



*IMPORTANT! Read this entire instruction sheet before installing the fuel tank.*

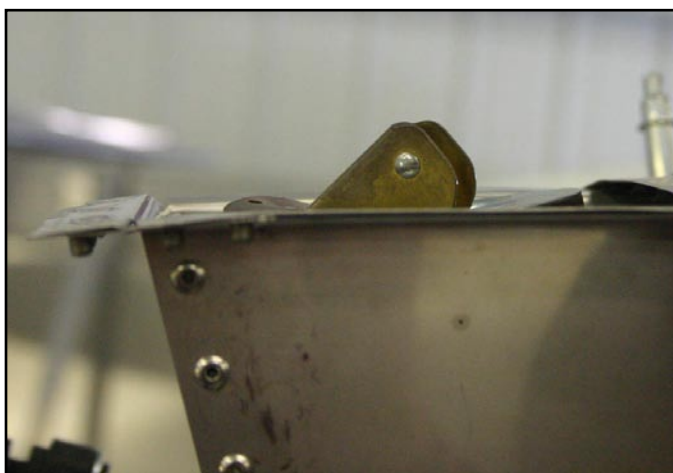
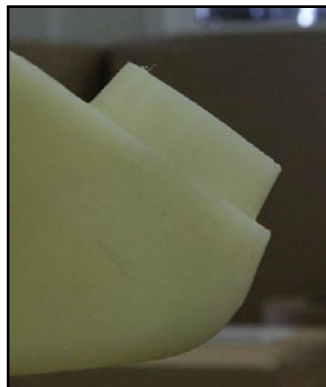
## Preparation

### Filler Neck

The inside diameter of the fuel tank's neck may need to be enlarged slightly to allow the adjustable-diameter rubber fuel cap to be installed. This can be done with a half-round file, a razor knife, or a drum sander in a motor tool.



The filler neck may need to be trimmed in height, so the filler cap is below the top of the filler box (see photo below). This can be accomplished in advance of fuel tank installation with a hand saw, or with a cut-off disk in a motor tool after the tank is installed. *If you trim the neck with the tank installed it is more difficult to remove the debris from the tank.*



*The filler neck may need to be trimmed in height so the fuel cap does not protrude above the top of the filler box as shown in this photo.*

### Clean the Threaded Inserts

The threaded inserts are molded in to the plastic and **MUST** be cleaned of molded plastic before fittings are installed.

*IMPORTANT: Failure to clean the inserts can result in the threaded inserts loosening in the tank when fittings are installed. This is not covered by the fuel tank warranty.*

*Caution: NPT threads are tapered. Do not run the tap all the way in to the insert or you will destroy the taper and affect the fuel-tight seal when the fitting is installed. Run the tap in until slight resistance is encountered and the threads appear clean.*

### Large Insert

1. Carefully run a 1/2" diameter drill through the large insert in the fuel sump.
2. Run a 3/8 NPT tap into the insert to clean the threads.

### Small Inserts

1. Carefully run a 19/64" diameter drill through the remaining (small) holes in the tank
2. Run a 1/8 NPT tap into the inserts to clean the threads.

### Oops Fittings

Sonex Aircraft offers Oops Fittings to replace the threaded inserts if necessary/desired. Oops Fittings can replace threaded inserts that leak from improper installation but some builders choose to install Oops fittings during initial installation. See page 3 for more information.

### Clean the Tank

**DANGER! Fuel vapors are explosive! If you clean your tank with fuel or mineral spirits do so in a well-ventilated area, away from open flame or other ignition sources, and remember that fuel vapors will linger in the tank after the liquid has been removed.**

The tank must be thoroughly cleaned of debris.

### Install the Fittings

Apply teflon paste to the threads of each fitting before installing them. **Do not use teflon tape.** The fuel fittings can be installed before the tank is installed in the airframe.

*Important: Do not over-tighten the fittings as this can break an insert loose in the tank. This is not covered by the fuel tank warranty. It takes only a snug, not tight, fit to achieve a leak-proof installation.*

After the fittings are installed you may wish to plug each fitting and perform a leak test with a small amount of gasoline or mineral spirits.

**DANGER! Fuel vapors are explosive! If you leak-test the tank with fuel or mineral spirits do so in a well-ventilated area, away from open flame or other ignition sources, and remember that fuel vapors will linger in the tank after the liquid has been removed.**



### Sloshing / Sealing Compounds

**Warning!** Do not use sloshing compounds to "seal" the tank. Sloshing compounds do not adhere to the plastic tank and will plug and contaminate your fuel system.

### Installation

#### Felt Lining

The only place felt lining is required on the rotationally molded tank supplied by Sonex Aircraft is on the fuel tank straps. You may use common fabric store felt and secure it with a spray adhesive such as 3M Super 77.

#### Preparing the Fuel Tank Straps

After applying felt to the portion of the fuel tank straps that comes in contact with the tank, install the tank straps on the longerons and let them hang down.

