Operating Instructions For Using Hand Tools

⚠ WARNING

Do not wear gloves or loose clothing when operating Power Drive. Keep sleeves and jackets buttoned. Do not reach across the machine or pipe.

Do not use this Power Drive if the foot switch is broken or missing. Always wear eye protection to protect eyes from dirt and other foreign objects.

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.

Do not use this machine to "make-on" or "break off" fittings. This practice is not an intended use of this Power Drive.

Installing Pipe In Power Drive:

1. Mark the pipe at the desired length if it is being cut to length.
2. 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.
3. Insert workpieces less than 2 feet long from 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.

⚠ WARNING To avoid equipment tip-overs, position the pipe supports under the workpiece.

4. 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.
5. 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.
6. Extend both support bars fully beyond the front of the Power Drive.

Cutting Pipe with Hand Cutter

1. Position the pipe cutter on the workpiece with the cutter wheels facing up (see "Accessories" section for pipe cutters recommended for use with this Power Drive).
2. Align the cutter wheels with the mark on the pipe and rest the pipe cutter's body on the left support bar *(Figure 5).* Hand-tighten the pipe cutter to the workpiece using the feedscrew handle while keeping the cutter wheels aligned with the mark.
3. Assume the correct operating posture *(Figure 8).* 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.
4. Flip the directional switch to FOR (Forward).
5. Grasp the pipe cutter's feedscrew handle with both hands *(Figure 5)* and depress and hold down the foot switch with the left foot.

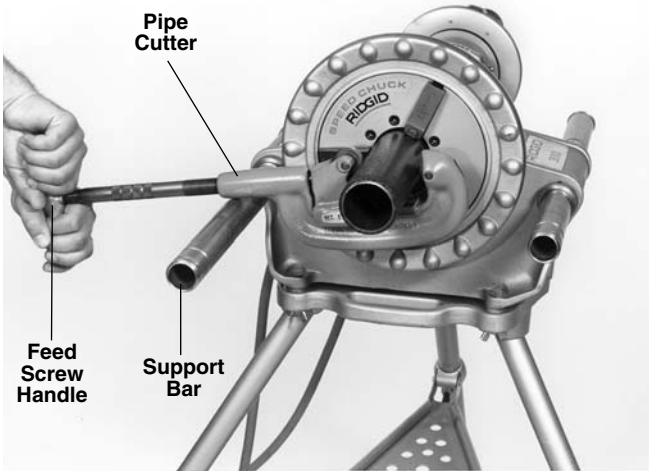


Figure 5 – Cutting Pipe with Hand Cutter

6. Tighten the feedscrew handle slowly and continuously until the pipe is cut. Do not force the cutter into the workpiece.

⚠ WARNING To avoid impact injuries, keep a firm grip on the pipe cutter and be sure it is resting on the support bar. If not held firmly or supported, the tool may rotate or fall to the ground.

7. Release the foot switch and remove your foot from the housing.

Reaming Pipe with Hand Reamer

⚠ WARNING To prevent serious injury, do not use self-feeding spiral reamers with the 300 Power Drive.

1. Flip the directional switch to FOR (Forward).
2. Place the reamer in the end of the pipe (see the "Accessories" section for reamers recommended for use with this Power Drive).
3. Assume the correct operating posture.
4. Rest handle on the left support bar *(Figure 6)* and hold the reamer handgrip with the right hand. To avoid pinch point injuries, keep your fingers from coming between the reamer and the support bar.
5. Firmly grasp the end of the reamer handle with the left hand, then depress and hold the foot switch down.
6. Push the reamer firmly into the pipe with your right hand until ream is complete. Keep your hand and arm away from any rotating parts and use a firm grip on the handgrip.
7. Release the foot switch and remove your foot from the housing while holding the reamer with both hands.

