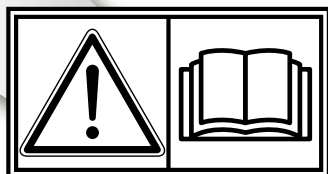


MODEL



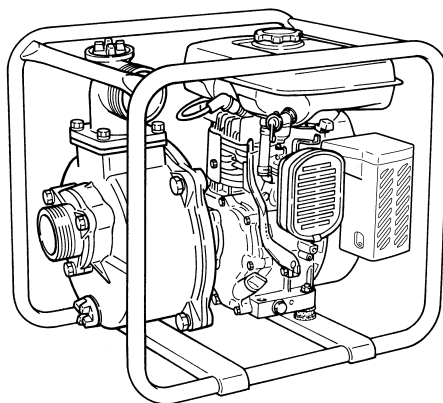
# PTG series

109/155/208    208T/305T/405T  
209/307/405    208D/307D  
208ST/307ST    208H



- GB** *INSTRUCTIONS FOR USE*
- 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*
- RU** *РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ*
- CN** *使用说明书*
- AR** *إرشادات الاستعمال*

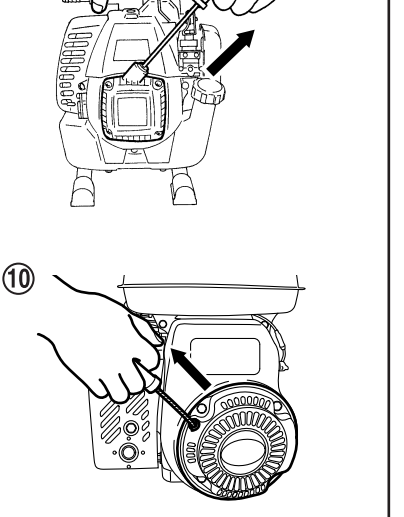
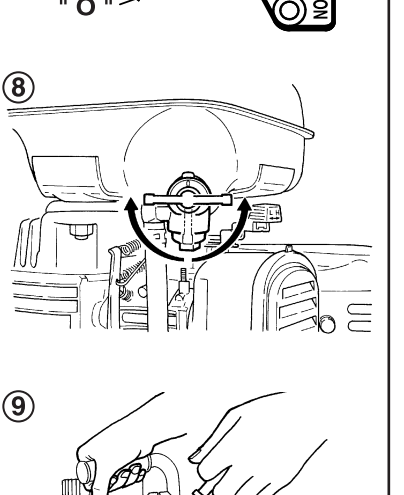
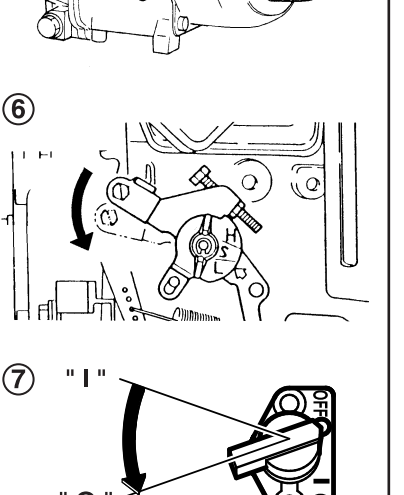
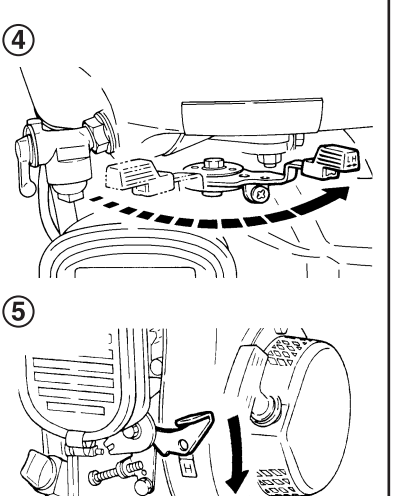
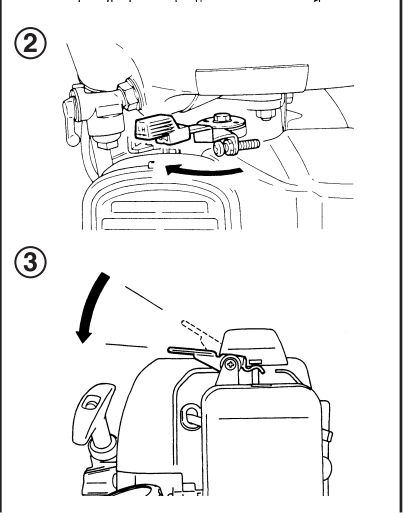
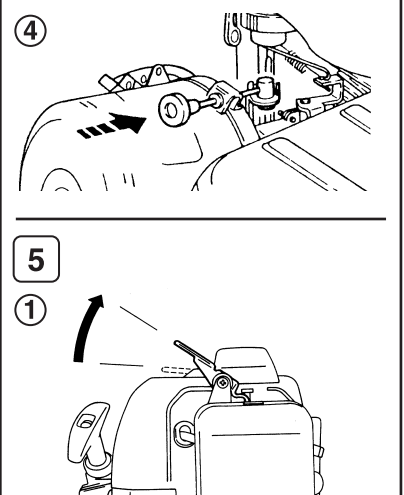
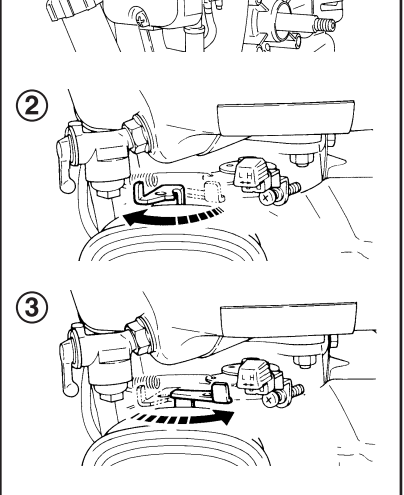
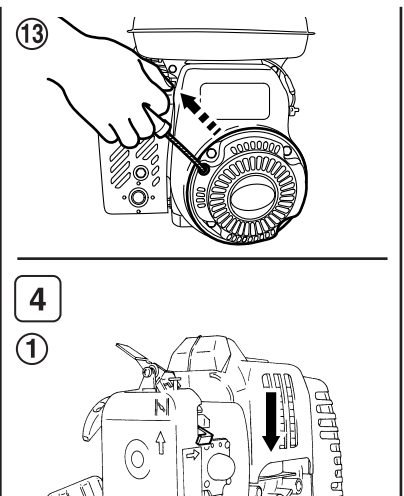
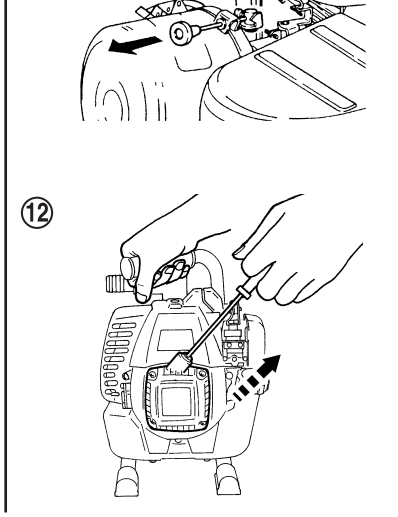
