Kawasaki

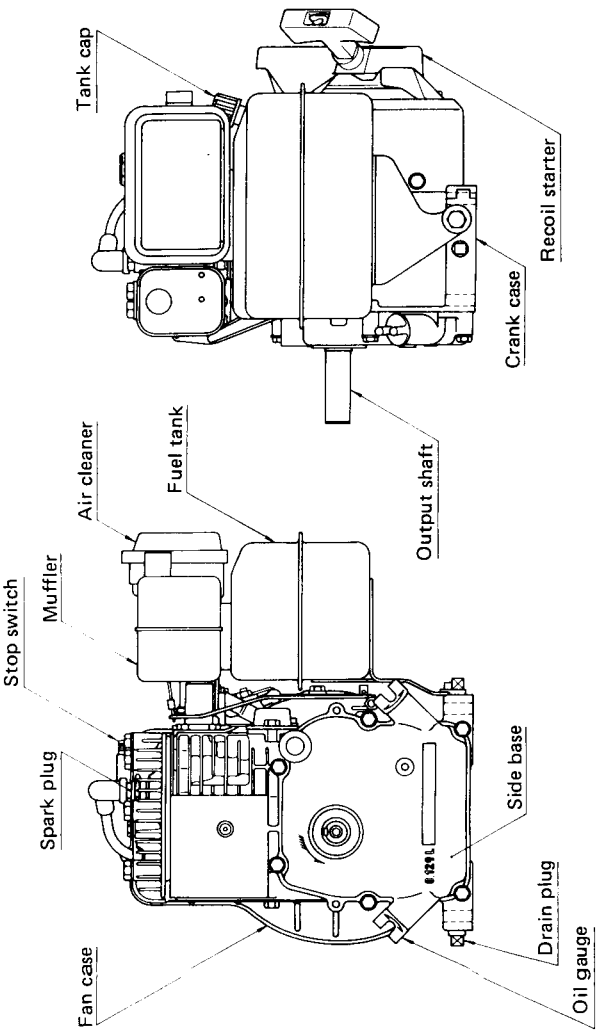
OPERATOR'S HANDBOOK
MANUEL D'UTILISATION
BETRIEBSANLEITUNG

FA 76
FA130
FA210

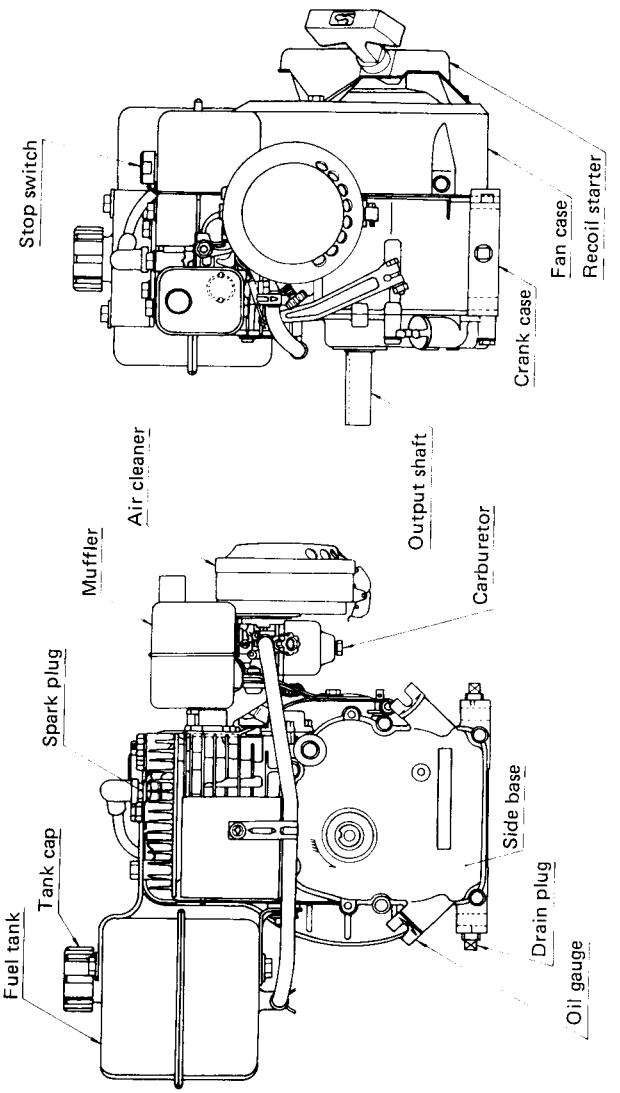
OPERATOR'S HANDBOOK

CONTENTS

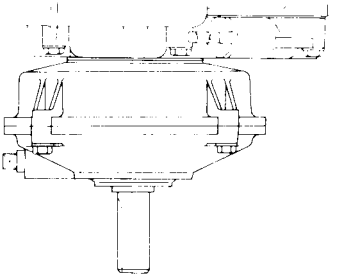
ENGINE PROFILE (Pulse pump carburetor type)

