

# **OPERATION MANUAL**

## **WHEELER/REX 6090**

**Ref.No. 199108**

### **Important**

For your own safety, best performance and a long tool life, read this Operation Manual carefully and completely before assembling and operating this unit.

Study the operation, application and potential hazards peculiar to this unit.

# Specifications and Accessories

## Specifications

Threading capacity:	1/2~2" (threading, cutting, reaming)
Voltage:	120V      220V for Model 6098
Motor:	Single phase 600W series motor
Rotation speed:	40 r.p.m. (without load)
Net weight:	109 lbs (49 kg)
Dimensions:	605(L) x 375(W) x 390(H) mm

## Standard Accessories

Die head:	(1/2~2")
Dies:	(1/2~3/4") (1~2") one set each
Thread cutting oil:	2 liters 1 can
Stand:	3 legs
Machine cover:	1 sheet
Tool box:	1 pc
Hexagonal keys:	3, 4, 5, 6 mm 4 pcs.
Screwdriver:	Cross and minus point 2 pcs.
Single head wrench:	13mm 1 pc
Bearing oil:	1 pc (with oiler)
Carbon brush:	1 set (with self-stop)
Cutter wheel:	1 pc

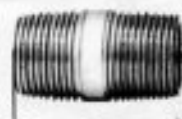
## Optional Accessories

Die head:	1/4~3/8"
Bolt	W5/16~7/8", W1~1-1/4", UNC5/16~2" M8~52
Dies:	1/4~3/8"
Bolt	W5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4 UNC5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4 1-1/2, 2 M8, 10, 12, 14-16, 18-22, 24-27, 30-33, 36-39, 42-45, 48-52

Anyone can make a nipple – It's so simple. There are a wide range of nipple attachments. Full instructions supplied in accompanying manual.

### Nipple Attachment

Nipple attachment size (inch)	1/2	3/4	1	1-1/4	1-1/2	2
Minimum length of nipples (mm)	45	50	55	65	65	70



Minimum length of nipples

# Safety Precautions

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For Your Own Safety Read Instruction  
Manual Before Operating Tool  
Wear Eye Protection

## 1. Know Your Machine

Read the Operation Manual carefully. Learn the operation, application, and limitations as well as the specific potential hazards peculiar to this machine.

## 2. Avoid Accidental Starting

Make sure that FWD/OFF/REV Switch is in OFF and Foot Switch operates freely before plugging in.

## 3. Never Leave Tool Running Unattended

Turn power OFF. Don't leave tool until it comes to a complete stop.

## 4. Remove Tools & Rags from Machine

Form habit of checking to see that machine is clear of wrenches, other tools and rags before starting.

## 5. Support Work

Support long, heavy work from the floor with a pipe support.

## 6. Secure Machine

Securely tighten Chuck Handwheel and Rear Chuck on work. Make sure that machine and stand are stable.

## 7. Wear Proper Apparel

Wear safety shoes, hard hat, and safety goggles. No loose clothing (unbuttoned jackets or loose sleeve cuffs) or jewelry to get caught in moving parts.

## 8. Never Stand on Tool

Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

## 9. Do not Overreach

Operate machine from Hand Switch side only. Keep proper footing and balance. Be sure foot can be removed safely from Foot Switch at all times. Do not reach across machine and keep hands, body and tools away from moving parts.

## 10. Maintain Machine in Top Condition

Use sharp cutting tools and keep machine clean for best and safest performance. Follow lubricating instructions.

## 11. Check Damaged Parts

Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function – check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

## 12. Keep Work Area Clean

Cluttered areas, benches, and slippery floors invite accidents.

## 13. Avoid dangerous environment

Don't use the machine in damp or wet locations. Keep work area well illuminated. Allow sufficient space to operate machine and accessories properly and for others to pass safely.

## 14. Direction of Feed

Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

## 15. Keep Visitors Away

All visitors and children should be kept a safe distance from work area.

## 16. Use Recommended Accessories

Use only those accessories and attachments recommended in this instruction manual. The use of any other accessory or attachment might increase the risk of injury to persons. Be sure that any accessory or attachment is used only in the proper and intended manner as described herein.

## 17. Use Right Tool

Don't force tool or attachment to do a job for which it was not designed.

## 18. Disconnect Power Cord

When adjusting, servicing or changing accessories. Cord should be in top condition and examined at regular intervals.

## 19. Don't Force Machine

It will do the job better and be safer at the rate for which it was designed.

