

Kawasaki

FC180V

OHV

4-stroke air-cooled gasoline engine

WORKSHOP MANUAL

P/N 99924-2034-01

TABLE OF CONTENTS

GENERAL INFORMATION	1	IGNITION SYSTEM	20
MECHANICAL SYSTEM	1	TYPE OF IGNITION SYSTEM	20
ELECTRICAL SYSTEM	2	SPARK CHECK	20
GENERAL SPECIFICATIONS	4	CONTROL UNIT CHECK	20
WIRING DIAGRAM	5	IGNITION COIL CHECK	20
RECOIL STARTER MODEL	5	PLUGS REMOVAL	20
PERIODIC MAINTENANCE	6	PLUGS INSTALLATION	20
TROUBLE SHOOTING	7	IGNITION COIL AIR GAP ADJUSTMENT	20
ENGINE - WARM STARTING	7	THRUSTLE-LEVER-LINKED ENGINE SWITCH	20
ENGINE - WILDFUNCTIONS AT LOW SPEED	8	CYLINDER HEAD	20
ENGINE - BRACKETING RUN	9	COMPRESSION CHECK	21
ENGINE - EXCESSIVE OIL CONSUMPTION	9	REMOVAL	21
ENGINE - LOW POWER	10	MAINTENANCE	21
ENGINE - EXCESSIVE FUEL CONSUMPTION	11	INSTALLATION	21
TORQUE SPECIFICATIONS	12	VALVE	22
CONTROL SYSTEM	23	VALVE CLEARANCE ADJUSTMENT	22
CHOKE LEVER SETTING	23	AUTOMATIC COMPRESSION RELEASE TACK CHECK	22
THRUSTLE CABLE INSTALLATION	23	VALVE AND RELATED PARTS REMOVAL	22
FAST IDLE SPEED ADJUSTMENT	24	REAR AIR STD INSTALLATION	22
CHOKE ADJUSTMENT	24	CHECK AND MAINTENANCE	22
SLOW IDLE SPEED ADJUSTMENT	25	SERVICE LIMIT	22
AIR CLEANER	26	VALVE SPRING SERVICE LIMIT	22
"Y" ALKA SYSTEM	26	LAPPING	22
MAINTENANCE	26	VALVE SEAT RECONDITIONING	22
CARBURETOR	27	VALVE GUIDE SERVICE LIMIT	22
COMPONENTS	27	REAR AIR SERVICE LIMIT	22
REMOVAL	27	PUSH ROD SERVICE LIMIT	22
PLANT CHAMBER REMOVAL	28	CRANKCASE COVER	22
CLEANING	28	REMOVAL	22
PLANT ALIGNMENT	28	SERVICE LIMIT	22
ASSEMBLY AND INSTALLATION	28	OIL SEAL REPLACEMENT	22
COOLING SYSTEM	29	INSTALLATION	22
ENGINE COOL REMOVAL	29	CAMSHAFT	22
ENGINE COOL REASSEMBLY	29	REMOVAL	22
ENGINE COOL ASSEMBLY AND INSTALLATION	29	VITAL CHECK	22
RECOIL STARTER	29	SERVICE LIMIT	22
REASSEMBLY	29	INSTALLATION	22
CHECK	29		
REASSEMBLY	29		

PISTON & CON-ROD	46
REMOVAL	46
PISTON AND PISTON RING VISUAL CHECK	47
PISTON CLEANING	48
PISTON SERVICE LIMIT	48
PISTON PIN SERVICE LIMIT	48
PISTON RING SERVICE LIMIT	49
PISTON RING INSTALLATION	49
CON-ROD VISUAL CHECK	50
CON-ROD SERVICE LIMIT	51
PISTON AND CON-ROD ASSEMBLY	51
PISTON/CON-ROD ASSY INSTALLATION	52
CRANKSHAFT	53
VISUAL CHECK	53
SERVICE LIMIT	54
INSTALLATION	54
CRANK PIN RE-GRINDING	55
GOVERNOR	56
GOVERNOR GRAB CHECK AND REMOVAL	56
GOVERNOR GEAR INSTALLATION	56
GOVERNOR SHAFT INSTALLATION	56
LUBRICATING SYSTEM	57
ENGINE OIL	57
OIL SLINGER CHECK	57
BREATHER SYSTEM	57
BREATHER NEED VALVE CHECK	58
CYLINDER/CRANKCASE	59
CYLINDER SERVICE LIMIT	59
CYLINDER BORE RE-SIZING	59
BUSHING CHECK	61
BUSHING REPLACEMENT	61
OIL SEAL REPLACEMENT	62
CRANKSHAFT BEARING SERVICE LIMIT	62
CRANKSHAFT BEARING SERVICE LIMIT	62
AUXILIARY SHAFT	63
VISUAL CHECK	63
SERVICE LIMIT	63
INSTALLATION	63

SLOW IDLE SPEED ADJUSTMENT

1. START and warm up engine without load.
2. Move throttle control as described in "SLOW" position.
3. ADJUST idle speed screw to specified rpm (and GENERAL SPECIFICATIONS) by moving throttle stop screw AS:



AIR CLEANER SYSTEM

Intake air is induced through grille of remote starter (A), rotary screen (B), fan housing (C), and air cleaner (D) to intake system and routed from air filter. Therefore, condition of air passages affects volume of intake air and carburetor functions.

1. Assemble related parts exactly to minimize air leakage.
2. Do not remove any parts obstructing air passages when running engine.
2. Keep air passages free from grass and rubbish.



MAINTENANCE

Air cleaner maintenance is one of the most important items to keep engine performing well. Observe items for following cautions.

