

MARUZEN

HYDRAULIC POWER UNIT

MODEL UH103

OPERATING MANUAL



CAUTION

FOR THE SAFETY PURPOSE, PLEASE READ THIS MANUAL THOROUGHLY BEFORE ATTEMPTING TO USE THIS POWER UNIT. ANY FALES OPERATING PROCEDURES WILL CAUSE DAMAGES OF THE MACHINE. ALWAYS KEEP THIS MANUAL TO AN EASILY ACCESSABLE PLACE.



MARUZEN KOGYO CO., LTD.

(Revised April 26, 2007)

FOREWORD

This manual is an important part of your equipment. It provides rules and guidelines which will help you use this machine safely and effectively. You **MUST** familiarize yourself with the functions and operations by reading the manual thoroughly before you begin using this machine. For your safety, it is especially important that you read and observe all precautions in this manual and labels on the machine. The precautions **MUST** be followed strictly at all times when performing operation and maintenance. * Fail to follow the guidelines and safety alerts in the manuals and on the machine, or use this machine in alternative ways from the manuals may result in system failure or serious personal injury.

Keep this manual with the equipment or in an easily accessible place in all times for future reference. Make sure all personnel involved in working on this machine can consult it periodically. In case this manual should be lost or damaged, immediately contact us or your dealer to purchase a new copy.

We recommend you always use Maruzen genuine components and parts. Replacing components and parts from other sources may cause damages to this machine and endanger operators.

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SAFETY INFORMATION

To enable you to use this machine safely, safety precautions and labels are given in this manual and affixed to the machine to give explanations of situations involving potential hazards and of the methods of avoiding such situations.

SAFETY ALERT CLASSIFICATIONS

The following safety alert symbols are used to inform you that there is a potential hazardous situation that may lead to personal injury or damage.

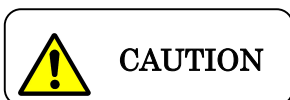
In this manual and on machines labels, the following safety alert symbol are used to express the potential level of hazard.



Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

**** Safety alert symbols are to emphasize all operation which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.**

SAFETY ALERTS

DO NOT OPERATE THE MACHINE UNLESS THE FOLLOWING SAFETY INSTRUCTIONS HAVE BEEN THOROUGHLY READ AND UNDERSTOOD!



WARNING

Before operating the equipment, be sure to wear personal protective equipments such as follows:

1. Helmet
2. Protective goggles
3. Protective boots
4. Safety gloves
5. Hearing Protection



WARNING

Do not operate the equipment if you are or if your

1. taking medication, feeling drowsy, feeling unwell or feeling tired.
2. under the influence of drugs or alcohol.
3. hands, feet, lower back or other parts of your body hurt or being injured.

* Failure to observe this precaution can result serious injury or even death.

**CAUTION**

Do not touch the machine with your bare hands

1. The oil tank may become hot under continuous running.
Do not touch the equipment with your bare hands.

2. Tools may become hot under continuous use, make sure to wear gloves before any contact with the tools.

* Failure to observe this precaution can result getting burned

**CAUTION**

When lending someone the equipment

Make sure the safety instructions have been thoroughly read and fully understood by the person who is going to use the equipment.

**WARNING**

Operating in a well – ventilated area

1. Always operate the machine in a well – ventilated area.
2. While operating indoor, always ventilate the room.

Failure to observe this precaution can result gas inhalation or even death.

**DANGER**

Fire Prevention: Avoid flammable goods

1. Do not smoke or use any flame near fuel or oil.
2. Stop the engine before refueling.

Failure to observe this precaution can result fire, explosion which can even cause death.

**CAUTION**

Do not operate the equipment on a slope.

1. Do not operate the equipment on a slope.
2. When operate the equipment on an uneven ground, make sure to lock the wheels.

Failure to observe this precaution can result serious injury

INTRODUCTION

This power unit is designed to be used as power source for the following handheld equipments:

