# Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions (LxWxH)</th>
<th>Dry Weight</th>
<th>Standard Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Blower</td>
<td>FL-H750</td>
<td>mm 350<del>430</del>495</td>
<td>kg 10.2</td>
</tr>
<tr>
<td></td>
<td>EH075F</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air-Cooled, 4-Stroke, Upright Single-Cylinder OHV Gasoline Engine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>75.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automotive Unleaded Gasoline</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automotive Oil SAE 10W-30; Class SF or higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Automotive 4-Stroke Engine Oil)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diaphragm Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NGK CMR6A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recoil Starter (with decompression)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forced Lubrication</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Joystick Lever (with rubber grip)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trigger Lever, Cruise Control Lever</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>One Flexible Pipe, One Swivel Pipe, One Blower Pipe, One Blower Nozzle, Two Shoulder Strap, Hose Band Ф100, Hose Band Ф76, Tool, Box Wrench, Instruction Manual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Table

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions (LxWxH)</th>
<th>Dry Weight</th>
<th>Standard Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Part</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Volume</th>
<th>Capacity of Engine Oil</th>
<th>Fuel Tank Capacity</th>
<th>Piston Displacement</th>
<th>Spark Plug</th>
<th>Starting System</th>
<th>Engine Speed Control Lever</th>
<th>Lubrication</th>
<th>Handle</th>
<th>Carburetor</th>
<th>Ignition System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Unleaded Gasoline</td>
<td>2.3</td>
<td>L</td>
<td></td>
<td>mL</td>
<td>ngk cmr6a</td>
<td></td>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Oil SAE 10W-30; Class SF or higher</td>
<td>0.11</td>
<td>L</td>
<td></td>
<td></td>
<td>ngk cmr6a</td>
<td></td>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Oil SAE 10W-30; Class SF or higher</td>
<td>0.04</td>
<td>L</td>
<td></td>
<td></td>
<td>ngk cmr6a</td>
<td></td>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Oil SAE 10W-30; Class SF or higher</td>
<td>0.03</td>
<td>L</td>
<td></td>
<td></td>
<td>ngk cmr6a</td>
<td></td>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Oil SAE 10W-30; Class SF or higher</td>
<td>0.02</td>
<td>L</td>
<td></td>
<td></td>
<td>ngk cmr6a</td>
<td></td>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Oil SAE 10W-30; Class SF or higher</td>
<td>0.01</td>
<td>L</td>
<td></td>
<td></td>
<td>ngk cmr6a</td>
<td></td>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Oil SAE 10W-30; Class SF or higher</td>
<td>0.00</td>
<td>L</td>
<td></td>
<td></td>
<td>ngk cmr6a</td>
<td></td>
<td></td>
<td>Breakerless Magneto</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Stop switch
2. Control Handle
3. Trigger Lever
4. Cruise Control Lever
5. Primer Pump
6. Cover Aircleaner
7. Knob Bolt
8. Choke Lever
9. Starter Handle
10. Fuel Tank
11. Fuel Tank Cap
12. Muffler
13. Shoulder Strap
14. Air Inlet Net
15. Plug Cover
16. Spark Plug
17. Oil Cap
18. Oil Drain Bolt
19. Elbow
20. Flexible Pipe
21. Swivel Pipe
22. Blower Pipe
23. Blower Nozzle L=200
24. Hose Band Ø100
25. Hose Band Ø76
26. Blower Nozzle L=450
1. PREPARATIONS

(1) Workbench
(2) Tool for disassembly and reassembly
(3) Wash-pan
(4) Wash oil (light oil, gasoline, etc)
(5) Automotive 4-stroke engine oil, grease
(6) Liquid packing
(7) File, sand paper
(8) Waste

2. NOTICE

(1) Use the standard tools properly.
(2) While disassembling the engine blower, memorize the locations of individual parts so that they can be reassembled correctly.
(3) Attach a tag to a part you are uncertain about its mounting position.
(4) Use boxes for keeping disassembled parts in a group.
(5) To prevent any loss and wrong reassembly of screw bolts and nuts, try to assemble each group of disassemble parts temporarily.
(6) Handle disassembled parts carefully, and clean them with wash oil.
(7) Use an impact driver for a screw bolt and screw, etc. that are difficult to be unfastened.
(8) Use new gaskets when reassembling.
(9) After reassembling each of the rotatable main parts, rotate by hand to test it for bad movements and abnormal noises.
(10) After the completion of reassembly, rotate the rotatable main parts by hand to test them for defects and looseness.

3. SPECIAL TOOL FOR DISASSEMBLY

Part number: T'X'O'O'O
Tool name: Flywheel Puller
## ASSEMBLY AND REASSEMBLY PROCEDURE

### 1. EQUIPMENT DISASSEMBLY

For further disassembling instructions on each part, see the corresponding pages.

<table>
<thead>
<tr>
<th>Step</th>
<th>Part of Equipment</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DRAIN,BOLT (5)</td>
<td>Unscrew</td>
</tr>
<tr>
<td></td>
<td>CAP,OIL (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M8</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>ENGINE OIL</td>
<td>Drain</td>
</tr>
<tr>
<td>3</td>
<td>DRAIN BOLT and CAP,OIL</td>
<td>Screw</td>
</tr>
</tbody>
</table>

### 2. FUEL

1) Drain the fuel.

2) Remove the COVER,AIR CLEANER.

3) Remove the AIR CLEANER ELEMENT.

   - Keep contaminant or dust off the AIR CLEANER ELEMENT.

4) Remove the DUCT,AIR CLEANER.

5) Remove the GUARD,OIL.

6) Remove the STARTER. M5 ~ 20mm

7) Remove the COVER,ENGINE. 5x16mm

8) Remove the fuel tube. The fuel will spout if the fuel tube is removed with the fuel tank filled with fuel.

9) Remove the TANK,FUEL. M6X12mm

10) Remove the WIRE.

11) Remove the CONTOROL CABLE.

   - 4X16mm

   - M5 ~ 25mm

12) Remove the THROTTLE LEVER from the LEVER 2 ASSY.

   - M6 ~ 14mm

13) Remove the IMPELLER. M6X45mm

14) Remove the ENGINE. M6X30mm

### 3. AIR CLEANER

1) Remove the CASE,AIR CLEANER.

   - M5 ~ 16mm

2) Remove the PLATE,SEPARETOR.

   - Be sure to pull the PLATE,SWPARATOR by its body.

3) Remove the PLATE,CHECK VALVE(with CHECK VALVE).

4) Remove the CHECK VALVE(1).

   - Do not let the CHECK VALVE(1) missing.

5) Remove the SCREW the DAMPER 1 side.

   - M5 ~ 40mm

6) Remove the FRANGE NUT the DAMPER 2 side.

   - M5

   - 5X16mm

   - M5 ~ 65mm

7) Remove the ELBOW.

8) Remove the DAMPER 2.

### 5. ENGINE

1) Remove the LEVER 1 and LEVER 2 ASSY.

2) Remove the CASE 1,VOLUTE.

3) Remove the IMPELLER. M6X45mm

4) Remove the ENGINE. M6X30mm

### 6. FRAME

- 8 FRAME

### 7. CASE 1,VOLUTE

- 7-1

### 8. BLEAHER (AIR CLEANER)

- 5-1

### 9. PLATE

- 5-2
(1) Remove the COVER, AIR CLEANER by loosening KNOB BOLTS.
(2) Remove the DUCT by loosening HOSE CLAMPS.
NO. Part name Disassembling Instructions

4 COVERS, COVER, PLUG
(1) Remove the GUARD, ENGINE.
(2) Remove the GUARD, OIL.
(3) Remove the COVER, ENGINE.

NOTICE:
Be careful not to lose the GUARD, OIL or COVER, PLUG.

5 TANK, FUEL
(1) Remove the fuel tube.
(2) Remove the TANK, FUEL.

NOTICE:
The fuel will spout if the fuel tube is removed with the fuel tank filled with fuel.

