

**RIDGID**

**Threading Machine** Manual



**TRADE TOOL**

# 1224 Threading Machine

**1/4" - 4" Capacity**



Trade Tool  
Sales - Rent - Repair  
[www.tradetoolsupply.com](http://www.tradetoolsupply.com)  
503.221.8665

## **⚠ 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.

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## 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.

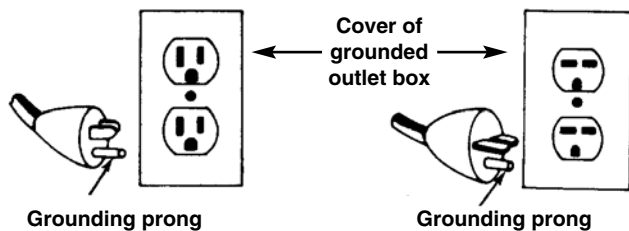
### SAVE THESE INSTRUCTIONS!

### Work Area Safety

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **Do not operate power 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 bystanders, 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 tool 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.
- **Don't 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 power 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.** Carrying tools with your finger on the switch or plugging in tools 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 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 for your tool.** 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 1224 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.

### **▲ WARNING Foot Switch Safety**

**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 RIDGID 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 Threading Machine 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 devise 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.

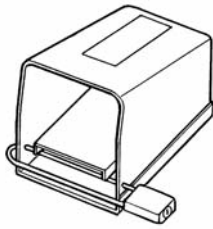


Figure 1 – Locked Foot Switch

## Description, Specifications and Standard Equipment

### Description

The RIDGID Model 1224 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 a self-opening die head. An automatic oiling system is provided to flood the work with thread cutting oil during threading operations. Blade-type cutter is available to strip and cut-off saran and plastic-lined pipe. A Geared Threader can also be used with the Threading Machine to thread 4-6" diameter pipe.

The RIDGID Model 1224 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. Die Head is also available to cut groove and bevel pipe through 4" in diameter.

### Specifications

Threading Capacity ..... Pipe 1/4" through 4"  
 Bolt 1/4" through 2"  
 Geared Threader: Pipe 4" – 6"

Chuck ..... Hammer-Type Chuck with Replaceable Jaw Inserts

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

Gear Box ..... Two-Speed Gear Box 3:1 Ratio

Operating Speed ..... 36 RPM – 1/4" - 2" Pipe  
 12 RPM – 2 1/2" - 4" Pipe  
 – High Torque Application  
 Such As Stainless Steel or R<sub>C</sub>30 Rod

Motor:  
 Type ..... Induction-Type,  
 Horsepower ..... 1 1/2 HP  
 Volts ..... 120V Single-Phase, 60 Hz  
 240V, Single-Phase, 60 Hz  
 115V/220V/240V  
 Single-Phase, 50 Hz  
 Amps ..... 15 amps (120V)

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

Pump ..... Gerotor-Type, Self-Priming

Cutter ..... No. 764 – Roll-Type Cut-off, Self-Centering, Full Floating

Reamer ..... No. 744 1/4" - 4" Blade-Type, Right Hand

Weight ..... 509 Lbs.

### Standard Equipment

#### Model No. 1224 Threading Machine with Foot Switch

- 1 – No. 714 (914) 2 1/2" – 4" Receding Self-Opening Die Head
- 1 – No. 711 (911) 1/4" – 2" Universal Self-Opening Die Head
- 1 – Set 1/2" – 3/4" Universal Alloy Dies
- 1 – Set 1" – 2" Universal Alloy Dies
- 1 – Set 2 1/2"-4" 1224 High Speed Dies
- 1 – Gallon Nu-Clear Oil\*
- 3 – Hex Keys
- 1 – Spare F-229 Cutter Wheel
- 1 – 3/4" Combination Wrench
- 1 – Tool Box
- 1 – No. 744 Reamer
- 1 – No. 764 Cutter
- 1 – 4 oz. Can White Sealant w/PTFE

### Standard Machines

Catalog No.	Model No.	Description	Volt
26092	1224	1/2" – 4" NPT	120V 60Hz
26097	1224	1/2" – 4" NPT	240V 60Hz
26127	1224	1/2" – 4" BSPT	120V 60Hz
26112*	1224	1/2" – 4" BSPT	115V 50Hz
26122	1224	1/2" – 4" BSPT	240V 60Hz
26107*	1224	1/2" – 4" BSPT	220V 50Hz
26102	1224	1/2" – 4" BSPT GS	220V 50Hz
31442*	1224	1/2" – 4" NPT	220V 60Hz

\* Catalog numbers 26112, 26107 and 31442 do not include oil with machine. Oil must be ordered separately.

### Die Heads and Dies

Die Head Model No.	Capacity		Sets of Dies		Threads		Special Notes
	Pipe	Bolt	Pipe	Bolt	R.H.	L.H.	
711 NPT	1/4" - 2"	1/4" - 2"	3	16 UNC 14 UNF	X		Self-opening die head
714 NPT	2 1/2" - 4"		1		X		Self-opening die head
713 NPT	1/4" - 2"		3			X	Quick-opening die head
911 BSPT	1/4" - 2"	1/4" - 2"	3	16 BSW	X		Self-opening die head
914 BSPT	2 1/2" - 4"		1		X		Self-opening die head
913 BSPT	1/4" - 2"		3			X	Quick-opening die head
541		1/4" - 1"		10 UNC	X	X	Alloy or high speed dies, UNC or UNF BSW or BSF right hand or left hand
542		1 1/8" - 2"	6 UNC 4 UNF		X	X	Alloy or high speed dies, UNC or UNF BSW or BSF right hand or left hand

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. 13/16" - 2 1/2")  
 General purpose Acme and Metric dies for 541 and 542 bolt die heads available on request.

