OPERATION MANUAL
WHEELER/REX6590

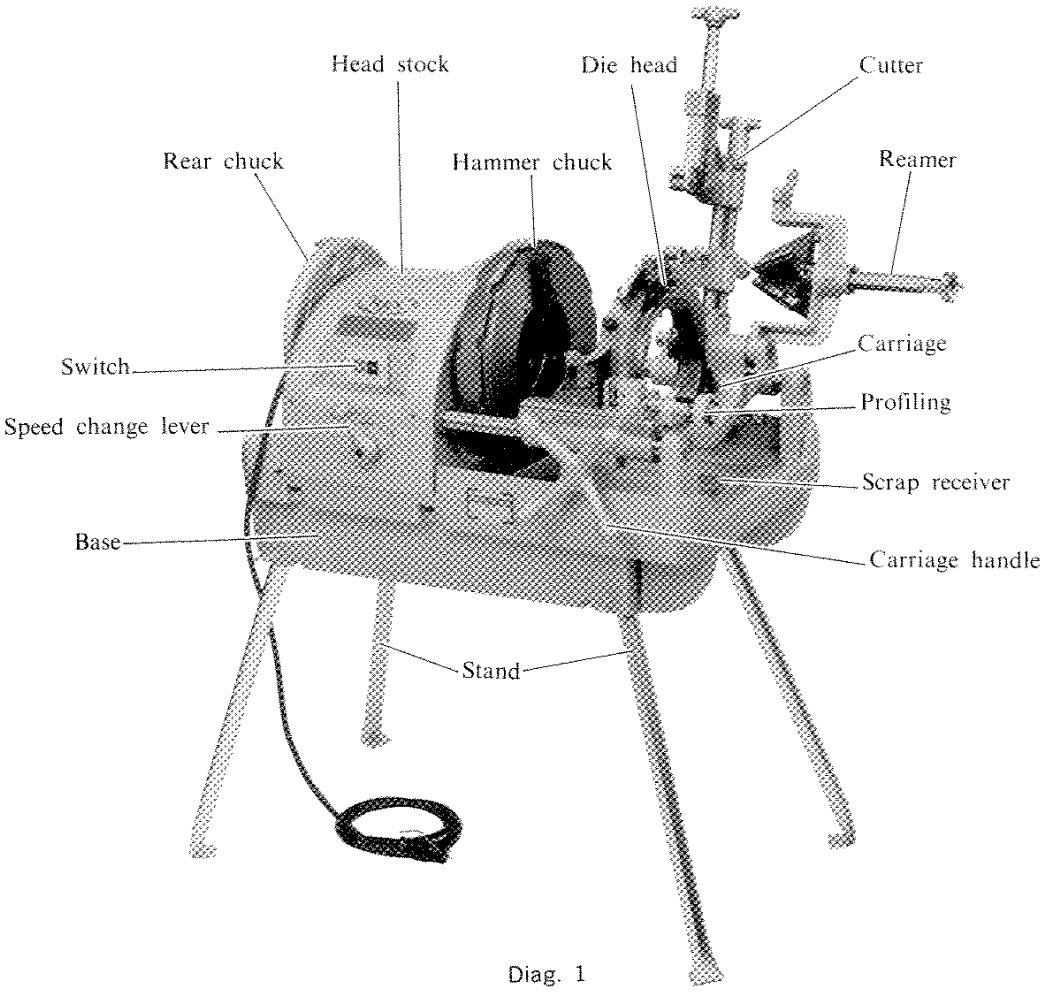
Ref.No. 198907

Important

For your own safety, best performance and a long tool life.
Before assembling and operating this unit, read this Operation Manual carefully and completely.
Learn the operation, application and potential hazards peculiar to this unit.

CONTENTS

Main Parts



Diag. 1

Specifications and Accessories

Specifications

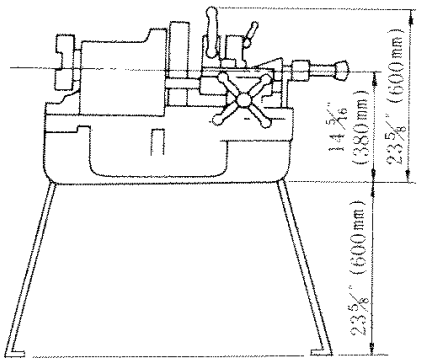
Capacity	2½ ~ 6″ Carbon steel pipe (threading, cutting, reaming)		
Motor	Single phase 750W condenser motor 120V		
Cutter	Blade type cut off Capacity	Minimum diameter of pipe	$2\frac{27}{32}$″ (72 mm)
		Maximum diameter of pipe	6″ (170 mm)
		Maximum pipe thickness	½″ (13 mm)
Reamer	5 Flute cone		
Chuck	Hammer type chuck (replaceable jaw inserts)		
Oil pump	Gear-type		
Speeds	22 r.p.m. (cutting, reaming) & 7 r.p.m. (threading)		
Weight	Net weight 421 lbs. (191 kg). Shipping weight 498 lbs. (226 kg)		

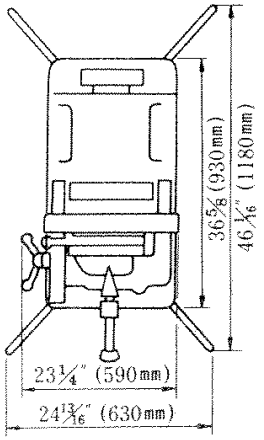
Standard Accessories

Die heads	2½ ~ 4″, 5 ~ 6″ one each
Dies	2½ ~ 4″, 5 ~ 6″ one set each
Screwdriver	1 pc. phillips head
Hexagonal keys	3, 4, 5, 6, 8 mm one each
Grease pump	1 pc.
Tool box	1 pc.
Adjustable wrench	200 mm 1 pc.
Stand	4 legs
Wing screw	4 pc.
Machine cover	1 pc.
Foot switch	1 pc.
Cutter wheel	1 pc.

Optional Accessories

Die heads	Bevel/Groove (2½ ~ 4″), Bevel/Groove (5 ~ 6″)
Dies	Grooving (2½ ~ 3½″) (4″) (5 ~ 6″) Beveling (2½ ~ 4″), (5 ~ 6″)
Cap for profiling board	(Required for grooving & beveling)
Pipe support	





Safety Precautions

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.

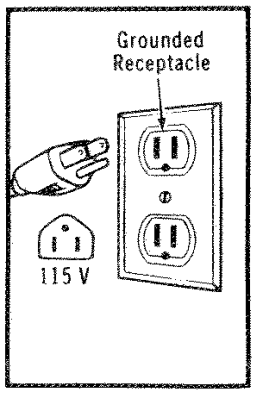
Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

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.



