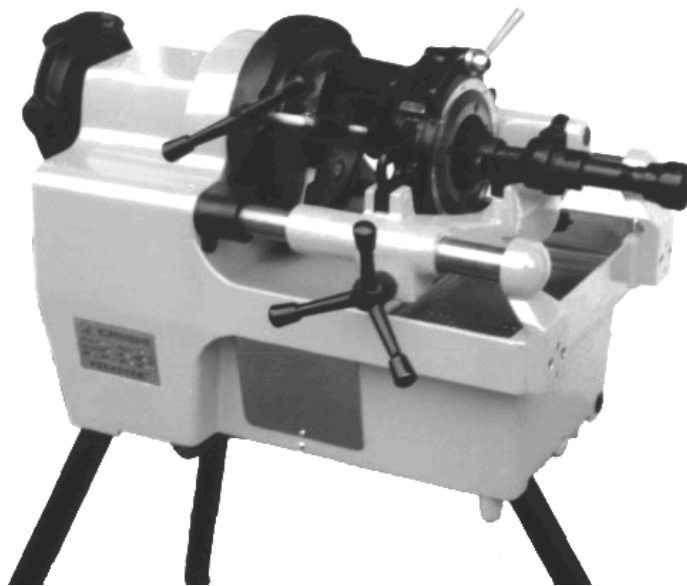


Volume

1.1

OPERATIONAL MANUAL

MODEL: PTM50-C PIPE THREADING MACHINE



by BLUEROCK® Tools

PTM50-C PIPE THREADER

UNPACKING THE ITEM

Caution: This machine is packed together with items that may be sharp, oily and overly heavy objects. Remove the machine from the packaging in a safe manner. Check to ensure all accessories are included with the item while unpacking. If any parts are found to be missing, contact the retailer as soon as possible. Do not throw away the packaging until the item is out of the guarantee period. Dispose of the packaging in an environmentally responsible manner. Recycle if possible. Keep all plastic bags away from children due to risk of suffocation.



WEEE - Waste Electrical & Electronic Equipment. Note this machine should be disposed of as electrical & electronic waste.

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PTM50-C PIPE THREADER

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Safety

DO NOT USE THIS MACHINE UNLESS YOU HAVE READ THE OPERATING INSTRUCTIONS!



Safety glasses must be worn at all times in work areas. Use a full face mask whenever possible.



Long and loose hair must be contained.



Appropriate footwear must be worn.



Close fitting/protective clothing must be worn.



Safety gloves should be worn at all times and jewelry must not be worn.



Hearing protection should be worn when using this machine.



Read operational manual prior to use.

PRE-OPERATIONAL SAFETY CHECKS

- Examine the power cord and plug for damage.
- Examine the body of the machine and inspect for damage or defects.
- Examine the cutting dies and die head to insure they are operable.
- Ensure that the die head and dies are correctly attached to the machine.
- Make certain the on/off switch is in the off position before plugging into power to prevent unintentional starting.

OPERATIONAL SAFETY CHECKS

- ONLY to be operated by qualified personal who have read instructions.
 - NOTE: Failure to read and follow instructions could result in electrical shock, fire, property damage and/or serious injury!
- DO ensure all non-essential people are clear of the immediate work area.
- DO keep body parts, clothing & power cords clear of turning pieces. Stay alert and use common sense when using this tool.
- DO remove adjusting keys or wrenches prior to turning machine on.
- DO guard against electric shock by preventing body contact with grounded surfaces such as pipes, radiators, ranges, refrigerators, etc.

PTM50-C PIPE THREADER

➤ DO keep the working area clean and brightly illuminated for optimum operational safety.
➤ DO be mindful that power tools can expose an operator to vibrations transmitted through contact with the machine. Prolonged exposure can lead to medical issues, which should be discussed with a medical professional.
➤ DO NOT make adjustments to machine while the machine is running.
➤ DO NOT cut or saw work-pieces by hand while the machine is running
➤ DO NOT use dull cutting dies as the machine is more likely to bind and the user lose control. This can also overload the motor.
➤ DO NOT use excessively long pieces of pipe in the machine. Keep the machine balanced and stable at all times.
➤ DO NOT leave the machine running when not in use.
➤ DO NOT hold the work piece by hand or using body. Always mechanically clamp or secure work piece.
➤ DO NOT allow liquids or dust to enter the machine's ventilation system.
➤ DO NOT operate machine outside of machine specifications.
➤ DO NOT touch moving parts while the machine is running as death or dismemberment could occur.
➤ DO NOT remove machine's panels while machine is connected to a power source. Only to be removed for service by qualified personal and put back on the machine after service is complete.
➤ DO NOT allow children or untrained personal to operate machine.
➤ DO NOT use this machine in the rain or a wet environment. If using outdoors, make sure the machine is clean and dry.
➤ DO NOT operate in the presence of explosive materials as power tools create sparks which may ignite dust or fumes.
➤ DO NOT use on a pipe that may contain a live electrical wire/circuit.
➤ DO NOT use this machine if the ON/OFF switches are broken.
➤ DO NOT operate this machine on the same work surface where welding is being performed. This could result in severe damage to the machine or personal injury to the user.
➤ DO NOT operate this machine on a lower voltage as this could limit the motor life and work efficiency.

- NOTE: Use of long small gauge power extension cords can result in decreased voltage. As local voltages can vary, it may be a good idea to test the voltage at the end of the extension cord to ensure proper voltage requirements are met. You might also consult an electrician to make sure the length of cord matches up with the proper wire gauge for this size motor. Make sure to use outdoor cords when operating outdoors. Use a GFCI circuit if using in wet locations.

