

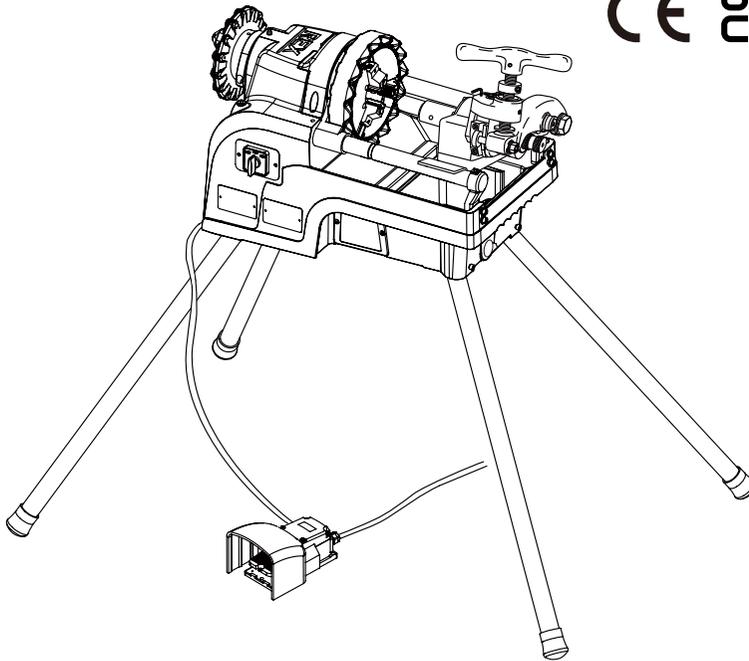
**REX**

GROOVING MACHINE

50/60Hz

# FPG150M

## OPERATION MANUAL



CE UK  
CA



Be sure to read both Operation Manual for FPG150M and for Portable Groover M packed in box 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 Operation Manual where the operator can refer to it whenever necessary.

Date of purchase:                      Year                      Month

Distributor / Dealer:



Thank you for purchasing a REX grooving machine.

Precision-engineered for grooving with our optional Portable Groovers, grooving steel pipes, our product will give you years of reliable service if you simply follow the instructions in this Operation Manual carefully. Before using the machine, make sure you read the Operation Manual from start to finish, paying particular attention to the Safety Considerations on pages 1 & 2 and Precautions on page 3. To avoid accident and injury, never use the machine for any purposes other than those described in this Operation Manual. Should you need further advice, contact your distributor, dealer or REX INDUSTRIES CO., LTD.

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## CONTENTS

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Safety Considerations .....	1
Precautions .....	3
Main Parts, Specifications, Standard Accessories .....	4
Getting Ready	
1. Transportation .....	5
2. Setting up .....	5
3. Power supply .....	5
4. Checks before starting / CE compliant switch .....	6
Operation Guide .....	7
Optional Accessories .....	8
Maintenance and Care	
1. Replacing the Carbon brushes .....	9
2. Structure and care of the Chuck jaw set .....	9
3. Wiring diagram .....	10
Servicing and Repairs .....	10
Troubleshooting .....	10
Explanation of Symbols .....	11

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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 labelled **⚠ 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, dealer or link to <http://www.rexind.co.jp/e/>

- 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 the Operation Manual may be different to the product you have purchased.

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# Safety Considerations

## ▲ 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 operating 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 moisture can easily get into the machine.
- Be sure to ground the machine to avoid electric shock.

### 4. Using Flammable Sprays.

- Flammable sprays (e.g. aerosols used to clean parts) must be used at a safe distance from the machine.
- When cleaning cut threads with an aerosol parts cleaner, ensure that you do so away from the machine as there is a risk of ignition or explosion from sparks generated when switching ON or OFF.

### 5. Take notice of conditions at the work site.

- Do not use the machine in rain, humid or damp places, or places where moisture 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. Fire or explosion might occur.

### 6. 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.

### 7. 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).  
If the machine is plugged in, it may start operating unexpectedly, causing accidents.

