Dan Palmer A20 Havoc

Parts List

Vacuform Parts

1. Floor
2. Wall behind the Seat
3. Upper Deck Floor
4. Wall Behind Upper Deck
5. Dash
6. Seat
7. Alarm Box
8. Brace above the Dash
9. Dash Hood
10. Lower Left Electrical Panel
11. Lower Right Switch Panel
12. Lower Right Guages
13. Engine Control Pedastal
14. Fuel Selector and Carb Control Panel
15. Trim Tab Control Box
16. Radio Compass Control Box
17. Radio Control Panel
18. Seat Rail Tops (2)
19. Gun Selector Panel
20. Engine Control Pedastal Outer Piece

Resin Molded Pieces

1. Control Yoke
2. Control Wheel
3. Axe
4. Fire Extingusher

Miscellanous Pieces

1. Alum. Wire for Panel switches
2. Pins, 8 big and 4 small
3. Insulation 12"
4. 3/16 Alum. Tubing, 2 pieces 4 1/2" Long
5. 7/32 tubing, 4 pieces 3/4" Long
6. 3/16 Tubing 1" Long for Control Yoke Shaft
7. Computer Disc
8. 6" of cord for Electrical Cable

Instructions

Thank you for purchasing this cockpit Interior from Dynamic Balsa. Before you begin read the instructions completely thru. I have written these instructions in the order that you should build this interior but you are free to change the order to customize your airplane. You may also want to add additional pieces and parts although we have included a very complete interior there are still some things you may want to add depending on the model etc. You may also want to get acouple of books such as Squadron Signals A20 Havoc which has some pretty detailed pictures of the interior. You should also print out some of the pictures on the computer disc as they are of the completed interior that you are building and may answer some questions for you.
walls you should cut templates first from cardboard and then match up to the plastic to avoid trimming the plastic wrong. When I do my interiors that are Zinc Chromate Green I put all the pieces in such as the floor and side walls and back walls first then I paint everything Zinc Chromate Green at the same time.

1 FLOOR-- Cut the floor to fit in the interior with the raised control cover approx. 2 3/8" in front of the former behind the seat. Glue this to the floor. The floor that I used is the floor that Don Palmer has on his plans.

2 WALL BEHIND UPPER DECK
and cut the bottom off so that it sits on the upper deck and glued to the back wall.

3 THE UPPER DECK FLOOR-(3) Cut out side of the rivet line and cut just above the rivet line on the vertical piece this end goes against the back wall.

4 WALL BEHIND THE SEAT (4) This wall is cut out so that the top lip with the rivet line sits on top of the upper deck and goes all the way to the floor. After this wall is put in you can paint the interior Zinc Chromate Green.

5 DASH-- Cut the dash around the edge and make sure it fits against the former in the cockpit. Next using a sharp razor knife cut out the back of the hole leaving approx. 1/16" depth. Then paint the dash semi gloss or flat black. Next take the clear plastic and cut out a piece so it covers all of the dash holes. Then cut around the guages and insert the guage paper behind the guages and line up all the holes and tack glue in place. Then using a piece of 1/8" balsa cut it so it covers the hole in the back of the dash and glue in place. You can either use low temp hot glue which works really well or thick CA. You can paint over the knobs on the various controls white then where the switches go on the left side of the panel drill a small hole in the center of the switch blocks using the wire provided flatten one end with a hammer and sand slightly round and cut off 1" long slide thru the hole thru the balsa and CA in place then you can either bend the switch either up or down. Repeat this for all the switches on the dash. On the dial on the lower left dash using a sharp razor knife you can put scratches in the black paint which will turn white and look like alignment marks on the dial. Before you glue the dash in place you should put the insulation (# 3) on the sides of the cockpit walls. Paint this insulation OD Green and then cut strips that fit inside the stringers peel and stick in place. Then glue the dash in.

6 THE BRACE ABOVE THE DASH (# 8) Cut this out so it is just the curved piece and paint this black it goes above the dash under the hood.

7 GUN SELECTOR PANEL (# 19) Cut this out and glue a small piece of balsa behind the switch block. Paint this piece black and paint the two indictor lights red and then make four alum. Toggle switches and insert into the switch block. This whole assembly goes in the upper left right in front of the dash.

8 ENGINE CONTROL PEDASTAL (# 13) Cut this off so that it is approx. 1/4" thick at the thinnest part. You will need to insert a piece of balsa behind the front end where the pins go. Next you need to cut out the pedastal outer piece (# 20) and glue on the outside of the pedastal. Next paint this whole assembly black. The lower two tabs undeneath the pedastal have pins that are yellow the back tab gets cut off. You need to cut out the slots for the control handles with a sharp razor knife. The outer slot gets two white pins that you need to sand 1/2 off of each pin and put the two pins together. The throttle control is the same way and goes in the inside slot with two black pins with 1/2 of the pin sanded off. Then you need to put two white pins in the two front slots facing forward. if you pins are not the exact color you will need to paint them. This whole assembly then goes below the window sill on the left side with the back of the pedal against the wall behind the seat.

