



SEALING ENSTROM PISTON HELICOPTER FUEL TANKS



Enstrom piston helicopter fuel tanks (pre 2026) are built from two pieces consisting of a tub (the inboard section) and a cover skin that is bonded onto the tub with a PRC type adhesive. There is a rubber bag attached to the back side (inboard side) of the tank which acts as a containment bag to drain off any fuel that might be leaking through the fiberglass structure of the tank. The rivets along the seams hold the containment bag to the structure so if there is fuel leaking through the rivets, it is getting through the bonding seam that attaches the skin to the tub. Generally sloshing fuel tanks is undesirable as the sloshing sealer can become unattached and clog screens.

A. The goal is to seal the bond line at the bottom of the tank (or sides if the side rivets are leaking) without sloshing the whole inside of the tank.

1. Remove the tank and prop it up so that the bottom seam is reasonably level but clearly the low point.
2. Often you can look into the tank with a small flashlight and see voids along the tank bottom bond line.
3. Fabricate a simple funnel by taking a piece of cardboard about 12" long and 2" wide and bending it down the middle of the long side so that it can be inserted into the tank filler neck.
4. Poor about ¼ cup of EC 776 sloshing sealer into the funnel so that it runs directly into the seam at the bottom of the tank.
5. Now take the tank and tilt it back and forth so the sealer runs down the bond line and up the two sides about 2".

6. Continue to spread the sloshing sealer back and forth along the bond line by tilting the tank back and forth until the EC 776 is all used up.
7. Let the tank sit for about an hour and perform the procedure again.
8. Then prop up the tank so any sloshing sealer that remains liquid in the tank will pool in the area of the leaking rivets.
9. Insert an air nozzle into the filler neck and adjust the air flow so there is a very slight trickle of air streaming into the tank to help cure the sealer.
10. You can do this by inserting a male air hose fitting into the female end of an air hose and dropping it down into the tank. (You can also leave it out in the sun if no airflow is available)
11. Use an air valve or a regulator to regulate the airflow so there is just a slight trickle of air streaming into the tank.
12. Leave the tank for 24 hours and then reinstall it.

B. Tanks can also leak at the insertion point of the bottom drain and outlet fittings. The AN fittings are inserted into machined fittings that are screwed into the bottom of the tank. Sometimes the sealer under the fittings will dry out allowing the screws to loosen.

Loosen the screws that hold the fitting to the bottom of the tank and pull it off the containment bag. The containment bag also is the gasket. Smear some Turn-ez, Fuel Lube, or Tight Seal on both sides of the containment bag where the fitting attaches and reinstall the attach screws.