SCREW
M6*12 W, SW  (2PCS)

TANK, FUEL
SCREW
M5*20 (3PCS)
6 LEVER (CONTROL CABLE, WIRING)
For instructions on the lever disassembling, see pages 14 and 15.

(1) Disconnect the wiring.
(2) Disconnect the CONTROL CABLE from the CARBURETOR.

7 CASE, AIR CLEANER
(1) Remove the CASE, AIR CLEANER.
(2) Disconnect the two tubes connected to the air cleaner.

SCREW M5*16 W, SW (4PCS)

ROCKER COVER `AIR CLEANER
AIR CLEANER `CYLINDER
PLATE, SEPARETOR
CHECK VALVE
CHECK VALVE (1)

7-1 Instructions on the CASE, AIR CLEANER disassembling.
(1) Remove the PLATE, SEPARATOR.
(2) Remove the PLATE, CHECK VALVE (with the CHECK VALVE).
(3) Remove the CHECK VALVE (1).

NOTICE:
Be careful not to lose the parts. Handle the CHECK VALVE with care not to damage it.
<table>
<thead>
<tr>
<th>NO.</th>
<th>Part Name</th>
<th>Disassembling Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>FRAME</td>
<td>(1) Remove the FRAME.</td>
</tr>
<tr>
<td>9</td>
<td>CASE 1, VOLUTE</td>
<td>(1) Remove the CASE 1, VOLUTE.</td>
</tr>
<tr>
<td></td>
<td>DAMPER 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELBOW</td>
<td></td>
</tr>
</tbody>
</table>

NOTICE: Be careful not to lose the nuts.

- NUT M5 BLACK
- DAMPER 2 TAPPING SCREW 5*16 (9PCS)
- SCREW M5*65 W, SW (2PCS)
- SCREW M5*16 W, SW MEC (2PCS)
- FRAME NUT M6 (2PCS)
<table>
<thead>
<tr>
<th>No.</th>
<th>Part Name</th>
<th>Disassembling Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Impeller</td>
<td>(1) Remove the Impeller.</td>
</tr>
<tr>
<td>11</td>
<td>Engine</td>
<td>(1) Remove the Engine.</td>
</tr>
</tbody>
</table>

**Socket Head Bolt**

- **M6*30 W, SW (6PCS)**
- **M6*40 W, SW (4PCS)**
(1) Remove the CASE 1, LEVER and CASE 2, LEVER ASSY.

TAPPING SCREW 4*16 (5PCS)

CASE 2, LEVER ASSY

NUT M5 (1PCS)

SCREW M5*25 (1PCS)
(2) Remove the LEVER 2, THROTTLE from the CASE 2, LEVER ASSY.
1. Notice

- Clean parts completely.
- Replace screws with new ones if necessary.
- Tighten up the tightening torque specified parts according to the specified tightening torque.

2. Tightening torque of each part

For further assembling instructions on each part, see the corresponding pages.

<table>
<thead>
<tr>
<th>Part</th>
<th>Tightening part (kgf·cm)</th>
<th>Tightening torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGINE</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CASE 2 VOLUTE</td>
<td>+20</td>
<td>+2.0</td>
</tr>
<tr>
<td>IMPELLER</td>
<td>+20</td>
<td>+2.0</td>
</tr>
<tr>
<td>FLYWHEEL</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>CASE 1 VOLUTE</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>CASE 2 VOLUTE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FRAME</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>CASE, AIR CLEANER</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>FRAME</td>
<td>+15</td>
<td>+1.5</td>
</tr>
<tr>
<td>DAMPER1</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>CASE 2, LEVER</td>
<td>+5</td>
<td>+0.5</td>
</tr>
<tr>
<td>LEVER 2, THROTTLE</td>
<td>+5</td>
<td>+0.5</td>
</tr>
<tr>
<td>CASE 1, LEVER</td>
<td>+3</td>
<td>+0.3</td>
</tr>
<tr>
<td>CASE 2, LEVER</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>STARTER</td>
<td>+15</td>
<td>+1.5</td>
</tr>
<tr>
<td>COVER, ENGINE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>COVER, ENGINE</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>CASE 2 VOLUTE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MUFFLER</td>
<td>+5</td>
<td>+0.5</td>
</tr>
<tr>
<td>COVER, INRET</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DAMPER2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FRAME</td>
<td>+15</td>
<td>+1.5</td>
</tr>
<tr>
<td>DAMPER1 SCREW</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FRAME</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>DAMPER2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CASE, AIR CLEANER</td>
<td>+15</td>
<td>+1.5</td>
</tr>
<tr>
<td>FRAME</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>TANK, FUEL</td>
<td>-5</td>
<td>-0.5</td>
</tr>
<tr>
<td>GUARD, MUFFLER</td>
<td>+5</td>
<td>+0.5</td>
</tr>
<tr>
<td>COVER, ENGINE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>COVER, ENGINE</td>
<td>+10</td>
<td>+1.0</td>
</tr>
<tr>
<td>CASE 2 VOLUTE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>STARTER</td>
<td>+15</td>
<td>+1.5</td>
</tr>
<tr>
<td>ENGINE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CASE 2, LEVER</td>
<td>+5</td>
<td>+0.5</td>
</tr>
<tr>
<td>LEVER 2, THROTTLE</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CASE 1, LEVER</td>
<td>+3</td>
<td>+0.3</td>
</tr>
<tr>
<td>CASE 2, LEVER</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Check if the LEVER 2, THROTTLE can be smoothly moved with the hand, after fitting it in the CASE 2, LEVER by screwing the bolt.

Check if the ELBOW can be smoothly rotated with the hand, after screwing the screws.

Be sure to install the fuel tubes.

Be sure to install the GUARD, MUFFLER.

The kind of screw Notice

- MUFFLER GASKET
- position.

<table>
<thead>
<tr>
<th>Part</th>
<th>Kind of Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPPING SCREW</td>
<td>M6~30 W, SW</td>
</tr>
<tr>
<td>SOCKET HEAD BOLT</td>
<td>M5~16 W, SW</td>
</tr>
<tr>
<td>SOCKET HEAD BOLT</td>
<td>M6~12 W, SW</td>
</tr>
<tr>
<td>FRANGE NUT</td>
<td>M5~40</td>
</tr>
<tr>
<td>SCREW</td>
<td>M5~20 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~40 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~12 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M5~16 W, SW</td>
</tr>
</tbody>
</table>

80

<table>
<thead>
<tr>
<th>Part</th>
<th>Kind of Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPPING SCREW</td>
<td>M6~14 W, SW</td>
</tr>
<tr>
<td>SOCKET HEAD BOLT</td>
<td>M5~16 W, SW</td>
</tr>
<tr>
<td>SOCKET HEAD BOLT</td>
<td>M5~10 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M5~8 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M5~6 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M5~4 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M5~2 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M, 5~5 W, SW</td>
</tr>
</tbody>
</table>

20

<table>
<thead>
<tr>
<th>Part</th>
<th>Kind of Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAPPING SCREW</td>
<td>5~16 TAPPING SCREW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~10 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~8 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~6 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~4 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~3 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~2 W, SW</td>
</tr>
<tr>
<td>SCREW</td>
<td>M6~1 W, SW</td>
</tr>
</tbody>
</table>

2.0
(1) Fix the ENGINE to the CASE 2, VOLUTE with the knock positions united.

(2) Be careful not to leave the high tension code and wire between the CASE 2, VOLUTE and ENGINE.

(3) Install the GASKET, MUFFLER on the CASE 2, VOLUTE rib with the number (a) as shown in the photograph.

After screwing the SOCKET HEAD BOLTS in numerical serial sequence (‡A‡B‡C‡D), check if they are tightened with the specified tightening torque.

Screwing sequence

Screw the SOCKET HEAD BOLTS in numerical serial sequence (‡A‡B‡C‡D).
(1) Fit the DAMPER 2s in the groove of the CASE 1, VOLUTE.
(2) Install the ELBOW with its outlet directed toward the CASE 1, VOLUTE.
(3) Screw the TAPPING SCREWS clockwise beginning with the one at the ELBOW side.

