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300 Compact

Pipe and Bolt Threading Machine

OPERATOR'S MANUAL

- Français – 23
- Castellano – pág. 47

⚠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.

RIDGID®

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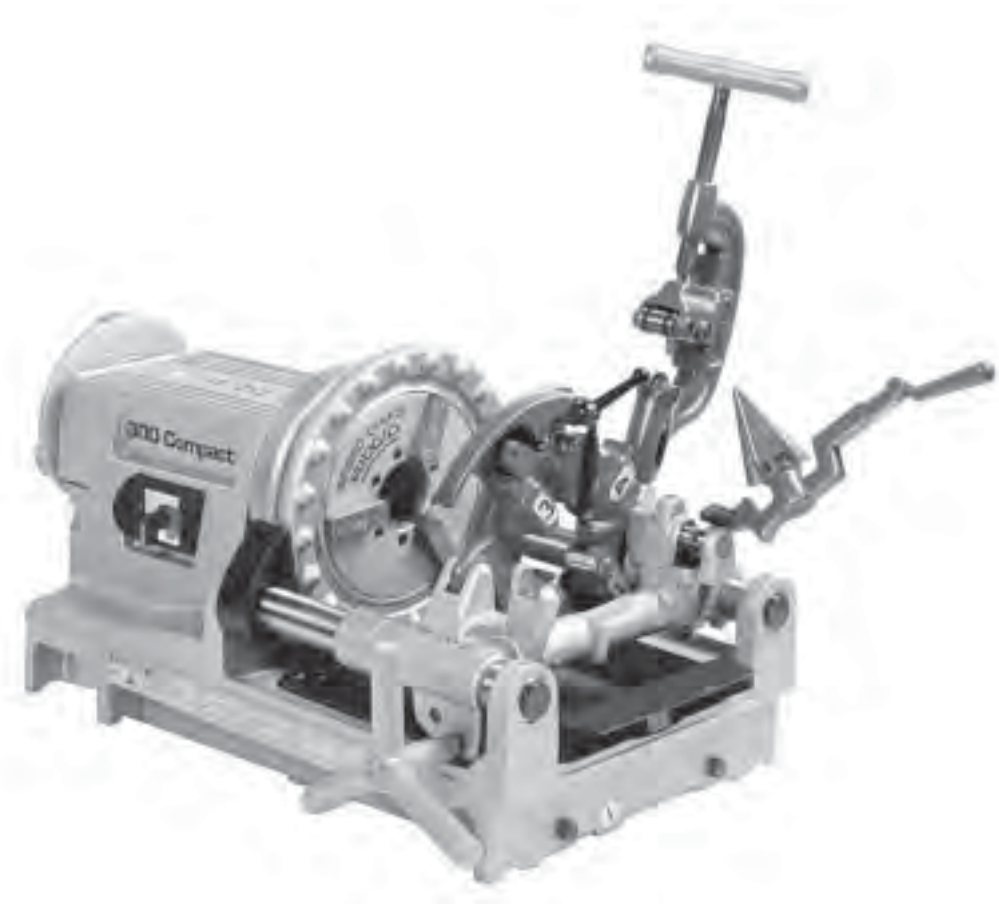
RIDGID®

300 Compact Pipe and Bolt Threading Machine



300 Compact Pipe and Bolt Threading Machine	
Record Serial Number below and retain product serial number which is located on nameplate.	
Serial No.	

General Safety Information

WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

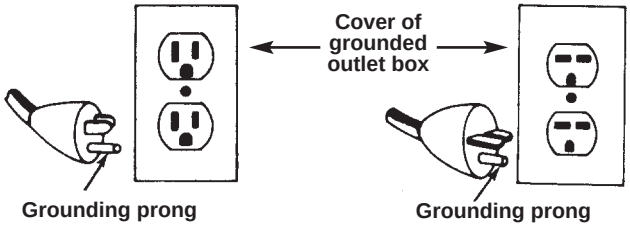
SAVE THESE INSTRUCTIONS!

Work Area

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **Do not operate tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Tools create sparks which may ignite the dust or fumes.
- **Keep by-standers, children, and visitors away while operating a tool.** Distractions can cause you to lose control.
- **Keep floors dry and free of slippery materials such as oil.** Slippery floors invite accidents.
- **Guard or barricade the area when work piece extends beyond machine.** A guard or barricade that provides a minimum of three (3) feet clearance around the work piece will reduce the risk of entanglement.

Electrical Safety

- **Grounded tools must be plugged into an outlet, properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.



- **Avoid body contact with grounded surfaces.** There is an increased risk of electrical shock if your body is grounded.
- **Do not expose electrical tools to rain or wet conditions.** Water entering a tool will increase the risk of electrical shock.
- **Do not abuse cord. Never use the cord to pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electrical shock.
- **When operating a tool outside, use an outdoor extension cord marked "W-A" or "W".** These cords are rated for outdoor use and reduce the risk of electrical shock.
- **Use only three-wire extension cords which have three-prong grounding plugs and three-pole receptacles which accept the tool's plug.** Use of other extension cords will not ground the tool and increase the risk of electrical shock.
- **Use proper extension cords.** *(See chart.)* Insufficient conductor size will cause excessive voltage drop and loss of power.

Minimum Wire Gauge for Extension Cord			
Nameplate Amps	**Total Length (in feet)**		
	0 – 25	**26 – 50**	**51 – 100**
0 – 6	18 AWG	16 AWG	16 AWG
6 – 10	18 AWG	16 AWG	14 AWG
10 – 12	16 AWG	16 AWG	14 AWG
12 – 16	14 AWG	12 AWG	NOT RECOMMENDED

- **Keep all electric connections dry and off the ground. Do not touch plugs or tool with wet hands.** Reduces the risk of electrical shock.

Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medications.** A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Avoid accidental starting. Be sure switch is OFF before plugging in.** Plugging tools in that have the switch **ON** invites accidents.
- **Remove adjusting keys before turning the tool ON.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.

- **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat or hearing protection must be used for appropriate conditions.

Tool Use and Care

- **Do not use tool if switch does not turn it ON or OFF.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
- **Store idle tools out of the reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.
- **Keep handles dry and clean; free from oil and grease.** Allows for better control of the tool.

Service

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified repair personnel could result in injury.
- **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance Section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electrical shock or injury.

Specific Safety Information

⚠ WARNING

Read this operator's manual carefully before using the 300 Compact Threading Machine. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.

Call the Ridge Tool Company, Technical Service Department at (800) 519-3456 if you have any questions.

Foot Switch Safety

⚠ WARNING

Using a threading machine without a foot switch increases the risk of serious injury. A foot switch provides better control by letting you shut off the motor by removing your foot. If clothing should become caught in the machine, it will continue to wind up, pulling you into the machine. Because the machine has high torque, the clothing itself can bind around your arm or other body parts with enough force to crush or break bones.

Machine Safety

- **Threading Machine is made to thread and cut pipe or bolt and to power roll grooving equipment. Follow instructions on proper use of this machine. Do not use for other purposes such as drilling holes or turning winches.** Other uses or modifying this power drive for other applications may increase the risk of serious injury.
- **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 handwheel 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.

- **Lock foot switch when machine is not in use *(Figure 1).*** Avoids accidental starting.

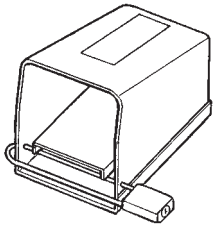


Figure 1 – Locked Foot Switch

Description, Specifications and Standard Equipment

Description

The RIDGID Model 300 Compact Threading Machine 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. Left-hand or right-hand rotation can be selected with the FOR/OFF/REV switch. Threading dies are mounted in self-opening or quick-opening die heads. An automatic oiling system is provided to flood the work.

The RIDGID Model 300 Compact Threading Machine can also be used as a power source for roll grooving equipment. Designed to attach to the carriage rail of the Threading Machine, the roll grooving equipment forms standard roll grooves on a variety of pipe sizes and materials.

