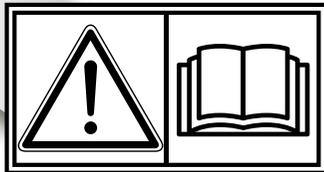




MODEL

# PKV101

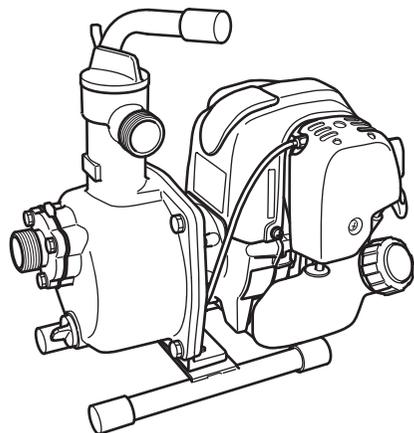


**INSTRUCTIONS FOR USE (USA only)**



ISSUE EMD-PU1642

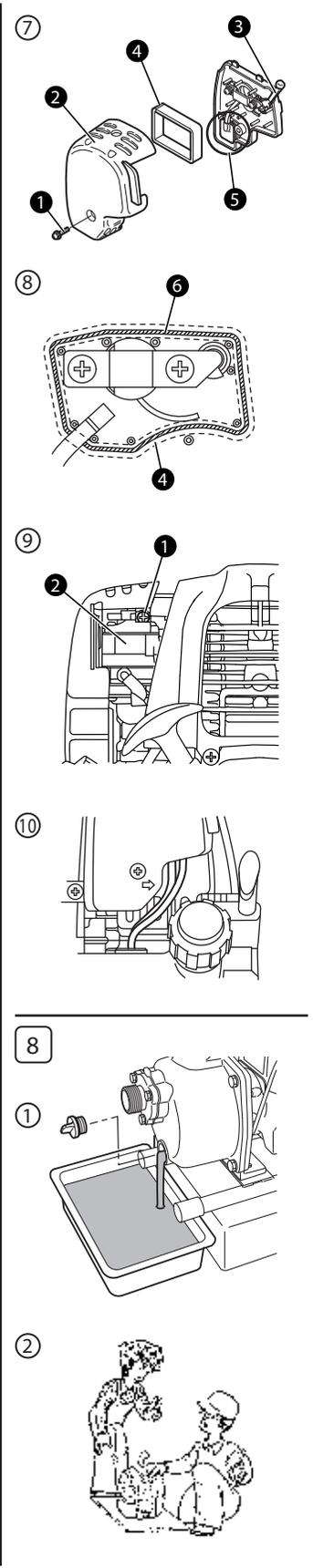
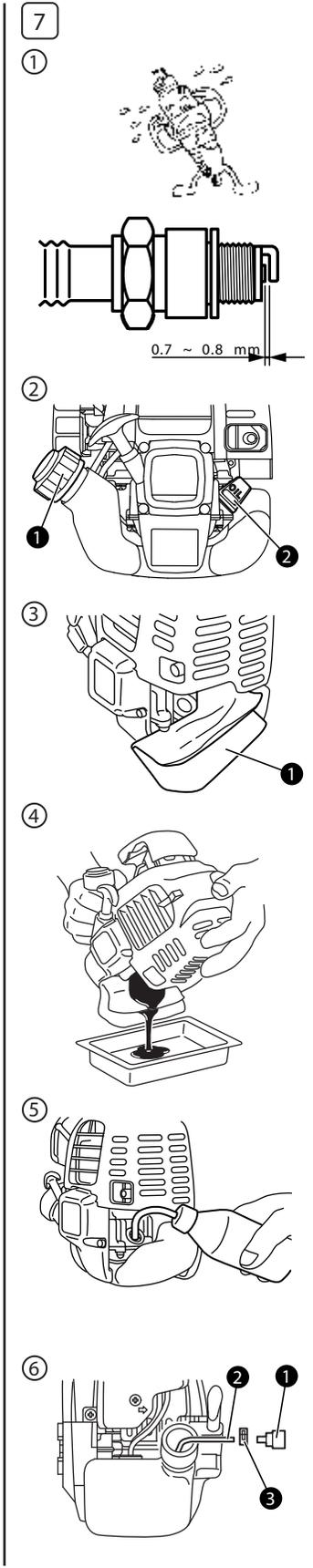
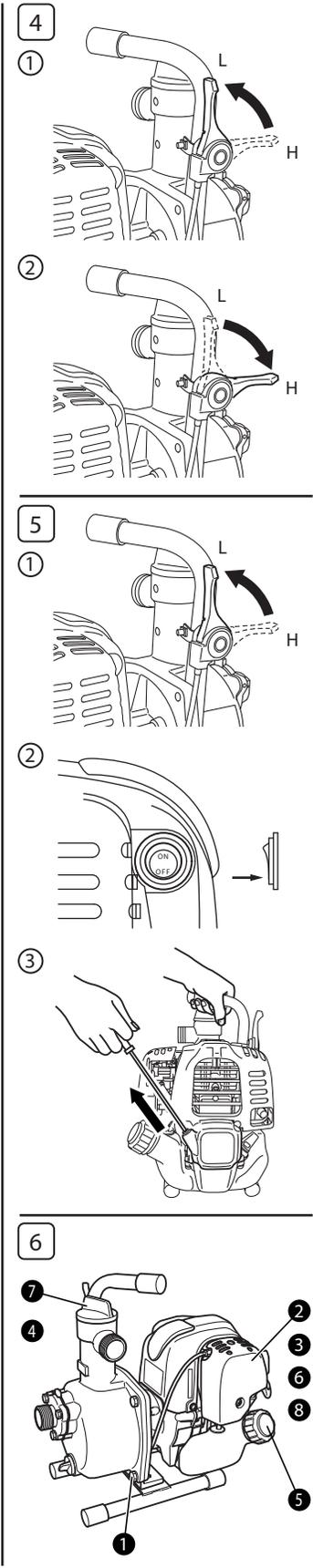
9ZZ9020043



