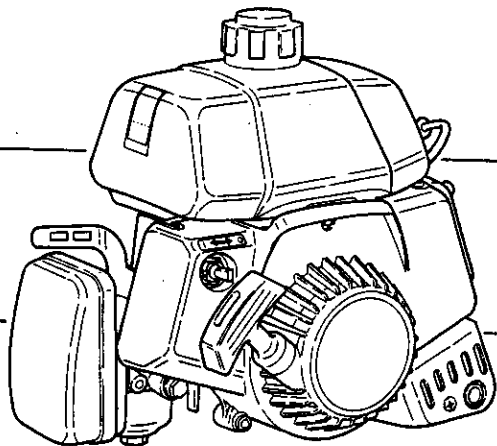




MODEL

**ECO3ER**  
**ECO4ER**

**INSTRUCTIONS FOR USE**  
**MANUEL D'UTILISATION**



CE1

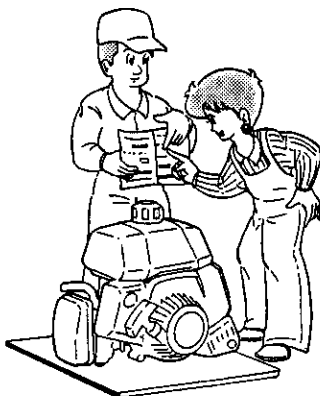
ISSUE EMD-EU1110

1ZZ9990008

**Robin Engines**

# FOREWORD

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



Your **ROBIN ENGINE** can supply the power to operate various sorts of machines and equipment.

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.

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

When ordering spare parts, always give us the **MODEL**, **SPECIFICATION** and **SERIAL NUMBER** of your engine.

Fill in the following blanks after checking the specification number on your engine for your convenience.

**SPEC. NO.** E C

**SERIAL NO.**

# CONTENTS

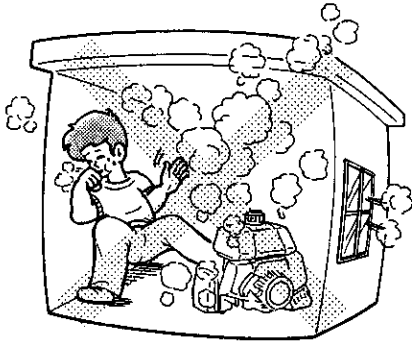
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# SYMBOLS

	<p><i>Read the owner's manual.</i></p>		
	<p><i>Stay clear of the hot surface.</i></p>		
	<p><i>Exhaust gas is poisonous. Do not operate in an unventilated area.</i></p>		
	<p><i>Stop the engine before refueling.</i></p>		
	<p><i>Fire, open flame and smoking prohibited.</i></p>		
	<p><i>On (Run)</i></p>		<p><i>Plus; Positive polarity</i></p>
	<p><i>Off (Stop)</i></p>		<p><i>Battery</i></p>
	<p><i>Engine oil</i></p>		<p><i>Engine start (Electric start)</i></p>
	<p><i>Add oil</i></p>		
 <p>25:1</p>	<p><i>Mixing ratio of gasoline and oil for 2 cycle fuel.</i></p>		

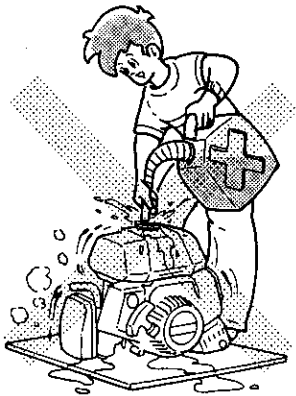
# 1. SAFETY PRECAUTIONS

Please make sure you review each precaution carefully.