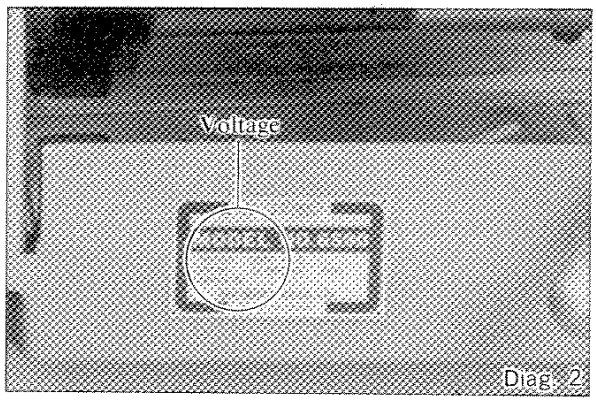
22. Always Use Safety Glasses

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

Operating Voltage

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

1. A DC power supply would cause irreparable damage to the condensers so it is recommended that only an AC supply be used.
2. If the machine is being used with a generator, ensure that sufficient power is being supplied and at the exact voltage specified on the name plate.
3. An extension cord which is too long will result in a serious voltage drop. Input voltage should be at rated voltage ±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 gauge.



Diag. 2

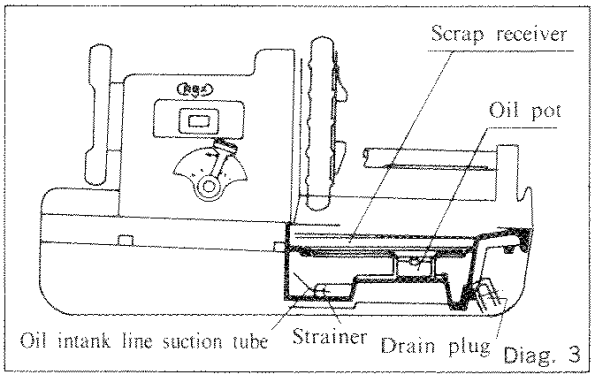
Operating Guide

1. Checking Oil System

1. Raise pipe cutter and die head.
2. Fill tank about 2/3 full with REX 246 thread cutting oil or a good grade cutting oil. (Approximately 1⅓ U.S. quarts.)

   Check that there is no oil leakage from drain plug.
3. Connect power cord to power supply.
4. Push the switch on the main body.
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.

   When no die head has been installed, oil comes out of die head installation hole on carriage.



Diag. 3

Priming Oil Pump

1. Remove scrap receiver and tank upper cover from base.
2. Remove oil intank line suction tube from strainer and hold upright.
3. Using an oiling device, pressure fill with cutting oil through oil intank 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, place tank upper cover and scrap receiver in position on base.
   WARNING:
   Do not attempt to install upper tank cover and scrap receiver when machine is connected to power supply.

2. Foot Switch Positions

Pull out and depress foot switch to start machine. Release foot switch to stop.

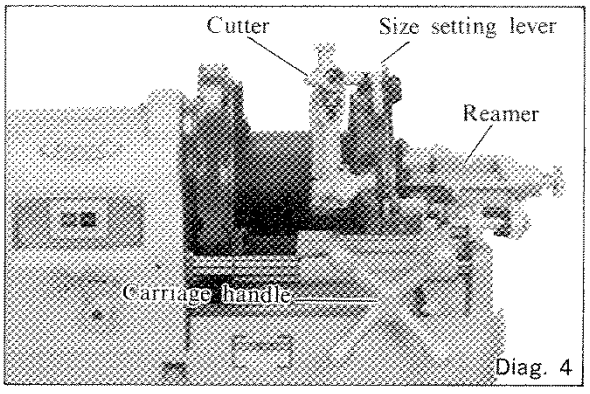
WARNING:
OPERATOR SHOULD BE THOROUGHLY FAMILIAR WITH PRECEDING SAFETY PRECAUTIONS BEFORE ATTEMPTING TO OPERATE THIS EQUIPMENT.

1. 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 size-setting lever, open the dies as far as they will go and then replace the setting lever on the corresponding pin.
3. Lock the reamer arm in the reaming position.
4. Lower the pipe cutter; turn the carriage handle clockwise to advance towards chuck side.
5. Turn the cutter handle, and secure the roller and pipe.
   The machine should then be secure during transportation.

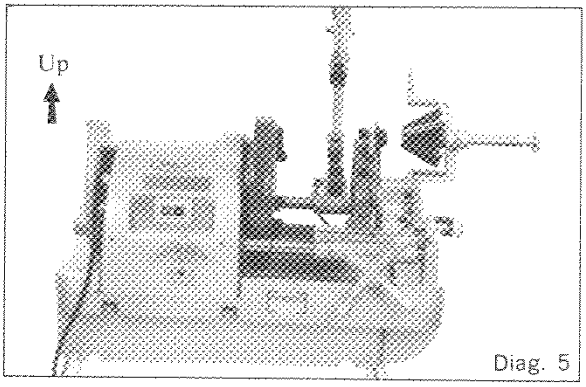
WARNING:
Do not handle the support bar when moving the machine.



Diag. 4

2. Setting Up

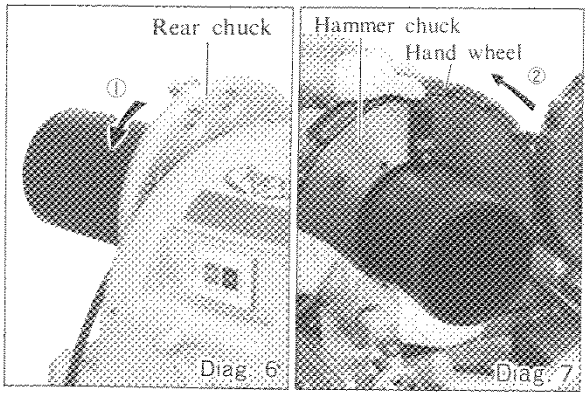
1. When setting up the machine, the legs should be adjusted with the rear chuck higher than the hammer chuck so that oil does not flow back down the pipe being cut. (see diagram 5)
2. Remove the tank upper cover, and check that the level of the oil adequately covers the strainer.
3. Set the oil cover and scrap receiver in the right position.



Diag. 5

3. 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.



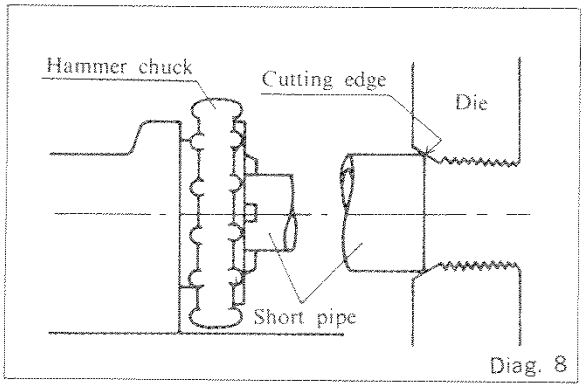
Diag. 6 Diag. 7

4. Hints for Short Pipes

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 in the 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.

