

PYPLOK® Installation Guide

Marking and Inspection Gauge

Marking and inspection gauges are combined into one gauge.

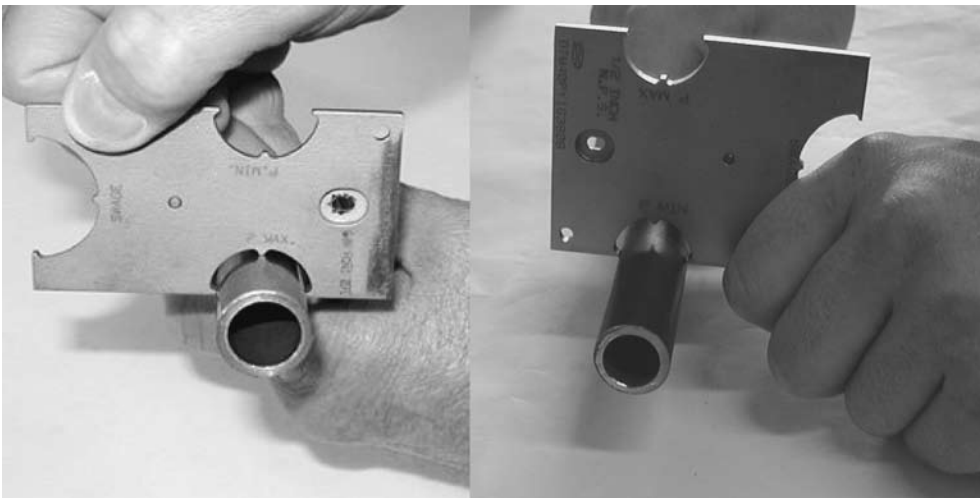
Marking Gauge

The gauge has a pin and a slot for marking along the centerline. Position the pin with the end of the pipe and make a mark inside the slot for locating the fitting on the pipe.



Inspection Gauge

- Inspection gauges have two cutouts one on each of the long sides of the gauge.
- Use these cutouts to verify the pipe minimum and maximum OD.
- The gauge has a cutout on the middle of the short side of the gauge.
- This cutout has three points for verifying the after swage dimension of the joint.
- The gauges are marked with the part number, and size of pipe.



Pipe Preparation

Pipe End Preparation

Pipe end preparation is important to assure good contact area between the pipe and the seal within the fitting. The preparation involves the following steps:

- Pipe Cutting
- Pipe Deburring
- Outside Diameter Clean-up

Pipe Cutting

Using a straight edge, make sure that the pipe end is straight to allow the fitting to slide over the pipe upon insertion. Protect the pipe from wrench and vise grip damage, and cut the pipe to proper length. Tube-Mac[®] highly recommended that the cut is less than 3° off square of the pipe end, but a cut up to 5° off square is acceptable.

Pipe Deburring

Pipe deburring and removal of raised nicks and burrs eliminates the potential for damage to the fitting seals during pipe insertion. A 30° chamfer will help in the pipe insertion.

Outside Diameter Clean Up

Clean the outside surface of the pipe for a minimum of one pipe diameter length. Blend surface flaws, scratches, concavities and flats, paint and galvanizing with emery cloth, without reducing the diameter below the minimum.

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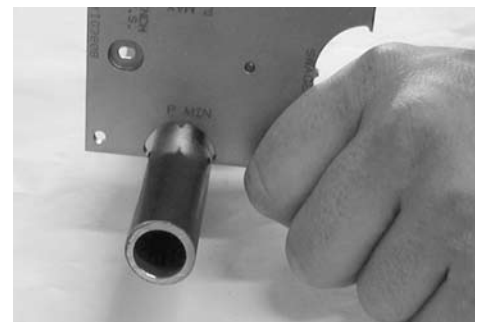
Pre-Installation Procedures

- Select the proper Tube-Mac Pyplok tooling, i.e.; power unit and head assembly.
- Prepare pipe ends.
- Verify the pipe OD and ensure it is free of any damage.
- Ensure fitting seals are in-place.
- Select appropriate Marking/Inspection gauge. All gauges are marked with applicable Pipe or O.D. Tube size.

- Using **PMAX** gauge, check the outside diameter of the pipe. Verify the pipe size by placing the fitting over the pipe and examine the fit.



- Using the **PMIN** gauge verify the PMIN dimension by placing it over the outside diameter of the pipe. The PMIN gauge must NOT fit over the pipe. This check helps to ensure proper Marking/Inspection gauge use.



- Place the gauge on the pipe with the stop pin pressed against the pipe end.
- Apply an insertion mark through the marking window.



CAUTION: Hydraulic pressure for the swage tools must not exceed 10,250 PSI. Minimum of 80 PSI shop air is required for operation of the Pneumatic pump.

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Installation Procedure



- Insert the pipe into the fitting keeping the rotation and twisting to a minimum. You will encounter slight resistance when inserting the pipe past the seal ring.
- Position the end of the fitting over the pipe installation mark so that some portion of the mark is visible. This is important to ensure proper inserting depth and to complete an acceptable swage.



- Install the lower die block assembly onto the upper piston of the power unit.



- Place the yoke (head with the upper dies in-place) over the pipe adjacent to the fitting end.
- Engage the power unit assembly into the yoke. Ensure the ball detents in the lower die block engage the grooves in the yoke.



CAUTION:

Full engagement of the head with the power unit is critical for the safety of the operator and the tool.

- Connect the hydraulic power supply
- Activate the hydraulic power supply to the proper pressure and then release it after reaching the desired pressure.
- Disengage the yoke from the power unit - the swaging is now complete.

NOTE:

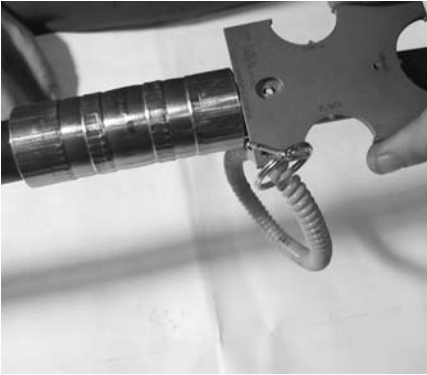
Typically, there are two raised bands near each end of a Tube-Mac Pyplok® fitting called seal diameter and retention diameter seal bands. In some cases, you must swage fittings more than once on each end of the fitting to compress the seal diameter and retention diameter bands. Whether it takes one, two or three swages depends on the type and size of the fitting and the condition of the swage dies.

Details are provided in the Pyplok® Installation Manual as well as during training, sessions provided by Tube-Mac®.

Inspection of the Swage Joint

Visual Inspection

- Verify the width of the swage completely covers the raised retention and seal areas



Pipe Insertion Verification

- Inspect the pipe insertion mark
- Verify that the fitting covers a portion of the pipe installation mark and a portion is clearly visible
- In the event that the installation mark is not clearly visible, use the inspection mark to verify proper insertion.
- Position the marking tool against the fitting end, placing the side with the pin stop away from the pipe, and orient the inspection mark to verify that some portion of the inspection mark is visible in the gauge window or between the dot and the fitting end.



Swage Diameter Verification

- Place the inspection gauge over the swage
- At two positions, approximately 90° apart verify both the seal and retention swages
- An acceptable swage is a minimum of 2 point contact 90° apart between the swaged area and the inspection gauge must be satisfied
- An unacceptable swage is when there is 2 point contact 180° apart
- If the swage fails to meet the inspection criteria, the fitting can be re-swaged.



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