Specifications

Threading Capacity .....Pipe 1/8″ – 2″
Bolt 1/4″ – 2″

Chuck .....Speed Grip Chuck with Replaceable Jaw Inserts

Rear Centering Device .....Scroll Operated, rotates with chuck

Operating Speed .....38 RPM or 52 RPM

Motor:
- Type .....Universal
- Horsepower .....1/2 HP
- Volts .....120V Single Phase AC 25-60 HZ (230V On Request)
- Amps .....15 amps (38 RPM) 18 amps (52 RPM)

Controls .....Rotary Type FOR/OFF/REV Switch and ON/OFF Foot Switch

Pump .....Gerotor-type

Cutter.....No. 360 – Roll-Type Cut-off, Self-Centering, Full Floating
Pipe – 1/8″ through 2″
Bolt – 1/4″ through 1″

Reamer.....No. 344 5-Flute Cone, Right Hand, 1/8″ through 2″

Weight .....115 lbs.

Standard Equipment

Model No. 300 Compact Threading Machine with Foot Switch

1 – No. 811-A Universal Quick-Opening Die Head

1 – No. 344 Reamer

1 – No. 360 Cutter

1 – Set 1/2″ – 3/4″ Universal Alloy Dies

1 – Set 1″ – 2″ Universal Alloy Dies

1 – Gallon Nu-Clear Oil

Machines

Catalog No.	Model No.	Description 115V 25-60 Hz	RPM	Volt
66947	300 Compact	1/2″ – 2″ NPT	38	115
67182	300 Compact Kit	1/2″ – 2″ NPT – includes Model 250 Folding Wheel Stand	38	115
73447	300 Compact	1/2″ – 2″ NPT, 115V, 25-60Hz	52	115
75602	300 Compact Kit	1/2″ – 2″ NPT, 115V, 25-60Hz – includes 250 Folding Wheel Stand	52	115
58752	300 Compact	1/2″ – 2″ BSPT, 230V, 25-60Hz (Aust. Only)	38	230
58757	300 Compact	1/2″ – 2″ NPT, 230V, 25-60Hz (Export Only)	38	230

All machines have 25-60 Hz Universal 1/2 HP single-phase motors.

NOTE! NPT Dies are for NPT Die Heads only. BSPT Dies are for BSPT Die Heads only. Please use Catalog Item Nos. when ordering. High-Speed Dies are recommended for use with machines having an RPM of 52 or more.

Machine Assembly

⚠ WARNING

To prevent serious injury, proper assembly of the Threading Machine is required. The following procedures should be followed:

Mounting Machine To Stand

The machine is designed to mount on the four stands listed below.

Machine Stands

Model No.	Description
250	Folding Wheel Stand
100A	Universal Leg & Tray Stand
150A	Universal Wheel & Tray Stand
200A	Universal Wheel & Cabinet Stand

No. 250 Folding Wheel Stand

1. With stand in raised position, place machine on stand with carriage toward pneumatic pistons.
2. Position J-shaped steel hooks on rear of machine such that hooks face pneumatic pistons and wrap securely around horizontal support of stand. Attach with 10mm hex bolts. Tighten securely.
3. Position front plate such that machine oil drain plug is aligned with drain plug hole on plate. Locking bars should be locked into raised position locking holes on inner leg of stand. Attach plate with 10mm hex bolts. Tighten securely.
4. To raise or lower Model 250 with 300 Compact mounted, stand at carriage end of machine. Squeeze locking bars together to disengage from locking holes. Pull up on horizontal stand bar to raise. Push down on horizontal stand bar to lower.
5. Oil seal pressure plate should be used when transporting 300 Compact on 250 Stand. To insert pressure plate: remove chip tray, slide tongue of plate under 300 Compact hammer wheel, force spring clip down and onto front edge of body casting as shown in *Figure 2A*. Rubber seal on bottom of pressure plate will cover drain holes in drip tray.

Figure 2 – 300 Compact on 250 Folding Wheel Stand

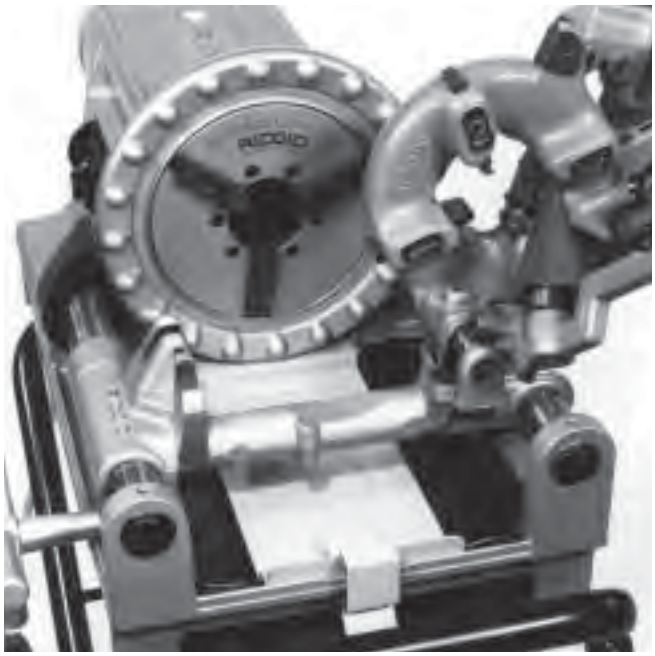


Figure 2A – Oil Seal Pressure Plate Properly Inserted

No. 100A, 150A and 200A Universal Stand

1. Parts diagram and parts list for the stands are included in the 300 Compact Parts List.
2. Assemble stand with “inside” decals located towards the inside of the stand *(Figure 3)*.
3. Insert stand stop tabs into bottom of the legs as shown in the detail drawing. Use the four (4) $^{3}/_{8}$″-16 x $2^{1}/_{2}$″ hex bolts to secure the legs to the cross-member. Adjust the two halves of the stand to the proper distance to fit into the rear legs on the stand.

The stand stop bracket is not required or supplied with the No. 100A Leg and Tray Stand.

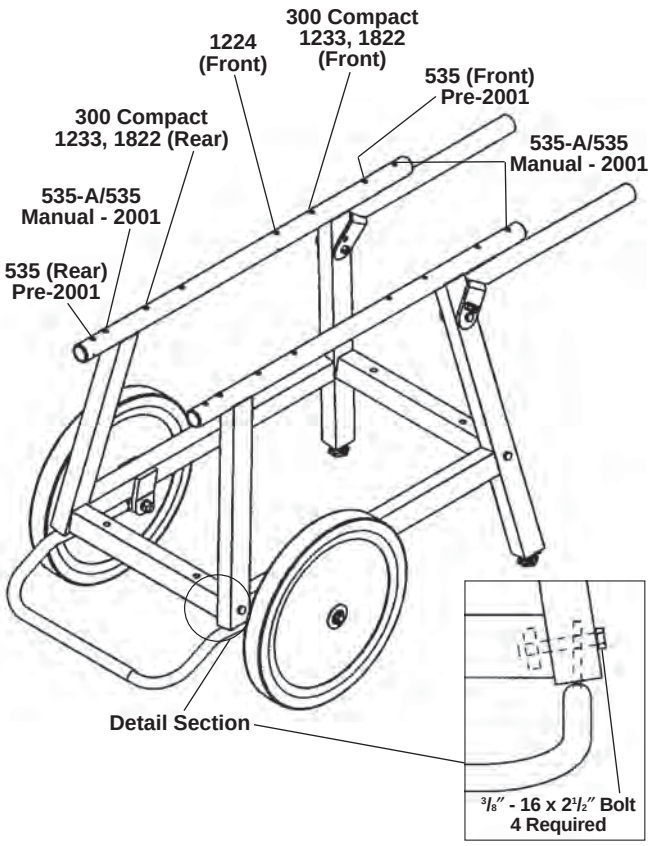


Figure 3 – Stand Assembly

4. Insert axle into frame and secure it with a 1/2″ lock washer and nut. Position stand stop bracket so that the end of the bracket is held in place by the axle shaft. Slide a wheel onto the axle. Slide a flat washer over the axle and install a cotter pin to hold the wheel on the axle.
5. Mount machine to the stand using four (4) bolts that mount into each corner of the base.

CAUTION For proper balance and operation, RIDGID machines must be mounted through the appropriate holes in the legs *(Figure 3).*

Figure 4 – 300 Compact On 200A Wheel and Cabinet Stand

Figure 5 – 300 Compact On 100A Leg and Tray Stand

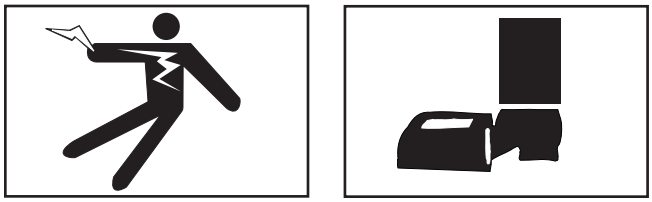
Mounting Machine To Bench

1. If a stand is not used, the machine should be mounted to a stable bench. To mount the unit on a bench, use four (4) 1/4″ bolts in holes provided at each corner of machine base.

