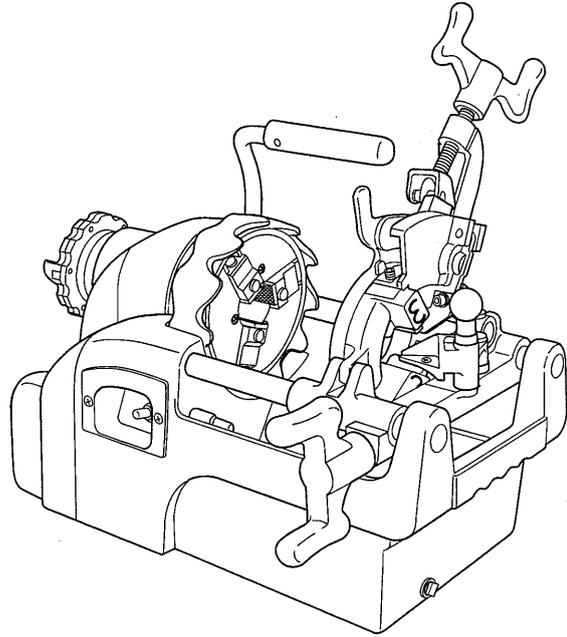


REX

PIPE THREADING MACHINE

NS25A

OPERATION MANUAL



Be sure to read this
Operation Manual before
using the machine.

- Note -

- Be sure to hand this operation manual to the user.
- To ensure safe and efficient use, read the manual thoroughly before using the machine.
- Be sure to keep the manual where the operator can refer to it whenever necessary.

Date of purchase: Year Month

Distributor:

- Be sure to observe the Safety Precautions described below to prevent accidents such as fire, electric shock and injury.
- Read these Safety Precautions carefully before using the machine, and operate the machine according to the instructions.
- Do not use the machine in any way other than as described in this operation manual.

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Definitions of **▲ WARNING** and **▲ CAUTION**

In this operation manual, warnings are divided into **▲ WARNING** and **▲ CAUTION**.

▲ WARNING : indicates actions which could possibly result in death or severe injury to the user if the machine is used incorrectly.

▲ CAUTION : indicates actions which could possibly result in injury to the user, or physical damage, if the machine is used incorrectly.

Even items described as [**▲ CAUTION**], could have serious results under certain conditions.

Be sure to observe these warnings carefully as they greatly affect safety.

- If this operation manual is lost or damaged, promptly order a replacement from our agent or sales agent.
 - Parts and specifications are subject to change without prior notice, due to improvements in quality, performance or safety standards. In such cases, the contents, photographs, illustrations, etc. of this manual may be different to the product you have purchased.
-

Safety Precautions

WARNING

- 1) Ensure you use the correct voltage.
 - Be sure to use the voltage indicated on the name plate of the main unit or in the operation manual. If the voltage is different from the voltage indicated overheating, smoke or fire may occur.
- 2) Check the switch is OFF, before inserting the plug into the power supply socket.
 - If the plug is inserted into the power supply when the switch is ON, the machine may start operation abruptly, and is liable to cause accidents. Be sure to check the switch is OFF.
- 3) Be sure to avoid electric shock.
 - Do not touch the plug with wet hands.
 - Do not use the machine in rain or in places where water can easily get into the machine.
 - Be sure to ground the machine to avoid electric shock.
- 4) Take notice of conditions at the work site.
 - Do not use the machine in rain, humid or damp places, or places where water can easily get into the machine. Humidity will lower insulation of the motor and cause electric shock.
 - Do not use close to flammable fluids or gases, such as gasoline and paint thinner. Fire or explosion might occur.
- 5) Use designated accessories and attachments.
 - Do not use accessories and attachments other than those designated in the operation manual or our catalogs. Accidents or injuries might result.
- 6) In the following cases, turn the main unit OFF and pull the plug out of the power supply socket.
 - When the machine is not in use or parts are changed, repaired, cleaned or inspected.
 - When accessories are changed.
 - When hazards are expected (including electric power failure).
When the plug is inserted, the main unit may start operation unexpectedly, causing accidents.
- 7) If any abnormality is noticed, stop operation immediately.
 - When operation of the machine is not smooth or abnormalities such as unusual smells, vibration or noise are detected, immediately stop operation of the machine.
 - Check symptoms against the items in [Troubleshooting Methods] in the operation manual, observe corresponding instructions, If the machine is used continuously, overheating, smoke or fire might occur, causing accidents or injury.
 - If overheating or smoke from the main unit occurs, do not attempt an overhaul but ask for an inspection and repair.
- 8) Keep the work site clean.
 - Ensure you keep the work table and the work site in good order, and well lit.
A cluttered site and work table are liable to cause accidents.
- 9) Do not let unauthorised personnel come near the machine.
 - Do not let any people other than authorised personnel touch the main unit or the power supply cord or operate the machine.
 - Do not let people other than authorised personnel enter the work site, especially children.
Injuries might occur.
- 10) Do not use the machine with force.
 - Use the machine only for its designated purpose. Operate according to the capacity of the main unit, to assure safe and effective operation. Forced operation may not only cause damage to the product but also accidents.
 - Do not use the machine in any way that could cause the motor to lock, or cause smoke or fire.
- 11) Wear appropriate clothing.
 - Do not wear neck ties, clothes with open sleeves, loose clothing, accessories such as necklaces, etc., which could get caught in the rotating parts.
When working outdoors, it is recommended to wear rubber gloves and shoes with stoppers. Slippery gloves and shoes are liable to cause injuries.
 - Cover long hair with caps or hair nets, to prevent them getting caught in rotating parts.
 - Wear safety caps, safety shoes, etc. according to the working environment.

Safety Precautions

WARNING

- 12) Do not work in an unnatural posture.
 - Keep a firm footing and balance to avoid falling over and injuring yourself.
- 13) Remove tools such as wrenches.
 - Before turning ON the switch, check that tools used for inspection and adjustment have been removed.
 - If you use the machine when tools are left inside it, accidents and injuries may occur.
- 14) Operate the unit with great care.
 - Always work with great attention to handling methods, working methods and surrounding conditions. Carelessness may result in accidents and injuries.
 - Do not operate the machine when your concentration is lowered such as when tired, after drinking alcohol, when sick, affected by medicines, etc.
- 15) Handle the power supply cord with care.
 - Do not carry the product by the cord, or pull the plug out of the socket with the cord.
 - Do not place the cord near heated objects, fats & oils, cutters and other objects with sharp edges.
 - Take care not to tread on the cord, pull the cord or apply unnecessary force resulting in damage to the cord. Electric shock or short-circuit may occur, causing fire.
- 16) Perform careful maintenance daily.
 - When changing accessories and parts, follow the operation manual.
 - Periodically inspect the power supply cord and plug. If damaged, ask your sales agent or our sales branch for repairs. If an extension cord is used, inspect the cord periodically, and if damaged, replace it.
 - If extension cords are used outdoors, use cords designed for outdoor use to prevent electric shock, short-circuit or fire.
 - Keep grips dry and clean and free of oil and grease. Slipping may cause injury.
- 17) Check for damaged parts.
 - Before using the machine, carefully check for damage to the protective cover and other parts, and check both normal operation and specified functions.
 - Check for any abnormalities such as in adjustment of movable parts, tightening, damage to parts, and all parts affecting operation.
 - Do not use machines if the stop and start switches do not work.
 - In replacing or repairing a broken protective cover and other parts, follow the operation manual. If no instructions are specified in the operation manual, ask your sales agent or our sales branch for repairs.
- 18) Store carefully when the machine is not in use.
 - Store in a dry place away from children and locked with a key.
- 19) For overhaul and repair of the machine, ask an appointed REX agent.
 - Our products comply with corresponding safety standards. Do not remodel.
 - Be sure to ask your sales agent or our sales branch for any repairs. If repairs are carried out by unskilled or unqualified personnel, the performance of the unit will be adversely affected and may result in accident or injury.

