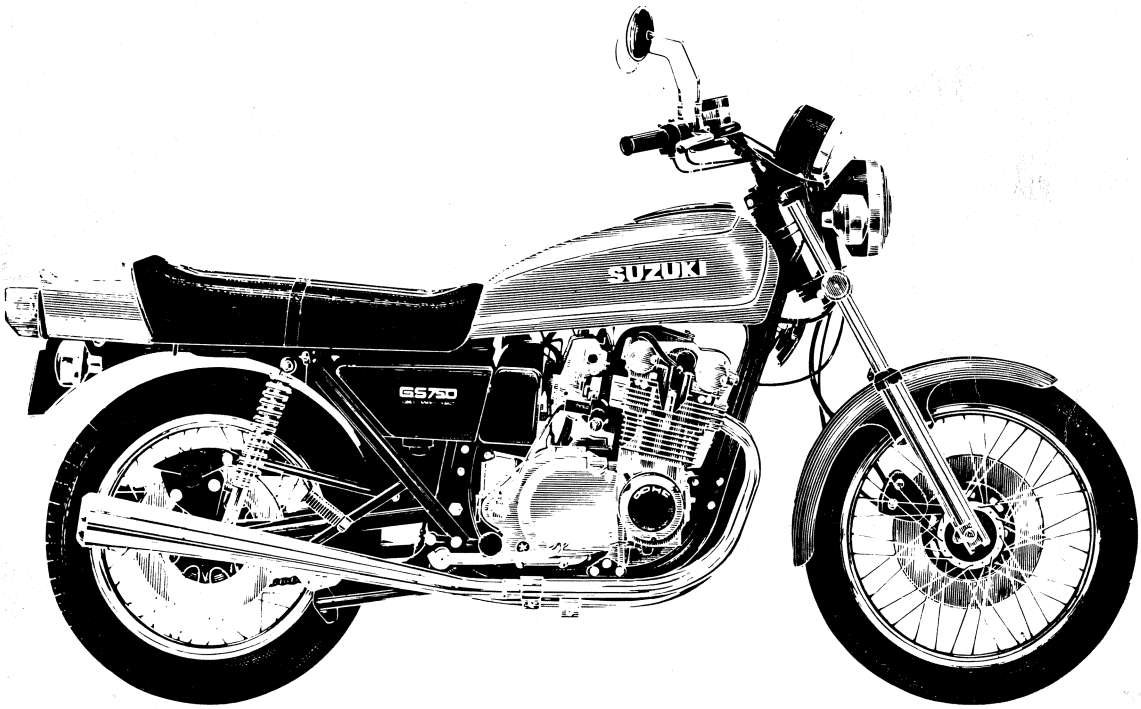
SUZUKI

GS750

SERVICE MANUAL



SUZUKI DOHC 4 FOUR STROKE

SUZUKI GS750 SERVICE MANUAL

FOREWORD

The 4-stroke-cycle GS750, powered by a thoroughly designed engine with many new features including a double-overhead-camshaft valve mechanism, is the latest challenge of SUZUKI to cement its place of fame and distinction in the large-size category of motorcycles.

Developed through years of painstaking research work and inheriting the best reliability and durability features of world-renowned SUZUKI two-stroke machines, this ambitious 750-cc machine has its chassis designed anew to equal the enormous power available from its engine.

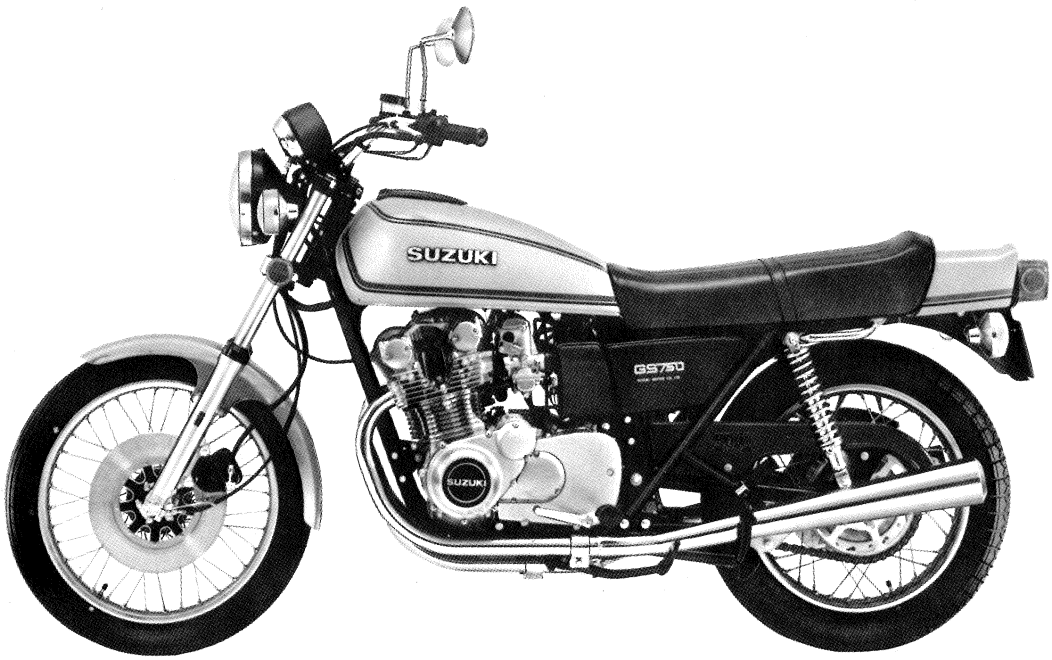
How well the user can make use of the great capability built into this machine depends largely on the way you assist him and take care of it in your shop. We hope you will study this manual carefully to get all the information vital to the successful servicing of GS750 motorcycles.

The Model GS750 made to standard specifications is taken up in the text, whereas it is possible that GS750 machines that may come to your attention should be slightly modified to meet the statutory requirements of your country; even if modified, they should present no problem to you as your skill and experience in attending to SUZUKI machines will naturally lead you to cope with those points of minor difference.

This manual came out of the first printing for Model GS750 and does not cover modifications yet to be made, but we assure you that each future printing will turn out an updated manual.

FIRST EDITION JULY 1976
REVISED DECEMBER 1976
SERVICE DEPARTMENT
SUZUKI MOTOR CO., LTD.

VIEW OF SUZUKI GS750



Left Side

Right Side

GROUP INDEX

GENERAL INFORMATION

GROU
1

CONTENTS

SPECIFICATIONS

DIMENSIONS AND WEIGHT	
Overall length	2,225 mm (87.6 in)
Overall width	870 mm (34.3 in)
Overall height	1,170 mm (46.1 in)
Wheelbase	1,490 mm (58.7 in)
Ground clearance	150 mm (5.9 in)
Dry weight	223 kg (492 lbs)
ENGINE	
Type	Four-stroke cycle, air-cooled, DOHC
Number of cylinders	4
Bore	65.0 mm (2.56 in)
Stroke	56.4 mm (2.22 in)
Piston displacement	748 cc (45.6 cu.in)
Compression ratio	8.7 : 1
Carburetor	MIKUNI VM26SS, four
Air cleaner	Polyurethane foam element
Starter system	Electric and kick
Lubrication system	Wet sump
TRANSMISSION	
Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down 4-up
Primary reduction	2.152 (99/46)
Final reduction	2.733 (41/15)
Gear ratios, Low	2.571 (36/14)
2nd	1.777 (32/18)
3rd	1.380 (29/21)
4th	1.125 (27/24)
Top	0.961 (25/26)
Drive chain	TAKASAGO #630SO, 96 links
CHASSIS	
Front suspension	Telescopic, oil dampened
Rear suspension	Swinging arm, oil dampened, spring 5-way adjustable
Steering angle	40°(right & left)
Caster	63°00'
Trail	107 mm (4.21 in)
Turning radius	2.6 m (8.5 ft)
Front brake	Disc brake
Rear brake	Disc brake
Front tire size	3.25H19-4PR
Rear tire size	4.00H18-4PR
Front tire pressure	1.75 kg/cm^2 (25 psi) (Normal solo riding)
Rear tire pressure	2.0 kg/cm^2 (28 psi) (Normal solo riding)
ELECTRICAL	
Ignition type	Battery ignition
Ignition timing	17° B.T.D.C. below 1,500 rpm and 37° B.T.D.C. above 2,500 rpm
Spark plug	NGK B-8ES or NIPPON DENSO W24ES
Battery	12V 14AH/10 Hours
Generator	Three-phase A.C. generator
Fuse	15A
CAPACITIES	
Fuel tank including reserve	18 lit (4.8/4.0 US/Imp gal)
reserve	2.0 lit (2.1/1.8 US/Imp qt)
Engine oil, when changing	3.4 lit (3.6/3.2 US/Imp qt)
Front fork oil	180 cc (6.08/6.34 US/Imp oz)

FUEL AND OILS

Be sure to use the specified fuel and oils. The following are the specifications:

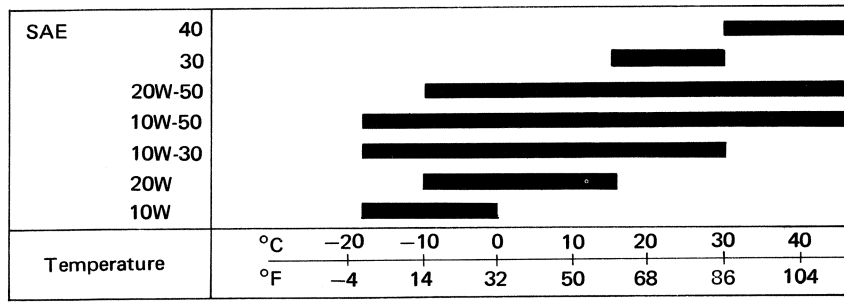
FUEL

Gasoline used should be graded 90 octane or higher in Research Method, preferably unleaded or low-lead.

