



MODEL

EY15-3D
EY20-3D

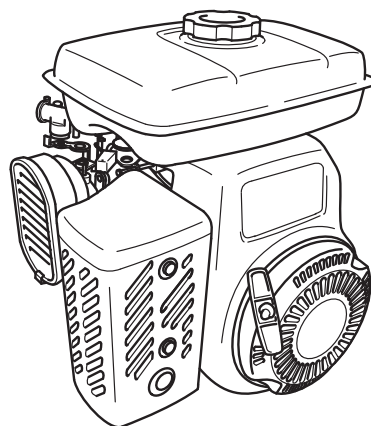


ISSUE EMD-EU1736

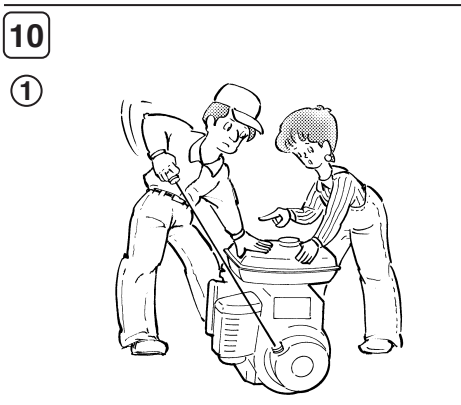
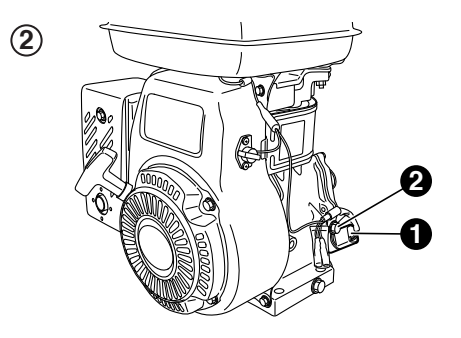
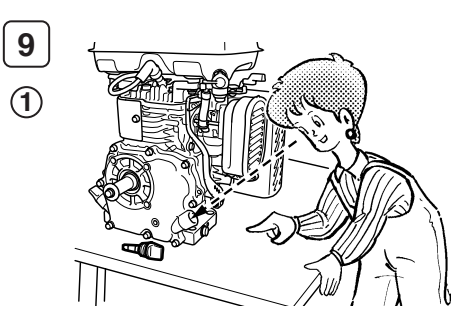
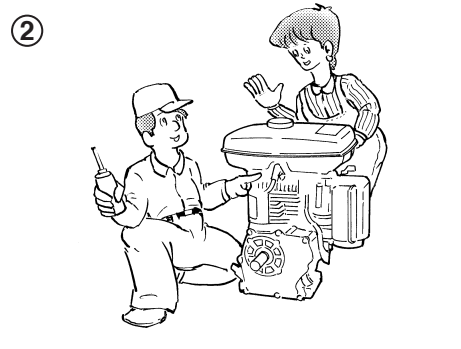
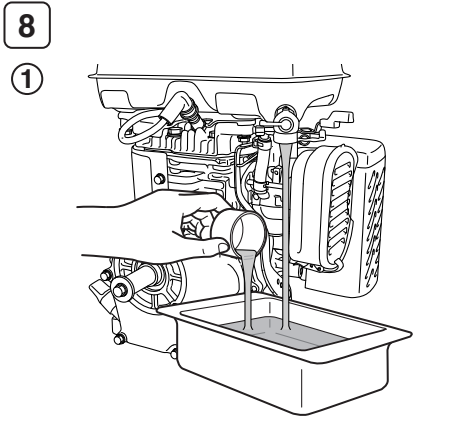
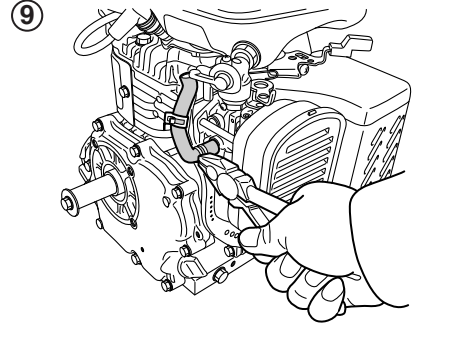
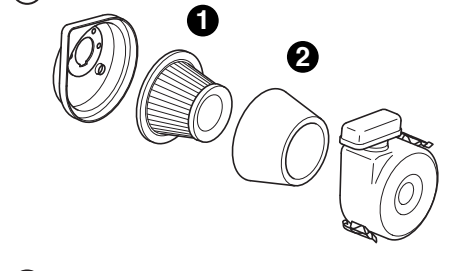
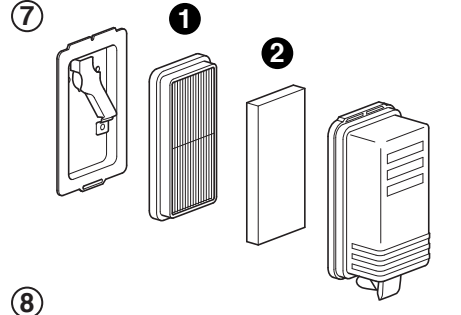
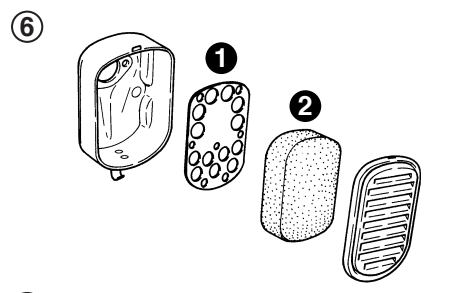