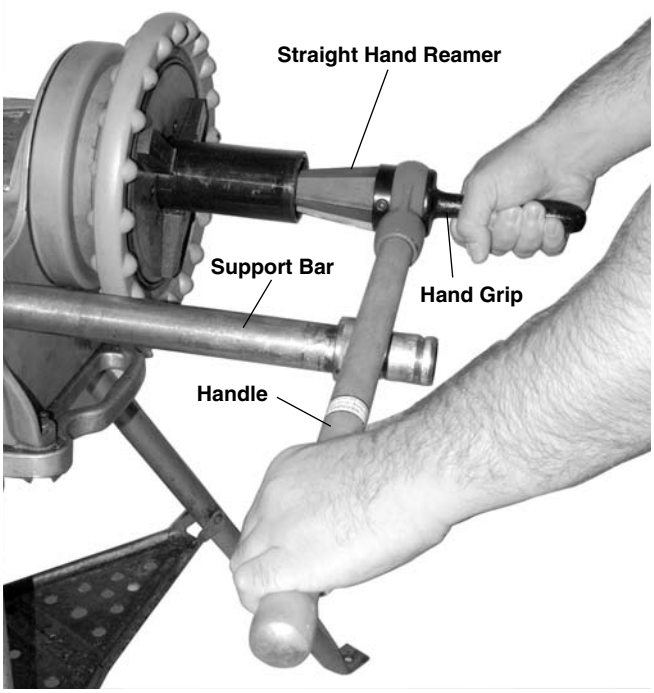


Figure 6 – Reaming Pipe with Hand Reamer

8. Remove the reamer from the workpiece once the Power Drive has stopped rotating.

Threading Pipe with Hand Threader

1. Place the die head of the hand threader on the end of the pipe (see "Accessories" section for hand threaders recommended for use with this Power Drive).
2. Position the ratchet knob on the hand threader so that the arrow on the knob points up.
3. Rest the hand threader ratchet handle on the left support bar (as viewed when facing the front of the Power Drive – *Figure 7).*

⚠ WARNING To avoid pinch point injuries, keep your fingers from coming between the hand threader and the support bar.

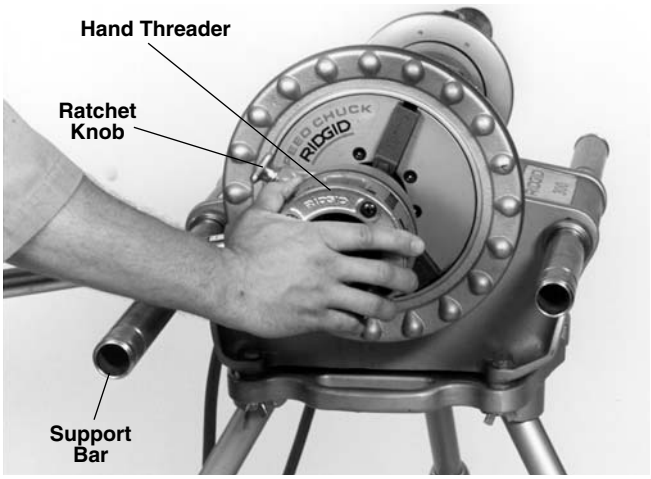


Figure 7 – Pushing Hand Threader onto Pipe to Engage Dies

4. Apply RIDGID Thread Cutting Oil to the end of the pipe.
5. Assume the correct operating posture. Check to ensure directional switch is in the FOR (Forward) position.
6. Hold the die head against the workpiece with the right hand.

⚠ WARNING To avoid injury from rotating parts or sharp surfaces, keep hands and fingers away from anything other than the outer body of the die head.

