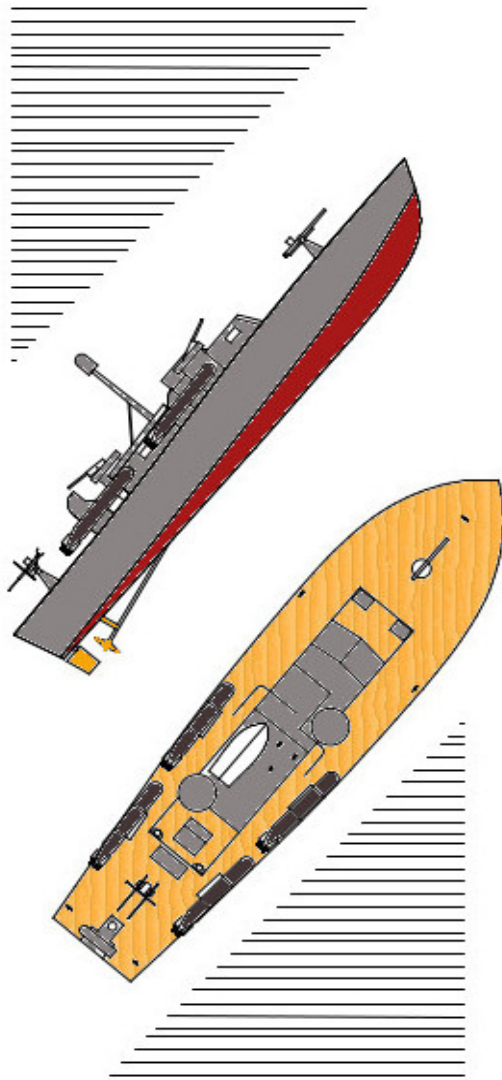


EeZeBilt 50+



Elco 80 ft PT Boat

### PT Boat - Instructions

This boat is possibly the most complicated of the 50+ EeZeBilts, and is a good introduction to the world of bigger boats. It's now more important to cut and glue square, and the boat introduces the need for other materials, such as styrene and brass soldering work. The boat is semi-scale - drawn from images on the Net - and I suspect that you can add lots more detail. Obvious bits I have left out are the foot-rail on the bow, and the guard-rails around the gun-tubs...

Start, as usual, by cutting all the pieces out, and gluing the two halves of the deck, and sub-deck. Note that, once cut out, these two halves should be matched to each other and sandpaper used to make them exactly the same.

The sub-deck bow can be glued to the keel, making sure that it is square. Once dry, the rear of the sub-deck can be added to the keel. The keel angle alone is enough to hold the sub-deck parts at the correct angle to each other. Add the rear keel, and chamfer the edges of the prop-shaft hole to accept a 6mm tube.

Add the former doubler to F4 (the tag

goes upward above the former edge) and glue the bow former to F1. When dry, glue these to the sub-deck, making sure they are vertical. Note that the tags in the bow former and F4 engage with the deck slots - use your assembled deck to ensure that F4 is in the correct position for the slot to engage.

When dry, check it against the deck again, and glue the support strips in if the formers are in the correct position. Note that the support strips have a very slight 'S' curve to them when viewed sideways - This is what makes the boat look so rakish! Check that the two superstructure sides can engage easily in their slots, leaving no clearance. Ensure that the superstructure sections which support a deck are flush with the support strips - pack a bit if necessary.

Add the deck when dry, checking that the superstructure sides can still be inserted and removed easily.

The superstructure can easily be built by placing a square of cling-film over the deck cavity, then inserting the superstructure sides on top of it. This prevents the superstructure getting glued to the deck!

Add the three superstructure deck pieces and the cabin formers - checking that the superstructure fills the deck cavity completely. When dry, test the superstructure for easy removal again, then add the front and rear roofs; then the cabin front and windscreens. Complete the superstructure unit by attaching the bridge side and rear wall. Assemble, but do not glue the bridge console wall in place. You can add paint detail to this more easily while it is separate, and glue it in at the end. Similarly, assemble the bridge rear wall and bench, but do not glue. This lets you sand inside the bridge compartment easily. These units, and the card side shields, are put to one side for later addition.

The motor and rudder should be inserted next. Attach the motor mount to the sub-deck behind F2, and confirm that the prop-shaft and prop-tube are straight. The boat takes a 9" tube. Epoxy the motor mount and the prop-tube in place.

The rudder tube is mounted in front of the small rudder tube support. Cut out a servo tray from 0.1 styrene as in the plan, and confirm that it slides through the gap in

F4 with your chosen servo. The total servo height can only be about 28mm, so you may need to buy a small one!

The stern end of the servo tray is supported by two strips of 1/8" balsa glued to the transom, while the front is mounted on two small strips of spruce glued to the front of F4 and held with a couple of screws.

Assemble the rudder with servo arms and pushrod and check that it operates properly. Cut a small round hole above the rudder post to provide either access for a socket drive or visibility for a screwdriver end depending on how you want to attach the tiller arm.

If you are expecting to attach the deck guns with a bolt through the deck, now is the time to drill suitable holes and glue a blind nut in the correct place under the deck.

Once this is all done, the hull side skin and bottom can be attached. Run a coarse sanding block over the angle of the sub-deck a few times to make the chine line into a smooth curve, and then add the triangular skin supports under each former. When dry, sand the keel and

formers to a proper chamfer where necessary, and then attach the skins using pins, clamps and rubber bands. Do the bottom skin first - it adds stiffness to the hull without the danger of distortion. Seal the prop-tube exit with more epoxy, and then trim with knife or sandpaper to accept each side.

The PT Boat has a lot of fittings! Let's consider them one by one...