# Robin Pump

Download from [www.Somanuals.com](http://www.Somanuals.com). All Manuals Search And Download.







## WARNING :



The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## NOTICE

FEDERAL EMISSION COMPONENT DEFECT WARRANTY and CALIFORNIA EMISSION CONTROL WARRANTY are applicable to only those engines complied with EPA (Environmental Protection Agency) and CARB (California Air Resources Board) emission regulations.

US

## AIR INDEX

An Air Index Information hang tag was supplied to this engine in accordance with the emission regulations of the California Air Resources Board.

The bar graph on the hang tag shows the emission performance of this engine. The bar graph can be used to compare the emissions performance with other available engines. The lower the Air Index, the less pollution.

The following durability description is to provide you with information relating to the emission durability period of the engine.

<u>Descriptive Term</u>	<u>Applicable to Emissions Durability Period</u>
Moderate	- 50 hours (engine from 0 to 65 cc)
Intermediate	- 125 hours (engine from 0 to 65 cc)
Extended	- 300 hours (engine from 0 to 65 cc)

Notice :The Air Index Information hang tag must remain on the engine or on the equipment until it is sold to the ultimate purchaser. Remove the hang tag before operating the engine.

## FEDERAL EMISSIONS COMPONENT DEFECT WARRANTY

**EMISSIONS COMPONENT DEFECT WARRANTY COVERAGE** – This emission warranty is applicable in all States, except the state of California.

Fuji Heavy Industries Ltd. and Robin America Inc., Wood Dale Illinois, (herein "ROBIN AMERICA") warrant(s) to the initial retail purchaser and each subsequent owner, that this Nonroad engine (herein "engine") has been designed, built, and equipped to conform at the time of initial sale to all applicable regulations of the U.S.

Environmental Protection Agency (EPA), and that the engine is free of defects in materials and workmanship which would cause this engine to fail to conform with EPA regulations during its warranty period.

For the components listed under PARTS COVERED, the service dealer authorized by ROBIN AMERICA will, at no cost to you, make the necessary diagnosis, repair, or replacement necessary to ensure that the engine complies with applicable U.S. EPA regulations.

### EMISSION COMPONENT DEFECT WARRANTY PERIOD OWNER'S WARRANTY RESPONSIBILITIES

The warranty period for this engine begins on the date of sale to the initial purchaser and continues for a period of two years.

As the engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. ROBIN AMERICA recommends that you retain all receipts covering maintenance on your engine, but ROBIN AMERICA cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the engine owner, you should however be aware that ROBIN AMERICA may deny warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your engine to the nearest service dealer authorized by ROBIN AMERICA when a problem exists.

If you have any questions regarding your warranty rights and responsibilities, you should contact the Robin America customer service department at 1-630-350-8200 for the information.

### THINGS YOU SHOULD KNOW ABOUT THE EMISSION CONTROL SYSTEM WARRANTY MAINTENANCE AND REPAIRS

You are responsible for the proper maintenance of the engine. You should keep all receipts and maintenance records covering the performance of regular maintenance in the event questions arise. These receipts and maintenance records should be transferred to each subsequent owner of the engine. ROBIN AMERICA reserves the right to deny warranty coverage if the engine has not been properly maintained. Warranty claims will not be denied, however, solely because of the lack of required maintenance or failure to keep maintenance records.

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY A SERVICE DEALER AUTHORIZED BY ROBIN AMERICA. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF A WARRANTY CLAIM.

If other than the parts authorized by ROBIN AMERICA are used for maintenance replacements or for the repair of components affecting emission control, you should assure yourself that such parts are warranted by their manufacturer to be equivalent to the parts authorized by ROBIN AMERICA in their performance and durability.

### HOW TO MAKE A CLAIM

All repair qualifying under this limited warranty must be performed by a service dealer authorized by ROBIN AMERICA. In the event that any emission-related part is found to be defective during the warranty period, you shall notify Robin America customer service department at 1-630-350-8200 and you will be advised of the appropriate warranty service dealer or service providers where the warranty repair can be performed.