Instructions for using the NS25A

• Threading work

WARNING

- ① Take care when handling blades and other sharp objects.
 - To prevent accidents and injury, take special care when handling blades and other sharp objects such as the dies, reamer, pipe cutter and carbide cutter, etc.
- ② Do not place your hands or face close to rotating parts while the machine is operating.
 - Inserting your hands into rotating parts and dies will result in accidents and injury.
- ③ Do not perform the next operation until the machine has stopped rotating completely.
 - Rotation does not come to a complete standstill when you turn the switch OFF.
 - Before starting the next job, check that rotating parts have stopped. Failure to do so may result in accidents and injury.
- ④ Do not wear gloves when operating the machine.
 - A serious accident or injury may occur if gloves are caught in rotating parts or blades.
- ⑤ Do not leave the machine while it is still rotating.
 - Others may be injured.
- ⑥ If the machine is accidentally dropped or hit, check carefully for damage such as cracks, broken parts, or deformation.
 - If any abnormalities are detected, ask your sales agent or our sales office for inspection and repair. Continuing to use the machine in such a state may result in malfunction, accidents or injury.
- ⑦ Do not touch the dies just after threading.
 - The dies will be very hot just after completing threading. To avoid burns and other injuries, avoid touching them until they have cooled down.
- ⑧ Die head and dies.
 - Use the die head and dies that correspond to the diameter of the pipe to be threaded.
 - Attach the die head correctly to the shuttle bench.
 - Before starting threading, set the die head to the threading position, turn the switch ON, and make sure the threading oil flows correctly from the die head and that the oil flows onto the dies. Also, make sure there is sufficient oil in the tank to cover the strainer completely. This will prevent not only incorrect threading of the pipe, but also malfunction of the machine, accidents and injury.
- ⑨ Make sure you start threading from the correct position.
- ⑩ Use a pipe support when threading long pipes.
 - When threading long pipes, use the special pipe support to prevent vibration from warping while the pipe is rotating. The support will also prevent the machine from becoming unstable under the weight of the material.
 - Failure to use the pipe support may not only result in imperfect threads and malfunction of the machine, but may even lead to accidents and injury.
- ⑪ Be sure to attach accessories according to the operation Manual.
 - If accessories and attachments are not fitted correctly, such parts may drop off during operation or the unit may fall over resulting in accident and injury.

Instructions for using the NS25A

• Chamfering work

WARNING

- ① To prevent injury, do not touch the reamer blade directly with your hands as it is extremely sharp.

• In case of threading oil fluid for water supply pipes and water-immiscible cutting fluid for threading

CAUTION

- ① Wear goggles
 - Touching the eyes with oil may cause inflammation.
Emergency treatment : Wash eyes with clean water for about 15 minutes and seek medical attention.
- ② Wear protective gloves.
 - If oil comes into contact with the skin, it may cause inflammation.
Emergency treatment : Carefully wash the affected part with soap and water.
- ③ Take care not to breathe in oil mist or steam.
 - Breathing in oil mist or steam may cause nausea.
Emergency treatment : Carry the person out into the fresh air, cover them with a blanket, keep them warm and relaxed, and seek medical attention.
- ④ Do not thin the oil or mix it with threading oil produced by other companies.
- ⑤ If the threading oil gets contaminated with water during the threading operation and the oil changes to a milky white, or the quality of the oil deteriorates significantly resulting in a poor finish to the thread, replace the oil immediately.
- ⑥ Do not drink the oil
 - Drinking the oil may cause diarrhea or vomiting
Emergency treatment : Do not let the person vomit forcibly; seek medical attention immediately.
- ⑦ Do not place the oil where it is easily reached by small children.
- ⑧ Be particularly careful about the risk of fire. Depending on the country of use, the oil may be classified as a hazardous material. To prevent fire or explosions, always familiarise yourself with and comply with local laws and regulations pertaining to the handling of such materials.
- ⑨ Storage
 - Always close the lid after use to prevent the oil from being contaminated by dust, water or other foreign bodies.
 - Store in a dark place away from direct sunlight.
- ⑩ Handling waste oil and oil cans
 - The handling of waste oil and oil cans is governed by local laws and regulations. Always comply with the laws and regulations governing methods of disposal and cleaning.
- ⑪ Precautions with oil drums (200L)
 - Do not apply pressure to empty oil drums or they may burst.
 - Never attempt to weld, heat, make holes in or cut the drums, as this could possibly lead to explosion or fire from any residue left in the drum.

Instructions for using the NS25A

• Using threading oil for stainless steel pipes

WARNING

- ① Do not burn off the oil.
 - This oil contains chlorine compounds and generates toxic gas when burnt.
 - In the case of an emergency in which someone has inhaled such toxic gases, carry the affected person out into the fresh air and seek medical attention.
- ② Disposal of waste oil and cans.
 - The disposal of waste materials is governed by local laws and regulations. Follow all laws related to the disposal and cleaning of waste materials.

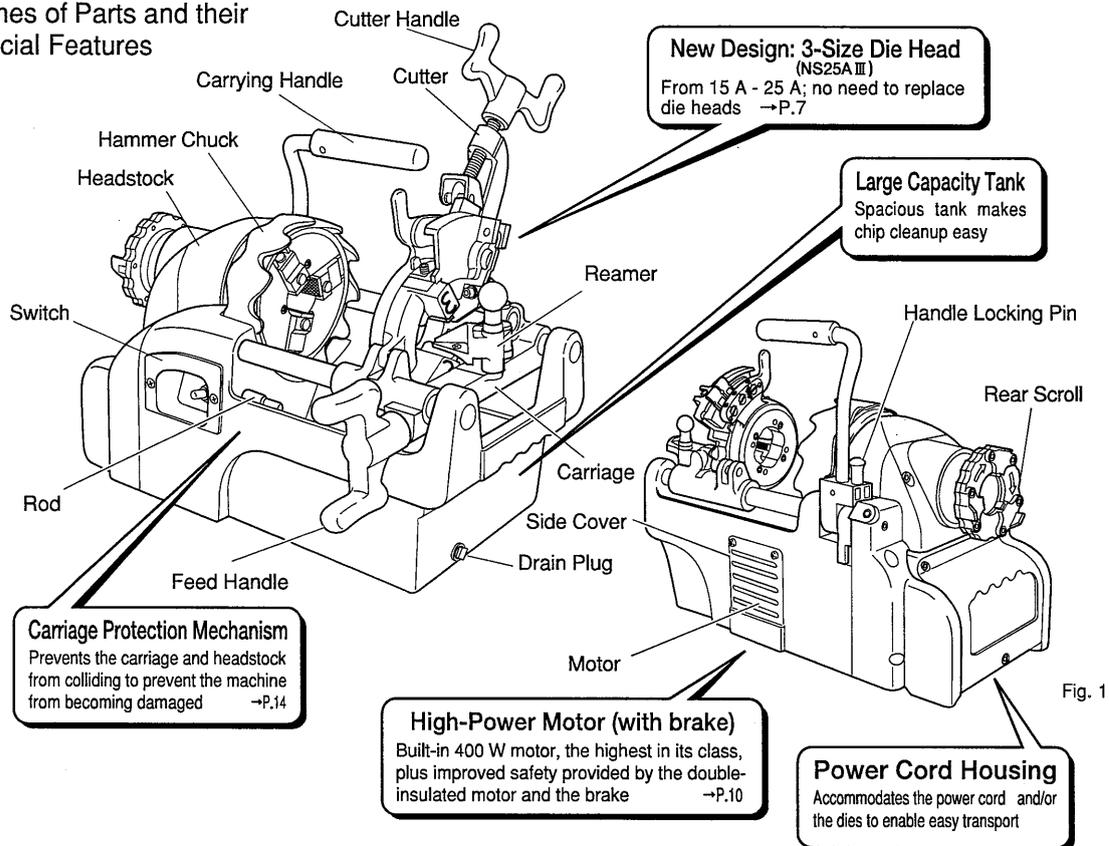
CAUTION

- ① Wear goggles
 - Touching the eyes with oil may cause inflammation.
 - Emergency treatment : Wash eyes with clean water for about 15 minutes and seek medical attention.
- ② Wear protective gloves.
 - If oil comes into contact with the skin, it may cause inflammation.
 - Emergency treatment : Carefully wash the affected part with soap and water.
- ③ Take care not to breathe in oil mist or steam.
 - Breathing in oil mist or steam may cause nausea.
 - Emergency treatment : Carry the person out into the fresh air, cover them with a blanket, keep them warm and relaxed, and seek medical attention.
- ④ Do not drink the oil
 - Drinking the oil may cause diarrhea or vomiting
 - Emergency treatment : Do not let the person vomit forcibly; seek medical attention immediately.
- ⑤ Do not place the oil where it is easily reached by small children.
- ⑥ Do not thin the oil or mix it with threading produced by other companies.
- ⑦ If the threading oil gets contaminated with water during the threading operation and the oil changes to a milky white, or the quality of the oil deteriorates significantly resulting in a poor finish to the thread, replace the oil immediately.
- ⑧ Be particularly careful about the risk of fire. Depending on the country of use, the oil may be classified as a hazardous material. To prevent fire or explosions, always familiarise yourself with and comply with local laws and regulations pertaining to the handling of such materials.
- ⑨ Storage
 - Always close the lid after use to prevent the oil from being contaminated by dust, water or other foreign bodies.
 - Store in a dark place away from direct sunlight.