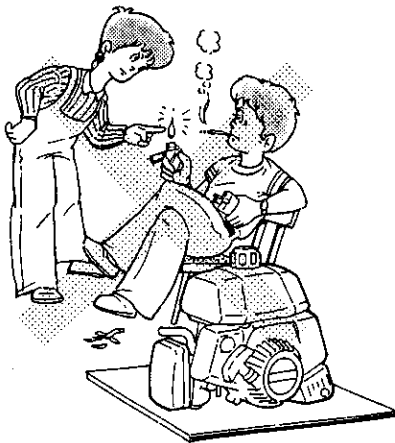
## EXHAUST PRECAUTIONS

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



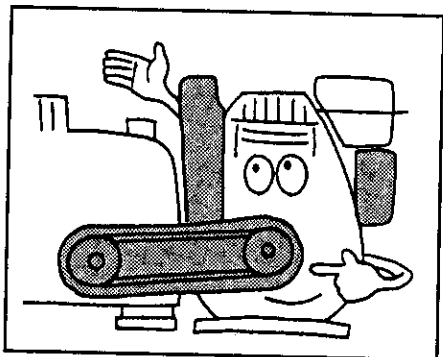
## REFUELING PRECAUTIONS

- Be sure to stop the engine prior to 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 secure to prevent spillage.



## FIRE PREVENTION

- Do not operate while smoking or near an open flame.
- Do not use around dry brush, twigs, cloth rags, or other flammable materials.
- Keep the engine at least 3 feet (1 meter) away from buildings or other structures.
- Keep the engine away from flammables and other hazardous materials (trash, rags, lubricants, explosives).



## PROTECTIVE COVER

- **Place the protective covers over the rotating parts.**

If rotating parts such as the drive shaft, pulley, belt, etc. are left exposed, they are potentially hazardous.

To prevent injury, equip them with protective covers or shrouds.

- **Be careful of hot parts.**

The muffler and other engine parts become very hot while the engine is running or just after it has stopped.

Operate the engine in a safe area and keep children away from the running engine.

- **Never make adjustments on the machinery while it is connected to the engine, without first removing the ignition cable from the spark plug.**

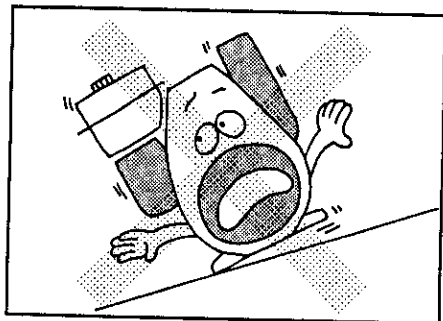
Turning over the machinery by hand during adjusting or cleaning might start the engine, and machinery with it, causing serious injury to the operator.

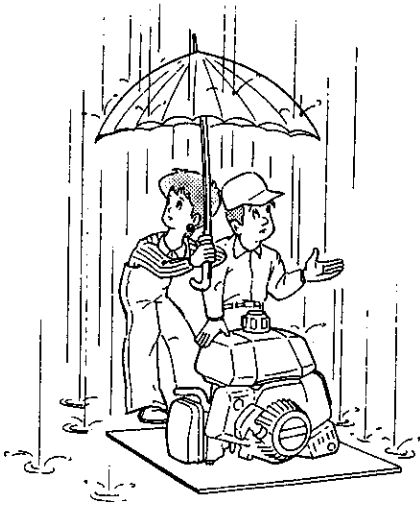
## SURROUNDINGS

- **Operate the engine on a stable, level surface free of small rocks, loose gravel, etc.**

- **Operate the engine on a level surface.**

If the engine is tilted, fuel spillage may result.



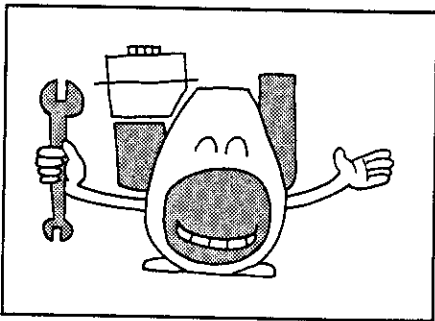


- **Be careful of fuel spillage when transporting the engine.**

Tighten the fuel tank cap securely and close the fuel strainer cock before transport.