Hydraulic handheld breakers: **BH201, BH112, BH163**

Hydraulic handheld chipping hammer: **BH050**

Hydraulic handheld pile driver: **KH182**

Hydraulic handheld earth drill (vertical): **OH1**

Hydraulic handheld earth drill (horizontal): **AY01H**

Hydraulic handheld rock drill: **DH203**

Hydraulic handheld concrete cutter: **CH130**

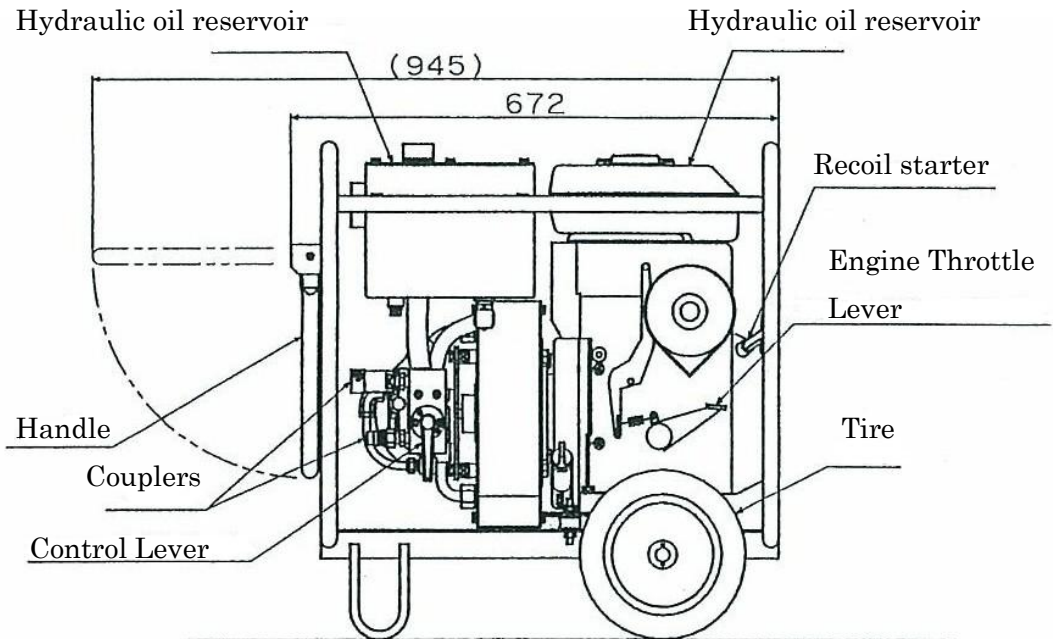
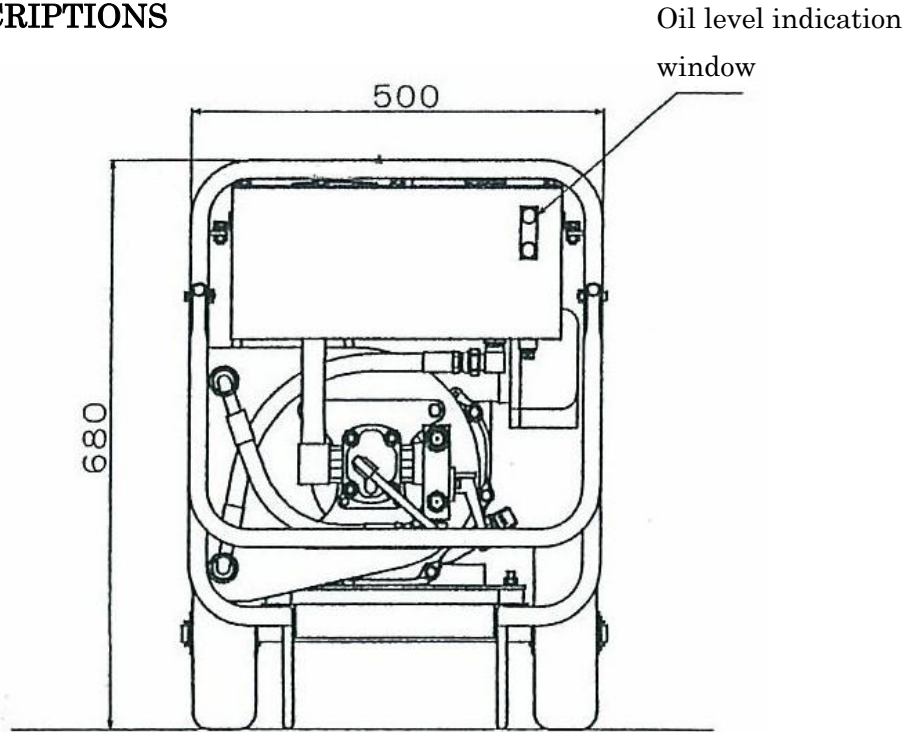
DO NOT operate this power unit on the following situations:

1. Close by inflammable objects or close by objects which catch fire easily.
2. Underground, or any places which are not well-ventilated.
3. At high altitudes which exceeds 1,000m *(Consult with us if you have any questions regarding the matter.)
4. Use the equipment for purposes other than stated in this manual.

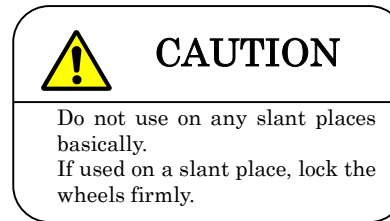
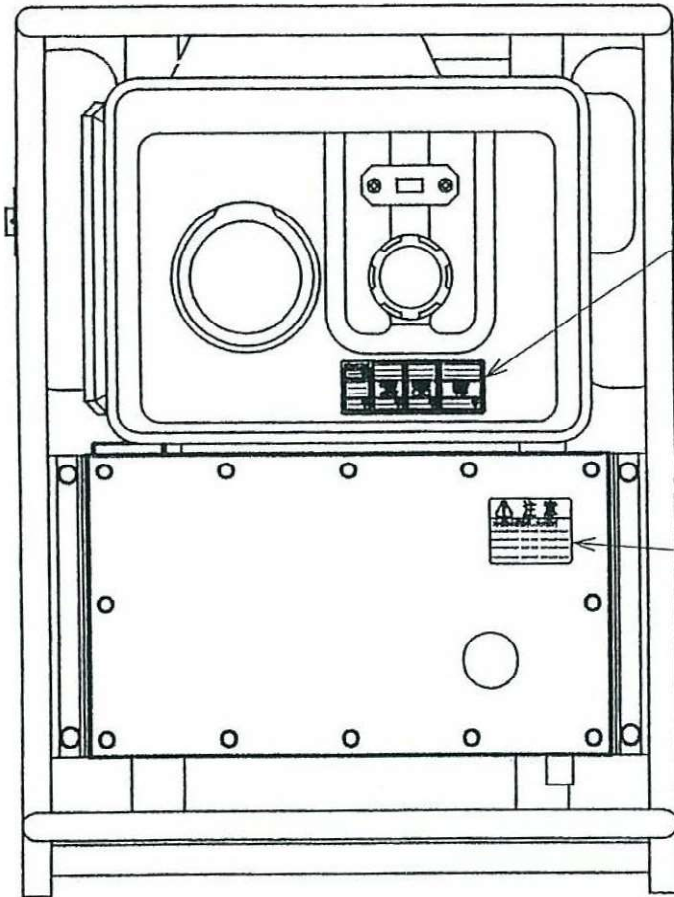
SPECIFICATIONS

