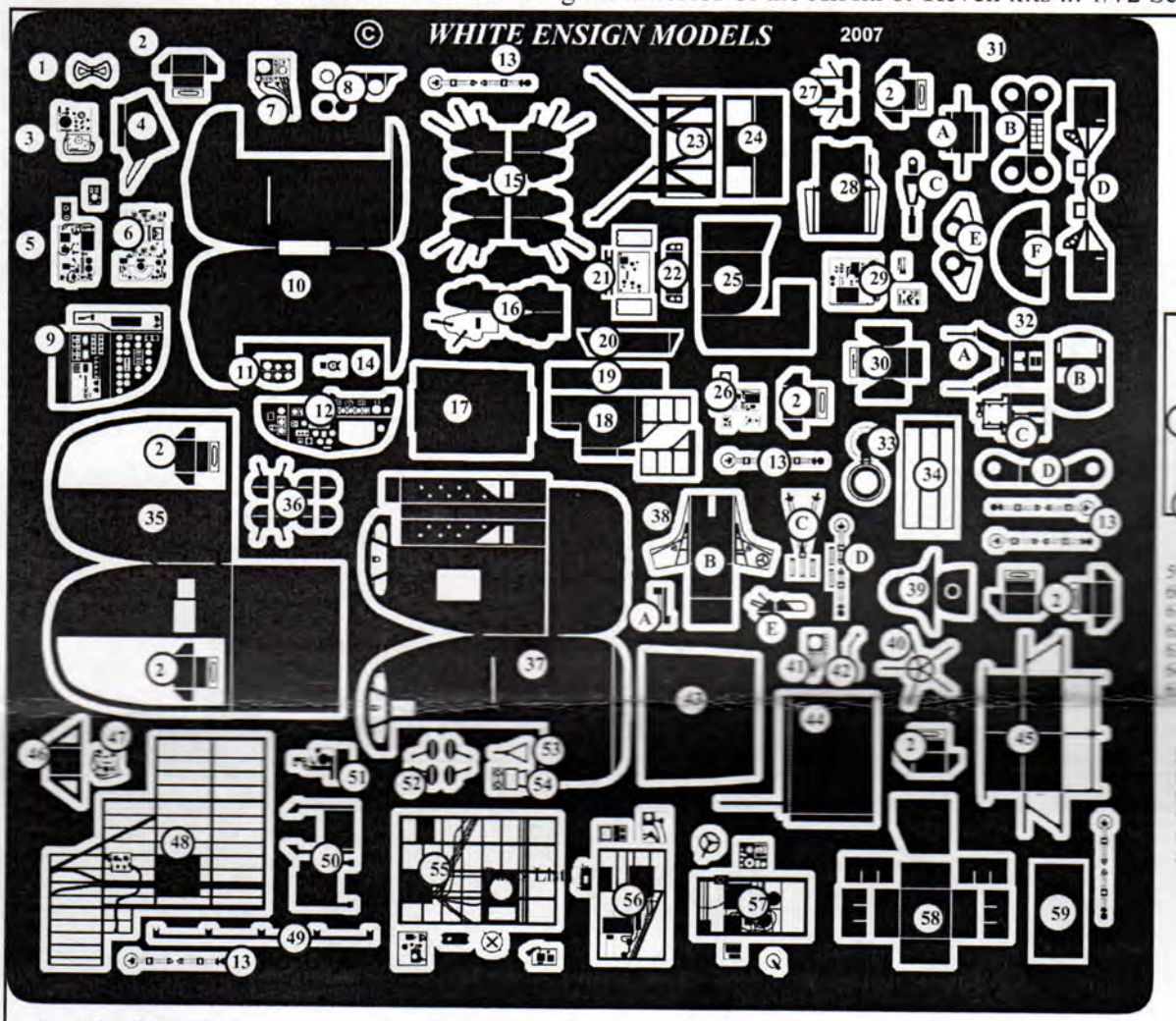
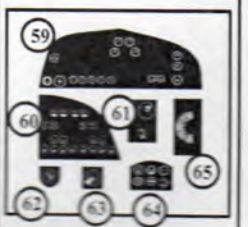
WHITE ENSIGN MODELS

Handley Page Halifax BI/II/III

Photo Etched Parts for detailing the **Interior** of the **Airfix** or **Revell** kits in 1/72 Scale



Instrument Bezel Film



Not to Scale

59. Main Instruments
60. H2S Radar Screen
61. F Engineers Gauges
62. Compass
63. Fishpond Radar Screen
64. Flight Instruments
65. Wireless Tuner Dial

NOTE:- To remove the instrument bezels from the film cut, around the whole of the black area marked, with scissors or a sharp knife.

1. Pilots Control Yoke
2. Parachute Stowages
3. Gee Mk2 Equipment Facia
4. Gee Mk2 Mounting Shelf
5. Navigators Panel Facia
6. Wireless Equipment Facia
7. H2S Radar Box Facia
8. Main Compass Assembly
9. Flight engineers Panel
10. Cockpit Front Bulkhead
11. Pilots Flight Instruments
12. Main Instrument Panel
13. Lap Straps
14. Direction Indicator Dial
15. Throttle Quadrant Assembly
16. Throttle Quadrant End Plates
17. Pilots Cockpit Floor
18. WOs Table Assembly
19. Equipment Shelves
20. Overhead Shelf
21. Bombing Computer Box
22. Computer Box Mountings
23. Main Spar Framework
24. Main Spar Step
25. Cockpit Stair Assembly
26. Bomb Aimers Left Panel
27. Bomb Aimers Arm Rests
28. Bomb Aimers Couch
29. Bomb Release Panel
30. Sextant Case
31. Mid Upper Turret Interior
32. Rear Turret Interior
33. Elsan Toilet Seat
34. Elsan Tiolet Drum
35. Cockpit Rear Bulkhead
36. Flight Engineers Fuel Cock
37. Cockpit Middle Bulkhead
38. Pilots Seat Assembly
39. WOs Seat
40. WOs Seat Base
41. Fishpond Display Facia
42. Navigators Anglepois Lamp
43. WO Compartment Floor
44. Navigators Table
45. Navigators Seat Assembly
46. Gee Receiver Shelf
47. Gee Receiver Box Facia
48. Cockpit Starboard Sidewall Frame
49. Cockpit Stairs Handrail
50. Flight Engineers Seat Assembly
51. Bomb Sight
52. Pilots Fuel Cocks
53. DF Antenna Control Box Stay
54. DF Antenna Control Box Facia
55. Flight Engineers Sidewall Frame
56. Pilots Cockpit Sidewall Frame
57. WOs Compartment Sidewall Frame
58. Oxygen Bottle Crate Assembly
59. Elsan Toilet Floor Panel

Photo Etched Parts General Instructions

1. Do not remove the etched parts from the fret until you are ready to use them.
2. Before assembly, soak the etched parts in a suitable solvent, such as white spirit, to de-grease the surfaces for painting.
3. Cyanoacrylate adhesive (Super glue) or contact adhesive such as Elmers white glue may be used. These can be applied with a pin or piece of stretched sprue.
4. When removing parts from the fret, place the fret on a hard surface, such as a smooth ceramic tile, in order to prevent parts bending whilst cutting through the holding tabs. It is suggested that a #11 type of modelling knife blade is used for this purpose.
5. When shaping or bending a part, a straight edged blade such as a chisel blade #17 or # 18 will give a good sharp corner, or alternatively a small pair of smooth jawed pliers may be used.
6. If a part is bent incorrectly, lay it on a hard flat surface and roll it flat with a cylindrical object such as a modelling knife handle.