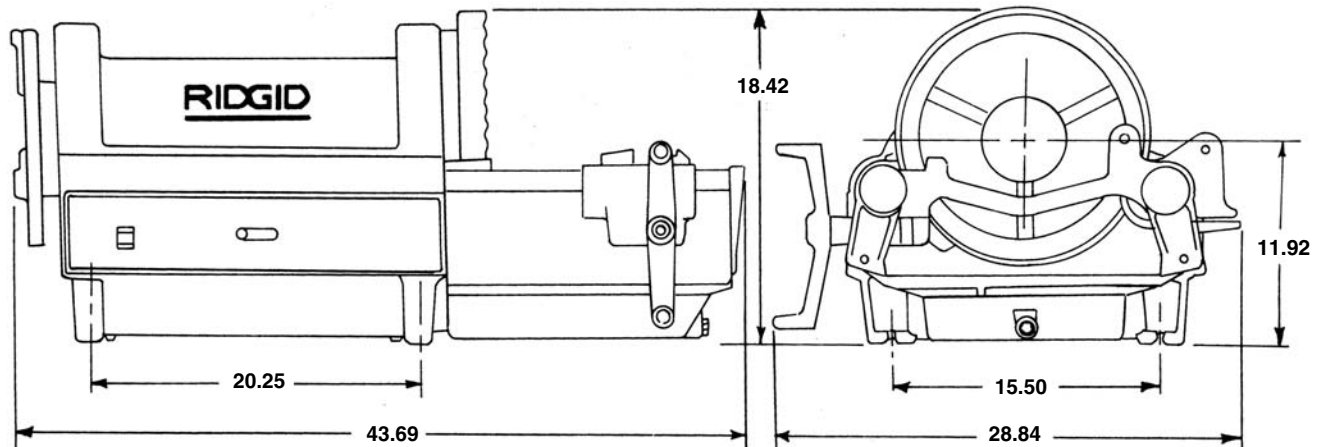


Figure 2 – 1224 Machine Dimensions

### Machine Mounting and Transporting

**WARNING**



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

#### Mounting Machine To Stand

1. The machine is designed to mount on the three universal stands listed below.

#### Machine Stands

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



### Mounting Machine To Bench

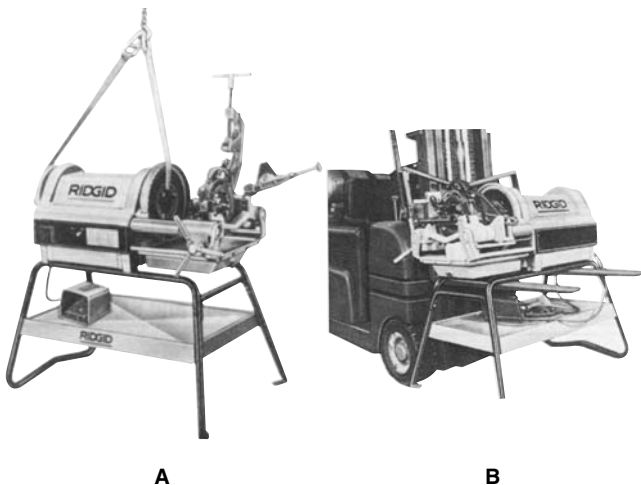
1. If a stand is not used, the machine should be mounted to a stable bench. To mount the unit on a bench, use four (4) 3/8" bolts in holes provided at each corner of machine base. Base dimensions are shown in *Figure 2*.

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

### Transporting Machine

1. If machine is on a No. 100 Leg Stand, a forklift can be used with or without a sling (*Figures A and B*).

**⚠ CAUTION** Do not lift machine by oil pan assembly or bottom cover as extensive damage could result.

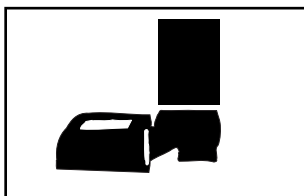


**Figure 3 – A - Transporting No. 1224 Machine Using Sling  
B - Transporting No. 1224 Machine Using Forklift**

2. The No. 150 or 200 Wheeled Stand allows one-man transportation over smooth surfaces.

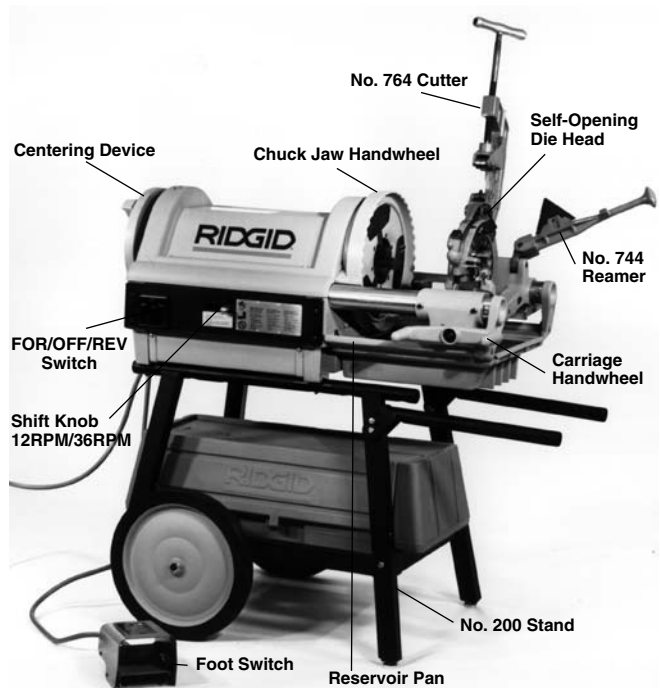
### Machine Inspection

**⚠ 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 4*).



**Figure 4 – No. 1224 Pipe and Bolt 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.
4. Make sure the foot switch is present and attached to the Threading Machine (*Figure 4*).

**⚠ 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.

- 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.

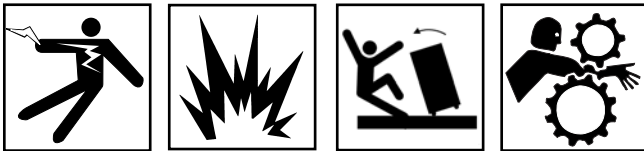
- Clean metal shavings and other debris from the chip tray of the Threading Machine. Check the level and quality of the thread cutting oil by sliding chip tray and draw tray out of reservoir pan. Replace or add oil if necessary. Reservoir in the base will hold approximately five (5) quarts of thread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

**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:**

- 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.
- 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.
- 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.

- 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.
- If necessary, fill the reservoir with RIDGID Thread Cutting Oil.
- Make sure FOR/OFF/REV switch is in the OFF position.
- 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.

- 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.

- 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.
  - Place die head in down position. Step on foot switch

and oil should flow from die head. Release foot switch and return die head to up position.

- 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 power drive 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. 764 Cutter

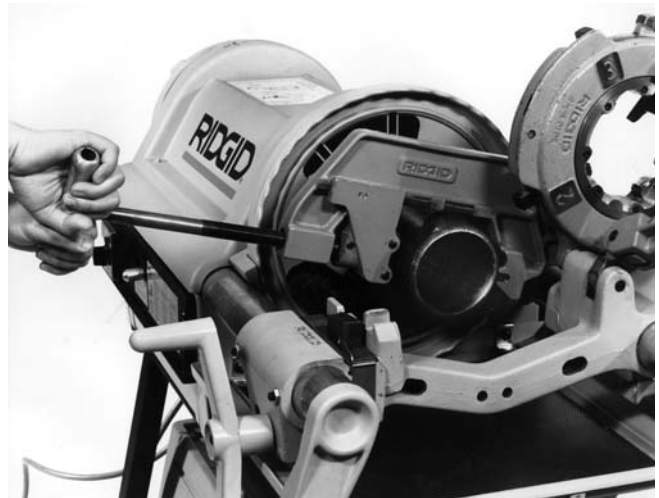
1. Swing reamer and die head to UP position.
2. Place shift knob in 36 RPM position (*Figure 5*).

