

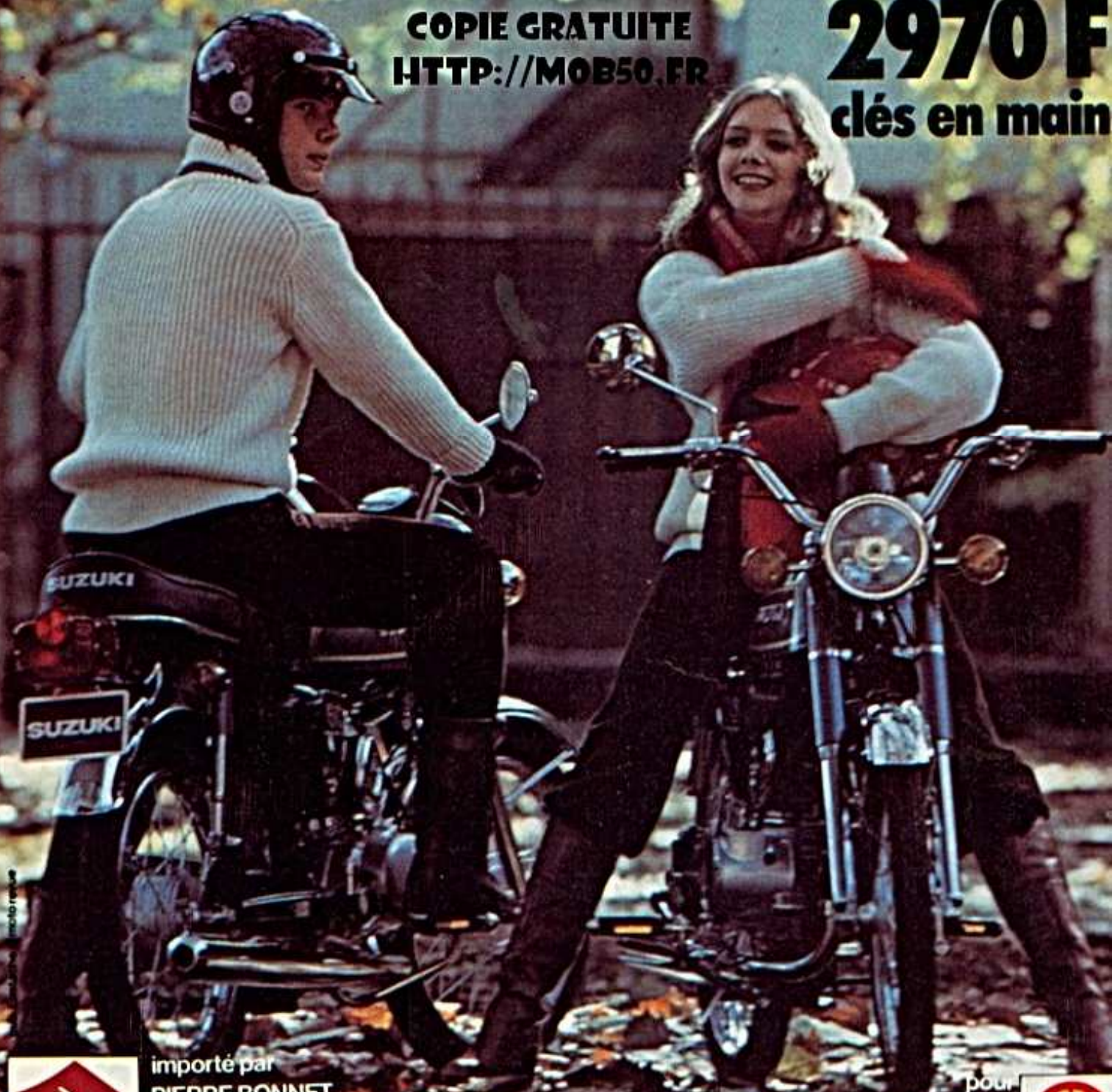
SUZUKI

A 50 P 4 vitesses
graissage séparé

SANS PERMIS

COPIE GRATUITE
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2970 F
clés en main



importé par
PIERRE BONNET
78 avenue du Général Leclerc
92400 Boulogne
tél. 604 32 20

envoi catalogue contre 5 francs en timbres

pour
un meilleur
rendement
de votre
moteur



SPECIFICATIONS

	FOR ENGLAND	FOR FRANCE	FOR NETHERLANDS
DIMENSIONS AND WEIGHT			
Overall length	1,820 mm (71.7 in)	←	←
Overall width	765 mm (30.1 in)	←	←
Overall height	1,020 mm (40.2 in)	←	←
Wheelbase	1,200 mm (47.2 in)	←	←
Ground clearance	125 mm (4.9 in)	←	←
Dry weight	75 kg (165 lbs)	72 kg (159 lbs)	72 kg (159 lbs)
ENGINE			
Type	Two-stroke cycle, air-cooled	←	←
Intake system	Rotary-disc valve	Reed valve	←
Number of cylinder	1	←	←
Bore × Stroke	41.0 mm × 37.8 mm (1.61 in × 1.49 in)	←	←
Piston displacement	49 cc (3.0 cu.in)	←	←
Corrected compression ratio	6.7 : 1	6.9 : 1	←
Carburetor	MIKUNI VM16SC	MIKUNI VM10SC	←
Air cleaner	Fibrous tissue	←	←
Starter system	Kick	Primary kick	←
Lubrication system	SUZUKI "CCI"	←	Fuel and oil premixture with 20 : 1
TRANSMISSION			
Clutch	Wet multi-plate type	←	←
Transmission	5-speed constant mesh	4-speed constant mesh	←
Gearshift pattern	1 down 4 up	All down	←
Primary reduction	3.842 (73/19)	←	←
Final reduction	2.642 (37/14)	3.167 (38/12)	3.636 (40/11)
Gear ratios, Low	3.666 (44/12)	←	←
2nd	2.133 (32/15)	2.200 (33/15)	←
3rd	1.578 (30/19)	1.579 (30/19)	←
4th	1.280 (32/25)
Top	1.071 (30/28)	1.240 (31/25)	←
Drive chain	#420, 106 links	#420, 104 links	#420, 106 links
CHASSIS			
Front suspension	Telescopic fork with hydraulic damper	←	←
Rear suspension	Swinging arm with hydraulic damper	←	←
Steering angle	45° (right, left)	←	←
Castor	63°	←	←
Trail	67 mm (2.6 in)	←	←
Turning radius	1.8 mm (5.9 ft)	←	←
Front brake	Disc — A50PD Internal expanding — A50P	←	←
Rear brake	Internal expanding	←	←
Front tire size	2.25 — 17 — 4PR	←	←
Rear tire size	2.25 — 17 — 4PR	2.50 — 17 — 6PR	←
ELECTRICAL			
Ignition type	Flywheel magneto	←	←
Spark plug	NGK B-8HS or NIPPON DENSO W24FS	NGK BP-7HS or NIPPON DENSO W22FP	←

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	FOR ENGLAND	FOR FRANCE	FOR NETHERLANDS
Battery	6V 4AH	←	←
Generator	Flywheel magneto	←	←
CAPACITIES		COPIE GRATUITE	
Fuel tank including reserve	7.5 lit (2.0/1.6 US/Imp.gal)	←	←
Fuel tank reserve	2.0 lit (0.5/0.4 US/Imp.gal)	←	←
Engine oil tank	1.2 lit (2.5/2.1 US/Imp.pt)	←	←
Front fork oil	138 cc (4.7/4.9 US/Imp.oz)	←	←
Transmission oil	Oil bath, 550 cc (1.2/1.0 US/Imp.pt)	Oil bath, 500 cc (1.1/0.9 US/Imp.pt)	←

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ENGINE REMOVAL

The procedure of engine removal is sequentially explained in 11 steps. Engine installation is effected by reversing the removal procedure.

Disconnect the fuel hose from carburetor.

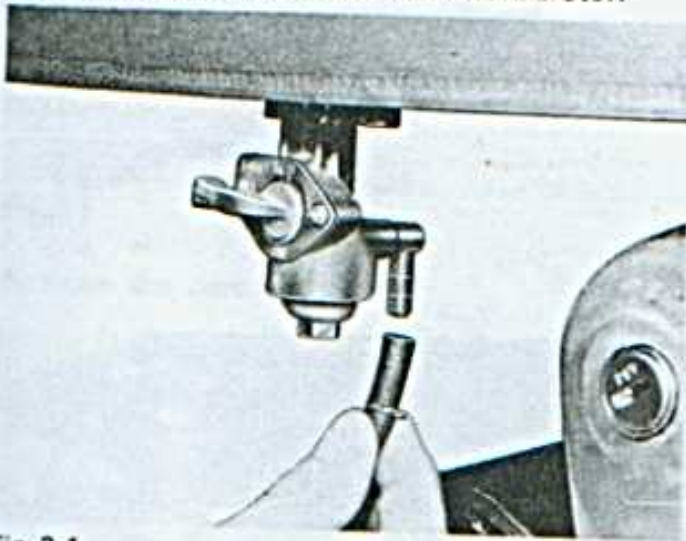


Fig. 2-1

Take the fuel tank off.

