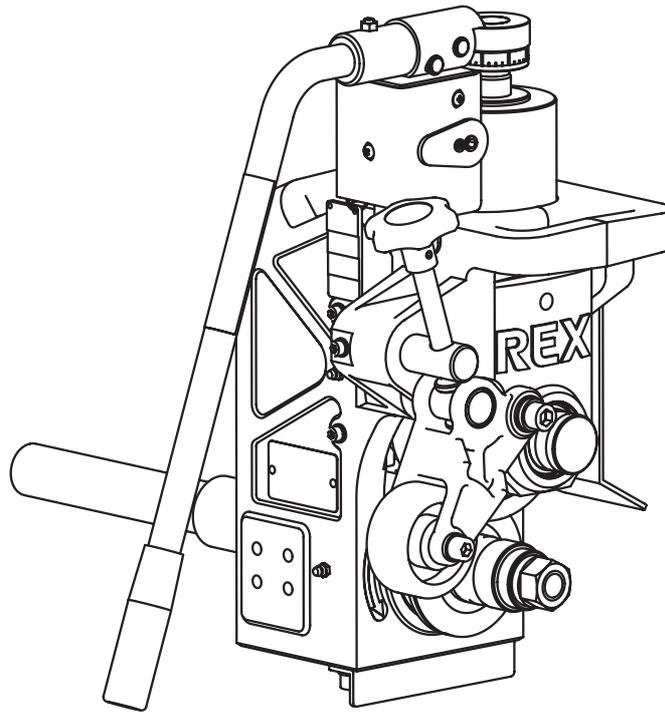


**REX**

ROLL GROOVER SERIES  
**Portable Groover H**

**OPERATION MANUAL**



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

**- Note -**

- Be sure to hand this operation manual to the user.
- Carefully read through the manual before using the machine to ensure safe and effective use.
- 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 your distributor or our sales department.
  - 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. in this manual may be different to the product you have purchased.
-

# 1. 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 thinner. Doing so could lead to fire or explosion.
- 5) Use designated accessories and attachments.
  - Do not use accessories and attachments other than those designated in the operation manual or our catalogues. 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 the machine does not operate smoothly or abnormalities such as unusual smells, vibration or noise are detected, immediately stop operating the machine.
  - Check symptoms against the items in Troubleshooting at the end of this manual, and follow the appropriate instructions.
  - If the machine is used continuously it might lead to overheating, smoke or fire, resulting in 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 worktable and the work site in good order, and well lit. A cluttered site and worktable are liable to cause accidents.
- 9) Do not let unauthorised personnel come near the machine.
  - Do not let anyone 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.
  - To assure safe and effective operation, operate according to the capacity of the main unit. Applying excessive force may not only cause damage to the product but also accidents.
  - Do not use the machine in the any way that could cause the motor to lock, or cause smoke or fire.
- 11) Wear neat clothing.
  - Do not wear neck ties, clothes with open sleeves, loose clothing or accessories such as chains, necklaces, etc., which could get caught in the rotating parts.
  - When working outdoors, it is recommended that you wear rubber gloves and non-slip shoes. Slippery gloves and shoes are liable to cause injuries.
  - Cover long hair with caps or hair nets to prevent them from getting caught in rotating parts.
  - Wear safety caps, safety shoes, etc. according to the working environment.

# 1. 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 how you handle and operate the machine and the surrounding conditions. Carelessness may result in accidents and injuries.
  - Do not operate the machine when concentration is lowered such as when tired, after drinking alcohol, when sick, affected by medicines, etc.
- 15) Handle the power 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 or objects with sharp edges.
  - Take care not to pull or tread on the cord, or apply unnecessary force resulting in damage to the cord. Doing so could lead to electric shock or a short-circuit resulting in 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 distributor or our sales department for repairs.
  - If an extension cord is used, inspect the cord periodically and, if damaged, replace it. If extension cords are used outdoors, use extension cords designed for outdoor use to prevent electric shock, short-circuit or fire.
  - Keep parts used for gripping the machine 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 the machines if the stop and start switches do not work.
  - In replacing or repairing a broken protective cover and other parts, follow the instruction manual.
  - If no instructions are specified in the instruction manual, ask your distributor or our sales department 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 distributor or our sales department 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.

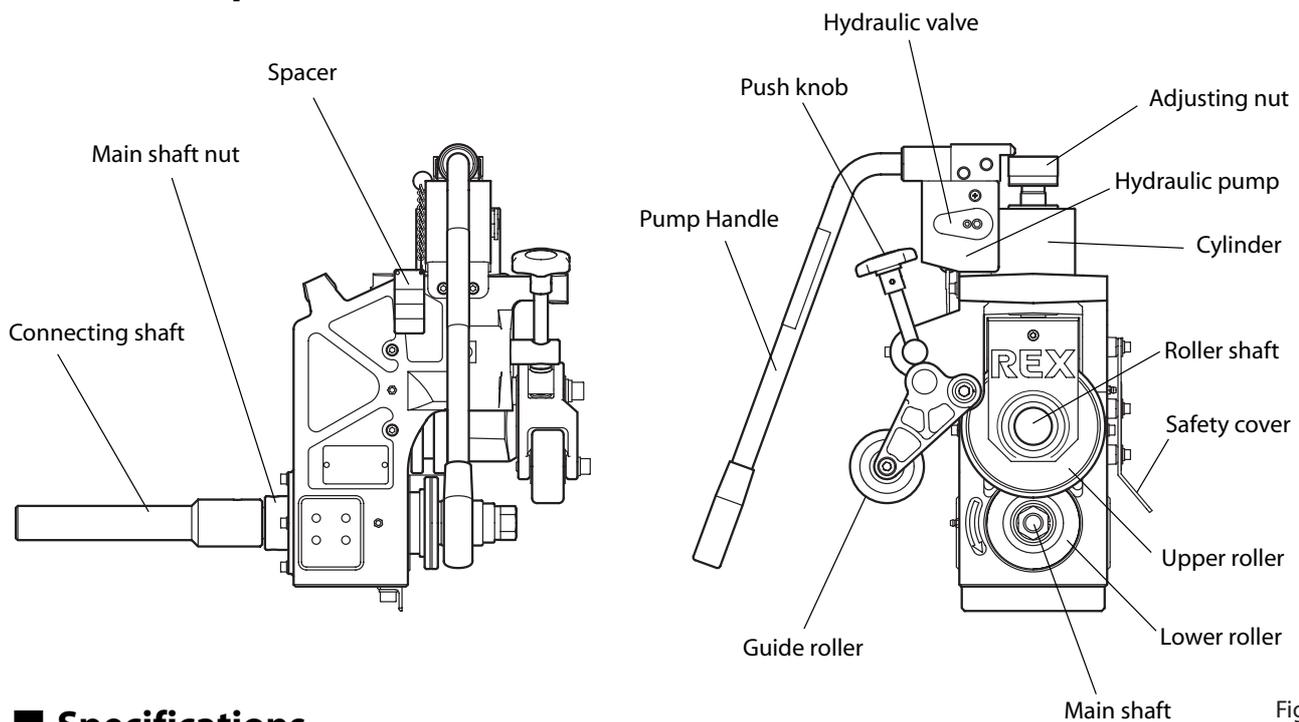
## 2. Precautions when using the Portable Groover H

