

Franklin Fueling Systems

Fiberglass Dispenser Sump

Single Wall and Double Wall

Installation Instructions

Introduction

This guide is meant as an installation overview for dispenser sumps and should be used in conjunction with the appropriate part-specific installation instructions. For complete installation and safety information refer to the installation documentation for the equipment described in this guide and any other related equipment. To ensure system integrity and personnel safety, it is essential that all applicable installation instructions and the federal, state, and local codes that supersede them be followed.

The installation instructions that follow are divided into four chapters: General Installation - Single Wall, Single Wall Retrofit Installation, General Installation - Double Wall and Hydrostatic Monitoring - Double Wall. The Retrofit Installation chapter is for installations where a sump's height will have to be cut down to accommodate an existing site, and therefore requires additional work. FFS recommends following the General Installation whenever possible.

Safety

To ensure your safety, take these precautions when working with fiberglass tanks:

- Wear protective goggles
- Wear a protective mask (painter's mask)
- Use hearing protection
- Protect and avoid skin contact (wear gloves, boots and cover all exposed skin)
- Check with local regulations concerning confined space entry

Tools Required for Installation

- Protective gear: safety glasses, painter's mask, gloves, painter's suit
- Drill with 1/4" drill bit
- Circular saw with diamond blade (for cutting fiberglass)
- Crescent wrench
- Small flathead screwdriver
- Phillips head screwdriver
- Permathane sealant and caulk gun (not supplied by FFS)
- Tape measure
- Marking pen
- Vacuum source (for double wall only)

Notice

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Inspection of Materials

Visually inspect all components for defects or damage prior to installation. If any defect or damage is found, do not use the product and contact Franklin Fueling Systems for further assistance.

Warranty Information

Please refer to the *FFS Fuel Management Systems & Product Warranty Policy* for all warranty information.

Contacting Franklin Fueling Systems (FFS)

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General Installation - Single Wall

1. Install the metal sump top onto the fiberglass sump bottom.
2. From the outside of the sump, use a ¼" drill bit to drill through the guide holes on the face of the metal sump top. *Do not drill completely through the opposite side of the metal frame.*



Figure 1 - Drilling into Metal Frame

3. Remove the metal sump top.
4. Install the provided clips over the drilled holes on the fiberglass sump bottom.

Note: The clip has a flat side and a threaded side. Install the clip so that the flat side is on the outside of the sump and the threaded side is on the inside of the sump.

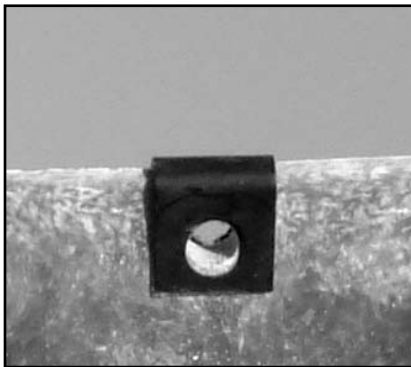


Figure 2 - Flat Side



Figure 3 - Threaded Side

5. Apply a small bead of permthane sealant around the edge of the entire fiberglass sump bottom.

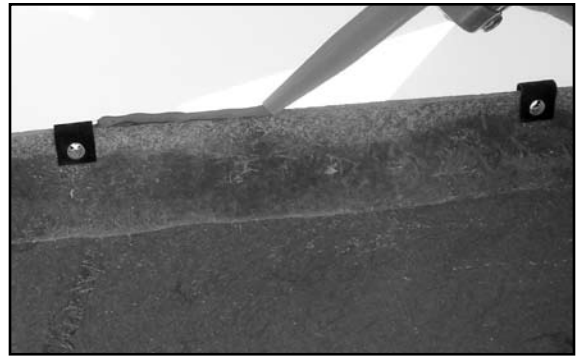


Figure 4 - Applying Sealant

6. Re-install the metal sump top onto the fiberglass sump bottom so that the guide holes on the metal sump top align with the clip holes on the fiberglass sump bottom.



Figure 5 - Matching Up Guide Holes

7. Install the ¼" bolts into the above mentioned holes to secure the sump top to the fiberglass bottom. Place a sealing washer under each bolt head.



Figure 6 - Tightening Bolts

Steps 8 & 9 for model LMM-3617 only

8. From the inside of the sump use the 1/4" drill bit and drill through the four guide holes on the ends of the metal sump top. There are two guide holes at each end of the metal sump top. Drill through the metal layer and the fiberglass layer.