- **Do not move the engine while in operation when it has been removed from the equipment.**

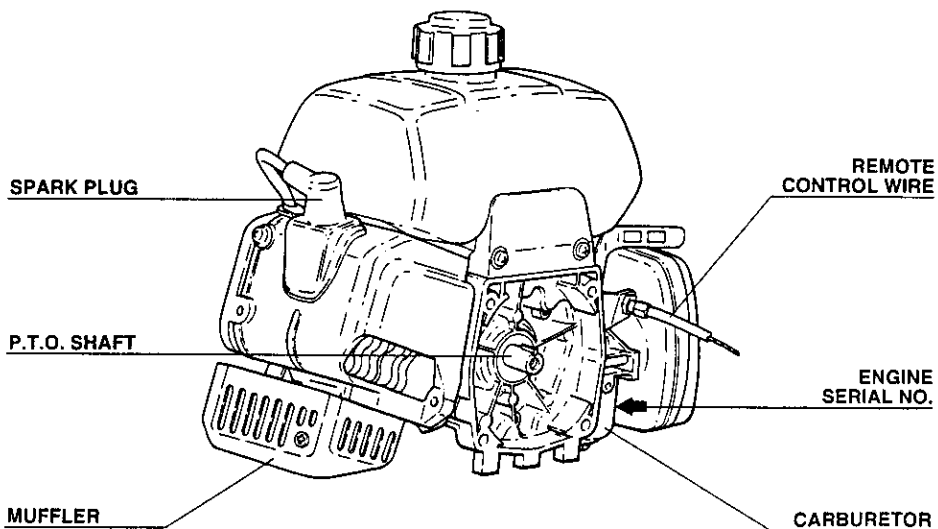
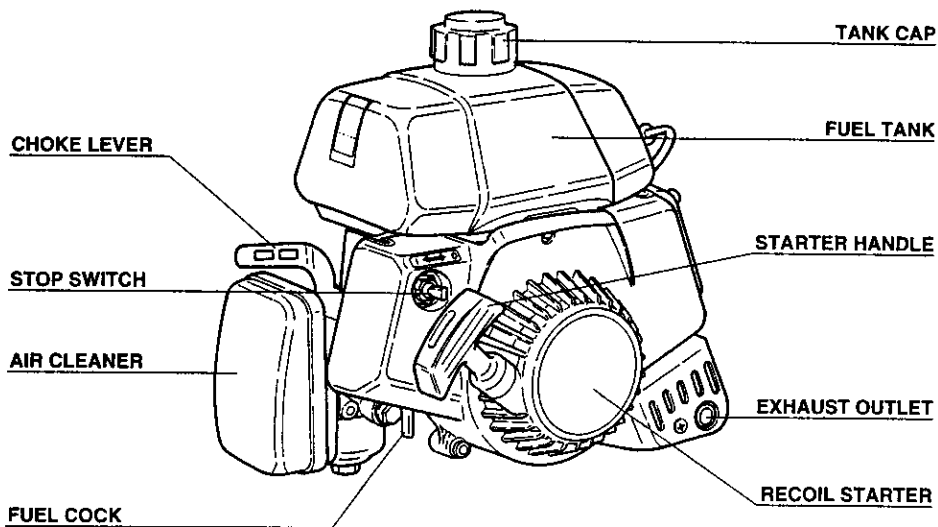
- **Keep the unit dry (do not operate it in rainy conditions).**



## PRE-OPERATION CHECKS

- **Carefully check fuel pipes 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 fuel level and refill if necessary.**  
Take care not to overfill the tank.
- **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.

