



Available for Rent or Purchase

# BTSU Bench Top Swaging Unit



**BTSU 4-16**  
Tube sizes: 1/4" - 1"



**BTSU 16-32**  
Tube sizes: 1" - 2"

## BTSU Features:

- Designed to pre-swage the nut and ferrules of either the Tylok CBC-Lok or CS-Lok style fitting onto tubing in tube sizes ranging from 1/4" to 1" for all typical wall thicknesses. Tylok CBC-Lok style fittings go up to 2".
- Pre-swaging reduces installation torque from 30-50%, depending on the tube size, tube wall thickness, and tube hardness.
- Pre-swaging reduces the number of turns required to make up the fitting.

## BTSU Attributes:

- The BTSU is a small compact unit that can be used on the ground, on a workbench, or held in a vice via the vice tang located on the bottom of the unit.
- The BTSU can be hydraulically powered manually for field use, or powered with an electric pump.
- The BTSU uses Threadless Quick Change Dies resulting in fast, accurate swages every time.

The Bench Top Swaging Unit comes in a water tight case that includes:

- Hand Pump
- Bench Top Swaging Unit
- BTSU 4-16: Die set in sizes 1/4" thru 1"
- BTSU 16-32: Die set in sizes 1" thru 2"

# BTSU Bench Top Swaging Unit



BTSU 4-16

Tube Size	CBC Size	Swage Pressure Reference (psi)
1/4"	4	2600
3/8"	6	2700
7/16"	7	2900
1/2"	8	3000
5/8"	10	3800
3/4"	12	4600
7/8"	14	5200
1"	16	6000

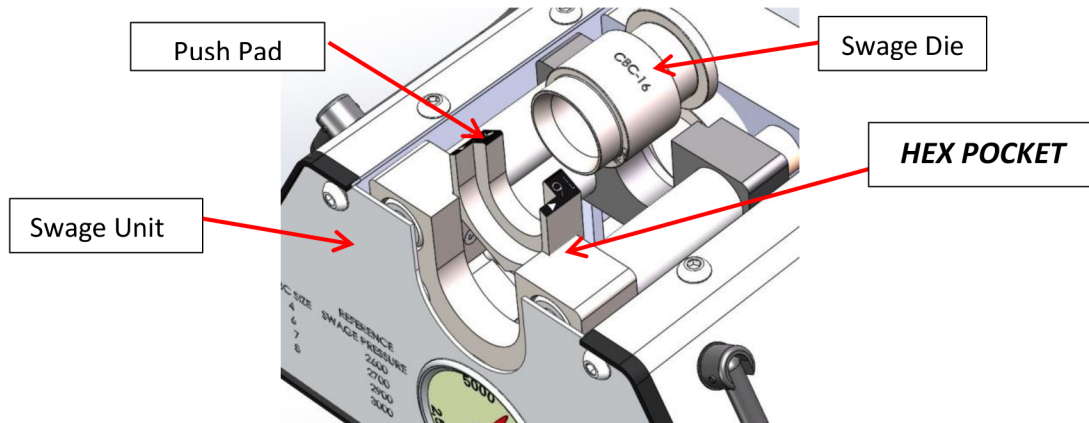
BTSU 16-32

Tube Size	CBC Size	Swage Pressure Reference (psi)
1"	16	5500
1-1/4"	20	6000
1-1/2"	24	7000
2"	32	8500