US

### PARTS COVERED

Listed below are the parts covered by the Emission Components Defect Warranty. Some of the parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

#### (1) Fuel Metering System

- (i) Carburetor and internal parts
- (ii) Fuel filter, if applicable.
- (iii) Throttle stopper, if applicable.
- (iv) Choke System, if applicable

#### (2) Air Induction System

- (i) Air cleaner plate
- (ii) Air cleaner case
- (iii) Air cleaner element

#### (3) Ignition System

- (i) Spark plug.
- (ii) Flywheel Magneto
- (iii) Ignition Coil

#### (4) Miscellaneous Items Used in Above Systems

- (i) Fuel hoses, clamps and sealing gaskets

### OBTAINING WARRANTY SERVICE

To obtain warranty service, take your engine to the nearest authorized Robin America service dealer. Bring your sales receipts indicating date of purchase for this engine. The service dealer authorized by ROBIN AMERICA will perform the necessary repairs or adjustments within a reasonable amount of time and furnish you with a copy of the repair order. All parts and accessories replaced under this warranty become the property of ROBIN AMERICA.

### WHAT IS NOT COVERED

Conditions resulting from tampering, misuse, improper adjustment (unless they were made by the service dealer authorized by ROBIN AMERICA during a warranty repair), alteration, accident, failure to use the recommended fuel and oil, or not performing required maintenance services.

\*The replacement parts used for required maintenance services.

Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.

Diagnosis and inspection charges that do not result in warranty-eligible service being performed.

Any non-authorized replacement part, or malfunction of authorized parts due to use of non-authorized parts.

\*

## CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and Fuji Heavy Industries Ltd. (herein "FUJI") are pleased to explain the emission control system warranty on your 2004 and later Small Off-Road engine (herein "engine"). In California, new engine must be designed, built and equipped to meet the State's stringent anti-smog standards. FUJI must warrant the emission control system on your engine for the periods of time described below, provided there has been no abuse, neglect or improper maintenance of your engine. Your emission control system may include parts such as the carburetor or fuel-injection system, and the ignition system. Also included may be hoses, belts, connectors and other emission-related assemblies. Where a warrantable condition exists, FUJI will repair your engine at no cost to you including diagnosis, parts and labor.

### MANUFACTURER'S WARRANTY COVERAGE:

The 2004 and later engines are warranted for two (2) years. If any emission related part on your engine is defective, the part will be repaired or replaced by FUJI.

### OWNER'S WARRANTY RESPONSIBILITIES :

- As the engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. FUJI recommends that you retain all receipts covering maintenance on your engine, but FUJI cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the engine owner, you should ,however, be aware that FUJI may deny you warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- You are responsible for presenting your engine to a service dealer or warranty station authorized by ROBIN AMERICA Inc. 940 Lively Blvd., Wood Dale, IL 60191 (herein ROBIN AMERICA) as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

US

If you have any questions regarding your warranty rights and responsibilities, you should contact the Robin America Inc. Customer Service Department at 1-630-350-8200

## LIMITED WARRANTY on Emission Control Systems - California Only-

FUJI warrants to the owner of the 2004 and later engine that the engine 1)has been designed, built and equipped so as to conform at the time of manufacture with the applicable regulations of the California Air Resources Board, and (2) is free from defects in materials and workmanship that could cause it to fail to conform with those regulations as may be applicable in the terms and conditions stated below.

### A. WARRANTY COMMENCEMENT DATE

The warranty period begins on the date the engine is delivered to a first retail purchaser.

### B. LENGTH OF COVERAGE

FUJI warrants to a first retail purchaser and each subsequent purchaser that the engine is free from defects in materials and workmanship that cause the failure of a warranted emission-related part for a period of two (2) years after the date of delivery to the first retail purchaser.

### C. WHAT IS COVERED:

#### 1. REPAIR OR REPLACEMENT PARTS

Repairs and replacement of any warranted part will be performed at no charge to you by an authorized service dealer or a warranty station. You may contact the Robin America Inc. Customer Service Department at 1-630-350-8200 to obtain the name of the nearest appropriate location where your warranty repairs are performed.

#### 2. WARRANTY PERIOD

This warranty continues for a period of two (2) years and applies only to the repair, replacement or adjustment of the component parts that are not scheduled for replacement as required maintenance. Further, component parts which are scheduled only for regular inspection to the effect of "repair or replace as necessary" are warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time up to the first scheduled replacement point for that part.

#### 3. DIAGNOSIS

You will not be charged for diagnostic labor that leads to the determination that a warranted part is defective, if the diagnostic work is performed at an authorized service dealer or warranty station.

#### 4. DAMAGES

If a warranted part failed causing damage to other engine components, consult an warranty station.

### D. WHAT IS NOT COVERED

1. This limited warranty does not cover any part which malfunctions, fails or is damaged due to failure to follow the maintenance and operating instructions set forth in the 2004 and later Owner's Manual including:

- (1) improper maintenance of any warranted parts
- (2) improper installation, adjustment or repair of the engine or of any warranted part unless performed by an authorized service dealer
- (3) failure to follow recommendations on fuel use contained in the 2004 and later Owner's Manual
- (4) repairs performed outside of the authorized warranty service dealers
- (5) use of parts which are not authorized by FUJI.

#### 2. Add-on or modified parts

This warranty does not cover any part that malfunctions, fails or is damaged due to alterations by changing, adding to or removing parts from the engine.

#### 3. Expenses incurred by processing warranty claims

FUJI, any authorized service dealer and warranty station shall not be liable for any loss of use of the engine, for any alternative usage, for any damage to goods, loss of time or inconvenience.

