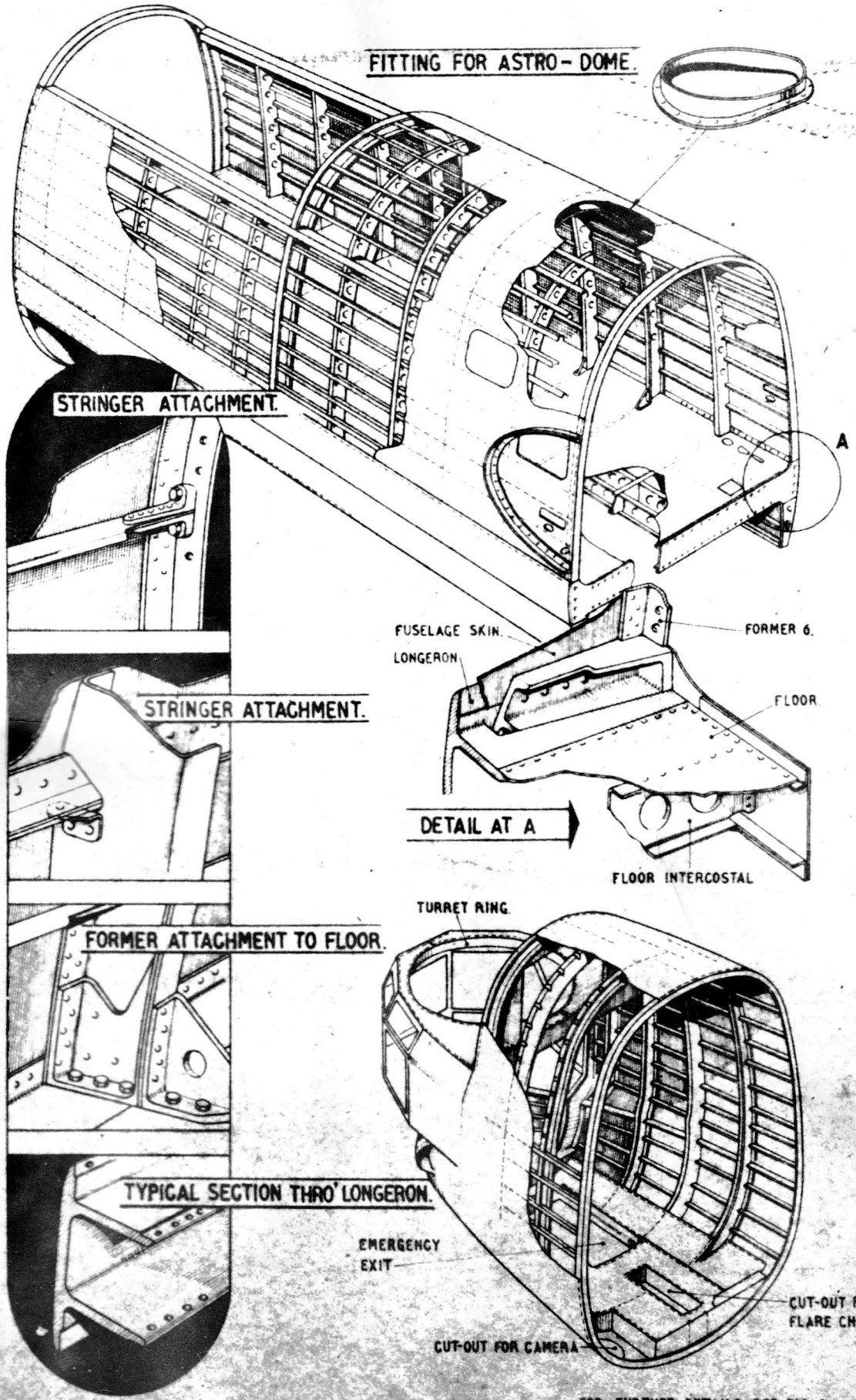
14. Rivets 9/SS.3222 in floor skin and panel.

15. Top skin assembly panels screws 2/SS.2590.

16. Assembly panel. Rivets 10/SS.3222 attaching panel to ribs.
Rivets 11/SS.3222 attaching panel to front fin post.
Screws AS/159/408 attaching panel to rear fin post.

17. Assembly panel for rudder control lever.
Rivets 10/SS.3222 attaching panel to ribs and stringers.

18. Top and bottom removable panels for fuselage at tail plane.
Screws 26/SS.2590, except where indicated.

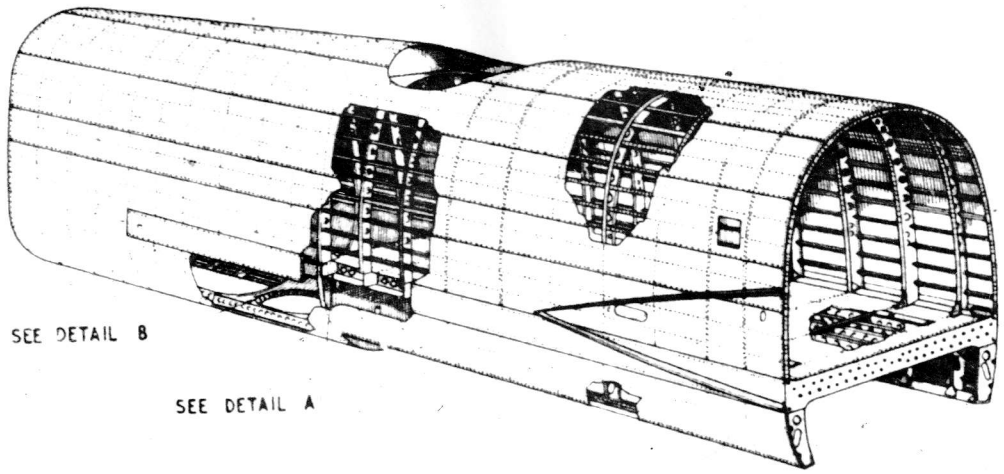


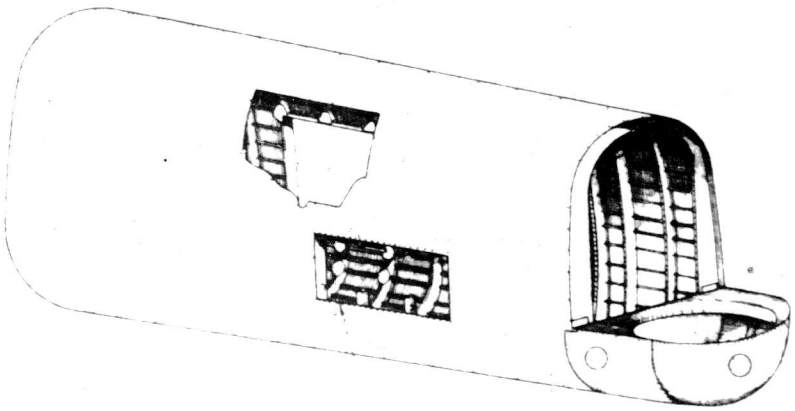
FOR FURTHER DETAILS SEE FIG. 6

FIG. 1

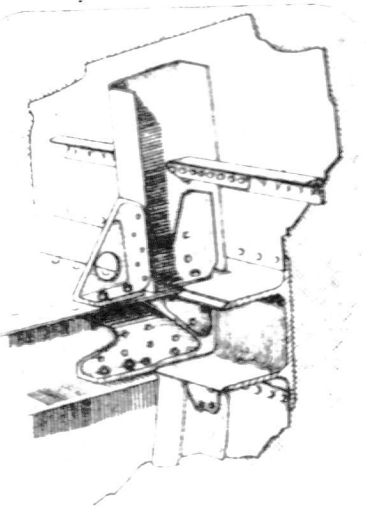
FUSELAGE SECTIONS (1)

FIG. 1

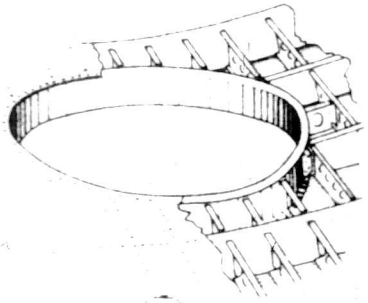




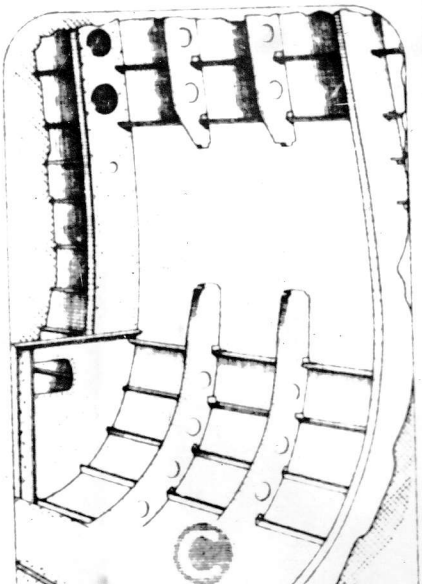
FOR FUSELAGE STRUCTURE
AT TAILPLANE CUT-OUT,
SEE DETAIL C BELOW



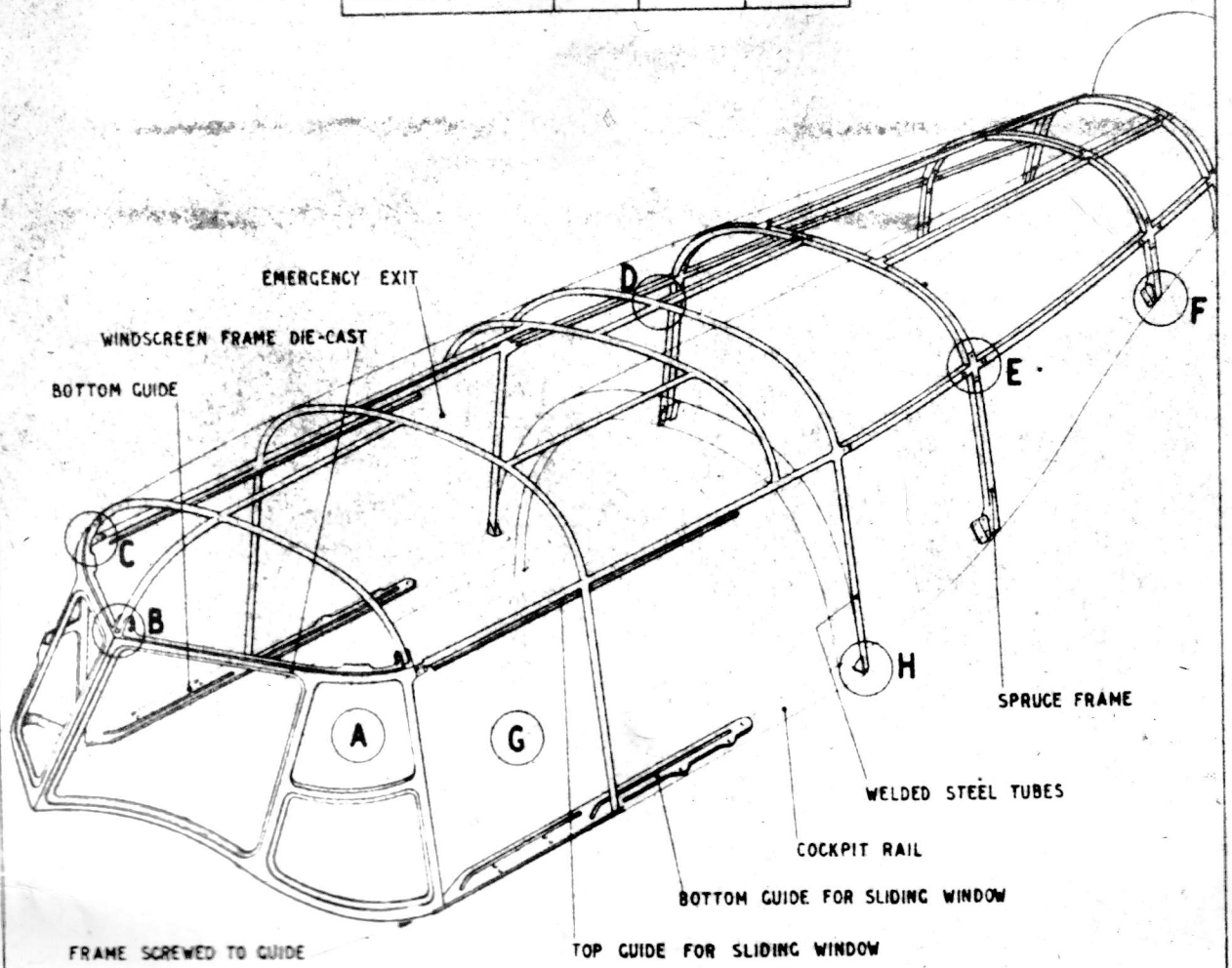
DETAIL OF FLOOR JOINT
AT FORMER 22



DETAIL OF RING IN
REAR CENTRE SECTION FLOOR



DETAIL OF STRUCTURE
FORMERS 35 TO 38



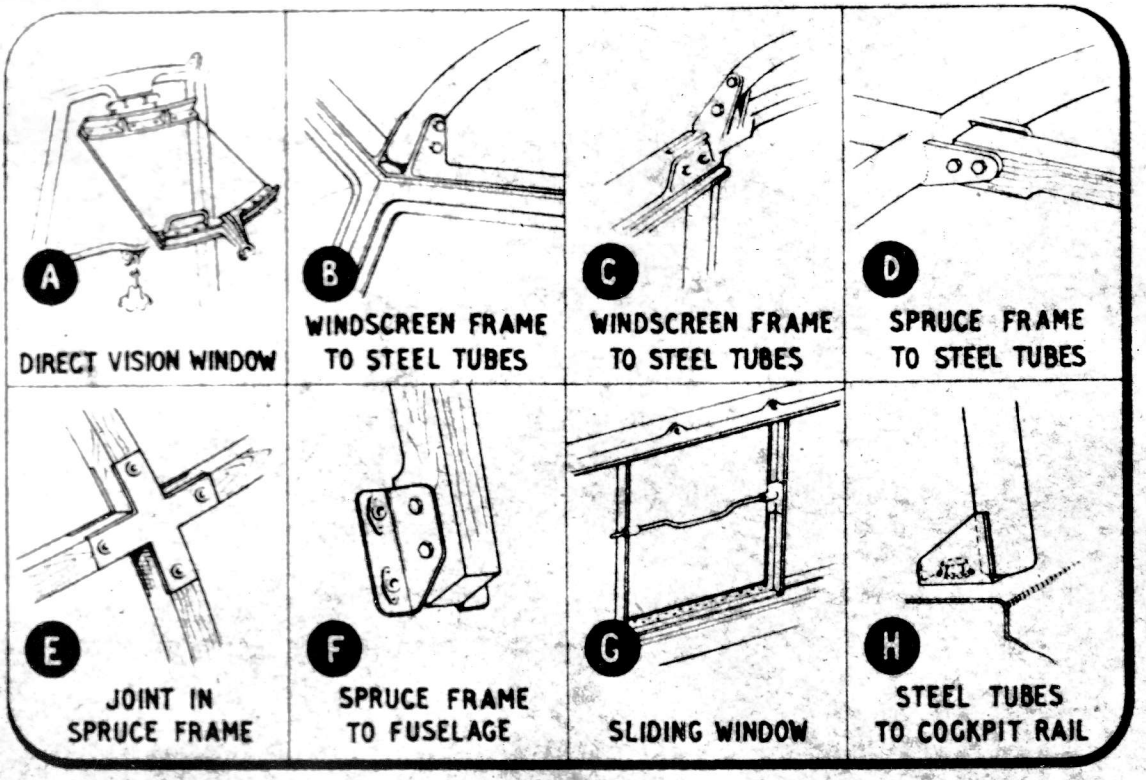


FIG. 4

CANOPY

FIG. 4

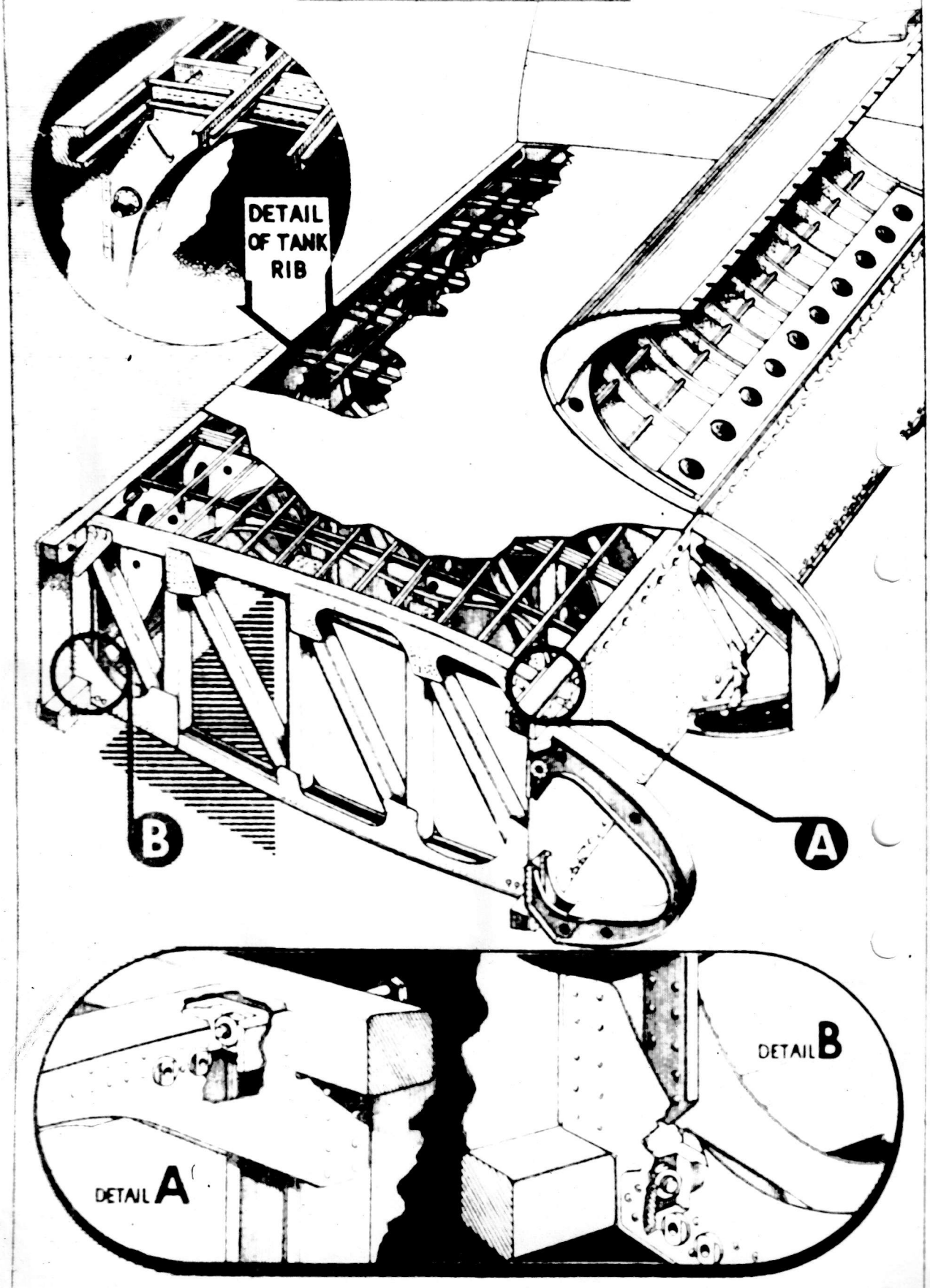


FIG 1

CENTRE PLANE

FIG 1

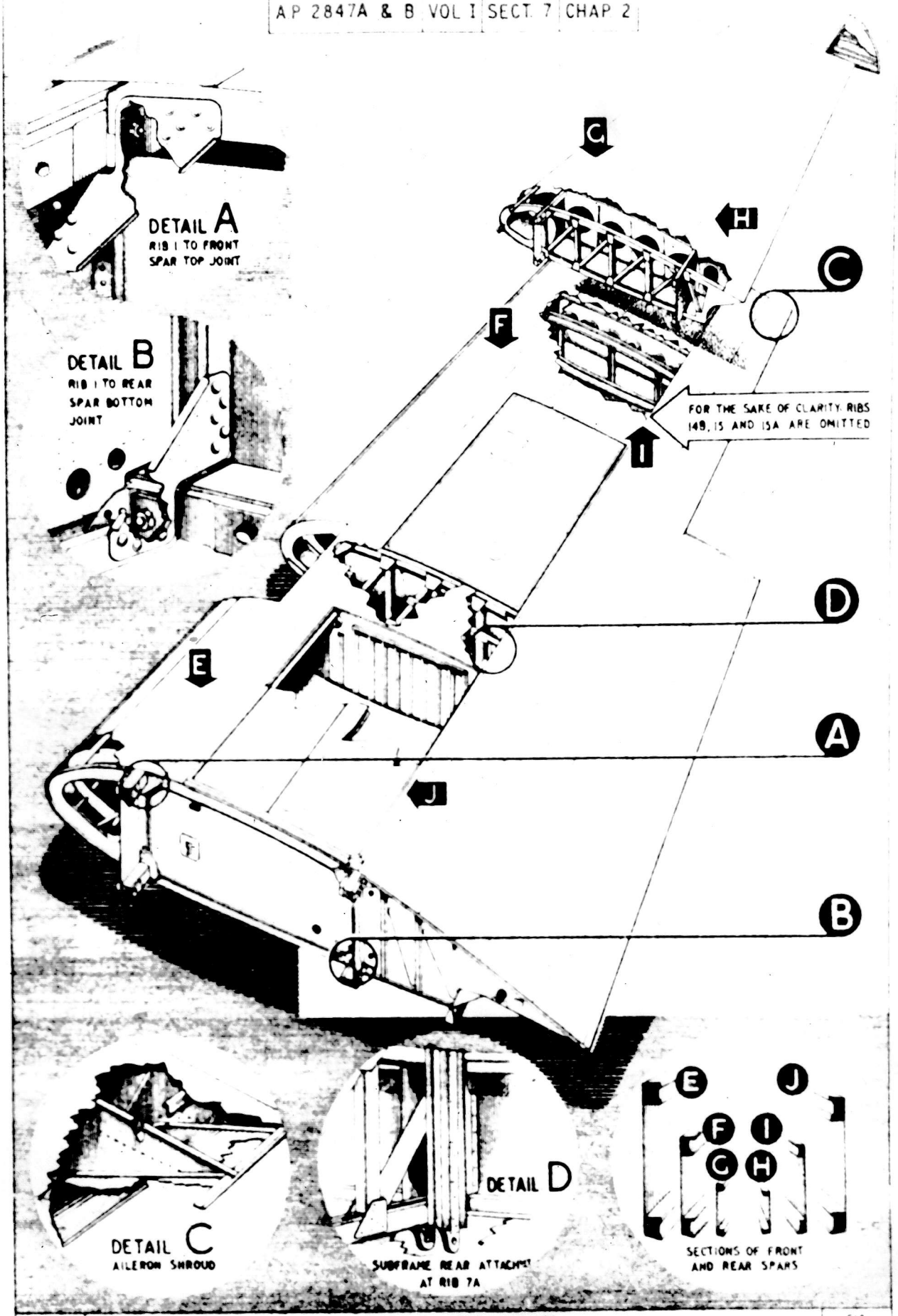


FIG 2

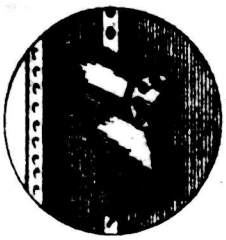
MAIN PLANE

INTERMEDIATE AND OUTER SECTIONS

FIG 2

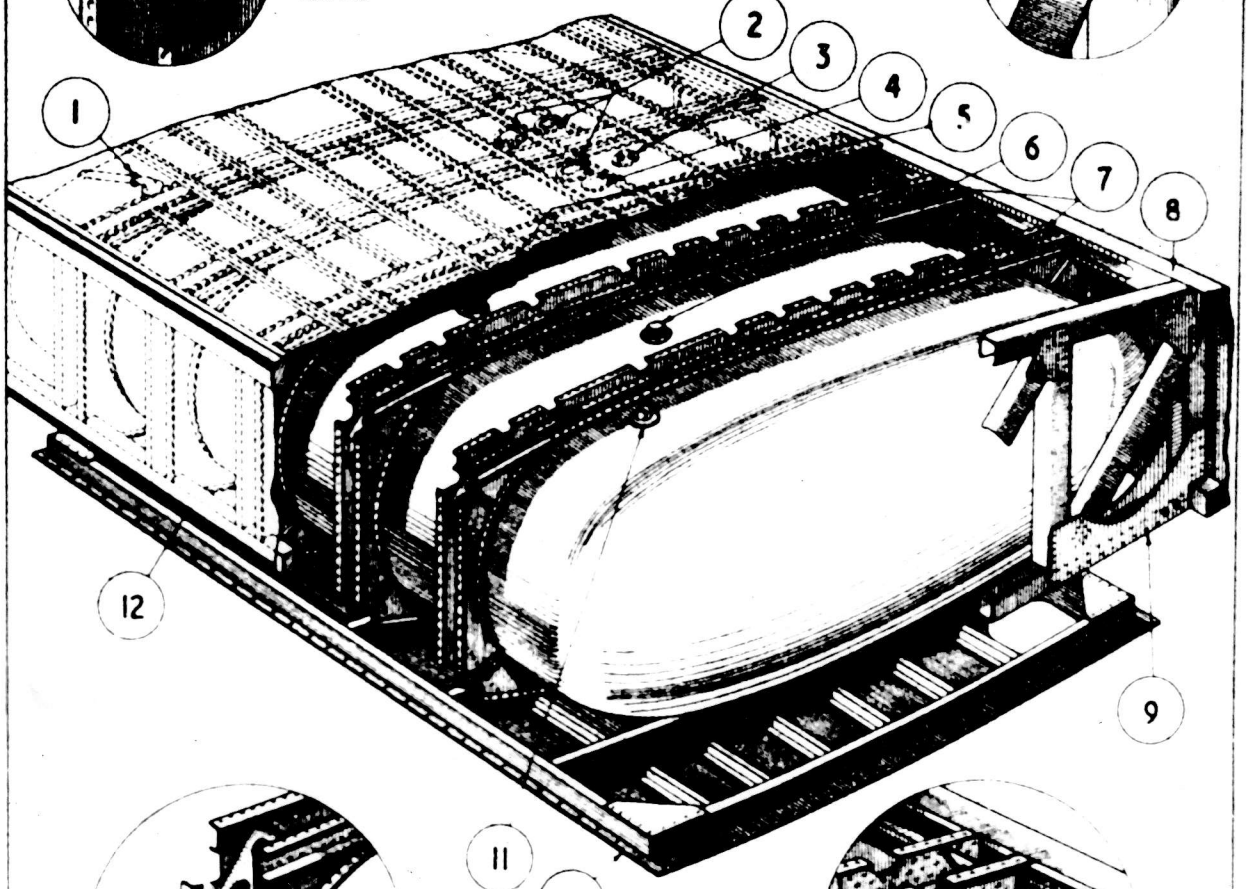
THIS LEAF ISSUED WITH A.L Nº

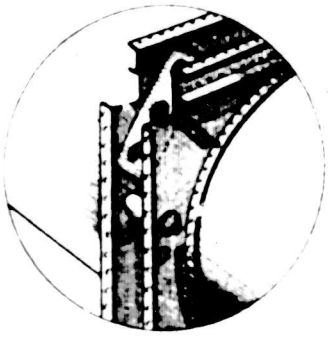
ISSUED BY DESIGN OFFICE V. ROE & Co LTD
DRAWN D.L.B.
TRACED
CHECKED
ISSUE Nº 1
A.L. BY
DATE 8/14



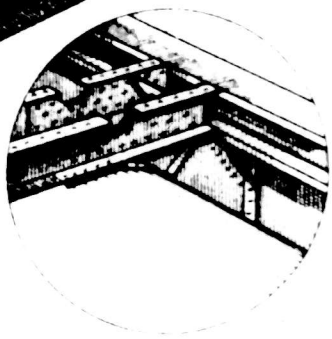
TANK STRAP ATTACHMENT ON TANK RIB AT FRONT SPAR.

TANK STRAP ATTACHMENT ON TANK RIB AT REAR SPAR.



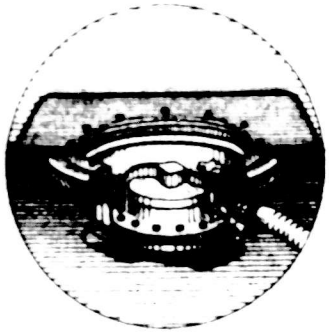


TANK RIB AT FRONT SPAR

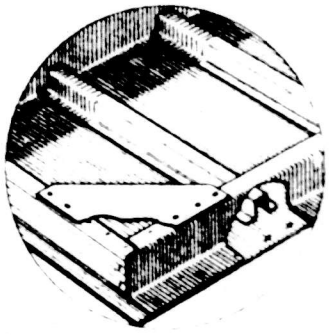


TANK RIB AT REAR SPAR.

1 AUXILIARY TANK CONNS
2 INSPECTION DOORS IN TANK
3 JETTISON ADAPTOR
4 AIR VALVE
5 FILLER CAP
6 FUEL LEVEL GAUGE
7 TANK BEARER RIBS
8 REAR SPAR
9 INBOARD ENGINE RIB
10 TANK ACCESS DOOR
11 AIR VENT
12 FRONT SPAR



FILLER CAP AND DRIP TRAY.

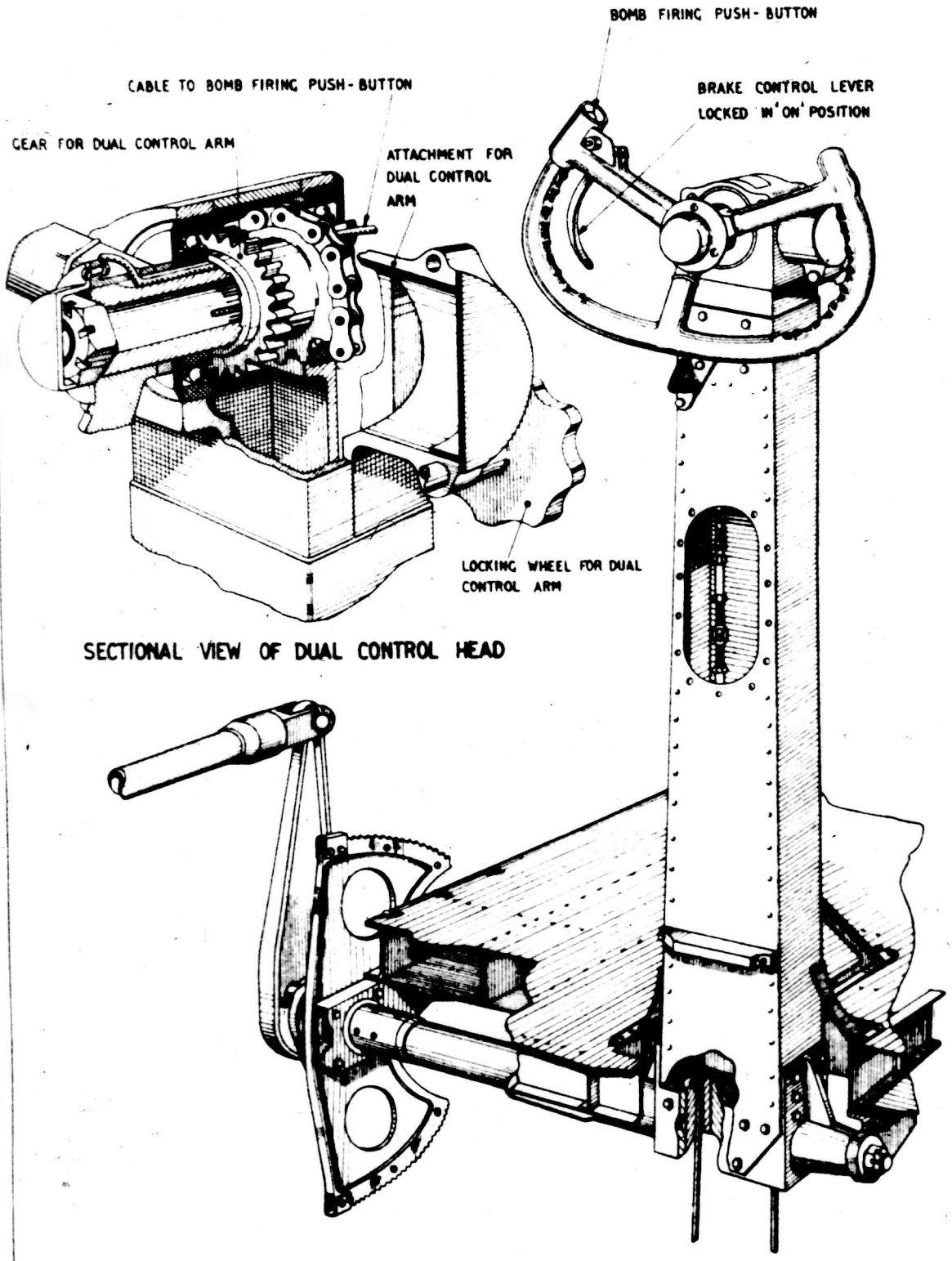


CORNER OF ACCESS DOOR.