**⚠ CAUTION** Shifting should be done with machine idling. Do not operate shift knob while under load.

3. Move pipe cutter DOWN onto pipe and move carriage with handwheel to line up cutter wheel with mark on pipe.
4. Tighten cutter feed screw handle on pipe keeping wheel aligned with the pipe.
5. Assume the correct operating posture (*Figure 5*).

**⚠ 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 5 – Cutting Pipe With No. 764 Cutter**

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

### Reaming Pipe with No. 744 Reamer

1. Move reamer arm into DOWN position (*Figure 6*).
2. Place shift knob in 36 RPM position.

**CAUTION** Shifting should be done with machine idling. Do not operate shift knob while under load.

3. Check the directional switch to insure it is in the FOR (Forward) position. Depress and hold the foot switch down with left foot.
4. Advance reamer into pipe and complete reaming by exerting pressure on handwheel.

**NOTE!** Do not apply excessive pressure on handwheel.

5. Return reamer to UP position.
6. Release foot switch and remove your foot from the housing.



**Figure 6 – Reaming Pipe with No. 744 Reamer**

### Threading Pipe With Nos. 711 and 911 Self-Opening Die Heads (Right Hand Threading) and Nos. 713 and 913 Quick-Opening Die Heads (Left Hand Threading)

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. Position shift knob.

**CAUTION** Shifting should be done with machine idling. Do not operate shift knob while under load.

**NOTE!** Shift knob is in 36 RPM position when threading 2" pipe or less. When threading 2½" to 4" standard pipe or other high torque applications such as stainless steel or 30 RC rod, shift knob must be in 12 RPM position.

**NOTE!** If shift knob is in 36 RPM position and machine stalls, immediately release foot switch. Position shift knob in 12 RPM position. Repeated stalling may damage motor.

5. Turn REV/OFF/FOR switch to FOR position for right hand threading and step on foot switch. Use REV position for left hand threading. Oil should flow from die head.
6. Turn carriage handwheel to bring dies against end of pipe. Pressure on handwheel will start dies.

**NOTE!** Carriage handwheel may be repositioned to improve leverage when starting dies. To reposition: pull handwheel out (away from machine), rotate handwheel to desired position, push handwheel in.

7. a. Quick-Opening Die Head (*Figure 9*) – When thread is completed, raise throwout lever to open head position, retracting dies.
7. b. Self-Opening Die Head (*Figure 8*) – When die head end of pipe contacts trigger, throwout lever is automatically opened on tapered threads.

**NOTE!** Throwout lever on Self-Opening Die Head must be pulled open manually when cutting straight threads (NPSM/BSPP).

8. Release foot switch and turn carriage handwheel to back die head off.
9. Release latch on 713 or 913 die head (*Figure 8*) and swing die head to UP position.