Figure 7 - Drilling from the Inside of the Sump

9. Once all four holes have been drilled, insert the supplied 1/4" bolt with sealed washer from the outside of the sump and use the supplied standard nut and sealed washer on the inside of the sump and tighten them together.



Figure 8 - Tightening Bolts

10. Seal the metal sump top to the fiberglass sump bottom with a bead of permathane sealant around the entire sump where the sump top meets the sump bottom.

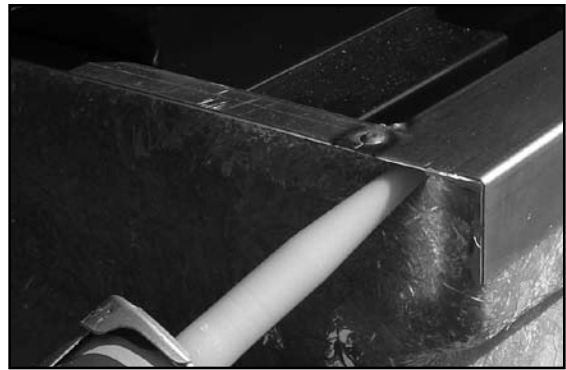


Figure 9 - Applying Sealant to Sump Top



Figure 10 - Applying Sealant to Sump Top



Figure 11 - Sealed Sump Top

11. Apply a small amount of permathane sealant around the bolt head and nut mentioned in Step 9.

Retrofit Installation-Single Wall

1. Measure from the top of the fiberglass sump down to the required sump height and mark the sump with a marker frequently in order to obtain a straight and accurate cut.

Note: The maximum cut-down dimension is 24" from the bottom of the sump.

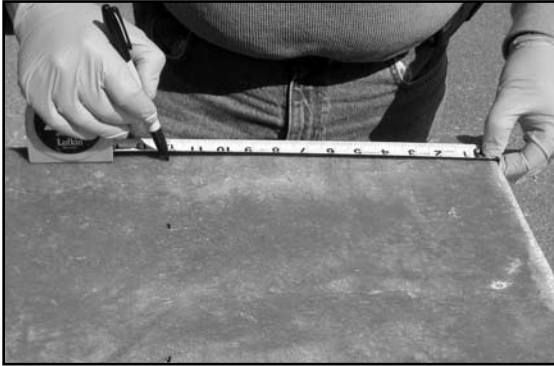


Figure 12 - Measuring Required Sump Height

2. Use a marker and draw a line around the entire sump to ensure a level and accurate cut.

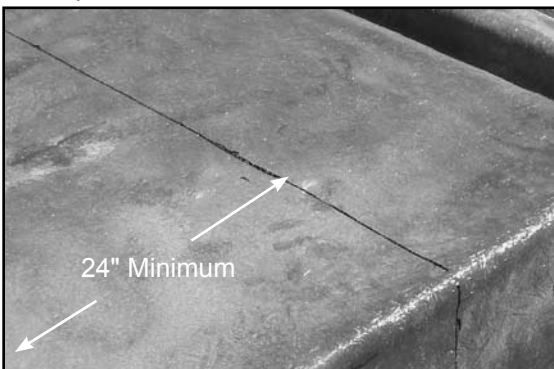


Figure 13 - Marked Sump

3. Use a circular saw with a diamond blade to make the cut around the entire sump to achieve the correct sump height.



Figure 14 - Cutting Down Sump

Note: An accurate and level cut is essential to ensure that the metal sump top will install properly on the fiberglass sump bottom.

4. After the cut has been made, dust the fiberglass sump clean of any debris or fiberglass particles that may interfere with the metal sump top attaching to the fiberglass sump bottom.



Figure 15 - Reduced Sump

5. Install the metal sump top onto the fiberglass sump bottom.



Figure 16 - Installing Metal Top

6. From the outside of the sump, use a 1/4" drill bit to drill through the guide holes on the face of the metal sump top. Drill completely through the fiberglass layer and both sides of the metal frame.



Figure 17 - Drilling Through Guide Holes

Single Wall Sump Installation: Continued



Figure 18 - Drilling Through Metal Frame

7. Remove the metal sump top and install the provided clips over the drilled holes on the fiberglass sump bottom. If the clip does not fit over the fiberglass wall, use a screwdriver to pry the clip apart.



Figure 19 - Prying Clip Apart

Note: The clip has a threaded side and a flat side. Install the clip so that the threaded side is on the outside of the sump and the flat side is on the inside of the sump.