FIG. 3

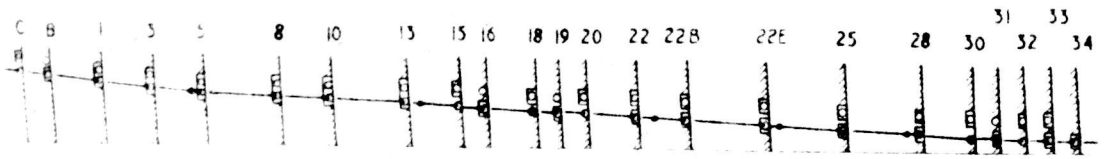
Nº 1 FUEL TANK MOUNTING

FIG. 3

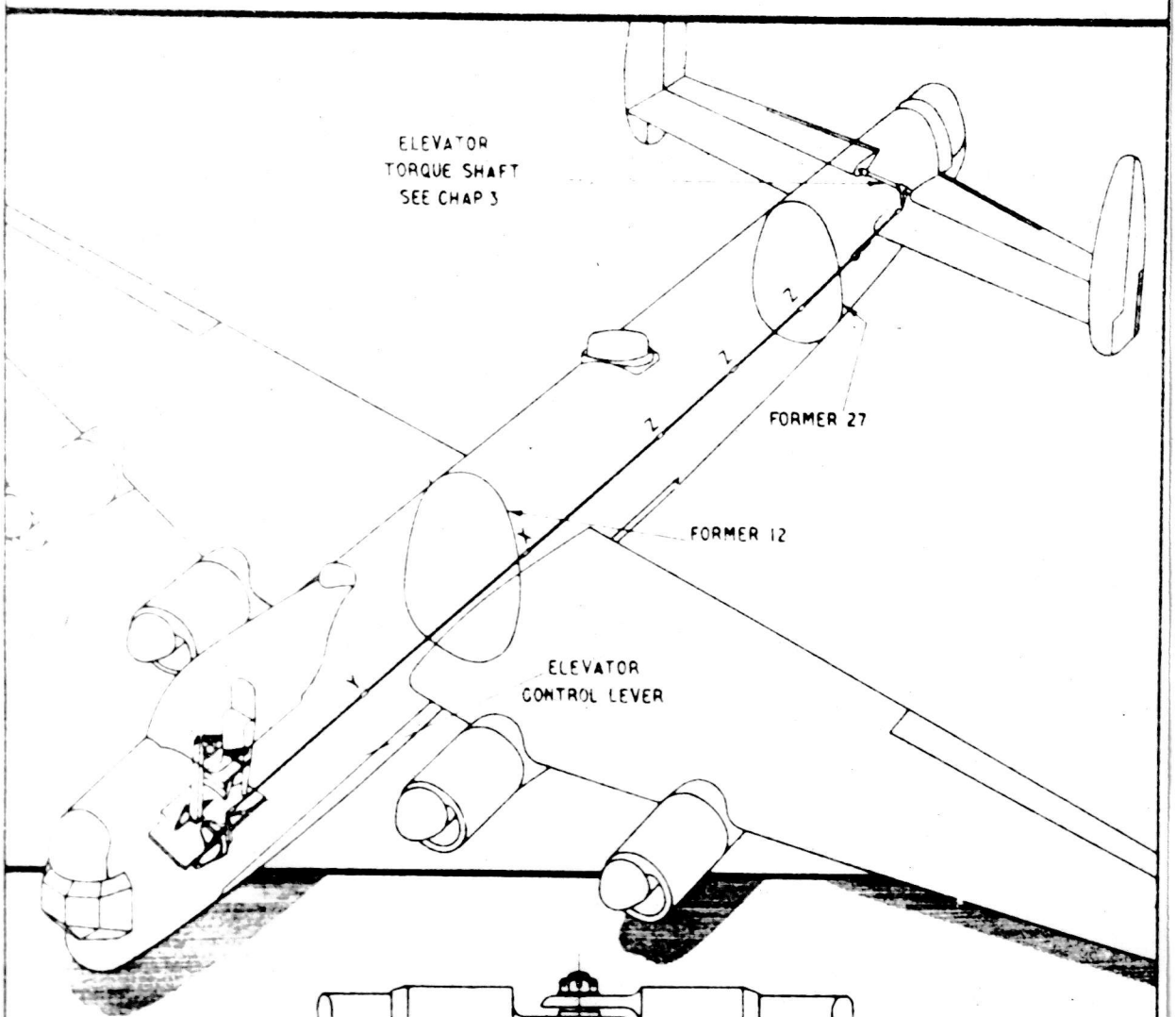


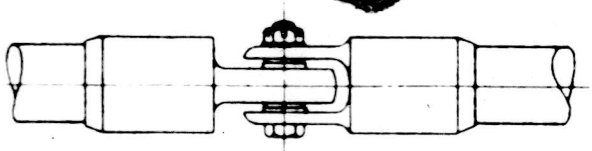
SECTIONAL VIEW OF DUAL CONTROL HEAD

FIG 4 — CONTROL COLUMN & CROSS SHAFT — FIG. 4

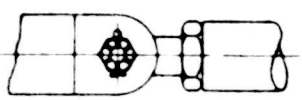


DIAGRAMMATIC ARRANGEMENT OF FORMERS & BEARINGS.

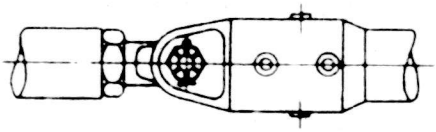




JOINT Z



JOINT X



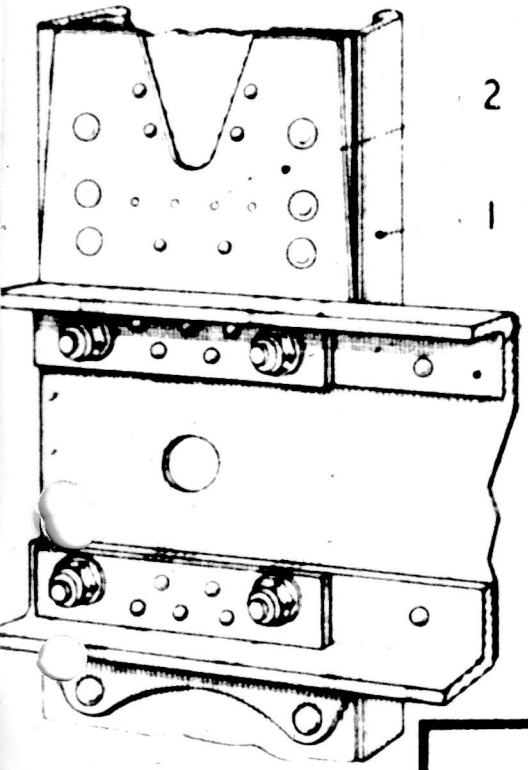
JOINT Y

FIG 2

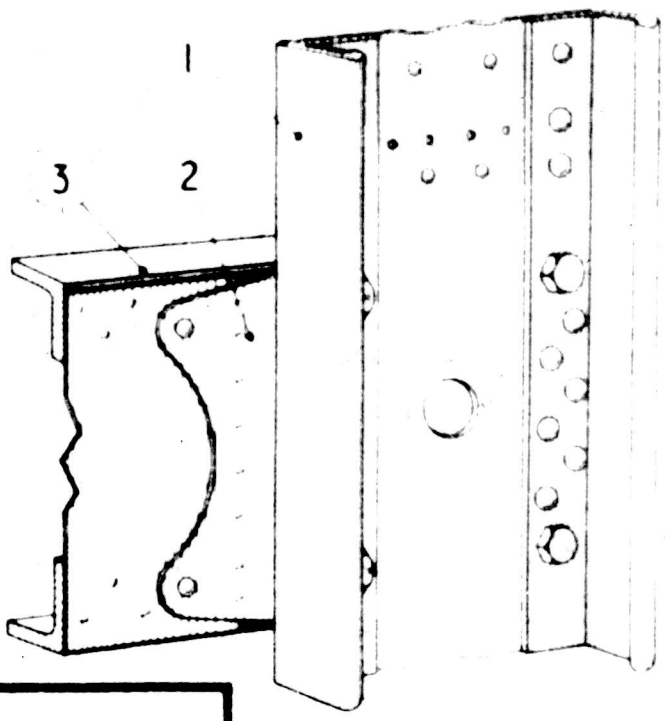
ELEVATOR CONTROLS

FIG. 2

FRONT SPAR TO FRONT FIN POST

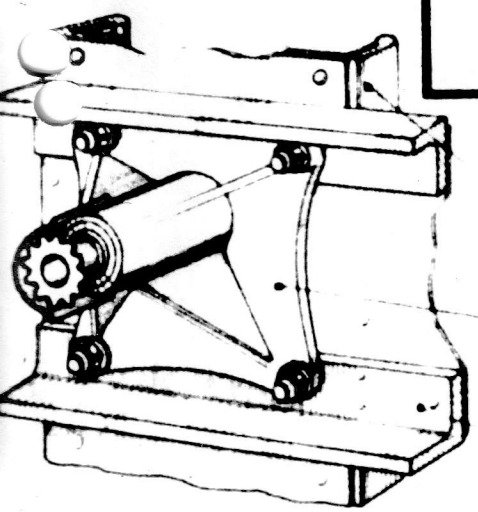


VIEW LOOKING FORWARD

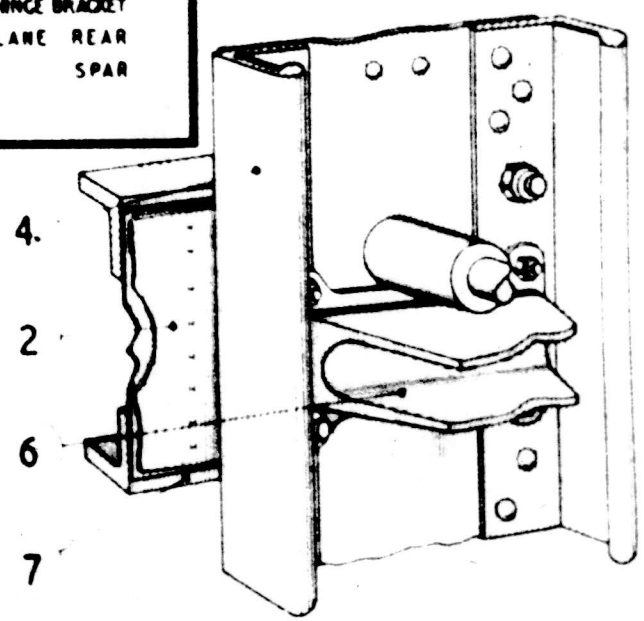


VIEW LOOKING AFT

1. FRONT FIN POST
2. REINFORCING PLATE
3. TAIL PLANE FRONT SPAR
4. REAR FIN POST
5. RUDDER TRIMMING TAB CONTROL BRACKET
6. RUDDER HINGE BRACKET
7. TAIL PLANE REAR SPAR



VIEW LOOKING AFT



VIEW LOOKING FORWARD

REAR SPAR TO REAR FIN POST

FIG. 3

MOUNTING OF FIN TO TAIL PLANE

FIG 3

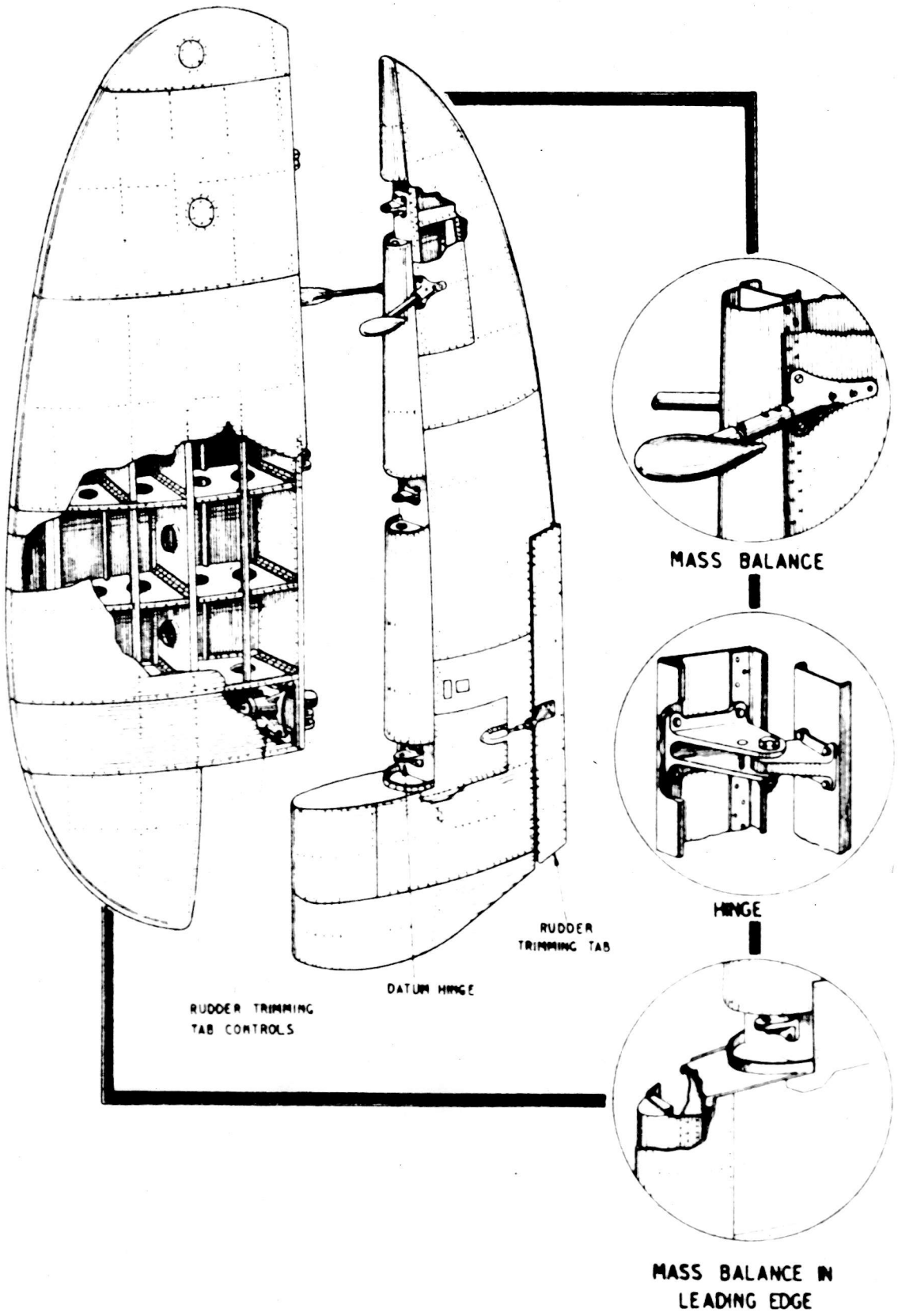
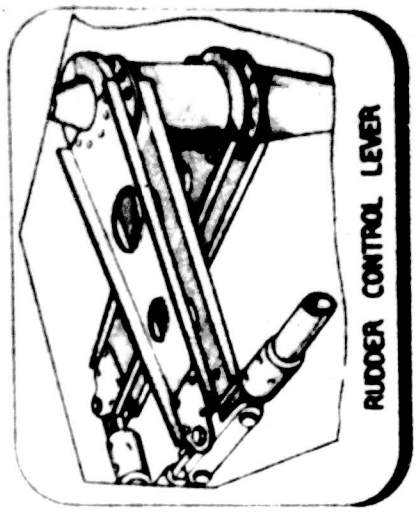


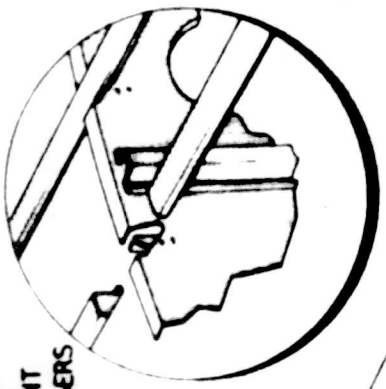
FIG 2

FIN & RUDDER

FIG 2



RUDDER CONTROL LEVER



ATTACHMENT OF STRINGERS

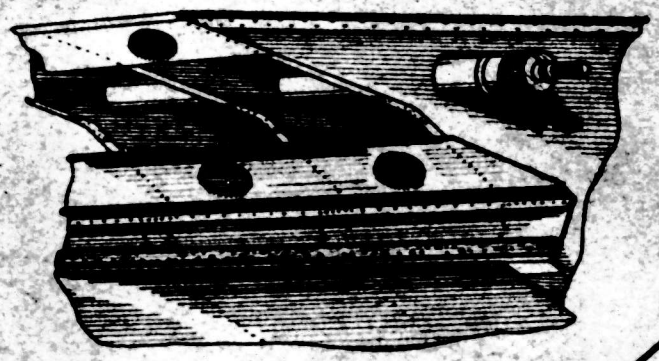
ATTACHMENT OF NOSE RIBS

RUDDER CONTROL OPERATING LEVER

FIG. 1

TAIL PLANE

FIG. 1



STRUCTURE AT FALSE SPAR LESS FLAP

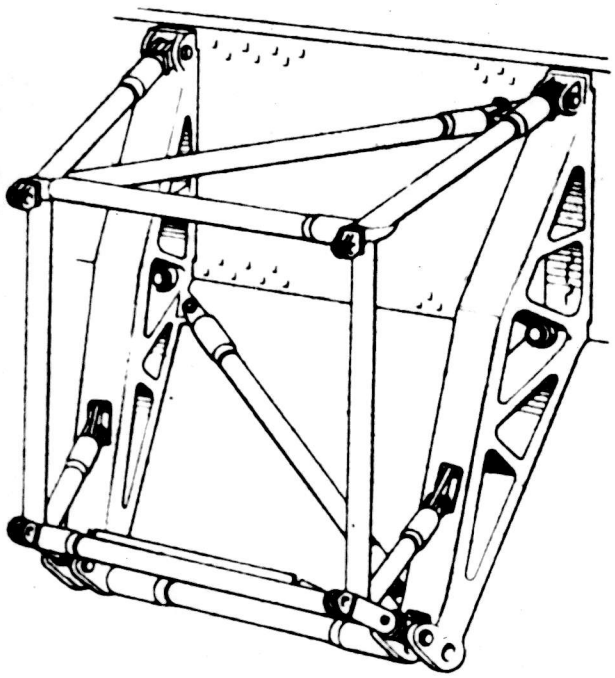
STRUCTURE OF RIB AFT OF FALSE SPAR

1. DINGHY STOWAGE COVER.
2. ASSEMBLY PANELS.
3. FALSE SPAR.
4. FLAP.
5. FLAP OPERATING MECHANISM.

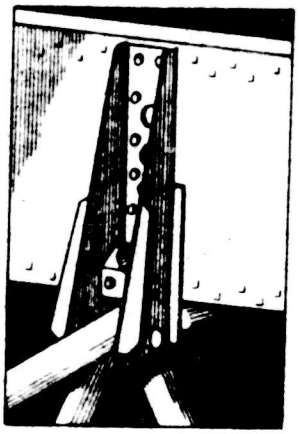
FIG. 5

MAIN PLANE - CENTRE SECTION - TRAILING EDGE

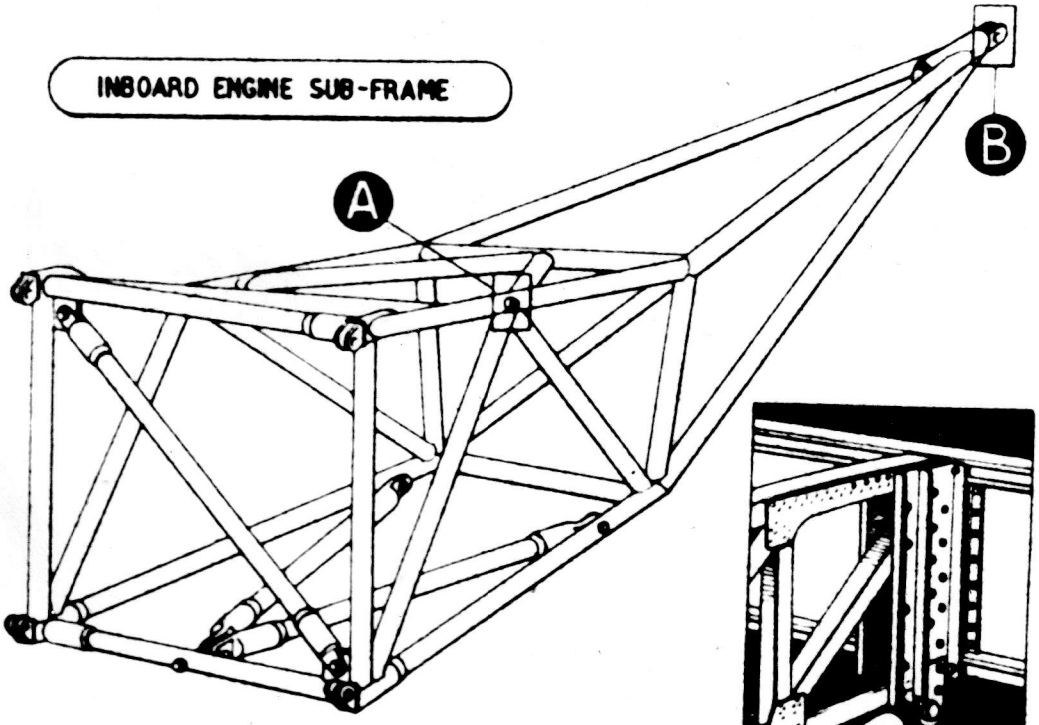
FIG. 5



INBOARD ENGINE SUB-FRAME



ATTACHMENT TO FRONT SPAR AT A



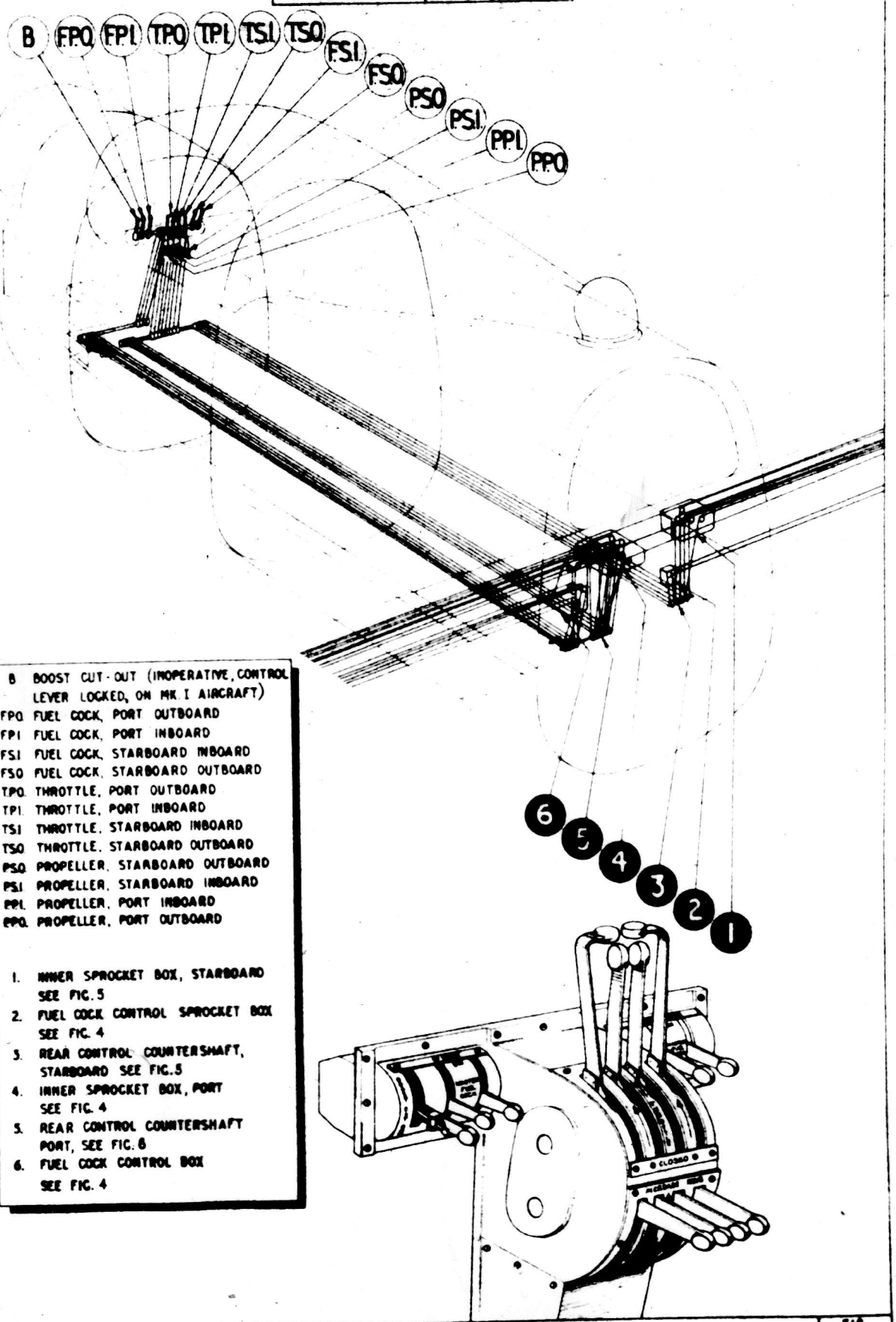
OUTBOARD ENGINE SUB-FRAME

ATTACHMENT TO REAR SPAR AT B

FIG. 14

ENGINE SUB-FRAMES

FIG. 14



B BOOST CUT-OUT (INOPERATIVE, CONTROL LEVER LOCKED, ON MK. I AIRCRAFT)
FPO FUEL COCK, PORT OUTBOARD
FPI FUEL COCK, PORT INBOARD
FSI FUEL COCK, STARBOARD INBOARD
FSO FUEL COCK, STARBOARD OUTBOARD
TPO THROTTLE, PORT OUTBOARD
TPI THROTTLE, PORT INBOARD
TSI THROTTLE, STARBOARD INBOARD
TSO THROTTLE, STARBOARD OUTBOARD
PSO PROPELLER, STARBOARD OUTBOARD
PSI PROPELLER, STARBOARD INBOARD
PPI PROPELLER, PORT INBOARD
PPO PROPELLER, PORT OUTBOARD

1. INNER SPROCKET BOX, STARBOARD SEE FIG. 5
2. FUEL COCK CONTROL SPROCKET BOX SEE FIG. 4
3. REAR CONTROL COUNTERSHAFT, STARBOARD SEE FIG. 5
4. INNER SPROCKET BOX, PORT SEE FIG. 4
5. REAR CONTROL COUNTERSHAFT PORT, SEE FIG. 6
6. FUEL COCK CONTROL BOX SEE FIG. 4

FIG. 1 **ENGINE & SECONDARY CONTROLS - FUSELAGE** FIG. 1

13. Remove fairleads on fuselage formers between turnbuckles and tail plane rear spar.

14. Remove four Vickers pulleys between tail plane spars and draw rudder trimming tab cables into tail plane.

15. Disconnect rudder trimming tab cable turnbuckle at centre of fuselage between tail plane spars.

16. Disconnect elevator trimming tab cable turnbuckle at centre of fuselage aft of tail plane rear spar.

17. Remove four Vickers pulleys at first former aft of tail plane rear spar and remove fairlead on each side of fuselage.

18. Withdraw cables leading forward and pass them through sides of fuselage.

19. Remove four bolts securing draught-proof plate to rear spar of tail plane.

20. Detach canvas bulkhead below front spar of tail plane and remove fastener studs from spar.

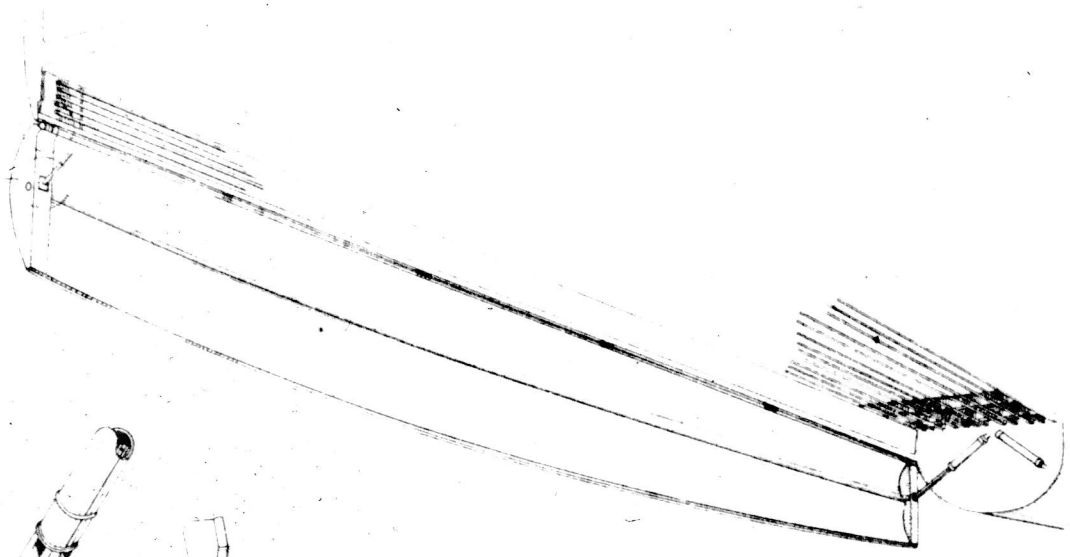
21. Remove eight bolts securing tail wheel strut anchorage plate on top of tail plane.

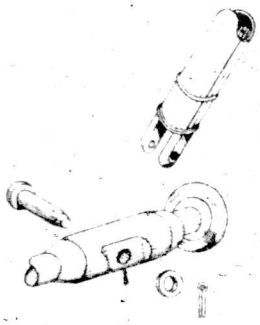
22. Remove fibre packing blocks positioned between ends of fuselage formers, and at top and bottom skin of tail plane.

23. Support tail plane at each side of fuselage on suitable trestles.

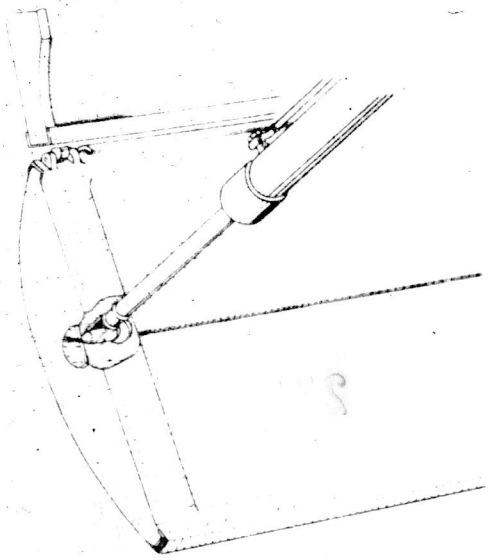
24. Remove attachment bolts at top and bottom joints at centre of tail plane.

25. Remove main attachment bolts securing tail plane front and rear spars to fuselage formers 35 and 38. Unscrew rear spar bolt bushes until flush with former. Withdraw tail plane horizontally from each side of fuselage. Care should be taken not to damage fuselage formers, or trimming tab cables.



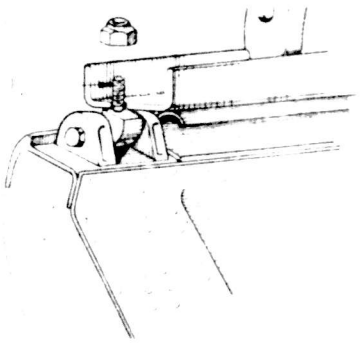


2



DETAIL B

3



DETAIL A

TO REMOVE THE BOMB DOORS PROCEED AS FOLLOWS :-

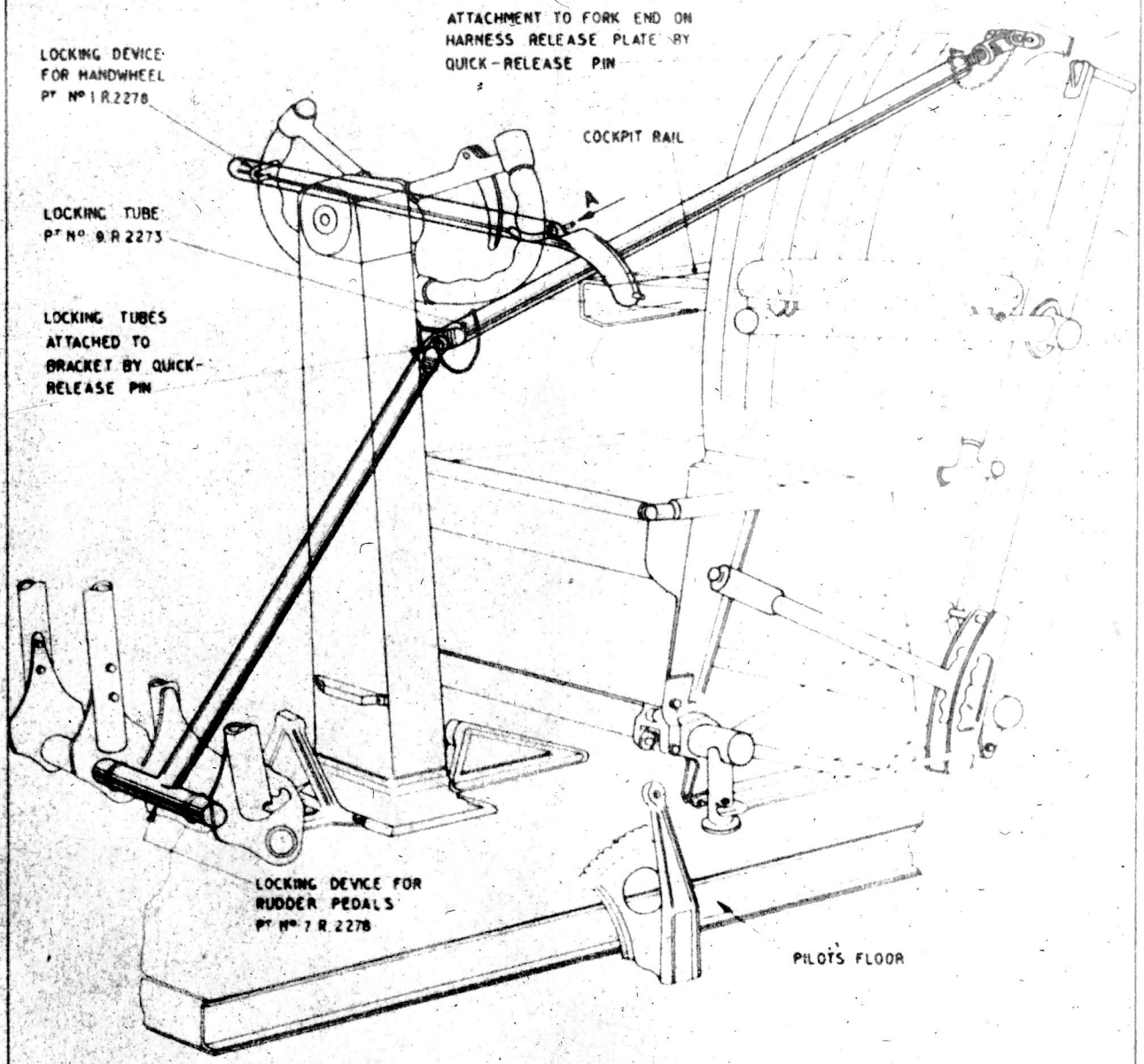
1 OPEN THE BOMB DOORS BY SETTING THE LEVER ON THE PILOT'S SEAT TO "OPEN".

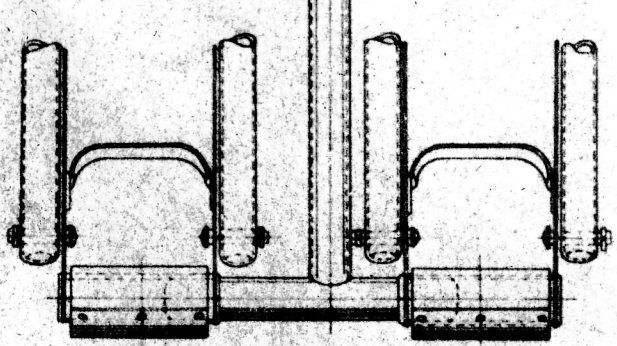
2 WITHDRAW THE PIN AT THE LOWER END OF THE HYDRAULIC JACKS AT EACH END OF THE DOORS.

3 SUPPORT THE BOMB DOOR AND REMOVE THE SIMMONDS NUTS FROM THE TOP HINGE EYEBOLTS SECURING THE BOMB DOOR TO THE FUSELAGE RAIL.

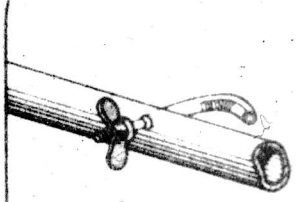
NOTE :- DO NOT TRY TO REMOVE THE HINGE PINS WITH THE DOOR IN POSITION.

