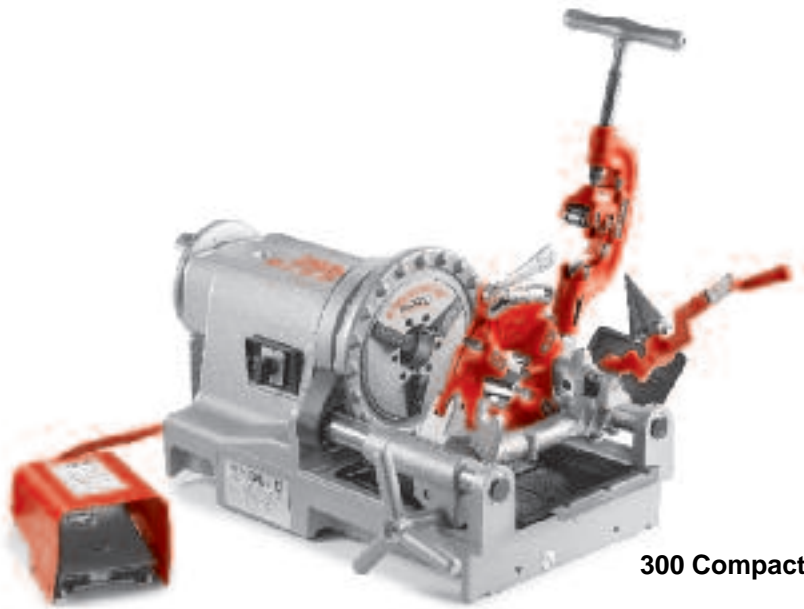


## 300 Compact/1233




300 Compact





1233


## Safety Symbols

In this operator's manual and on the product, safety symbols and signal words are used to communicate important safety information. This section is provided to improve understanding of these signal words and symbols.

 This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

 **DANGER** DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE** NOTICE indicates information that relates to the protection of property.



This symbol means read the operator's manual carefully before using the equipment. The operator's manual contains important information on the safe and proper operation of the equipment.



This symbol means always wear safety glasses with side shields or goggles when handling or using this equipment to reduce the risk of eye injury.



This symbol indicates the risk of fingers, hands, clothes and other objects catching on or between gears or other rotating parts and causing crushing injuries.



This symbol indicates the risk of fingers, legs, clothes and other objects catching and/or wrapping on rotating shafts causing crushing or striking injuries.



This symbol indicates the risk of electrical shock.



This symbol indicates the risk of machine tipping, causing striking or crushing injuries.



This symbol means do not wear gloves while operating this machine to reduce the risk of entanglement.



This symbol means always use a foot switch when using a threading machine/power drive to reduce the risk of injury.



This symbol means do not disconnect foot switch to reduce the risk of injury.



This symbol means do not block foot switch (lock in ON position) to reduce the risk of injury.

## General Power Tool Safety Warnings\*

### WARNING

**Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.**

### **SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE!**

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

## Work Area Safety

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Keep children and by-standers away while operating a power.** Distractions can cause you to lose control.

## Electrical Safety

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodi-

\* The text used in the General Safety Rule section of this manual is verbatim, as required, from the applicable UL/CSA 62841-1 edition standard. This section contains general safety practices for many different types of power tools. Not every precaution applies to every tool, and some do not apply to this tool.

fied plugs and matching outlets will reduce risk of electric shock.

- **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electrical shock if your body is earthed or grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electrical shock.
- **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.

## Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- **Prevent unintentional starting. Ensure the switch is in the OFF-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch ON invites accidents.
- **Remove any adjusting key or wrench before turning the power tool ON.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, and clothing away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

## Power Tool Use and Care

- **Do not force power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it is designed.
- **Do not use power tool if the switch does not turn it ON and OFF.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
- **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** The use of the power tool for operations different from those intended could result in a hazardous situation.

## Service

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

## Specific Safety Information

### **WARNING**

**This section contains important safety information that is specific to these tools.**

**Read these precautions carefully before using the 300 Compact/1233 Threading Machines to reduce the risk of electrical shock or other serious injury.**

### **SAVE THESE INSTRUCTIONS!**

Keep this manual with machine for use by the operator.

## Safety Instructions for Transportable Threading Machines

- **Keep floor dry and free of slippery materials such as oil.** Slippery floors invite accidents.
- **Restrict access or barricade the area when work piece extends beyond machine to provide a minimum of one meter clearance from the work piece.** Restricting access or barricading the work area around the work piece will reduce the risk of entanglement.
- **Do not wear gloves.** Gloves may be entangled by the rotating pipe or machine parts leading to personal injury.
- **Do not use for other purposes such as drilling holes or turning winches.** Other uses or modifying this 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.
- **While operating the machine, stand on the side where the operator controls are located.** Operating the machine from this side eliminates need to reach over the machine.
- **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.** This practice will reduce the chance of entanglement in rotating parts.
- **Do not use this machine to install or remove (make or break) fittings, it is not an intended use of the machine.** This practice could lead to trapping, entanglement and loss of control.
- **Keep covers in place. Do not operate the machine with covers removed.** Exposing moving parts increases the probability of entanglement.
- **Do not use this machine if the foot switch is broken or missing.** The foot switch provides safe control of the machine, such as shut-off in case of entanglement.
- **One person must control the work process, machine operation and foot switch.** Only the operator should be in the work area when the machine is running. This helps reduce the risk of injury.
- **Never reach into the machine front chuck or rear centering head.** This will reduce the risk of entanglement.
- **Read and understand these instructions and the instructions and warnings for all equipment and materials being used before operating this tool to reduce the risk of serious personal injury.**

The EC Declaration of Conformity (890-011-320.10) will accompany this manual as a separate booklet when required.

## Description, Specifications And Standard Equipment

### Description

The RIDGID® Model 300 Compact and 1233 Threading Machines are electric motor-driven machines that center and chuck pipe, conduit and bolt stock and rotates it while cutting, reaming and threading operations are performed. Threading dies are mounted in a variety of available die heads. An integral oiling system with adjustable flow rate is provided to flood the work with thread cutting oil during the threading operation.

With proper optional equipment, RIDGID® Model 300 Compact and 1233 Threading Machines can be used to thread 2½" – 4" pipe, short or close nipples or for roll grooving.