ENGINE OIL (for engine and transmission)

Be sure that the engine oil you use comes under API classification of SE or SD and that its viscosity rating is SAE 10w-40 (for the General, all temperatures).

If the SAE 10w-40 motor oil is not available, select the oil viscosity according to following chart:



BRAKE OIL (for front and rear brakes)

Specification and Classification	Remarks
DOT3 DOT4	In USA and Canada
SAE J1703a SAE J1703b SAE J1703c	Elsewhere
SAE 70R3 (obsolete spec.)	

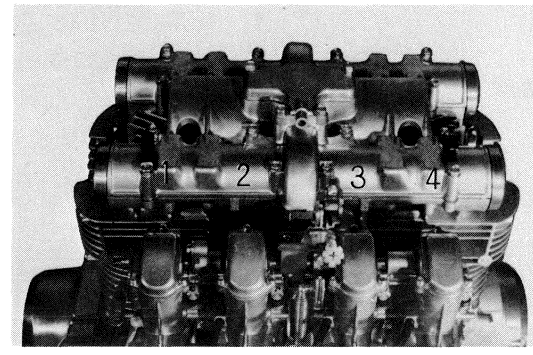
NOTE: 1. Since the brake system of this motorcycle is filled with a glycol-based brake fluid in the manufacturer, do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise the serious damage will be caused.
2. Do not use any brake fluid taken from old or used or unsealed containers.
3. Never re-use the brake fluid that left over from the last servicing and stored for long periods.

FRONT FORK OIL

Mixture of SAE 10W/30 motor oil and ATF (Automatic Transmission Fluid), the ratio being 50-to-50 percent.

CYLINDER IDENTIFICATION

The four cylinders of this engine are identified as No. 1, No. 2, No. 3 and No. 4 cylinder, as counted from left to right (as viewed by the rider on the seat).



ENGINE

GROU
2

DESCRIPTION

DOHC (Double-Overhead-camshaft) Valve Mechanism

In the DOHC engine, two camshafts are mounted on the cylinder head, one for intake valves and one for exhaust valves. Those pushrods and rocker arms commonly found in conventional OHV or SOHC engines are absent in this engine: specifically, the cams are in direct contact with valve tappets to operate the valves through a shorter path of actuating drive.

This design assures the high responsiveness of valve in high-speed operation to account for the unmatched performance of the GS750 and provides an easy-to-maintenance valve mechanism.

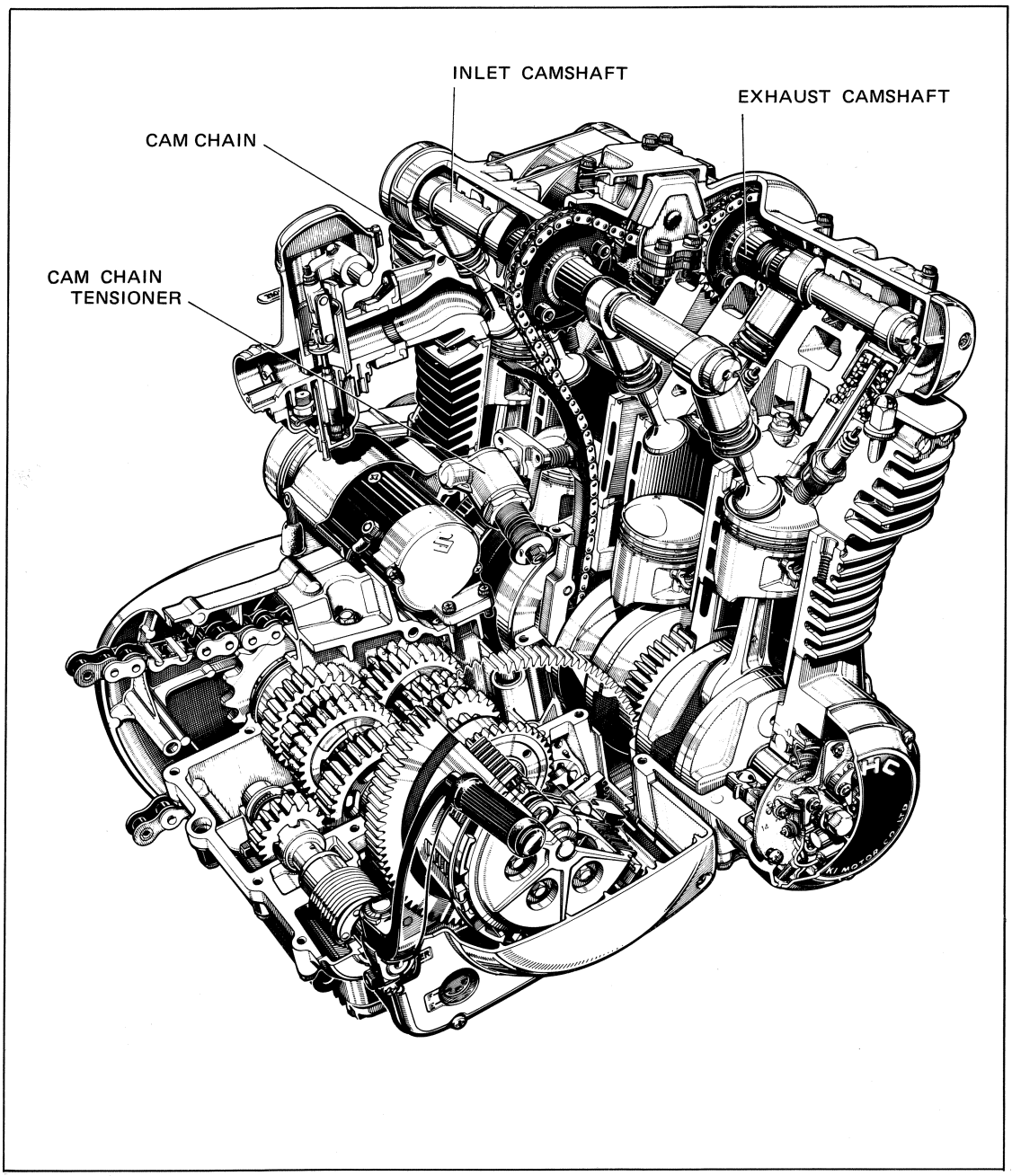


Fig. 1-1

LUBRICATION

The running parts of the engine proper and transmission are lubricated with oil pressure-fed from a trocoid pump driven from the clutch through gears. The large-capacity oil pump, located on the inner side of the clutch, lifts oil from the sump through a metal-screen strainer and forces it through an oil filter and a pressure switch toward engine and transmission.

In the transmission, the oil is guided into the oilways provided in countershaft and drive shaft, and is sprayed out through oil holes to lubricate the gears and bearings.

In the engine, the oil flows first into a gallery drilled out in the crankcase wall, from which it is distributed to crankshaft and, through upward oilways, to cylinder head for valve mechanism lubrication.

All the paths of this pressure-fed oil are in the form of drilled holes and cast-out pockets.