### E. HOW TO FILE A CLAIM

All repairs qualifying under this Limited Warranty must be performed by a dealer who sold you the engine or warranty station authorized by ROBIN AMERICA. In the event that any emission-related part is found to be defective during the warranty period, you must notify the Robin America Inc. Customer Service Department at 1-630-350-8200 and you will be advised of the appropriate warranty service facilities where the warranty repair is to be performed.

### F. WHERE TO OBTAIN WARRANTY SERVICE

It is recommended that warranty service be performed by the authorized dealer who sold you the engine, although warranty service will be performed by any authorized service dealers or warranty stations anywhere in the United States.

When warranty repair is needed, the engine must be brought to an authorized service dealer or warranty station's place of business during normal business hours. In all cases, a reasonable time, not to exceed 30 days, must be allowed for the warranty repair to be completed after the engine is received by the authorized service dealer or warranty station.

#### G. MAINTENANCE, REPLACEMENT AND REPAIR OF EMISSION-RELATED PARTS

Only warranted engine replacement parts approved by FUJI should be used in the performance of any warranty maintenance or repairs on emission-related parts. If other than authorized parts are used for maintenance, replacement or repair of components affecting emission control, you should assure yourself that such parts are warranted by their manufacturer to be equivalent to authorized parts in performance and durability. FUJI, however, assumes no liability under this warranty with respect to parts other than authorized parts. The use of non-authorized replacement parts does not invalidate the warranty on other components unless the non-authorized parts cause damage to warranted parts.

#### H. PARTS COVERED UNDER THE CALIFORNIA EMISSIONS WARRANTY

- (1) Fuel Metering System
  - (i) Carburetor and internal parts
  - (ii) Air cleaner plate (including choke system)
  - (iii) Air cleaner cover
  - (iv) Air cleaner element
  - (v) Fuel Filter
- (2) Ignition System
  - (i) Spark plug
  - (ii) Flywheel magneto
  - (iii) Ignition coil
- (3) Miscellaneous Items Used in Above Systems
  - (i) Hoses and sealing gaskets, bolts, connectors, and assemblies.

US

#### I. MAINTENANCE STATEMENTS

It is your responsibility to have all scheduled inspection and maintenance services performed at the times recommended in the 2000 and later Owner's Manual and to retain proof that inspection and maintenance services are performed at the times when recommended. FUJI will not deny a warranty claim solely because you have no record of maintenance; however, FUJI may deny a warranty claim if your failure to perform required maintenance resulted in the failure of warranted part. The proof which you maintain should be given to each subsequent owner of the engine. You are responsible for performing the scheduled maintenance described below based on the procedures specified in the 2004 and later Owner's Manual. The scheduled maintenance below is based on a normal engine operating schedule.

##### PROCEDURE

- 1) Clean engine and check bolts and nuts. Retighten if necessary.
- 2) Check and refill engine oil (4 stroke)
- 3) Change engine oil (4 stroke)
- 4) Check clogging of cooling air passage and cylinder fins. Remove and clean if necessary.
- 5) Clean air cleaner
- 6) Check spark plug. Clean and adjust if necessary.
- 7) Check muffler exhaust outlet (or port). Clean if necessary.
- 8) Check fuel filter. If clogged, replace with new one.
- 9) Adjust valve clearance, if applicable (4 stroke)
- 10) Replace fuel lines.
- 11) Overhaul engine.
- 12) Replace packings and gaskets with new ones.

##### INTERVAL

- : Every 8 hours (daily)
- : Every 8 hours (refill daily up to upper limit)
- : Initial 20 hours and every 100 hours afterward
- : Every 8 hours (daily)
- : Every 8 hours (daily)
- : Every 8 hours (daily)
- : Every 50 hours (monthly)
- : Every 50 hours (monthly)
- : Every 200 hours
- : Every reassembling

Note: More frequent maintenance may be necessary under dusty, dirty or severe conditions.

# FOREWORD

Thank you very much for purchasing a **ROBIN PUMP**.

This manual covers operation and maintenance of **ROBIN PUMP**.

All information in this publication is based on the latest product information available at the time of approval for printing. Please read this manual carefully before operating.

Please take a moment to familiarize yourself with the proper operation and maintenance procedures in order to maximize the safe and efficient use of this product.

Keep this owner's manual at hand, so that you can refer to it at any time.

Due to constant efforts to improve our products, certain procedures and specifications are subjected to change without notice.

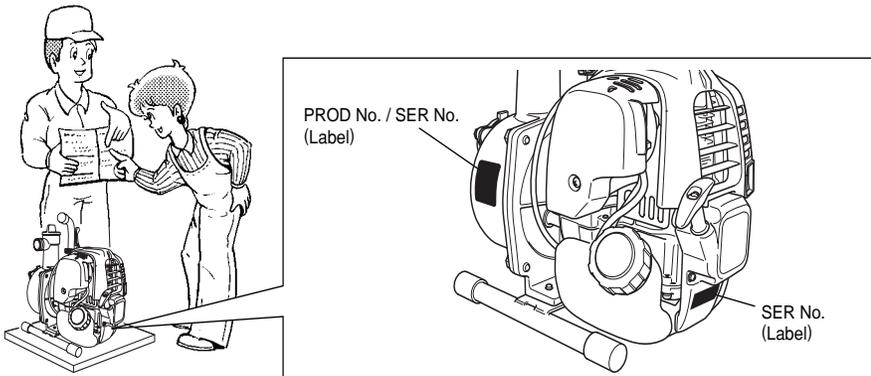
When ordering spare parts, always give us the MODEL, PRODUCTION NUMBER and SERIAL NUMBER of your pump.