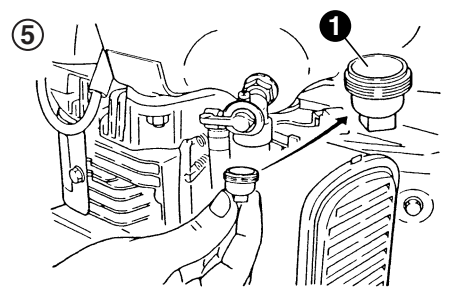
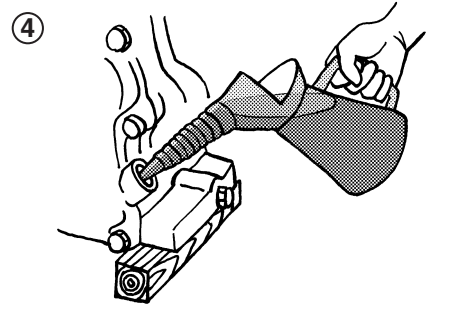
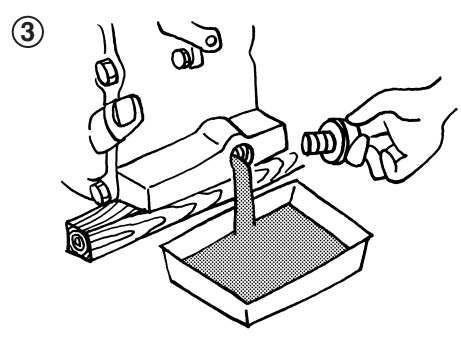
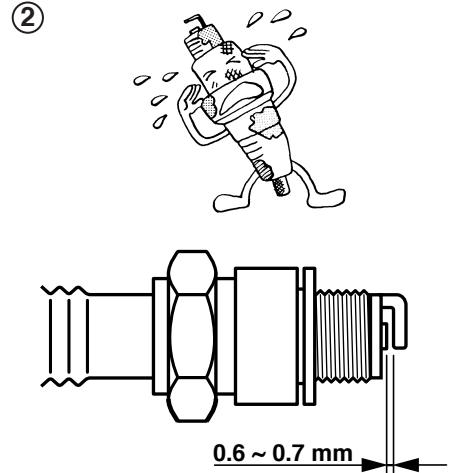
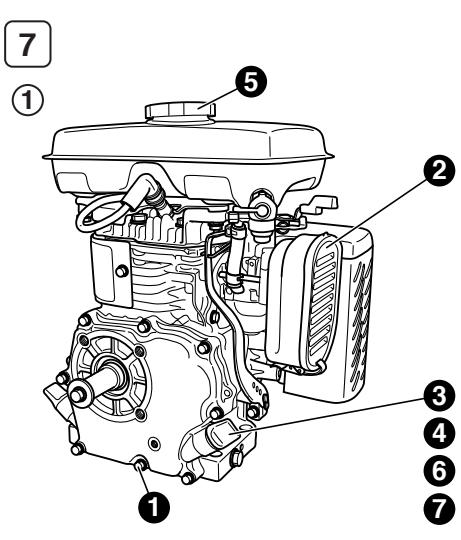
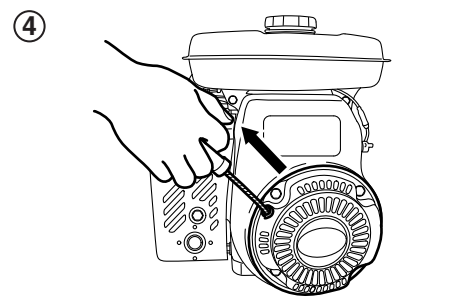
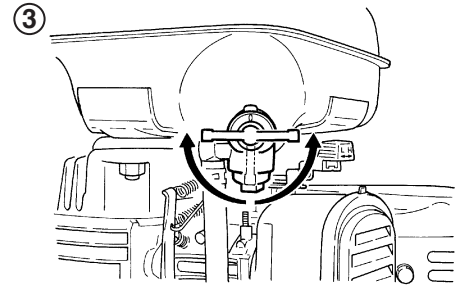
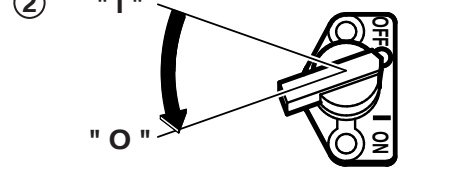
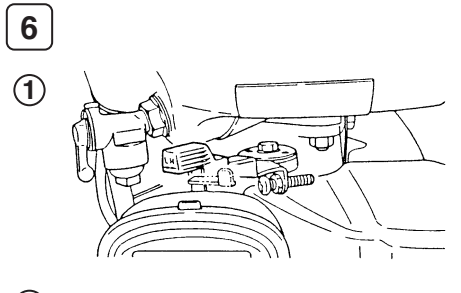
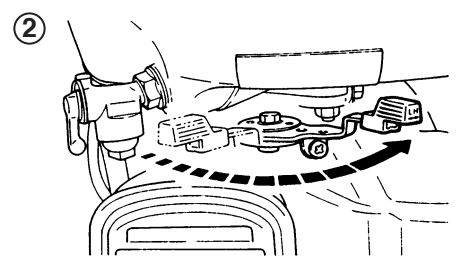
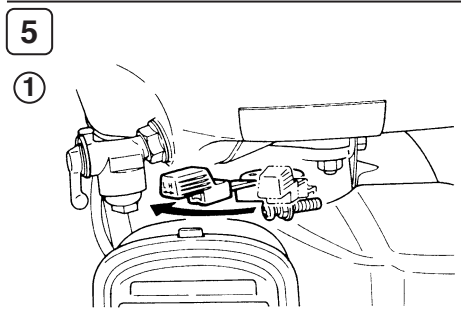