⚠ WARNING Failure to mount the threading machine to a stable stand or bench may result in tipping and serious injury.

Machine Inspection

⚠ WARNING



To prevent serious injury, inspect your Threading Machine. The following inspection procedures should be performed on a daily basis:

1. Make sure Threading Machine is unplugged and the directional switch is set to the OFF position *(Figure 6)*.

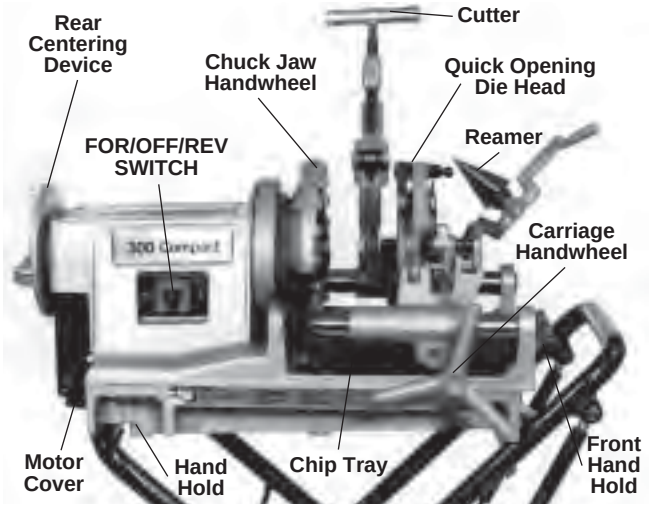


Figure 6 – No. 300 Compact Threading Machine

2. Clean the speed chuck jaws with a wire brush.
3. Inspect the jaw inserts for excessive wear. Refer to the Maintenance Instructions if they need to be replaced.

NOTE! For plastic and coated work pieces, special jaw inserts (No. 97365) should be used to prevent damaging the workpiece.

4. Make sure the foot switch is present and attached to the Threading Machine.

⚠WARNING Do not operate the Threading Machine without a foot switch.

5. Inspect the power cord and plug for damage. If the plug has been modified, is missing the grounding pin or if the cord is damaged, do not use the Threading Machine until the cord has been replaced.
6. Inspect the Threading Machine for any broken, missing, misaligned or binding parts as well as any other conditions which may affect the safe and normal operation of the machine. If any of these conditions are present, do not use the Threading Machine until any problem has been repaired.
7. Lubricate the Threading Machine if necessary according to the Maintenance Instructions.
8. Use tools and accessories that are designed for your Threading Machine and meet the needs of your application. The correct tools and accessories allow you to do the job successfully and safely. Accessories designed for use with other equipment may be hazardous when used with this Threading Machine.
9. Clean any oil, grease or dirt from all handles and controls. This reduces the risk of injury due to a tool or control slipping from your grip.

   Inspect the cutting edges of your tools and dies. If necessary, have them replaced prior to using the Threading Machine. Dull or damaged cutting tools and dies can lead to binding, tool breakage and poor quality threads.

   Clean metal shavings and other debris from the chip tray of the Threading Machine. Check the level and quality of the thread cutting oil. Replace or add oil if necessary. Reservoir in the base will hold approximately five (5) quarts of thread cutting oil.

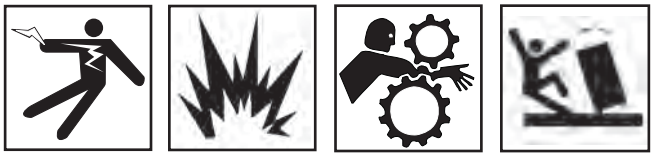
NOTE! If using 250 Folding Stand, be sure to remove oil seal pressure plate.

NOTE! Thread cutting oil lubricates and cools the threads during the threading operation. A dirty or poor grade cutting oil can result in poor thread quality.

NOTE! To drain dirty oil and properly maintain the oil system, refer to the “Maintenance Instructions”.

Machine and Work Area Set-Up

⚠ WARNING



To prevent serious injury, proper set-up of the machine and work area is required. The following procedures should be followed to set-up the machine.

1. Locate a work area that has the following:
   - Adequate lighting
   - No flammable liquids, vapors or dust that may ignite.
   - Grounded electrical outlet

- Clear path to the electrical outlet that does not contain any sources of heat or oil, sharp edges or moving parts that may damage electrical cord.
- Dry place for machine and operator. Do not use the machine while standing in water.
- Level ground

2. Clean up the work area prior to setting up any equipment. Always wipe up any oil that may have splashed or dripped from the machine to prevent slips and falls.
3. If the workpiece extends more than four (4) feet beyond the Threading Machine, use one or more pipe stands to prevent tipping and the oscillation of the pipe.
4. If the workpiece extends beyond the Threading Machine, set-up guards or barricades to create a minimum of three (3) feet of clearance around the Threading Machine and workpiece. This "safety zone" prevents others from accidentally contacting the machine or workpiece and either causing the equipment to tip or becoming entangled in the rotating parts.
5. If necessary, fill the reservoir with RIDGID Thread Cutting Oil.
6. Make sure FOR/OFF/REV switch is in the OFF position.
7. Position the foot switch so that the operator can safely control the machine, tools and workpiece. It should allow the operator to do the following:
   - Stand facing the directional switch.
   - Use the foot switch with his left foot.
   - Have convenient access to the directional switch, tools and chucks without reaching across the machine.

   Machine is designed for one person operation.
8. Plug the Threading Machine into the electrical outlet making sure to position the power cord along the clear path selected earlier. If the power cord does not reach the outlet, use an extension cord in good condition.

⚠ WARNING

To avoid electrical shock and electrical fires, never use an extension cord that is damaged or does not meet the following requirements:

- The cord has a three-prong plug similar to shown in Electrical Safety section.
- The cord is rated as "W" or "W-A" if being used outdoors.
- The cord has sufficient wire thickness (14 AWG below 25′/12 AWG 25′-50′). If the wire thickness is too small, the cord may overheat, melting the cord's insulation or causing nearby objects to ignite.

⚠ WARNING To reduce risk of electrical shock, keep all electrical connections dry and off the ground. Do not touch plug with wet hands.

9. Check the Threading Machine to insure it is operating properly.
   - Flip the directional switch to FOR (Forward). Press and release the foot switch. Check that the Threading Machine rotates in a counterclockwise direction as you are facing the front chuck. Have the Threading Machine serviced if it rotates in the wrong direction or if the foot switch does not control its stopping or starting.
   - Depress and hold the foot switch. Inspect the moving parts for misalignment, binding, odd noises or any other unusual conditions that may affect the safe and normal operation of the machine. If such conditions are present, have the machine serviced.
   - Flip the directional switch to REV (Reverse). Press and release the foot switch. Check that that Threading Machine rotates in a clockwise direction as you are facing the chuck.
   - Release the foot switch and flip the directional switch to OFF.

Operation Using Machine-Mounted Tools

⚠ WARNING

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

Do not use this Threading Machine 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 Threading Machine.

Installing Pipe In Threading Machine

1. Check to insure the cutter, reamer and die head are swung to UP position.
2. Mark the pipe at the desired length if it is being cut to length.
3. Insert the pipe into the Threading Machine 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 from the front of the machine. Insert longer pipes through either end so that the longer section extends out beyond the rear of the Threading Machine.

⚠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 Threading Machine. 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 Threading Machine. This action “hammers” the jaws tightly around the pipe.

Cutting Pipe With No. 360 Cutter

1. Swing reamer and die head to UP position.
2. Move pipe cutter DOWN onto pipe and move carriage with handwheel to line up cutter wheel with mark on pipe.
3. Tighten cutter feed screw handle on pipe keeping wheel aligned with the pipe.
4. Assume the correct operating posture *(Figure 7).*

⚠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.