### 8. If any abnormality is noticed, stop operation immediately.

- If the machine does not operate smoothly, or abnormalities such as unusual odours, vibration or noise are detected, stop operating the machine immediately.
- Check symptoms against the items in the section entitled, "Troubleshooting" at the end of the Operation Manual and observe the corresponding instructions. If the machine is used continuously, overheating, smoke or fire might occur, causing accident or injury.
- If overheating or smoke from the unit occurs, do not attempt an overhaul yourself but ask for an inspection and repair.

### 9. 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.

### 10. Do not let unauthorised personnel near the machine.

- Do not let anyone other than authorised personnel touch the main unit or the power cord, or operate the machine.
- Do not let anyone other than authorised personnel enter the work site, especially children. Injuries might occur.

### 11. Do not use the machine with excessive force.

- To ensure safe and efficient operation, use within the capacity of the main unit. Applying force may not only cause damage to the product but could also result in accident or injury.
- Do not use the machine in any way that could cause the motor to lock, or cause smoke or fire.

## ▲ WARNING

### **12. Use the machine only for its designated purpose.**

- This machine is designed specifically to be used for REX Portable Groover M(RG-R1). Do not use the machine on pipes not specified in the Operation Manual. Using the machine for any purpose other than grooving pipes will not only damage the machine and/or motor but could also lead to accident or injury.

### **13. Wear appropriate clothing.**

- Do not wear neckties, clothes with unbuttoned sleeves, loose clothing, accessories such as necklaces, etc. Do up buttons and zippers which could get caught in the rotating parts and result in serious accident or injury.
- When working outdoors, it is recommended that you wear rubber gloves and non-slip shoes. Slippery gloves and shoes are liable to cause injuries.
- Do not wear scarves and 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.

### **14. Do not work in an unnatural posture.**

- Keep a firm footing and balance to avoid falling over and injuring yourself.

### **15. Remove tools such as wrenches.**

- Before turning the switch ON, 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.

### **16. Operate the unit with great care.**

- Always work with great attention to how you handle and operate the machine and to the surrounding conditions. Carelessness may result in accident or injury.
- Do not operate the machine when concentration is lowered such as when tired, after drinking alcohol, when sick, affected by medicines, etc.

### **17. Do not handle the power cord carelessly.**

- 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 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.

### **18. 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 dealer 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 dry and clean, and free of oil and grease. If your hands slip, you may be injured.

### **19. 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 and installation of parts and all parts affecting operation.
- Do not use machines with a damaged power cord or plug. Doing so may cause electric shock or a short circuit leading to fire.
- Do not use machines if the stop and start switches do not work properly. 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 distributor or dealer for repairs.

### **20. Store carefully when the machine is not in use.**

- Store in a dry place away from children and locked with a key.

### **21. 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 dealer 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.

# Precautions

## ⚠ WARNING

**1. Do not put your hands or face near rotating parts when the machine is in use.**

- You could get caught in rotating parts or hit by scrap, resulting in accident or injury.

**2. Do not perform the next job until rotation stops completely.**

- When you turn the switch off, rotation does not stop immediately. Perform the next job only after checking that the machine has come to a complete stop. Failure to do so may result in accident or injury.

**3. Do not wear gloves when operating the machine.**

- Gloves may get caught in rotating parts, resulting in accident or injury.

**4. Do not leave the machine while it is still rotating.**

- Others may be injured.

**5. If you accidentally drop or hit the machine, carefully check for damage, cracks, deformities or any abnormalities.**

- If abnormalities are found, ask your distributor or dealer for an inspection and/or repair.

- Continuing to use the machine when damaged will likely lead to mechanical problems, accident or injury.

**6. Use a pipe support when grooving pipes**

- When grooving pipes, use a pipe support to prevent both vibration due to warping while the pipe is rotating and instability of the machine due to the weight of the workpiece.

If a pipe support is not used, grooving cannot be performed correctly and problems with the machine, accident or injury may occur.

**11. Be sure to attach accessories according to the Operation Manual.**

- Attaching accessories incorrectly may cause the machine to topple over resulting in accident or injury.