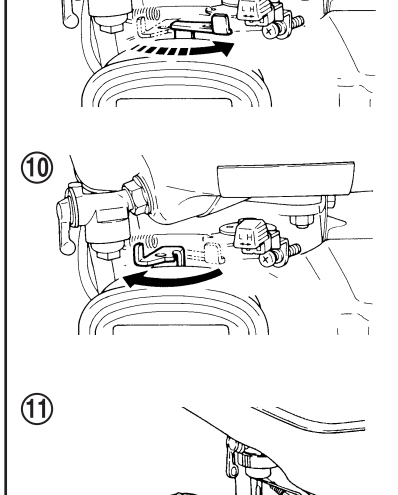
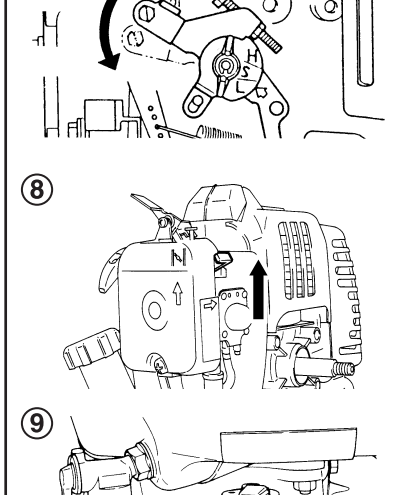
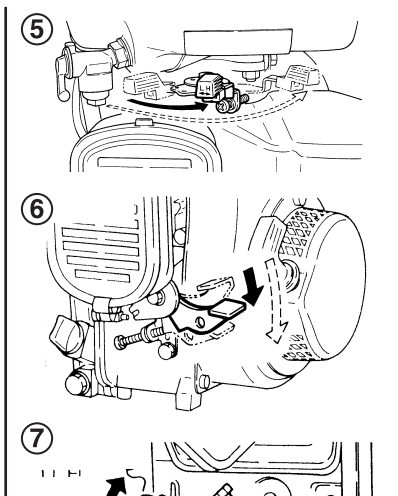
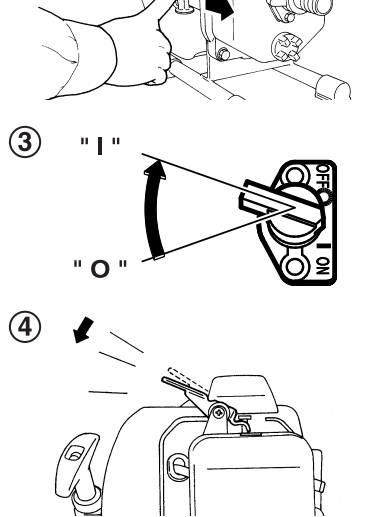
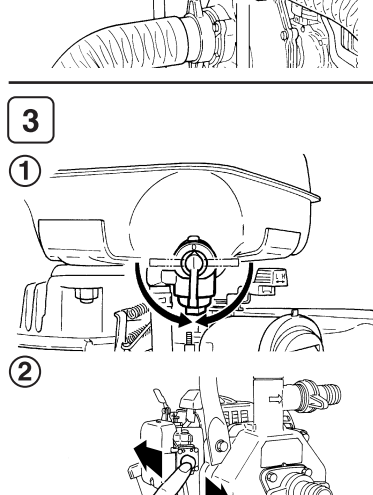
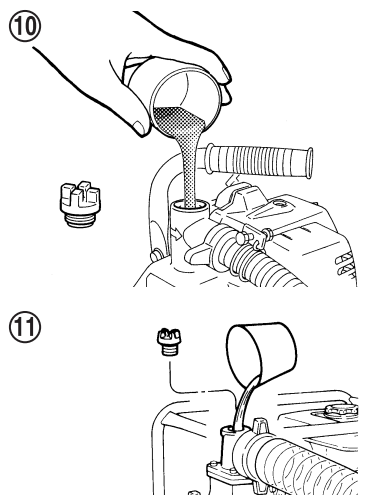
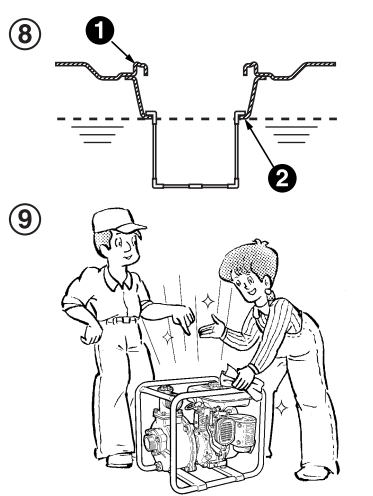
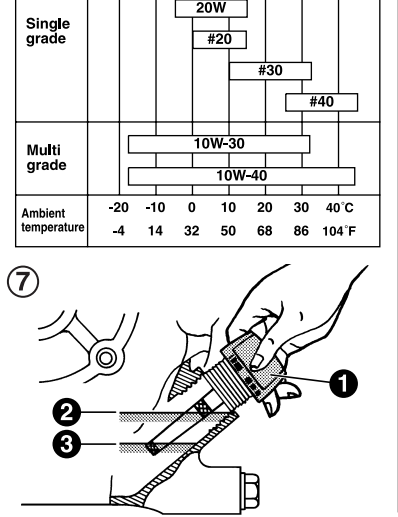
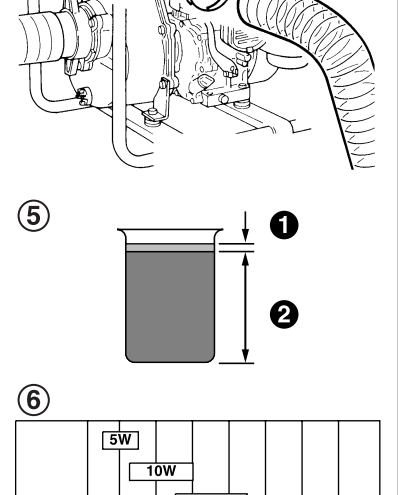
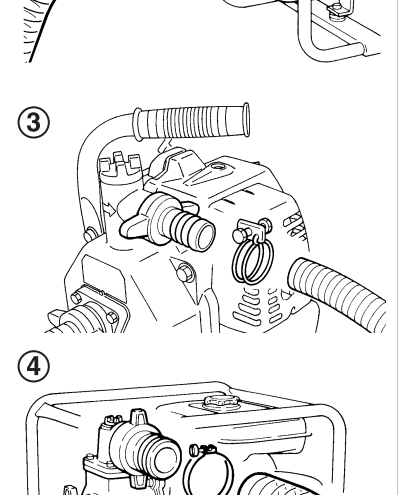
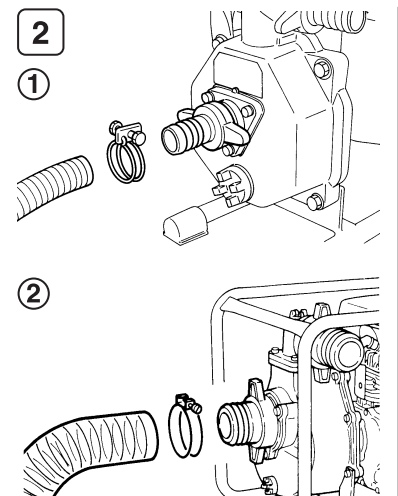
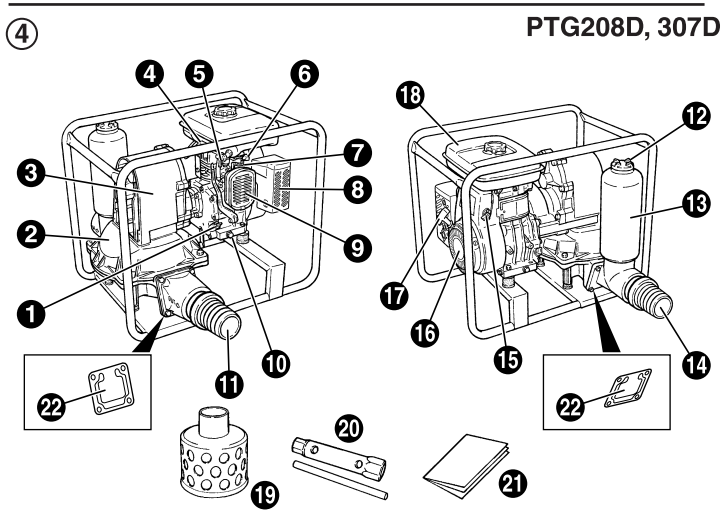
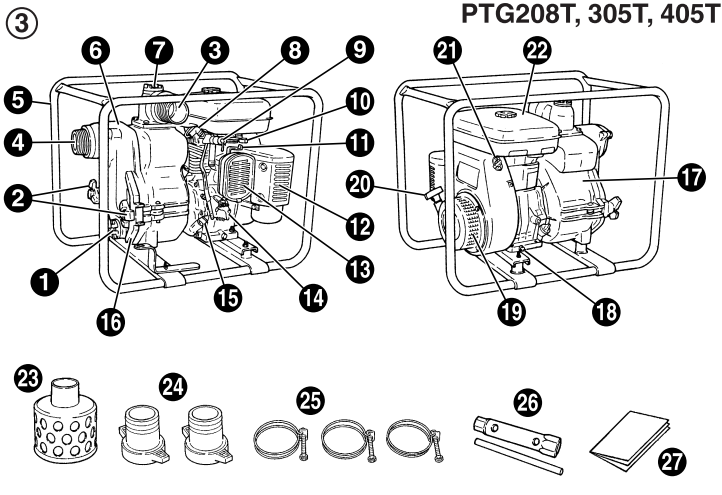
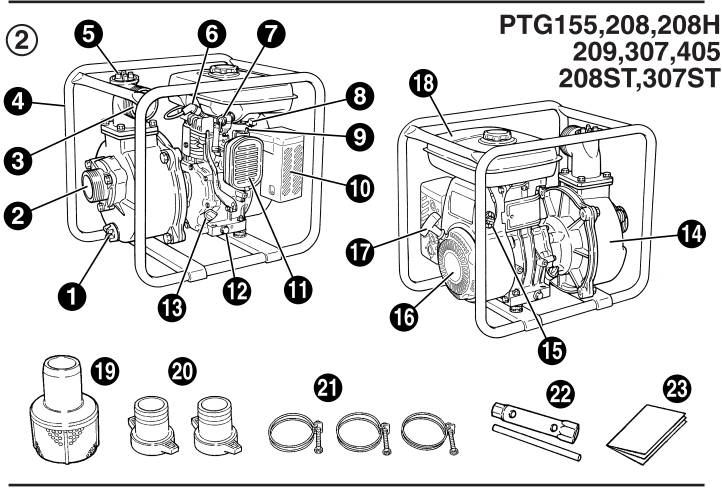
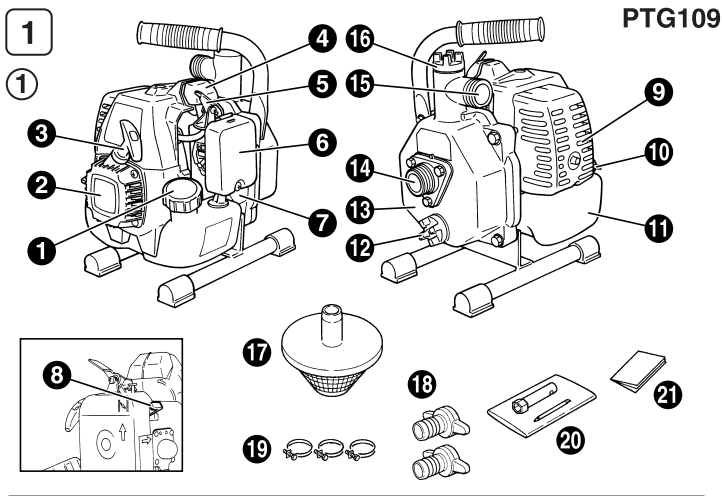
- GB**
- FR**
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- NL**
- ES**
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- AR**