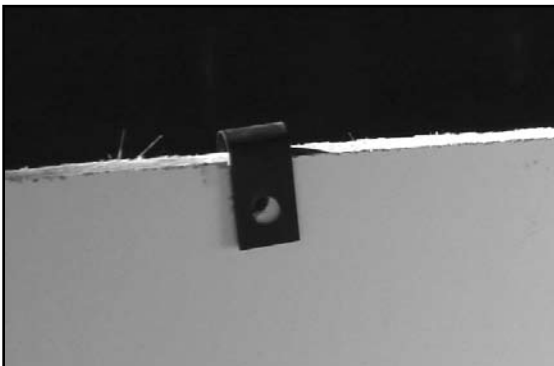


Figure 20 - Flat Side of Clip

8. Apply a small bead of permathane sealant around the edge of the entire fiberglass sump bottom.

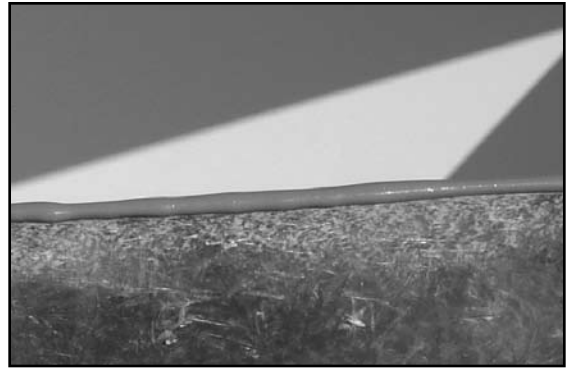


Figure 21 - Applying Sealant

9. Re-install the metal sump top onto the fiberglass sump bottom so that the guide holes on the metal sump top align with the clip holes on the fiberglass sump bottom.

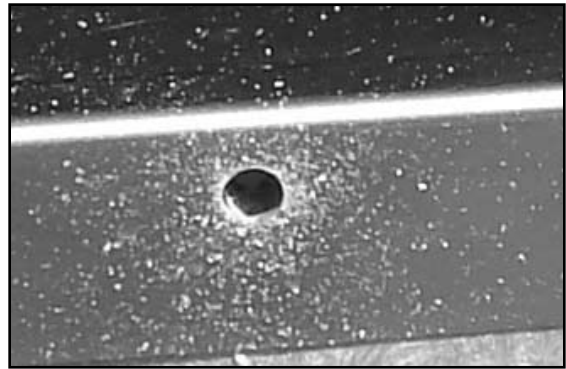


Figure 22 - Aligning Guide Holes

10. Install the 1/4" bolts into the above mentioned holes to secure the sump top to the fiberglass bottom. Install the 1/4" bolts from inside the metal sump top frame to the outside of the fiberglass sump bottom. Place a sealing washer under each bolt head.

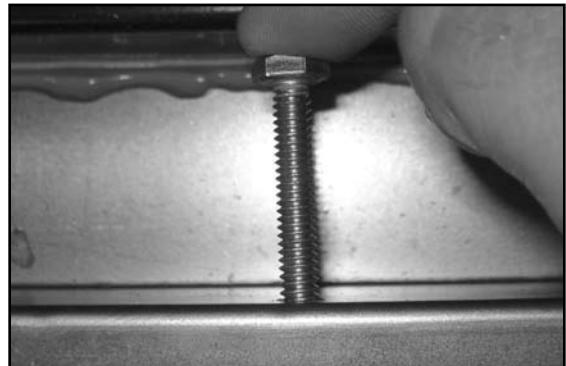


Figure 23 - Installing Bolts

Single Wall Sump Installation: Continued

Steps 11 & 12 are for model LMM 3617 only

11. From the inside of the sump use the 1/4" drill bit and drill through the four guide holes on the ends of the metal sump top. There are two guide holes on each end of the metal sump top. Drill through the metal layer and the fiberglass layer.



Figure 24 - Drilling from the Inside of the Sump

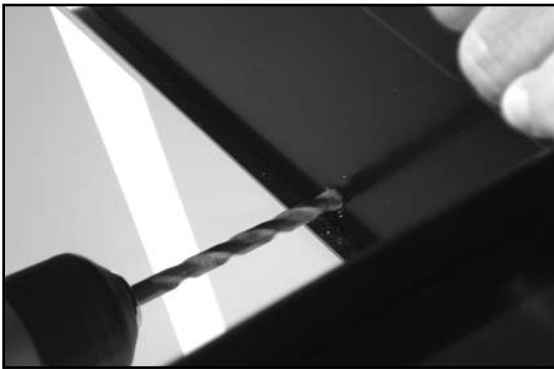


Figure 25 - Drilling into Sump Top

12. Once all four holes have been drilled, insert the supplied 1/4" bolt with sealed washer from the outside of the sump and use the supplied nut and sealed washer on the inside of the sump and tighten them together.