Overall Dimensions	672mm X 500mm X 680mm
Weight	76kg (Without fuel)
Max. Pressure	13.7MPa
Required Oil Flow	25L/min
Engine	Robin EH34D
	Max. Energy Output 8.1KW (11HP)
Fuel Tank Capacity	6L Estimated Consumption 2.4L/h
Hydraulic reservoir Capacity	18L
Engine Starting	Recoil Starter
Coupling	3/8" Couplers
Hydraulic Oil Viscosity	ISO VG32 or equivalent
Others	Equipped with a air cooling oil cooler

DESCRIPTIONS



PRECAUTION LABELS AND POSITIONS



© Make sure safety labels are legible. Replace new one when they are illegible.

GUIDELINES

Following these guidelines before using this power unit:

1. Do not use the machine on slopes. When the machine is necessary to be used on slopes, make sure the wheels are locked firmly.
2. Make sure that dirt, dust, and mud do not get into hoses while connecting and disconnecting the hoses.
3. Warm up the engine before using if the temperature is under 10°C.
4. Make sure there is no flammable object near the muffler of the exhaust system
5. Anything related to engine, such as adjustments, storage and etc., refer to Robin Engine owner's manual for more information.
6. In case of sudden hydraulic hose breakage or hydraulic oil belch out of the hose, STOP the power unit right away.
7. When connecting and disconnecting hoses, a small amount of hydraulic oil might slip out. Make sure the circumference does not contaminated by hydraulic oil.

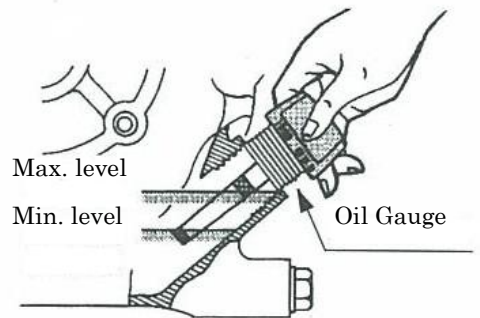
OPERATION

1. Before Starting The Engine:

(1) Engine Oil:

Check the engine oil level by oil gauge. Refill engine oil when the oil is below the min. level.

Recommended engine oil: **SAE 10W-30** or equivalent.
Capacity: 1.2L



(2) Hydraulic Oil:

Refill hydraulic oil when the oil level is below the oil indication window. Open the plug on the top of the hydraulic oil reservoir refill hydraulic oil till the oil level reach to the middle of the indication window.

Recommended hydraulic oil: **ISO VG32** or equivalent.
Capacity: 18L

(3) Fuel:

Refill gasoline into the fuel tank.

Capacity: 6 L

* If there is any spilled gasoline, Wipe it out.

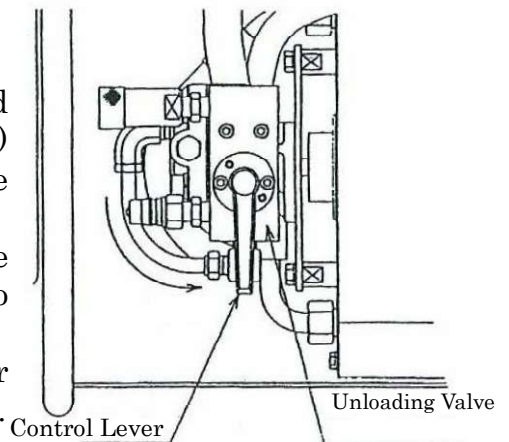
(4) While using with breakers, unlock the latch on breaker, load a chisel, and lock the latch.

2. Start The Engine:

(1) Attach power unit and equipment (breakers and etc) with connection hoses before starting engine.

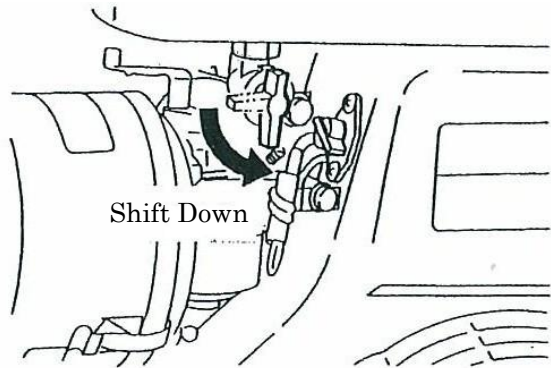
DO NOT start engine without connecting to equipment with hoses.

MAKE SURE control lever indicate to "START" position.