ISSUE EMD-PU1692

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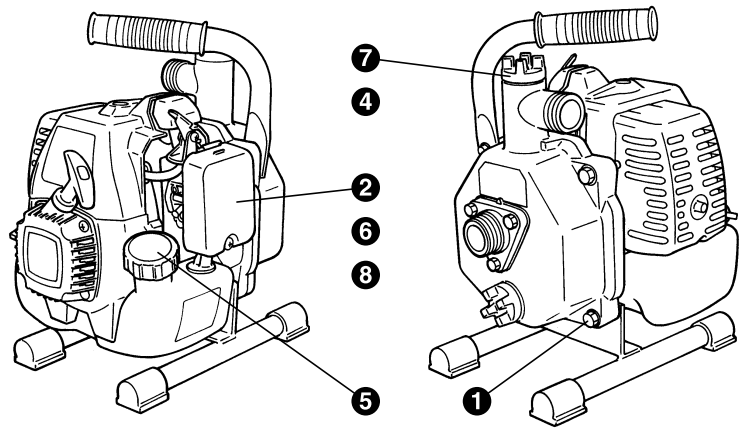
# Robin Pump



	5W						
Single grade	10W						
	20W						
Multi grade	#20						
	#30						
Ambient temperature							
	-20	-10	0	10	20	30	40°C
	-4	14	32	50	68	86	104°F

6

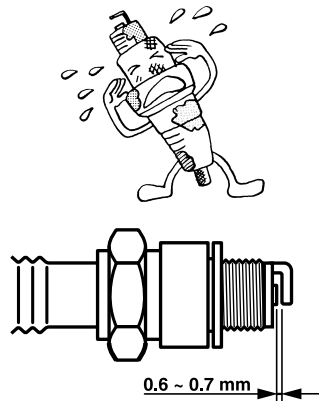
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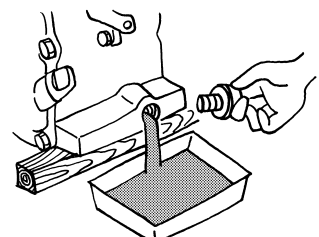
PTG109

7

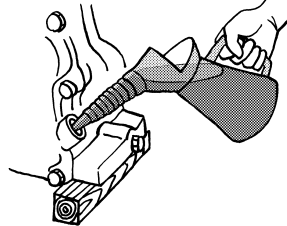
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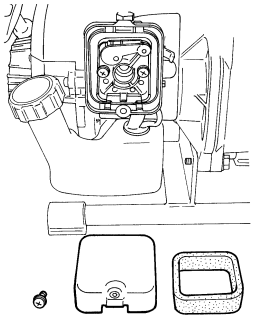
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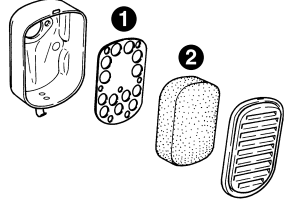
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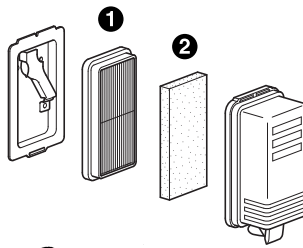
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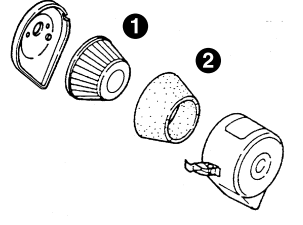
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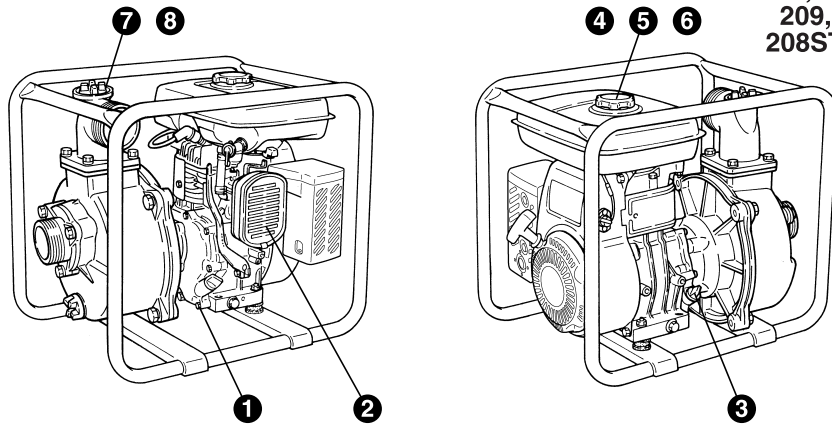