### WARNING

- 1) Mount the groover on specified pipe threading machines that have been tested for safety. (See Table 1, Pg. 5) Do not attempt to use on any other machines.  
The correct rotational direction is the direction when threading.
- 2) Use the rollers that match the pipe. (Refer to Table 2 on Pg. 6)  
The standard roller set can be used only for 2" - 6" steel pipe (SCH 10-40). It cannot be used for thin wall stainless steel pipes or pipes of a different size. Since applicable sizes are marked on the rollers, replace the rollers according to the size of the pipe.
- 3) Never touch rotating parts or workpieces.  
To prevent injury to hands and fingers, do not touch rotating rollers and pipes with your hands.
- 4) Attach the mount kit that matches the pipe threading machine to be used. (See Table 1, Pg. 5)  
If a different type of mount kit is attached, it will not be possible to set it on the pipe threading machine correctly.
- 5) Make sure the threading machine rotates in the right direction.  
The direction for threading is the right direction. If it is in the reverse direction, the pipe will fall out, which can be very dangerous.
- 6) The pipe must be set correctly. (See Fig. 14, Pg. 10)  
Set the pipe so that it is in the right direction and at 0.5° to the axis of the machine's main shaft.  
If it is thrown into reverse, the pipe will fall out, which can be very dangerous.
- 7) Make sure you operate the handle on the hydraulic pump correctly. (See Table 5, Pg. 13)  
If you operate the handle too quickly, the pipe may be distorted and/or the machine will be damaged.
- 8) After completing the groove, be sure to check on the size of the groove with a groove gauge or calipers, etc. (See Table 6, Pg. 13, Roll Groove Standard Machining Size)
- 9) Be sure to place the pipe threading machine and pipe stand on a stable, flat surface.  
Avoid using the pipe threading machine and pipe stand in an unstable position or the machine and pipe may fall over.

### 3. Names of parts, Standard specifications, Accessories

#### Names of parts



#### Specifications

Model Name	RG-RH	
Grooving Capacity	1" - 16" Schedule 10 1" - 12" Schedule 40 Standard Model For 2" - 6" Schedule 10 - 40	
Net Weight (kg)	35.8kg (including connecting shaft)	
Standard accessories	Connecting shaft : 1 Socket head cap screw (M10 x 25) : 8 Spring washer (10mm) : 8	Hex wrench (8mm) : 1 T wrench (5mm) : 1 Spanner (30mm) : 1
Optional Accessories	1" - 1 1/2" Roller Set (Schedule 10 - 40) 2" - 6" Roller Set (Schedule 10 - 40): Also as standard accessory 8" - 12" Roller Set (Schedule 10 & 8" Schedule 40) 10" - 12" Roller Set (Schedule 40) 14" - 16" Roller Set (Schedule 10) 1" - 1 1/2" Main Shaft 1" - 6" Pipe Support 8" - 12" Pipe Support Roller set for thin wall stainless steel (1" - 1 1/2", 2" - 3", 4" - 6") Mount kit M-HR1 REX 50A (N50A, NP50A, NR50A, P50A, R50A) M-HR2 REX 80A (S80A, N80A, NP80A) M-HR3 REX 100A (N100A) M-HE1 #300 (#300) Spacer 1" - 6": Also as standard accessory Spacer 8" - 12" Spacer 14" - 16"	

Fig. 1

# 4. Setting Up

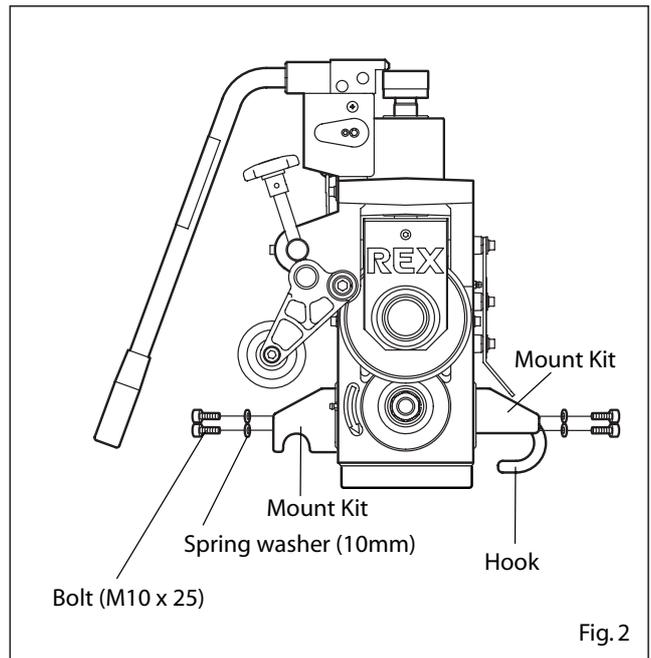
## 1. Setting Up

### 1) Attaching the Mount Kit:

Fix the mount kit to the main body securely with the eight bolts (M10 x 25) and their corresponding spring washers (10 mm). (Fig. 2)

#### ⚠ CAUTION

- Always attach the mount kit that matches the pipe threading machine used. The mount kit cannot be attached to the pipe threading machine correctly if a mount kit for a different type of machine is used. Which pipe threading machine it can be attached to is indicated on the mount kit. Attach the mount kit in the correct direction. (Fig. 2)
- If the mount kit is attached in the opposite direction, an unnecessary load will be applied to the threading machine's chuck, thereby resulting in damage.



**Table 1 Mount Kit**

Code No.	Name	For use with
341560	M-HR1 REX 50A	N50A, NP50A, NR50A, P50A, R50A, NPG150A (Cannot be used on the NT50.)
341561	M-HR2 REX 80A	S80A, N80A, NP80A
341562	M-HR3 REX100A	N100A
341563	M-HE1 #300	#300

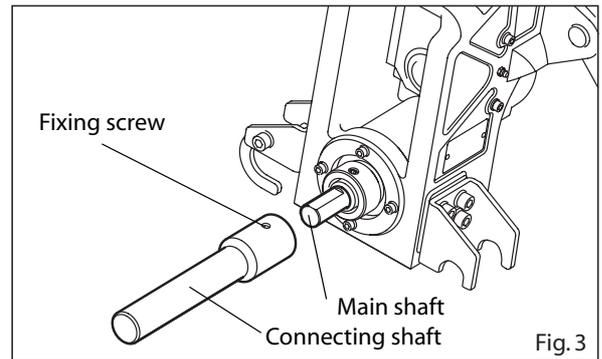
## 4. Setting Up

### 2) Attaching the Connecting Shaft:

- Place the connecting shaft fully over the main shaft, then fix it in position by tightening the two screws against the flat surface of the main shaft. (Fig. 3)

#### ⚠ CAUTION

- Be sure to tighten the screws against the flat part of the main shaft as illustrated. If the screws are tightened against the cylindrical part, they will come loose while grooving, and the main shaft will not turn properly.