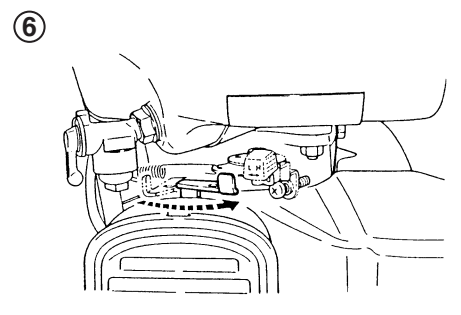
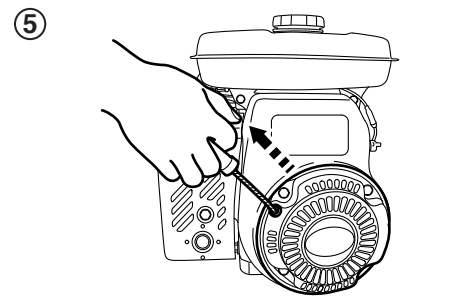
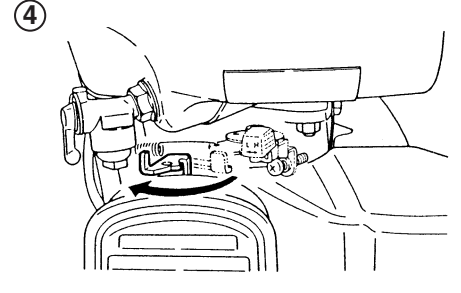
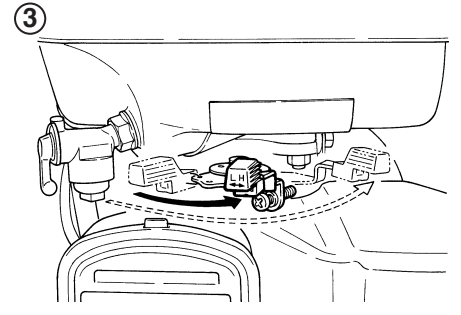
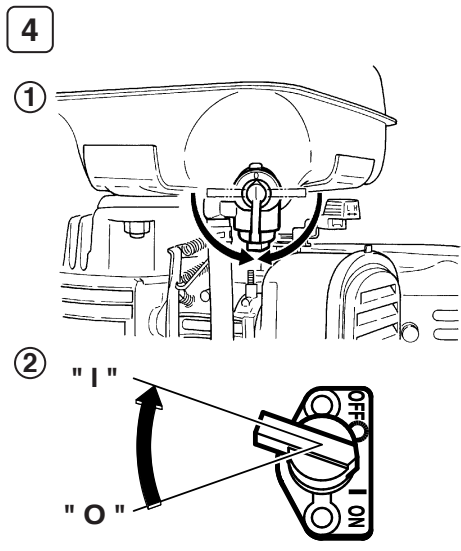
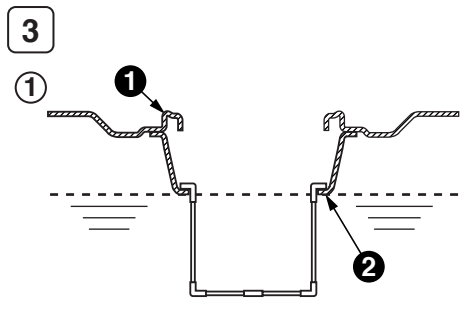
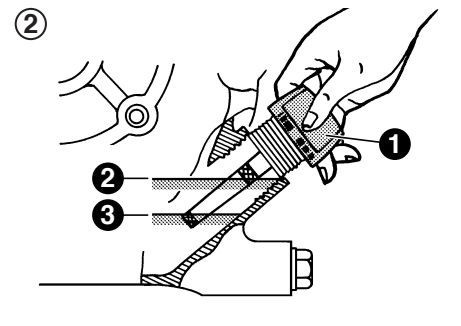
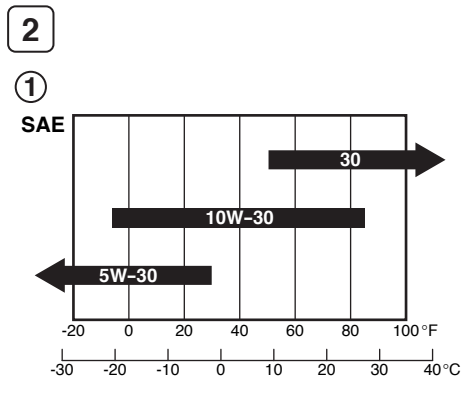
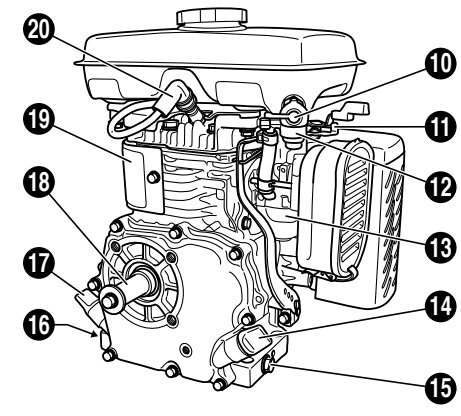
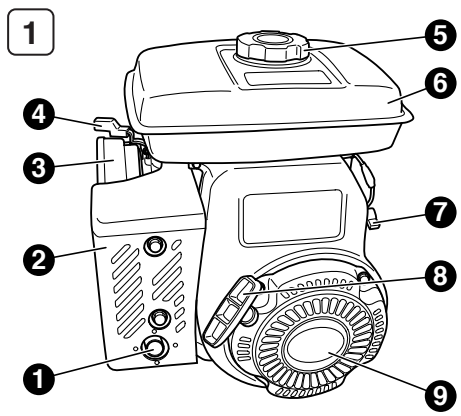
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- Ⓧ JP 取扱説明書
- Ⓧ GB **INSTRUCTIONS FOR USE**
- Ⓧ US *INSTRUCTIONS FOR USE (USA only)*
- Ⓧ FR *MANUEL D'UTILISATION*
- Ⓧ DE *BEDIENUNGSANLEITUNG*
- Ⓧ NL *GEBRUIKSAANWIJZING*
- Ⓧ ES *MANUAL DE INSTRUCCIONES*
- Ⓧ IT *MANUALE D'USO E MANUTENZIONE*
- Ⓧ PT *MANUAL DE INSTRUÇÕES*
- Ⓧ GR *ΟΔΗΓΙΕΣ ΧΡΗΣΕΩΣ ΚΑΙ ΣΥΝΤΗΡΗΣΕΩΣ ΚΙΝΗΤΗΡΩΝ*
- Ⓧ NO *INSTRUKTIONSBOK*
- Ⓧ SE *BRUKSANVISNING*
- Ⓧ FI *KÄYTTÖ-JA HUOLTO-OHJEET*
- Ⓧ DK *BRUGSANVISNING*
- Ⓧ CN 使用说明书
- Ⓧ AR إرشادات الاستعمال