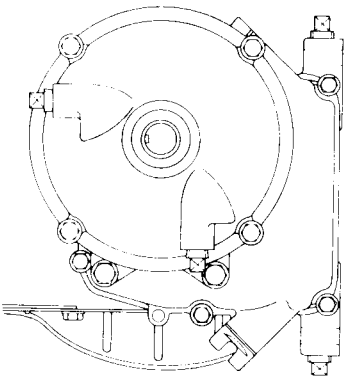


ENGINE PROFILE (Float carburetor type)



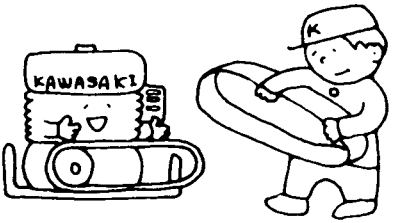
1/6 Reduction Gear



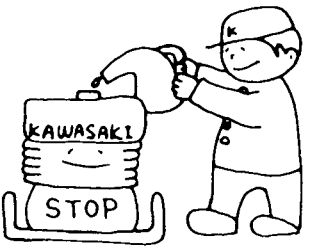


FOR SAFETY OPERATION

1. The engines are designed to cover all the rotating parts, as well as muffler, for the safety. When it is coupled with some equipment, however, users are recommended to fit covers for rotating parts such as V-belt, pulley or coupling.



2. Don't refuel in the tank while engine is running or is in operation at the side of open frame.



3. Wipe leaked fuel off with rags before starting engine.
4. Don't touch engine body or muffler while engine is hot.
5. Don't touch high-tension code or spark plug cap while engine is running.
6. Don't use engine indoor or un-ventilated place.

SPECIFICATIONS

Model	FA76	FA130		FA210	
Type	Air-cooled, 4-stroke, single cylinder gasoline engine				
Carburetor Type	Float carburetor type Pulse pump carburetor type				
Bore x Stroke	52 x 36mm (2.05 x 1.42 in.)	62 x 43mm (2.44 x 1.69 in.)		72 x 51mm (2.83 x 2.01 in.)	
Piston Displacement	76cc (4.66 cu. in.)	129cc (7.92 cu. in.)		207cc (12.67 cu. in.)	
Maximum Output	1.7HP/4000rpm	3.1HP 4000rpm	★3.1HP 666rpm	5.2HP 4000rpm	★5.2HP 666rpm
Rated Output	1.25HP/ 3600rpm	2.3HP 3600rpm	★2.3HP 600rpm	4.0HP 3600rpm	★4.0HP 600rpm
Starting System	Recoil starter				
Spark Plug	NGK BM-6A				
Dry Weight (STD. set up)	7.3kg (16.1 lbs.)	10kg (22 lbs.)	★12.9kg (28.4 lbs.)	13kg (28.7 lbs.)	★15.9kg (35 lbs.)

*Specifications are subject to change without notice.

★Provided with 1/6 reduction gear.

OPERATION

[I] Preparation

1. **Fill high grade engine oil to the upper level as shown in Fig. 1.**
When you use it at the first time. Check engine oil daily before using engine otherwise shortage of engine oil may cause serious damage to engine such as seizure.
To check oil level, set the engine flat position and insert the oil level gauge into filler port as shown below. Don't screw in gauge. If oil is not enough, refill engine oil to the upper level. (See Fig. 1)

Engine Type		FA76	FA130	FA210
Oil volume in litter (U.S. qt.)	Max.	0.32 (0.34)	0.50 (0.53)	0.60 (0.64)
	Min.	0.20 (0.21)	0.30 (0.32)	0.35 (0.37)

Use good quality engine oil of at least SC class (formerly MS class), and change the grade, according to the temperature, as follows:

Temperature	Up to 10°C	Normal	35°C & above
Oil viscosity	SAE10W30	SAE30	SAE40

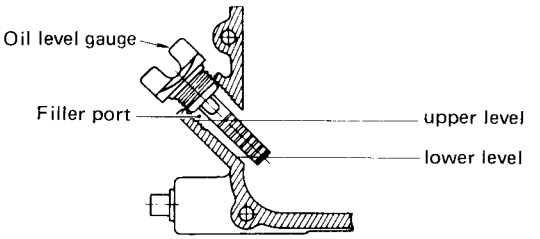


Fig. 1

2. **Check the fuel level.**
If it is not enough, refuel regular gasoline into fuel tank. Don't refuel while engine is running.

