MERAX

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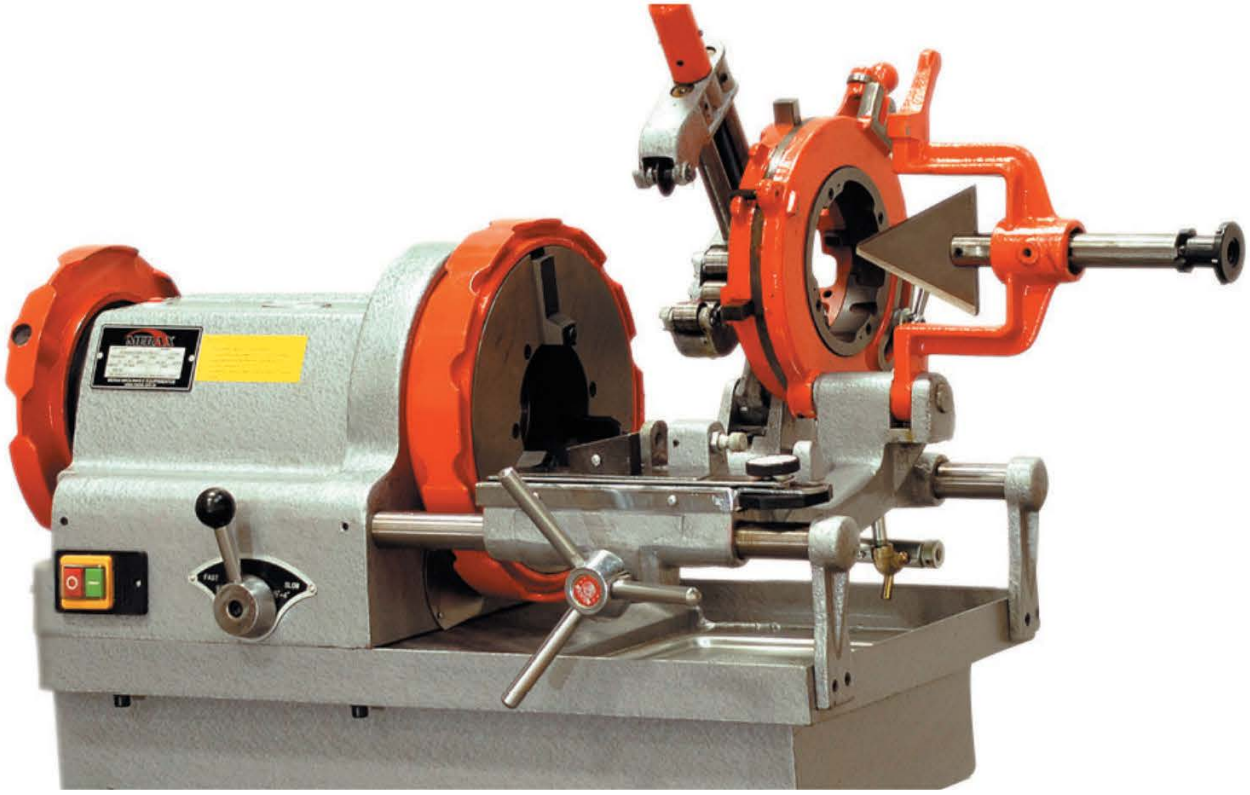


Maintenance Guide

Pipe Threaders

Preventive and corrective maintenance of Pipe Threaders

Maintenance Manual: Preventive / Corrective

Preventive:
Every machine requires care and preventive maintenance. We suggest our customers train one single operator per shift to work with the Merax Pipe Threader.

This operator does not necessarily need to be a plumber. He/she could be an aprentice plumber who receives instructions about cleaning, lubrication, maintenance and threading of pipes and rebars.

Preventive maintenance is extremely important to extend the life of machines and accessories. Here are some preventive maintenance tips:

1. Oil threader: always use oil threader to lubricate and cool. At least once a day, clean chips and other waste material accumulated on the tray filter.

   Empty oil tank at least once a week, filter it and check viscosity.

   Clean tank and filters.

   After viscosity check, return oil to tank and, if necessary, fill it up with oil threader until the aspiration filter is imersed.

   NOTE: NEVER USE WATER-SOLUBLE COOLING FLUID.

