

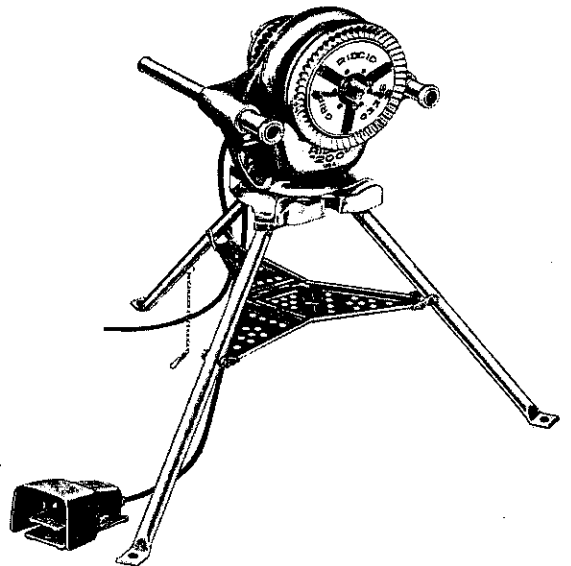
Important

For Your Own Safety
Before Assembling and Operating
This Unit, Read This Operator's
Manual Carefully and Completely.
Learn The Operation, Applications
and Potential Hazards Peculiar To
This Unit.

RIDGID

200 Power Drive

Operator's Manual
and Parts List



RIDGID®

**Pre-Tested
Work Saver® Tools**

The Ridge Tool Company

400 Clark St., Elyria, Ohio 44035, U.S.A.

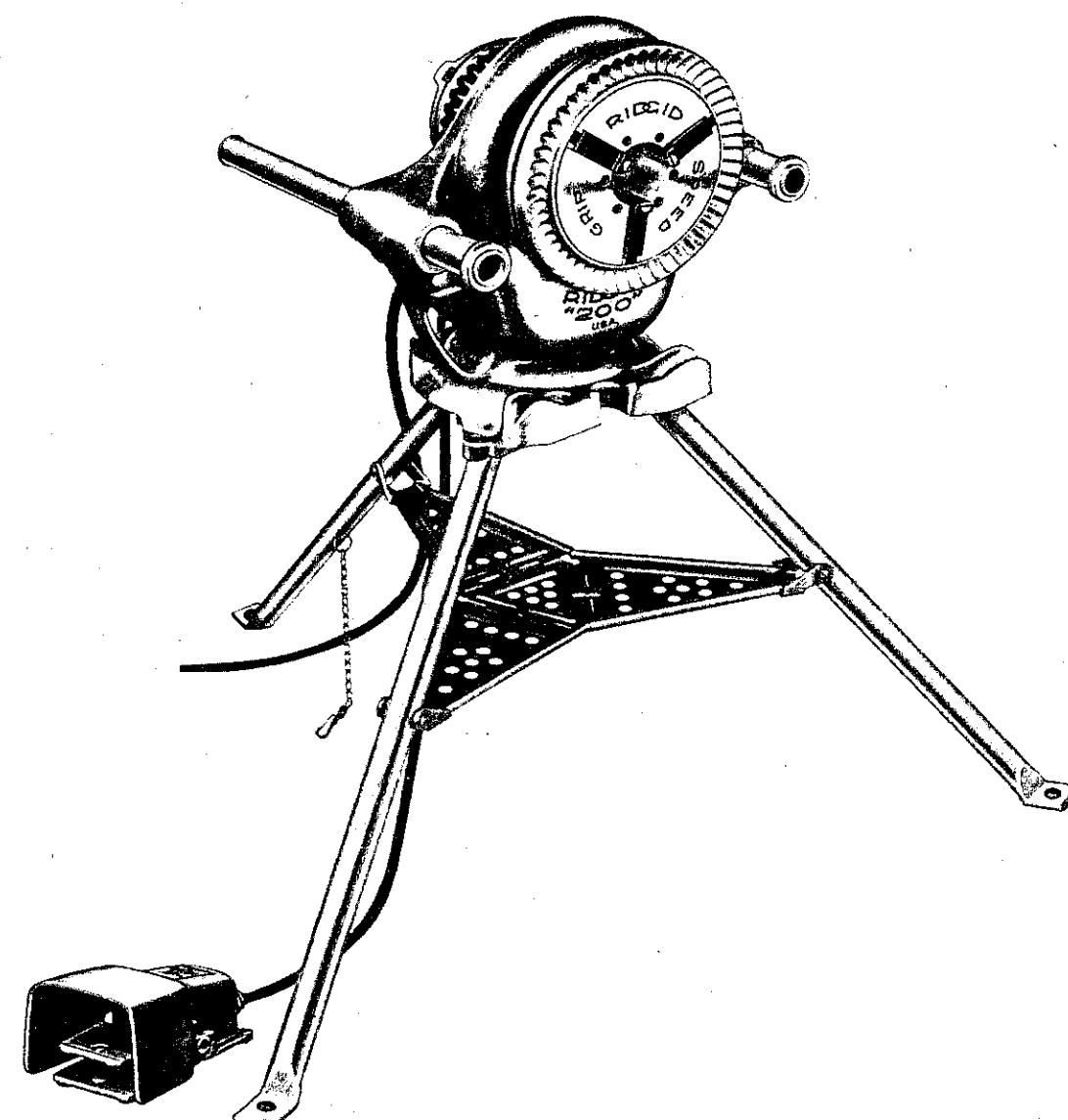
Form No. 200-M-1178
940-500-050

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RIDGID®

200 Power Drive

Power Drive	
Record below and retain product model and serial numbers which are located on nameplate.	
Model No.	Serial No.



Description, Specifications and Accessories

Description

The RIDGID No. 200 Power Drive is an electric-motor-driven power drive which centers and grips pipe, conduit and rod (bolt stock) and rotates it while cutting, threading and reaming operations are performed. Forward (counterclockwise) or reverse (clockwise) rotation can be selected with REV/OFF/FOR Switch. A sturdy folding leg stand with tool tray is also provided as standard equipment.

Specifications

Threading Capacity:

Pipe 1/8" through 2"
 Bolt 1/4" through 2"

Chuck speed grip chuck with replaceable jaw inserts.

Rear Centering Device scroll type, rotates with chuck.

Support Bar (2) heavy-duty

Switch (REV/OFF/FOR) heavy-duty, bump-proof and reversible.

Motor universal type.
 Horsepower 1/2 hp.
 Volts 115v single phase
 AC (25-60 Hz)
 (230v on request.)

Foot Switch (ON/OFF) oil and water tight.

Power Source 15 amp rated circuit

Weight 77 lbs.

Capacity:

Pipe 1/8" through 2"
 Bolt 1/4" through 1"

Stand folding with tool tray

Accessories

No. 311 Carriage with Lever holds die head, cutter and reamer.

No. 360 Cutter full-floating, wheel-type wide roll.

No. 341 Reamer positive locking, 5 flute cone, right hand, 1/8" through 2".

No. 32 Transporter provides effortless power drive portability.

No. 819 Nipple Chuck (R.H. only):

Pipe Adapters 1/8" through 1 1/2"
 Stud Adapters 1/4" through 2" UNC
 1/4" through 1 1/2" UNF

Note: No. 819 Nipple Chuck is used for threading close nipples.

No. 318 Oiler recirculates oil, keeps dies flooded.

Threading Close Coupled Method:

	4PJ	141	161
No. 46 Pipe Support	X	X	X
No. 758 Loop	see note	X	
No. 844 Drive Bar	X	X	X
No. 346 Support Arm (2) ..			X

Note: If Gear Case does not have loop hole, use No. 3675 Adapter Bracket instead of No. 758 Loop.

Threading with Drive Shaft:

No. 840 Universal Drive Shaft 41" closed; 50" extended

No. 450 Tristand Chain Vise .. folding with tray
 No. 92 Adjustable Pipe Support large rollers allow free pipe movement

Die Head Racks:

4U holds 4 heads
 6U holds 6 heads

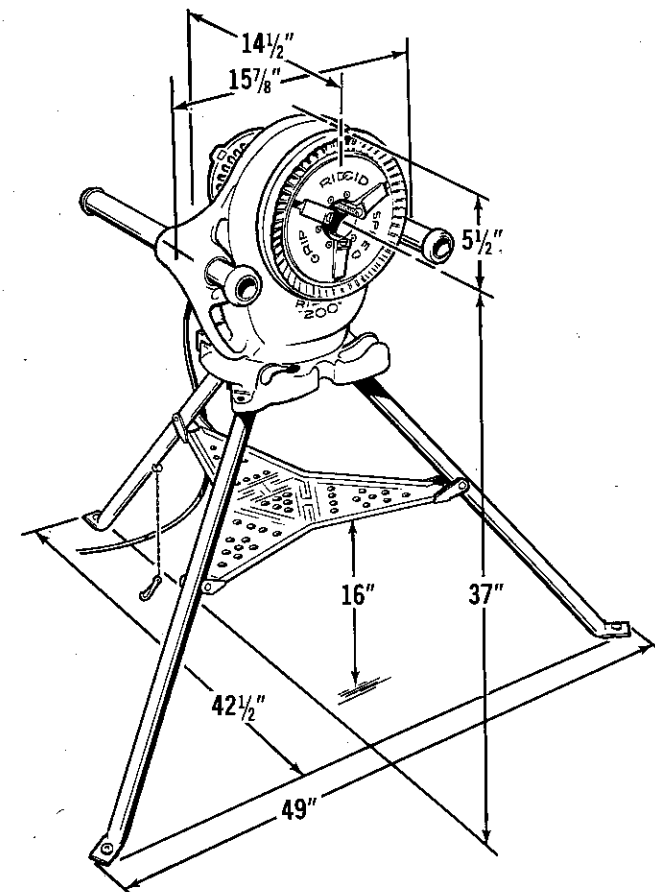


Figure 1. No. 200 Power Drive and Stand Dimensions.

Die Heads and Dies

Die Head Catalog No.	Capacity		Sets of Dies		Threads		Special Notes
	Pipe	Bolt	Pipe	Bolt	R. H.	L. H.	
815	1/8"-2"	1/4"-2"	4	16 UNC 14 UNF	X		Self-opening Die Head
811	1/8"-2"	1/4"-2"	4	16 UNC 14 UNF	X		Quick-opening Die Head
812	1/4"-2"		3			X	Quick-opening Die Head
515	1/8"-3/4"		3		X		Quick-opening Die Head
514	1/8"-3/4"		3			X	Quick-opening Die Head
Mono R.H.	1/8"-2"		9		X		Quick-opening Die Head
Mono L.H.	1/2"-2"		5			X	Quick-opening Die Head
500-B		1/4"-1"		10UNC 10 UNF	X	X	Alloy or high speed dies, UNC or UNF Quick-opening Die Head
500-B		1 1/8"-2"		6 UNC 4 UNF	X	X	Alloy or high speed dies, UNC or UNF Quick-opening Die Head

American National Series (High Speed) Dies (8 T.P.I. 1 1/8" - 2 1/2")
 (12 T.P.I. 1/2" - 2 1/2"), and (16 T.P.I. 1 3/16" - 2 1/2")
 General purpose Acme and Metric Dies for 500-B Bolt Die
 Heads available on request.

Safety Precautions

- 1. Know your machine.** Read Operator's Manual carefully. Know the limitations, as well as, the specific potential hazards peculiar to this machine.
- 2. Avoid accidental starting.** Make sure that machine REV/OFF/FOR Switch is in OFF (center) position and Foot Switch operates freely before plugging in Power Cord.
- 3. Ground Machine (Fig. 2).** This machine should be grounded while in use to protect the operator from electric shock. The machine is equipped with an approved three-conductor cord and three-prong grounding type plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal. If your unit is for use on less than 150 volts, it has a 115V plug. If it is for use on 150 to 250 volts, it has a 230V plug.
Extension cords. Use only three-wire extension cords that have 3-prong grounding type plugs and three-pole receptacles that accept the machine's plug. Replace or repair damaged or worn cord immediately.

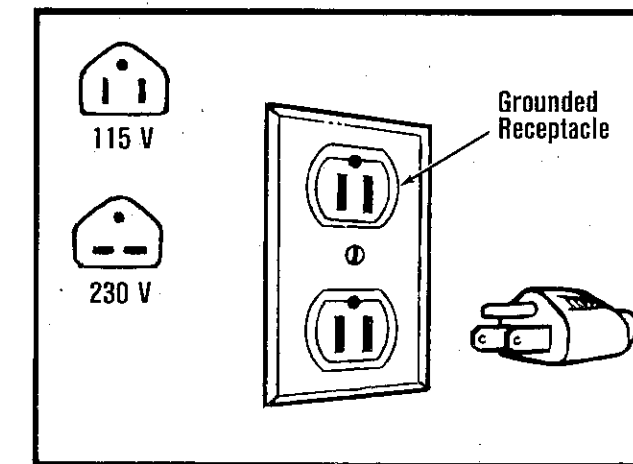


Figure 2. No. 200 Power Drive Grounding Instructions.

Outdoor use extension cords. When machine is used outdoors, use only extension cords suitable for use outdoors and so marked.

- 4. Remove tools from machine.** Form habit of checking to see that machine is clear of wrenches or other tools before starting.
- 5. Support work.** Support long, heavy work with a floor pipe support.

- Secure machine. Securely tighten Chuck Handwheel and rear Centering Device on work. Make sure that machine and stand are stable. Power Drive must be bolted to floor when using No. 840 Universal Drive Shaft.
- Wear proper apparel. Wear safety shoes, hard hat, and safety goggles. No loose clothing (unbuttoned jackets or loose sleeve cuffs) or jewelry to get caught in moving parts.
- Do not overreach. Operate machine from Foot Switch side only. Keep proper footing and balance. Be sure foot can be removed safely from Foot Switch at all times. Do not reach across machine and keep hands, body and tools away from moving parts.
- Maintain machine in top condition. Use sharp cutting tools and keep machine clean for best and safest performance. Follow lubricating instructions.
- Keep work area clean. Cluttered areas, benches, and slippery floors invite accidents. If machine is mounted on a bench make sure that the tools, not being used, are not in any way obstructing machine operation.
- Avoid dangerous environment. Do not use machine in damp and wet locations. Keep work area well luminated. Allow sufficient space to operate machine and accessories properly and for others to pass safely.
- Wear ear protection. If exposed to long periods of very noisy shop operations keep ears protected.
- Keep visitors away. All visitors should be kept a safe distance from work area.
- Use recommended accessories. Refer to Operator's Manual. Use of improper accessories may be hazardous.
- Disconnect Power Cord. When adjusting, servicing, or changing accessories disconnect Power Cord. Cord should be in top condition and examined at regular intervals.