Specifications

<i>ELECTRICAL DATA</i>	
Voltage	110V, 60Hz
Current	7 Amps
Motor Size	750W
Power Connection	US Standard Plug

<i>MECHANICAL DATA</i>	
Pipe Capacity	½" to 2" Diameter NPT
Die Head Size	½"-¾" One Set 14 Threads/Per Inch 1"-2" One Set 11 Threads/Per Inch Rockwell Hardness HRC58-62 (Interchangeable with Ridgid® 811A Die Head)
Die Size	HSS NPT (Interchangeable with Ridgid® 811A Dies)
Gearbox	Forward and Reverse
Gear Housing	Aluminum
Machine Speed	27RMP
Maximum Chuck Capacity	66mm (2.59")
Sledge Travel	110mm (4.33")
Oil Feeder	Geared Pump, Automatic Circulation
Noise	<85dB
On/Off Switch	Manual and Foot Pedal Type

<i>SHIPPING DATA</i>	
Shipping Weight	165lbs
Shipping Carton	635mm x 400mm x 440mm

Included Accessories

<i>DESCRIPTION</i>	<i>QTY</i>
Instruction Manual	1
½"-¾" NPT Cutting Dies (4pc)	1
1-2" NPT Cutting Dies (4pc)	1
Support Leg	3

Additional Available Accessories

Additional accessories for this machine can be found in BLUEROCK® Tools online shop at www.bluerocktools.com or from your local retailer.

Operations

Note

THOROUGHLY READ THROUGH THE ENTIRE MANUAL BEFORE OPERATING THIS MACHINE!

PURPOSE

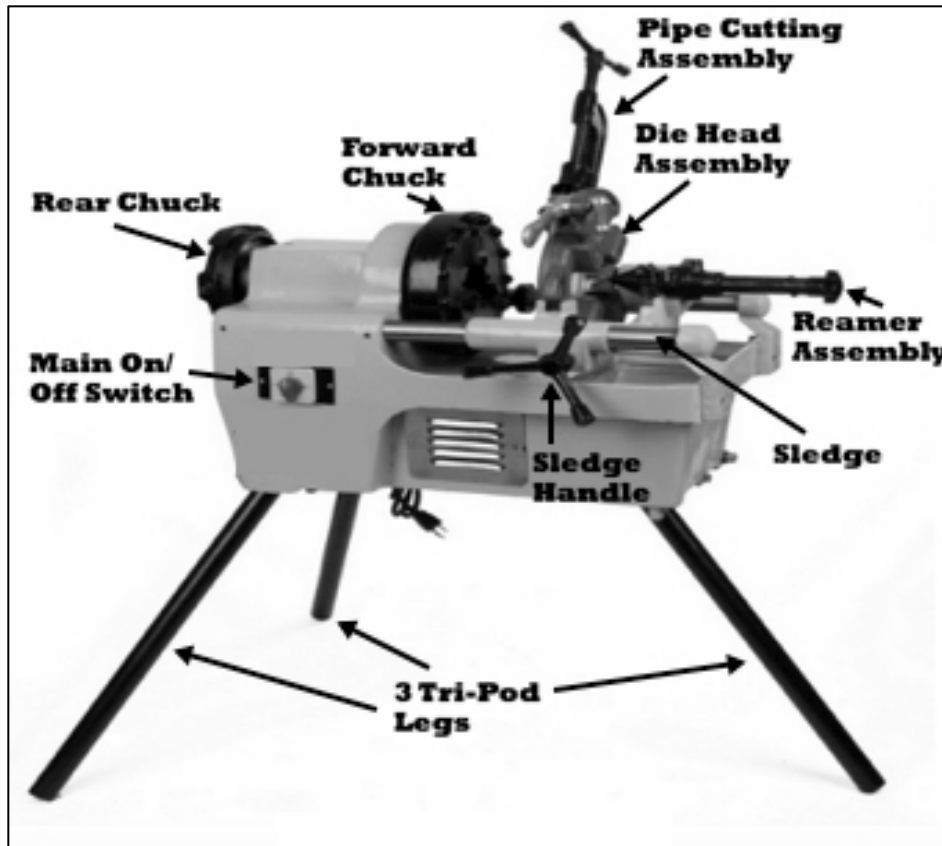
- The purpose of the SQ50C is for threading pipe and conduit ranging from ½" to 2" in diameter.

MACHINE SET-UP

- The machine is designed to either use the supplied leg supports or be securely mounted to a user-supplied bench.
 - CAUTION: This machine should be picked up and moved with at least 2 people
 - DO NOT allow the cord or plug to drag along the floor when transporting.
- Make certain the set-up work area is dry.
- Use barriers to keep non-essential personal away from rotating pipe.
- Place machine away from passageways and make certain the operator is able to see all parts of the work-piece.
- DO NOT set-up or modify the machine in a manner that is not intended.
- If using pipe extending more than 1 meter from the rear output of the machine chuck, make certain to use a pipe support. Add multiple supports if necessary, to ensure machine stability.