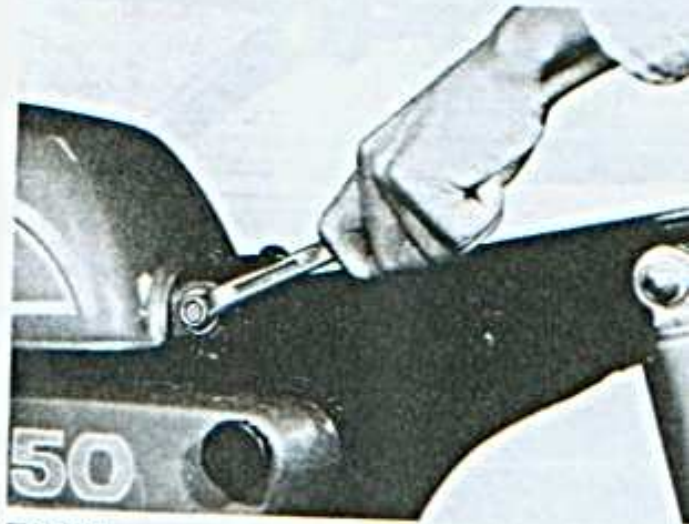


Fig. 2-4

Remove the rear fender.



Fig. 2-2

Disconnect lead wires and the spark plug cord.

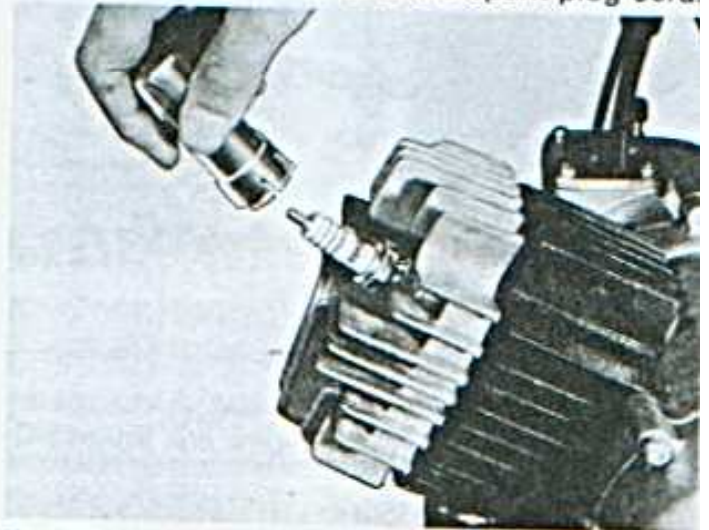


Fig. 2-5

Remove the seat.

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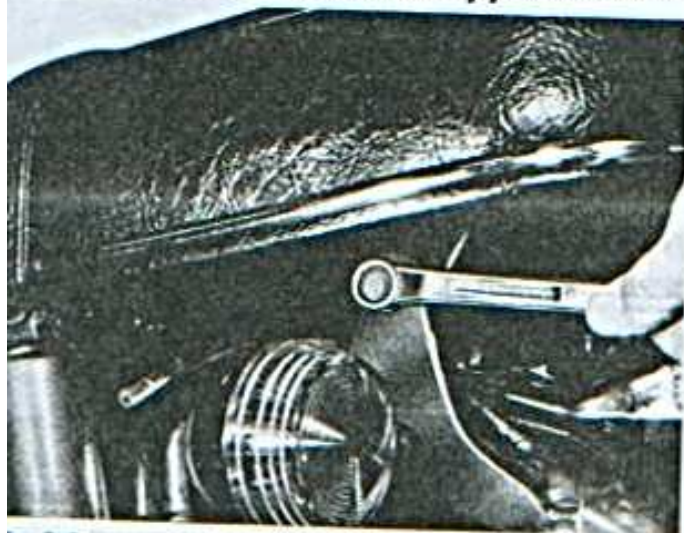


Fig. 2-3

Remove the kick starter lever.

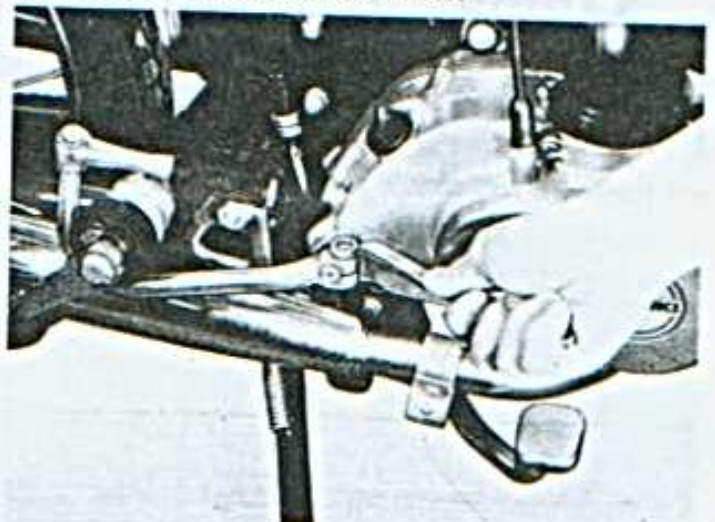


Fig. 2-6

Remove the muffler.

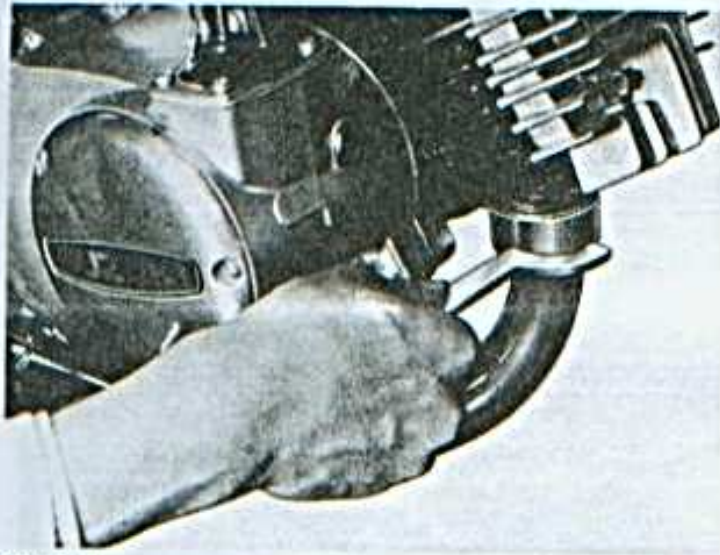


Fig. 2-7

Remove the carburetor.

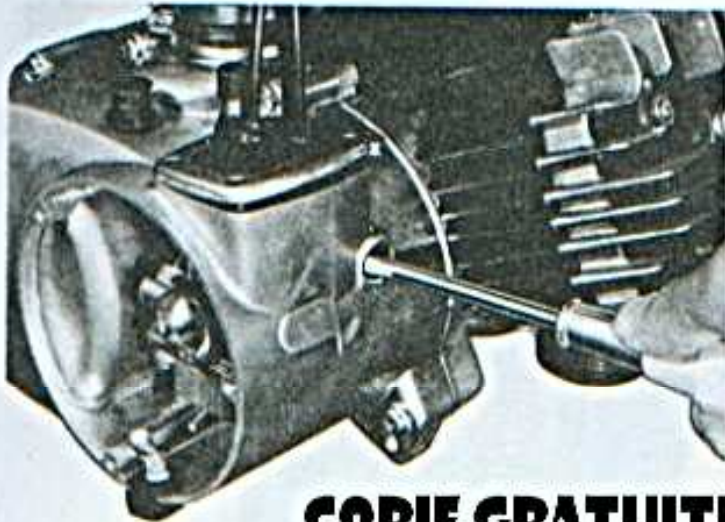


Fig. 2-8

Remove pedals.

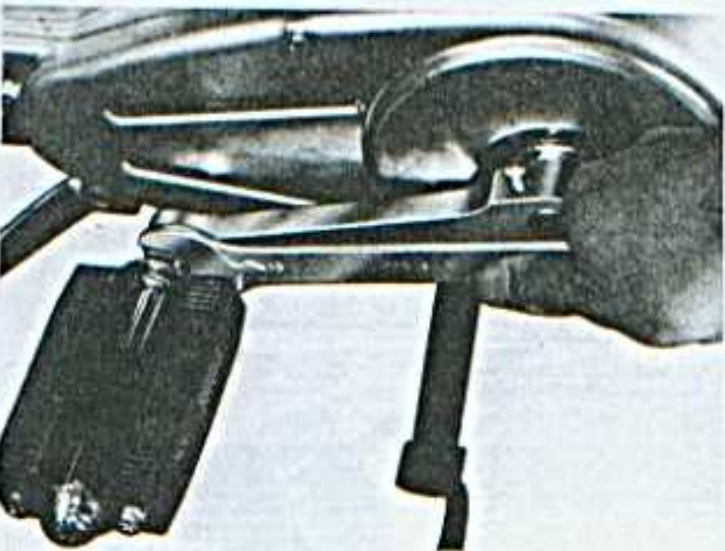


Fig. 2-9

Remove the cycle chain cover and circlip.

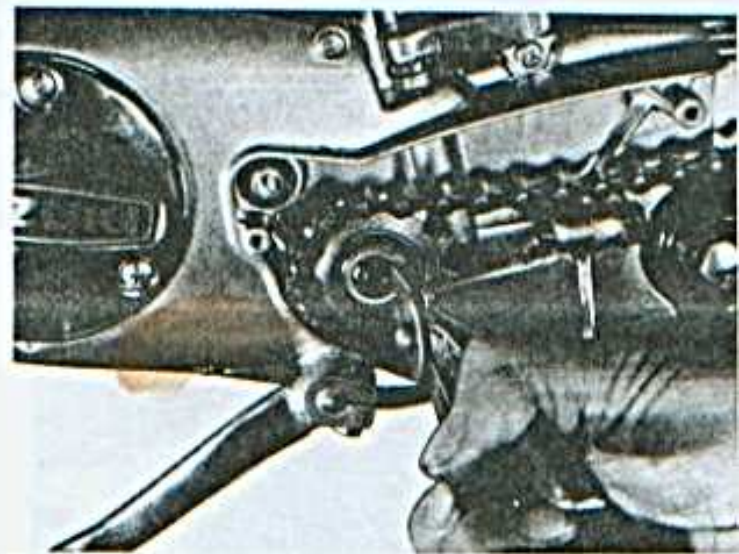


Fig. 2-10

Remove cycle sprocket, bearing and cycle chain, by using special tool (09913-60910).