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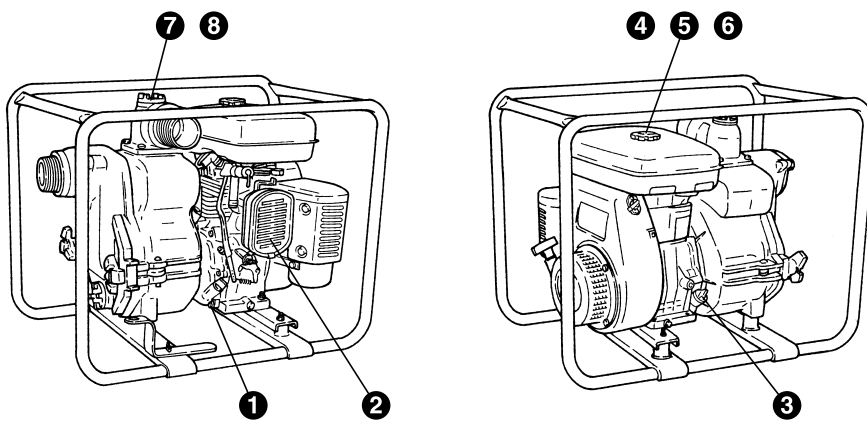
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PTG155,208,208H  
209,307,405  
208ST,307ST



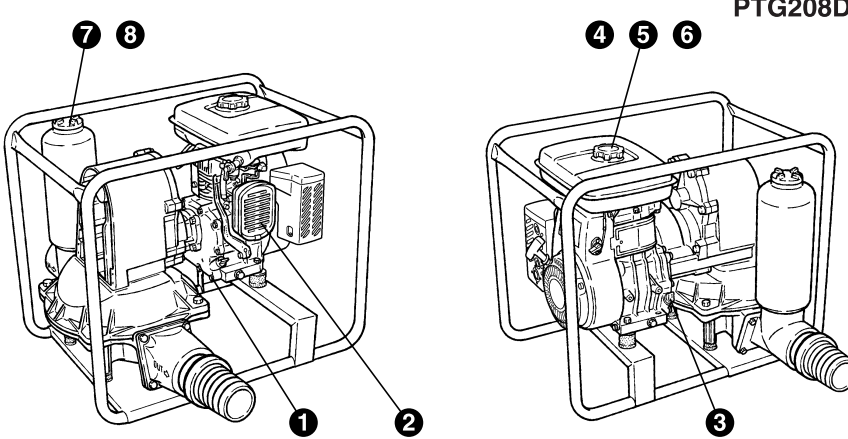
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PTG208T, 305T, 405T



4

PTG208D, 307D



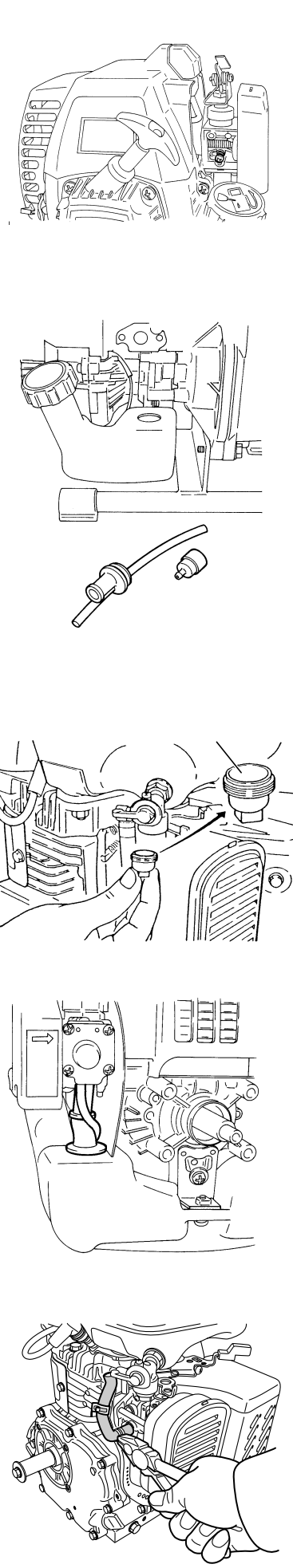
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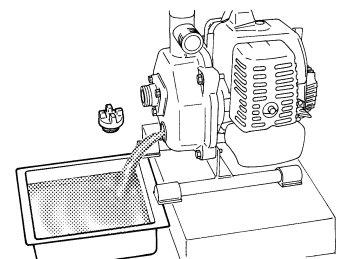
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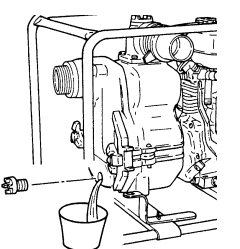


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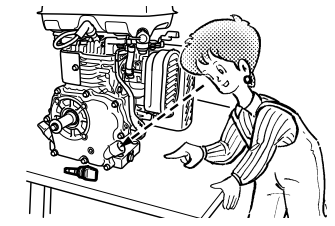
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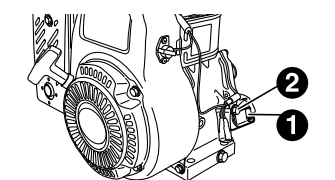
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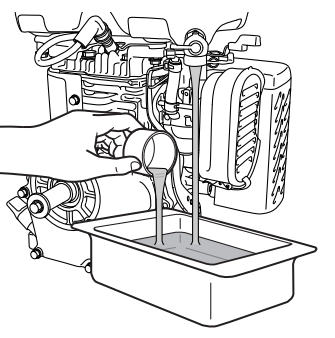
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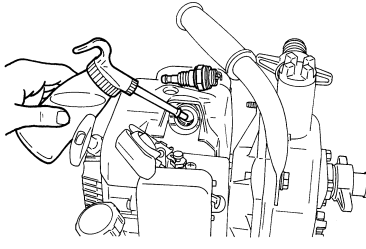
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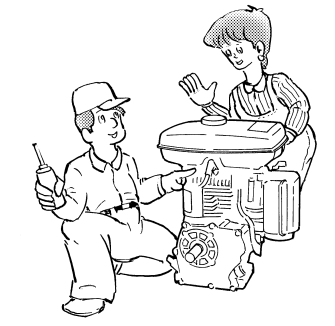
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6



7



**EC- DECLARATION OF CONFORMITY  
EG-KONFORMITÄTSERKLÄRUNG  
DÉCLARATION DE CONFORMITÉ "EC"  
EU VERKLARING VAN CONFORMITEIT  
DICHIARAZIONE DI CONFORMITÀ EC  
ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ Ε.Ε.**

**DECLARACIÓN DE CONFORMIDAD DE LA CE  
CE-DECLARAÇÃO DE CONFORMIDADE  
EG-FÖRSÄKRAN OM ÖVERENSTÄMMELSE  
EC-YHDENMUKAISUUSSELVITYS  
EC-KONFORMITETS DEKLARASJON  
EU-DEKLARATION OM KONFORMITET**

Manufacturer	Fabricante	FUJI HEAVY INDUSTRIES LTD.
Hersteller	Fabricante	1-7-2, Nishishinjuku, Shinjuku-ku,
Fabricant	Tillverkare	Tokyo 160-9317
Fabrikant	Valmistaja	Japan
Costruttore	Produsent	
Κατασκευαστής	Fabrikant	

Name and address of the person who keeps the Technical Documentation	FUJI HEAVY INDUSTRIES LTD
Name und Anschrift der Person, die für technische Dokumentation verantwortlich ist	Industrial Products Company
Nom et adresse de la personne qui garde la Documentation Technique	Saitama Plant
Naam en adres van de degene bij wie de Technische Documentatie berust	4-410 Asahi, Kitamoto City,
Nome e indirizzo della persona che conserva la documentazione tecnica	Saitama 364-8512
Όνομα και διεύθυνση υπευθύνου για τις Τεχνικές Τεκμηριώσεις	Japan
Nombre y dirección del encargado de la documentación técnica	K. Kato QA. Assistant Manager.
Nome e endereço do responsável pela conservação da Documentação Técnica	
Namn och adress gällande den juridiska person som förvarar den tekniska dokumentationen	
Sen tahon nimi ja osoite, jonka hallussa teknillinen dokumentaatio on	
Navn og adresse på personen som står for teknisk dokumentasjon	
Navn og adresse på den person, der opbevarer den tekniske dokumentation	