Operation Using Hand Tools

Warning: Operator should be thoroughly familiar with preceding Safety Precautions before attempting to operate this equipment.

Note: Correct operating position for cutting, threading and reaming is to stand on the switch side of the Power Drive straddling the nearest tripod leg with left foot operating Foot Switch (Fig. 6).

Installing Pipe in Power Drive (Fig. 3)

- Measure and mark length of pipe being worked.
- If pipe is long enough to be retained by centering device, insert pipe through front or rear of machine. If pipe is short, insert into front of machine.
- Make certain that pipe is centered in centering device, if used, and tighten centering device.
- Tighten Chuck Jaws with a repetitive counter-clockwise snap spin of Handwheel. This hammering action tightens Jaws on pipe. A clockwise rotation snap spin releases Jaws.

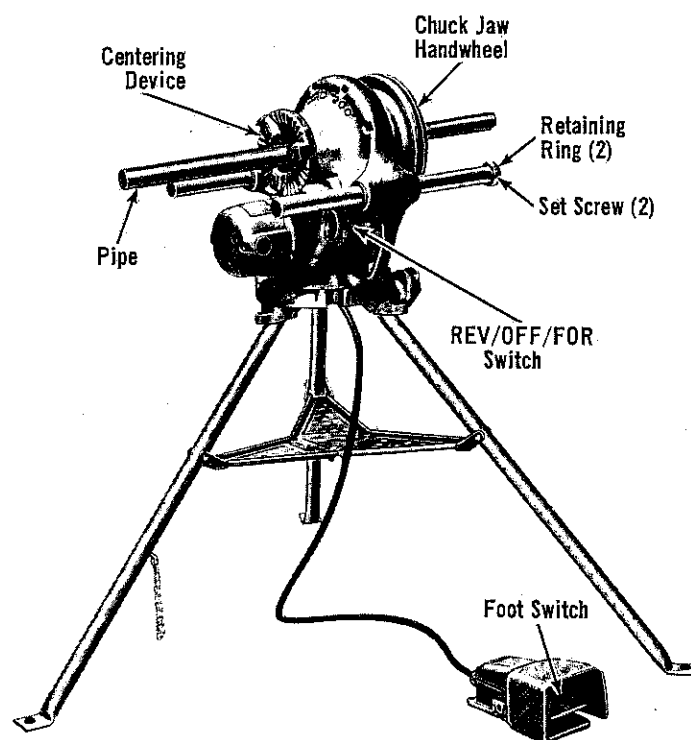


Figure 3. Power Drive with Pipe Installed and Stand.

Cutting Pipe with Hand Cutter

- Install pipe.
- Engage Pipe Cutter with pipe and align Cutter Wheel with mark on pipe.
- Rest Pipe Cutter Frame on Support Bar (Fig. 4) located on switch side of machine. Tighten Feed Screw Handle.
- With Power Cord plugged in, turn REV/OFF/FOR Switch to FOR (forward) position (Fig. 3).

- Place foot on Foot Switch (Fig. 3) to operate Power Drive.
- Continuously tighten Feed Screw Handle (Fig. 4) with both hands until pipe cutoff is completed.
- Release Foot Switch and turn REV/OFF/FOR Switch to OFF position.

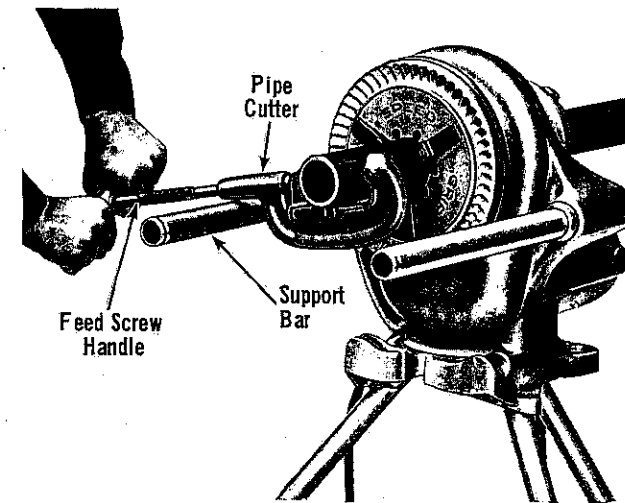


Figure 4. Cutting Pipe with Hand Cutter.

Threading Pipe with Hand Threader

- Place Threader on end of pipe with Handle resting on Support Bar (Fig. 5) located on switch side.
- Place No. 318 Oiler (Fig. 6) under Threader and apply RIDGID Thread Cutting Oil on pipe end.

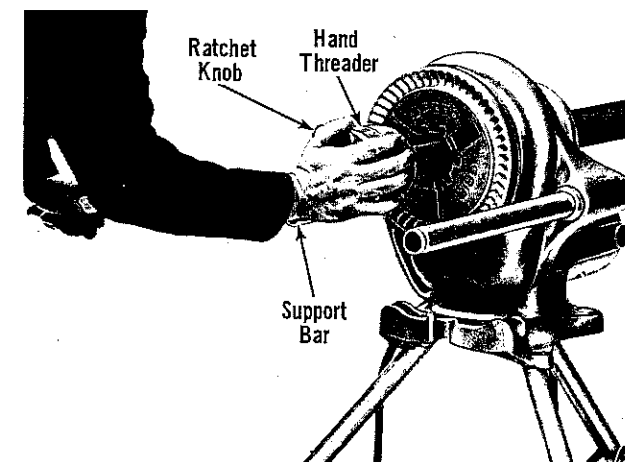


Figure 5. Pushing Hand Threader onto Pipe to Engage Dies.

- Turn REV/OFF/FOR Switch to FOR (forward) position (Fig. 3).
 - Step on Foot Switch and push Threader (Fig. 5) with right hand to engage Dies.
- Note:** Threader is self feeding once Dies are engaged. Apply plenty of oil (Fig. 6) until threads are completed.
- Release Foot Switch once thread is completed.
 - Push back Support Bar (Fig. 6) on switch side.
 - Reverse Threader Ratchet Knob (Fig. 5).
 - Lower Threader Handle and pull Support Bar out. Threader Handle is now against lower side of Support Bar.
 - Turn REV/OFF/FOR Switch to REV (reverse) position (Fig. 3) and back off Threader by stepping on Foot Switch.
 - Release Foot Switch (Fig. 6) and turn REV/OFF/FOR Switch to OFF position.

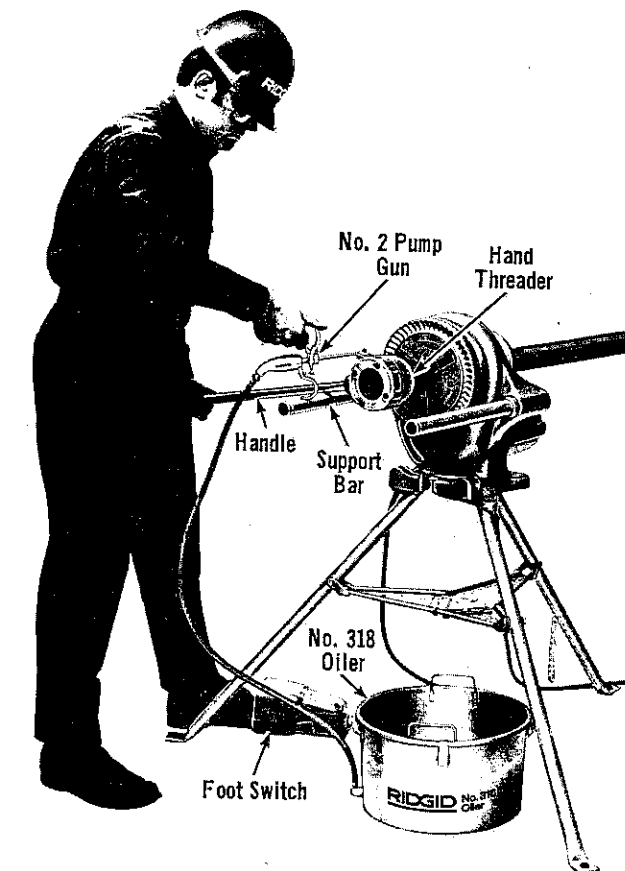


Figure 6. Oiling Hand Threader Dies.

Reaming Pipe with Hand Reamer

1. Turn REV/OFF/FOR Switch to FOR (forward) position (Fig. 3).
2. Insert Straight Flute Reamer into end of pipe and hold firmly onto Handle and Handgrip (Fig. 7).
3. Step on Foot Switch and push on Reamer Handgrip (Fig. 7) with right hand to ream pipe.
4. Release Foot Switch, remove Reamer and turn REV/OFF/FOR Switch to OFF position.

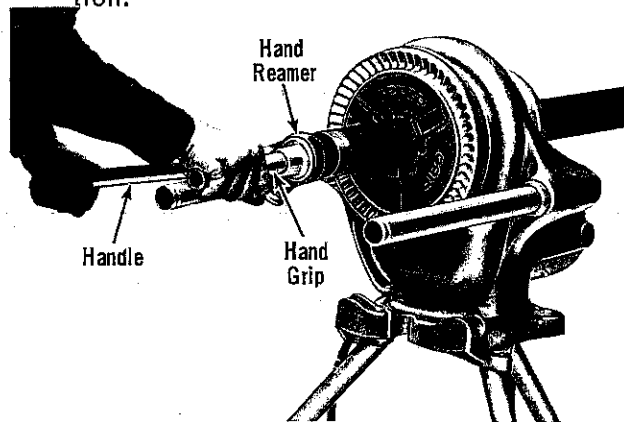


Figure 7. Reaming Pipe with Hand Reamer.

Operation Using No. 311 Carriage Mounted Tools

Warning: Operator should be thoroughly familiar with preceding Safety Precautions before attempting to operate this equipment.

Note: Correct operating position for cutting, threading and reaming is to stand on the switch side of the Power Drive straddling the nearest tripod leg with left foot operating Foot Switch.

Installing No. 311 Carriage, Die Head, No. 341 Reamer, and No. 360 Cutter (Fig. 8)

1. Pull 2 Support Bars on Power Drive forward.
2. Slide 2 Retaining Ring Assemblies against Power Drive Body and secure with 2 Set Screws.
3. Secure Eyebolt Assembly to No. 311 Carriage.
4. Slide Lever Arm through Eyebolt Assembly and secure to Collar Assembly with Shoulder Bolt.
5. Slide No. 311 Carriage and Collar Assembly onto Support Bars.

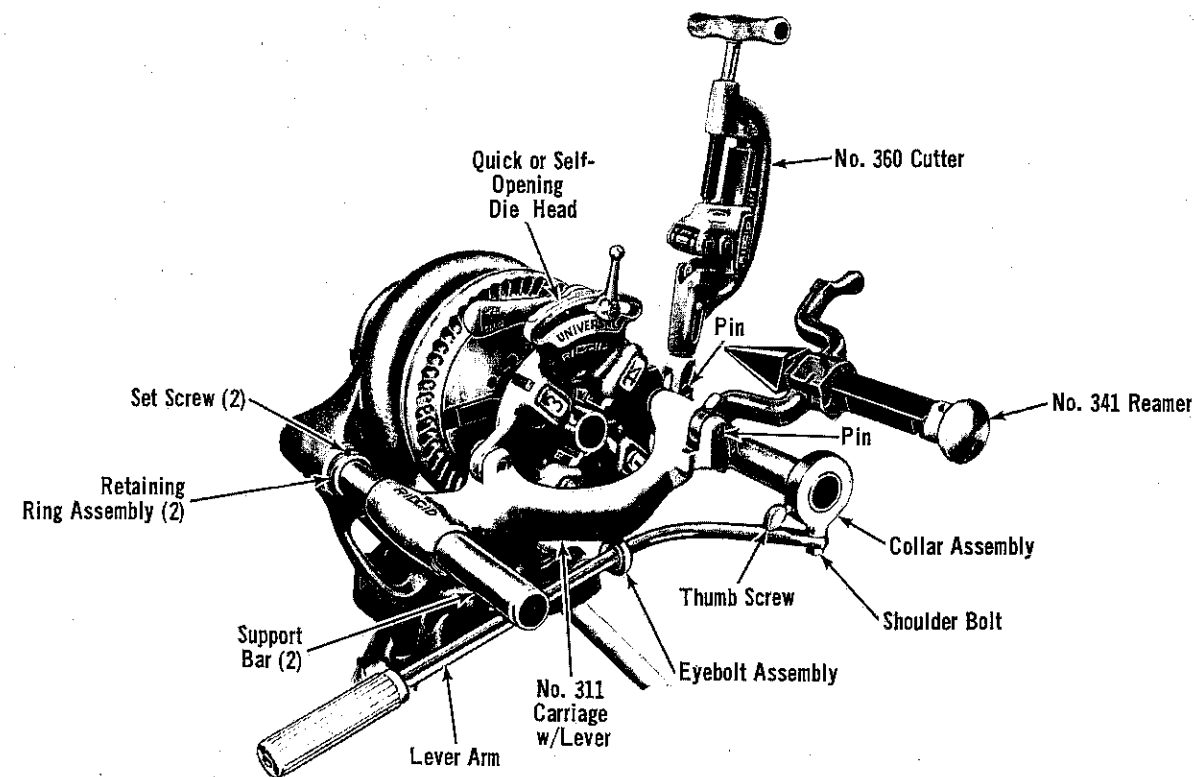


Figure 8. No. 200 Power Drive with Accessories.

6. Tighten Collar Assembly Thumb Screw into groove on Support Bar.
7. Insert Die Head Post into mating hole in Carriage.

Note: When fully inserted, springloaded ball will hold Die Head in place.

8. Install No. 360 Cutter and No. 341 Reamer and secure with Pins.
9. Install pipe.
10. Position No. 318 Oiler under pipe.

Cutting Pipe with No. 360 Cutter (Fig. 9)

1. Swing Reamer and Die Head back to out-of-way 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 Feed Screw Handle on pipe.
4. Turn REV/OFF/FOR Switch to FOR (forward) position and step on Foot Switch.
5. Continuously turn Cutter Feed Screw Handle with both hands until pipe is cut off.
6. Release Foot Switch and turn REV/OFF/FOR Switch to OFF position.
7. Return Pipe Cutter to out-of-way position.