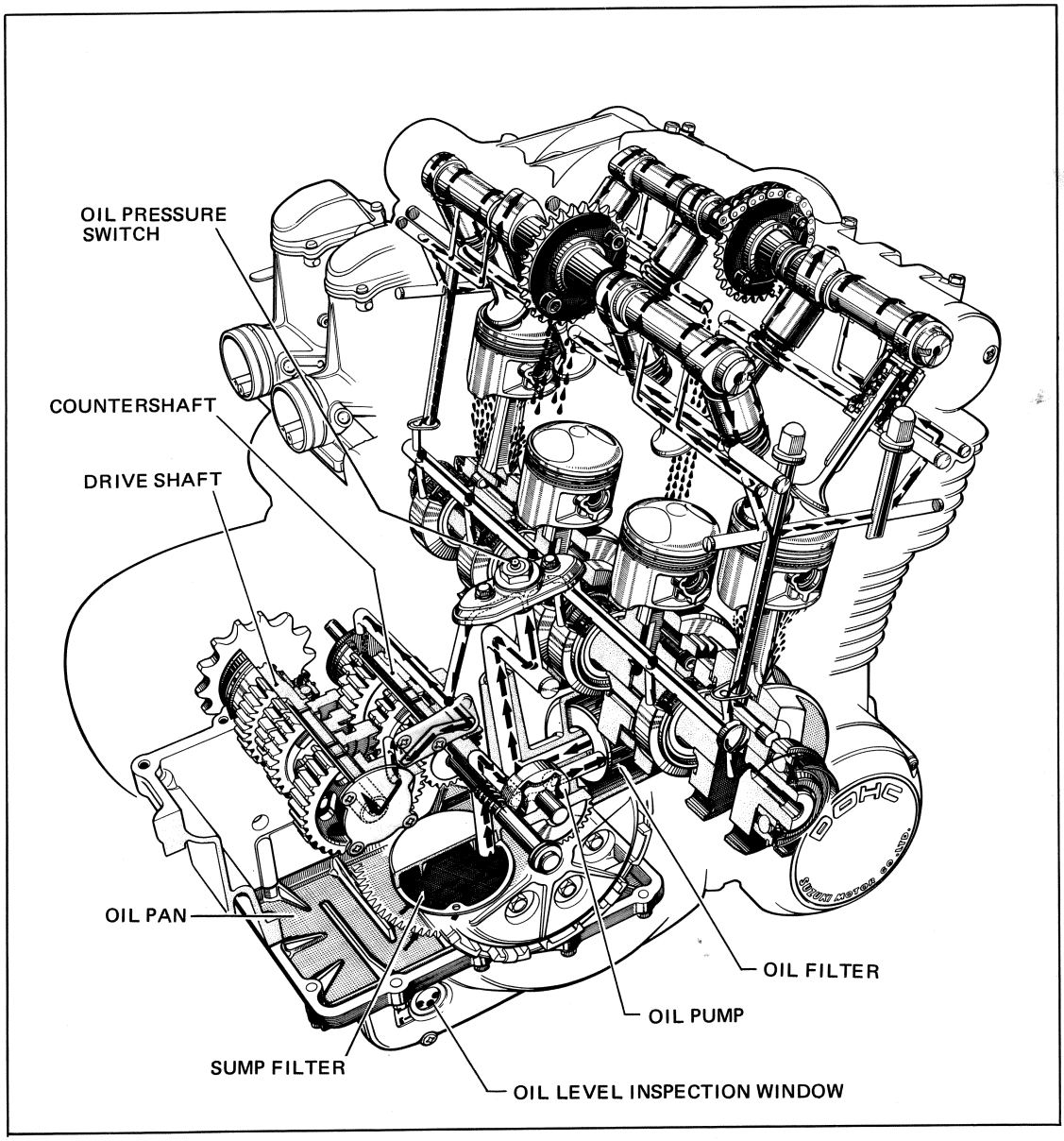


Fig. 1-2

BLOWBY GAS RECYCLING

Blowby gases in the crank case are constantly drawn into the chain chamber provided in the middle section of the cylinder block. The top section of this chamber is communicated to the air cleaner assembly through a rubber tube. In the cleaner, the gases merge with incoming air and thus are recycled to the engine through the normal intake system.

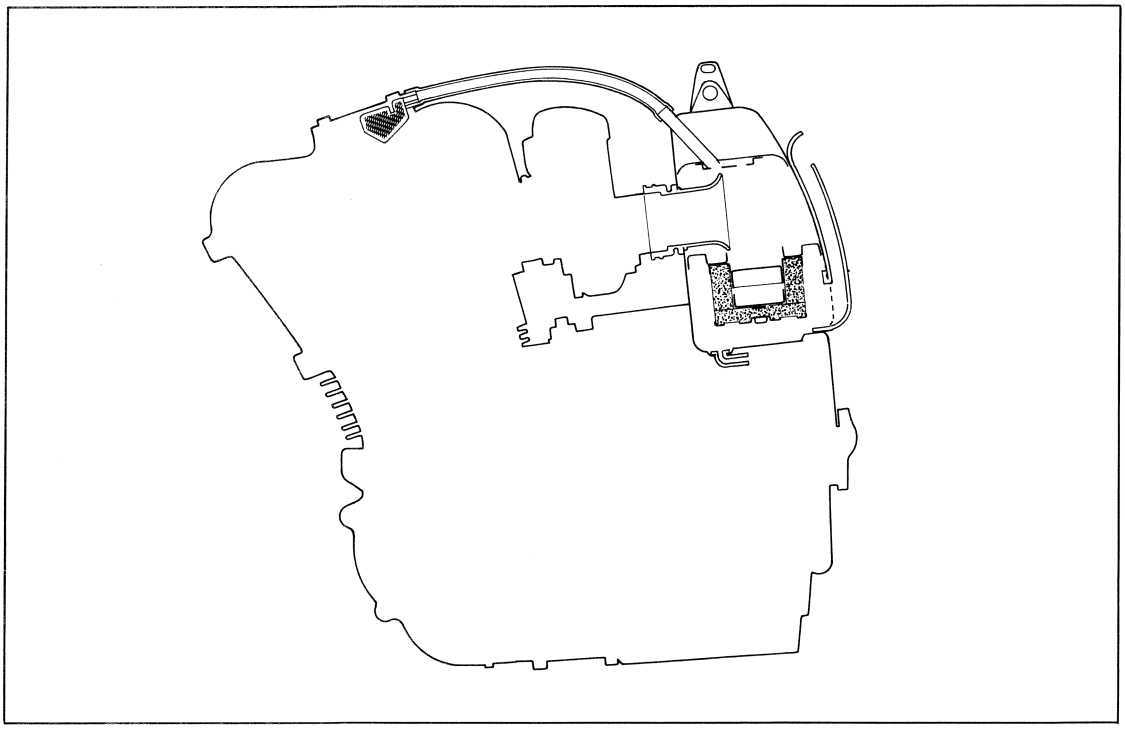
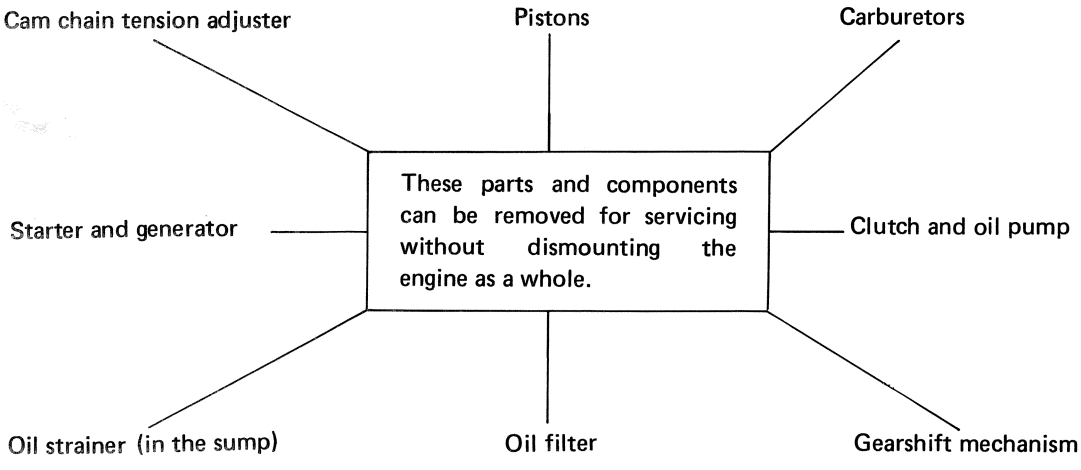


Fig. 1-3

ENGINE COMPONENTS REMOVABLE FROM THE ENGINE IN PLACE



ENGINE REMOVAL AND DISMANTLING

ENGINE REMOVAL

1. Drain out engine oil.
   ①: Drain plug

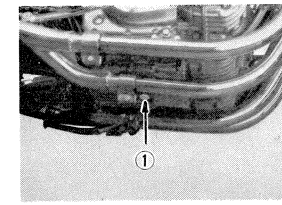


Fig. 1-4

2. Remove fuel tank.

NOTE: Leave fuel cock lever in "ON" or "RES" position.

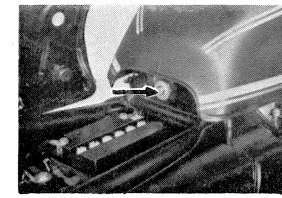


Fig. 1-5

3. Disconnect lead wires and high-tension cords.
   ①: battery (–) terminal
   ②: starter relay (–) terminal
   ③: alternator lead wire
   ④: contact-point lead wire
   ⑤: plug cords

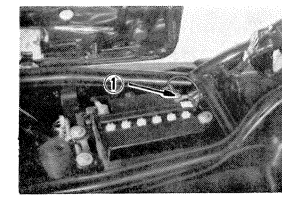


Fig. 1-6

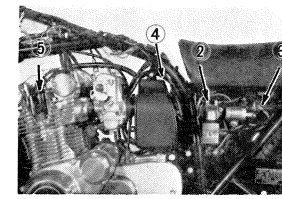


Fig. 1-7

4. Remove air cleaner and carburetors.

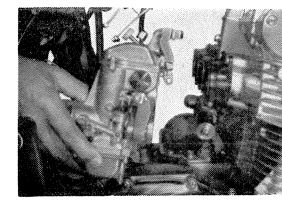


Fig. 1-8

5. Disconnect exhaust pipes and tachometer drive cable.

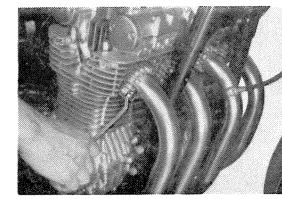


Fig. 1-9

6. Remove left step and left (sprocket) cover.

NOTE: The lid must be removed first to expose the clutch lever and to gain access to two screws Ⓐ. Remove these screws, too.

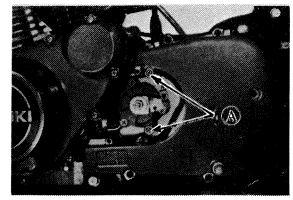


Fig. 1-10

7. Remove engine sprocket.
8. Remove right step and foot brake lever.
9. Remove the engine mount bolts.

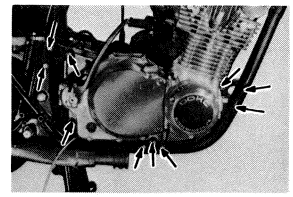


Fig. 1-11

10. The engine is now ready for removal. Use both hands, and carry it off the chassis, taking it out from the right-hand side.