[II] Starting

1. Set the engine stop switch to the "ON" position and the control lever to the "START" position. (See Fig. 2)

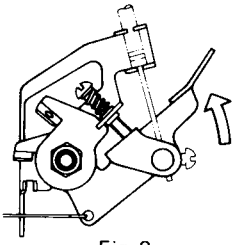


Fig. 2

2. Turn the fuel shut off valve clockwise to the end and then open it counterclockwise one and half turns. (See Fig. 3)
(Float carb type only)

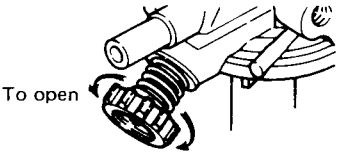


Fig. 3

3. Before pulling recoil starter, set the choke lever to the close position when the engine is cold, or set the choke lever to the half way open position when the engine is warm for re-starting. (See Fig. 4, 5).

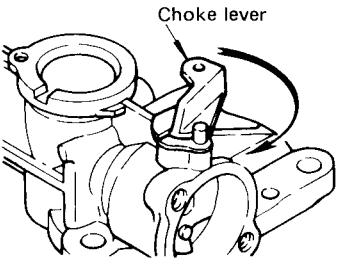


Fig. 4 Pulse pump type carburetor

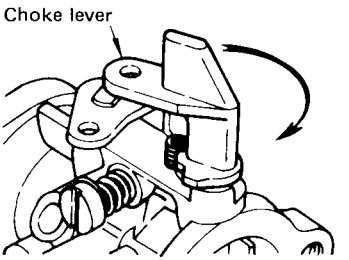


Fig. 5 Float type carburetor

4. Pull the starter handle slowly until you feel compression.
   Then return the handle back once and pull it fast.
   Caution: a) If you fail start the engine within three trials, try it again after returning choke lever to the open position unless otherwise too much fuel in the carburetor and in cylinder may make starting more difficult. Check if the stop switch is at "ON" position.
   b) Be sure to fill fuel tank up to the max. level when you start the engine with pulse pump type carb, at the first time after purchasing or repairing.

[III] Warming up

1. When the engine get started, return the choke lever completely, and keep the engine running for 3 to 5 minutes leaving the control lever unchanged.
   Wait to raise engine speed until lubrication oil is delivered to the every points and the piston clearance becomes desired condition and the engine becomes to be ready for loading.
2. After the engine is warmed up, engine speed can be controlled by the control lever. Move the control lever to the desired position and leave it, then the engine will keep running at constant speed. (See Fig. 6)

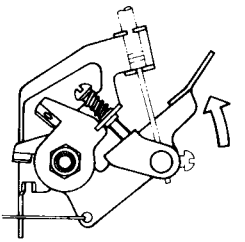


Fig. 6

[IV] Stopping

1. **Ordinary stop**
   Move the control lever to the minimum. Keep it running at idling speed for a while, then turn off the stop switch.

2. **Stop for long period**
   In case the engine is not expected to use for long period, close the fuel shut off valve keeping stop switch at "ON" position. The engine will keep running for few minutes. After the engine stops completely, turn the stop switch to the "OFF" position.

   Caution: Don't leave the engine with gasoline in fuel tank or in carburetor for long period. This will cause difficulty of starting, power-down and other troubles.
   (Refer the storage procedure explained on the last page of this manual.)

3. **Emargency stop**
   In case of emargency such as fire, turn the stop switch off immediately by proper manner.

[V] Periodical maintenance

Intervals / Check points	Before each use	Every 20 hours	Every 50 hours	Every 100 hours
1 Checking engine oil, filling up	○			
2 Checking fuel filter	○			
3 Cleaning fuel filter pot			○	
4 Changing engine oil		1st time only		○
5 Washing air cleaner element			○*1	
6 Cleaning spark plug and adjusting gap				○
7 Adjustment of contact point gap (except model with TCI)				○*2
8 Adjustment of tappet				○*2
9 Decarboning cylinder, cylinder head, piston				○*2
10 Fitting valves				○*2

Note: *1 . . In case engine is used under very dusty condition, clean air cleaner once a day or every ten working hours.

*2 . . Ask your dealers to do those jobs.

1. **Checking engine oil, filling up.**
   See Section [I]-1

2. **Changing engine oil.**
   1) While the engine is warm after operation, unscrew oil drain plug as well as oil gauge and drain the old oil into a pan.
   2) Install the drain plug. Keeping the engine in horizontal, fill new oil up to the upper level as shown in Fig. 1 and screw the level gauge in.
      Don't dump drained oil away to public place to avoid any possible pollusions.