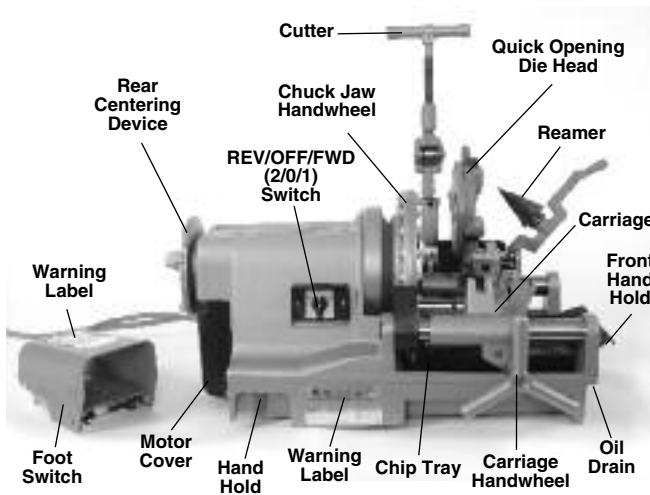


Figure 1 – 300 Compact Threading Machine

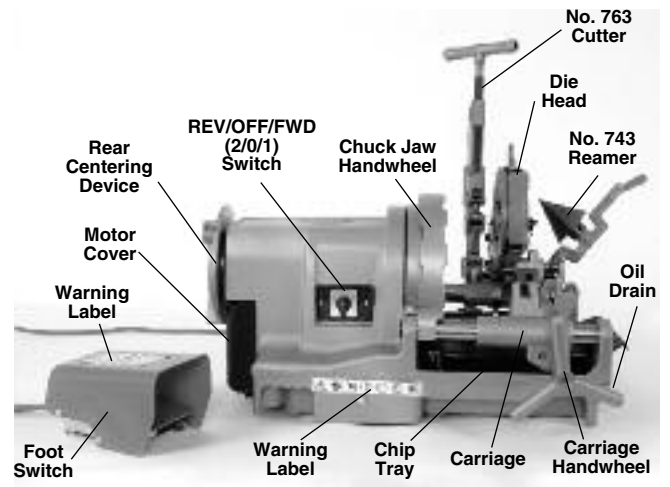


Figure 2 – 1233 Threading Machine

## Specifications

Parameter	300 Compact Threading Machine	1233 Threading Machine
Pipe Threading Capacity (Nominal Pipe Size)	1/8 to 2 inch (3 to 50 mm)	1/8 to 3 inch (3 to 80 mm)
Bolt Threading Capacity (Actual Stock Diameter)	1/4 to 2 inch (6 to 50 mm)	3/8 to 2 inch (9.5 to 50 mm)
LH Threads	Yes (units with REV only)	No
Rated Motor Power (HP)	1/2 HP (0.37 kW)	1/2 HP (0.37 kW)
Motor Type	Universal Motor, Single Phase	Universal Motor, Single Phase
Electrical Information	36 RPM 115 V, 50/60 Hz, 12 AMP 230 V, 50/60 Hz, 8 AMP 1700 W	52 RPM 115 V, 50/60 Hz, 18 AMP 2100 W
Operating Speed	36 RPM (52 RPM version available)	36 RPM
Controls	Rotary Type REV/OFF/FWD (2/0/1) switch and ON/OFF foot switch, Some units use an OFF/ON Rocker Switch in place of the Rotary Switch.	Rotary Type REV/OFF/FWD (2/0/1) switch and ON/OFF foot switch Some units use an OFF/ON Rocker Switch in place of the Rotary Switch.
Front Chuck	Hammer-Type with replaceable Rocker-Action Jaw Inserts	Hammer-Type with replaceable Rocker-Action Jaw Inserts
Rear Centering Device	Scroll operated, rotates with Chuck	Scroll operated, rotates with Chuck
Die Heads	See RIDGID Catalog for available Die Heads	See RIDGID Catalog for available Die Heads
Cutter	Model 360, 1/8" - 2" Full Floating, Self Centering Cutter	Model 763, 1/4" - 3", Self Centering Cutter
Reamer	Model 344, 1/8" - 2" Reamer	Model 743, 1/4" - 3", 5-Fluted Reamer
Oil System	Reservoir Capacity 3.2 qt (3 l), with integrated Gerotor Pump, adjustable flow rate	Reservoir Capacity 3.2 qt (3 l), with integrated Gerotor Pump, adjustable flow rate
Weight (Unit with Die Head)	141 lb (64 kg)	165 lb (75 kg)

### Standard Equipment

Refer to the RIDGID catalog for details on equipment supplied with specific machine catalog numbers.

The Threading Machine serial number plate is located on the end of the base or the back of the base. The last 4 digits indicate the month and year of the manufacture (06 = June, 14 = 2014).



Figure 3 – Machine Serial Number

**NOTICE** Selection of appropriate materials and installation, joining and forming methods is the responsibility of the system designer and/or installer. Selection of improper materials and methods could cause system failure.

Stainless steel and other corrosion resistant materials can be contaminated during installation, joining and forming. This contamination could cause corrosion and premature failure. Careful evaluation of materials and methods for the specific service conditions, including chemical and temperature, should be completed before any installation is attempted.

### Machine Assembly

**WARNING**



To reduce the risk of serious injury during use, follow these procedures for proper assembly.

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

REV/OFF/FWD switch should be OFF and machine unplugged before assembly.

Use proper lifting techniques. The RIDGID 300 Compact weighs 141 lb (64 kg) and the 1233 weighs 165 lb (75 kg).

### Mounting on Stands

The Threading Machines can be mounted on various RIDGID Threader Stands. Refer to RIDGID catalog for stand information and to the respective Stand Instruction Sheet for mounting instructions.

### Mounting on Bench

The machines can be mounted on a level, stable bench. To mount the unit on a bench, use four 1/4" - 20 UNC bolts in holes provided at each corner of the machine base. Base hole spacing is 12.25" x 18" (311 mm x 457 mm). Tighten securely.

### Mounting on Pipe Legs

Four equal lengths of 1" (25 mm) pipe can be used as a stand for both the machines. Pipes cut to 33" (0.84 m) length will place the machine rails approximately 36" (0.91 m) off the ground. Fully insert the pipes into leg sockets provided on the underside of the base at the corners. Secure with four provided 10 mm hex bolts through the base. See Figure 4.

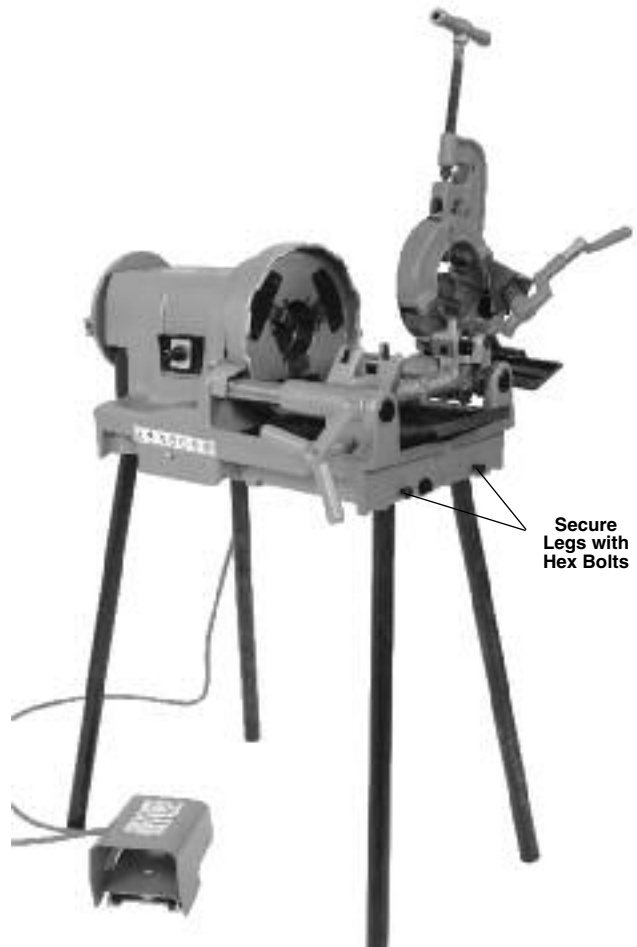


Figure 4 – Threading Machine Mounted On Pipe Legs

## Pre-Operation Inspection

### ⚠ WARNING



**Before each use, inspect your threading machine and correct any problems to reduce the risk of serious injury from electric shock, crushing injuries and other causes, and to help prevent threading machine damage.**

1. Make sure that the threading machine is unplugged and the REV/OFF/FWD switch is in OFF position.
2. Clean any oil, grease or dirt from the threading machine, including the handles and controls. This aids inspection and helps prevent the machine or control from slipping from your grip. Clean and maintain the machine per the maintenance instructions.
3. Inspect the threading machines for the following:
  - Condition of the cords and plug for damage or modification.
  - Proper assembly, maintenance and completeness.
  - Any broken, worn, missing, misaligned or binding parts or other damage.
  - Presence and operation of the foot switch. Confirm that foot switch is attached, in good condition, that it cycles smoothly and does not stick.
  - Presence and readability of warning labels (*Figures 1 & 2*).
  - Condition of the dies, cutter wheel and reamer cutting edges. Dull or damaged cutting tools increase required force, produce poor results and increase the risk of injury.
  - Any other condition which may prevent safe and normal operation.

If any problems are found, do not use the threading machine until the problems have been repaired.