- JP
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- DK
- CN
- AR



Robin Engines



GB**MANUFACTURER'S DECLARATION FOR MACHINERY PARTS
ACCORDING TO 98/37/EC 1998**

Manufactured by: FUJI HEAVY INDUSTRIES LTD.
Industrial Products Company
Saitama Plant
4-410 Asahi, Kitamoto City, Saitama 364-8511, Japan

Description of the machinery parts: "Robin" EC, EY, EH, EX and DY Engines

Reference to harmonized standards: Not available

THIS MACHINERY PART MUST NOT BE PUT INTO SERVICE UNTIL THE MACHINERY INTO WHICH IT IS TO BE INCORPORATED HAS BEEN DECLARED IN CONFORMITY WITH THE PROVISIONS OF THE APPROPRIATE MACHINERY DIRECTIVE.

Signed by:

F. Tachibana
Manager, Quality Control

Date: July 2002

FR**DECLARATION DU CONSTRUCTEUR DES COMPOSANTS DE
MACHINES SELON LA DIRECTIVE 98/37/EC 1998**

Construit par: FUJI HEAVY INDUSTRIES LTD.
Industrial Products Company
Saitama Plant
4-410 Asahi, Kitamoto City, Saitama 364-8511, Japan

Description des composants de machines: Moteurs "Robin" EC, EY, EH, EX et DY

Référence aux normes harmonisées: Non disponible

CE COMPOSANT DE MACHINE NE DOIT PAS ETRE MIS EN SERVICE TANT QUE LA MACHINE DANS LAQUELLE IL EST INTEGRE, N'A PAS ETE DECLAREE CONFORME AUX DIRECTIVES MACHINES APPROPRIEES.

Signé par:

F. Tachibana
Directeur Controle Qualité

Date: Juillet 2002

DE**HERSTELLERERKLÄRUNG FÜR MASCHINENTEILE GEMÄß
98/37/EG 1998**

Hergestellt von: FUJI HEAVY INDUSTRIES LTD.
Industrial Products Company
Saitama Plant
4-410 Asahi, Kitamoto City, Saitama 364-8511, Japan

Beschreibung der Maschinenteile: Motoren von "ROBIN" (Modelle EC, EY, EH, EX und DY)

Verweis auf harmonisierte Normen: Nicht verfügbar

DIESES MASCHINENTEIL DARF NICHT IN BETRIEB GENOMMEN WERDEN, BEVOR DIE MASCHINE, IN DER ES ZUM EINSATZ KOMMEN SOLL, MIT DEN BESTIMMUNGEN DER ENTSPRECHENDEN MASCHINENRICHTLINIE KONFORM BZW. DIESEN ENTSPRECHEND ERKLÄRT WURDE.

Unterzeichnet von:

F. Tachibana
Leiter, Qualitätssicherung

Datum: Juli 2002

NL**VERKLARING VAN DE CONSTRUCTEUR VOOR MACHINE
ONDERDELEN VOLGENS 98/37/EC 1998**

Gefabriceerd door: FUJI HEAVY INDUSTRIES LTD.
Industrial Products Company
Saitama Plant
4-410 Asahi, Kitamoto City, Saitama 364-8511, Japan

Beschrijving van de machine onderdelen: "Robin" EC, EY, EH, EX en DY motoren

Referentie naar geharmoniseerde standaarden: Niet beschikbaar

DEZE MACHINE ONDERDELEN MOGEN NIET IN WERKING WORDEN GESTELD ALVORENS ZEKER IS DAT DE APPLICATIE WAARVOOR DEZE ONDERDELEN WORDEN GEBRUIKT GEHEEL VOLGENS FIGERENDE RICHTLIJNEN ZIJN.

Ondertekend door:

F. Tachibana
Manager, Kwaliteit Controle

Datum: Juli 2002

ES**DECLARACION DEL FABRICANTE DE CONFORMIDAD DE LAS PARTES
DE LA MAQUINARIA CON LA DIRECTIVA 98/37/EC 1998**

Fabricado por: FUJI HEAVY INDUSTRIES LTD.
Industrial Products Company
Saitama Plant
4-410 Asahi, Kitamoto City, Saitama 364-8511, Japan

Descripción de las partes de la maquinaria: MOTORES "ROBIN" EC, EY, EH, EX y DY

Referencias a normas armonizadas: No disponibles

ESTA PIEZA NO DEBE SER PUESTA EN FUNCIONAMIENTO HASTA QUE LA MAQUINA A LA CUAL SE INCORPORA HAYA SIDO DECLARADA CONFORME CON LAS DISPOSICIONES DE LAS CORRESPONDIENTES DIRECTIVAS SOBRE MAQUINARIA.

Firmado por:

F. Tachibana
Director Control de Calidad

Fecha: Julio 2002

IT**DICHIARAZIONE DEL COSTRUTTORE DI COMPONENTI DI MACCHINE
SECONDO LA DIRETTIVA 98/37/EC 1998**

Produttore: FUJI HEAVY INDUSTRIES LTD.
Industrial Products Company
Saitama Plant
4-410 Asahi, Kitamoto City, Saitama 364-8511, Japan

Descrizione del componente della macchina: MOTORI "ROBIN" EC, EY, EH, EX e DY

Riferimento alle norme armonizzate: Non disponibile

QUESTO COMPONENTE NON PUO' ESSERE MESSO IN SERVIZIO SE LA MACCHINA DELLA QUALE FA PARTE NON E' STATA DICHIARATA CONFORME ALLE PRESCRIZIONI DELLA VIGENTE DIRETTIVA MACCHINE.

Firma:

F. Tachibana
Direttore del Controllo Qualità

Data: luglio 2002

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.

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.