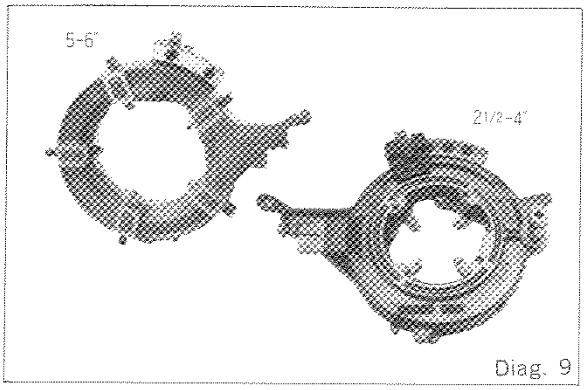


Diag. 8

5. 2½—6″ Pipe Taper Threading (Profiling die head)

The size setting lever on this profiling 2½-6″die head allows for a simple and accurate change of threading size.

Thread thickness can be adjusted independent of pipe size.

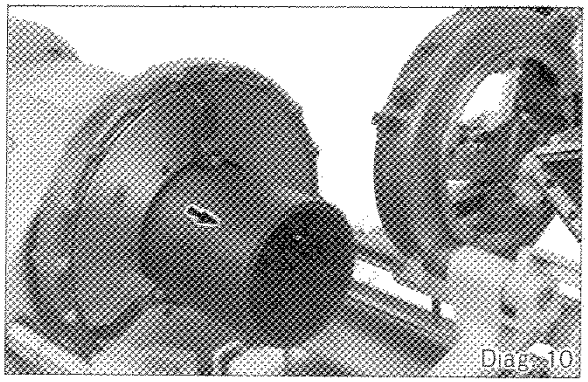


Diag. 9

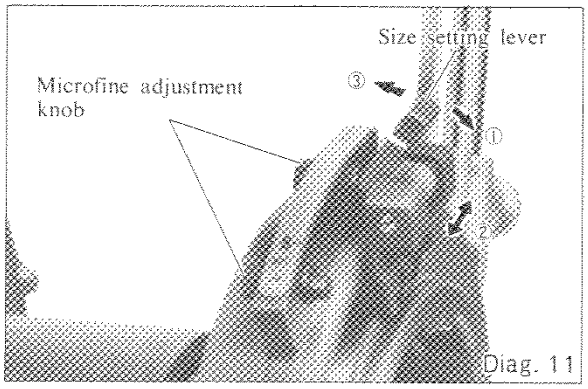
Preparation for Threading

Begin threading to the right of the red line on the carriage support bar.

1. Attach the appropriate die head according to the size of the pipe to be worked on. Make sure the die head is properly in position in the die head slot. Ensure there is no scrap in the slot, or the die head lock knob will fail to engage properly.


Diag. 10

2. Place the size setting lever over the appropriate crank pin. (Diag. 11)

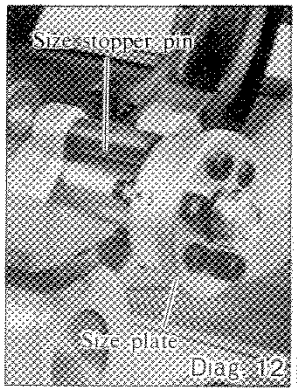


Diag. 11

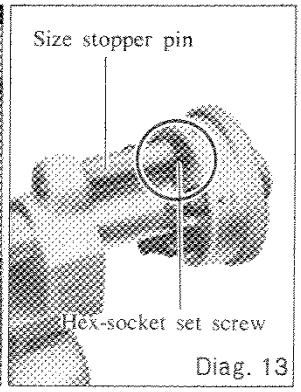
3. Turn the size plate and select the appropriate size setting by aligning the hex-socket set screw with the size stopper pin. (Diags. 12 & 13)

NOTE:

The hex-socket set screw must fit into the stopper pin correctly or else inaccurate thread lengths will be produced.



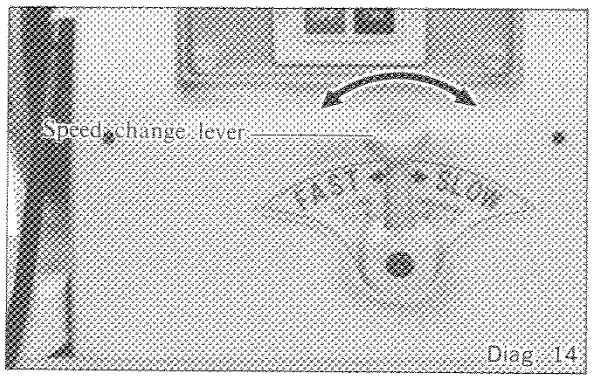
Diag. 12



Diag. 13

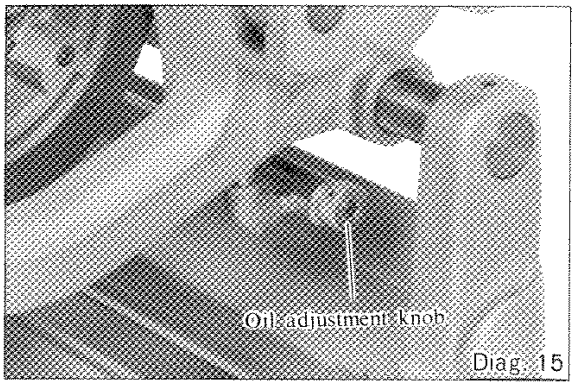
4. Switch on. Shift the speed change lever to the appropriate position for the pipe. (Diag. 14)

The speed may be changed even when the machine is at rest. However, if the lever seems stiff, pull the hammer chuck towards you by hand and try to engage the lever again.



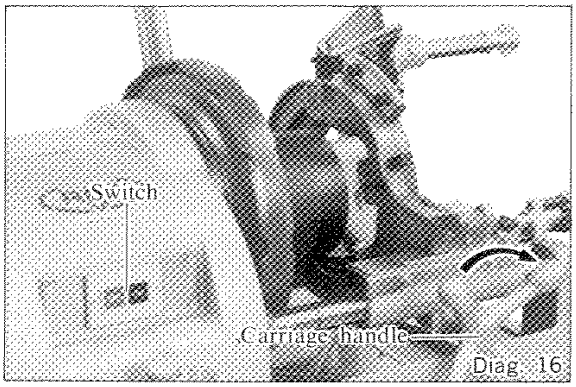
Diag. 14

The oil flow from the die head begins as soon as the machine is switched on. If the flow is either excessive or insufficient, the oil flow may be regulated by the oil adjustment knob. (Diag. 15)



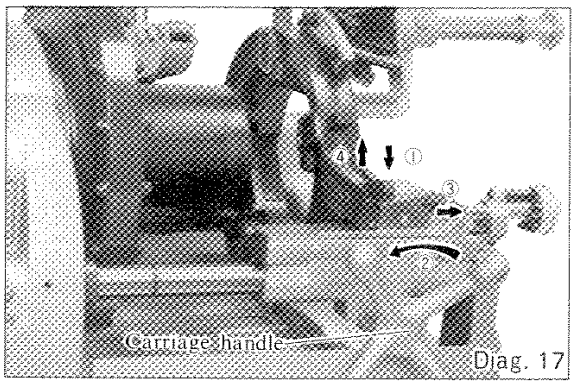
Diag. 15

5. Turn the carriage handle to the right to engage the dies with the pipe.
6. Stop turning the carriage handle once the dies have traveled the width of one die along the pipe. From this point, threading can be done automatically.