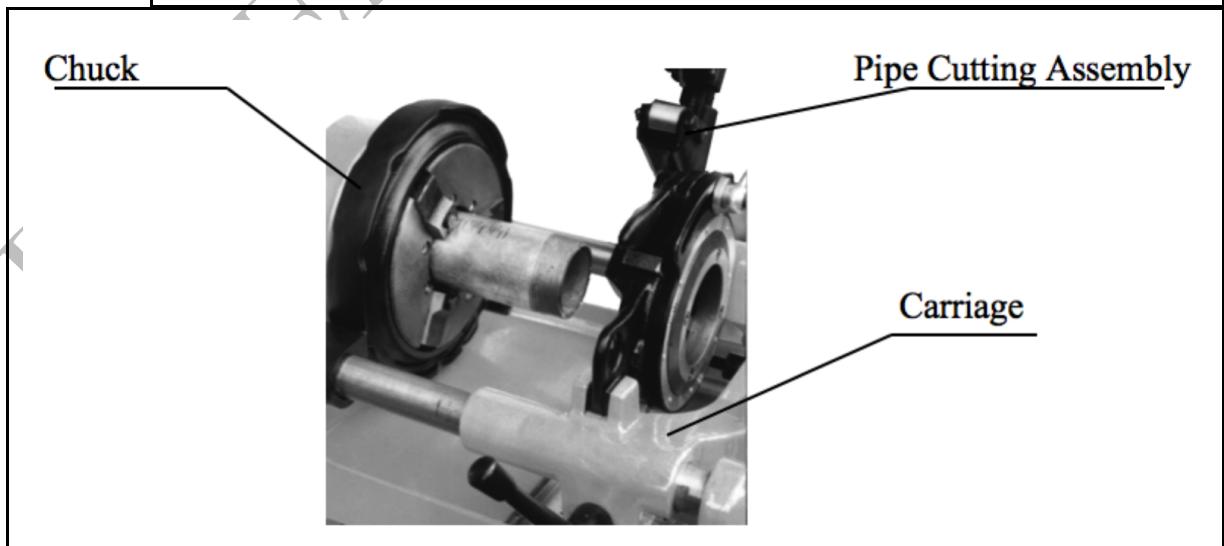
MACHINE COMPONENTS

- The main components of the SQ50C are the die head assembly, gearbox, motor housing, chuck carriage, pipe cutting assembly, and pipe reamer assembly (see figure below). The chuck is driven rotational by the gearbox and the motor and acts as the main drive component of the machine.
 - These components must be not be removed except by a qualified technician. Power must be disconnected prior to any service.
- The machine has a main on/off switch as well as a foot pedal switch. These switches operate the turning mechanism, which turn the machine chuck. When the motor switch is turned on, the user is able to depress the foot switch, which starts the chuck rotation. When the pedal is released the rotation stops.



PREPERATION FOR THREADING

- CAUTION: Before making any adjustments, ensure the main machine switch is in the “off” position.
- Chuck operations
 - Rotate the forward and rear chucks clockwise to open them up and make room for the pipe.
 - Insert the pipe from the rear chuck side (the non-threading side) until it is about 4” (100mm) past the chuck jaws. See figure below.

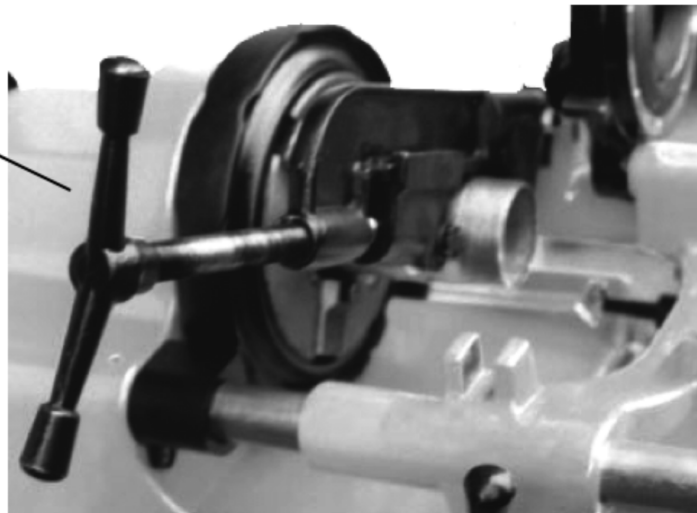


- To close the chuck around a piece of pipe, turn the chuck handwheel in the counter-clockwise direction.
 - Check the pipe is perfectly centered in the chuck and attempt to spin the handwheel tight again.
 - If the pipe is not centered, reverse the operation until the pipe is loose and re-center the pipe.
 - **CAUTION:** Keep hands and fingers away from the chuck jaws when the machine is plugged into a power source. Closing chuck jaws can cause serious damage to bodily parts.

➤ Pipe cutter operations

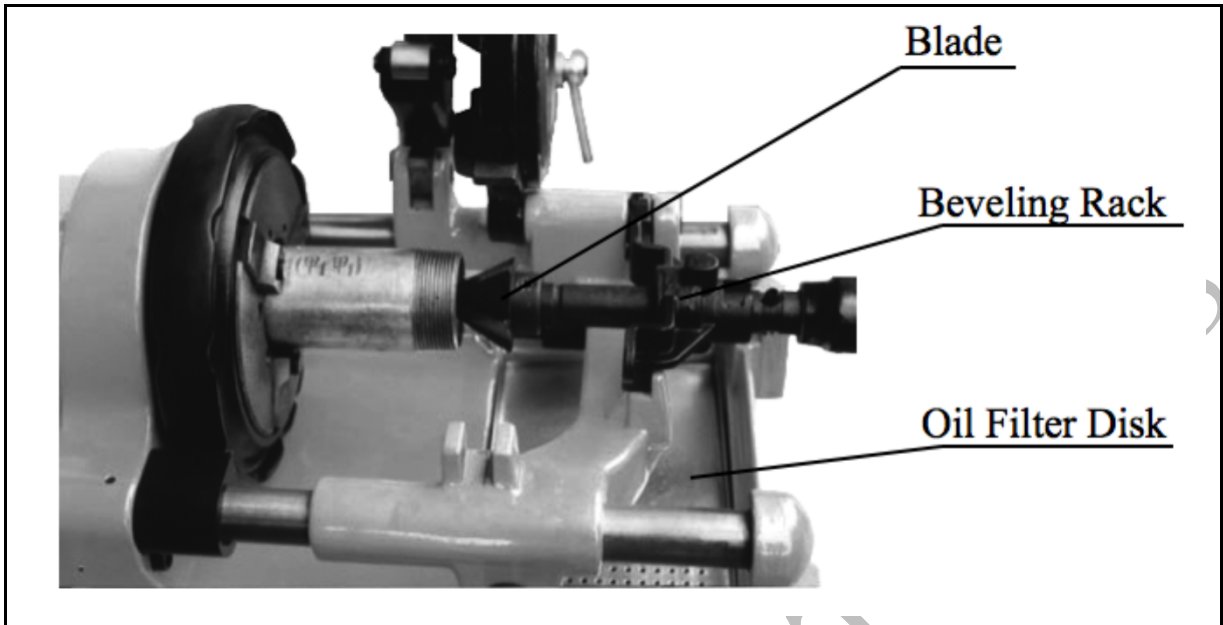
- Securely clamp the pipe into the chuck as described in the above section.
- Set the pipe-cutting wheel at the point where the pipe will be cut.
- Open the cutting knife rack so that the rollers are straddling the pipe.
- Switch the main on/off switch to the “on” position. Depress the foot pedal.
- Slowly cut into the pipe by feeding the cutting wheel into the pipe by rotating the handle clockwise while the pipe is rotating (see figure below).
 - **NOTE:** The user should be cutting about 0.12-0.25mm for each turn of the pipe. Another way to think about this is for every full turn the pipe makes, the cutting handle should turn about 1/10 of a turn.
 - **DO NOT** force the cut, as it will distort the pipe and cause damage to the pipe cutting assembly.
 - **CAUTION:** Once the pipe piece is cut, the steel remnant will fall.