Fit the O-RING in the inner top groove of the ELBOW.
(Apply silicon or grease over the ring before fitting it.)

Tightening torque 20 ± 5

Tighten the SCREW temporarily here, and then tighten it with the tightening torque above after the frame assembling.

After screwing the screws, check if the ELBOW can be smoothly rotated with the hand.

Be careful about the DAMPER 1 direction.
Place the DAMPER 1 at the protruding portion on the vertical rib of the CASE 1, VOLUTE.
(1) Install the NET on the FRAME by screwing the SCREW RIVETS.

SCREW RIVETS
6PCS
SCREW M5*16 W, SW  MEC (2PCS)

FRANGE NUT M6

Tightening torque 25 kgf·cm +15°

Upside NET

Tighten the SCREW with the tightening torque as shown in the preceding page after the FRAME assembling.
(1) Install the tubes correctly as shown in the photographs below. Apply silicon or oil over the inserting part of the tubes before installing them, if necessary.
(1) Insert the inner cable of the CONTROL CABLE into the CARBURETOR's adjusting bolt and fit it in the SWIVEL groove.

(2) Fit the outer cable of the CONTROL CABLE and high-tension code in the groove of the CASE 2, VOLUTE. (The CONTROL CABLE should be under the high-tension code.)

(3) Connect the WIRES from the LEVER and the ones of the COIL, and hold the CONTROL CABLE and connected wire using the clamp of the CASE 2, VOLUTE.

(4) Fix the cable to the ELBOW with the tie-wrap.

Be sure to install the fuel tube.
(1) Fold the GUARD, MUFFLER as shown in the photographs.
(2) Put the GUARD, MUFFLER in the COVER, ENGINE along its rail, and fit the COVER, ENGINE at its protruding portion into the groove of the GUARD, MUFFLER.
(3) Fix the GUARD, MUFFLER to the COVER, ENGINE with the TAPPING SCREW.

(1) Fix the COVER, PLUG in advance to the COVER, ENGINE.
(2) The GASKET, CARBURETOR should be positioned on the part with number (b) of the COVER, ENGINE.

TAPPING SCREW
4*6
Tightening torque 10 kgf·cm

SCREW
M5*20 (3PCS)
Tightening torque 25 kgf·cm

NOTICE:
Be sure to install the GUARD, MUFFLER.
<table>
<thead>
<tr>
<th>No.</th>
<th>Part Name</th>
<th>Assembling Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>COVER, AIR CLEANER</td>
<td>(1) The KNOB BOLTS may be screwed with the hand.</td>
</tr>
<tr>
<td></td>
<td>KNOB BOLT</td>
<td>(2) The tightening torque of the HOSE CLAMP bolt should be 15kgf·cm.</td>
</tr>
<tr>
<td></td>
<td>DUCT</td>
<td>(3) Be careful that the DUCT fitted in is not covered with the COVER, AIR CLEANER.</td>
</tr>
<tr>
<td></td>
<td>HOSE CLAMP</td>
<td>Fit in the hose clamp with the bolt directed upward.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After fitting in the DUCT, pull it in the direction of the arrow shown below until it stops so that the DUCT fitted in is not covered with the COVER, AIR CLEANER.</td>
</tr>
</tbody>
</table>
13-1 LEVER CASE 2, LEVER LEVER 2, THROTTLE

(1) Fit the throttle lever in the CASE 2, LEVER using the SOCKET HEAD BOLT, WAVE WASHER, WASHER, and SELF LOCK NUT.

13-2 CASE 1, LEVER LEVER 1, THROTTLE CONTROL CABLE SWITCH TORSION SPRING

(1) Let the SWITCH lead wire and CONTROL CABLE into the TUBE, CABLE in advance.

(2) Fit the SWITCH lead wire in the groove of the CASE 1, LEVER.

(3) Fit the end fitting of the control inner cable in the hole (c) of the LEVER 1, THROTTLE. Fit the TORSION SPRING over the cylindrical hollow column (e) and fit the LEVER 1, THROTTLE hole (d) over the cylindrical column (e).

LEVER 2, THROTTLE

SELF LOCK NUT M6 (1PCS) WASHER WAVE WASHER SOCKET HEAD BOLT M6*14 (1PCS)

Tightening torque 15 ‡s’†¥‡p

SWITCH LEAD WIRE CASE 1, LEVER TUBE CABLE LEVER 1, THROTTLE CONTROL CABLE

After screwing the bolt, check if the LEVER 2, THROTTLE can be smoothly moved.

Be careful about the TORSION SPRING direction.
(1) Join the CASE 2, LEVER (fitted in according to no. 13-1) and CASE 1, LEVER (fitted in according to no. 13-2) together.

**TAPPING SCREW**
4*16 (5PCS)
Tightening torque 5~8kgf·cm

**CASE 2, LEVER SCREW**
M5*25 (1PCS)
Used to tighten the lever on the SWIVEL PIPE (see no. 14).

**CASE 1, LEVER NUT**
M5 (1PCS)
Used to tighten the lever on the SWIVEL PIPE (see no. 14).
(1) Fit the straight pipe with the SWIVEL PIPE in the FLEXIBLE PIPE and tighten the HOSE CLAMP ƒÓ76.

(2) Install the LEVER onto the straight pipe with the SWIVEL PIPE and tighten the clamp screw and nut.

(3) Fit the FLEXIBLE PIPE in the ELBOW on the blower and tighten the HOSE CLAMP ƒÓ100.

(4) Insert the BLOWER PIPE into the SWIVEL PIPE and turn the BLOWER PIPE clockwise to tighten it.

Insert the BLOWER NOZZLE into the BLOWER PIPE and turn the BLOWER NOZZLE clockwise to tighten it.
(1) Loop the end of the BAND through the lower part of the HANGER as shown in the figure at right. The side of the BAND that has the folded tip should be facing outwards. Then, bring the end of the BAND back over the HANGER and thread the remaining length of the BAND through the BUCKLE. Tighten the BUCKLE by pushing it towards the HANGER in the direction of the arrow shown in the drawing while pulling on the BAND in the opposite direction.

(2) After attaching the BAND, tighten the BUCKLE to the HANGER. Tug strongly at the BAND to make sure that the BAND is secure and will not come undone.

(3) Attach the HOOK at the bottom of the BAND to the ring on the frame. Verify that the BAND is not twisted.
### 1. PULLEY

1. Remove the PULLEY.

- **M10 (width across flat 15)**
- **1**

### 2. CASE, INTAKE

1. Remove the CASE, INTAKE.

- **M5X65mm 2**
- **M5X25mm 2**
- **M5X12mm 1**
1. Remove the TUBE from the CYLINDER side.

### 3. MUFFLER

1. Remove the MUFFLER.

- **M6X70mm 3**

### 4. PLUG, SPARK

1. Remove the PLUG SPARK.

- **16mm plug wrench**

### 5. ROCKER COVER

1. Remove the ROCKER COVER.

- **M5X30mm 2**

### 6. COVER, CAMGEAR

1. Remove the COVER, CAMGEAR.

- **M5X16mm 4**

### 7. SHAFT, CAMLIFTER

1. Remove the SHAFT, CAMLIFTER.

- Position the cam peak portion down.

2. Remove the CAMLIFTER.

3. Remove the SHAFT, CAMGEAR.

4. Remove the CAMGEAR.

5. Remove the PUSH ROD.

### 8. CYLINDER HEAD

1. Remove the CYLINDER HEAD.

- **M6X35mm 5**

### 9. ROCKER SHAFT

1. Remove the ROCKER SHAFT.

- Remove the ROCKER SHAFT by hitting with a hammer a metal bar held by the hand on the ROCKER SHAFT at the intake side.

2. Remove the ROCKER ARM.

### 10. RETAINER, SPRING

1. Remove the RETAINER, SPRING.

- Support the VALVE from the inner side of the CYLINDER HEAD, push RETAINER, SPRING and slide it.