Please fill in the following blanks after checking the production number on your pump.

(Location of label is different depending on the pump specification.)

PROD No.									

SER No.				



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**NOTE** Please refer to the illustrations on the back page of the front cover or back cover for Fig. **1** to **8** indicated in the sentence.

# 1. SAFETY PRECAUTIONS

Please make sure you review each precaution carefully.  
Pay special attention to statement preceded by the following words.

**⚠ WARNING** “WARNING” indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**⚠ CAUTION** “CAUTION” indicates a possibility of personal injury or equipment damage if instructions are not followed.

## **⚠ WARNING** : EXHAUST PRECAUTIONS

- Never inhale exhaust gasses.  
They contain carbon monoxide, a colorless, odorless and extremely dangerous gas which can cause unconsciousness or death.
- Never operate the pump indoors or in a poorly ventilated area, such as tunnel, cave, etc.
- Exercise extreme care when operating the pump near people or animals.
- Keep the exhaust pipe free of foreign objects.



## **⚠ WARNING** : REFUELING PRECAUTIONS

- Gasoline is extremely flammable and its vapors can explode if ignited.
- Do not refuel indoors or in a poorly ventilated area.
- Be sure to stop the pump prior to refueling.
- Do not remove fuel tank cap nor fill fuel tank while engine is hot or running.  
Allow engine to cool at least 2 minutes before refueling.
- Do not overfill the fuel tank.
- If fuel is spilt, wipe it away carefully and wait until the fuel has dried before starting the engine.
- After refueling, make sure that the fuel cap is secured to prevent spillage.

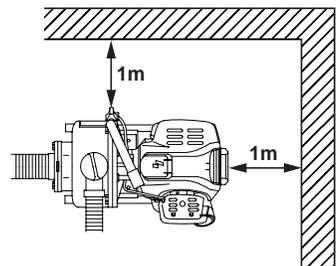


## **⚠ WARNING** : FIRE PREVENTION

- Do not operate the pump while smoking or near an open flame.
- Do not use around dry brush, twigs, cloth rags, or other flammable materials.
- Keep cooling air intake (recoil starter area) and muffler side of the engine at least 1 meter (3 feet) away from buildings, obstructions and other burnable objects.
- Keep the pump away from flammables and other hazardous materials (trash, rags, lubricants, explosives).

## **⚠ WARNING** : OTHER SAFETY PRECAUTIONS

- Be careful of hot parts.  
The muffler and other engine parts become very hot while the pump is running or just after it has stopped. Operate the pump in a safe area and keep children away from the running pump.
- Do not use diaphragm pump for the mixture of water and oil.



- Do not touch the spark plug and ignition cable when starting and operating the engine.
- Operate the pump on a stable, level surface.  
If the engine is tilted, fuel spillage may result.

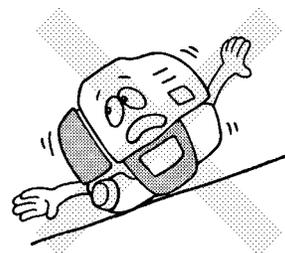
**NOTE**

Operating the pump at a steep incline may cause seizure due to improper lubrication even with a maximum oil level.

- Drain the fuel when transporting the pump.
- Keep the unit dry (do not operate it in rainy conditions).

**⚠ CAUTION : PRE-OPERATION CHECKS**

- Carefully check fuel hoses and joints for looseness and fuel leakage. Leaked fuel creates a potentially dangerous situation.
- Check bolts and nuts for looseness. A loose bolt or nut may cause serious engine trouble.
- Check the engine oil and refill if necessary.
- Check the fuel level and refill if necessary. Take care not to overfill the tank.
- Keep cylinder fins and recoil starter free of dirt, grass and other debris.
- Wear snug fitting working clothes when operating the engine.  
Loose aprons, towels, belt, etc., may be caught in the engine or drive train, causing a dangerous situation.



GB



## SYMBOLS

	Read the owner's manual.		
	Stay clear of the hot surface.		
	Exhaust gas is poisonous. Do not operate in an unventilated area.		
	Stop the engine before refueling.		
	Fire, open flame and smoking prohibited.		
	On (Run)		Plus ; Positive polarity
	Off (Stop)		Battery
	Engine oil		Engine start (Electric start)
	Add oil		

## 2. COMPONENTS

(See Fig. 1)

**NOTE** Please refer to the illustrations on the back page of the front cover or back cover for Fig. 1 to 8 indicated in the sentence.

- |                    |                               |   |
|--------------------|-------------------------------|---|
| ① Plug (drain)     | ⑩ Primer button               | ⑲ Starter handle                            |
| ② Suction          | ⑪ Tank cap                    | ⑳ Choke lever                               |
| ③ Delivery         | ⑫ Fuel tank                   | ㉑ Muffler                                   |
| ④ Plug (priming)   | ⑬ Casing cover                | ㉒ Strainer                                  |
| ⑤ Handle           | ⑭ Speed control lever         | ㉓ Hose coupling                             |
| ⑥ Spark plug cover | ⑮ Stop Switch                 | ㉔ Hose band                                 |
| ⑦ Spark plug       | ⑯ Set base                    | ㉕ Tools                                     |
| ⑧ Air cleaner      | ⑰ Oil filler (with oil gauge) | ㉖ Instruction for use<br>(This publication) |
| ⑨ Carburetor       | ⑱ Recoil starter              |   |

### 3. PRE-OPERATION FOR STARTING

(See Fig. 2)

#### 1. CONNECT SUCTION HOSE

(See Fig. 2-1)

Use a reinforced-wall or wire braided hose to prevent suction collapse.