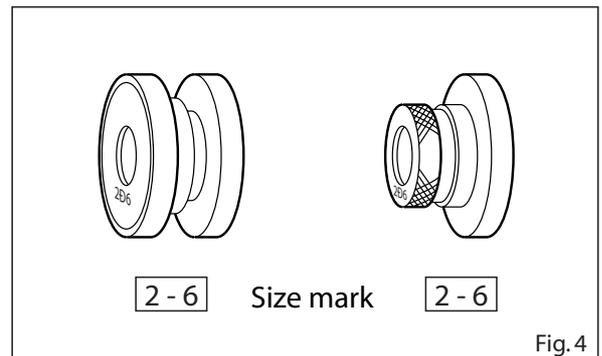


### 3) Replacing the Roller Set:

- The standard roller specifications are 2" to 6" for steel pipe.
- Where other sizes of steel pipes are to be machined, replace the roller set (upper and lower roller). The appropriate sizes are stamped on the roller. (Fig. 4)

#### ⚠ CAUTION

- Be sure to replace the upper and lower rollers as a set. If the wrong combination is used, correct grooving will not be possible.



**Table 2 Roller Set**

Code No.	Name	Mark	For use with
341113	1" - 11/2" Roller Set	1 - 11/2	Schedule 10 - 40 steel pipe
341133	2" - 6" Roller Set (Standard accessory)	2 - 6	Schedule 10 - 40 steel pipe
341111	8" - 12" Roller Set	8 - 12	Schedule 10, 8" Schedule 40 steel pipe
341137	10" - 12" Roller Set	Upper roller 8 - 12 Lower roller 10 - 12	Schedule 40 steel pipe (Maximum wall thickness : 10.3mm)
341138	14" - 16" Roller Set	14 - 16	Schedule 10 steel pipe
341118	SUS1" - 11/2" Roller Set	SUS 1 - 11/2	Thin wall stainless steel pipe Schedule 5 - 10
341119	SUS2" - 3" Roller Set	SUS 2 - 3	
341120	SUS4" - 6" Roller Set	SUS 4 - 6	

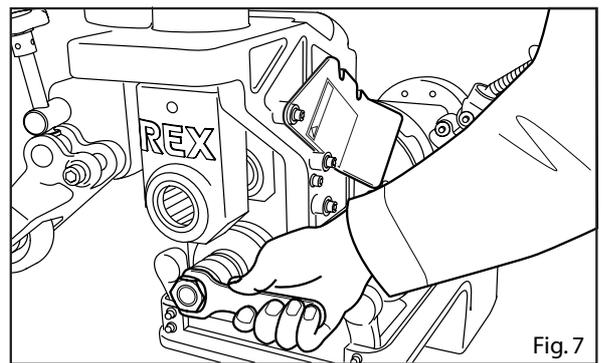
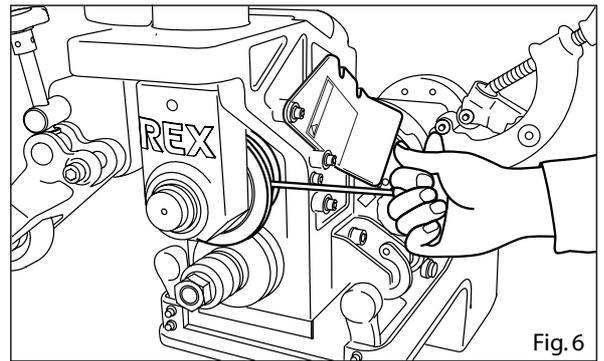
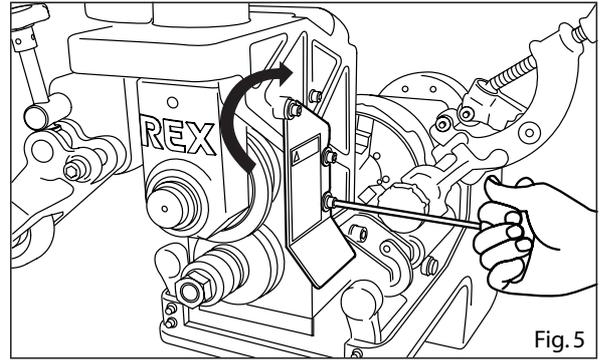
\*When using the 1" - 11/2" Roller Set (Code No. 341113), the main shaft (341141) for 1" - 11/2" rollers is required as a set.

# 4. Setting Up

## Replacing the Roller Set (Figs. 5, 6)

### ■ Removing the rollers

- 1) Loosen the bolts and turn the safety cover clockwise. (Figs. 5, 6)
- 2) Remove the upper roller by loosening the fitting screws on the upper roller and pulling out the roller shaft. (Fig. 6)
- 3) Pull out the lower roller by loosening the hexagonal nut on the main shaft and removing the washer. (Fig. 7)



### ■ Installing the rollers

(Apply the above procedures in reverse)

- 1) Match the key on the roller shaft with the key groove in the upper roller and firmly lock with the fitting screw.
  - 2) Insert the lower roller into the main shaft, and firmly lock with the hexagonal nut.
  - 3) Replace the safety cover and tighten the screws.
- \* Before setting up, clean the inside surface of the roller and the shaft of waste. Apply grease to the entire circumference of the upper roller shaft and the inside surface of the lower roller.

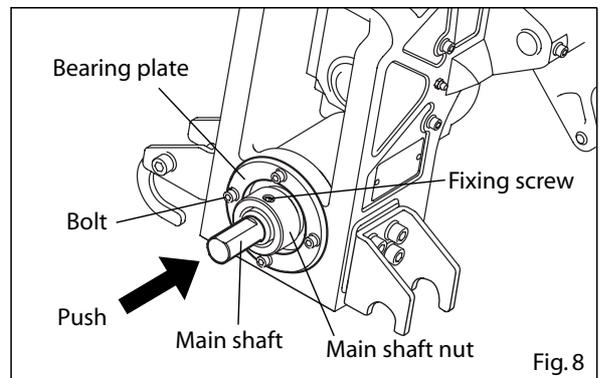
\* Be sure to change the upper/lower rollers as a set.