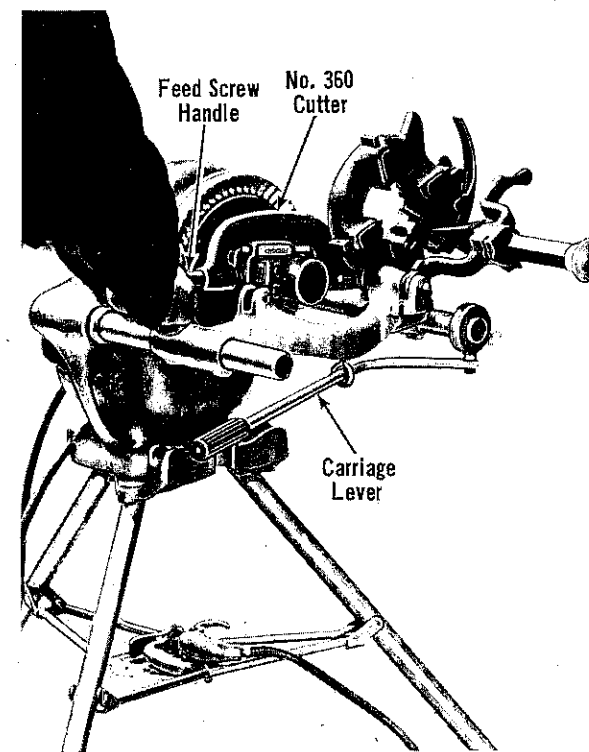


Figure 9. Cutting Pipe with No. 360 Cutter.

Threading Pipe with Quick-Opening or Self-Opening Die Head (Fig. 10)

1. Install Die Set. Refer to Die installation procedure, pages 8 and 9.
2. Swing Cutter and Reamer to out-of-way position.
3. Lower Die Head into threading position.
4. Apply RIDGID Thread Cutting Oil to pipe end.
5. Turn REV/OFF/FOR Switch to FOR position and step on Foot Switch.
6. Engage Dies with pipe using Carriage Lever and oil Dies with plenty of RIDGID Thread Cutting Oil until thread is completed.
7. Self-Opening Die Head (Fig. 12) - When Die Head Trigger contacts end of pipe (1/2" through 2") Die Head is automatically opened.
8. Release Foot Switch and turn REV/OFF/FOR Switch to OFF position.
9. Move Carriage Lever away from pipe end and return Die Head to up and out-of-way position.

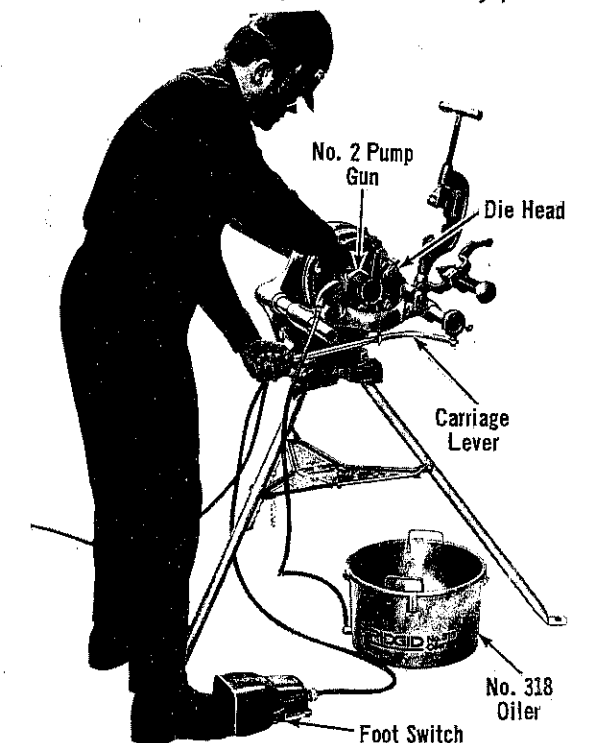


Figure 10. Threading Pipe with Quick or Self-Opening Die Head.

Reaming Pipe with No. 341 Reamer (Fig. 11)

1. Move Reamer Arm down into reaming position.
2. Extend Reamer by pressing Latch and sliding Knob toward pipe until Latch engages Bar.
3. Turn REV/OFF/FOR Switch to FOR position and step on Foot Switch.
4. Position Reamer into pipe and complete reaming by pushing Carriage Lever with right hand.
5. Retract Reamer Bar and return Reamer to out-of-way position.
6. Release Foot Switch and turn REV/OFF/FOR Switch to OFF position.
7. Release Speed Chuck Handwheel and Centering Head from pipe.
8. Remove pipe.

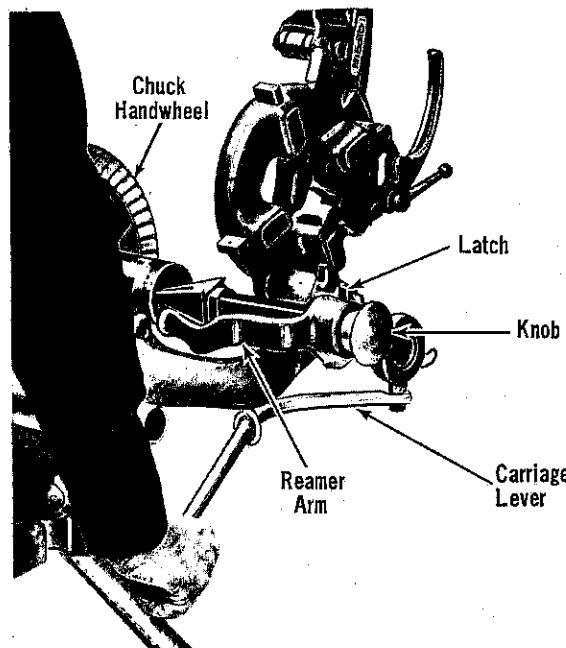


Figure 11. Reaming Pipe with No. 341 Reamer.

Installing Dies in Self-Opening Die Head (R.H. only)

The No. 815 Self-Opening Die Head (Fig. 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" and 3/8"), (1/2" and 3/4"), and (1" through 2"). Bolt threading requires a separate set of Dies for each bolt size.

1. Place Self-Opening Die Head in vertical position on bench.
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 bypass 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 Dies from Die Head.
7. Die numbers 1 through 4 must agree with those on Die Head.
8. Insert Dies to mark on sides of Dies.
9. Move Lever back to lock in Dies.
10. 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.
11. Adjust Die Head Size Bar until Index Line on Lock Screw or Link is aligned with proper size mark on Size Bar.
12. Tighten Clamp Lever. For bolt threads, align Index Line with BOLT line on Size Bar.
13. If oversize or undersize threads are required, set the Index Line in direction of OVER or UNDER size mark on Size Bar.

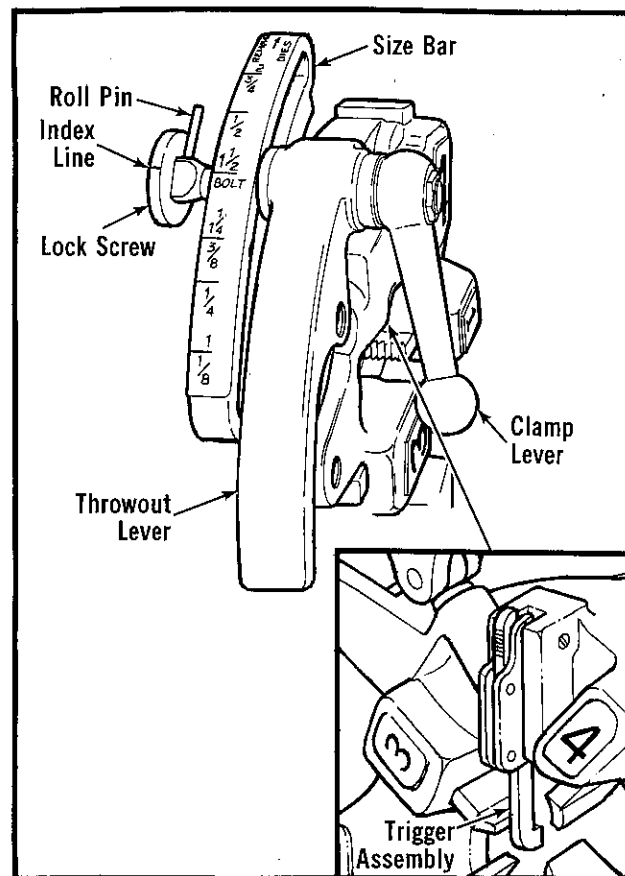


Figure 12. Self-Opening Die Head.

Installing Dies in Quick-Opening Die Head (R.H. & L.H.)

The Universal Die Head (Fig. 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" and 3/8"), (1/2" and 3/4"), and (1" through 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. 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 out of slot under Size Bar. Slide Throwout Lever all the way to end of slot in the OVER direction indicated on Size Bar.
5. Remove Dies from Die Head.
6. Die numbers 1 through 4 must agree with those on Die Head.
7. Insert Dies to mark on side of Dies.
8. Slide Throwout Lever back so that tongue of Clamp Lever Washer will drop in slot under Size Bar.
9. Adjust Die Head Size Bar until Index Line on Lock Screw or Link is aligned with proper size mark on Size Bar.
10. Tighten Clamp Lever. For bolt threads, align Index Line with BOLT line on Size Bar.
11. If oversize or undersize threads are required, set the Index Line in direction of OVER or UNDER size mark on Size Bar.

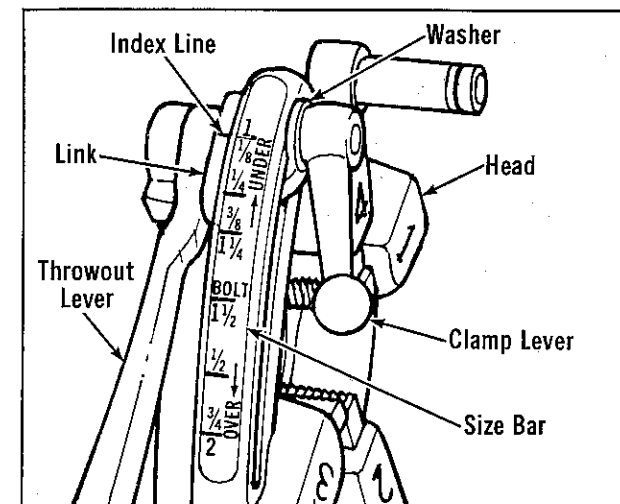


Figure 13. Universal Quick-Opening Die Head.

Operation Using Geared Threaders

Warning: Operator should be thoroughly familiar with preceding Safety Precautions before attempting to operate this equipment.

Caution: If, by accident, a RIDGID Geared Threader is backed off too far and Threaded Barrel becomes disengaged from Workholder, the Threader must be put on a bench and the threads re-engaged carefully by Hand. Do not attempt this by power.

Installing Nos. 4PJ, 141 and 161 Geared Threaders (Close-Coupled Method)

1. Adjust Threader being used. Refer to page 13 for Nos. 141 and 161 Threaders or page 15 for 4PJ Threader.
2. Place Threader on floor or workbench with Drive Shaft up. Install No. 844 Drive Bar on Threader Drive Shaft and tighten 2 Set Screws (Fig. 14).

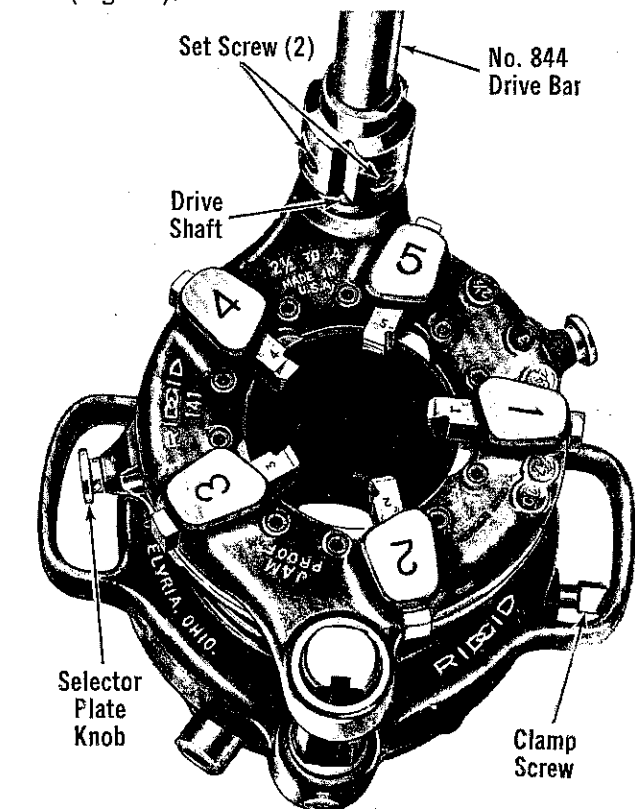


Figure 14. No. 141 Threader with No. 844 Drive Bar Installed (Nos. 161 and 4PJ Threaders Similar)

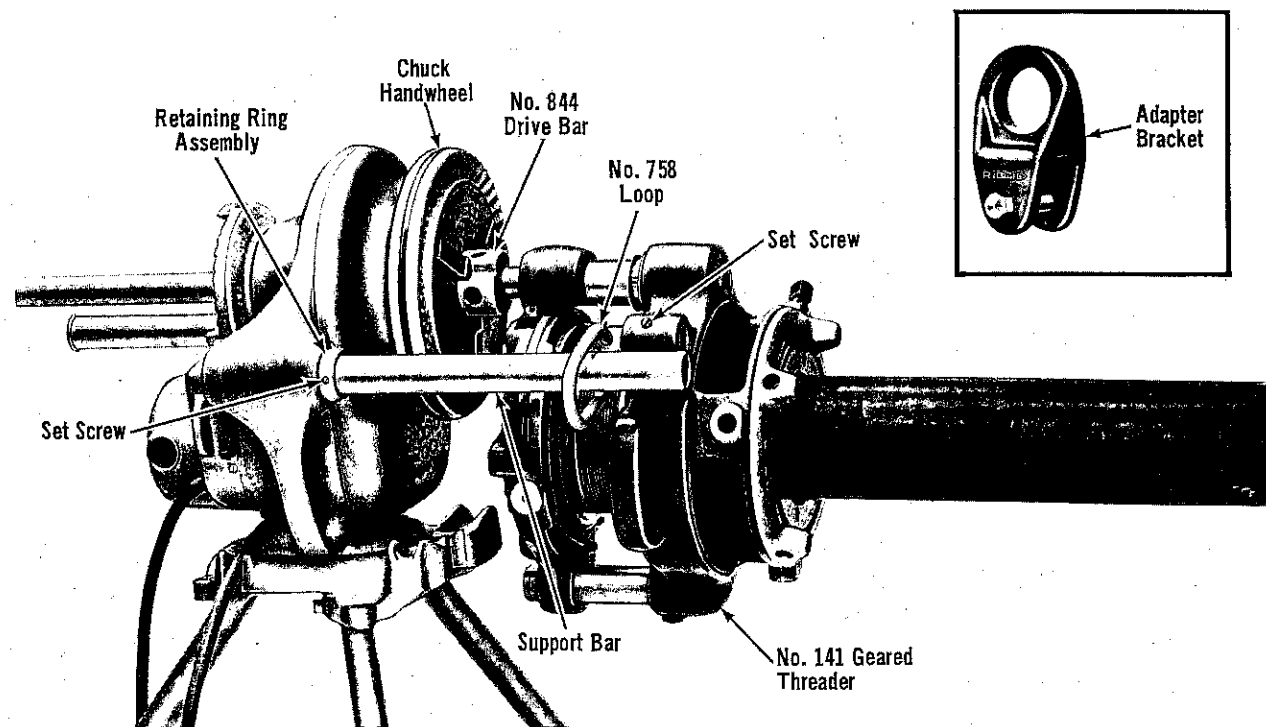


Figure 15. No. 141 Geared Threader Close-Coupled to Power Drive (No. 4PJ Threader Similar).

