P-61 Black Widow 1/7 Scale

PARTS LIST

VACUFORM PARTS

1 Cockpit Floor (2)
2 Dash
3 Dash Hood
4 Cockpit Left Side Panel
5 Cockpit Right Side Panel
6 Rear Wall
7 Seat Base (3)
8 Seat Bottoms (3)
9 Pilot Seat Back
10 Gunner and Radio Operator Seat Back (2)
11 Rear Cockpit Floor
12 Rear Cockpit Lower Piece below Floor
13 Rear Cockpit Upper Piece above Floor
14 Rear Wall of Rear Cockpit
15 Oxygen Regulator Guages (3)
16 Small Lower Right Control Panel
17 Shelf Floor 2x8 inches

RESIN PIECES

18 Flap Control
19 Oxygen Control Box (3)
20 Intercom Control Box (3)
21 Circuit Breaker Panel (1)
22 Switch Box (1)
23 Control Box for Gunner (1)
24 Cockpit Heater (1)
25 Left Side Electrical Panel

GUNNER AND RADAR OPERATOR GUNSIGHTS, X 2

26 Base (resin)
27 1/4" alum. Tube 4" lg
28 7/32" Alum. Tube 6" lg.
29 Plastic Collar, 1/4 x 3/8 x 1/4 lg.
30 Knurled Rod, 5/16 dia. (Resin)
31 Gunsight Cross Bar (resin)
32 Connecting Tube (resin)
33 Handles (resin 2 pcs)
34 Elbow Junction Box (resin)
35 Gunsight Refector
36 Above Pieces for one Gunsight, Two Gunsights Included

FIRE EXTINGISHER X2

44 Body (1 resin)
45 Handle Top, 1/8" sq. x2" pastic
46 3" of 14 Guage Black Wire
47 Handle Grip, 1/8x 1/16x2 Plastic

MISC. PIECES

48 Black Chord, 3/32 x 3 ft.
49 1/8 Plastic Rail, 3 15" pcs
50 One Roll Alum. Wire
51 Pins, 11 big, 2 small
52 1" of 1/8" sq. white plastic
53 Alum. Tube, 1/16" dia. X 6"
54 Computer Disc
55 Guages
56 Plastic for guages
57 1/8" Alum. Rod, 6" Long
58 3/32" Alum. Rod, 12" Long
59 1/4" Flex Hose, 18" Long
60 3/16" Flex Hose, 24" Long
61 3/16" Rod , 12 inches long

GUNSIGHT BAG

62 Main Body (resin)
63 Clear Plastic, 2x2"
64 3/16" Round Plastic 2" Long

YOKE ASSEMBLY

37 Control Yoke
38 Control Wheel
39 6" of chord 1/16 dia.
40 2" of 3/16 Alum. Tube
41 4" of 1/14" Alum. Tube
42 5" of 9/32" Alum. Tube
43 1/8" plastic round rod 1" long

Instructions

Thank you for purchasing this Dynamic Balsa Cockpit. We have tried to duplicate the original as close as possible and within reason but there are always little pieces that you can add. To Help you with this cockpit you can purchase "The Black Widow Pilots Manual" from Zenith Books. It has lots of pictures to help you with the detail. I have included pictures of the finished model on a Computer Disk and these should also help you with the finished model. Unfortunely the model version of this airplane has the landing gear right in the cockpit. You may have to build a box around the gear and then cut off the effective pieces so that the height with remain the same. The step in the floor corresponds to the step in the fuse and the step in the canopy which is 3/4" of an inch in the fuse and the canopy and 1" on the floor. The rear floor is onto of the crutch and the front floor is 1" below the crutch. When the nose gear retracts it should come up into the blank space between the pilot and gunner just like in the real plane. This is also where the pilot and gunner entered the airplane thru the wheel well. The interior of this model was painted mostly zinc chromate green with boxes and guages painted flat black and knobs and such painted silver or white. If the pins are included with the kit are not the right color you can paint the heads of the pins also. You should read thru these instructions and understand them before you build the interior. If there is anything you have questions on you can call us at 815-856-2271 or email us at dynamic1@lmtc.net.
We have attempted to list the parts and instructions in the correct order, you may change these around at any time but this is the order that I found the building process that works best. Thanks Brian.