Diag. 16

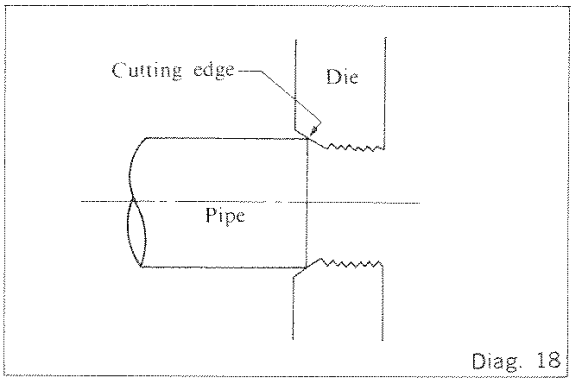
7. When threading has been completed, push the die head handle downwards to automatically release the dies.
8. Switch off and turn the carriage handle to the left to remove the die head from the pipe. Raise the die head handle slightly and the profiling board will automatically return to its former position.
9. Pull out the die head lock knob and fully raise the die head.



Diag. 17

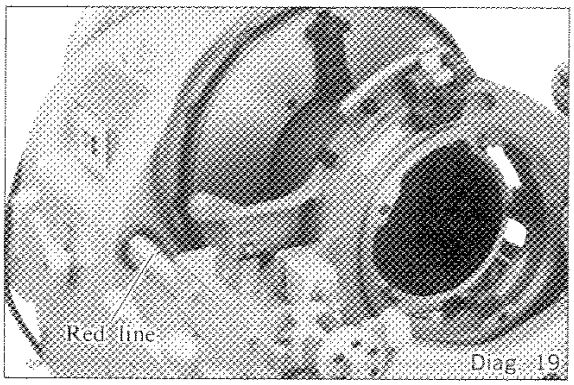
Precautions for Threading

1. As the dies come into contact with the pipe, the carriage handle 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 carriage handle is turned with slight pressure to keep pace with die movement.



Diag. 18

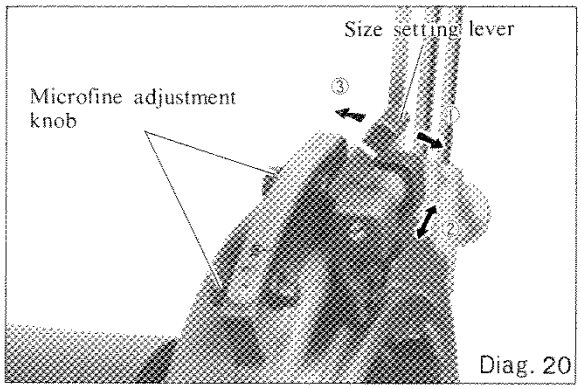
2. Be sure to start threading with the carriage right of the red line on the front support bar. If threading starts left of the red line the die head can strike the chuck and damage the machine.



Diag. 19

6. Change of Size

Size change is simple with the size setting lever.



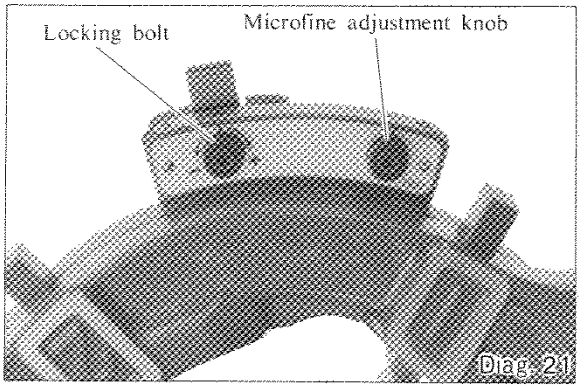
Diag. 20

7. Microfine Adjustment of Thread Thickness

Microfine adjustment of thread thickness is possible to allow pipes to be cut to exactly your own requirements. Simply turn the microfine adjustment knob to the left to decrease, and to the right to increase the thread thickness. The knob is locked by a locking bolt which should be loosened with the hexagonal key provided and the knob turned three settings to the right before adjustments are made. One setting on the knob represents 1.5 threads on both the 2½-4″ and the 5-6″ die heads.

NOTE:

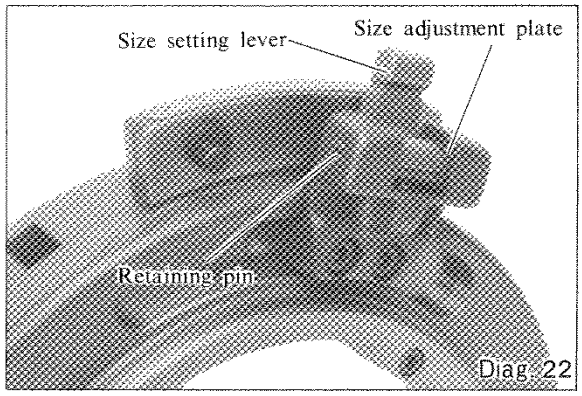
Size should always be checked with a thread gauge after adjustment.



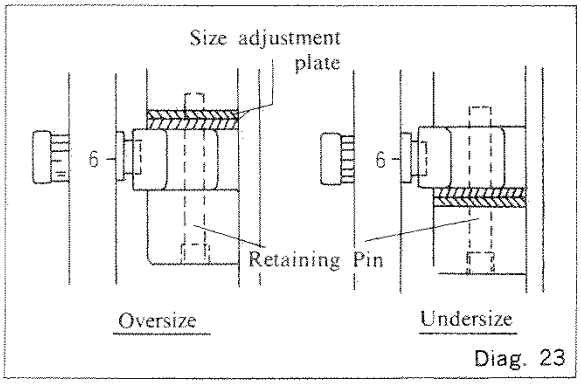
Diag. 21

8. Size Adjustment Plate

If, even with full adjustment, thread size is not satisfactory, remove the retaining pin and reinsert the size adjustment plates as shown in the diagram. Reinsert the retaining pin to hold in place.