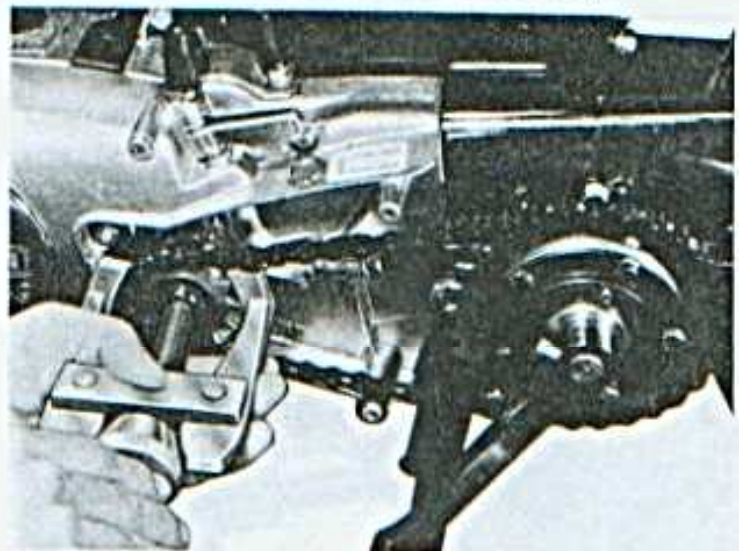


Fig. 2-11

Dismount the engine from the vehicle body.

ENGINE DISASSEMBLY

The procedure of engine disassembly is sequentially explained in 36 steps as follows. Reassembly is reverse of disassembly, and is effected by carrying out the following steps the other way around.

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Remove the air cleaner.

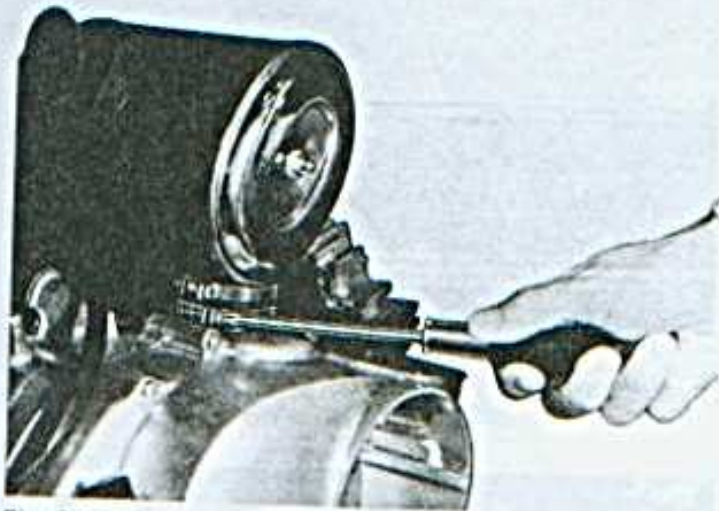


Fig. 2-12

Remove oil drain plug and let out oil.

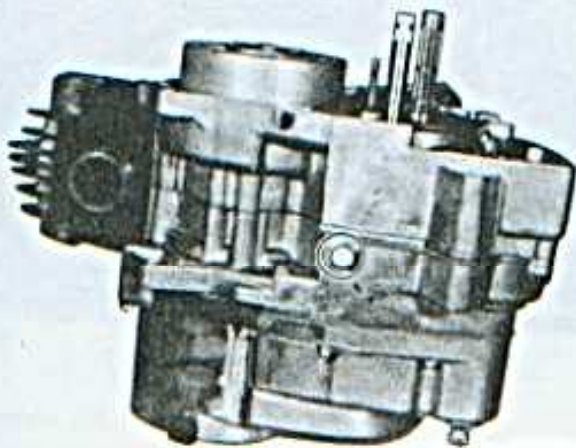


Fig. 2-13

Remove cylinder head.



Fig. 2-14

Detach and remove cylinder.



Fig. 2-15

Unscrew the flywheel rotor nut by using special tool (09930-40113).

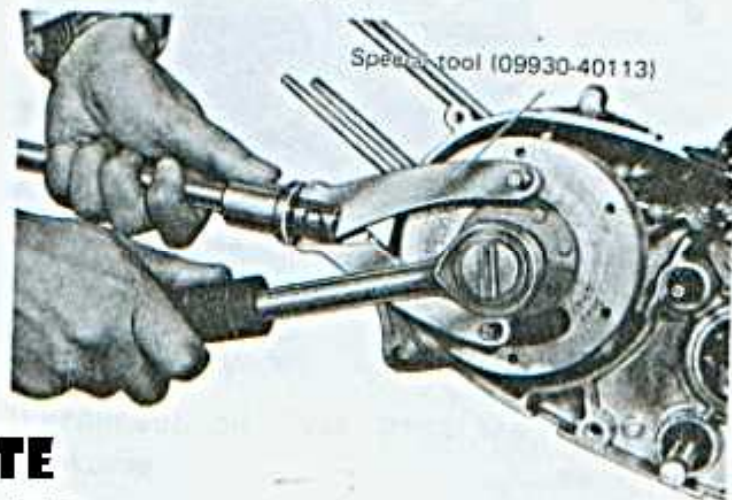


Fig. 2-16

Remove the flywheel rotor by using special tool (09930-30101 with 09930-30150).

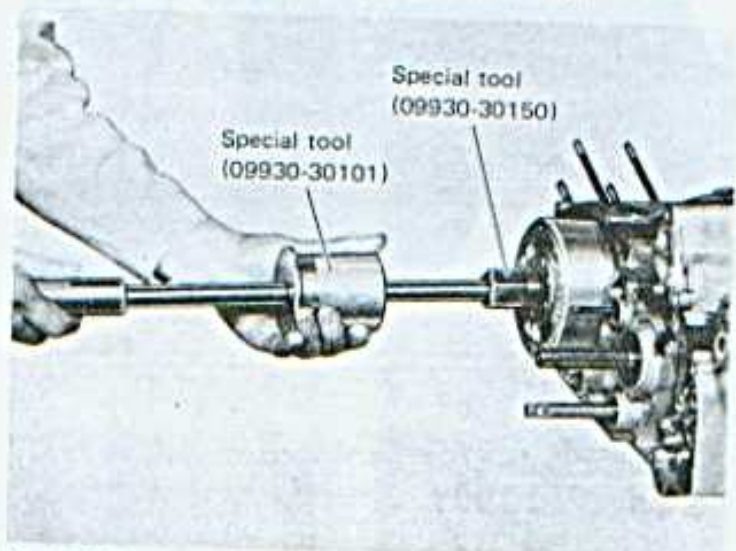


Fig. 2-17

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Take out oil pump drive piece.

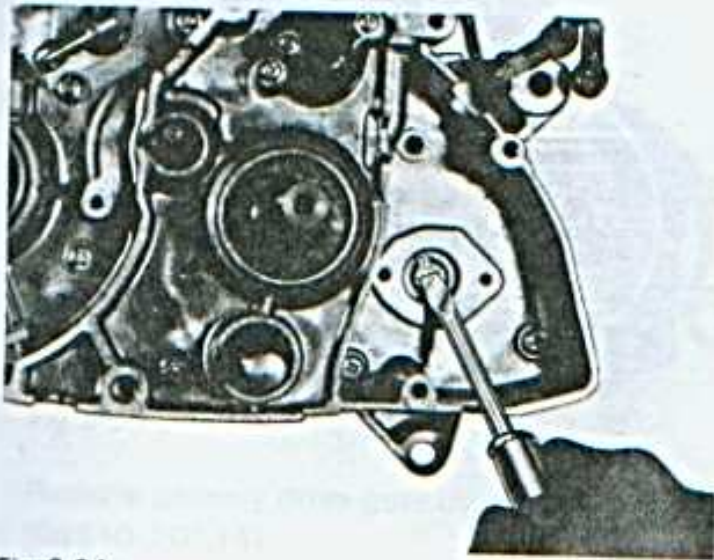


Fig. 2-24

Remove the clutch cover.

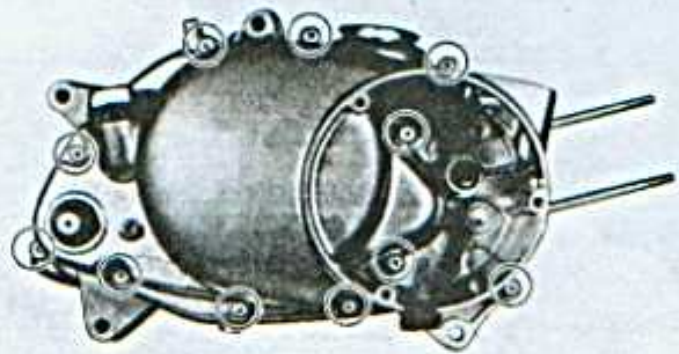


Fig. 2-27

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Remove the neutral switch body.

