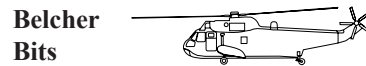


Belcher Bits No.6:
PBY-2/3/4 Conversion
Kit: 1/48 Monogram PBY-5



33 Norway Spruce Street, Stittsville, ON, Canada K2S 1P3
 Phone: (613) 836-6575, e-mail: info@belcherbits.com

Introduction

The Monogram kit represents the PBY-5; a wise marketing move since most of the wartime Catalinas were this version. However, the most colourful Cats were definitely the pre-war USN PBYs. This conversion set will allow the modeller to convert the Monogram kit back to any of the -2, -3 or -4 variants, and with a little extra effort, even a PBY-1 can be made. The major differences between the -5 and early variants of the PBY were the different vertical tail and rudder and the use of flat, sliding waist hatches rather than the 'bubble' type. Variations between -2,-3 and -4 are confined to engines.

General

Remove flash from resin parts, and check the fit of the rudder to the tail. As with all resin conversion sets, give the resin parts a good scrub with soapy water to remove any mould release. A light coat of lacquer-based primer is also recommended. One construction point to note is that the kit wing needs some stiffening in the centre section. Otherwise, it tends to look slightly gull winged.

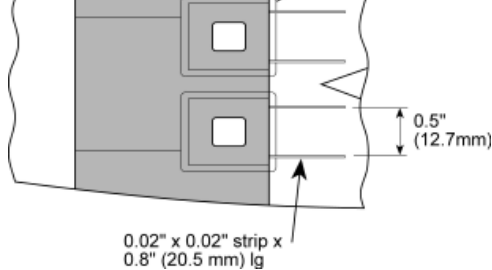
Waist Gun Position Hatches

The interior of the early PBY waist compartment is quite different than later variants. This conversion does not provide a modified interior, since the hatches are moulded closed and little can be seen through the small windows. If you wish to detail this area, you will need to build a complete new interior floor structure. Use the photo on p.10 of 'PBY in Action'; it's the only shot I've ever seen of the area.

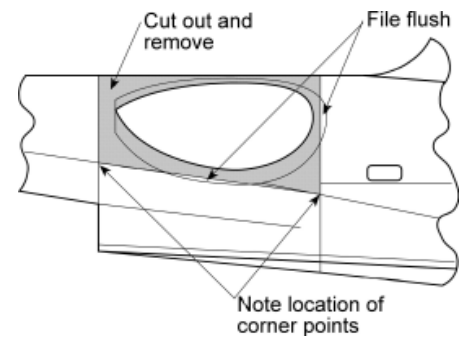
The Paint and Finish spec for the PBY-1 states all interior areas are to be aluminum lacquer, except for any areas above the back of the pilots seats which were to be black. I assume all early PBYs were the same.

Following the Monogram instructions, assemble the waist compartment assembly as shown but leave off part 65. I would also recommend cutting off the gun mounts from the floor (part 57).

Using the drawing at right, draw or scribe a straight line below the waist hatch area as shown. Remove the hatched area from the panel lines just ahead and just behind the opening and down to the newly drawn line. There will be small portions of the hatch flange left on the forward and bottom edges of the hole. File these flush with the rest of the area. Finish assembly of the fuselage per kit instructions.



Remove moulding sprues from the sides and extra material from the leading edge of the hatch replacement part and open up the windows in the centres of the hatches. Paint the inside aluminum and install, paying special attention to getting a good fit at the leading edge of the hatches. Once the part has been attached and seams filled, scribe the rest of the hatch flange ahead of the hatches as shown in Figure 2. Cut four lengths of the plastic strip provided, each 0.8" (21mm) lg. These represent the hinge sliding tracks. Glue these where indicated in the drawing at left.