# Main parts, Specifications, Standard Accessories, Optional Accessories

## Main parts

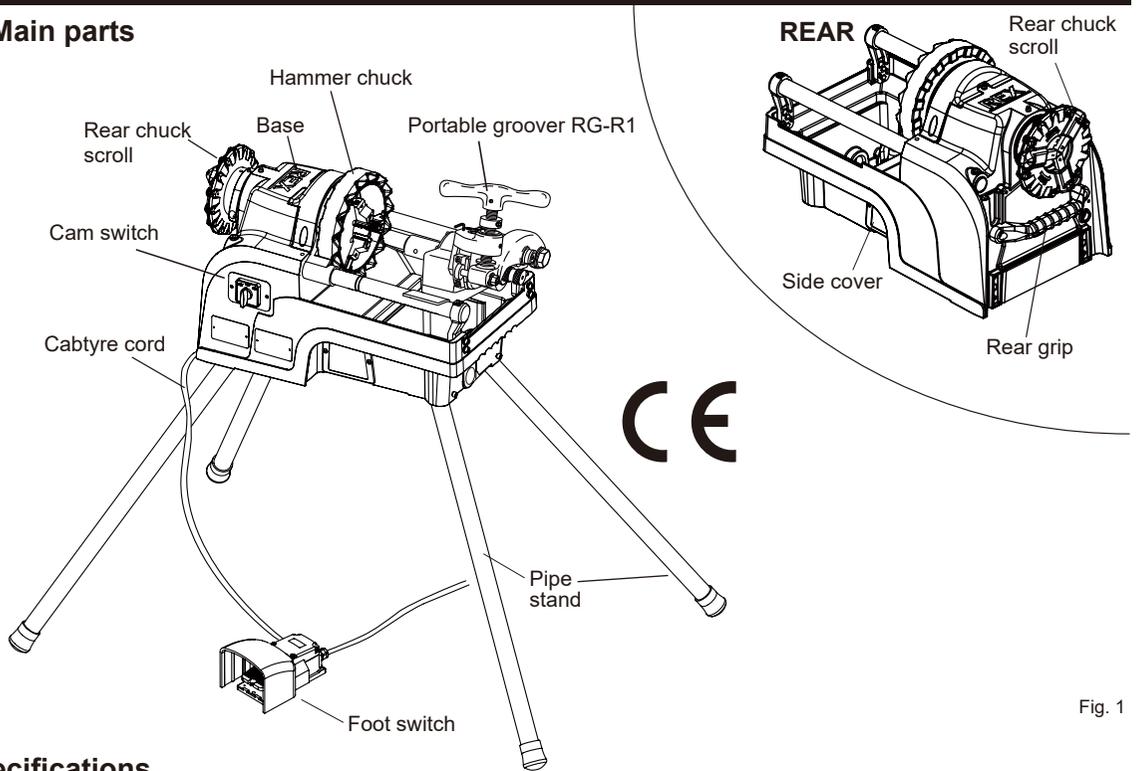


Fig. 1

## Specifications

Model	FPG150M
Working capacity	1"-6" Schedule 10 / Steel pipe 25A -150A 1"-3" Schedule 40 / Steel pipe 25A - 80A  Standard Model For 2"-6" Schedule 10 1"-3" Schedule 40 roller set.
Power supply	220 - 230V(50/60Hz)
Rated Motor Power	Input 1600W / Output 1000W
Motor Type	Universal Motor, Single Phase
Rotation speed	38 r.p.m. (unloaded)
Net weight	60.3 Kg (Portable Groover, Legs, Foot switch included)
Dimensions	625mm (L) x 400mm(W) x 400mm(H)
Chuck type	K-type chuck, S-type chuck jaw insert

Table 1

## Standard Accessories, Optionals Accessories

Standard Accessories	Portable Groover RG-R1    1 Pipe stands / Leg caps    4  *Please refer to the operation manual for Portable Groover M.
Optional Accessories	See page 8

Table 2

**Usage:** The machine is designed for grooving steel pipes only.  
Do not use for any other purpose whatsoever.

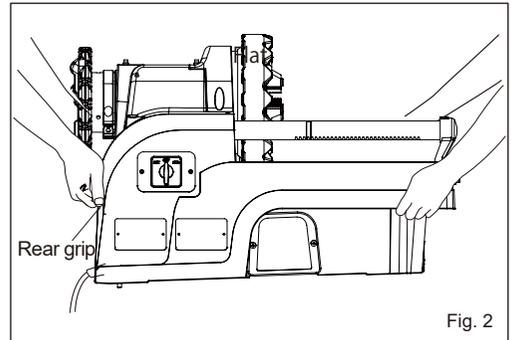
# Getting Ready (Transportation / Setting up / Power supply)

## 1. Transportation

When transporting or moving the machine, be sure to hold it firmly using the hand positions shown in Fig. 2.