Description of the equipment	Descripción del equipo
Beschreibung des Geräts	Descrição do equipamento
Description de l'équipement	Beskrivning av utrustningen
Beschrijving van de apparatuur	Laitteiston kuvaus
Descrizione dell'apparecchiatura	Beskrivelse av utstyret
Περιγραφή μηχανήματος	Beskrivelse af udstyret

Product :Water Pump	Trade name	ROBIN PTG109	ROBIN PTG405T	ROBIN PTG307D
Produkt :Wasserpumpe	Handelsbezeichnung	ROBIN PTG155	ROBIN PTK206	ROBIN PKG152
Produit :Pompe à eau	Marque déposée	ROBIN PTG208	ROBIN PTK306	ROBIN PKV101
Product :Waterpomp	Handelsnaam	ROBIN PTG209	ROBIN PTD306	
Prodotto :Pompa acqua	Denominazione commerciale	ROBIN PTG307	ROBIN PTD406	
Προϊόν :Αντλία Νερού	Εμπορικό Όνομα	ROBIN PTG405	ROBIN PTD206T	
Producto :Bomba de agua	Nombre comercial	ROBIN PTG208H	ROBIN PTD306T	
Produto :Bomba Hidráulica	Nome comercial	ROBIN PTG208ST	ROBIN PTD305T	
Produkt :Vattenpump	Handelsnamn	ROBIN PTG307ST	ROBIN PTD405	
Tuote :Vesipumppu	Kauppanimi	ROBIN PTG208T	ROBIN PTD405T	
Produkt :Vannpumpe	Handelsnavn	ROBIN PTG305T	ROBIN PTG208D	
Produkt :Vandpumpe	Handelsbetegnelse			

The undersigned, F. Tachibana, representing the manufacture, herewith declares that the product in conformity with the provisions the following EC-directives;

Der Unterzeichnende, F. Tachibana, den Hersteller repräsentierend, erklärt hiermit, daß das Produkt mit den Forderungen der folgenden EG-Amtsblattsverfügungen übereinstimmt:

Le soussigné, F. Tachibana, représentant le Fabricant, déclare que le produit est en conformité avec les Directives EC suivantes:

Ondergetekende, F. Tachibana, in zijn hoedanigheid als vertegenwoordiger van de fabrikant, verklaart hierbij dat het product voldoet aan de eisen zoals geformuleerd in de volgende EU richtlijnen

Il sottoscritto F. Tachibana, in rappresentanza del costruttore con il presente documento dichiara che il prodotto è conforme alle norme delle seguenti direttive EC:

Ο υπογράφων, F. Tachibana, αντιπρόσωπος του κατασκευαστή, μετά της παρούσης δηλώνει ότι το προϊόν αυτό ανταποκρίνεται με τους κανονισμούς των ακόλουθων οδηγιών της Είνας:

EL firmante, F. Tachibana, representando al fabricante, declara que el producto conforma las provisiones de las siguientes normativas de la CE:

O abaixo assinado, F. Tachibana, representando o fabricante, declara por meio desta que o produto está em conformidade com as disposições das seguintes directivas da CE:

Undertecknad, F. Tachibana, representerande tillverkaren, försäkrar härmed att produkten är i överensstämmelse med bestämmelserna i följande EG-direktiv:

Allekirjoittanut, F. Tachibana, joka edustaa tuotetta, täten ilmoittaa, että tuote on yhdenmukainen seuraavien EC-direktiivien sopimusehtojen kanssa;

Undertegnede og representant for produsenten, F. Tachibana, erklærer herved at produktet er i samsvar med bestemmelsene i følgende EC-direktiver;

Undertegnede, F. Tachibana, der repræsenterer fabrikanten, erklærer hermed, at produktet er i overensstemmelse med de bestemmelser, der findes i følgende EU-direktiver:

References Zur Bezugnahme Références	Referenties Riferimenti Αναφορές	Referencias Referências Referenser	Viitteet Referanser Referencer					
89/336/EEC,93/68/EEC								
98/37/EC								
2000/14/EC								
Measured Sound Power Level Gemessener Schalldruckpegel Niveau de puissance acoustique mesurée Gemeten geluidsdrumniveau Livello di rumore misurato Μετρηθέν Επίπεδο Ισχύος Ηχητικών Εκπομπών	Nivel de potencia sonora medido Nivel de potência sonora medido Uppmätt bullernivå Mitattu äänivoimataso Målt lydeffektnivå Μάτλ lydeffektniveau	PTG109 PTG155 PTG208 PTG208ST PTG209 PTK206 PTG208T PTG307	100.1 97.5 102.7 102.7 102.7 102.7 104.7 105.5	PTG208H PTG307ST PTK306 PTG305T PTG405 PTG405T PTD206T PTD306	105.5 105.5 105.5 105.3 104.7 108.0 108.1 108.1	PTD306T PTD406 PTD305T PTD405 PTD405T PTG208D PTG307D PKG152 PKV101	108.9 108.8 108.3 108.3 108.6 98.1 99.8 109 98	
Guaranteed Sound Power level: Garantierter Schalldruckpegel: Niveau de puissance acoustique garantie: Opgegeven geluidsdrumniveau: Livello di rumore garantito: Εγγυημένο Επίπεδο Ισχύος Ηχητικών Εκπομπών:	Nivel de potencia sonora garantizado: Nivel de potência sonora garantido: Garanterad bullernivå: Taattu äänivoimataso: Garantert lydeffektnivå: Garanteret lydeffektniveau:	PTG109 PTG155 PTG208 PTG208ST PTG209 PTK206 PTG208T PTG307	102 99 104 104 104 104 107 107	PTG208H PTG307ST PTK306 PTG305T PTG405 PTG405T PTD206T PTD306	107 107 107 106 106 110 110 110	PTD306T PTD406 PTD305T PTD405 PTD405T PTG208D PTG307D PKG152 PKV101	110 110 110 110 110 100 101 113 102	
Conformity Assessment Procedure Bewertungsverfahren zur Feststellung der Übereinstimmung Procédé d'évaluation de conformité Toetsprocedure conformiteit Procedura di valutazione di conformità Διαδικασία εκτίμησης ανταπόκρισης	Procedimiento de evaluación de conformidad Procedimento de avaliação da conformidade Procedur för bedömning av överensstämmelse Yhdenmukaisuuden arviointimenetelmä Prosedyre for konformitetsvurdering Procedure anvendt ved bedømmelse af konformitet	Annex V						

Reference to harmonized standards: Verweis auf harmonisierte Normen: Référence pour harmoniser les normes: Referentie aan geharmoniseerde standaarden: Riferimento alle normative armonizzate: Αναφορά στα εναρμονισμένα πρότυπα:	Referencia a normas relacionadas: Referência para harmonizar standards: Hänvisning till harmoniserade standarder: Lähdeviittaukset standardien saamiseksi sopuointuun: Outros padrões ou especificações nacionais utilizados: Övriga använda nationella standarder eller tekniska specifikationer: Muut käytetyt kansalliset standardit tai tekniset tiedot: Andre anvendte standarder eller spesifikasjoner: Andre anvendte nationale standarder eller specifikationer:	EN 292-1 EN 292-2
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Other national standards or specifications used: Andere angewandte nationale Normen oder Spezifikationen: Autres normes nationales ou spécifications utilisées: Overige gebruikte nationale standaarden of specificaties: Altre normative nazionali o specifiche impiegate: Άλλα κρατικά πρότυπα ή προδιαγραφές που χρησιμοποιήθηκαν: Otras normas nacionales o especificaciones utilizadas: Outros padrões ou especificações nacionais utilizados: Övriga använda nationella standarder eller tekniska specifikationer: Muut käytetyt kansalliset standardit tai tekniset tiedot: Andre anvendte standarder eller spesifikasjoner: Andre anvendte nationale standarder eller specifikationer:	ISO 3744 CISPR 12
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Signature : *F. Tachibana*