## Replacing the Main Shaft

Table 3 Main Shaft

Code No.	Name	Mark	For use with
341141	1"-11/2" Main Shaft	None	1"-11/2"

- 1) Remove the rollers in the order above.
- 2) Loosen the fixing screw on the main shaft nut, turn the nut anti-clockwise and remove from the main shaft.
- 3) Press the main shaft and remove from the main body.
- 4) Installation: Insert the main shaft into the main body. Then screw in the main shaft nut as far as it will go and tighten the fixing screw. Bearing plate, then tighten it firmly with the 4 bolts.



### ▲ CAUTION

- Clean the main shaft thoroughly with a cloth before setting up.
- Avoid letting iron powder or foreign bodies get inside the main unit, as this will damage the machine.

## 2. Attaching to the Pipe Threading Machine

### ⚠ WARNING

- Be sure to place the pipe threading machine and pipe stand on a flat stable surface. Avoid using the machine and pipe stand in an unstable position since they may fall over.

- 1) Fully open the front chuck.
- 2) Pull the carriage fully towards the front chuck. (Fig. 9)
- 3) Place the mount kit on the carriage support bar, and tightly secure the connecting shaft in the front chuck. (Fig. 10)
- 4) Place the hook over the carriage support bar and fix it in position. Tighten the bolt on the hook securely.

### ⚠ CAUTION

- Use the mount kit that matches the pipe threading machine you are using.
- Lift the machine with 2 people or use a hoist. The machine is heavy. Lifting it by yourself could result in injury.

## 3. Setting the Pipe

### ⚠ CAUTION

- The pipe to be machined should be cut square, have no step difference, and be free of deformities. If the pipe end is slanted or has a step difference, or if the pipe is deformed, it cannot be machined to the correct size of groove. (Fig. 11)

### ⚠ WARNING

- Use an appropriate pipe stand or there is a danger of the threading machine falling over or being damaged. (See Table 4, Pg. 9)

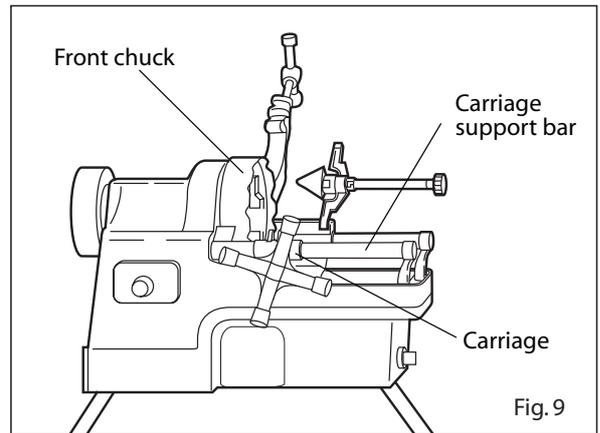


Fig. 9

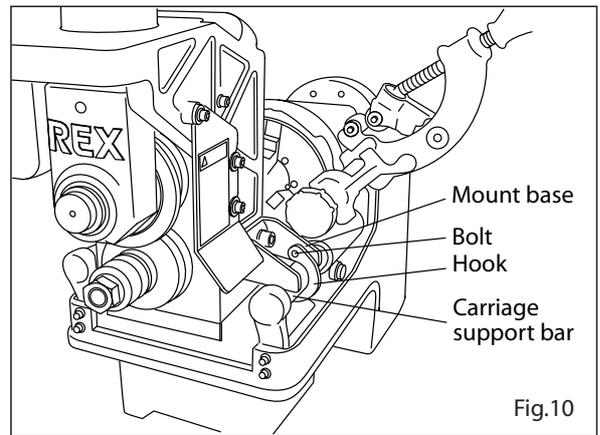


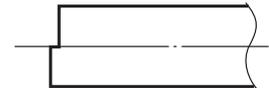
Fig. 10

The following pipes cannot be machined to the correct size:

- The pipe end is slanted.



- There is a step difference.



- The pipe is deformed.

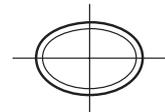


Fig. 11

# 4. Setting Up

Table 4 Machinable Pipe Length

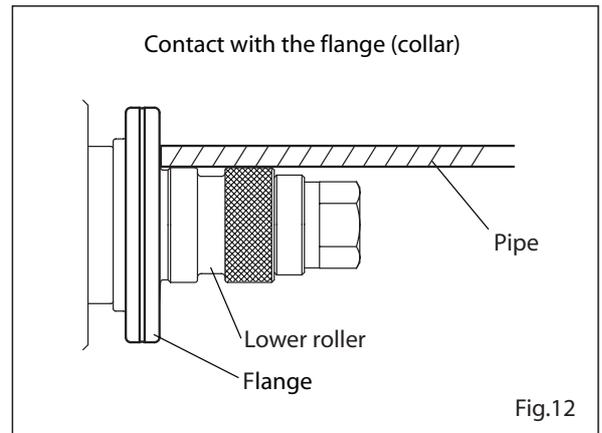
Pipe Size	Machinable Pipe Length (MIN)	Maximum Machinable Length of Pipe without a Pipe stand	Maximum Machinable Length of Pipe Using 1 Pipe Stand
1"-2"	120mm	800mm	2000mm
2 1/2"-4"	120mm	700mm	2000mm
5"-6"	120mm	600mm	1500mm
8"-16"	120mm	500mm	1000mm

### 1) Setting a pipe

- Insert the pipe to be machined until it comes into contact with the lower roller flange (collar). (Fig. 12)