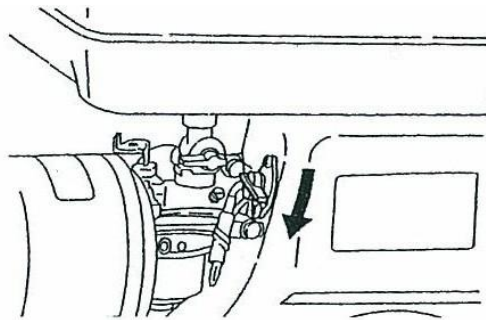


(2) Start the operation

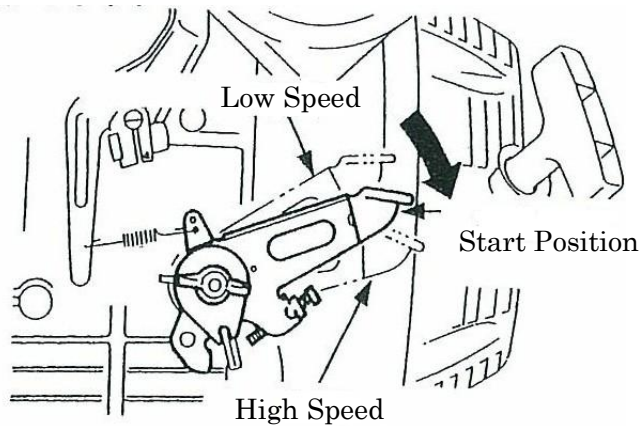
- ① Open the fuel cock.



- ② Turn the switch to "I" (ON) position.



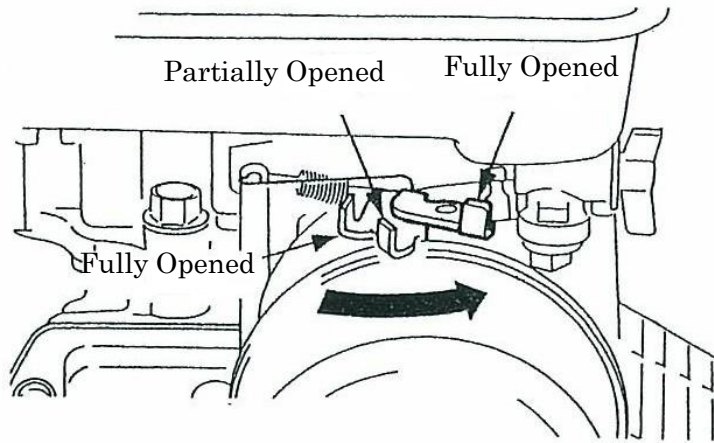
- ③ Shift the speed control lever from low speed (L) toward to high speed (H) and stop at 1/3 position closer to (H).



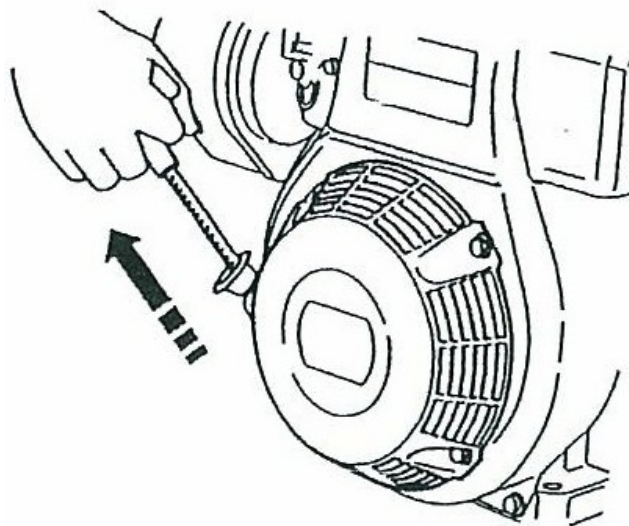
④ Close the choke lever.

When to open the choke lever:

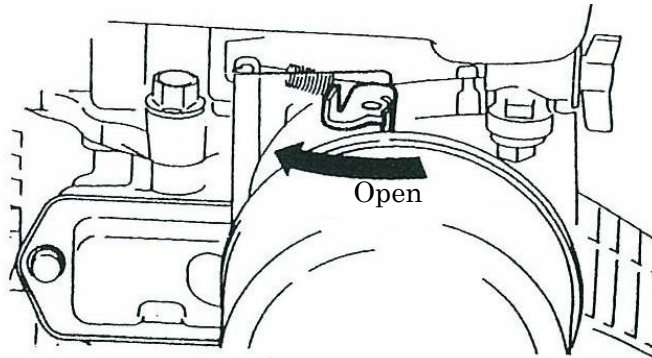
- When the weather is cold or when the engine is cold, close the choke.
- When the weather is warm or when starting the engine right after stopping, fully or partially open the choke.



- ⑤ Pull start rope gradually. DO NOT pull the start rope rapidly. While the rope is fully pulled, hold it in your hand. DO NOT release it from your hand. Hold the start rope till it returns to its original position.



- ⑥ After starting the engine, open the choke lever.
- Open the choke gradually with corresponding to the engine's condition. But eventually, the choke should be fully opened.
 - When the weather is cold, engine might stop if you open the choke too rapidly.

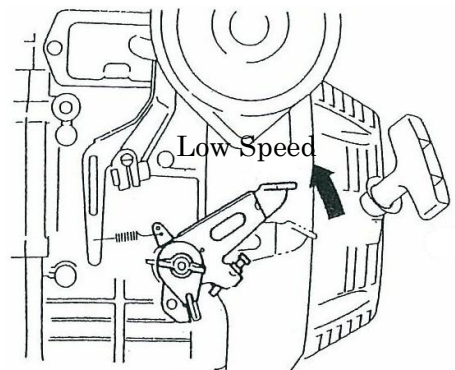


3. Operating

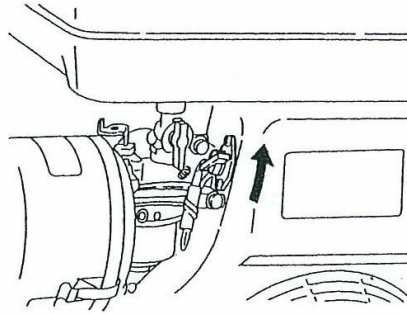
- (1) Turn the throttle to high speed (H) and let the engine runs in the highest speed.
- (2) Read through all the operating manuals of hydraulic tools (breakers and etc) which you intended to use.
- (3) While stop using hydraulic tools (breakers and etc), even just temporarily stop, turn the throttle to low speed (L) for saving the fuel consumed and for avoiding unnecessary noise pollution.