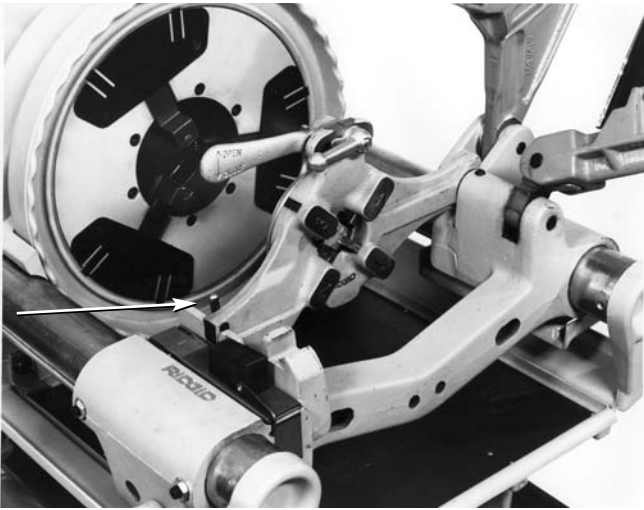


Figure 7 – Release Latch On Left-Hand Die Heads

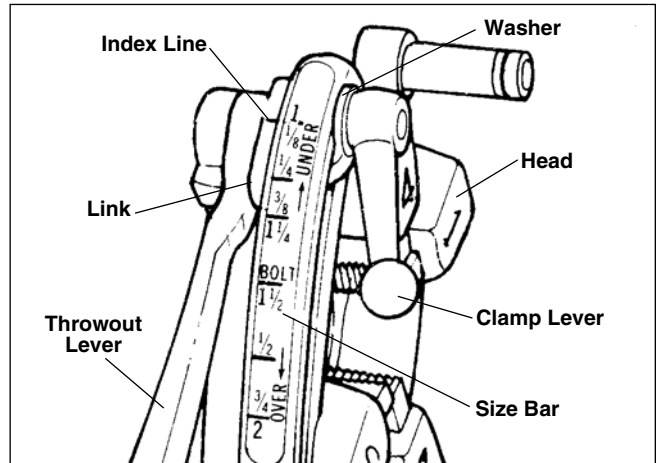


Figure 9 – Nos. 713 and 913 Quick-Opening Die Heads

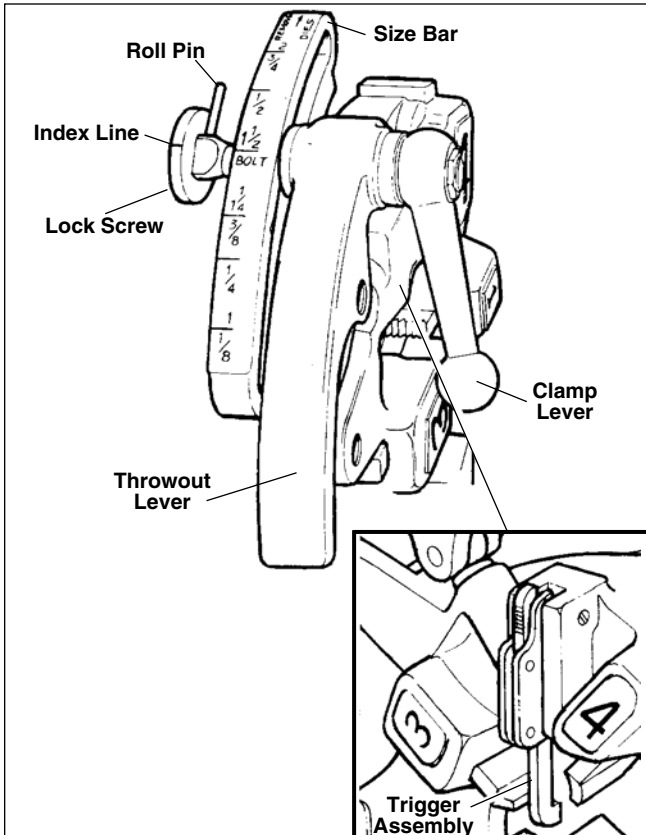


Figure 8 – Nos. 711 and 911 Self-Opening Die Head



1. Lockout Plate IN
2. Release Foot IN
3. Sine Bar IN (Unhooked)
4. Die Head Foot ON Sine Bar (COCK)

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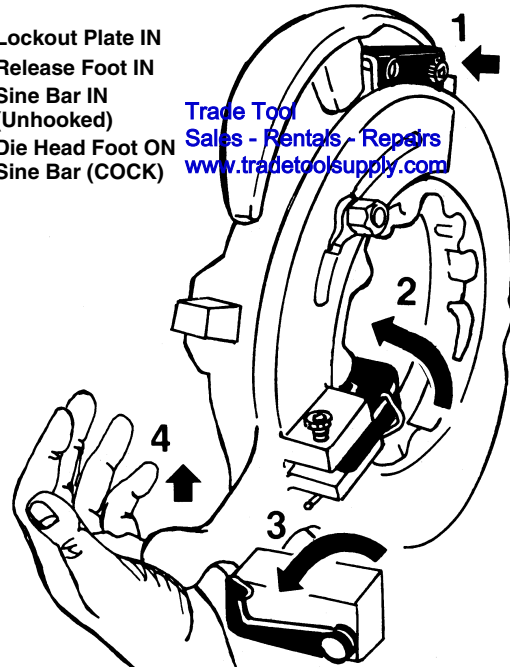


Figure 10 – Setting No. 714 or 914 Self-Opening Die Head for NPT or BSPT Threads



1. Lockout Plate OUT
2. Release Foot OUT and Secure
3. Sine Bar OUT (Hooked)
4. Die Head Foot OFF SINE BAR (COCK)

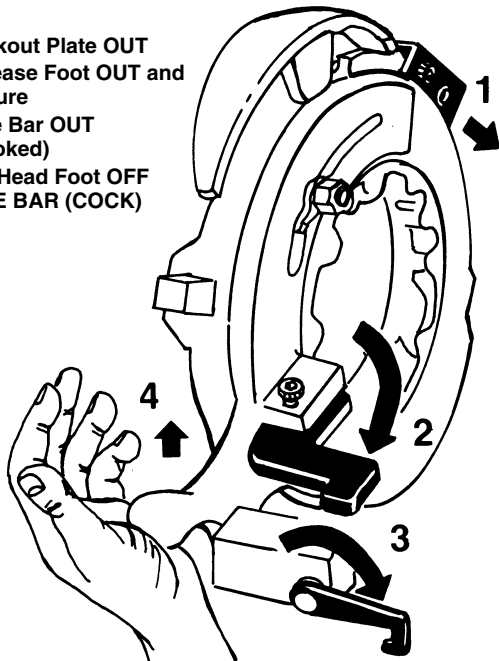


Figure 11 – Setting No. 714 or 914 Self-Opening Die Head for NPSM or BSPP Threads

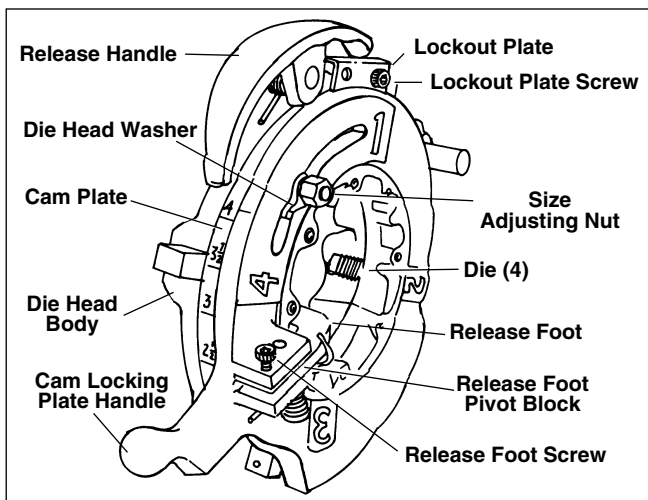


Figure 12 – Know Your 714/914 Die Head

### Threading Pipe with Nos. 714 and 914 Self-Opening Die Head (NPT/BSPT)

1. Install die set. Refer to Die Installation procedure.
  2. Swing cutter and reamer to UP position.
  3. Position lockout plate IN. (Figures 10 & 13)
  4. Release foot IN. (Figure 10)
  5. Sine Bar should be IN (UNLATCHED). (Figures 10 & 13)
  6. With die head in DOWN position, push UP on cam locking plate handle (Figure 10, Step 4) until release foot latches in die head body.
  7. Shift Knob MUST be in 12 RPM position.
- CAUTION** Shifting should be done with machine idling. Do not operate shift knob while under load.
8. Turn REV/OFF/FOR switch to FOR position and step on foot switch.
  9. Turn carriage handwheel counter-clockwise to bring die head against end of pipe in one continuous motion. The release foot will actuate the receding mechanism. Continue to apply pressure to handwheel to start dies.

NOTE! Carriage handwheel may be repositioned to improve leverage when starting dies. To reposition: pull handwheel out (away from machine), rotate handwheel to desired position, push handwheel in.

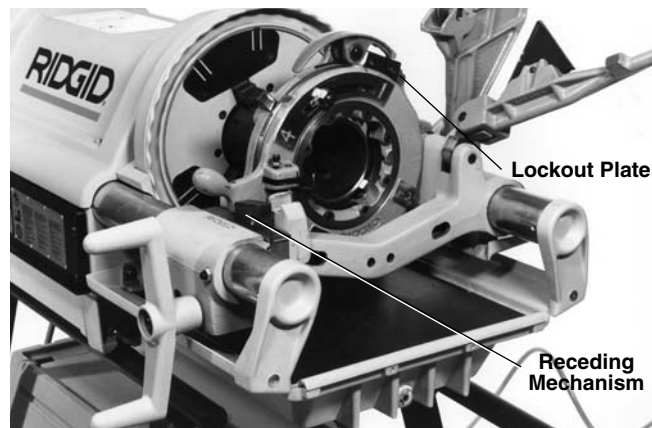


Figure 13 – Positioning Lockout Plate for NPT/BSPT Taper Threads



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**Figure 14 – Threading NPT/BSPT Threads with No. 714 or 914 Die Head**

10. At end of cut, receding mechanism will automatically open dies. (See Figure 12.)

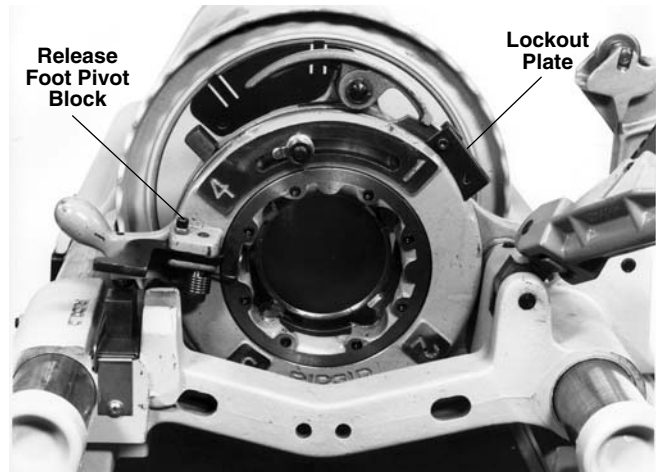
**NOTE!** To remove die head part way through a thread, loosen size adjusting nut and manually retract dies by rotating cam plate. Lift cam locking plate handle to latch release foot. Back die head off pipe and reset size.