4. Inspect and maintain any other equipment being used per its instructions to make sure it is functioning properly.

## Machine and Work Area Set-Up

### ⚠ WARNING



**Set up the Threading Machine and the work area according to these procedures to reduce the risk of injury from electric shock, machine tipping, entanglement, crushing and other causes, and to help prevent threading machine damage.**

**Secure machine to stable stand or bench. Properly support pipe. This will reduce the risk of falling pipe, tipping and serious injury.**

**Do not use the Threading Machines without a properly operating foot switch. A foot switch provides better control by letting you shut off the machine motor by removing your foot.**

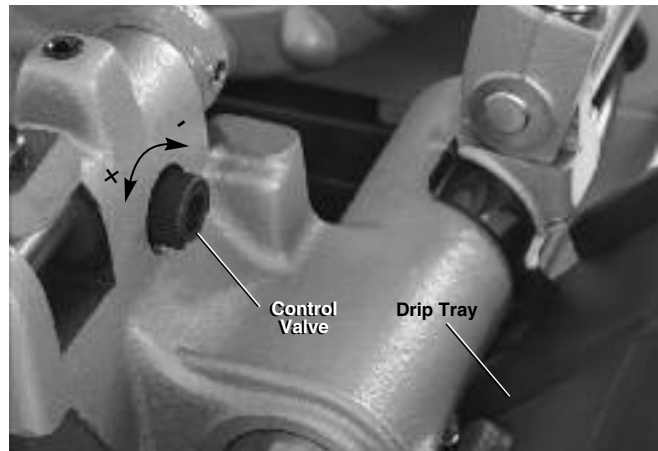
1. Check work area for:
  - Adequate lighting.
  - Flammable liquids, vapors or dust that may ignite. If present, do not work in area until source is identified, removed or corrected, and area is completely ventilated. The threading machine is not explosion proof and can cause sparks.
  - Clear, level, stable, dry location for all equipment and operator.
  - Good ventilation. Do not use extensively in small, enclosed areas.
  - Properly grounded electrical outlet of the correct voltage. Check the machine serial plate for required voltage. A three-prong or GFCI outlet may not be properly grounded. If in doubt, have outlet inspected by a licensed electrician.
2. Inspect the pipe to be threaded and associated fittings. Determine the correct equipment for the job, see specifications. Do not use to thread anything other than straight stock. Do not thread pipe with fittings or other attachments. This increases the risk of entanglement.
3. Transport equipment to work area. See *Preparing Machine for Transport* for information.
4. Confirm equipment to be used has been properly inspected and assembled.
5. Confirm that the REV/OFF/FWD switch is in the OFF position.
6. Check that the correct dies are in the die head and are properly set. If needed, install and/or adjust the

dies in the die head. See *Die Head Set-Up and Use* section for details.

7. Swing the cutter, reamer and die head away up away from the operator. Make sure they are stable and will not fall in the work area.
8. If pipe will extend past the chip tray in the front of the machine or more than 2' (0.6 m) out of the rear of the machine, use pipe stands to support the pipe and prevent the pipe and threading machine from tipping or falling. Place the pipe stands in line with machine chucks, approximately  $\frac{1}{3}$  of distance from end of the pipe to the machine. Longer pipe may need more than one pipe stand. Only use pipe stands designed for this purpose. Improper pipe supports or supporting the pipe by hand can cause tipping or entanglement injuries.
9. Restrict access or set-up guards or barricades to create a minimum of 3' (1 m) clearance around the threading machine and pipe. This helps prevent non-operators from contacting the machine or pipe and reduces the risk of tipping or entanglement.
10. Position the foot switch as shown in *Figure 21* to allow a proper operating position.
11. Check the level of RIDGID Thread Cutting Oil. Remove the chip tray and oil pan liner; see that the filter screen assembly is fully submerged in oil. See *Oil System Maintenance*. If the machine is equipped with the drip tray, make sure it properly placed to direct oil dripping off the die head into the chip tray (see *Figure 5*).
12. With the REV/OFF/FWD switch in OFF position, run the cord along a clear path. With dry hands, plug the power cord into the properly grounded outlet. Keep all connections dry and off the ground. If the power cord is not long enough use an extension cord that:
  - Is in good condition.
  - Has a three-prong plug like on the threading machine.
  - Is rated for outdoor use and contains a W or W-A in the cord designation (e.g. SOW).
  - Has sufficient wire size. For extension cords up to 50' (15.2 m) long use 14 AWG (2.5 mm<sup>2</sup>) or heavier. For extension cords 50'-100' (15.2 m - 30.5 m) long use 12 AWG (2.5 mm<sup>2</sup>) or heavier.
13. Check the threading machine for proper operation. With hands clear:
  - Move the REV/OFF/FWD switch to the FWD position. Press and release the foot switch. Chuck should rotate counter-clockwise when viewed from

the carriage end (see *Figure 23*.) Repeat for REV position – chuck should rotate clockwise. If the threading machine does not rotate in the correct direction, or the foot switch does not control the machine operation, do not use the machine until it has been repaired.

- Depress and hold the foot switch. Inspect the moving parts for misalignment, binding, odd noises or any other unusual conditions. Remove foot from the foot switch. If any unusual conditions are found, do not use the machine until it has been repaired
- Place die head in the use position. Depress and hold the foot switch. Check for oil flow through the die head. Remove foot from the foot switch. The oil flow can be adjusted with the control valve on carriage (*Figure 5*). Clockwise rotation decreases flow and counterclockwise increases flow. Do not adjust while the machine is running.



**Figure 5 – Adjusting Oil Flow**

14. Move the REV/OFF/FWD switch to the OFF position, and with dry hands unplug the machine.

## Die Head Set-Up and Use

The 300 Compact and 1233 Threading Machines can be used with a variety of RIDGID Die Heads to cut pipe and bolt threads. Information is included here for Quick-Opening, Self-Opening and Receding Self-Opening Die Heads (1233 only). See the *RIDGID catalog* for other available die heads.

Die Heads using Universal Dies for pipe require one set of dies for each of the following pipe size ranges: ( $\frac{1}{8}$ "), ( $\frac{1}{4}$ " and  $\frac{3}{8}$ " ), ( $\frac{1}{2}$ " and  $\frac{3}{4}$ " ) and (1" through 2"). NPT/NPSM dies must be used in NPT die heads and BSPT/BSPP dies must be used in BSPT die heads – The size bar is marked for each.



Die heads using Mono or Bolt dies require a dedicated set of dies for each specific thread size. High speed dies are recommended for use on 52 rpm machines.

See the RIDGID catalog for dies available for your die head.

Always cut a test thread to confirm proper thread size after changing/adjusting the dies.

### Removing/Installing Die Head

Insert/remove Die Head Post into mating hole in carriage. When fully inserted, the Die Head will be held in place. When it is installed, the Die Head can be pivoted on post to align it with pipe or it can be swung up and out of the way to allow use of cutter or reamer.

### Quick-Opening Die Heads

Quick opening die heads include Model 811A and 531/532 Bolt. Quick opening die heads are manually opened and closed for user specified thread length.

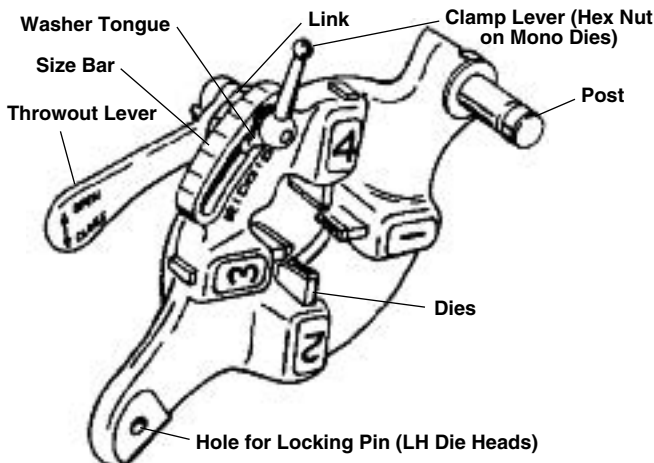


Figure 6 – Quick-Opening Die Head

### Inserting/Changing the Dies

1. Place the die head with numbers facing up.
2. Move throwout lever to OPEN position (Figure 7).

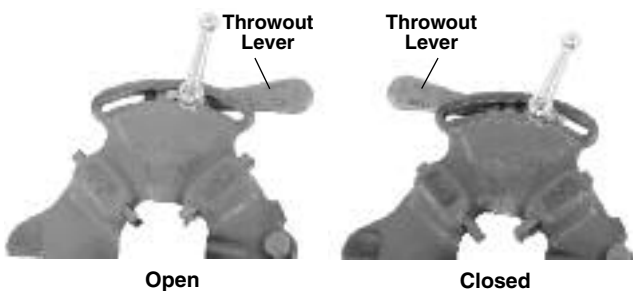


Figure 7 – Open/Closed Lever Position

3. Loosen clamp lever (Hex nut on Mono die heads) approximately three turns.

4. Lift tongue of washer out of slot in size bar. Move washer to end of slot (Figure 8).
5. Remove dies from the die head.
6. Insert appropriate dies into the die head, numbered edge up until the indicator line is flush with the edge of the die head (see Figure 8).