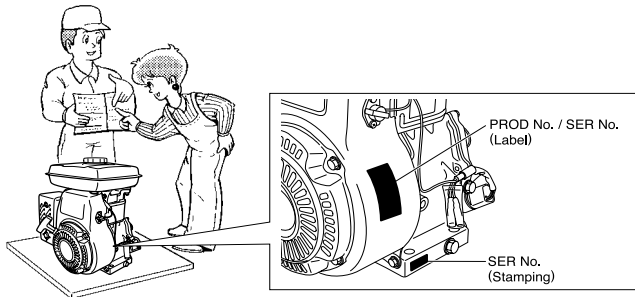
Due to constant efforts to improve our products, certain procedures and specifications are subject to change without notice.

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

Please fill in the following blanks after checking the production number on your engine. (Location of label is different depending on the engine specification.)

PROD NO.									

SER NO.				



NOTICE

The engines which have emission label are allowed to be exported to U.S.A. except the State of California. The emission label placed on the engine indicates that the engine is complied with EPA (Environmental Protection Agency) emission regulation in U.S.A. Exporting any engine to U.S.A. which does not have the emission label is a violation of EPA emission law subject to civil penalty.

CONTENTS

	Page
1. SAFETY PRECAUTIONS	2
2. COMPONENTS	4
3. PRE-OPERATION CHECKS	5
4. OPERATING YOUR ENGINE	5
5. MAINTENANCE	6
6. PREPARATIONS FOR STORAGE	7
7. OIL SENSOR INSTRUCTIONS (OPTIONAL)	7
8. EASY TROUBLESHOOTING	8
9. SPECIFICATIONS	8

NOTE Please refer to the illustrations on the back page of the front cover or back cover for Fig. ① to ⑩ indicated in the sentence.

1. SAFETY PRECAUTIONS

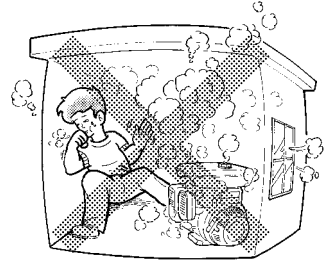
Please make sure you review each precaution carefully.
Pay special attention to statements preceded by the following words.

⚠ 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.

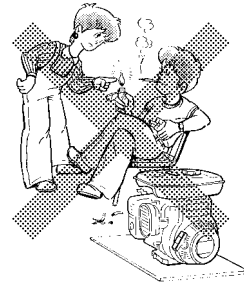
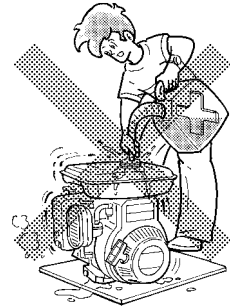
⚠ WARNING : EXHAUST PRECAUTIONS

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



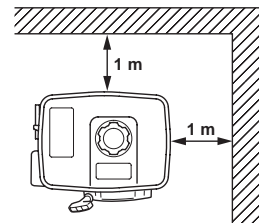
⚠ WARNING : REFUELING PRECAUTIONS

- 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 engine 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.



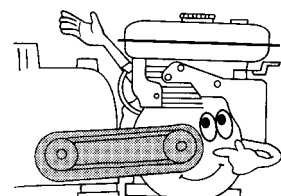
⚠ WARNING : FIRE PREVENTION

- Do not operate the engine 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 engine away from flammables and other hazardous materials (trash, rags, lubricants, explosives).

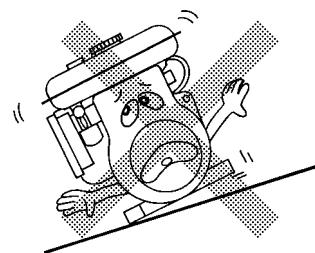


⚠ WARNING : OTHER SAFETY PRECAUTIONS

- 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.



- Do not touch the spark plug and ignition cable when starting and operating the 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 the crankshaft by hand during adjusting or cleaning might start the engine, and machinery with it, causing serious injury to the operator.
- Operate the engine on a stable, level surface.
If the engine is tilted, fuel spillage may result.



NOTE

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

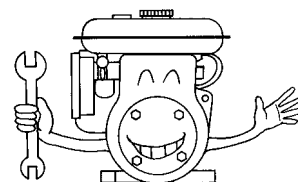
- Do not transport the engine with fuel in tank or with fuel strainer cock open.
- Do not move the engine while in operation when it has been removed from the equipment.
- Keep the unit dry (do not operate it in rainy conditions).



GB

⚠ 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.



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 10 indicated in the sentence.

- | | |
|-------------------------------|---------------------------------|
| ① EXHAUST OUTLET | ⑪ CHOKE LEVER |
| ② MUFFLER COVER | ⑫ FUEL STRAINER |
| ③ AIR CLEANER | ⑬ CARBURETOR |
| ④ SPEED CONTROL LEVER | ⑭ OIL GAUGE (OIL FILLER) |
| ⑤ FUEL TANK CAP (FUEL FILLER) | ⑮ OIL DRAIN PLUG |
| ⑥ FUEL TANK | ⑯ ENGINE SERIAL NO. (STAMPING) |
| ⑦ STOP SWITCH | ⑰ OIL GAUGE (OIL FILLER) |
| ⑧ STARTER HANDLE | ⑱ P.T.O. SHAFT |
| ⑨ RECOIL STARTER | ⑲ ENGINE NAME LABEL (SPEC. No.) |
| ⑩ FUEL COCK | ⑳ SPARK PLUG |

3. PRE-OPERATION CHECKS

NOTE

Engine shipped from our factory is without oil.
Before starting engine, fill with oil. Do not over-fill.

