Pipe Threading Machine

MODEL: SQ50D

WARNING!

Read this Operator's Manual carefully before using this tool. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.

General Power Tool Safety Warnings

⚠**WARNING! Read and understand all instructions.** *Failure to follow all warnings and instructions may result in electric shock, fire, and/or serious injury.*
Save all warnings and instructions for future reference.

1) Work area safety

a) **Keep work area clean and well lit**. *Cluttered or dark areas invite accidents.*

b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** *Power tools create sparks which may ignite the dust or fumes.*

c) **Keep children and bystanders away while operating a power tool.** *Distractions can cause you to lose control.*

2) Electrical safety

a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** *Unmodified plugs and matching outlets will reduce risk of electric shock.*

b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** *There is an increased risk of electric shock if your body is earthed or grounded.*

c) **Do not expose power tool to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*

d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*

e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

f) If operating a power tool in a damp location is unavoidable, use a residual current device(RCD) protected supply. Use of an RCD reduces the risk of electric shock.

NOTE The term" residual current device (RCD) may be replaced by the term "ground fault circuit interrupter (GFCI)" or "earth leakage circuit breaker (ELCB)"

3) Personal safety

a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol, or medications.** *A moment of inattention while operating power tools may result in serious personal injury.*

b) **Use personal protective equipment. Always wear eye protection.** *Protective equipment such as dust mask, non-skid safety shoes, hard hat, or heating protection used for appropriate conditions will reduce personal injuries.*

c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.**

Carrying power tool with your finger on the switch or energizing power tools that have the switch on invites accidents.

d) **Remove adjusting key or wrench before turning the power tool on.** *A wrench or a key left attached to a rotating part of the tool may result in personal injury.*

e) **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*

f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing, and gloves away from moving parts.** *Loose clothes, jewellery, or long hair can be caught in moving parts.*

g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used**. *Use of dust collection can reduce dust-related hazards.*

4) Power tool use and care

a) **Do not force the power tool. Use the correct power tool for your application.** *The correct power tool will do the job better and safer at the rate for which it was designed.*

b) **Do not use the power tool if the switch does not turn it ON and OFF.** *Any power tool that cannot be controlled with the switch is dangerous and must be repaired.*

c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the tool accidentally.*

d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power or these instructions to operate the power tool.** *Power tools are dangerous in the hands of untrained users.*

e) **Maintain power tools with care. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*

f) **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*

g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

Machine Safety

• Secure machine to bench or stand. Support long heavy pipe with pipe supports. This practice will prevent tipping.

• Do not wear gloves or loose clothing when operating machine. Keep sleeves and jackets buttoned. Do not reach across the machine or pipe. Clothing
can be caught by the pipe or machine resulting in
entanglement and serious injury.

• Operate machine from side with REV/OFF/FOR switch. Eliminates need to reach over

the machine.

• Do not use this machine if the foot switch is broken or missing. Foot switch is a safety device to prevent serious injury.

• Keep hands away from rotating pipe and fittings. Stop the machine before wiping pipe threads or screwing on fittings. Allow the machine to come to a complete stop before touching the pipe or machine chucks. This practice will prevent entanglement and serious injury.

• Do not use this machine to make or break fittings. This practice is not an intended use of the machine and can result in serious injury.

• Tighten chuck hand wheel and engage rear centering device on the pipe before turning on the machine. Prevents oscillation of the pipe.

• Keep covers in place. Do not operate the machine with covers removed. Exposure to moving parts may result in entanglement and serious injury.

Description, Specifications

Description

The SQ50D Power Drive is an electric motor-driven machine which centers and chucks pipe, conduit and rod (bolt stock) and rotates it while threading, cutting and reaming operations are performed. Forward (clockwise) or Reverse (counterclockwise) rotation can be selected with the FOR/OFF/REV switch and a foot switch provides ON/OFF control of the motor. The threading, cutting and reaming operations can be performed by conventional hand tools or tools designed for mounting on the Power Drive. A manual oiling system is available to flood the workpiece with thread cutting oil during the threading operation. Geared Threaders can also be used with the Power Drive to thread larger diameter pipe. The SQ50D Power Drive can also be used as a power source for roll grooving equipment. Designed to attach to the support arms of the Power Drive, the roll grooving equipment forms standard roll grooves on a variety of pipe sizes and materials.