Diag. 22

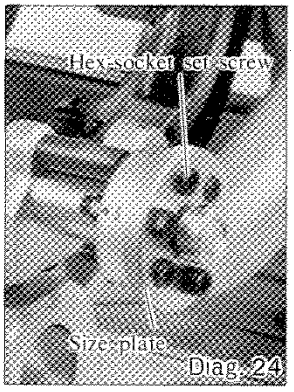


Diag. 23

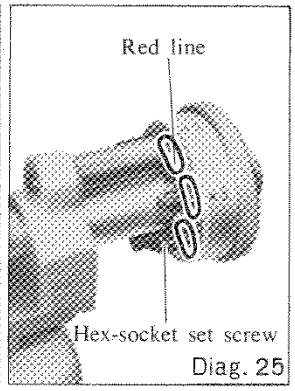
9. Adjustment of Threading Length

The machine is designed to produce threads of standard length but thread length may be individually increased or decreased by turning the appropriate hex-socket set screw in the thread length knob. Whichever size is selected, one revolution to the right will increase thread length by 1.5mm, and conversely, one revolution to the left will decrease thread length by the same amount.

There is no need to 'lock' the screws in position.



Diag. 24

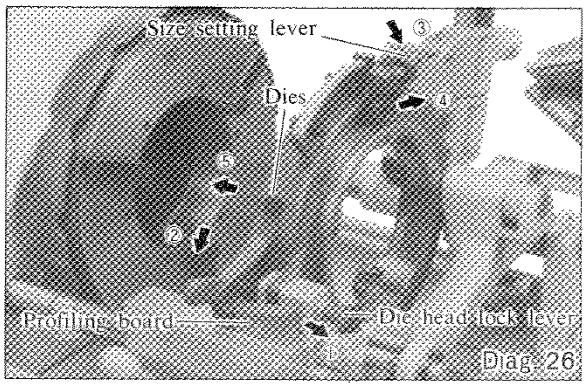


Diag. 25

10. Removal and Replacement of the Dies

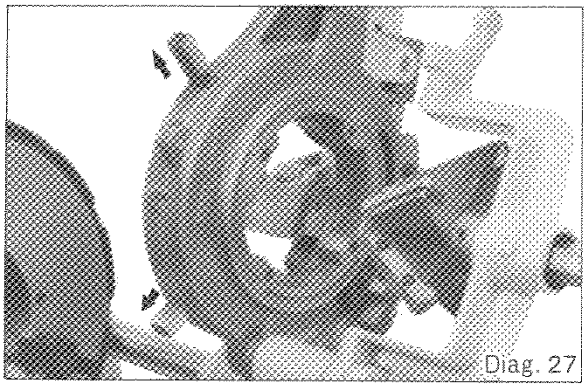
Removing the dies

1. Move the profiling board to the right until the die head roller touches the profiling cover.
2. Turn the size setting lever to the right and then push it as far as it will go beyond the 4″ setting. Then remove No. 1 and No. 2 dies.



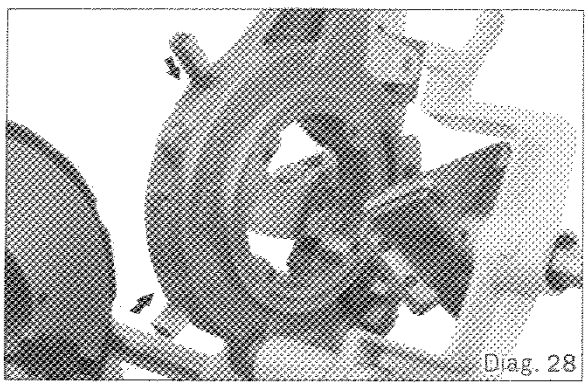
Diag. 26

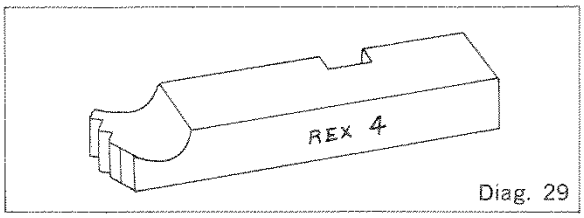
3. Pull out the die head lock lever and raise the die head to remove die No. 3 and No. 4 (No. 5)


Diag. 27

Replacement of dies

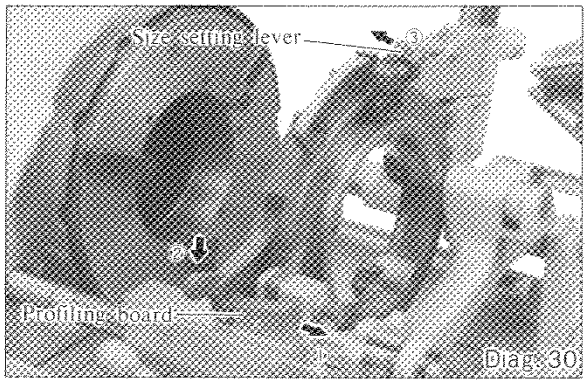
1. With the die head in the raised position, pull the handle on the body of the die head forwards and insert dies Nos.3 and 4(5) in their corresponding slots, ensuring they engage the notch in the die head.


Diag. 28



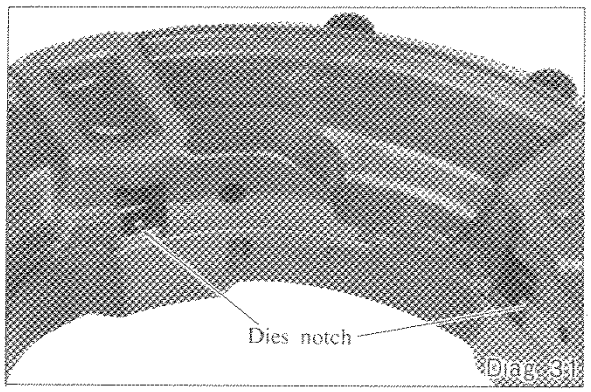
Diag. 29

2. Move the profiling board to the right until the die head roller touches the profiling cover. Insert dies 1 and 2 into their corresponding slots.
3. Reset the size setting lever to the threading size required.



Diag. 30

NOTE:
When a die is installed to the correct depth in the die holder slot, a detent will engage the detent notch. The die is then properly positioned. Steps 1 and 2 above may be reversed.



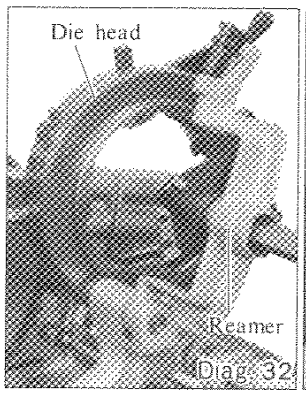
Diag. 31

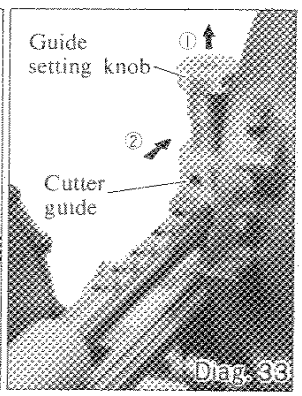
11. Pipe Cutting

For cutting or reaming set the speed change lever to the fast position. Be sure to ream after cutting.