BOMB DOORS





VIEW IN DIRECTION OF ARROW SHOWING METHOD OF LOCKING RUDDER PEDALS

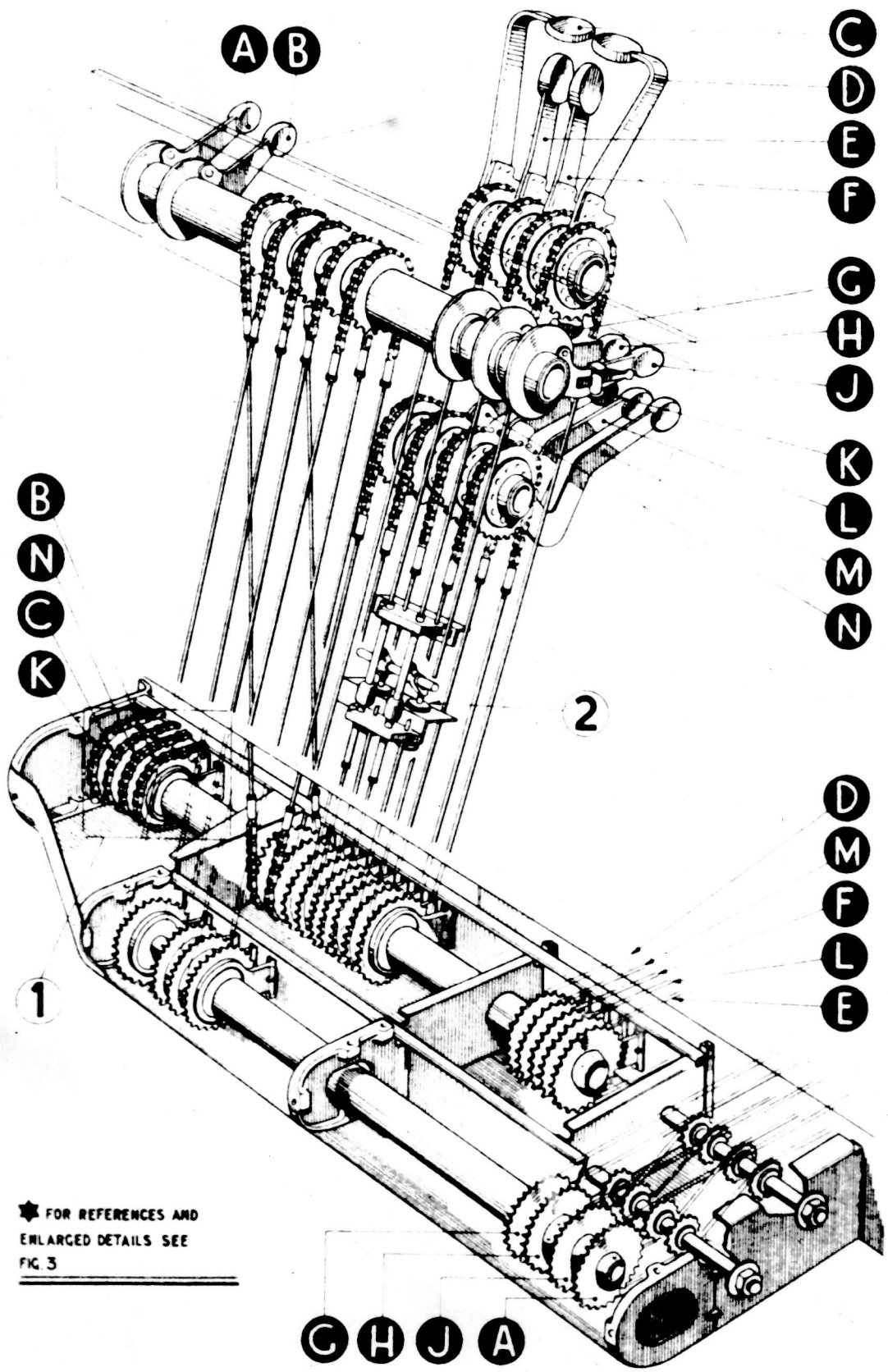


DETAIL IN DIRECTION OF ARROW A

FIG 3

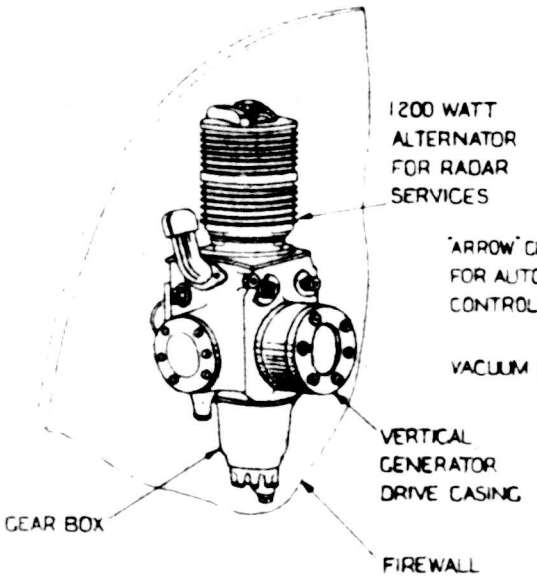
LOCKING OF FLYING CONTROLS

FIG 3

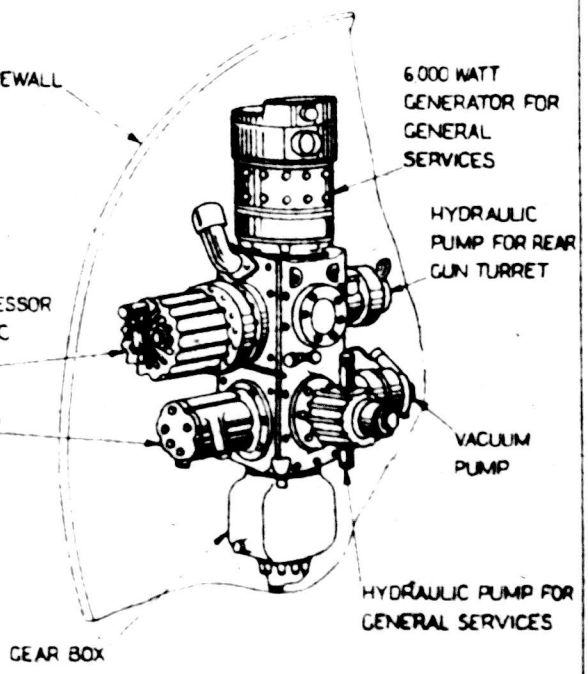


* FOR REFERENCES AND ENLARGED DETAILS SEE FIG. 3

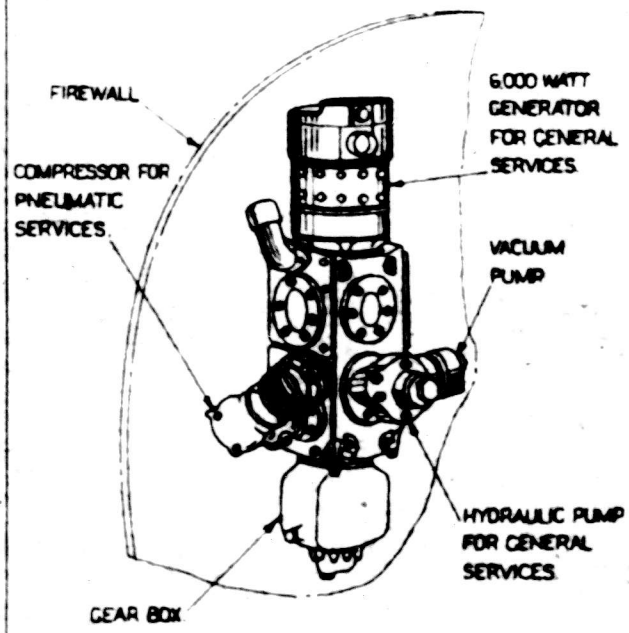
FIG. 2 — ENGINE CONTROLS - COCKPIT (1) — FIG. 2



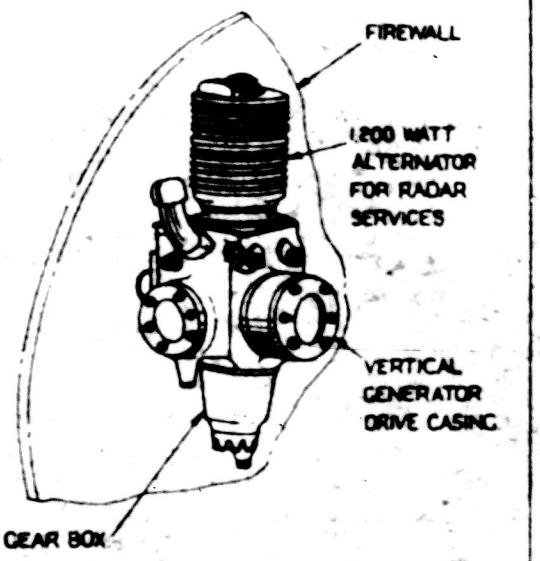
PORT OUTBOARD ENGINE



PORT INBOARD ENGINE



STARBOARD INBOARD ENGINE



STARBOARD OUTBOARD ENGINE

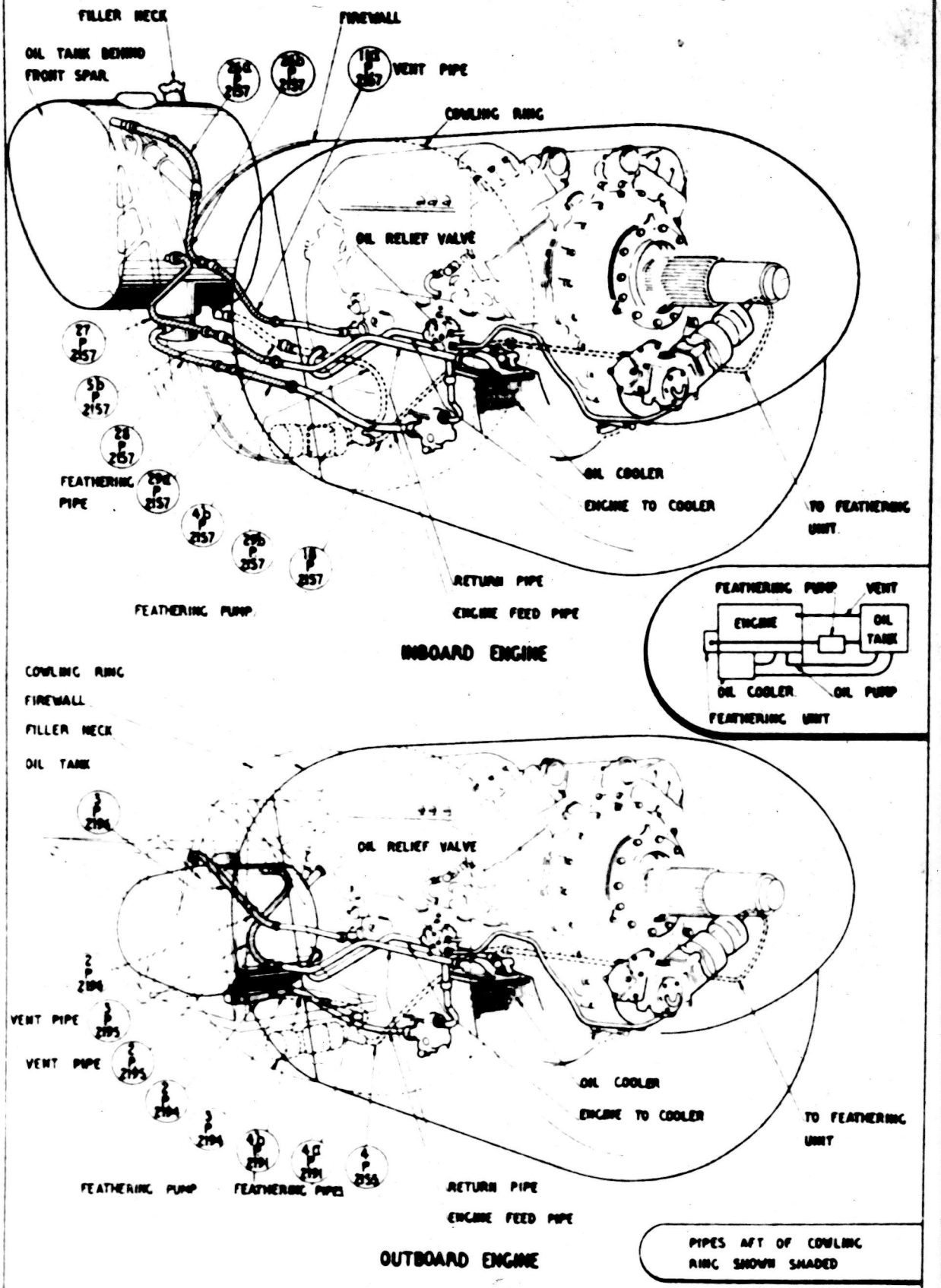
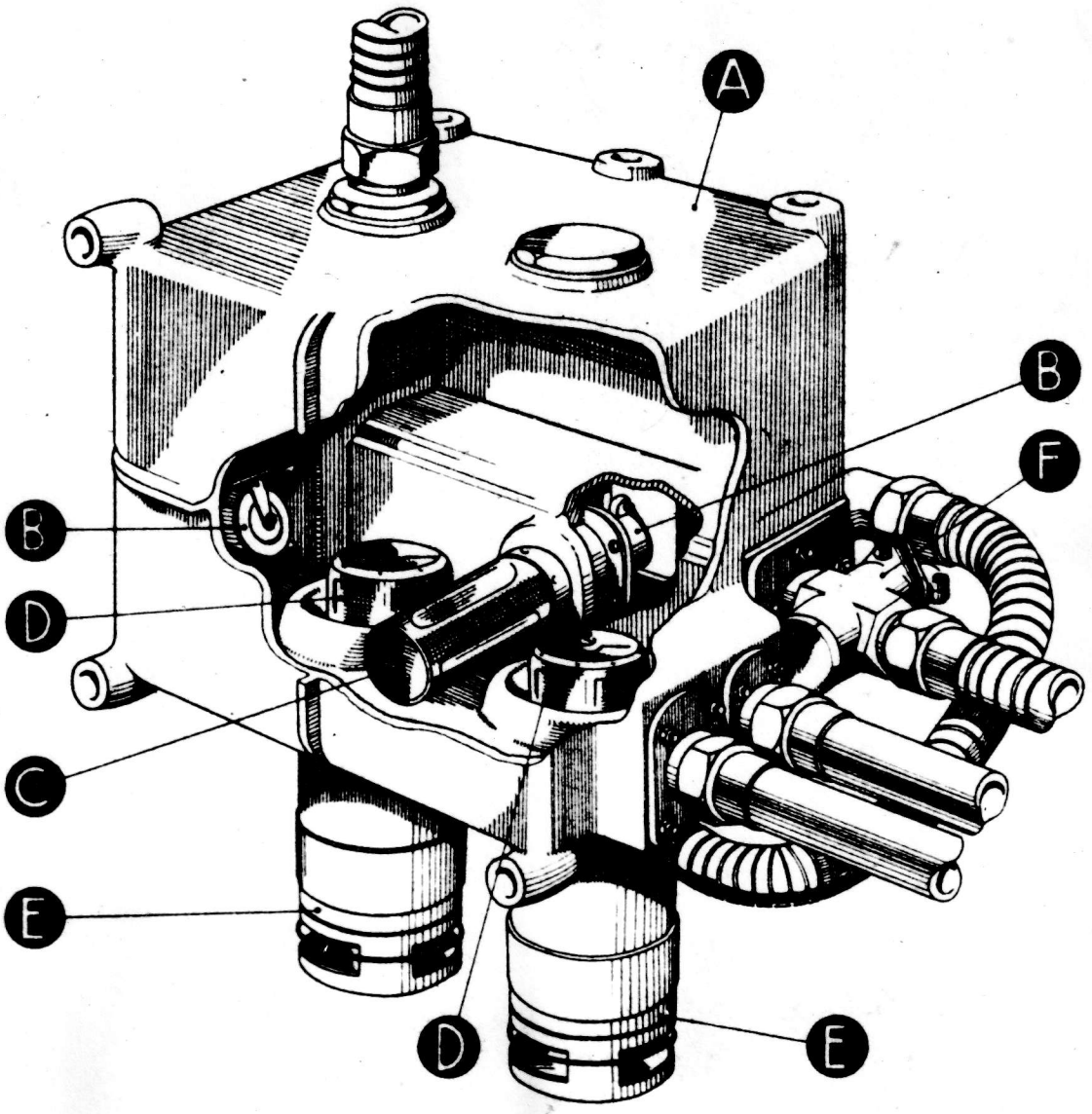
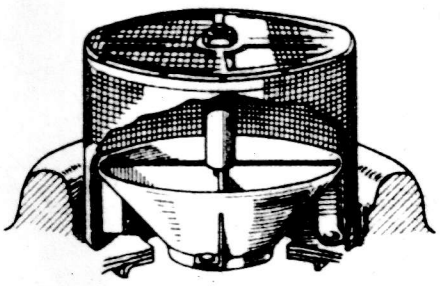


FIG. 12 — OIL SYSTEM - INBOARD AND OUTBOARD ENGINE — FIG. 12





DETAILS OF FILTER D

A	DISTRIBUTOR TANK
B	NON-RETURN VALVE
C	FILTER
D	PUMP FILTER. SEE DETAILS
E	PULSOMETER PUMPS
F	STOP COCK

FIG. 10

FUEL DISTRIBUTOR TANK

FIG. 10

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THIS LEAF ISSUED WITH A.L.NO

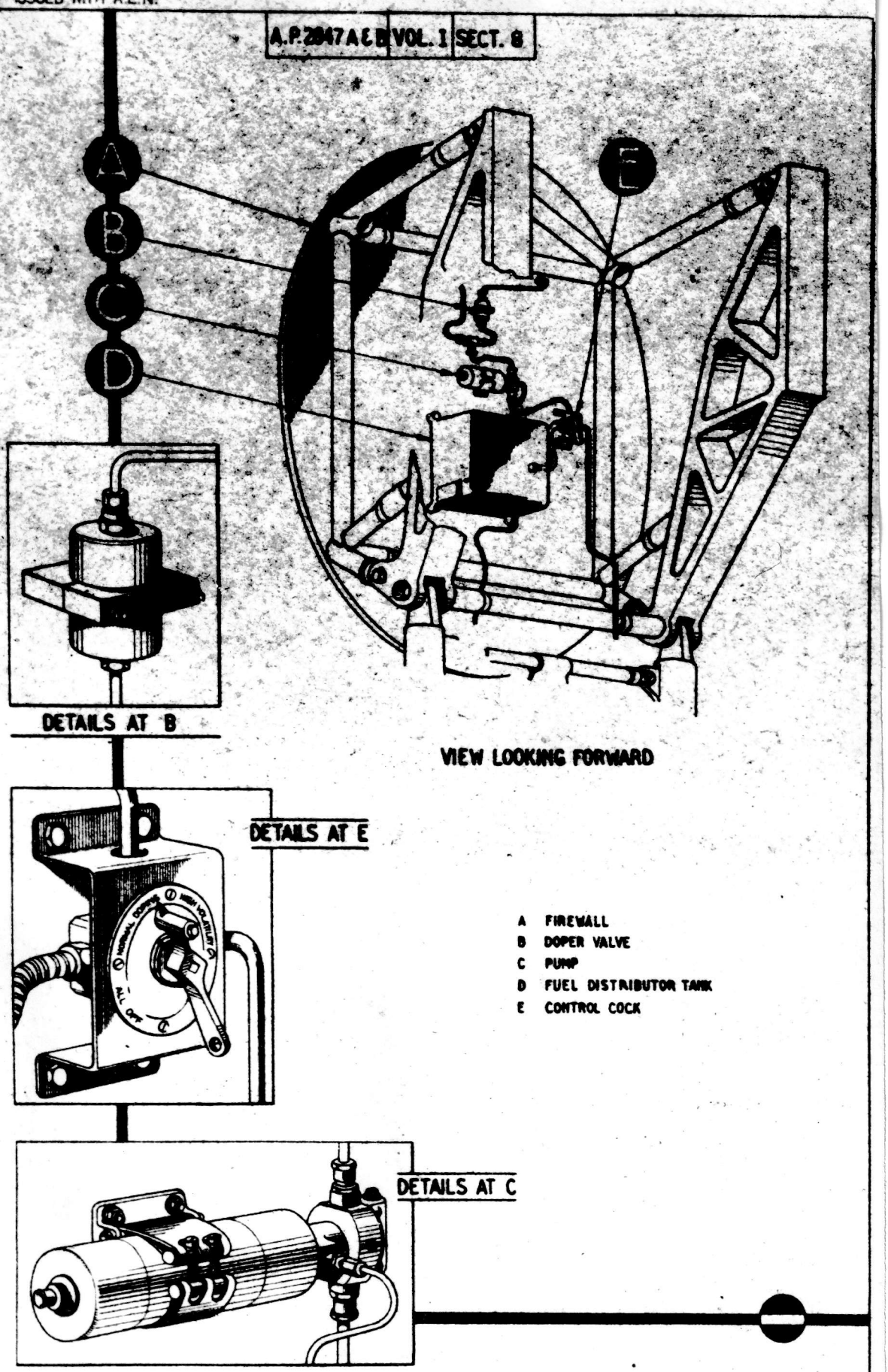
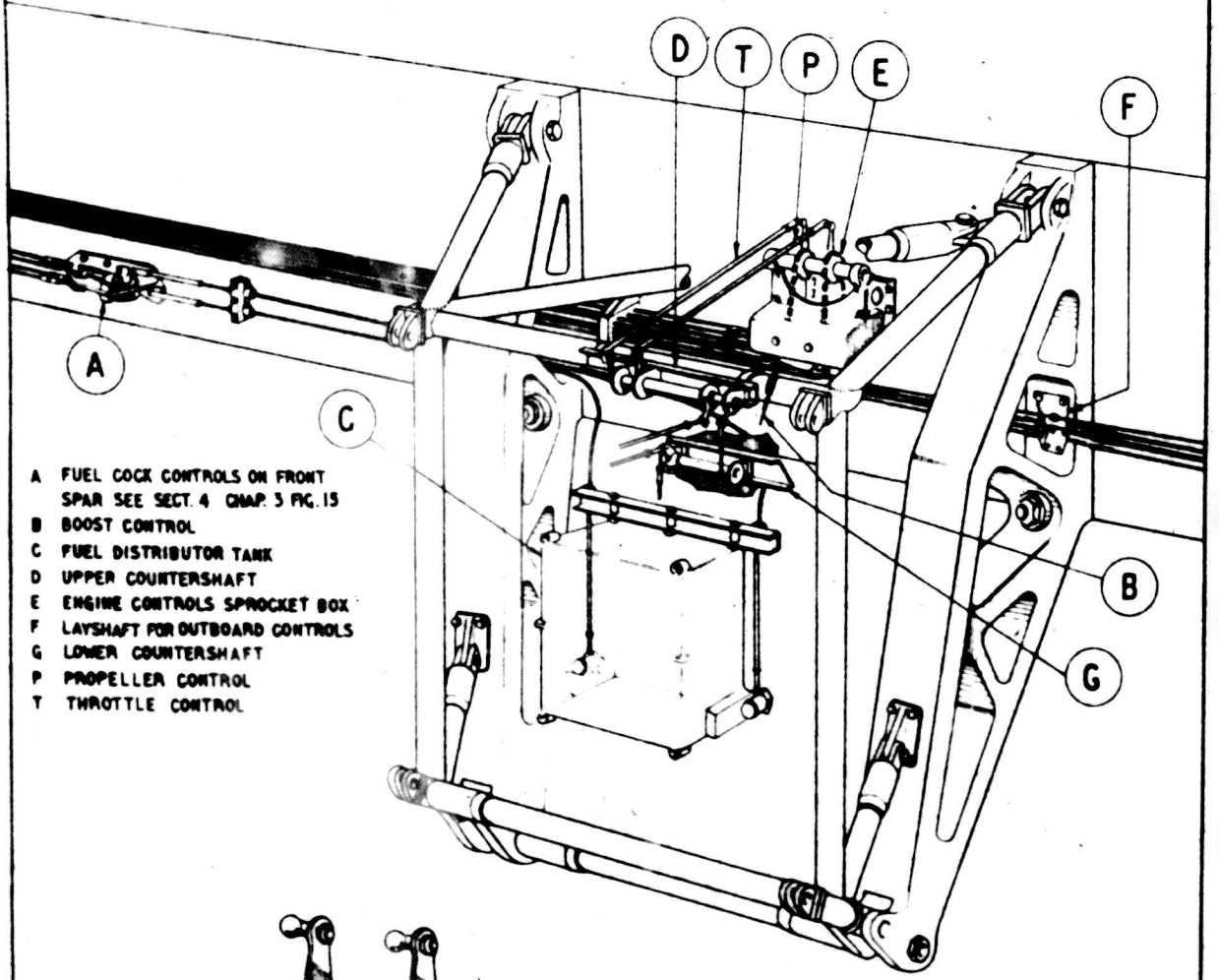


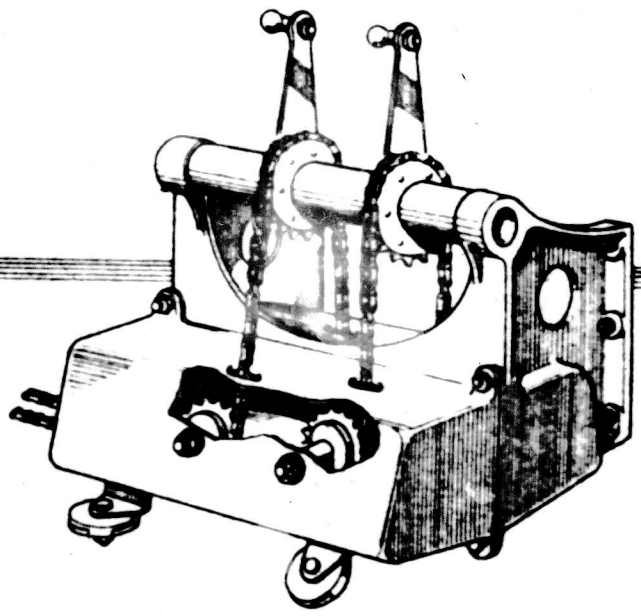
FIG. 9

INDUCTION PRIMING SYSTEM

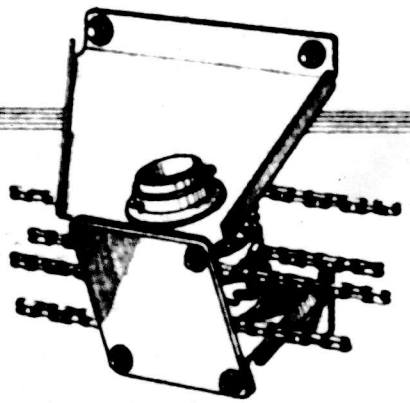
FIG. 9



A FUEL COCK CONTROLS ON FRONT SPAR SEE SECT. 4 CHAP. 3 FIG. 15
B BOOST CONTROL
C FUEL DISTRIBUTOR TANK
D UPPER COUNTERSHAFT
E ENGINE CONTROLS SPROCKET BOX
F LAYSHAFT FOR OUTBOARD CONTROLS
G LOWER COUNTERSHAFT
P PROPELLER CONTROL
T THROTTLE CONTROL

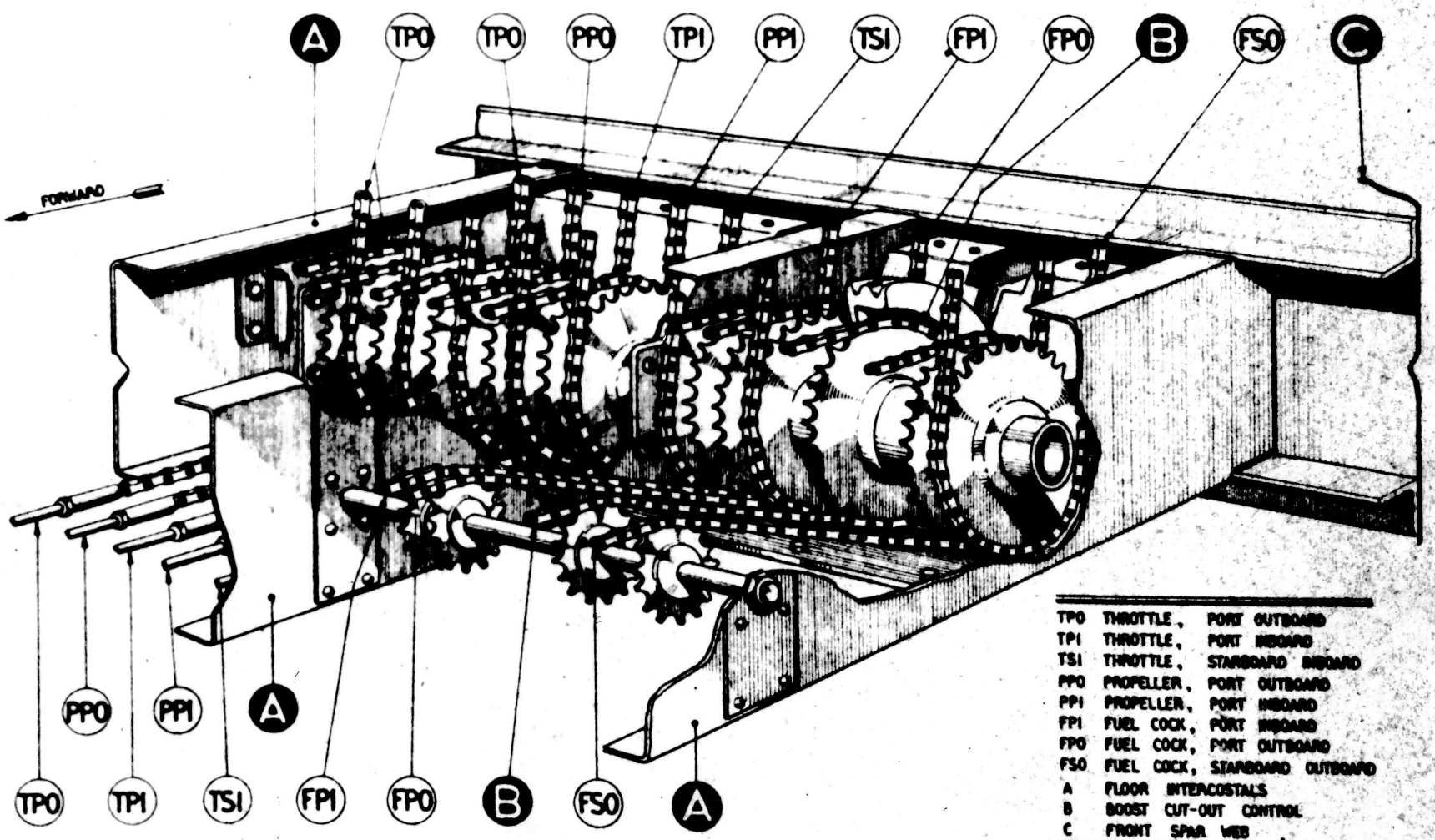


ENGINE CONTROLS SPROCKET BOX-E



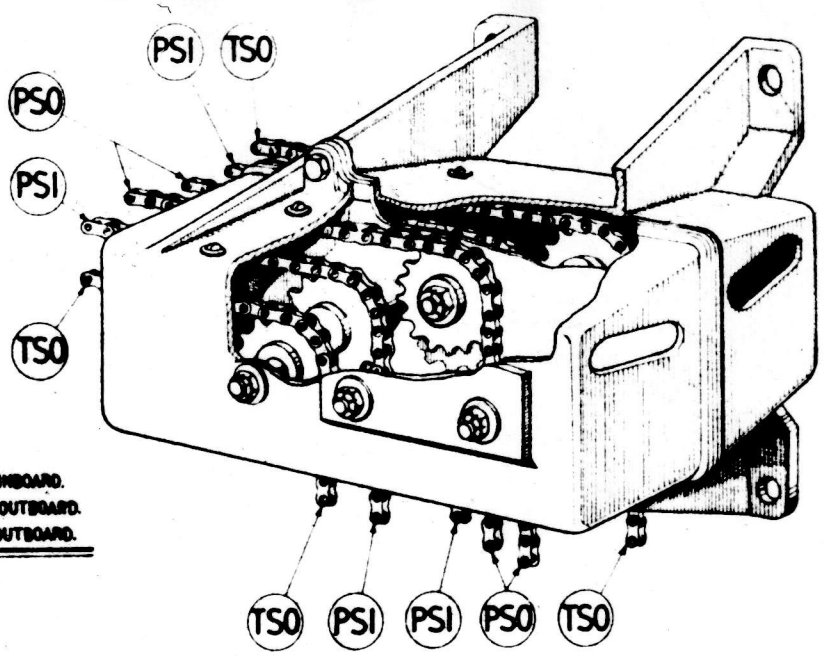
LAYSHAFT-F

FIG. 7 **ENGINE AND SECONDARY CONTROLS-MAIN PLANE** FIG. 7



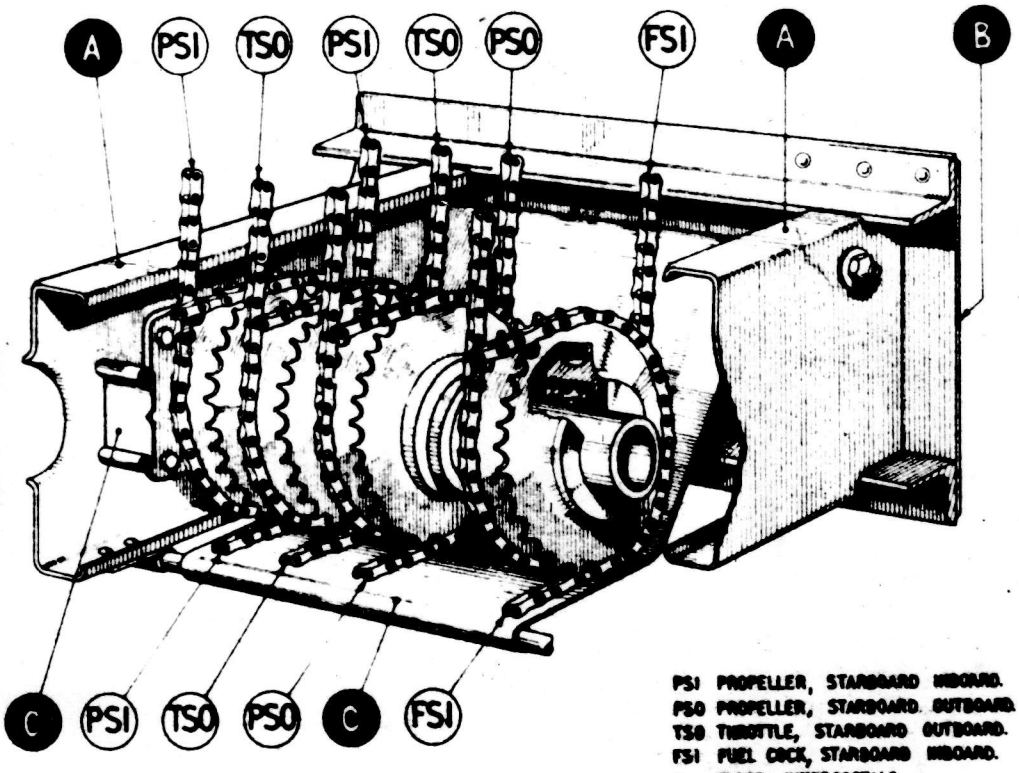
TPO	THROTTLE,	PORT OUTBOARD
TPI	THROTTLE,	PORT INBOARD
TSI	THROTTLE,	STARBOARD INBOARD
PPO	PROPELLER,	PORT OUTBOARD
PPI	PROPELLER,	PORT INBOARD
FPI	FUEL COCK,	PORT INBOARD
FPO	FUEL COCK,	PORT OUTBOARD
FSO	FUEL COCK,	STARBOARD OUTBOARD
A	FLOOR INTERCOSTALS	
B	BOOST CUT-OUT CONTROL	
C	FRONT SPAR WEB	

REAR CONTROL COUNTERSHAFT – PORT SIDE OF FUSELAGE



INNER SPROCKET BOX, STARBOARD.