## 20. Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

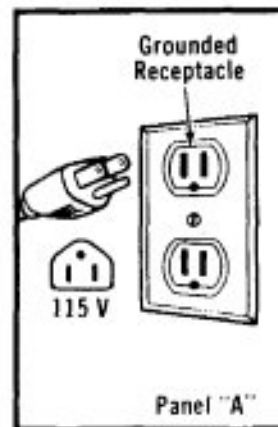
Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

## 21. Ground Machine

This machine should be grounded while in use to protect the operator from electric shock. The machine is equipped with an approved three-conductor cord and three-prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire. Never connect the green wire to a live terminal.



## 22. Always Use Safety Glasses

Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

# Operating Voltage

# Preparation

Be sure that supplied voltage is the same as the voltage the motor is wired for and rated at ( $\pm 10\%$ ).

1. Use 120V A.C. power source.  
Do not use D.C.
2. If 220 volts is supplied to a motor wired for 110 volts the motor will overheat and cause the windings to short circuit.
3. Use an A.C. power source.  
Do not use D.C.

## NOTE:

1. An extension cord which is too long will result in a serious voltage drop. Input voltage should be at rated voltage  $\pm 10\%$  at the machine (not at a remote power outlet). If an extension cord is used it should be as short as possible and of heavy wire gage.
2. The voltage supplied should not be over 110% of the rated voltage.

## WARNING:

**OPERATOR SHOULD BE THOROUGHLY FAMILIAR WITH PRECEDING SAFETY PRECAUTIONS BEFORE ATTEMPTING TO OPERATE THIS EQUIPMENT.**

## Transportation

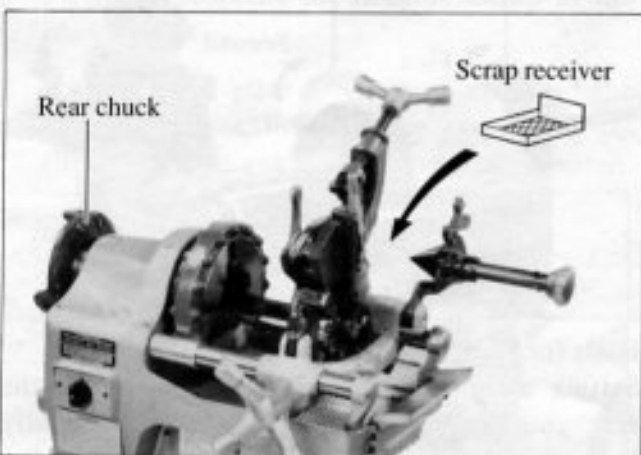
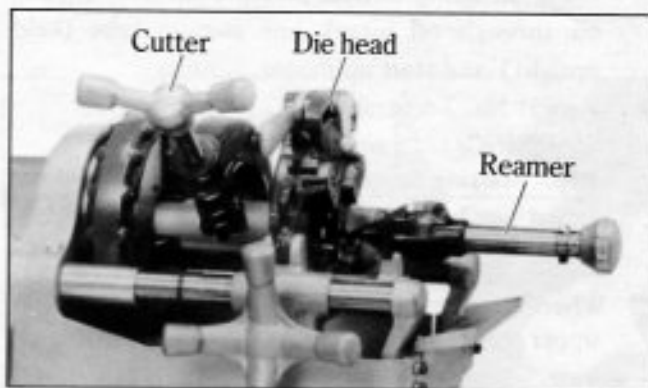
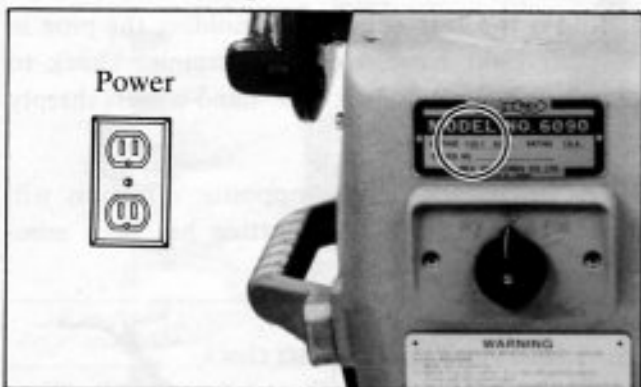
It is not necessary to drain off the oil during transportation.

1. Insert a short pipe and close the chuck firmly.

### Caution:

Make sure the length of the pipe is short enough to allow the die head to be lowered into position for transportation.

2. Release the die head lever nut, open the dies and lightly re-tighten the lever nut.
3. Lower the pipe cutter, turn the cutter handle, and secure the roller and pipe.
4. Lock the reamer arm in the reaming position.
5. The machine should then be secure during transportation.