Figure 7 – Cutting Pipe With 300 Compact Threading Machine

5. Flip the directional switch to FOR (Forward).
6. Grasp the pipe cutter’s feedscrew handle with both hands *(Figure 7).*
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. 344 Reamer

1. Move reamer arm into DOWN position.
2. Check the directional switch to insure it is in the FOR (Forward) position. Depress and hold the foot switch down with left foot.
3. Position reamer into pipe and complete reaming by exerting pressure on handwheel *(Figure 8).*

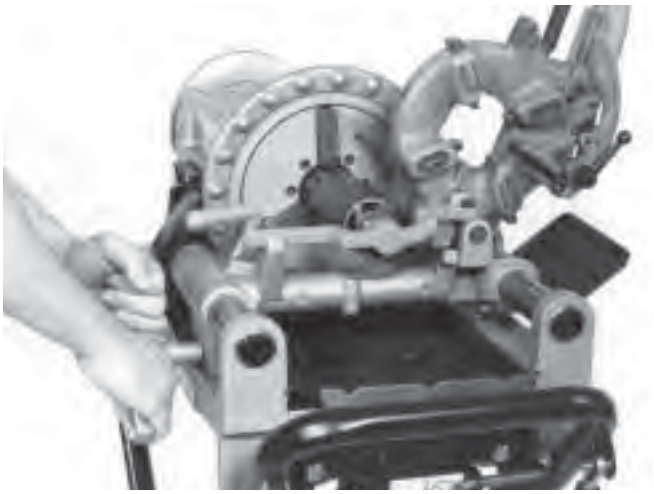


Figure 8 – Reaming Pipe With No. 344 Reamer

4. Retract reamer and return reamer to UP position.
5. Release foot switch and remove your foot from the housing.

Threading Pipe or Rod With Quick-Opening, Self-Opening or Semi-Automatic Die Head

1. Install die set. Refer to die installation procedure.
2. Swing cutter and reamer to UP position.
3. Swing die head to DOWN position with throwout lever set to CLOSE position.
4. Check directional switch to insure it is in the FOR (Forward) position. Depress and hold the foot switch down with left foot.

NOTE! 300 Compact Machines have an automatic oiling system that brings oil to the work through the die head. Oil flow can be adjusted with oil flow control valve located on back side of carriage *(Figure 9)*.

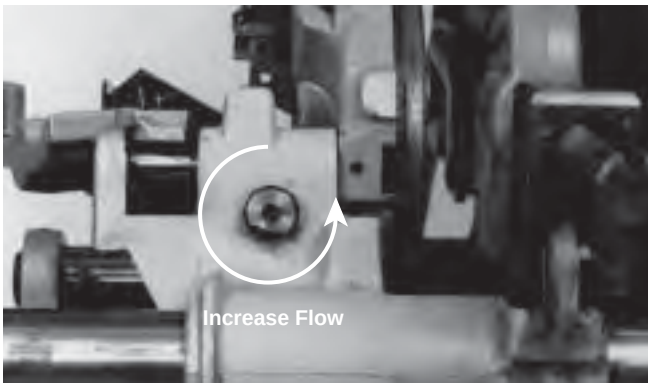


Figure 9 – Oil Flow Control

5. Turn carriage handwheel to bring dies against end of pipe. Slight pressure on handwheel will start dies *(Figure 10)*.

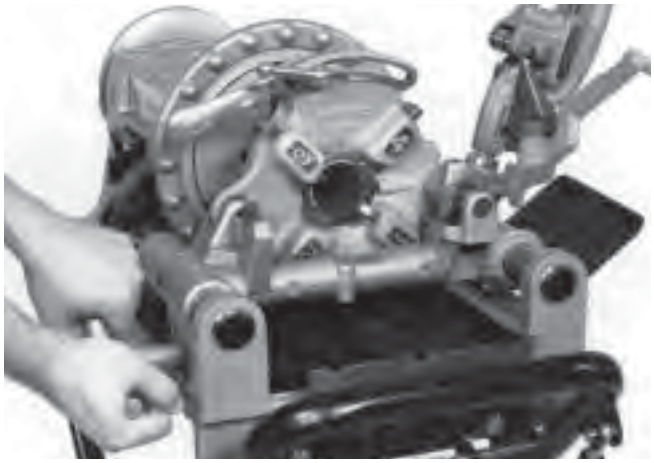


Figure 10 – Threading Pipe With No. 811-A Quick Opening Die Head

6. Quick-Opening 811A Die Head *(Figure 11)* – When thread is completed, raise throwout lever to open position, retracting dies.

   Self-Opening 815A Die Head *(Figure 12)* – When die head trigger contacts end of pipe, throwout lever is automatically opening.

   Semi-automatic die head *(Figure 13)* – When the end of the pipe being threaded is flush with the end of the number 1 die, hit the handle for the dies to release the pipe.
7. Turn carriage handwheel to back die head off pipe.
8. Swing die head back to UP position.

Removing Pipe From The Threading Machine

1. Use repeated and forceful clockwise spins of the speed chuck handwheel at the front of the Threading Machine to release the workpiece from the speed chuck jaws.
2. If necessary, loosen the rear centering device using a clockwise rotation of the handwheel at the rear of the Threading Machine.
3. Slide the workpiece out of the Threading Machine, keeping a firm grip on the workpiece as it clears the Threading Machine.

⚠WARNING To avoid injury from falling parts or equipment tip-overs when handling long workpieces, make sure that the end farthest from the Threading Machine is supported prior to removal.

4. Clean up any oil spills or splatter on the ground surrounding the Threading Machine.

Installing Dies In Quick-Opening Die Head (Right and Left Hand)

The No. 811A Universal Die Head *(Figure 11)* 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. No bolt dies are available for left hand universal die heads.

1. Lay die head on bench with numbers up.
2. Flip throwout lever to OPEN position.
3. Loosen clamp lever approximately three turns.
4. Lift tongue of clamp washer up and out of slot under size bar. Slide throwout lever all the way to end of slot in the change die direction indicated on cam plate.
5. Remove dies from die head.
6. Insert new dies to mark on side of dies. Numbers 1 through 4 on the dies must match numbers on the die head.
7. Slide throwout lever back so that tongue of clamp lever washer will drop in slot under size bar.
8. Adjust die head size bar until index line on link is aligned with proper size mark on size bar. For bolt threads, align underline with bolt line on size bar.

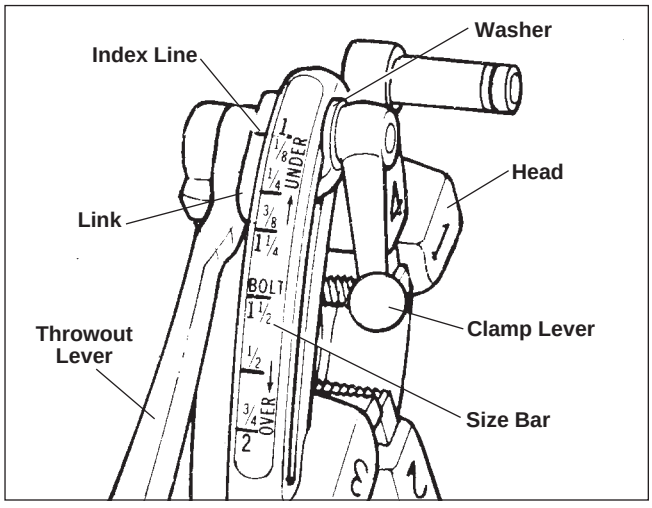


Figure 11 – Universal Quick-Opening Die Head

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 In Self-Opening Die Head (Right Hand Only)

The No. 815A Self-Opening 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″ 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 on bench in vertical position.
2. Make sure trigger assembly is released.
3. Loosen clamp lever approximately six full 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 aligned with the end of REMOVE DIES position.
5. Lay head down with numbers up.
6. Remove dies from die head.
7. Insert new dies to mark on side of dies. Numbers 1 through 4 on the dies must match numbers on the die head.
8. Move throwout lever back to lock in dies.
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 link is aligned with proper size mark on size bar.