1. **FOAM ELEMENT** must be lightly oiled to perform as intended. Make sure to soak element in engine oil and squeeze excessive oil, after washed.
2. **PAPER ELEMENT** is cleaned by gentle tapping or washing in detergent and water. Do not use pressurized air on paper element to avoid breakage. Do not oil paper element.



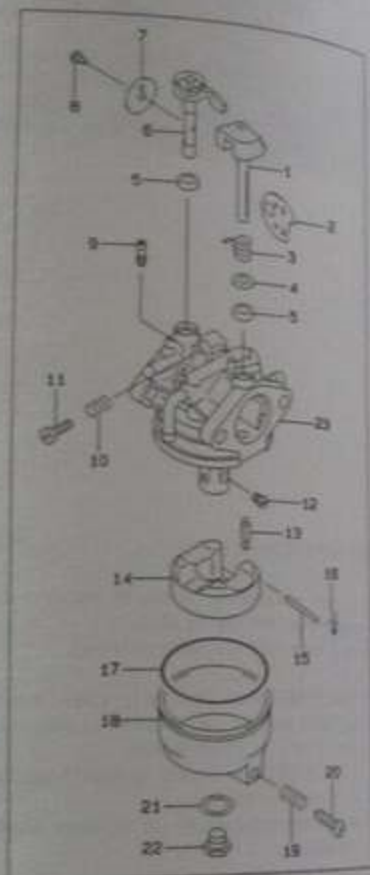
CARBURETOR

COMPONENTS

Carburetor is float type with adjustable stop screw and main jet.

Refer to each parts catalog for detailed parts list.

Part Name	Ref. No.	Part Name
Choke shaft	13	Needle jet
Choke valve	14	Float assy
Spring	15	Shaft float
Washer	16	Spring
Seal	17	Gasket
Throttle shaft	18	Float chamber
Throttle valve	19	Spring
Screw	20	Screw
Pilot jet	21	Gasket
Spring	22	Bolt
Stop screw	23	Carb body
Main jet		

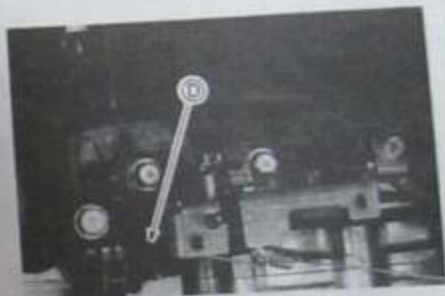
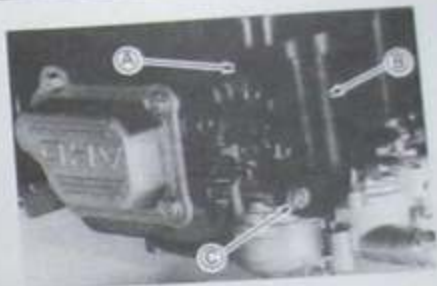


REMOVAL

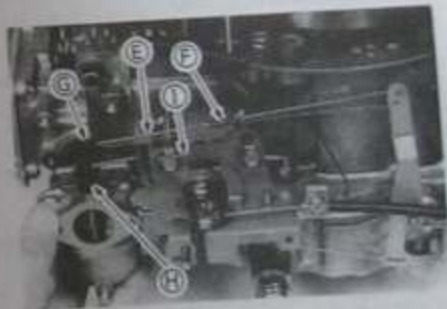
WARNING: Gasoline is extremely flammable. Avoid fires due to smoking or careless practices.

1. Shut fuel valve.
2. Drain fuel from float chamber.
3. Disconnect fuel line (D) from carburetor. Plug the fuel line opening immediately or drain fuel in the line into suitable container.
4. Disconnect breather tube (A) from intake pipe (B).
5. Remove bolts (C).

CAUTION: Do not lose collars in intake pipe bolt holes.



6. Unhook throttle rod (E) and rod spring (F) from throttle lever (G).
7. Unhook choke rod (I) from choke lever (H).



COMPRESSION CHECK

1. Remove spark plug and use compression gauge to check hole.
 2. Check injector with nozzle cleaner several times and check highest reading.
- * If highest reading is 200-260-440-470-500-550, check engine for airleakage with INDUCE HEATING.

REMOVAL

1. Disconnect plug and trim water pipe.
2. Remove engine cover.
3. Remove oil head.
4. If push rods are removed, mark push rods as they are placed in their original positions to re-installing.

MAINTENANCE

WARNING: If chemical cleaner is used, always follow the manufacturer's safety instructions carefully.

- L. Remove rusting material stuck on surfaces, with oil stone.

CAUTION: If deposit on combustion chamber is removed, remove valve system from cyl. head. Use VALVE AND RELATED PARTS MANUAL.

Do not damage valve seat and gasket surface of cyl. head in deposit cleaning.

1. Remove deposit from cyl. head.
 2. Check flatness of head gasket surface on surface plate with feeler gage.
- * If cyl. head is warped more than 0.07 mm (0.0028 in.), replace it.



INSTALLATION

CAUTION: Do not tighten the screws until you have
set the timing of the valves. Do not install the
valves until the timing is correct. Tighten screws.

1. Rotate crankshaft until piston rings are at highest position in combustion stroke.
2. Install push rods in their respective position in cylinder.
3. Place head gasket and oil head cover on oil block.
4. Make sure both spherical ends of push rods are in place on rocker arm and piston.

CAUTION: Do not tighten the screws completely until
valves are lined. It may cause warped oil head.

5. Tighten screws down evenly by hand and then torque them to pressure as specified.
(See TORQUE SPECIFICATIONS.)



 **Kawasaki Motors Corp., U.S.A.**

ENGINE DIVISION

P.O. BOX 88285
GRAND RAPIDS, MI 49588-8285

P/N 99924-2034-01

Printed in U.S.A.
1000-1202 APC