11. Release foot switch and turn carriage handwheel clockwise to back die head off.

12. Swing die head to UP position.

### **Threading Pipe with Nos. 714 and 914 Die Heads (NPSM/BSPP)**

1. Remove release foot screw from release foot pivot block. Unhook release foot spring from release foot. Rotate release foot out until hole in foot lines up with screw hole in pivot block. Reinsert screw until it engages release foot (Figures 11 & 15).
2. Position lockout plate (Figures 11 & 15).
3. Push carriage sine bar to far right end of carriage and rotate sine bar hook around until it engages the hole in end of carriage (Figures 11 & 15).
4. With die head in DOWN position, pick up cam locking plate handle until release handle (Figure 10, Step 4) engages notch.
5. Turn REV/OFF/FOR switch to FOR position and step on foot switch.
6. Turn carriage handwheel to bring dies against end of pipe. Continue to apply pressure to handwheel to start dies.



**Figure 15 – Positioning Lockout Plate for NPSM/BSPP Straight Threads**



**Figure 16 – Threading NPSM/BSPP Threads with No. 714 or 914 Die Heads**

**NOTE!** Carriage handwheel may be repositioned to improve leverage when starting dies. To reposition: pull handwheel out (away from machine), rotate handwheel to desired position, push handwheel in.

7. When desired length of thread has been reached, depress release handle to disengage latch (Figure 15). Die head will automatically open.
8. Release foot switch and turn carriage handwheel clockwise to back die head off.
9. Swing die head 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.

- If necessary, loosen the rear centering device using a clockwise rotation of the handwheel at the rear of the Threading Machine.
- 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.

- Clean up any oils spills or splatter on the ground surrounding the Threading Machine.

### **Installing Dies In Nos. 711 and 911 Die Heads (R.H. Only) (1/4" Through 2")**

The Nos. 711 and 911 Die Heads (*Figure 8*) for right-hand threads requires three sets of dies to thread pipe ranging from 1/4" through 2". One set of dies is required for each of the following pipe size ranges: (1/4" - 3/8"), (1/2" - 3/4"), and (1" - 2"). Bolt threading requires a separate set of dies for each bolt size.

- Place Self-Opening Die Head flat on bench with numbers UP.
- Make sure trigger assembly is released.
- Loosen clamp lever.
- Pull lock screw out of size bar slot so that roll pin in lock screw will bypass slot. Position size bar so that index line on lock screw is all the way to the end of REMOVE DIES position.
- Remove dies from die head.
- Insert new dies to mark. Die numbers 1 through 4 must agree with those on die head.
- Rotate cam plate until roll pin on lock screw can be positioned in slot. In this position dies will lock in die head. Make sure roll pin points toward end of size bar marked REMOVE DIES.
- Adjust die head size bar until index line on lock screw is aligned with proper size mark on size bar. (For bolt threads, align index line with BOLT line on size bar.)
- Tighten clamp lever.
- 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 714 and 914 Self-Opening Die Heads (2 1/2" Through 4")**

(*Figure 12*)

- Lay die head on bench with number pads up.
- Loosen size adjusting nut and lift die head washer foot out of slot.
- Rotate cam in direction of larger pipe sizes until adjusting screw reaches end of slot.
- Remove dies from die head.
- Insert new dies into slots making sure number on die agrees with number on die head.
- Rotate cam to size setting desired.
- Reinstall die head washer and tighten size adjusting nut.

### **Installing Dies In No. 713 and 913 Quick-Opening Die Heads (L.H. Only)**

The Nos. 713 and 913 Die Heads (*Figure 9*) for left-hand threads require three sets of dies to thread pipe ranging from 1/4" through 2". One set of dies is required for each of the following pipe size ranges: (1/4" - 3/8"), (1/2" - 3/4") and (1" - 2").

- Lay die head on bench with numbers face up.
- Move throwout lever to OPEN position.
- Loosen clamp lever approximately three turns.
- 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.
- Remove worn dies from die head.
- Insert new dies to mark. Die numbers 1 through 4 must agree with those on die head.
- Slide throwout lever back so that tongue of clamp lever washer will drop in slot under size bar.
- Adjust die head size bar until index line on lock screw or link is aligned with proper size mark on size bar. (For bolt threads, align Index line with BOLT line of size bar.)
- Tighten clamp lever.
- If oversize or undersize threads are required, set the index line in direction of OVER or UNDER size mark on size bar.

### Checking Thread Length

1. Thread is cut to proper length when end of pipe is flush with edge of dies (*Figure 17A*).
2. Die head is adjustable to obtain proper thread diameter. If possible, threads should be checked with a thread ring gage (*Figure 17B*). A proper thread is cut when end of pipe is plus or minus one turn of being flush with face of ring gage.

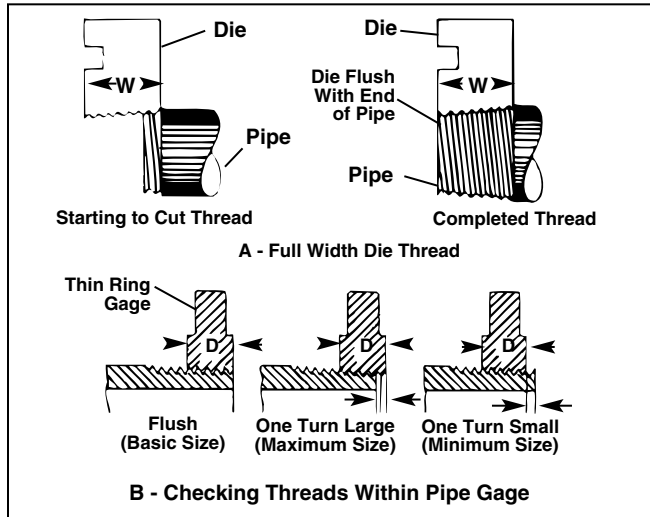


Figure 17 – Checking Thread Length

NOTE! If a ring gage 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 or 3 turns hand tight engagement with fitting. If pipe thread is not proper diameter the index line should be moved in the OVER or UNDER size mark on size bar. (refer to “Installing Dies In Die Heads”).