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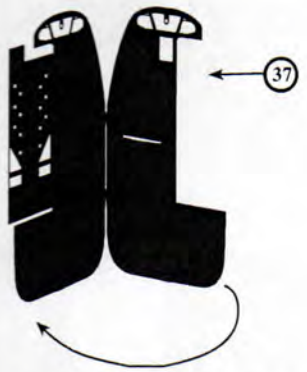
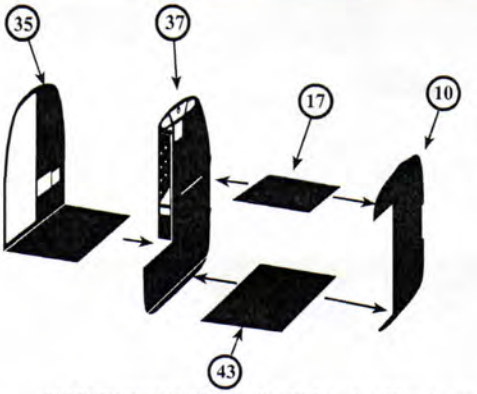
BULKHEAD AND FLOOR ASSEMBLIES



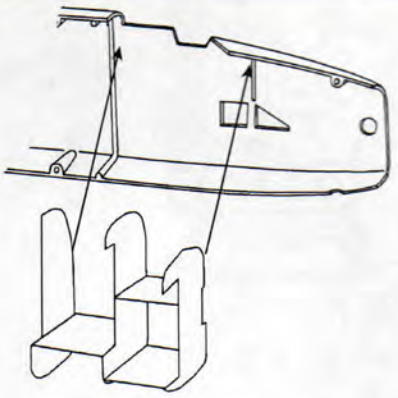
Fold the three cabin bulkheads, etched parts 10, 35 and 37 in half so that they become double thickness with any etched detail outer most.
Secure in to place with super glue.

Fold the control linkage housing on the cabin middle bulkhead, etched part 37, so that the perforated sides are parallel , to form an enclosed box against the rear wall of the bulkhead.



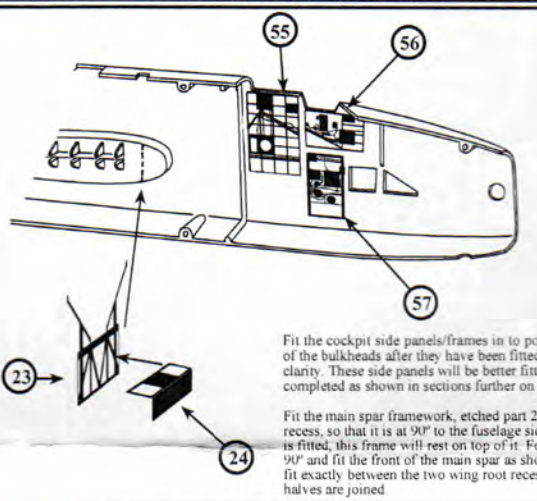
Fold the floor panel on etched part 35 to 90° forwards and fit to the rear wall of bulkead 37 as shown above. Fit floor panels 17 and 43 to the etched slots on the front wall of bulkhead 37 so that they are at 90°. Fit the front edges of the two floor panels to the rear wall of bulkhead etched part 10. Ensure that the floor panels are at 90° to the bulkheads.

COCKPIT AREA ASSEMBLY



Fit the complete cockpit cabin asembly in to the left side of the fuselage, kit part 37, after first removing all moulded details and guide rails from the interior, except for the very rear and the front vertical locating bars. These will help with the positioning of the assembly.

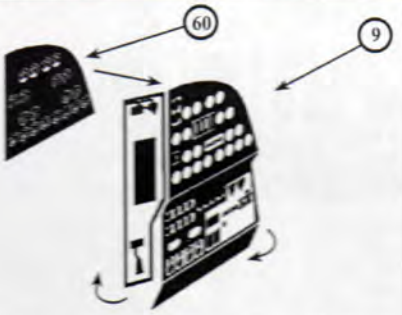
MAIN SPAR AND SIDE PANEL LOCATION



Fit the cockpit side panels/frames in to positions within the bounds of the bulkheads after they have been fitted. Shown hereremoved for clarity. These side panels will be better fitted after assembly is completed as shown in sections further on in these instructions.

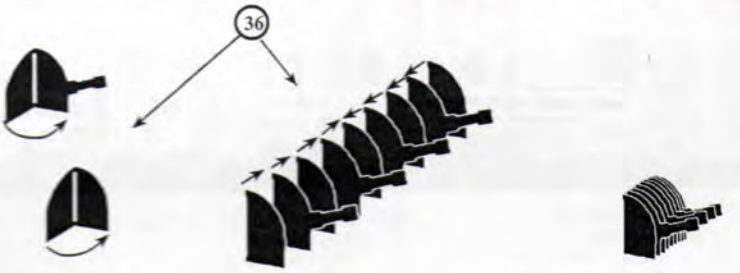
Fit the main spar framework, etched part 23, to theraised wing root recess, so that it is at 90° to the fuselage side. If the bomb bay floor is fitted, this frame will rest on top of it. Fold the main spar step to 90° and fit the front of the main spar as shown. This assembly will fit exactly between the two wing root recesses when the fuselage halves are joined.

FLIGHT ENGINEERS MAIN PANEL



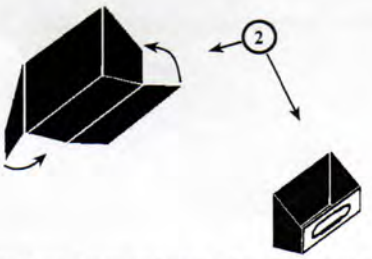
Fold the side and bottom plates of the Flight Engineers Panel to 90° and secure in to place. Fit the transparent instrument film to the rear of the panel so that dials line up with the holes in the facia. It is recommended that this film is secured in place using Humbrol Clear Fix as an adhesive. The instrument bezels can now be highlighted by painting the rear face of the film with a bright white or dayglo white paint. Alternatively for the adventurous, a small light may be fitted behind the panel.