Pipe Cutting Handle



➤ Pipe reamer operations

- While the pipe is still secured in the chuck, position the center of the reamer tip to be placed inside the spinning pipe (see figure below).
- Gently apply pressure to the outside reamer assembly taking extreme caution with metal fragments and the spinning pipe.
- Continue until pipe is reamed.



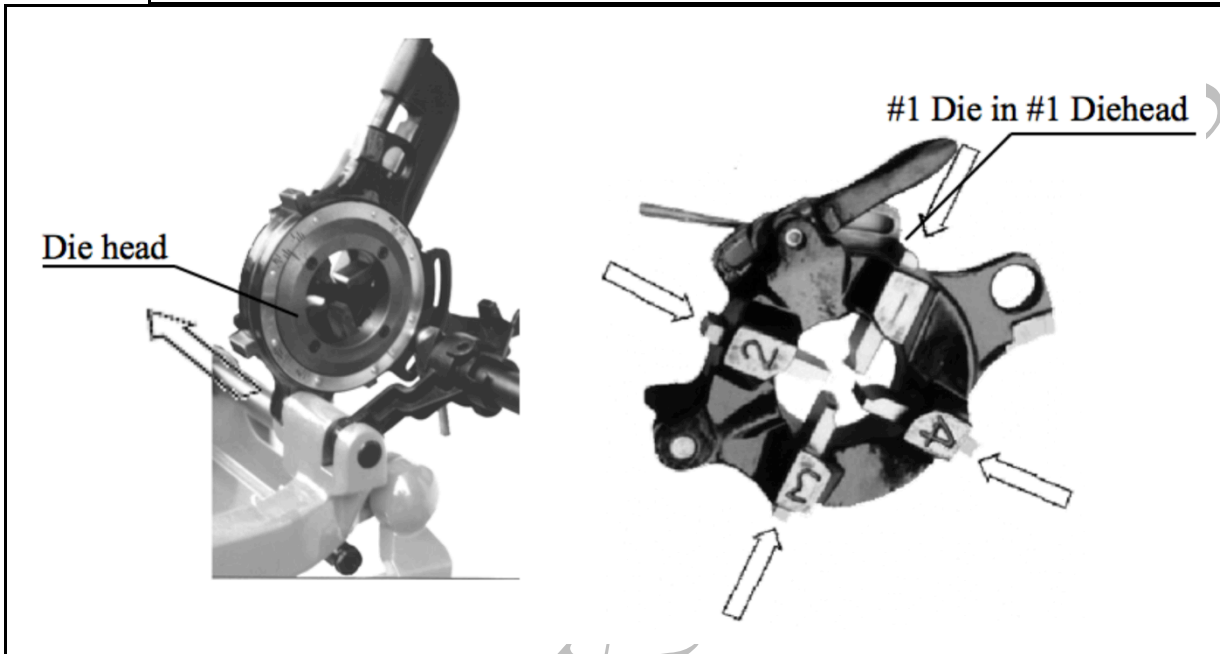
➤ Diehead Operations

- Always install the correct dies for the die assembly.
- Set diehead.
- Ensure pipe is securely fastened in the chuck.
- Initiate pipe rotation by depressing the foot pedal.
- Feed the diehead into contact with the pipe.
 - Apply pressure to the diehead assembly arm until the dies are engaged and start threading.
 - When the thread is cut to the required length, disengage the foot pedal to stop the machines rotation.
 - Turn the main on/off switch to the "off" position.
 - Manually push the spanner forward on top of the diehead assembly to release the dies from the threads.
 - Loosen the chuck handwheels clockwise and remove the pipe from the rear of the machine. Be careful not to damage the threads.

➤ Installing Dies in the Diehead

- CAUTION: Ensure the machine is unplugged.
- Remove the diehead assembly from the sledge.
- Fully open the diehead assembly.
- Turn and justify the sharp A-A.
- Select the dies that are the correct size for the pipe diameter you are cutting.
- Insert the dies (numbered 1, 2, 3, 4) into the corresponding diehead slots (also numbered 1, 2, 3, 4).
- Turn the curved disc and adjust the sharp side of the thread to that of the support disc.

- Rotate the diehead assembly cam to the size required with the mark.
- The dies should engage with the die head when at the proper level.
- Tighten the hand screw and the dies are in a fixed position.
- Place the diehead assembly back in the sledge.



- Oiling system operations
 - Change oil when dirty.
 - Check oil often and add oil if needed.