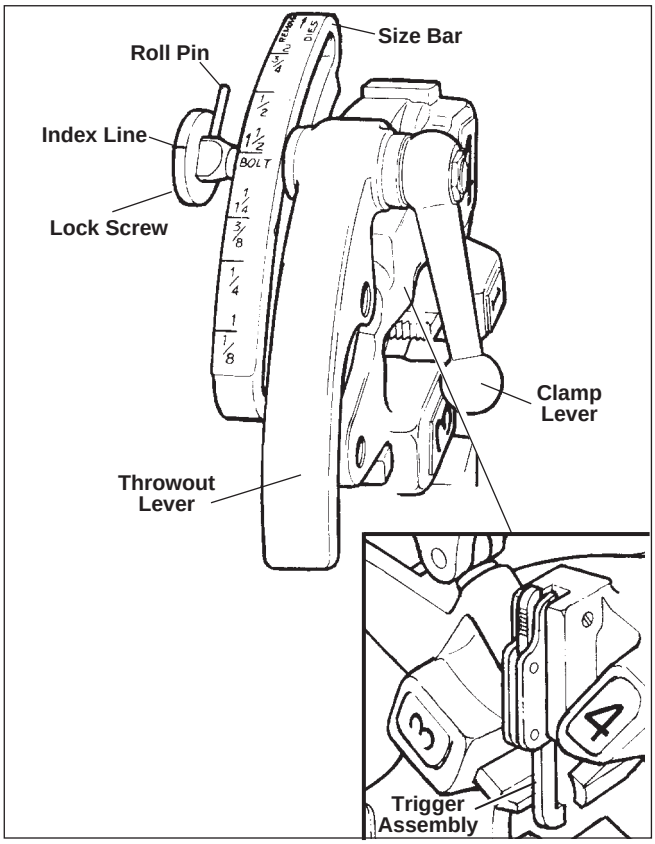


Figure 12 – Universal Self-Opening Die Head

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.

Installing Dies In Model 816/817 Die Heads

The Semi-Automatic 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″ 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. Depress handle so that cam plate rests *(Figure 13 – Model 816/817 Die Head)* against the stop (as shown).
2. Lay the die head down flat on a table or bench with the numbers facing up.
3. Pull up on the plunger knob and push the handle all the way to the left.
4. Select the correct dies for the size desired. (Size marked on the back or face of the dies.)
5. Numbers on the dies must correspond with those on the die head slots. Insert dies to the line marked on the dies – numbered edge up.
6. Rotate the handle back to the right so that the plunger knob pops back down flush against the die head.
7. To set or adjust for desired size, loosen the screw for the desired position block size, move the block to the right to make it undersize and to the left to make it oversized. When setting blocks for new dies start with the position block on the middle mark and adjust from there.

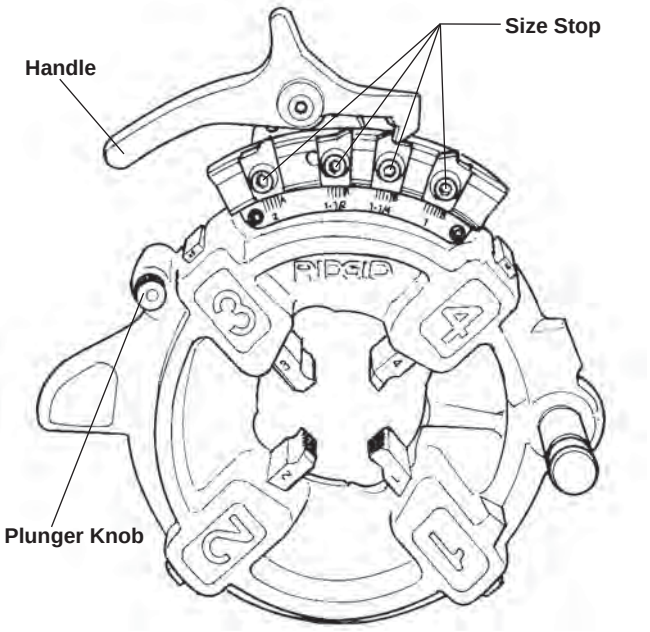


Figure 13 – Semi-Automatic Die Head

Checking Thread Length

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

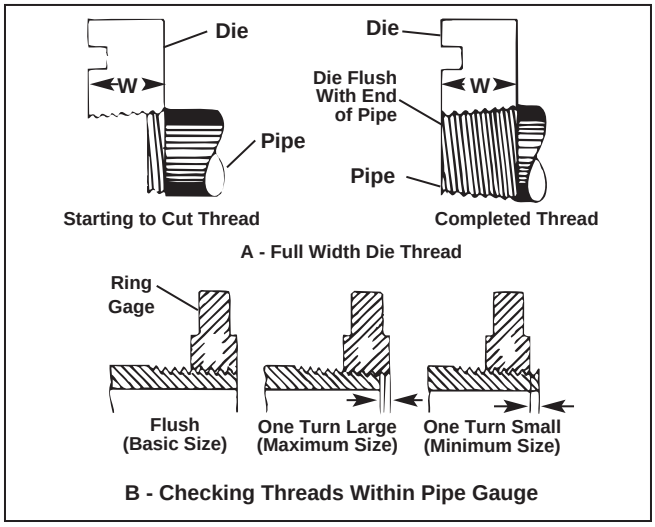


Figure 14 – Checking Thread Length

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").

No. 819 Nipple Chuck

The RIDGID 819 Nipple Chuck is a quick and easy tool for holding short and close nipples or studs for threading.

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

⚠ WARNING

The REV/OFF/FOR switch should be in the OFF position until nipple chuck is set up and ready to thread.

1. Grip pipe in machine chuck. Thread and ream one end and cut nipple to desired length.
2. Place nipple chuck body *(Figure 15)* in Threading Machine chuck, gripping jaw grooves. Tighten chuck with snap spin of handwheel.
3. Position insert *(Figure 16)* with small end toward chuck body for 1/8″ to 3/4″ pipe; large end toward chuck body for 1″ pipe; no insert required for 1 1/4″ pipe and up.

Figure 15 – Place Nipple Chuck Body in Power Drive

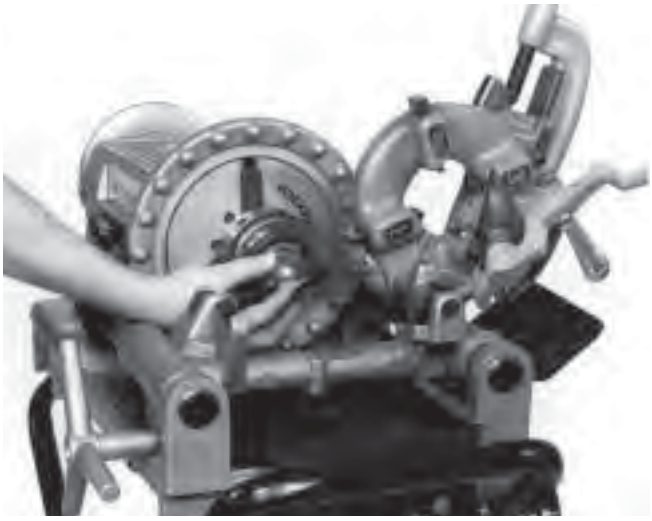


Figure 16 – Place Insert into Nipple Chuck

4. Select proper size nipple chuck adapter and screw into nipple chuck *(Figure 17)* by hand. Tighten with wrench provided with nipple chuck.

⚠ WARNING To prevent injury, remove wrench before turning on machine.

5. Screw nipple threaded on one end into adapter by hand. Turn directional switch to ON and press down on foot switch. Ream and thread other end.
6. Insert pin on end of wrench *(Figure 18)* into one of holes in nipple chuck release collar and turn. Remove threaded nipple by hand.

⚠ WARNING To prevent injury, remove wrench before turning on machine.

Figure 17 – Installing Nipple Chuck Body and Adapter

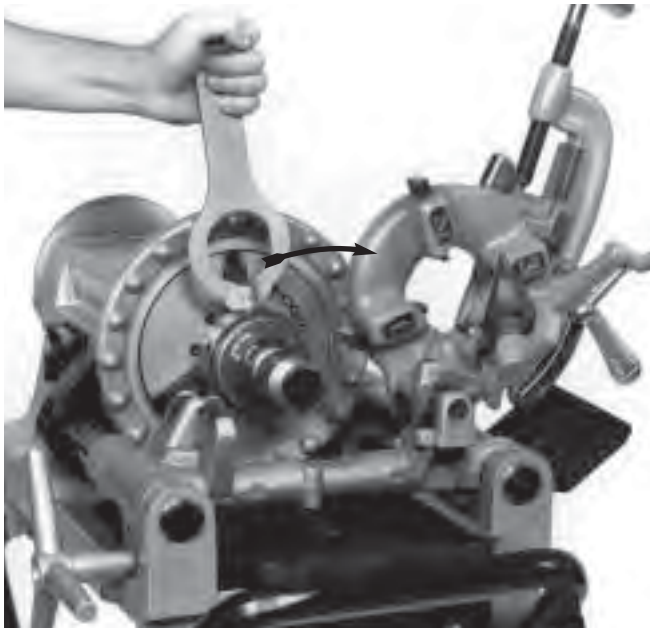


Figure 18 – Installing Unfinished Nipple and Releasing Finished Nipple With Wrench

916 Groover Adapter Bracket – 300 Compact

NOTE! Adapter bracket must be used to mount the 916 Roll Groover to the 300 Compact Threading Machine.