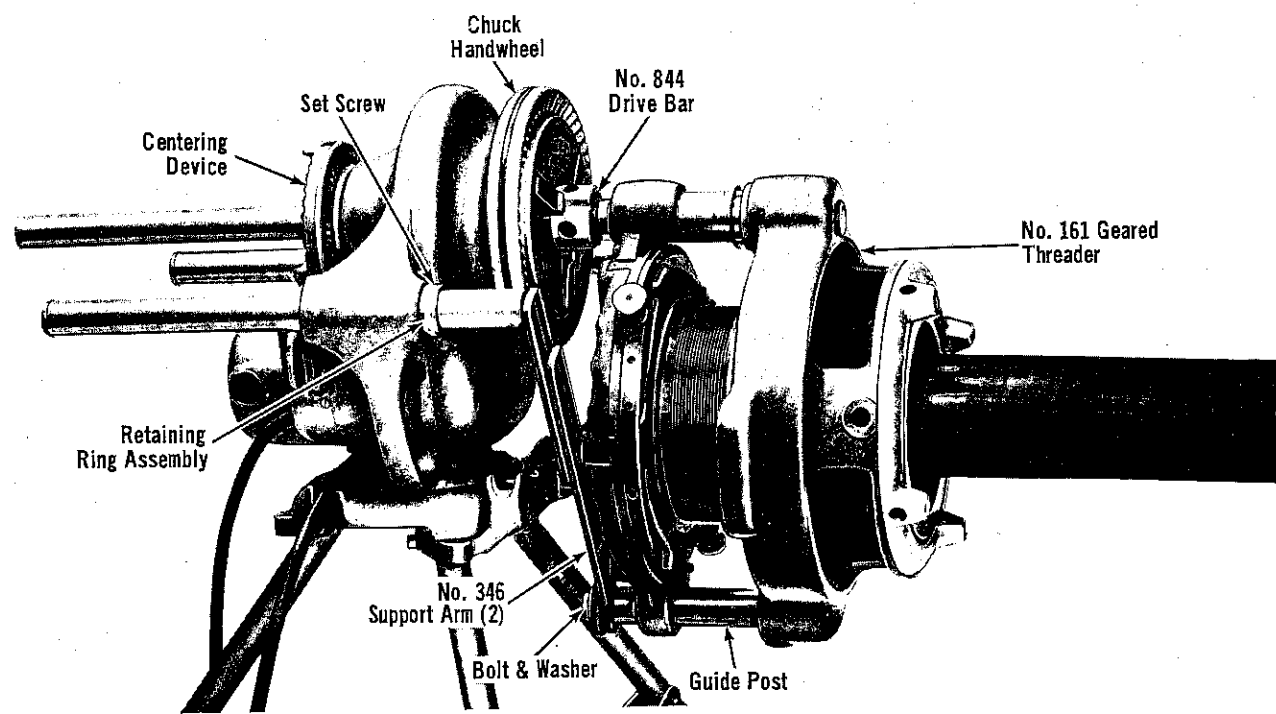


Figure 16. No. 161 Geared Threader Close-Coupled to Power Drive.

3. Two men pick up Threader and insert Drive Bar into chuck of Power Drive (Figs. 15 and 16). Tighten Power Drive Chuck Jaws into three "V" shaped grooves in head of Drive Bar.

Note: Allow approximately 3/4" of grooves exposed in front of Chuck Jaws (Fig. 17) to allow space for oiling.

4. Close centering device on shaft of Drive Bar.
5. **4PJ and 141 Threaders (Fig. 15)** - Pull out Support Bar on switch side and secure Collar against Power Drive Body with Set Screw.

161 Threader (Fig. 16) - Insert No. 346 Support Arms into Support Bars and secure collars against Power Drive Body with Set Screws.

6. **4PJ and 141 Threaders (Fig. 15)** - Slip No. 758 Loop over Support Bar and secure to Gear Case loop with Set Screw.

Note: Use No. E-3675 Adapter Bracket (Fig. 15), in place of No. 758 Loop, on all 4P and 4PJ Threaders without loop hole on Gear Case.

161 Threader (Fig. 16) - Remove Set Screw (plug) from Threader Guide Post and secure Support Arms with Bolt and Washer.

7. Insert pipe in Threader and center end of pipe in throat of Dies. Tighten workholder with Socket Wrench (Fig. 17).

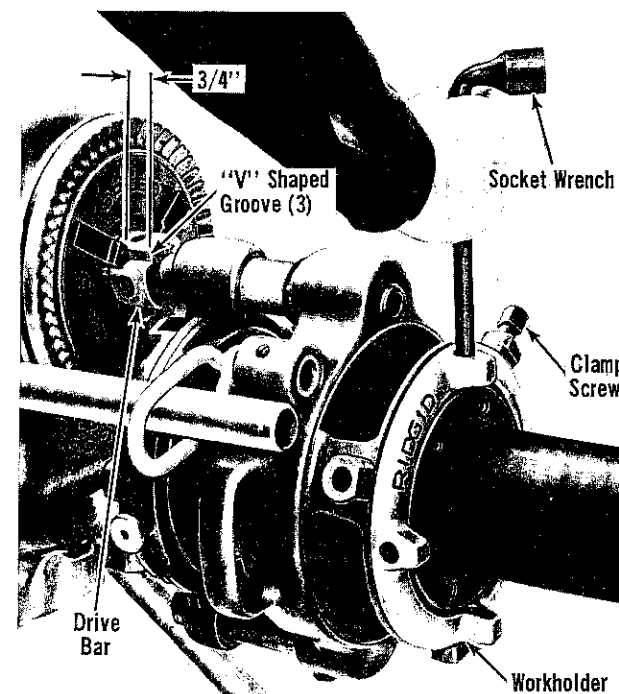


Figure 17. Tightening Workholder on No. 141 Geared Threader (No. 161 Threader Similar).

8. Tighten Clamp Screw (Fig. 17) securely.
9. Position No. 318 Oiler directly under Threader (Fig. 18).
10. Support long pieces of pipe with No. 46 Pipe Support (Fig. 18). Position approximately 2 1/2 feet from Threader.

Threading Using Nos. 4PJ, 141, and 161 Geared Threaders (Close-Coupled Method)

Note: Correct operating position for cutting, threading and reaming is to stand on switch side of the Power Drive between tripod legs with right foot operating Foot Switch.

1. Install Geared Threader and pipe.
 2. Plug in Power Cord.
 3. Turn Power Drive REV/OFF/FOR Switch to FOR (forward) position (Fig. 3).
 4. Step on Foot Switch.
 5. Flood Dies (Fig. 18) with RIDGID Thread Cutting Oil during threading operation to assure long Die life.
 6. **4PJ only** - Release Foot Switch just before Die Head begins to press on Pressure Ring (Fig. 18) at base of Pinion Sleeve.
- 141 and 161** - Release Foot Switch when red "STOP" line appears on Pinion Sleeve (Fig. 21).

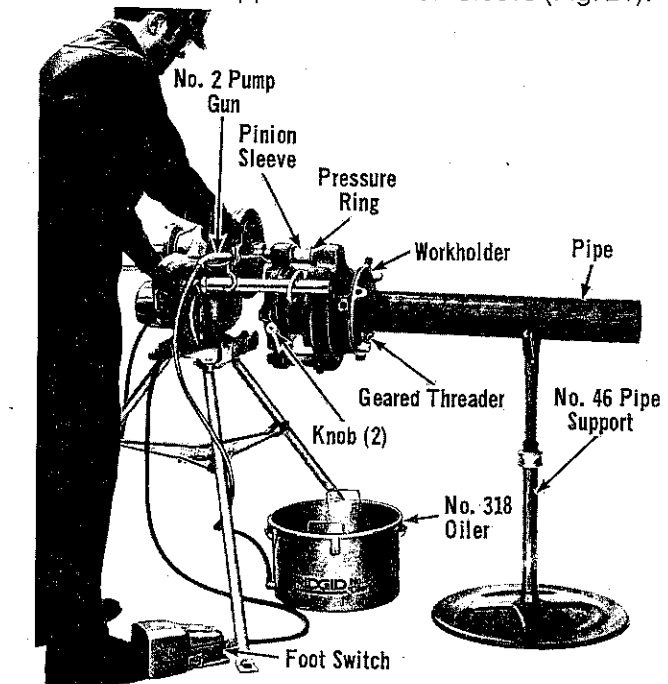


Figure 18. Threading Pipe with No. 141 Geared Threader (Close-Coupled Method) (Nos. 161 and 4PJ Threaders Similar).

Note: RIDGID Geared Threaders are jam proof designed so that Pinion Shaft will automatically disengage if Threader is accidentally run on pipe past a full thread length.

7. Turn REV/OFF/FOR Switch (Fig. 3) to REV (reverse) position.

8. **4PJ only** - Step on Foot Switch and reverse Threader until Die Head is at starting position and Dies are free from end of pipe.

Note: Do not loosen Workholder until Dies have been disengaged from pipe.

141 and 161 - Step on Foot Switch and reverse Threader one or two revolutions. Pull knobs (Fig. 18) and rotate Cam Plate as far as it will go towards CD mark on Head to disengage Dies.

9. **4PJ only** - Loosen Workholder Clamp Screw (Fig. 22) and remove pipe.

141 and 161 - Loosen Jaw Clamp Screws (Fig. 17), turn Workholder to OPEN position and remove pipe.

Note: Before threading next piece of pipe, run Threader Head beyond STANDARD line on Pinion Sleeve and then back to STANDARD line. This movement takes up slack in gearing for immediate response when cutting next thread.

10. Turn REV/OFF/FOR Switch to OFF position.

Installing Nos. 4PJ, 141 & 161 Geared Threaders Using No. 840 Universal Drive Shaft (Fig. 19)

Warning: 1. Do NOT plug Power Cord in until Geared Threader is installed and ready to thread.

2. When threading pipe larger than 2 inches, the Power Drive must be bolted to floor. Chain Vise must be securely anchored with Jack Screw Assembly and post to ceiling or bolted to floor.

1. Adjust Threader being used. Refer to page 13 for Nos. 141 and 161 Threaders or page 15 for 4PJ Threader.

2. Slide long hexagon end of the Universal Drive Shaft into front chuck of Power Drive. Tighten chuck and Centering Device Head.

3. Locate Chain Vise in line, on same level, and approximately length of Universal Drive Shaft away from Power Drive front chuck.

4. Tightly secure pipe in No. 450 Tristand Chain Vise.

5. Support long pieces of pipe with No. 92 Pipe Support.

6. Position Workholder so that a Jaw is on top center and slide Threader onto pipe. Carefully center end of pipe in throat of Dies.

7. Tighten Workholder Clamp Screw (Figs. 20 and 22) securely.

8. Slip square socket of No. 840 Universal Drive Shaft over square end of Threader Drive Shaft and tighten 2 Set Screws.

Note: When properly positioned, sliding shank of Universal Shaft should be approximately centered to allow movement in either direction.

9. Position No. 318 Oiler directly under Threader.

Threading Using Nos. 4PJ, 141, and 161 Geared Threaders with No. 840 Universal Drive Shaft

1. Install Geared Threader and pipe.

2. Plug in Power Cord.

3. Turn Power Drive REV/OFF/FOR Switch to FOR (forward) position (Fig. 3).

4. Step on Foot Switch.

5. Flood Dies (Fig. 18) with RIDGID Thread Cutting Oil during threading operation to assure long Die life.

6. **4PJ only** - Release Foot Switch just before Die Head begins to press on Pressure Ring (Fig. 18) at base of Pinion Sleeve.

141 and 161 - Release Foot Switch when red "STOP" line appears on Pinion Sleeve (Fig. 21).

Note: RIDGID Geared Threaders are jam proof designed so that Pinion Shaft will automatically disengage if Threader is accidentally run on pipe past a full thread length.

7. Turn REV/OFF/FOR Switch (Fig. 3) to REV (reverse) position.

8. **4PJ only** - Step on Foot Switch and reverse Threader until Die Head is at starting position and Dies are free from end of pipe.