2. Remove the VALVE.

3. Remove the SPRING, VALVE.

### 11. RETAINER, PLATE

1. Remove the RETAINER, PLATE.

- **M4X10mm 1**

### 12. CASE, OIL

1. Remove the CASE, OIL.

- **M5X25mm 5**

### 13. COIL

1. Remove the COIL.

- **M4X20mm 2**

### 14. FLYWHEEL

2. Remove the FLYWHEEL.

- **M10 1**

Assemble the FLYWHEEL puller as shown in the figure, and remove the FLYWHEEL with the puller by turning it clockwise.

### 15. CRANKCASE

1. Remove the CRANKCASE.

- **M6X30mm 6**

Ram a flathead screwdriver into the four grooves in turn to remove the CRANKCASE by prying it off with the screwdriver.

### 16. CRANKSHAFT

1. Remove the CRANKSHAFT.

- Do not damage the OIL SEAL.

### 17. CLIP

1. Remove the CLIP.

- Prevent dust from getting in the BEARING at the ROD, CONNECTING small end.

### 18. PISTON

1. Remove the PISTON.

### 19. RING, PISTON

3. Widening the open end of the ring might break it.

---

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Part of remove</th>
<th>Fastener</th>
<th>PCS</th>
<th>Notice</th>
<th>Special tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PULLEY</td>
<td></td>
<td></td>
<td>P29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1)Remove</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the PULLEY.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASE,</td>
<td></td>
<td></td>
<td>P29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTAKE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M5X25mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M5X12mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TUBE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYLINDER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>side</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>small flat-head screwdriver for easy removal.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUFFLER</td>
<td></td>
<td></td>
<td>P30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLUG,</td>
<td></td>
<td></td>
<td>P30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPARK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COIL</td>
<td></td>
<td></td>
<td>P34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLYWHEEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRANKCASE</td>
<td></td>
<td></td>
<td>P35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRANKSHAFT</td>
<td></td>
<td></td>
<td>P36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BEARING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Part name**

**Disassembling Instructions**

1. Remove the **INSULATOR**.
2. Remove the tube from the CYLINDER.

---

**SCREW**

- M5 ~ 25W, SW (2 PCS)
- M5 ~ 14W, SW (1 PCS)

---

**PULLEY**

1. Remove the **PULLEY**.
2. Remove the **GASKET, CARBURETOR** and **CASE, INTAKE**.

---

**CARBURETOR**

1. Remove the **GASKET, CARBURETOR and CASE, INTAKE**.

---

**NOTICE**

Detach the attached gasket thoroughly.
1) Remove the MUFFLER and GASKET, MUFFLER.

<table>
<thead>
<tr>
<th>Part name</th>
<th>Disassembling Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCKET HEAD BOLT</td>
<td>M6 ~ 70 (3PCS)</td>
</tr>
</tbody>
</table>

1) Remove the PLUG, SPARK.

<table>
<thead>
<tr>
<th>Part name</th>
<th>Disassembling Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLUG, SPARK</td>
<td></td>
</tr>
</tbody>
</table>

1) Remove the ROCKER COVER and GASKET, ROCKER COVER.

<table>
<thead>
<tr>
<th>Part name</th>
<th>Disassembling Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCREW</td>
<td>M5 ~ 30 W, SW (2PCS)</td>
</tr>
</tbody>
</table>

**NOTICE**: Be careful not to lose the washers.
1) 視認 COVER, CAMGEAR
2) 視認 PUSH ROD
3) 視認 CAM LIFTER
4) 視認 CAMGEAR

SCREW M5 16W, SW(4PCS)
1) Remove the CYLINDER HEAD...

SOCKET HEAD BOLT M6 ~ 35 (5PCS)

8-18-1 ROCKER ARM VALVE

Slide the RETAINER, SPRINGS by pressing the SPRINGS with the RETAINER, SPRINGS, and remove the VALVES.

IN... EX...

Slide the SPRING down... RETAINER, SPRING

Remove the ROCKER SHAFT by hitting with a hammer a metal bar held by the hand on the ROCKER SHAFT at the intake side.

1) Remove the ROCKER ARM and ROCKER SHAFT.

2) Remove the VALVE and SPRING, VALVE and RETAINER, SPRING.
1) Remove the LEAD, VALVE and RETAINER, PLATE.
2) Remove the CASE, OIL.

NOTICE: Be careful not to lose the gasket.
Part name

Disassembling Instructions

1) Remove the COIL.
2) Remove the FLYWHEEL.

SOCKET HEAD BOLT M4 ~ M20 W, SW (2 PCS)

FRANGE NUT M10 (1 PCS)

Part number: TOOL

Tool name: Flywheel Puller
1) Ram a flathead screwdriver into the four grooves in turn to remove the CRANKCASE by prying it off with the screwdriver. (see the figure below)

2) Pull the CRANKSHAFT out of the CYLINDER. Be careful not to damage the OIL SEALS.
1) Remove the CLIP.
2) Remove the PIN, PISTON.
3) Remove the PISTON RINGS and OIL RING.

Be careful not to damage the OIL SEAL.

NOTICE: Widening the open end of the ring might break it.
エンジン再組装手順

1. 注意
- 完全に、特にピストン、シリンダー、クランクケース、クランクシャフト、ベアリングを清掃してください。
- 燃焼室及びピストンのトップ部からのすべての炭素沈着物を取り除きます。
- シリンダー及びクランクケースの間の接合面を損傷しないように注意してください。
- オイルシールのリップが損傷していないかテストしてください。
- 再組装前に、回転部及び滑り面に4ストロークエンジンオイルを塗布してください。
- 全くのガスケット、ビンとネジは新しいものに交換してください。
- 規定のトルクで締め付けられている部分を締め直してください。
- 回転部及び滑り面に4ストロークエンジンオイルを塗布してください。
- 修正間隙を確認し、調整してください。
- 再組装した各可動部を手で回して beste 感をチェックし、異常音がないかを確認してください。

各部品の組み付け方

| 部品 | 部品名 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール径 | シール部門を再度締め直してください。
1) Apply 4-stroke engine oil over the PISTON RINGS and OIL RING after placing them.

Position the open end of TOP RING and SECOND RING in the opposite direction.

Fit in the PISTON with its mark directed as shown in the figure.

Apply grease over the inner part.
Apply the 4-stroke engine oil over the inner part of VALVE GUIDES and ROCKER SHAFT guides before joining the parts together.

To insert VALVE into the RETAINER, SPRING hole and slide RETAINER, SPRING while pushing spring.

Slide the SPRING down.

1) Install the two CHECK VALVES on the CYLINDER.

Be careful that the INTAKE VALVE is large and EXHAUST VALVE is small.

Slide the RETAINER, SPRING.
1) Insert the OIL TUBE into the pipe of the CRANKCASE.

Part name

Assembling Instructions

1) Apply the 4-stroke engine oil over the inner wall of the cylinder and sliding surface of the piston.

2) Insert the CRANKSHAFT(PISTON) into the CYLINDER.

3) Apply the silicon system liquid gasket equally over the shaded area of the crankcase as shown in the left figure (ThreeBond 1216 recommended). Be careful not to fill in the grooves and holes with the gasket.

The OIL SEAL should not stick out from the CRANKCASE.

Tighten the BOLTS (Tighten the BOLTS ‡A‡A and ‡C‡C) again.

SOCKET HEAD BOLTS

M6 ~ 30 (6PCS)

Tightening torque 90 ~ 10 kgf¥cm

Pipe position
1) Degrease CRANKSHAFT and FLYWHEEL tapered portion completely before joining them.

2) Attach the SPRING, PLUG CAP to the HIGH-TENSION CODE.

3) Insert the HIGH-TENSION CODE with the SPRING, PLUG CAP into PLUG CAP.

4) Fit the COIL and WIRES in the CRANKASE. (See the figure below. Air gap: 0.3mm).

Be careful not to lose the WOODRUFF KEY.

Fasten with the COIL.