2. Operation: advise operator to work with a brush for removing chips, oil and dies dirt. The pipe must be securely held and aligned to the front and back chuck. Do not operate machines with the cold-cutter and/or threading head and/or reamer positioned into the pipe. If pipe is decentralized in relation to the chucks, when motor is turned on, it may kick back, jamming and breaking the motor/reducer and the cold-cutter arm bracket.

   If in doubt if the pipe to be cut is square, use cold-cutter to make a cut and it will automatically be squared.

   After removing the pipe, eliminate internal burrs without overstressing under the risk of damaging the motor/reducer.

   Begin the threading process with a gap of 0.1" above the rated diameter of the pipe for a first pass.

   . Set the exact rated diameter as instructed to make second pass. This procedure, associated to regular lubrication on pipes will extend the life of your dies. For motors Z1T-R4 and Z1T-R6, observe the correct use of the operational speed, as instructed.

3. Lubrication and cleaning: periodically lubricate chucks shafts through two holes located on the top of the machine.

   Instruct operator to clean the machine and tighten the screws of the equipment daily.

Corrective Maintenance for Pipe Threaders

Oil Threader
PROBLEM: oil with low viscosity or contamination
SOLUTION: Change oil
PROCEDURE: When changing oil, check aspiration filters and trays. If necessary, change. Clean all the lubrication system before oil change.

Oil pump
PROBLEM : Leakage, loss of pressure or jamming
SOLUTION: Replace pump
PROCEDURE: To replace oil pump, put machine in an adequate position to reach the Motor/Reducer set. Oil pump is attached to reducer by two side hoses. Loosen both hoses with an Allen wrench of 4 mm and loosen oil pump. Mind the position of the hoses and the fitting of the pump into the reducer.

NOTE: When replacing the pump in model Z1T-R4, check the position of the screws with special attention to their length, since one is longer than the other.

Motor and Reducer
PROBLEM: Motor burn-out.
SOLUTION Recondition or replace motor.
Note: To replace the motor, check the following table for electric motors of Merax Pipe Threaders.

PROBLEM: Motor shaft broke down.
SOLUTION Replace rotor.
Note: The replacement of the rotor is conditioned to checking the complete motor set for damages.

PROBLEM: Motor won't start.
SOLUTION Test capacitor. Change if necessary.
Note: Before changing the capacitor, check motor conditions (coils, connectors).

PROBLEM: Noise in reducer / reducer is jammed / loose reducer.
SOLUTION Complete reducer replacement
Note: Open reducer to find reason for jam We do not advise the replacement of the damaged parts, but the complete replacement to guarantee the quality of the equipment.

PROCEDURE

1. Empty oil tank, leaning machine forward and remove plastic cap on the back in models Z1T-R2 and R2-A (PHOTO). In models Z1T-R4 and R6, the machine must be lifted due to its weight. Remove oil tank. Loosen the four (04) Allen screws which hold the motor/reducer set on the body of the machine. Loosen the power cord and memorize its position. Loosen the grounding wire connected to the reducer. Remove the motor/reducer set from under the machine. To separate motor from reducer, loosen 3 5-mm Allen screws.