Names of Parts and their Special Features · Standard Specifications · Standard Accessories

The REX NS25A was developed to provide users with a machine that is safe and that they can use with confidence. The most versatile model in its class, it has a sturdy design that enables it to handle the toughest of jobs, as well as new, enhanced safety features.

Names of Parts and their Special Features



Standard Specifications & Standard Accessories

	NS25A III	NS25A
Threading capacity	1/2B (15A) ~1B (25A)	
Voltage	110V, 220V (50/60Hz)	
Motor	Single phase 400W Series motor (with brake)	
Rotation speed	55r.p.m.	
Net weight	22.5kg	
Dimensions	450 (L) X 320 (W) X 350 (H) mm	

table 1

	NS25A III	NS25A
Die head	Self opening 1/2~1	Manual open 1/2~1
Dies	(1/2 X 3/4) (1) One set each	(1/2 X 3/4) (1) One set each
Thread cutting oils	0.5ℓ × 4	
Hexagonal keys	3mm, 5mm 2ps	

table 2

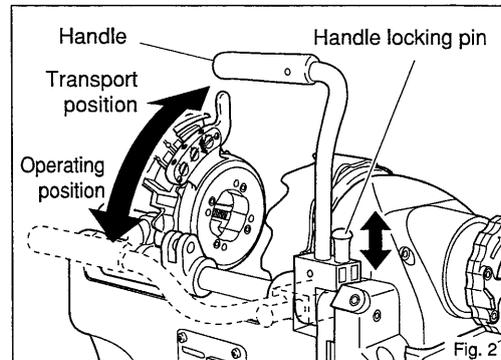
Getting Ready

1. Transporting the Machine (Fig. 2)

- There is no need to drain the cutting oil before moving and transporting the machine.
- (1) Place a pipe firmly in the chuck and secure it by lowering the cutter and gently turning the cutter handle. This will keep the carriage in place.
- (2) Lift the handle. The locking pin will fall into the locked position and the handle will lock.
- * To lower the handle, lift the locking pin and at the same time pull down the handle.

CAUTION

- Before transporting the unit, check to make sure the handle is locked.
- Before cutting threads or the like, make sure the handle is in the operating position as shown in Fig. 2.

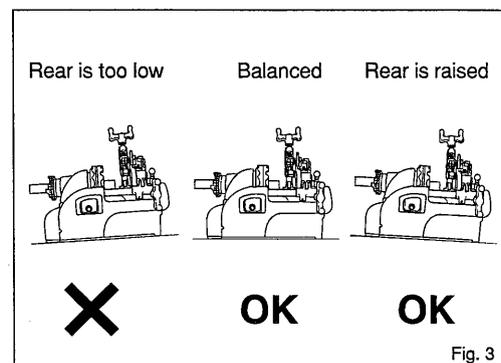


2. Positioning the Machine (Fig. 3)

Place the machine so that the rear section is raised.
(Even when placed on a flat surface, the unit is designed so that the rear section will be slightly raised.)

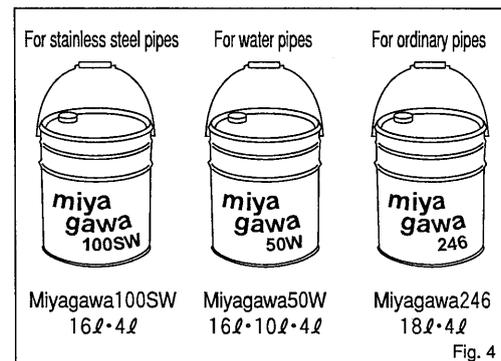
CAUTION

If the rear scroll end is low, oil will drain out of the rear of the pipe, etc., soiling the floor and wasting oil.



3. Oil (Fig. 4)

- Fill the tank with the thread cutting oil provided with the unit. Be sure to use REX genuine thread cutting oil.
- For stainless steel pipes Miyagawa 100SW (black can)
- For water pipes Miyagawa 50W (blue can)
- For ordinary pipes Miyagawa 246 (red can)



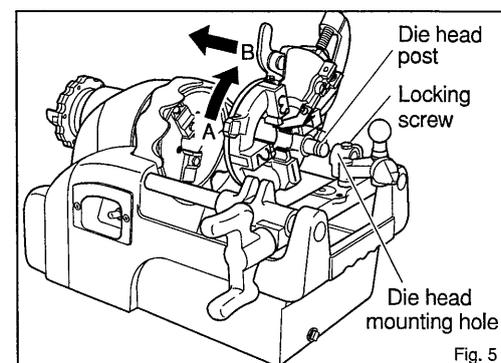
4. Attaching and Removing the Die Head (Fig. 5)

Removing the die head

- (1) Loosen the locking screw on the carriage.
- (2) Lift the die head slightly in the direction of arrow A, then pull straight out in the direction of arrow B. If the cutter is in the way, move the cutter up out of the way.

Attaching the die head

- (1) Attach the die head, using the removal process in reverse.
- (2) Screw in the locking screw until it comes in contact with the die head post, then turn it back 1/2 turn and lock it in place with the nut.
- (3) Check to make sure the die head turns smoothly.



Getting Ready

5. Operating the Self opening Die Head

Names of Parts

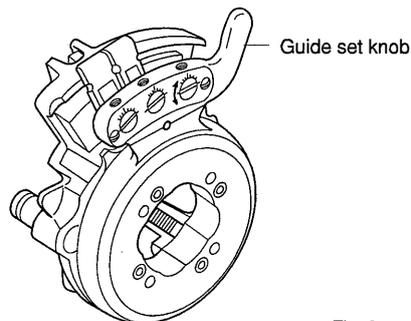
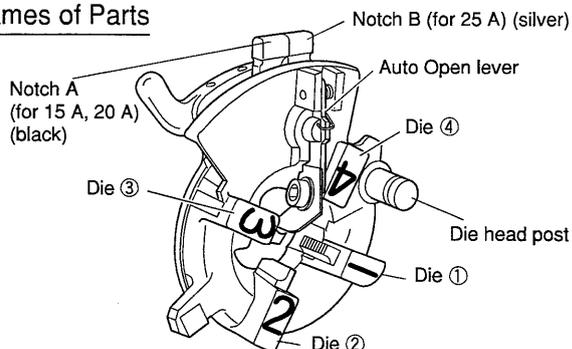


Fig. 6

Setting the Thread Cutting Size

- The die head supplied with standard units can accommodate three pipe sizes: 15A, 20A and 25A. For 15A and 20A pipes, insert the 15 A (black) or 20A (black) eccentric pins into the black A 15A,20A notch. For 25A pipes, the 25A (silver) eccentric pin into the 25A silver notch. (In this case, the die must also be changed.)

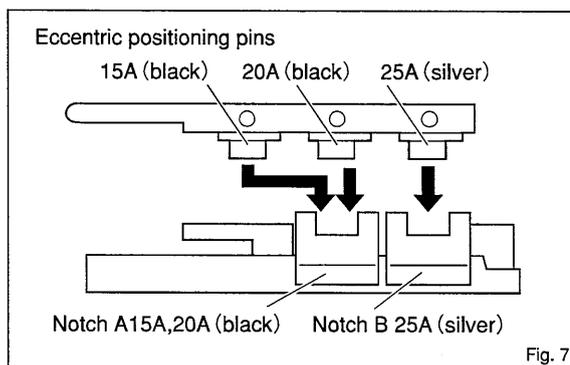


Fig. 7

Changing Dies

- The screw pitch is different for 15A, 20A and 25A, so when the notch positions are changed, the die must also be changed. You should also use the following procedure to change the die when it is worn and needs to be replaced.

- Push up the auto-open lever to open the die head.
- Remove the positioning pins from the notches and pull the guide set knob in the direction indicated by the arrow to enable Dies 3 and 4 to be removed.
- Lift the die head over to remove Dies 1 and 2.