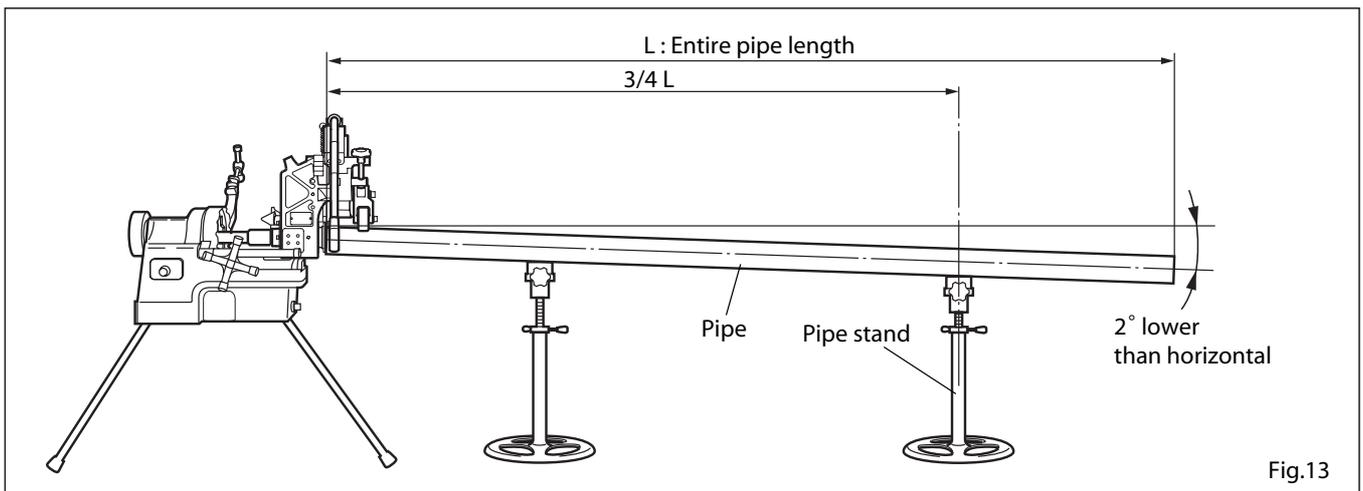
#### ⚠ WARNING

- If you use pipes longer than those shown in Table 4 above, use 2 stands to support the pipe. (Fig. 13)
- Failure to do so may result in the machine and pipe falling over, thereby causing an accident.



### 2) Pipe height adjustment

- Since the pipe threading machine is approx. 2° off horizontal, adjust the pipe stand height so that the pipe is 2 degrees lower. (Fig. 13)



## 4. Setting Up

### 3) Pipe shifting adjustment

- Adjust the pipe by shifting it  $0.5^\circ$  to the main shaft.

#### **⚠ WARNING**

- If the pipe is set straight on the main shaft or set in the opposite direction, it will come off while grooving and fall off, which could be dangerous.

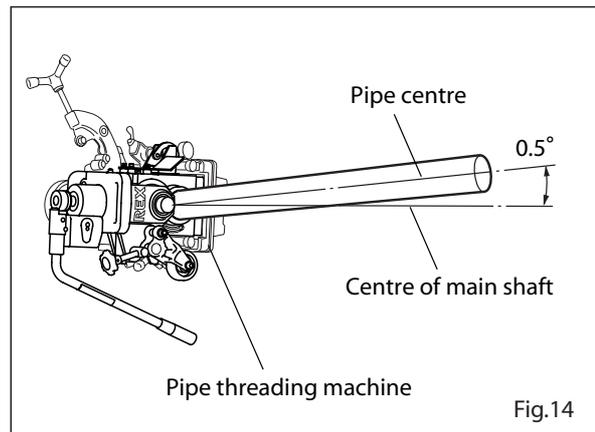


Fig.14

# 5. Operating Instructions

## 1. Operating the pump

- 1) Check that the hydraulic pump valve is in the ON position. (Fig. 15)
- 2) Lift the pump handle firmly in one go and the upper roller will be lowered onto the pipe. (Instant drop) (Fig. 16)
- 3) Keep lifting the pump handle up and down until you have finished processing the pipe. The upper roller will gradually press deeper into the pipe to create a groove. (Fig. 16)
- 4) When you set the hydraulic pump valve to OFF, the upper roller will return to its resting position. (Fig. 15)

## 2. Adjusting Groove Depth

- 1) Loosen the hydraulic pump valve, and pull the pump handle up firmly to engage the upper roller lightly with the pipe. (Fig. 17)
- 2) Place the spacer on the upper surface of the cylinder and lightly tighten the adjusting nut. (Fig. 18)
- \* Hold the spacer in position so that the thickness matches the size of the pipe you are working on. (Fig. 20)
- \* The spacer is used as a reference when adjusting groove depth. After an initial trial, use the adjusting nut to fine-tune to the appropriate groove depth.
- \* If the groove is too shallow, turn the adjusting nut anti-clockwise to increase the depth of the groove. Conversely, turn the nut clockwise to make the groove shallower.
- \* One sub-division of the larger divisions on the adjusting nut is equivalent to approximately 0.3 mm. (Fig. 19)
3. Loosen the hydraulic valve and remove the spacer from the cylinder.