4. Stop

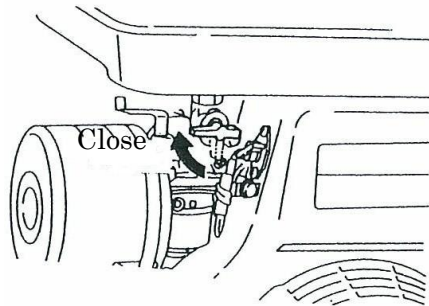
- (1) Turn the throttle to low speed and make it runs for 1 to 2 minutes.



- (2) Turn the stop switch to STOP (O) position.



- (3) Close the fuel cock.



- (4) Detach the hoses which connected to hydraulic tools (breakers and etc)



The temperature of this power unit goes high after being operated. Always wear gloves when operating the equipments (breakers and etc,) and be attentive for the heat on the equipments (breakers and etc), hoses and power unit.

MAINTANANCE

I. Daily Inspections

- (1) Check the engine oil level each time before starting the engine.
- (2) Make sure hydraulic oil is above the middle line on the indicator window. Refill hydraulic oil if necessary.
(Recommended Hydraulic Oil: ISO VG32 or equivalent)
- (3) Clean the element of the air cleaner in the engine.
- (4) Make sure there is no oil leakage from the pump or hoses. Tighten up the hose joints and bolts if necessary.
- (5) Start the engine, make it runs in low speed (Idling) and make sure there is no abnormal sound and abnormal movement from the engine.

II. Periodically Inspections

For the purpose of keeping the power unit in a good condition, make sure the following maintenance items are done periodically.

Item	Operating Hours		
	50H	100H	200H
Change engine oil	* ○		
Clean the air cleaner	○		
Clean the strainer			○
Clean the spark plug	○		
Change hydraulic oil		○	
Replace cartridge filter			○
Clean the radiator		○	
Clean the suction filter			○
Clean the hydraulic oil reservoir			○

* The first replacement is 20 hours

- (1) Draw out the hydraulic oil from the drain plug at the bottom of the oil tank.
Changing the hydraulic oil when the color of the hydraulic oil changed or when it smells burning. Always replace the same type of hydraulic oil.

- (2) Suction filter should be cleaned by non-lead gasoline.
- (3) Blow away the dust, dirt from oil cooler.

TROUBLESHOOTING

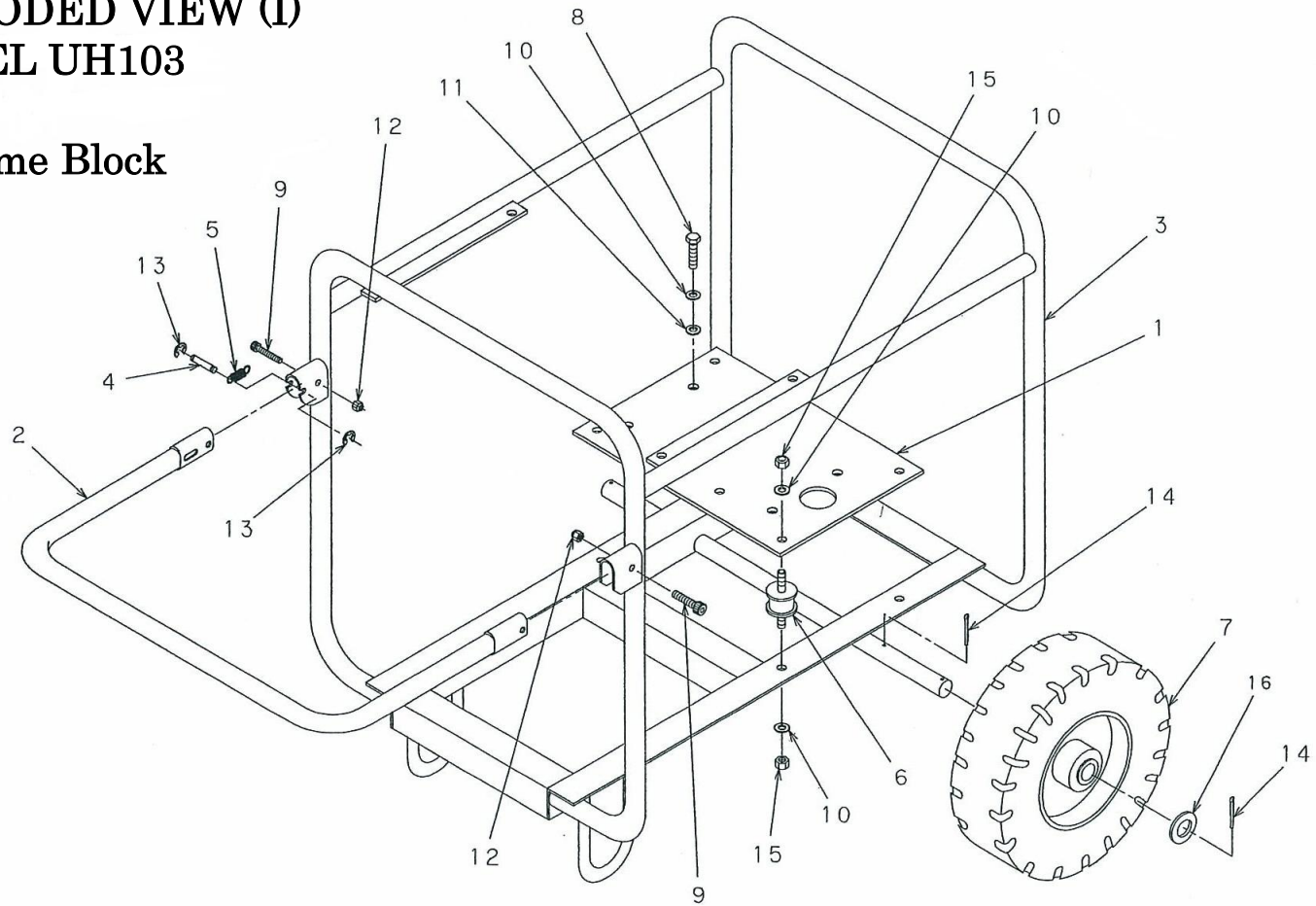
Ask your dealer for service for items with*