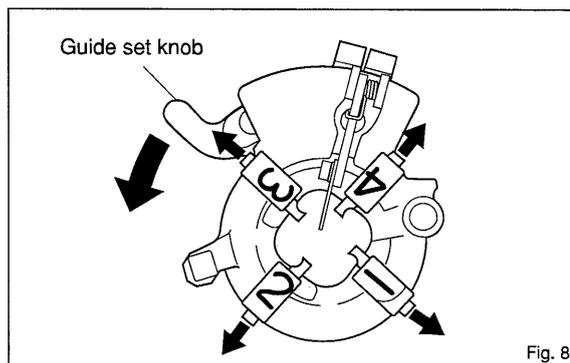


Fig. 8

Die Head Compatibility

- The NS25A can accommodate the six types of die head shown below.

Die Head			Dies		
NS25AD	1/2-1 (NS25A III standard accessory)	Code No.290125	N20AC	1/2-3/4	No.16P407
			S25AC	1	No.160025
N20AD	1/2-3/4 (N20A II standard accessory)	Code No.294010	N20AC	1/2-3/4	No.16P407
S25AD 1/2-1	(S25A II standard accessory)	Code No.290025	N20AC	1/2-3/4	No.16P407
			S25AC	1	No.160025
N20AD 1/4-3/8		Code No.294000	N20AC	1/4-3/8	No.16P000
N25MD (BSPT/C)	1/4-1 (NS25A standard accessory)	Code No.295250	N20AC	1/4-3/8	No.16P000
			N20AC	1/2-3/4	No.16P407
			S25AC	1	No.160025
			C19-25		No.161612
			C31-39		No.161613
N25MD 1/4-1 (BSPT/W)		Code No.295254	N20AC	1/4-3/8	No.16P000
			N20AC	1/2-3/4	No.16P407
			S25AC	1	No.160025
			W 3/8		No.166720
			W 1/2		No.166721
			W 5/8		No.166722
			W 3/4		No.166723

table 3

Getting Ready

■ Attaching the Dies

- (1) Use the removal procedure in reverse to attach dies to the die head. Insert the dies into their corresponding die groove on the die head and push them in until they click into place on the notch.
- (2) Push up the guide set knob.
 - ※Make sure the die number matches the groove number on the die head. Threading will not be possible if the wrong die is inserted into the die groove.
 - ※Dies come in sets of four. When replacing dies, be sure to replace all four at the same time.
 - ※If it is difficult to pull up the guide set knob, move the die up and down slightly and try again.

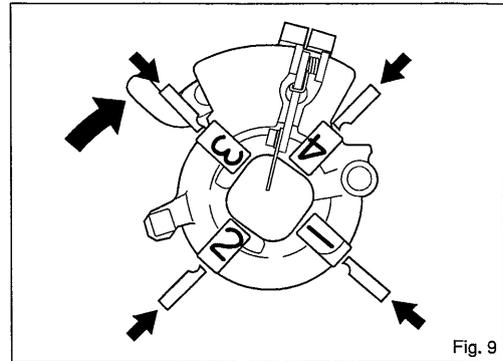


Fig. 9

■ Adjusting the Thread Length

- (1) Push the auto-open lever to open the die head, then loosen the lever stop bolt slightly.
- (2) To increase the thread length, move the lever stop toward the reamer. To decrease the thread length, move the lever stop toward the cutter.
- (3) Fasten the lever stop bolt tightly.

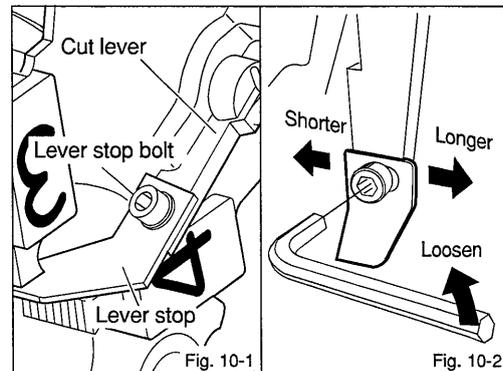


Fig. 10-1

Fig. 10-2

■ Adjusting the Thread Diameter

- The thread diameter can be adjusted for each pipe size.
 - (1) Loosen the eccentric pin lock bolt slightly.
 - (2) To increase the thread diameter, turn the eccentric pin to the + side (clockwise). To decrease the diameter, turn the eccentric pin to the - side (anti-clockwise).
 - (3) When the adjustment is complete, retighten the eccentric pin locking bolt.

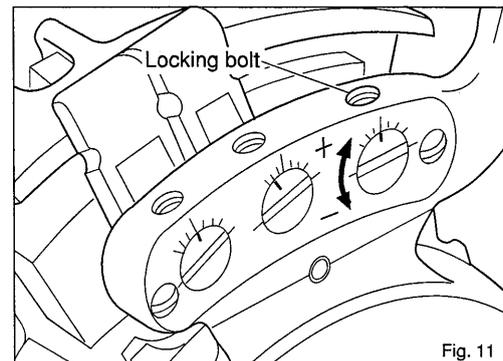
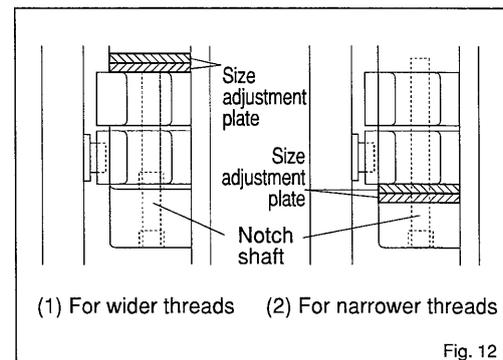


Fig. 11

■ Adjusting the Thread Diameter Using a Size Adjustment Plate

- If the thread diameter cannot be adjusted properly even when the positioning pin is turned all the way, use the following procedure to replace the size adjustment plate.
 - (1) Using a flathead screwdriver, loosen the notch shaft.
 - (2) Holding the positioning notch in place, remove the notch shaft.
 - (3) Remove the positioning notch, being careful to make sure the pin and spring beneath do not come out.
 - (4) Insert one of the size adjustment plates shown in Fig. 12 (1) and (2).
 - (5) Insert the spring and pin in the proper hole on the cutting block and hold them in place with the positioning notch.
 - (6) Pass the notch shaft through the cutting block and then place the positioning notch and size adjustment plate in position.
 - (7) Using a flathead screwdriver, fasten the notch shaft securely in place.



(1) For wider threads (2) For narrower threads

Fig. 12

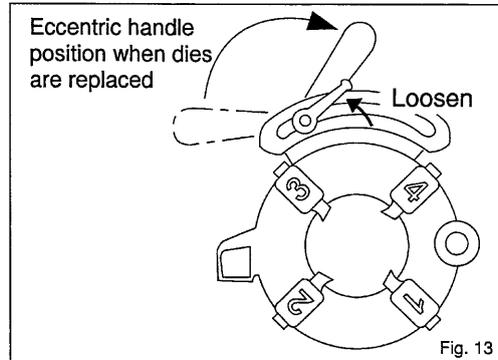
Getting Ready

6. Operating the Manual open Die Head

■ Removing the dies

Remove the die head from the carriage with the eccentric handle in the threading position, loosen the lever nut and push the handle over to the far left. In this position, all the dies are easily removable.

Dies are made in a set of four pieces, be sure to replace and use them together as a set.

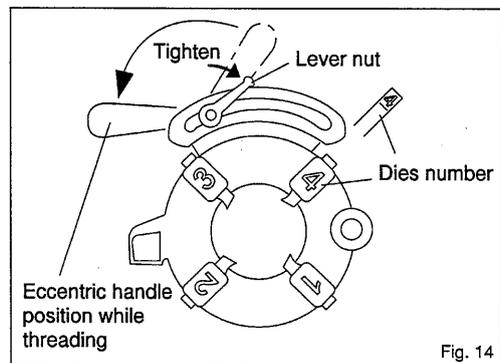


■ Replacing the dies

Replace the dies in order and check that the handle moves freely. If not, one or more of the dies are incorrectly positioned, and they should be reinserted one by one.