FLIGHT ENGINEERS FUEL COCKS



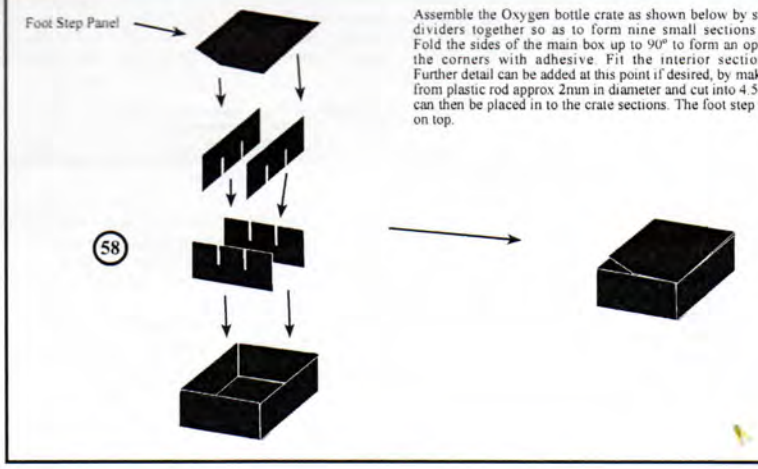
To assemble the fuel cock lever quadrants for both the Pilot, etched parts 52, and the Flight Engineer, etched parts 36, fold each part in half so that the curved base is double thickness. This will also provide extra spacing between the levers when assembled. Assemble the levers as shown with blank spacers in between each lever to give depth to the assembly.

PARACHUTE STOWAGES



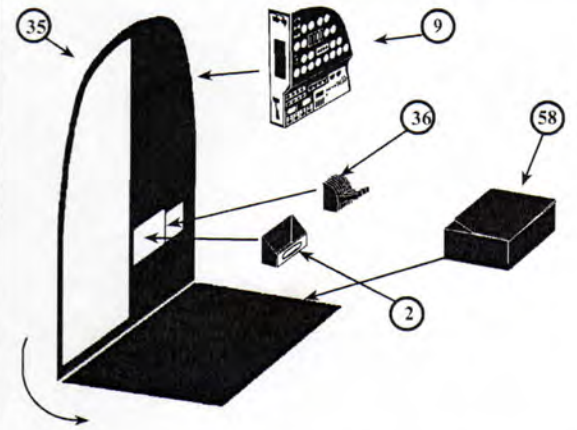
Assemble the parachute stowage boxes by folding as shown above. Several of theseitems have been provided and are placed on the bulkheads or cabin side walls adjacent to each crew station just above floor level.

OXYGEN BOTTLE CRATE



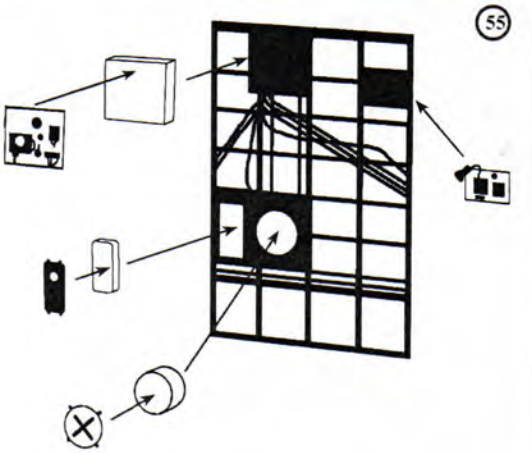
Assemble the Oxygen bottle crate as shown below by slotting the interior dividers together so as to form nine small sections withing the box. Fold the sides of the main box up to 90° to form an open box and secure the corners with adhesive. Fit the interior section in to the box. Further detail can be added at this point if desired, by making oxygen bottles from plastic rod approx 2mm in diameter and cut into 4.5mm lengths. These can then be placed in to the crate sections. The foot step panel is then fitted on top.

FLIGHT ENGINEERS POSITION



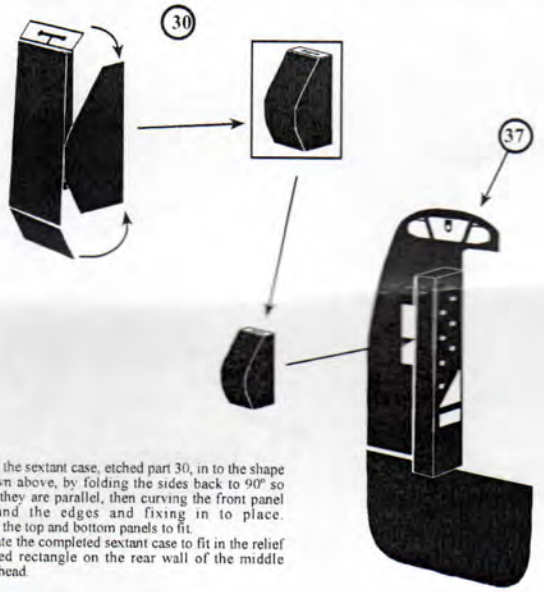
Fold the floor panel of etched part 35 forwards to 90 before assembling the cabin structure as described in a previous section. This part should now be fitted into the right fuselage half and secured in place.
Fit the assembled Flight Engineers panel so that the curvature of the panel matches the curvature of the bulhead and fits into the curve of the fuselage.
Fit the assembled etched parts 2 and 36 on to the relief etched recesses on the forward wall of the bulkhead.
Fit the oxygen bottle crate assembly to the floor on the left side, so that it is directly below and forward of the Flight Engineers panel.

FLIGHT ENGINEERS SIDE PANEL



Assemble the side panel for the Flight Engineers compartment as shown above, using plasticard of 30 or 40 thou thickness to back up the smaller panels and give them depth. This panel is fitted to the left fuselage side after fitting the cabin structure assembly in to place.