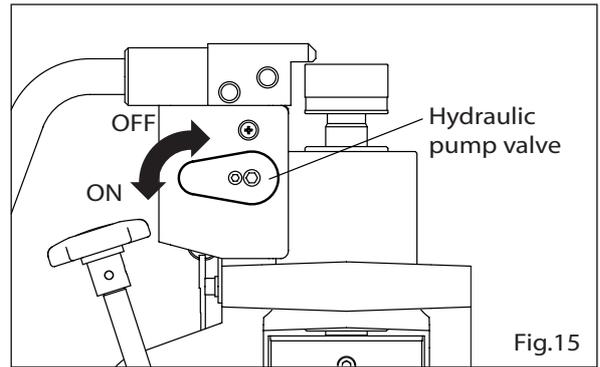


Fig.15

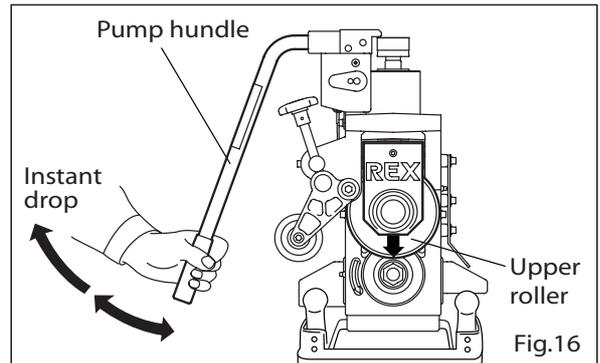


Fig.16

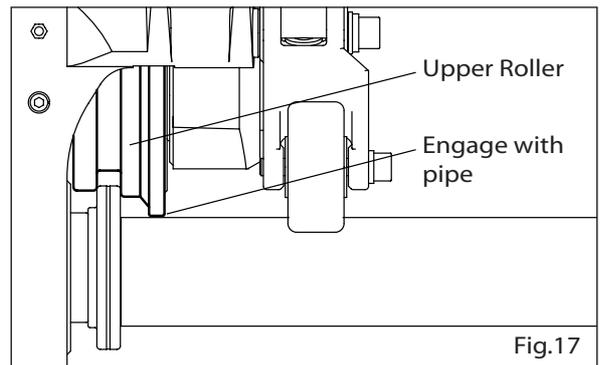


Fig.17

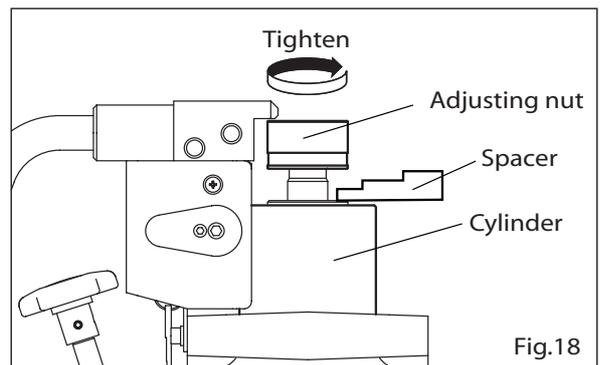


Fig.18

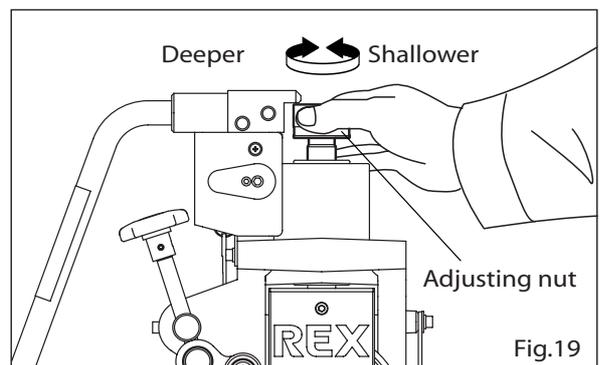


Fig.19

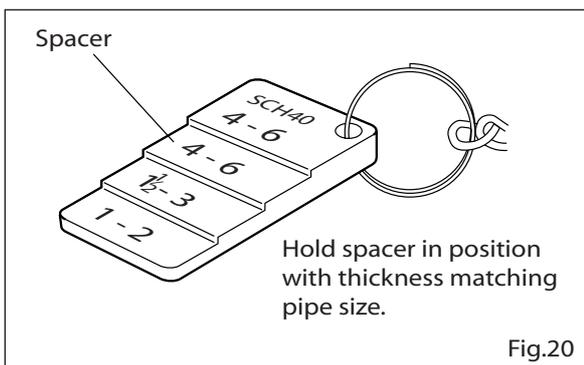


Fig.20

# 5. Operating Instructions

## 3. Grooving

1) Turn the hydraulic pump valve to the ON position, and pull the pump handle up quickly and firmly to engage the pipe lightly with the upper roller and then raise the pump again.

2) Turn the push knob on the guide roller to lightly engage the guide roller with the pipe. In this position, tighten the knob a further half-turn to push the guide roller against the pipe. (Fig. 22)

The amount you tighten depends on the pipe. Tighten lightly for thin pipes; more for thick or hard pipes.

Ascertain the most suitable amount you should tighten according to the pipe's size and material. If you tighten too much, the end of the pipe will flare; if not tightened enough, the pipe may fall out when working on it.

3) If the threading machine has a switch for changing directions, use in the forward (normal) direction position for cutting threads. (Fig. 23)

### ⚠ CAUTION

· If you use the machine in the opposite direction to threading (reverse), the pipe may fall out, which can be very

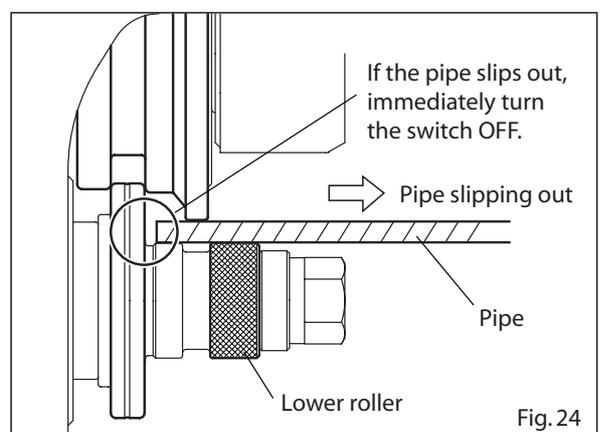
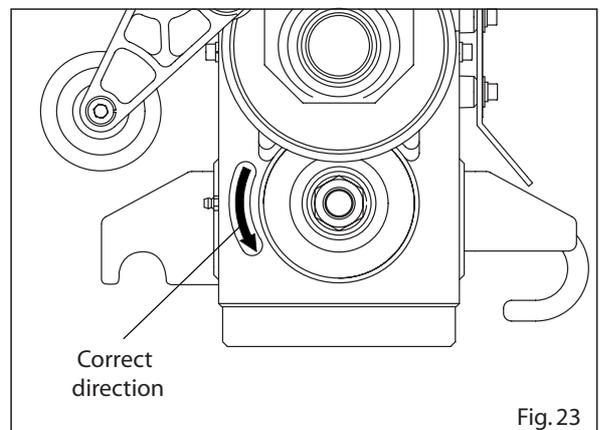
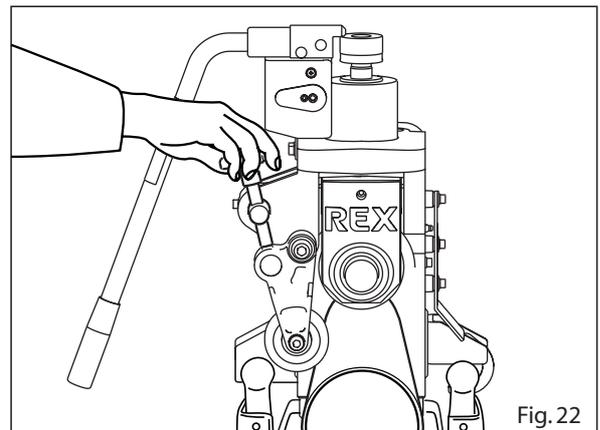
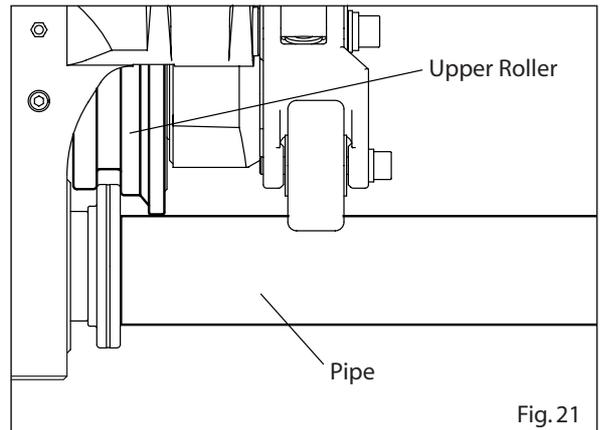
4) Turn the threading machine on to start the pipe rotating.

Allow the pipe to rotate several times to ensure that the pipe does not slip away from the lower roller flange.

### ⚠ WARNING

· Should the pipe slip off the lower roller, turn the threading machine OFF immediately to stop it rotating. If the pipe slips out while still rotating, the pipe will become detached from the lower roller and could fall out, which is very dangerous. (Fig. 24)

Loosen the hydraulic valve and reset the pipe. If the pipe slips out, shift the pipe a little more.