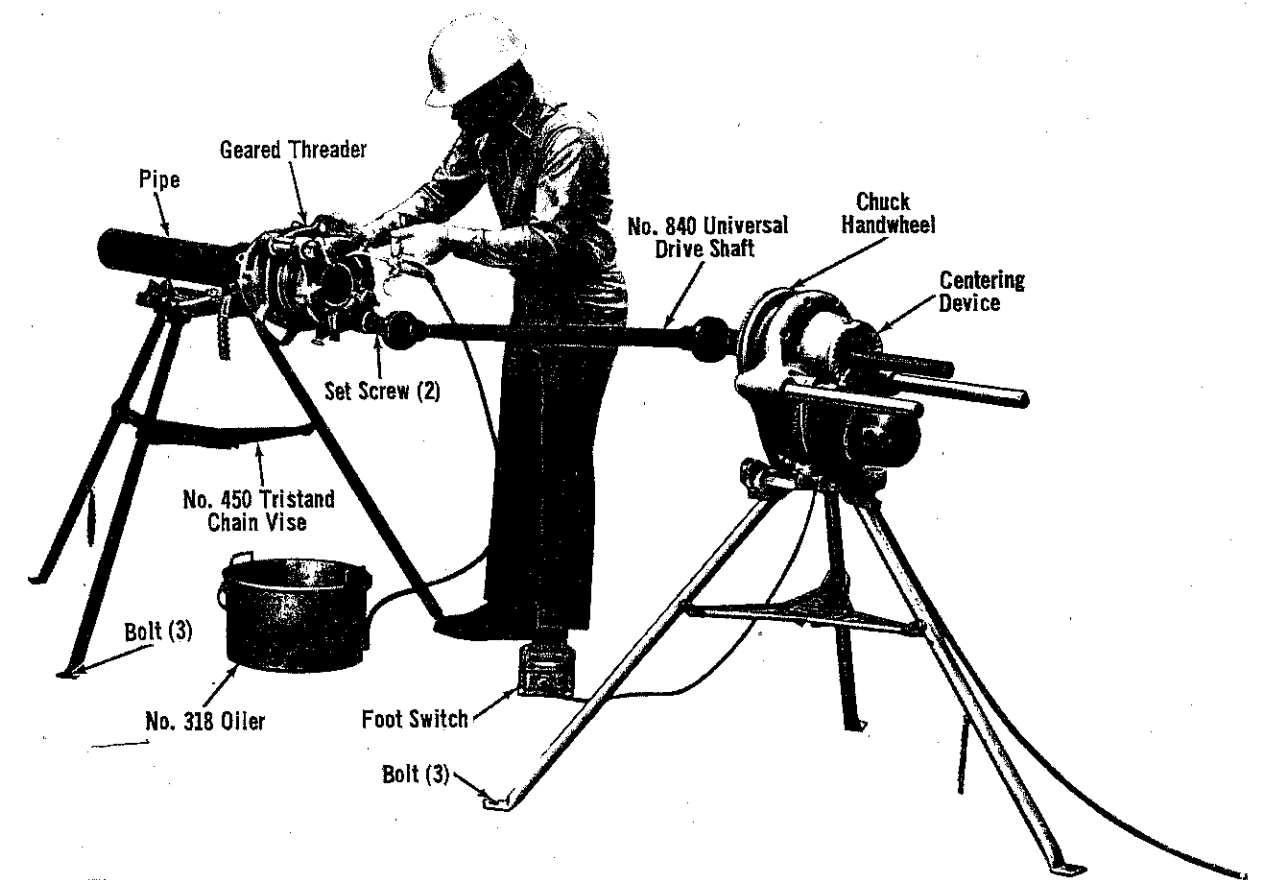


Figure 19. Threading with Nos. 141, 161, and 4PJ Geared Threaders using No. 840 Universal Drive Shaft.

Note: Do not loosen Workholder until Dies have been disengaged from pipe.

141 and 161 - Step on Foot Switch and reverse Threader one or two revolutions. Pull knobs (Fig. 18) and rotate Cam Plate as far as it will go towards CD mark on Head to disengage Dies.

9. Turn REV/OFF/FOR Switch to off position.

10. Loosen Chain Vise and remove pipe.

Removing Geared Threader and No. 840 Universal Drive Shaft

Note: Do not loosen Workholder until Dies have been disengaged from pipe.

1. Loosen 2 Set Screws (Fig. 19) and remove Universal Drive Shaft from Threader.

2. **4PJ only** - Loosen Workholder Clamp Screw (Fig. 22) and remove Threader.

141 and 161 - Loosen Jaw Clamp Screw (Fig. 20) and turn Workholder to OPEN position.

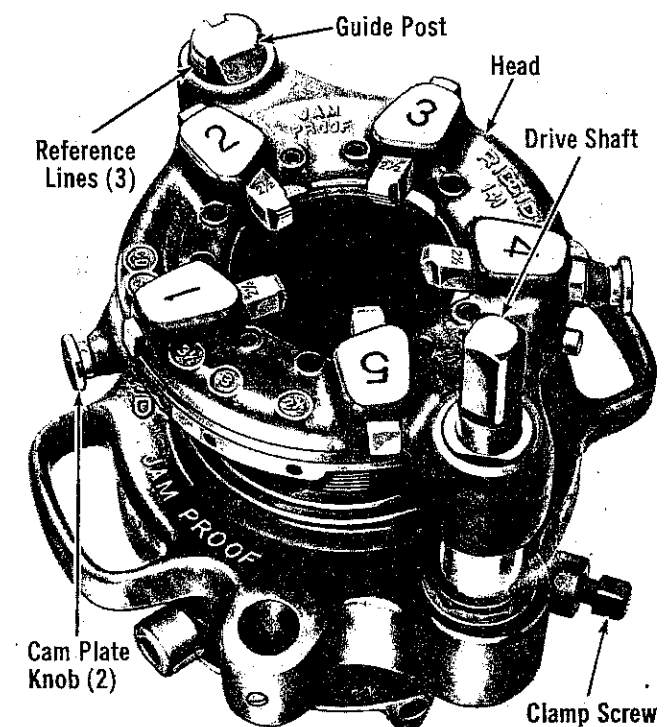


Figure 20. No. 141 Geared Threader with Drive Shaft Up (No. 161 Threader Similar).

Adjusting Nos. 141 and 161 Geared Threaders

Cam Plate (Pipe Size) Adjustment Procedure

1. Place Threader on floor or workbench with Drive Shaft up.
2. Pull Knobs (Fig. 20) of Cam Plate and rotate Cam Plate to desired pipe size marking on top of Die Head. Release Knobs when Locating Pins drop into holes in Selector Plate.

Thread Size Adjustment Procedure

Grasp Workholder and turn square end of Drive Shaft or turn Gear Case by hand to respective reference lines on Guide Post (Fig. 21).

Standard Size Thread - Either one of following 2 reference lines may be used.

Reference Line 1: Set bottom surface of Die Head at red "Standard" line on Pinion Sleeve.

Reference Line 2: Set upper surface of Die Head which houses Guide Post even with center line at top end of Guide Post.

Oversize Thread - For oversize (shallow thread) set Head at bottom line on Guide Post. This line is marked (2T OVER).

Undersize Thread - For undersize (deep thread) set head at top line on Guide Post. This line is marked (2T UNDER).

Changing Guide Post for Straight or Tapered Threads (Fig. 21)

1. Adjust Threader to cut standard size threads.
2. Remove Screw from Gear Case at base of Guide Post.
3. Pull Guide Post up until Guide Block attached to Selector Plate is disengaged from angle slot in Guide Post.
4. Turn Guide Post until straight slot faces inward for straight thread, or tapered slot inward for tapered thread.
5. Engage Guide Block in slot and push Guide Post down into position.
6. Replace Guide Post Screw.

Note: Unit is now set to cut straight threads (NPSM or BSPP) or taper threads (NPT or BSPT).

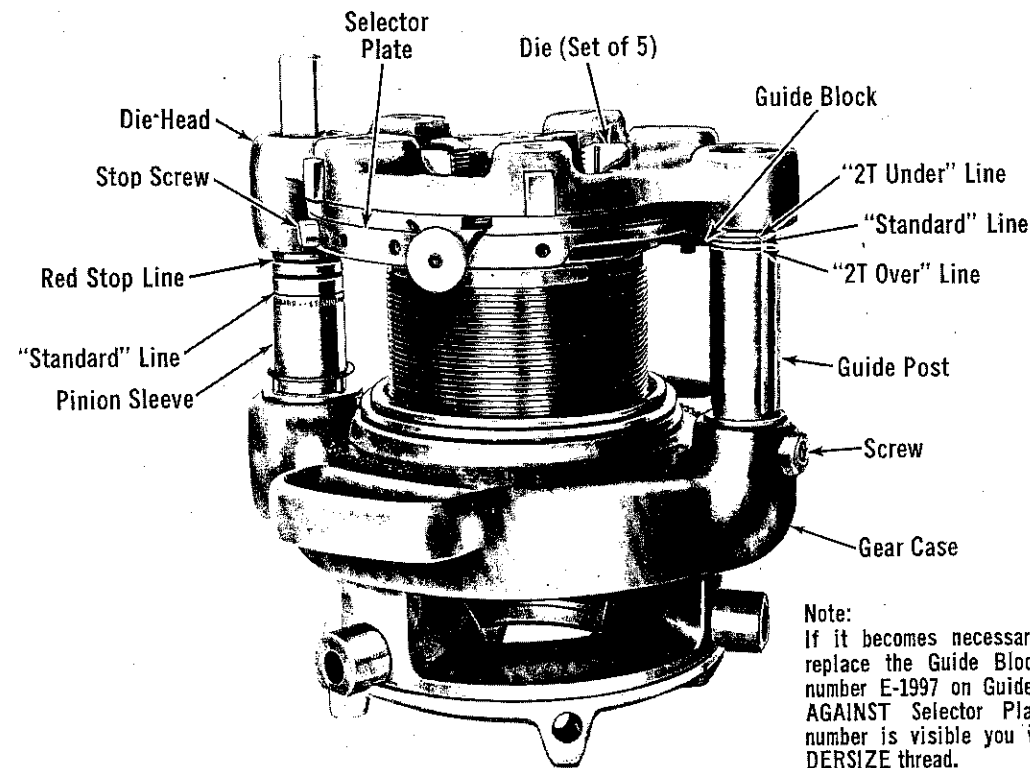


Figure 21. No. 141 Geared Threader showing Pinion Sleeve and Guide Post Reference Lines.

Changing Dies

1. Remove Stop Screw (Fig. 21) from Selector Plate.
2. Pull Knobs (Fig. 20) and rotate Cam Plate to CD mark on top of Die Head.
3. Remove worn set of Dies (Fig. 21) and insert new Dies.

Note: Be sure to replace complete set of Dies and that Die numbers correspond with slot numbers.

4. Replace Stop Screw.

Note: If it becomes necessary to remove or replace the Guide Block, the stamped number E-1997 on Guide Block must be AGAINST Selector Plate. If stamped number is visible you will cut an UNDERSIZE thread.

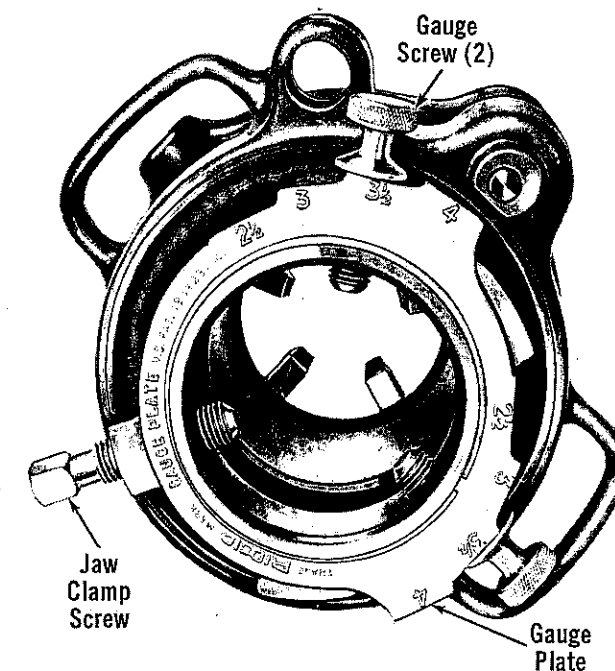


Figure 22. No. 4PJ Geared Threader with Workholder Up.

Adjusting No. 4PJ Geared Threader

Workholder (Pipe Size) Adjustment Procedure (Fig. 22)

1. Place Threader on floor or workbench with Workholder up.
2. Loosen 2 Gauge Screws.
3. Adjust Gauge Plate to desired size pipe.
4. Tighten Gauge Screws against Gauge Plate.
5. Back out Clamp Screw so that Workholder will slip over pipe when installed.

Thread Size Adjustment Procedure (Fig. 23)

1. Turn Threader over so Drive Shaft is up.
2. Grasp Workholder and turn square end of Drive Shaft or turn Gear Case by hand to reference lines on posts.

Standard Size Thread - Set Head so surface of numbered pads is even with line around ends of Posts.

Oversize Thread - For oversize (shallow thread) set numbered pads on Head below line on Posts. Each 1/8 inch of offset will change thread size one turn.

Undersize Thread - For undersize (deep thread) set surface of numbered pads on Head above line on Posts. Each 1/8 inch of offset will change thread size one turn.

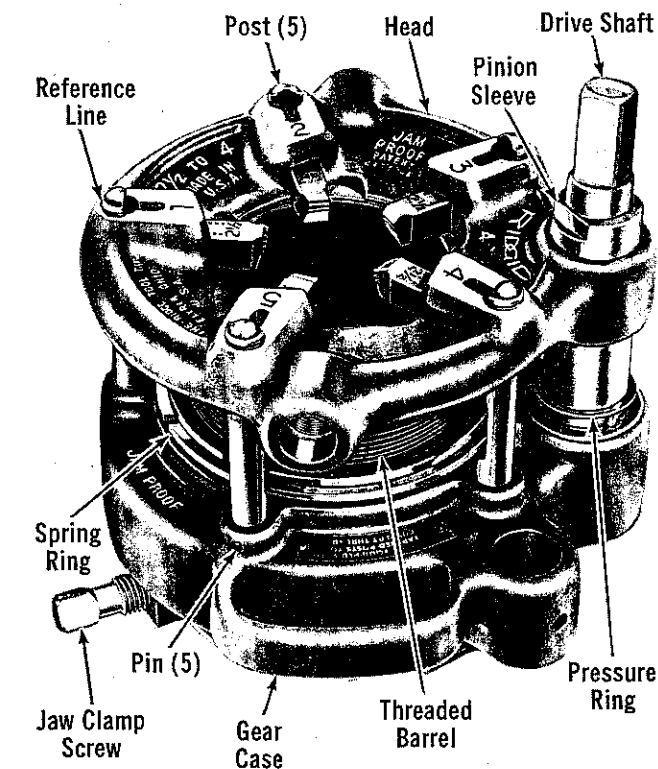


Figure 23. No. 4PJ Geared Threader with Drive Shaft Up.

Changing Die Set (Fig. 23)

1. Insert small screwdriver in slot in Head between Post and Die. Push Die out.

Note: Die is retained by spring loaded ball.

2. Install replacement Die, seating firmly against Post.

Note: 1. Be sure that Die number corresponds with slot number and that slot and Post are free of chips and dirt. Replace complete Die Set.

2. 4PJ Threaders with E-2445 Straight Posts (NPSM-American Thread or BSPP-British Thread) must use special Dies for straight threads only. Threaders equipped with E-1946 Taper Posts must use standard Taper Pipe Dies (NPT-American Thread or BSPT-British Thread) only.

No. 819 Nipple Chuck

The RIDGID No. 819 Nipple Chuck is a quick and easy tool for holding short and close nipples or studs for threading. No. 200 Power Drive should be equipped with No. 311 Carriage and Self-Opening or Quick-Opening Die Head.

CAPACITY: 1/8" to 2" Standard Pipe (NPT).
1/4" to 2" - Bolts or Studs UNC or UNF.

Pipe Adapters	Stud Adapters
1/8", 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2"	1/4" to 2" UNC 1/4" to 1 1/2" UNF

Short or Close Nipple Threading Procedure

1. Grip pipe in Power Drive Chuck. Thread and ream one end and cut nipple to desired length.

Note: Correct operating position for cutting, threading and reaming is to stand on the switch side of the Power Drive straddling the nearest tripod leg with left foot operating Foot Switch.