## Setting Up

1. When setting up the machine, the legs should be adjusted with the rear chuck higher than the hammer chuck so that oil does not flow back down the pipe being cut
2. Remove the tank upper cover, and check that the level of the oil adequately covers the strainer.
3. Set the oil cover and scrap receiver in the right position.

## Checking Oil System

1. Raise pipe cutter, reamer and die head, then turn carriage oil drip cover 90° to left, so that it is aligned in position under die head.
2. Fill tank about 2/3 full with REX 246 thread cutting oil or a good grade cutting oil. (Approximately 1-1/3 U.S. quarts.)

### NOTE:

Check that there is no oil leakage from drain plug.

3. Connect power cord to power supply.
4. Place switch in fwd. position.
5. Press down foot switch to start machine.
6. When die head is lowered into threading position, cutting oil flows from hole in die head. (Oil comes out of carriage drain and when no die head has been installed oil comes out of die head installation hole on carriage.)

## Priming Oil Pump

1. Take off scrap receiver and remove tank upper cover from base by removing tank upper cover screws.
2. Remove oil intake line suction tube from strainer and hold upright.
3. Using an oiling device, pressure fill with cutting oil through oil intake line suction tube (held upright) and start up motor.
4. Repeat No. 3 several times.

### WARNING:

**When starting up motor, be especially careful not to get hands or parts of clothing caught in chuck jaw or other moving parts of machine.**

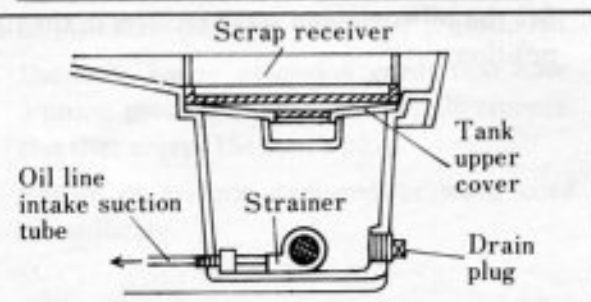
5. When cutting oil finally flows out, screw tank upper cover and scrap receiver in position on base.

### NOTE:

In the case of a forward and reverse motion machine, before carrying out the instructions above, switch over several times between FWD. and REV. position.

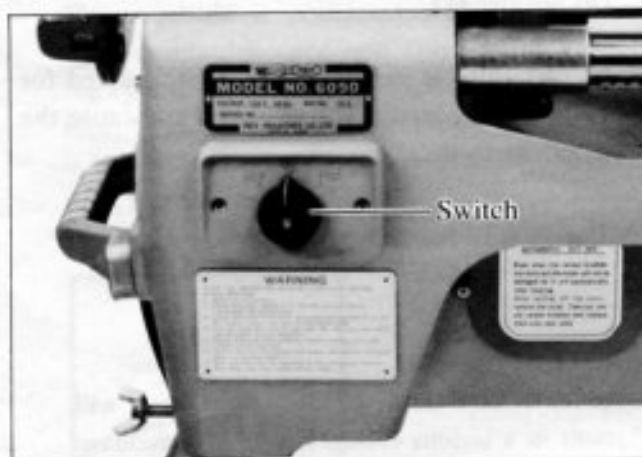
### WARNING:

**When power is plugged in, do not attempt to install upper tank cover and scrap receiver.**



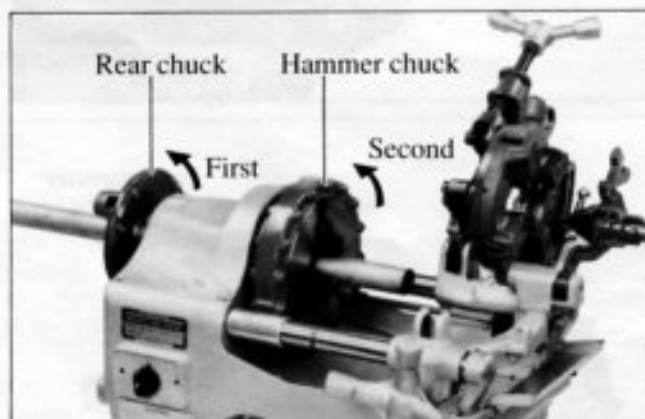
## Switch Positions

Both forward and reverse are operated by switch. Cutting oil is supplied for both directions.