NOTE! Receding dies used in 714/914 Head are NOT full width dies!

## No. 766 Saran Cutter

### Installing No. 766 Saran Cutter

1. Latch Carriage Sine Bar Hook (OUT) over edge of carriage so cutter does not hit Sine Bar. (*Figure 18*)
2. Replace No. 764 Wheel-Type Cutter with No. 766 Blade Type Cutter.
3. Position Tool Bit such that cutting edge extends  $\frac{1}{32}$ " below tool holder slide. Tighten securely.

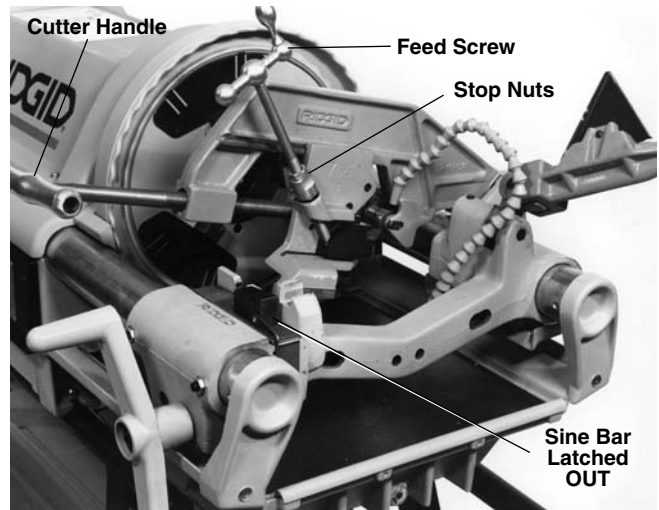


Figure 18 – No. 766 Saran Cutter Installed. (Shown with Die Head Removed for Illustration Only.) Die Head MUST be Installed and in UP Position During Use of 766 Cutter

### Oil Coolant Line Installation

1. Attach  $\frac{1}{8}$ " elbow to bypass pin.
2. Locate oil bypass hole underneath carriage and insert bypass pin into hole with elbow pointed toward carriage handle.
3. Use hammer to secure pin into hole.
4. Attach coolant nozzle onto elbow.
5. Direct coolant nozzle toward cutter so that oil flow covers cutting blade.

NOTE! Die head MUST be on carriage and in UP position in order to direct oil thru coolant nozzle.

6. Remove coolant nozzle with saran cutter when not in use.

### Cutting Off with 766 Cutter

1. With cutter roll housing and tool holder fully retracted, pull cutter assembly down into cut-off position.
2. Set speed of machine at 36 RPM.
3. Turn control switch to FOR (Forward) position and step on foot switch to rotate pipe. Tighten cutter handle until rolls engage materials to be cut-off tool.
4. Direct oil coolant spout toward cut-off tool.
5. Turn feed screw assembly slowly until material is cut off.

NOTE! At this time, lock stop nuts to assure further cut-off of the same depth.

- Once cutting operation is complete and while pipe is still rotating, retract the cutting tool. Turn cutter handle to release rolls and return cutter assembly to storage position.

**NOTE!** To make cut-off without getting oil inside material, proceed with following steps:

- Position oil coolant spout down just far enough to direct a small amount of oil on rear roll. The material will pick up from roll and lubricate the cut-off tool.
- Just before tool bit breaks through material, pull oil spout away from the cutting tool.

### Stripping Saran and Plastic Lined Pipe

- Back off both stop nuts to end of thread on feed screw assembly.
- With roll housing and tool holder fully retracted, pull cutter assembly down into cut-off position.
- Set machine speed at 36 RPM.
- Turn control switch to FOR (forward) position and step on foot switch to rotate pipe. Tighten cutter Handle until rolls firmly engage material to be cut off.
- Direct oil spout toward lined pipe tool bit.
- Turn feed screw assembly until tool bit has cut through steel shell to saran or plastic liner.
- Lock stop nuts against roll housing.
- Turn feed screw assembly counter-clockwise to back off tool bit from pipe.

**NOTE!** Leaving stop nuts locked in position will assure further cuts on saran and plastic lined pipe are of the same depth.

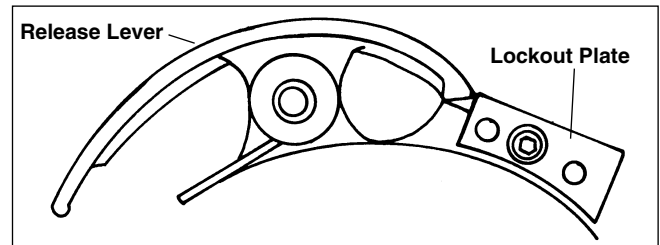
- Once cutting operation is complete and while pipe is still rotating, retract cutting tool. Turn cutter handle to release rolls and return cutter assembly to storage position.

### Threading Lined Pipe with No. 714/914 Die Head

- Set die head to proper size.
- Secure die head release foot OUT.

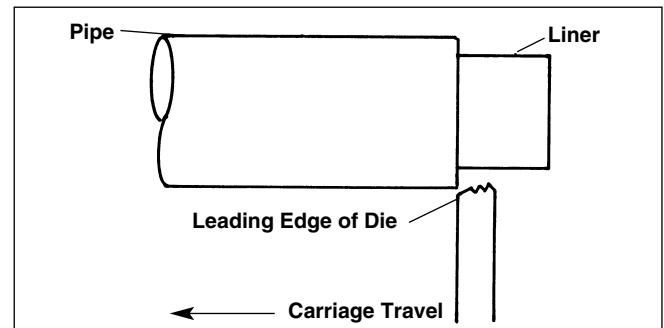
**NOTE!** To thread lined pipe with the 714/914 die head, the operator **MUST** install the lockout plate that comes standard with the 766 Saran Cutter.

- Adjust lockout plate so screw is inserted in middle index hole. (Figure 19)
- Cock die head.