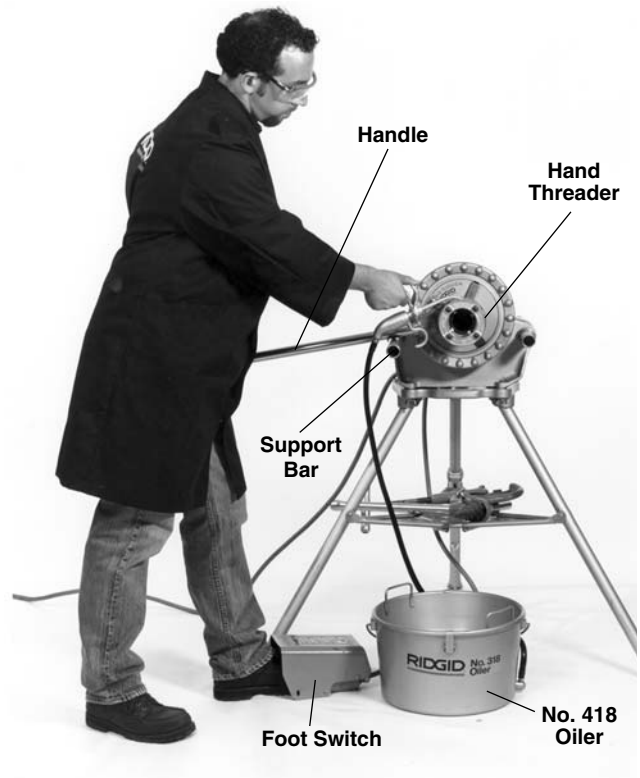


Figure 8 – Threading with Hand Threader

7. Depress and hold down the foot switch.
8. Push the die head against the pipe using the palm of the right hand until the dies engage the workpiece. Once engaged, the threads will be cut as the dies pull themselves onto the end of the pipe *(Figure 7)*.
9. Remove the right hand from the area of the die head and liberally oil the dies while the pipe is threaded *(Figure 8).*

⚠ WARNING To avoid serious injury from rotating parts, allow adequate clearance between your hand and the rotating parts while oiling.

10. Release the foot switch and remove your foot from the housing when the pipe reaches the end of the dies.
11. Lift the threader handle slightly with the right hand while sliding the left support bar all the way toward the rear of the drive.
12. Reverse the ratchet knob. The arrow on the knob should point down.
13. Lower the threader handle below the height of the left support bar.
14. Slide the left support bar back to its fully extended position in front of the Power Drive.
15. Lift and hold the threader handle against the left support bar.
16. Flip the directional switch to REV (Reverse). Depress and hold the foot switch down until the threader has unscrewed itself from the workpiece.

⚠ WARNING To avoid injury due to falling parts, maintain a firm grip on the threader as the threader will drop to the floor if not supported when unthreaded completely.

17. Release the foot switch and remove your foot from the housing.
18. Set the threader down and, if necessary, wipe oil and debris off the threads with a rag, taking care not to cut your hand or fingers on any sharp debris or edges.
19. Check the thread for length and depth *(Figure 14).*

Removing Pipe from the Power Drive

1. Flip the 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.

⚠ WARNING 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 oil spills or splatter on the ground surrounding the Power Drive.

Operating Instructions for Carriage-Mounted Power Drive Tools

⚠ WARNING

Do not wear gloves or loose clothing when operating Power Drive. Keep sleeves and jackets buttoned. Do not reach across the machine or pipe.

Do not use this Power Drive if the foot switch is broken or missing. Always wear eye protection to protect eyes from dirt and other foreign objects.

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.

Do not use this machine to "make-on" or "break off" fittings. This practice is not an intended use of this Power Drive.

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.

⚠ WARNING To avoid equipment tip-overs, position the pipe supports under the workpiece.

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.

Cutting Pipe with No. 360 Cutter

1. Check to insure the reamer and die head are in the UP position *(Figure 9).*
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 *(Figure 11).*

⚠ WARNING 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 *(Figure 9).*

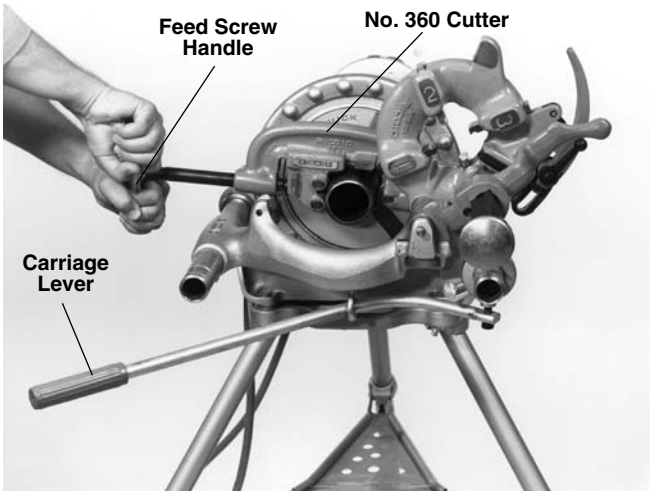


Figure 9 – Cutting Pipe with No. 360 Cutter

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.

Reaming Pipe with No. 341 Reamer

1. Move reamer arm down into reaming position *(Figure 10).*

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.