### ⚠ WARNING

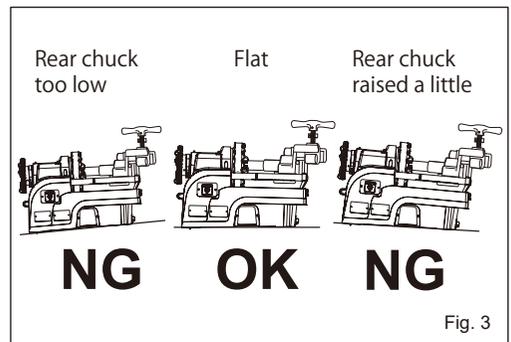
Only transport or move the machine after you have removed the RG-FD or RG-FH, etc.  
Failure to do so may result in accident or injury.



## 2. Setting up

Place the machine on a flat surface.

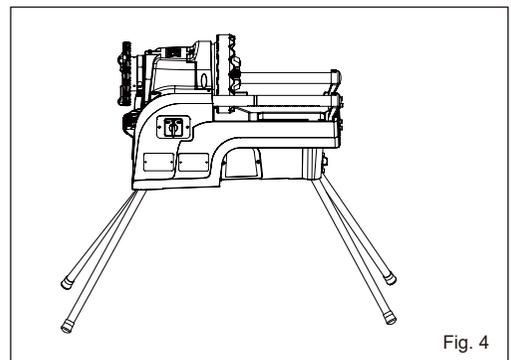
Even when placed on a flat surface, the Rear chuck of the machine is designed to be in a slightly raised position. (Fig. 3)



### - Mounting on Pipe stands

Using third-party Pipe stands may result in the machine falling over. Ensure you use only genuine REX stands.

Insert the stands into the sockets located in each corner of the bottom of Base, and fix in position with the four M8 Hex bolts provided. (Fig. 4)



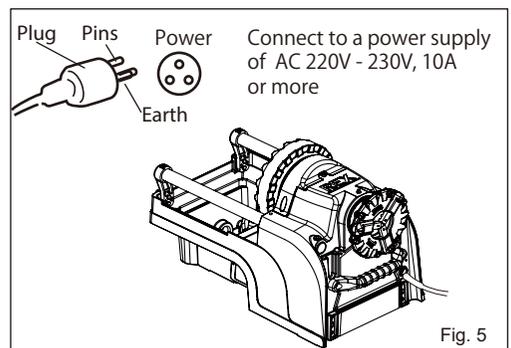
## 3. Power supply

Before using the unit, check the voltage on the Name plate.

Use only an AC power supply. If an Extension cord is used, it must be as short as possible and of sufficient capacity for the power supplied at least 2mm<sup>2</sup> Cabtyre cable rated for outdoor use, 10A for 220-230V. (Fig. 5)

### ⚠ WARNING

- Before connecting the plug to the socket, check that the machine switch is turned OFF to prevent abrupt movements that could lead to accident or injury.



## 4. Checks before starting

### ⚠ WARNING

Carry out the following checks before starting to groove pipes. Should any problems arise, refer to "Troubleshooting" at the end of this Operation Manual and follow the appropriate instructions. Continuing to use the machine when a problem has arisen can lead to accident or injury.

Turn on the machine to set the Main shaft in motion. (Fig. 6)

- Check there are no abnormal sounds or odours coming from the motor.
- Attach the RG-R1 according to the instructions in the operation manual for the RG-R1.
- Check the pipe you installed does not vibrate abnormally. If it does, install it again.

Allow the machine to rotate without any load for several minutes.

- Check the motor does not become abnormally hot, etc.