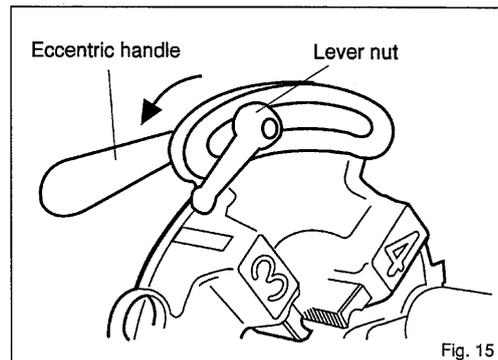
Be sure that the numbers on the individual dies match the numbers on the slots in the die head or the pipe will not be threaded properly.

After replacing the dies properly, set the die head on the carriage in position. Select size of thread to be cut, then start threading.



■ Points to watch During Threading

1. Before adjusting the size of the thread to be cut, bring the eccentric handle towards you, until it is in the position indicated in fig 15.
2. It is sufficient to lightly tighten the lever nut by hand.
3. Adjustment of the thread size can be simply made with the lever nut. Move it towards you to increase, and away to decrease, the thread size.



Getting Ready

Note: When operating the unit, make sure the handle is in the lowered position ("Operating position" in Fig. 2 on Pg. 7).

7. Inserting and Removing Pipes (Fig. 16)

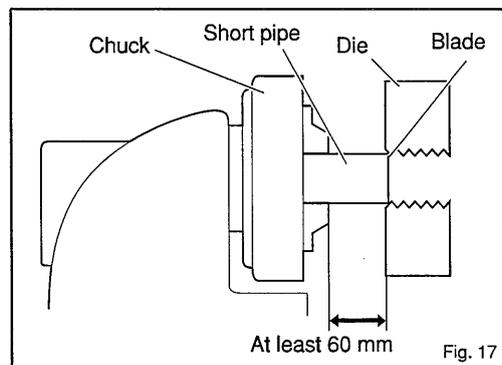
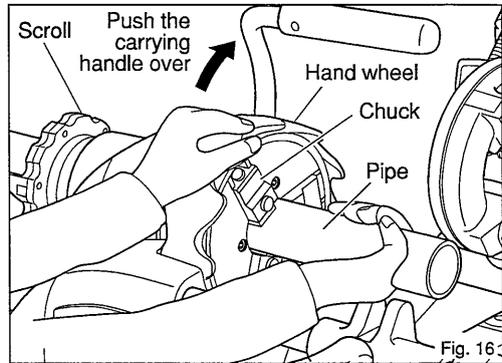
⚠ WARNING

During operation and immediately after the switch has been set to the OFF position, when the machine is still rotating, do NOT attempt to insert or remove pipes. This could result in an accident or serious injury if you should become caught in the machinery. Before inserting or removing pipes, check to make sure that the machine has stopped moving completely, and remove the power plug from the outlet. Accidents or injuries may result if the unit should begin operating unexpectedly.

- (1) Open the scroll and chuck to a position wider than the pipe diameter, then insert the pipe from the scroll end. (If the pipe is short, insert it from the chuck end.)
- (2) Close the scroll and then, supporting the pipe with your right hand, close the chuck gently with your left hand and align the tip against the pipe. Then fasten the pipe securely in place.
- (3) To remove the pipe, turn the hand wheel in the opposite to loosen the chuck. Then loosen the scroll and remove the pipe.

■ Attaching Short Pipes for Thread Cutting (Fig. 17)

Clamp the pipe lightly with the chuck and, using the blade of the die, support the end where threads will be cut. Then once again pull the hammer chuck toward you to fasten the pipe tightly in place. This will ensure that the pipe does not vibrate and threads are cut smoothly. However, be sure to fasten the pipe with the chuck no closer than 60 mm to the tip end of the chuck.



■ Attaching Long Pipes (Fig. 18)

When cutting threads on long pipes, use a pipe support to ensure that the pipe does not vibrate due to warping as it rotates, and further to ensure that the machine does not become unstable due to the weight of the pipe.

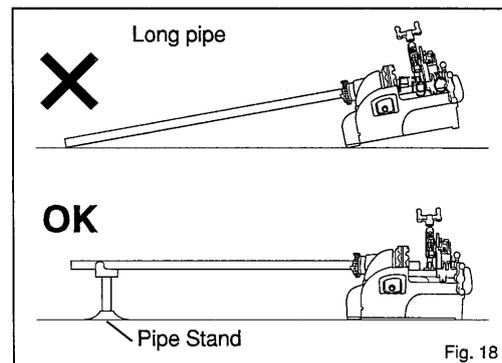
REX Pipe Support
Designed to hold long pipes steady during cutting



Fig. 19

⚠ WARNING

Failure to use a pipe support may make proper threading impossible and may result in damage to the equipment, accident or injury.

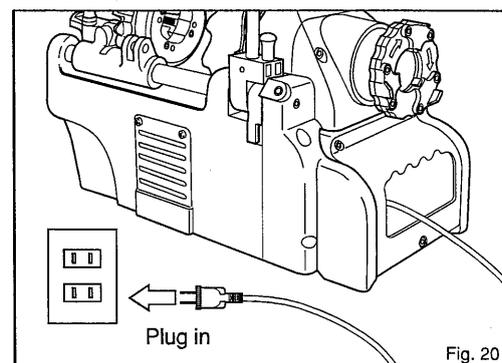


8. Power Supply (Fig. 20)

Plug the machine into a power supply that matches its specifications. If the cable cord included with the unit is too short to reach the socket, connect a short, fat cord to the machine from somewhere with a large electrical capacity. If a long, thin cord is used to connect the unit to the power source, the machine may sometimes stop operating.

⚠ WARNING

Make sure the unit is grounded properly before attempting to use it. Failure to do so may result in electric shock. When using a grounded socket, remove the grounding adapter before plugging the unit into the socket.



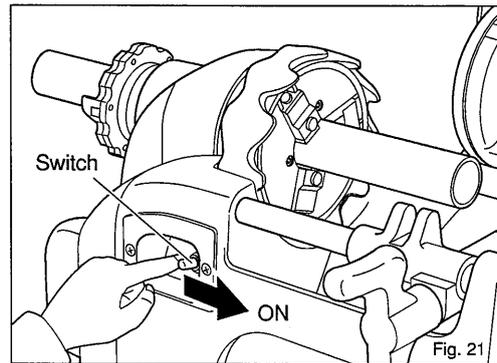
Getting Ready

⚠ WARNING

Before cutting or threading pipes, be sure to check the following. If anything is out of the ordinary, consult the Troubleshooting table and take the appropriate action as noted in the table. Failure to check and resolve problems may result in accident or injury.

9. Pre-Operational Inspection

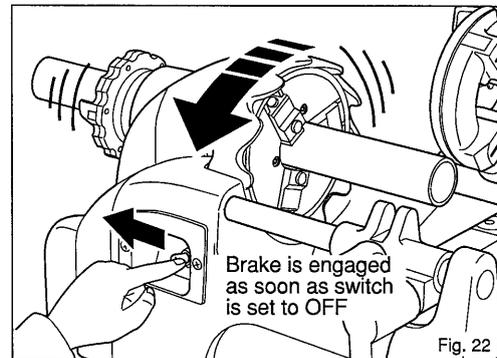
- (1) Set the switch to the ON position to set the spindle in motion.
 - Make sure there is no abnormal noise or odor coming from the motor.
 - Make sure the pipe is not vibrating. If the pipe is vibrating, etc., fasten it in place again.
 - Make sure the threading oil flows correctly from the die head and that the oil flows on to the dies. Also, make sure there is sufficient oil in the tank cover the strainer completely.
- (2) Let the machine idle for a few minutes.
 - Make sure the motor does not heat up excessively, etc.
- (3) Set the switch to the OFF position to stop the motor from turning.
 - Make sure the unit stops rotating immediately.
For enhanced safety, the motor in this unit is equipped with a brake. Be sure to familiarise yourself with the necessary precautions for operating the brake-equipped motor (outlined in the next section), and be sure to use it properly.



10. Motor (with brake)

The brake-equipped motor is designed to reduce the amount of time that the motor rotates after being turned off to a minimum, and to prevent accident or injury resulting from the unit starting up unexpectedly. This motor stops turning much more quickly than conventional ones.

However, under certain conditions the brake may fail to operate, or it may fail to operate properly. Read the following precautions carefully and be sure to use the unit properly.



● The brake may not operate properly in the following cases:

- When the carbon brushes are worn → Replace with new special carbon brushes of the designated type
- The motor gets overheated due to prolonged use → Wait for the motor to cool before resuming use
- Oxide film forms on motor → Let the motor idle for about 10 minutes

If the brake does not work properly even after the above measures have been implemented, have the unit repaired at your dealer or the nearest REX sales office.