Fusao Tachibana

Done at:	Kitamoto	Date:	February 27, 2003	Quality Assurance Manager
Ort:	Kitamoto	Datum:	27. Februar 2003	Manager für Qualitätssicherung
Fait à:	Kitamoto	Date:	27. février 2003	Directeur d'assurance de la qualité
Plaats:	Kitamoto	Datum:	27. februari 2003	Manager Kwaliteitsbewaking
Firma:	Kitamoto	Preparato a:	27. febbraio 2003	Responsabile Assicurazione Qualità
Δημιουργήθηκε:	Kitamoto	Ημερομηνία:	27. Φεβρουάριος 2003	Διευθυντής Εξασφάλισης Ποιότητας
Hecho en:	Kitamoto	Fecha:	27. febrero 2003	Encargado del seguro de calidad
Preparado em:	Kitamoto	Data:	27. Fevereiro 2003	Gerente de Garantia de Qualidade
Ort:	Kitamoto	Datum:	27. februari 2003	Chef för kvalitetsövervakning
Allekirjoituspaikka:	Kitamoto	Päivämäärä:	27. helmikuu 2003	Laatuvakuutusvirkailla
Utført den:	Kitamoto	Dato:	27. februar 2003	Ansvarlig for kvalitetssikring
Utført:	Kitamoto	Dato:	27. februar 2003	Chef for kvalitetssikring

# 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.

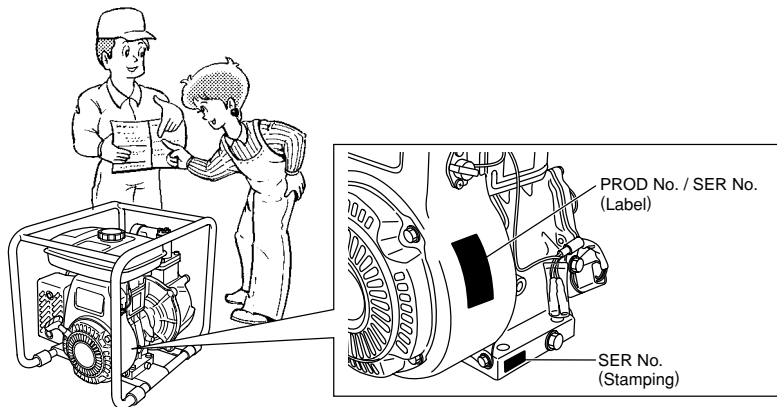
When ordering spare parts, always give us the **MODEL**, **PRODUCTION NUMBER** and **SERIAL NUMBER** of your pump.

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

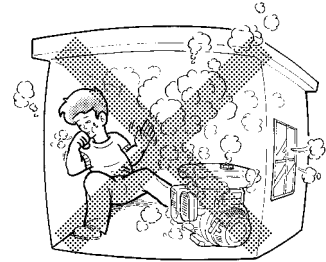
Please make sure you review each precaution carefully.  
Pay special attention to statement preceded by the following words.

**⚠ 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.

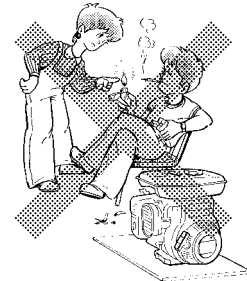
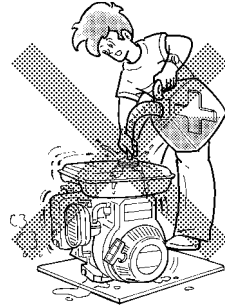
## **⚠ WARNING** : EXHAUST PRECAUTIONS

- 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.



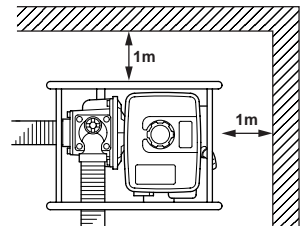
## **⚠ WARNING** : REFUELING PRECAUTIONS

- 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

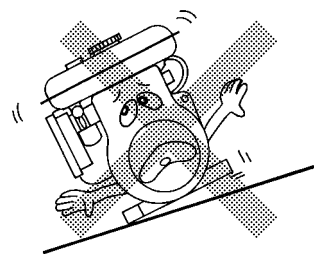
- Be careful of hot parts.  
The muffler and other engine parts become very hot while the pump is running or just after it has stopped. Operate the pump in a safe area and keep children away from the running pump.
- Do not use diaphragm pump for the mixture of water and oil.

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- 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.



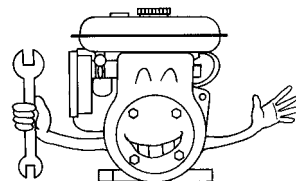
- Do not transport the pump with fuel in tank or with fuel strainer cock open.
- Keep the unit dry (do not operate it in rainy conditions).

**⚠ 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.



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## 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.

### CENTRIFUGAL PUMP (PTG109)

(See Fig. 1-1)

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

## **CENTRIFUGAL PUMP (PTG155, 208, 208H, 209, 307, 405) SEMI TRASH PUMP (PTG208ST, 307ST)**

(See Fig. ①-②)

- |                       |                               |   |
|-----------------------|-------------------------------|---|
| ① Plug (drain)        | ⑨ Choke lever                 | ⑰ Recoil starter handle                     |
| ② Suction             | ⑩ Muffler                     | ⑱ Fuel tank                                 |
| ③ Delivery            | ⑪ Air cleaner                 | ⑲ Strainer                                  |
| ④ Frame               | ⑫ Drain plug (at two places)  | ⑳ Hose coupling                             |
| ⑤ Plug (priming)      | ⑬ Oil filler (with oil guage) | ㉑ Hose band                                 |
| ⑥ Spark plug          | ⑭ Casing cover                | ㉒ Tools                                     |
| ⑦ Fuel cock           | ⑮ Stop switch                 | ㉓ Instruction for use<br>(This publication) |
| ⑧ Speed control lever | ⑯ Recoil starter              |   |

**NOTE**  
PTG155 is without frame.

## **TRASH PUMP (PTG208T, 305T, 405T)**

(See Fig. ①-③)

- |                  |   |   |
|------------------|---|---|
| ① Plug (drain)   | ⑩ Speed control lever<br>(PTG208T,305T) | ⑲ Recoil Starter                            |
| ② Knob           | ⑪ Chocke lever                          | ⑳ Recoil Starter handle                     |
| ③ Delivery       | ⑫ Muffler                               | ㉑ Stop switch                               |
| ④ Suction        | ⑬ Air cleaner                           | ㉒ Fuel tank                                 |
| ⑤ Frame          | ⑭ Speed control lever (PTG405T)         | ㉓ Strainer                                  |
| ⑥ Casing         | ⑮ Oil filler (with oil guage)           | ㉔ Hose coupling                             |
| ⑦ Plug (priming) | ⑯ casing cover holder                   | ㉕ Hose band                                 |
| ⑧ Spark plug     | ⑰ Casing cover                          | ㉖ Tools                                     |
| ⑨ Fuel cock      | ⑱ Drain plug (at two places)            | ㉗ Instruction for use<br>(This publication) |

## **DIAPHRAGM PUMP (PTG208D, 307D)**

(See Fig. ①-④)

- |                                  |                              |   |
|----------------------------------|------------------------------|---|
| ① Oil filler<br>(with Oil guage) | ⑧ Muffler                    | ⑱ Recoil starter                            |
| ② Pump body                      | ⑨ Air cleaner                | ⑲ Recoil starter handle                     |
| ③ Gear case                      | ⑩ Drain plug (at two places) | ⑱ Fuel tank                                 |
| ④ Spark plug                     | ⑪ Delivery                   | ⑲ Strainer                                  |
| ⑤ Fuel cock                      | ⑫ Plug (filler)              | ⑳ Tools                                     |
| ⑥ Speed control lever            | ⑬ Suction chamber            | ㉑ Instruction for use<br>(This publication) |
| ⑦ Choke lever                    | ⑭ Suction                    | ㉒ Check valves                              |
|                                  | ⑮ Stop switch                |   |

### 3. PRE-OPERATION FOR STARTING

(See Fig. ②)

#### 1. ATTACH THE FLANGE AND CHECK VALVES (PTG208D, 307D)

Attach the suction flange, delivery flange and check valves to the pump when operating the brand new pump for the first time.