Figure 26 - Tightening Bolts

13. Seal the metal sump top to the fiberglass sump bottom with a bead of permathane sealant around the entire sump where the sump top meets the sump bottom.



Figure 27 - Applying Sealant to Sump Top



Figure 28 - Applying Sealant to Sump Top

14. Apply a small amount of permathane sealant around the bolt head on the outside of the sump and the nut on the inside of the sump mentioned in Step 12.

General Installation - Double Wall

1. Apply a small bead of permathane sealant around the edge of the entire fiberglass sump bottom.



Figure 29 - Applying Sealant

2. Install the metal sump top onto the fiberglass sump bottom.
3. Install the 1/4" self-tapping screws into the above mentioned holes to secure the sump top to the fiberglass bottom. Place a sealing washer under each screw head.

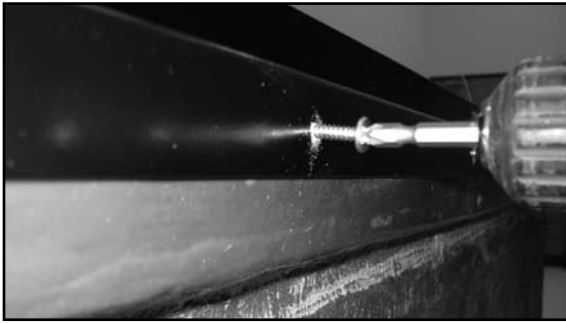


Figure 30 - Installing Screws

Steps 4 & 5 are for model LMM-3617 only

4. From the inside of the sump use the 1/4" drill bit and drill through the four guide holes on the ends of the metal sump top. There are two guide holes at each end of the metal sump top. Drill through the metal layer and the fiberglass layer.



Figure 31 - Drilling from the Inside of the Sump

5. Once all four holes have been drilled, insert the supplied 1/4" bolt with sealed washer from the outside of the sump and use the supplied nut and sealed washer on the inside of the sump and tighten them together.



Figure 32 - Tightening Bolts

6. Seal the metal sump top to the fiberglass sump bottom with a bead of permathane sealant around the entire sump where the sump top meets the sump bottom.

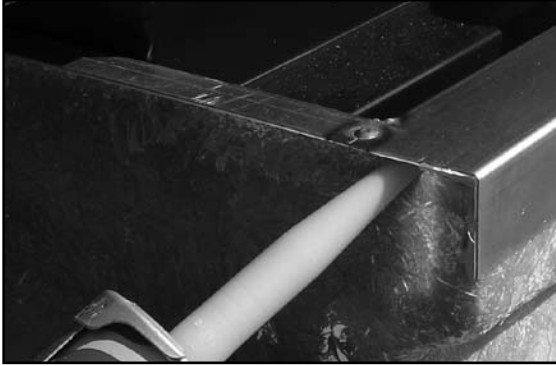


Figure 33 - Applying Sealant to Sump Top



Figure 34 - Applying Sealant to Sump Top

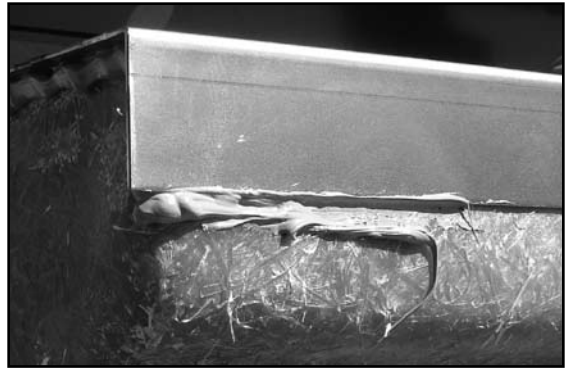


Figure 35 - Applying Sealant to Sump Top

7. Apply a small amount of permathane sealant around the bolt head and nut mentioned in Step 9.

Hydrostatic Monitoring Installation - Double Wall Only

Provided Components

- Clear Flexible Tube
- Sensor Housing Clamp
- Sensor Housing
- Sensor Cap
- Hardware

Required Tools

- Hose Cutter
- Small Crescent Wrench
- Screw Driver

Procedure

1. When the double wall dispenser sump is received, check to ensure that the vacuum gauge is reading a vacuum. If there is no vacuum reading, contact FFS Technical Services toll-free at 800-984-6266 for further directions.