1. CHECK ENGINE OIL (See Fig. ②)

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 SE or higher grade.
- Select the viscosity based on the air temperature at the time of operation as shown in the table. (See Fig.②-①)

OIL CAPACITY : 0.6 liter

Explanation of Fig.②-②

- ① Oil Gauge
- ② Upper Level (0.6 liter)
- ③ Lower Level

2. CHECK FUEL (See Fig. ③)

WARNING

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

- Use unleaded automotive gasoline only.
Fuel Tank Capacity
EY15-3 : 2.8 liter
EY20-3 : 3.8 liter
- Close the fuel cock before filling the fuel tank.
- Do not fill above the top of the fuel filter screen (marked ②), or the fuel may overflow when it heats up later and expands.
- When filling the fuel tank, always use the fuel filter screen.
- Wipe off any spilled fuel before starting the engine.
(See Fig.③-②)

4. OPERATING YOUR ENGINE

(See Fig. ④)

1. STARTING

- (1) Open the fuel cock. (See Fig.④-①)
- (2) Turn the STOP SWITCH to the position “ I ” (ON).
(See Fig.④-②)
- (3) Set the speed control lever 1/3 of the way towards the high speed position. (See Fig.④-③)
- (4) Close the choke lever. (See Fig.④-④)
 - 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.
- (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.④-⑤)
- (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, or the engine may stop. (See Fig.④-⑥)

2. RUNNING

- (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.⑤-①)
- (2) Gradually move the speed control lever toward the high speed position (H) and set it at the required engine speed. (See Fig.⑤-②)
 - Whenever high speed operation is not required, slow the engine down (idle) by moving the speed control lever to save fuel and to extend engine life.

3. STOPPING

- (1) Set the speed control lever at the low speed position and allow the engine to run at low speed for 1 or 2 minutes before stopping.
(See Fig.⑥-①)
- (2) Turn the STOP SWITCH counterclockwise to the position “ O ” (OFF). (See Fig.⑥-②)
- (3) Close the fuel cock. (See Fig.⑥-③)
- (4) 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.⑥-④)

※ STOPPING ENGINE WITH THE FUEL COCK

Close the fuel cock and wait for a while until the engine stops. Avoid to let the fuel remain in the carburetor over long periods, or the passages of the carburetor may become clogged with impurities, and malfunctions may result.

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5. MAINTENANCE

(See Fig. 7)

1. DAILY INSPECTION (See Fig. 7-①)

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 Excessive vibration, noise

2. PERIODIC INSPECTION

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

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

3. INSPECTING THE SPARK PLUG

(See Fig. 7-②)

- (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 0.6 mm to 0.7 mm (0.02 inch.–0.03 inch.). Adjust the gap, if necessary, by carefully bending the side electrode.

**Recommended Spark Plug : NGK B-6HS or BR-6HS
(CHAMPION L86C or RL86C)**

4. ENGINE OIL CHANGE (See Fig. 7-③,④)

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.

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

OIL CAPACITY : 0.6 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.

5. CLEANING FUEL STRAINER

(See Fig. 7-⑤)

⚠ WARNING Flame Prohibited

- (1) Inspect fuel strainer for water and dirt.
(See Fig. 7-⑤-①)
- (2) To remove water and dirt, close the fuel cock and remove the strainer cup.
- (3) After removing dirt and water, wash the strainer cup with gasoline. Reinstall securely to prevent leakage.

Maintenance items	Every 8 hours (Daily)	Every 50 hours (Weekly)	Every 200 hours (Monthly)	Every 300 hours	Every 500 hours	Every 1000 hours
CLEAN ENGINE AND CHECK BOLTS AND NUTS	● (Daily)					
CHECK AND REFILL ENGINE OIL	● (Refill daily up to upper level.)					
CHANGE ENGINE OIL	(Initial 20 hours)	●				
CLEAN SPARK PLUG		●				
CLEAN AIR CLEANER		●				
CLEAN FUEL STRAINER			●			
CLEAN AND ADJUST SPARK PLUG AND ELECTRODES			●			
CHECK AND ADJUST VALVE CLEARANCE				●		
REMOVE CARBON FROM CYLINDER HEAD					●	
CLEAN AND ADJUST CARBURETOR					●	
OVERHAUL ENGINE IF NECESSARY						●

6. CLEANING AIR CLEANER

(See Fig. 7-6, 7, 8)

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.