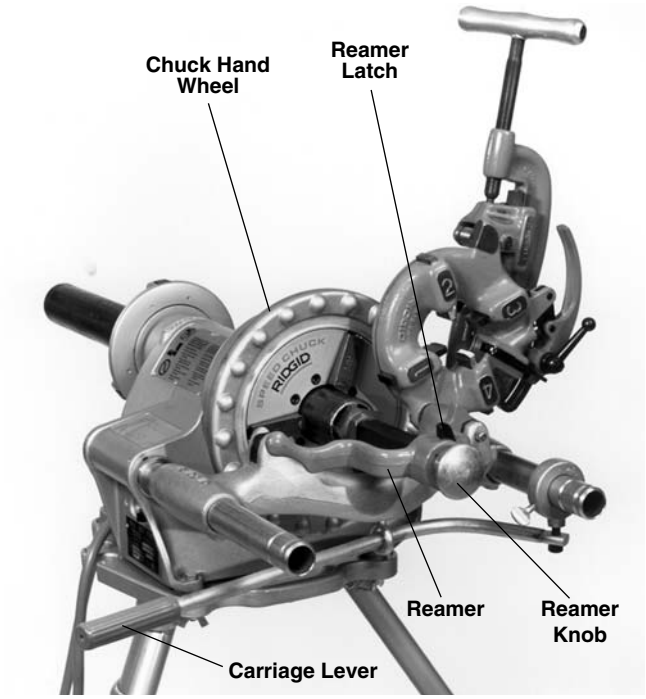


Figure 10 – Reaming Pipe with No. 341 Reamer

6. Release foot switch and remove your foot from the housing.

Threading Pipe with Quick-Opening or Self-Opening Die Head

1. Check to insure the cutter and reamer are to the rear of the carriage *(Figure 11).*
2. Lower die head into threading position.
3. Check that the proper size dies are in the die head. One set of dies is required for each of the following pipe size ranges: (1/8″), (1/2″ – 3/8″), (1/2″ – 3/4″) and (1″ – 2″). Bolt threading requires a separate set of dies for each bolt size.
4. Set die head to proper size.

NOTE! Refer to the Section on the No. 811A or No. 815A Die Head for instructions on changing dies and adjusting for proper size.

5. Quick-Opening 811A Die Head *(Figure 12)* – Rotate throwout lever to the CLOSED position.

   Self-Opening 815A Die Head *(Figure 13)* – Push throwout lever down until the release trigger cocks.
6. Apply RIDGID 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 with plenty of RIDGID Thread Cutting Oil until thread is completed.

⚠ WARNING To avoid serious injury from rotating parts, allow adequate clearance between your hand and rotating parts when oiling.

10. Quick-Opening 811A Die Head *(Figure 12)* – When thread is completed, raise throwout lever to open position, retracting dies.

    Self-Opening 815A Die Head *(Figure 13)* – 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 *(Figure 14).*

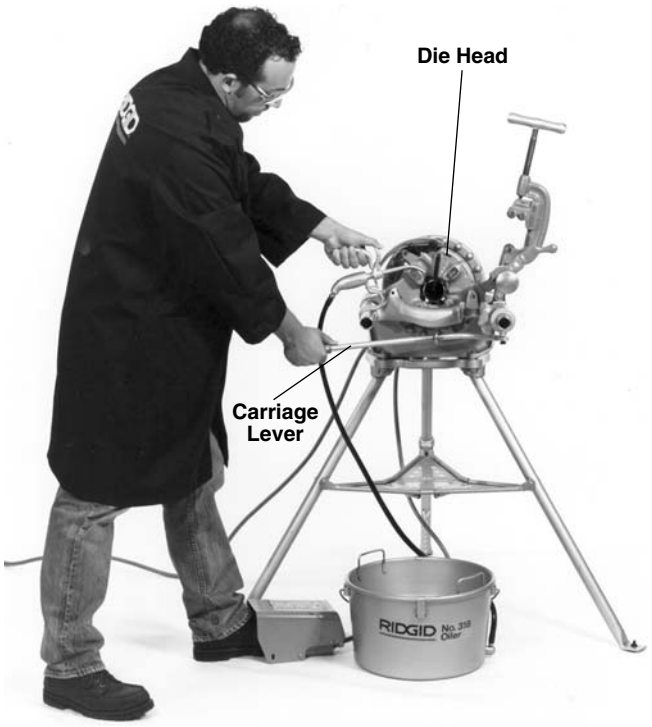


Figure 11 – Threading Pipe with Quick or Self-Opening Die Head

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.