Since the pump self-priming time is directly proportional to hose length, a short hose is recommended.

#### ⚠ CAUTION

Always use a strainer with the suction hose. Gravel or debris sucked into the pump will cause serious damage to the impeller and the pump casting.

#### 2. CONNECT DELIVERY HOSE

(See Fig. 2-2)

When using a fabric hose, always use a hose band to prevent the hose from disconnecting under high pressure.

#### 3. CHECK ENGINE OIL (See Fig. 2-4)

Before checking or refilling engine oil, be sure the engine is located on stable, level surface and stopped.

- Do not screw the oil gauge into the oil filler neck to check oil level. If the oil level is low, refill to the upper level with the following recommended oil.
- Use 4-stroke automotive detergent oil of API service class SF or higher grade.
- Select the viscosity based on the air temperature at the time of operation as shown in the table. (See Fig. 2-3)

**OIL CAPACITY : 0.8 liter**

**Explanation of Fig. 2-4**

- ① Oil Gauge
- ② Upper Level (0.8 liter)
- ③ Lower Level

#### 4. CHECK FUEL (See Fig. 2-5)

#### ⚠ WARNING

Do not refuel while smoking, near an open flame or other such potential fire hazards. Otherwise fire accident may occur.

- Stop the engine and open the cap.
- Incline the engine as fuel inlet upward, then refill fuel to the upper level. Do not fill fuel too much.
- Use unleaded automotive gasoline only.  
Fuel Tank Capacity (This engine is 4-stroke gasoline engine). Refer to "8. SPECIFICATIONS" Page 10 for fuel tank capacity
- When filling the fuel tank, always use the fuel filter.
- Wipe off any spilled fuel before starting the engine. (See Fig. 2-6)

#### 5. CHECK PRIMING WATER

(See Fig. 2-7)

It is recommended that the water chamber of pump casing should be primed with full of water before operating.

#### ⚠ WARNING

Never attempt to operate the pump without priming water or the pump will overheat. Extended dry operation will destroy the mechanical seal.

If the unit has been operated dry, stop the engine immediately and allow the pump to cool before adding priming water.

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### 4. OPERATING YOUR PUMP

#### 1. STARTING (See Fig. 3)

- (1) Set the throttle lever to the idling position (L). (See Fig. 3-1)
- (2) Set the stop switch to the position "ON". (See Fig. 3-2)
- (3) Close the choke lever. (See Fig. 3-3)
  - If the engine is cold or the ambient temperature is low, close the choke lever fully.
  - If the engine is warm or the ambient temperature is high, open the choke lever half-way, or keep it fully open.
- (4) Push the primer pump 7 to 10 times to feed the fuel to the carburetor. (See Fig. 3-4-1)
- (5) Pull the starter handle slowly until resistance is felt. This is the "compression" point. Return the handle to its original position and pull swiftly.  
Do not pull out the rope all the way.  
After starting the engine, allow the starter handle to return to its original position while still holding the handle. (See Fig. 3-5)
- (6) After starting the engine, gradually open choke by turning the choke lever and finally keep it fully opened. Do not fully open the choke lever immediately when the engine is cold or the ambient temperature is low, because the engine may stop. (See Fig. 3-6)

#### 2. RUNNING (See Fig. 4)

- (1) After the engine starts, set the speed control lever at the low speed position (L) and warm it up without load for a few minutes. (See Fig. 4-1)
- (2) Gradually move the speed control lever toward the high speed position (H) and set it at the required engine speed. (See Fig. 4-2)
  - Whenever high speed operation is not required, slow the engine down (idle) by moving the speed control lever to save fuel and extend engine life.

#### NOTE

If the engine is operated at upside down, white smoke may be exhausted from the muffler.

### 3. STOPPING (See Fig. 5)

- (1) Set the speed control lever at the low speed position and allow the engine to run at low speed for 2 or 3 minutes before stopping. (See Fig. 5-1)
- (2) Set the stop switch to the position "OFF". (See Fig. 5-2)
  - Do not stop the engine suddenly when it is running at high speed.
- (3) Pull the starter handle slowly and return the handle to its original position when resistance is felt. This operation is necessary to prevent outside moist air from intruding into the combustion chamber. (See Fig. 5-3)

### 2. PERIODIC INSPECTION

Periodic maintenance is vital to the safe and efficient operation of your pump.

Check the table below for periodic maintenance intervals. The below chart is based on the normal pump operation schedule.

#### ⚠ CAUTION

**Replace rubber pipes for fuel passage every two years. If fuel leakage is found, replace the pipe immediately.**

### 3. INSPECTING THE SPARK PLUG (See Fig. 7-1)

- (1) Clean off carbon deposits on the spark plug electrode using a plug cleaner or wire brush.
- (2) Check electrode gap. The gap should be 0.7 mm to 0.8 mm (0.03 inch.). Adjust the gap, if necessary, by carefully bending the side electrode.