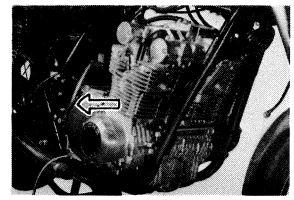


Fig. 1-12

ENGINE DISASSEMBLY

1. Remove cylinder head cover.

NOTE: Breather cover need not be removed.

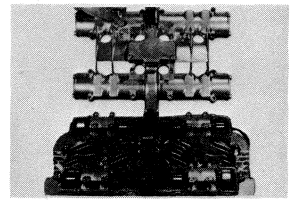


Fig. 1-13

2. Remove chain tension adjuster. This is accomplished by first loosening lock nut Ⓐ and tightening screw Ⓑ and then by removing three mounting bolts Ⓒ

NOTE: Tightening screw Ⓑ locks the spring-loaded tensioner pushrod inside.

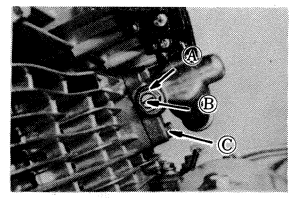


Fig. 1-14

3. Remove chain idler.

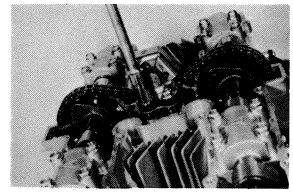


Fig. 1-15

4. Remove tachometer drive gear by pulling it off after removing its stopper (secured by a cross-recessed screw).

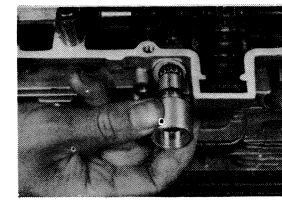


Fig. 1-16

5. Remove the two camshafts, intake and exhaust.

NOTE 1: Be sure to loosen the four cap bolts evenly by shifting the wrench diagonally after cracking a bolt loose.
NOTE 2: Hold down each camshaft with vice pliers Ⓐ, and remove the bolts securing the bearing caps, two on each camshaft. Then, remove the pliers and take off the camshaft.

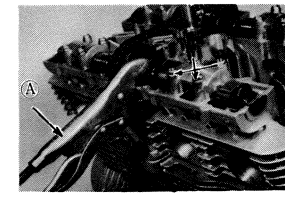


Fig. 1-17

6. Remove cylinder head
The cylinder head becomes free for removal when its two 6-mm bolts Ⓐ, one at each end, and twelve 8-mm nuts are removed.

NOTE: Be sure to use the special tool ("T" wrench) sized to enter the pockets formed of the head and reach the nuts down below to loosen the 8-mm nuts, and to shift the tool sequentially in the descending order of numbers assigned to these nuts in order to ease the pressure equally and evenly.

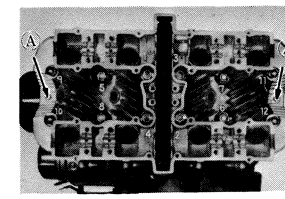


Fig. 1-18

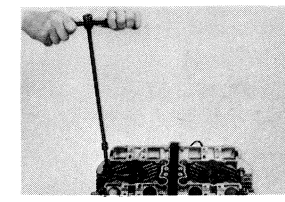


Fig. 1-19

7. Remove cylinder block.
After removing cylinder head, take a firm grip on the cylinder block at both ends, and lift it straight up. If the block will not come off, lightly tap on the non-fin portions of the block with a plastic mallet to shake the gasketed joint loose.

NOTE: Be careful not to damage the fins when removing or handling the cylinder block. This precaution applies to the cylinder head, too.

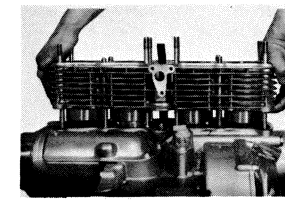


Fig. 1-20

8. Remove No. 1 and No. 4 pistons.

NOTE: Using a quick-drying wick pen, write the I.D. number on crown of each piston. Use the piston pin puller (special tool) to force the pin out to disconnect the piston from its connecting rod.

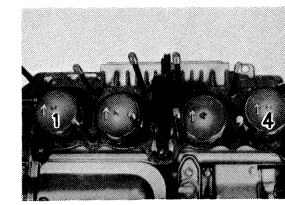


Fig. 1-21

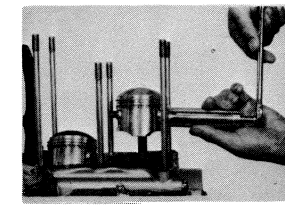


Fig. 1-22

9. Remove governor center bolt and rotor center bolt. To loosen these bolts, the crankshaft in place must be locked by installing the rotor holder (special tool) shown as Ⓐ

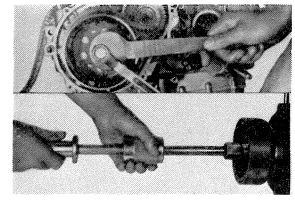


Fig. 1-23

10. Remove clutch plates.
Remove the 6 bolts securing the pressure plate to the hub, and pull out the plate. When loosening these bolts, be sure to shift the wrench from one bolt to another in such a way as to ease the pressure evenly. Pick out drivie and driven plates.

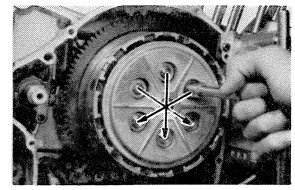


Fig. 1-24

11. Bend down the lock washer tongue to unlock the center nut securing the clutch hub to countershaft; remove the nut, using the clutch hub holder (special tool) and a 32-mm socket wrench; and draw out the clutch hub.

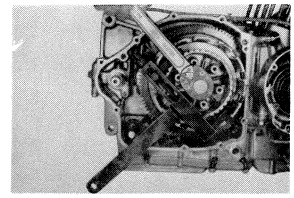


Fig. 1-25

12. Remove primary driven gear.
Run two 6-mm bolts into the primary driven gear spacer to ease out spacer by jacking. With the spacer removed, the primary driven gear (integral with the clutch housing) is free to disengage from the primary drive gear.

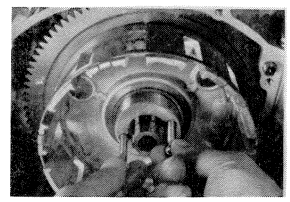


Fig. 1-26

13. Remove the two bearing retainers: one for countershaft and the other drive shaft.

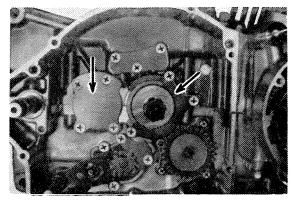


Fig. 1-27

14. Remove the 11 bolts fastening the upper crankcase to the lower half.

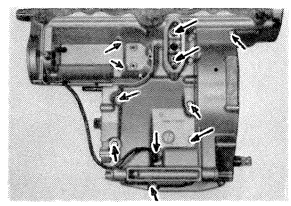


Fig. 1-28

15. Remove eleven 6-mm bolts and twelve 8-mm bolts securing the lower crankcase to the upper crankcase. Be sure to loosen the 8-mm bolts sequentially in the descending order of numbers given them. Separate the lower crankcase from the upper one.

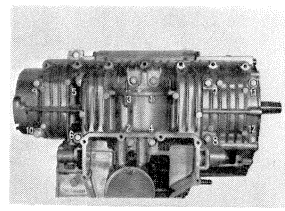


Fig. 1-29

16. Draw out the two gearshift fork shafts and take out the forks.

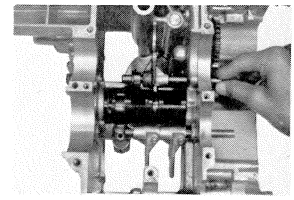


Fig. 1-30

17. Remove cam stopper spring holder Ⓐ , and take out the pin and spring. Draw out gearshift cam.

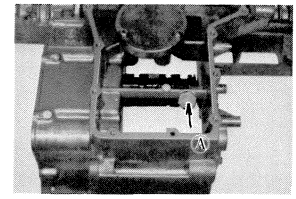


Fig. 1-31

DISASSEMBLING ENGINE COMPONENTS

Cylinder head disassembly

1. Remove tappet shims, using forceps to pick each shim up.
   Ⓐ : tappet shim

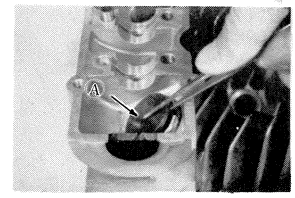


Fig. 1-32

2. Pull out tappets by picking each with fingers.

NOTE: Exercise caution in removing tappets so as not to nick them.

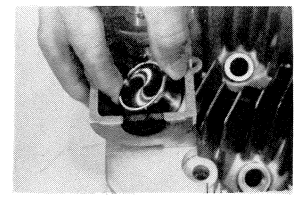


Fig. 1-33

3. Remove each valve in the following manner:
   ①Using the valve lifter (special tool), compress the spring.

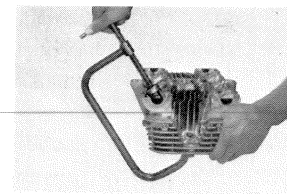


Fig. 1-34

   ②Take off the two cotter halves from valve stem, using forceps.