⚠ WARNING 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.

Installing Dies in No. 811A Quick-Opening Die Head (Right and Left Hand)

NOTE! The No. 811A Universal Die Head *(Figure 12)* for right hand threads requires four sets of dies to thread pipe ranging from 1/8″ through 2″. One set of dies is required for each of the following pipe size ranges: (1/8″), (1/4″ – 3/8″), (1/2″ – 3/4″) and (1″ – 2″). The 1/8″ pipe dies are not available for left hand die head. Bolt threading requires a separate set of dies for each bolt size. No bolt dies are available for left hand universal die heads.

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.

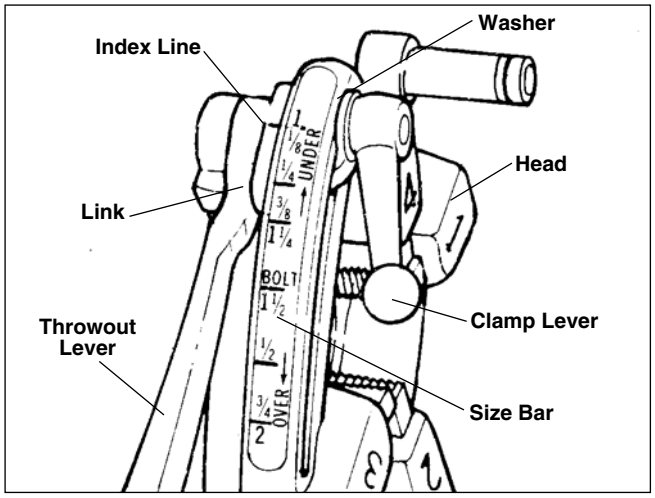


Figure 12 – Universal Quick-Opening Die Head

Installing Dies in No. 815A Self-Opening Die Head (Right Hand Only)

NOTE! The No. 815 Self-Opening Die Head *(Figure 13)* for right hand threads requires four sets of dies to thread pipe ranging from 1/8″ through 2″. One set of dies is required for each of the following pipe size ranges: (1/8″), (1/4″ – 3/8″), (1/2″ – 3/4″) and (1″ – 2″). Bolt threading requires a separate set of dies for each bolt size.

1. With machine unplugged, remove die head. Place self-opening die head on bench in vertical position.
2. Make sure trigger assembly is released.
3. Loosen clamp lever approximately six turns.
4. Pull lock screw out of slot under size bar so that roll pin in lock screw will by-pass slot. Position size bar so that index line on lock screw is all the way to the end of REMOVE DIES position.
5. Lay head down with numbers up.
6. Remove worn dies from die head.
7. Insert new dies to mark on side of dies. Die numbers 1 through 4 on the dies must agree with those on die head.
8. Rotate cam plate lever back to lock dies in head.
9. With head in vertical position, rotate cam plate until roll pin on lock screw can be positioned in slot under size bar. In this position, dies will lock in die head. Make sure roll pin points toward end of size bar marked REMOVE DIES.
10. Adjust die head size bar until index line on lock screw or links is aligned with proper size mark on size bar. For bolt threads, align index line with BOLT line on size bar.
11. Tighten clamp lever.
12. If oversize or undersize threads are required , set the index line in direction of OVER or UNDER size mark on size bar.
13. Replace die head in machine.