# 2. COMPONENTS





# **3. PRE-OPERATION CHECKS**

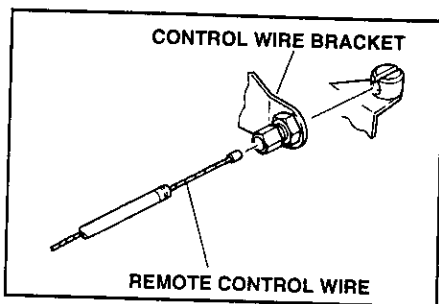
## **CHECK FUEL**

- The fuel tank capacity is approx. 1.1 L
- Use the mixture fuel prepared by mixing gasoline and exclusive 2-cycle oil at a ratio of 25 : 1, or the 2-cycle fuel now available on the market.
- For break-in of a new engine, use mixture fuel of gasoline 20 : 1, 2-cycle engine oil, during first ten hours of operation.
- Close fuel cock before refilling fuel tank.
- Use fuel strainer provided at the fuel filler whenever adding oil.
- Wipe off spilt fuel before starting engine.

### **⚠ WARNING**

- Do not smoke while refueling.
- Be sure to stop the engine while refueling.
- Never operate the engine with gasoline only.

## **TO INSTALL REMOTE CONTROL WIRE**



This engine is designed to accept a remote control wire.

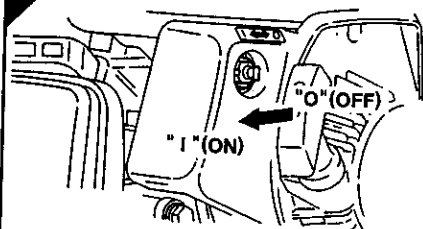
1. Use control wire which will fit into 2.5 mm (0.098 in.) dia. wire hole and 6 mm (0.236 in.) dia. casing.
2. Attach the control wire and casing to the engine through the control wire bracket.

# 4. OPERATING YOUR ENGINE

## STARTING

### STOP SWITCH

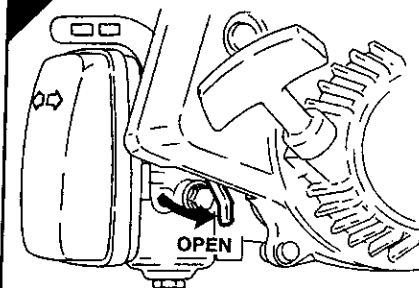
1



Turn the STOP SWITCH clockwise to the position "I".

### FUEL COCK

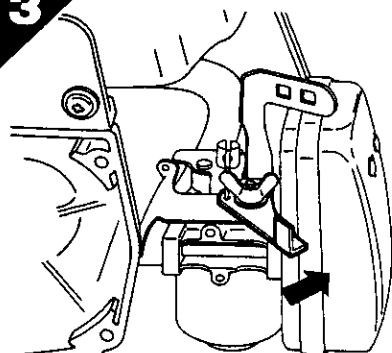
2



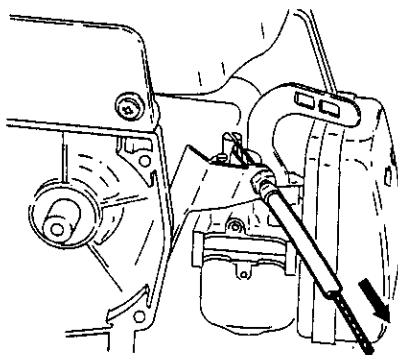
Open the fuel cock.

### SPEED CONTROL LEVER

3



LEVER TYPE

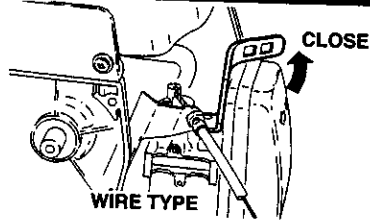
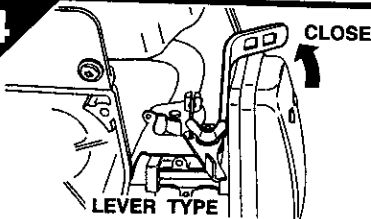


WIRE TYPE

Set the speed control lever at the position 1/2 of the way toward the high speed position.