1 COCKPIT FLOOR - (1)-- The front and rear floors are the same except that they are opposite each other. You should cut out the floor between the rail mounts and 2 3/4" deep. The rear cockpit has this facing forward and the front cockpit has it facing rearward leaving a slot in the floor 2 1/2" wide and 5 1/2" long. You should cover the crutch with 1/16" balsa in the back and make a false floor 1" below the crutch in the front and cover this with 1/16" balsa. You will also want to leave a lip at the end of the floor where the step is because you will need to take a piece of scrap plastic and glue between and front and rear floor where the step is. Trim the edges to fit inside the fuse and trim and back and front going from the center step each way then glue these 3 pieces into the fuse. When I built my model I put all the pieces in that I could and then painted everything Zinc Chromate green after the floors, side walls and rear were installed in the front and after all the pieces were installed in the back cockpit.

2 REAR WALL (6)- This wall goes against the rear former in the gunners cockpit. I have a fine line in the plastic which is close to where this fits. You can always leave it larger above the window ledge, trim the bottom, fit in place and then draw a line against the fuse on the upper part and then take out and cut. After you have cut this out glue in place. The boxes are painted black, the canvas covering over the doorway is painted OD Green and the rivets are painted silver. You may use the black chord to run electrical cables between the boxes. Of course any painting other than zinc chromate will have to be done after the whole interior is painted. When painting small boxes you may want to pick up some small brushes at your local train store or hobby shop. They have throw away brushes that have tiny plastic handles with a ball of fur at the end. I use these all time and are great for detailing cockpits.

3 SIDE WALLS (4 & 5) -- when you put these sidewalls in the fuse everything is from the step in the side of the fuse so carefully cut the depth and ends so that the top lip of the side walls rests on the top lip of the fuse. You may want to leave the fuse sides slightly behind the dash former so that the dash will fit between the sidewalls and former. You can always cut this later with a razor knife if you have to. You will also have to glue some balsa behind the throttle quandrant to

stick pins into. You may also want to glue some balsa to the inside of the fuse to glue the plastic to depending on where the raised parts are. Please make sure everything fits perfect before glueing in. you can use goop, CA, Model Cement, or Epoxy to glue these pieces in. You should also try any glue on a piece of scrap plastic to make sure it does not melt the plastic.

NOTE: You can paint this interior all zinc chromate green now or wait until the rear interior is in and then paint both of them at the same time. Once they are painted you need to take small brushes and paint all the boxes and panels black.

NOTE: Before you install the next piece which has guages in it you may want to put the guages in just like you would put them in the dash and you can paint all the panels black and the other parts Zinc Chromate. Then you can just mask off this whole piece when you paint the rest of the rear interior.

4 REAR WALL OF REAR COCKPIT (#14)-- Due to the wing design and such it is impossible to make this perfectly scale. I have taken this rear all and put it 1" further forward than the large former so that is sunk into the fuse 1". I glued pieces of 1/4" sq. to the inside of the fuse then glued this wall to the 1/4" square.

5 REAR COCKPIT LOWER PIECE BELOW FLOOR (12) --This piece goes on the 2nd former from the rear of the fuse and is cut out so the bottom is rounded to fit the fuse and leave a 1/4" lip on the top edge. This lip should glue to the top of the crutch and the piece should fit inside the fuse. Cut a knotch around the springers.

6 REAR COCKPIT FLOOR (11)- This floor sits on top of the crutch between the 2nd and 3rd formers from the rear. You should cut it so that the edge of the interior is 1/8" in front of the rivet line and the rear is cut so it is up against the former and this glues to the top of the crutch.

7 REAR COCKPIT UPPER PIECE ABOVE FLOOR (13)-- the bottom of the rear wall. It should fit side to side and be centered and it gets glued to the 3rd former from the rear. Leave a lip at the top to hang over the bottom of the hole that you cut into the 3rd former.

8 SHELF FLOOR (17)--This goes between and rear wall and the 3rd former from the rear. it is approx. 1" wide and goes side to side. You can glue this to the bottom of the rear wall and to the front edge of part number 13.

NOTE: Now that you have both of these main cockpit pieces installed you can paint the inside of the front and the rear cockpits zinc chromate green. In the back just paint all of the stringers and interior walls green. If you do miss a spot you can always come back and touch some up later with a brush. Now you can also paint all the boxes flat black on the sidewalls and rear wall of the cockpit.