RUNNING THE MACHINE

- Do all pre-operational and operational safety checks from Chapter 1.
- Consider your security and stability as well as the orientation of the machine in the work area.
 - Consider the work surface material, condition, strength, density and rigidity. These factors directly affect the tools operation and user safety.
- Ensure the machine handles are free of grease or oil.
- Check the level and quality of the cutting fluid in the oil reservoir. Fill or replace if necessary.
 - NOTE: Cutting oil is a necessary part of operations. Thread cutting oil lubricates and cools the threads during threading operations. A dirty or poor grade oil can result in poor thread quality.
- Select appropriate die head and die depth for the specific pipe you are threading.
 - Inspect the dies to ensure they are sharp and in the correct position.
 - Improperly installed or dull cutting dies can cause binding or poor quality threads.
 - To prevent tipping, long lengths of pipe should be supported by a pipe stand.
- Plug the machine into power source.

- Place pipe in the chuck and secure, evenly tightening the chuck handwheel (see section above for specifics about using the chuck).
- Ensure the machine main power and footswitch are operating correctly.
 - Turn the main machine switch to the “on” position.
 - Depress the on/off foot pedal to check the rotation and engagement of the chuck.
 - Disengage the foot pedal to ensure the “off” function is working properly.
 - NOTE: Be sure to position the foot pedal in an accessible place.
 - CAUTION: Always allow the pipe to completely stop turning before touching the chuck handwheel, pipe, die assembly, pipe cutting assembly or pipe reamer assembly.
 - CAUTION: Ensure the main on/off switch is “off” before making adjustments any adjustments.
- Cut the pipe end to ensure a clean edge (see figure above for specifics using the pipe cutter)
- Use the pipe reamer to clean the inside edge (see figure above for specifics using the pipe reamer).
- Engage the cutting dies with the clean rotating pipe end (see above section for specifics on engaging cutting dies).
 - Apply plenty of thread cutting oil to the dies during threading. This will reduce the and on the motor and extend the life of motor components and dies.

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Troubleshooting

Note

SERVICING SHOULD ONLY BE DONE BY A QUALIFIED TECHNICIAN.

DON'T FORGET TO UNPLUG POWER TO UNIT PRIOR TO SERVICE!

PROBLEM	CAUSE	CORRECTION
Motor does not start	Threading machine unplugged	Plug into power source
	Fuse blown	Replace the fuse
	Capacitor blown	Replace capacitor
	Bad on/off switch	Replace Switch
The cutting knife will not cut	Cutting blade is dull	Replace blade
	Lead screw on cutting blade assembly is damaged	Replace assembly
	Too much force being applied	Cut slower
Motor sounds overloaded	Overload because of dull dies	Replace dies
	Bad quality or insufficient thread cutting oil	Use thread cutting oil in adequate quantity
Sparks coming from motor	Bad contact between brushes and brush holder	Tighten the screws, make sure brush is pressed firmly onto armature
	Brushes do not touch armature properly	Replace worn brushes
	Sharp edge on brush	Break edge with sand paper
Die head does not start threading	Dull or broken dies	Replace dies
	Improperly set dies	Reset dies
Damaged Thread	Dull dies	Replace dies
	Dies not assembled in correct sequence	Put dies in correct sequence
	Low quality pipe	Make sure only pipe of good quality is used
	Bad quality or insufficient thread cutting oil	Use only thread cutting oil in adequate quantity
Pipe turns while threading	3-jaw chuck not tight	Tighten handwheel chuck
	3-jaw chuck teeth dirty	Clean with wire brush
	3 jaw chuck teeth damaged or dull	Replace 3-jaw chuck
Cooling oil not reaching pipe	Oil filter clogged	Clean filter
	Oil line is blocked	Clean oil lines
	Oil has leaked out	Fill oil in the pump
Cooling oil leaked into motor	The oil seal of the oil pump PD 8x228x has been damaged	Replace oil seal

General Maintenance

Note

SERVICING SHOULD ONLY BE DONE BY A QUALIFIED TECHNICIAN.

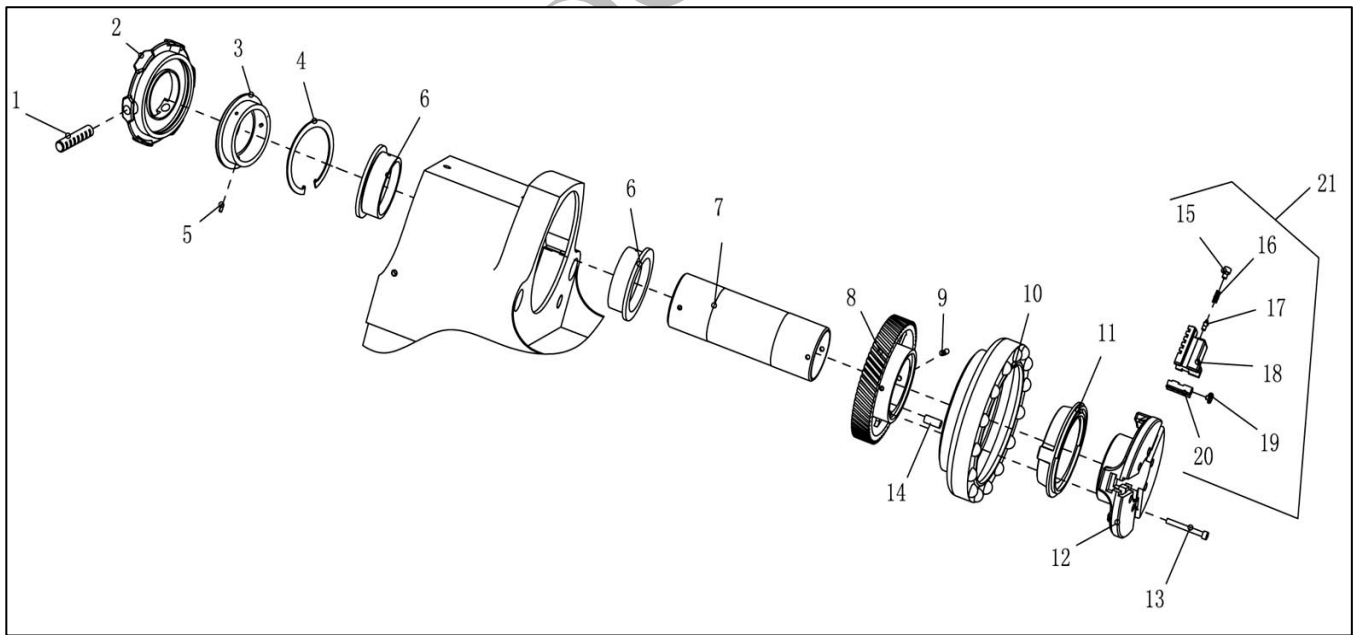
DON'T FORGET TO UNPLUG POWER TO UNIT PRIOR TO SERVICE!