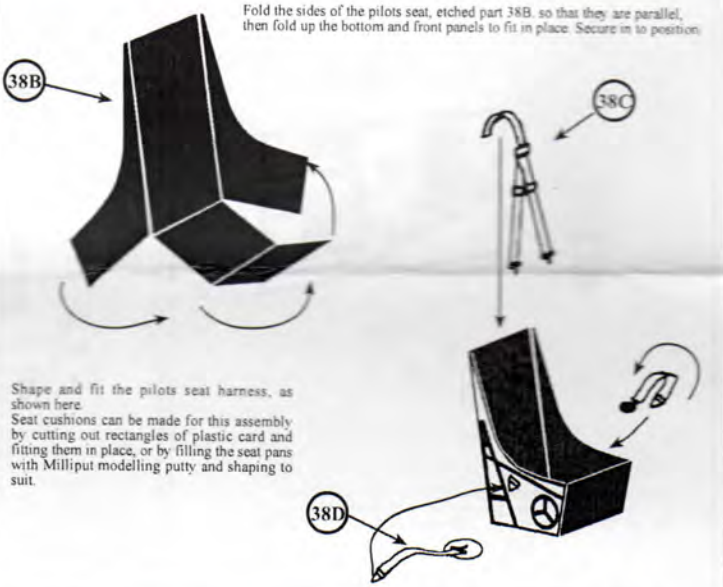
SEXTANT CASE ASSEMBLY AND LOCATION



Fold the sextant case, etched part 30, in to the shape shown above, by folding the sides back to 90° so that they are parallel, then curving the front panel around the edges and fixing in to place. Fold the top and bottom panels to fit.
Locate the completed sextant case to fit in the relief etched rectangle on the rear wall of the middle bulkhead.

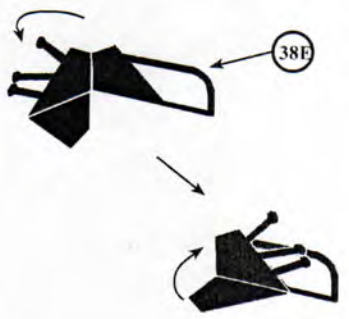
PILOTS SEAT ASSEMBLY

Fold the sides of the pilots seat, etched part 38B, so that they are parallel, then fold up the bottom and front panels to fit in place. Secure in to position.



Shape and fit the pilots seat harness, as shown here.
Seat cushions can be made for this assembly by cutting out rectangles of plastic card and fitting them in place, or by filling the seat pans with Milliput modelling putty and shaping to suit.

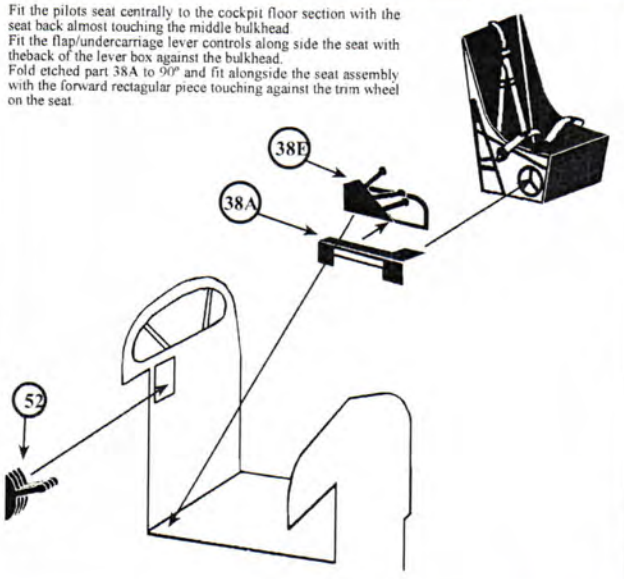
PILOTS LEVERS



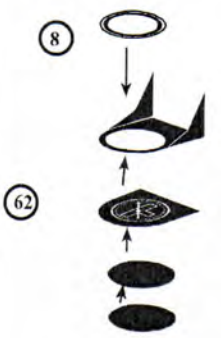
Fold the pilots flap and undercarriage lever control, etched part 38E, so that the levers point forward as shown. The extra thickener piece is then folded up the outside of the lever box to give extra depth to the assembly.

PILOTS SEAT LOCATION

Fit the pilots seat centrally to the cockpit floor section with the seat back almost touching the middle bulkhead.
Fit the flap/undercarriage lever controls along side the seat with theback of the lever box against the bulkhead.
Fold etched part 38A to 90° and fit alongside the seat assembly with the forward rectagular piece touching against the trim wheel on the seat.

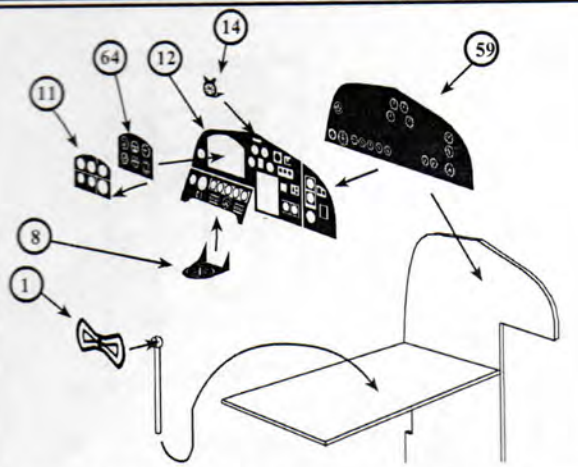


COMPASS ASSEMBLY



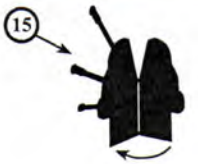
Assemble the pilots master compass, etched part 8. As shown above by laminating the layers and including the transparent film part 62. Paint the back of this film, White, before fitting in placethen secure using Humbrol ClearFix as an adhesive.

PILOTS INSTRUMENT PANELS

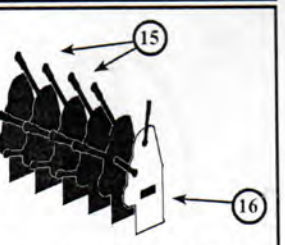


Fold the lower left section of the pilots instrument panel, etched part 12, outwards at an angle as shown above. Fit the transparent film 59 to the back of etched part 12. A small vertical cut will need to be made so that the film will follow the the shape of theangled part of the instrument panel.
Fit the assembled compass, etched part 8, centrally to the underside of the angled part of the instrument panel.
Fit the Flight Instruments 11 and the transparent film 64 together and fit in turn to the shaped recess on etched part 12. The transparent films will show up the bezels better if the back faces are painted white before assembly. Assemble using Humbrol ClearFix to prevent any clouding.
Cut the moulded plastic control wheel from kit part 4, then replace it with etched part 1,using the same mounting stem.