3. **Cleaning air cleaner element**
   1) Remove the air cleaner cover and take the element out.
   2) Wash the element in with kerosene and leave it for a while. Dip the element in new engine oil and squeeze it tightly and install it in the air cleaner body.

   Caution: Be sure to install element correctly.
   The surface marked "INSIDE" should be faced toward carburetor. (See Fig. 7)

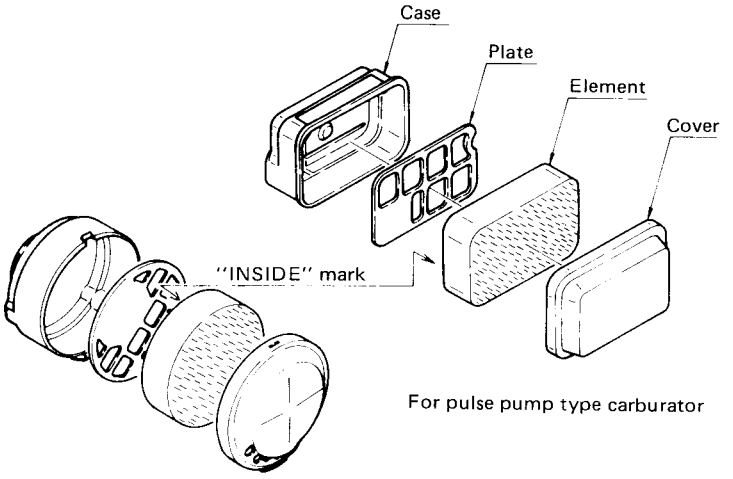


Fig. 7

4. **Cleaning filter pot**
   1) Close the fuel shut off valve and remove the pot and filter element.
   2) Wash the pot and the element with gasoline and install them onto filter body.

5. **Cleaning spark plug and adjusting electrode gap**
   Remove the spark plug from cylinder head and clean it with wire brush or emery paper. And then adjust the sprak plug gap to 0.6mm ~ 0.7mm by bending outer electrode (Negative). (See Fig. 8)

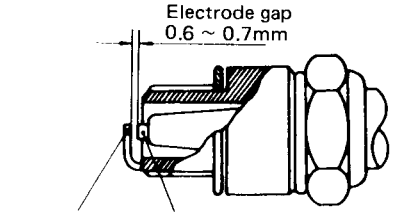


Fig. 8

[VI] Storage

Follow the procedure mentioned below when the engine is kept unused for a long period.

1. Fill engine oil to the lower skirt of filler port.
2. Drain remained gasoline completely out of fuel tank, fuel filter and carburetor by removing bolt at the bottom of float chamber. Reassemble those parts.
3. Pour approx. 10cc of engine oil through the spark plug hole and then screw spark plug in after turning crankshaft few times. Pull the starter handle slowly until you feel compression and leave it.
4. Clean the body with oily rags.
5. Wrap the engine with plastic sheet and store it in dry place.

[VII] 1/6 Reduction Gear

1. Supplement of oil

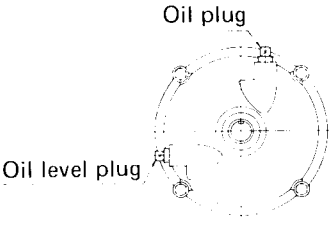


Fig. 9

If the oil is insufficient, remove the oil plug and oil level plug, and pour engine oil (see page 6) into the oil level hole.
(The oil quantity is 0.15 liters for both FA130R and FA210R.)

2. Change of oil

Change the oil after first 20 hours of operation and every 100 hours afterward.

ELECTRONIC IGNITION-Optional

These engines can be equiped with Transistor Ignition System (TIC), as optional. This device controls ignition electronically and it offers trouble-free and maintenance-free operation for long time without polishing or adjusting contact point.

1. Features

1) The system (TIC) set ignition timing electronically and periodical maintenance is not required.
2) The system (TIC) has semi-permanent life and maintains original performance.
3) The system (TIC) provides strong spark at any engine speed.
4) Igniter is sealed with epoxy-resin plactic and it is free from troubles by dust, water or vibrations.

2. Cautions

1) Check visually wires (leads) before assembly.
2) Be sure to connect wires to those in the same colour after repairing work.
3) To check spark condition, turn crankshaft fast by pulling recoil starter.

* Contact your dealer when trouble may occur in the ignition system (TIC).

Kawasaki

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Printed in Japan 27