#### Gun Tubs.

These are small hollow tubes, 1" in diameter by 1" in height. Use anything convenient - my favourite way to make light, strong tubes such as funnels is to use paper impregnated with a resin glue - see the website for details. The front and rear cabins are cut away so shown on the overall view and the tubs are epoxied in place.

#### Machine guns and rotating mount.

Each gun is made from 1/16" brass tube and two sections of 1/16" square brass all soldered together. See the web-site for pictures. Make 4, then solder them together in pairs on a copper shaft through another bit of 1/16" square brass.

The rotating mount is made by curving a thin strip of 0.003" brass sheet into a hoop (see the plans), then soldering a gun mount to the place where the sheet joins. This should be made to be a close fit to the inside of the gun tub - see the images on the web site. The brass strip lengths on the plan assume that you have a paper/resin gun tub - if you use thicker plastic, for instance, you will need to adjust the brass strip length.

### Mast

This is quite simple. Make the mast with cross supports over the plan. Cut some brass strip to length and bend to make the hinge point. Bend a pin and push it through the mast base to make a hinge pin - secure it with a glued scrap of balsa. With pins both sides, check that they can engage in the brass hinge holes, then cut slots in the cabin roof as shown on the overall view and epoxy the brass hinge unit in place.

Make up a support strut out of 0.03" piano wire, bent as shown in the plan, and glue the small brass hinge point into a slot in the cabin roof positioned to hold the mast

upright when the piano wire is engaged in the mast holes.

The Radar 'dustbin' is made by gluing 6 soft balsa squares together with a metal pin in the middle. When dry, spin this on a drill to shape it as shown on the plan and glue to the mast top.

### Small Items

The cleats are simple soldered wire cross-pieces. The ventilators are bought items - 30x10mm is ideal. The Smoke Generator is a balsa cylinder made like the torpedoes. Mount on a plate with a card hatch as shown, with a circular balsa stub to seal the rudder access hole. Depth Charges can also be made the same way, if you want to add them.

Ammo boxes are straightforward - mount off the deck on small slats. Assemble the Companion Way cover, noting card use for curved top.

It's easier to do the bridge control panel separately, and glue it in when finished. Use card for the chart-room door and pins for the throttles. There is a dashboard layout in the plans that you can use. The wheel is spoked, it could be commercial if

you can find a small enough one, or made with wire and solder.

### Torpedoes

These are made just like the radar dome - 6 blanks of soft 1/8" balsa are glued together with a copper wire pin through the middle. Make sure the wire is aligned with a central axis, but has a few kinks sufficient to secure it firmly. Spin these using a SLOW speed drill and a small wood block to support the end. You will find it easy to sand down to a smooth round finished 1/2" torpedo shape as shown in the plan using sandpaper. See the web site for images!

The torpedo propellers and fins are made of 0.005" brass sheet, cut and filed as necessary and then soldered to the rear copper pin.

### Torpedo Rack

Cut square blanks from 1/8" styrene sheet and file down to produce a pair of curved racks for each torpedo. Use polystyrene glue to attach these to a base, and screw onto the hull.

### 20mm Twin Oerlikon

Cut the gun support and shield out of .010" brass. Bend the support as shown on the website. Clip the support to the shield and solder - check that it's square first!

Each gun barrel is a set of three tubes inserted into each other according to the plan - make up a pair and solder them. Clip them to the gun support and solder.

Solder some copper rod to the slot of a bolt which has about a 0.3" head. Trim the ends of the rod to be about 0.05" proud of the bolt head - the gun assembly should clip over the ends and swing easily to the vertical. A bit of packing on top of the bolt head will ensure that the gun rests level. Add a pair of ammo drums from 0.25" brass tube to the top of the barrels with either solder or epoxy, and you have finished. A slim biro tube will hide the bolt.

### 37mm Cannon

This is simpler - a 1/8" tube soldered onto a 1/8" 'U' section. The mount is simply a bolt with a 'U' shaped brass top.

I have used the distinctive inverted 'U' leaning brace (which was generally used on the 20mm gun) because it's a bit more interesting. Which is an indication of my approach to scale modelling...

The 37mm magazine is another oddity. These guns were appropriated from fighter aircraft, and the big 'horse-collar' magazine fitted inside the fuselage. On the PT boats it's open. It's simply made by bending a strip of 0.005" brass to a horse-collar shape and soldering short lengths of copper wire to it. If you want a more scale appearance, grind the ends of the copper to a point before cutting, and put thin side walls on the magazine cut from paper.

The mount for the 37mm is much more conical than the 20mm - use a large felt-tip end.

### **Painting.**

I made my prototype up with a wooden varnished deck, before I found out that the boats were painted all-over grey at the factory, including the decks. But I liked the planking so much I decided to keep it. See above for my attitude to scale..!

I gave the boat several coatings of sanding

sealer, sanding down and filling where necessary. once the boat was fairly smooth and dent-free, I added the control panel wall in the bridge (which I had painted separately), the bridge side-shields and the bridge rear wall. The spray rail can also go on once the hull has it's undercoat on and is smooth.

There are several colour schemes available on the net. The underwater hull is generally primer red. Apart from the all-over grey, Pacific station boats were typically painted with a camouflage-pattern green, suitable for hiding in rivers. Some boats had experimental bright blue camouflage, and at least one had a complex 'dazzle-pattern' paint-job! This reference may help:

<http://www.ptboatworld.com/Drawings-2010-03/Drawings-2010-03.html>

The crew can be made up from a 1:48 set of US Navy personnel – Eduard do a set, though they are navy aircraft mechanics. Note that if you decide, as some do, to print the plans on A3 and enlarge to boat by 1.4x, you will end up with a 28" boat, which will be pretty close to 1:35. Italeri do a 1:35 set of PT Boat crew, as well as suitable weapons and radar masts...