⚠ WARNING

1. Before starting to use the machine, check to make sure the brake works properly.

- The brake should be engaged as soon as the switch is set to the OFF position. Under certain conditions, however, the brake may fail to operate, or it may fail to operate properly. Before starting to use the machine, check to make sure that the brake works properly, and wait until after it has stopped moving completely to begin the next operation.

2. Always use the recommended type of carbon brushes.

- The brake may fail to operate if other carbon brushes are used.

3. Store the unit where it will not be subjected to excessive humidity.

- Storing the unit in a humid location for long periods of time may cause an oxide film to form on the motor and prevent the brake from operating properly. Always store the unit in a place with low humidity.

Getting Ready

11. Cutting Pipes

- (1) As the die head and reamer will not be used when cutting pipes, lift them out of the way.
- (2) Determine the position at which the pipe is to be cut, then fasten the pipe securely.
- (3) Open the pipe cutter to a position wider than the pipe diameter. Place the pipe in the cutter as shown in the figure, aligning the blade with the cutting position on the pipe. Then use the handle to move the roller and blade until they rest lightly against the pipe.
- (4) Set the switch to the ON position, then turn the cutter handle up to 1/2 turn for each rotation of the pipe (Fig. 23). Avoid cutting with excessive force from the beginning, or the shape of the pipe may become distorted, preventing you from making accurate circular threads. Throughout the process, turn the cutter handle against the pipe lightly and evenly.

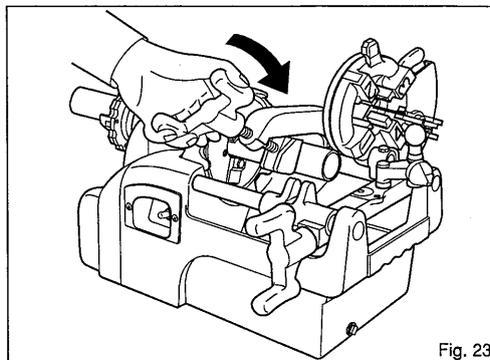


Fig. 23

CAUTION

Make sure the cutter is placed in the proper position before turning the pipe. If the cutter is improperly positioned, the pipe may suffer harmful scratches or the cutter may be damaged.

■ 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 Fig. 24

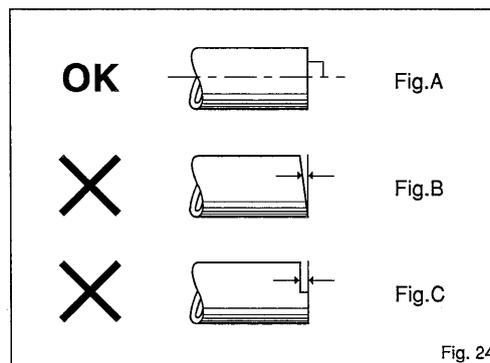


Fig. 24

Getting Ready

12. Chamfering

After cutting the pipe with the pipe cutter, be sure to use the reamer to chamfer the inside of the pipe before cutting threads.

- (1) As the die head and cutters will not be used when chamfering, lift them out of the way.
- (2) Pull the reamer knob to place the reamer in the chamfering position.

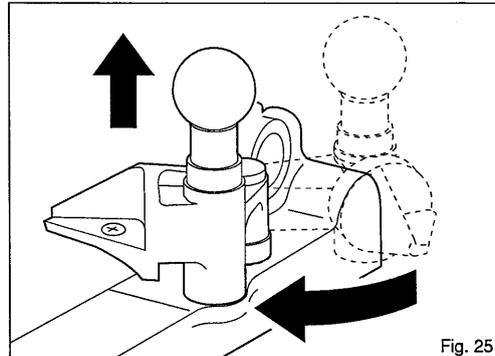


Fig. 25

- (3) Set the switch to the ON position to start the pipe rotating, then use the feed handle to place the reamer against the pipe. When the pipe has made at least one complete revolution, remove the reamer from the pipe. This completes the chamfering process. (Fig. 26)

⚠ CAUTION

Do not use excessive force to press the reamer against the pipe. This may produce harmful scratches in the pipe or damage the unit. The reamer blade is extremely sharp. NEVER touch it with your bare hands, as you may be seriously injured.

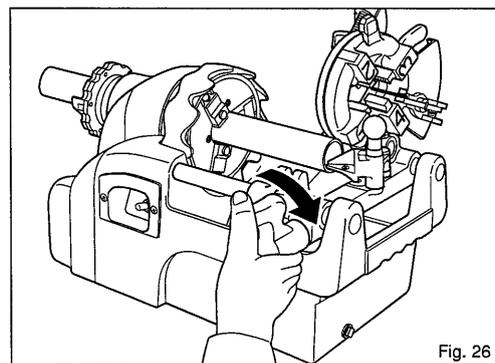


Fig. 26

● Before Cutting Threads

13. Carriage Protection Mechanism

Attempting to cut threads on pipes that are too short may cause the carriage to strike the headstock, warping or otherwise damaging the unit. Accordingly, the unit is equipped with a carriage anti-collision mechanism. This mechanism protects the machine by automatically stopping the motor just before the carriage strikes the headstock.

- (1) As the carriage nears the headstock, a rod is automatically pushed forward.
- (2) If the carriage moves any closer, the rod presses the switch, turning off the machine just before the carriage strikes the headstock.
- (3) The pipe end allowance is too short, so increase the end allowance and clamp the pipe again.

(See "Attaching Short Pipes for Thread Cutting" on Pg. 11.)

⚠ CAUTION

- Start the thread cutting process with the carriage to the right of the red line on the front support bar.

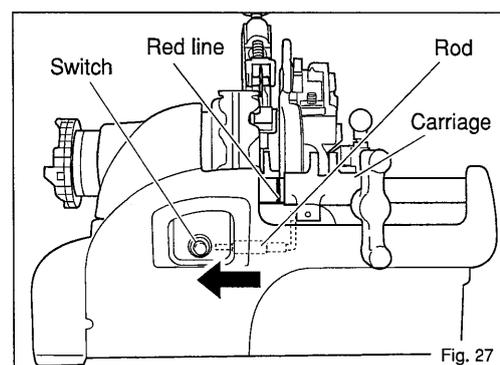


Fig. 27

Operation Guide

14. Cutting Threads

■ Self opening Die Head

- Lift the cutter and reamer and align the die head with the proper position. Also look over the unit to make sure it is safe to begin threading.

Note: Make sure the handle is in the lowered position ("Operating position" in Fig. 2 on Pg. 7) before beginning the cutting process.

- (1) Push up the guide set knob and align the die head to the proper position. Check to make sure that the unit is set to the desired size. (Fig. 28)

To change the size: (Fig. 29)

1. Push the positioning notch in the direction of arrow (1) in Fig. 29.
2. Align the positioning notch to the desired pipe size as displayed on the size indicator plate.
3. Push the positioning notch in the direction of arrow (3), and at the same time insert the positioning pin in the notch groove.

(If necessary, replace the die. See Pg. 8 for the replacement procedure.)

- (2) Set the switch to the ON position. Oil will be supplied from the die head automatically.
- (3) Turn the feed handle clockwise and press the die head against the pipe to allow the dies to begin cutting (Fig. 30).
- (4) Once three or four threads have been cut, the remainder will be cut automatically. When the prescribed thread length is reached, the dies will be released by the auto-open lever.
- (5) To complete the threading procedure, turn the feed handle anti-clockwise to release the die head from the pipe.
- (6) To continue cutting threads of the same size, lift the guide set knob and check to make sure that the die head is in the proper position each time before beginning the threading process.