SOCKET HEAD BOLT M4 x 20 W, SW (2PCS)

Tightening torque @ 20 kgf cm

Air gap: 0.3 mm

IGNITION COIL
1) Fit the GASKET, OILCASE, LEAD VALVE and RETAINER, PLATE in the CRANKCASE.

2) Screw the DRAIN BOLT onto the CASE, OIL with the GASKET between them.

3) Join the CRANKCASE and CASE, OIL together.

Be careful about the oil tube damage.

Attach LEAD VALVE with the cut-out facing to OIL FILLER HOLE.

<table>
<thead>
<tr>
<th>Part name</th>
<th>Assembling Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCREW M5 ~ 25 W, SW (5PCS)</td>
<td>Tightening torque @ 40 ± 15 kgf·cm</td>
</tr>
<tr>
<td>SOCKET HEAD BOLT M4 ~ 10 SW (1PCS)</td>
<td>Tightening torque @ 20 ± 15 kgf·cm</td>
</tr>
</tbody>
</table>

**NOTICE**
Be careful not to fail to place the GASKET.
Be careful about the direction of the cam lifters when installing them (see the figure below).

1) Attach the CYLINDER HEAD.

**Tightening sequence of the SOCKET HEAD BOLT.**

- M6
- 35 (5PCS)
- Tightening torque:
  - 120 kgf·cm
  - 20 kgf·cm

Finally tighten again the BOLT that was tightened first.

1) Position the piston to the top dead center. (Make sure that the FLYWHEEL is placed with its magnetic part on the downside - this can be confirmed with the FLYWHEEL counter mark.)

2) Join CAMGEAR to CRANKGEAR with CAM top facing down vertically. (use the counter mark for reference).

3) Join the CAMLIFTER.
Press the ROCKER ARM and fit in the PUSH ROD.

1) Insert the PUSH ROD into the PUSH ROD passage of the CYLINDER HEAD.
2) Make sure that the PUSH ROD is put into the spherical grooves of the CAM LIFTER and ROCKER ARM adjust bolt.
3) Attach the COVER, CAMGEAR.
4) Loosen NUT and adjust VALVE CLEARANCE by rotating ADJUST SCREW with a hexagon bar wrench. Adjust VALVE CLEARANCE at the compression top dead center (the position of the CAM top and FLYWHEEL should remain in the same one at no.10). Be sure to close the COVER, CAMGEAR before the clearance adjustment.
5) Tighten NUT firmly after the adjustment.

Apply the 4-stroke engine oil over the CAMGEAR, CAMLIFTER and ROCKER ARM.

Make sure that the PUSH ROD is put into the spherical grooves.

VALVE CLEARANCE: 0.15mm

NUT:
Tightening torque: 50 kgf·cm

SCREW:
M5 - 16 W, SW (4PCS)
Tightening torque: 40 kgf·cm
1) Attach the MUFFLER and GASKET, MUFFLER.

**NOTICE**

- Be careful not to bend the GAS-KET or fail to place the WASHERS.

**SOCKET HEAD BOLT**

M6 ~ 70 (3–)

Tightening torque @ 140 ± 20 kgf•cm

1) Attach the PLUG, SPARK.

**PLUG, SPARK**

(M10)

Tightening torque @ 110 ± 20 kgf•cm

1) Attach the ROCKER COVER and GASKET, ROCKER COVER.

**NOTICE:**

- The breather should be positioned at the plug side.

**SCREW**

M5 ~ 30 W, SW (2PCS)

Tightening torque @ 40 ± 15 kgf•cm

Tighten the BOLTS again after the test run.

**NOTICE:**

- The PLUG, SPARK should be screwed into the threaded screw holes straight.

---

Part name | Assembling Instructions
---|---
MUFFLER | Attach the MUFFLER and GASKET, MUFFLER.
SOCKET HEAD BOLT | M6 ~ 70 (3–), Tightening torque @ 140 ± 20 kgf•cm
PLUG, SPARK | Attach the PLUG, SPARK, M10, Tightening torque @ 110 ± 20 kgf•cm
ROCKER COVER | Attach the ROCKER COVER and GASKET, ROCKER COVER.
SCREW | M5 ~ 30 W, SW (2PCS), Tightening torque @ 40 ± 15 kgf•cm
1) Attach the GASKET, CARBURETOR, and CASE, INTAKE.

**NOTICE**

- Be careful about the gasket aspect when installing it.
- Be careful about the gasket damage after installing it.

**SCREWS**

- M5 ~ 65W, SW (1PCS)
- Tightening torque: @ @ 20 kgf-cm

**PULLEY**

- 90 ~ 110 kgf-cm

1) Attach the PULLEY

(Tighten the STARTER together with the COVER, ENGINE using the same SCREWS.)

**SCREWS**

- M5 ~ 25W, SW (2PCS)
- Tightening torque: @ @ 40 kgf-cm

- M5 ~ 14W, SW (1PCS)
- Tightening torque: @ @ 40 kgf-cm

**NOTICE**

- The GASKET should be placed with its smallest hole positioned at the upper right.

**Part name**

- Connect the tube to the Air Cleaner breather (see page 20).
1) Attach the CAP, OIL.

NOTICE: Be careful not to fail to place the PACKING or fill the tank with oil.
5. CARBURETOR DISASSEMBLY AND REASSEMBLY

This engine is equipped with a diaphragm type CARBURETOR.

1) Function and structure of the diaphragm system.
Since the fuel level is kept constant, in spite of any tilt angle of the engine, it can be operated at any position. The float chamber is provided with a diaphragm and covered by a cover. Negative pressure in the air intake passage causes the diaphragm to swell upward and thereby pushing up the hinge to open the valve. Upon the disappearance of the negative pressure, the valve is closed by the spring pressure. Then the fuel flow rate can be controlled by marking an appropriate determination of the diaphragm area and spring pressure.

2) Disassembly and reassembly

[Diagram of carburetor parts with labels for each component such as BODY ASSY-PUMP, GASKET-METERING, DIAPHRAGM ASSY METERING, BODY ASSY AIR PURGE, PUMP-PRÍNER, SCREW, COVER, PRIMER PUMP, DIAPHRAGM-PUMP, SPRING, O-RING, JET, RING-PACKING, RING-RETTAINING, NUT-CABLE ADJ, BRACKET-CABLE, SCREW-CABLE ADJ, SCREEN-INLET, THROTTLE COLLAR, WASHER, SCREW, and SWIVEL.]
3) Notice
‡@Clean the CARBURETOR using clean gasoline before disassembly.
‡ADisassemble or reassemble referring to the deal drawing.
‡BDo not disassemble the THROTTLE VALVE ASSY and PUMP BODY ASSY.

4) Disassembly and reassembly procedure
‡@Remove the screw (PUMP COVER) and then the PRIMER PUMP COVER. Remove dust clearly from the PRIMER PUMP if any.
‡ARemove the PUMP BODY ASSY from the body (do not let the SPRING missing). Remove dust clearly from the INLET SCREEN if any.
‡BRemove the JET from the body.
‡CRemove the SCREW (THROTTLE COLLAR) and then THROTTLE VALVE ASSY from the body.
‡DReassemble the JET and SPRING firmly when reassembling the CARBURETOR.

5) Checking procedure
‡@Clean the body using gasoline and blow it clearly with compressed air.
‡ATest the JET for dust and corrosion. The dust needs cleaning and blowing with compressed air and corrosion replacing with new one. (Note: The new JET should have the same number with that of the old one.)
‡BTest the GASKETS for deformation and breakage. Replace bad gaskets with new ones if any.
‡CThe PUMP(DIAPHRAGM) should not be hardened or damaged.
‡DThe INLET VALVE and the OUTLET VALVE should be flat and not bent.
‡EThe DIAPHRAGM ASSY should be free of any hardening, damage or bend.
‡FAfter cleaning the PUMP BODY ASSY, test it for deformation of the METERING LEVER and METERING LEVER SPRING, height of the METERING LEVER, dust stuck to the INLET SCREEN, and VALVE leakage, etc. To check the MAIN CHECK VALVE for its correct operation, place a vinyl or rubber hose at its end on the CHECK VALVE portion from the JET side and breath it at the other end. If you cannot breathe it and valve closes when you breathe it in, it works correctly. If not, immerse it in gasoline for about 10 minutes and then repeat the procedure described above. If the VALVE cannot be fixed even by doing this, replace it with a new PUMP BODY ASSY. (Note: Do not blow the MAIN CHECK VALVE with compressed air. If you use an air gun, keep it about 30cm away from the valve when the compressed air has a pressure of 6kg/cm²).
‡GTest the PRIMER PUMP for any hole, breakage and abnormal hardening. Make sure that the COMBINATION VALVE works correctly.