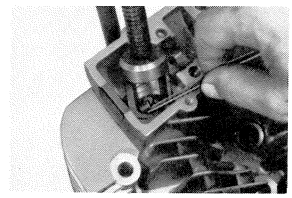


Fig. 1-35

③Take out the valve upper seat, inner spring and outer spring.

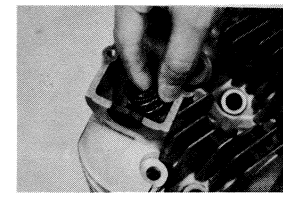


Fig. 1-36

④From the other side, pull out the valve.

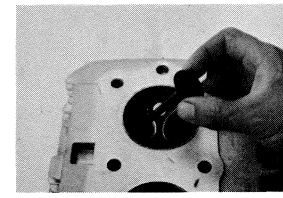


Fig. 1-37

4. Remove each valve guide as follows:
   ①Remove oil seal, using long-nose pliers. Pick out valve lower seat.

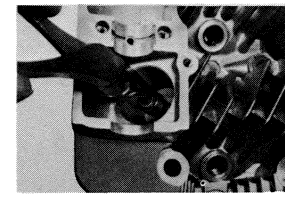


Fig. 1-38

   ②Using the valve guide remover (special tool), drive the guide out toward cylinder head side.

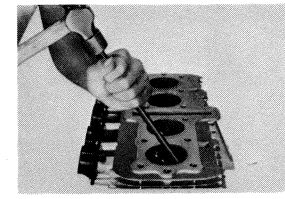


Fig. 1-39

NOTE: Discard the removed valve guide sub-assemblies. In reassembly, use replacement sub-assemblies, each consisting of guide ring and oil seal.

Carburetor disassembly

1. Remove the cover from each carburetor.

2. At the middle section of the carburetor assembly, unhook the throttle return spring from the pin.

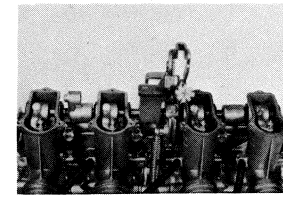


Fig. 1-40

3. Remove five bolts to free the throttle shaft.

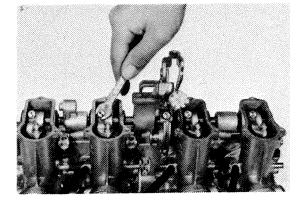


Fig. 1-41

4. Remove stopper plate and pull out the shaft.

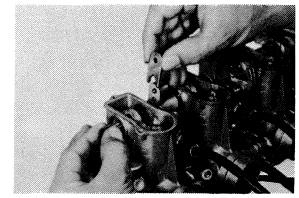


Fig. 1-42

5. Loosen four cross-recessed screws and also the screw in the slot. Draw out choke shaft.

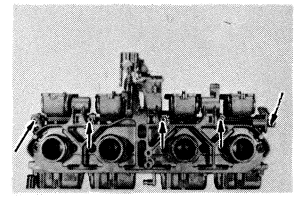


Fig. 1-43

6. Remove the plate. A total of 8 screws must be removed to free this plate for removal.

The foregoing procedure permits the rest of the carburetor assembly to be disassembled further in the usual manner.

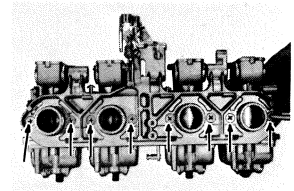


Fig. 1-44

Oil pump disassembly

1. Remove circlip and pull off the gear.

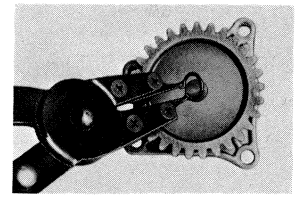


Fig. 1-45

2. Drive out the two pins to transmission side. Separate the two halves of the pump case to take out the internals.

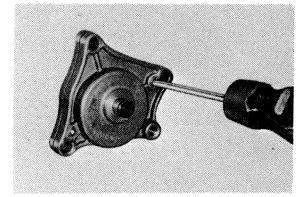


Fig. 1-46

INSPECTION AND SERVICING

AIR CLEANER

If the air cleaner is clogged with dust, intake resistance will be increased with a resultant decrease in output and an increase in fuel consumption.
Check and clean the cleaner according to the following procedures.

1. Take out the air cleaner element Ⓐ from the air cleaner case by unscrewing a screw Ⓑ.

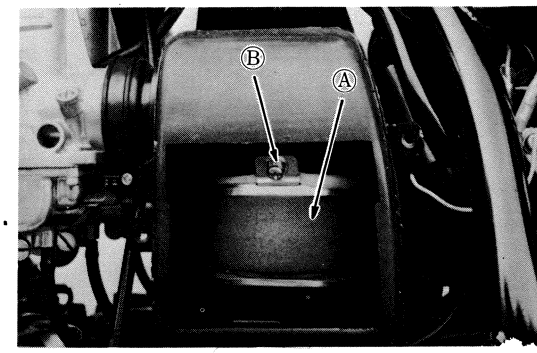


Fig. 1-47

2. Take the polyurethane filter out of the element by unscrewing 2 screws and wash it with gasoline.
3. After squeeze gasoline out of the filter, soak it into MOTOR OIL.
4. Wring oil out of the filter and then fit it to the element.

CAUTION: Do not wring the element to squeeze off gasoline or oil.


Fig. 1-48 CORRECT

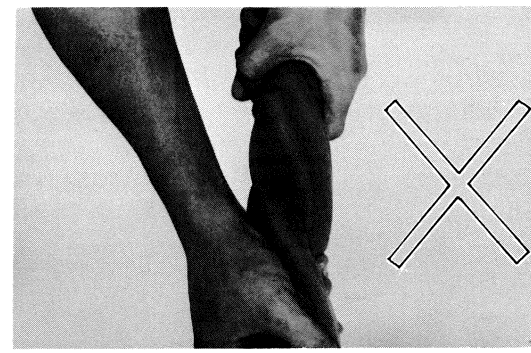


Fig. 1-49 INCORRECT

CARBURETOR

Carburetor jetting specification

Type	Main jet	Air jet	Needle jet	Jet neelde	Pilot jet	Pilot air jet	Cutaway	Air screw
VM26SS	100	0.7	O-6	5F21-3	15	1.6	1.5	1 turn back

Carburetor cleaning

Clean and inspect the carburetors by referring to the circuit diagram:

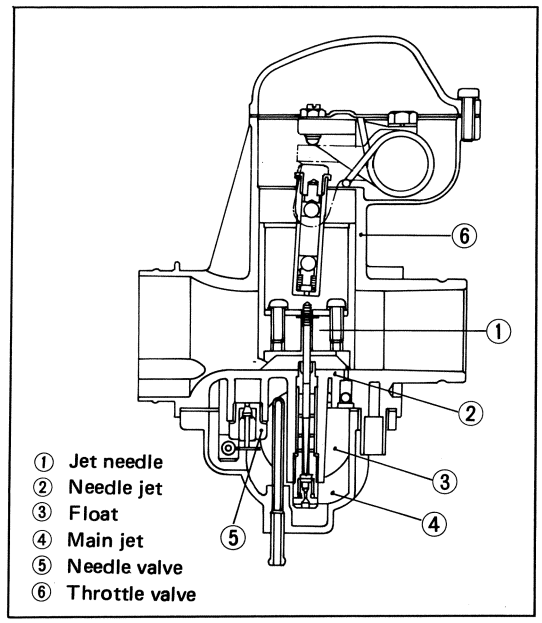


Fig. 1-50

Note: Do not disturb the screw shown in the photo.

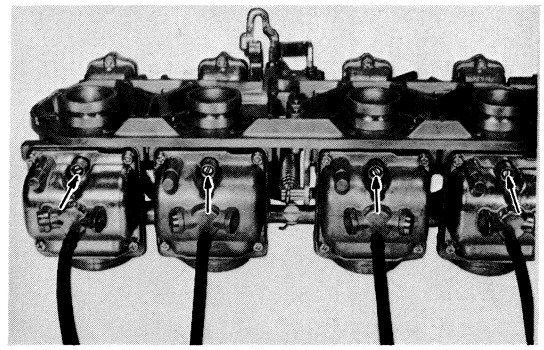


Fig. 1-51

Checking fuel level in each float chamber

1. Leave fuel cock lever in "ON" or "RES" position.
2. Remove float chamber screw and install the fuel level gauge (special tool).
3. Move fuel cock lever to "PRI" position to admit fuel into float chamber.
4. With the float chamber filled with fuel, turn the cock lever back to "ON" position, and start up the engine.

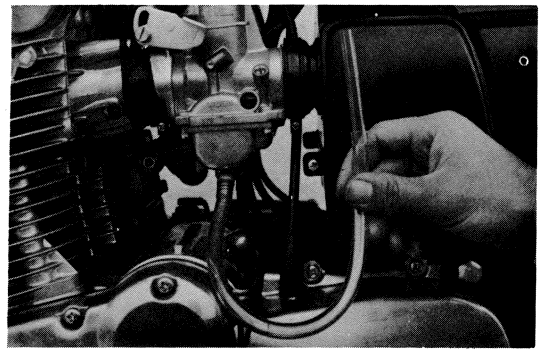


Fig. 1-52

5. Run the engine at the idling speed (1,000 - 1,100 rpm), and measure the distance Ⓐ with the middle line of the level gauge aligned with the mating surface of float bowl as shown in photo. Ⓐ should be within the range specified here.