**Recommended Spark Plug : NGK CMR6A**

## GB 5. MAINTENANCE

### (See Fig. 6)

#### 1. DAILY INSPECTION

Before running the engine, check the following service items.

- ① Loose or broken bolts and nuts
- ② Clean air cleaner element
- ③ Enough clean engine oil
- ④ Leakage of gasoline and engine oil
- ⑤ Enough gasoline
- ⑥ Safe surroundings
- ⑦ Check the priming water
- ⑧ Excessive vibration, noise

**Periodic Maintenance Schedule table**

Maintenance items	Every 8 hours (Daily)	Every 50 hours (Weekly)	Every 200 hours (Monthly)
CLEAN PUMP SET AND CHECK BOLTS AND NUTS	● (Daily)		
CHECK AND REFILL ENGINE OIL	● (Refill daily up to upper level.)		
CLEAN AIR CLEANER	●		
CHANGE ENGINE OIL	(Initial 20 hours)	●	
CLEAN SPARK PLUG		●	
CLEAN FUEL FILTER		●	
REMOVE THE PUMP CASING AND CLEAN			●
CLEAN AND ADJUST SPARK PLUG AND ELECTRODES			●
CHECK AND ADJUST VALVE CLEARANCE (*Note 1)			●
CLEAN AND ADJUST CARBURETOR			●
CHECK SUCTION AND DELIVERY CHECK VALVES			●
OVERHAUL ENGINE IF NECESSARY (*Note 1)			●

\*Note: 1. As to the procedures for these items, please refer to the SERVICE MANUAL or consult your nearest Robin service dealer.

#### NOTE

Replace rubber hoses for passage every one year. If and when fuel leakage is found, replace hose at once.

## 4. ENGINE OIL CHANGE (See Fig. 7-② ~ ⑤)

**Initial oil change** : After 20 hours of operation  
**Thereafter** : Every 50 hours of operation

- (1) When changing oil, stop the engine and loosen the drain plug. Drain the used oil while the engine is warm. Warm oil drains quickly and completely.

### ⚠ CAUTION

**To prevent injury, pay attention to the hot oil. Make sure the fuel cap is tightly secured to avoid spillage.**

- (2) Re-install the drain plug before refilling oil.

**OIL CAPACITY : 0.8 liter**

- (3) Refer to page 5 for the recommended oil.
  - Always use the best grade and clean oil. Contaminated oil, poor quality oil and shortage of oil cause damage to engine or shorten the engine life.
- (4) Remove the oil gauge. Be cautious to place the oil gauge in a place where it will not gather dirt, dust or other foreign matter. (See Fig. 7-②)
- (5) Place a cloth or paper towel to the area around the oil filler hole. (See Fig. 7-③, ①)
- (6) Remove the oil gauge, then tilt the engine and drain the oil into a pan or other receptacle. (See Fig. 7-④)
- (7) Put the engine on a level surface, then fill with the oil up to the point of overflowing the filler neck. Pour the oil in from a squeeze bottle or other appropriate. (See Fig. 7-④)
- (8) After filling the engine with oil, reinsert the oil gauge. Ensure that the oil gauge is tight, as if it loosens later oil will leak out. (See Fig. 7-⑤)

## 5. CLEANING FUEL FILTER (See Fig. 7-⑥)

### ⚠ WARNING Flame Prohibited

Remove the hose clamp and pull out the fuel filter from fuel pipe. Wash the fuel filter with kerosene. After washing, reassemble it. If the fuel filter is heavy dirty, replace it with new one.

**Explanation of Fig. 7-⑥**

- ① Fuel filter
- ② Fuel pipe
- ③ Hose clamp

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## 6. CLEANING AIR CLEANER

### ⚠ WARNING Flame Prohibited

A dirty air cleaner element will cause starting difficulty, power loss, engine malfunctions, and shorten engine life extremely. Always keep the air cleaner element clean.

- Remove the fixing bolt of air cleaner cover.  
(See Fig. 7-⑦-①)
- Pull out the lower edge of the cover to remove the air cleaner cover. (See Fig. 7-⑦-②)
- Place the choke lever to the fully closed position, taking care to ensure that dust and dirt are not allowed to enter the carburetor.
- Remove the element, then clean it with a solution of warm water and a mild detergent, thoroughly drying it afterward. Install it in alignment with the lines as shown in illustration.
- Wipe off any oil adhering to the area around the air cleaner cover and breather with a cloth.
- After cleaning, reassemble the cleaner cover (insert the tab at the top first, then insert the bottom tab) and tighten the fixing bolt.

## 6. PREPARATIONS FOR STORAGE

### 1. WATER (See Fig. 8-1)

Drain all water from the drain plug.

#### **⚠ CAUTION**

**When retightening drain plug, be sure to clean the drain plug and the thread of casing. Otherwise, the thread may be damaged.**

### 2. DISCONNECT THE DELIVERY HOSE

Tilt the pump and drain all water from delivery hole. Severe damage to pump may result if water freezes in the pumping chamber.