## CHOKE LEVER

4

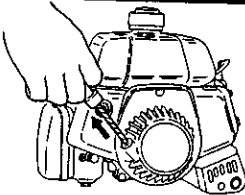


Close the choke lever.

- If the engine is warm or the ambient temperature is high, close the choke lever half-way, or keep it fully open.
- If the engine is cold, or the ambient temperature is low, close the choke lever.

## RECOIL STARTER

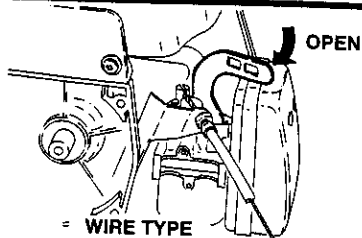
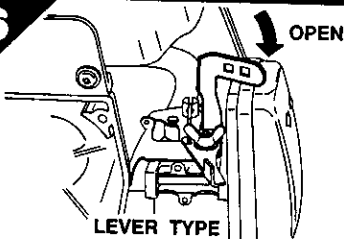
5



- 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.

## CHOKE LEVER

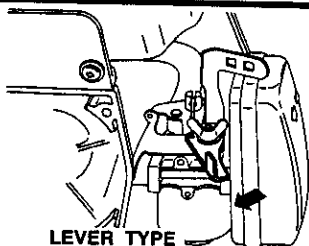
6



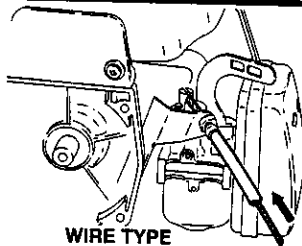
- After starting the engine, gradually open choke by turning the choke lever and finally keep it fully opened.
- Do not fully open the choke lever immediately when the engine is cold or the ambient temperature is low, because the engine may stop.

## RUNNING

### SPEED CONTROL LEVER

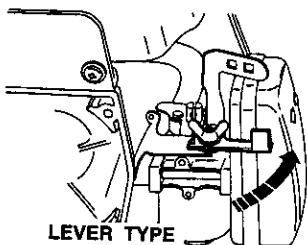


LEVER TYPE

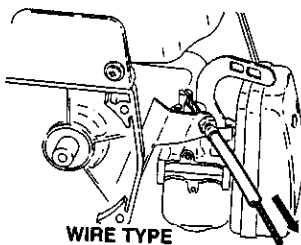


WIRE TYPE

After the engine starts, set the speed control lever at the low speed position and warm it up without a load for a few minutes.



LEVER TYPE



WIRE TYPE

Gradually move the speed control lever toward the high speed position and set it at the required engine speed.

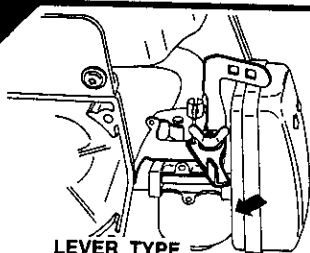
#### NOTE:

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.

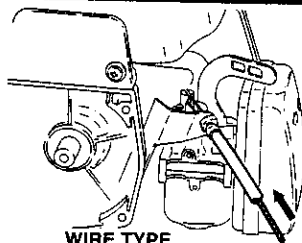
## STOPPING

### SPEED CONTROL LEVER

1



LEVER TYPE

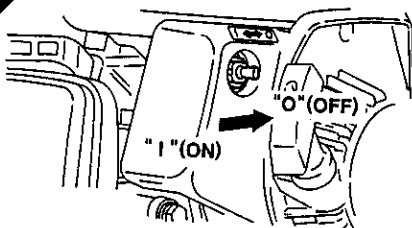


WIRE TYPE

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.