Distance Ⓐ :	2.5 - 3.5 mm (0.098 - 0.138 in)

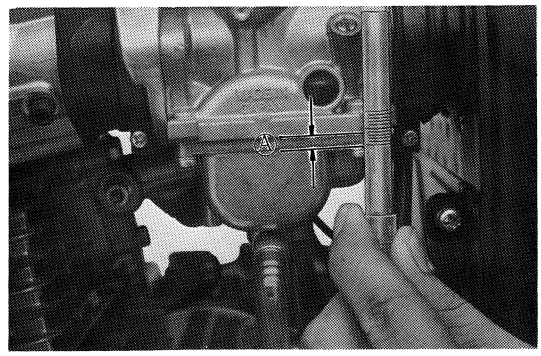


Fig. 1-53

Note: When refitting the screw, be sure to use the "O" ring.

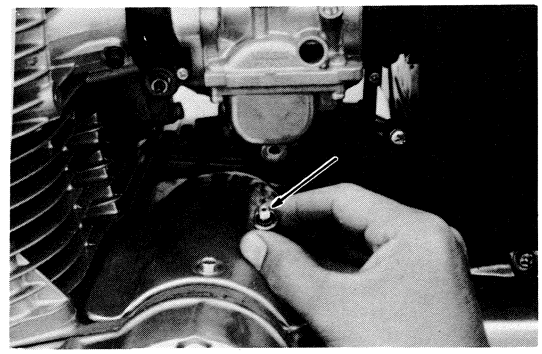


Fig. 1-54

Fuel level adjustment

If the distance Ⓐ measured is not within the specified range, it means that the float height Ⓗ is off the specification. To adjust this height, proceed as follows:

Remove float bowl, and bend the float arm to increase or decrease the height to this value:

Float height Ⓗ :	25 - 27 mm (0.984 - 1.063 in)

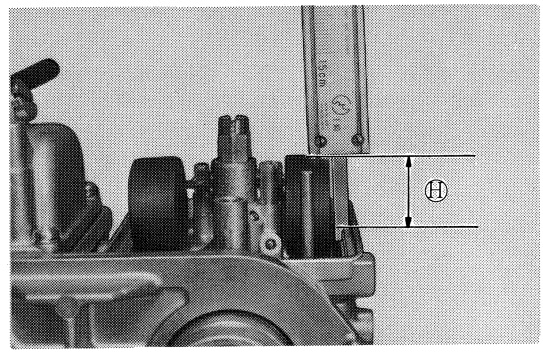


Fig. 1-55

IMPORTANT: Be sure to have the gasket removed before measuring the height.

Bending the arm upward Ⓐ raises the level; being it downward Ⓑ lowers the level (in the inverted condition of the carburetor).

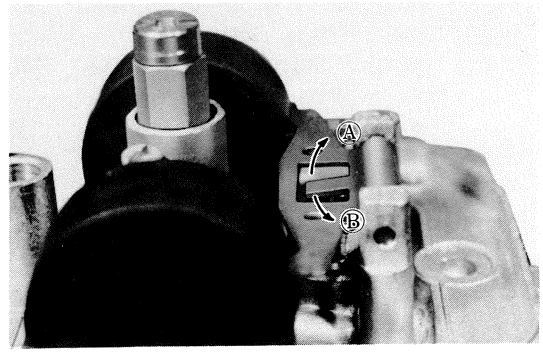


Fig. 1-56

CAMSHAFT

One camshaft is meant for intake valves and the other for exhaust valves. Be sure to discriminate the two. The camsafts should be checked for deflection and also for the wear of cams and journals if the engine has been noted to give abnormal noise or vibration or to lack output power. Any of these malconditions could be caused by camshafts worn down or distorted to the service limit.

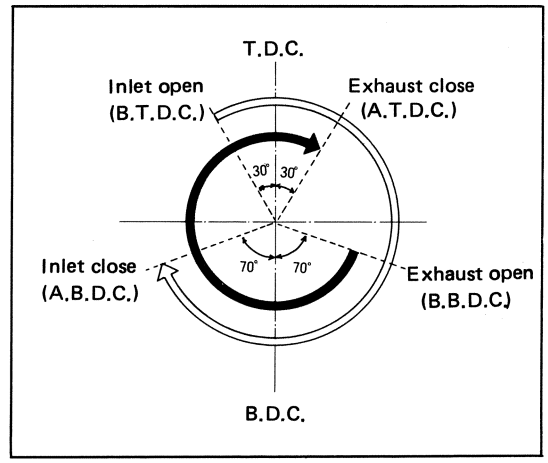


Fig. 1-57

Cam wear

Worn-down cams are often the cause of mistimed valve operation resulting in reduced output power. The limit of cam wear is specified for both intake and exhaust cams in terms of cam height Ⓗ . which is to be measured with a micrometer. Replace camshafts if found worn down to the limit.

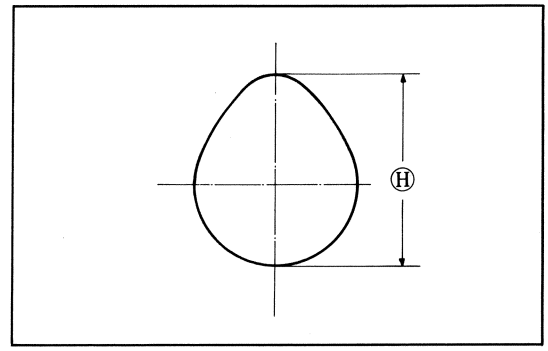


Fig. 1-58

Cam height specification

Height (H)	Standard	Service limit
Intake cams	36.265 - 36.295 mm (1.4278 - 1.4289 in)	36.15 mm (1.4232 in)
Exhaust cams	35.735 - 35.765 mm (1.4069 - 1.4081 in)	35.60 mm (1.4016 in)

Journal wear

Determine whether each journal is worn down to the limit or not by measuring the running clearance with the camshaft installed in place. Use plastigage to read the clearance, which is specified as follows:

Clearance specification (for both camshafts)

Standard	Service limit
0.020 - 0.054 mm (0.0008 - 0.0021 in)	0.15 mm (0.0059 in)

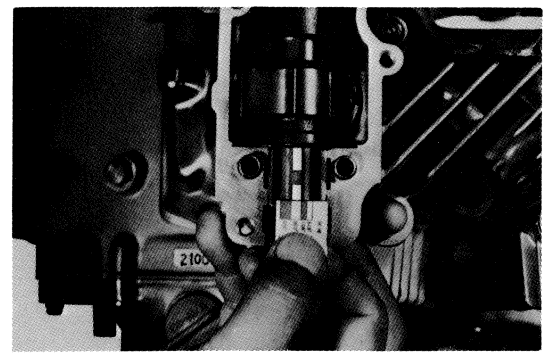


Fig. 1-59

Be sure to have each camshaft fastened down in place by its bearing caps. Have the cap bolts tightened to this torque value:

Cap bolt torque	0.8-1.2 kg-m (5.8-8.7 lb-ft)

Camshaft deflection

Measure the deflection with a dial gauge. Replace the camshaft if the deflection read exceeds the limit.

Deflection specification

Standard	Service limit
0.03 mm (0.0012 in)	0.1 mm (0.00394 in)

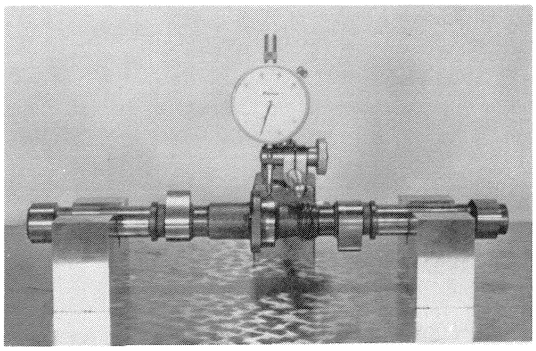


Fig. 1-60

CAMCHAIN TENSION ADJUSTOR

Move the pushrod back and forth with fingers to see if it moves smoothly as it should. If the pushrod sticks or otherwise moves erratically, replace it.

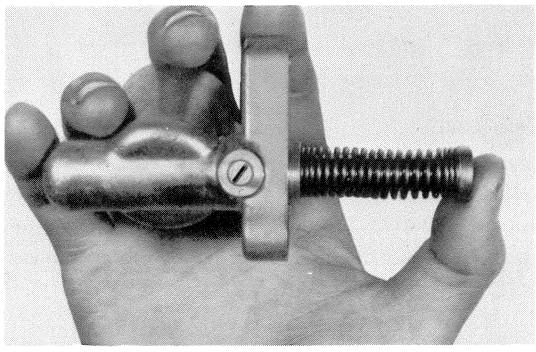


Fig. 1-61

CYLINDER HEAD

1. Decarbon combustion chambers.
2. Check the gasketed surface of the cylinder head for flatness with a straightedge and feeler gauge, taking a clearance reading at several places indicated. If the largest reading at any position of the straightedge exceeds the limit, replace the cylinder head.