2. Check reason for noise of reducer break and replace.

3. Check electric motor for pinion wearing.

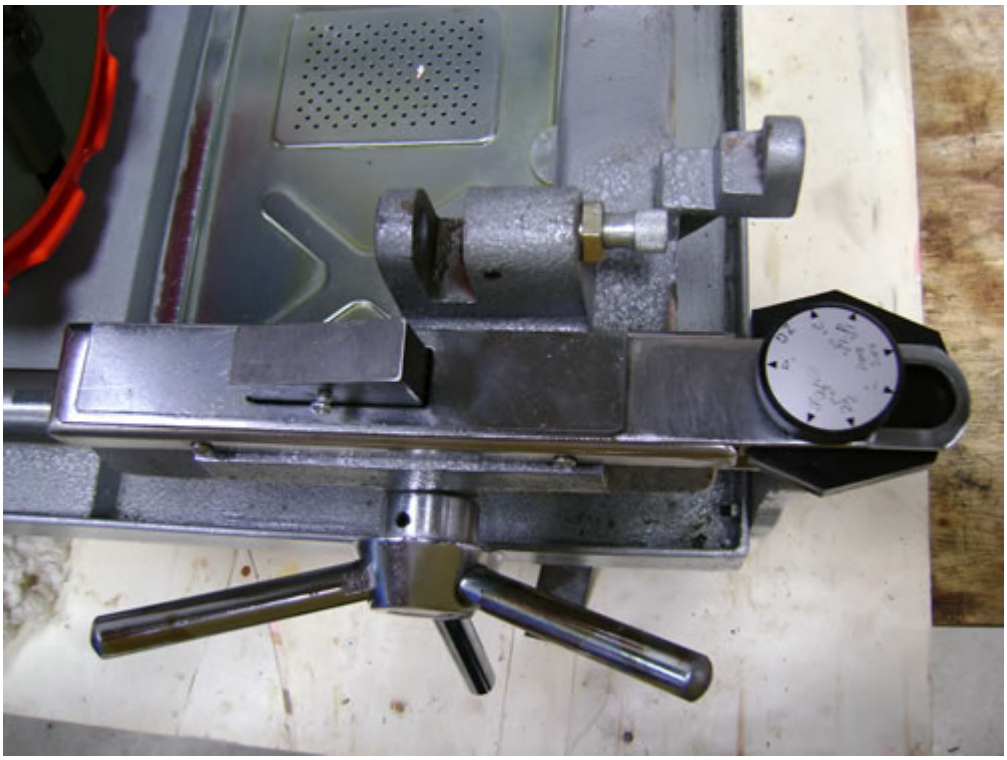
4. To replace a worn pinion, loosen the central screw holding the pinion and motor shaft, remove pinion with wrench. For correct replacement, check motor pinion table.

5. Assemble motor and reducer out of machine body, test and re-install.

ON/OFF switch
PROBLEM: Does not work.
SOLUTION Replace switch.
PROCEDURE: Loosen 2 screws located on the switch and on the machine body. When removing, observe electric wiring to reconnect correctly later on.

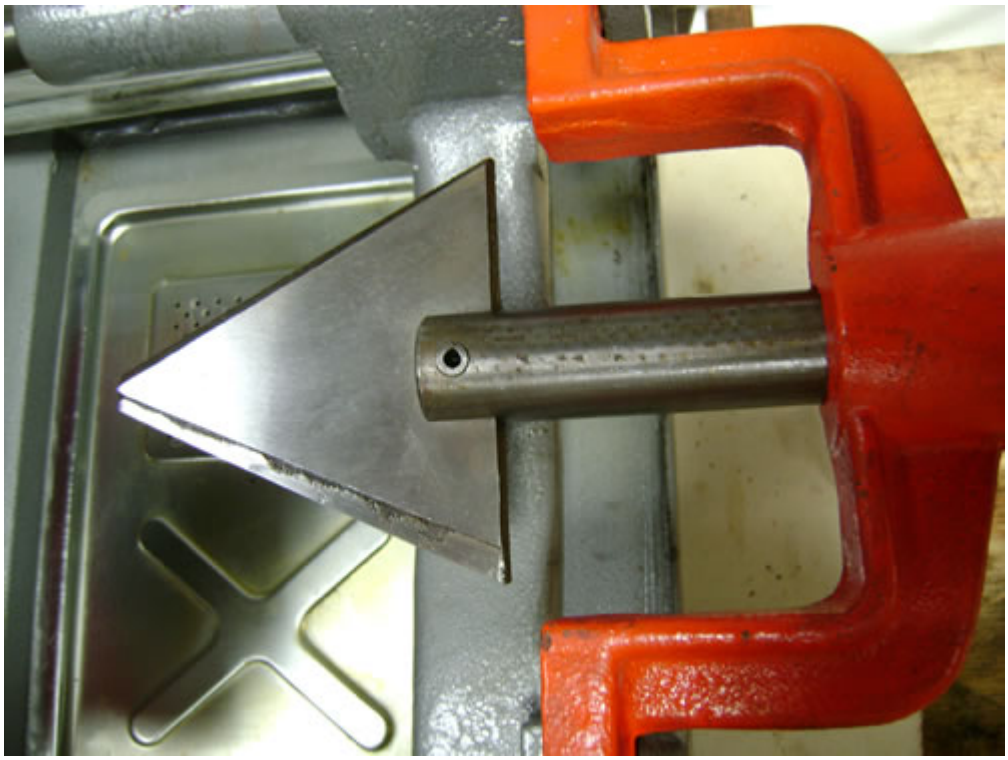
Oil hose
PROBLEM: Leakage, cracked
SOLUTION Replace hose.
PROCEDURE: Replace oil hose in case of cracking or leakage. Loosen hose clamps. Note that the hose on the right side of the oil pump is connected to the sliding carriage and the hose on the left side is connected to the oil tank.