Specifications

Threading Capacity ..... Pipe 1/2” through 2”
Chuck ..... Speed Grip Chuck with Replaceable Jaw Inserts
Rear Centering Device....Cam Action Rotates with Chuck
Operating Speed ..... 38 RPM
Motor:
Type..... . . .. Universal
Horsepower..... . . .. 2 HP
Volts ....115V / 230V Single Phase AC 50Hz / 60 Hz
Controls ....FOR/OFF/REV Switch and ON/OFF Foot Switch

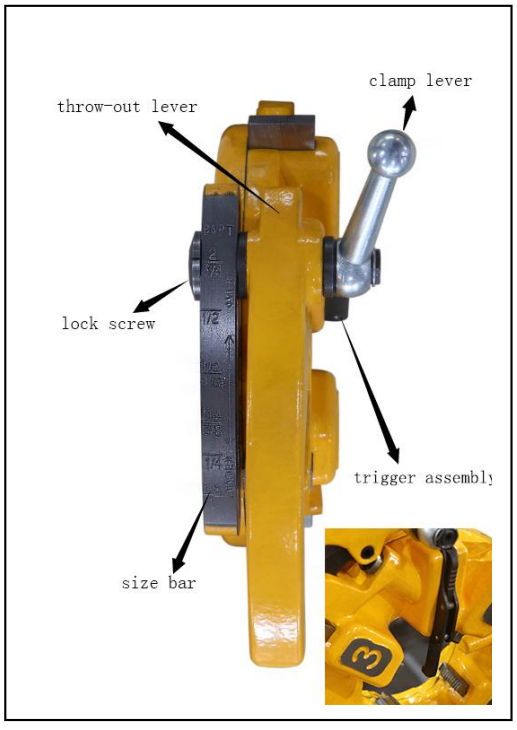
Operating Instructions

Installing Pipe In Power Drive

1. Check to insure the cutter, reamer and die head is swung to the rear of the carriage.
2. Mark the pipe at the desired length if it is being cut to length.
3. Insert the pipe into the Power Drive so that the end to be worked or the cutting mark is located about 12 inches to the front of the speed chuck jaws.
4. Insert workpieces less than 2 feet long form the front of the machine. Insert longer pipes through
either end so that the longer section extends out beyond the rear of the Power Drive.
5. Tighten the rear centering device around the pipe by using a counterclockwise rotation of the handwheel at the rear of the Power Drive. This prevents movement of the pipe that can result in poor thread quality.
6. Secure the pipe by using repeated and forceful counterclockwise spins of the speed chuck handwheel at the front of the Power Drive. This action “hammers” the jaws tightly around the pipe.

Installing dies (automatic die head)

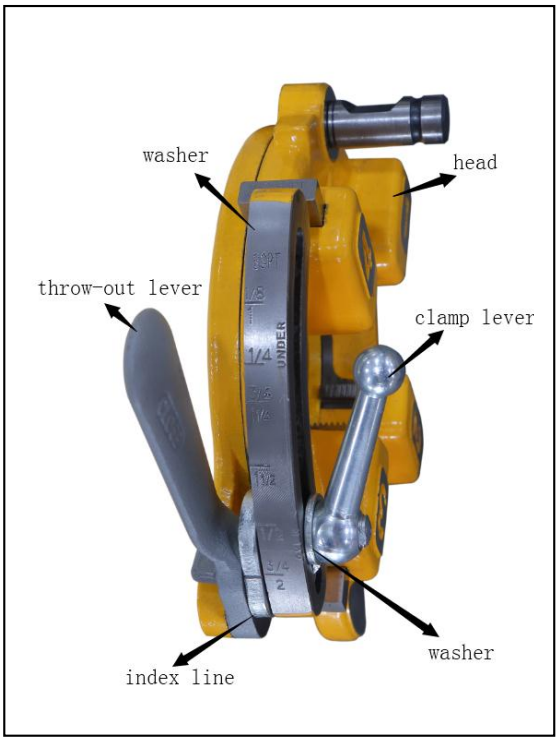
<u>Relevant parts’ name, please refer to the photos within this manual.</u>



1. Place Self-Opening Die Head flat on bench with numbers UP.
2. Make sure trigger assembly is released.
3. Loosen clamp lever.
4. Pull lock screw out of size bar slot so that roll pin in lock screw will bypass slot. Position size bar so that index line on lock screw is all the way to the end of REMOVE DIES position.
5. Remove dies from die head.
6. Insert new dies to mark. Die numbers 1 through 4 must agree with those on die head.
7. Rotate cam plate until roll pin on lock screw can be positioned in slot. In this position dies will lock in die head. Make sure roll pin points toward end of size bar marked REMOVE DIES.
8. Adjust die head size bar until index line on lock screw is aligned with proper size mark on size bar.
9. Tighten clamp lever.
10. If oversize or undersize threads are required, set the index line in direction of OVER or UNDER size mark on size bar.

Installing dies (quick-open type die head)

1. With machine unplugged, remove die head. Lay die head on bench with numbers face up.
2. Flip throwout lever to OPEN position.
3. Loosen clamp lever approximately three turns.
4. Lift tongue of clamp lever washer up and out of slot under size bar. Slide throwout lever all the way to end of slot in the OVER direction indicated on size bar (in direction of CHANGE DIES arrow on rear of cam plate).
5. Remove dies from die head.
6. Insert new dies to mark on side of dies. Die numbers 1 through 4 on the dies must agree with those on die head.
7. Slide throwout lever back so that tongue of clamp lever washer will drop in slot under size bar.
8. Adust die head size bar until the index line on lock screw or link is aligned with proper size mark on size bar. For bolt threads, align index line with BOLT line on size bar.
9. Tighten clamp lever.
10. If oversize or undersize threads are required, set the index line in direction of OVER or UNDER size mark on size bar.
11. Replace die head in machine.