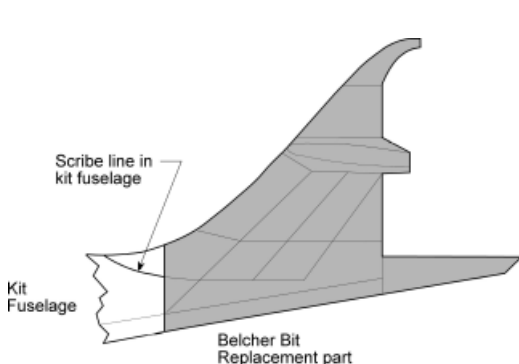


Hatch Windows

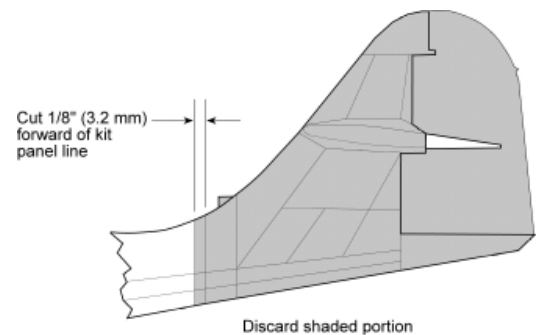
You may wish to leave this step until all painting has been completed. The clear plastic sheet provided comes with a protective coating on both sides; please remove this. Cut two pieces for the hatch windows and cut to fit the holes. Roll them over a hobby knife handle to give them a slight curve and install, using white glue.

New Tail and Rudder

I suggest this step be done before the wing is installed. Cut off the tail end of the fuselage at a point 1/8" (3.2mm) ahead of the panel line just ahead of the tail. Sand the cut surface smooth and remove any scarf on the inside. The replacement tail is designed to fit snugly to the fuselage, but double check the part is vertical as it should be. Use cyanoacrylate (Crazy glue) adhesive to attach the tail. Fill the joint using your favourite filler; some minor filing of the fuselage may be required to match contours. Add a scribed line for the fin fillet as shown. The kit stabilizers can be used with only minor modification. Cut off the tabs at the root, and don't fill the slot which remains; the resin part has small tabs which fit those slots.



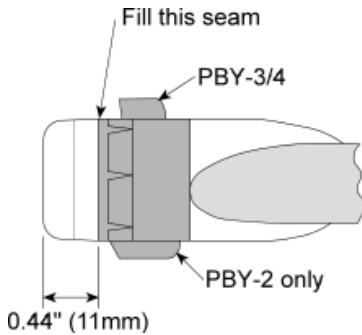
The kit parts have a chamfered joint; use a hobby knife and carefully trim the root so that it is square. Test fit to the resin tail. The two stabilizers should just touch one another behind the fin. I recommend that the stabilizers be glued in place before the rudder is installed because it makes access easier. Glue the stabilizers in place, taking care that they are horizontal (check against the wing). Fill the gap at the roots and sand smooth. The rudder can be installed afterwards ... depending on the scheme, you may even want to install it after painting.



Engine Nacelles

The early PBYS can be distinguished by their different engine nacelles, primarily by the location of the carburetor air intake. This kit provides two types to allow any early variant to be depicted.

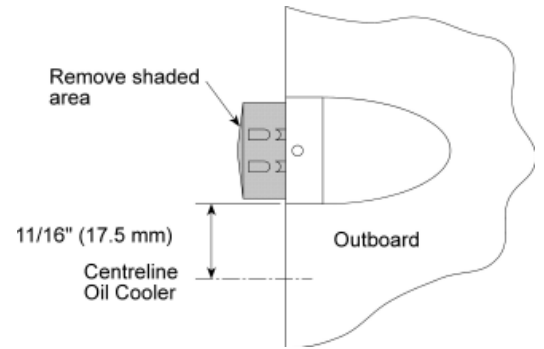
When the wing has been assembled, remove the front portion of each engine nacelle back to the stepped area flush with with the leading edge of the wing. File flat.



back to the stepped area flush with with the leading edge of the wing. File flat.