Symptoms	Causes	Countermeasures
Engine does not start	<ol style="list-style-type: none"> 1. No fuel in fuel tank 2. Damage of ignition plug 3. Clog of carburetor 4. Fuel cock is closed 5. Overflow of fuel by overusing choke 6. Trouble of ignition 7. Clog of fuel filter 8. Switch is in "OFF" position 9. Clog of air cleaner. 	<ol style="list-style-type: none"> 1. Refill fuel 2. Clean or replace ignition plug 3. Disassemble and clean the carburetor 4. Open the fuel cock 5. Turn the choke lever to close position, pull starter robe several times. 6. Inspect or repair if necessary* 7. Clean the fuel filter 8. Turn the switch to "ON" position 9. Clean the air cleaner
Start rope is heavy when pulling	<ol style="list-style-type: none"> 1. Power unit is not connected with the equipment (breaker and etc) 2. Burning of cylinder due to less engine oil 3. Damage of couplers 	<ol style="list-style-type: none"> 1. Connected power unit to equipment (breaker and etc) 2. Disassemble and repair* 3. Inspect, replace new ones if necessary
Engine rotation (rpm) does not raise up	<ol style="list-style-type: none"> 1. Choke was not turned to the original position 2. Not enough fuel 3. Clog of fuel filter 4. Clog of air cleaner 	<ol style="list-style-type: none"> 1. Turn the choke to its original position 2. Refill fuel 3. Clean the fuel filter 4. Clean the air cleaner
Attached equipment does not operate or operate in lower power	<ol style="list-style-type: none"> 1. Not enough hydraulic oil 2. Insufficiency of the hydraulic oil 	<ol style="list-style-type: none"> 1. Refill hydraulic oil 2. Change hydraulic oil

	<ol style="list-style-type: none"> 3. Decrease of relief valve pressure 4. Wear of pump 5. Low rotation(rpm) of the engine 6. Clog of the air cleaner in engine 7. Control lever is in “START” position 	<ol style="list-style-type: none"> 3. Adjust relief valve pressure* 4. Replace a new pump* 5. Adjust rotation (rpm) of the engine 6. Clean the air cleaner in engine 7. Turn the control lever to “ OPERATE” position
Oil temperature is abnormal high (Over 90°C)	<ol style="list-style-type: none"> 1. Clog of radiator 2. Clog of fan 	<ol style="list-style-type: none"> 1. Clean the radiator 2. Clean the fan
Oil leakage from hoses or couplers	<ol style="list-style-type: none"> 1. Loose of hoses fitting and couplers 2. Damage of hoses 	<ol style="list-style-type: none"> 1. Tighten up hoses and couplers 2. Replace new hoses or couplers if necessary