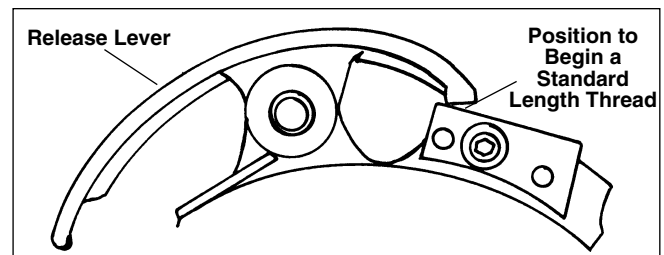
**Figure 19 – Adjust to Position Above with Die Head Cocked.**

- Move carriage handwheel towards pipe until leading edge of die is flush with pipe. (Figure 20)



**Figure 20 – Position Leading Edge of Chaser Flush with Pipe**

- Push release lever so that it rests on top of lockout plate and begin a normal thread with carriage handwheel. (Figure 21)



**Figure 21 – Positions of Release Lever and Lockout Plate to Begin Standard Length Thread**

### No. 725 Cut Groove Die Head

#### Grooving Pipe with No. 725 Cut Grooving Die Head

(Figure 22)

- Install proper die set. Refer to Die Installation procedure.
- Latch carriage sine bar hook (OUT) over edge of carriage so die head does not hit sine bar.
- Swing cutter and reamer to UP position.
- Adjust die head to proper size.

5. Fully loosen feed screw assembly so that dies do not contact O.D. of pipe.
  6. With pipe securely tightened in front chuck, turn carriage handwheel counter-clockwise to bring die head stop against end of pipe.
  7. Set speed of machine at 36 RPM.
  8. Turn REV/OFF/FOR switch to FOR position and step on foot switch.
  9. Slowly turn feed screw assembly to feed grooving bits into pipe to start cut groove.
  10. Before locking stop nuts to set grooving dies to proper depth of cut, allow pipe to make 3 to 4 revolutions to clean up any extra material left in groove.
  11. Lock stop nuts against roll housing.
  12. Turn feed screw assembly counter-clockwise to back off grooving dies from pipe.
- NOTE! Leaving stop nuts locked in position will assure further cuts are the same depth.
13. Once cutting operation is complete and while pipe is still rotating, retract cutting tool.

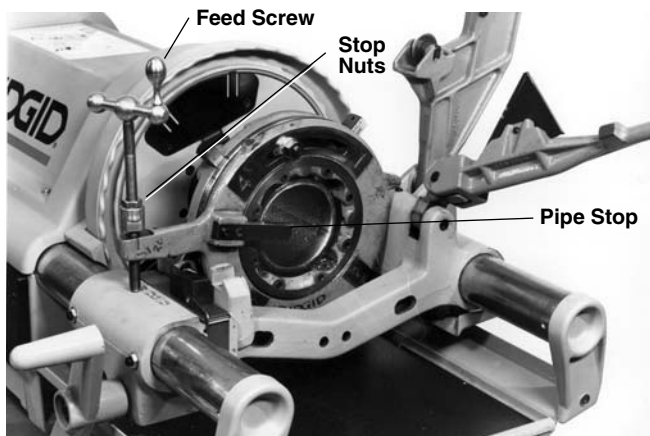


Figure 22 – No.725 Cut-Groove Die Head



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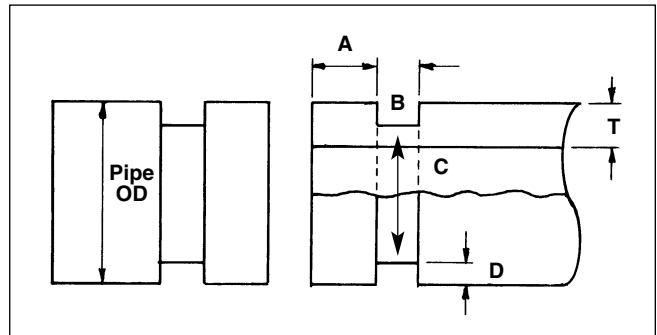


Figure 23 – Standard Square Cut Groove Specifications

See Table I

## Beveling Pipe with No. 714/914 Die Head

When using beveling dies with No. 714/914 Die head

1. Follow Die Installation procedure, page 13.
2. Head MUST be set up as when cutting NPSM/BSPP straight threads. Refer to procedure, page 10-12.

## Accessories

### ⚠ WARNING

**Only the following RIDGID products have been designed to function with the 1224 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:

- No. 711 or 911 .....1/2" - 2" Right Hand NPT/NPSM or BSPT/BSPP
- No. 714 or 914 .....2 1/4" - 4" Right Hand NPT/NPSM or BSPT/BSPP Self-Opening
- No. 713 or 913 .....1/4" - 2" Left Hand NPT or BSPT
- No. 541 .....1/4" - 1" Bolt Die Head
- No. 542 .....1 1/8" - 2" Bolt Die Head

No. 725 Cut-Grooving Die Head

- Pipe Capacity .....2 1/2" through 4"
- Through-The-Head Oiling

Stands:

- No. 100 .....4 Legs w/Tray
- No. 150 .....2 Wheels w/Tray
- No. 200 .....2 Wheels w/Enclosed Cabinet



- Chain Vise .....1/8" – 6" Capacity
- No. 27 Vise .....1/8" – 6" Capacity
- No. BC610 Vise .....1/4" – 6" Capacity
- No. BC810 Vise .....1/2" – 8" Capacity
- No. 318 Oiler .....Stops Oil Waste, Keeps Dies Flooded.

NOTE! See Ridge Tool catalog for complete list of pipe supports, thread cutting oils 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.

1. Remove four (4) cover screws and remove cover.
2. Use grease gun to apply grease to the shaft bearing (Figure 24). Grease fittings every 2 to 6 months, depending upon amount of machine use.

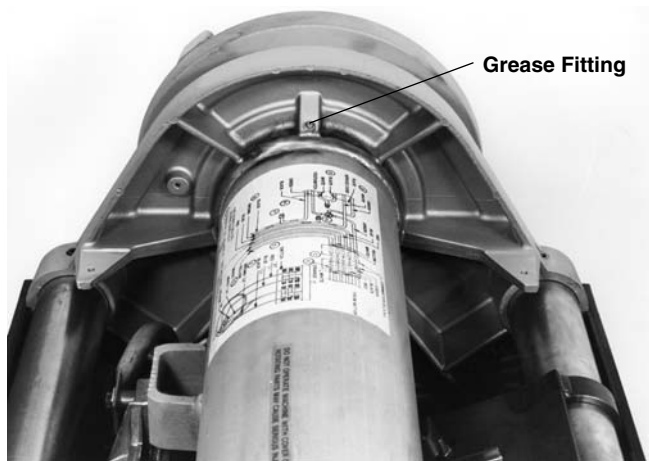


Figure 24 – Greasing Main Shaft Bearings

3. Apply moderate coat of lubricating grease on large gear each time bearings are lubricated. Use grease containing molybdenum disulfide.

### **⚠ WARNING**

**Do not operate threading machine with cover off. Always replace cover immediately after lubricating machine.**

## Oil System Maintenance

To help assure proper operation of threading machine, keep oil system clean.