PSI PROPELLER, STARBOARD INBOARD.
PSO PROPELLER, STARBOARD OUTBOARD.
TSO THROTTLE, STARBOARD OUTBOARD.



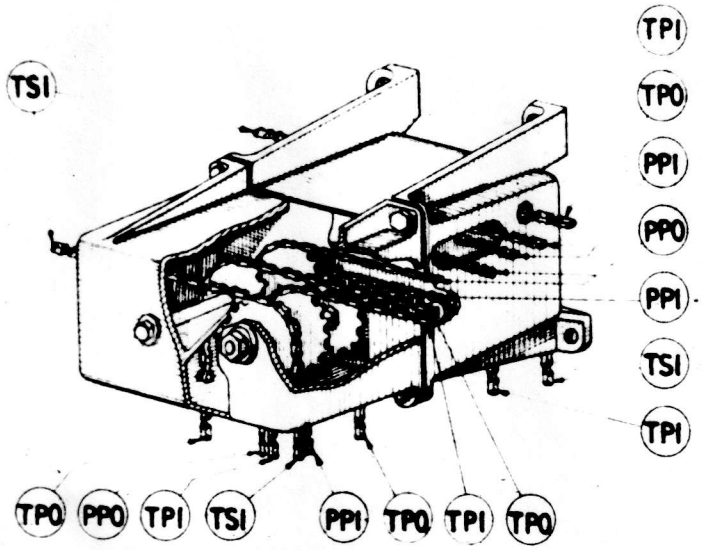
PSI PROPELLER, STARBOARD INBOARD.
PSO PROPELLER, STARBOARD OUTBOARD.
TSO THROTTLE, STARBOARD OUTBOARD.
FSI FUEL COCK, STARBOARD INBOARD.
A FLOOR INTERCOSTALS.
B FRONT SPAR WEB.
C CHAIN GUARDS.

REAR CONTROL COUNTERSHAFT, STARBOARD SIDE OF FUSELAGE.

FIG. 5

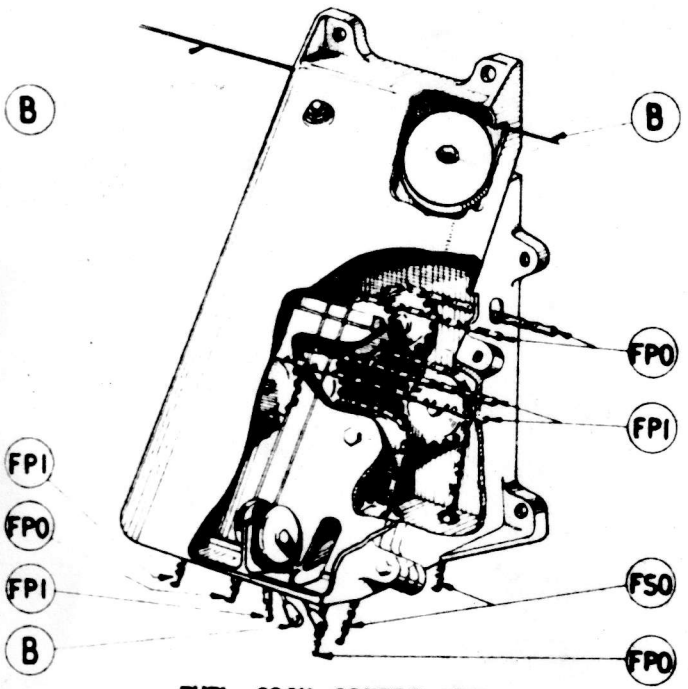
ENGINE CONTROLS - FUSELAGE (2)

FIG. 5



INNER PORT SPROCKET BOX

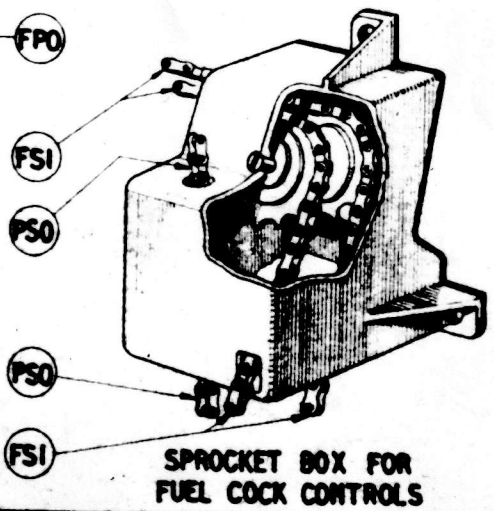
TPI	THROTTLE, PORT INBOARD
TPO	THROTTLE, PORT OUTBOARD
TSI	THROTTLE, STARBOARD INBOARD
PPI	PROPELLER, PORT INBOARD.
PPO	PROPELLER, PORT OUTBOARD



FUEL COCK CONTROL BOX

B	BOOST CONTROL CUT-OUT (IN-OPERATIVE ON MERLIN 85 ENGINES)
FPO	FUEL COCK, PORT OUTBOARD
FPI	FUEL COCK, PORT INBOARD
FSO	FUEL COCK, STARBOARD OUTBOARD

FSI	FUEL COCK STARBOARD INBOARD.
PSO	PROPELLER STARBOARD OUTBOARD

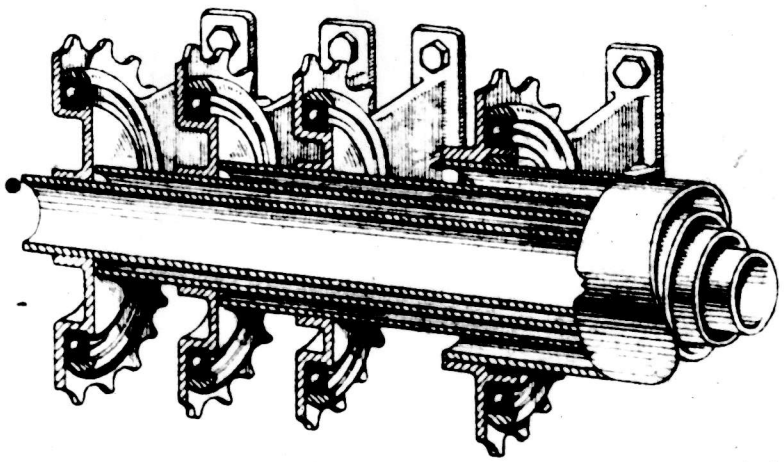


SPROCKET BOX FOR FUEL COCK CONTROLS

FIG. 4

ENGINE CONTROLS – FUSELAGE (1)

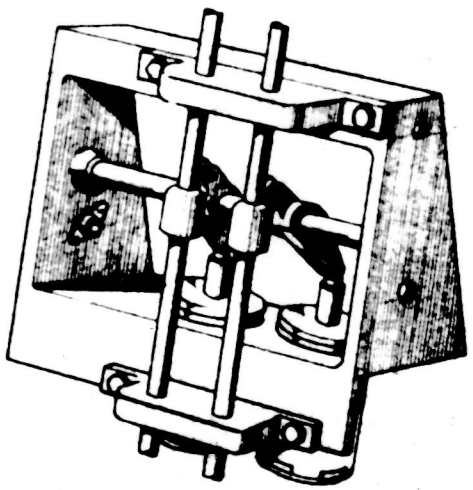
FIG. 4



DETAIL 1 – PORTION OF COUNTERSHAFT.

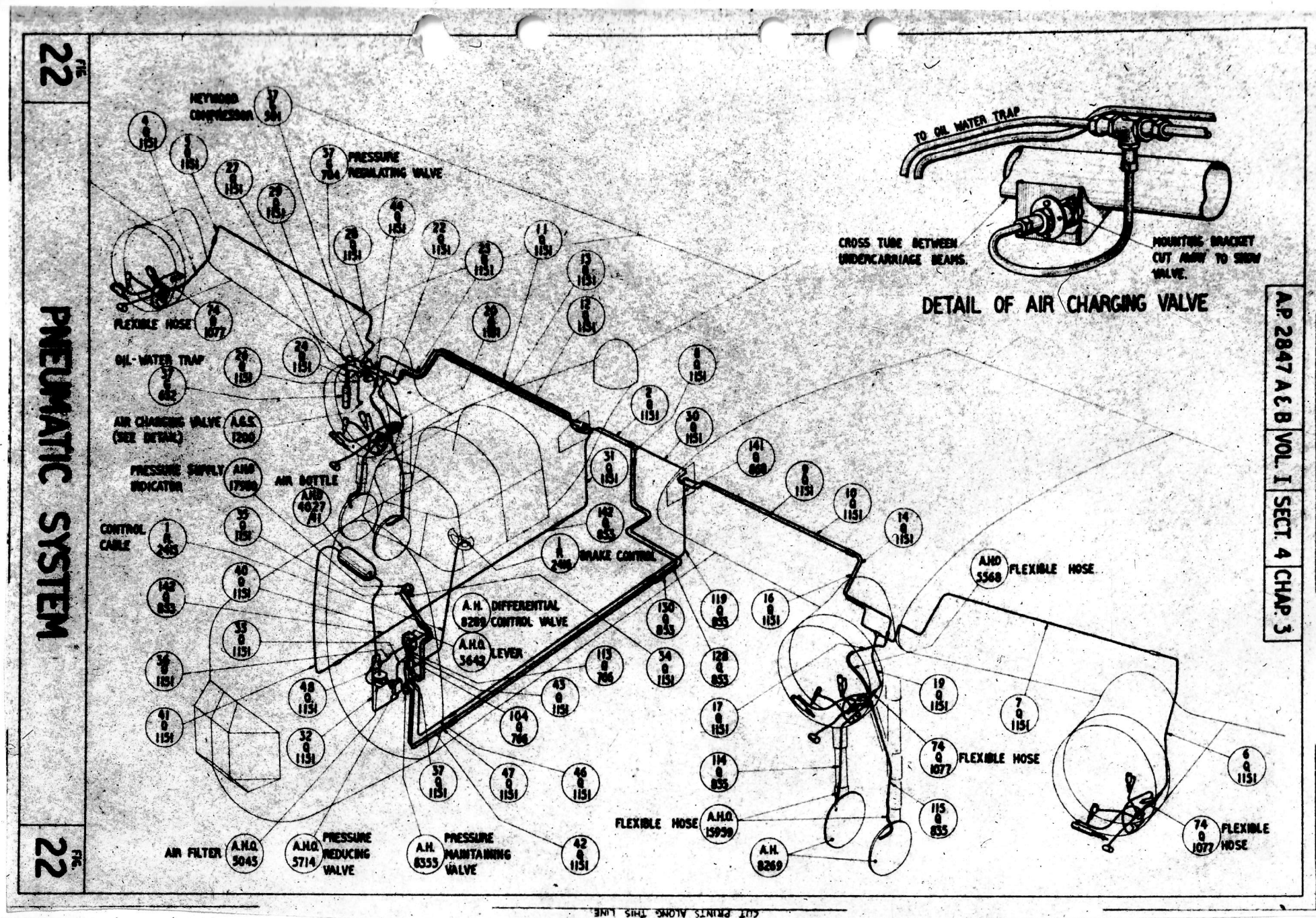
REFERENCES FOR FIG. 2

A FUEL COCK, STARBOARD OUTBOARD	G FUEL COCK, PORT INBOARD
B FUEL COCK, STARBOARD INBOARD	H FUEL COCK, PORT OUTBOARD
C THROTTLE, STARBOARD OUTBOARD	J BOOST CUT-OUT
D THROTTLE, PORT OUTBOARD	K PROPELLER, STARBOARD INBOARD
E THROTTLE, STARBOARD INBOARD	L PROPELLER, PORT INBOARD
F THROTTLE, PORT INBOARD	M PROPELLER, PORT OUTBOARD
N PROPELLER, STARBOARD OUTBOARD	



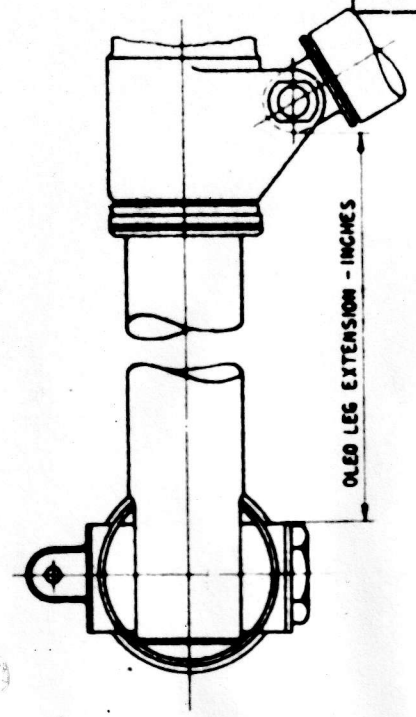
DETAIL 2 – UNDERCARRIAGE WARNING SWITCHES

PNEUMATIC SYSTEM



DETAIL OF AIR CHARGING VALVE

CUT PRINTS ALONG THIS LINE



EXAMPLE OF USE

IF THE EXTENSION OF THE UNDERCARRIAGE OLEO LEG IS 12·5 IN. THE AIR PRESSURE IN IT SHOULD BE BETWEEN 1873 AND 1950 LB/SQ IN.

MAXIMUM

MINIMUM

AIR PRESSURE IN SHOCK ABSORBER – HUNDREDS OF POUNDS PER SQUARE INCH

27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11

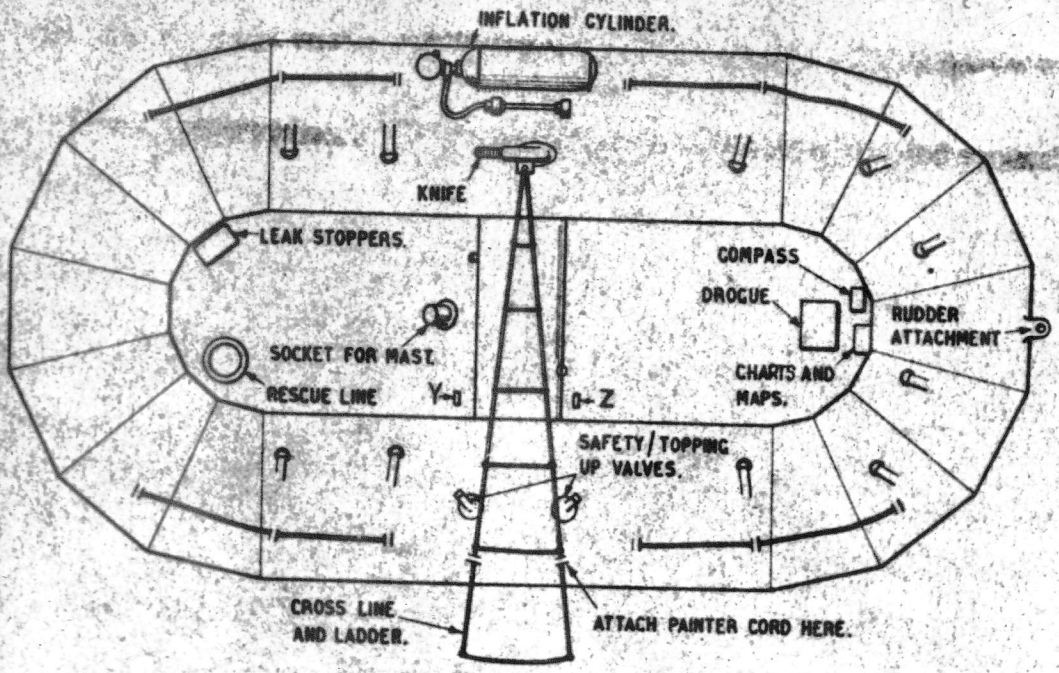
16·0 15·0 14·0 13·0 12·0 11·0

OLEO LEG EXTENSION – INCHES

FIG. 23

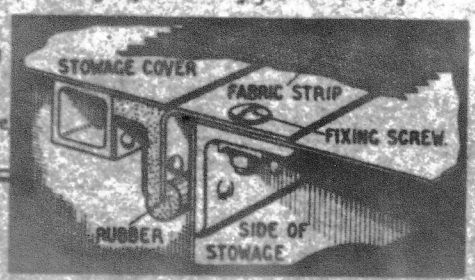
UNDERCARRIAGE INFLATION DIAGRAM

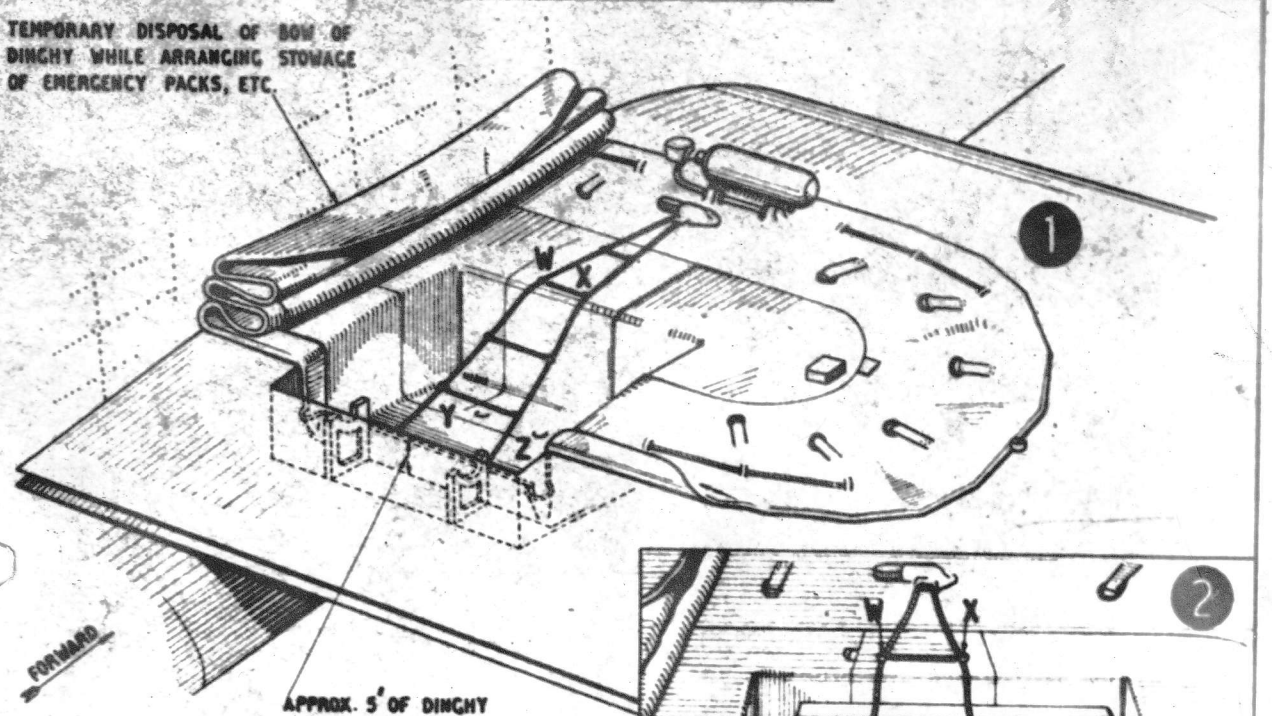
FIG. 23

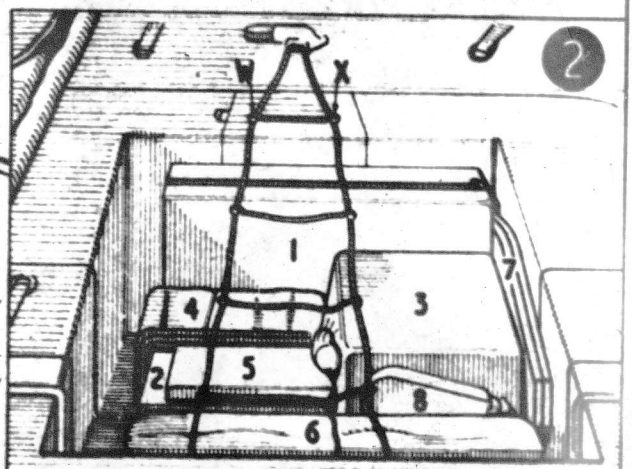


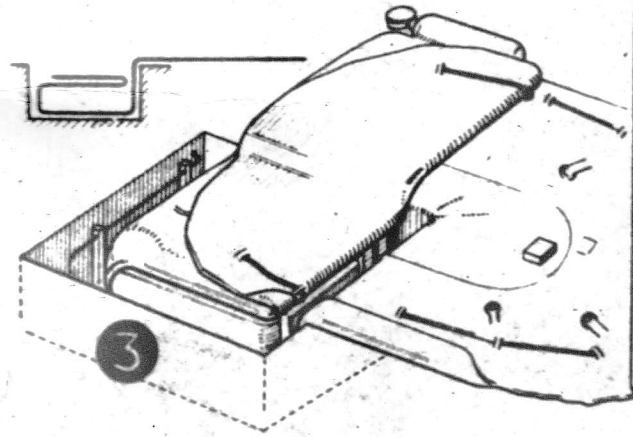
STOWING INSTRUCTIONS

1. Lay the dinghy, thoroughly deflated, on wing surface with inflation cylinder forward and lined up to suit position of bearers. Deflate by means of pump until all creases appear as fender edges.
2. Check that the inflation pipe is connected to the correct valve of the inflation manifold, i.e. with the operating head towards the bow of the dinghy and towards the inboard side of the stowage.
3. Ease the dinghy into the stowage as indicated in fig 4 leaving approximately 5 in of the dinghy vertical against the cylinder bearers.
4. Withdraw dust caps from safety/topping up valves to ensure pressure relief after inflation.
5. Lay dinghy painter cord on stowage floor between bearers, one end (as labelled) tied to cylinder bearer, the other end tied to dinghy at position indicated above. Cord 20 ft. long, 8 ozs. F.32.
6. Place emergency packs, sailing gear bags, paddles, bellows, weather apron (if not integral with dinghy) and dinghy radio in positions shown in fig 4, taking care that all are below the dinghy ladder. Attach these items to dinghy at positions indicated in notes in fig 6.
7. Complete folds shown in fig 4 so that cylinder housing rests on cylinder bearers in stowage.
8. Lash cylinder into its housing on the dinghy and place on bearers in such a way that crutches in stowage and on cover rest on fabric of cylinder housing, and NOT on dinghy itself. See fig 4.
9. Check by trial that stowage cover can be correctly seated without necessity for more than 30 lbs external pressure. To achieve this, it may be necessary to displace folds locally in order to eliminate high spots.
10. Connect inflation pipe from dinghy to operating head of inflation cylinder.
11. Connect the remote manual cable to operating head, and align and lock operating head drum. It should be noted that a guard is provided on the stowage cover to separate operating cable from dinghy.
12. Reduce length of electric lead to 8 in (measured from top of plug pins to point at which lead leaves sleeve on operating head) by hanking and binding firmly with insulating tape. Connect plug into socket.
13. Ensure that dinghy is clear of operating cable, assemble and fix cover by means of screws, see detail. Check that guard on cover correctly separates dinghy from cable, by removal of inspection window if necessary. Seal by applying one thin coat of B.2 or Cerric Clear, No D.3639 adhesive on surface to be covered by fabric strip. Place 3 in. fabric strip in position, apply a further coat of adhesive, allow to dry, and re camouflage.

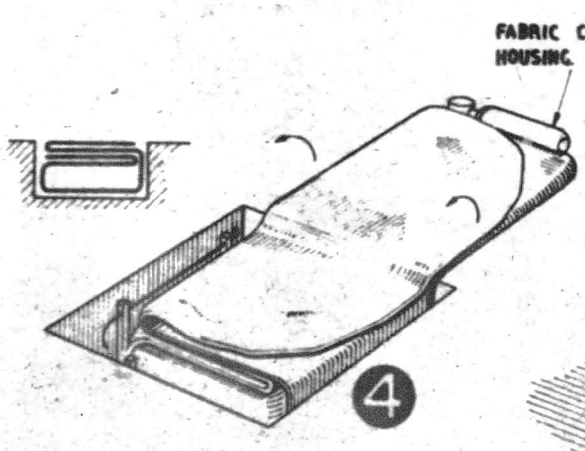








1. AVRO TYPE PACK
2. TYPE 4 PACK
3. DINGHY RADIO
4. WEATHER APRON, ON TYPE 4 PACK, AND DOWN SIDE.
5. SAIL, ON TYPE 4 PACK
6. MAST AND RUDDER, IN BAG
7. PADDLES
8. BELLOWS



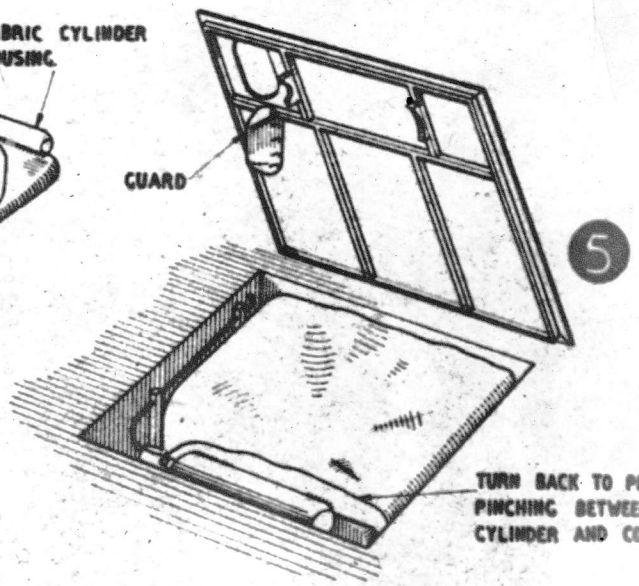
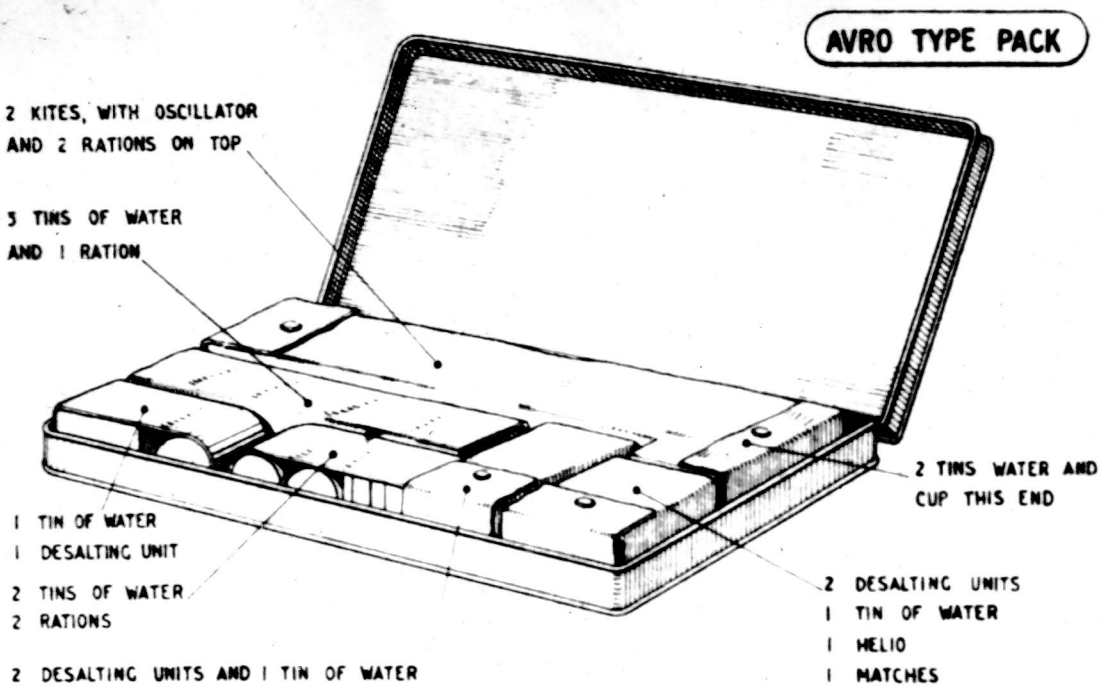


FIG. 4

STOWING Q TYPE DINGHY (1)

FIG. 4



SECURING EQUIPMENT IN DINGHY

Avro type pack connected to patch Z by its own lanyard

Type 4 pack connected to patch Y by its own lanyard

Dinghy radio connected to patch Z by 16 oz cord F 32

Mast and rudder in container connected by two 16 oz cords to patches Y and Z. These patches are shown in fig 5

Bellows in bag attached to crossline at X by 2ft length of 16 oz cord, so that bellows can be removed without cutting cord

Paddles attached to dinghy crossline at X by 2ft of cord 4 F 35

All connecting cords must be 12in longer than distance between attachment to dinghy and attachment to item to allow freedom of movement when emerging

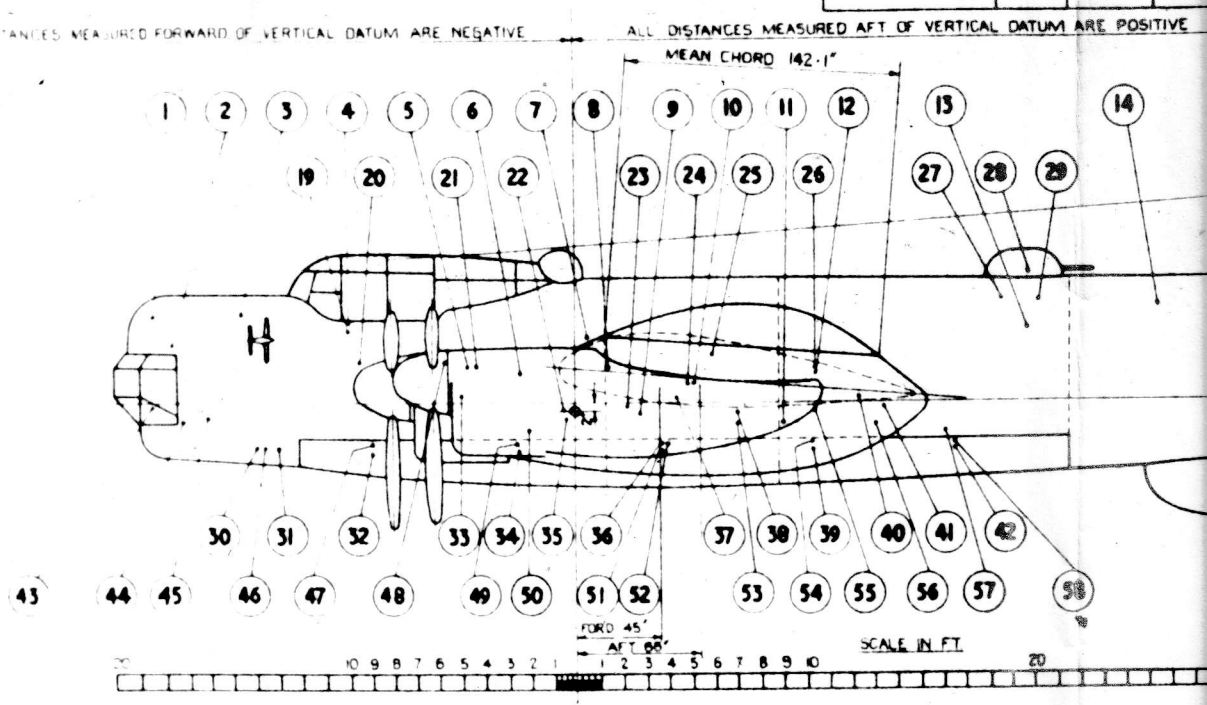
Cords must not lie over any of the stowed items

Dinghy crossline must lie OVER all the stowed items

Weather apron lashed to type 4 pack in position shown in fig 4 unless integral with dinghy

Sail bag lashed to mast and rudder container at position shown in fig 4

★ Note - In cases where dinghy is not provided with patches Y and Z Avro type pack and dinghy radio are to be connected to dinghy crossline at X. Type 4 pack at W and mast and rudder container connected to crossline at W and X. See fig 4



REMOVABLE ITEMS OF MILITARY LOAD.