EXPLODED VIEW (I) MODEL UH103

1. Frame Block



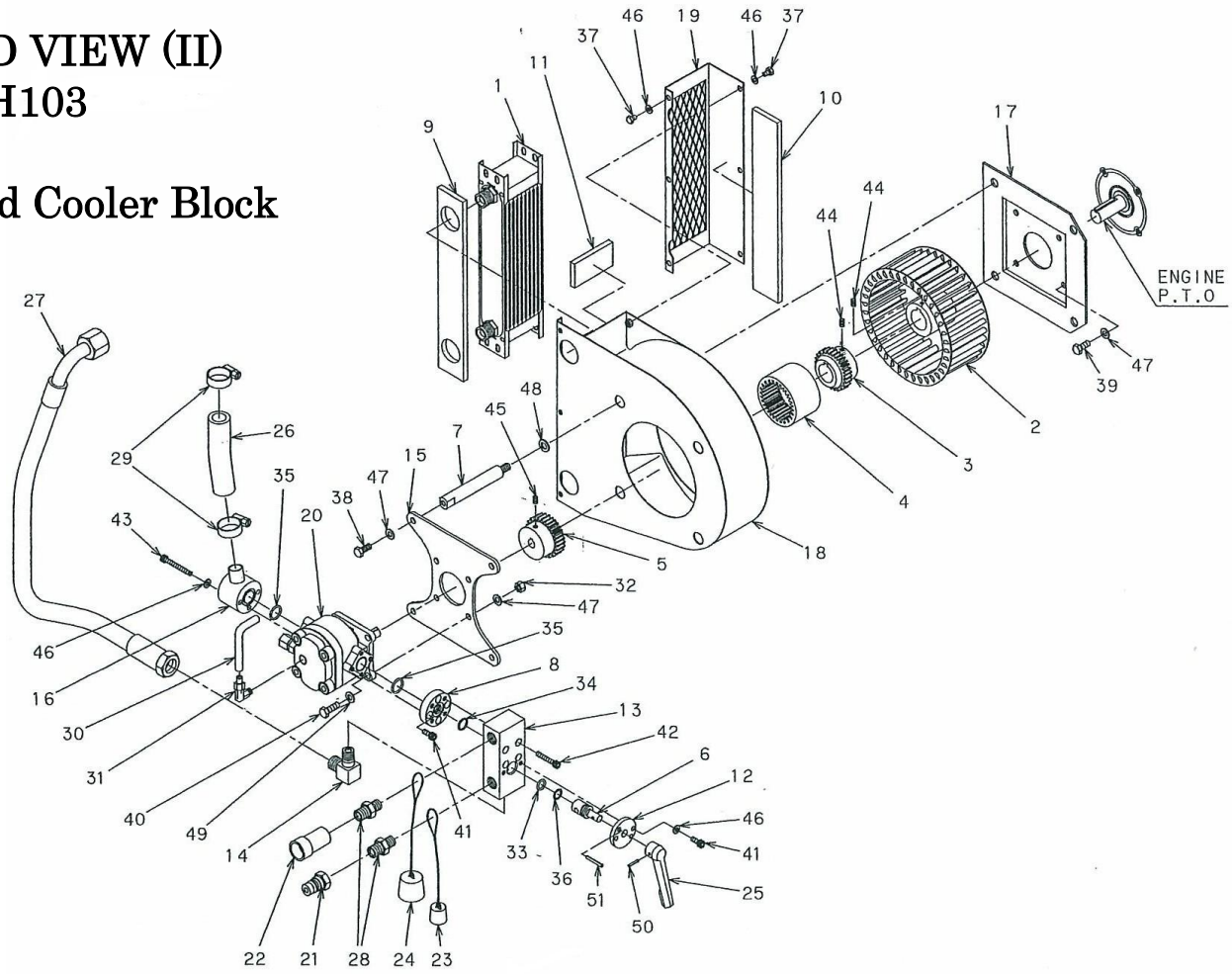
PARTS LIST (I) MODEL UH103

1. Frame Block

No.	Code	Description	Q'ty
1	MU07Z015A0	Engine Base	1
2	MU07Z018A0	Handle	1
3	MU07X022A0	Frame	1
4	1230 – 408	Handle Pin	1
5	1230 – 409	Spring	1
6	KA – 30	Cushion Rubber	4
7	PT – 300	Tire	2
8	B – 8 x 45	Hex. Bolt M8 x 45	4
9	BH – 6 x 30	Hex. Bolt M6 x 30	2
10	WS – 8	Washer	12
11	WP – 8	Washer	4
12	NN – 6	Nut	2
13	E – 5	E-Shape Ring	2
14	PS – 3.2 x 30	Split Pin \varnothing 3.2 x 30	4
15	N1 – 8	Nut	8
16	WP – 20	Washer	2

EXPLODED VIEW (II) MODEL UH103

2. Pump and Cooler Block



PARTS LIST MODEL UH103 (II)

