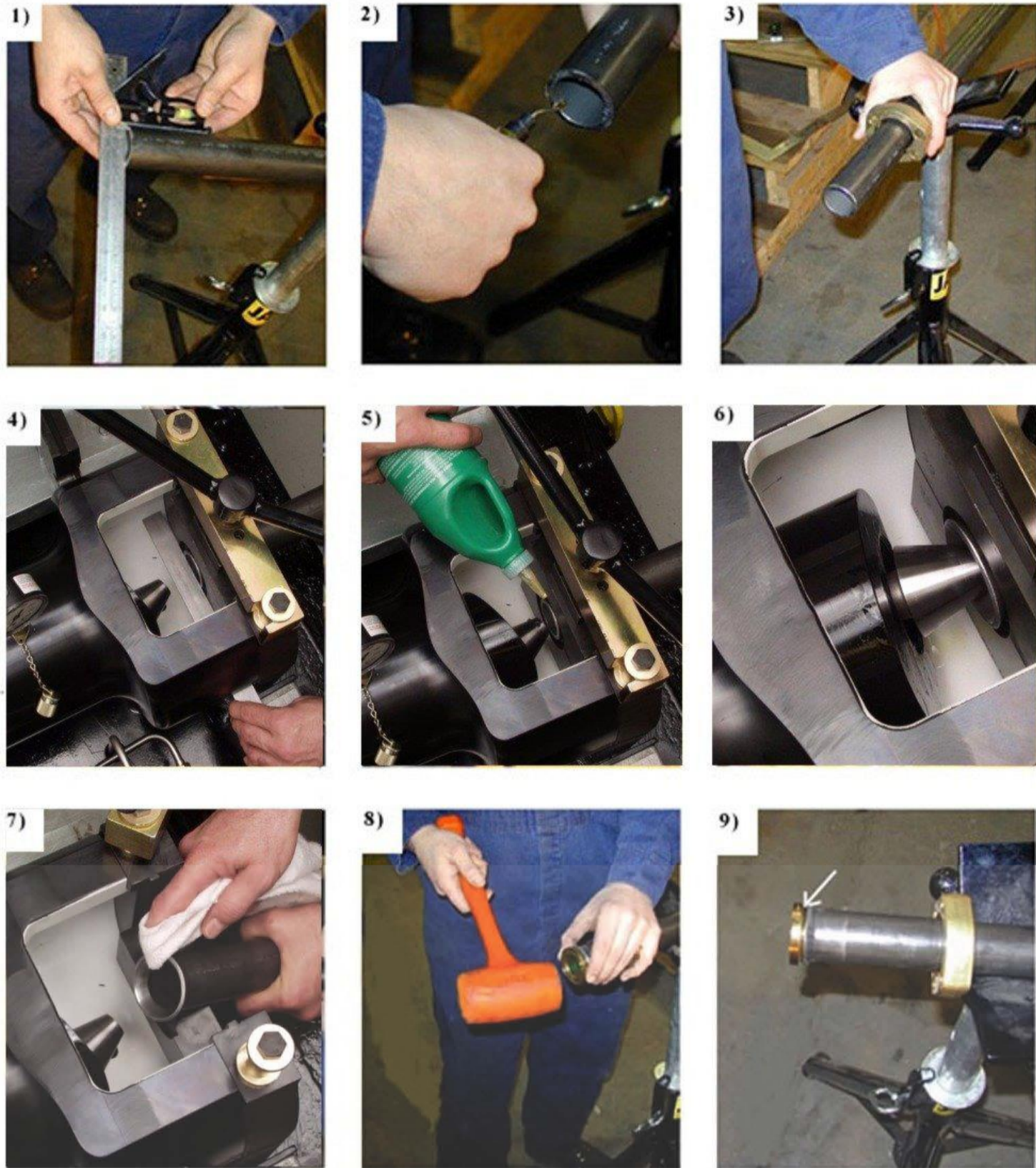




## PIPE FLARING



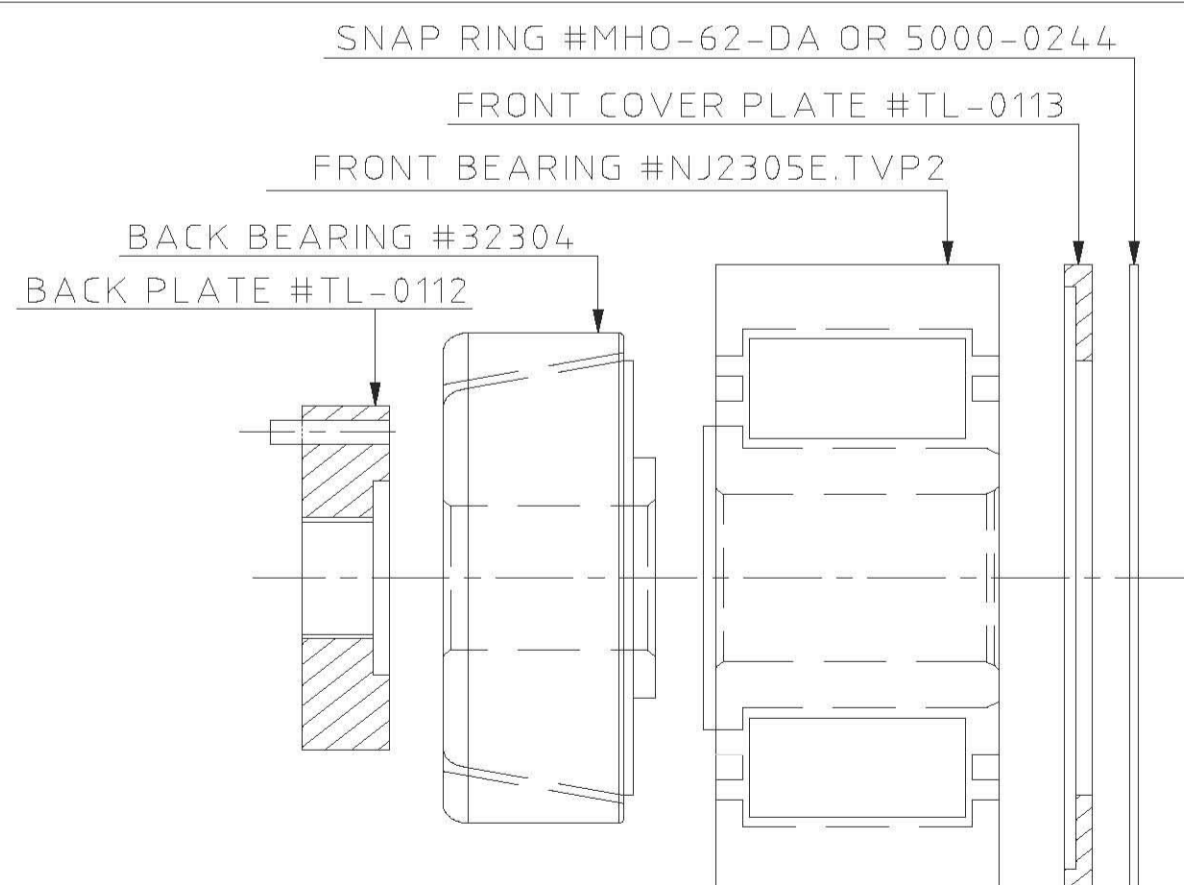
## TFM - 01 /02 FLARING PROCEDURE

### - PREPARATION -

1. Cut pipe to length with a bandsaw, or abrasive saw. Check the cut is square.
2. Deburr the OD with a file, the ID with an internal deburring tool. File the end of the pipe smooth, removing saw marks.
3. Clean the pipe, removing any cuttings/filings. Pull a clean lint free rag through the pipe to remove any dust/dirt.

### - FLARING -

4. Select the flaring cone for the pipe size, clean, and insert into the flaring head.
5. Select the die set for the OD size of pipe, and install one half into the die holder. Install the flange onto the pipe, place the pipe end into the lower die half, and support the other end of the pipe in a pipe stand. Place the upper die half into the die holder onto the end of the pipe. Hold the straight edge provided across the die surface, bringing the pipe end flush to the straight edge. Tighten the die clamp firmly.
6. Using the manual pump, advance the flaring head until the cone just comes into contact with the pipe. Lubricate the flaring cone with 90 weight gear oil, then energize the e-motor to begin the flaring head rotating.
7. Advance the flaring cone with short strokes of the manual pump until the desired flaring pressure is reached, maintain the pressure with short strokes of the manual pump as the flare is ironed until there is no further pressure decay. The back of the flare should be contacting the