## STOP SWITCH

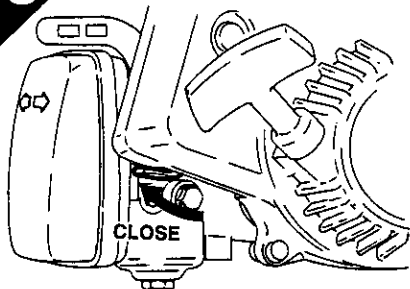
2



Turn the STOP SWITCH counter-clockwise to the position "O".

## FUEL COCK

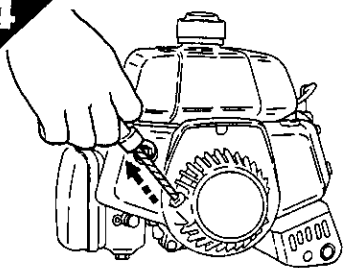
3



Close the fuel cock.

## RECOIL STARTER

4



Pull the starter handle slowly and return the handle to its original position when resistance is felt.

### NOTE:

The above operation is necessary to prevent outside moist air from intruding into the combustion chamber.

## STOPPING ENGINE WITH THE FUEL COCK

Close the fuel cock and wait for a while until the engine stops.

Avoid let the fuel remain in the carburetor over long periods, or the passage of the carburetor may become clogged with impurities, and malfunctions may result.

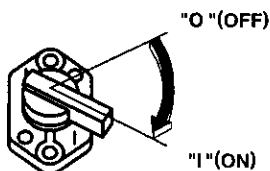
# 5. EASY TROUBLESHOOTING

## WHEN ENGINE DOES NOT START:

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



## Is the engine switch turned ON ?

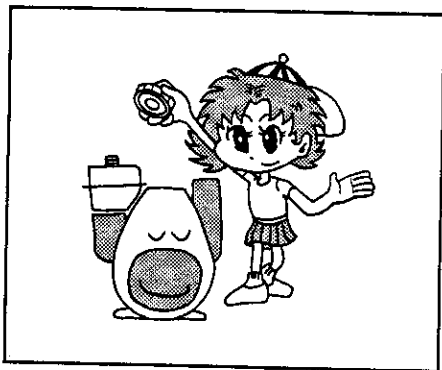


## Is there enough compression ?

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

## Is the spark plug wet with gasoline ?

1. 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.
2. When the electrode is dry, check where the fuel stops. (Check the fuel intake of the carburetor and fuel strainer intake).
3. In case the engine does not start with well supplied fuel, try using fresh fuel.





### Is there a strong spark across the electrode ?

1. Remove the spark plug and connect it to the plug cap.  
Pull the starter handle while grounding spark plug against the engine body using an insulated pliers.
2. Try with a new spark plug if the spark is weak or there is no spark.
3. The ignition system is faulty if there is no spark with a new spark plug.  
Take your engine to your nearest Robin dealer.



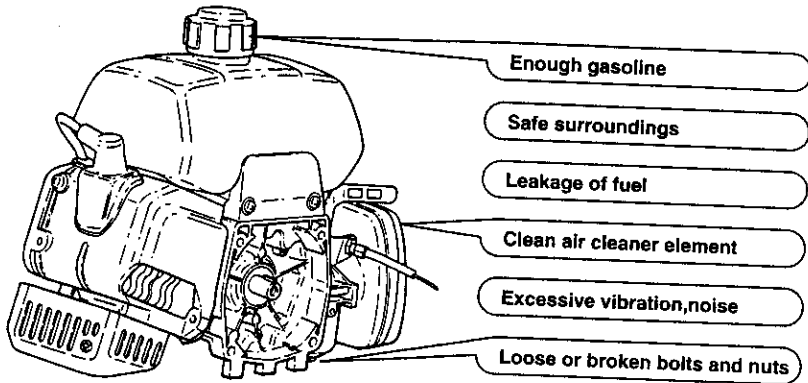
### **WARNING**

**Before testing, carefully wipe up spilled gasoline. Use an insulated pliers to hold the spark plug in order to prevent from getting electric shocks. Hold the plug as far as possible from the spark plug hole. Ground the side of the electrode to any engine ground.**

# 6. MAINTENANCE SCHEDULE

## DAILY INSPECTION

Before running the engine, check the following service items.