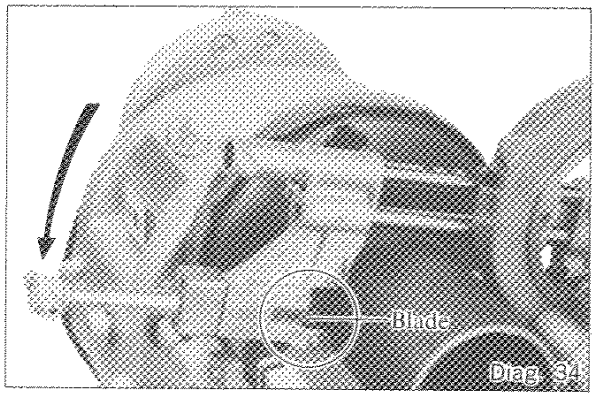
Cutting Pipe

1. Raise the die head and reamer out of the way. (see diagram 32)
   Release the guide setting knob and engage in the last notch as shown in the diagram 33.

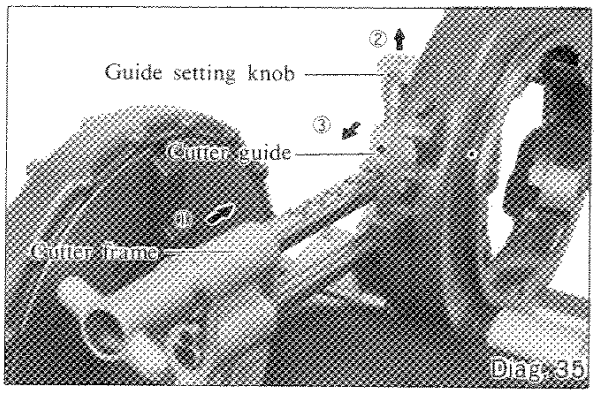




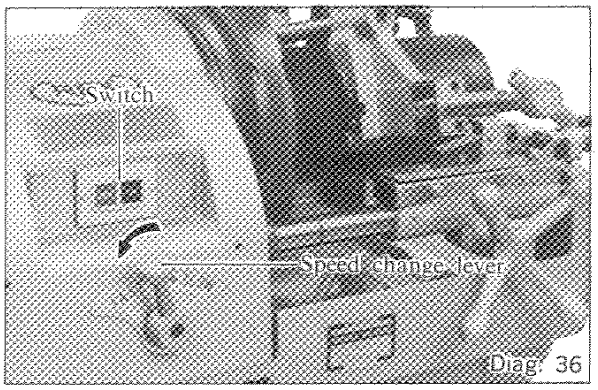
2. Check that the blade is fully opened and lower the cutter onto the pipe.



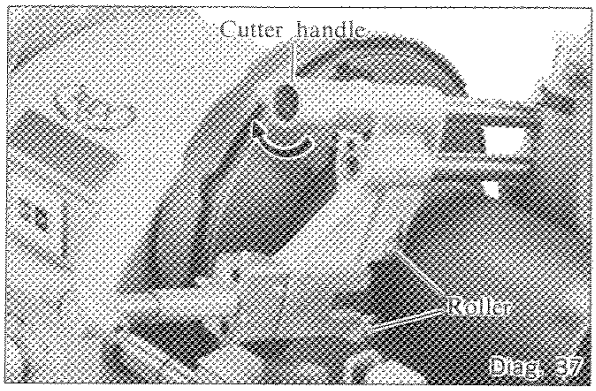
3. Push the frame to bring the rollers into contact with the pipe.
   Set the guide in the cutter support bar to match the pipe size.
   Check that the knob is firmly engaged. If the guide doesn't engage, turn the cutter handle to the left to open the cutter wider than the diameter of the pipe and reset correctly.



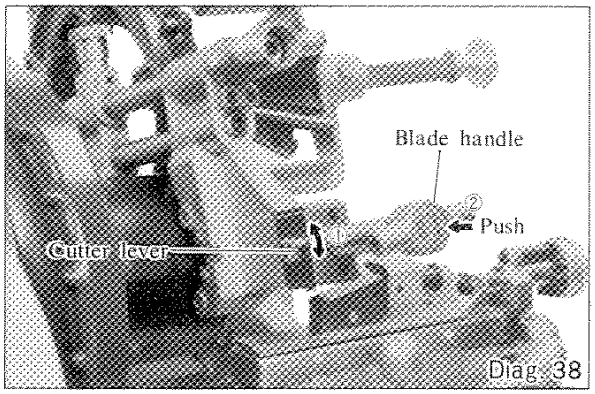
4. Switch the unit on and set the speed change lever to the "FAST" position.



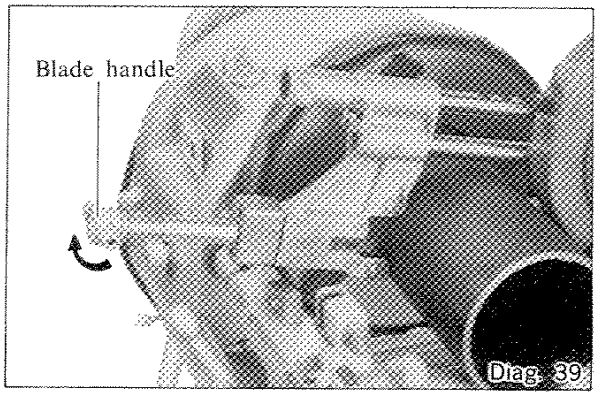
5. Tighten the cutter handle so that the rollers grip the pipe firmly.



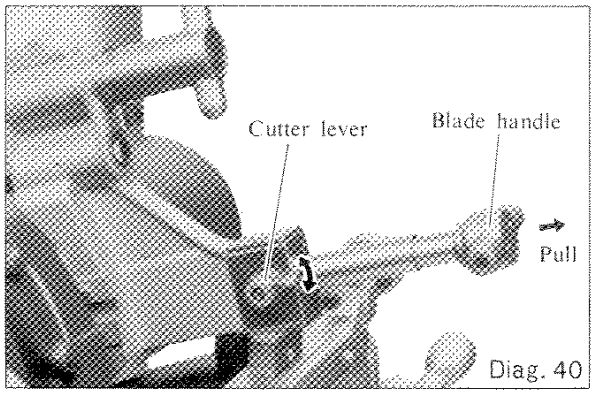
6. Depress lever until it is parallel with the blade handle.
   Keep one hand on the lever while you push the blade handle gently, until the cutter is almost touching the pipe.



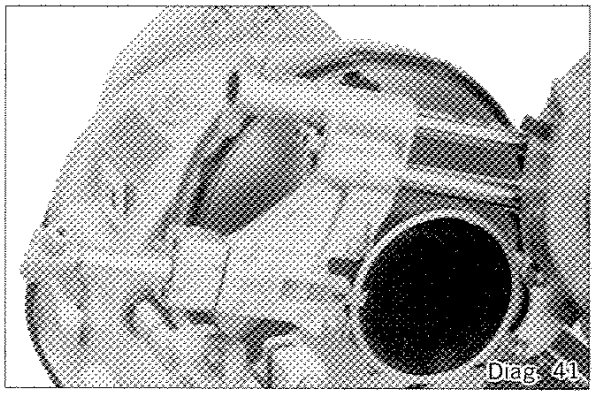
7. While the pipe is turning, turn the handle 1/4 of a revolution for every single revolution of the pipe being cut. Continue to turn the handle 1/4 of a revolution for each subsequent revolution of the pipe being cut until the pipe is completely cut.