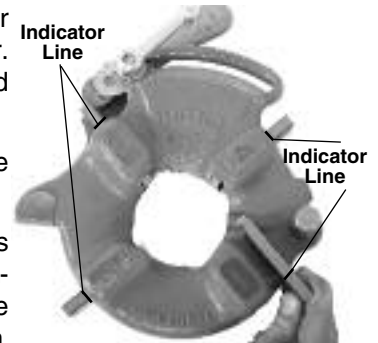


Figure 8 – Inserting Dies

Numbers on the dies must correspond with those on the die head slots. Always change dies as sets – do not mix dies from different sets.

7. Move link index mark to align with desired size mark on size bar. Adjust die insertion as needed to allow movement. Washer tongue should be in slot to left.
8. Tighten clamp lever (Hex nut on Mono die heads).

### Adjusting Thread Size

1. Install the die head per the Threading Machine instructions and move the die head into threading position.
2. Loosen clamp lever (Hex nut on Mono die heads).

3. Start with link index mark aligned with desired size mark on size bar. On Mono and Bolt die heads, set link mark at line in size bar. For bolt threads with Universal die head, set all bolt dies at BOLT line on size bar (Figure 9).

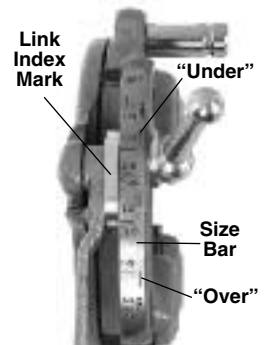


Figure 9 – Adjusting Thread Size

4. If thread size needs to be adjusted, set the link index mark slightly off the mark on size bar in the direction of OVER (larger diameter thread, less turns of fitting engagement) or UNDER (smaller thread diameter, more turns of fitting engagement) markings.

5. Tighten clamp lever.

### Opening the Die Head at the End of the Thread

At the end of the thread:

- Pipe Threads – End of threaded pipe is flush with the end of the number 1 die.
- Bolt Threads – Thread the desired length – watch closely for any interference between the parts.

Move the throwout lever to the OPEN position, retracting dies.

### Self-Opening Die Heads

The Model 815A Die Heads are self-opening die heads. For 1/2" through 2" pipe sizes, a trigger can be used to open the die head when the thread is complete. For 1/8" to 3/8" sizes, bolt and straight threads, and if desired for the other sizes, the die head is manually opened when the thread is complete.

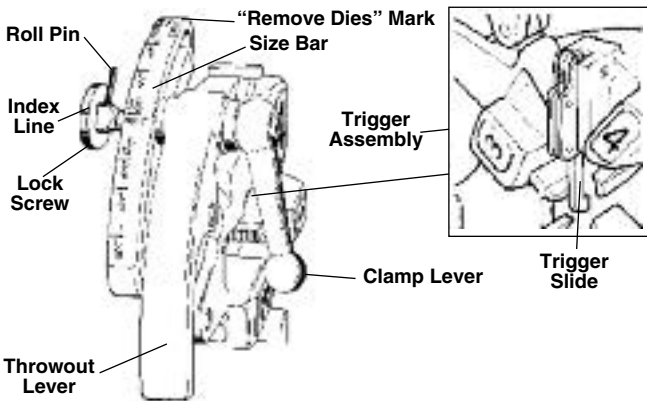


Figure 10 – Universal Self-Opening Die Head

### Inserting/Changing the Dies

1. Place the die head with numbers facing up.
2. Make sure the trigger assembly is released and die head OPEN by pulling the trigger slide away from the die head. Stay clear of the spring loaded Throwout Lever while releasing trigger assembly.

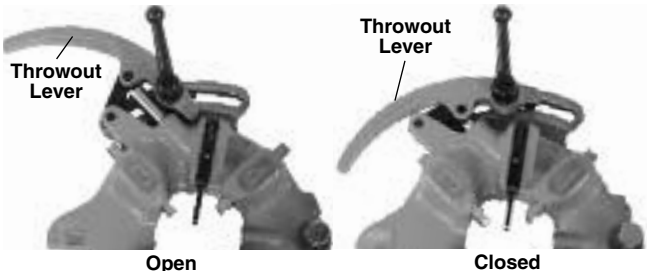


Figure 11 – Open/Closed Position

3. Loosen clamp lever approximately six full turns.
4. Pull lock screw out of size bar slot so roll pin will bypass slot. Position size bar so that the index line on lock screw is aligned with the REMOVE DIES mark.
5. Remove dies from the die head.
6. Insert appropriate dies into the die head, numbered edge up until the indicator line is flush with the edge of the die head (see Figure 12). Numbers on the dies must correspond with those on the die head slots. Always change dies as sets – do not mix dies from different sets.

7. Move size bar so index line on lock screw is aligned with desired size mark. Adjust die insertion as needed to allow movement.
8. Make sure roll pin points toward REMOVE DIES mark.
9. Tighten the clamp lever.

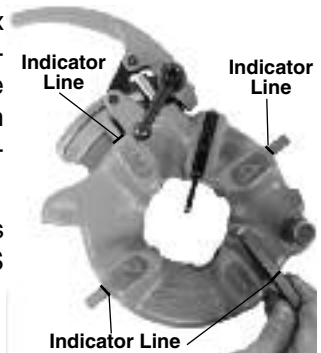


Figure 12 – Inserting Dies

### Adjusting Thread Size

1. Install the die head per the Threading Machine Instructions and move the die head into threading position.
2. Loosen clamp lever.
3. Position size bar so index line on lock screw is aligned with desired size mark on size bar.

4. If thread size needs to be adjusted, set the lock screw index line slightly off the mark on size bar in the direction of OVER (larger diameter thread, less turns of fitting engagement) or UNDER (smaller thread diameter, more turns of fitting engagement) markings.

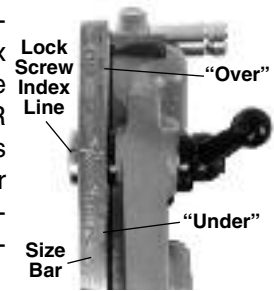


Figure 13 – Adjusting Thread Size

5. Tighten clamp lever.

### Trigger Slide Adjustment

Position the Trigger Slide for the size of pipe being threaded (see Figure 14).

- 1/2" and 3/4" – End of pipe should hit foot of Trigger Slide.
- 1" to 2" – End of pipe should hit the shank of the Trigger Slide.

For

- 1/8", 1/4" and 3/8" pipe
- Longer or shorter threads
- Bolt threading

Push trigger slide up and out of the way. Die head must be opened manually.

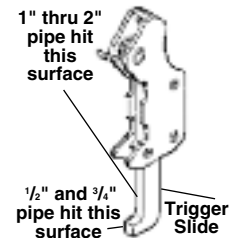


Figure 14 – Setting the Trigger

### Opening the Die Head at the End of the Thread

When using trigger it will contact the end of pipe, causing the die head to automatically open. Stay clear of the spring loaded Throwout Lever when it releases.

To open the die head manually (with trigger slide up), at the end of the thread:

- Tapered Pipe Threads – End of pipe is flush with the end of the number 1 die.
- Bolt and Straight Threads – Thread the desired length – watch closely for any interference between the parts.

Move the throwout lever to the OPEN position, retracting dies.