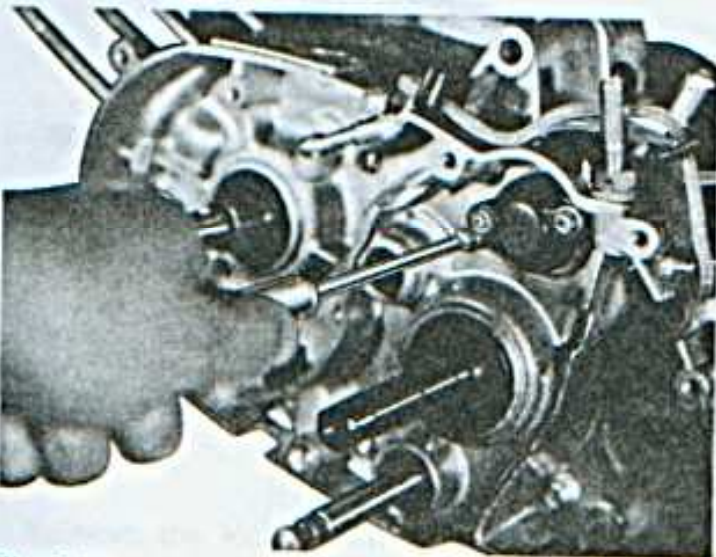


Fig. 2-25

Remove clutch spring pins by using special tool (09920-20310).

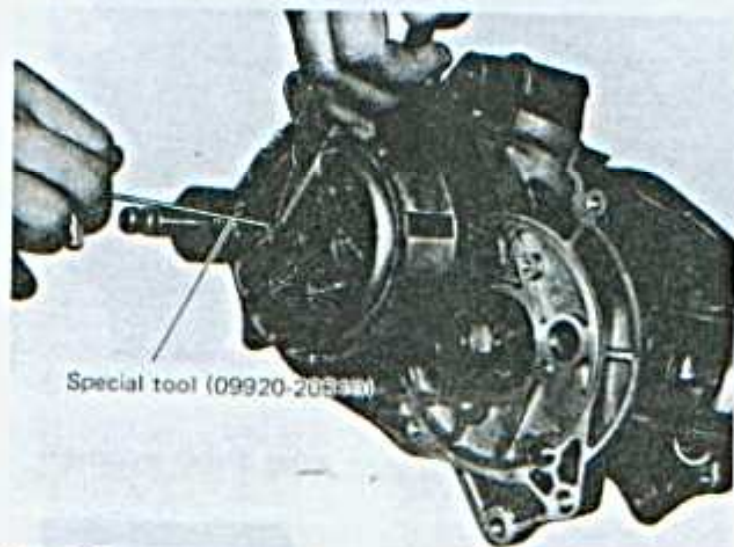


Fig. 2-28

Using special tool (09920-53710), hold sleeve hub steady. Loosen and remove the hub nut.

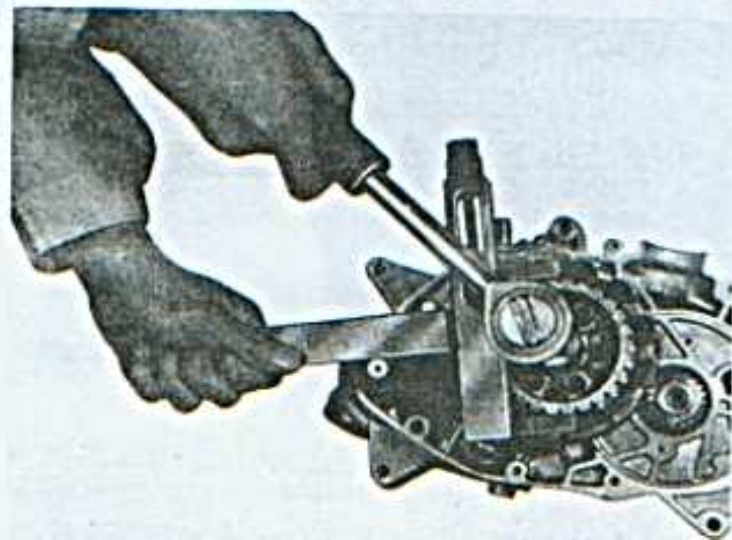


Fig. 2-26

Remove the sleeve hub and primary driven gear.

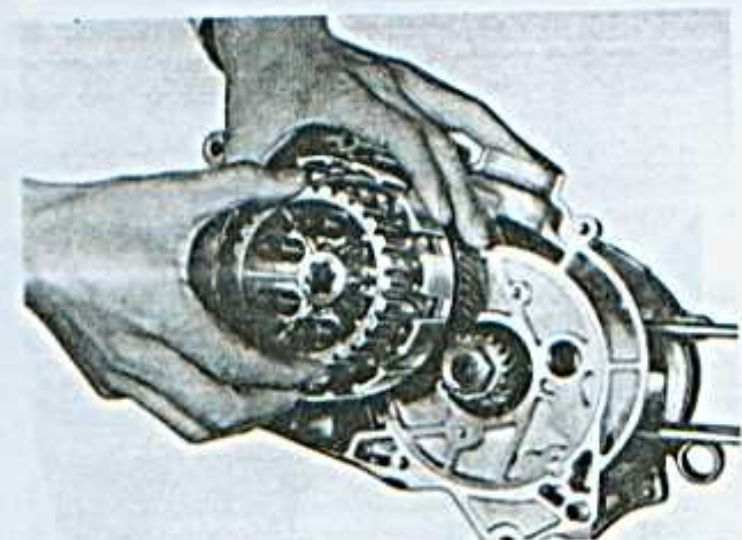


Fig. 2-30

Remove primary drive gear by using special tool (09910-20114).

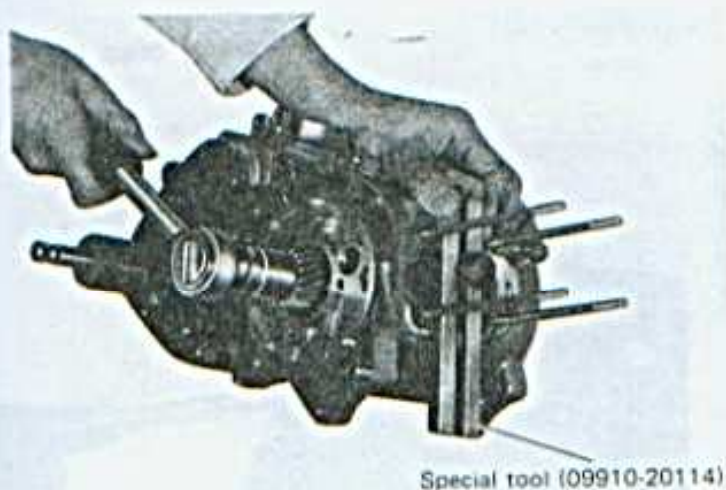


Fig. 2-31

Remove the kick return spring guide.

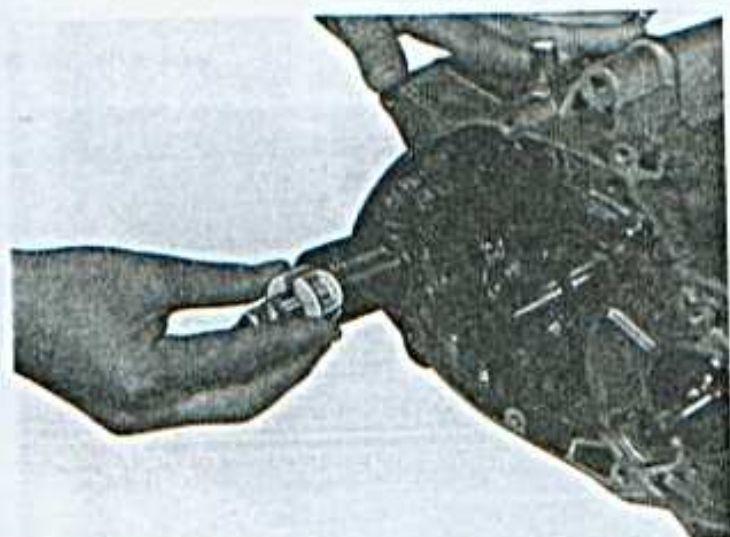


Fig. 2-32

Remove the kick return spring.



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Fig. 2-33

Loosening the screw (A), remove the drive pin retainer (B) and cam stopper (C).

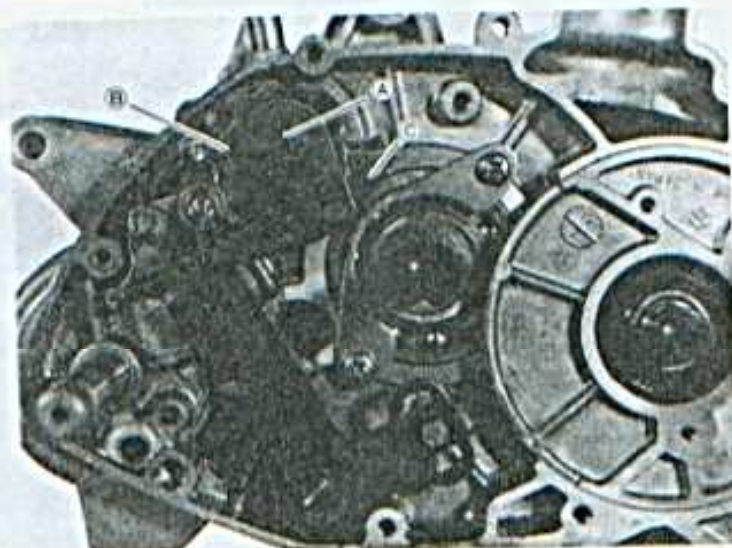


Fig. 2-34

Remove drive pins.