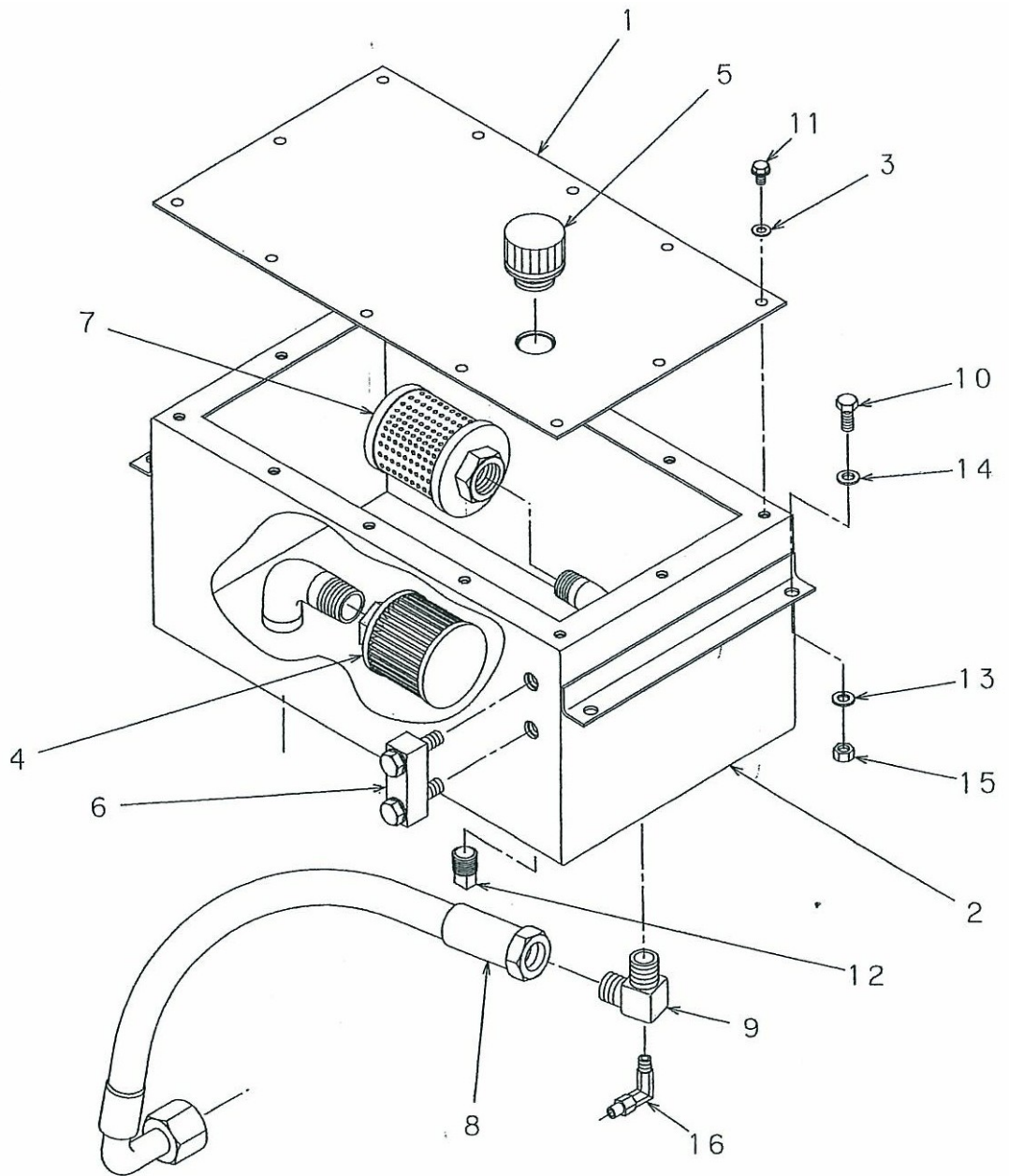
2. Pump and Cooler Block

No.	Code	Description	Q'ty	No.	Code	Description	Q'ty
1	MU07Z001A0	Radiator	1	22	QC – 03F	Coupler (Female)	1
2	MU07Z002A0	Fan	1	23	CC – 03M	Coupler Cap (Male)	1
3	MU07Z003A0	Coupler (E) & (P)	1	24	CC – 03F	Coupler Cap (Female)	1
4	BOWEXM32	HUB	1	25	FLR10	Control Lever	1
5	MU07Z003A0	Coupler (E) & (P)	1	26	MU07Z024A0	Suction Hose	1
6	MU07Z004A0	Rotary	1	27	03126 · 7 - - 42 - -	Hydraulic Hose	1
7	MU07Z005A0	Stud Bolt	1	28	AJ – 2083 - 06	Nipple	2
8	MU07Z006A0	Flange	1	29	SS – 12	Hose Band	2
9	MU07Z007A0	Packing (A)	1	30	MU07Z023A0	Nylon Tube	1
10	MU07Z008A0	Packing (B)	1	31	L4N10 x 8 – PT1/4	Elbow	1
11	MU07Z009A0	Packing (C)	2	32	N1 – 8	Nut	4
12	MU07Z010A0	Plate	1	33	OP – 14	O Ring P14	1
13	MU07Z011A0	Valve Body	1	34	OP – 18	O Ring P18	1
14	AJ – 1034 – 0806	Adaptor(Male 90° Elbow)	1	35	OP – 22	O Ring P22	2
15	MU07Z014A0	Pump Flange	1	36	OBP – 14	Back Up Ring	1
16	MU07Z016A0	Suction Flange	1	37	B – 6 x10	Bolt	6
17	MU07Z017A0	Plate	1	38	B – 8 x 16	Hex. Bolt M8 x 16	4
18	MU07Y019A0	Fan Case	1	39	B – 8 x 20	Hex. Bolt M8 x 20	4
19	MU07Y020A0	Radiator Cover	1	40	B – 8 x 25	Hex. Bolt M8 x 25	4
20	PA6RDV482	Gear Pump	1	41	BH – 6 x 15	Hex. Bolt M6 x 15	6
21	QC – 03M	Coupler (Male)	1	42	BH – 6 x 35	Hex. Bolt M6 x 35	4

No.	Code	Description	Q'ty
43	BH – 6 x 50	Hex. Bolt M6 x 50	3
44	SH – 6 x 8	Hex. Screw M6 x 8	2
45	SH – 6 x 10	Hex. Screw M6 x 10	1
46	WS – 6	Washer M6	11
47	WS – 8	Washer M8	12
48	WS – 10	Washer M10	4
49	WP – 8	Washer	4
50	PR – 4 x 22	Spring Pin \varnothing 4 x 22	1
51	PR – 6 x 32	Spring Pin \varnothing 6 x 32	2

EXPLODED VIEW (III) MODEL UH103

3. Tank Block



PARTS LIST MODEL UH103 (III)

3. Tank Block

No.	Code	Description	Qty
1	MU07Z012A0	Lid	1
2	MU07Y021A0	Tank	1
3	1240 – 404	∅6 Washer	12
4	SFT – 06	Suction Filter	1
5	BM – 3/4	Breather Cap	1
6	LG – 100	Oil Level Gauge	1
7	RC – 04 – 30 – 15	Return Filter	1
8	03126 · 8 - - 48 - -	Hydraulic Hose	1
9	MU07Z013A0	Elbow	1
10	B – 8 x20	Hex. Bolt M8 x 20	4
11	BG – 6 x 12	Hex. Bolt with Flange M6 x 10	12
12	BPQ – PT 3/8	Cube shape Screw	1
13	WS – 8	Washer	4
14	WP – 8	Washer	4
15	N1 – 8	Nut	4
16	L4N10 x 8 – PT1/4	Elbow	4