ITEM	Nº	WEIGHT (LB)	ARM (FT)	MOMENT (LB FT) FORWARD	MOMENT (LB FT) AFT
GNS MID UPPER (2 x .5")	28	140	+ 41·7		5,838
AMMO IN TURRET (600 RDS)	29	240	+ 20·2		4,848
AMMO IN BOXES (500 RDS RESERVE)	5	240	+ 16·1		3,896
GNS IN REAR TURRET (2 x .5")	8	140	+ 55·9		7,826
AMMO ON TRAYS (1000 RDS)	9	210	+ 41·0		8,692
AMMO IN BOXES (1500 RDS RESERVE)	4	393	+ 25·4		9,982
LIGHTING HEAD	43	6	- 18·5	296	
COMPUTOR	45	62	- 16	992	
SIGNAL PISTOL AND CARTRIDGES	7	0·5	+ 5		3
BOMB FUSING	52	28·5	+ 3·96		113
ELECTRICAL EQUIPMENT	9	24	+ 2·7		64
NAVIGATIONAL INSTRUMENTS	48	52	- 3·7	192	
F.24 CAMERA	31	55	- 12·92	710	
OXYGEN PORTABLE	1	43	+ 9		387
OXYGEN CHARGE	53	35·5	+ 7·08		251
BBP CUTTERS & CARTRIDGES	11	44	+ 1·33		59
DINGHIES TYPE 'K' (7)	4	128	- 13·5	1,728	
DINGHY TYPE 'D'	26	97	+ 10·5		1,018
HALKS TYPE 'S'	12	58	+ 10·5		609
FIRST AID PACK	6	6	+ 44·2		265
T.1154 - R.1155	6	155·5	- 2·4	373	
T.1198	55	35	+ 10·5		368
BEAM APPROACH	50	44	- 2	88	
R.3090	13	36	+ 19·8		712
R.365 (A.R.5087)	3	75	- 4·8	360	
A.1134A	21	25	- 4·4	110	
A.R.5830 & A.R.5551	56	484	+ 13·93		6,744
R.1133 (DINGHY RADIO)	20	26	- 9·65		251
PILOT & PARACHUTE	19	200	- 10	2,000	
F.ENGINEER & PARACHUTE	4	200	- 10	2,000	
NAVIGATOR & PARACHUTE	33	200	- 5	1,000	
W.T. OPERATOR & PARACHUTE	35	200	- 0·33	66	
BOMB AIMER & PARACHUTE	44	200	- 17·3	3,460	
MID UPPER GUNNER & PARACHUTE	27	200	+ 18·5		3,700
REAR GUNNER & PARACHUTE	58	200	+ 54·6		10,920
				11,637	65,234
TYPICAL SERVICE LOAD (LESS BOMBS)		4285			53,597
POSITION OF C.G.		12·51 FT OR 150·12 INCHES AFT OF DATUM			

ALTERNATIVE ITEMS NOT INCLUDED IN TYPICAL SERVIC

ITEM	Nº	WEIGHT (LB)	ARM (FT)	MOM FORWA
FLAME FLOATS (6)	3	70	- 14·5	1,015
PHOTO FLASH	46	21	- 13·5	283
RECONNAISSANCE FLARES (4)	30	96	- 13·9	1,334
SEA MARKERS - ALUMINIUM (6)	30	46	- 13·9	639
MEMBER OF CREW ON REST SEAT	38	200	+ 7·08	
MEMBER OF CREW AT URINAL POSITION	17	200	+ 44·3	
GUNS FRONT TURRET (2 x .5")	1	140	- 18·5	2,590
AMMO IN TURRET (600 RDS)	2	180	- 17·9	3,222

MAXIMUM PERMISSIBLE WEIGHT ..... 75,000 LBS
LANDING WEIGHT ..... 65,000 LBS

NOTES- ITEM 9 - ELECTRICAL EQUIPMENT INCLUDES - ELECTRIC TORC
SIGNALLING LAMP
ITEM 48 - NAVIGATIONAL INSTRUMENTS, INCLUDES - MK II AS
MK IA ASTROGRAPH PRISMATIC BINOCULARS OS A STANDAR
NAVIGATIONAL COMPUTOR, MK III SEXTANTS, FINDER & IDF
COMPASS SETS, PROTRACTORS & PILOTS KNEE TYPE WRITI

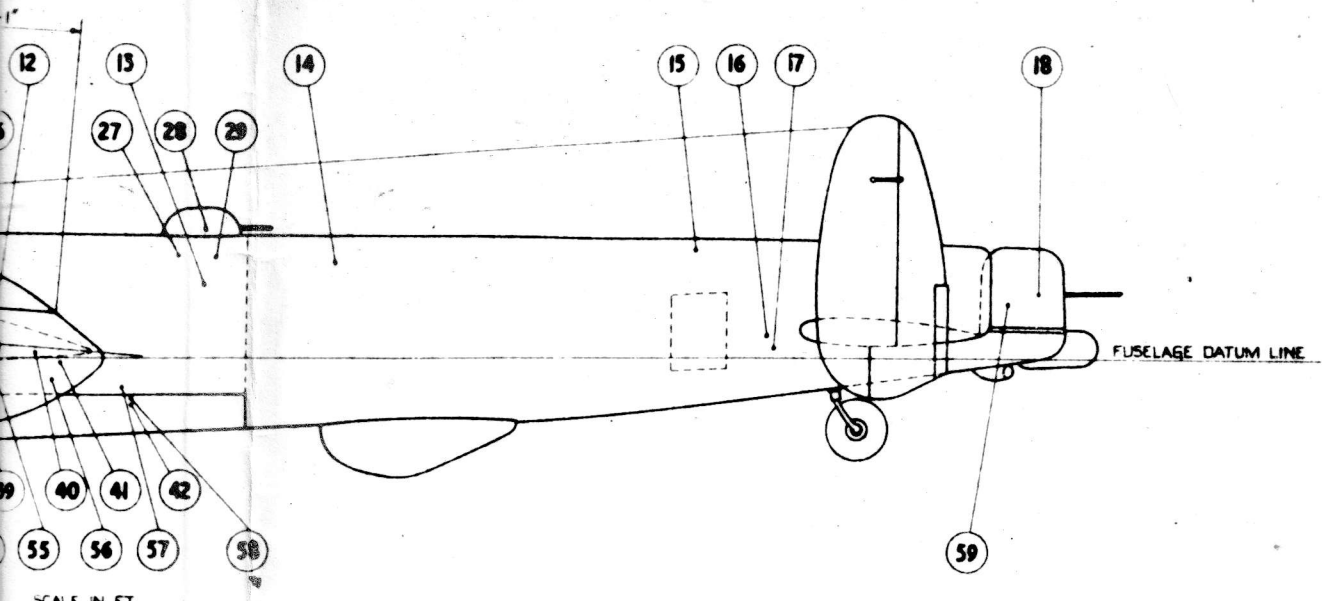
FOR FURTHER LOADING DATA & ITEMS OF FIXED MILITARY EQUIPMENT

FULL FUEL - 2,860 GALLS & 9-500 LB. BOMB

ITEM	Nº	WEIGHT (LB)	ARM (FT)	MOM FORWAR
AIRCRAFT TARE	37	43,778	+ 4·58	
TYPICAL SERVICE LOAD (LESS BOMBS)	40	4,285	+ 12·51	
FUEL (1160 GALLS) Nº 1 TANKS	24	8,352	+ 4·9	
FUEL (1100 GALLS) Nº 2 TANKS	10	7,920	+ 5·2	
FUEL (600 GALLS) Nº 3 TANKS	25	4,320	+ 5·75	
OIL (150 GALLS)	23	1,350	+ 2·3	
1 - 500 LB BOMBS	32	500	- 8·92	4,460
1 - CARRIERS	47	18	- 8·92	161
3 - 500 LB BOMBS	34	1,500	- 2·54	3,810
3 - CARRIERS	49	55	- 2·54	140
2 - 500 LB BOMBS	51	1,000	+ 3·83	
2 - CARRIERS	36	36	+ 3·83	
3 - 500 LB BOMBS	39	1,500	+ 10·21	
3 - CARRIERS	54	55	+ 10·21	
				8,571
ALL UP WEIGHT		74,669		
POSITION OF C.G.		4·91 FT OR 58·92 INCHES AFT OF D		

LOADING AND C.G. DIAGRA

RED AFT OF VERTICAL DATUM ARE POSITIVE



SCALE IN FT

20 30 40 50 60

S NOT INCLUDED IN TYPICAL SERVICE LOAD.

	Nº	WEIGHT (LB)	ARM (FT)	MOMENT (LB FT) FORWARD	AFT
	3	70	- 14·5	1015	
	46	21	- 13·5	283	
4)	30	96	- 13·9	1334	
M (6)	30	46	- 13·9	639	
T SEAT	38	200	+ 7·08		1,416
AL POSITION	17	200	+ 44·3		8,860
× 5")	1	140	- 18·5	2590	
RDS)	2	180	- 17·9	3,222	

WEIGHT ..... 75,000 LBS
HT ..... 65,000 LBS

RICAL EQUIPMENT INCLUDES - ELECTRIC TORCHES, SUPPRESSOR & AMP
ATIONAL INSTRUMENTS, INCLUDES - MK II ASTRO COMPASS
RAPH PRISMATIC BINOCULARS 05A STANDARDS,
COMPUTOR, MK II SEXTANTS, FINDER & IDENTIFIER,
S, PROTRACTORS & PILOTS KNEE TYPE WRITING PAD
TA & ITEMS OF FIXED MILITARY EQUIPMENT SEE FIG 2

L - 2,860 GALLS & 9-500 LB. BOMBS.

	Nº	WEIGHT (LB)	ARM (FT)	MOMENT (LB FT) FORWARD	AFT
	37	43,778	+ 4·38		191,930
SS BOMBS)	40	4,285	+ 12·51		53,597
ANKS	24	8,352	+ 4·9		40,925
ANKS	10	7,920	+ 5·2		41,184
ANKS	25	4,320	+ 5·75		24,840
	23	1,350	+ 2·3		3,105
	32	500	- 8·92	4460	
	47	18	- 8·92	161	
	34	1,500	- 2·54	3,810	
	49	55	- 2·54	140	
	51	1,000	+ 3·83		3,930
	36	36	+ 3·83		138
	39	1,500	+ 10·21		15,315
	54	55	+ 10·21		562
				8,571	375,426
		74,669			366,855
		4·9 FT OR 58·92 INCHS AFT OF DATUM			

1-4,000 LB. BOMB & 6-1,000 LB. BOMBS.

ITEM	Nº	WEIGHT (LB)	ARM (FT)	MOMENT (LB FT) FORWARD	AFT
AIRCRAFT TARE	37	43,778	+ 4·38		191,930
TYPICAL SERVICE LOAD (LESS BOMBS)	40	4,285	+ 12·51		53,597
3 - 1,000 LB BOMBS (SHORT TAILED)	32	3,000	- 8·92	26,760	
3 CARRIERS	47	55	- 8·92	491	
1 - 4,000 LB BOMB	51	4,000	+ 3·96		15,840
3 - 1,000 LB BOMBS (SHORT TAILED)	42	3,000	+ 16·58		49,740
3 CARRIERS	58	55	+ 16·58		912
FUEL (449 GALLS) Nº 1 TANKS	24	3,233	+ 4·9		15,842
FUEL (1100 GALLS) Nº 2 TANKS	10	7,920	+ 5·2		41,184
FUEL (600 GALLS) Nº 3 TANKS	25	4,320	+ 5·75		24,840
OIL (150 GALLS)	23	1,350	+ 2·3		3,105
				27,251	396,800
ALL UP WEIGHT		74,996			369,739
POSITION OF CG		4·93 FT OR 59·16 INCHS AFT OF DATUM			

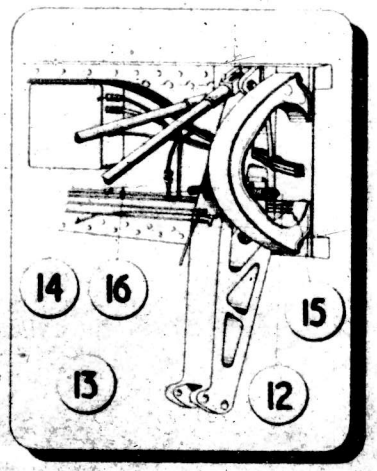
6 - 2,000 LB. BOMBS.

ITEM	Nº	WEIGHT (LB)	ARM (FT)	MOMENT (LB FT) FORWARD	AFT
AIRCRAFT TARE	37	43,778	+ 4·38		191,930
TYPICAL SERVICE LOAD (LESS BOMBS)	40	4,285	+ 12·51		53,597
3 - 2000 LB BOMBS	34	6,000	- 2·54	15,240	
3 - CARRIERS	49	165	- 2·54	419	
3 - 2000 LB BOMBS	39	6,000	+ 10·21		61,260
3 - CARRIERS	54	165	+ 10·21		1,685
FUEL (141 GALLS) Nº 1 TANKS	24	1,015	+ 4·9		4,975
FUEL (1,100 GALLS) Nº 2 TANKS	10	7,920	+ 5·2		41,184
FUEL (600 GALLS) Nº 3 TANKS	25	4,320	+ 5·75		24,840
OIL (150 GALLS)	23	1,350	+ 2·3		3,105
				15,659	382,576
ALL UP WEIGHT		74,998			366,917
POSITION OF CG		4·89 FT OR 58·7 INCHS AFT OF DATUM			

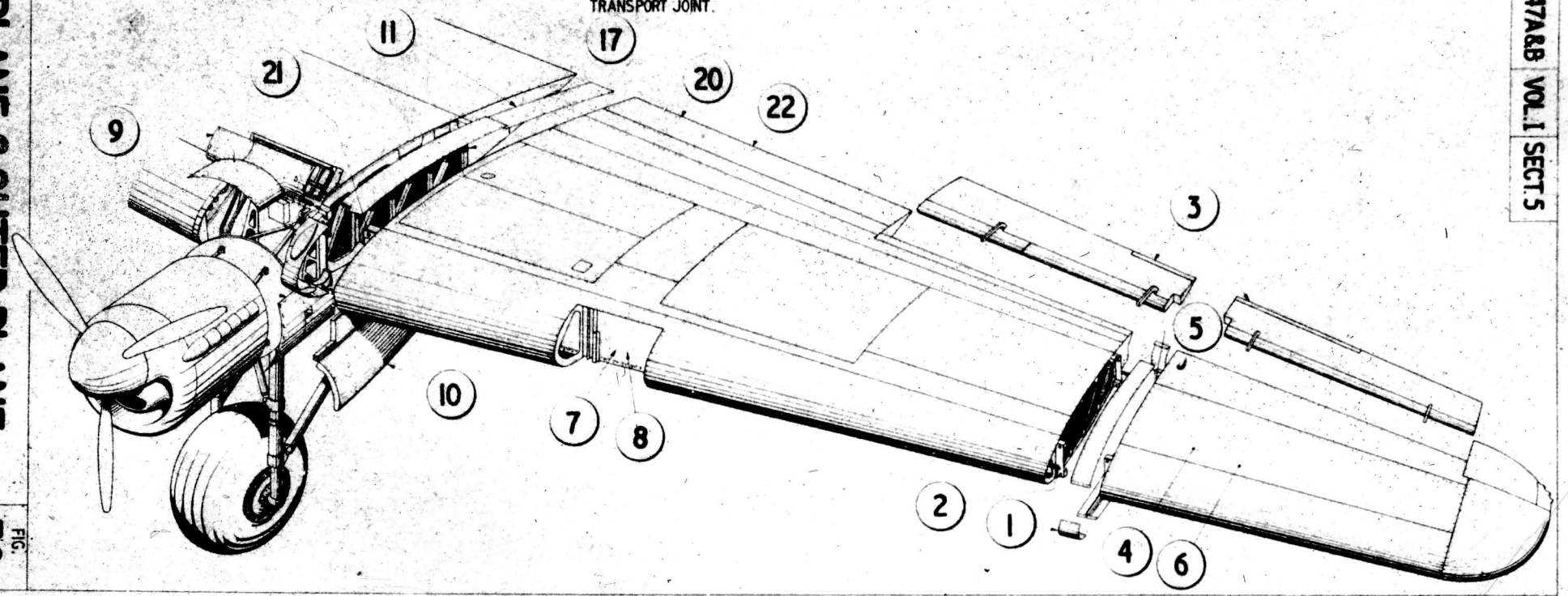
ADING AND C.G. DIAGRAM

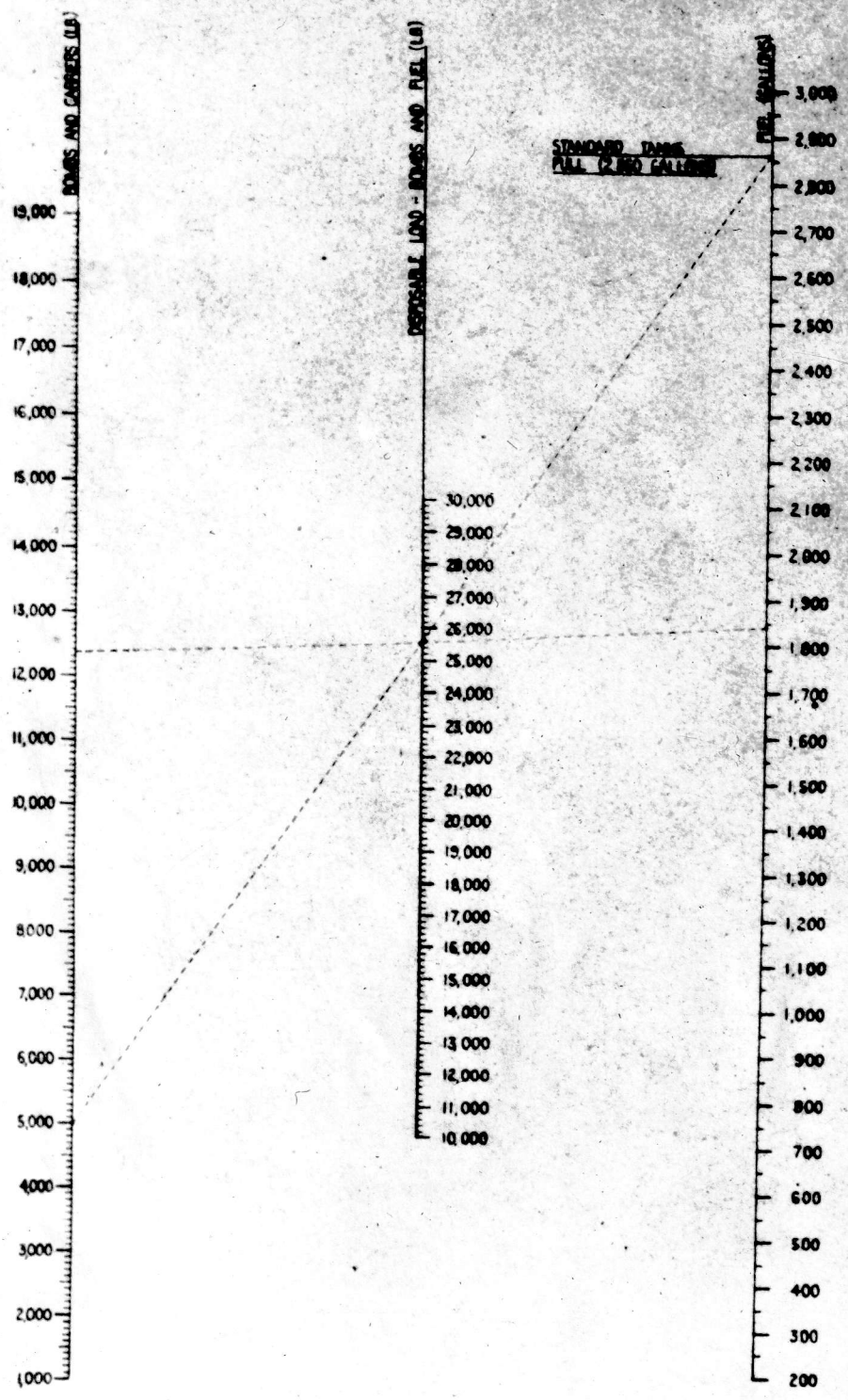
FIG 1

INTERMEDIATE PLANE & OUTER PLANE



1. REMOVE JOINT COVER PLATES AT JUNCTION OF INTERMEDIATE PLANE & OUTER PLANE.
2. DISCONNECT ELECTRICAL CABLE TO NAVIGATION & RESIN LAMPS.
3. DISCONNECT AND REMOVE AILERON OPERATING GEAR, ALSO INBOARD & OUTBOARD PORTIONS OF AILERON - SEE FIG.24.
4. SLING OUTER PLANE FROM A CRANE - SEE FIG.29.
5. REMOVE SPLIT PINS, UNSCREW NUTS & DRIVE OUT BOOM JOINT PINS - REMOVE JOINT PLATE - SEE FIG.33.
6. LOWER THE OUTER PLANE.
7. REMOVE OUTBOARD POWER PLANT - SEE FIG 10.
8. REMOVE OUTBOARD ENGINE SUB - FRAME - SEE FIG.17.
9. REMOVE INBOARD ENGINE FAIRING PANELS BETWEEN FIREWALL & FRONT SPAR.
10. REMOVE OUTBOARD UNDERCARRIAGE DOOR & VALANCE FAIRING - SEE FIG.21.
11. REMOVE TRANSPORT JOINT COVER PANELS AT JUNCTION OF CENTRE SECTION & INTERMEDIATE PLANE.
12. DISCONNECT FUEL SUPPLY PIPE TO OUTBOARD ENGINE AT TRANSPORT JOINT.
13. DISCONNECT PNEUMATIC BOOST & DOPER PIPES AT TRANSPORT JOINT.
14. DISCONNECT ALL ELECTRICAL CONDUITS GOING OUTBOARD, AT THE JUNCTION BOX MOUNTED BETWEEN THE U/C. BEAMS ON FRONT SPAR.
15. DISCONNECT OUTBOARD ENGINE CONTROL RODS AT TURNBUCKLES.
16. DISCONNECT OUTBOARD ENGINE BOOST CABLE AT THIMBLE ON FRONT SPAR BETWEEN U/C. BEAMS, WITHDRAW & COIL.
17. REMOVE SPLIT PIN & DISCONNECT AILERON PUSH-PULL CONTROL ROD AT INTERMEDIATE LEVER ON CENTRE SECTION REAR SPAR.
18. DISCONNECT FLAP OPERATING TUBE - SEE FIG.26.
19. LOWER FLAPS & DISCONNECT AILERON TRIMMING TAB CABLES AT TURNBUCKLES, RELEASE FAIRLEADS & WITHDRAW CABLES FROM INBOARD TRAILING EDGE.
20. SLING INTERMEDIATE PLANE FROM A CRANE - SEE FIG.29.
21. REMOVE SPLIT PINS, UNSCREW NUTS & DRIVE OUT BOOM JOINT PINS - REMOVE JOINT PLATE - SEE FIGS.31 & 32.
22. LOWER INTERMEDIATE PLANE FROM AIRCRAFT.





INSTRUCTIONS FOR US

THE PURPOSE OF THIS CHA
ESTIMATION OF THE QUANTITY OF FUE
A GIVEN WEIGHT OF BOMBS AND CARR
THE WEIGHT OF BOMBS AND CARRIERS
A GIVEN AMOUNT OF FUEL. IT SHO
FOLLOWING WAY:-

THE TARE WEIGHT OF THE A
OF OIL (150 GALLS.) AND THE SERVIC
TOGETHER TO OBTAIN THE BASIC WEIGHT

TARE WEIGHT	(FROM FIG. 1)
150 GALLONS OIL	(FROM FIG. 1)
SERVICE LOAD	(FROM FIG. 1)
BASIC WEIGHT LESS FUEL, BOMBS AND	

THE ALLOWABLE WEIGHT FOR
FUEL, BOMBS AND CARRIERS IS THEN
THE BASIC WEIGHT FROM THE MAXIMU
(75,000 LB) AS FOLLOWS:-

MAXIMUM CROSS WEIGHT	
BASIC WEIGHT	
DISPOSABLE LOAD	

SUPPOSE IT IS NOW REQUIRED
OF FUEL WHICH CAN BE CARRIED WITH
OF 12,000 LB (PLUS CARRIER 330 LB).
FOLLOWS:- PLACE A RULE ACROSS THE
INTERSECTS THE COLUMN FOR BOMBS AND
AND THE COLUMN FOR DISPOSABLE LOAD
MAXIMUM QUANTITY OF FUEL ALLOWED
WILL THEN BE GIVEN AT THE INTERSECTIO
THE FUEL COLUMN, IN THIS CASE 2940 GA

SIMILARLY, IF IT IS REQUIRED
WEIGHT OF BOMBS AND CARRIERS WHIC
WITH A GIVEN QUANTITY OF FUEL (2
WE THEN PROCEED AS FOLLOWS:- PLACE
DIAGRAM SO THAT IT INTERSECTS THE C
2860 GALLONS AND THE COLUMN FOR
25,987 LB, THE MAXIMUM WEIGHT OF B
ALLOWED WITH THIS QUANTITY OF FUEL
AT THE INTERSECTION OF THE RULE THR
BOMBS, IN THIS CASE 4,990 LB

N.B
IT IS ASSUMED THAT FULL OIL (150 G
ON EVERY OCCASION.

FIG. 2

LOADING & C.G. CHART.

INSTRUCTIONS FOR USE OF CHART

THE PURPOSE OF THIS CHART IS TO SIMPLIFY THE ESTIMATION OF THE QUANTITY OF FUEL TO BE CARRIED WITH A GIVEN WEIGHT OF BOMBS AND CARRIERS OR ALTERNATIVELY THE WEIGHT OF BOMBS AND CARRIERS TO BE CARRIED WITH A GIVEN AMOUNT OF FUEL. IT SHOULD BE USED IN THE FOLLOWING WAY:-

THE TARE WEIGHT OF THE AIRCRAFT, THE WEIGHT OF OIL (150 GALLS) AND THE SERVICE LOAD ARE ALL ADDED TOGETHER TO OBTAIN THE BASIC WEIGHT AS FOLLOWS:-

TARE WEIGHT	(FROM FIG. 1)	43,778 LB
150 GALLONS OIL	(FROM FIG. 1)	1,350 LB
SERVICE LOAD	(FROM FIG. 1)	4,285 LB
BASIC WEIGHT LESS FUEL, BOMBS AND CARRIERS		49,413 LB

THE ALLOWABLE WEIGHT FOR DISPOSABLE LOAD, I.E. FUEL, BOMBS AND CARRIERS IS THEN FOUND BY SUBTRACTING THE BASIC WEIGHT FROM THE MAXIMUM GROSS WEIGHT (75,000 LB) AS FOLLOWS:-

MAXIMUM GROSS WEIGHT	75,000 LB
BASIC WEIGHT	49,413 LB
DISPOSABLE LOAD	25,587 LB

SUPPOSE IT IS NOW REQUIRED TO FIND THE QUANTITY OF FUEL WHICH CAN BE CARRIED WITH A GIVEN BOMB LOAD OF 12,000 LB (PLUS CARRIERS 330 LB). WE THEN PROCEED AS FOLLOWS:- PLACE A RULE ACROSS THE DIAGRAM SO THAT IT INTERSECTS THE COLUMN FOR BOMBS AND CARRIERS AT 12,330 LB AND THE COLUMN FOR DISPOSABLE LOAD AT 25,587 LB. THE MAXIMUM QUANTITY OF FUEL ALLOWED WITH THIS BOMB LOAD WILL THEN BE GIVEN AT THE INTERSECTION OF THE RULE THROUGH THE FUEL COLUMN, IN THIS CASE 1940 GALLONS.

SIMILARLY, IF IT IS REQUIRED TO FIND THE MAXIMUM WEIGHT OF BOMBS AND CARRIERS WHICH CAN BE CARRIED WITH A GIVEN QUANTITY OF FUEL (2860 GALLONS - FULL FUEL) WE THEN PROCEED AS FOLLOWS:- PLACE A RULE ACROSS THE DIAGRAM SO THAT IT INTERSECTS THE COLUMN FOR FUEL AT 2860 GALLONS AND THE COLUMN FOR DISPOSABLE LOAD AT 25,587 LB., THE MAXIMUM WEIGHT OF BOMBS AND CARRIERS ALLOWED WITH THIS QUANTITY OF FUEL WILL THEN BE GIVEN AT THE INTERSECTION OF THE RULE THROUGH THE COLUMN FOR BOMBS, IN THIS CASE 4,990 LB

N.B
IT IS ASSUMED THAT FULL OIL (150 GALLONS) IS CARRIED ON EVERY OCCASION.

TARE WEIGHT 43,778 LBS.

THIS INCLUDES THE FOLLOWING ITEMS:-

BALLAST IN PLACE OF NOSE TURRET INCLUDING WEIGHT FOR GUNS AND AMMUNITION	540 LB
MID - UPPER TURRET GLEN MARTIN TYPE 23	556 LB
REAR TURRET BOULTON AND PAUL 'D' TYPE	419 LB
TURRET MOUNTINGS AND FITTINGS	205 LB
AMMUNITION BOXES, TRACKS AND MOUNTINGS FOR REAR TURRET	101 LB
FIXED BOMB AND FUSING GEAR	374 LB
BOMB SIGHT MOUNTINGS	50 LB
FIXED EQUIPMENT FOR PYROTECHNICS	14 LB
ELECTRICAL EQUIPMENT	1,392 LB
FIXED PARTS INSTRUMENT EQUIPMENT, FLYING, ENGINE, NAVIGATIONAL, D.R. COMPASS	281 LB
AUTOMATIC CONTROLS AND F.24 CAMERA MOUNTING	101 LB
FIXED EQUIPMENT FOR OXYGEN INSTALLATION INCLUDING 16 OXYGEN CYLINDERS AND CRATE AND PORTABLE OXYGEN	379 LB
NITROGEN SYSTEM (12 BOTTLES)	266 LB
FIXED PARTS OF MISCELLANEOUS EQUIPMENT INCLUDING FIRE EXTINGUISHERS, SAFETY BELTS, MOUNTINGS FOR FIRST AID, METHYL BROMIDE FIREMAN'S AXE, FITTINGS FOR SUN BLINDS, PARACHUTE STOWAGES, EMERGENCY TOOL KIT AND ELSAN	245 LB
FIXED PARTS OF DINGHY INSTALLATION	54 LB
FIXED PARTS OF WIRELESS EQUIPMENT INCLUDING D.F. LOOP, INTERCOMMUNICATION, STANDARD BEAM APPROACH, AERIALS, T.R.54/R.1155, T.R. 1196, R.3080 AND A.R.I.5830/A.R.I.5559	1,202 LB
DE-ICING SYSTEM	60 LB
RUBBER TOW RELEASE	3 LB
CABLE CUTTING EQUIPMENT	21 LB
ARMOUR PLATING	345 LB

MAXIMUM ALL-UP WEIGHT FOR TAKE-OFF AND STRAIGHT FLYING - 75,000 LB

MAXIMUM ALL-UP WEIGHT FOR LANDING - 65,000 LB

LIMITS OF PERMISSIBLE C.G. TRAVEL

FORWARD LIMIT ..... 46-0 IN. AFT OF DATUM POINT MEASURED PARALLEL TO DATUM.

AFT LIMIT ..... 66-0 IN. AFT OF DATUM POINT MEASURED PARALLEL TO DATUM.

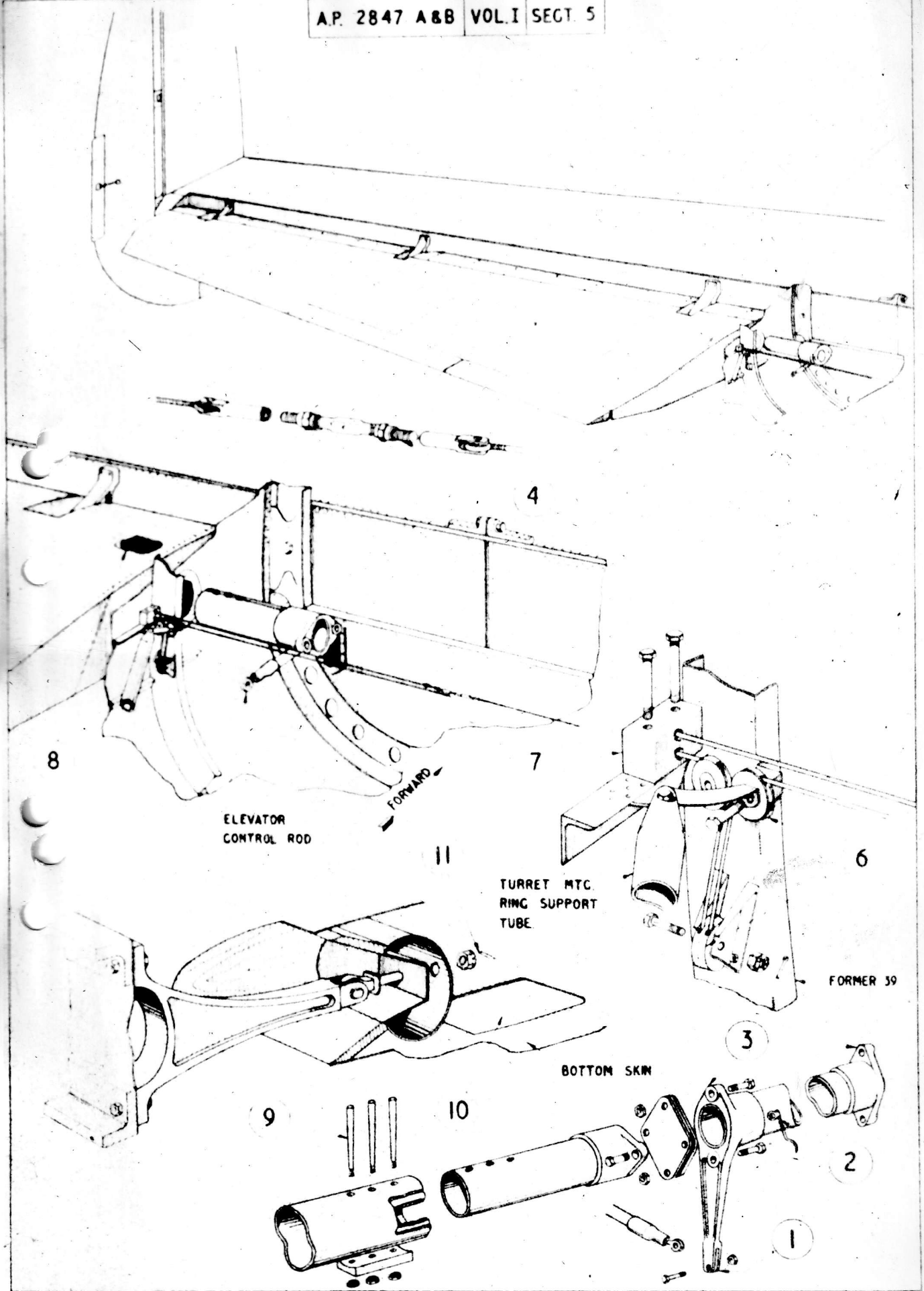


FIG. 39

ELEVATOR

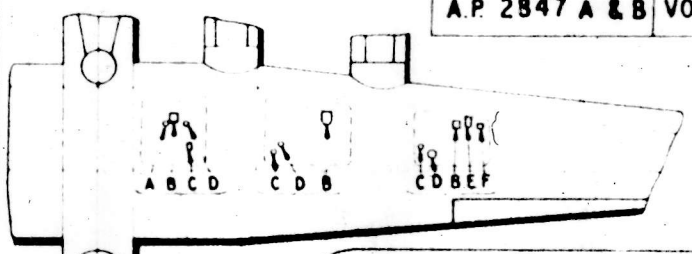
FIG. 39

TAIL UNIT

Key to fig. 40.

