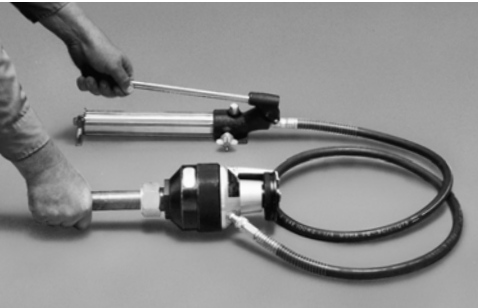




Hydraulic Swaging Unit Handbook



Swagelok hydraulic swaging units preswage 1/2 to 2 in. and 12 to 38 mm Swagelok ferrules onto carbon steel and stainless steel tubing prior to assembly into a Swagelok tube fitting.

Swagelok Company
Solon, Ohio U.S.A.

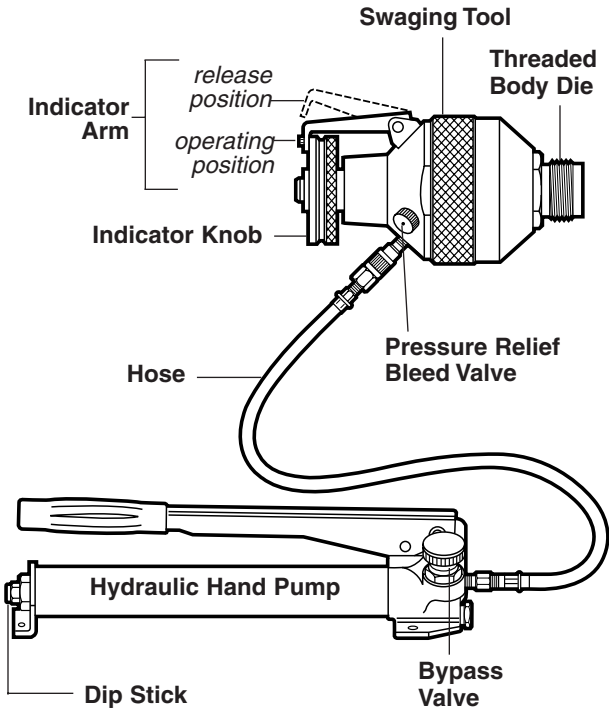
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The hydraulic swaging unit

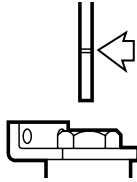
- must be used to install 1 1/4, 1 1/2, and 2 in.; 28, 30, 32, and 38 mm Swagelok tube fittings
- is available to install 1/2 to 1 in. and 12 to 25 mm sizes
- reduces makeup torque by up to 70 %, compared to 1 1/4 turns manual pull-up
- prevents galling, thread damage, and component deformation
- is portable and easy to use by one person
- requires little physical effort by the installer
- facilitates proper and sufficient preswaging of the ferrules onto the tubing
- does not place any initial strain on the fitting body threads or on body seal surfaces
- has an optional support base
- comes in a sturdy case containing a hydraulic pump, hose, and service equipment.

Hydraulic Swaging Unit



Setup Instructions

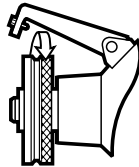
1. Place pump in vertical position, remove dip stick, and check hydraulic fluid level. Fill hydraulic fluid to fill line. Do not fill above fill line.



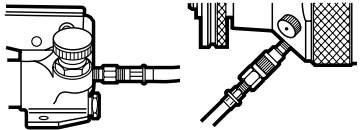
2. Open bypass valve.



3. Turn indicator knob to release indicator arm.



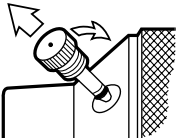
4. Connect hose from pump to swaging tool.



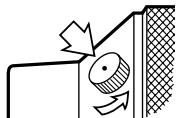
5. Close bypass valve.



6. Bleed air from system by removing pressure relief bleed valve. While holding the swaging tool above pump, pump handle until oil is free of air bubbles.

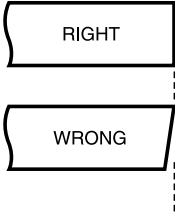


7. Replace pressure relief bleed valve finger-tight, and open bypass valve one turn.



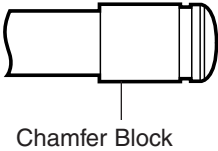
Tube Preparation

Cut all tubing squarely and deburr ID and OD with Swagelok tube deburring tools.

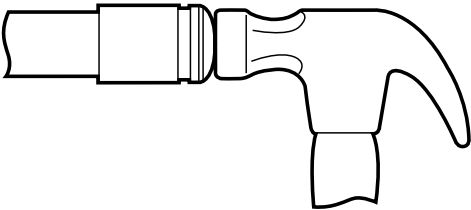


For 1 in. and 25 mm OD and Smaller Tubing

1. Place chamfer block over tubing end. If it does not fit, tubing is oversize and should not be used.

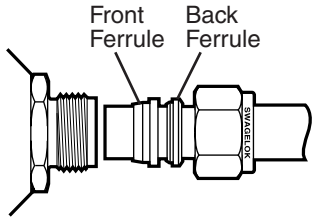


2. Strike sharply with a hammer and remove tubing.

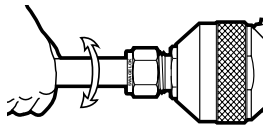


Swaging Procedure

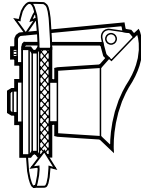
1. Put Swagelok nut and ferrules on tubing in proper sequence and orientation. Install hand-tight onto body die. Make sure tubing is *bottomed* in body die.



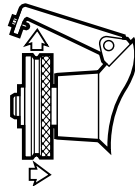
2. Close bypass valve. Operate hand pump slowly while rotating tubing back and forth in body die. If tubing cannot be rotated, rotate swaging tool. Be sure tubing stays bottomed in body die. Stop pumping when tubing becomes difficult, but not impossible, to rotate by hand.



3. Turn indicator knob until indicator arm is held tight.



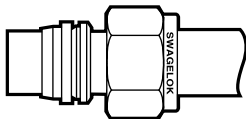
4. Swage ferrules onto tubing by pumping handle until indicator arm releases. It is not necessary to pump any further.



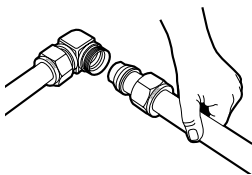
5. Open bypass valve.



6. Unthread the nut from the swaging tool and remove assembly from body die.



7. Install the preswaged assembly into the fitting body. While holding the body steady with a back-up wrench, tighten the nut a half turn past the hand-tight position.



How to Order

For Swagelok Tube Fittings (in.)	Ordering Number
1/2	MS-HSU-810
5/8	MS-HSU-1010
3/4	MS-HSU-1210
7/8	MS-HSU-1410
1	MS-HSU-1610
1 1/4	MS-HSU-2000
1 1/2	MS-HSU-2400
2	MS-HSU-3200
For Metric Swagelok Tube Fittings (mm)	Ordering Number
12	MS-HSU-12M0
15	MS-HSU-15M0
16	MS-HSU-16M0
18	MS-HSU-18M0
20	MS-HSU-20M0
22	MS-HSU-22M0
25	MS-HSU-25M0
28	MS-HSU-28M0
30	MS-HSU-30M0
32	MS-HSU-32M0
38	MS-HSU-38M0

Swagelok — TM Swagelok Marketin Co.

Printed in U.S.A.
MI (E)
May 1998
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