2. Place Nipple Chuck Body (Fig. 24) in Power Drive chuck, gripping jaw grooves.
3. Position Insert (Fig. 24) small end toward adapter with 1/8" to 3/4" pipe; large end with 1" pipe; no insert 1 1/4" pipe and up.

4. Select proper size Nipple Chuck Adapter and screw into nipple chuck (Fig. 25) by hand. Tighten with wrench.
5. Screw nipple (Fig. 25) threaded on one end into adapter by hand. Ream and thread other end.
6. Insert pin on end of Wrench (Fig. 26) into one of holes in Nipple Chuck Release Collar and turn. Remove threaded nipple by hand.

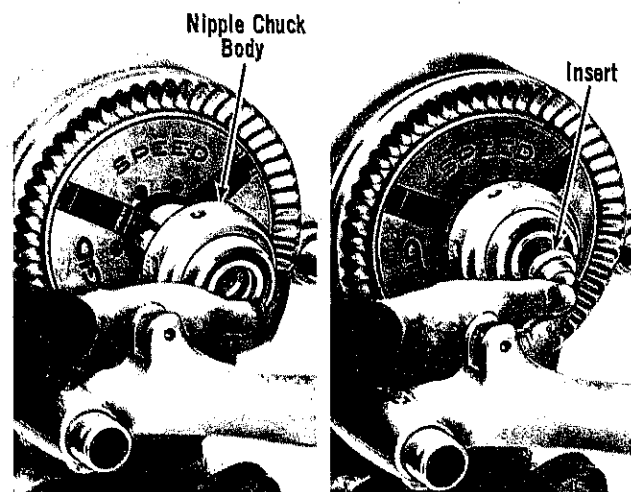


Figure 24. Installing Nipple Chuck Body and Insert.

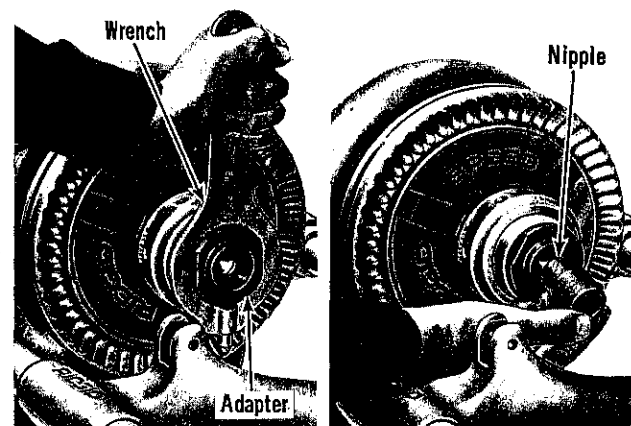


Figure 25. Installing Nipple Chuck Adapter and Nipple.

Maintenance Instructions

Warning: Always unplug Power Cord before servicing Power Drive.

Jaw Insert Replacement (Fig. 27)

Note: Clean teeth of Jaw Inserts daily with wire brush. When teeth on Jaw Inserts become worn and fail to hold pipe or rod during operation, replace entire set of Jaw Inserts.

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 (Fig. 28) are provided on side of base, one at each end of shaft. Use a good grade of cup grease.

Motor Brush Replacement

Check motor Brushes every 6 months and replace when worn to less than 1/2 inch. If Commutator is worn, turn O.D. of Commutator and undercut mica before replacing Brushes.

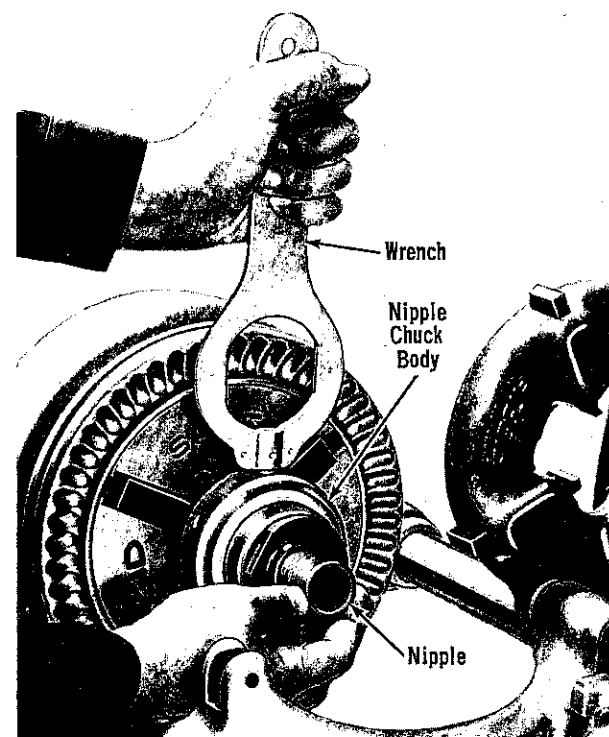


Figure 26. Releasing Nipple from Nipple Chuck.

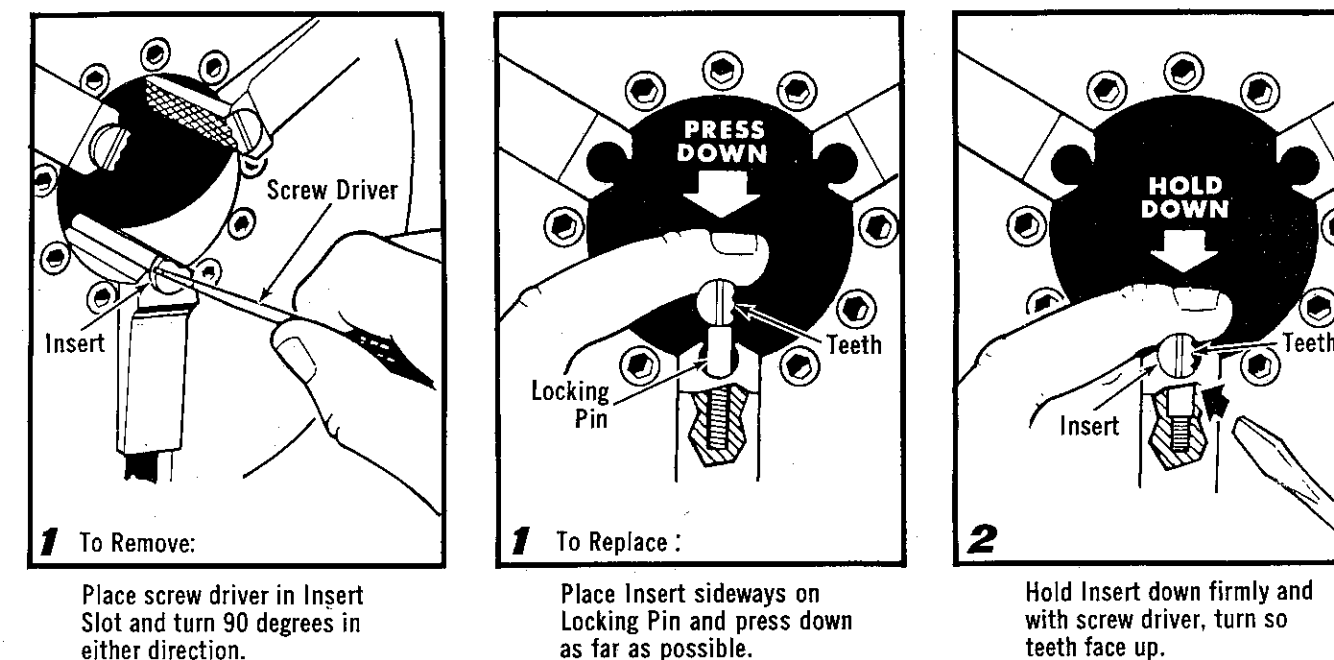


Figure 27. Replacing Jaw Inserts.

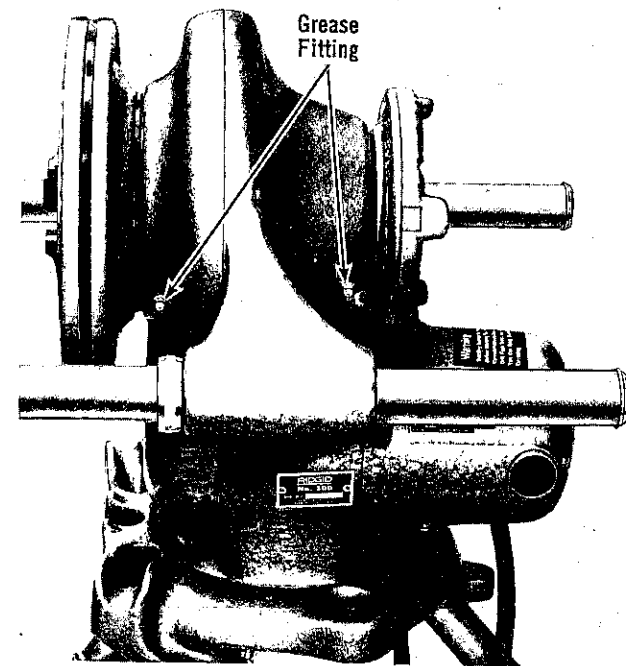


Figure 28. Power Drive Main Shaft Bearings Grease Fittings.

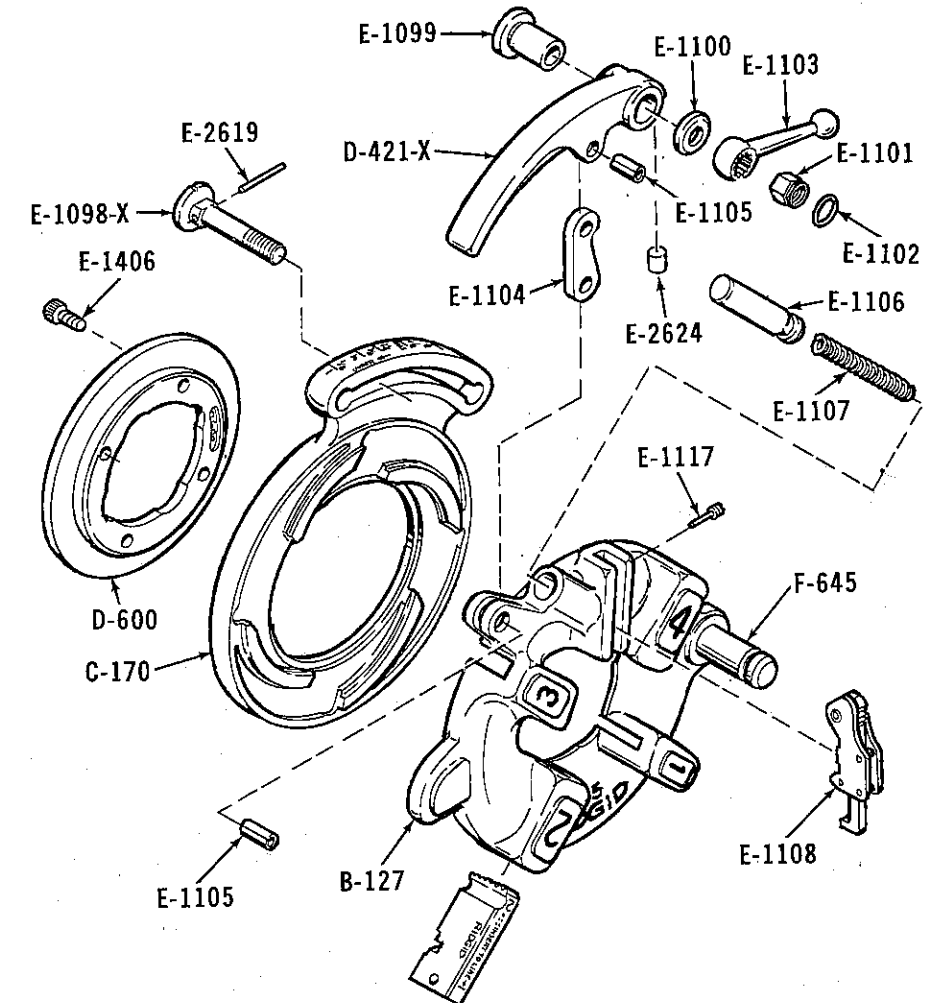
Replacing Motor Drive Belt

1. Remove 3 Socket Head Screws from motor housing and remove with Motor.
2. Remove Drive Belt.
3. Clean out any dirt or lint in housing or around shaft of Motor and Driven Pulley.
4. Install replacement Belt on Driven Pulley.
5. Install motor housing with Motor and engage motor Driver Pulley in Belt.

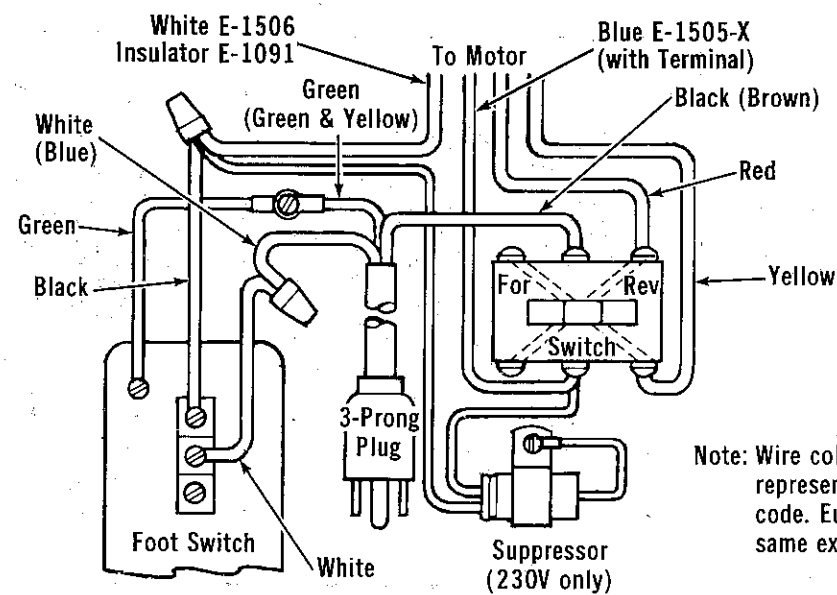
Caution: Take care when engaging motor Driver Pulley in replacement Belt so teeth of Pulley engage those of Belt, otherwise damage may occur to the Belt when Switch is turned on.