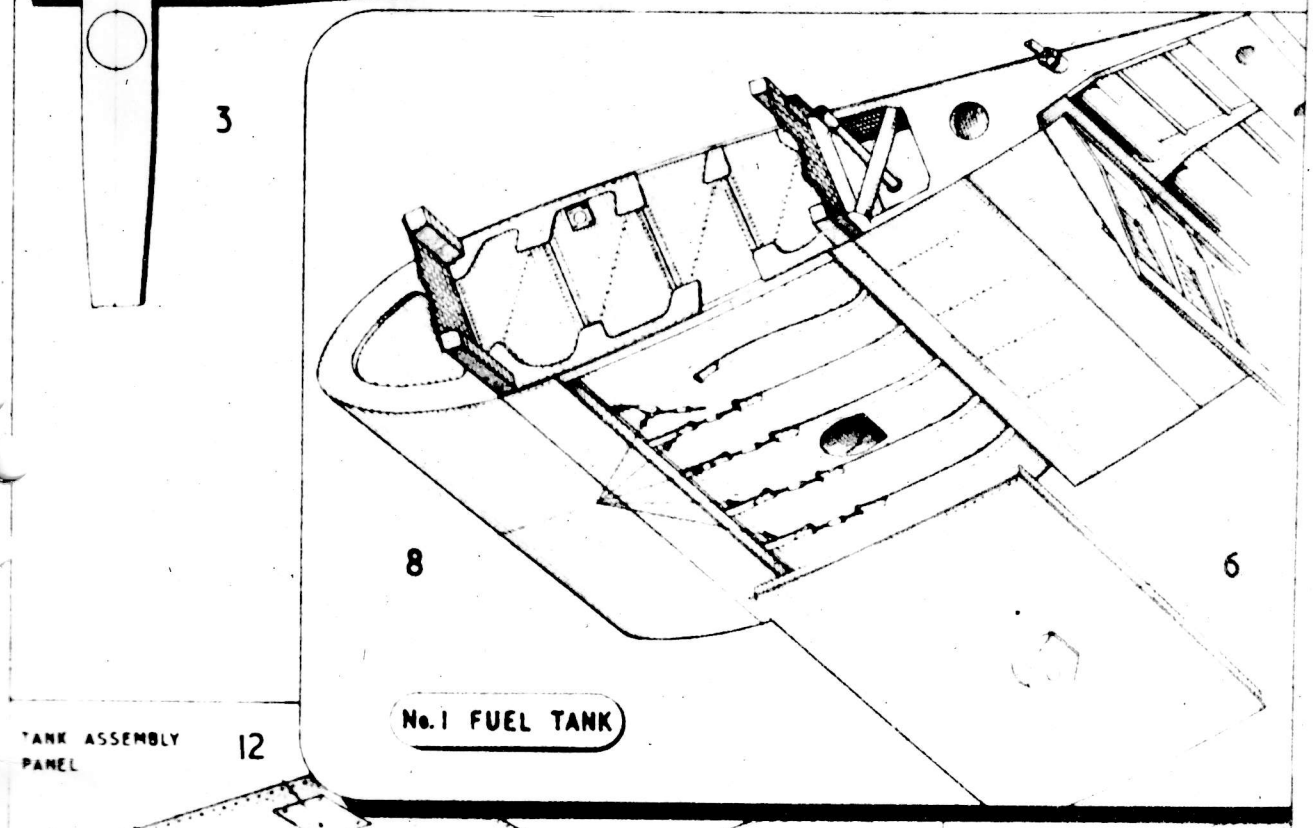
To remove tail plane trestle rear end of fuselage and proceed as follows:-

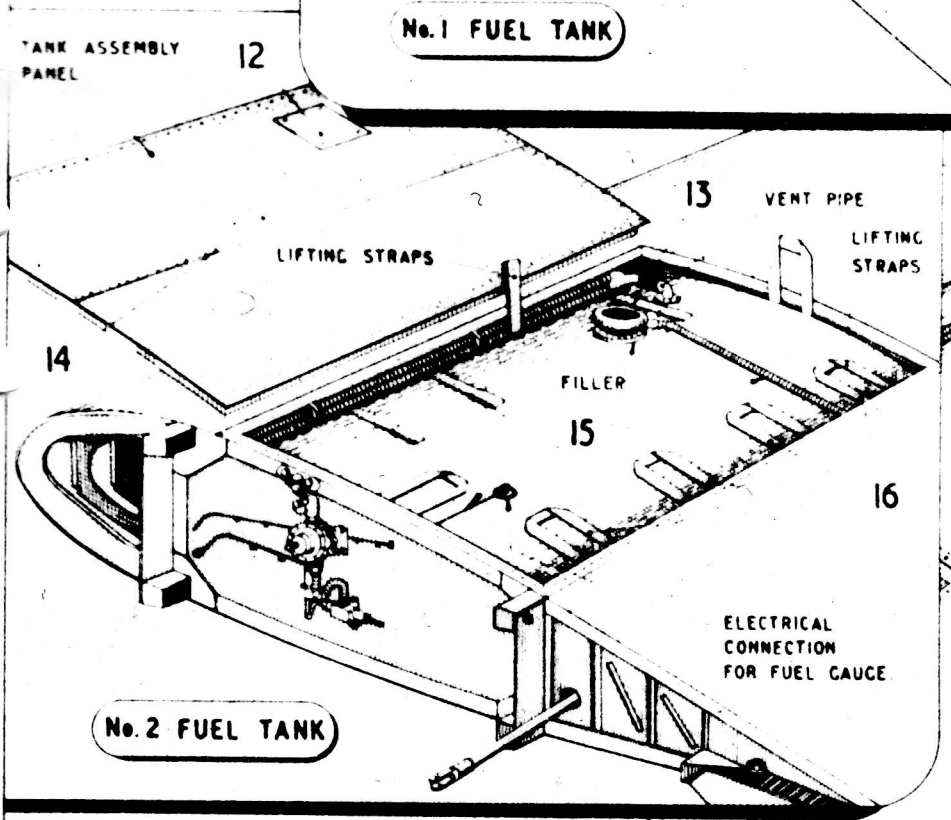
1. Remove all tail plane root fairings (see fig.4.)
2. Disconnect aerial at top of each fin by removing aluminium "weak link" rivet at rear insulator.
3. Disconnect aerial at end of tail plane (when fitted).
4. Disconnect elevator connecting rod at torque shaft in rear end of the fuselage.
5. Disconnect couplings at each end of elevator torque shaft.
6. Remove three taper pins securing outer ends of elevator shaft to inner ends of elevator spars on side of fuselage, and draw ends of torque shaft inside fuselage.
7. Remove bolts securing walkway across top of tail plane in centre of fuselage and securing walkway in rear end of fuselage to angle brackets on tail plane rear spar.
8. Remove four inspection panels on top surface of tail plane inside fuselage.
9. Disconnect and remove rod connecting rudder push-pull controls in fuselage to lever between tail plane spars.
10. Disconnect starboard rudder push-pull control at lever between tail plane spars in the fuselage.
11. Tie rudder trimming tab cables with string at control box in pilot's cockpit to prevent cables unwrapping over sides of drum.
12. Disconnect elevator and rudder trimming tab control cables at turnbuckles on port side of fuselage forward of tail plane front spar.



ACCESS DOORS TO No. 1, 2 & 3 FUEL TANKS

A JETTISON PIPE
B FILLER
C SUMP
D GAUGE
E VENT CONNECTION
F VENT VALVE





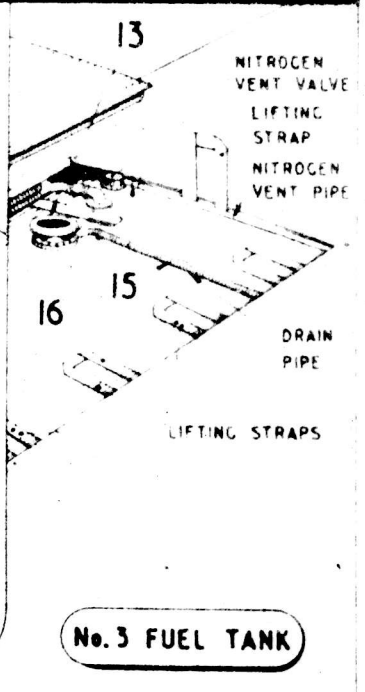
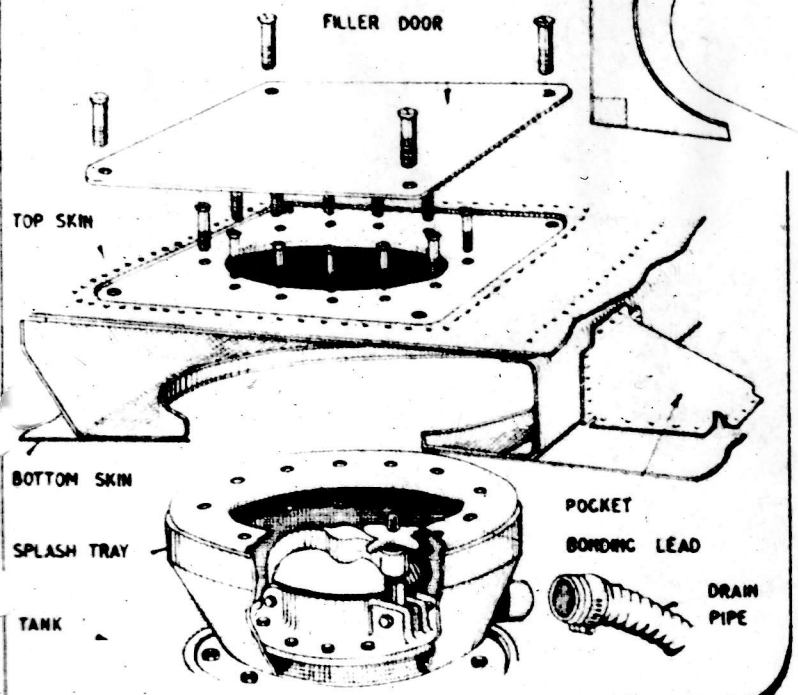


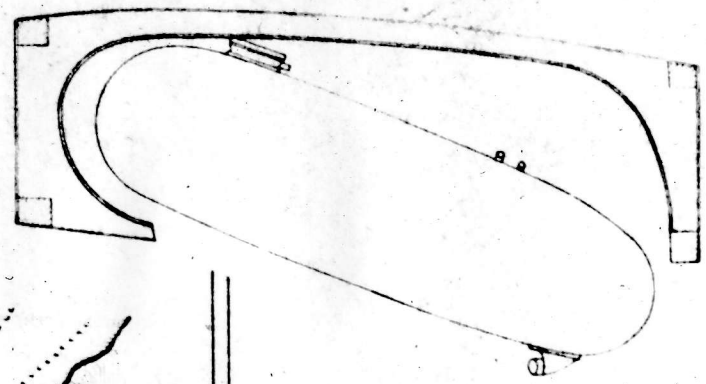
FIG 35

FUEL TANKS (1)

FIG 35

DETAIL OF TANK FILLER (Nº 2 AND 3 TANKS)





DETAIL A
LOWERING OF Nº 1 TANK

DETAIL OF TURNBUCKLE

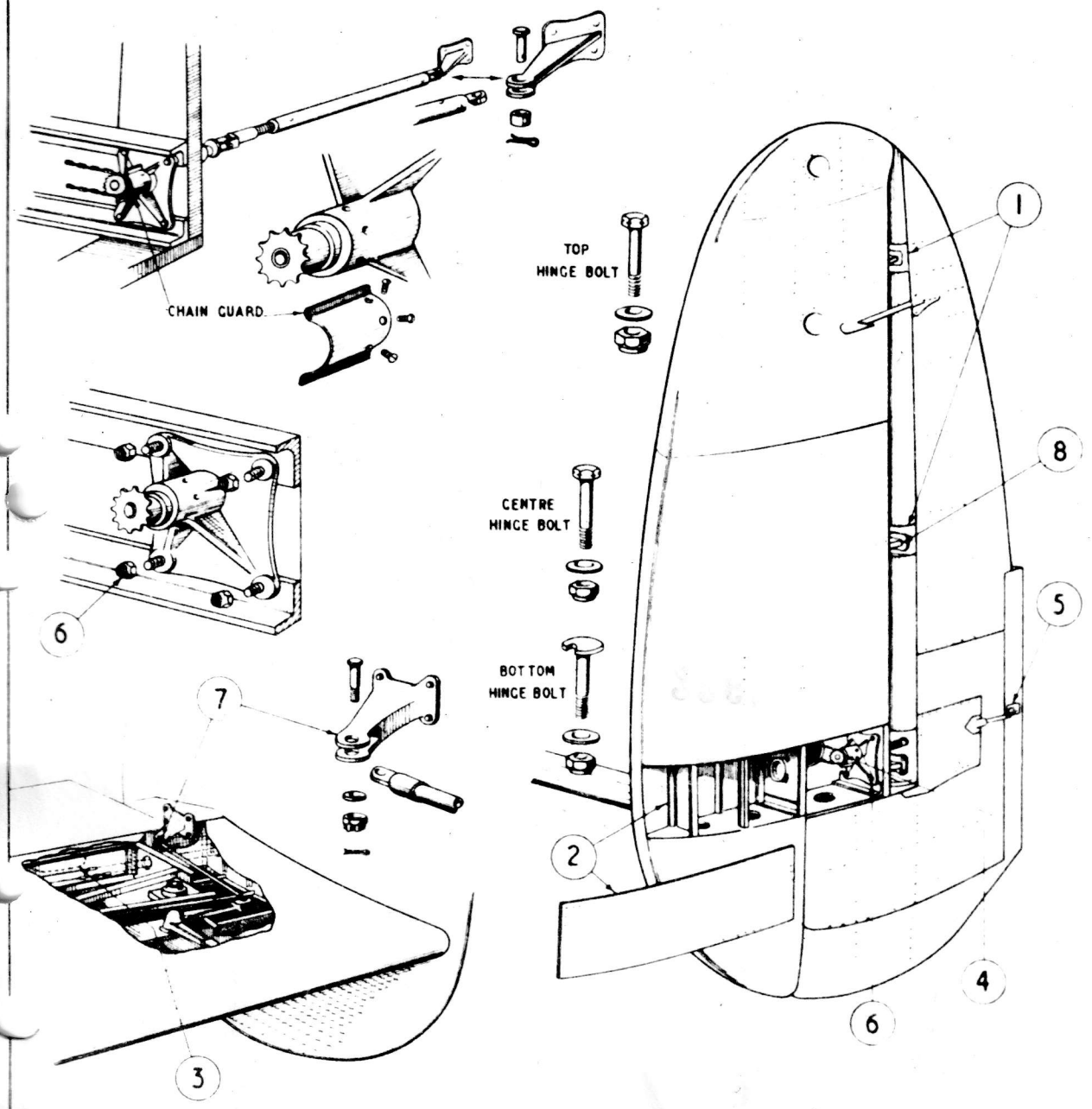
TANK Nº 1

1. PLACE A SUITABLE PLATFORM BENEATH THE ASSEMBLY PANEL IN THE MAIN PLANE
2. DRAIN OR PARTLY DRAIN THE FUEL SYSTEM AS REQUIRED SEE SECT 4 CHAP 3
3. REMOVE ACCESS DOORS IN UPPER SURFACE OF PLANE AND REMOVE FILLER CAP ASSEMBLY LEAVING SPLASH TRAY IN POSITION
4. DISCONNECT ALL PIPES AND ELECTRICAL LEADS AT THE TOP OF THE TANK
5. REMOVE THE NUT FROM THE END OF THE SPINDLE SECURING THE JETTISON PIPE DOOR TO THE UNDERSIDE OF THE MAIN PLANE
6. REMOVE THE TANK ASSEMBLY PANEL FROM THE UNDERSIDE OF THE MAIN PLANE
7. DISCONNECT THE DELIVERY PIPE AT THE CONNECTION TO THE TANK
8. SUPPORT THE TANK AND UNSCREW THE TURNBUCKLE IN EACH STRAP
9. LOWER THE REAR END OF THE TANK AND WITHDRAW IT FROM THE MAIN PLANE (SEE DETAIL A)

TANKS Nº 2 & 3

10. DRAIN OR PARTLY DRAIN FUEL SYSTEM AS REQUIRED SEE SECT 4 CHAP 3
11. TAKE THE WEIGHT OF THE OUTBOARD ENGINE BY SLINGING OR TRESTLING
12. REMOVE THE ACCESS DOOR UNDER THE MAIN PLANE AND DISCONNECT THE DELIVERY PIPE FROM THE TANK
13. REMOVE THE SCREWS SECURING THE SPLASH TRAY TO THE ACCESS PANEL AT THE FILLER CAP. NOTE THAT THE BONDING LEAD SHOULD BE RECONNECTED ON RE-ASSEMBLY
14. REMOVE THE SCREWS SECURING THE TANK ASSEMBLY PANEL AND LIFT AWAY THE PANEL WHEN REPLACING A PANEL FIT AT LEAST TWO SCREWS AT DIAGONALLY OPPOSITE CORNERS AND CHECK ALIGNMENT OF SCREW HOLES IF NECESSARY RAISE OR LOWER THE ENGINE TO ENABLE THE SCREWS TO BE FITTED
15. DISCONNECT ALL PIPES AND ELECTRICAL LEADS AT THE TOP OF THE TANK
16. LIFT THE TANKS BY MEANS OF THE STRAPS AND REMOVE WITH GREAT CARE

FUEL TANKS (2)



1 REMOVE THE THREE HINGE INSPECTION COVERS AT THE NOSE OF THE RUDDER.

2 REMOVE THE ACCESS PANEL ON THE OUTER FACE OF THE FIN BY REMOVING THE RIVETS

3 REMOVE THE ACCESS DOOR IN THE UPPER SURFACE OF THE TAILPLANE OUTER END.

4 DISCONNECT THE RUDDER TRIMMING TAB OPERATING CABLE, DETACH THE GUARD AND REMOVE THE CHAIN FROM THE SPROCKET IN THE FIN.

5 DISCONNECT THE TRIMMING TAB OPERATING ROD AT THE TAB, UNSCREW AND REMOVE. (THE SPROCKET MUST BE PREVENTED FROM TURNING WHILE THE ROD IS UNSCREWED)

6 REMOVE THE NUTS SECURING THE SPROCKET BEARING HOUSING TO THE OUTER END OF THE TAILPLANE REAR SPAR, AND WITHDRAW THE HOUSING COMPLETE WITH THE UNIVERSAL JOINT AND THE SCREWED FORK-END

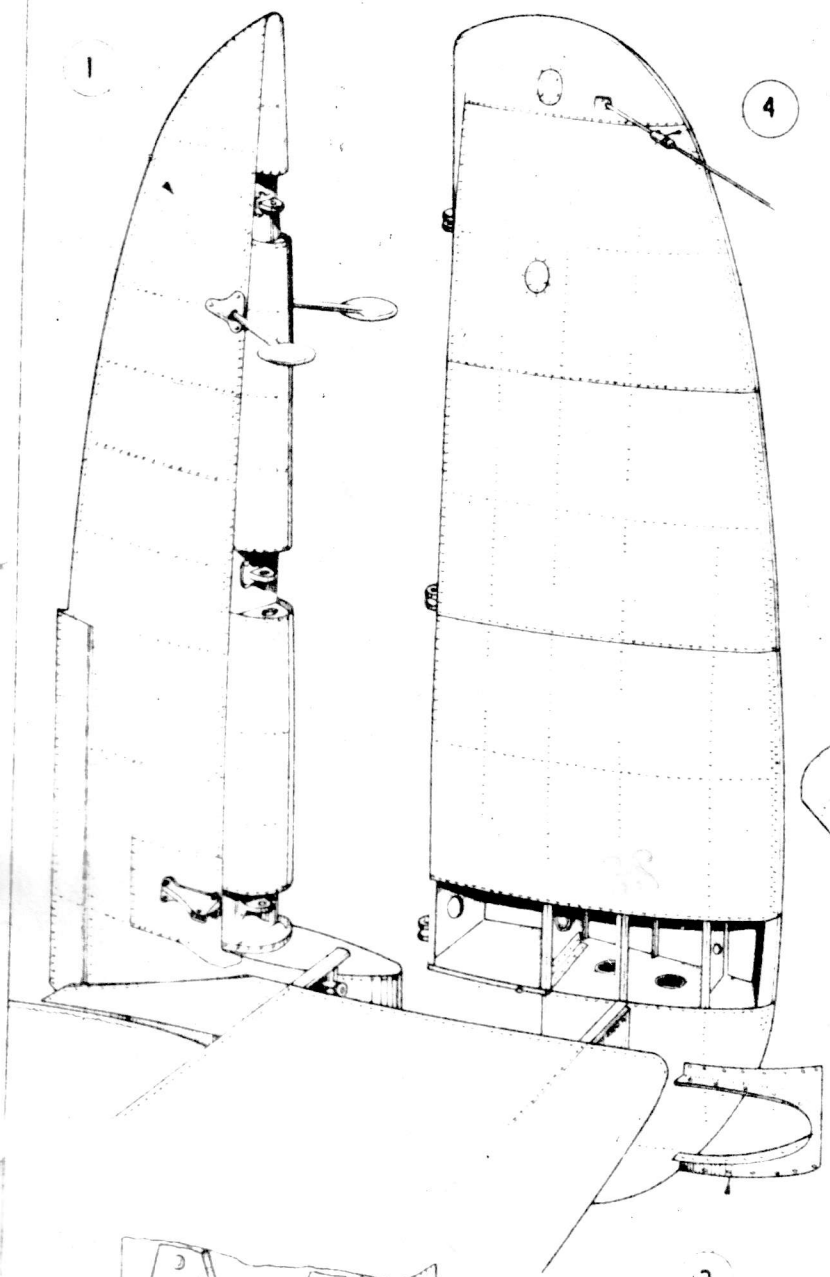
7 REMOVE THE BOLT SECURING THE RUDDER ACTUATING LEVER TO THE CONNECTING ROD IN THE TAILPLANE.

8 SUPPORT THE RUDDER, REMOVE THE THREE HINGE BOLTS AND LOWER THE RUDDER FROM THE FIN.

FIG. 37

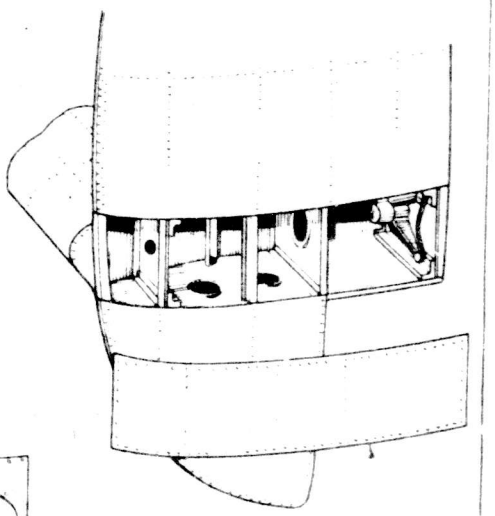
RUDDER

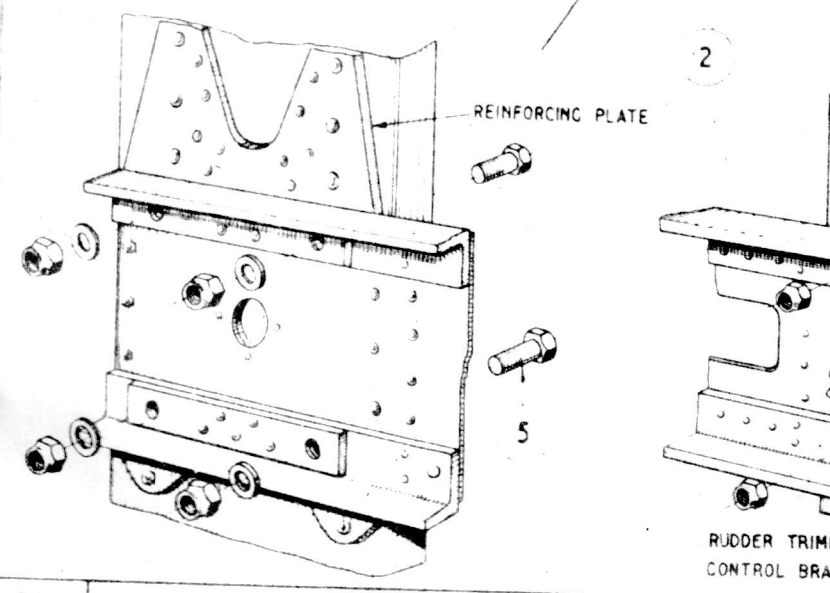
FIG. 37

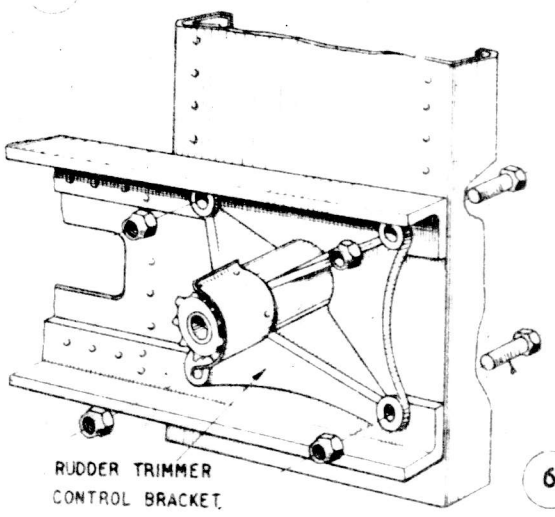


TO REMOVE FIN, PROCEED AS FOLLOWS.

1. REMOVE RUDDER.
2. REMOVE FAIRINGS AT TAIL PLANE TIP AND FIN JUNCTION.
3. REMOVE DETACHABLE PANEL ON OUTBOARD FACE OF FIN.
4. DISCONNECT AERIAL BY REMOVING ALUMINIUM WEAK LINK RIVET AT REAR INSULATOR.
5. REMOVE BOLTS SECURING TAILPLANE FRONTSPAR TO FRONT FIN POST.
6. REMOVE BOLTS SECURING TAILPLANE REARSPAR TO REAR FIN POST.
7. LOWER FIN FROM TAIL PLANE.





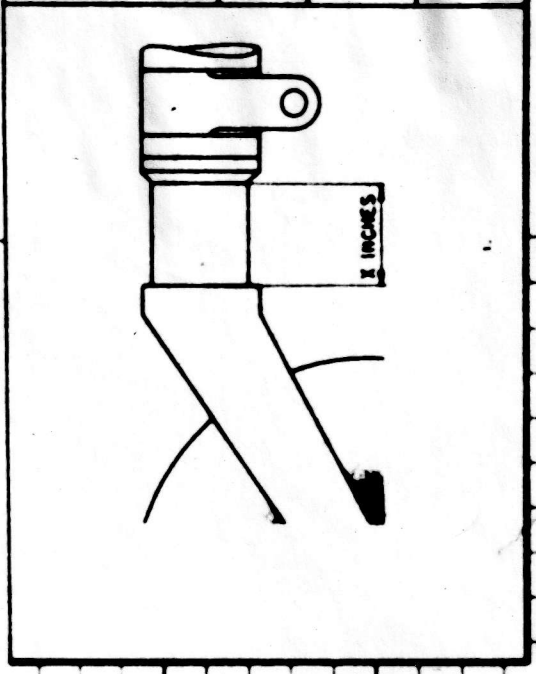


ELEVATOR

Key to fig.39.

To remove elevator proceed as follows:-

1. Disconnect elevator connecting rod at torque shaft at rear of fuselage.
2. Remove bonding lead from torque shaft.
3. Disconnect coupling at each side of elevator torque shaft and remove centre portion of shaft.
4. Disconnect elevator trimming tab cable turnbuckle at centre of fuselage behind rear spar.
5. Disconnect elevator trimming tab cables at turnbuckles forward of tail plane front spar.
6. Remove Vickers pulleys mounted at former 39.
7. Remove fairlead in fuselage side and pass cables through opening.
8. Remove access doors on top and bottom surfaces.
9. Remove three taper pins securing outer ends of elevator torque shaft to inner end of elevator spars and draw ends of torque shaft inside fuselage.
10. Remove access doors in under surface of elevator just aft of hinges.
11. Support elevator, remove split pins and nuts from hinge bolts and draw elevator from tailplane.



TAIL WHEEL LOAD UNDER 7,800 LB.
INFLATION PRESSURE
LEG FULLY EXTENDED
650 - 700 LB/SQ.IN.

TAIL WHEEL LOAD
7,800 - 8,500 LB.
INFLATION PRESSURE
LEG FULLY EXTENDED
725 - 775 LB/SQ. IN.

EXAMPLE OF USE

IF THE EXTENSION OF THE TAIL WHEEL STRUT (IE X IN) IS 2·5 IN. AND THE TAIL WHEEL LOAD IS UNDER 7,800 LB. THE AIR PRESSURE IN THE LEG SHOULD BE BETWEEN 1,000 AND 1077 LB/SQ IN

LEG FULLY EXTENDED
4·92 IN.

FIG. 23A

TAIL WHEEL STRUT INFLATION DIAGRAM

FIG. 23A

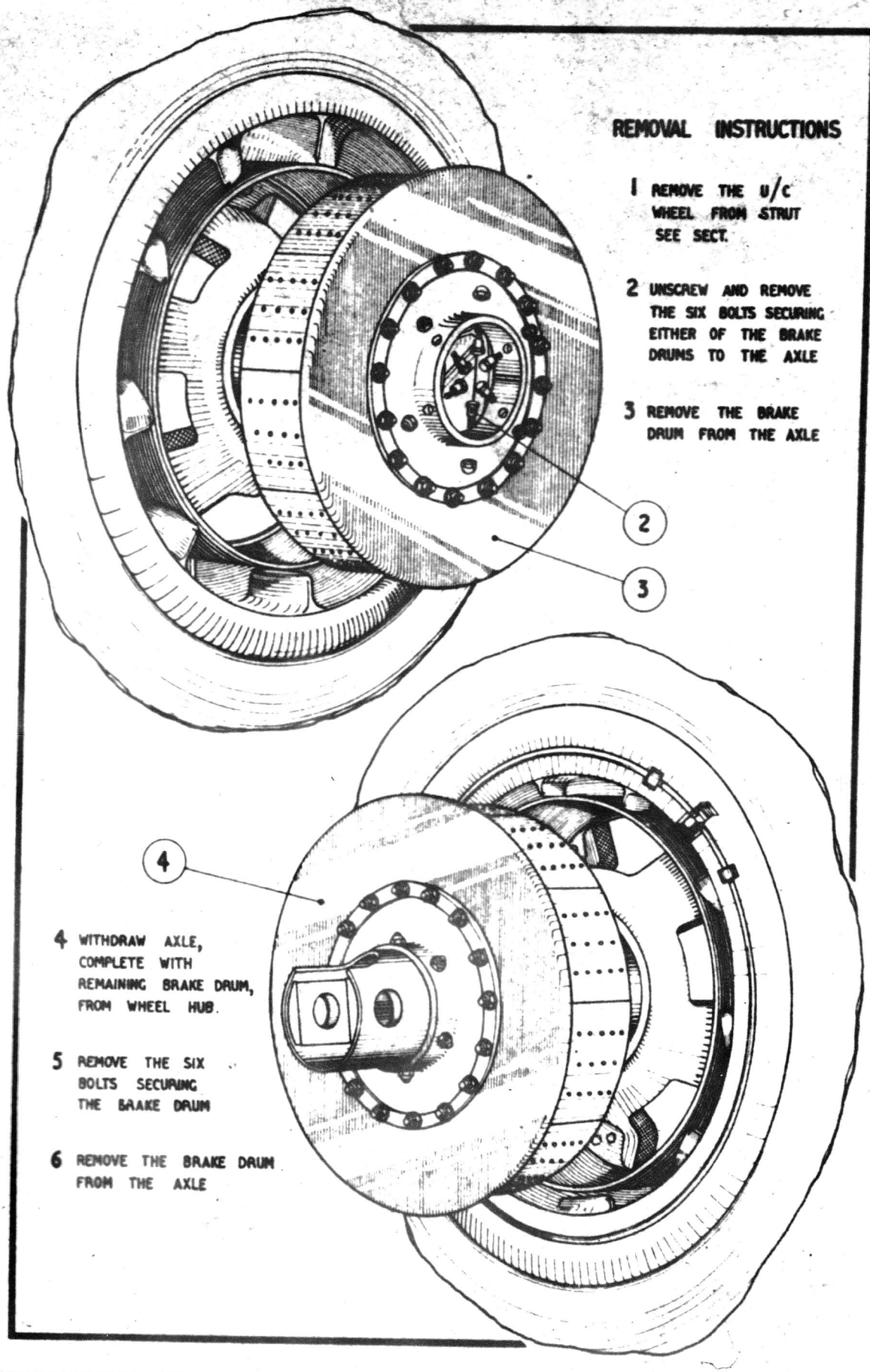


FIG. 27

MAIN WHEEL AXLE

FIG. 21

SECTION 5

REMOVAL, ASSEMBLY AND DISMANTLING OPERATIONS

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

1	FUSELAGE NOSE		12	UNDERCARRIAGE BEAMS.	FIG. 22	23	ELEVATORS	FIG. 39
2	FUSELAGE FRONT CENTRE SECTION.	FIG. 1	13	MAIN WHEEL DOORS AND VALANCE.	FIG. 21	24	RUDDERS	FIG. 37
3	CENTRE SECTION FUSELAGE AND WING.	FIG. 1	14	MAIN WHEEL UNIT	FIG. 20	25	FINS	FIG. 38
4	FUSELAGE REAR CENTRE SECTION.	FIG. 1	15	FLAPS - INBOARD	FIG. 26	26	TAILPLANE	FIG. 40
5	FUSELAGE REAR SECTION	FIG. 1	16	TRAILING EDGE CENTRE SECTION.	FIG. 28	27	TAIL WHEEL	FIG. 41
6	NOSE GUN TURRET	*	17	ENGINE SUBFRAME OUTBOARD.	FIG. 17			
7	DORSAL GUN TURRET (NOT SHOWN)	*	18	TRAILING EDGE-INTERMEDIATE PLANE.	FIG. 28			
8	TAIL GUN TURRET	*	19	FLAPS - OUTBOARD	FIG. 26			
9	BOMB DOORS	FIG. 42	20	INTERMEDIATE PLANE.	FIG. 30			
10	ENGINES	FIG. 10	21	AILERONS	FIG. 24			
11	ENGINE SUBFRAME INBOARD	FIG. 18	22	OUTER PLANE	FIG. 30			

* SEE SECTION 12.