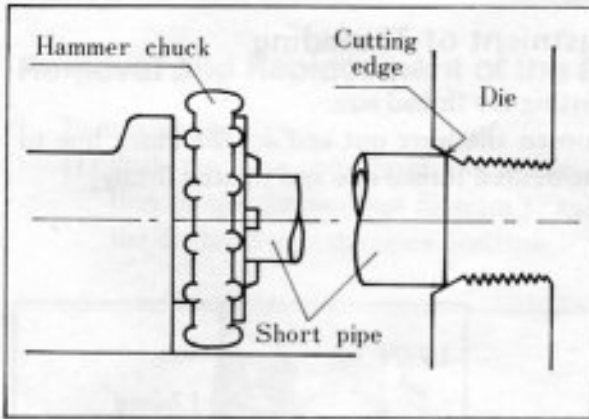
## Setting the Pipe

1. Open both chucks wider than the size of the pipe to be cut and insert the pipe from the rear chuck side where possible.
2. Close the rear chuck and, holding the pipe in your right hand, close the hammer chuck to grip the pipe. Jerk the hand-wheel sharply towards you to lock.
3. A sharp jerk in the opposite direction will release the pipe after cutting has been completed.



### Hints for Short Pipe

Setting a short pipe (which does not reach the rear chuck). With the hammer chuck slightly loose, move the pipe into contact with the dies as shown diagram. This will help hold the pipe on center while the hammer chuck is tightened. In this way a smooth taper cut is ensured every time.

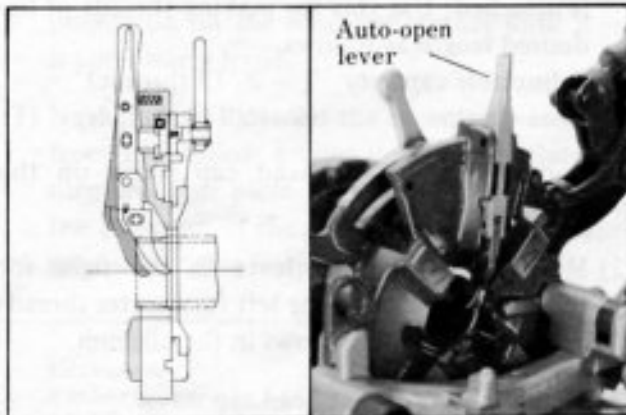


## Threading

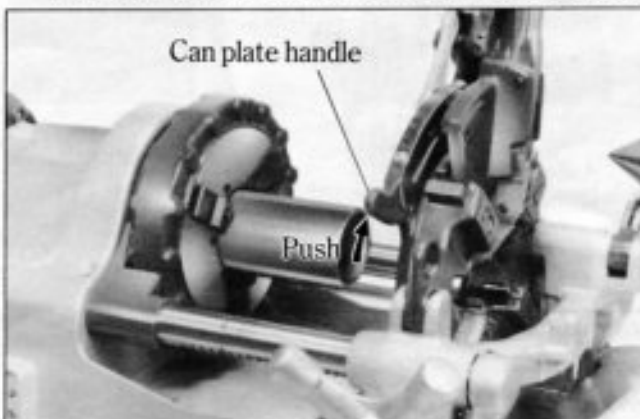
### Self Opening Die Head

Push the cam-plate up and set the auto-open pin in position. As the dies travel along the pipe, the end of the pipe comes into contact with and pushes the pin out of its groove to release the dies.

The N50A is equipped with a self-opening die head and has the advantage of both being able to adjust the length of the thread and of being operated manually if required.



1. Fit the appropriate die head as shown in the photograph.
2. Push the cam plate handle forward to set the auto-open lever then set the thread size by fitting the lever nut to the appropriate position.



3. Switch on the machine (step on foot switch) and the thread cutting oil will automatically flow out from the die head.
4. Turn the carriage handle clockwise until the dies have engaged the pipe for 3 or 4 threads. From this point the carriage handle may be released. A standard taper thread will be cut automatically.



5. When threading is complete, switch off and push the carriage handle anti clockwise to clear the pipe.



## Precautions for Threading

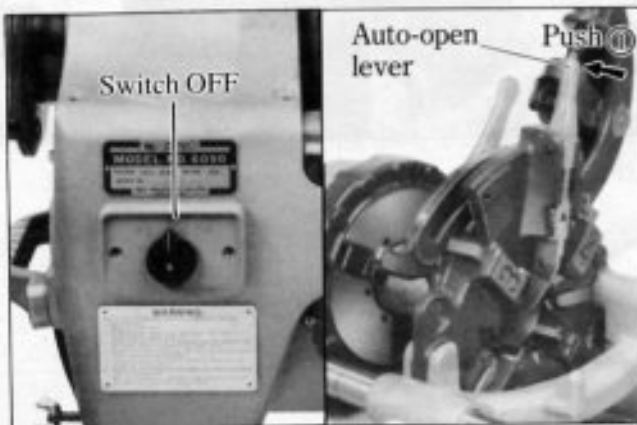
1. As the dies come into contact with the pipe, the lever should be turned with gradually increasing strength until the dies are biting firmly. After the dies fully engage the pipe, they will travel smoothly by themselves, but optimum cutting will be assured if the lever is turned with slight pressure to keep pace with die movement.