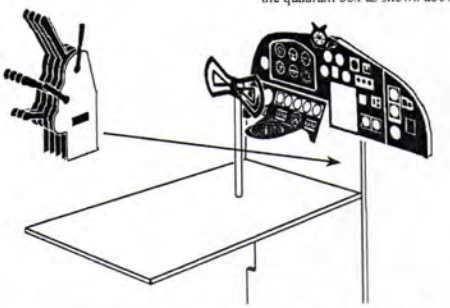
THROTTLE QUADRANT ASSEMBLY



Fold and assemble the throttle lever quadrant in the same manner as that which has been described for the fuel cock lever quadrants.

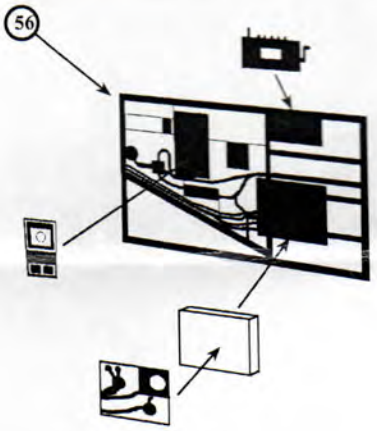


Fold and fit etched parts 16 to the outer ends of the quadrant box as shown above.



Fit the Throttle Quadrant assembly to the floor of the pilots cockpit, so it is positioned centrally against the instrument panel.

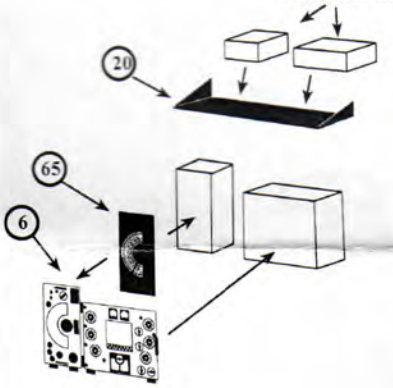
PILOTS SIDE PANEL



Assemble the pilots side panel, using 30 and 40 thou plastic card to back the smaller panels with, and give them depth. This panel fits on the left fuselage half in the pilots cockpit area as shown in a previous section.

WIRELESS OPERATORS TABLE ASSEMBLY

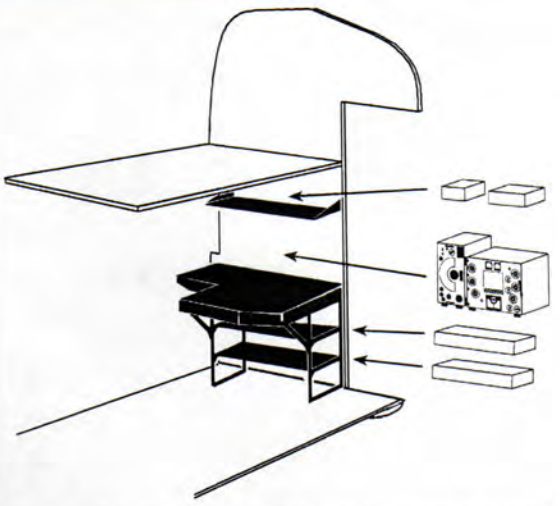
Make receiver boxes out of 80 thou plastic card.



Cut two boxes from laminated plastic card or modelling board to 7 x 4 x 3.5 mm and 7 x 5 x 4 mm ensure that the rear face of the transparent film is painted white before assembling between the boxes and etched part 6.
This makes the Wireless Transmitter and Receiver boxes.

Fold the ends of receiver box shelf, etched part 20, so that they are vertical.
Fold the end leg of the table, etched part 18, down to 90°. Fold the edges of the table down to 90° and secure in to place. Fit the separate table leg so that it is directly in line with the fixed end leg.
Fit the HT and LT box shelves 19 to the cross bars between the table legs.

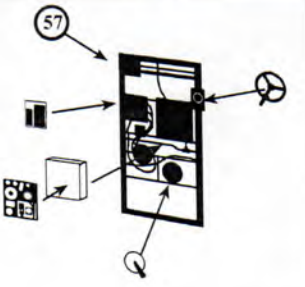
WIRELESS BOX LOCATION



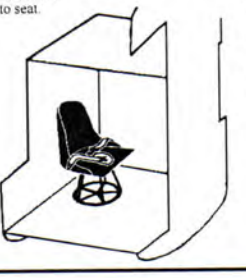
Fit the wireless operators desk assembly to the lower compartment below the pilots cockpit with the desk against the front wall. Fit the wireless equipment on to the desk so that they back against the wall. Cut two lengths of 2mm (80thou) thick plastic card to 8 x 3 mm to make the HT and LT boxes that fit on the shelves under the table.

WIRELESS OPERATORS SEAT AND SIDE PANEL

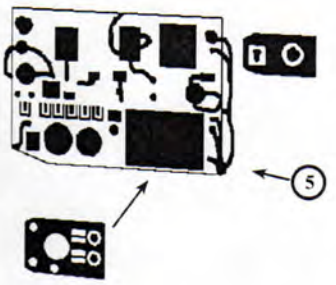
Fold the Wireless Operators Seat, etched part 39, to the shape shown above and secure in to place.
Fold all five legs on the seat base, etched part 40, upwards and fit the ends equally around the etched circle under the seat pan. Fit lap strap 13 to seat.



Assemble the Wireless Operators side panel in the same manner as described in previous sections using 30 or 40 thou plastic card to back up the smaller panels and give them depth.
This panel fits in the Wo compartment on the fuselage sidewall so that part of the hand wheel at the top right corner, protrudes over rear part of the window.

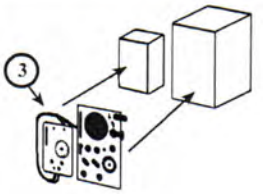


NAVIGATORS PANEL ASSEMBLY

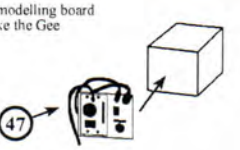


Assemble the navigators panel using 30 or 40 thou plastic card to give the smaller panels depth.

"GEE" EQUIPMENT BOXES

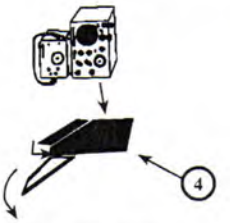


Cut two boxes from laminated plastic card or modelling board to 2.5 x 3.5 x 2 mm and 5 x 3.5 x 4 mm to make the Gee indicator boxes using the facia, etched part 3.



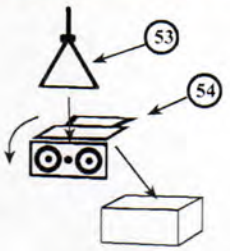
Cut a box from plasticard or modelling board 3.5 x 4 x 4 to make the Gee receiver box using etched facia parts 47.

Fold the sides of etched part 46 upwards vertically to make athe shelf for the Gee receiver box.