6) Marks on CARBURETOR
Marks are stamped on the CARBURETOR as shown in the right figure:
‡@Model No.
‡ADate of manufacture

Example)‡@FWYK260
‡AF630
(July 24 to July 30, 2006)
Week 30 = what week number in the year
Last digit of the year
The RECOIL STARTER rarely malfunctions under normal use. When it fails, however, or needs greasing, disassemble and reassemble it according to the following procedure.

**Tools:** Screwdriver and pliers

1) Disassembly
   1. Remove the RECOIL STARTER from the engine.
   2. Pull out the STARTER KNOB, press the ROTARY REEL with your thumb as shown in Fig.6-1 when the REEL cut-out comes to the STARTER ROPE OUTLET, and pull the STARTER ROPE to the inside of the RECOIL STARTER with a screwdriver. Using the cut-out, rewind the REEL to the direction of the arrow until it stops by controlling the rotation of the REEL with your thumb.
   3. Remove the parts as shown in Fig.6-2. Remove the REEL slowly by turning it back and forth gently in a way that SPIRAL SPRING will not come away from the REEL. (Be sure to wear a piece of protective glasses during disassembling to protect against a danger caused by possible spiral spring's coming away. If the spiral ring flies out, fit it correctly into the groove according to the procedures as shown in Fig. 6-6.) Untie the STARTER ROPE knot at the REEL end and take it away to complete the disassembly.

![Fig.6-1](image1)

![Fig.6-2](image2)
Reassembly

1. Run the STARTER ROPE through the STARTER KNOB and make an overhand knot as shown in Fig. 6-3. Run the STARTER KNOB at its opposite side from the STARTER CASE to the REEL, make a knot in the same way, and put the ROPE end completely in the ROPE HOUSING of the REEL. Then, apply a small amount of grease over the STARTER SHAFT and SPIRAL SPRING.

2. Make sure that the SPIRAL SPRING is fit completely in the spring groove of the REEL. Form the SPRING end to have 1 to 2 mm clearance between the SPIRAL SPRING inner end and REEL BUSH so that the STARTER SHAFT can hook on the HOOK securely as shown in Fig. 6-4. The SPIRAL SPRING inner portion (about 10 cm-long from the end) can be charged in shape.

3. Before inserting the REEL in the STARTER CASE, wind the STARTER ROPE around the REEL three turns in the direction of the arrow shown in Fig. 6-5, draw out the third turn of the STARTER ROPE from the REEL cut-out, and fit the REEL completely inside the STARTER CASE so that the SPIRAL SPRING inner end can hook on the hook. Then, hold the STARTER ROPE as shown in Fig. 6-5, and twist the REEL 4 to 5 turns in the direction of the arrow using the REEL cut-out. After the completion of winding, hold the REEL tightly to prevent the STARTER ROPE from winding back, pull the STARTER KNOB in order for the SPIRAL ROPE to tighten and then release the STARTER KNOB slowly.

Reassemble the parts in reverse order of disassembly shown in Fig. 6-2. Tighten the SETSCREW firmly.

Be sure to perform the following procedure in order to make sure that the parts have been fit completely.
52

3) STARTER KNOB CHECKING

(1) Check after reassembly

If the STARTER KNOB is too heavy to pull, check the associated parts whether they have been reassembled as instructed.

If the RATCHET fails to function, check whether the parts such as the spring have been missing.

(2) Check at off-season and disassembly

When the SPIRAL SPRING fly out:

- Make a ring having a smaller diameter than that of the SPIRAL SPRING housing by a thin wire.
- Hook the SPIRAL SPRING at its outer end on the ring to wind it as shown in Fig.6-6, and fit it into the SPIRAL SPRING groove. Press the SPIRAL SPRING with your finger to prevent it from coming away and remove the ring slowly. The ring can easily be removed by prying it with the tip of a screwdriver. See Fig.6-4 for how to fit the SPIRAL SPRING correctly into the groove.

(3) Pull the STARTER KNOB to pull out the STARTER ROPE to the end:

- Unwind the STARTER ROPE 1 to 2 turns in the way as shown in Fig.6-1, since the SPIRAL SPRING may be over-stressed if the STARTER ROPE still remains in the rope groove.

- If the STARTER ROPE is found weak to move back, or the STARTER KNOB droops when you let it go, apply grease over the rotating and friction parts. If it does not recover, pull the STARTER KNOB such that the STARTER ROPE is pulled by 1 to 2 turns. (In this instance, make sure in the way described above that the SPIRAL SPRING is not over-stressed.)

- If the SPIRAL SPRING comes away with a sound and the STARTER ROPE will not be moved back, reassemble the RECOIL STARTER from the beginning.

Other notice

When the SPIRAL SPRING fly out:

- Make a ring having a smaller diameter than that of the SPIRAL SPRING housing by a thin wire.
- Hook the SPIRAL SPRING at its outer end on the ring to wind it as shown in Fig.6-6, and fit it into the SPIRAL SPRING groove. Press the SPIRAL SPRING with your finger to prevent it from coming away and remove the ring slowly. The ring can easily be removed by prying it with the tip of a screwdriver. See Fig.6-4 for how to fit the SPIRAL SPRING correctly into the groove.

- At off-season and disassembly:

Apply grease (heat-resistant type is preferable) over the rotating and friction parts at the end of the season and at disassembly.

- When the SWING ARM does not move smoothly:

Apply grease over the SWING ARM end and in the vicinity of place along which the end slides. (Shell Albania No.3)
Poor acceleration and output shortage of engine operation.

Insufficient compression

Working surroundings

AIR CLEANER care

Oil consumption

Plug and Ignition

Unknown cause

Unknown case

Engine care

Valve train

Oil care

Others

38

has been in operation in an appropriate place and work method. Ask serviceman for further information.

Clouds of white smoke do not come out during operation with the oil consumption at 5cc or less an hour and in normal use. Check again that the equipment Is the engine oil consumed over 5cc an disappeared?

Drive the engine at about 7000rpm for before operation?

Is the inside of the AIR CLEANER cleaned place and/or work method?

Is the operation being done in an unusual place and/or work method? Ask a serviceman for the appropriate way.

Is the operation being done in an unusual place and/or work method?

Is any screw in the engine CAP, OIL stiff?

Is the PLATE, SEPARATOR in the equipment at feeding and/or changing oil?

Was the engine oil spilled onto the equipment at feeding and/or changing oil?

Does the PLUG ignite sufficiently? Yes

Does the PLUG ignite sufficiently? No

Is the inside of the AIR CLEANER cleaned place and/or work method?

Was it confirmed at the pre-operation consequently?

Does air-fuel mixture leak from the mating faces of the CARBURETOR, INSULATOR etc.?

The valve clearance is within the 0.08-0.40(criterion:0.15). Remove the ROCKER COVER to check up and/or deteriorated.

Disassemble the CARBURETOR to test it for the component parts being clogged. Investigate the leakage and correct it. Replace wear out parts, such as the diaphragm with new ones. Replace the CARBURETOR with a new one if Without problem With problem

Adjust the valve clearance at 0.15.

Test the PISTON RING for marked abrasion. Marked abrasion and/or damage needs replacing the PISTON with a new one.

Does the PISTON RING leak or has the PISTON RING been marked abrasion or worn out? No ablation

Is the CYLINDER bore for marked ablation. Marked ablation and/or damage needs replacing the CYLINDER with a new one.