NOTE! No. 250 Stand must be in the upright and locked position prior to mounting the 916 Adapter Bracket.

1. Place cutter, die head and reamer in UP position.
2. Position carriage as close to chuck hammer wheel as possible.
3. 916 Groover Bracket should be facing such that extension rails extend beyond front of machine. Note that the retaining pin is attached to the operator side of the 916 Groover Bracket.
4. Attach adapter bracket to 300 Compact by placing C-shaped section of bracket on rear rail (opposite operator) and bringing operator side of bracket down onto operator side rail. Center section of bracket will cover 300 Compact front rail supports *(Figure 19).*

Figure 19 – Locking Pln On 916 Roll Groover Adapter Bracket

5. Insert retaining pin through holes, ensuring the pin is securely engaged through both holes. Pin must be properly inserted to lock bracket in place.
6. Attach 916 Groover to 916 Groover Adapter Bracket extension rails as in Step 4 above *(Figure 20).*
7. Insert drive bar in chuck. Do not close chuck on drive bar at this point.
8. Attach open end of drive bar to drive post on rear of 916 Groover, making sure set screws in drive bar head are securely tightened onto the flats of 916 drive post.
9. Center drive bar in chuck and securely hammer the jaws closed.
10. Turn machine control knob to desired position and operate 916 Groover.

⚠ WARNING

Read and understand the Operator's Manual from the 916 Roll Groover before grooving pipe.

NOTE! Before transporting the 300 Compact using the No. 250 Stand, the 916 Roll Groover and 916 Roll Groover Adapter Bracket MUST be disassembled and removed from the machine. If left intact, these items will not allow the No. 250 Stand to lock in the folded position.

Figure 20 – Model 916 Roll Groover and Adapter Bracket Mounted To 300 Compact

Operating Instructions Using 141 Geared Threader (Closed Coupling Method)

⚠ WARNING

Do not wear gloves or loose clothing when operating Threading Machine. Keep sleeves and jackets buttoned. Do not reach across the machine or geared threader.

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

To prevent tipping, proper set-up of the Threading Machine and Geared Threader is required. Follow instructions carefully.

Only use 141 geared threader close coupled method with a 300 Compact.

Geared Threaders weigh 95 to 160 pounds. Two (2) persons should be used to lift these threaders.

Adjusting No. 141 Geared Threader

Cam Plate (Pipe Size) Adjustment Procedure

1. Place threader on floor or workbench with drive shaft up.
2. Pull knobs *(Figure 21)* of cam plate and rotate cam plate to desired pipe size marking on top of die head. Release knobs when locating pins drop into hole in selector plate.

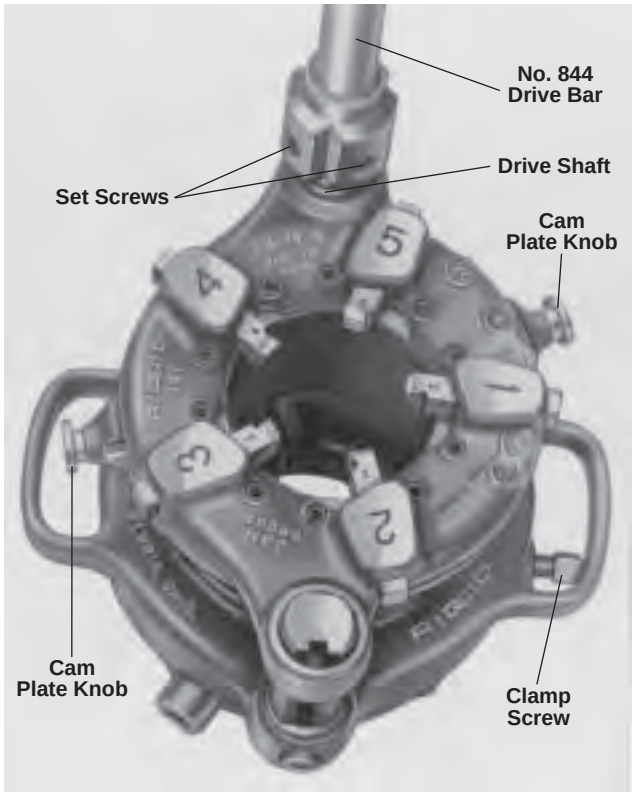


Figure 21 – No. 141 Geared Threader with No. 844 Drive Bar Installed

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 *(Figure 22)*.

Standard Size Thread - Either one of the following two (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 STANDARD 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 Posts For Straight Or Tapered Threads

1. Adjust threader to cut standard size threads using “STANDARD” reference line.
2. Remove screw from gear case at base of guide post.

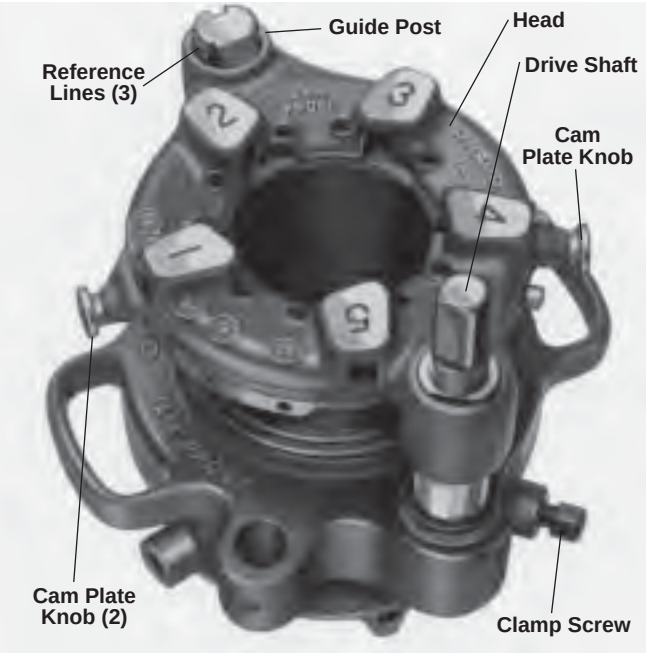


Figure 22 – No. 141 Geared Threader Showing Pinion Sleeve and Guide Post Reference Lines

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. For tapered threads set tapered slot inward. *Figure 22* shows guide post set to cut tapered thread.
5. Engage guide block in slot and push guide post down into position.
6. Replace guide post screw.

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

Changing Die Set

1. Remove stop screw *(Figure 23)* from selector plate.
2. Pull Knobs *(Figure 21)* and rotate cam plate to CD mark on top of die head.
3. Remove worn die set *(Figure 21)* and insert new die set.

IMPORTANT! Be sure to replace complete die set. Die numbers must correspond with slot numbers.

4. Rotate cam plate to original position and 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.

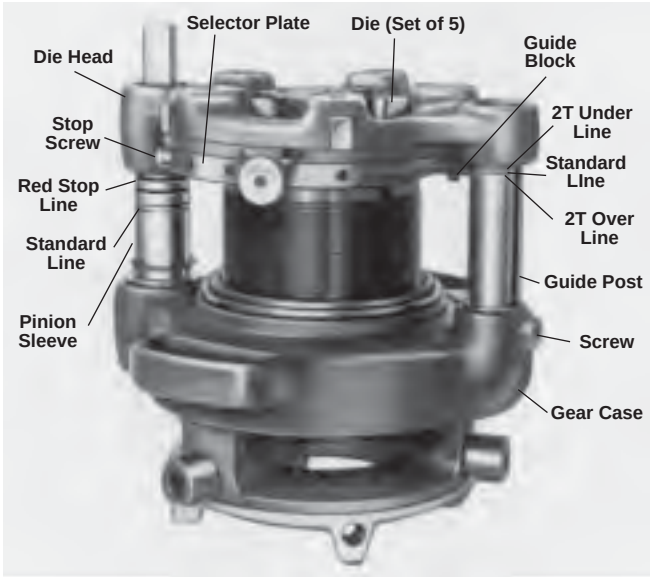


Figure 23 – No. 141 Geared Threader

Mounting 141 Geared Threader Close-Coupled Only

⚠WARNING Only use 141 geared threader close coupled with a 300 Compact.