➤ Inspect electrical cords and electrical connections.
➤ Keep machine clean and free of debris.
➤ Check for misalignment, binding and breakage of all moving parts. If damaged, repair tool before use.
➤ Clean the oil filter disk and oil suction filter disk after running for 8-12 hrs. Clean the oil tank and refill if the oil is dirty or turns black.
○ Small iron filings may fall into the oil tank when threading and clog the filters.
➤ Check the cutting blade on the pipe cutting assembly.
➤ Clean dies and inspect for chips. Also check the sharpness on the dies. If they are dull or broken, replace ALL dies with identical set.
➤ Clean chuck teeth with wire brush. Check the attrition of the claw points on the 3-jaw chuck. If the points are worn, replace with identical piece.
➤ Oil the two oil cups on the machine shell of the main shaft after each use. This will lubricate the forward and rear bearings.
➤ After each use coat all working surfaces with corrosion resistant oil.
➤ Check brushes for wear and replace if worn.

Parts List- Main Drive and Chuck

Serial No.	Description	Serial No.	Description
1	Rear chuck jaw (3)	12	Cap (front chuck ass.)
2	Rear chuck	13	Bolt (6)
3	Scroll	14	Round pin 8*25
4	Retaining ring	15	Screw M6*8 (3)
5	Screw M6*15 (3)	16	Spring (3)
6	Rear bearing	17	Post (3)
7	Drive shaft	18	Jaw holder (3)
8	Drive gear	19	Screw (3)
9	Screw M6*20 (3)	20	Front chuck jaw (3)
10	Hand wheel	21	Chuck jaw set (3)
11	Scroll		

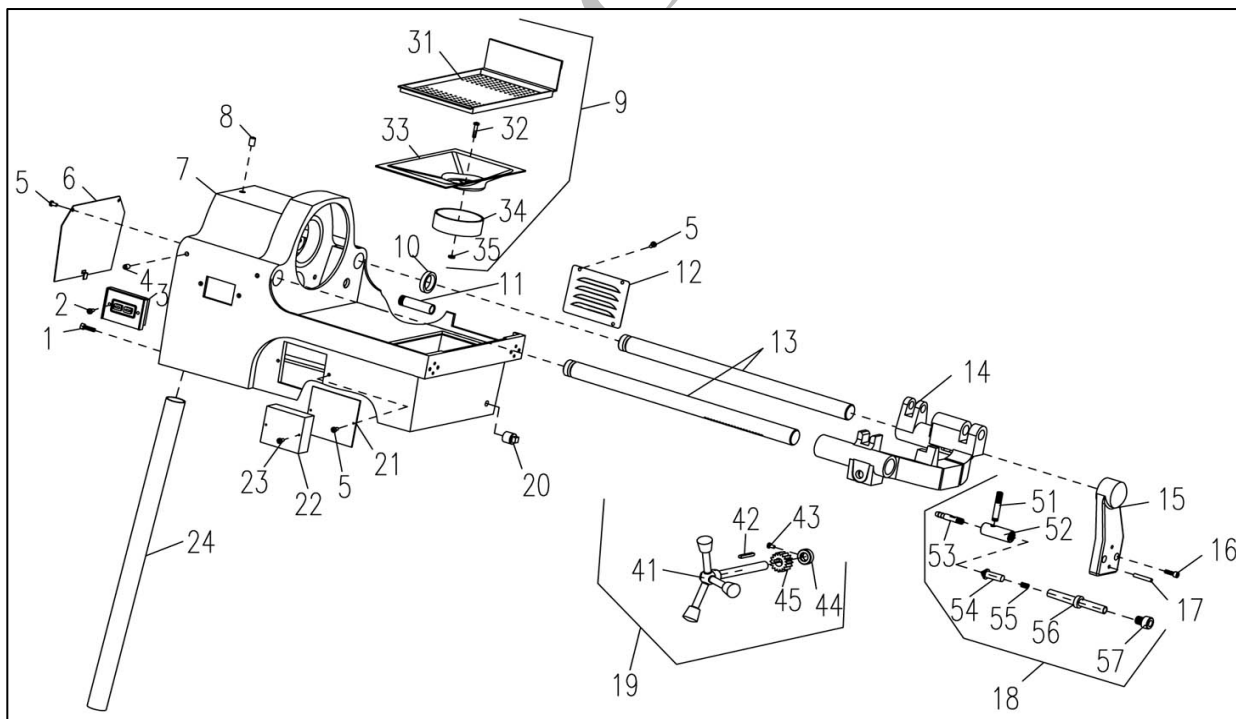
Breakdown View- Main Drive and Chuck



Parts List- Main Body

Serial No.	Description	Serial No.	Description	Serial No.	Description
1	Bolt (3)	20	Oil plug	39	
2	Screw (2)	21	Socket plate	40	
3	Switch	22	Socket	41	Handle
4	Screw M8*6 (4)	23	Screw (2)	42	Pin 5*20
5	Screw M4*10	24	Support leg (3)	43	Screw M6*8
6	Cover	25		44	Block ring
7	Casting body	26		45	Gear
8	Grease fitting (2)	27		46	
9	Chip pan complete	28		47	
10	Block ring	29		48	
11	Tube	30		49	
12	Ventilation plate	31	Chip pan	50	
13	Front & rear rail	32	Screw M5*25	51	Oil tube
14	Carriage	33	Filtering plate	52	Valve housing
15	Rail holder (2)	34	Ring	53	Oil inlet plug
16	Screw (4)	35		54	Valve
17	Round pin (4)	36		55	Spring
18	Oil feeding set	37		56	Sleeve
19	Carriage feeding complete	38		57	Nut