# 5. Operating Instructions

- 5) Use the hydraulic pump to start the grooving process. (Fig. 25)  
Refer to the table below for how to operate the pump safely.

Schedule 10	Push the handle once for each rotation of the pipe.
Schedule 40	Push the handle once for every two rotations of the pipe.

Table 5

If the handle is pushed too quickly, the pipe may become distorted and the machine may break down. Be careful to use the handle correctly.

- 6) As soon as the adjusting nut touches the upper surface of the cylinder, switch the machine OFF and stop pumping. (Fig. 26)

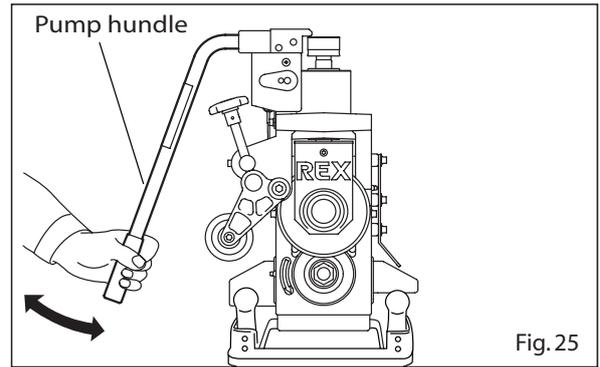


Fig. 25

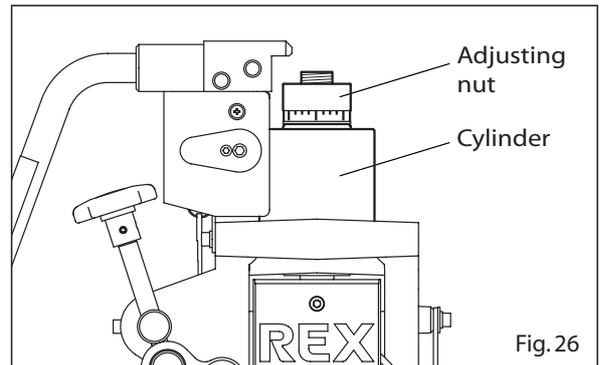


Fig. 26

## 4. Checking the dimensions

Be sure to check the depth of the groove and the dimensions of each part of the machined pipe according to Table 6 below.

### ⚠ CAUTION

- The specified size for each part of the pipe may differ slightly, depending on the joint.
- In such a case, make sure you check the machining size according to the specified size table for the joint used.

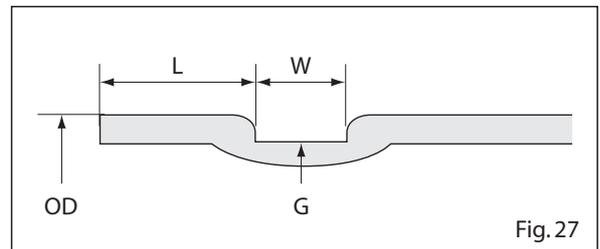


Fig. 27

Table 6 Roll Groove Standard Machining Size

Nominal		Pipe outer diameter (O.D)	Seal surface width (L)		Groove width (W)		Groove diameter (G)	
A	B							
25	1	34.0	16.0	+0.4 -0.9	7.1	±0.8	30.4	0 - 1
32	1 1/4	42.7	16.0	+0.4 -0.9	7.1	±0.8	39.1	0 - 1
40	1 1/2	48.6	16.0	+0.4 -0.9	7.1	±0.8	45.0	0 - 1
50	2	60.5	16.0	+0.4 -0.9	8.7	±0.8	56.9	0 - 1
65	2 1/2	76.3	16.0	+0.4 -0.9	8.7	±0.8	72.2	0 - 1
80	3	89.1	16.0	+0.4 -0.9	8.7	±0.8	84.9	0 - 1
100	4	114.3	16.0	+0.4 -0.9	8.7	±0.8	110.1	0 - 1
125	5	139.8	16.0	+0.4 -0.9	8.7	±0.8	135.5	0 - 1
150	6	165.2	16.0	+0.4 -0.9	8.7	±0.8	160.8	0 - 1

## 6. Before requesting repairs or servicing

If there are any abnormalities with the unit, check the following and inform your distributor or our sales department.

### ▲ WARNING

If any problems are not dealt with below, do not attempt to overhaul or repair the unit by yourself, but call your distributor or our sales department.

If repairs are performed by untrained or unskilled personnel, optimum performance cannot be attained, and accidents and injuries may occur.