### Caution:

If the machine suddenly stops during threading, turn off immediately (any delay could result in the motor burning up).

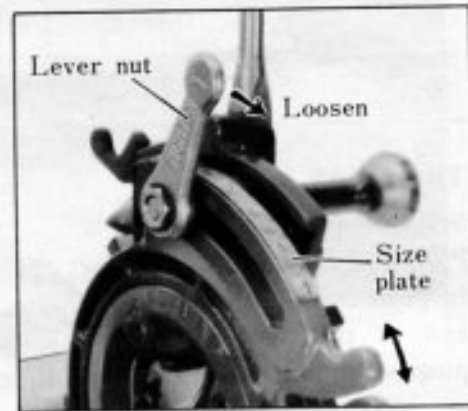


2. To stop threading, turn the auto-open lever to the left.



## Adjustment of Threading

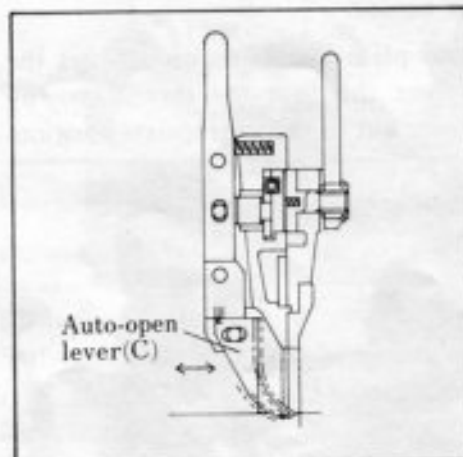
1. Setting the thread size.  
Loosen the lever nut and set the index line to the desired thread size and tighten firmly.



2. Adjustment of the threading length.  
A device for adjustment of the threading length is attached. Use this for making threads of the desired length as follows.

Adjustable capacity 1 – 2" (3 threads)  
                                  1/2 – 3/4" (4 threads)

- (1) Loosen the socket head cap screw on the auto-open lever (C).
- (2) Move the auto-open lever to the right for longer threads or to the left for shorter threads as indicated by the arrows in the diagram.
- (3) Retighten the socket head cap screw.

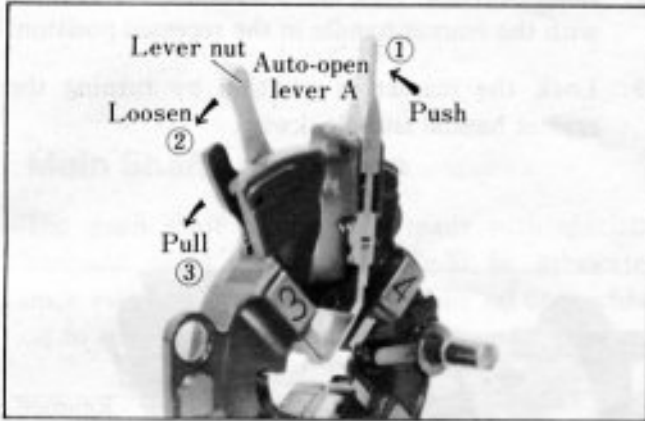




## Removal and Replacement of the Dies

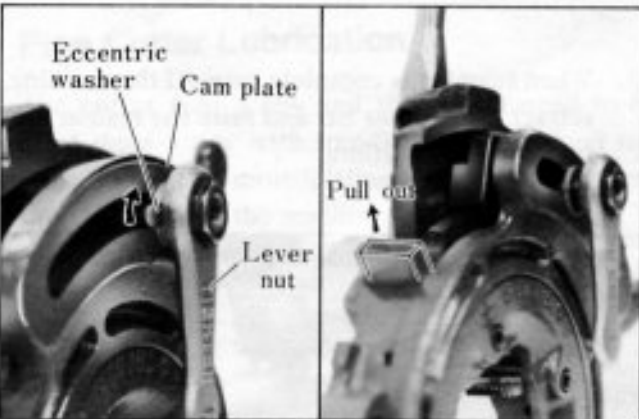
### 1. Removing the dies

- (1) Push the auto-open lever (A) in the direction of the arrow (see diagram) and put the die head into the open position.