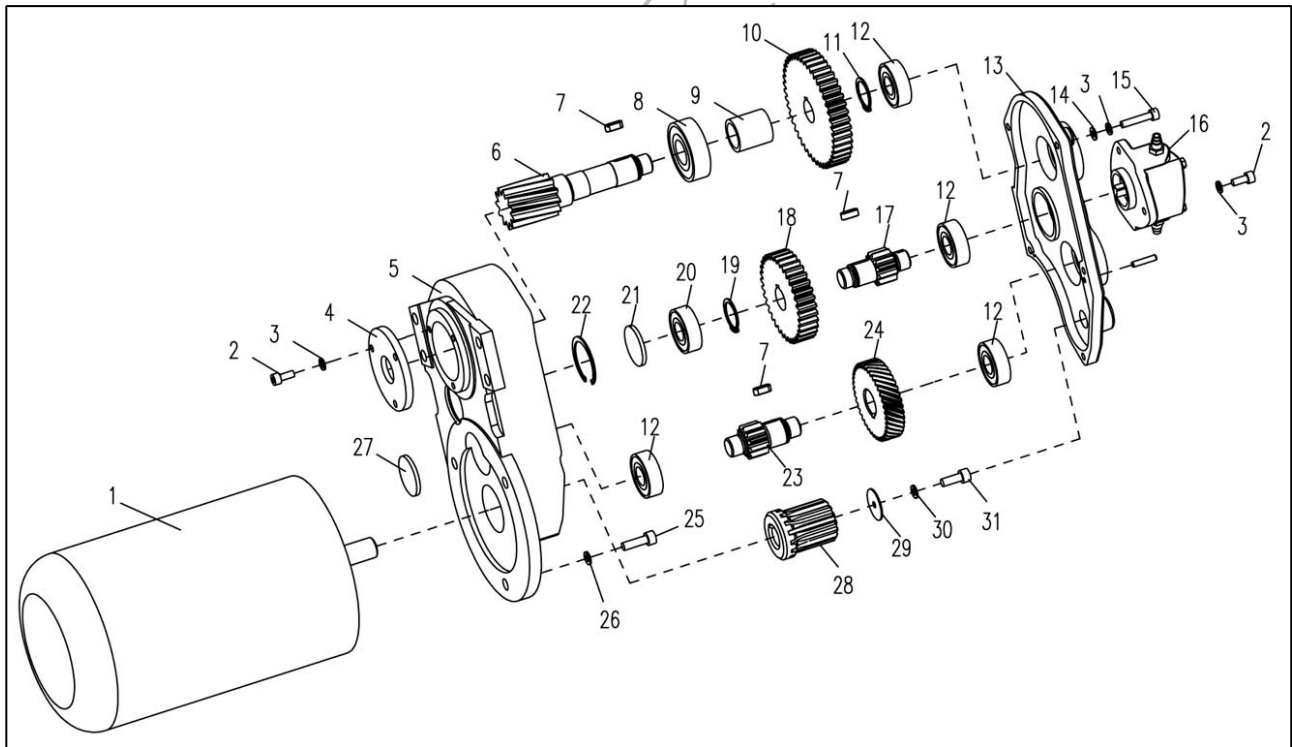
Breakdown View- Main Body



Parts List- Gearbox

Serial No.	Description	Serial No.	Description
1	Motor	17	Low-speed gear shaft
2	Screw M5*12 (6)	18	Gear
3	Gasket (11)	19	Retaining ring
4	Cover	20	Bearing
5	Gear housing+ gear box coupling	21	Plug 32
6	Output gear shaft	22	Retaining ring
7	Key 5*14 (3)	23	Hi-speed gear shaft
8	Bearing	24	Hi-speed gear
9	Shaft sleeve	25	Screw M6*20 (3)
10	Output gear	26	Gasket
11	Retaining ring	27	Plug 35
12	Bearing (4)	28	Motor gear
13	Gear box coupling	29	Spacer
14	Spacer (5)	30	Gasket
15	Screw M5*25 (5)	31	Bolt M6*16
16	Oil pump		

