



Swage Fittings (MS-SW-XXX-XXX)

Installation Instructions

Warning: Use only APT swage fitting tooling. Use of other manufacturers tooling will result in improper assembly and potential fitting failure. APT tooling is compatible with ENVIRON swage machines



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.



Procedure

1. Cut the pipe squarely to the proper length and deburr the pipe's ends.
2. If you are using SC pipe, trim the scuff guard 9" for dispenser sumps. If the fitting is being installed in a tank sump, cut the scuff guard so that it is within 1" of the outside of the sump.
3. If you are using SC pipe, cut the secondary jacket 4 ½" back from the end using either the SCC cutter or the DWC cutter.

Note: Check the outside surface of the dark blue layer for damage or debris, as this could prevent proper swaging. Clean or discard pipe as necessary.

4. **IMPORTANT:** Lubricate the inside diameter of the fitting with white lithium grease (**DO NOT USE SPRAY GREASE**) to reduce friction in the swaging process (see Figure 1).



Figure 1

5. Place the fitting on the collar so that the threads are nested in the collar properly. Place the collar over the barbed section of the fitting. Make sure that the end with the small opening is down (see Figure 2).



Figure 2

6. **IMPORTANT:** Lubricate the proper size mandrel with white lithium grease (**DO NOT USE SPRAY GREASE**) to reduce friction in the swaging process (see Figure 3).



Figure 3

7. Screw the mandrel to the threaded stud; making sure that the small side of the mandrel is down. Screw the mandrel down snug against the fitting (see Figure 4, collar removed for clarity).



Figure 4

8. Place the pipe end onto the fitting, and then push it all the way down into the fitting until it stops hard. If doesn't stop hard, then lift the pipe up and try again (see Figure 5).

Note: Put the pipe end up next to the collar and mark the pipe at the top of the collar where it will stop when properly inserted. This will help you visually determine if you have pushed the pipe into the fitting far enough prior to swaging.



Figure 5

9. Holding the pipe in place and keeping the pipe perpendicular to the top of the machine with no side load, switch the swage machine to the down position. Prior to letting go of the pipe, wait until the fitting has passed through the machine, then the machine should automatically shut off.
10. Remove the pipe and fitting assembly. Unscrew the mandrel from the stud and then switch the machine to the up position.
11. Wipe any leftover grease off of the inside of the fitting and from the mandrel.
12. Inspect the fitting to make sure that the swaging operation is complete. The collar should be tight to the pipe and there will be a slight bulge in the outer collar if the fitting is installed properly.

13. Slide the STB-SW-XXX (XXX = pipe size) version Secondary Test Boot over the fitting outside of the sump for the initial Secondary Air Test. This air test will be done outside of the sumps to insure that there is no damage to the Secondary Jacket (see Figure 6).



Figure 6

14. Position the STB so that the band clamp closest to the threaded end is totally over the Stainless Steel collar.
15. Tighten both band clamps by hand using a 5/16" ratchet or nut driver.
16. Attach a TRK-100 (Test Regulator Kit) to the STB's air valve and gradually apply air pressure until it reaches 8 PSI (see Figure 7).



Figure 7

17. Allow the pipe to sit for a minimum of 30 minutes and check the gauge for pressure loss. If the pressure drops over 1 psi, spray all joints to determine where the leak is. Tighten connections as necessary (*see the note at the end of this document).
18. Upon satisfactory completion of the Secondary Air Test, remove the STBs and push the fitting through the entry boot opening in the sump wall. Reinstall STB.
19. Coat the NPT thread with a PTFE pipe sealant and hand tighten the fitting. Finish tightening with pipe wrenches.

Note: Do not use a wrench on the fitting collar, ONLY wrench on the knurled area or damage may result.

20. After the total fittings system has been installed, retest all SC pipe lengths for a final check of the system (*see the note at the end of this document).

Figure 8



21. After a satisfactory completion of the final SC Jacket test, loosen all of the STB connections and slide the boots back to expose the open SC jacket so that the flow back to the lowest point in the system can be monitored (see Figure 8).

Figure 9



***Note:** During the swaging process, damage or debris on the outside surface of the dark blue layer, or the inside surface of the collar, could cause a false indication of a problem during secondary air testing due to a small leak between the collar and the dark blue layer of the swage. If this happens, pull the STB back and apply Loctite 515 (part #LOC-020) all around the back side of the swage collar (see Figure 9). Replace the STB, and repeat testing. See Service Bulletin SB0804-01 for further details.



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