6. Replace 3 Socket Head Screws.

No. 815 Self-Opening Die Head



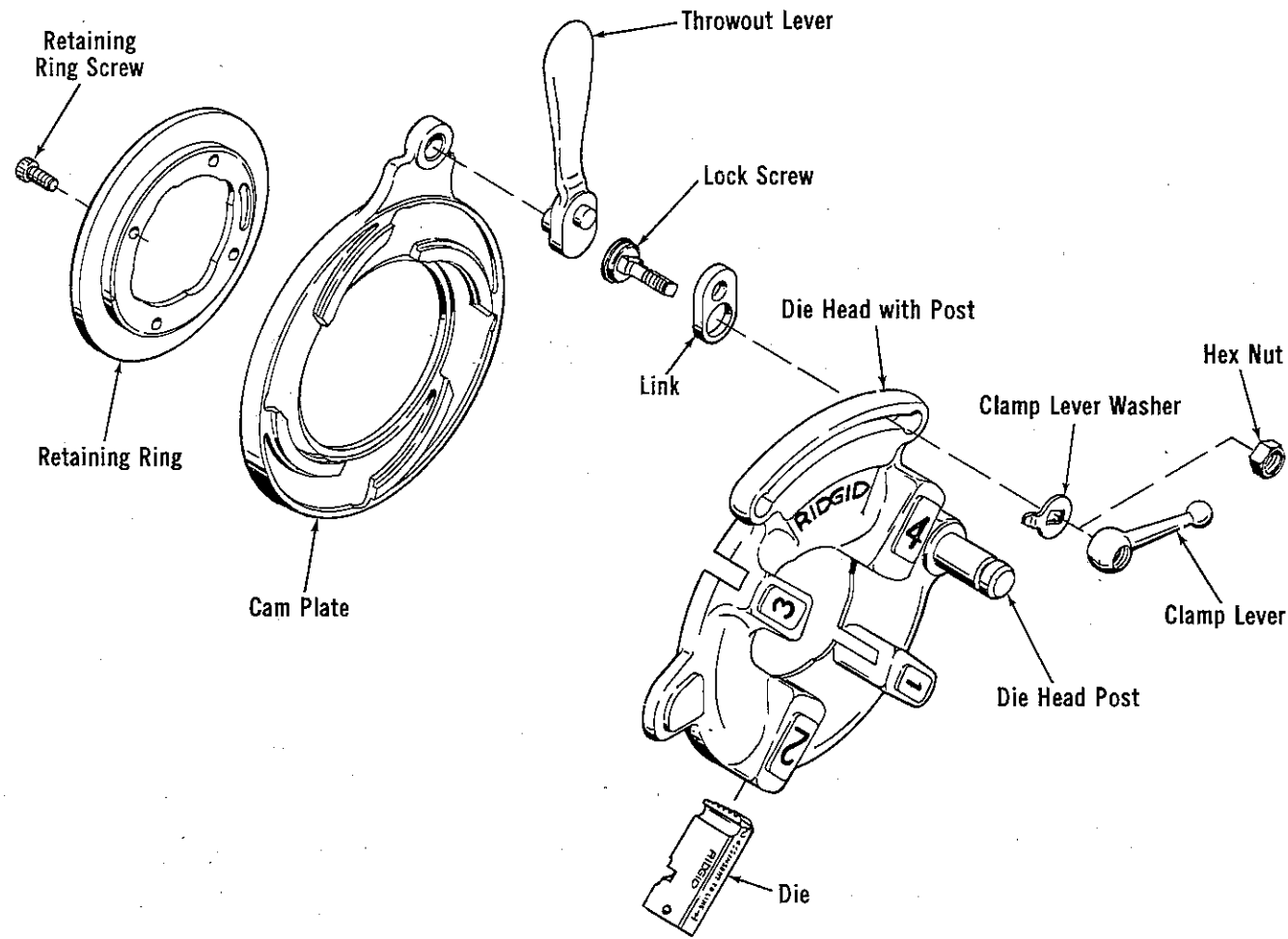
Part No.	Qty.	Part Name	Part No.	Qty.	Part Name
B-127	1	Die Head with F-645 Post	E-1105	2	Roll Pin
C-170	1	Cam Plate	E-1106	1	Throwout Plunger
D-421-X	1	Throwout Lever with Insert	E-1107	1	Compression Spring for Plunger
D-600	1	Retaining Ring	E-1108	1	Trigger Assembly
E-1098-X	1	Lock Screw (Incl. E-2619)	E-1117	1	Screw for Trigger Assembly
E-1099	1	Bushing for Lock Screw	E-1406	4	Screw for Retaining Ring
E-1100	1	Washer	E-2619	1	Pin
E-1101	1	Hex Nut	E-2624	1	Insert
E-1102	1	Retaining Spring Ring	F-645	1	Post
E-1103	1	Clamp Lever			
E-1104	1	Throwout Link			



Note: Wire colors in parenthesis represent European color code. European cord the same except for plug.

Figure 29. Machine Wiring Diagram

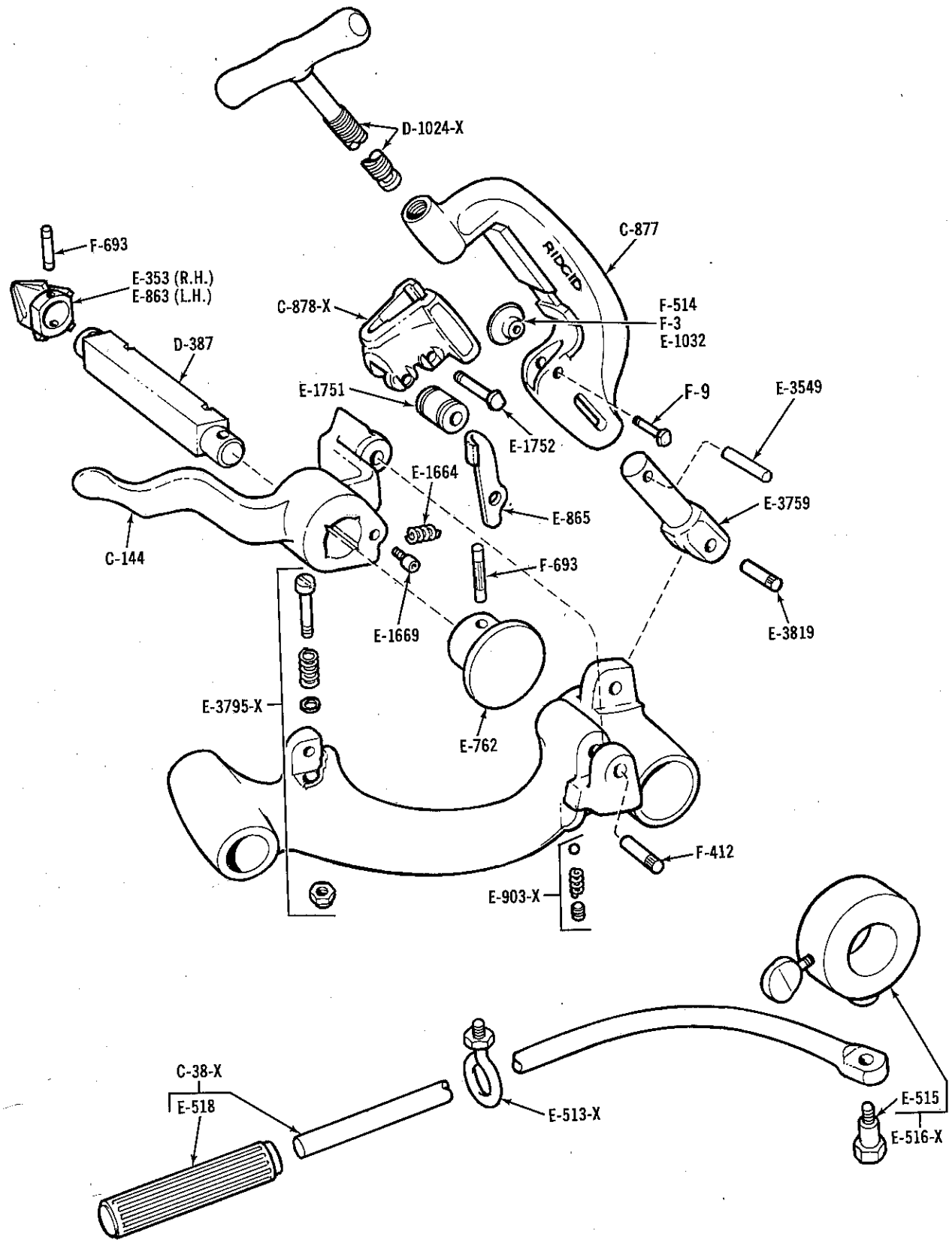
Quick-Opening Die Heads



Quick-Opening Die Heads

Die Head	Cam Plate	Clamp Lever	Clamp Lever Washer	Die Head (RH) With Post	Die Head (LH) With Post	Die Head Post	Hex Nut	Link	Lock Screw	Retaining Ring (RH)	Retaining Ring (LH)	Retaining Ring Screw	Throwout Lever
Universal Die Head	C-329	F-672	E-1042	B-728	B-835	F-645	—	F-536	E-933	D-600	D-663	E-1406	E-660
Pipe Die Sets (RH) (1/8", 1/4" and 3/8"), (1/2" and 3/4"), (1" thru 2"). (LH) (1/4" and 3/8"), (1/2" and 3/4"), (1" thru 2"). Bolt Die Sets (RH) UNC or UNF 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/2", Universal (RH) UNC 1 3/4", 2". (LH) None.													
No. 515 (RH)	C-332	F-672	E-1042	B-297-1	—	F-645	—	F-536	E-933	E-612	—	E-1406	E-671
Pipe Die Sets (RH) No. 551 — 1/8", No. 552 — (1/4" and 3/8"), No. 554 — (1/2" and 3/4").													
No. 514 (LH)	C-332	F-672	E-1042	—	B-1120	F-645	—	F-536	E-933	—	E-612	E-1406	E-671
Pipe Sets (LH) 1/8", (1/4" and 3/8"), (1/2" and 3/4").													
Mono Die Heads (RH) 1/8"	C-244	—	E-1042	B-312	—	F-645	E-905	F-536	F-663	1/8" D-925	—	E-1406	E-671
1/4", 3/8"	Pipe Die Sets 1/8", 1/4", 3/8"												
RH or LH 1/2", 3/4"	C-242	—	E-1042	B-309	B-422	F-645	E-905	F-536	F-663	1/2" D-928	E-1118	E-1406	E-671
Pipe Die Sets 1/2", 3/4" (RH or LH).													
RH or LH 1", 1 1/4"	C-240	—	E-1042	B-307	B-450	F-645	E-905	F-536	F-663	1" D-930	E-1144	E-1406	E-671
Pipe Die Sets 1", 1 1/4" (RH or LH).													
RH or LH 1 1/2", 2"	C-239	—	E-1042	B-308	B-453	F-645	E-905	F-536	F-663	1 1/2" D-932	E-1146	E-1406	E-671
Pipe Die Sets 1 1/2", 2" (RH or LH).													
No. 500-B Bolt Die Heads RH or LH 1/4" thru 1"	C-383	F-672	E-1042	B-359	B-359	F-645	—	F-536	F-537	E-839	E-839	E-1406	E-671
Bolt Die Sets 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", 1" UNC or UNF Right Hand or Left Hand.													
RH or LH 1 1/8" thru 2"	C-384	F-672	E-1042	B-360	B-360	F-645	—	F-536	F-537	E-840	E-840	E-1406	E-671
Bolt Die Sets 1 1/8", 1 1/4", 1 3/8", 1 1/2" UNC or UNF, 1 3/4", 2" UNC Right Hand or Left Hand. 8 UN — 1 1/8" thru 2 1/2"; 12 UN — 1/2" thru 2 1/2"; 16 UN — 1 3/16" thru 2 1/2".													
General Purpose Acme and Metric Dies Available on Request.													

Nos. 311 Carriage w/312 Carriage Lever,
341 Reamer and 360 Cutter



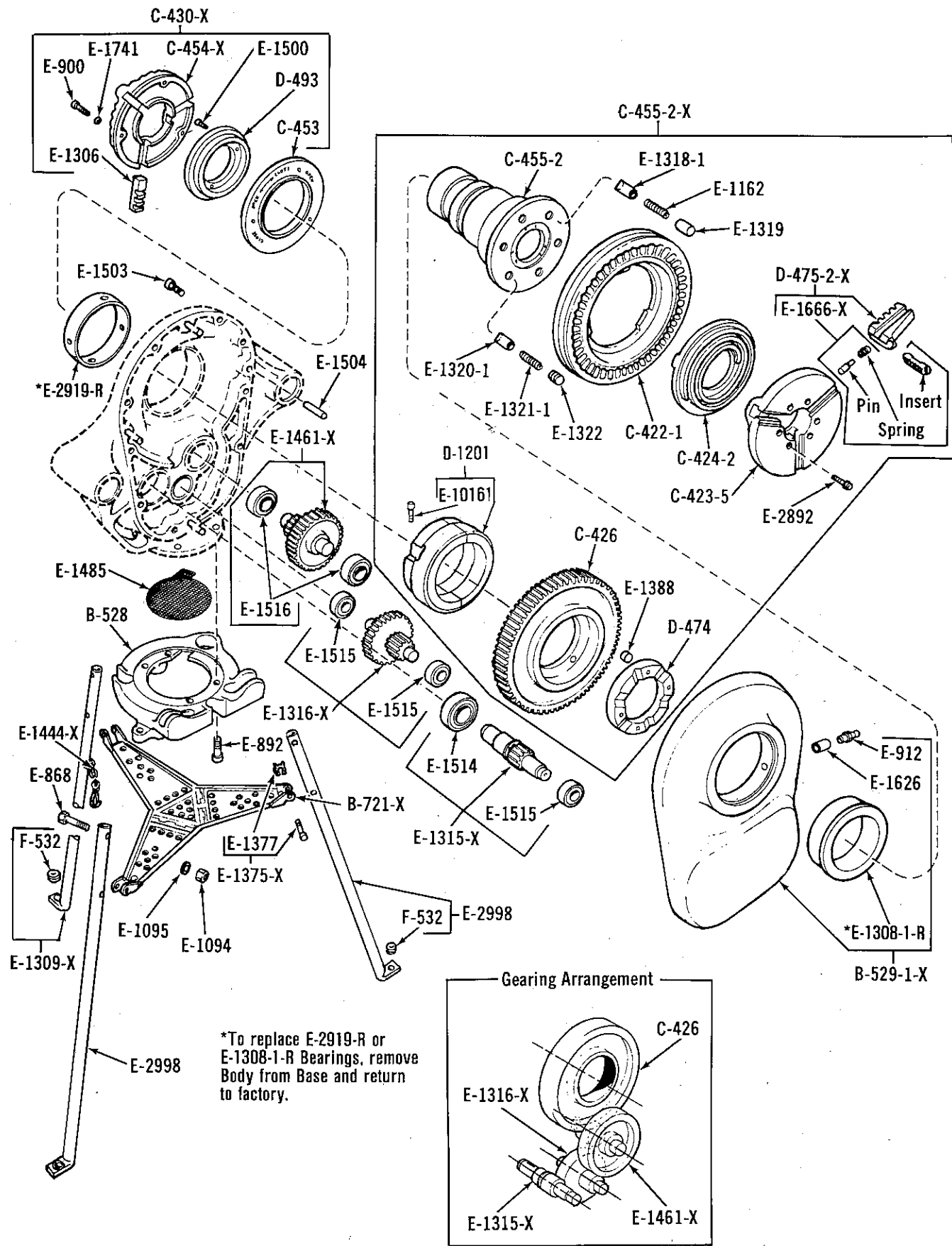
Nos. 311 Carriage w/312 Carriage Lever,
341 Reamer and 360 Cutter