### ■ Troubleshooting

Problem	Possible Causes	Corrective measures
<ul style="list-style-type: none"> <li>The width of the groove is too narrow or too wide.</li> </ul>	<ul style="list-style-type: none"> <li>The roller set doesn't match the pipe size.</li> </ul>	<ul style="list-style-type: none"> <li>Replace roller set with one that matches the pipe size.</li> </ul>
<ul style="list-style-type: none"> <li>The groove zigzags.</li> </ul>	<ul style="list-style-type: none"> <li>The pipe has been cut at an angle.</li> </ul>	<ul style="list-style-type: none"> <li>Cut the pipe at right angles.</li> </ul>
<ul style="list-style-type: none"> <li>The groove is not parallel with end of the pipe.</li> </ul>	<ul style="list-style-type: none"> <li>The pressure of the resin guide roller is too weak.</li> </ul>	<ul style="list-style-type: none"> <li>Retighten the push knob and engage the guide roller with the pipe a little more strongly.</li> </ul>
<ul style="list-style-type: none"> <li>The diameter of the groove is not consistent around the whole of the pipe.</li> </ul>	<ul style="list-style-type: none"> <li>The pipe is elliptical in shape.</li> <li>Speed of grooving is too fast.</li> </ul>	<ul style="list-style-type: none"> <li>Make sure the pipe is perfectly circular.</li> <li>Operate the pump a little more slowly.</li> </ul>
<ul style="list-style-type: none"> <li>The pipe end flare is too great (bell mouth).</li> </ul>	<ul style="list-style-type: none"> <li>Guide roller pressure is too strong.</li> <li>The roller set differs from pipe size.</li> <li>The pipe support is too high.</li> <li>The speed of grooving is too fast.</li> <li>The pipe shift angle is too large.</li> </ul>	<ul style="list-style-type: none"> <li>Loosen the push knob so that it contacts the guide roller more lightly.</li> <li>Replace the roller set with one that matches the pipe size.</li> <li>Adjust the height of the pipe support so that the pipe is 2° lower than the horizontal.</li> <li>Operate the pump a little more slowly.</li> <li>Adjust the pipe shift angle to 0.5°.</li> </ul>
<ul style="list-style-type: none"> <li>The pipe slips off the lower roller when grooving.</li> </ul>	<ul style="list-style-type: none"> <li>The pressure of the resin guide roller is too weak.</li> <li>The pipe shift is in the opposite direction.</li> <li>The threading machine is rotating in the wrong direction.</li> <li>The pipe is too straight on the lower roller, or the angle of the shift is too small.</li> <li>The pipe stand is too high.</li> </ul>	<ul style="list-style-type: none"> <li>Re-tighten the push knob and attach the guide roller to the pipe a little more strongly.</li> <li>Shift the pipe in the right direction.</li> <li>Correct the direction of rotation.</li> <li>Make the shift angle a little larger.</li> <li>Adjust the height of the pipe support so that the pipe is 2° lower than the horizontal.</li> </ul>
<ul style="list-style-type: none"> <li>The pipe slips while it is being processed and doesn't rotate smoothly.</li> </ul>	<ul style="list-style-type: none"> <li>The knurling on the lower roller is clogged up or worn.</li> <li>The speed of grooving is too fast.</li> </ul>	<ul style="list-style-type: none"> <li>Use a wire brush to clean up the knurling, or replace the lower roller as necessary.</li> <li>Operate the pump a little more slowly.</li> </ul>
<ul style="list-style-type: none"> <li>Operating the pump doesn't increase the depth of the groove.</li> </ul>	<ul style="list-style-type: none"> <li>The adjusting nut is too tight.</li> <li>The pump valve and/or packing are damaged, resulting in insufficient pressure.</li> </ul>	<ul style="list-style-type: none"> <li>Loosen the nut and process the pipe again.</li> <li>Ask for repairs.</li> </ul>
<ul style="list-style-type: none"> <li>Oil leaks from the hydraulic unit.</li> </ul>	<ul style="list-style-type: none"> <li>The cylinder packing is damaged.</li> </ul>	<ul style="list-style-type: none"> <li>Ask for repairs.</li> </ul>
<ul style="list-style-type: none"> <li>Groove depth is too shallow.</li> </ul>	<ul style="list-style-type: none"> <li>The pressure of the hydraulic unit is too weak.</li> </ul>	<ul style="list-style-type: none"> <li>Ask for repairs.</li> </ul>
<ul style="list-style-type: none"> <li>The upper roller doesn't go right down.</li> </ul>	<ul style="list-style-type: none"> <li>The hydraulic unit doesn't have enough oil.</li> </ul>	<ul style="list-style-type: none"> <li>Ask for repairs.</li> </ul>

## 7. Daily inspection, maintenance

### ▲ WARNING

Before carrying out any inspections or machine maintenance, make sure you unplug the threading machine. If the machine suddenly starts to operate while checking it, it may lead to accidents and injury.

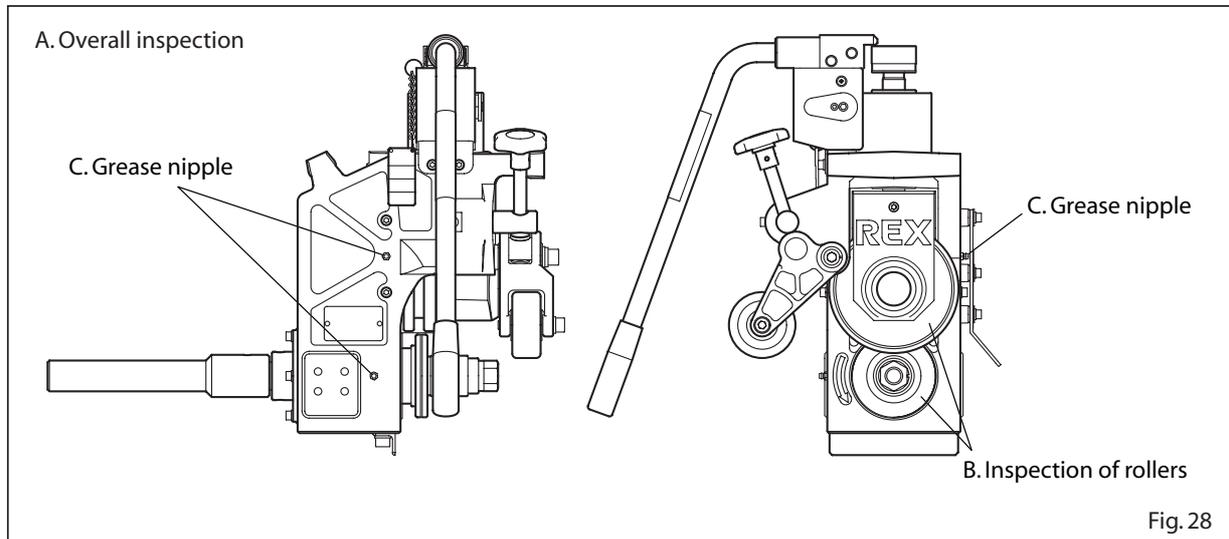


Fig. 28

#### 1) Inspect the fitting screws (A)

Inspect screws and nuts on each part of the machine, and retighten if loose.

Among other things, check the screws on the upper roller and the nuts on the lower roller.

If the screws are loose, the roller will be damaged.

Check that the screws on the mount kit are tightly fastened.

#### 2) Inspect the threading machine's electrical connections and cables (B)

Check for damage to the plug and power cord, and replace if necessary.

To prevent electrical leakage and shock, ensure the machine is properly grounded.

#### 3) Inspect the rollers (C)

Check that the rollers match the type of pipe being processed or normal grooving will not be possible.

Check for chips or cracks in the rollers. If they are damaged or broken, they will not perform correctly and the machine will be damaged. Replace them if necessary.

#### 4) Periodical lubrication (C)

To prevent burning or galling, be sure to lubricate regularly.

When replacing rollers, apply grease to the entire circumference of the upper roller shaft and to the inside of the lower roller.

Remove the upper roller every two weeks and replenish the bearings with grease.

Apply grease to the grease nipple on the side of the machine.

#### 5) Clean after use (A)

To prolong the life of the machine, be sure to clean the machine and the rollers each time after you use it.

## 8. 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.

## **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.
  - Guarantee period, repairing dates, procedures and methods for providing repairs and service parts shall be decided in consultation with the customer and distributor.
  - Repairs and service parts may be charged.
  - Repairs may be charged 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:
  - fire, damage from flood, earthquakes, lightning or other natural disasters.
  - malfunction or accident resulting from pollution or abnormal voltage.
  - when the machine has not been operated according to the Operation Manual.
  - when the machine has been used incorrectly, repaired or remodelled inappropriately.
3. Any costs incurred by the manufacturer shall not exceed the purchase price of the machine.

# **REX**

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