Turn the machine off and allow it to stop rotating.

- Ensure that the motor stops rotating.

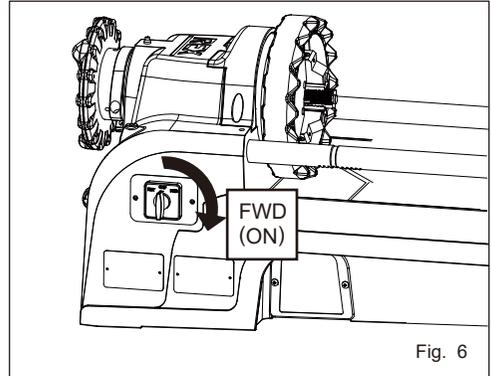


Fig. 6

### CE compliant switch

#### Using the Foot switch

To comply with EU regulations the unit incorporates a foot switch. The foot switch has a mechanism by which pressing down on the pedal turns the current on and releasing the pedal turns it off and stops the machine. (Fig. 7)

### ⚠ WARNING

- Place the foot switch in a position where it is easy to use, close to where you are working.
- Be sure to switch Off if there is a sudden power cut. If you leave the machine on, then once the power comes back on the machine will suddenly start up, which could lead to accident or injury.

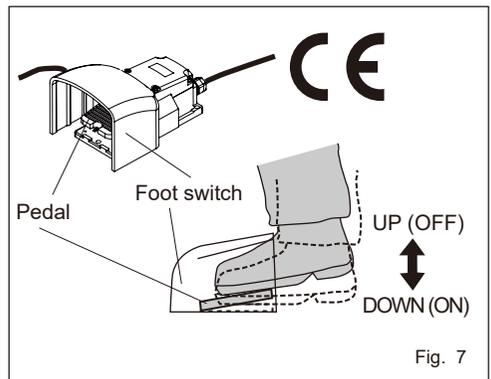


Fig. 7

#### Using the Cam switch

If the Cam switch is placed in the FWD position, the Hammer chuck will rotate in an anticlockwise direction (normal rotation) as seen from the Chuck. In the REV position, it rotates in a clockwise direction (reverse rotation). (Fig. 8)

### ⚠ WARNING

- Do not attempt to groove steel pipes in the REV position.
- When switching from FWD (normal rotation) to REV (reverse rotation) or, conversely, from REV to FWD, be sure to turn OFF first before operating the machine again.
- The machine will not start rotating unless both the Foot switch and Cam switch have been turned ON.
- Be sure to turn the Cam switch OFF whenever you leave the machine.

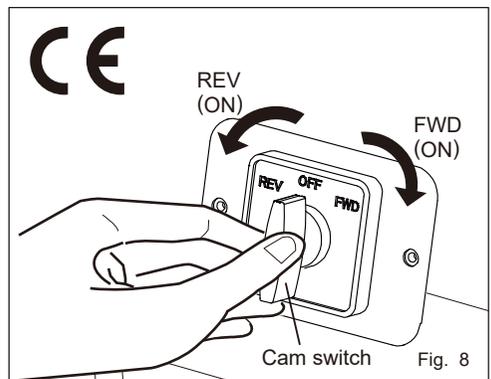
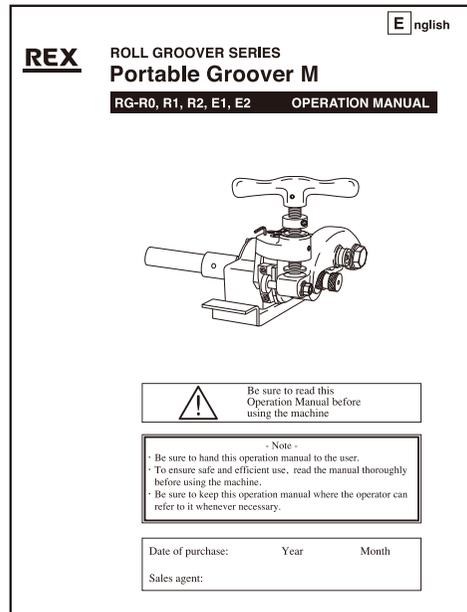


Fig. 8

The Off position is normally used only to turn the machine off at the end of a work session.