## PERIODIC INSPECTION

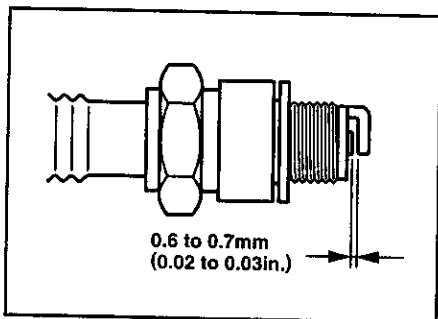
Periodic maintenance is vital to the safe and efficient operation of your engine. Check the table below for periodic maintenance intervals.

The following chart is based on the normal engine operation schedule.

	8 hours (Daily)	50 hours (Weekly)	200 hours (Monthly)	500 hours	1000 hours
CLEAN ENGINE AND CHECK BOLTS AND NUTS	● (Daily)				
CLEAN SPARK PLUG		●			
CLEAN AIR CLEANER		●			
CLEAN FUEL FILTER			●		
CLEAN AND ADJUST SPARK PLUG GAP			●		
CLEAN AND ADJUST CARBURETOR				●	
CLEAN MUFFLER AND EXHAUST PORT				●	
OVERHAUL ENGINE IF NECESSARY				●	●



# 7. "HOW-TO" MAINTENANCE



## INSPECTING THE SPARK PLUG

- Clean off carbon deposits on the spark plug electrode using a plug cleaner or wire brush.
- Check electrode gap.  
Adjust it to between 0.6 mm and 0.7 mm (0.02 and 0.03 inches).
- Recommended spark plug ;

**NGK** : BPM7A  
**CHAMPION** : CJ6Y, CJ7Y

## MAGNETO

Gap between coil  
core and flywheel

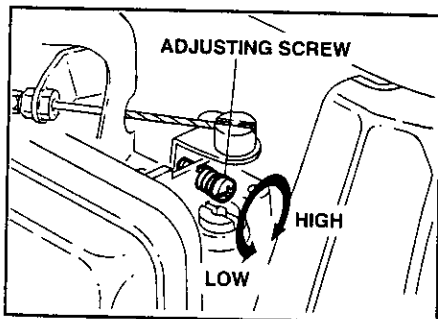
0.4 - 0.5 mm

## ADJUSTING CARBURETOR

### Adjusting idling rpm

When adjust screw is turned right, engine rpm increases, and when it is turned left, rpm decreases.

(Refer to illustration.)



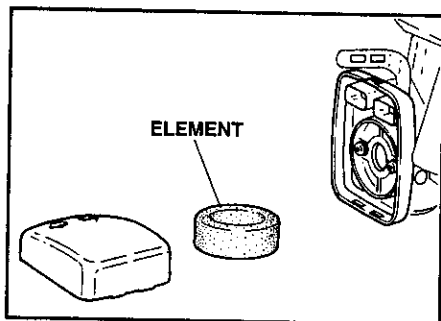
Normal idling rpm

3100 ± 100 rpm

### NOTE:

The carburetor greatly affects the performance of the engine. Since it has been adjusted carefully at our factory before shipment, avoid adjusting it unless absolutely necessary.

If adjustments are needed, contact your nearest dealer.

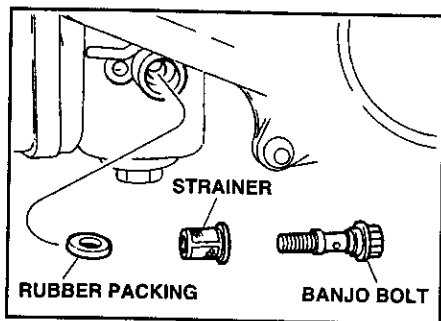


## CLEANING AIR FILTER

- If your air cleaner elements are dirty, this will cause engine starting trouble, power loss, engine malfunctions, and extremely shorten engine life. Keep the air cleaner element clean.
- Remove the element and clean it with kerosene or diesel fuel. Then saturate it in a mixture of 3 parts kerosene or diesel fuel and 1 part engine oil. Squeeze out the excess and install the element.