### 3. DISCHARGE FUEL

#### **⚠ WARNING** Flame Prohibited

In case the engine is not going to be used for more than 1 month, discharge fuel thoroughly from fuel tank and carburetor in order to prevent from hard starting and/or poor engine operation due to deteriorated fuel when you use the engine next time.

- Pour out the fuel in the tank from its filler neck.
- Push the primer pump of the carburetor until the fuel in it is thoroughly discharged.

### 4. ENGINE OIL (See Fig. 8-2)

- Change the engine oil with fresh oil.
- Remove the spark plug, pour about 5 cc of engine oil into the cylinder, slowly pull the starter handle of the recoil starter 2 or 3 times, and reinstall the spark plug.

### 5. CLEAN AND STORE

- Slowly pull the recoil starter handle until resistance is felt and leave it in that position.
- Clean the pump thoroughly with an oiled cloth, put the cover on, and store the pump indoors in a well ventilated, low humidity area.

## 7. ADJUSTING CARBURETOR

(See Fig. 7-9)

Adjusting idling rpm.

When adjust screw is turned right, engine rpm increases, and when it is turned left, rpm decreases. (Refer to illustration.)

Normal idling rpm	3000 ± 100rpm
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#### NOTE

The carburetor greatly affects the performance of the engine.

Since it has been adjusted carefully at our factory before shipment, avoid adjusting unless absolutely necessary. If adjustments are needed, contact your nearest dealer.

## 8. FUEL HOSE REPLACEMENT

(See Fig. 7-10)

#### **⚠ WARNING**

**Take extreme caution when replacing fuel hose ; gasoline is extremely flammable.**

Replace the fuel hose every 2 years. If fuel leaks from fuel hose, replace the fuel hose immediately.

## 9. CHECKING BOLTS, NUTS AND SCREWS

- Retighten loose bolts and nuts.
- Check for fuel and oil leaks.
- Replace damaged parts with new ones.

## 7. EASY TROUBLESHOOTING

### 1. PUMP DOES NOT RUN .

- Engine dose not start.  
(See 7.-4 “4. WHEN ENGINE DOES NOT START”)
- Sticking of impeller  
(Disassemble and clean.)

### 2. PUMPING VOLUME IS SMALL.

- Sucking air at suction side.  
(Check piping at suction side.)
- Drop off engine output  
(Consult your nearest dealer.)
- Breakage of mechanical seal.  
(Consult your nearest dealer.)
- High suction lift (Lower.)
- Suction hose is too long or thin.  
(Use a thick hose in minimum length.)
- Leak of water from water passage.  
(Stop leaking.)
- Clogging of foreign substance in impeller.  
(Disassemble and clean.)
- Wear of impeller.
- Strainer is clogged. (Clean.)
- Engine speed is too low.  
(Consult your nearest dealer.)

### 3. PUMP DOES NOT SELFPRIME.

- Suction of air at suction side.  
(Check piping at suction side.)
- Insufficient priming water inside pump casing  
(Prime fully.)
- Imperfect tightening of drain plug.  
(Tighten the plugs completely.)
- Engine speed is too low.  
(Consult your nearest dealer.)
- Sucking air from mechanical seal.  
(Consult your nearest dealer.)

### 4. WHEN ENGINE DOES NOT START :

Perform the following checks before you take the pump to your Robin dealer. If you still have trouble after completing the checks, take the pump to your nearest Robin dealer.

#### WARNING

**Before testing, carefully wipe off spilled fuel.**

**Put the plug as far away from the spark plug hole as possible.**

**Ground the side of the electrode to any engine ground.**

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#### (1) Is the engine switch set OK?

(See Fig.3-2)

#### (2) Is there a strong spark across the electrode ?

- Remove the spark plug and connect it to the plug cap.  
Pull the starter handle while grounding spark plug against engine body.
- Try with a new spark plug if the spark is weak or there is no spark.
- The ignition system is faulty if there is no spark with a new spark plug.

#### (3) Is there enough compression?

- Pull the starter handle slowly and check if resistance is felt.
- If little force is required to pull the starter handle, check if the spark plug is tightened firmly.
- If the spark plug is loose, tighten it.

#### (4) Is the spark plug wet with fuel?

- Choke (close choke lever) and pull the starter handle five or six times. Remove the plug and check if its electrode is wet. If the electrode is wet, fuel is well supplied to your engine.
- When the electrode is dry, check where the fuel stops.  
(Check the fuel intake of the carburetor and fuel filter intake.)
- In case the engine does not start with well supplied fuel, try using fresh fuel.

## 8. SPECIFICATIONS

MODEL		PKV101
PUMP	Type	Self-priming, Centrifugal pump
	Sction x Delivery Diameters	25.4 x 25.4 mm (1 x 1 in.)
	Total Head	35 m
	Maximum Delivery Volume	110 L / min
	Suction Head	8 m
	Axle Seal Meteria (Mechanical Seal)	Ceramic-carbon
ENGINE	Model	EH025
	Type	Robin Air-cooled, 4-stroke, OHV Gasoline engine
	Fuel	Automotive unleaded gasoline
	Fuel Tank Capacity	0.5 L
	Starting System	Recoil Starter
Dimensions (L x W x H)		333 x 213 x 319 mm
Net Weight		5.3 kg
Standard Accessories		Engine tool kit (1 set), Strainer (1 pc.) Hose coupling (2 pcs.), Hose band (3 pcs.)



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