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Introduction

The EBW® brand Sealing Dip Cap prevents a tank from overflowing through uncapped tank dipstick risers. The 3-inch Sealing Dip Cap incorporates a spring-loaded, self-closing internal valve that seals when the sealing cap is removed and the dipstick is not in place. This innovative safety feature provides overflow protection whether the sealing cap and the dipstick are removed, or the sealing cap is in position with an attached dipstick stored in the tank.

Conventions used in this manual

This manual includes safety precautions and other important information presented in the following format:

**NOTE:** This provides helpful supplementary information.

**IMPORTANT:** This provides instructions to avoid damaging hardware or a potential hazard to the environment, for example: fuel leakage from equipment that could harm the environment.

⚠️ **CAUTION:** This indicates a potentially hazardous situation that could result in minor or moderate injury if not avoided. This may also be used to alert against unsafe practices.

⚠️ **WARNING:** This indicates a potentially hazardous situation that could result in severe injury or death if not avoided.

⚠️ **DANGER:** This indicates an imminently hazardous situation that will result in death if not avoided.

Questions and concerns

In case of emergency, follow the procedures established by your facility. If you have questions or concerns about safety or need assistance, use the information below to contact Franklin Fueling Systems:

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Operating precautions

Franklin Fueling Systems (FFS) equipment is designed to be installed in areas where volatile liquids such as gasoline and diesel fuel are present. Working in such a hazardous environment presents a risk of severe injury or death if you do not follow standard industry practices and the instructions in this manual. Before you work with or install the equipment covered in this manual, or any related equipment, read this entire manual, particularly the following precautions:

⚠️ CAUTION: Use only original FFS parts. Substituting non-FFS parts could cause the device to fail, which could create a hazardous condition and/or harm the environment.

⚠️ WARNING: Follow all codes that govern how you install and service this product and the entire system. Please refer to the installation instructions in this manual (and the appropriate documentation for any related equipment) for complete installation and safety information.

⚠️ WARNING: Before you enter a containment sump, check for the presence of hydrocarbon vapors. Inhaling these vapors can make you dizzy or unconscious, and if ignited, they can explode and cause serious injury or death. Equipment is often housed in containment sumps, which are designed to trap hazardous liquid spills and prevent contamination of the environment, so these sumps can trap dangerous amounts of hydrocarbon vapors. Periodically check the atmosphere in the sump while you are working in it. If vapors reach unsafe levels, exit the sump and ventilate it with fresh air before you resume working. Always have a second person standing by for assistance when working in, or around, a containment sump.

⚠️ WARNING: Follow all federal, state, and local laws governing the installation of this product and its associated systems. When no other regulations apply, follow NFPA codes 30, 30A, and 70 from the National Fire Protection Association. Failure to follow these codes could result in severe injury, death, serious property damage, and/or environmental contamination.

⚠️ WARNING: Always secure the work area from moving vehicles. The equipment in this manual is usually mounted underground, so reduced visibility puts service personnel working on it in danger from moving vehicles that enter the work area. To help prevent this safety hazard, secure the area by using a service truck (or some other vehicle) to block access to the work environment, or use any other reasonable means to ensure the safety of service personnel.
Installing the Sealing Dip Cap

Time required: 20 minutes (approximately)

Equipment and supplies required:

- Strap wrench (must be able to accommodate a 100 mm (3.9 inch) diameter pipe)
- Drill (with a 5.5 mm (0.2 inch) bit)
- Saw
- O-ring lubricant or standard motor oil
- Dipstick (2.54 mm (1 inch) square maximum)
- 6.35 mm (0.25 inch) shackle lock
- Pencil or other marking implement
- Ruler or tape measure

**NOTE:** For a 76 mm (3 inch) riser, make sure there is a minimum of 89 mm (3.5 inches) of space between the riser and the cover. For a 51 mm (2 inch) riser, make sure there is a minimum of 152 mm (6 inches) of space between the riser and the cover.

**IMPORTANT:** You may need to set the dip riser access cover to a higher position to provide clearance between the access cover and Sealing Dip Cap. You may also need to crown the driveway for installations where there is not enough clearance.

1. Remove the dip cap from its packaging, and make sure the threads on the dip tube riser are correct for your dip cap. If the threads are BSPT or BSPP, your dip cap should be marked “BSPT.” If the threads are NPT or NPSM, your dip cap should be marked “NPT.”
**NOTE:** Sealing Dip Caps require a gasket to seal to the riser. If the dip cap has been removed from the riser, inspect the gasket for damage. If it is damaged, replace it before you reinstall the dip cap.

**IMPORTANT:** Make sure the end of the riser is perpendicular to the riser pipe and has a smooth, flat cut, with no sharp edges that could cut the gasket.

2. Check the dip cap gasket. It should be on the rim below the threads inside the dip cap. (If the gasket is displaced, put it in place.)