DO NOT plug power cord in until geared threader is installed and ready to thread.

1. Remove die head from carriage. Raise cutter and reamer. Move carriage as far away from chuck as possible.
2. Open front jaws and rear centering head jaws.
3. Install the 844 drive bar onto the 141 geared threader drive shaft and tighten 2 set screws. *(Figure 24)*
4. Insert large drive link post into loop hole on 141 geared threader and tighten set screw only enough to retain drive link. Drive link should be able to swing freely. *(Figure 24)*
5. Using two persons, raise 141 geared threader and set on carriage, being sure to align post on drive link with die head post hole on carriage. Insert No. 768 drive link into carriage die head post hole.
6. Move carriage to rear and engage 844 drive bar in front chuck. Be sure to align grooves on drive bar with 300 Compact chuck jaws.
7. Fully tighten set screw on drive link post.
8. Install flexible oil spout onto rear of drive link. Position spout near top of 141, at mouth of chasers.

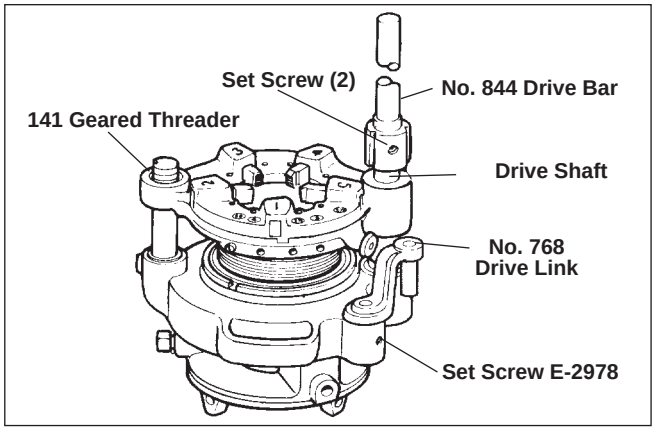


Figure 24 – No. 141 Geared Threader with No. 844 Drive Bar Installed

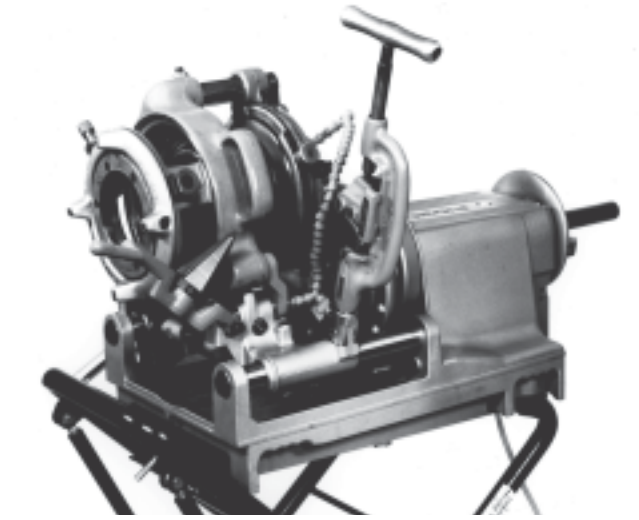


Figure 25 – No. 141 Geared Threader Mounted to 300 Compact

Threading Pipe Using No. 141 Geared Threader (Close Coupled Method)

1. Install pipe in threader and center end of pipe in throat of dies. Tighten workholder with socket wrench. Use VJ-99 to support pipe extending from 141 Geared Threader.

⚠ WARNING Failure to use pipe stand could result in the threading machine tipping.

2. Plug in power cord into the electrical outlet.
3. Turn power drive REV/OFF/FOR switch to FOR position.
4. Step on foot switch.
5. Flood dies with RIDGID Thread Cutting Oil during threading operation to assure long die life.
6. Release foot switch when red stop line appears on pinion sleeve.

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 to REV (reverse) position.
8. Step on foot switch and reverse threader one or two revolutions. Turn REV/OFF/FOR switch to OFF position.
9. Pull cam plate knobs and rotate cam plate as far as it will go towards CD mark on head to disengage dies.
10. Using the socket wrench, loosen jaw clamp screw, 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.

Accessories

⚠ WARNING

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

Accessories For Threading Machine

Die Heads:

Model	Pipe Capacity	Bolt Capacity	Dies	Opening	Operation
811A NPT	1/8″ – 2″	1/4″ – 2″	Universal	Quick	R.H.
815A NPT	1/8″ – 2″	1/4″ – 2″	Universal	Self	R.H.
842 NPT	1/4″ – 2″	–	Universal	Quick	L.H.
816 NPT	1/8″ – 3/4″	–	Universal	TAP	R.H.
817 NPT	1″ – 2″	1/4″ – 2″	Universal	TAP	R.H.
811A BSPT	1/8″ – 2″	1/4″ – 2″	Universal	Quick	R.H.
815A BSPT	1/8″ – 2″	1/4″ – 2″	Universal	Self	R.H.
531 Bolt	–	1/4″ – 1″	500B	Quick	R.H./L.H.
532 Bolt	–	1 1/8″ – 2″	500B	Quick	R.H./L.H.

Stands:

No. 250 Folding Stand
No. 200 Wheel And Cabinet Stand
No. 150 Wheel And Tray Stand
No. 100 Leg And Tray Stand

Pipe Support Stands

VJ99; VJ98; RJ99

916 Groover Adapter Bracket (Cat. #67662)

No. 819 Nipple Chuck (Right Hand Only)
Pipe Adapters.....1/8″ through 1 1/2″
Stud Adapters.....1/4″ through 2″ UNC
1/4″ through 1 1/2″ UNF

Jaw Inserts For Coated Pipe

Accessories from Threading By Close-Coupled Method

No. 768 Drive Link Assembly and No. 844 Drive Bar

No. 141 Geared Threader for 2 1/2″ –4″ Threading.

VJ-99/RJ-99 Pipe Support Stands

NOTE! See Ridge Tool Catalog for complete list of pipe supports, thread cutting oil and dies.

Maintenance Instructions

⚠ WARNING

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

Lubrication

Proper lubrication is essential to trouble-free operation and long life of Threading Machine.

Two grease fittings are provided on top of machine housing to allow for oiling of the front and rear bearings *(Figure 26)*. Bearings should be greased periodically, depending on usage of machine.

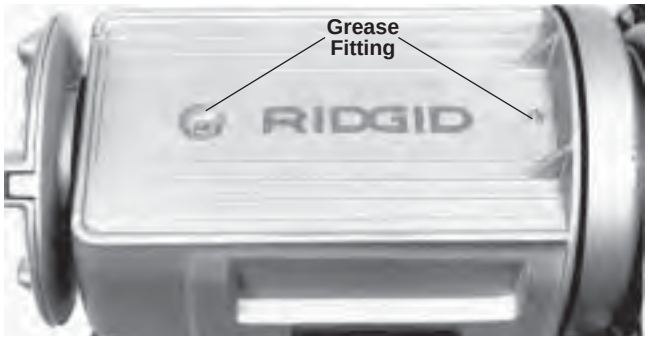


Figure 26 – Lubricate Bearings

Oil System Maintenance

To help assure proper operation of threading machine, keep oil system clean, as follows:

1. Replace thread cutting oil when it becomes dirty or contaminated. To drain the oil, position a container under drain plug and remove plug.
2. Keep oil filter screen to assure proper flow or clean oil to work. Oil filter screen is located in the bottom of oil reservoir. To clean filter screen, loosen the screw that secures filter to base and pull filter from oil line. Clean filter screen in solvent and blow out with compressed air if available. Do not operate machine with oil filter screen removed.

NOTE! RIDGID Thread Cutting Oil produces high quality threads and maximizes die life. For information concerning its use and handling, refer to the labels on the oil containers. Disposal of the oil should be in accordance with government regulations.

Jaw Insert Replacement

NOTE! When teeth on jaw inserts become worn and fail to hold pipe or rod during operation, replace entire set of jaw inserts. Clean teeth of jaw inserts daily with wire brush.

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 as so teeth face up.