Cylinder head flatness specification

Standard	Service limit
0.03 mm (0.0012 in)	0.25 mm (0.0098 in)

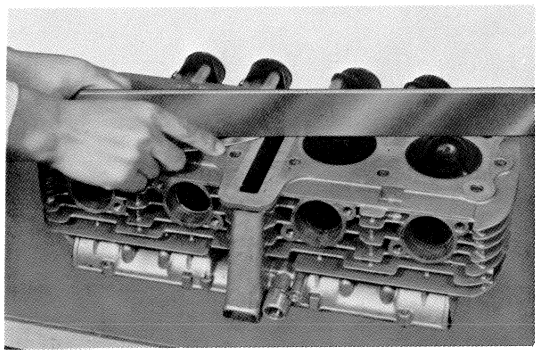


Fig. 1-62

VALVE

Valve face wear

Visually inspect each valve for wear of its seating face. Replace valve if found with an abnormally worn face.

The thickness Ⓣ decreases as the wear of the face advances. Measure the thickness and, if the thickness is found to have decreased to the limit, replace it.

Valve thickness specification

Standard	Service limit
0.8 - 1.2 mm (0.0315 - 0.0472 in)	0.5 mm (0.0197 in)

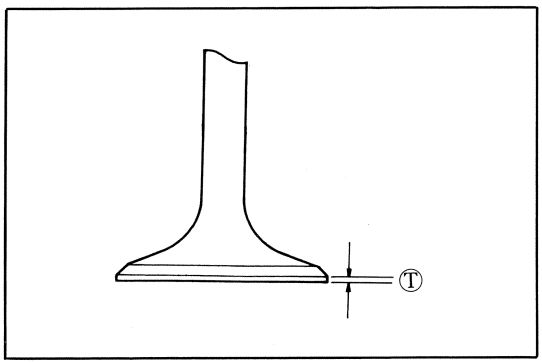


Fig. 1-63

Valve stem deflection

Support the valve with "V" blocks, as shown, and check its deflection with a dial gauge. The valve must be replaced if it exhibits a deflection exceeding the limit.

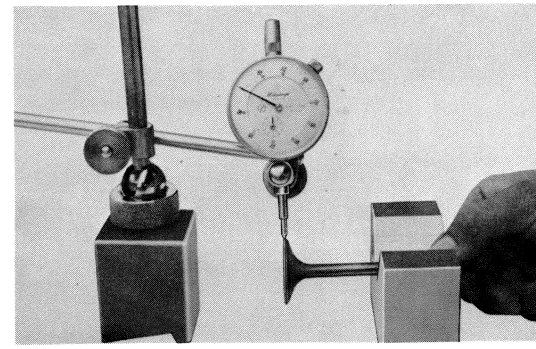


Fig. 1-64

Valve stem deflection specification

Service limit
0.05 mm (0.0019 in)

Valve-to-guide clearance

Measure the clearance in two directions, "X" and "Y", perpendicular to each other, by rigging up the dial gauge as shown. If the clearance measured exceeds the limit, specified below, then determine whether the valve or the guide should be replaced to reduce the clearance to the standard range:

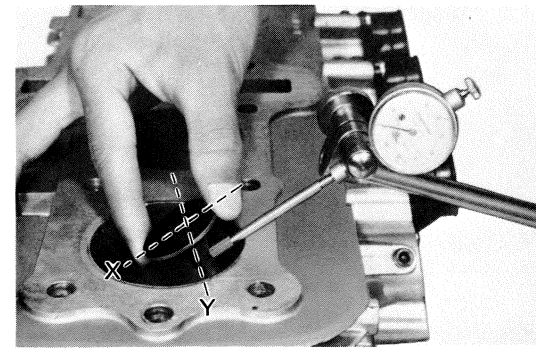


Fig. 1-65

Valve-to-guide clearance specification

Valve	Standard	Service limit
Intake valves	0.02 - 0.05 mm (0.0008 - 0.0019 in)	0.09 mm (0.0035 in)
Exhaust valves	0.03 - 0.06 mm (0.0012 - 0.0024 in)	0.10 mm (0.0039 in)

If the valve stem is worn down to the limit, as measured with a micrometer, where the clearance is found to be in excess of the limit indicated above, replace the valve; if the stem is within the limit, then replace the guide. After replacing valve or guide, be sure to recheck the clearance.

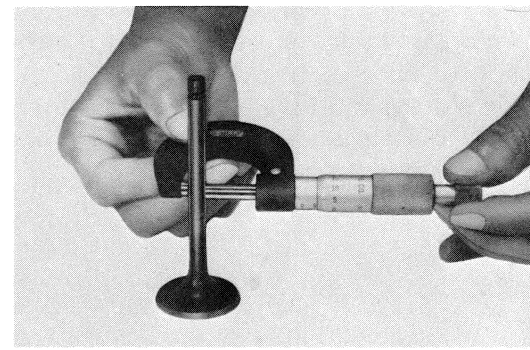


Fig. 1-66

Valve stem diameter specification

Valve	Standard	Service limit
Intake valves	6.965 - 6.980 mm (0.2742 - 0.2748 in)	6.90 mm (0.2716 in)
Exhaust valves	6.955 - 6.970 mm (0.2738 - 0.2744 in)	6.805 mm (0.2679 in)

VALVE SEATS

IMPORTANT: Before checking the seats for seat width and, as necessary, refacing the seats, make sure the valves and valve guides are in good condition.

Seat width measurement

Coat the valve seat with a paste of red lead uniformly. Fit the valve and tap the coated seat with the valve face in a rotating manner, in order to get a clear impression of the seating contact. In this operation, use the valve lapper to hold the valve head.

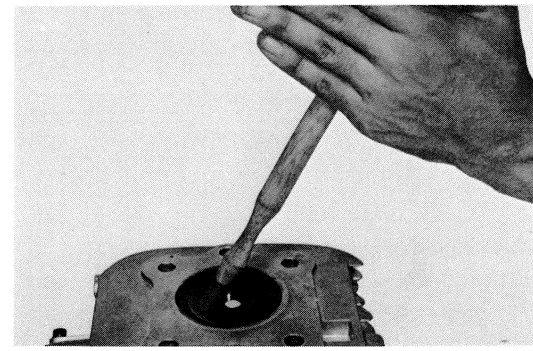


Fig. 1-67

The ring-like red lead impression left on the valve face must be continuous – without any break – and, in addition to this requirement, the width of the red-lead ring, which is the visualized seat "width", must be within the limit:

Valve seat with specification

Seat width	Standard	Wear limit
Ⓦ	1.0 - 1.2 mm (0.04 - 0.05 in)	1.5 mm (0.06 in)

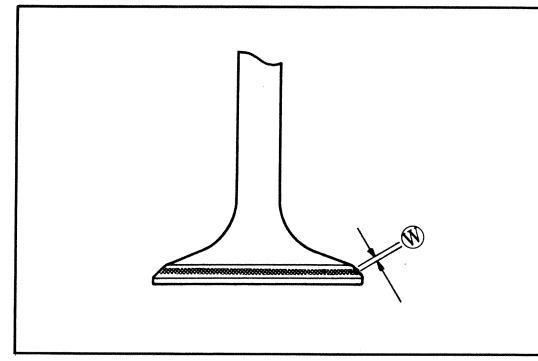


Fig. 1-68

If either requirement is not met, correct the seat by servicing it as follows:

Valve seat servicing

The valve seats for both intake and exhaust valves are angled to present three bevels, 15° (inner), 45° (middle) and 75° (outer). To reface the seat, proceed as follows:

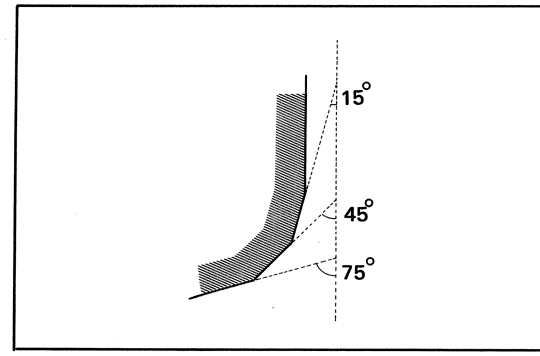


Fig. 1-69

1. Make cuts at 15° and 75° first, removing a minimum of stock at each.
2. Make a cut at 45°, producing a width of 1.0 to 1.2 mm (0.04 - 0.05 in). The amount of stock removed in this cutting directly affects the valve position in regard to tappet clearance.

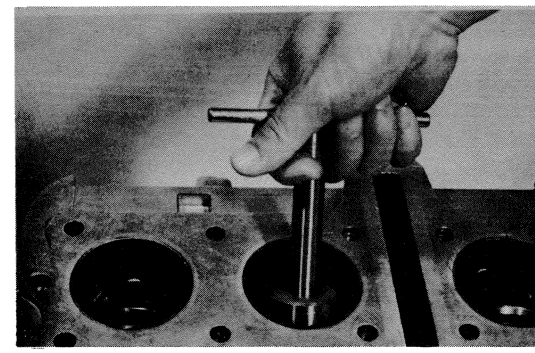


Fig. 1-70

NOTE: This is a delicate machining operation, and must be carried out cautiously, bearing in mind the possibility of raising the valve so much toward the camshaft as to render the tappet clearance unadjustable even with the thinnest shim fitted to the tappet.

3. Lap the seat with two or three sizes of lapping compound. Use the coarse compound to produce contacting width by operating the valve lapper in the usual manner. Finish the seat width with the fine compound.

Fig. 1-71

4. Clean the seat after lapping. Check the seat width with the valve in the manner outlined above, with the red-lead paste applied uniformly to the seat.

NOTE: After servicing the valve seats, be sure to adjust the tappet clearance when the cylinder head has been installed in reassembly.