9 DASH (1)-- leaving approx. 1/16" of an inch depth iin the holes. Cut the outer edge of the dash leaving 1/16" of an inch around the edge. Paint this dash black then using the clear plastic provided cut out so it will cover all of the guages in the back of the instrument panel. Using a low temp. hot glue gun or thick CA tack glue the plastic in place, next cut out around all the guages and insert all the guages at the same time as they are already spaced for you then tack glue this paper behind the plastic. Next cut a piece of 1/16" balsa and tack glue to the back of the paper guages glue this around the edges to make a sandwitch of the entire dash assembly. Next glue some scrap

balsa underneath the rounded pieces on the lower dash and behind the flat panel in the middle. In the flat panel in the middle using 3/32" rod you can round the end and make toggle switches to go into the four slots in the center. Drill a hole thru the plastic into the balsa and glue them in leaving 3/16 stick out. You can leave these alum. Color if you like. On the three pairs of levers on the right side cut off a piece of 1/16" tubing and leave it round. Cut it 3/8" of an inch long slip over the pins and stick the pins into the slots so that the pairs are matched up. Paint the heads of the pins in matching pairs. On the left side of the dash I used a red pin with a piece of tubing 1/2" long slide this over the pin and flatten and bend the pin 1/4" under the head 30 degrees and then stick this pin into this slot in the dash with the pin angled toward the center and glue in place. Next glue this whole dash assembly to the dash former with the top of the dash even with the top of the fuse.

10 FIRE EXTINGHSHER-you should built this according to the instructions in the package. And this can be installed in the rear left of the nose and the front left of the rear cockpits.

11 RESIN PIECES (18, 19, 20, 21, 23)- Sand all the edges on these pieces and the back and paint all the pieces but #18 flat black. Paint all three #18 silver. Paint the knobs black on #18. Paint the circuit breaker buttons on number 19 white and on number 20, 21 and 23 paint all of the hex nuts silver and drill a small hole thru the center of the nuts. Then using the alum. Wire provided flatten one end with a hammer to make it flat like a toggle switch. You may have to do a few of these to get the right look. Stick this thru the hole in the center of the nut and glue in place then you can bend the switch up and down to be on or off. You should look at the pictures provided on the computer disc to see the placement of these switches in the front cockpit and of the intercom control box number 18 in the rear. You may also want to drill 1/8" holes in some of these boxes and run the black cord provided (48) between the boxes to simmulate electrical cords.

12 YOKE ASSEMBLY - sand off all edges on the resin pieces. The center of the yoke should be approx. 1/4" below the window sill. Cut the bottom of the yoke off so that the center pin on the steering wheel is 9/16" below the window sill. Then take the short piece of the 1/4" tubing and glue on to the bottom of the yoke. The two pieces of 9/32" tubing go on each side of the yoke slipping over the 1/4". These get glued to the floor 1 1/2" behind the dash. If you are putting in retracts and have to make a box for the retract you will have to cut the yoke off and glue it onto the box. Either way before you put this in the airplane you will need to drill out the hole in the yoke 3/16" and the hole in the wheel 3/16" and using the small tubing provided leave 3/16" between the two when you glue the shaft in. also you will need to drill out the hole in the gromet which is below the hole for the wheel and the yoke and drill a hole in the bottom of the wheel and two 1/8" holes one on each side of the wheel at the top where the flat spot is. Next take some of the 1/8" dia. Plastic rod provided and glue into the hole leaving it stick out 1/8". The tops of these will Need to be painted white after the assembly is painted black. Next take the wire provided two pieces should go from the steering wheel to the hole in the yoke and be glued in. The whole yoke assembly can be painted flat black.

13 GUNSIGHT- Take the main body and sand all the edges and drill a 3/16" hole in the back of the bottom bulb being careful not to drill all the way thru. Then take the 3/16" rod provided and insert it into the hole and glue in place. You will use this rod to mount the gunsight. Next paint this whole assembly flat black and then using silver, paint the center top of the gunsight, next cut the lens from the plastic sheet and glue in place on the angled piece of the main body. It should be 1" long and a 1/2" wide with the top edges rounded. After you glue it on paint the area over the glue flat black with a brush. You need to drill a 3/16" hole in the center of the dash just below the lip so that the top rear of the gunsight will sit on top of the dash and the gunsight will be approx. 3/8" out from the dash. You can also drill a hole in the back of the gunsight and run a wire from here thru the dash hood if you like.