Fold down the back edge of etched part 4 to 90° then fold down the end braces to 90° to make the shelf for the Gee indicator boxes.

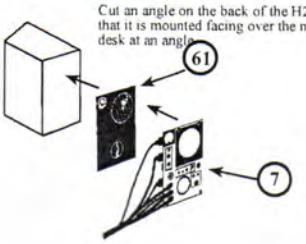
DF LOOP CONTROL BOX

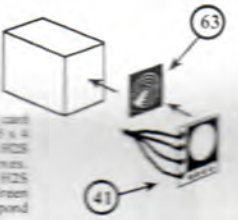


Cut a box from plastic card or modelling board to 3 x 2 x 1.5 mm to make the DF loop control box using the facia part 54 and the support frame 53.

RADAR EQUIPMENT BOXES

Cut an angle on the back of the H2S box so that it is mounted facing over the navigators desk at an angle.

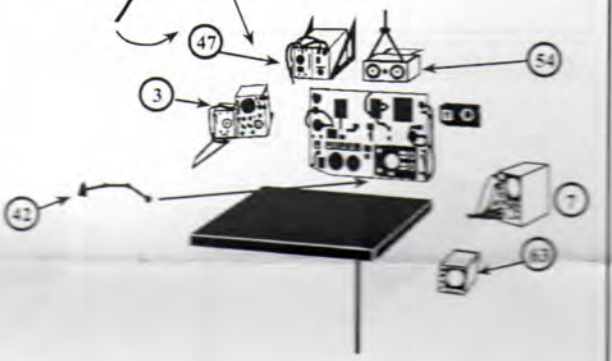




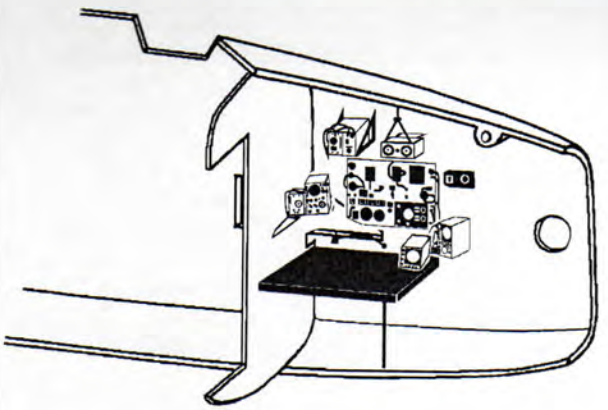
Cut two boxes from plastic card or modelling board to 4 x 5 x 4 and 4.5 x 3 x 3 to make the H2S and Fishpond radar boxes. Paint the rear face of the H2S transparency 61, Bright Green and the rear face of the Fishpond 63 Bright Orange.

NAVIGATORS POSITION LAYOUT

Fold down the sides and leg of the navigators table to 90 and secure in place.
Fit the navigators table to the left fuselage half, forward of the front bulkhead so that it forms a continuation from the Wireless Ops table. The layout of the navigators equipment is shown here.

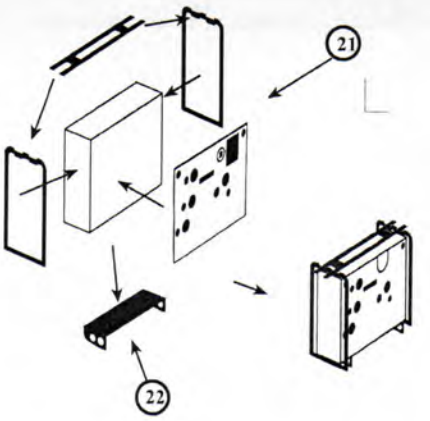


NAVIGATORS POSITION LOCATION

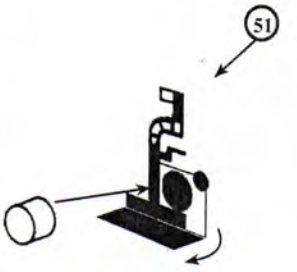


Fit the navigators table and equipment in to the left fuselage half as shown here.
Fit the navigators panel 5 directly on to the inside of the fuselage half as well as the Gee receiver box and shelf and the H2S box. The DF Loop control box fits to the fuselage side above the main panel, but the Gee indicator boxes and shelf fit on to the forward wall of the front bulkhead.
The main panel and the Gee indigator boxes may partially obstruct the window but this is how they were actually fitted.
The Fishpond radar box is mounted on the forward end of the desk top. This box may have only been fitted to 100 Group countermeasures aircraft, though it was good for detecting and plotting the range of night fighters.

BOMB AIMING EQUIPMENT

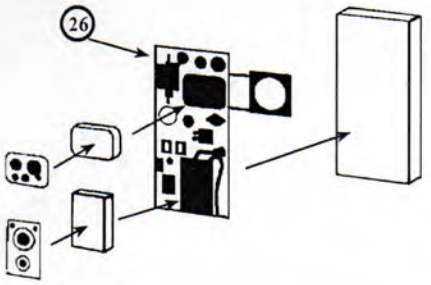


Make the bombing computer box by first cutting out a rectangle of 60 thou (1.5mm) plastic card to the dimension of the computer fascia plate. Fit the facia plate to the plastic card.
Fit the two end frames so that the slotted parts are at the top.
Fit the top frame to the slots on the end frames. Fold the ends of etched part 22 down to 90° and fit to the underside of the computer box.



Cut a length of 2mm plastic rod to 2mm and use as a giro casing for the bomb sight. Fold the sight base back to 90°.

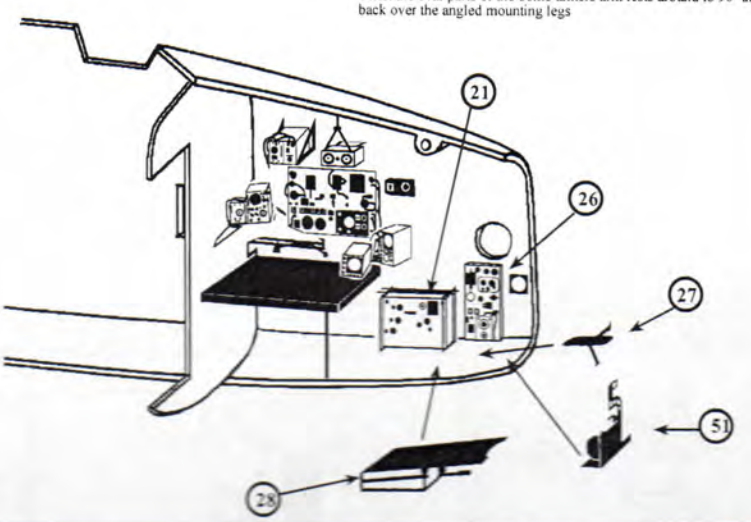
BOMB AIMERS POSITION LOCATION



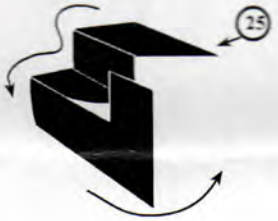
Cut out a rectangle of 60 thou (1.5mm) plastic card to the dimension of 6.5 x 3 mm to use as a backing for the bomb aimers left panel. Fit the smaller panels to the main panel using backing pieces of 30 thou plastic card.