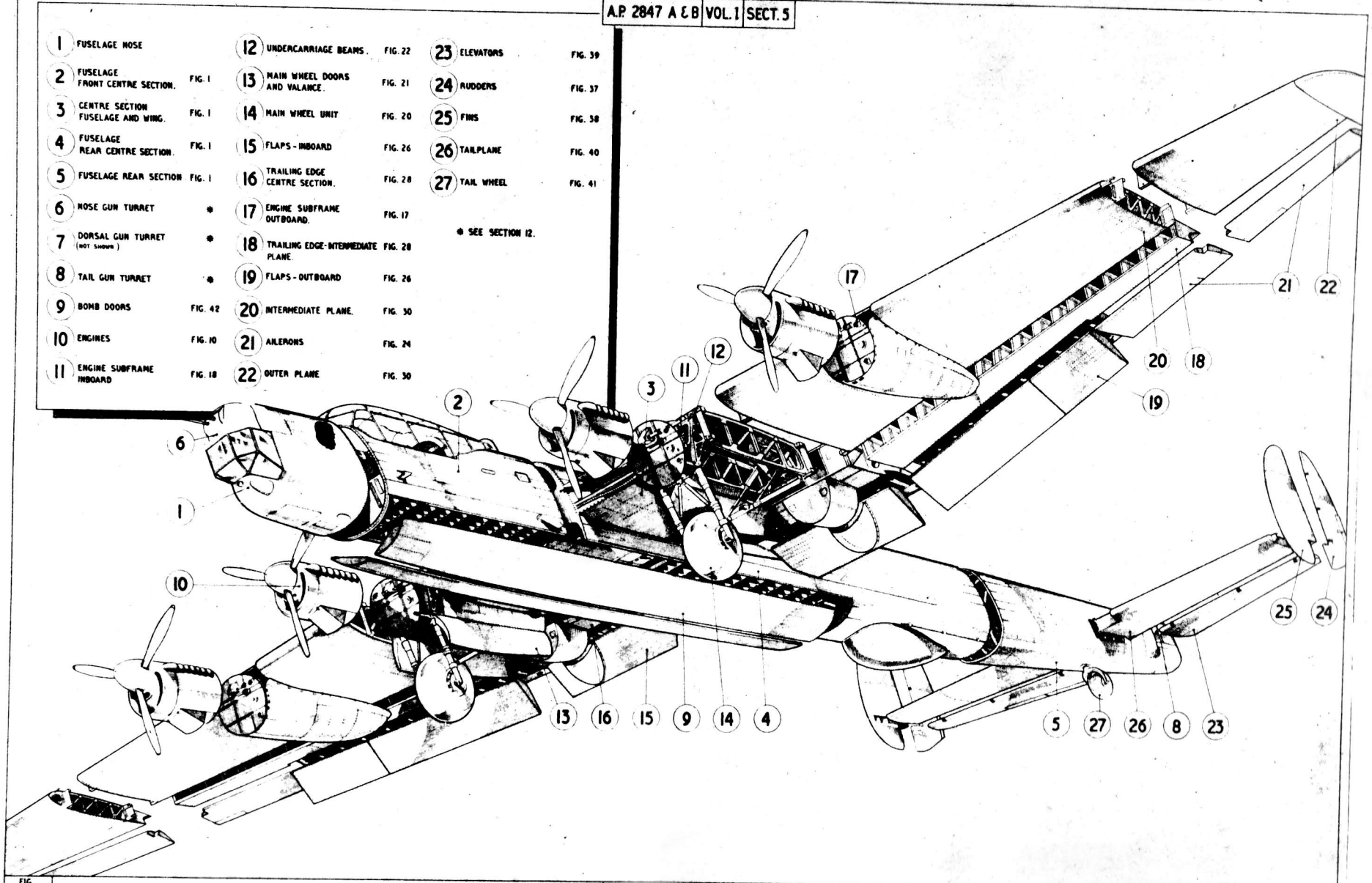
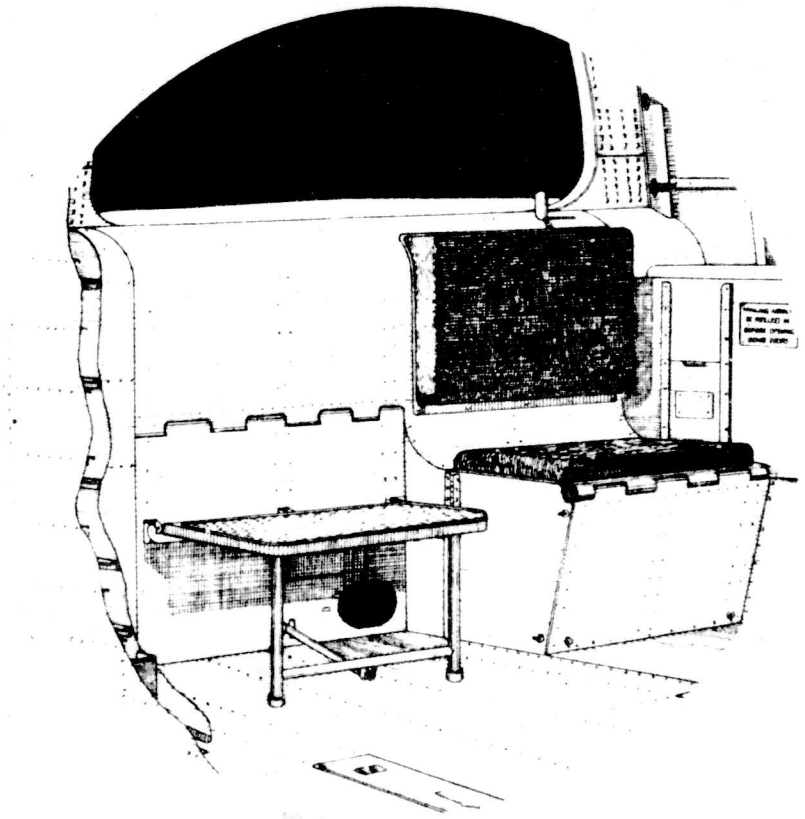


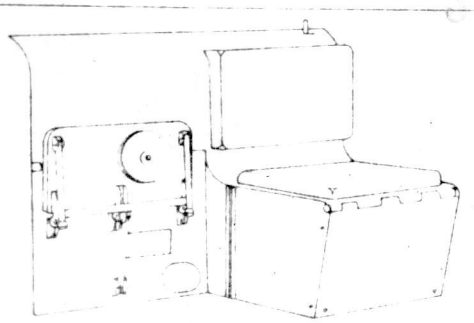
FIG. 1

SECTIONS OF AIRCRAFT

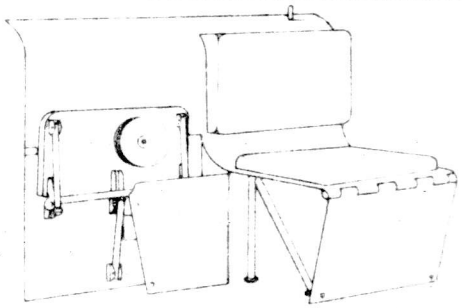
FIG. 1

THIS LEAF ISSUED WITH A.L. Nº

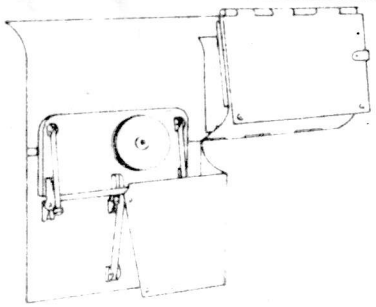




1 FOLD UP THE STEP

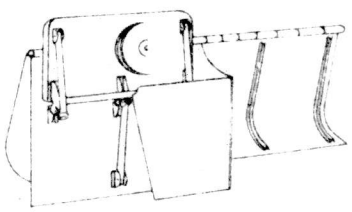


2 RELEASE THE TWO FASTENERS ON THE SEAT SIDE PANEL AND FOLD SIDE PANEL BACK



3 RELEASE THE TWO FASTENERS AT THE BOTTOM OF THE SEAT FRONT PANEL. FOLD THE SEAT UP AND THE FRONT PANEL DOWN. SECURE WITH THE STRAP ATTACHED.

4 PULL THE PROJECTING HANDLE OF THE SECURING BOLT TOWARDS THE PORT SIDE. THE BOLT MUST BE HELD BACK.



5 LIFT THE COVER TO RELEASE THE FLOOR PEGS AND DRAW IT FORWARD FROM THE SPAR. FOLD THE UPPER PORTION OF THE COVER BACKWARD AND DOWN TO THE FLOOR.

6 TO REMOVE EITHER PORT OR STARBOARD SIDE PANELS RELEASE TOP FASTENERS AND LIFT FROM THE FLOOR.

FRONT SPAR COVER

SECTION 5

REMOVAL, ASSEMBLY AND DISMANTLING OPERATIONS

Introduction

1. This Section consists mainly of illustrations which give, pictorially, a guide to the best methods of removing and assembling the principal components of the aircraft. Removal instructions only are given in most instances, as re-assembly is usually a reversal of the removal operations. Special notes on assembly are included where required, and general instructions in the following paragraphs should always be borne in mind.

2. The numerical sequence of the operations illustrated indicates the recommended order for dismantling, although in some cases it will be obvious that it is not essential to adhere rigidly to the numerical order.

3. Details of bonding, locking and sealing should be carefully noted when componenets are dismantled, to enable them to be correctly restored on re-assembly, in addition to the operations illustrated. A description of bonding will be found in Sect.6.

4. The positions of the trestles under each main component are shown in fig.4. If the aircraft is to be jacked for assembling a minor component the method described in Sect.4, Chap.3 may be used.

Assembly of complete aircraft

5. The sequence of assembling a complete aircraft is as follows :-

(i) Undercarriage main wheel units to fuselage intermediate centre section (this includes the main plane centre section).

(ii) Fuselage nose to fuselage front centre section (these are rarely separated).

(iii) Rear fuselage, with tail wheel strut, to fuselage rear centre section.

(iv) Rear fuselage assembly to intermediate centre section.

(v) Front fuselage assembly to intermediate centre section

(vi) Tail plane to fuselage.

(vii) Fins, rudders and elevators to tail plane.

(viii) Centre plane trailing edge portions, including flaps, to centre section.

(ix) Intermediate planes (without trailing edge) to centre plane.

(x) Intermediate plane trailing edge sections, including flaps, to intermediate planes.

(xi) Outer plane sections to intermediate planes.

(xii) Ailerons to main plane.

(xiii) Engine sub-frames and nacelle fairings to main plane.

(xiv) Power plants to engine sub-frames.

6. The main components and the transport joints are illustrated in fig.1, and notes on the fuselage transport joints are given on the facing page. Trestles and slings are shown in fig.3.

Dismantling

7. The complete dismantling of an aircraft for packing and transport is done in the reverse order to that given in para.5. The packing sizes for the components are given in fig.2. The list of illustrations for this section may be used as an index of dismantling instructions.

Removal notes

8. Pop-riveted panels.- Pop rivets securing assembly panels must be drilled out before the panels can be removed. Drill, Pt.No.1/Z.1473 (Stores Ref. 26EA/3880) should be used for this purpose; it is fitted with a screwdriver end which prevents the special pop rivet from revolving with the drill. The mandrel heads should be punched out of the rivets before the latter are drilled. When replacing the assembly panels they should be riveted with the same type of rivets that were removed. Pop-riveting equipment, Pt.No.1/Z.1474 (Stores Ref. 26EA/3881) is provided for this purpose. Fig.4, shows the lay-out of the assembly panels and the types of rivets used.

9. Trimming tab cables.- When disconnecting a cable a weight should be attached to the end before releasing the cable to prevent it unwinding from the cable drum.

10. WARNING.- Before carrying out any dismantling operations on the main planes the cable cutters must be disarmed and made safe.

Weatherproofing.

11. It is important to ensure that all transport joints are sealed on re-assembly. Details and procedure will be found on fig.5.

FUSELAGE DISMANTLING OPERATIONS

KEY TO FIG. 1.

Removal of fuselage front centre section:-

1. Disconnect rudder and elevator push-pull rods between formers 4 and 5. This necessitates removing socket fork ends from rods.
2. Disconnect aileron cables between formers 5 and 6.
3. Disconnect all hydraulic, emergency air, vacuum and nitrogen pipes at nearest joint to front spar.
4. Disconnect emergency air remote control at bottle aft of front spar.
5. Disconnect all engine controls and fuel cock tie rods at sprocket boxes on front spar and withdraw through fuselage.
6. Disconnect boost cut-out cables at two strainers at front spar and withdraw cables.
7. Disconnect cabin heating pipes at joints just outside fuselage on front spar, and at front spar in fuselage, disconnect also in bomb compartment between formers 6 & 7 starboard side and remove pipes.
8. Disconnect all electrical conduits at panel on starboard side between formers 3 and 5 and where necessary withdraw t through sides of fuselage.
9. Disconnect D.R. compass cable between stringers 2 & 3 at former 6.
10. Disconnect all other electrical cables at nearest terminal block or junction box.
11. Disconnect oxygen pipes between formers 5 and 6 in bomb compartment.
12. Disconnect A.S.I. static line between formers 5 and 6 port and starboard sides of bomb compartment.
13. Disconnect vacuum pipe for special equipment in rear centre section between formers 4 and 5 in bomb compartment.
14. Disconnect bomb fuzing cable under centre section floor.
15. Disconnect aileron trimmer cables at slide under section floor in bomb curtain starboard side.
16. Disconnect bomb release cables at junction box at front end of bomb compartment, remove troughs and coil cables.
17. Disconnect flap pipes, bomb door pipes, rear turret and jettison pipes formers 5 and 6 in bomb compartment (portside.)
18. Disconnect oxygen pipes between formers 5 and 6 in bomb compartme
19. Disconnect rudder and elevator trimming tab cables inside rear fuselage, release fairleads and withdraw.

2. Disconnect aileron cables between formers 5 and 6.

3. Disconnect all hydraulic, emergency air, vacuum and nitrogen pipes at nearest joint to front spar.

4. Disconnect emergency air remote control at bottle aft of front spar.

5. Disconnect all engine controls and fuel cock tie rods at sprocket boxes on front spar and withdraw through fuselage.

6. Disconnect boost cut-out cables at two strainers at front spar and withdraw cables.

7. Disconnect cabin heating pipes at joints just outside fuselage on front spar, and at front spar in fuselage, disconnect also in bomb compartment between formers 6 & 7 starboard side and remove pipes.

8. Disconnect all electrical conduits at panel on starboard side between formers 3 and 5 and where necessary withdraw t through sides of fuselage.

9. Disconnect D.R. compass cable between stringers 2 & 3 at former 6.

10. Disconnect all other electrical cables at nearest terminal block or junction box.

11. Disconnect oxygen pipes between formers 5 and 6 in bomb compartment.

12. Disconnect A.S.I. static line between formers 5 and 6 port and starboard sides of bomb compartment.

13. Disconnect vacuum pipe for special equipment in rear centre section between formers 4 and 5 in bomb compartment.

14. Disconnect bomb fuzing cable under centre section floor.

15. Disconnect aileron trimmer cables at slide under section floor in bomb curtain starboard side.

16. Disconnect bomb release cables at junction box at front end of bomb compartment, remove troughs and coil cables.

17. Disconnect flap pipes, bomb door pipes, rear turret and jettison pipes formers 5 and 6 in bomb compartment (portside.)

18. Disconnect oxygen pipes between formers 5 and 6 in bomb compartmen

19. Disconnect rudder and elevator trimming tab cables inside rear fuselage, release fairleads and withdraw.

20. Disconnect glider release cable between formers D and C in bomb department.

21. Disconnect all pipes at joints on port and starboard side fuselage.

Disconnect boost pipes on spars port and starboard, and [illegible] side fuselage, disconnect fairleads and withdraw pipes

23. Disconnect cabin heater by-pass from duct on front spar starboard side.

24. Disconnect fuel cross-feed pipe at cock inside cabin, remove fairleads and withdraw pipe.

25. Remove bolts securing front centre section to centre section.

Removal of fuselage rear centre section :-

1. Disconnect rudder and elevator push-pull rods between formers 13 and 14 on port side of fuselage.

2. Disconnect aileron push-pull rods at rocking lever on rear spar.

3. Disconnect all electrical cables at nearest junction box or socket.

4. Disconnect D.R. compass cables at former 12.

5. Disconnect all piping services between formers 11 and 13 on port side of bomb compartment.

6. Disconnect turret heater pipes between formers 13 and 14 starboard side of bomb compartment.

7. Disconnect ground starter cables between formers 17 and 18 starboard side of bomb compartment and withdraw through fairleads.

8. Disconnect A.S.I. static vent pipe between formers 11 and 12 on starboard side of bomb compartment.

9. Disconnect bomb release cables at junction box at front end of bomb compartment, remove troughs and coil cables.

10. Disconnect vacuum pipe between formers 11 and 12 on starboard side of bomb compartment.

11. Remove bolts securing rear centre section to centre section.

Removal of fuselage rear section:-

1. Disconnect rear turret hydraulic pipes between formers 27 and 28.

2. Disconnect ammunition tracks at former 28.

3. Disconnect trimming tab cables opposite fuselage and withdraw through fairleads.

4. Disconnect rudder and elevator push-pull rods between formers 27 and 28.

5. Remove handrail clip at former 27.

6. Disconnect intercommunication and fuselage lighting cables at terminal block between formers 27 and 28.

7. Disconnect electrical cables at junction box between formers 41 and 42, remove clips and coil cables.

8. Disconnect dinghy release.

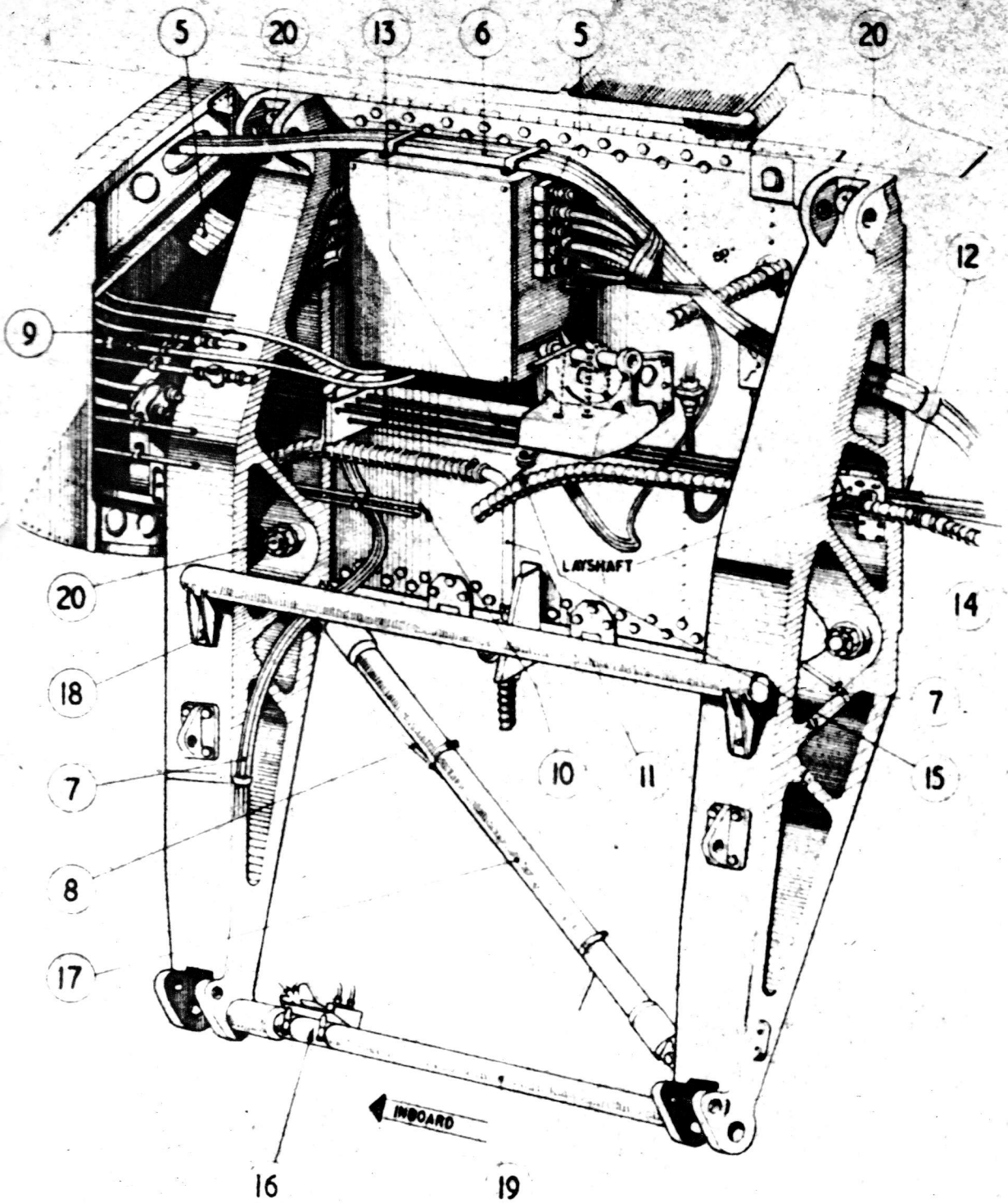
9. Disconnect turret heater pipe.

Removal of fuselage rear centre section :-

1. Disconnect rudder and elevator push-pull rods between formers 13 and 14 on port side of fuselage.
2. Disconnect aileron push-pull rods at rocking lever on rear spar.
3. Disconnect all electrical cables at nearest junction box or socket.
4. Disconnect D.R. compass cables at former 12.
5. Disconnect all piping services between formers 11 and 13 on port side of bomb compartment.
6. Disconnect turret heater pipes between formers 13 and 14 starboard side of bomb compartment.
7. Disconnect ground starter cables between formers 17 and 18 starboard side of bomb compartment and withdraw through fairleads.
8. Disconnect A.S.I. static vent pipe between formers 11 and 12 on starboard side of bomb compartment.
9. Disconnect bomb release cables at junction box at front end of bomb compartment, remove troughs and coil cables.
10. Disconnect vacuum pipe between formers 11 and 12 on starboard side of bomb compartment.
11. Remove bolts securing rear centre section to centre section.

Removal of fuselage rear section:-

1. Disconnect rear turret hydraulic pipes between formers 27 and 28.
2. Disconnect ammunition tracks at former 28.
3. Disconnect trimming tab cables opposite fuselage and withdraw through fairleads.
4. Disconnect rudder and elevator push-pull rods between formers 27 and 28.
5. Remove handrail clip at former 27.
6. Disconnect intercommunication and fuselage lighting cables at terminal block between formers 27 and 28.
7. Disconnect electrical cables at junction box between formers 41 and 42, remove clips and coil cables.
8. Disconnect dinghy release.
9. Disconnect turret heater pipe.
10. Remove angle brackets between stringers 10 and 12 former 27.
11. Remove bolts securing rear fuselage to rear centre section.



1. REMOVE THE ENGINE. SEE FIG 10.
2. REMOVE ENGINE SUB-FRAME SEE FIG 18
3. REMOVE MAIN WHEEL UNIT SEE FIG 20
4. REMOVE BOLTS SECURING MAIN WHEEL DOOR HINGE BEAM TO SUPPORT BEAM

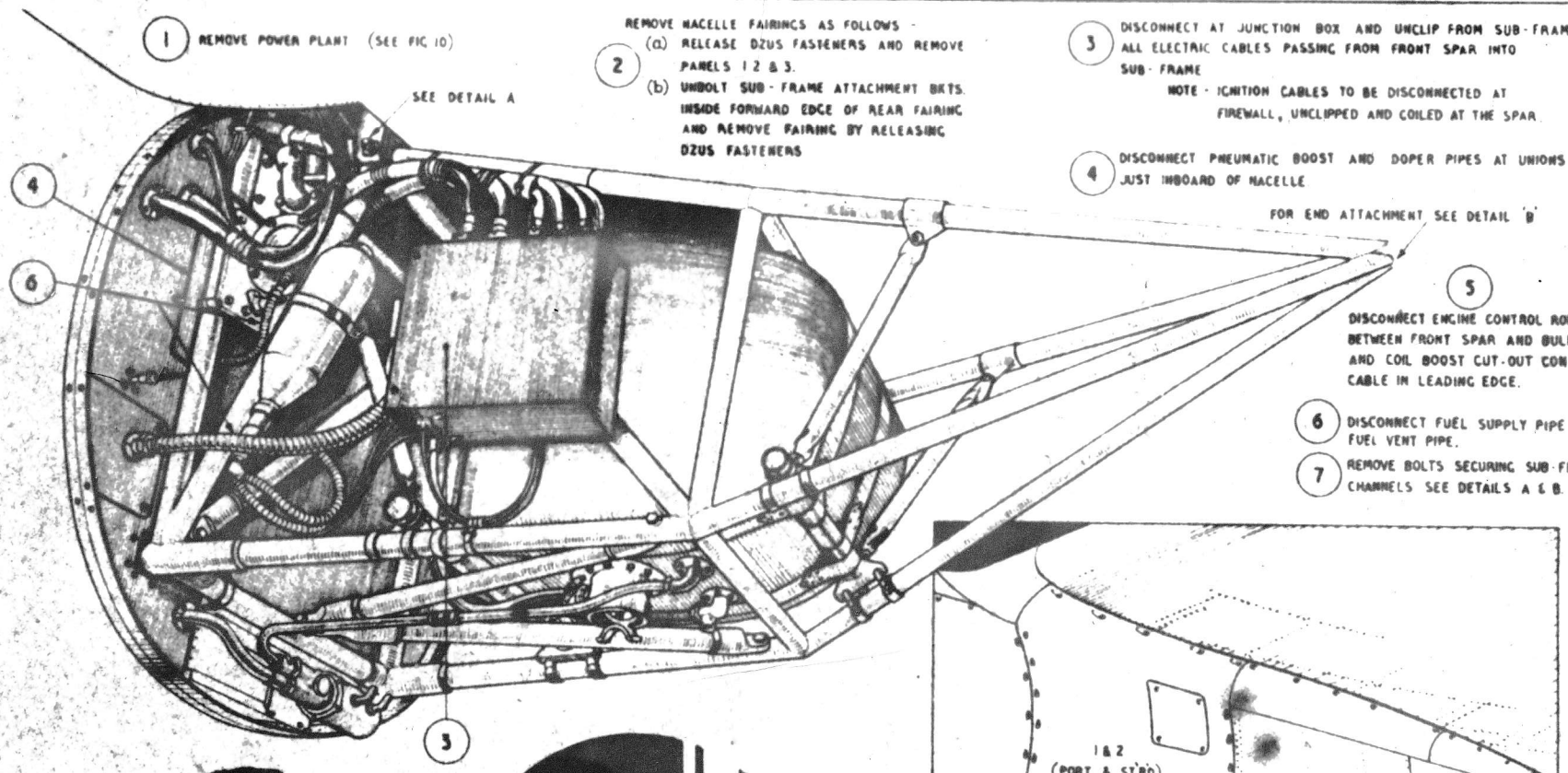
FOR FURTHER DETAILS AND METHOD OF REMOVAL SEE FIG. 23.

FIG 22

UNDERCARRIAGE BEAMS

FIG 22

OUTBOARD ENGINE SUB-FRAME



(1) REMOVE POWER PLANT (SEE FIG 10)

REMOVE NACELLE FAIRINGS AS FOLLOWS -

(2) (a) RELEASE DZUS FASTENERS AND REMOVE PANELS 1 2 & 3.

(b) UNBOLT SUB-FRAME ATTACHMENT BKTS. INSIDE FORWARD EDGE OF REAR FAIRING AND REMOVE FAIRING BY RELEASING DZUS FASTENERS

(3) DISCONNECT AT JUNCTION BOX AND UNCLIP FROM SUB-FRAME ALL ELECTRIC CABLES PASSING FROM FRONT SPAR INTO SUB-FRAME

NOTE - IGNITION CABLES TO BE DISCONNECTED AT FIREWALL, UNCLIPPED AND COILED AT THE SPAR.

(4) DISCONNECT PNEUMATIC BOOST AND DOPER PIPES AT UNIONS JUST INBOARD OF NACELLE

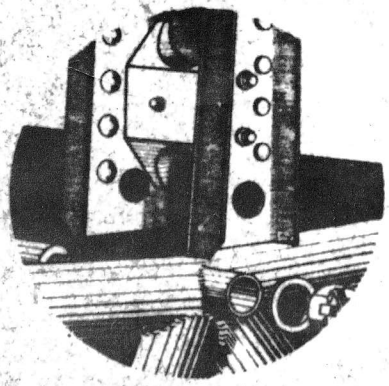
FOR END ATTACHMENT SEE DETAIL 'B'

(5) DISCONNECT ENGINE CONTROL RODS BETWEEN FRONT SPAR AND BULKHEAD AND COIL BOOST CUT-OUT CONTROL CABLE IN LEADING EDGE.

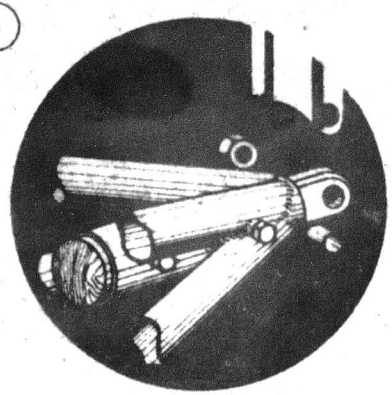
(6) DISCONNECT FUEL SUPPLY PIPE AND FUEL VENT PIPE.

(7) REMOVE BOLTS SECURING SUB-FRAME TO CHANNELS SEE DETAILS A & B.

DETAILS OF REAR NACELLE FAIRINGS.



DETAIL A



DETAIL B

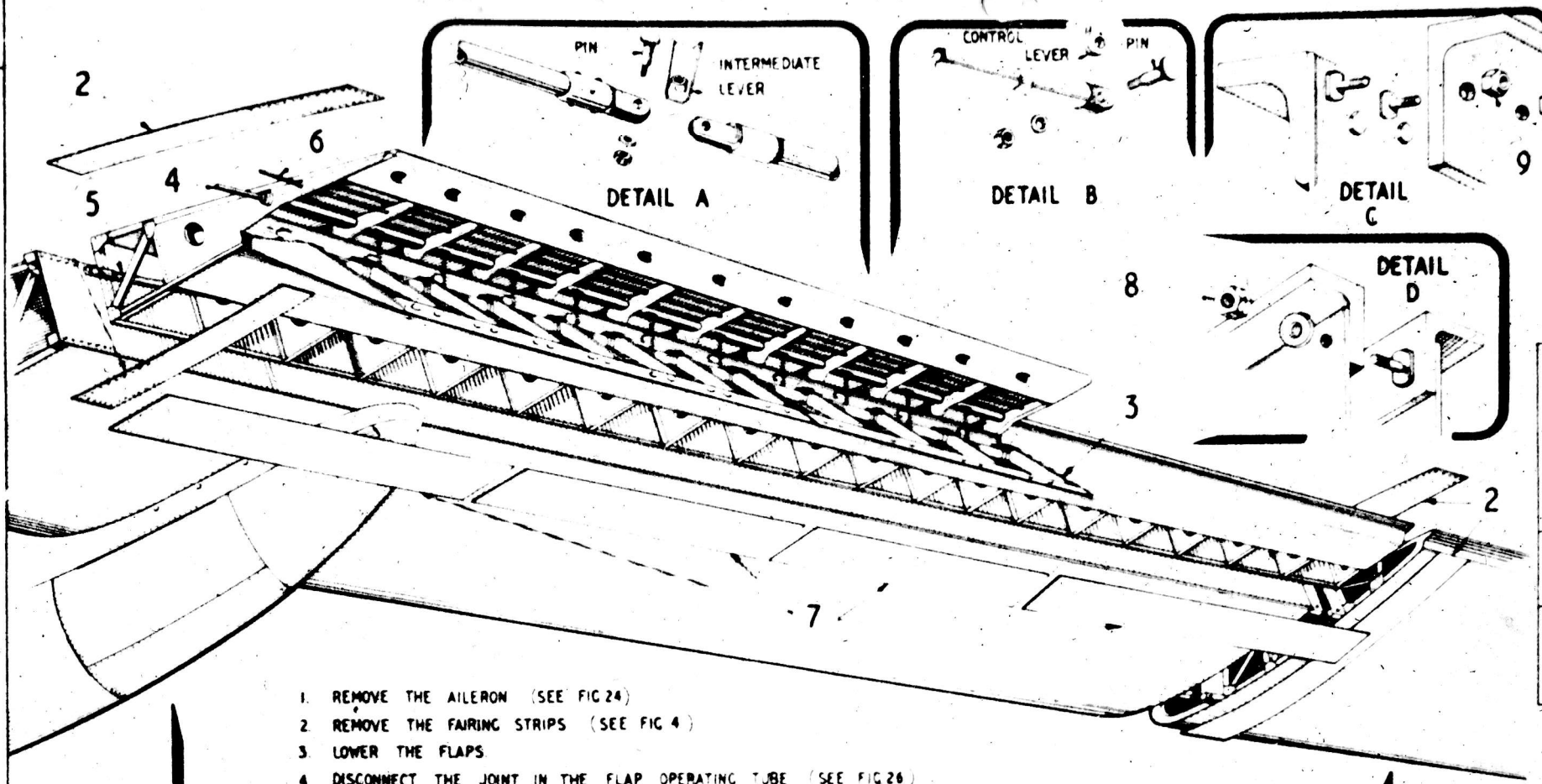
NOTE :- ON REPLACEMENT THE INBOARD FRONT SPAR ATTACHMENT BOLT MUST BE INSERTED FROM INSIDE THE SUB-FRAME.

13. Disconnect aileron trimming tab operating cables at turnbuckles, release fairleads and withdraw the cables from the inboard trailing edge. See details C & D.

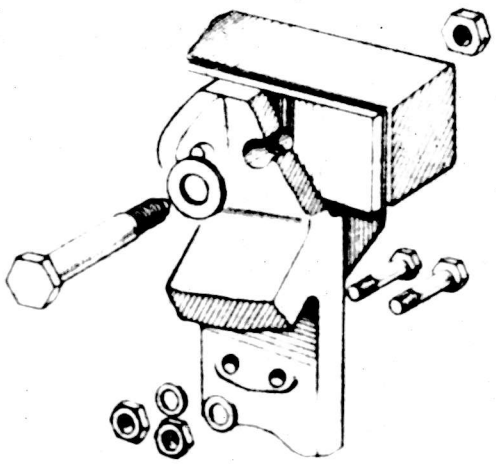
14. Support trailing edge and remove nuts securing trailing edge spar to rear spar of centre plane. See detail E.

15. Carefully draw trailing edge aft from centre plane and then lower outer end so that trailing edge can be drawn outward to clear projection of aileron push-pull control rod.

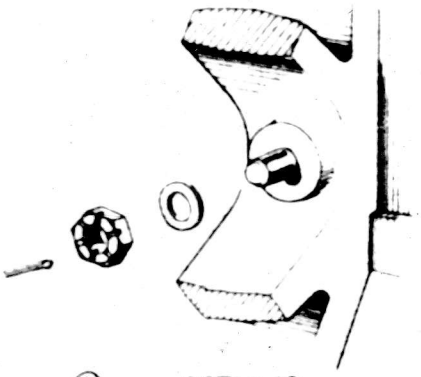
TRAILING EDGE INTERMEDIATE PLANE



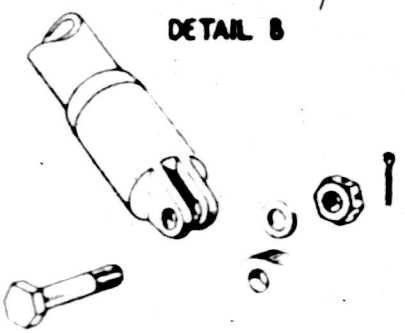
1. REMOVE THE AILERON (SEE FIG 24)
2. REMOVE THE FAIRING STRIPS (SEE FIG 4)
3. LOWER THE FLAPS
4. DISCONNECT THE JOINT IN THE FLAP OPERATING TUBE (SEE FIG 26)
5. DISCONNECT THE AILERON CONTROL ROD & REMOVE THE BOLT AT THE OUTBOARD END JOINT WITH AILERON LEVER (SEE DETAILS A & B)
6. DISCONNECT THE AILERON TRIMMING TAB CONTROL CABLES IN THE CENTRE SECTION (SEE FIG 26)
7. REMOVE THE ACCESS PANELS ON THE UNDERSIDE OF THE PLANE (SEE FIG 4)
8. REMOVE THE NUTS FROM THE STUDS WHICH SECURE RIBS 18 & 19 (SEE DETAIL D)
9. SUPPORT THE TRAILING EDGE & REMOVE THE NUTS FROM THE STUDS ATTACHING THE TRAILING EDGE TO THE REAR SPAR (SEE DETAIL C) DRAW THE TRAILING EDGE FROM THE STUDS & LOWER IT FROM THE PLANE



DETAIL A



DETAIL B



DETAIL C

DETAIL D

REMOVAL INSTRUCTIONS

5. DISCONNECT ELECTRICAL CONDUITS AT JUNCTION BOX ON FRONT SPAR AND WITHDRAW THROUGH BEAM.
6. DISCONNECT ELECTRICAL CONDUITS AT JUNCTION BOX ON OUTBOARD SUBFRAME, WITHDRAW THROUGH TUBE IN LEADING EDGE AND WITHDRAW THROUGH BEAM
7. REMOVE CLIPS SECURING ELECTRICAL CABLES TO BEAM.
8. REMOVE CLIPS SECURING PIPE TO DIAGONAL STRUT
9. DISCONNECT HYDRAULIC PIPES AT JOINTS NEAR BEAM
10. DISCONNECT FUEL COCK CONTROLS AT CONNECTOR BLOCK ON FRONT SPAR
11. DISCONNECT FUEL CROSS FEED PIPE AT DRAIN VALVE AND WITHDRAW THROUGH BEAM.
12. DISCONNECT ENGINE CONTROL RODS AT EACH SIDE OF LAYSHAFT, SEE DETAIL D, AND REMOVE BOLTS SECURING LAYSHAFT TO BEAM.
13. DISCONNECT ENGINE CONTROL RODS AT SPROCKET BOX BETWEEN BEAMS AND AT FRONT SPAR IN FUSELAGE AND WITHDRAW THROUGH BEAM.
14. DISCONNECT FUEL FEED PIPE AND WITHDRAW THROUGH BEAM.
15. DISCONNECT BOOST CUT-OUT CABLE AT TURNBUCKLE REAR OF BULKHEAD
16. DISCONNECT ALL PIPES TO KI-GASS BRACKET.
17. REMOVE BOLTS SECURING DIAGONAL STRUT TO BEAMS. SEE DETAIL C.
18. REMOVE BOLTS SECURING CROSS-MEMBER TO BEAMS
19. REMOVE LOWER BRACING STRUT.
20. REMOVE TOP ATTACHMENT BOLT, AND NUT FROM SPECIAL BOLT AT BOTTOM, LOWER BEAM FROM SPAR. SEE DETAILS A & B.