Fig. 2-35

Draw out gear shifting shaft.

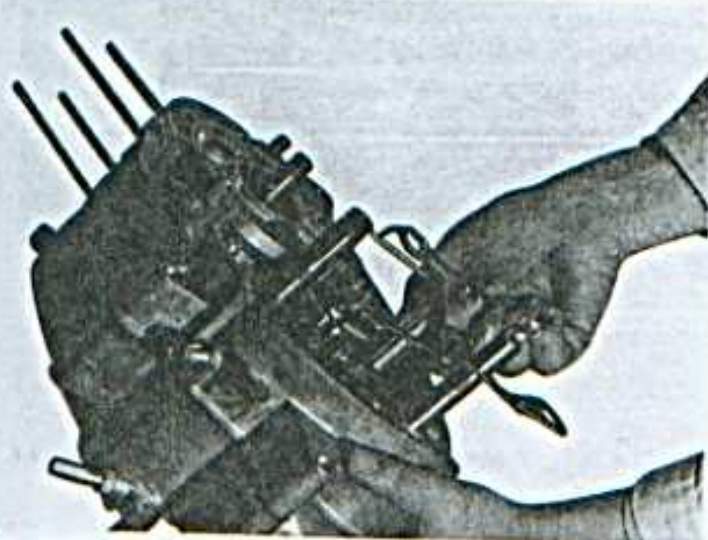


Fig. 2-36

Remove the outer valve seat.



Fig. 2-39

Remove cam guide.

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Remove the rotary disk valve

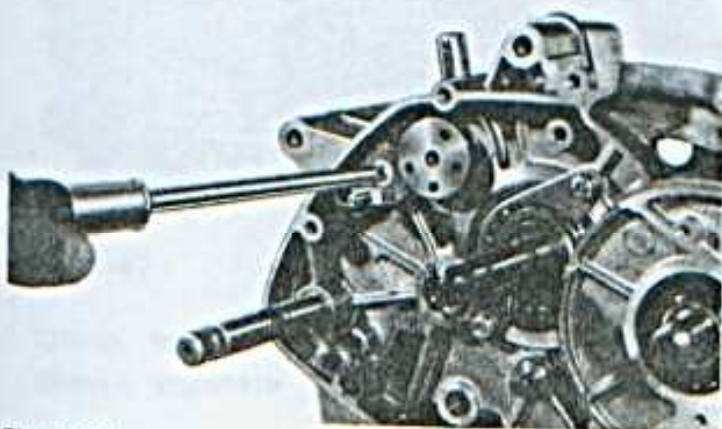


Fig. 2-37

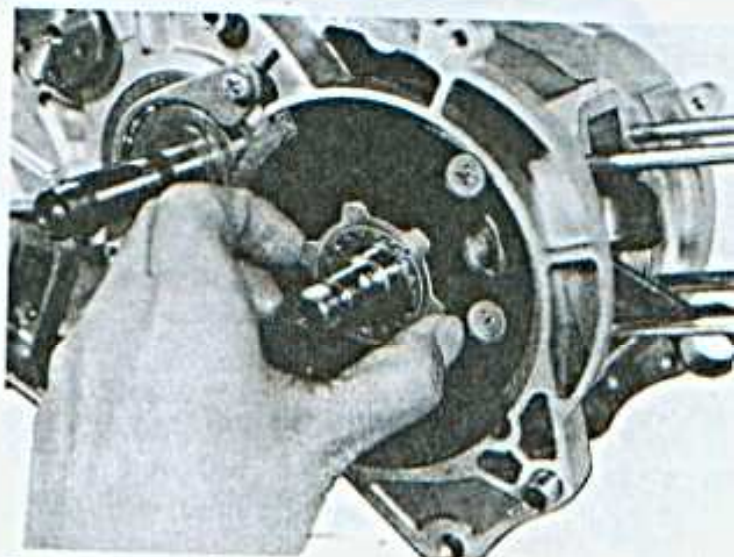


Fig. 2-40

Pick out the key.

Remove the inner valve seat.

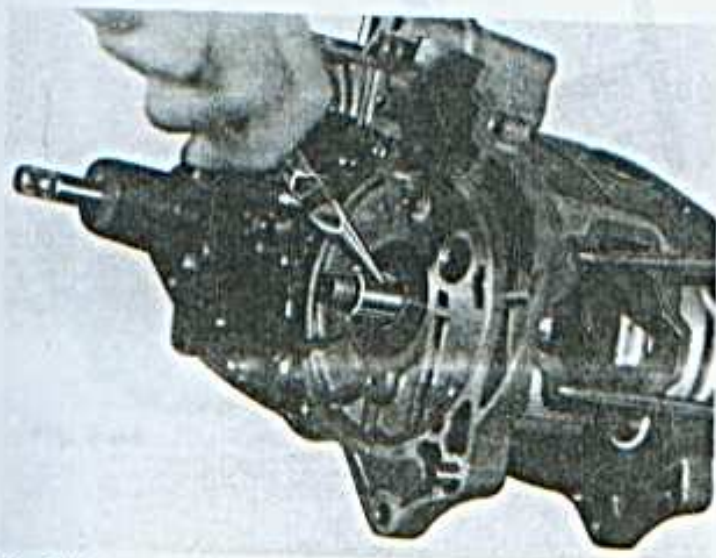


Fig. 2-38

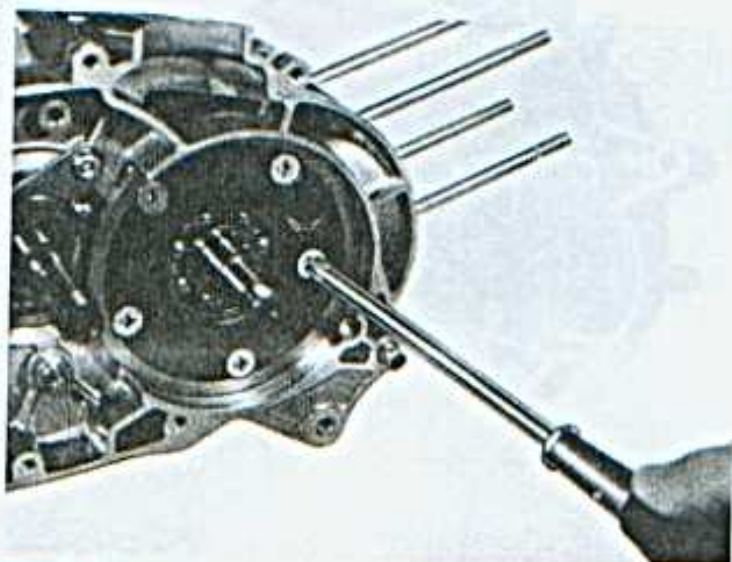


Fig. 2-41

Remove the counter shaft bearing retainer.

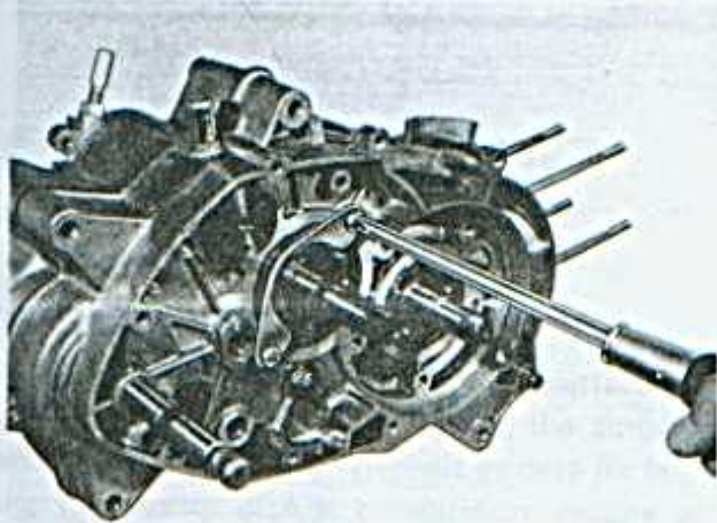


Fig. 2-42

Pick out the valve guide pin.

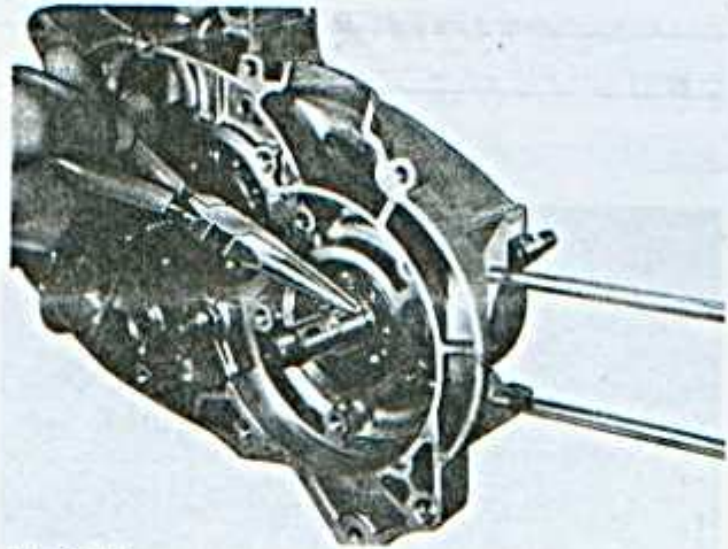


Fig. 2-45

Loosen crankcase fitting screws.