- (2) Turn the lever nut in the direction of the arrow (see diagram) and wobble the projection on the eccentric washer until it is completely loose.

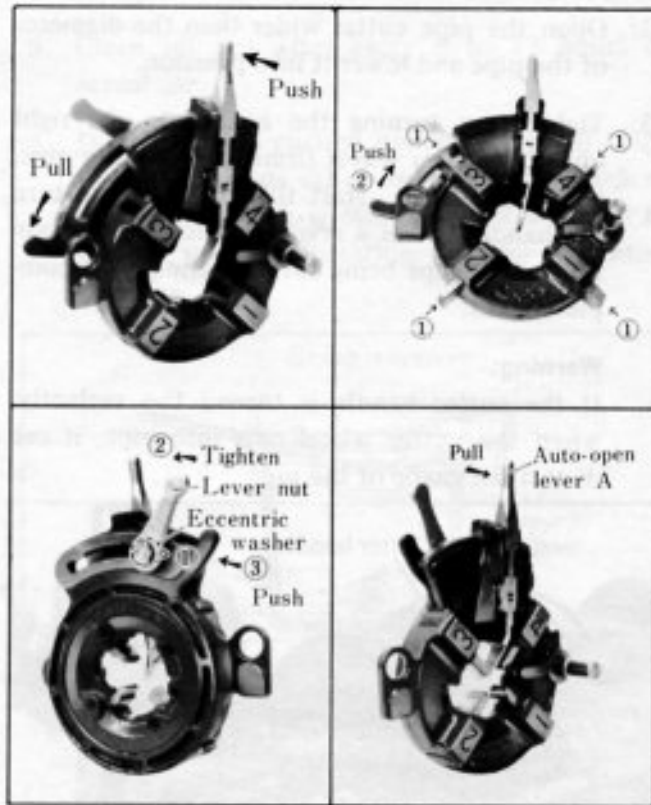
- (3) Next, having loosened the eccentric washer from the hollow groove on the cam plate, turn the cam plate fully anti-clockwise in the direction of the dies-open position, and remove the dies from the die head.



### 2. Replacing the dies.

- (1) Insert each die into its corresponding slot number in the die head as far as the line marked on the die.
- (2) Keeping the die head in a stable position, turn the cam plate clockwise in the direction of the die-set and the dies will fall into position in the center of the die head.

- (3) If the cam plate does not turn properly, reset each of the 4 dies individually in the correct position.



## Making Threads of Non-standard Length

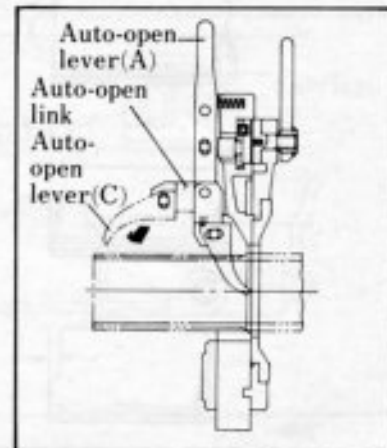
A device for manual threading is attached to enable threads of non-standard length to be made.

For manual operation, loosen the socket head cap screw on the auto-open link.

Next, raise the auto-open lever (C) 90° as shown in diag.

Then retighten the socket head cap screw.

Finally, select the desired position for threading, press the auto-open lever (A) in the direction of the arrow and complete the threading.

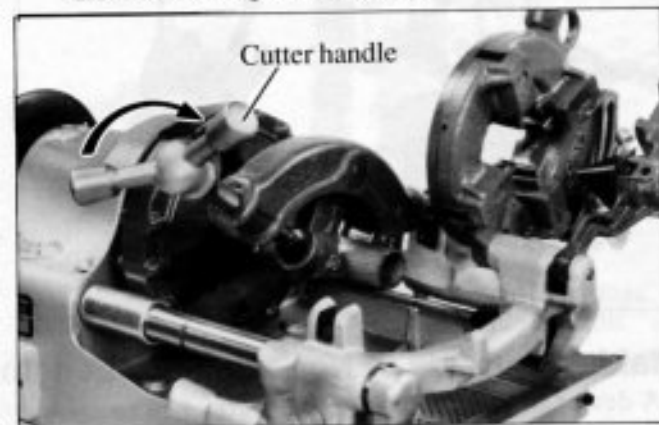


## Pipe Cutting

1. Raise the die head and reamer out of the way and set the pipe at the length to be cut.
2. Open the pipe cutter wider than the diameter of the pipe and lower it into position.
3. Tighten by turning the handle to the right until the cutter wheel firmly engages the pipe, (see diagram), start the machine, and turn the handle  $1/4$  of a revolution for each revolution of the pipe being cut until the pipe is completely cut.