5. If, by any chance, too much stock was removed from the seat in refacing work, resulting in loss of the specified tappet clearance even with the thinnest shim disc, then the only remedy is to grind off the stem end face of the valve with a valve refacer, thereby shortening the overall length of the valve.

IMPORTANT: This remedy is permissible where the length Ⓐ will not be reduced to less than 4.0 mm. If this length becomes shorter than 4.0 mm, then the valve must be replaced.

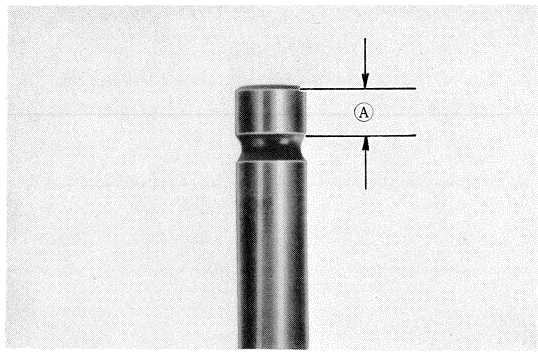


Fig. 1-72

IMPORTANT: After installing the valve whose stem end has been ground off as above, check to be sure that the face Ⓑ of valve stem end is above cotter pin Ⓒ.

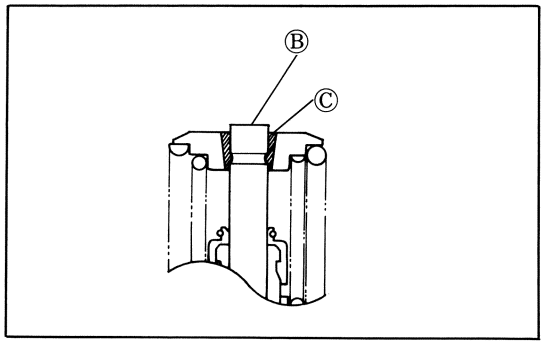


Fig. 1-73

VALVE SPRING

It is the force of the two coil springs by which the valve seats tight. Weakened springs result in reduced engine power output, and often account for the chattering noise coming from the valve mechanism.

Check the springs for strength by measuring their free lengths and also the force required to compress them. If the limit indicated below is exceeded by the free length reading or if the measured force does not fall within the range specified, replace the spring by replacement one of SUZUKI supply.

NOTE: Replace two springs at a time, outer and inner, if any one of these is found to be beyond the limit.

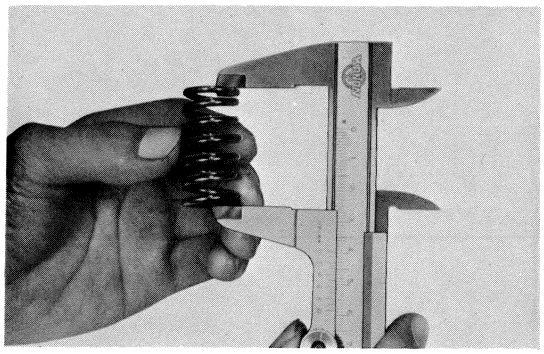


Fig. 1-74

Free length specification

Spring	Standard	Limit
INNER	35.3 - 37.0 mm (1.39 - 1.46 in)	33.8 mm (1.33 in)
OUTER	43.0 - 43.25 mm (1.69 - 1.703 in)	41.5 mm (1.63 in)

Spring rate specification

INNER	29.3 - 34 kg/23 mm (64.59 - 74.96 lb/0.91 in)
OUTER	50.4 - 58.3 kg/27 mm (111.11 - 128.53 lb/1.06 in)

IMPORTANT: Inner and outer valve springs are obtained from two sources of outside supply. So, when replacing the valve springs, be sure to satisfy these two requirements: 1) Inner and outer valve springs shall be of the same make (coming from the same manufacturer); and 2) the inner and outer springs for each valve shall be treated as a pair: replacing only the inner or the outer spring is not permitted.

CYLINDER

To check the cylinders for wear, take I.D. readings on each and determine whether the cylinder needs reworking to the next oversize. For this purpose, use the cylinder gauge (special tool) and take a total of 6 readings at three elevations in longitudinal and transverse directions, two readings at each elevation.

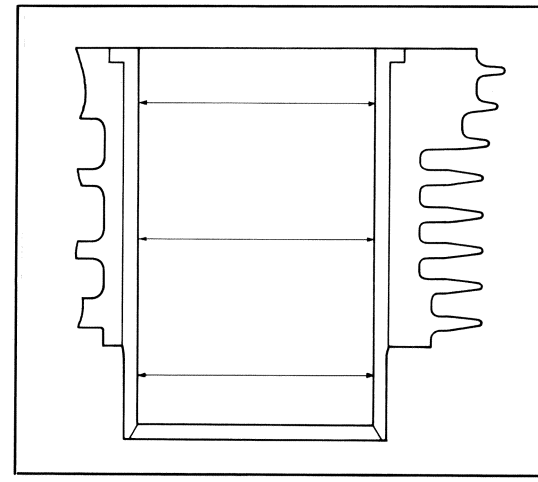


Fig. 1-75

If any of the readings exceeds the I.D. limit or if the difference between the maximum and the minimum reading exceeds the limit on difference or, further, if the bore surface is found badly burned or scored, rebore the cylinder to the size determined by the oversize piston available.

Limit on difference between maximum and minimum readings (max. allow able difference)	0.1 mm (0.0039 in)

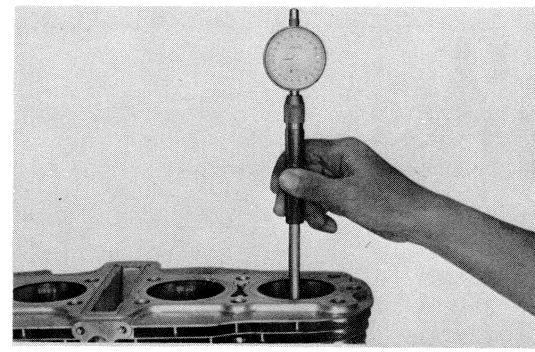


Fig. 1-76

Cylinder I.D. specification

Standard I.D.	I.D. limit
65.000 - 65.015 mm (2.5591 - 2.5596 in)	65.100 mm (2.5629 in)

Oversize piston	0,5 mm, 1.0 mm

Piston-to-cylinder clearance	0.050 - 0.060 mm (0.0020 - 0.0024 in)

PISTON AND PISTON RING

Piston wear determination

Mike the piston at the places and in the directions indicated. If the service limit is reached, replace the piston.

Piston diameter specification

Standard	Service limit
64.945 - 64.960 mm (2.5569 - 2.5575 in)	64.80 mm (2.5512 in)

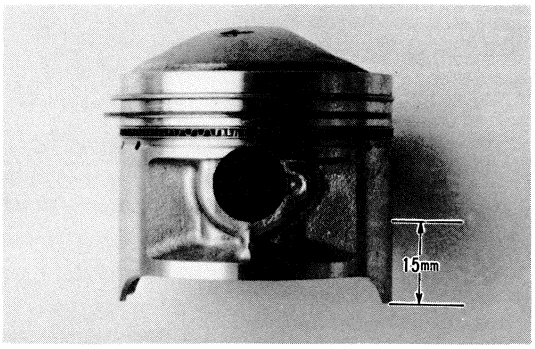


Fig. 1-77

Decarboning

Using a soft-metal scraper, decarbon the crown of the piston. Clean the ring grooves similarly.

Piston ring clearance in the groove

Check on each ring with a thickness gauge. If the limit on clearance is exceeded by any of the three rings, determined whether the ring or the piston should be replaced by measuring the ring thickness and the groove width. Limits are specified for the width and thickness.

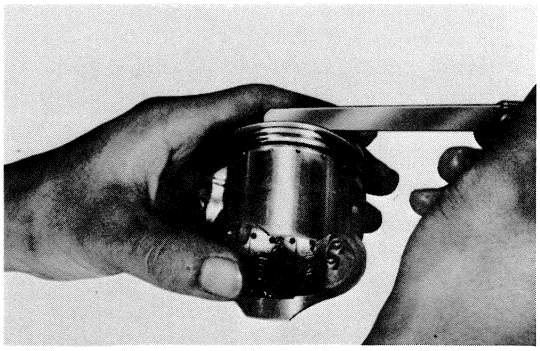


Fig. 1-78

Ring-to-groove clearance specification

Piston ring	Standard	Limit
TOP	0.020 - 0.055 mm (0.0008 - 0.0022 in)	0.18 mm (0.007 in)
MIDDLE	0.020 - 0.060 mm (0.0008 - 0.0024 in)	0.18 mm (0.007 in)
OIL	———	0.15 mm (0.006 in)

Ring thickness specification

Piston ring	Standard	Limit
TOP	1.175 - 1.190 mm (0.0463 - 0.0469 in)	1.10 mm (0.043 in)
MIDDLE	1.170 - 1.190 mm (0.0460 - 0.0469 in)	1.10 mm (0.043 in)

Ring groove width specification

Ring groove	Standard	Limit
TOP	1.21 - 1.23 mm (0.0476 - 0.0484 in)	1.30 mm (0.051 in)
MIDDLE	1.21 - 1.23 mm (0.0476 - 0.0484 in)	1.30 mm (0.051 in)
BOTTOM	2.51 - 2.53 mm (0.0988 - 0.0996 in)	2.60 mm (0.102 in)