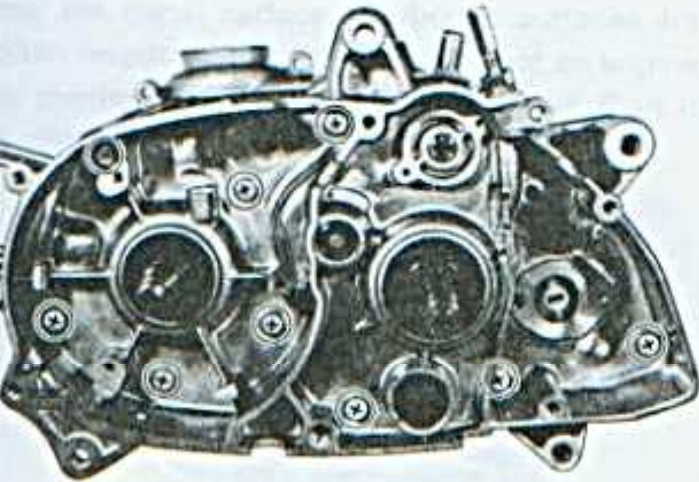


Fig. 2-43

Remove the crankshaft.

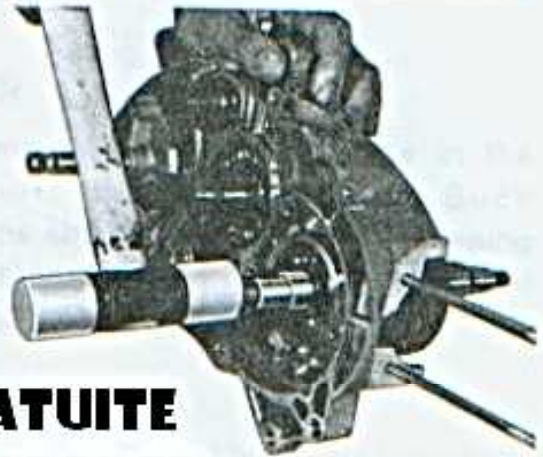


Fig. 2-46

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Using special tool (A) (09910-80113) as shown, separate the two halves.

Special tool (09910-80113)

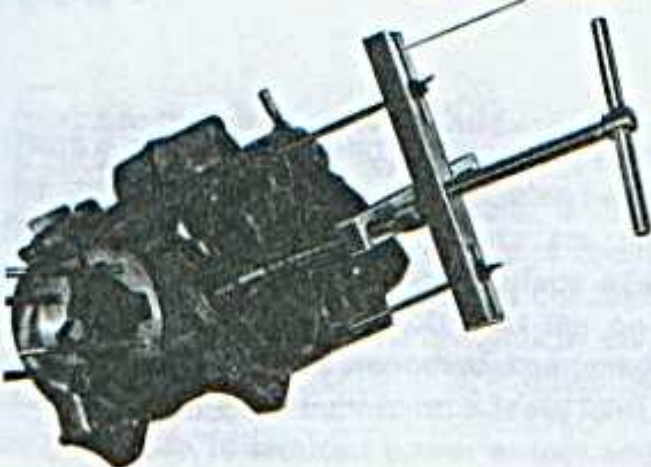


Fig. 2-44

Pull out the transmission gears as a unit together with the gear shift set.

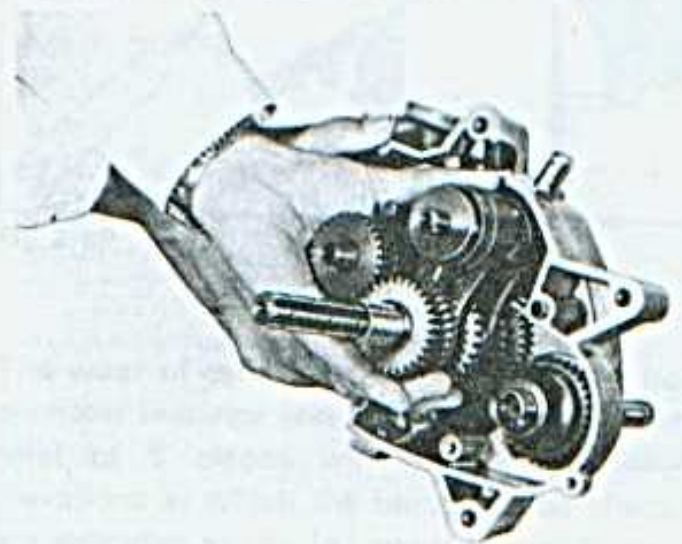


Fig. 2-47

ENGINE COMPONENT INSPECTION AND SERVICING

CYLINDER HEAD

Observe the combustion-chamber surface of the removed cylinder head, noting the amount and color of the carbon deposit as data for telling the quality of fuel combustion; results of this examination about fuel combustion is one of the references necessary for carburetor adjustment.

Remove the carbon, taking care not to nick or mar the metal surface. Carboned surfaces are often responsible for the tendency of an engine to overheat or to produce less power than it ought to be capable of giving.

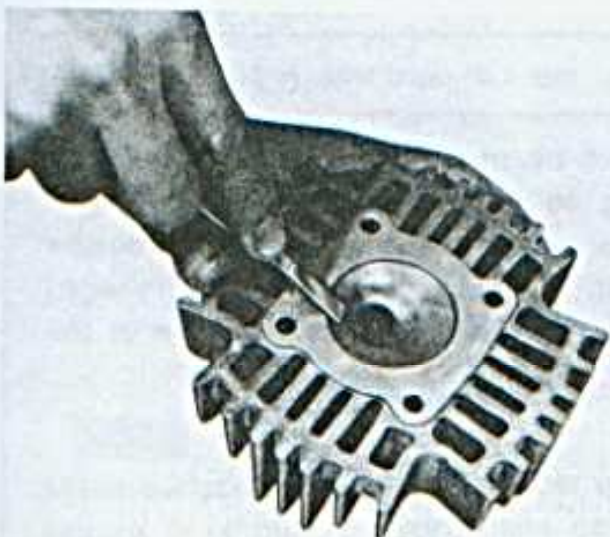


Fig. 2-48

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Using a surface plate and red lead paste, check the gasketed surface of the cylinder head for flatness. If high and low spots are noted, remove them by rubbing the surface against emery paper (of about #400) laid flat on the surface which must be smooth and perfectly flat in order to secure a tight joint; a leaky joint can be the cause of reduced power output and increased fuel consumption.

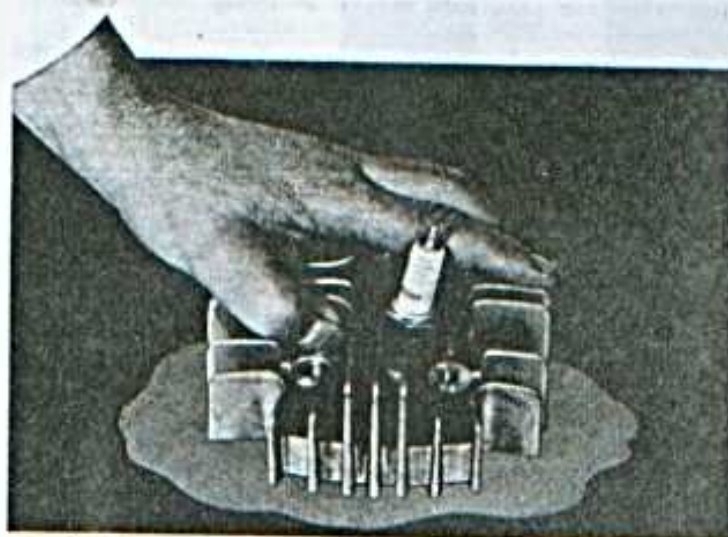


Fig. 2-49

CYLINDER

Carbon is more likely to accumulate in the exhaust port bore as shown. Such accumulations should be removed by scraping with the flat tip of a rod: a plain screwdriver may be used for this purpose.

CAUTION

When de-carboning the exhaust port as shown, be careful not to nick the cylinder wall.

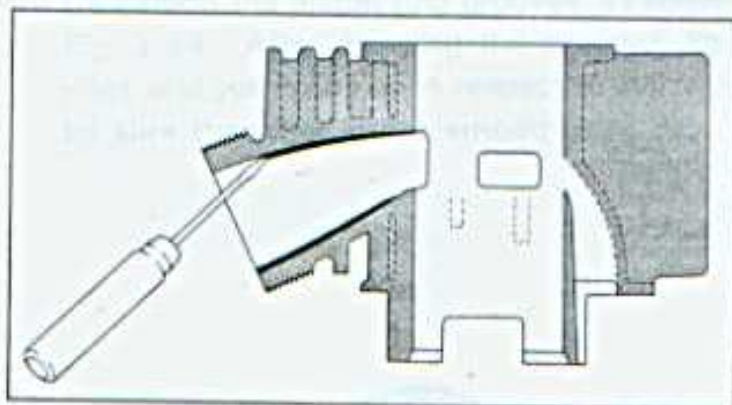


Fig. 2-50

The wear of cylinder wall is determined from diameter readings taken, as shown below, at a total of 6 places with a cylinder gauge. Elevations at which the bore is to be checked are indicated as (A), (B) and (C); at each elevation take readings in two directions, (D) and (E).