8. Don't be tempted to speed up advancemant of the blade when the pipe is almost cut through, irregularities in the inner diameter of the pipe may damage the blade.



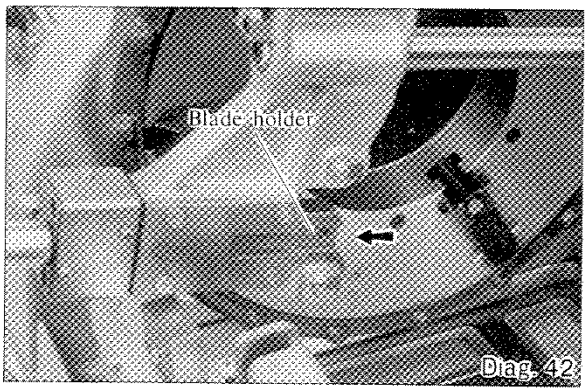
9 After pipe has been cut, depress lever, and the cutter will return to its starting position.



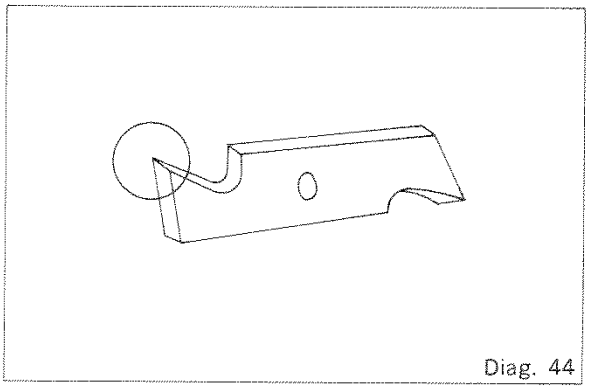
Replacing the Blade

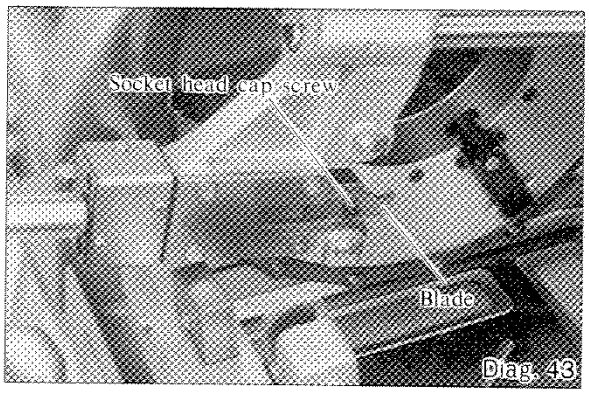
WARNING:
Sharp blades can be dangerous.
Slacken the blade set bolt and remove the blade. Insert new blade, tighten blade set bolt, and new blade is resdy for use.

NOTE:
Each blade has two cutting edges, so check the other edge before replacing a used blade with a new one. When replacing a blade, be sure to insert it with the tooth facing in towards the cutter support bars.



Diag. 42


Diag. 44

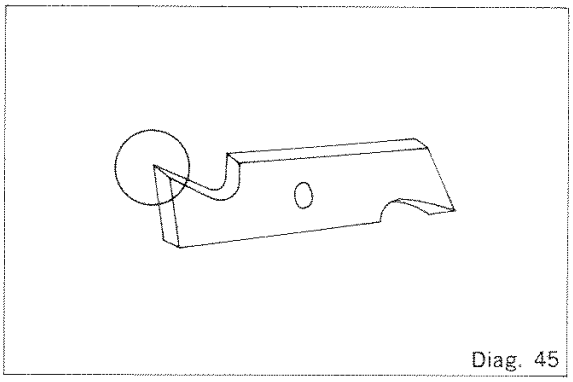


Diag. 43

Reasons for Imperfect Cutting of Pipe

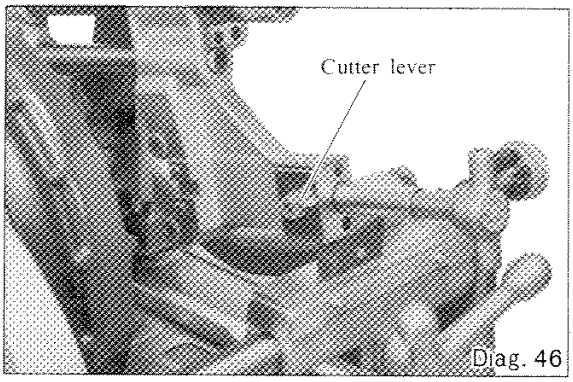
Turning of the handle does not produce a cutting of the pipe because:

1. The blade is blunt.



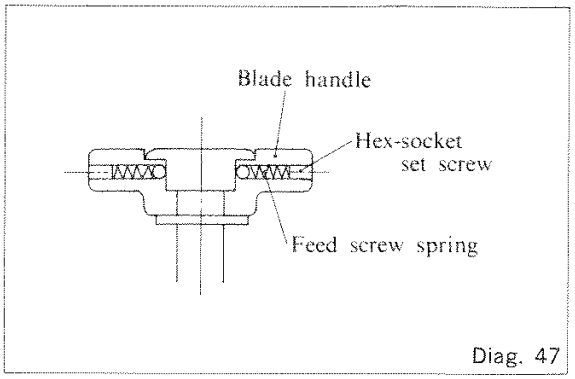
Diag. 45

2. Lever is not in correct position.



Diag. 46

3. The steel ball inside the handle is out of position, causing the 'T-shaped head' to revolve whilst the 'long' part of the handle remains stationary.



Diag. 47

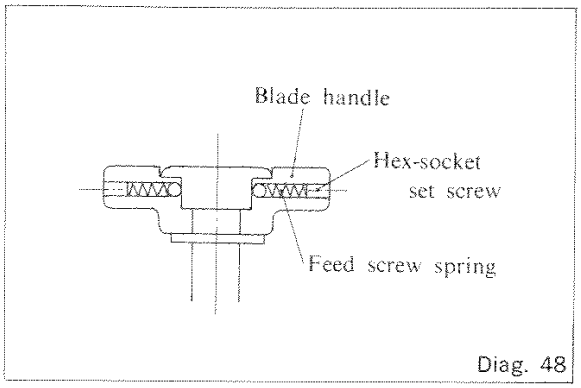
Adjustment of Handle

The handle is automatically set to move only a 1/4 of a revolution for every complete revolution of the pipe.