# Operation Guide

Refer to the Portable Groover M operation manual for how to attach and operate the groover.



## Setting up the pipe

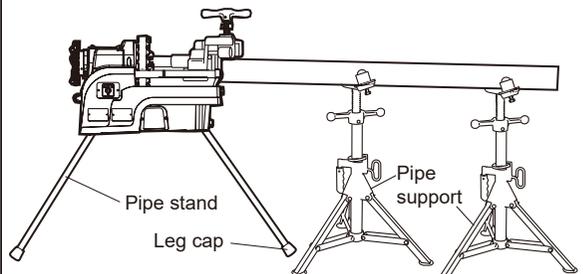
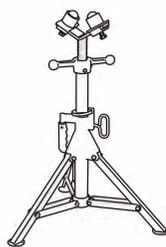
- When grooving pipes, place the pipe to be processed on the lower roller, and use a pipe support(s) to support the other end. In case of long pipe, use two pipe supports. (Fig. 9, 10)

### CAUTION

To avoid accidents, injury and/or damage, take special care to prevent the pipe from dropping while you are working. Be sure to place even a short pipe on a pipe support.

#### Use the REX Pipe support

Model: Pipe support HG200  
Code No.170071  
Keep pipes stable



### WARNING

Not using a pipe support may result in irregular grooves, damage to the machine and/or accident or injury.

# Optional Accessories

## GV Gauge

(Code No. 341121<1"> / 341122<1¼"> /  
341123<1½"> / 341126<2"> /  
341127<2½"> / 341128<3"> /  
341129<4"> / 341130<5"> /  
341131<6">)

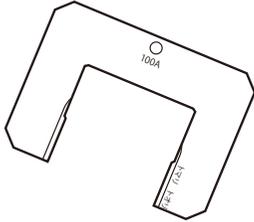


Fig. 11

## Spacer (Groove Depth Gauge)

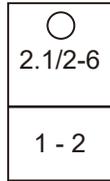


Fig. 12

For Portable Groover M  
<1" - 6">  
(Code No. RM21)

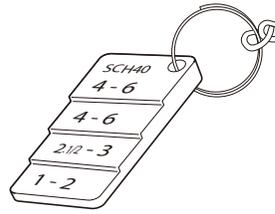


Fig. 13

For RG150 /  
Portable Groover H  
<1" - 6">  
(Code No. 341125)

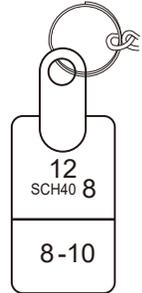


Fig. 14

For RG150 /  
Portable Groover H  
<8" - 12">  
(Code No. 341124)

## Roller Set for small diameter

(Code No. 341551<1"> /  
341552<1½" - 1¼">)

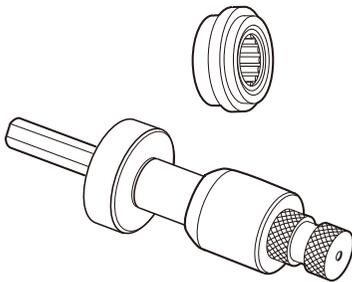


Fig. 15

## Portable Groover H <1" - 16"> (Code No. 341506)

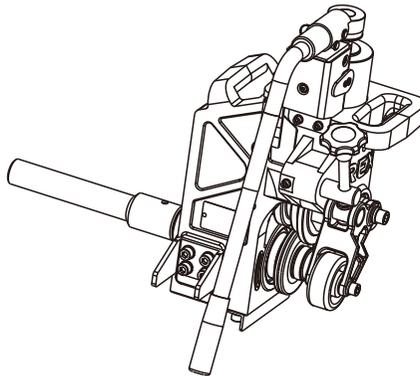


Fig. 16

## Mount Kit for Portable Groover H (Code No. 341560 Mount Kit M-HR1)

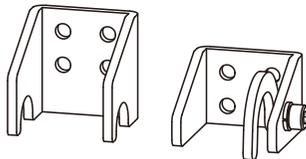


Fig. 17

## Circumference GV Gauge (Code No. 341132)

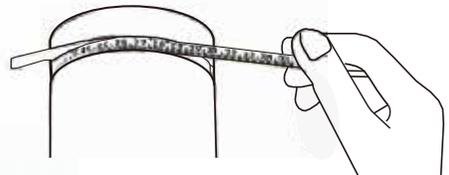


Fig. 18

# Maintenance & Care

## ⚠ WARNING

- Before inspecting or performing maintenance on the unit, always set the Switch to the OFF position and remove the plug from the power 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.