#### ⚠ CAUTION

Be careful not to overtighten the bolts.  
Suction flange tightening torque : 90-120 kg-cm  
Delivery flange tightening torque : 90-120 kg-cm

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#### 2. CONNECT SUCTION HOSE (See Fig. ②-②) (PTG109 only 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.

#### 3. CONNECT DELIVERY HOSE (See Fig. ②-④) (PTG109 only See Fig. ②-③)

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

#### 4. CHECK ENGINE OIL (Except PTG109) (See Fig. ②-⑦)

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. ②-⑥)

Explanation of Fig. ②-⑦

- ① Oil Gauge
- ② Upper Level
- ③ Lower Level

Model	Oil capacity
PTG155	0.4L
PTG208/PTG208H PTG208ST/PTG208T PTG209 PTG307/PTG307ST PTG208D/PTG307D	0.6L
PTG405/PTG305T	0.85L
PTG405T	1.2L

#### 5. CHECK FUEL (See Fig. ②-⑧)

#### ⚠ 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.
- Use unleaded automotive gasoline only.  
Fuel Tank Capacity  
Refer to "9. SPECIFICATIONS" Page 12 for fuel tank capacity
- 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. ②-⑨)

#### For PTG109 (See Fig. ②-⑤)

- If level is low, fill to the shoulder of the fuel filter.
- Use the mixture fuel prepared by mixing gasoline and exclusive 2-cycle oil at a ratio of 20 to 25 : 1, or the 2-cycle fuel now available on the market.

#### ⚠ CAUTION

For break-in of a new engine.  
Use mixture fuel of gasoline 15 to 20 : 2-cycle engine oil 1 during first 20 hours of operation.

#### 6. CHECK PRIMING WATER (See Fig. ②-⑩)

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.

## 4. OPERATING YOUR PUMP

(See Fig. 3)

### 1. STARTING

- (1) Open the fuel cock. (See Fig. 3-1)
- (2) Turn the STOP SWITCH to the position "I" (ON).  
(See Fig. 3-3)
  - (PTG109 only)  
Push the primer button 5 to 7 times to feed the fuel to the carburetor. (See Fig. 3-2)
- (3) Set the speed control lever 1/3 to 1/2 of the way towards the high speed position. (See Fig. 3-4, 5, 6)
  - (PTG405T only)  
Set the speed control lever to "START" position  
(See Fig. 3-7)
- (4) Close the choke lever. (See Fig. 3-8, 9, 10, 11)
  - 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. 3-13) (PTG109 only 3-12)
- (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. 4-1, 2, 3, 4)

### 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)
- (2) Gradually move the speed control lever toward the high speed position (H) and set it at the required engine speed.  
(See Fig. 5-3, 4, 5, 6)
  - 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.

### 3. STOPPING

- (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)
- (2) Turn the STOP SWITCH counterclockwise to the position "O" (OFF). (See Fig. 5-7)
  - Do not stop the engine suddenly when it is running at high speed.
- (3) Close the fuel cock. (Except PTG109) (See Fig. 5-8)
- (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. 5-9, 10)

#### ※ 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.

## 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 (Except PTG109)
- 4 Leakage of gasoline and engine oil
- 5 Enough gasoline
- 6 Safe surroundings
- 7 Check the priming water
- 8 Excessive vibration, noise

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## 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.**

#### (PTG109)

Maintenance items	Every 8 hours (Daily)	Every 50 hours (Weekly)	Every 200 hours (Monthly)	Every 500 hours	Every 1000 hours
CLEAN PUMP SET AND CHECK BOLTS AND NUTS	● (Daily)				
CLEAN SPARK PLUG		●			
CLEAN AIR CLEANER		●			
REMOVE THE PUMP CASING AND CLEAN			●		
CLEAN FUEL STRAINER			●		
CLEAN AND ADJUST SPARK PLUG AND ELECTRODES			●		
CLEAN AND ADJUST CARBURETOR				●	
CLEAN FUEL TANK				●	
OVERHAUL ENGINE IF NECESSARY					●

#### (PTG155, 208, 209, 307, 405, 208H, 208ST, 307ST, 208T, 305T, 405T, 208D, 307D)

Maintenance items	Every 8 hours (Daily)	Every 50 hours (Weekly)	Every 200 hours (Monthly)	Every 300 hours	Every 500 hours	Every 1000 hours
CLEAN PUMP SET 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		●				
LUBRICATE THE PUMP-ROD BEARING (PTG208D/307D only)		●				
REMOVE THE PUMP CASING AND CLEAN (Except PTG208D, 307D)			●			
CLEAN FUEL STRAINER			●			
CLEAN AND ADJUST SPARK PLUG AND ELECTRODES			●			
CHECK AND ADJUST VALVE CLEARANCE				●		
REMOVE CARBON FROM CYLINDER HEAD					●	
CLEAN AND ADJUST CARBURETOR					●	
CHECK AND REFILL GEAR BOX GREASE (PTG208D,307D only)					●	
CHECK SUCTION AND DELIVERY CHECK VALVES (PTG208D,307D only)					●	
OVERHAUL ENGINE IF NECESSARY						●

### 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 0.6 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

Model	Spark Plug
PTG109	NGK-BM7A or BMR7A (CHAMPION-C6)
PTG155	NGK-BM4A or BMR4A (CHAMPION-CJ14)
PTG208/PTG209 PTG307 PTG208H PTG208ST/PTG307ST PTG208T PTG208D/PTG307D	NGK-B6HS or BR6HS (CHAMPION-L86C or RL86C)
PTG405/PTG305T	NGK-BP6HS or BPR6HS (CHAMPION-L87C or RL87C)
PTG405T	NGK-BP4HS or BPR4HS (CHAMPION-L95YC or RL95YC)

### 4. ENGINE OIL CHANGE (See Fig. 7-②,③) (Except PTG109)

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

**Make sure the fuel cap is tightly secured to avoid spillage.**

- When changing oil, stop the engine and loosen the drain plug.
- Tighten the drain plug before refilling.
- Refer to the recommended oil table on page 6.
- Always use the proper grade and clean oil. If the engine oil is contaminated, there is not enough or it is of poor quality, engine life will be shortened.

### 5. CLEANING FUEL STRAINER (See Fig. 7-⑨,⑩)

**WARNING** Flame Prohibited

(PTG109)

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

(PTG155, 208, 209, 307, 405, 208H, 208ST, 307ST, 208T, 305T, 405T, 208D, 307D)

- (1) Inspect fuel strainer for water and dirt.
- (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.

### 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.

(PTG109) (See Fig. 7-④)

- 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.

(PTG155, 208, 209, 307, 405, 208H, 208ST, 307ST, 208T, 305T, 405T, 208D, 307D)

(1) Urethane Foam Element Type

(See Fig. 7-⑤)

- 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. 7-⑥,⑦)

- Urethane Foam cleaning (See Fig. 7-⑥,⑦-②)  
Wash and clean the urethane foam with detergent. After cleaning, dry it. Clean the urethane foam element every 50 hours.
- Second element (See Fig. 7-⑥,⑦-①)  
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. ADJUSTING CARBURETOR (PTG109) (See Fig. 7-⑧)

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 ± 100rpm

#### 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. 7-11, 12)

### ⚠ 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

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

## 10. CLEANING PUMP INSIDE

- Turn the knob counterclockwise and open the casing cover holder.
- Pull the casing toward you, and then remove the casing and the inner casing.
- Clean the inside of pump casing and casing cover with clean water.