Does the CYLINDER bore for marked ablation? No ablation

Are the PISTON RING and CYLINDER bore marked abrasion? No

Is the ENGINE OIL leaked or has the ENGINE OIL been marked abrasion or worn out? No

Are the CAP, OIL tightened? Yes

Are the CAP, OIL tightened? No

Was the engine oil spilled onto the equipment at feeding and/or changing oil?

Replace the OIL SEPARATOR with a new one. Fasten the OIL SEPARATOR to the bottom, or

Has the packing, etc. been replaced with new one if

Correct the bad CAMGEAR timing. Any ablation of the CAM top needs replacing the CAMGEAR with a new one.

Correct the bad CAMGEAR timing. Any ablation of the CAM top needs replacing the CAMGEAR with a new one.

Any ablation of the CAM top needs replacing the CAMGEAR with a new one.

Adjust the valve clearance at 0.15.

Test the PISTON RING for marked abrasion. Marked abrasion and/or damage needs replacing the PISTON with a new one.

Is the CAP, OIL tightened? Yes

Is the CAP, OIL tightened? No

Was it confirmed at the pre-operation consequently?

Apply Duster or Water to remove the dust and water. No

Apply a lubricant to the engine oil. No

Apply a lubricant to the engine oil. Yes

Apply Duster or Water to remove the dust and water. No

Any ablation of the CAM top needs replacing the CAMGEAR with a new one.

Correct the bad CAMGEAR timing. Any ablation of the CAM top needs replacing the CAMGEAR with a new one.

Adjust the valve clearance at 0.15.
Check and recondition the engine according to the essential criteria for reconditioning after the disassembly and cleaning. The terms used in the criteria for reconditioning are described below:

'P' Reconditioning
To repair, adjust, replace any wrong part of the engine, so that it works like a new one.

'Q' Required reconditioning
The point at which a part of the engine is thought that it does not function any more without being repaired because of its wear, breakage, and/or decreased function.

'R' Usage limit
The point at which a part of the engine can not be used any more because of its poor performance and/or strength.

'S' Gauge
The design dimension of new parts exclusive of its permissible dimensional deviation.

'T' Adjustment accuracy
The accuracy of finished and/or adjusted dimension of a repaired part of the engine.

1) 检查和修复
检查和修复是根据发动机拆解和清洗后的必要条件进行的。对发动机进行修复、调整或更换任何损坏的部件，使其工作性能像新发动机一样。

2) 维护期限
维护期限是指发动机部分在使用过程中，由于磨损、损坏或性能下降，不能再使用的临界点。

3) 标准尺寸
标准尺寸是指新零件的理论尺寸，不包括允许的尺寸偏差。

4) 衡量精度
衡量精度是指经过修复或调整后的发动机部分的尺寸精度。

5) 修理和更换
修理和更换是根据发动机拆解和清洗后的必要条件进行的。对发动机进行修复、调整或更换任何损坏的部件，使其工作性能像新发动机一样。
### VI. CRITERIA FOR RECONDITIONING

<table>
<thead>
<tr>
<th>Part to be repaired</th>
<th>Gauge Adjustment (mm)</th>
<th>Usage limit</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore diameter</td>
<td></td>
<td>0.06</td>
<td>Tool</td>
</tr>
<tr>
<td>Cylinder block</td>
<td></td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>Inside diameter of valve guide</td>
<td></td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>Inside micrometer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External diameter of skirt in thrust direction</td>
<td>0.04</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>Replacement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of ring grooves</td>
<td>Top</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oil</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+0.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+0.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+0.06</td>
<td>Vernier calipers</td>
</tr>
<tr>
<td>PIN hole</td>
<td></td>
<td>+0.03</td>
<td></td>
</tr>
<tr>
<td>Gap between PISTON and CYLINDER (6.1-14.1mm higher from bottom)</td>
<td>0.1</td>
<td>0.1</td>
<td>Replacing in piston thrust direction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.12</td>
<td>Gap gauge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>PISTON RING</td>
<td>Width</td>
<td>Top</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oil</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.14</td>
<td></td>
</tr>
<tr>
<td>External diameter of PISTON PIN</td>
<td></td>
<td>-0.012</td>
<td></td>
</tr>
<tr>
<td>Part to be repaired</td>
<td>Gauge Adjustment</td>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Height of cam top</td>
<td>28.01 ±0.6</td>
<td>Vernier calipers Replacement</td>
<td></td>
</tr>
<tr>
<td>Shaft bore diameter</td>
<td>ɸ5</td>
<td>Inside micrometer Replacement</td>
<td></td>
</tr>
<tr>
<td>Cam shaft diameter</td>
<td>ɸ5</td>
<td>Micrometer Replacement</td>
<td></td>
</tr>
<tr>
<td>CAM GEAR Gap between CAMSHAFT and acceptance hole</td>
<td>Inside micrometer</td>
<td>Micrometer Replacement</td>
<td></td>
</tr>
<tr>
<td>External diameter of valve shaft</td>
<td>Intake 4.0, Exhaust 4.0 ±0.10</td>
<td>Micrometer Replacement</td>
<td></td>
</tr>
<tr>
<td>Gap between valve shaft and valve guide</td>
<td>Intake 0.2, Exhaust 0.2</td>
<td>At the center of the VALVE GUIDE. Inside micrometer</td>
<td>Micrometer Replacement</td>
</tr>
<tr>
<td>Valve lift</td>
<td>4.3</td>
<td>Vernier calipers CAMGEAR Replacement</td>
<td></td>
</tr>
<tr>
<td>Valve clearance (in the cold)</td>
<td>0.15 ±0.08</td>
<td>Thickness gage Adjustment</td>
<td></td>
</tr>
<tr>
<td>External diameter of rocker shaft</td>
<td>ɸ5</td>
<td>Micrometer Replacement</td>
<td></td>
</tr>
<tr>
<td>Diameter of rocker arm hole</td>
<td>ɸ5</td>
<td>Three-point Micrometer Replacement</td>
<td></td>
</tr>
<tr>
<td>Gap between rocker arm and rocker shaft</td>
<td>Micrometer</td>
<td>Three-point Micrometer Replacement</td>
<td></td>
</tr>
<tr>
<td>PLUG SPARK NGK CMR6A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrode clearance</td>
<td>0.75 ±1.0</td>
<td>Thickness gage Adjustment</td>
<td></td>
</tr>
<tr>
<td>Electricity Gap between coil and flywheel</td>
<td>0.3</td>
<td>Thickness gage Adjustment</td>
<td></td>
</tr>
<tr>
<td>Fuel consumption l/hr</td>
<td>1.34 ±1.63</td>
<td>On wide open throttle at 7200rpm</td>
<td></td>
</tr>
<tr>
<td>Fuel consumption l</td>
<td>0.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine oil consumption cc/hr</td>
<td>3 ±6</td>
<td>Checking</td>
<td></td>
</tr>
<tr>
<td>Recommended engine oil</td>
<td>Automotive Oil SAE10W-30; Class SF or higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil change 1st change: 20h</td>
<td>2nd or later change: 50h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VII. NOTIC

1) Cleaning of air cleaner element
   - Clean the element to avoid an extremely short life as well as poor start, power, and drive of the engine.
   - Wipe oil off the air cleaner cover and air cleaner plate breather.

2) Oil supply and change
   - Remove dust and dirt around the oil filler, and unscrew the oil gauge integrated oil cap.
   - Place the oil gauge integrated oil cap on a place where it cannot get dirty with sand and/or dust. The dirty screwed back oil gauge integrated oil cap might cause poor oil circulation and/or abiations of the engine parts resulting in an engine failure.
   - Be sure to wipe spilled oil off the space between the fuel tank and engine and start the engine. Operation without wiping the spilled oil causes oil spots because the spilled oil is absorbed from the cooling air intakes and scattered.
   - Drained oil should be properly dealt with according to the law. Do not discard squeeze the oil out of them. it in a garbage bag, to the ground, and/or drainage ditches. Ask a store where you have bought the oil for unclear points about the disposal. Check and/or change the oil periodically (change it once six months). The oil deteriorates naturally.