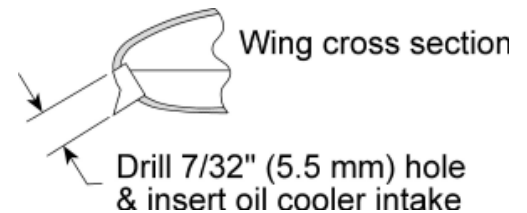
The kit cowling (part 14) must be modified. Carefully remove the carburetor air intake inside the lip of the cowling. When complete, remove the cowl flaps and reduce the length of the cowling to 0.44" (11mm). This should be just flush with the back of the engine (part 15) when fitted. Paint and detail the engine and interior of cowling and assemble.

The conversion set provides two types of engine cowling parts, one for the -2 (which is also applicable to the -1), the other for the -3 and -4. They are marked on the parts. Note that the carb air intake for the -2 goes on the bottom; that for the -3/4 goes on top. Remember the exhausts always come out on top! The conversion part glues to the nacelle on the wing and the truncated cowling glues to it. Refer to the drawing at left. Fill the seams.



Oil Cooler Intake

On the PBX-5, the oil cooler was below the engine nacelle. On early Cats, the oil cooler intake was installed in the leading edge of the wing. As shown in Figure 5, measure out 11/16" (17mm) outboard of each engine. Drill a 7/32" (5.5mm) hole in the lower leading edge of the wing at about a 30° angle to the horizontal. Insert the oil cooler intakes provided in the set in the hole. The top half can be filed flush with the wing leading edge and the bottom protrudes like a sugar scoop.



Prop Hubs and Spinners

Early PBXs need early style prop hubs. New ones are provided with the conversion set. For the -2 and -3, remove the prop blades from the kit parts. File the root ends square. I would recommend that small holes be drilled in the roots and the hub to accept small wire reinforcement of these joints.

The PBX-4 could be distinguished by its prop spinners. This spinner was probably installed on the same hub as used on the -3 (see above). However, to make your life simpler, you could use the kit propeller; simply remove the front of the kit hub and glue on the spinner. Your choice.

Other Modifications

Remove the step moulded into the leading edge of the wing support pylon. Don't bother with the radar, of course.

Markings

The paint scheme was overall aluminum lacquer, with yellow wing and stabilizer tops. Some had the bottom of the hull painted black to the waterline. The walkways, squadron chevrons and tail markings can be masked and painted; have fun with those checkerboard tails! No decals exist for these specific variants, but the necessary components can be located on various other sheets. The 60" wing stars can be used from the kit decals or from other Superscale sheets. Most of the rest of the numbers can be gleaned from Superscale generic sheets, or Aeromaster sheet 48-239. Good markings references are Scale Aircraft Modelling Vol 5 No.8 and the IPMS / USA article referenced below, as well as the PBX in Action monograph.

Making a PBX-1

To make the earliest PBX, proceed as for the PBX-2 but two additional areas must be addressed. The rudder and horizontal stabilizer are different. For all later variants, the elevators are inset in the stabilizers, and the rudder was slotted so it could move back and forth over the root of the stabilizer. For the PBX-1, the elevator took up the entire trailing edge of the stabilizer. It was notched to clear the rudder and only the small section at the head of the notch passed through the rudder. The horizontal stabilizer and elevator are thus quite different. It would be possible to modify the kit parts but be prepared for a bit of scratchbuilding. For the conversion set parts, the after part of the slot in the rudder must be filled, and the trailing edge of the vertical fin must be modified. The best reference for this, which includes scale drawings of the modified stabilizer and elevator, is the article on p.74-81, IPMS USA 11Q2 (Winter 1975).

The engine cowling is as for the PBX-2 but the exhausts come out of the nacelle just behind the leading edge of the wing, not ahead of that point as in the -2. There is a good photo of this on p.14 of Wings Vol 5 No.2.

Appreciation

Thanks to Jim Maas (one of the original authors of the IPMS / USA article) for the loan of drawings and photos.

References

1. IPMS/USA 11Q2 (Winter 1975) p.74-81
2. Wings Vol.5 No.2
3. PBX In Action, Squadron Signal Publications
4. PBX Walkaround, Squadron Signal Publications
5. Scale Aircraft Modelling Vol. 5 No. 8