14 DASH HOOD - (3)- tape a piece of paper over the top of the fuse and then set the canopy on top of the paper and trace and outline of the canopy. Next cut the paper and put this on top of the dash hood and cut the dash hood slightly under this size. You may have to cut a knotch where the gunsight is and glue this to the top of the fuse.

15 COCKPIT HEATER (22)- sand any rough edges of this piece and drill a 3/16 hole in the bottom lip of the body. Insert a piece of 3/16" plastic leaving 1/2" stick out and paint this whole assembly flat black. This glues into the left right corner of the cockpit and the 1/4" flex hose provided will go over this 3/16" pin and run along the right side of the cockpit on the floor all the way to under the dash.

16 SEAT RAILS - Using the grey 1/8" I Beam cut 6 pieces 5" long and these glue onto the floor on the raised 1/2" wide pieces in the front and back cockpits. You may have to cut them shorter in the rear as there is not room for a 5" piece.

17 SEATS - (7, 8 and 9)- take the seat bases and cut them off so they are approx. 1/4" to 3/8" deep on the bottom lip making them flat all the way around. Then cut knotches in the four legs so that they will fit over the seat rails. When you glue these to the floor you can glue a piece of scrap balsa inside the center of the seat bases and then glue this to the floor. Take the three seat bottoms and cut these so there is a 1/4" lip all around the edge, the two rear ones have a pleated back and the pilot has a solid seat back. Cut the lip around the two rear seats so it is 1/4" deep and cut out between the two legs. Then glue the seat back onto the seat so it is approx. 3 1/2" tall. On the front seat the bottom horizontal piece on the seat rests on the seat base leaving a flat lip 1/4" below the horizontal bar to glue to the seat base. Then using the 3/16" rod provided cut on a bevel and insert into the back of the pilot seat to form a frame. After this is done paint the seats and seat bases zinc chromate green and paint the 3 sectioned back of the rear two seats black. You will need to use a piece of 1/2" scrap balsa between and seat and the seat base to raise it to the proper height. Before you glue the rear two seats to the floor you should put the gunsights on the rear two seats, they mount on the side of the seats using the resin piece in the gunsight kit.

18 OXYGEN GUAGES - First take the vacuform guage cluster and cut the lip so it is 3/16" wide all the way around and paint these flat black. Then using a piece of 5/16" dowel provided cut 6 pieces 1/8" long and glue into the bottom of the holes for the guages and paint the top of these flat black, cut the guages out very carefully and glue on top of these wooden pieces. The reason you are building these guages this way is that the back of the guages is visable in the pilot and gunner places. You can build these like the dash if you like but this will give you a better looking guage. After you have finished the guage the pilot guages sits on the window sill on the right side, the gunners guage sits on the ledge below on the window sill on the right side and the radio operator guage sits on the right side just below the window sill. Next take the resin molded oxygen control box and drill a 1/8" hole in the side of the box on all three boxes. Then insert a piece of the 1/8" alum. Rod leave 1/4" stick out for the oxygen hose to glue onto. For location of these pieces look at the pictures provided. There is also a 3/32" alum. Rod provided to use as the oxygen line between the guages and the oxygen control box. After you paint these black you can touch up the controls with white paint. When you glue these into the airplane you need to make sure the oxygen hose will go over the 1/8" alum. Rod and that it is pointing in the right direction. You can either hook up the oxygen hose to your pilots or glue it to the side of the fuse as in the pictures.

19 FLAP CONTROL (18) (Resin pc) - take this pieces and sand off any flashing. Paint this piece flat black. Take a black knob and cut a piece of the 1/16" tube 1/2 " long slide it over the pin all the way up to the knob and flatten it. This will give the look of a lever with a ball on the end. Take and drill a hole in the center of the slot on top of the flap control. Stick the pin into the hole and glue

in place. You may have to cut the pin off some. NOTE- You can make a drill out of a pin, just cut the head off and put in a dremel and you should be able to drill a hole in this resin piece. Next glue this above and forward of the throttle quandrant.

20 THROTTLE QUANDRANT - This is molded into the left side panel. For the throttle quandrant you will need four black pins and two pins with square white heads. Using the 1/8" square plastic provided these are done the same way as the pins in number 19 above with the 1/16" tubing. The two black pins on the outside should use 1/2" tubing, the two square white headed pins in the middle should use 1/4" long tube and the two black pins on the inside should use 3/8" long tube. In the super charger controls on the small quandrant below the throttle quandrant should use two small white pins.