die, and the flare is now complete. Shift the manual valve to release pressure from the flaring head as soon as the flare is complete. Continuing to iron the flare too long will cause a ridge to form in the bore of the pipe. Reference the chart below.
8. Retract the flaring head and remove the pipe from the dies. Wipe the flare clean and inspect. The surface should be smooth, polished, and free of cracks.
9. Remove any burrs from the dies on the outside of the pipe with a file. Set the flare flange cone into the pipe with a soft face hammer. There should be a gap of 1/16 - 1/8" (1-3mm) between the end of the flare and the shoulder of the cone, and the flange should slide freely over the flare.



BEARING SHOULDER MUST FACE BEARING #32304

BEARINGS MUST BE PACKED WITH LITHIUM or SYNTHETIC BASED GREASE

FLARING MACHINES TO BE OPERATED ABOVE AN AMBIENT TEMP OF +40°F TO PREVENT BEARING FAILURE

### FLARING PRESSURE and DURATION

PIPE SIZE		Pressure	Duration
1/2"	20MM	30 - 50 bar	3 - 6 seconds
3/4"	25MM	40 - 50 bar	5 - 10 seconds
1"	30MM	40 - 60 bar	5 - 10 seconds
1-1/4"	38MM	50 - 70 bar	5 - 10 seconds
1-1/2"	50MM	60 - 80 bar	7 - 20 seconds
2"	60MM	70 - 80 bar	8 - 20 seconds
2-1/2"	75MM	70 - 100 bar	15 - 60 seconds
3"	90MM	80 - 110 bar	30 - 120 seconds
3-1/2"	100MM	80 - 110 bar	30 - 120 seconds
4"	115MM	80 - 110 bar	30 - 120 seconds

Pressures and durations will vary with wall thickness and material strength.

Pipe sizes 3-1/2" and 4" require flaring twice, rotating pipe 90° in the dies.

Effective June, 2009