#### Installing the Fuel Tank

*Important: Before installing the fuel tank, the glare shield MUST be riveted in place.*

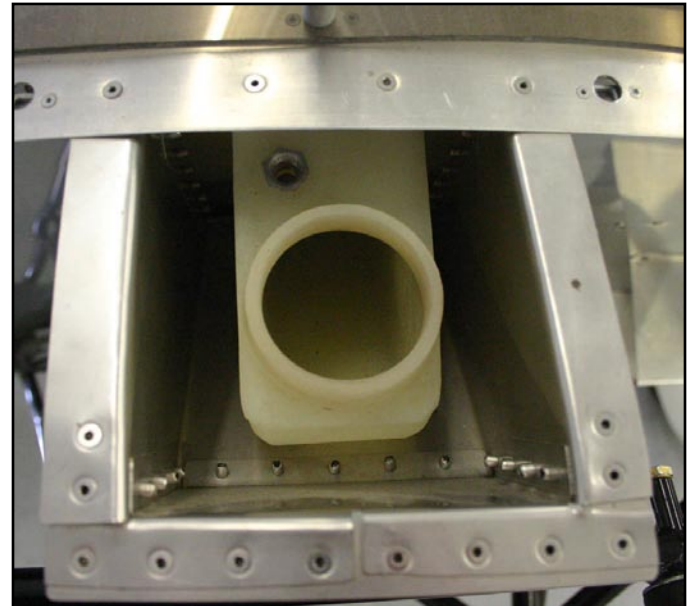
1. Place the fuel tank in position with the filler neck protruding into the filler box of the firewall.
2. Sit in the cockpit and push the fuel tank in to position with the balls of your feet. When correctly installed the fuel tank will come to a stop against the forward angle of the cockpit.



*Use the balls of your feet to push the fuel tank into position.*

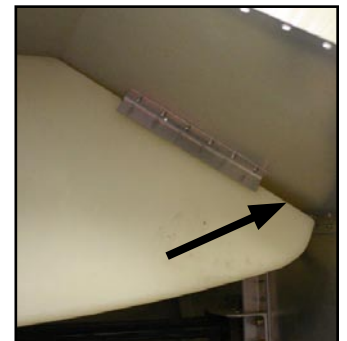
The following characteristics of a typical fuel tank installation may be noted:

- a. Filler neck rests on the bottom of the filler box skin.



*This is how a typical fuel tank installation appears through the filler box skin.*

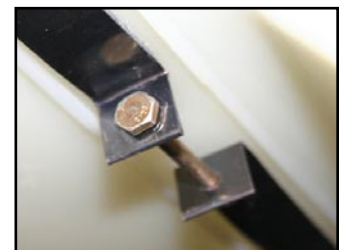
- b. There is a space between the slanted portion of the fuel tank and the glare shield.
- c. Front fuel tank straps do not fit perfectly within the ridges in the fuel tank.
- d. There is little space between the fuel tank and the top of the rudder pedals.



*A space between the slanted portion of the fuel tank and the glare shield is normal.*

#### Joining the Fuel Tank Straps

Join the fuel tanks straps together with AN hardware as defined in the plans. Adjust the length of the bolt and use washers as needed. It is normal for there to be a space of up to 2" between the ends of the straps.



*Fuel tank straps joined.*



## Fuel Tank Leaks and Repairs

The fuel tank is manufactured from cross-linked polyethylene which is an incredibly strong material but one which also resists most chemicals, including adhesives. There are no known adhesives or chemicals that will satisfactorily repair a leak between an aluminum insert and the polyethylene tank.

Proper preparation of the fittings and careful insertion of the fuel system components will result in a leak-free installation.

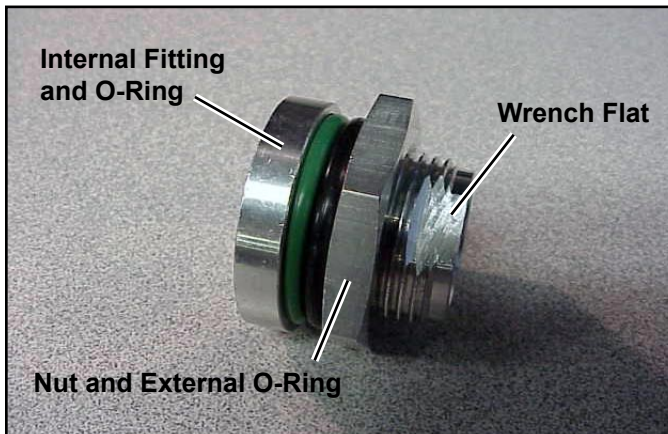
If a leak occurs Sonex Aircraft recommends replacing the leaking fitting with an Oops Fitting. **Do not "slosh" the tank.**

### Oops Fittings

The Oops Fitting is a replacement / repair for fuel tank fittings which have been broken loose in the tank. They are available in two sizes so any fitting in the tank can be replaced:

1/8 NPT, Part Number SNX-G01-20, is used in all locations except the primary fuel outlet where the finger strainer is installed.

3/8 NPT - Part Number SNX-G01-30, is used only for the primary fuel outlet.



*Oops Fitting components.*



*Oops fittings installed.*

## Warranty

Your Sonex Aircraft fuel tank is made out of cross-linked polyethylene, and has passed a pressure test that exceeds FAR Part 23 guidelines. Further pressure testing above 5 psi will void the warranty.

Fuel tank limited 2 year/ 200 hour in-service warranty:

Sonex Aircraft LLC makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this fuel tank is free from defects in materials and workmanship for the period of two years or 200 hours in-service from the date of purchase. This warranty does not apply to the damage due directly or indirectly, to misuse, abuse, negligence, or accidental, repairs or alterations outside our facilities, or to lack of maintenance. Sonex Aircraft LLC shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you.

To make a warranty claim please contact Sonex Aircraft LLC.