### Receding Self-Opening Die Heads

The Model 728 and 928 receding self-opening die heads are used on 1233 threading machine for 2½" and 3" pipe sizes. A trigger is used to open the die head when the thread is complete, and is adjustable to change thread length.

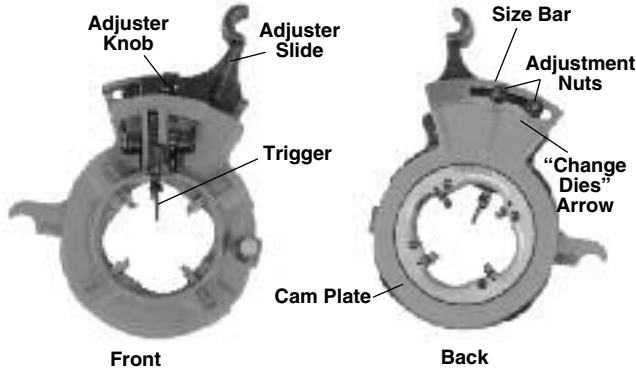


Figure 15 – Receding Self-Opening Die Head

### Inserting/Changing the Dies

1. Place the die head with numbers facing up.
2. Pull back on adjuster knob on die head and fully open die head by sliding cam plate in direction of CHANGE DIES arrow on cam plate.

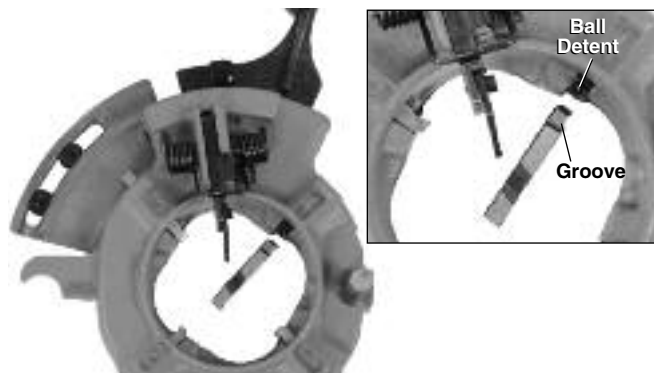


Figure 16 – Inserting Dies

3. Remove dies from die head.

Insert appropriate dies into the die head, numbered edge up. Numbers on the dies must correspond with those on the die head slots (see Figure 16). The die slots have a ball detent that engages with the groove on dies when properly installed. Always change dies as sets – do not mix dies from different sets.

4. Pull back on adjuster knob and rotate cam plate to desired size setting.
5. Engage adjuster knob into slot.

### Adjusting Thread Size

1. Loosen the adjustment nut for the desired pipe size.
2. When setting for new dies, start with the adjusting slide index line aligned with the size mark on the size bar.
3. If thread size needs to be adjusted, set the index line slightly off the mark on the size bar in the + direction (larger thread diameter, less turns of fitting engagement) or in the - direction (smaller thread diameter, more turns of fitting engagement) as shown on the size bar.

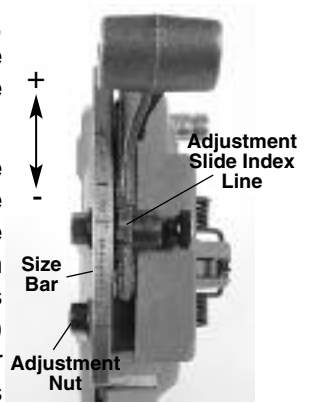


Figure 17 – Adjusting Thread Size

4. Tighten the adjustment nut.

### Adjusting Thread Length

1. Loosen the screw on bottom trigger.
2. For short threads, shift the bottom trigger towards the machine spindle. For long threads, shift it away from the spindle (see Figure 18 – factory settings shown). Long threads are typically preferred in Far East and short threads in Europe. Set as desired.
3. Re-tighten the screw.

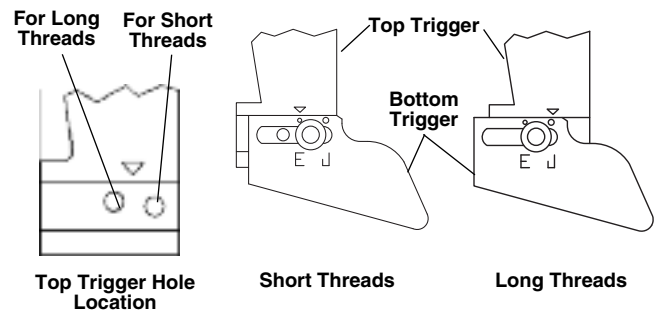


Figure 18 – Adjusting Thread Length

### Preparing the Die Head to Thread

Lower the die head down into the threading position. Firmly push on adjusting slide to set/close the die head (Figure 19).

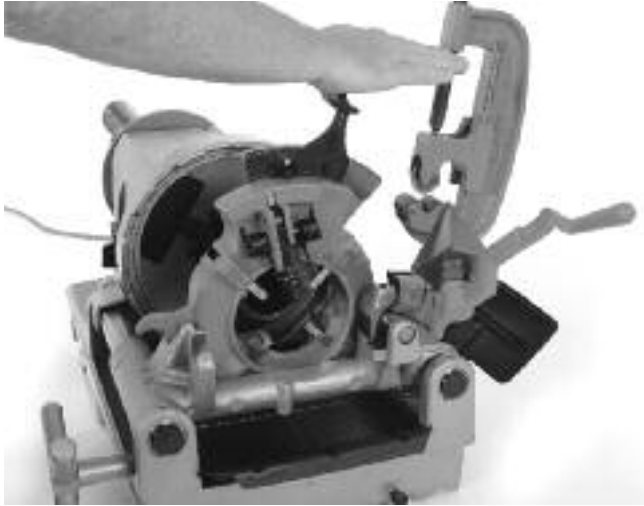


Figure 19 – Closing the Receding Die Head

### Opening the Die Head at the End of the Thread

The die head trigger will contact end of pipe causing the die head to automatically open.

## Operating Instructions

### ⚠ WARNING



**Do not wear gloves or loose clothing. Keep sleeves and jackets buttoned. Loose clothing can become entangled in rotating parts and cause crushing and striking injuries.**

**Keep hands away from rotating pipe and parts. Stop the machine before wiping threads or screwing on fittings. Do not reach across the machine or pipe. To prevent entanglement, crushing or striking injuries, allow machine to come to a complete stop before touching the pipe or machine chucks.**

**Do not use this machine to make or break (tighten or loosen) fittings. This can cause striking or crushing injuries.**

**Do not use a threading machine without a properly operating foot switch. Never block a foot switch in the ON position so that it does not control the threading machine. A foot switch provides better control by letting you shut off the machine motor by removing your foot. If entanglement should occur and power is maintained to the motor, you will be pulled into the machine. This machine has high torque and can cause clothing to bind around your**

**arm or other body parts with enough force to crush or break bones or cause striking or other injuries.**

**One person must control both the work process and the foot switch. Do not operate with more than one person. In case of entanglement, the operator must be in control of the foot switch.**

**Follow operating instructions to reduce the risk of injury from entanglement, striking, crushing and other causes.**

1. Make sure that machine and work area is properly set up and that the work area is free of bystanders and other distractions. The operator should be the only person in the area while the machine is operated.

The cutter, reamer and die head should be up away from the operator, do not place in the operating position. Make sure they are stable and will not fall. Fully open the chucks of the threading machine.

2. Insert pipe shorter than 2' (0,6 m) 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. Confirm that pipe stands are properly placed.
3. If needed, mark the pipe. Place pipe so that the area to be cut or end to be reamed or threaded is approximately 4" (100 mm) from the front of the chuck. If closer, the carriage may strike the machine during the threading and damage the machine.
4. Turn the rear centering device counterclockwise (viewed from rear of machine) to close down onto pipe. Make sure that the pipe is centered in the inserts. This improves pipe support and gives better results.