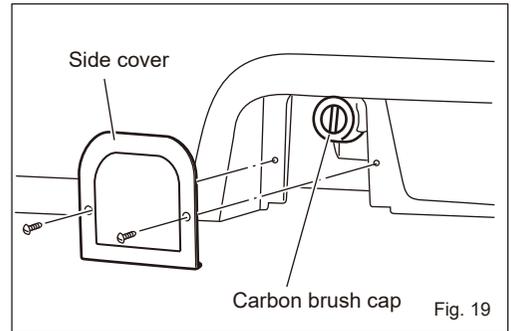
## 1. Replacing the Carbon brushes

- To protect the Motor, the unit is equipped with 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 REX Carbon brushes.  
Using other brushes may damage the Motor.

### Replacing the Carbon brushes

Ensure the plug has been removed from the power outlet.  
Always replace both brushes at the same time.

- Replacing the Carbon brushes at the both sides. (Fig. 19)  
Remove the Side cover from the side of the Base, remove the Carbon brush cap with a flathead screwdriver and replace the brush.

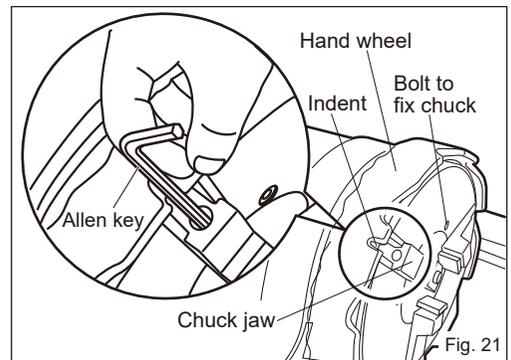
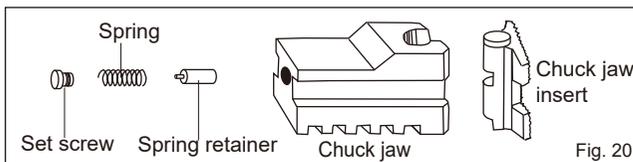


## ⚠ WARNING

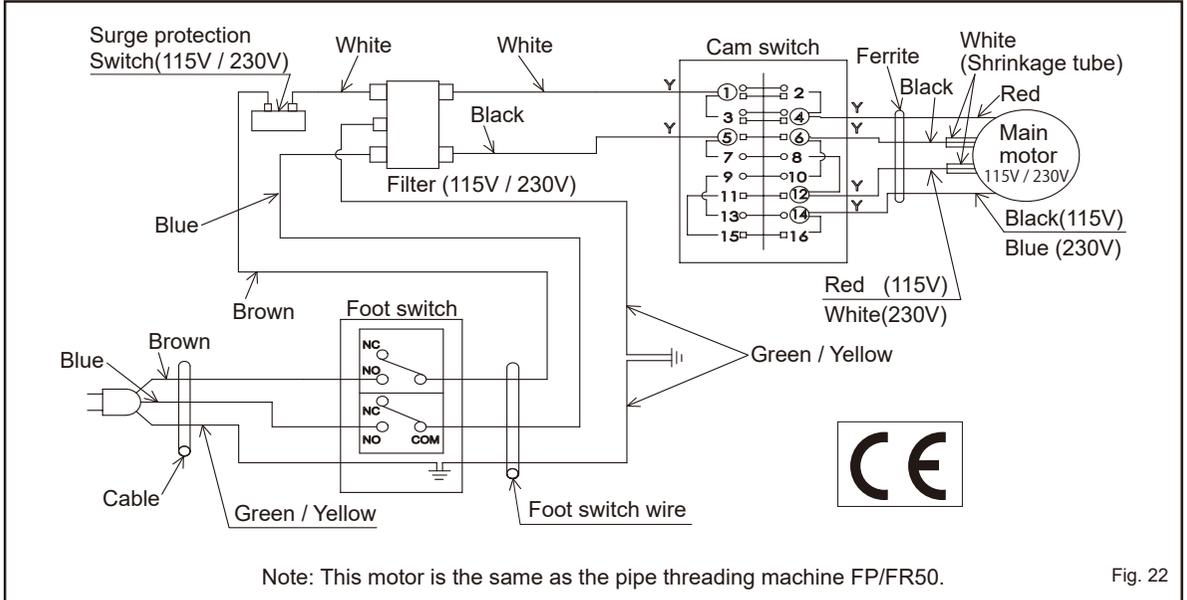
- Be sure to use REX Carbon brushes.
- Using other brushes may damage the Motor or the machine, or cause accidents.