Dies changing operation

Threading Pipe

1. Check to insure the cutter and reamer are to the rear of the carriage.
2. Lower die head into threading position.
3. Check that the proper size dies are in the die head.
4. Set die head to proper size.
5. Rotate throwout lever to the CLOSED position. Push throwout lever down until the release trigger cocks.
6. Apply Thread Cutting Oil to end of the pipe.
7. Assume the correct operating posture.
8. Check directional switch to insure it is in the FOR (Forward) position. Depress and hold the foot switch down with the left foot.

9. Engage dies with pipe using carriage lever and oil dies Thread Cutting Oil until thread is completed. To avoid serious injury from rotating parts, allow adequate clearance between your hand and rotating parts when oiling.
10. When thread is completed, raise throwout lever to open position, retracting dies. When die head trigger contacts end of pipe, throwout lever automatically opens.
11. Release foot switch and remove your foot from the housing.
12. Move carriage lever away from pipe end and return die head to the UP position.
13. Check the thread for length and depth.

Pipe threading operation

Cutting Pipe

1. Check to insure the reamer and die head are in the UP position.
2. Move pipe cutter down onto pipe and move carriage with carriage lever to line up cutter wheel with mark on pipe.
3. Tighten cutter feedscrew handle while keeping the cutter wheel aligned with the mark.
4. Assume the correct operating posture. This will allow you to maintain proper balance and to safely keep control of the machine and tools.

• Be sure you can quickly remove your foot from the foot switch.
• Stand facing the directional switch.
• Be sure you have convenient access to directional switch, tools and chucks.
• Do not reach across the machine or workpiece.

5. Flip the directional switch to FOR (Forward).
6. Grasp the pipe cutter's feed handle with both hands.
7. Depress and hold down the foot switch with the left foot.
8. Tighten the feedscrew handle slowly and continuously until the pipe is cut. Do not force the cutter into the workpiece.
9. Release the foot switch and remove your foot from the housing.
10. Swing pipe cutter back to the UP position.

Pipe cutting operation

Reaming Pipe

1. Move reamer arm down into reaming position.
2. Extend reamer by pressing latch and sliding knob toward pipe until latch engages.
3. Check the directional switch to insure it is in the FOR (Forward) position. Depress and hold the foot switch down with the left foot.
4. Position reamer into pipe and complete reaming by pushing carriage lever with right hand.
5. Retract reamer bar and return reamer to the UP position.
6. Release foot switch and remove your foot from the housing.

Pipe reaming operation

Removing Pipe from the Power Drive

1. Flip directional switch to OFF.
2. Use repeated and forceful clockwise spins of the speed chuck handwheel at the front of the Power Drive to release the workpiece from the speed chuck jaws.
3. If necessary, loosen the rear centering device using a clockwise rotation of the handwheel at the rear of the Power Drive.
4. Slide the workpiece out of the Power Drive, keeping a firm grip on the workpiece as it clears the Power Drive. To avoid injury from falling parts or equipment tip-overs when handling long workpieces, make sure that the end farthest from the Power Drive is supported prior to removal.
5. Clean up any spills or splatter on the ground surrounding the Power Drive.

Maintenance Instructions

Make sure machine is unplugged from power source before performing maintenance or making any adjustment.

Jaw Inserts

1. Clean teeth of jaw inserts daily with wire brush.
2. Replace jaw inserts when teeth become worn and fail to hold pipe or rod.

NOTE! Replace entire set of jaw inserts to insure proper gripping of the pipe or rod.

Jaw Insert Replacement

1. Place screwdriver in insert slot and turn 90 degrees in either direction.
2. Place insert sideways on locking pin and press down as far as possible.
3. Hold insert down firmly with screwdriver, turn until teeth face up.

Lubrication

Proper lubrication is essential to trouble-free operation and long life of Power Drive. Grease main shaft bearings every 2 to 6 months depending upon amount of Power Drive use. Grease fittings are provided on side base, one at each end of shaft. Use a good grade of cup grease.

Motor Brush Replacement

1. Check motor brushes every six (6) months and replace when worn to less than 1/2 inch.
2. If communicator is worn, the outer dimension of the communicator should be turned and the mica should be undercut before replacing brushes. This should only be done by qualified repair personnel.

Motor Replacement

1. Unplug motor receptacle from switch box.
2. Remove two (2) screws holding motor.
3. Loosen back screw in body at neck of motor and lift motor out.

Machine Storage

Motor-driven equipment must be kept indoors or well covered in rainy weather. Store the machine in a locked area that is out of reach of children and people unfamiliar with power drives. This machine can cause serious injury in the hands of untrained users.