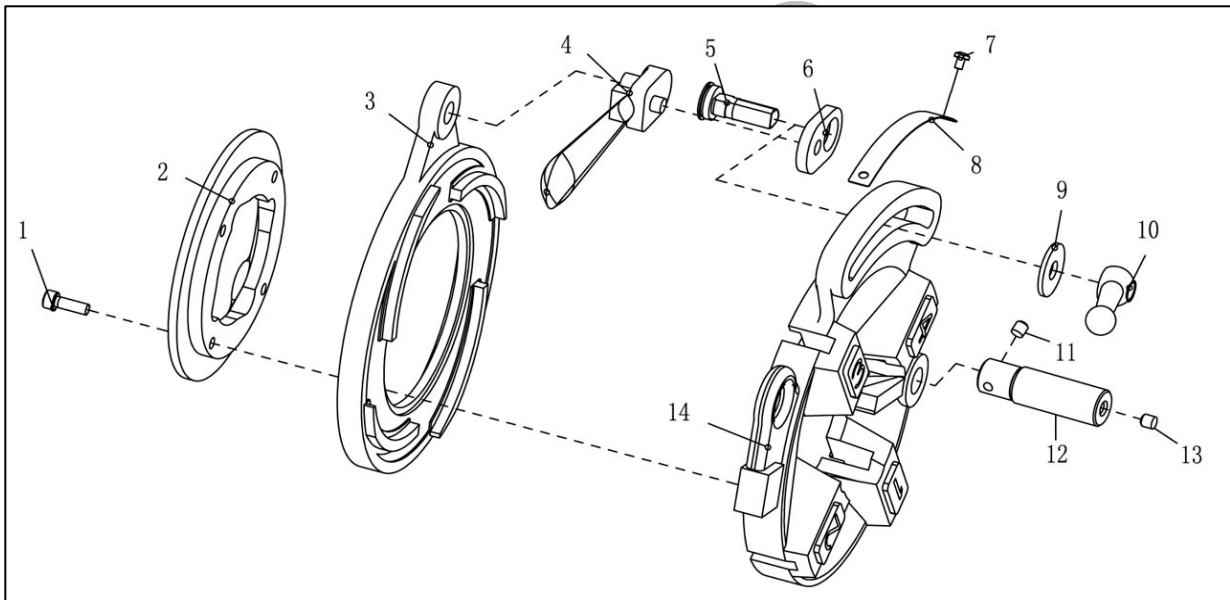
Breakdown View- Gearbox



Parts List- Diehead Assembly

Serial No.	Description	Serial No.	Description
1	Screw M6*18 (4)	8	Index
2	Retaining ring	9	Lever washer
3	Cam plate	10	Clamp lever
4	Throw-out lever	11	Lock screw
5	Lock screw	12	Post
6	Link	13	Plug
7	Screw M4*6 (2)	14	Die head plate

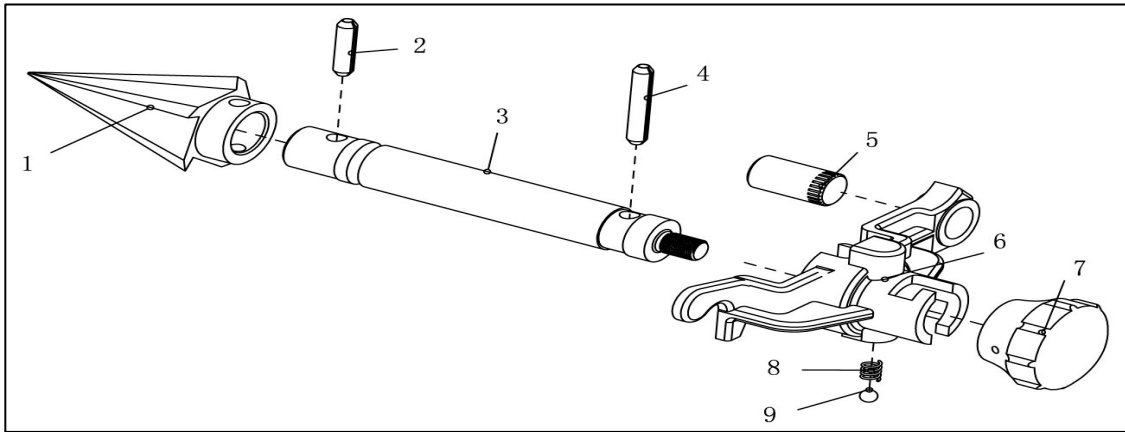
Breakdown View- Diehead Assembly



Parts List- Reamer Assembly

Serial No.	Description	Serial No.	Description
1	Reamer core	7	Knob
2	Spring pin	8	Spring
3	Reamer bar	9	Steel ball
4	Spring pin		
5	Post		
6	Reamer arm		

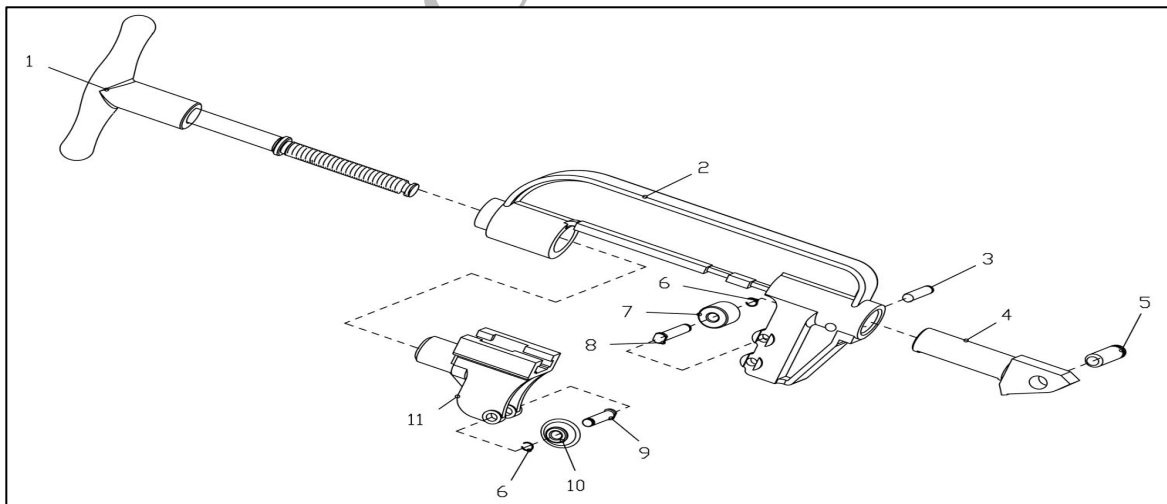
Breakdown View- Reamer Assembly



Parts List- Pipe Cutting Assembly

Serial No.	Description	Serial No.	Description
1	Handle	7	Roll (2)
2	Cutter arm	8	Roll pin (2)
3	Round pin	9	Wheel pin
4	Support arm	10	Cutting wheel
5	Pin	11	Roll housing
6	Clip (3)		

Breakdown View- Pipe Cutting Assembly



Simple View Wiring Schematic