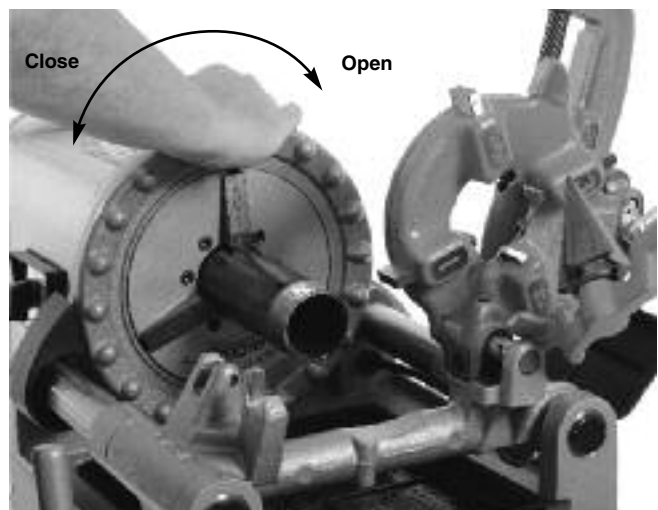


Figure 20 – Chucking Pipe

5. Turn the front chuck handwheel counterclockwise (viewed from front of machine) to close down onto pipe. Make sure that the pipe is centered in the inserts.

Use repeated and forceful counterclockwise spins of the handwheel to secure the pipe in front chuck.

6. Assume a proper operating position to help maintain control of the machine and pipe (See *Figure 21*).
  - Stand on the REV/OFF/FWD switch side of the machine with convenient access to the tools and switch.
  - Be sure that you can control the foot switch. Do not step on foot switch yet.
  - Be sure that you have good balance and do not have to overreach.



**Figure 21 – Operating Position**

## Cutting

1. Open cutter by turning the feed screw counterclockwise. Lower the cutter into cutting position over the pipe. Use the carriage handwheel to move the cutter over the area to be cut, and align the cutter wheel with the mark on the pipe. Cutting threaded or damaged sections of pipe can damage the cutter wheel.
2. Tighten the cutter feed screw handle to bring the cutter wheel firmly in contact with the pipe while keeping the cutter wheel aligned with the mark on the pipe.
3. Move the REV/OFF/FWD switch to the FWD position.
4. With both hands, grasp the pipe cutter feed handle.
5. Depress the foot switch.
6. Tighten the feed screw handle one-half turn per rotation of the pipe until the pipe is cut. More aggressive tightening of the handle reduces cutter wheel life and increases pipe burr formation. Do not support the pipe by hand. Let the cut off piece be supported by the threading machine carriage and pipe stand.



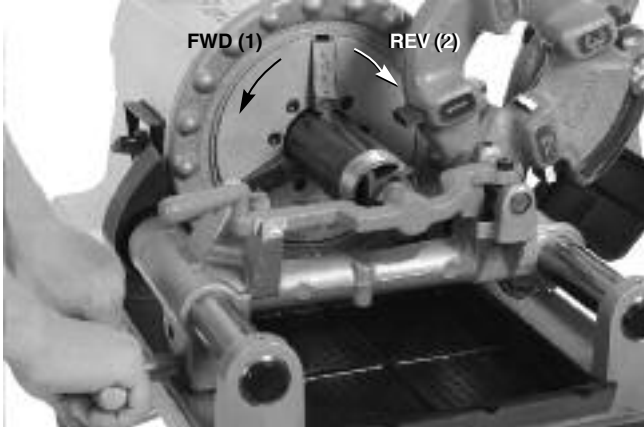
**Figure 22 – Cutting Pipe with Cutter**

7. Remove foot from the foot switch.
8. Move the REV/OFF/FWD switch to the OFF position.
9. Raise cutter into position up away from operator.

## Reaming

1. Move the reamer into reaming position. Make sure that it is securely positioned to prevent it from moving during use.
2. Move the REV/OFF/FWD switch to the FWD position.
3. With both hands, grasp the carriage handwheel.
4. Depress the foot switch.

5. Turn carriage handwheel to move the reamer to the end of the pipe. Apply slight pressure to the handwheel to feed the reamer into pipe to remove the burr as desired.



**Figure 23 – Reaming Pipe with Reamer, Machine Rotation**

6. Remove foot from the foot switch.
7. Move the REV/OFF/FWD switch to the OFF position.
8. Move the reamer up away from the operator.

### Threading Pipe

Due to differing pipe characteristics, a test thread should always be performed before the first thread of the day or when changing pipe size, schedule or material.

1. Lower the die head into the threading position. Confirm that the dies are correct for the pipe being threaded and properly set. See the “Die Head Set-Up and Use” section for information on changing and adjusting dies.



**Figure 24 – Threading Pipe (811-A Quick Opening Die Head shown)**

2. Close the die head.
3. Move the REV/OFF/FWD switch to the FWD position.

4. With both hands, grasp the carriage handwheel.
5. Depress the foot switch.
6. Confirm cutting oil flow through the die head.
7. Turn carriage handwheel to move the die head to the end of the pipe (*Figure 24*). Apply slight force to the handwheel to start the die head onto the pipe. Once the die head starts threading the pipe, no more force is required on the carriage handwheel.
8. Keep your hands away from the rotating pipe. Make sure the carriage does not hit the machine. When the thread is complete, open the die head. Do not run machine in Reverse (REV) with dies engaged.
9. Remove foot from the foot switch.
10. Move the REV/OFF/FWD switch to the OFF position.
11. Turn the carriage handwheel to move the die head past the end of the pipe. Raise the die head into position up away from the operator.
12. Remove the pipe from the machine and inspect the thread. Do not use the machine to tighten or loosen fittings on the thread.

### Threading Bar Stock/Bolt Threading

Bolt threading is similar to the pipe threading process. The stock diameter should never exceed the thread major diameter.

When cutting bolt threads, the correct dies and die head must be used. Bolt threads may be cut as long as needed, but make sure the carriage does not hit the machine. If long threads are required:

1. At the end of carriage travel, leave the die head closed, remove foot from the foot switch and move the REV/OFF/FWD switch to the OFF position.
2. Open the chuck and move the carriage and workpiece to the end of the machine.
3. Re-chuck the rod and continue threading.

### Left Hand Threading

Cutting left hand threads is similar to the right hand threading process. Left hand threading is possible with 300 Compact threading machine with REV/OFF/FWD switch only. To cut left hand threads, left hand die heads and dies are required.

1. Change the oil pump connections to allow oil flow when the machine is run in reverse (REV). See *Figure 25*. Be sure to return the connections to their original configuration when returning to right hand threading. Always replace cover before use.

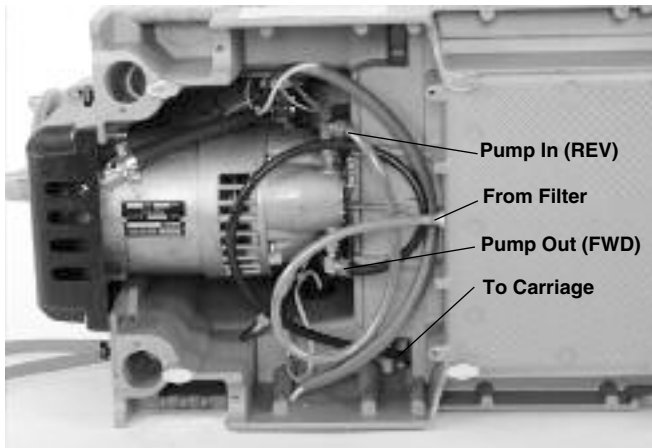


Figure 25A – Oil Pump Connections for Left Hand Threading (Switch in REV)

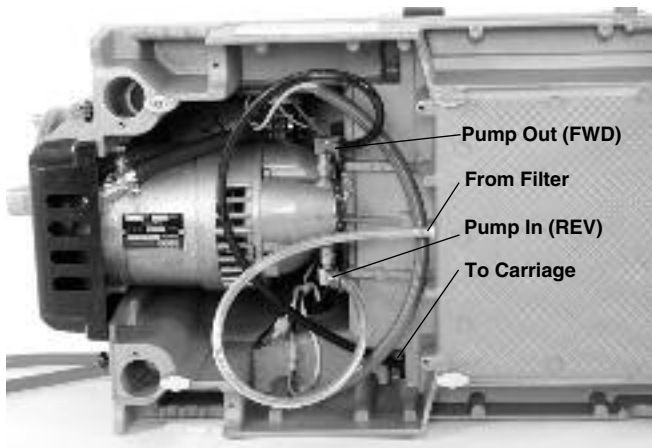


Figure 25B – Oil Pump Connections for Right Hand Threading (Switch in FWD)