Figure 36 - Vacuum Gage



Figure 38 - Removing Plug from Port

Note: After all entry fittings have been installed, (following manufacturer's instructions), the installer **MUST** perform a pressure test on the fiberglass sump.

- Pressurize the sump to no more than 6 psi. Close off valve and maintain pressure for 1 hour. Soap test all entry fittings.
 - After passing the pressure test, fill the sump wall with interstitial monitoring fluid and monitor for leaks for the remainder of the construction.
2. Remove the plug from the fluid port located at the bottom of the sump.



Figure 37 - Plug in Monitoring Fluid Port

3. Connect the tube provided onto the monitoring port connection, securing it using a hose clamp. Ensure that the tube is installed over each barb and flush with the flat surface of the fluid port connection.

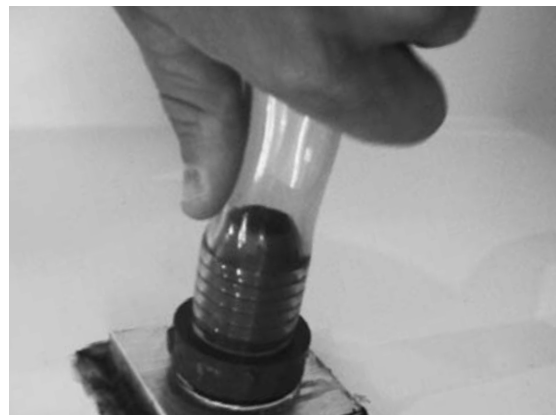


Figure 39 - Connecting Tube to Port

4. Install the sensor housing clamp onto the stabilizer bar (purchased separately) that is closest to the monitoring port. If this is not possible, use the next available stabilizer bar closest to the fluid port. Install the sensor housing clamp to the stabilizer bar using the bolt and nut that is supplied.

Figure 40 - Sensor Clamp on Stabilizer Bar



5. Cut the hose to length using a hose cutter. With the hose connected to the fluid port, pull the tube to the sensor housing clamp so the tube can be cut to the correct length. Do not cut the hose too short because that will put unneeded stress on the tube connections. Cut the tube as straight as possible so that it will make a flush connection with the sensor housing.

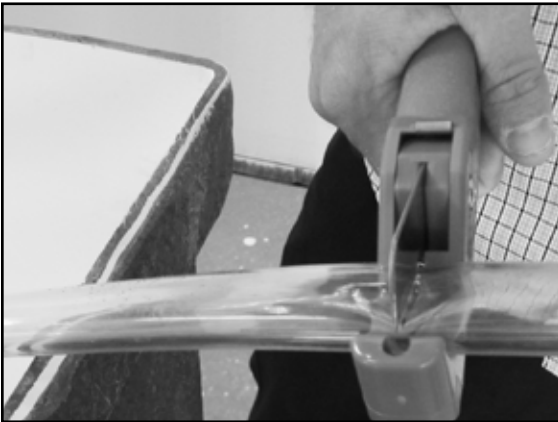


Figure 41 - Cutting Hose

6. Install the sensor housing to the hose, securing it with a hose clamp. Ensure that the hose is installed over each barb and flush with the flat surface of the sensor housing. Install and tighten the hose clamp.



Figure 42 - Installing Sensor Housing to Hose

7. Install the sensor housing to the clamp on the stabilizer bar and then tighten the provided bolt and nut. **Do not over-tighten the clamp.**

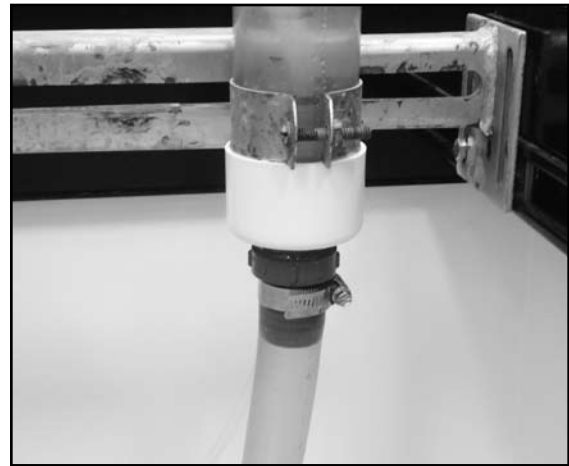


Figure 43 - Sensor Housing in Clamp

8. Fill the double wall sump with fluid through the sensor housing. Remove the vacuum gauge and open the vacuum port to allow air to escape when filling the dispenser sump with fluid. As soon as fluid flows through the vacuum port, close the vacuum port for the remainder of the fill. Fill the housing to the top with fluid. Then purge the air from the interstitial space following the vacuum procedure below.