## 2. Structure and care of the Chuck jaw set

As shown in Fig. 20, Chuck jaw insert set consists of 4 parts: the Chuck jaw insert at one end of the Chuck jaw, and the Spring retainer, Spring, and Set screw at the other.  
When changing the Chuck jaw insert, turn the Hand wheel so that the indent is directly over the Chuck jaw and remove the Set screw inside it. (Fig. 21)  
Also, if the 6 bolts that fix the Chuck in position come loose, it will affect grooving, so check regularly and tighten as needed.



## 3. Wiring diagram



## Servicing and Repairs

### ⚠ WARNING

- If the problem you have and the appropriate remedy are not shown in the table below, do not attempt to disassemble or repair the unit yourself.
- If the problem and remedy are not shown in the table, or if the table indicates that you should have the unit repaired or serviced, consult your distributor, dealer or REX INDUSTRIES CO., LTD.
- If this product is repaired by someone who does not have the proper knowledge or technical skill to do so, the product may not operate properly, or an accident or injury may occur. In the event of a problem, always check the table before contacting your distributor, dealer or REX INDUSTRIES CO., LTD.

## Troubleshooting

Problem		Cause	Remedy
Machine does not operate properly when turned on.	The Motor is not running.	The plug is disconnected.	Insert the plug into the power socket.
		The Carbon brushes are worn.	Replace with new ones according to the procedures on Pg. 9.
		Voltage is low.	Check the voltage. (Pg. 5)
		The Motor is burned out.	Repairs are needed.
	The Switch is damaged.	Repairs are needed.	
	The Motor is running.	The Gear is broken.	Repairs are needed.
Rotation of the main shaft is defective.		Voltage is too low.	Check the voltage. (Pg. 5)
		The Motor is burned out.	Repairs are needed.

Table 3

This machine is produced with great precision; therefore, should the machine fail to operate normally, do not repair it by yourself; contact your distributor, dealer or REX INDUSTRIES CO., LTD.

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

Availability of Replacement Parts	Replacement parts are maintained for a period of 7 years after production of this model has been terminated. Electrical parts, however, will remain available for a period of 5 years.
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# Explanation of Symbols

## ⚠ Explanation of Symbols

	<p><b>SAFETY INSTRUCTIONS</b> Read and understand the Operation Manual before using the machine.</p>
	<p><b>RISK OF EAR INJURY</b> Wear an ear protection.</p>
	<p><b>RISK OF EYE INJURY</b> Wear an eye protection.</p>
	<p><b>LIFTING HAZARD</b> Heavy object - mechanical lift only</p>
	<p><b>ELECTRICAL HAZARD</b> This machine is to be operated by trained personnel only.</p>
	<p><b>CRUSH HAZARD</b> Moving parts can cause serious injury. Keep hands clear while operating.</p>
	<p><b>ROTATING ROLLERS HAZARD</b> Keep hands and fingers clear.</p>
	<p><b>CUT HAZARD</b> Sharp edges can cause serious injury. Keep hands and fingers clear.</p>

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 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 grooving 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 grooving 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**

## **REX INDUSTRIES CO., LTD.**

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Specifications, colour, etc. may be changed without prior notification.

PQ3E-CE4

FPG150

2507R0000