## CLEANING FUEL STRAINER

- Loosen the banjo bolt from the carburetor and remove the strainer (plastic mesh).
- Clean the strainer with kerosene and reassemble it.

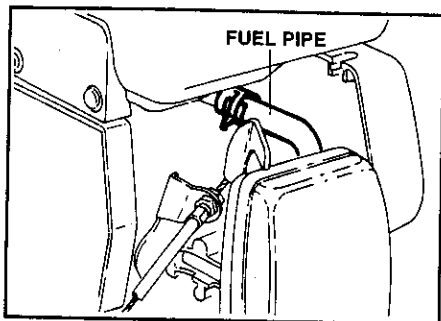


## FUEL PIPE REPLACEMENT

Replace the fuel pipe every 2 years. If the fuel leakage is found on the fuel pipe, replace it immediately.

## CHECKING BOLTS, NUTS AND SCREWS

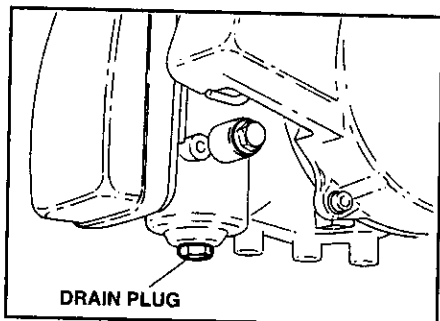
Retighten loose bolts and nuts. Check for fuel and oil leaks. Replace damaged parts with new ones. Keep safety in your mind.



# 8. PREPARATIONS FOR STORAGE

## DISCHARGE FUEL (NO SMOKING !)

Open the fuel cock and put a pan under the drain plug. Then, discharge the fuel by removing the drain plug from the bottom of the carburetor float chamber.



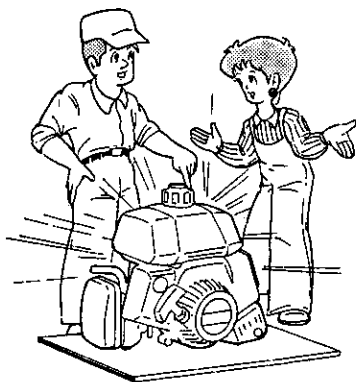
## OIL

- 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 tighten the spark plug.



## CLEAN AND STORE

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



# 9. SPECIFICATIONS

Model		EC03ER	EC04ER
Type		Air-Cooled, 2-Cycle, Inclined Reed Valve	
Displacement		34.4 cm <sup>3</sup>	40.2 cm <sup>3</sup>
Output	Maximum	1.4 kW/7000 min <sup>-1</sup> (1.8 HP/7000 rpm)	1.5 kW/7000 min <sup>-1</sup> (2.0 HP/7000 rpm)
	Continuous	0.9 kW/6000 min <sup>-1</sup> (1.2 HP/6000 pm)	1.1 kW/6000 min <sup>-1</sup> (1.4 HP/6000 rpm)
Direction of Rotation		Counter-clockwise facing P.T.O shaft	
Fuel		Mixture fuel (gasoline 25 : lubricant 1)	
Lubrication		Gasoline-Oil mixing type	
Fuel Tank Capacity		1.1 L	
Lubricant		2-cycle Engine Oil	
Carburetor		Horizontal draft float type	
Method of Ignition		Flywheel (Solid State Ignition)	
Spark Plug		NGK BPM 7A, (CHAMPION CJ6Y, CJ7Y)	
Starting System		Recoil Starter	
Dry Weight		3.4 kg	3.5 kg
Dimensions	Length	172 mm	
	Width	280 mm	
	Height	250 mm	

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