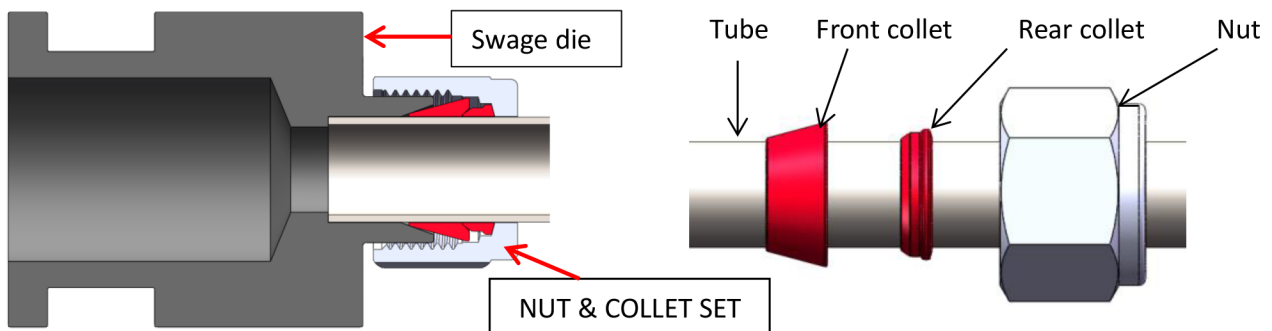
The Swage Pressure Reference is used as a guide for preswaging, since the pressure will vary for each Tube Wall Thickness, Tube Hardness and Tube Diameter.

# BTSU 4-16 Swaging Unit Instructions

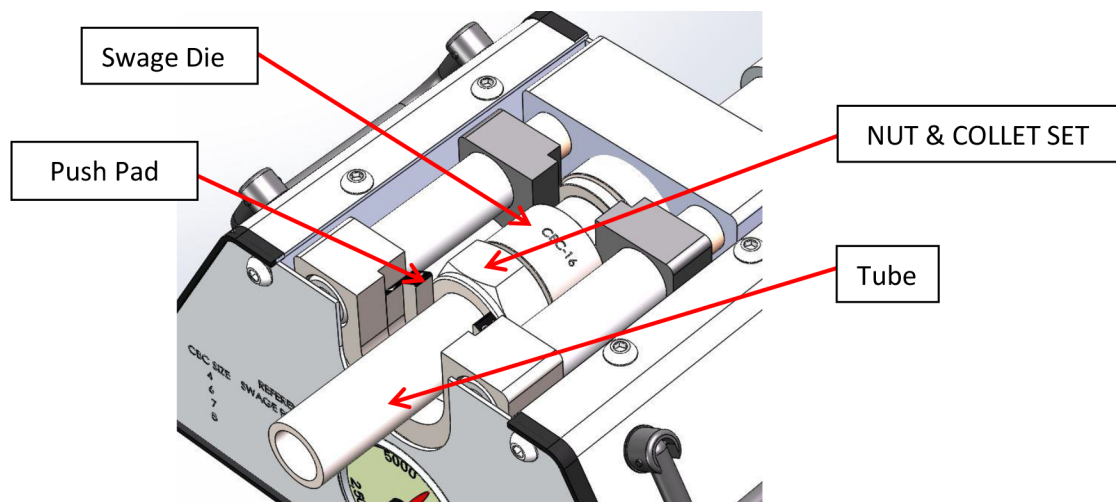
1. PLACE PUSH PAD INSIDE SWAGE UNIT, IN **HEX POCKET** AT THE LOCATION SHOWN BELOW.



2. PLACE NUT AND COLLETS (SHOWN IN RED) ONTO TUBE IN THE ORIENTATION SHOWN BELOW.



3. SLIDE TUBE INSIDE SWAGE DIE, PUSHING THE NUT AND COLLETS TOGETHER, SO THE NUT IS ALMOST TOUCHING THE SHOULDER OF THE SWAGE DIE AS SHOWN IN CUTAWAY VIEW ABOVE.
4. DROP ASSEMBLY INTO SLOT INSIDE SWAGE TOOL AS SHOWN BELOW. FULLY BOTTOM THE TUBE INSIDE THE SWAGE DIE.