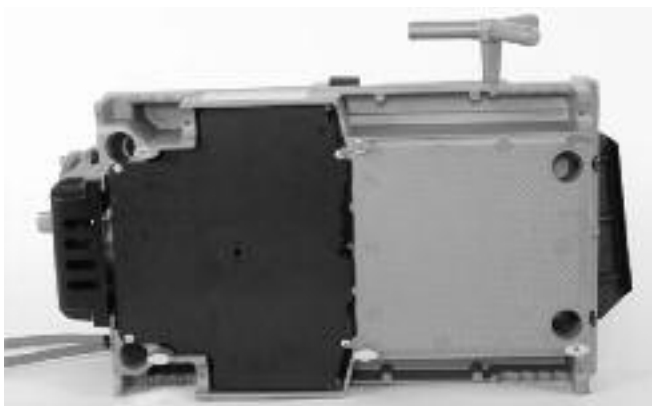


Figure 25C – Cover in Place

- Place a  $\frac{5}{16}$ " pin 2" long through the holes in carriage rest and left hand die head to retain in place (see Figure 26).



Figure 26 – Retaining LH Die Head in Place

### Removing Pipe from the Machine

- With the REV/OFF/FWD switch in the OFF position and the pipe stationary, use repeated and forceful clockwise spins of the handwheel to loosen the pipe in the chuck. Open the front chuck and the rear-centering device. Do not reach into chuck or centering device.
- Firmly grip the pipe and remove from the machine. Carefully handle the pipe as the thread may still be hot and there may be burrs or sharp edges.

### Inspecting Threads

- After removing the pipe from the machine, clean the thread.
- Visually inspect thread. Threads should be smooth and complete, with good form. If issues such as thread tearing, waviness, thin threads, or pipe out-of-roundness are found, the thread may not seal. Refer to the *Troubleshooting Chart* for help in diagnosing these issues.
- Inspect the size of the thread.
  - The preferred method of checking thread size is with a ring gauge. There are various styles of ring gauges, and their usage may differ from that shown here.
  - Screw ring gauge onto the thread hand tight.
  - Look at how far the pipe end extends through the ring gauge. The end of the pipe should be flush with the side of the gauge plus or minus one turn. If thread does not gauge properly, cut off the thread, adjust the die head and cut another thread. Using a thread that does not gauge properly can cause leaks.

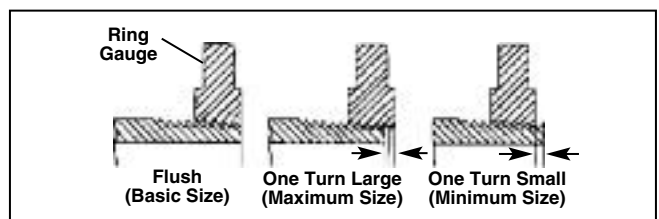


Figure 27 – Checking Thread Size

- If a ring gauge is not available to inspect thread size, it is possible to use a new clean fitting representative of those used on the job to gauge thread size. For 2" and under NPT threads, the threads should be cut to obtain 4 to 5 turns to hand tight engagement with the fitting and for BSPT it should be 3 turns. For 2½" to 3" NPT threads the hand tight engagement should be 5.5 to 6 threads, and for BSPT it should be 4 threads.
4. See "Adjusting Thread Size" under "Die Head Set-Up and Use" heading to adjust thread size.
  5. Test the piping system in accordance with local codes and normal practice.

**Preparing Machine for Transport**

1. Make sure that the REV/OFF/FWD switch is in the OFF position and the cord is unplugged from the outlet.
2. Clean the chips and other debris from the chip tray. Remove or secure all equipment and material from the machine and stand prior to moving to prevent falling or tipping. Clean up any oil or debris on the floor.
3. Place the cutter, reamer and die head in the operating position.
4. Coil up the power cord and foot switch cord.



Figure 28 – Machine prepared for Transport

5. If needed, remove the machine from the stand. Use proper lifting techniques, be aware of the machine weight. Machine is equipped with four hand grips at corners. Use care in lifting and moving.

**Maintenance Instructions**

**⚠ WARNING**  
**Make sure that the REV/OFF/FWD switch is in the OFF position and the machine is unplugged before**

**performing any maintenance or making any adjustments.**

**Always wear eye protection.**

**Maintain threading machine according to these procedures to reduce the risk of injury from electrical shock, entanglement and other causes**

**Cleaning**

After each use, empty the threading chips from the chip tray and wipe out any oil residue. Wipe oil off exposed surfaces, especially areas of relative motion like the carriage rails.

If the jaw inserts do not grip and need to be cleaned, use a wire brush to remove any build up of pipe scale, etc.

**Lubrication**

On a monthly basis (or more often if needed) lubricate all exposed moving parts (such as carriage rails, cutter wheels and rollers, cutter feed screw, jaw inserts and pivot points) with a light lubricating oil. Wipe any excess oil from exposed surfaces.

Clean the lubrication points to remove dirt and prevent contamination of the oil or grease. Lubricate on a monthly basis.

**300 Compact:** Use a grease gun to add a Lithium EP (Extreme Pressure) grease through the grease fittings in the lubrication points.

**1233:** Fill the lubrication points with lubricating oil. Press the ball in the lubrication point to allow the oil to reach bearings.

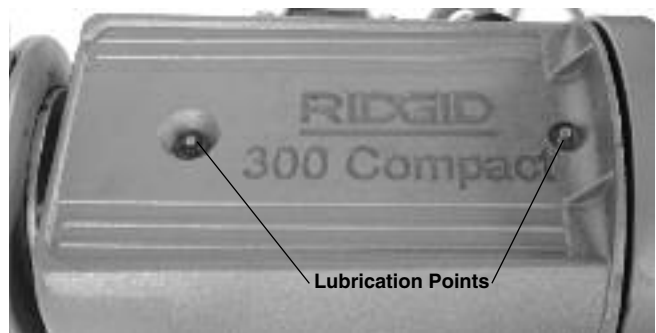
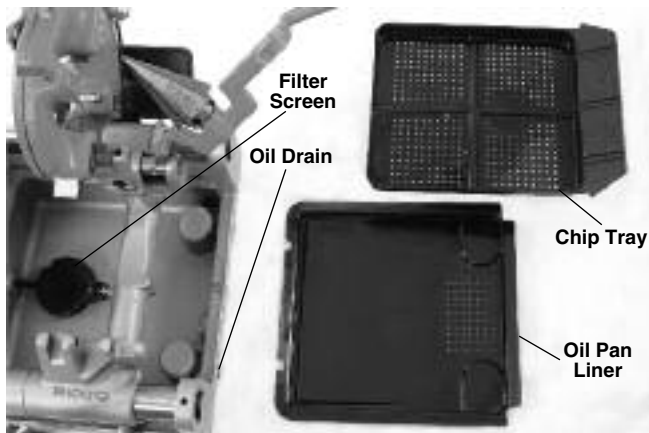


Figure 29 – Lubrication Points

**Oil System Maintenance**

Keep the oil filter screen clean for sufficient oil flow. Oil filter screen is located in the bottom of oil reservoir. Loosen the screw that secures filter to base, remove filter from oil line and clean. Do not operate machine with oil filter screen removed.





**Figure 30 – Filter Screen Assembly**

Replace thread cutting oil when it becomes dirty or contaminated. To drain the oil, position a container under drain plug at end of reservoir and remove plug. Follow all local laws and regulations when disposing of oil. Clean build up from the bottom of the reservoir. Use RIDGID Thread Cutting Oil for high quality threads and maximum die life. See the *Specification* section for reservoir oil capacity.