Should the handle move less than a 1/4 of a revolution, turn the hexagonal key clockwise in the handle once or twice, and check if the handle again moves a 1/4 of a revolution.

It may be necessary to repeat this process a few times before the handle moves the correct 1/4 of a revolution.

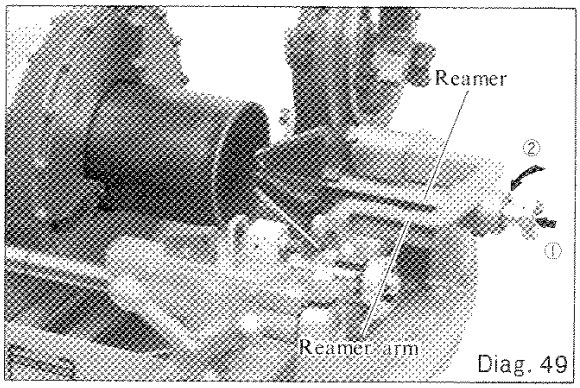
(Note: Should the handle move more than a 1/4 of a revolution, turn the hexagonal key anticlockwise in the handle once or twice, etc, etc.)



Diag. 48

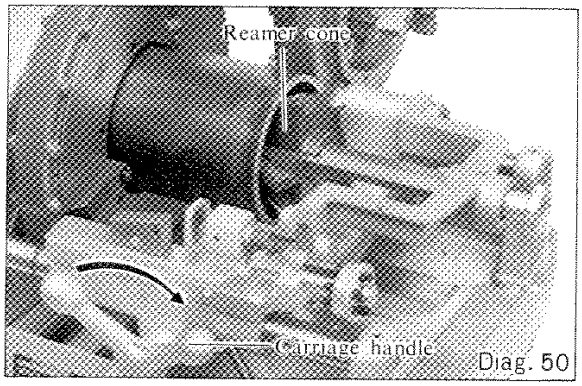
12. Reaming

1. Raise die head and cutter out of the way and set the speed change lever to the fast position. Lower reamer arm and push the reamer bar toward the pipe, locking the bar in position with 1/4 turn.



Diag. 49

2. Start the machine and turn the carriage handle clockwise to feed the reamer into the pipe.



Diag. 50

3. When reaming is complete turn off the machine, retract the reamer bar and raise the reamer arm into the rest position.

   WARNING:

   If reaming is carried out with the die head, lowered (in the thread cutting position) the reamer cone will touch the dies and some damage will occur.

Maintenance

WARNING: ALWAYS UNPLUG POWER CORD BEFORE SERVICING MACHINE.

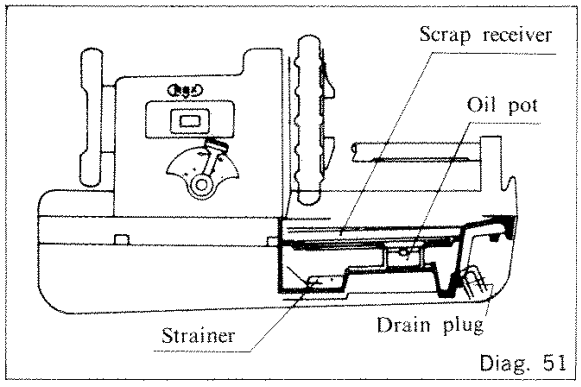
1. Cutting Oil System

1. Be sure oil flows freely. See that there is enough oil in the tank and all oil lines are free from obstructions.
2. If oil becomes discolored or contaminated, drain the tank and refill with fresh cutting oil.
3. Clean oil pot after each 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 to ensure proper operation of 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.

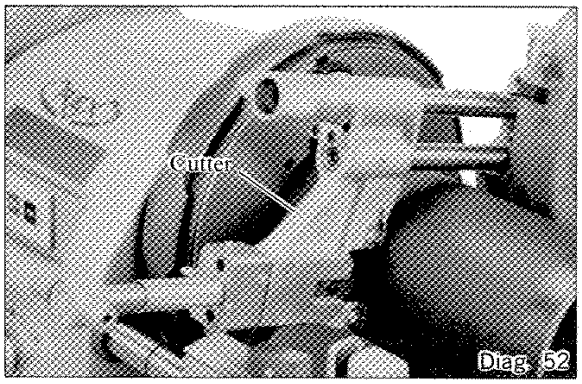
If the oil system is kept clean, this will prolong the working life of the gear-pump.



Diag. 51

2. Pipe Cutter

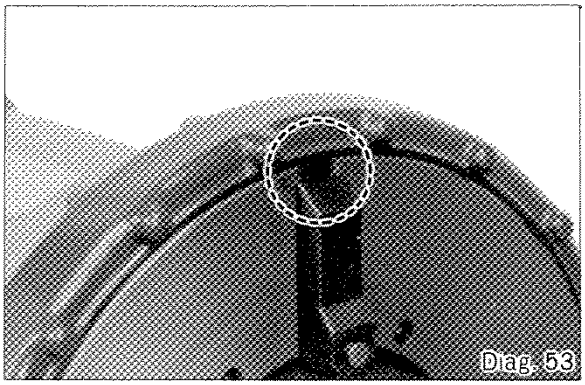
1. Check cutter wheel and replace if dull or damaged.
2. Clean and oil the feed screw and cutter roller.
3. Check alignment of cutter frame feed screw, roller pins and cutter pin.
4. Clean and lubricate cutter wheel & cutter pin. Lubricate cutter wheel pin with a thick, heat resistant oil additive such as Bardahl, S.T.P. or equiv.

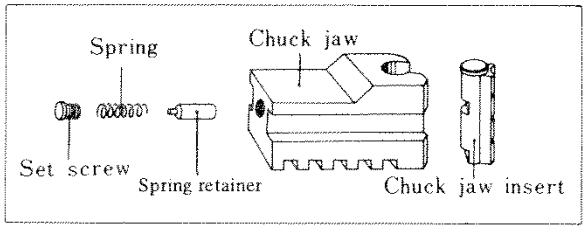


Diag. 52

3. Chuck Jaw Inserts

If chuck jaw inserts show significant wear or damage replace them all not just one or two.
Be sure to line up the chuck jaw in the correct position on the handwheel.





Removal of Chuck Jaw Inserts

1. Remove hex socket set screws with hexagonal key.
2. Remove springs and spring retainers.
3. Take out chuck jaw inserts.

Installation of Chuck Jaw Inserts

1. Put new chuck jaw inserts in position.
2. Install spring retainers, then springs.
3. Install hex socket set screws.
   CAUTION:
   Screw in hex socket set screws till they turn no further.

4. Hand wheel Chuck

Check that all chuck mounting screws are tight.

5. Reamer

Clean and lightly oil reamer cone and shaft.

6. Die Head and Dies

1. Clean die head and dies.
2. Check dies for broken teeth or pipe material between teeth.

7. Main Shaft

Lubricate bearings for hollow spindle through the two grease nipples in the head stock.