3. Lubricate the dip cap seal and threads with O-ring lubricant or any standard motor oil. Screw the dip cap onto either the riser or the FFS adaptor until it is finger tight. Use a strap wrench to tighten the dip cap another quarter turn.

**NOTE:** For the following step, you may need a new dipstick due to the height difference.

4. Remove the dipstick adaptor from the assembly. Insert the dipstick into the riser and set it on the bottom of the tank. Mark the dipstick flush with the top of the dip cap base, and then remove the dipstick from the tank and base.
**WARNING:** To help avoid a spark hazard, make sure all liquids and gases have dried or dissipated on or around the dipstick before you use any power tools.

5. Use a tape measure or ruler to measure down 10.5 mm (0.4 inches) from the mark, and then use a saw to cut the dipstick.

6. Start at the cut you made in the previous step, measure down 25 mm (1 inch), and mark the dipstick.

7. Remove the binding posts and lock washers from the dipstick adaptor. Make sure the O-ring is installed on the dipstick adaptor and is undamaged. Put the dipstick adaptor over the top of the dipstick, and then slide it down until the bottom of the adaptor is flush with the mark.
8. Rotate the adaptor so the holes are perpendicular to the face of the dipstick. Use the dipstick adaptor as a guide to mark the holes.

9. Remove dipstick adaptor from dipstick.

**NOTE:** In the following step, make sure you drill straight through the dipstick so that the holes are perpendicular to the face of the dipstick. Otherwise, the dipstick will not align with the adaptor.

⚠️ **WARNING:** To help avoid a spark hazard, make sure all liquids and gases have dried or dissipated on or around the dipstick before you use any power tool.

10. Use a drill with a 5.5 mm (0.2 inch) bit to drill holes straight through the dipstick at the locations you marked in the previous step.
NOTE: In the following step, make sure you install the lock washer under the binding post head that is not slotted.

11. Use a flat head screwdriver to install binding posts that secure the adaptor to the dipstick.

IMPORTANT: Make sure the dipstick adaptor is installed so that the flange is perpendicular to the dipstick. This is necessary to get accurate readings.

⚠️ WARNING: To help avoid a spark hazard, make sure all liquids and gases have dried or dissipated on or around the dipstick before you use any power tool.

12. Use a saw to cut 25 mm (1 inch) off the bottom of the stick so that it does not come into contact with the bottom of tank while it is installed in the dip cap.

13. Lightly lubricate the O-ring with O-ring lubricant or any standard motor oil.

14. Install the dipstick in the dip point. Make sure the dipstick adaptor seats fully and latches.

15. If you wish, use a 6.35 mm (0.25 inch) shackle lock to lock the dip cap in the closed position.

NOTE: You may need hot work or cold work to remove welded components in order to fit the dip cap assembly. Please use an authorized installer who is certified to do that type of work.
Inspection checklist

Use the following checklist to make sure your Sealing Dip Cap is installed and operating properly. If you have questions or need assistance, please use the information in “Questions and concerns” to contact FFS Technical Support.

☐ Make sure all parts are present.

☐ Check the dip cap body for damage. If it is damaged, replace it.

☐ Make sure the flapper valve is undamaged and in place and that it seals properly. The flapper must move freely and must be held closed by the flapper spring.

☐ When you remove the stick and stick adaptor from the base, check the flapper to make sure the flapper seal makes contact with the seal surface. If it does not, replace the dip cap assembly.

☐ Check the locking latch and latch spring. The locking latch must close over the stick adapter to make sure it seals properly, and the flapper valve seal must close fully onto the dip cap body.

☐ Before you insert the dip cap into the base, check the stick adaptor O-ring. Make sure it is undamaged, lubricated, and free from debris. Replace and lubricate the O-ring if it is damaged or worn. Wear or damage can reduce the O-ring’s ability to seal, which can cause a leak.

☐ When you remove the stick and stick adaptor from the base, check the O-ring sealing surface on the inner diameter of the base for scratches. Scratches on the sealing surface can reduce the unit’s ability to seal.

☐ Before you insert the stick and stick adaptor into the base, make sure they are undamaged. Check the stick adaptor for debris, and remove any you find. Debris can damage the seal and cause it not to operate properly.

☐ Make sure the stick is calibrated, in good condition, and does not have a metallic end. The stick should be tight in the stick adapter.

☐ When you reinsert the stick and stick adaptor into the base, make sure the latch on the base is in place over the stick adaptor. The stick adaptor must be properly latched to make a seal with the stick adaptor O-ring.

☐ Make sure the binding posts that hold the stick in the stick adaptor are undamaged and in the correct position. They should be tight, with no deformations that could damage the O-ring sealing surface.

☐ Check for liquid or vapor leaks. Look for excessive vapor leaks from the O-ring or the dip cap riser gasket around the threaded riser or transition piece. There should be no excessive vapor smell.
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