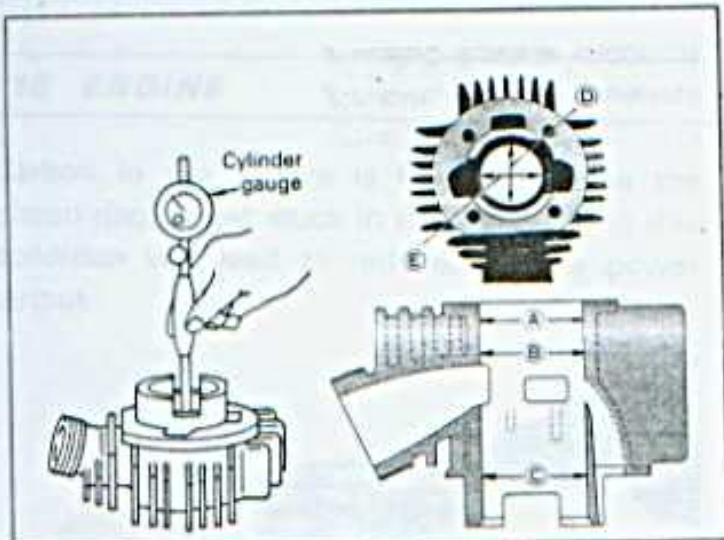


Fig. 2-51

The amount of wear is the difference between largest reading and smallest reading. If the wear thus determined exceeds the limit indicated below, rework the bore to the next oversize by using a boring machine or replace the cylinder by a new one. Oversize pistons are available in two sizes: 0.5 mm and 1.0 mm.

Wear limit on cylinder bore: 0.1 mm

After reworking the bore to an oversize, be sure to chamfer the edges of ports and smoothen the chamfered edges with sandpaper. To chamfer, use a scraper, taking care not to nick the wall surface.

NOTE

Minor surface flaws on the cylinder wall due to seizure or similar malconditions can be corrected by grinding the flaws off with fine-grain sandpaper. If the flaws are deep grooves or otherwise persist, the cylinder must be reworked with a boring machine to the next oversize.

Cylinder-to-piston clearance is the difference between piston diameter and bore diameter, read the elevation indicated in Fig. 2-52.

If the bore has to be reworked, then the amount of stock to be removed must be calculated in advance in reference to the oversize piston. Be sure that, after finishing the bore by honing, the oversize piston will provide an amount of

clearance coming within the specified range (see the specification below).

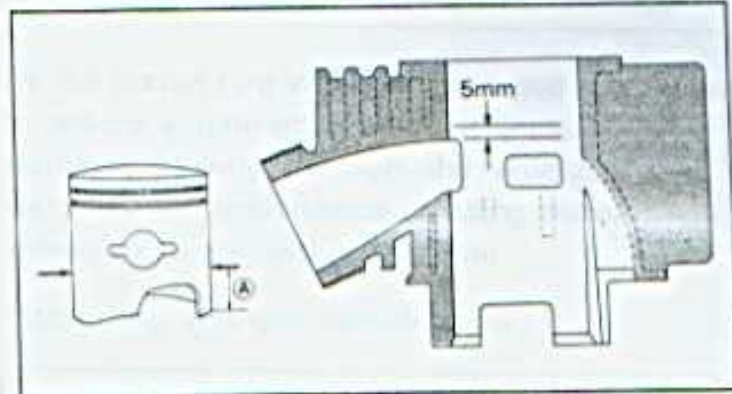


Fig. 2-52

Referring to Fig. 2-52, be sure to take the measured diameter at right angles to piston pin. The value of elevation (A) is prescribed to be 11 mm.

The elevation at which the bore diameter is to be read is about 5 mm above the exhaust port, Fig. 2-52.

Cylinder-to-piston clearance specification	0.045 ~ 0.055 mm
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PISTON

Remove the carbon, if any, on the piston crown by scraping as shown in Fig. 2-53. De-carbon the piston ring grooves, as shown in Fig. 2-54. After cleaning the grooves, fit the rings and rotate them in respective grooves to be sure that they move smoothly.

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Fig. 2-53

Carbon in the groove is liable to cause the piston ring to get stuck in the groove, and this condition will lead to reduced engine power output.

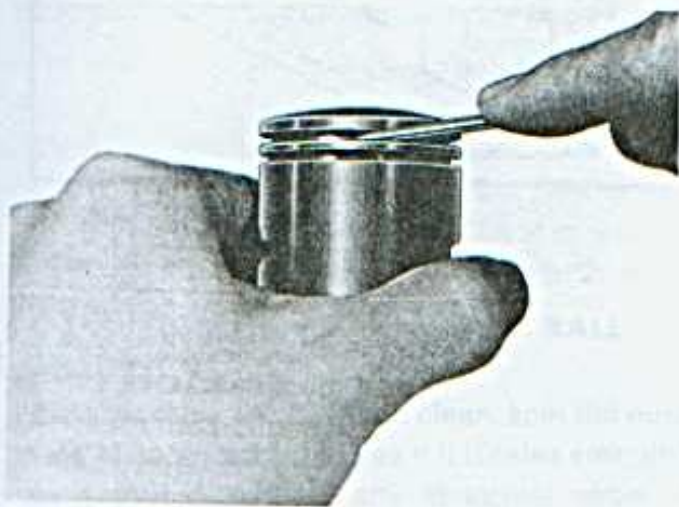


Fig. 2-54

A piston whose sliding surface is badly grooved or scuffed due to overheating must be replaced. Shallow grooves or minor scuff can be removed by grinding with emery paper of about #400.

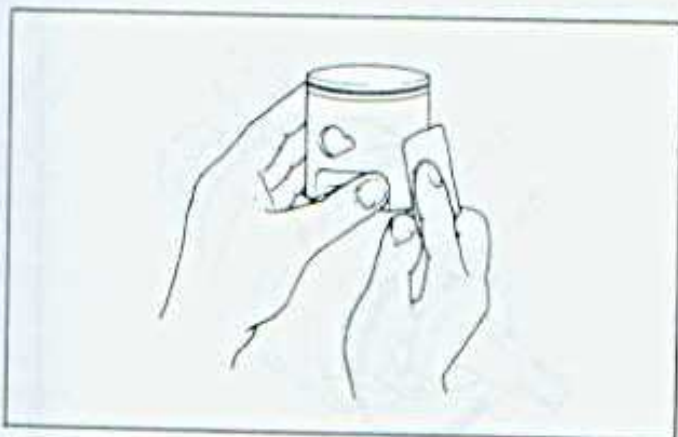


Fig. 2-55

PISTON RINGS

Check each ring for end gap, reading the gap with a thickness gauge, as shown in Fig. 2-56. If the end gap is found to exceed the limit, indicated below, replace it with a new one.

The end gap of each ring is to be measured with the ring fitted squarely into the cylinder bore and held at the least worn part near cylinder top, as shown in Fig. 2-56.

As the piston ring wears, its end gap increases to reduce engine power output because of the resultant blowby through the enlarged gap. Here lies the importance of using piston rings whose gaps are within the limit.

Piston ring end gap specification

Standard	Limit
0.15 ~ 0.35 mm (0.006 ~ 0.014 in)	0.80 mm (0.031 in)



Fig. 2-56

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CRANKSHAFT [HTTP://MOB50.FR](http://MOB50.FR)

After visually inspecting the crankshaft, check it particularly carefully for 1) shaft deflection, 2) condition of ball bearings at shaft ends, and 3) condition of connecting-rod big end bearing, as follows:

CRANKSHAFT DEFLECTION

Support crankshaft by "V" blocks, as shown in Fig. 2-57, with the dial gauge rigged to read the runout. Deflection is half the runout read on the gauge, and is specified to be within the following limit:

Limit on crankshaft deflection	0.05 mm (0.002 in)
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Excessive crankshaft deflection is often responsible for abnormal engine vibration. Such vibration shortens engine life.

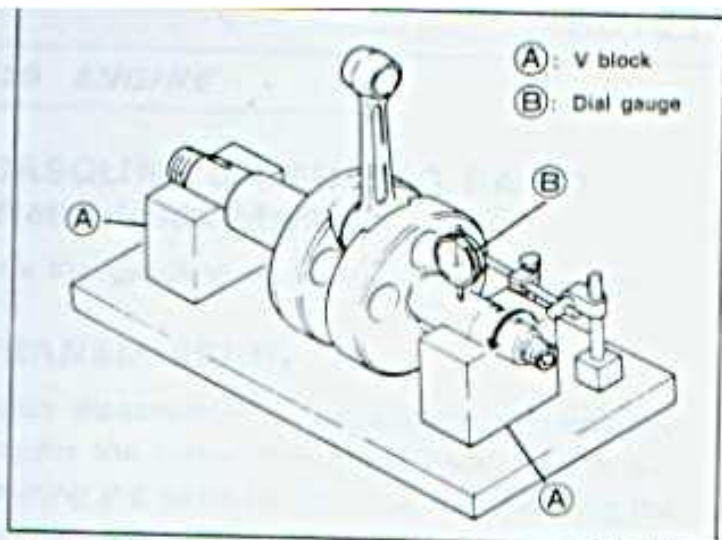


Fig. 2-57

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CONDITION OF CRANKSHAFT BALL BEARINGS

After washing the bearings clean, spin the outer race of each bearing to see if it rotates smoothly as it should, without any abnormal noise. A bearing ground to rattle, grate or give any abnormal noise or to present a color signifying burning must be replaced.

To wash the cranksahft. use kerosene. At the time of installing it, be sure to oil it with the prescribed lubricant.