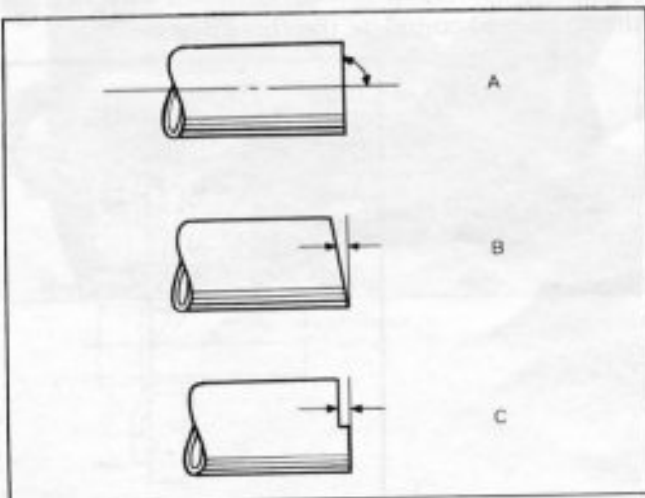
### Warning:

If the cutter handle is turned too violently, when the cutter wheel cuts into pipe, it can distort the shape of the pipe.



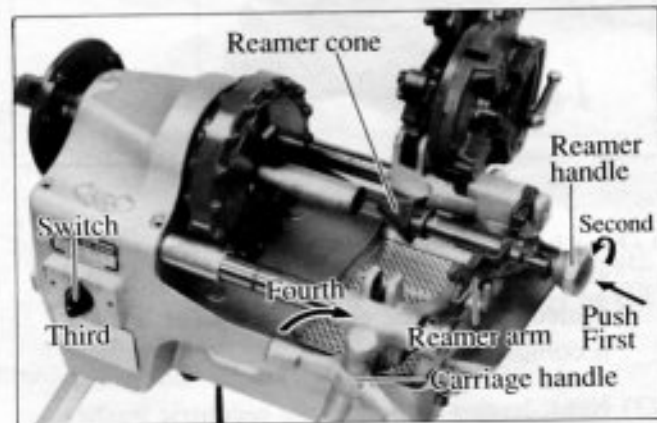
### Special Cut Grinder Precautions

We strongly recommend that only the pipe cutter attached to the machine be used to cut pipes that are to be threaded. If a grinder is used, make sure that the cut face is square and without steps as in diagram A.



## Reaming

1. When cutting is complete, raise the cutter out of the way. Lower the reamer arm and push the reamer bar toward the pipe.
2. Long-chucked pipe can sometimes be reamed with the reamer handle in the recessed position.
3. Lock the reamer in position by turning the reamer handle anti-clockwise.



4. Start the machine and turn the carriage handle to the right to advance the reamer.
5. When reaming is complete turn off the machine, retract the reamer bar and raise the reamer arm into the rest position.



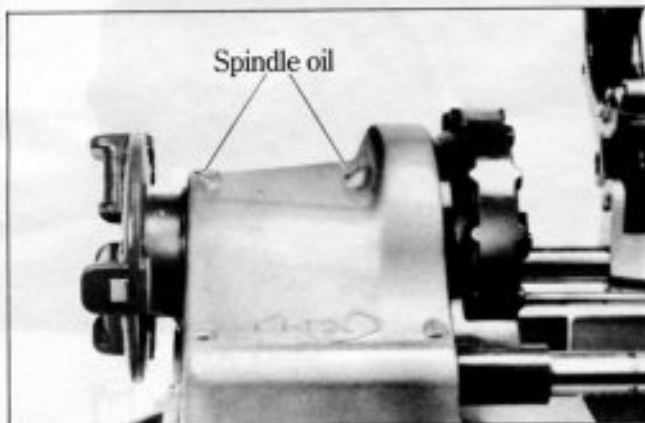
# Maintenance

**WARNING: ALWAYS UNPLUG POWER CORD BEFORE SERVICING MACHINE.**

Rex products are made with the finest materials throughout, but even the best needs attention sometimes. To ensure a long and trouble-free working life for your machine, we recommend the following maintenance procedures.