Fold the side frames of the bomb aimers couch, etched part 28, down to 90° so that they are parallel. Fit the couch so that the left support fits on the left half of the fuselage, so that when the two fuselage halves are joined together the couch will be central. Fit the bomb aimers left arm rest so that thelower leg fits to the fuselage bottom and the angled leg fits on to the curve of the fuselage as the side starts to become vertical.

Twist the oval parts of the bomb aimers arm rests around to 90° then fold back over the angled mounting legs



COCKPIT STEPS ASSEMBLY



Fold the etched part 25 as shown above to form two steps. Gently curve the lower vertical panel around the bottom step until the large rectangular part passes under the angle of the top step. Fix this in place and secure the edges of the steps with super glue.

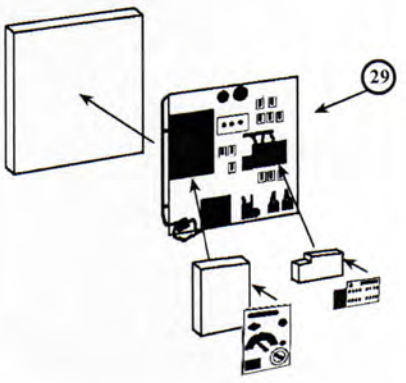
ENGINEERS JUMP SEAT

Fold the edges of the Navigators Jump Seat back to 90 so that they are parallel then fit the hinge brackets on to the recesses on the seat base. This shows the seat in its folded and stowed condition.

NAVIGATORS SEAT ASSEMBLY

Fold the back and legs of the navigators seat to 90° then join the leg sections together at the corners.

BOMB RELEASE PANEL



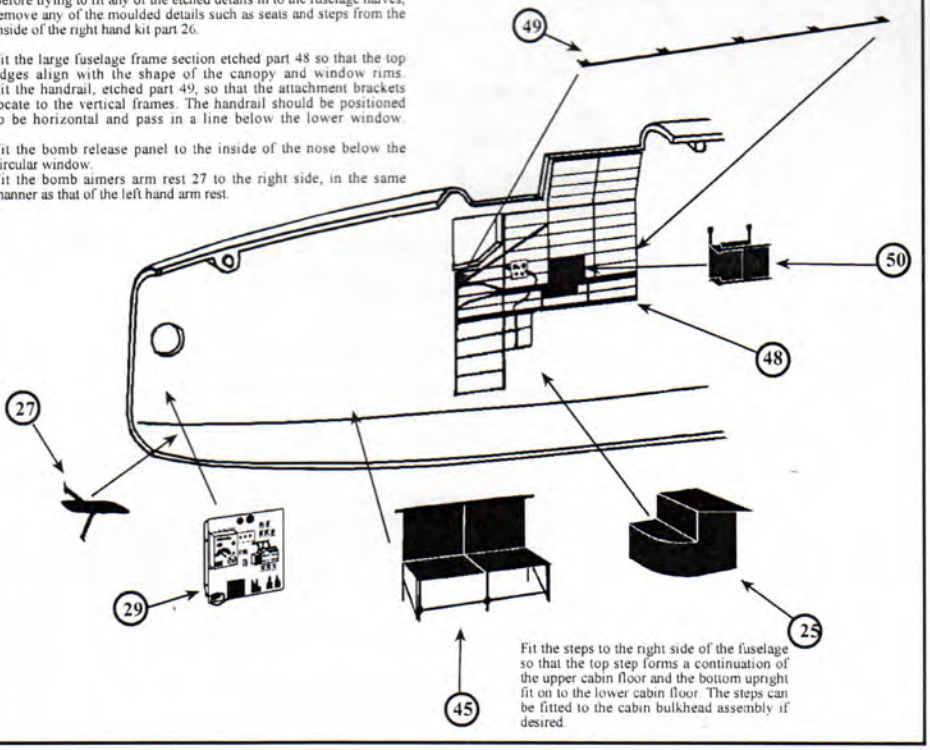
Cut a piece of 40 thou (1mm) plastic card to the dimension of 7 x 6.5 mm and use to back the Bomb Release Panel, etched Part 29. Use 30 thou plastic card as a backing for the smaller panels before fitting them in place as shown above.

COCKPIT AREA RIGHT SIDE FITTINGS

Before trying to fit any of the etched details in to the fuselage halves, remove any of the moulded details such as seats and steps from the inside of the right hand kit part 26.

Fit the large fuselage frame section etched part 48 so that the top edges align with the shape of the canopy and window rims. Fit the handrail, etched part 49, so that the attachment brackets locate to the vertical frames. The handrail should be positioned to be horizontal and pass in a line below the lower window.

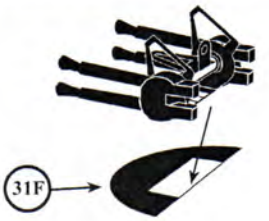
Fit the bomb release panel to the inside of the nose below the circular window.
Fit the bomb aimers arm rest 27 to the right side, in the same manner as that of the left hand arm rest.



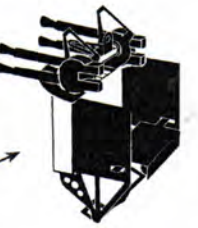
Fit the steps to the right side of the fuselage so that the top step forms a continuation of the upper cabin floor and the bottom upright fit on to the lower cabin floor. The steps can be fitted to the cabin bulkhead assembly if desired.

MID UPPER TURRET FITTINGS ASSEMBLY

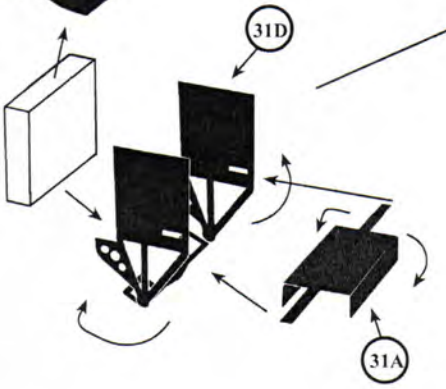
Fold up the sides and doublers of the gun mounting bracket etched part 31B as shown below.