Pulling vacuum on hydrostatic fill port

- A. Connect vacuum source to 1/4" NPT port on sump with a ball valve in between.
- B. Open 1/4" port valve
- C. With ball valve closed, draw vacuum of approximately -5" Hg
- D. Open ball valve – liquid and air will flow into the line
- E. When air stops coming out of the port, close both valves
- F. Dispose of the excess fluid in the line between the valves

9. Fill the sensor housing to between 1 and 2" from the top.
Mark the level of fluid in the sensor housing and monitor the level for 48 hours. If the level of fluid in the sensor housing has decreased, repeat this step until the fluid level in the sensor housing is stable.



Figure 44- Vacuum Port in Open Position

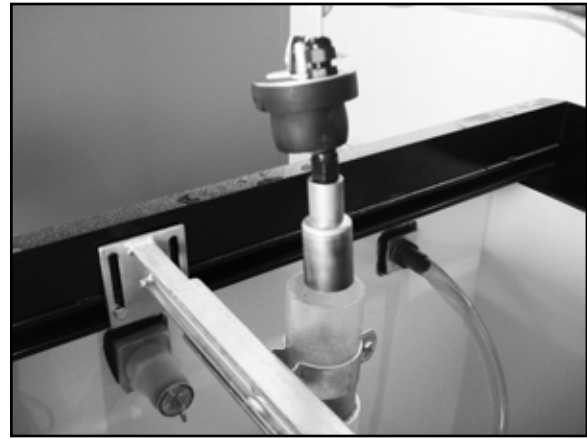


Figure 46 - Installing Sensor Cap

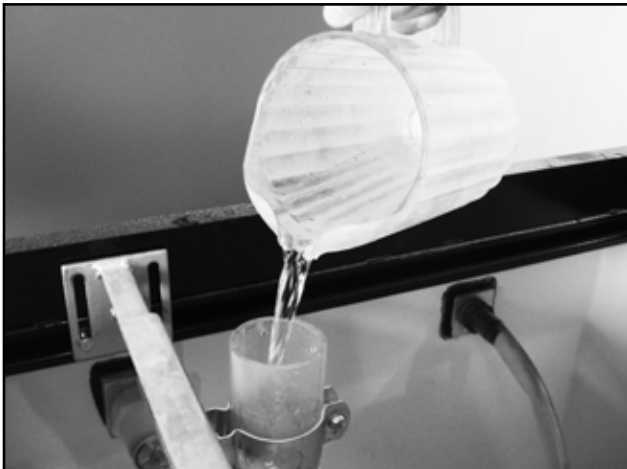


Figure 45 - Filling via Sensor Housing

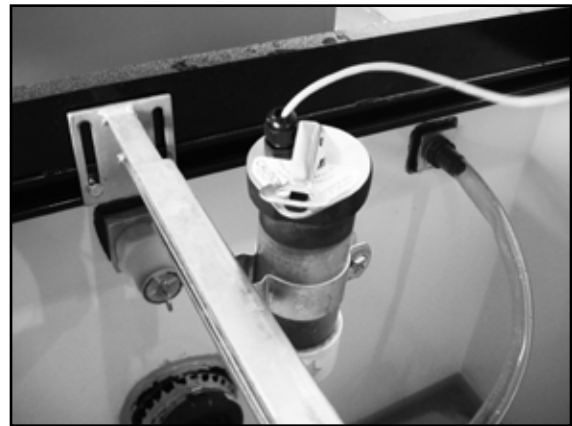


Figure 47 - Sensor Cap Installed

10. Once the fluid level is stable for *48 hours*, install the sensor and sensor cap into the sensor housing. The sensor cap is provided with the double wall dispenser sump, the sensor must be purchased separately. For this reason, the sensor pictured may differ from the figure below. Once the sensor cap is on the sensor housing, push the sensor cap lever down to lock it into place.



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