1. Replace thread cutting oil when it becomes dirty or contaminated. To drain oil, position a container under the drain plug and remove plug.
2. Clean oil filter screen to assure proper flow of clean oil to work. Oil filter screen is located in the bottom of oil reservoir. (Figure 25)

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.

## Cleaning Oil System

1. Place container under chip pan drain plug. (Figure 25)
2. Remove plug and drain oil.
3. Slide out draw tray and clean with mineral spirits.
4. Lift up and remove insert tray. Use a putty knife to remove pipe scale, metal shavings and dirt. Clean with mineral spirits.
5. Remove oil filter and clean screen in solvent and blow out with compressed air if available.
6. Use putty knife to remove sludge build-up on bottom of chip pan.

NOTE! Do not operate machine with filter screen removed.

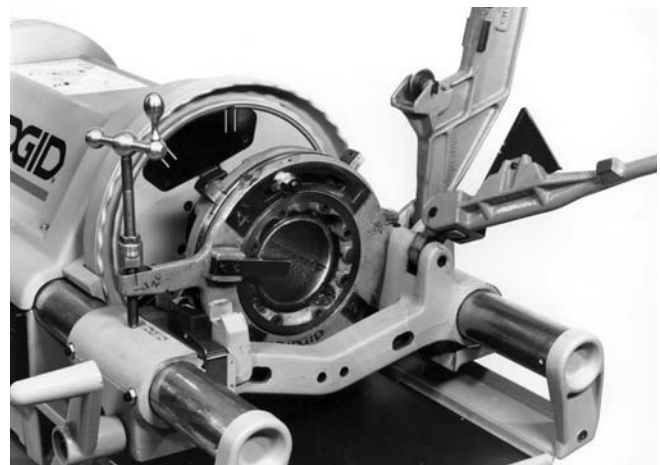


Figure 25 – Cleaning Chip Pan and Oil Filter

## 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 so teeth face up.

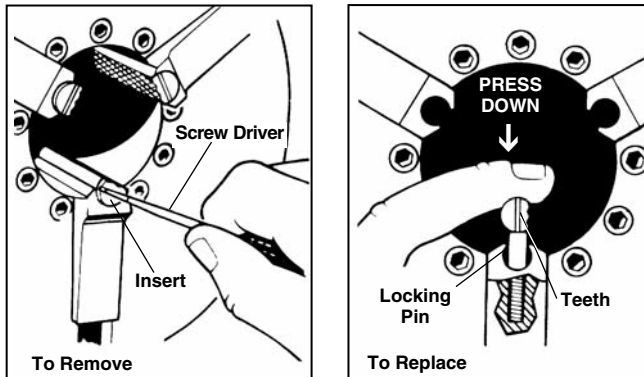


Figure 26 – Replacing Jaw Inserts

## Drive Belt Inspection

The Drive Belt should be periodically inspected for proper tension.  $\frac{1}{8}$ " deflection of belt under moderate pressure (4 lbs.) is adequate tension. If belt shows sign of wear, it should be replaced.

## 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

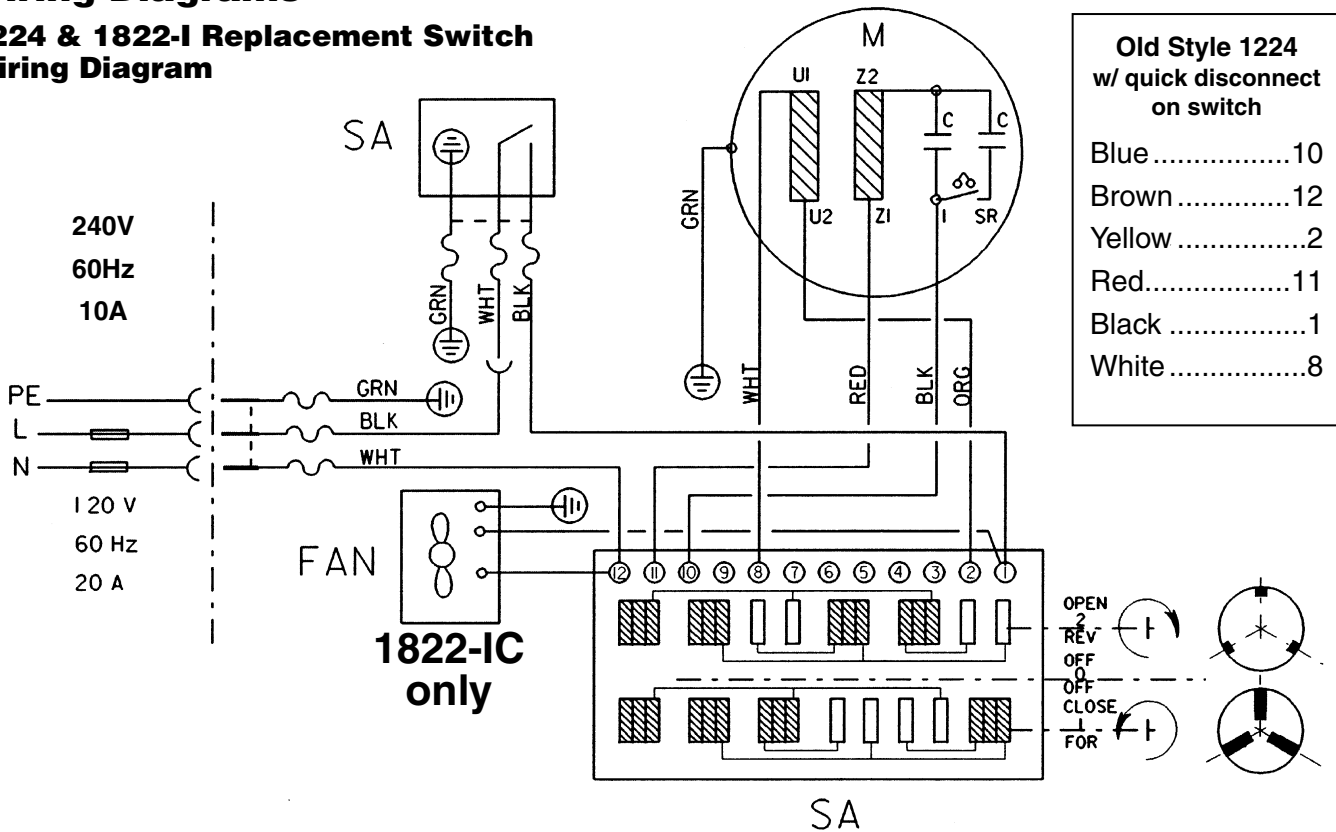
When servicing this machine, only identical replacement parts should be used. Failure to follow these steps may create a risk of electrical shock or other serious injury.



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## Wiring Diagrams

### 1224 & 1822-I Replacement Switch Wiring Diagram



### 1224 & 1822-I Replacement Switch Wiring Diagram