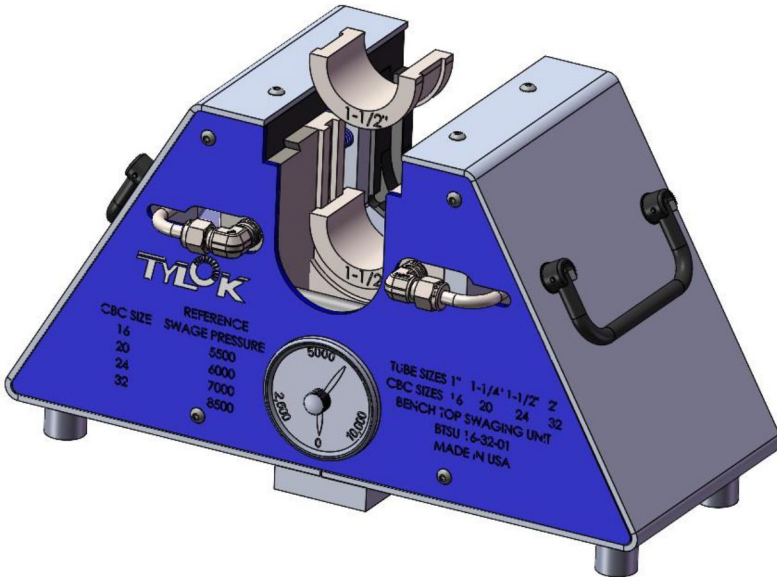


5. ENSURE THE PUMP VENT IS TIGHTLY CLOSED. FOR 1/2" X .035" WALL TUBE AS A REFERENCE, CYCLE THE PUMP UNTIL THE PRESSURE GAUGE READS ~ **2,000 PSI**.
6. OPEN THE PUMP VENT UNTIL THE SYSTEM PRESSURE IS ZERO PSI. REMOVE THE TUBE ASSEMBLY, AND ENSURE THE COLLETS ARE SWAGED ONTO THE TUBE.

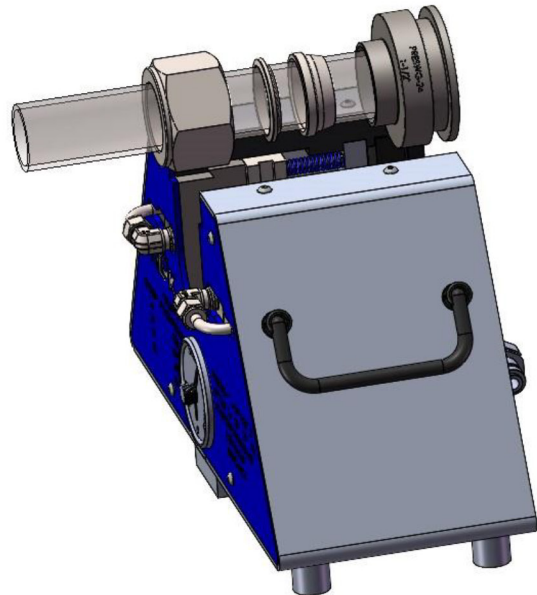


# BTSU 16-32 Swaging Unit Instructions

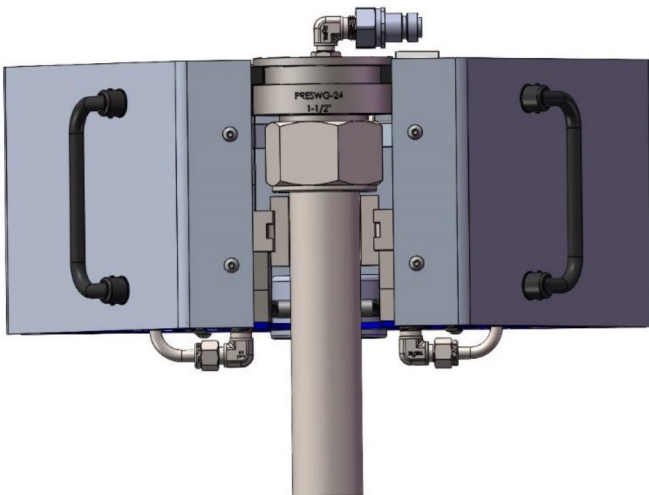
1. INSERT BOTTOM BRIDGE INTO SADDLE. (BOTTOM BRIDGE FOR 2" NOT NECESSARY.)