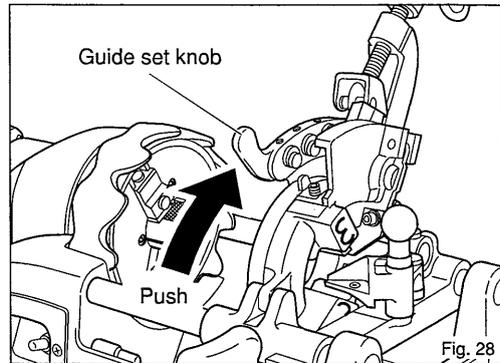


Fig. 28

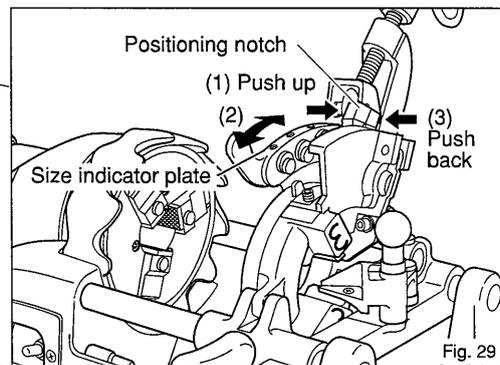


Fig. 29

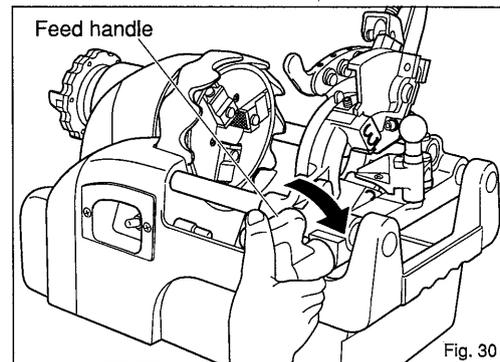


Fig. 30

■ Precautions when Threading (Fig. 31)

- (1) When first cutting the pipe with the die:
Place the blade of the die gently against the end of the pipe. Placing the blade against the pipe with excessive force may damage the die and shorten its life. When the blade comes in contact with the end of the pipe, initially press it lightly and turn the feed handle clockwise, then gradually increase the amount of force so the unit cuts firmly. When the die begins cutting the pipe, it will be caught and fed in of its own accord, even if no force is applied to the feed handle.

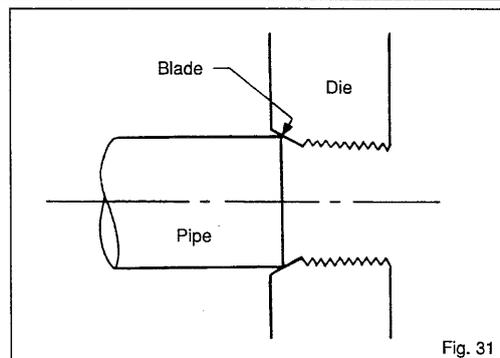


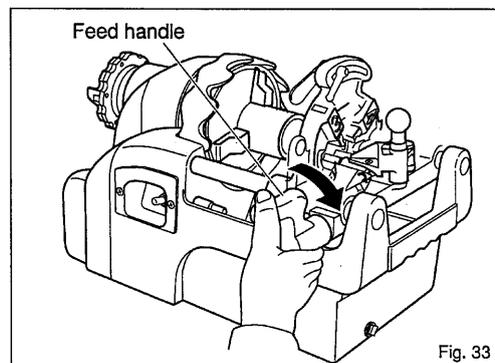
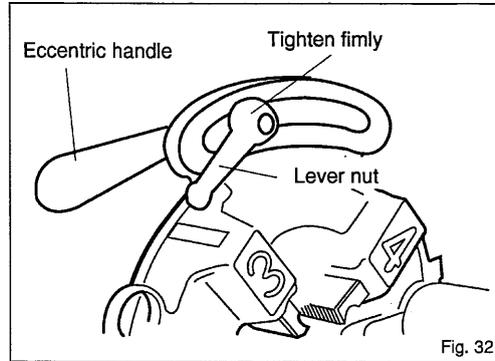
Fig. 31

Operation Guide

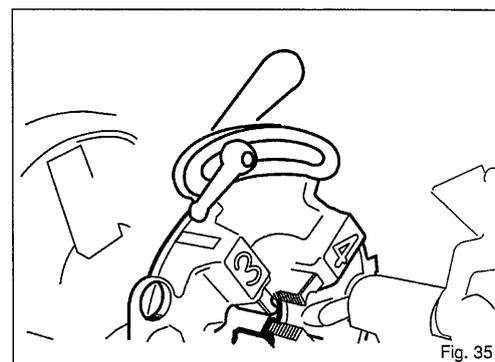
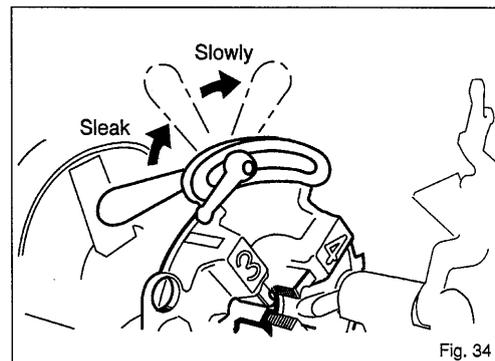
15. Cutting Threads

Manual open Die Head

1. Install the correct set of dies in the die head and fit the die head on the carriage.
2. Loosen the lever nut and set the index line to the desired thread size. Refasten the lever nut to lock in position.
3. When the die head is securely engaged press the switch to start.
4. Be sure the pipe is rotating forward. Turn the carriage handle clockwise to advance the die head towards the pipe. Be sure oil is flowing from the die head before starting to thread. (See oil flow adjustment knob.)



5. Apply clockwise pressure on the carriage handle until the dies engage the pipe to a distance of three or four threads. From this point the carriage handle may be released. A standard taper thread will be cut automatically. If the dies are opened too rapidly, a stepped edge may appear on the thread, so be sure to open the eccentric handle slowly and smoothly. Then move the handle in the direction as shown in fig. 34.
6. When threading is complete, switch off and move the carriage out of the way to the right. Then raise the die heads to the rest position. This action will automatically stop the oil flowing.



Daily Inspection & Care

⚠ CAUTION

- Before inspecting or performing maintenance on the unit, always set the switch to the OFF position and remove the plug from the outlet. If the unit is left plugged in, it may begin operating unexpectedly, resulting in injury.
- If you discover any problems during inspection or maintenance, look up the symptoms in the "Troubleshooting" table and take the appropriate action as noted in the table. Continued use of the unit without correcting the problem may result in heat, smoke or fire and lead to accident or injury.

1. Oiling the Pipe Cutter. (Fig. 36)

Be sure to apply spindle oil to the thread on of the cutter handle, blades and roller shafts once each day to maintain lubrication. This is extremely important; not only will it ensure that the tool cuts easily, it will also make its service life several times longer. (Fig. 36)

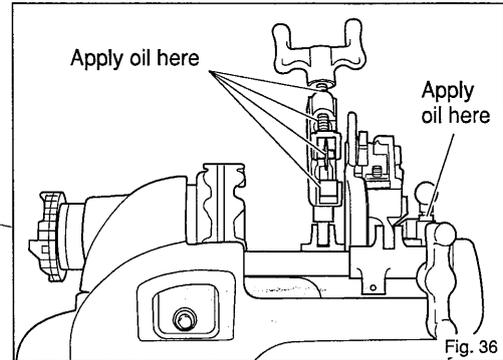


Fig. 36

2. Replacing the Carbon Brushes (Fig. 37)

- To protect the motor, this unit is equipped with two auto-stop carbon brushes. When these brushes get too worn, the motor will not operate even when the unit is turned on.
- Be sure to use the recommended type of carbon brush. Use of other brushes will impair braking performance.

⚠ CAUTION

- Be sure to replace both carbon brushes (A and B).
- Be sure to use the recommended type of carbon brush.
- When replacing the carbon brushes, always make sure the unit is stable. Trying to replace the brushes with the unit tilted is extremely dangerous, as the unit may topple or fall.

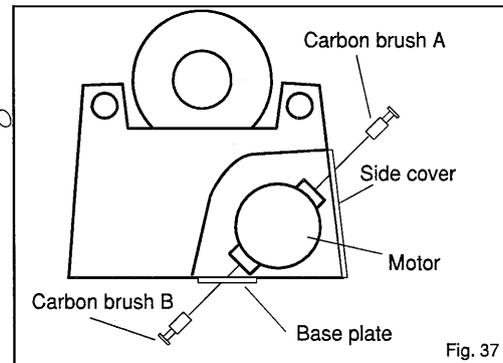


Fig. 37

■ Replacing the Carbon Brushes

Replacing carbon brush A (Fig. 38)

- Remove the side cover from the side of the unit and, using a flathead screwdriver, remove the carbon brush cap attached to the motor inside. Then replace the carbon brush.