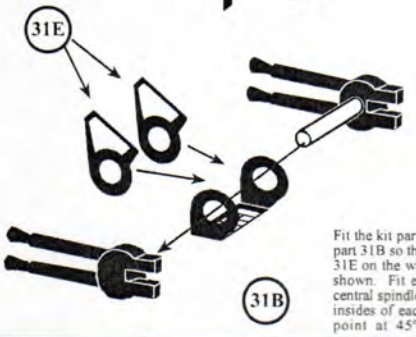


Fit the gun assembly to the semi circular tray as shown below.
Fold the armour plates and foot rest, etched part 31D so that the sides are parallel and the foot rest angled upwards slightly. Cut a rectangle of 2mm (80thou) plastic card to 9 x 6 mm to make an ammunition box. Fit this to the step in the side plates as shown. Fit the top of the ammunition box to the underside of etched part 31F.



Fold the gun sight and elevation arm etched part 31C, to the shape shown.





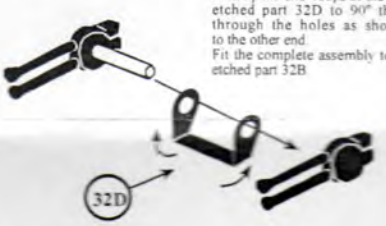
Fit the kit part 11 through the holes in etched part 31B so that it passes through etched parts 31E on the way. Fit kit part 13 in to place as shown. Fit etched part 31 to the top of the central spindle. Secure etched parts 31E to the insides of each pair of guns so that the arms point at 45° to the line of the barrels.

Fold down the front and back edges of the gunners seat to 90 then fit the seat into position by passing the fixing bars through the slots in the side plates and turning the ends down. Lap straps etched parts 13 may be fitted to each side of the seat.

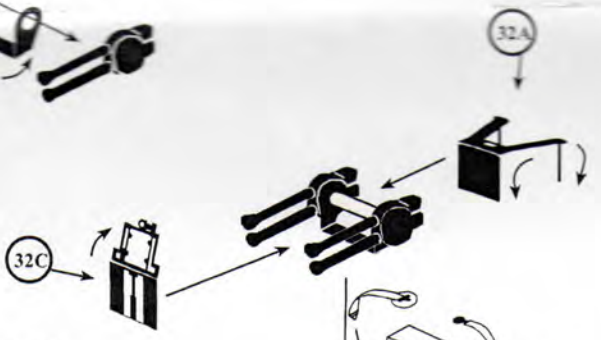
REAR TURRET FITTINGS ASSEMBLY

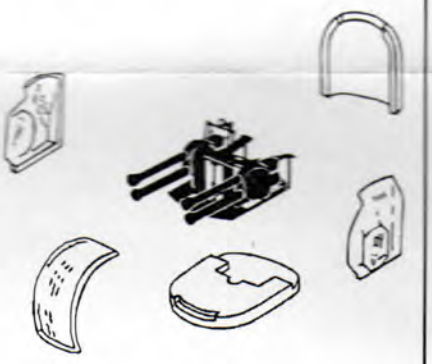
Note. The interiors of the cabin and gun turrets may be viewed better by using replacement canopies and turret parts that are supplied in the ClearVax vacuformed sets from Falcon. 1/72 scale Set No 17 RAF WWII Part 3 provides parts for all available Halifax kits in this scale.

Fold up the end loops of the gun mounting bracket, etched part 32D to 90° then pass kit part 16 through the holes as shown. Fit kit part 18 to the other end.
Fit the complete assembly to the etched recess on etched part 32B.

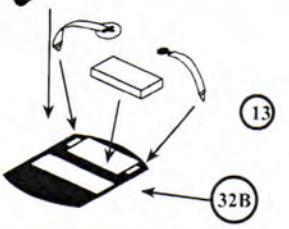


Fold the rectangular plate on etched part 32A to 100° then fold down the support legs at the ends of the arm rests. Fit to the back of gun mounting.



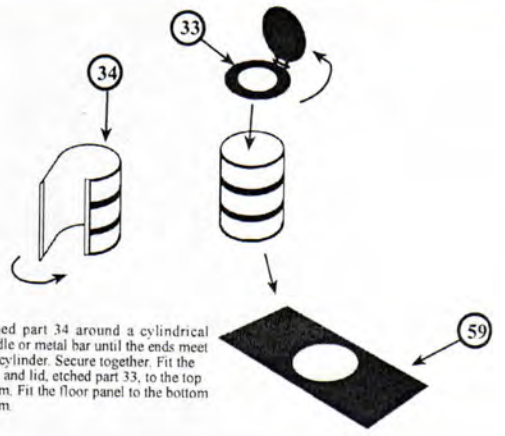


Fold the gun sight section of etched part 32C back 10° or 15° from the vertical. Fit the rectangular section to the front of the gun mounting.



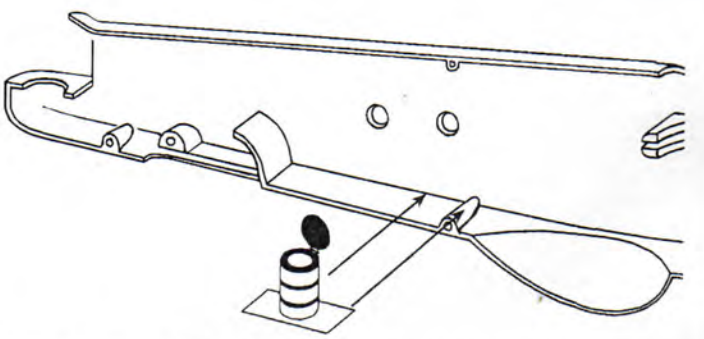
Cut a rectangle of 60thou (1.5mm) plastic card to fit in to the gunners seat opening in the turret base plate 32B. Fit lap straps, etched parts 13 to the slots in the base on either side of the seat pad. Fit the completed assembly to the turret base, kit part 20, the assemble the turret as per kit instructions.

ELSAN TOILET ASSEMBLY



Roll etched part 34 around a cylindrical knife handle or metal bar until the ends meet to form a cylinder. Secure together. Fit the Elsan seat and lid, etched part 33, to the top of the drum. Fit the floor panel to the bottom of the drum.

ELSAN TOILET LOCATION



Fit the Elsan toilet assembly to the inside of the left fuselage half as shown, to a position just to the rear of the entry hatch. Unfortunately, because of the closed in nature of this area, this item can not be seen unless the entry hatch is modelled in the open position. See the WEM Halifax Exterior detail set for a replacement entry hatch.