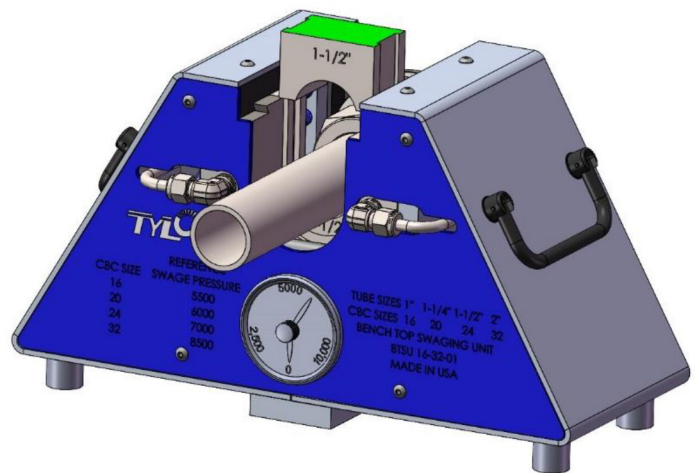
2. ORIENTATE FERRULES AS SHOWN.



3. SLIDE NUT, FERRULES AND TUBING INTO DIE AND DROP ASSEMBLY INTO SADDLE. MAKE SURE TUBE IS FULLY BOTTOMED INSIDE DIE.

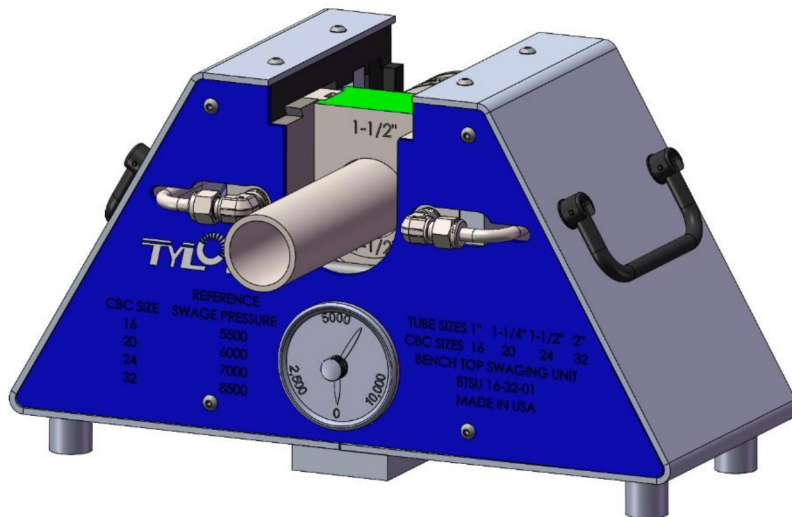


4. INSTALL TOP BRIDGE.

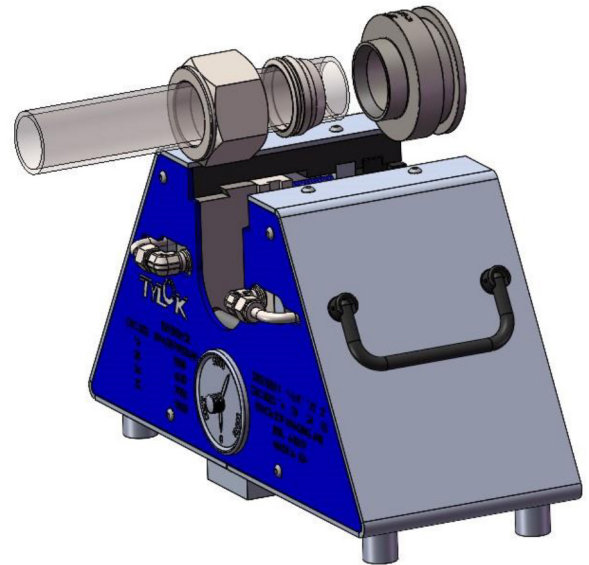


# BTSU 16-32 Swaging Unit Instructions

5. PRESSURIZE TOOLHEAD TO REFERENCE SWAGE PRESSURE FOR TUBE SIZE, FOUND ON THE FRONT PANEL OF THE PRE-SWAGING UNIT.



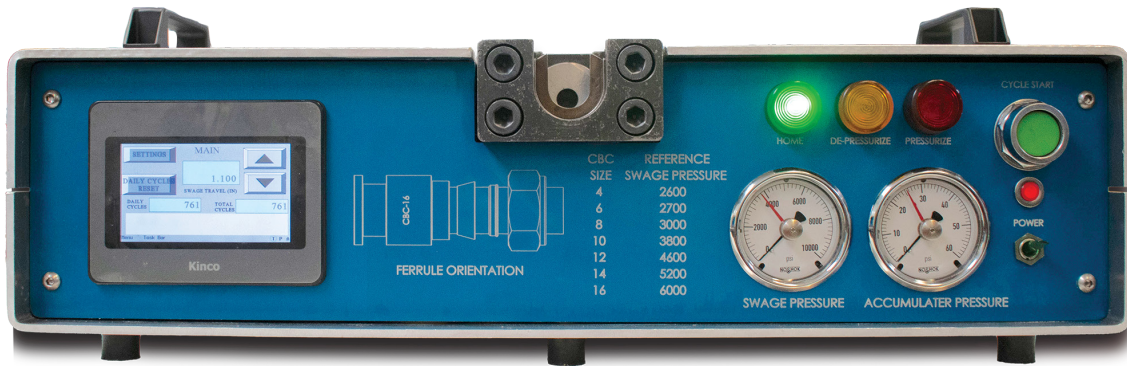
6. REMOVE ASSEMBLY FROM TOOLHEAD. NOTE: FERRULES MAY BE ABLE TO ROTATE ON TUBING AFTER PRE-SWAGING BUT WILL NOT AFFECT THE SEALABILITY OF THE CONNECTION AFTER PROPER PULL UP IN FITTING BODY.



7. HAND TIGHTEN NUT-FERRULE ASSEMBLY ONTO FITTING BODY. FROM THE HAND TIGHTENED STARTING POINT, TIGHTEN NUT  $\frac{1}{2}$  TO 1 TURN. USE THE NO-GO GAP GAUGES TO VERIFY PROPER MAKE UP. THE CONNECTION IS NOW COMPLETE.



# DSU Digital Swaging Unit



DSU Digital Swaging Unit  
Tube sizes: 1/4" - 1"

## DSU Features:

- Designed to pre-swage the nut and ferrules of either the Tylok CBC-Lok or CS-Lok style fitting onto tubing in tube sizes ranging from 1/4" to 1" for all typical wall thicknesses.
- The DSU 4-16 is a digitally controlled hydraulic press that uses 110V AC current, and produces enough force to swage all of the tubes sizes with one touch of a button.
- The DSU 4-16 is a bench top unit that is designed to give precise control over the pre-swaging process, with positioning accuracy of +/- .002".
- A Foot Switch is also included for hands free operation, permitting swages on long or awkward bends.

## DSU Attributes:

- Changing tube sizes require Swage Die and Push Plate changes, which are made in seconds without any tools required.
- Pre-swaging ferrules onto the tube reduces installation torque from 30-50%, depending on the tube size, tube wall thickness and tube hardness.
- Pre-swaging reduces the number of turns required to make up the fitting. Typically about a half turn past finger tight is required to make up the fitting after pre-swaging, making installation in tight spaces easier.
- The DSU uses Threadless Quick Change Dies resulting in fast accurate swages every time.