TRAILING EDGE - CENTRE SECTION

Key to fig.28.

To remove trailing edge from main plane proceed as follows:-

1. Remove screws securing top and bottom trailing edge fairing strips along fuselage side and trailing edge. Remove panels.
2. Remove flap jack covers in fuselage, just aft of rear spar. See fig.43.
3. Support flaps and disconnect flap operating tube at flap jack. Use C spanner, Pt.No.1/Z.1268. See fig.43.
4. Lower flaps fully.
5. Remove screws securing top and bottom fairing strips between centre and intermediate plane trailing edges.
6. Disconnect joint in flap operating tube at junction of centre plane and intermediate plane.
7. Open access doors in bulkhead at rear end of main wheel compartment and remove bolts securing rear ends of main wheel door hinge beams.
8. Supportrear fixed section of inboard nacelle and remove screws securing it to underside of main plane trailing edge.
9. Remove assembly panels on underside of trailing edge section, just aft of rear spar (see fig.4.).
10. Disconnect flap indicator electric cable (port side only).
11. Disconnect dinghy manual release cable and electrical release cable (starboard only).
12. Disconnect aileron operating push-pull rod at intermediate lever on outer end of centre plane rear spar, and at joint inside inboard end of trailing edge. See details A & B.

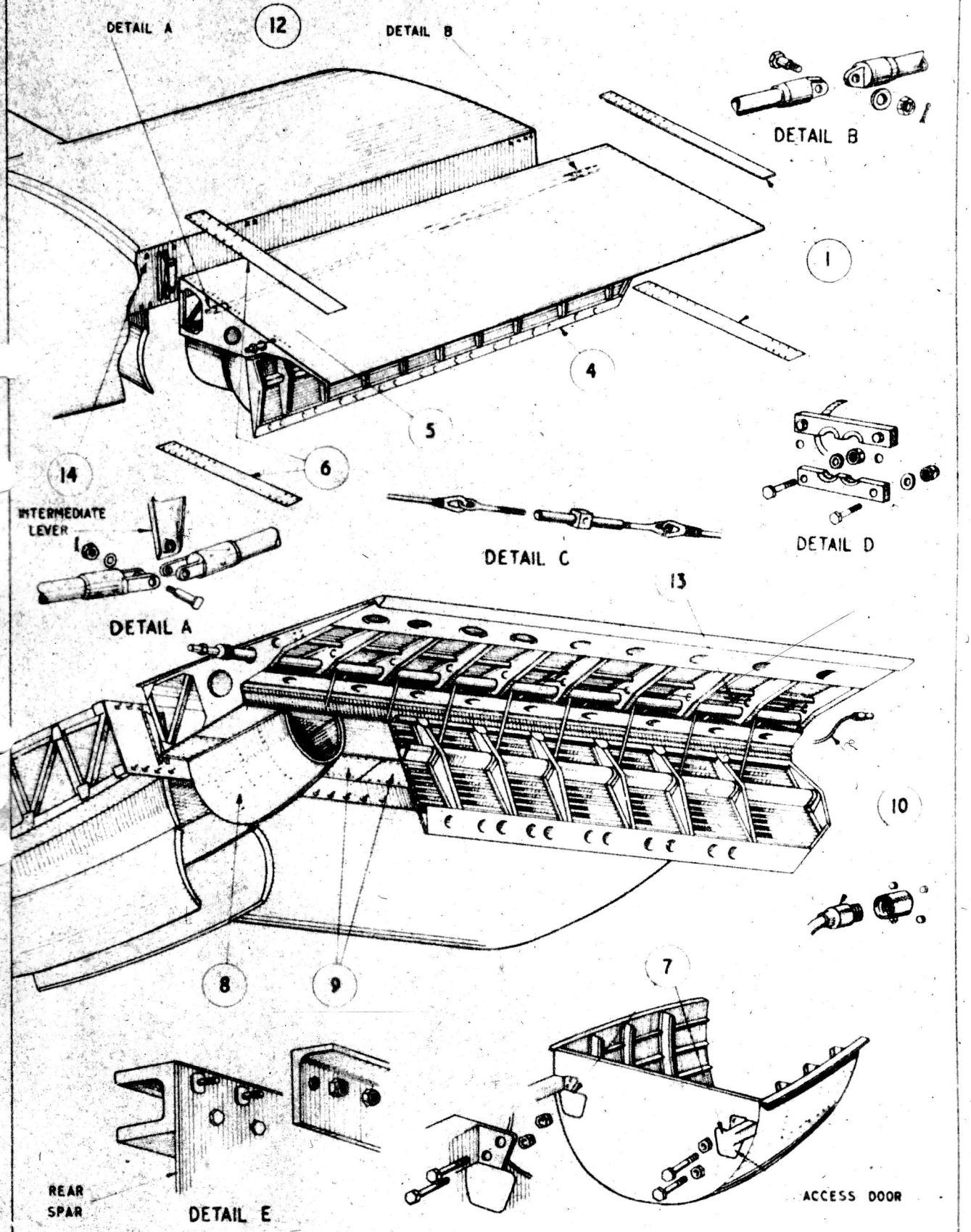
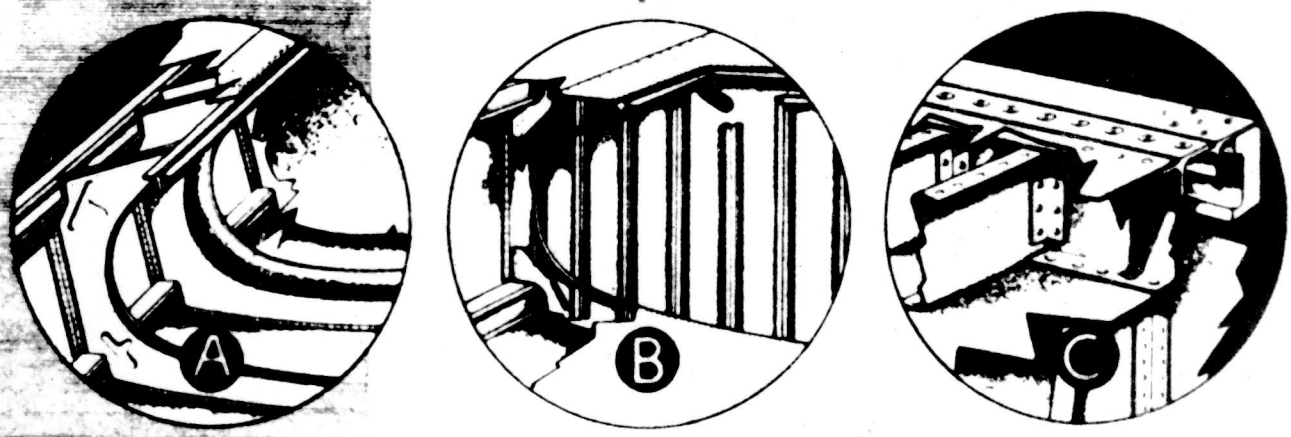
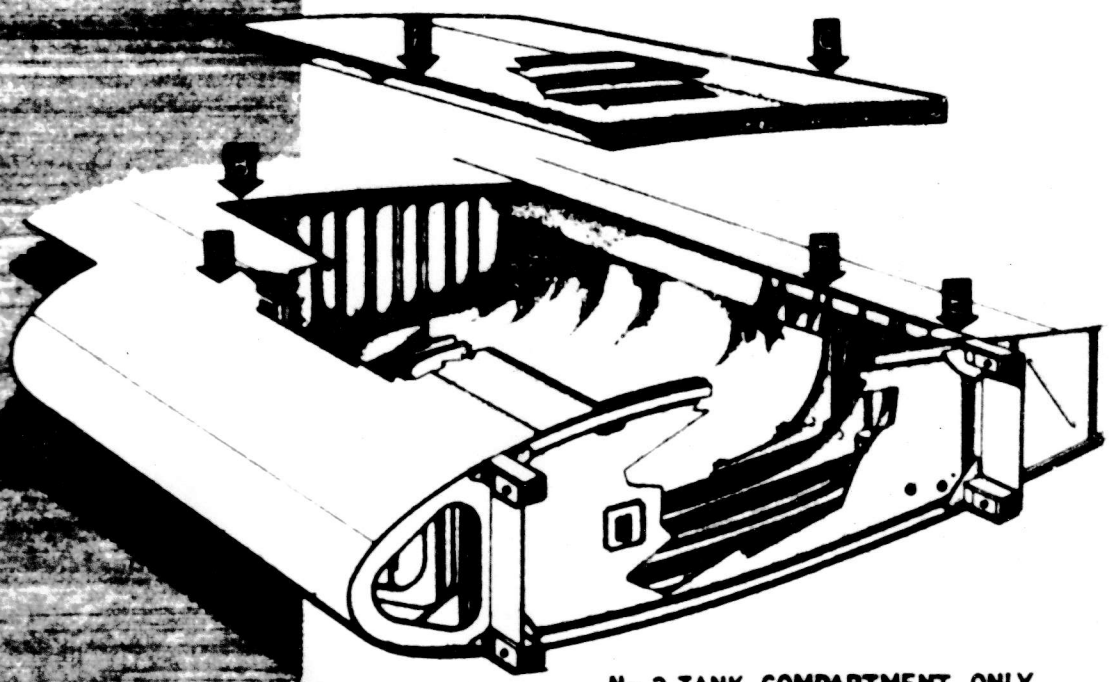


FIG. 28

TRAILING EDGE - CENTRE SECTION

FIG 28



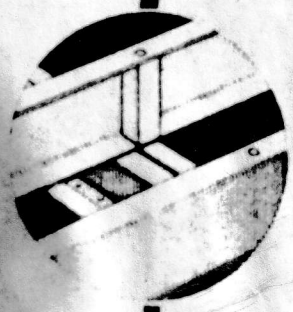


No. 2 TANK COMPARTMENT ONLY ILLUSTRATED HERE. CONSTRUCTION OF COMPARTMENT FOR No. 3 TANK IS HOWEVER IDENTICAL

FIG 4

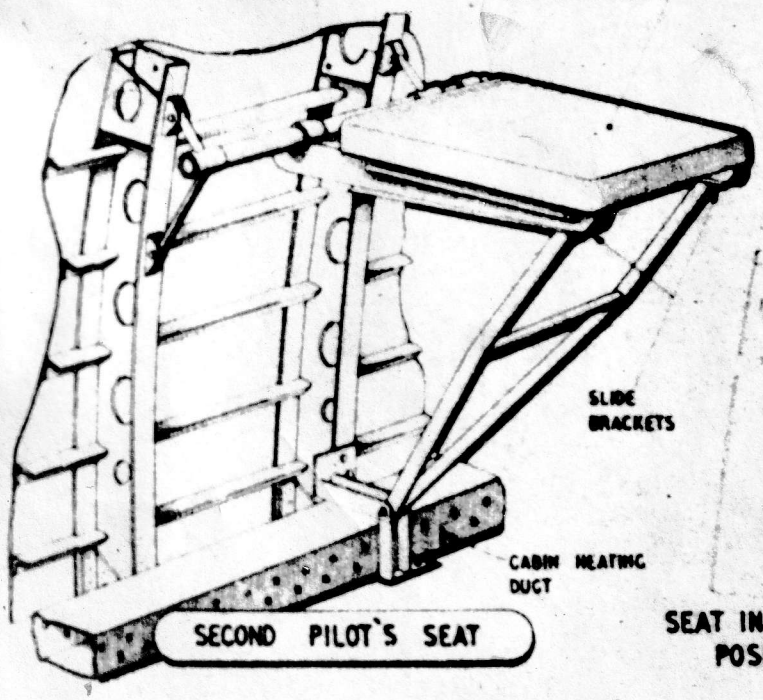
No. 2 & 3 FUEL TANK COMPARTMENTS

FIG 4

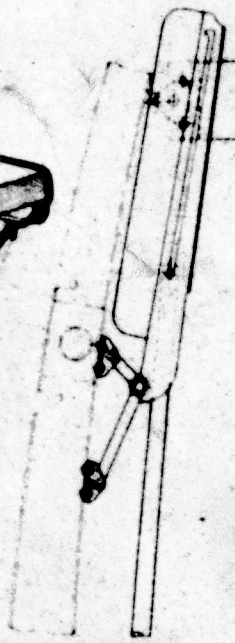


DETAIL A

FIRST PILOT'S SEAT

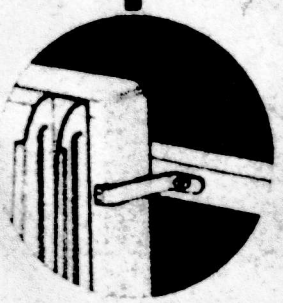


SECOND PILOT'S SEAT



SEAT IN STOWED POSITION

BACKREST TO BE STOWED BEHIND SEAT WHEN IN FOLDED POSITION

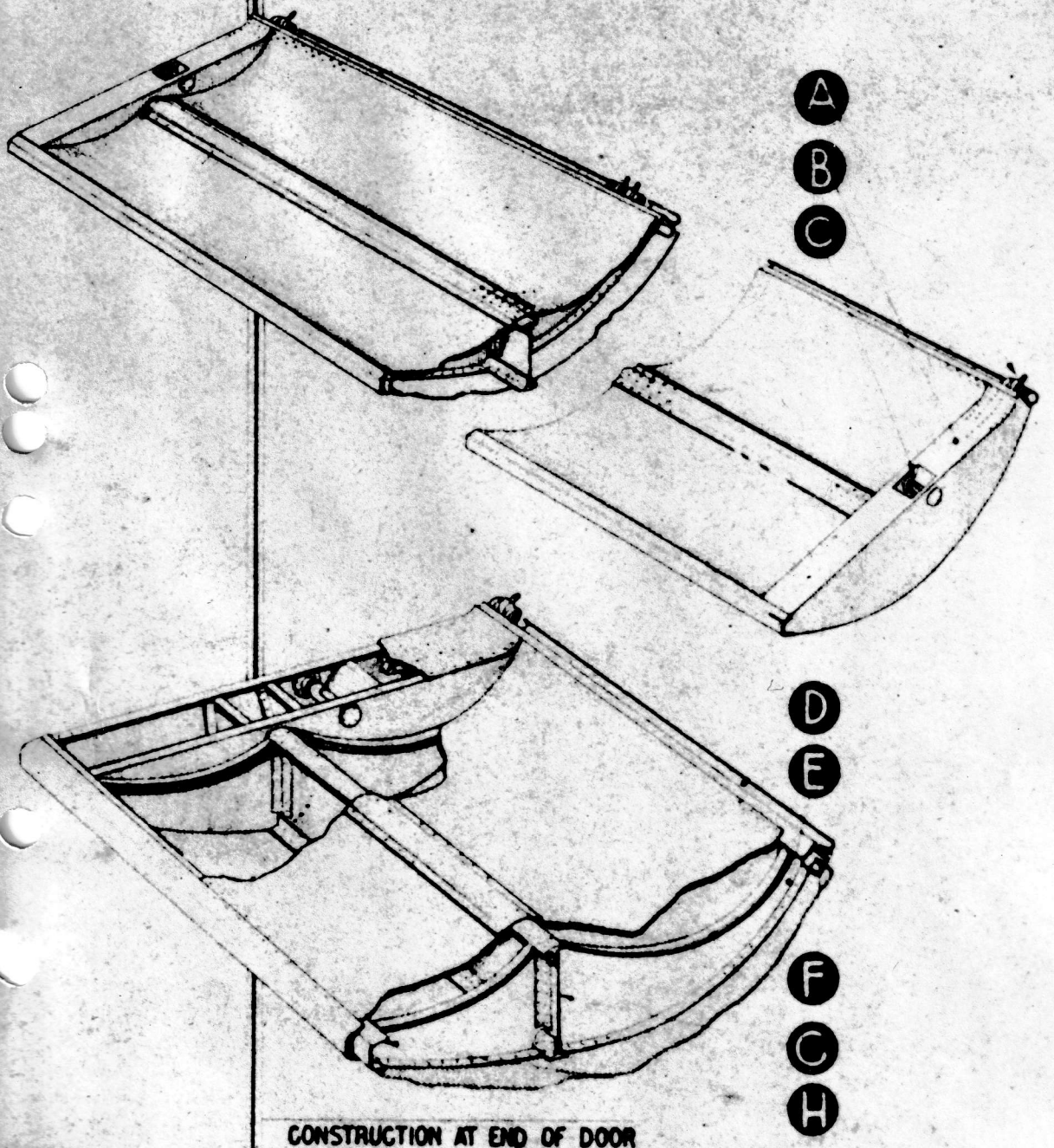


METHOD OF SECURING SEAT WHEN STOWED

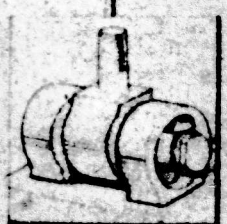
FIG 10

PILOTS' SEATS AND ATTACHMENTS

FIG 10



CONSTRUCTION AT END OF DOOR



VIEW OF HINGE 'A'

B BOMB DOOR END RIB
C JACK ATTACHMENT
D SEALING STRIP
E INTERMEDIATE RIB
F HINGE CHANNEL
G BOMB DOOR SPAR
H EDGE CHANNEL

FIG. 8

BOMB DOORS

FIG. 8

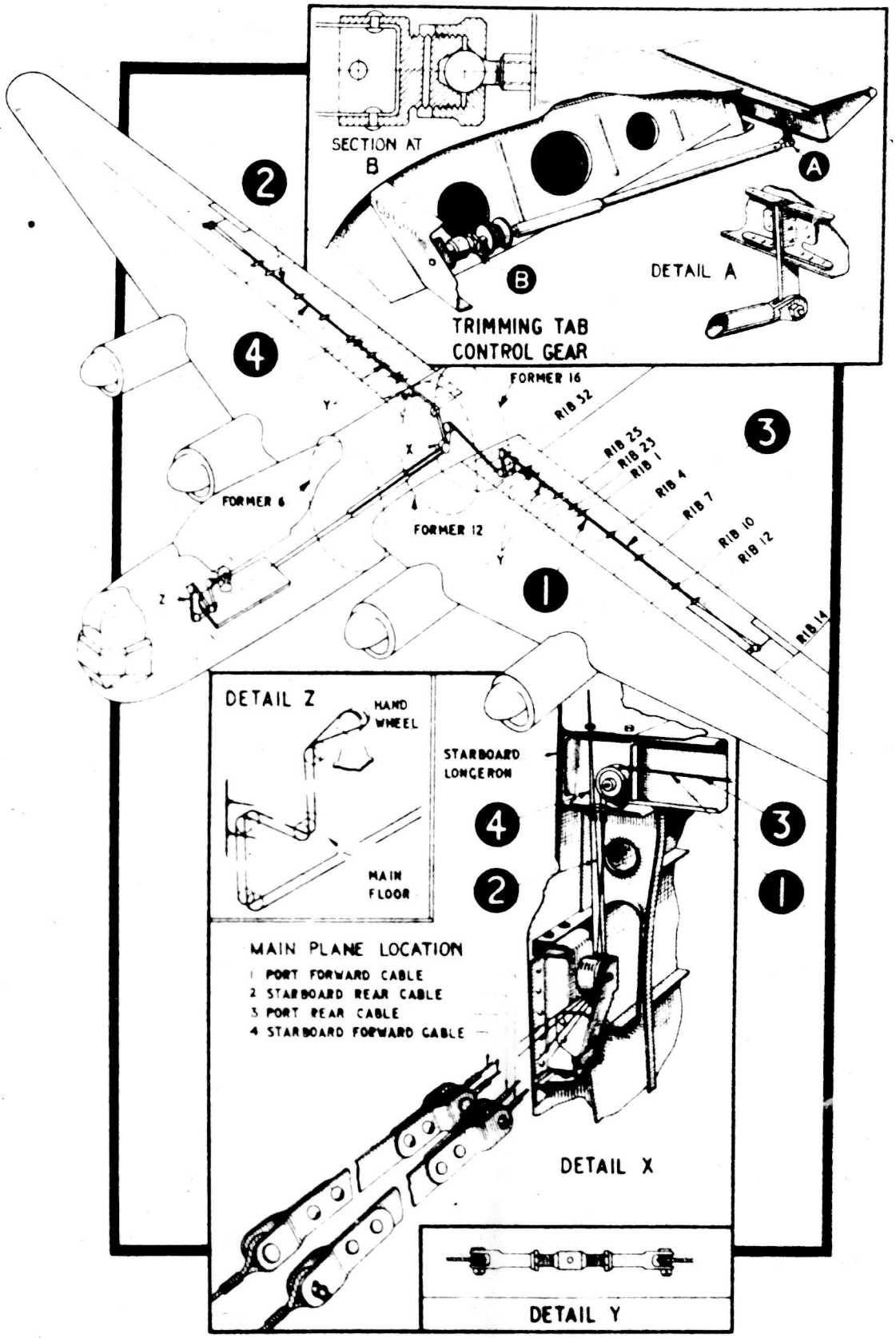
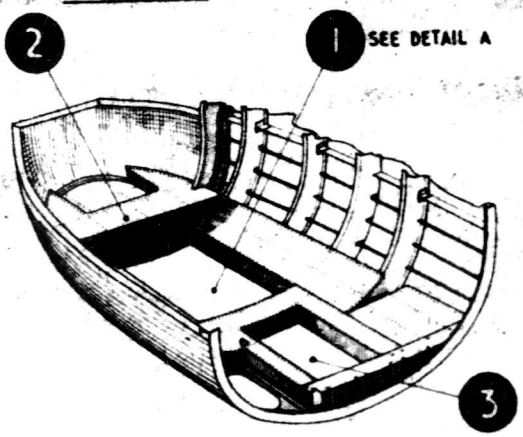
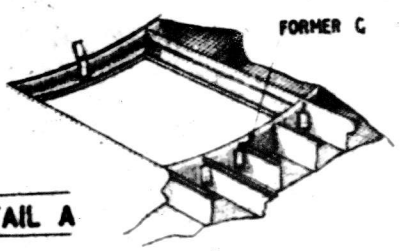


FIG 6 **AILERON TRIMMING TAB CONTROLS** FIG 6

NOSE FLOOR

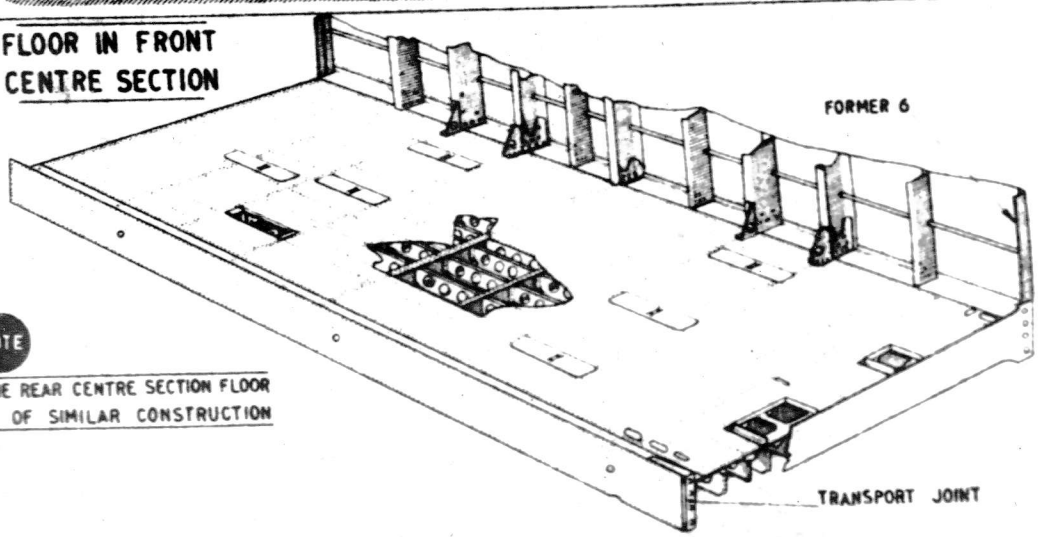




DETAIL A

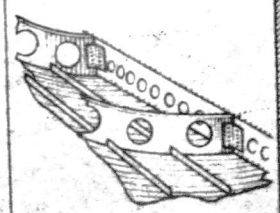
1 PARACHUTE EXIT
2 AIR-BOMBER'S FLOOR
3 LAUNCHING CHUTE OPENING

FLOOR IN FRONT CENTRE SECTION



NOTE
THE REAR CENTRE SECTION FLOOR IS OF SIMILAR CONSTRUCTION

TYPICAL VIEW OF FLOOR BETWEEN FORMER 22E AND FORMER 27



DETAIL B

FLOOR AFT OF BOMB BAY

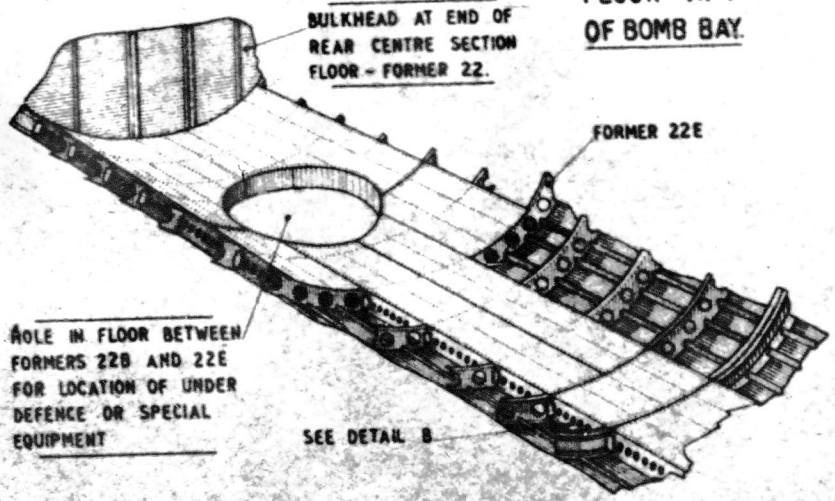


FIG. 7

FLOORS

FIG. 7

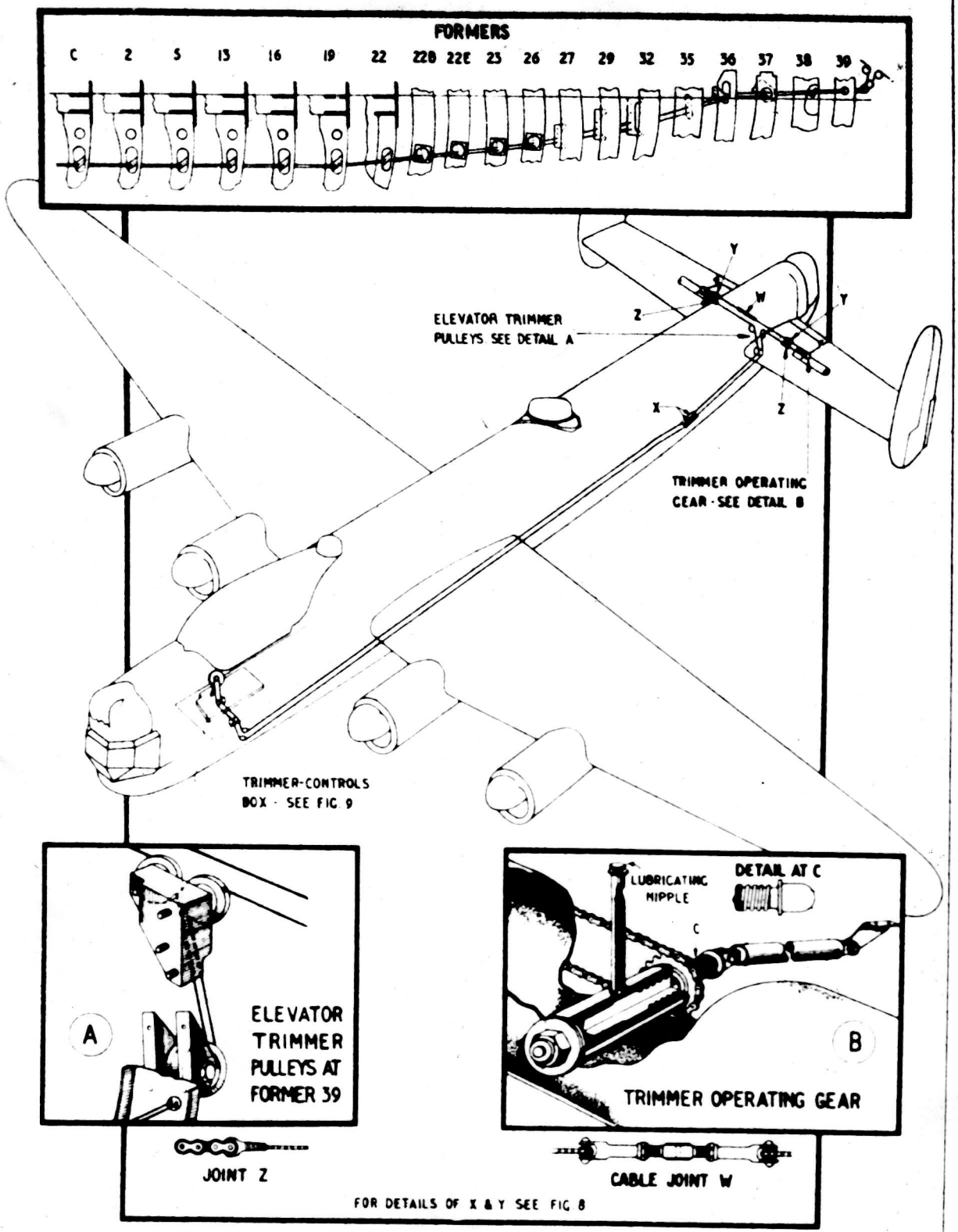


FIG. 7

ELEVATOR TRIMMING TAB CONTROLS

FIG. 7

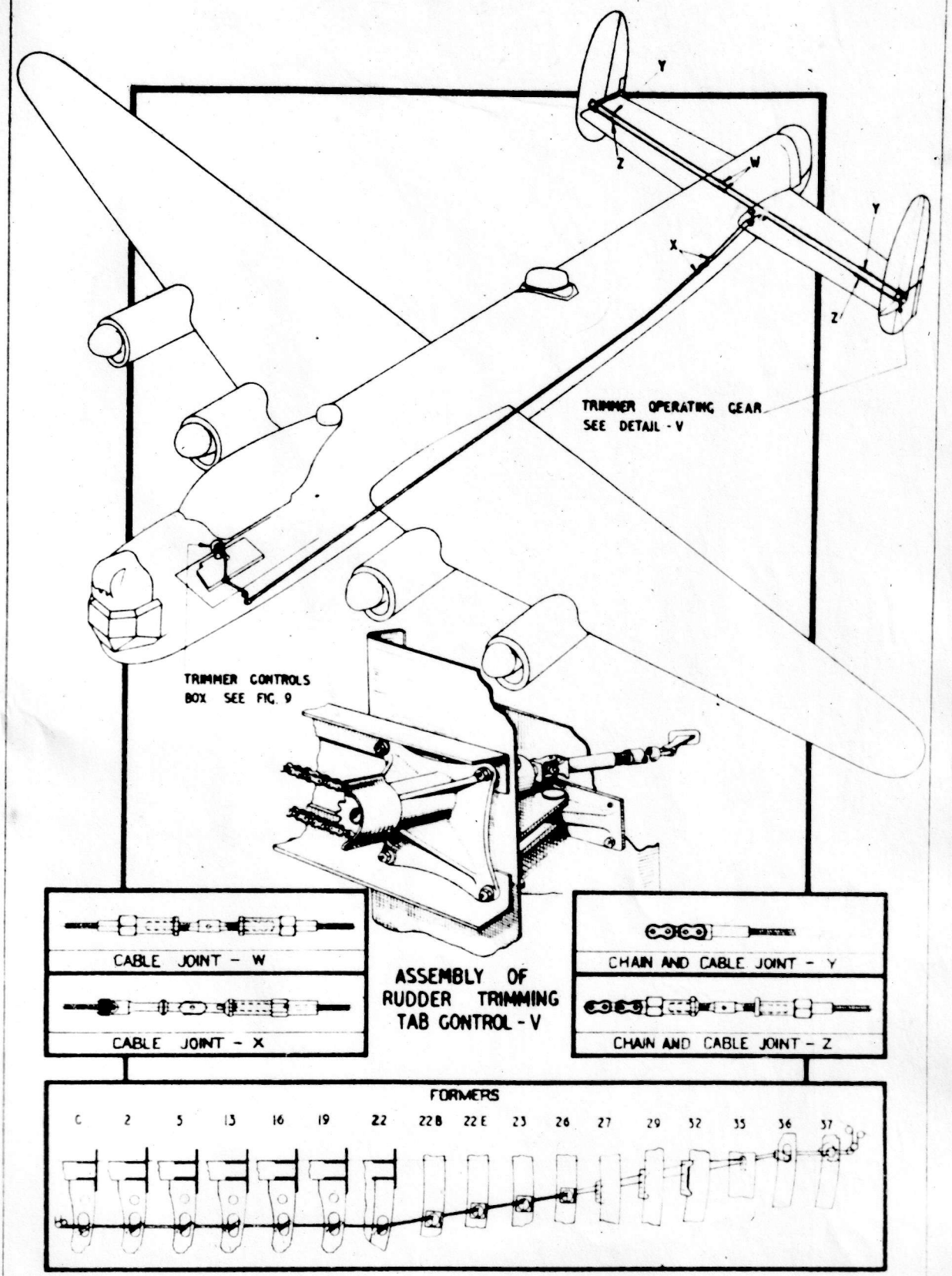


FIG 8 **RUDDER TRIMMING TAB CONTROLS.** FIG 8

REAR FUSELAGE STRUCTURE N2	FIG. 8.8