⚠ WARNING Flame Prohibited

(1) Urethane Foam Element Type
(See Fig. 7-6)

- Remove the element and wash it in kerosene or diesel fuel. Then saturate it in a mixture of 3 parts kerosene or diesel fuel and 1 part engine oil. Squeeze the element to remove the mixture and install it in the air cleaner.

(2) Urethane Foam Dual Element Type
(See Fig. 7-7, 8)

- Urethane Foam cleaning (See Fig. 7-7, 8-2)
Wash and clean the urethane foam with detergent. After cleaning, dry it. Clean the urethane foam element every 50 hours.
- Second element (See Fig. 7-7, 8-1)
Clean by tapping gently to remove dirt and blow off dust. Or wash the element with water, and dry it. Never use oil. Clean the paper element every 50 hours of operation, and replace element set every 200 hours.

Clean and replace air cleaner elements more often when operating in dusty environments.

7. FUEL HOSE REPLACEMENT

(See Fig. 7-9)

⚠ 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.

8. CHECKING BOLTS, NUTS AND SCREWS

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

6. PREPARATIONS FOR STORAGE

1. DISCHARGE FUEL (See Fig. 8-1)

⚠ WARNING Flame Prohibited

If you do not use the engine more than 1 month, discharge fuel to prevent gum in the fuel system and carburetor parts.

- Remove the strainer cup, place the strainer over a container and open the strainer cock to discharge fuel from the fuel tank.
- Remove the drain screw of the carburetor float chamber and discharge fuel.

2. 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.

3. CLEAN AND STORE

- Slowly pull the recoil starter handle 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.

7. OIL SENSOR INSTRUCTIONS

(OPTIONAL)

1. FUNCTION OF OIL SENSOR

The engine will stop automatically when the oil level falls below the safety limit. The engine cannot be started unless the level is raised above the prescribed limit.

(See Fig. 9-1)

2. RESTARTING

- (1) Fill the crankcase with oil up to the proper level.
- (2) As for restarting and operating the engine, refer to section "4. OPERATING YOUR ENGINE" on page 5.
 - Check the wire connector from the engine. It must be connected securely to the wire from oil sensor. (See Fig. 9-2-2 Fix the earth wire.)
 - Do not remove the oil sensor from the engine for checking oil level and refilling. (See Fig. 9-2-1)
 - When selecting the engine oil, refer to page 5 for the recommended oil.

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8. EASY TROUBLESHOOTING

(See Fig. 10)

WHEN ENGINE WILL 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.

1. Is there a strong spark across the electrode ? (See Fig. 10-2)

- (1) Is the stop switch at position " I " (ON)?
- (2) Remove and inspect the spark plug.
If the electrode is fouled, clean or replace it with new one.
- (3) 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.

! WARNING

- Wipe out spilled fuel carefully before testing. Place spark plug as far away from spark plug hole as possible.
- Do not hold spark plug by hand while pulling recoil starter.

NOTE

The engine with oil sensor will stop automatically when the oil level falls below the prescribed limit. Unless the oil level is raised above the prescribed limit, the engine will stop immediately after starting.

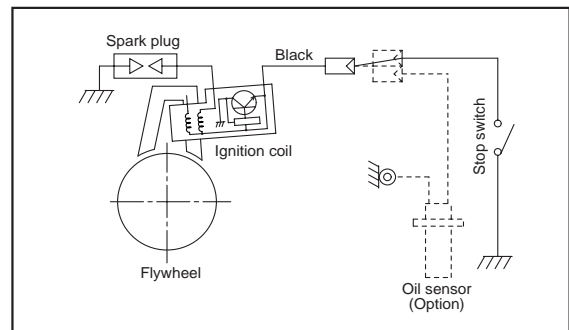
2. Is there enough compression? (See Fig. 10-3)

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.

3. Is the spark plug wet with gasoline? (See Fig. 10-4)

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

WIRING DIAGRAM



9. SPECIFICATIONS

MODEL		EY15-3D	EY20-3D
Type		Air-cooled, 4-cycle single cylinder, side valve, gasoline engine	
Displacement	mL (cc)	143	183
Continuous Output	kW/rpm (HP/rpm)	2.0/3600 (2.7/3600)	2.6/3600 (3.5/3600)
Maximum Output	kW/rpm (HP/rpm)	2.6/4000 (3.5/4000)	3.7/4000 (5.0/4000)
Direction of Rotation		Counterclockwise, as Viewed from P.T.O. Shaft side	
Lubricant		Automotive detergent oil (API/ SE or higher grade, SAE/ 10W-30 etc.)	
Oil Capacity	Liter	0.6	
Fuel		Automotive Gasoline (Unleaded)	
Fuel Tank Capacity	Liter	2.8	3.8
Spark Plug		NGK B-6HS or BR-6HS, (CHAMPION L86C or RL86C)	
Starting System		Recoil starter	
Dry Weight	kg	13.2	15
Dimensions (L x W x H) mm		294 x 304 x 368	303 x 318 x 392