Part No.	Qty.	Part Name
C-38-X	1	Lever Arm Assembly
C-144	1	Reamer Arm
C-877	1	Cutter Frame
C-878-X	1	Roll Housing & Wear Plug Assembly
D-387	1	Reamer Bar
D-1024-X	1	Screw Handle
E-353	1	Reamer Cone (RH)
E-511-X	1	"J" Clamp Assembly (See Note)
E-513-X	1	Eye Bolt Assembly
E-515	1	Shoulder Bolt
E-516-X	1	Collar Assembly
E-518	1	Handgrip
E-762	1	Reamer Knob
E-863	1	Reamer Cone (LH)
E-865	1	Reamer Latch
E-903-X	1	Set Screw Assembly
E-1032	1	Cutter Wheel
E-1664	1	Latch Spring
E-1669	1	Latch Screw
E-1751	2	Roll
E-1752	2	Roll Pin
E-3549	1	Retaining Pin
E-3759	1	Support Arm
E-3795-X	1	Stop Bolt Assembly (Incl: Stop Bolt, Stop Nut, Washer, and Spring)
E-3819	1	Pin
F-3	1	Cutter Wheel (No. 1 & 2 Heavy-Duty)
F-9	1	Wheel Pin
F-412	1	Hinge Pin
F-514	1	Cutter Wheel (No. 1 & 2 Std. Thin)
F-693	1	Pin

Specify Model Number When Ordering Parts.

Note: RIDGID No. 310 Carriage (without tapped hole) requires "U" Clamp Assembly with E-511-X Set Screw to install No. 312 Lever. E-511-X Set Screw is available on order from factory.

Chuck, Body, Gear and Stand Assemblies



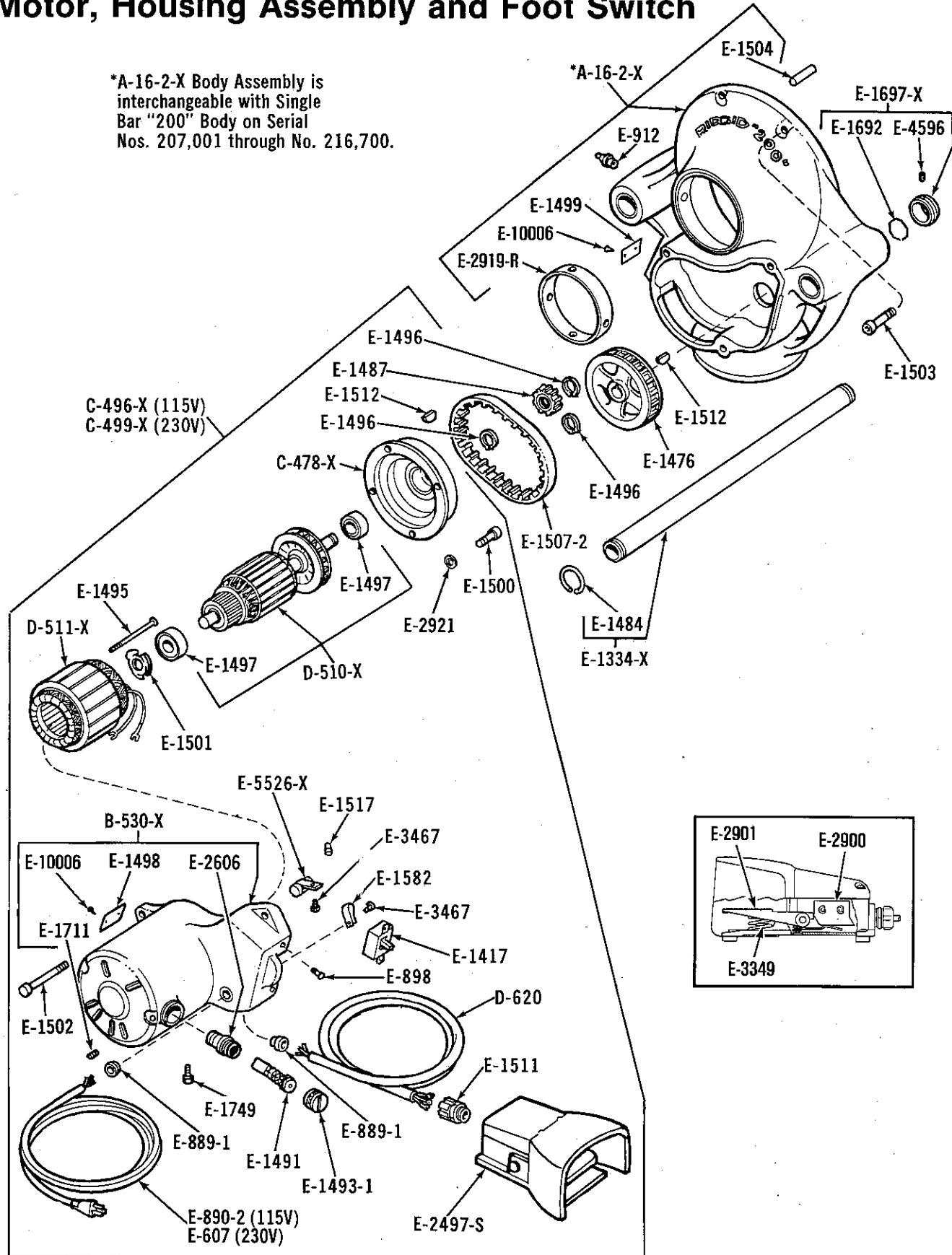
Chuck, Body, Gear and Stand Assemblies

Part No.	Qty.	Part Name	Part No.	Qty.	Part Name
B-528	1	Base	E-1316-X	1	2nd Intermediate Gear Assembly (Incl. (2) E-1515)
B-529-1-X	1	Front Cover Assembly (Incl. E-912, E-1308-1 & E-1626)	E-1318-1	3	Drive Wedge
B-721-X	1	Folding Tray	E-1319	3	Spring Cap
C-422-1	1	Chuck Habdwheel	E-1320-1	3	Pressure Plunger
C-423-5	1	Cap	E-1321-1	3	Compression Spring
C-424-2	1	Scroll	E-1322	3	Retaining Plug
C-426	1	Gear (100 Tooth)	E-1375-X	3	Pin w/"X" Washer
C-430-X	1	Centering Assembly	E-1377	3	"X" Washer
C-453	1	Centering Backplate	E-1388	3	Drive Plug
C-454-X	1	Centering Head	E-1444-X	1	Leg Chain
C-455-2	1	Drive Shaft	E-1461-X	1	3rd Intermediate Gear Assembly (Incl. (2) E-1516)
C-455-2-X	1	Speed Grip Drive Shaft Assembly	E-1485	1	Protector Screen
D-474	1	Pressure Plate	E-1500	3	Screw
D-475-2-X	1 set	Chuck Jaw (3 per set) (Incl. (1 set) E-1666-X)	E-1502	2	Screw
D-493	1	Centering Scroll	E-1503	6	Screw
D-1201	1	Split Bearing (Incl. (2) E-896)	E-1504	4	Dowel Pin
E-868	3	Leg Bolt	E-1514	1	Ball Bearing
E-892	4	Screw	E-1515	3	Ball Bearing
E-900	3	Screw	E-1516	2	Ball Bearing
E-912	1	Grease Fitting	E-1626	1	Hollow Dowel Pin
E-1094	3	Nut	E-1666-X	1 set	Insert (3 per set) (Incl. (3) Pin & (3) Spring)
E-1095	3	Lock Washer	E-1741	3	Lock Washer
E-1162	3	Spring	E-2892	6	Screw
E-1306	1 set	Centering Jaw (3 per set)	E-2919-R	1	Rear Bearing
E-1308-1-R	1	Front Bearing	E-2998	2	Front Leg (Incl. F-532)
E-1309-X	1	Rear Leg (Incl. F-532)	E-10161	2	Screw
E-1315-X	1	Intermediate Gear Assembly (Incl. E-1514 & E-1515)	F-532	3	Grommet

Specify Machine Model and Serial Numbers when ordering parts.

Motor, Housing Assembly and Foot Switch

*A-16-2-X Body Assembly is interchangeable with Single Bar "200" Body on Serial Nos. 207,001 through No. 216,700.



Motor, Housing Assembly and Foot Switch

Part No.	Qty.	Part Name	Part No.	Qty.	Part Name
A-16-2-X	1	Body Assembly (Incl. E-912, (2) E-913-1, E-1499, (4) E-1504 & E-2919)	E-1498	1	Motor Name Plate
B-530-X	1	Motor Housing Assembly (Incl. (2) E-913-1, (2) E-2606, (2) E-1711 & E-1498)	E-1499	1	Name Plate
C-478-X	1	Fan Housing	E-1500	4	Screw
C-496-X	1	Motor Complete (115V)	E-1501	1	Load Spring
C-499-X	1	Motor Complete (230V)	E-1502	3	Screw
D-510-X	1	Armature and Fan Assembly (Incl. (2) E-1497)	E-1503	6	Screw
D-511-X	1	Field Assembly (Indicate Voltage)	E-1504	4	Dowel Pin
D-620	1	Cord	E-1507-2	1	Drive Belt
E-607	1	Service Cord with Plug (230V)	E-1511	1	Connector
E-889-1	2	Grommet	E-1512	2	Key
E-890-2	1	Service Cord with Plug (115V)	E-1517	2	Wire Nut
E-898	2	Screw	E-1582	1	Clip
E-912	1	Grease Fitting	E-1692	2	Octagon Ring
E-1334-X	2	Support Bar Assembly (Incl. E-1484)	E-1697-X	2	Retaining Ring Assembly (Incl. E-1692 & E-4596)
E-1417	1	Switch	E-1711	2	Set Screw
E-1476	1	Driven Pulley	E-1749	1	Field Locking Screw
E-1484	2	Spring Ring	E-2497-S	1	Foot Switch
E-1487	1	Driver Pulley	E-2606	2	Brush Holder
E-1491	1 set	Brush Assembly (2 per set)	E-2900	1	Micro Switch
E-1493-1	2	Brush Cap	E-2901	1	Treadle
E-1495	2	Screw	E-2919-R	1	Rear Bearing
E-1496	4	Snap Ring	E-2921	4	Lock Washer
E-1497	2	Ball Bearing	E-3349	1	Spring
			E-3467	3	Screw
			E-4596	2	Set Screw
			E-5526-X	1	Suppressor Kit (230V) (Incl. Suppressor, Clamp, Terminals, Grommet & Mounting Screw)
			E-10006	4	Pop Rivet

Specify Machine Model and Serial Numbers When Ordering Parts.

Availability of Dies and Threaders

Die Head or Threader		Pipe						Bolt												
Model Number	Range	For All NPT — NPSM — BSPT and BSPP			British Electrical Conduit (BEC)			For All UNC — UNF — BSW and BSF		Constant Pitch Series 8UN, 12UN, 16UN		General Purpose ACME		Metric (S.I.) Series "A"		Metric (S.I.) Series "B"		Metric Trapezoidal High Speed R.H. or L.H.		
		Alloy	L.H.	R.H.	High Speed	Alloy	L.H.	R.H.	Alloy	L.H.	R.H.	High Speed	Alloy	L.H.	R.H.	High Speed	Alloy	L.H.	R.H.	High Speed
No. 815 (R.H.) (1)	1/8"-2"			X			X													
Universal (R.H.) (1)	1/8"-2"	X		X			X													
Universal (L.H.) (1)	1/4"-2"		X																	
515 (R.H.)	1/8"-3/4"		X																	
514 (L.H.)	1/8"-3/4"		X																	
Mono (R.H.)	1/8"-2"		X																	
Mono (L.H.)	1/8"-2"		X																	
0-R (1)	1/8"-1"	X	X	X	X	X	X													
11-R (1)	1/8"-1 1/4"	X	X	X	X	X	X													
111-R (1)	1/8"-1 1/4"	X	X	X	X	X	X													
12-R (1)	1/8"-2"	X	X	X	X	X	X													
30-A (1)	3/8"-3/4"	X	X	X	X	X	X													
31-A (1)	1/2"-1"	X	X	X	X	X	X													
65-R (1,2,5)	1"-2"			X																
4PJ (1,2,3)	2 1/2"-4"	X		X																
141 (1,2)	2 1/2"-4"			X																
161 (1,2)	4"-6"			X																
502	1/2"-3/4"	X		X																
504	1"-2"	X		X																
101	1/4"-1"			X				X	X	X	X									
500-B (1/4"-1")	1/4"-1"			X				X	X	X	X									
500-B (1 1/8"-2")	1 1/8"-2"			X				X	X	X	X									
00-RB (4)	1/4"-1"			X				X	X	X	X									
11-R	1/2"-1 1/2" (6)																			
500-B (1/4"-1")	1/2"-1" (6)																			
500-B (1 1/8"-2")	1 1/4"-2" (6)																			
500-B (1/4"-1")	3/8"-3/4"																			
500-B (1 1/8"-2")	3/4"-2"																			
101	6mm-25mm																			
500-B (1/4"-1")	6mm-25mm																			
500-B (1 1/8"-2")	26mm-35mm																			
500-B (1 1/8"-2")	36mm-52mm																			

Footnotes: (1) Requires British Threader to cut British Threads
 (2) Cuts Right Hand Threads only
 (3) Requires Special Threader for Parallel Threads (NPSM or BSPP)
 (4) BSF not Available
 (5) Not recommended for NPSM or BSPP
 (6) Nominal Diameters are actual OD's in inches

Explanation of Thread Forms: NPT NPSM
 BSPT BSPP
 UNC (NC) UNF (NF)
 BSW BSE
 BEC
 National Pipe Taper
 National Pipe Straight Mechanical
 British Standard Pipe Taper
 British Standard Pipe Parallel
 Unified National Coarse
 Unified National Fine
 British Standard Whitworth
 British Standard Fine
 British Electrical Conduit

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