The oil pump should self-prime if the system is clean. If it does not, this indicates that the pump is worn and should be serviced. Do not attempt to prime the pump.

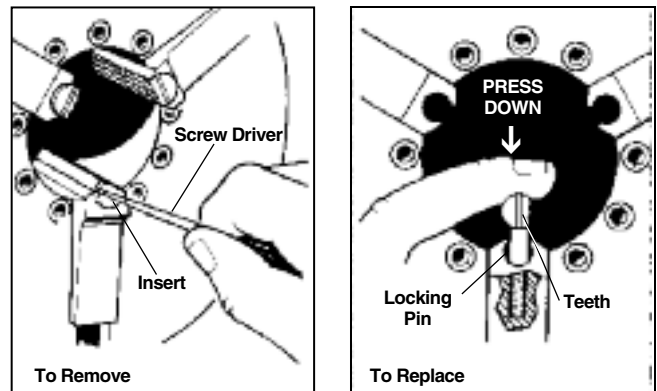
### Replacing Cutter Wheel

If the cutter wheel becomes dull or broken, push cutter wheel pin out of frame and check for wear. Replace pin if worn and install new Cutter Wheel (see *catalog*). Lubricate pin with light lubricating oil.

### Replacing Jaw Inserts

If Jaw inserts are worn out and do not grip pipe, they need to be replaced.

1. Place screwdriver in insert slot and turn 90 degrees in either direction. Remove insert (*Figure 31*).
2. Place insert sideways on locking pin and press down as far as possible (*Figure 31*).



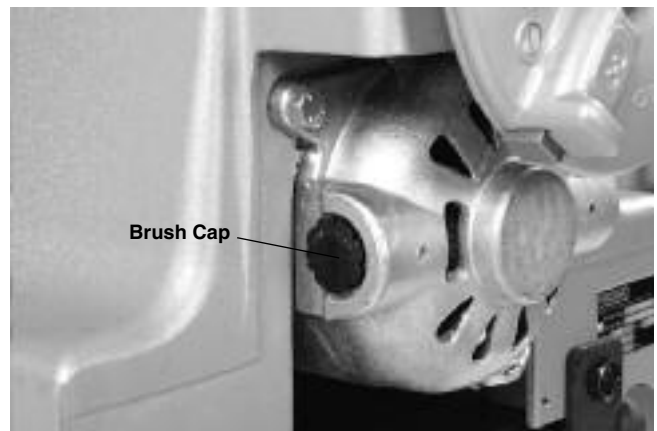
**Figure 31 – Replacing Jaw Inserts**

3. Hold insert down firmly, and with screwdriver, turn so teeth face up.

### Replacing Carbon Brushes

Check motor brushes every 6 months. Replace when worn to less than  $\frac{1}{2}$ ".

1. Unplug the machine from power source.
2. Loosen the two motor cover screws and remove motor cover at rear of machine.



**Figure 32 – Removing Motor Cover/Changing Brushes**

3. Unscrew brush caps. Remove and inspect brushes. Replace when worn to less than 1/2". Inspect the commutator for wear. If excessively worn, have machine serviced.
4. Re-install brushes/install new brushes. Reassemble unit. Install all covers before operating machine.

## Optional Equipment

**⚠ WARNING**

To reduce the risk of serious injury, only use equipment specifically designed and recommended for use with the RIDGID Threading Machines.

Catalog No.	Model No.	Description
97075	815A	1/8" - 2" NPT, Self-Opening, RH Die Head
97065	811A	1/8" - 2" NPT, Quick-Opening, RH Die Head
97080	815A	1/8" - 2" BSPT, Self-Opening, RH Die Head
45322	815A	1/8" - 2" BSPT, Self-Opening, RH EUR. RT
97070	811A	1/8" - 2" BSPT, Quick-Opening, RH Die Head
97045	531	1/4" - 1" Bolt, Quick-Opening, RH/LH Die Head
97050	532	1 1/4" - 2" Bolt, Quick-Opening, RH/LH Die Head
67657	250	Folding Wheel Stand
58077	250	Folding Wheel Stand
92457	100A	Universal Leg & Tray Stand
92462	150A	Universal Wheel & Tray Stand
92467	200A	Universal Wheel & Cabinet Stand
51005	819	Nipple Chuck, 1/2" - 2" NPT
68160	819	Nipple Chuck, 1/2" - 2" BSPT
For 300 Compact Only		
84537	816	1/8" - 3/4" Semi-Automatic Die Head
84532	817	1" - 2" Semi-Automatic Die Head
67662	—	916 Groover Adapter Bracket
For 1233 Only		
54437	728	2 1/2" - 3" NPT, Receding Self-Opening, RH Die Head
93562	928	2 1/2" - 3" BSPT, Receding Self-Opening, RH Die Head
—	419	Nipple Chuck

## Thread Cutting Oil Information

Read and follow all instructions on the threading oil label and Safety Data Sheet (SDS). Specific information about RIDGID Thread Cutting Oils, including Hazard Identification, First Aid, Fire Fighting, Accidental Release Measures, Handling and Storage, Personal Protective Equipment, Disposal and Transportation, is included on the container and SDS.

## Machine Storage

**⚠ WARNING** The Threading Machines 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**

Improper service or repair can make machine unsafe to operate.

The *Maintenance Instructions* will take care of most of the service needs of this machine. Any problems not addressed by this section should only be handled by an authorized RIDGID service technician.

Tool should be taken to a RIDGID Independent Service Center or returned to the factory. Only use RIDGID service Parts.

## Disposal

Parts of the Threading Machine contain valuable materials and can be recycled. There are companies that specialize in recycling that may be found locally. Dispose of the components and any waste oil in compliance with all applicable regulations. Contact your local waste management authority for more information.



**For EC Countries:** Do not dispose of electrical equipment with household waste!

According to the European Guideline 2012/19/EU for Waste Electrical and Electronic Equipment and its implementation into national legislation, electrical equipment that is no longer usable must be collected separately and disposed of in an environmentally correct manner.

## Troubleshooting

PROBLEM	POSSIBLE REASONS	SOLUTION
<b>Torn threads.</b>	Damaged, chipped or worn out dies. Incorrect cutting oil. Insufficient cutting oil. Dirty or contaminated oil. Die head not properly aligned with pipe.  Improper pipe.  Die head not properly set. Carriage not moving freely on rails.	Replace dies. Only use RIDGID® Thread Cutting Oil. Check oil flow rate and adjust as needed. Replace the RIDGID® Thread Cutting Oil. Clean chips, dirt or other foreign material from between die head and carriage. Recommend using with black or galvanized steel pipe. Pipe wall too thin – use schedule 40 or heavier pipe. Adjust die head to give proper size thread. Clean and lubricate carriage rails.
<b>Out-of-round or crushed threads.</b>	Die head set undersize. Pipe wall thickness too thin.	Adjust die head to give proper size thread. Use schedule 40 or heavier pipe.
<b>Thin threads.</b>	Dies inserted into head in wrong order. Forcing carriage feed handle during threading.  Die head cover plate screws are loose.	Put dies in proper position in die head. Once dies have started thread, do not force carriage feed handle. Allow carriage to self-feed. Tighten screws.
<b>No cutting oil flow.</b>	Low or no cutting oil. Machine set up for Left Hand Threading.  Oil Screen Plugged. Oil flow rate not properly set. Die head not in the threading (DOWN) position.	Fill oil reservoir. Reverse the oil pump hoses ( <i>see section on Left Hand Threading</i> ). Clean Screen. Adjust oil flow rate. Move die head to the threading position.
<b>Machine will not run.</b>	Motor brushes worn out.	Replace brushes.
<b>Pipe slips in jaws.</b>	Jaw inserts loaded with debris. Jaws inserts worn out. Pipe not properly centered in jaw inserts.  Chuck not tight on pipe.	Clean jaw inserts with wire brush. Replace jaw inserts. Make sure pipe is centered in jaw inserts, use the rear centering device. Use repeated and forceful counterclockwise spins of the handwheel to secure the pipe in front chuck.

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Melrose, MA 02176  
Phone 781-665-1400  
Toll Free 1-800-517-8431

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