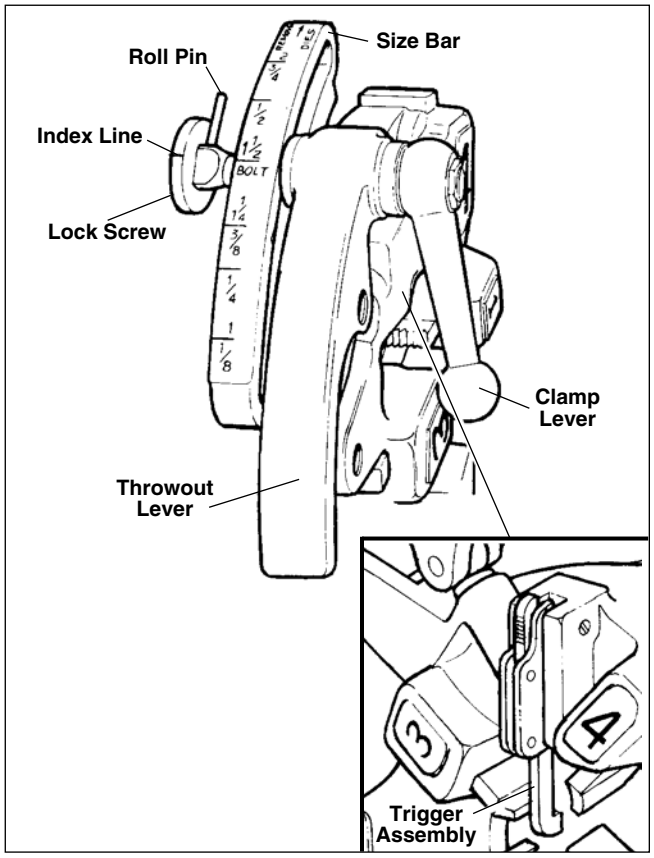


Figure 13 – No. 815 Self-Opening Die Head

Checking Thread Length

1. Thread is cut to proper length when end of pipe is flush with edge of dies *(Figure 14A).*
2. Die Head is adjustable to obtain proper thread diameter. If possible, threads should be checked with a thread ring gage *(Figure 14B).* A proper thread is cut when end of pipe is plus or minus one turn of being flush with face of ring gage.

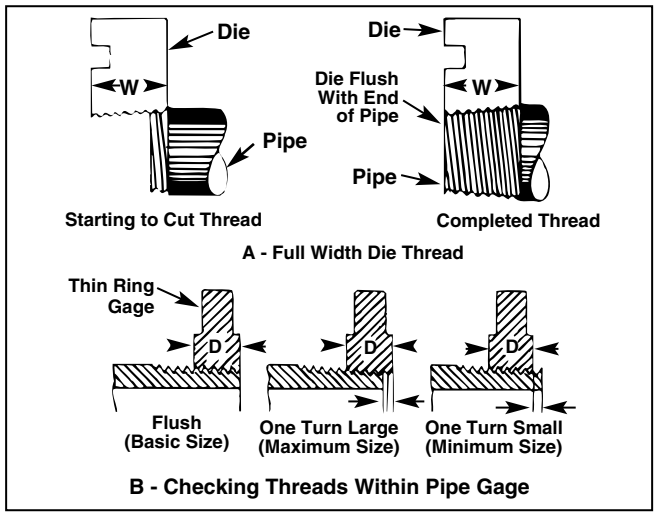


Figure 14 – Checking Thread Length

NOTE! If a ring gauge is not available, a fitting can be used. This fitting should be representative of those being used on the job. The pipe thread should be cut to obtain 2 to 3 turns hand tight engagement with fitting. If pipe thread is not proper diameter the index line should be moved in the direction of the OVER or UNDER size mark on size bar. (Refer to "Installing Dies in Die Heads").

Accessories

⚠ WARNING

Only the following RIDGID products have been designed to function with the 300 Power Drive. Other accessories designed for use with other tools may become hazardous when used on this Power Drive. To prevent serious injury, use only the accessories listed below.

Accessories for Power Drive

Model No.	Description
1206	Stand for 300 Power Drive
32	Transporter (for Power Drives and Tri-Stand Vises)
819	Nipple Chuck Complete, 1/2″ – 2″ (12mm – 50 mm)
1452	Clip-On Tool Tray
–	Jaw Inserts for Coated Pipe
E-863	LH/RH Reamer Cone
–	Gearhead Motor Grease

Hand Tools Recommended for Use with Power Drive

Threaders:

- 12-R Pipe Threader
- OO-R Pipe Threader
- 11-R Pipe Threader
- OO-RB Bolt Threader

Cutters:

- No. 1-A and 2-A Cutter
- No. 202 Cutter

Reamers:

- No. 2 and 3 Ratchet Reamers

Contact a RIDGID distributor or consult the Ridge catalog for specifications and catalog numbers.