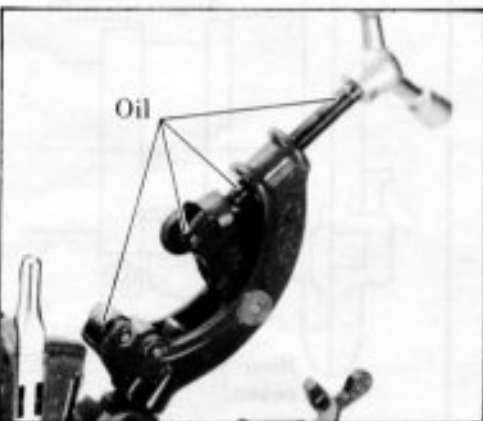
## Main Shaft Lubrication

The main shaft bearings are made with specially designed oiled metal, but should be lubricated once every six months with spindle oil or machine oil to ensure smooth running (see diagram ).



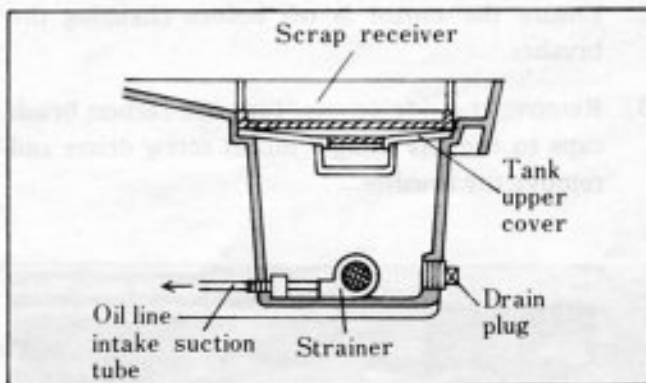
## Pipe Cutter Lubrication

The cutter feed screw and the rollers need to be oiled once a day with spindle oil. Lack of oil not only makes use more difficult, but detracts from the efficiency of the machine (see diagram ).



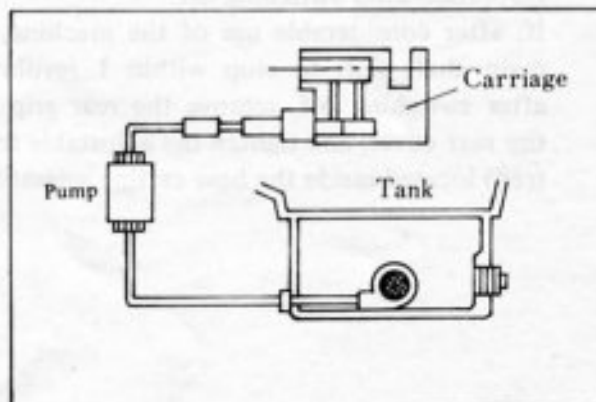
## Cutting Oil System

1. Be sure oil flows freely. See that there is enough oil in the tank and all oil lines are free from obstruction.
2. If oil becomes discolored or contaminated, drain the tank and refill with fresh cutting oil.
3. Clean oil pot after every 8 to 12 hours of actual use.
4. During thread cutting operations, small chips from the threads will accumulate in the tank so efficient cleaning is essential once a month to ensure proper operation of the threading machine.



Keep Oil System Clean As Follows

1. Drain oil and check for contamination.
2. Remove and clean scrap receiver, tank upper cover, oil pot and strainer, and clean the oil tank.  
If the oil system is kept clean, this will prolong the working life of the gear-pump.
3. After cleaning the tank, put some sealing substance on the plug to decrease any possibility of leakage.



## Carbon Brushes with Automatic Cut-off

This machine employs carbon brushes with an automatic cut-off facility. If the working life of the brushes (approx. 250 hrs.) is exceeded, safe operation of the machine is assured as the motor will stop automatically.

### Changing the Brushes:

1. Always change both carbon brushes at the same time.
2. Ensure the motor is off before changing the brushes.
3. Remove the side covers, turn the carbon brush caps to the left using a minus screw driver and remove the brushes.



- In accordance with West German safety regulations, an optional accessory is available which enables the main shaft to stop rotating within 1 revolution after switching off.

If, after considerable use of the machine, the main shaft fails to stop within 1 revolution after switching off, remove the rear grip and the rear cover, and tighten the adjustable screw (red) located inside the base casting assembly.

## Hammer Chuck Structure and Maintenance

The hammer chuck jaw comprises 4 parts and when the teeth on the jaw inserts become worn and fail to hold the pipe or rod during threading, replace the entire set of jaw inserts.

Remove the hex socket set screw.

As shown in the illustration opposite, the hammer chuck is fixed to main shaft by six socket head cap screws.

Because any loosening of these bolts affects threading, be sure to keep these six bolts permanently tight.