## 6. PREPARATIONS FOR STORAGE

### 1. WATER (Except PTG208D, 307D)

(See Fig. 8-1, 2)

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 (PTG208D, 307D)

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

(See Fig. 8-5)

### ⚠ 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.

### 4. ENGINE OIL (See Fig. 8-6, 7)

- 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. OIL SENSOR INSTRUCTIONS (Except PTG109) (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. 8-3)

### 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 PUMP" on page 7.
- Check the wire connector from the engine. It must be connected securely to the wire from oil sensor. (See Fig. 8-4-2) Fix the earth wire.)
  - Do not remove the oil sensor from the engine for checking oil level and refilling. (See Fig. 8-4-1)
  - When selecting the engine oil, refer to page 6 for the recommended oil.

## 8. EASY TROUBLESHOOTING

### 1. PUMP DOES NOT RUN .

- Engine dose not start.  
(See 8.-6 "6. WHEN ENGINE DOES NOT START")
- Sticking of impeller (Except PTG208D, 307D)  
(Disassemble and clean.)
- Solid object preventing pump-rod from completing stroke. (PTG208D, 307D only)  
(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.  
(Except PTG208D, 307D)  
(Consult your nearest dealer.)
- Debris keeping check valve open.  
(PTG208D, 307D only)  
(Disassemble and clean.)
- 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.  
(Except PTG208D, 307D)  
(Disassemble and clean.)
- Breakage of rubber diaphragm. (Consult your nearest dealer) (PTG208D, 307D only)
- Wear of impeller. (Except PTG208D, 307D)
- Looseness of suction chamber. (Retighten) (PTG208D, 307D only)
- Strainer is clogged. (Clean.)
- Engine speed is too low.  
(Consult your nearest dealer.)

### 3. PUMP DOES NOT SELFPRIME.

- Suction of air at suction side.  
(Except PTG208D, 307D)  
(Check piping at suction side.)
- Insufficient priming water inside pump casing  
(Except PTG208D, 307D)  
(Prime fully.)
- Imperfect tightening of drain plug.  
(Except PTG208D, 307D)  
(Tighten the plugs completely.)
- Engine speed is too low.  
(Except PTG208D, 307D)  
(Consult your nearest dealer.)
- Sucking air from mechanical seal.  
(Except PTG208D, 307D)  
(Consult your nearest dealer.)

### 4. DELIVERY HOSE DOES NOT STAY ON COUPLING.

- Hose may be kinked or discharge end may be blocked or clogged.  
(PTG208D, 307D only)  
(Straighten or clean.)

### 5. PUMP SUDDENLY STOPS.

- Solid object preventing pump-rod from completing stroke.  
(PTG208D, 307D only)  
(Disassemble and clean.)

### 6. 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.**

#### (1) 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.

#### (2) 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.

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

- Is the fuel cock opened? (Except PTG109)
- 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 strainer intake.)
- In case the engine does not start with well supplied fuel, try using fresh fuel.

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## 9. SPECIFICATIONS

Model		PTG109	PTG155	PTG208	PTG209	PTG307	PTG405
PUMP	Type	Self-priming, Centrifugal pump					
	Suction×Delivery Diameters	25.4×25.4mm(1×1in.)	38.1×38.1mm(1.5×1.5in.)	50.8×50.8mm(2×2in.)		76.2×76.2mm(3×3in.)	101.6×101.6mm(4×4in.)
	Total Head	35m	23m	32m	26m	32m	28m
	Maximum Delivery Volume	120 ℓ/min	320 ℓ/min	520 ℓ/min	600 ℓ/min	1000 ℓ/min	1800 ℓ/min
	Suction Head	8.5m	8m				
Axle Seal Material(Mechanical Seal)		Ceramic-carbon					
ENGINE	Model	EC025GR	EY08D	EY15-3D		EY20-3D	EY28D
	Type	Robin Air-cooled, 2-stroke, Gasoline engine	Robin Air-cooled, 4-stroke, Gasoline engine				
	Lubricant	Automotive detergent oil (API/SE or higher grade, SAE/10W-30 etc.)					
	Oil Capacity	—	0.4L	0.6L		0.85L	
	Fuel	Mixture fuel (Automobile gasoline : Engine oil=25:1)	Automobile gasoline				
	Fuel Tank Capacity	0.6L	1.5L	2.8L		3.8L	5.5L
	Spark Plug	NGK-BM7A or BMR7A (CHAMPION-CJ6)	NGK-BM4A or BMR4A (CHAMPION-CJ14)	NGK-B6HS or BR6HS (CHAMPION-L86C or RL86C)			NGK-BP6HS or BPR6HS (CHAMPION-L87YC or RL87YC)
	Starting System	Recoil starter					
	Dimensions (L×W×H)	275×212×298mm	382×285×357mm	470×354×419mm	475×344×414mm	527×378×422mm	618×485×570mm
	Net Weight	5.1kg	9.8kg	23.5kg	22.5kg	26.4kg	44.1kg
Standard Accessories	Engine tool kit (1 set), Strainer (1 pc.), Hose coupling (2 pcs.), Hose band (3 pcs.)						

Model		PTG208ST	PTG307ST	PTG208T	PTG305T	PTG405T	PTG208H
PUMP	Type	Self-priming, Centrifugal pump			Self-priming, Trash pump		Self-priming, Centrifugal pump
	Suction×Delivery Diameters	50.8×50.8mm(2×2in.)	76.2×76.2mm(3×3in.)	50.8×50.8mm(2×2in.)	76.2×76.2mm(3×3in.)	101.6×101.6mm(4×4in.)	50.8×50.8mm(2×2in.)
	Total Head	23m		27m	28m	23m	50m
	Maximum Delivery Volume	700 ℓ/min	1000 ℓ/min	750 ℓ/min	1300 ℓ/min	2000 ℓ/min	400 ℓ/min
	Suction Head	8m					
Axle Seal Material(Mechanical Seal)		Silicon-carbide					
ENGINE	Model	EY15-3D	EY20-3D		EY28D	EY40D	EY20-3D
	Type	Robin Air-cooled, 4-stroke, Gasoline engine					
	Lubricant	Automotive detergent oil (API/SE or higher grade, SAE/10W-30 etc.)					
	Oil Capacity	0.6L		0.85L		1.2L	0.6L
	Fuel	Automobile gasoline					
	Fuel Tank Capacity	2.5L	3.8L		5.5L	6.0L	3.8L
	Spark Plug	NGK-B6HS or BR6HS (CHAMPION-L86C or RL86C)			NGK-BP6HS or BPR6HS (CHAMPION-L87YC or RL87YC)	NGK-BP4HS or BPR4HS (CHAMPION-L95YC or RL95YC)	NGK-B6HS or BR6HS (CHAMPION-L86C or RL86C)
	Starting System	Recoil starter					
Dimensions (L×W×H)	462×356×397mm	527×368×417mm	600×398×448mm	690×485×600mm	730×485×600mm	527×378×422mm	
Net Weight	24kg	28kg	34.8kg	45kg	71.4kg	26.5kg	
Standard Accessories	Engine tool kit (1 set), Strainer (1 pc.), Hose coupling (2 pcs.), Hose band (3 pcs.)						

Model		PTG208D	PTG307D
PUMP	Type	Self-priming, Diaphragm pump	
	Suction×Delivery Diameters	50.8×50.8mm(2×2in.)	76.2×76.2mm(3×3in.)
	Total Head	15m	
	Maximum Delivery Volume	125 ℓ/min	250 ℓ/min
	Suction Head	7.6m	
ENGINE	Model	EY15-3D	EY20-3D
	Type	Robin Air-cooled, 4-stroke, Gasoline engine	
	Lubricant	Automotive detergent oil (API/SE or higher grade, SAE/10W-30 etc.)	
	Oil Capacity	0.6L	
	Fuel	Automobile gasoline	
	Fuel Tank Capacity	2.8L	3.8L
	Spark Plug	NGK-B6HS or BR6HS (CHAMPION-L86C or RL86C)	
	Starting System	Recoil starter	
Dimensions (L×W×H)	614×370×510mm	660×420×540mm	
Net Weight	37.4kg	44.8kg	
Standard Accessories	Engine tool kit (1 set), Strainer (1 pc.)		