311A Carriage and Tools as Accessories

Model No.	Description
311	Carriage with No. 312 Lever
341	Reamer for No. 311 Carriage
360	Cutter for No. 311 Carriage
811A	Universal Quick Opening Die Head Only, Right Hand Only
815A	Self-Opening Die Head Only, Right Hand Only

Geared Threaders:

- No. 141 2-1/2″ – 4″ Pipe (NPT or BSPT)
- No. 161 4 – 6″ Pipe (NPT or BSPT)

Accessories for Threading by Close-Coupled Method

Model No.	Description	Geared Threaders 141	Geared Threaders 161
	Pipe Supports		
758	Loop	X	
844	Drive Bar	X	X
346	Support Arm (2)		X
NOTE!	If gear case does not have loop hole, use No. 3675 Adapter Bracket instead of No. 758 Loop.		

Accessories for Threading with Drive Shaft

Catalog No.	Model No.	Description
61122	840-A	Universal Drive Shaft
72037	460	Tristand
42510	92	Adjustable Pipe Support

NOTE! See Ridge Tool catalog for listing of pipe support, thread cutting oil, die heads and dies.

Maintenance Instructions

⚠ WARNING

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

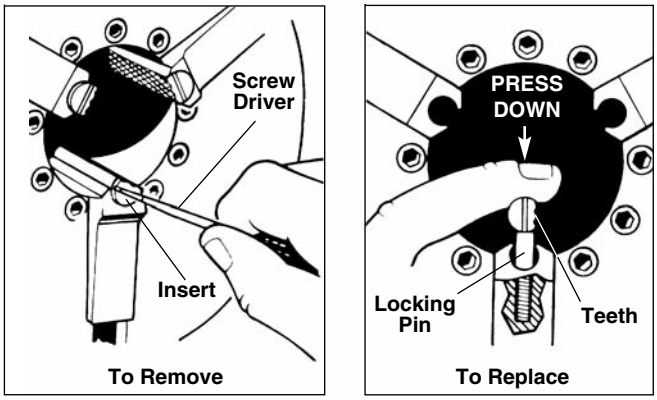


Figure 15 – Replacing Jaw Inserts

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 ½ 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 (E-891) holding motor.
3. Loosen back screw (E-4548) in body at neck of motor and lift motor out.

Machine Storage

⚠ WARNING 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.

Service and Repair

⚠ WARNING

Service and repair work on this Power Drive must be performed by qualified repair personnel. Power Drive should be taken to a RIDGID Independent Authorized Service Center or returned to the factory. All repairs made by Ridge service facilities are warranted against defects in material and workmanship.

When servicing the Power Drive, only identical replacement parts should be used. Failure to follow these instructions may create a risk of electrical shock or other serious injury.

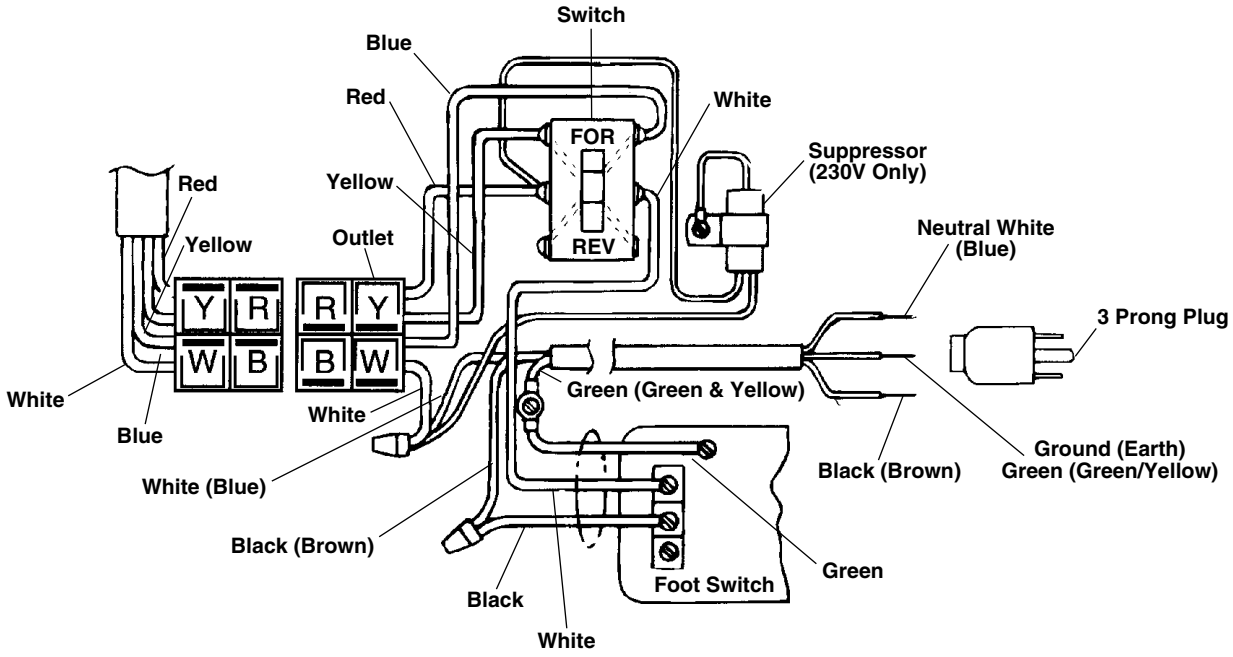
If you have any questions regarding the service or repair of this machine, call or write to:

Ridge Tool Company
Technical Service Department
400 Clark Street
Elyria, Ohio 44035-6001
Tel: (800) 519-3456
E-Mail: rtctechservices@emerson.com

For name and address of your nearest Independent Authorized Service Center, contact the Ridge Tool Company at (800) 519-3456 or http://www.RIDGID.com

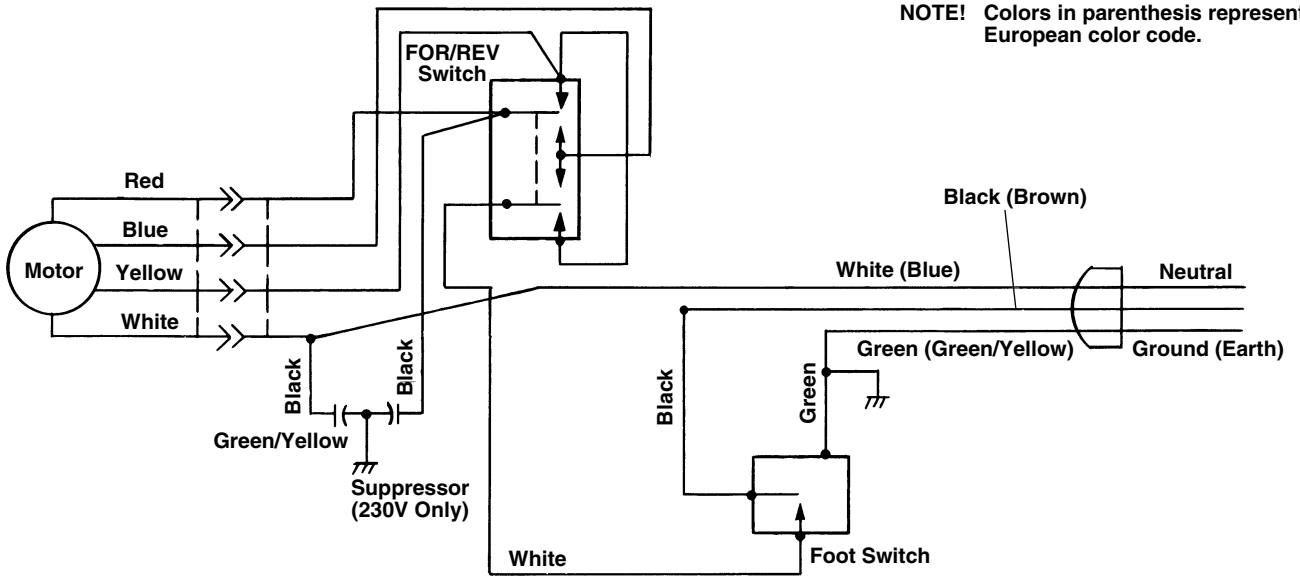
Wiring Diagram (115/230V)

1. Brush and Armature Leads may be solid colors or white with a colored stripe.
2. Wire Colors in parenthesis represent European color code. European cord is the same except for plug.



Wiring Schematic (115/230V)

NOTE! Colors in parenthesis represent European color code.



Wiring Schematic (230V) with Line Filter