Carriage
PROBLEM: Parts are worn or broken
SOLUTION Replace parts.
PROCEDURE: Remove cutter, reamer and head arm. With pliers, remove the ring of the carriage wheel.

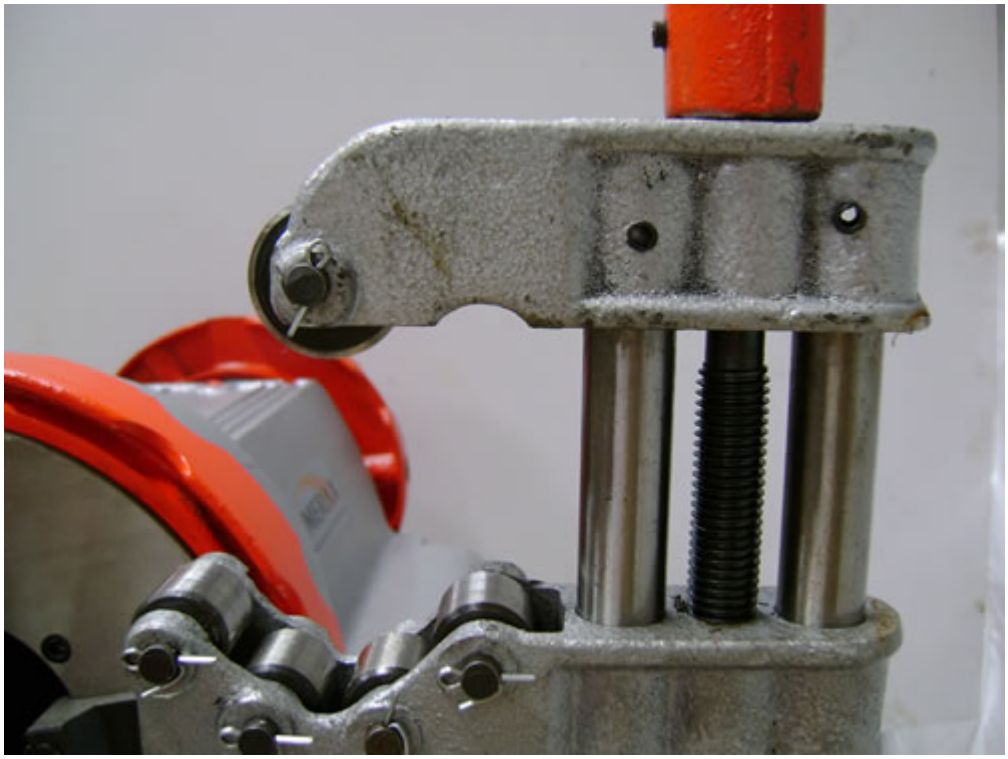


Pull and observe that there is a gear and a key under the carriage. Revome the head lock and the thread limit switch, taking special care with the springs. Loosen the brackets and remove the hose connected to the oil inlet spindle.
Loosen the Allen screw that holds the oil inlet pin located at the bottom, next to the oil outlet. Then, knock from inside out, removing the oil outlet. Remove the shafts mount and pull it out.

Reamer blade
PROBLEM: Broken or worn.
SOLUTION Replace blade.
PROCEDURE: Remove the elastic pin that holds the blade, replace it and put the elastic pin and back in position.



