

TSA PENETRATION FITTINGS SERIES



IMPORTANT

Please read all warnings and follow the installation instructions completely and carefully. Failure to do so may cause product failure, or result in environmental contamination due to liquid leakage into the soil, creating hazardous spill conditions.



WARNING - DANGER

Using electrically-operated equipment near gasoline or gasoline vapors may result in fire or explosion, causing personal injury and property damage. Be sure that the working area is free from such hazards and always use proper precautions.

1 Clear Manway and Bung

Ensure manway and tank fitting are free of backfill and debris. See Figure 1

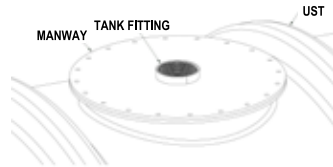


FIGURE 1

2 Thread In TSA

Thread male NPT end of the Tank Sump Adapter (TSA) fitting into the tank sump fitting clockwise. Tighten by hand until snug. Torque fitting to 200ft-lbs, do not exceed 250ft-lbs or tank manufacturer specifications, whichever is least. See Figure 2

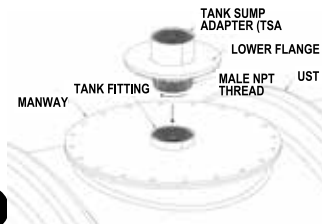


FIGURE 2

3 Prepare For Bonding

Once installed, prepare the top of the Lower Flange for bonding. Using 80# or coarser abrasive, scuff the entire bonding surface. Wipe the entire surface clean with acetone before proceeding. Repeat these steps for the Upper Flange. See Figure 3

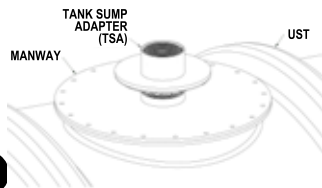


FIGURE 3

4 Drill Hole In Sump Base

Drill the appropriately sized hole in the bottom of the sump base. Measure the TSA fitting to ensure the proper size hole is cut. See Figure 4



FIGURE 4

5 Prepare The Sump Base

Prepare the bonding surfaces of the tank sump base for bonding. Using 80# or coarser abrasive, scuff the entire bonding surface (approximately 3.5" around the hole). Wipe the entire surface clean with acetone before proceeding. Repeat these steps for both the inside and outside of the tank sump base.

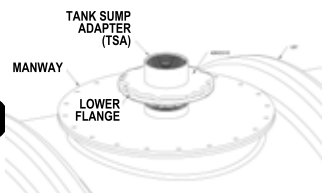


FIGURE 5

6 Mix and Apply Adhesive

Apply a generous (1/4" thick) layer of adhesive over the entire bonding surface of the lower flange. See Figure 5

7 Set The Sump Base

Lower the sump base on to the lower flange of the TSA fitting. Apply some pressure to ensure sump is fully seated onto the flange. See Figure 6

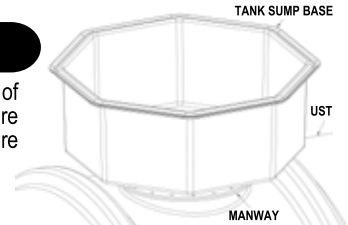


FIGURE 6

8 Mix and Apply Adhesive

Apply a generous (1/4" thick) layer of adhesive over the entire bonding surface of the inside of the tank sump base (approximately 3.5" around the hole). See Figure 7



FIGURE 7

9 Install The Upper Flange

Lower the Upper Flange onto the female NPT end of the TSA fitting. Apply pressure to ensure it is fully seated on the tank sump base. See Figures 8

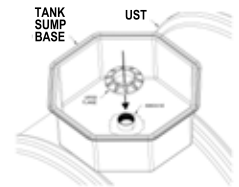


FIGURE 8

10 Install The Clamp

Install the temporary clamping device by threading it into the female NPT end of the TSA fitting clockwise. The clamping device should NOT be torqued, hand tighten ONLY. See Figure 9

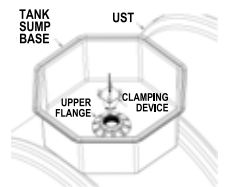


FIGURE 9

11 Tighten Clamp

Tighten the jack four jack screws on the clamping device until adhesive squeezes out from the beneath the Upper Flange. Tighten the screws evenly, alternating in a cross pattern to ensure the flange presses down evenly. See Figure 10

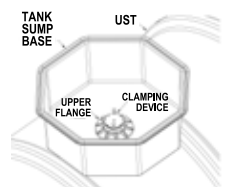


FIGURE 10

12 Allow Adhesive to Cure

Allow adhesive to fully cure before disturbing the tank sump base or conducting any testing or penetration fitting installation. Once adhesive is fully cured, the clamping device can be removed and reused. See Figure 11