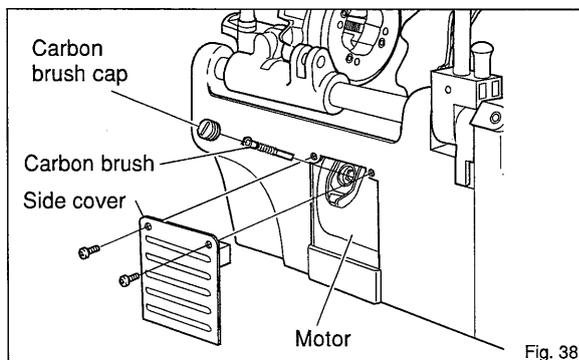


Fig. 38

Replacing carbon brush B (Fig. 39)

- Remove the bottom cover and, using a flathead screwdriver, remove the carbon brush cap attached to the motor. Then replace the carbon brush.

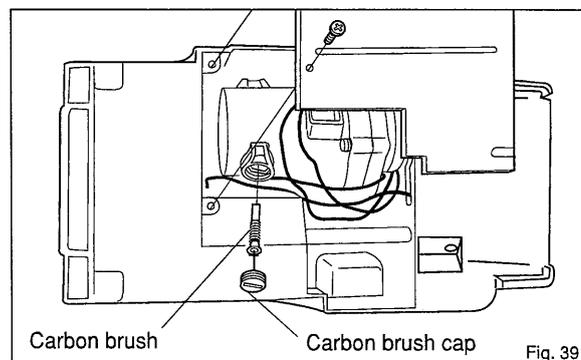


Fig. 39

Daily Inspection & Care

3. Cleaning the Oil Tank (Fig. 40)

The oil tank is designed to prevent fine chips and dust from being sucked into the oil pump. However, these fine chips and dust will collect in the tank, so the interior of the tank should be cleaned once a month. This will improve the flow of cutting oil and prolong the life of the pump.

The tank is designed to hold 1.5 liters of cutting oil. Use genuine REX cutting oil.

■ Procedure

- (1) Grasp the tank lid and the edges of the scrap receiver and pull up to remove.
- (2) Remove tank partition (A) and tank partition (B) and clean away any chips and dust sticking to them.
- (3) Remove the drain plug to drain the cutting oil from the tank.
- (4) When all of the chips and dust that have collected in the tank have been discharged, replace the drain plug. Then replace the tank partitions and fill with cutting oil.

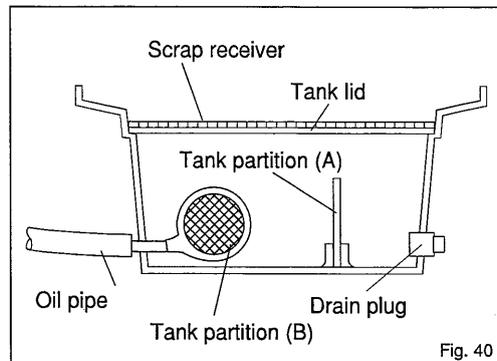


Fig. 40

4. Chuck Configuration and Care (Fig. 41)

The chuck jaw insert on the end of the chuck should be kept clean. Use a wire brush or the like to clean away any grime that clogs it. When the chuck jaw insert needs replacing, contact your dealer or a REX sales office.

Note: When replacing the chuck and chuck jaw insert, be sure to replace them with an NS25A model K chuck and model S chuck jaw insert.

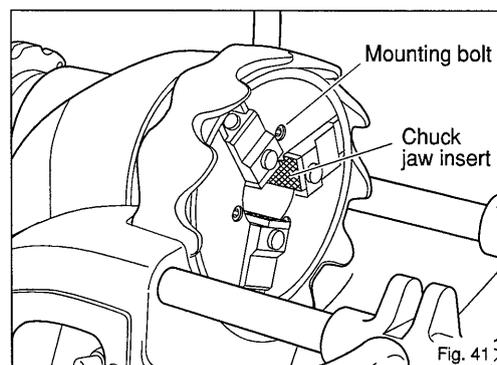


Fig. 41

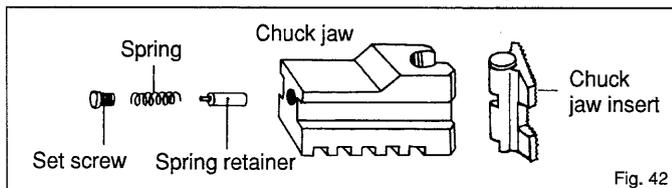


Fig. 42

Requesting repairs

This machine is produced with great precision; therefore, should the machine fail to operate normally, do not repair it by yourself, but call us for repairs.

If parts are required or if you have any questions, please contact us at your earliest convenience.

Before requesting repairs and services

If any abnormalities occur with the unit, examine the following and inform your sales agent or our sales division.

⚠ CAUTION

If any problems are not dealt with below, do not attempt to overhaul or repair the unit by yourself, but call our sales agent or sales division.
If repairs are performed by untrained or unskilled personnel, optimum performance cannot be attained, and accidents and injuries may occur.

Problem		Possible Causes	Corrective measures
The machine does not operate even when the switch is turned ON	If the motor is not running.	The power supply plug is disconnected.	Insert the power supply plug into the plug socket.
		The carbon brushes are worn out.	Replace with new ones according to the procedures on Pg.17.
		Voltage is low.	Check the voltage.
		The motor is burned out.	Repair is necessary.
		The switch is damaged.	Repair is necessary.
	If the motor is running.	The gear is broken.	Repair is necessary.
Rotation of the main shaft is defective.		Voltage is low.	Check the voltage.
		The motor is burned out.	Repair is necessary.
Not stopped immediately even in turning OFF the switch. The machine does not stop immediately even when the switch is turned OFF.		The carbon brushes are worn out.	Replace with new ones according to the procedures on Pg.17.
		The lead from the motor has become disconnected.	Repair is necessary.
Oil is not supplied correctly.		The amount of oil is low.	Replenish the oil.
		Tank is clogged with chips.	Remove chips in the oil tank.
		The die head is not fitted correctly.	Place the die head in the correct position.
Oil drips from the back of the pipe, etc.		The rear scroll is too low.	Raise the rear scroll.
The die head cannot be attached.		Chips are in the way.	Remove chips stuck to the die head fitting shaft and hole.
		A pipe on the tank top cover is in the way.	Remove the pipe, etc.
Moving parts do not move smoothly		Chips are clogging up the machine.	Remove chips.
The dies do not engage the pipe properly.		The dies are worn out.	Replace with new ones.
		The dies are chipped.	Replace with new ones.
		The dies have not been placed in the correct position.	Insert the dies according to the number on the die head.
Threads are of poor quality.	Thick, Thin	The die head is not adjusted correctly.	Adjust the die head according to the procedures on P.9.
	Long, Short	The die head is not adjusted correctly.	Adjust the die head according to the procedures on P.9.
		The dies are worn out.	Replace with new ones.
		The dies are chipped.	Replace with new ones.
		Thread cutting oil has deteriorated.	Replace with new thread cutting oil.
		The dies have not been placed in the correct position.	Insert the dies according to the number on the die head.

table 4

! Guarantee and Exemption from Liability

1. Should the machine happen to break down for no apparent reason, despite normal and correct use, repairs and service parts shall be provided free of charge as outlined below.

Repairs shall be provided free of charge for a period of one year from date of purchase. Dates, procedures and methods for providing repairs and service parts shall be decided in consultation with the customer.

After the one-year guarantee period, all repairs and service parts will be charged.

Repairs may be charged even within the guarantee period under the following circumstances:

- if the machine has not been used according to the instructions in the Operation Manual
- if it has been used for anything other than its intended purpose
- if it has not been repaired according to the Operation Manual or if it has been remodeled
- if blades or consumables need replacing
- if the machine has been handled in an inappropriate way.

2. REX will accept no responsibility under the following circumstances:

- if a malfunction or accident occurs as a result of fire, abnormal fluctuations in voltage, damage from flood, earthquakes, lightning or other natural disasters, war, conflict, riot, terrorism or pollution, etc.
- when the machine has not been operated according to the Operation Manual
- when the machine has been used incorrectly, repaired or remodelled inappropriately
- when a malfunction or accident results from using a thread made on the machine, or leaving it lying around and/or if it is exposed to the elements
- when a malfunction or accident results from using a thread produced on the machine either while or after connecting it to a joint.

3. Any costs incurred by the manufacturer shall not exceed the purchase price of the machine.

REX

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