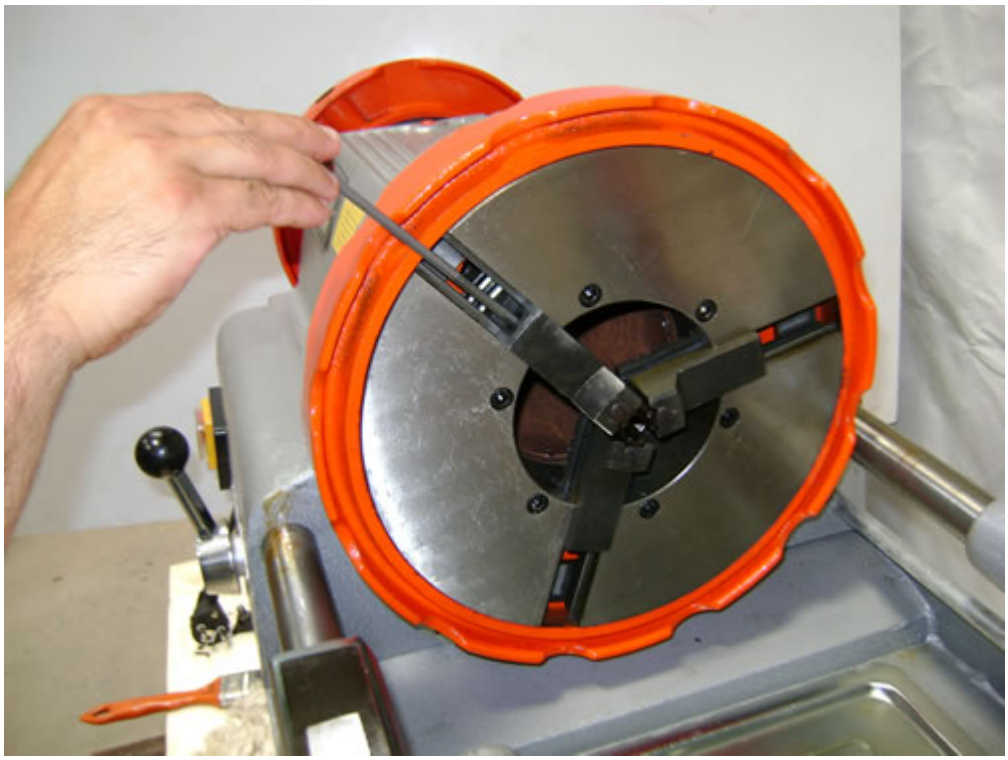
Cutter wheel
PROBLEM: Broken or worn.
SOLUTION Replace cutter wheel.
PROCEDURE: Remove the cotter pin that holds the cutter wheel. Replace the cutter wheel.



Front chuck
PROBLEM: Main shaft or jaw holder broken.
SOLUTION Remove the chuck and replace parts.
PROCEDURE: Loosen the 6 screws from the front chuck to replace the main shaft gear and/or jaws holder.

Motor pinion
PROBLEM: Worn.
SOLUTION Replace in accordance with the motor pinion table.

Jaws
PROBLEM: Worn or broken.
SOLUTION Replace jaws set.
PROCEDURE: Removing the chuck is not necessary. Loosen allen screws of the jaws holder, turn the chuck, close the jaw holder.



Jaws holder
PROBLEM: Worn or broken.
SOLUTION Replace jaws holder set.
PROCEDURE: Observe jaws holder position. See front chuck procedure.

MERAX PIPE THREADERS ELECTRIC MOTORS PINION TABLE

Pipe Threader model	O.D. shaft (mm)	I.D. shaft (mm)	A (h) mm	Code	Pinion model
Z1T-R2/R2A	33.2	15.8	48.4	PR0014	Pinion Motor Z1T-R2
Z1T-R2/R4	25.8	12.0	36.0	PR0016	Pinion Motor Z1T-R2/R4 model 2 and 3
ZIT-R4	35.4	15.8	45.3	PR0015	Pinion Motor Z1T-R4 model 1

ELECTRIC MOTOR TABLE FOR MERAX PIPE THREADERS

Pipe Threader model	Shaft length (mm)	Ø shaft (mm)	Code Full	Motor model
Z1T-R2/R2A	40.0	16.0	PR0009	Motor 7500W/220 v – Z1T-R2 model 1
	35.4	12.0	PR0028	Motor 7500W/220 v – Z1T-R2 model 2
	35.4	12.0	PR0029	Motor 7500W/220 v – Z1T-R2 model 3
Z1T-R4	40.2	16.0	PR0011	Motor 900W/220 v – Z1T-R4 model 1
	35.9	12.0	PR0012	Motor 900W/220 v – Z1T-R4 model 2
	47.6	12.0	PR0022	Motor 900W/220 v – Z1T-R4 model 3
ZIT-R6	38.8	16.1	PR0024	Motor 1100 W/220V Z1T-R6

→Use only original spare parts and always contact a Merax Authorized Assistance. Check list in our website: www.merax.com.br