9 FUEL SELECTOR AND CARB CONTROL PANEL (# 14) -You will need to trim around this panel so that there is approx. 1/4" of an inch on the top edge. You will need to glue a piece of balsa under the panel where the pins go paint this whole assembly black, you may also need to glue a piece of balsa on the back of this which to mount on the airplane. Paint the fuel selector control valves white on top of the handles then paint the strip above the valve red on each side with white in the middle. If you have any questions on this please refer to the computer disc provided. This assembly glues directly below the engine control pedastal and against the back wall.

10 LOWER LEFT ELECTRICAL PANEL (# 10) Cut this panel out that it goes against the left side back to the control cover and against the dash at the top.
Glue a piece of balsa behind the switch panel and glue balsa at the bottom so that you can glue it to the floor. Paint this assembly black then make switches out of the wire drill holes in the switch blocks and put the switches in this panel. Paint the two large switches on the right white then glue this in place.

11 RIGHT SIDE SWITCH PANEL (# 11) This goes just like the panel on the left approx. 3/4" of an inch from the right wall. Glue balsa in the back of this so you can glue it to the floor. Paint this black. Make a toggle switch for the switch for the top and paint the lower two switch handles white and glue this in place.

12 LOWER RIGHT GUAGES (# 12) Cut this out and paint this black, paint the inside of the guages white. This small guage assembly hangs below the dash on the right side.

13 TRIM TAB CONTROL BOX (# 15) Trim off the excess plastic glue a piece of balsa in the back so you can glue it to the wall. Paint this box black and paint the trim knobs white. Glue this to the right side approx. 3/8" below the window sill approx. 2" from the dash to the front of the trim tab control box.

14 RADIO COMPASS CONTROL BOX (# 16) Paint this box black, paint the 5 control knobs white and glue this on the top edge on the back of the trim control box. Use a piece of the black cord provided to run from this box and down to the floor to simmulate the control cable.

15 RADIO CONTROL PANEL (# 17) Cut this out leaving about 1/4" on the sides glue in a piece of balsa on the back of this so you can glue it to the wall. Paint this black then paint the radio knobs white. This glues vertically on the right side between the trim tab control box and the dash.

16 ALARM BOX (# 7) Cut this out leaving 1/4" of an inch of sidewall glue in a piece of balsa to glue it to the wall. Paint this assembly black drill a hole in the bottom of the box for the Electrical Cable (# 8). Glue in a piece of 2" long cable glue the box to the rear right side of the wall behind the upper deck, drill a hole in the upper deck and run the cable thru the hole.

17 AXE (# 3) Trim off the excess flashing paint the axe handle brown, the axe head black paint the strap on the handle and the socket for the head green and glue this assembly to the back wall.

18 FIRE EXTINGUSHER (# 4) Trim off excess flashing and paint this red, paint the strap black and the top of the extingusher silver and glue on the upper deck on the left side.

19 SEAT (# 6) Cut out the seat along the marks on the plastic glue the seat bushings (# 5) to the back of the seat on each side, the top one should be 1/2" down from the top and there should be 1" between them. Use a piece of the 3/16" tubing to make sure the bushings are aligned properly. Cut the 3/16" tubing off so it is just long enough from the floor to slighly above the upper deck. The seat should be approx. 3/4" off the floor. If you are putting a pilot in this airplane you should put a balsa piece between the seat and the floor to help support the pilot. Paint this whole assembly Zinc Chromate Green and then glue in place against the back wall. Cut the two seat rail tops (# 18) so that they are 1/8" thick at the round end and taper to nothing. These are glued over the top seat rail and to the upper deck. These also need to be painted Zinc Chromate Green.

20 THE CONTROL COLUMN (# 1 AND 2) Trim off the flashings and paint the bottom of the column black. Paint the upper part Zinc Chromate Green drill a 3/16" hole in the center in the upper part and a 3/16" hole in the back of the yoke. Using the 3/16" tubing provided (# 6) cut to length and glue the yoke and the control wheel together leaving approx. 3/16" between the two. You can adjust the height of the control yoke by sanding off the bottom if you need to. The center of the wheel should be even with the window sill. The wheel should be painted zinc chromate green with the spokes painted black and the end of the button painted red. This whole assembly then glues on top of the control cover across the floor.

21 DASH HOOD (# 9) you should first put your glass over the cockpit and mark the front edge of the canopy. Then you should take a piece of paper and cut out a sample dash hood first then transfer this to the plastic. The back of the hood should be cut 1/8" behind the rivet line and the front around the edges of the canopy. It should be painted black then glued in place. The underside of the dash hood above the dash should also be painted black.