3) Fuel
   - Do not use mixed gasoline (gasoline mixed with the engine oil). The mixed gasoline might cause carbon sedimentation resulting in an engine failure.
   - Use of old fuel causes a poor engine start.

4) Operation
   - Open the throttle one thirds and start the warmed engine if it cannot easily start again.

5) Storage
   - Store the equipment with the engine in an upright position in spite of its storage period.
   - Tell your users the correct storage way above.
VIII. CARE AND STORAGE

Care described below shows the standard procedure required at the correct engine use under usual conditions. Therefore, it will not give you any guarantee such that care is not necessary up to the indicated times. An air cleaner cleaning, for example, is necessary every several (not ten) hours a day during operation in a dust-laden environment.

### Daily check and care (every 10 hours)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Check and care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parts cleaning</td>
</tr>
<tr>
<td>2</td>
<td>Test the parts for being not seated. Tighten loose screws again if any.</td>
</tr>
<tr>
<td>3</td>
<td>Test the fuel pipe for coming away and/or bend.</td>
</tr>
<tr>
<td>4</td>
<td>Checking and cleaning of the PLUG, SPARK.</td>
</tr>
<tr>
<td>5</td>
<td>Check the oil quantity. If short supply supplementary oil.</td>
</tr>
</tbody>
</table>

(1) The dusty air cleaner element might cause poor engine drive. Also, the oil attached air cleaner element causes not only the inner but also outer parts to be dirty by the oil.

(2) The parts not seated causes vibration of the engine and/or oil leaks.

(3) The coming away and/or bent fuel pipe causes a fuel leak and/or poor engine start.

(4) The bad PLUG, SPARK causes poor power and/or engine start.

(5) The engine might seize up in operation with lack of the oil.

A pre-operation check should be done.

### Check and care after initial 20-hour use

<table>
<thead>
<tr>
<th>Reason</th>
<th>Check and care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oil change</td>
</tr>
</tbody>
</table>

To remove the oil that has initially got dirty.

### Check and care after every 50-hour use

<table>
<thead>
<tr>
<th>Reason</th>
<th>Check and care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oil change</td>
</tr>
<tr>
<td>2</td>
<td>Fuel filter cleaning</td>
</tr>
</tbody>
</table>

The dirty fuel filter causes the fuel not to be supplied to the CARBURETOR resulting in a poor engine start.

### Check and care after every 200-hour use

<table>
<thead>
<tr>
<th>Reason</th>
<th>Check and care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Check the valve clearance. Adjust the valve clearance if necessary.</td>
</tr>
<tr>
<td>2</td>
<td>Decreasing in the engine revolution needs the cleaning of the CYLINDER HEAD after removing it.</td>
</tr>
<tr>
<td>3</td>
<td>Fuel pipe replacement</td>
</tr>
</tbody>
</table>

(1) Increasing in the amount of clearance causes the descent of the engine power output, resulting in the engine malfunction.

(2) The descent of the engine power output results in the engine malfunction.

(3) A fuel leak is dangerous.

### Long term nonuse of engine

1. Perform procedure 1) and 2).
2. Drain the fuel from the TANK, FUEL and CARBURETOR.
3. To prevent rust of the inside of the CYLINDER, pour oil of about 2cc from the CARBURETOR attaching screw hole, pull the RECOIL STARTER starting knob slowly 2 to 3 times, and screw the PLUG, SPARK.
4. Pull the RECOIL STARTER starting knob slowly and stop pulling at the first heavy movement (just before the pressure top dead center).
5. Cover the equipment and store it in an upright position in a dustless place.
1. CHECK, DRAINAGE AND FEEDING OF ENGINE OIL

Recommended oil:
Robin genuine oil or SAE10W-30 oil of API type SF grade or better (4 stroke motor oil for automobiles)

Oil capacity:
Approximately 0.22 L (220 ml)

1. Checking and Refilling Engine Oil

Follow the procedure below when the engine oil is cold i.e. the blower has not been running.

- Inspection: Set the blower down on a level surface and remove the oil cap. Verify that the oil level is within the upper and lower limit marks on the oil level gauge. If the oil is not up to the 100mL level, fill up with new oil.

- Adding Oil: Set the blower down on a level surface and remove the oil cap. Fill the oil up to the upper limit of the oil level gauge.

2. Oil Change Procedure

Set the blower down on a level surface.
Place a waste oil container under the drainage hole (1) to catch the oil as it drains out. The container should have a capacity of at least 220 ml to be able to catch all of the oil.
Loosen the oil drain bolt (2) to let the oil drain out. Be careful not to allow oil to get on the fuel tank or other parts.
Remove the oil cap. (Removing the oil cap allows the oil to drain easily.)
As the level of the oil being drained decreases, tilt the blower over on to the side with the drain so that the oil will completely drain out.
After the oil has completely drained out, tighten the oil drain bolt securely. If the bolt is not tightly fastened, this may result in an oil leak.
Adding oil during the oil change procedure is performed in the same manner as the separately explained procedure for adding oil whenever the level is insufficient. Always add oil by filling from the opening under the oil cap. (Specified oil level: Approximately 220 mL)
After filling with oil, tighten the oil cap securely to prevent oil leaks.
<table>
<thead>
<tr>
<th>No.</th>
<th>Part Name</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>COVER, ENGINE GUARD, OIL</td>
<td>(1) Remove the GUARD, OIL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) Remove the STARTER.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3) Remove the COVER, ENGINE.</td>
</tr>
<tr>
<td>2</td>
<td>TANK, FUEL</td>
<td>(1) Remove the fuel tube.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notice: The fuel will spout if the fuel tube is removed with the TANK, FUEL filled with fuel.</td>
</tr>
</tbody>
</table>

**SCREW**

- M6*12 W, SW (2PCS)
- M5*20 (3PCS)
- 5*16 (4PCS)

**TANK, FUEL VALVE CLEARANCE ADJUSTMENT**

**TAPPING SCREW**
ROCKER COVER

(1) Remove the ROCKER COVER.

VALVE CLEARANCE ADJUSTMENT

Adjust VALVE clearance at the compression top dead center.

1) Position the PISTON to the compression top dead center.
   1) Rotate the CRANKSHAFT clockwise holding the PULLEY by the hand until the position of the FLYWHEEL counter marks and CRANKCASE come in a horizontal position. (Removing the PLUG, SPARK will allow the smooth rotation.) After this:
   2) Make sure that, by watching the INTAKE VALVE movement, the VALVE is moved back to the original position before the EXHAUST VALVE slightly moves (the confirmation is completed).
   3) Even if the two counter marks and the CRANKCASE come in a horizontal position, where this happens before the EXHAUST VALVE moves to a large degree, or the INTAKE VALVE moves when rotating the crankshaft clockwise slightly, then rotate the CRANKSHAFT clockwise again holding the PULLEY by the hand (the confirmation is completed).

2) Loosen NUT and adjust VALVE CLEARANCE by rotating ADJUST SCREW with a hexagon bar wrench. VALVE CLEARANCE: 0.15mm

3) Tighten NUT firmly after the adjustment. Tightening torque: 50±15 kgf·cm

4) Fasten the nuts and screws according to the corresponding specified tightening torque when reassembling. Replace the old rocker cover gasket with the new one, if needed.
1. Interval of Cleaning and Inspection: Daily (every 10 operating hours)

(1) Loosen the KNOB BOLT.

(2) Remove the COVER, AIR CLEANER.

(3) Take out the ELEMENT and remove any dirt with the brush.

NOTE: The ELEMENT is a dry type and should not get wet. Never wash with water.

(4) Replace the ELEMENT with a new one if it is damaged or very dirty.

(Part No. 6676500201: ELEMENT, AIR CLEANER)

(5) Wipe off any oil that has come in contact with the breather with a rag or cloth.

(6) Install the ELEMENT in the cleaner case.

(7) Attach the COVER, AIR CLEANER and tighten the KNOB BOLT.