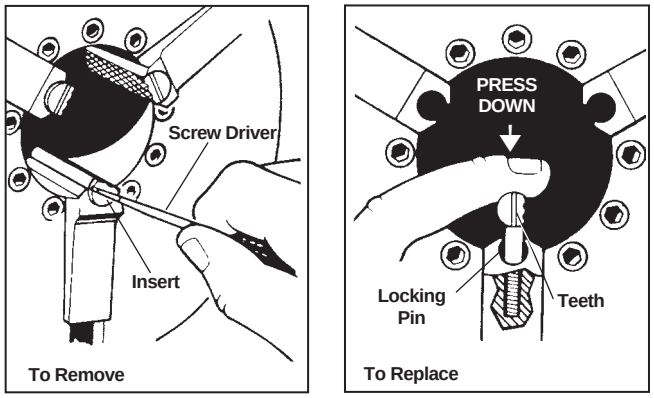


Figure 27 – Jaw Insert Replacement

Replacing Brushes In Motor

NOTE! Check motor brushes every 6 months. Replace when worn to less than $^1/_2$″.

1. Unplug machine from power source.
2. Fully loosen four screws that hold motor housing cover in place and remove motor housing cover *(Figure 28)*.

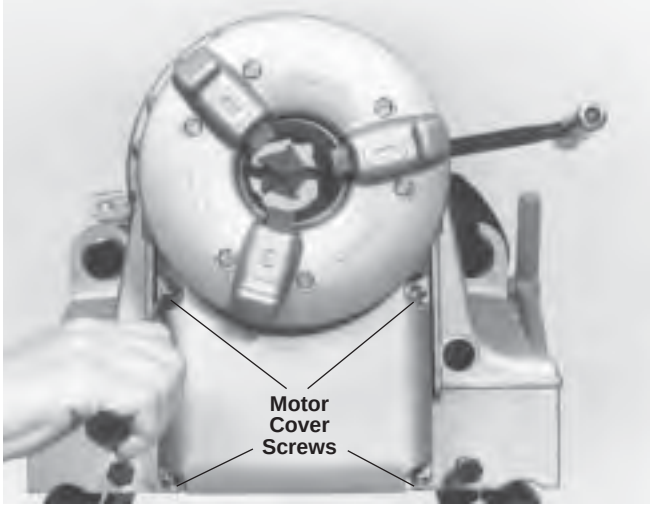


Figure 28 – Loosen And Remove Motor Cover Screws

3. Loosen carbon brush holders and remove carbon brushes.
4. Install new brushes.
5. Reinstall brush holders and motor housing cover.

⚠ WARNING Do not operate the threading machine with cover off. Always replace cover immediately after installing brushes.

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 threading machines. This machine can cause serious injury in the hands of untrained users.

Service and Repair

⚠ WARNING

Service and repair work on this Threading Machine must be performed by qualified repair personnel. Machine 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.

⚠ WARNING When servicing this machine, only identical replacement parts should be used. Failure to follow these instructions may create a risk of electrical shock or other serious injury.

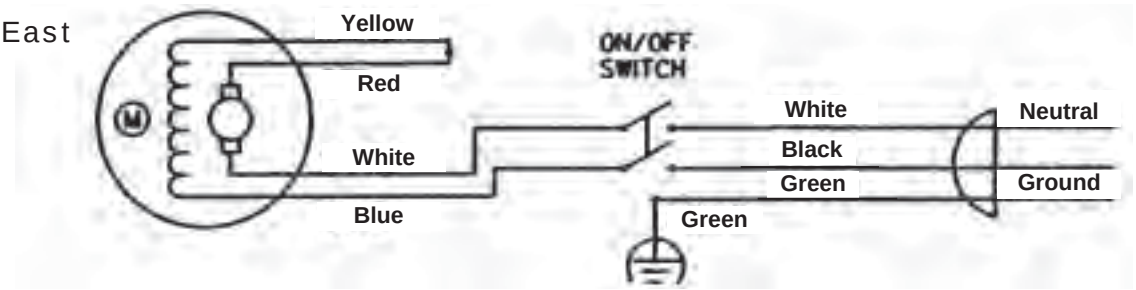
If you have any questions regarding the service or repair of this machine, call or write to:

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

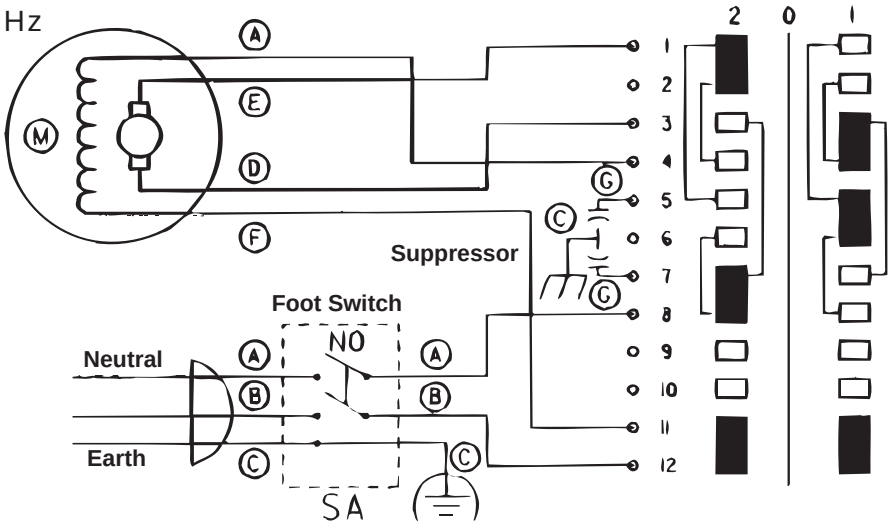
For name and address of your nearest Independent Authorized Service Center, contact Ridge Tool Company at (800) 519-3456 or http://www.ridgid.com

Wiring Diagrams

115/230V Far East

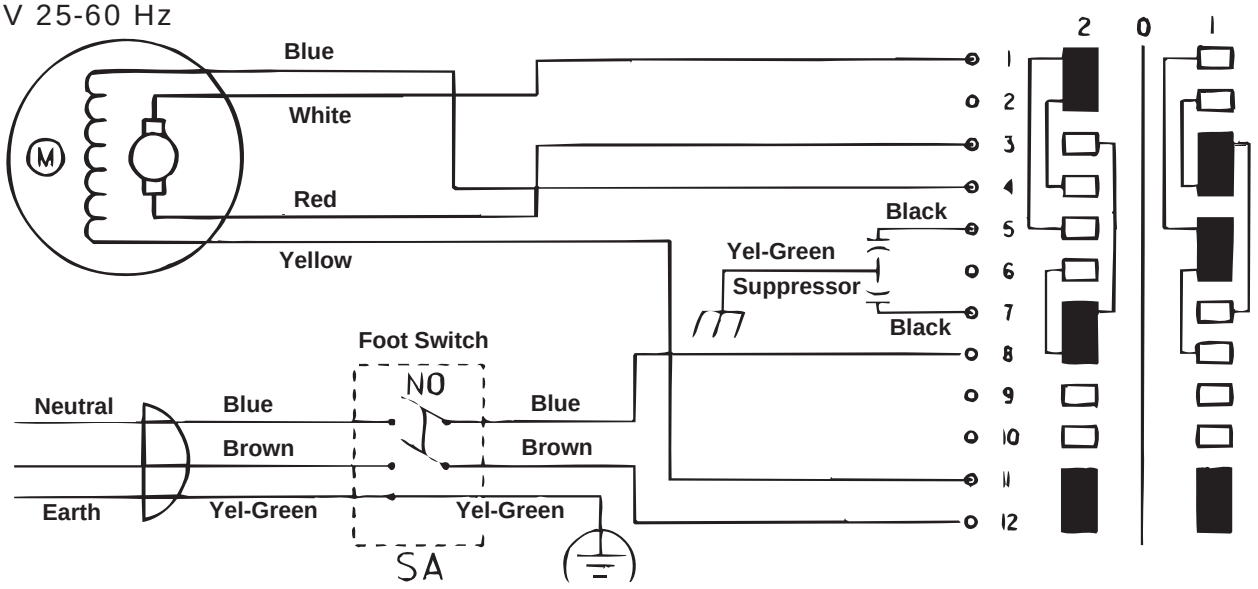


230V 25-60 Hz



Wiring Diagrams continued

115V 25-60 Hz



115V Domestic