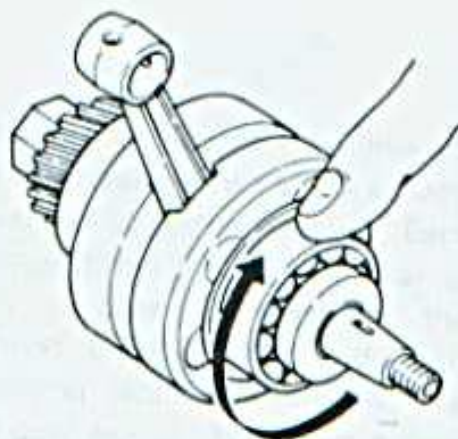


Fig. 2-58

ROTARY VALVE (English Market)

The rorary valve has a duration of 160°. Install the valve plate so that the timing mark punched on it faces outward and is aligned with the valve guide pin set in the crankshaft.

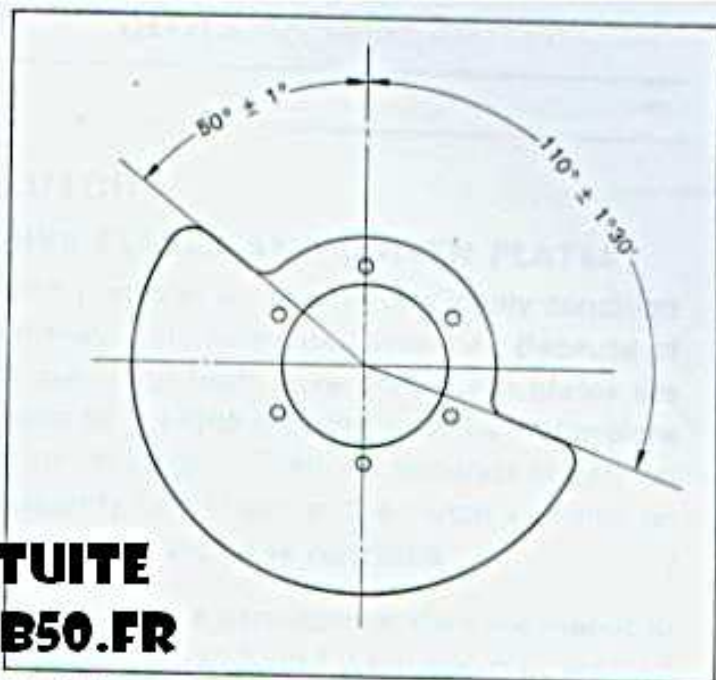


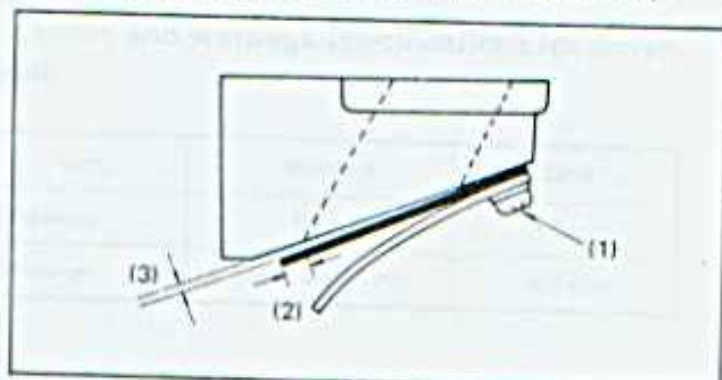
Fig. 2-59

REED VALVE (French and Netherlands Market)

Using a thickness gauge, check the clearance between reed valve and its seat. If this clearance (indicated as (3) in Fig. 2-60) is noted to exceed 0.2 mm (0.008 in), replace the whole reed valve assembly.

The reed valve assembly is treated as a unit in the supply of replacement parts: its individual parts are not supplied as such. However, it is permissible to disassemble the reed valve assembly in place for servicing; if it has to be disassembled, be sure to adhere to the following two rules in reassembly:

1. Tighten screws (1), Fig. 2-60, to a torque of anywhere between 0.07 ~ 0.09 kg-m (0.50 ~ 0.65 lb-ft), with LOCK CEMENT (99000-32040) applied to screw threads.
2. Check to be sure that the dimension (2), Fig. 2-60, is at least 1 mm (0.04 in).



GASOLINE/OIL MIXING RATIO (Netherlands Market)

Mix the gasoline and oil in the 25 : 1 ratio.

TRANSMISSION

Upon disassembling the engine, immediately inspect the transmission internals, visually examining the gears for damage and checking the meshed condition of gear teeth. Using a thickness gauge (A) (09900-20803), Fig. 2-61, check the shifting fork clearance in the groove of its gear.

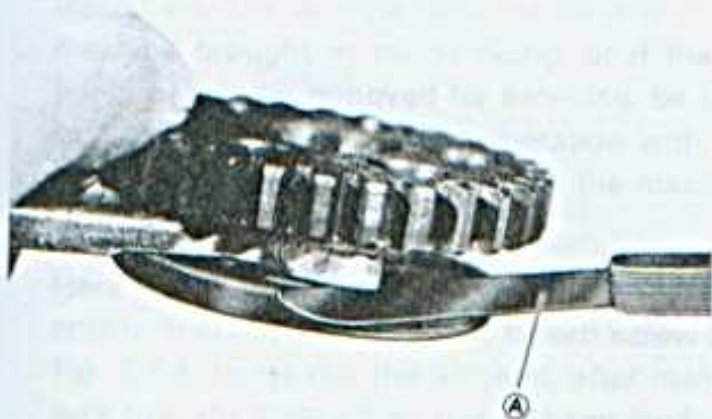


Fig. 2-61

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This clearance for each of the three shifting forks plays an important role in the smoothness and positiveness of shifting action. Each fork has its prongs fitted into the annular groove provided in its gear. In operation, there is sliding contact between fork and gear and, when a shifting action is initiated, the fork pushes the gear axially. Too much a clearance is, therefore, liable to cause the meshed gears to slip apart.

If the clearance checked is noted to exceed the limit specified, replace the fork or its gear, or both.

Shifting fork clearance specification

	Standard	Limit
Fork and gear	0.1 ~ 0.2 mm	0.3 mm

CLUTCH

DRIVE PLATES AND DRIVEN PLATES

Clutch plates in service remain in oily condition as if they were lubricated with oil. Because of this condition both drive and driven plates are subject to but little wearing action and therefore last much longer. Their life depends largely on the quality of oil used in the clutch and also on the way the clutch is operated.

These plates are expendable: they are meant to be replaced when found worn down or warped to the respective limit: use a caliper to check thickness and a thickness gauge and surface plate to check warpage, as shown in Fig. 2-62 and 63.

Drive plate thickness specification

Standard	Limit
3.0 mm	2.8 mm

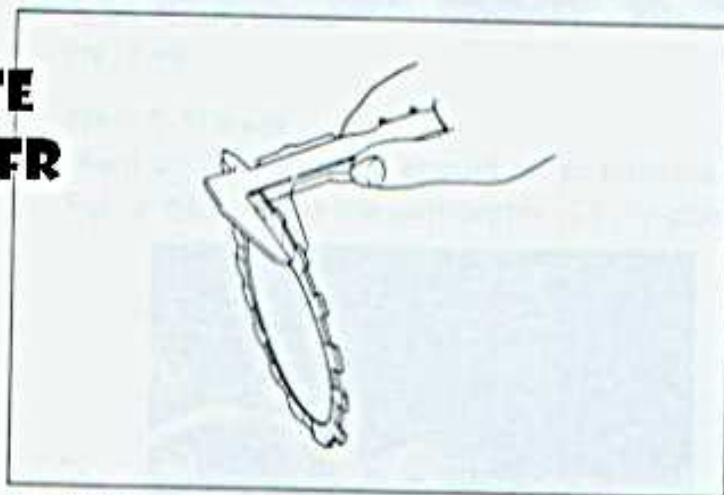


Fig. 2-62

Thickness and warpage specifications for driven plates

Item	Standard	Limit
Thickness	1.6 mm	1.5 mm
Warpage	Less than 0.1 mm	0.1 mm

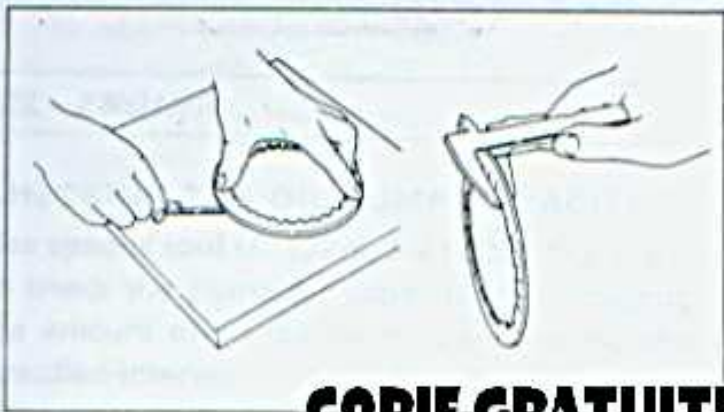


Fig. 2-63

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OIL PUMP (English and French Market)

AIR BLEEDING

Whenever evidence is noted of some air having leaked into the oil pipe from the oil tank in the machine brought in for servicing, or if the oil pump had to be removed for servicing, be sure to carry out an air bleeding operation with the oil pump in place before releasing the machine to the user.

Here's how to bleed the air out: Hold the engine in standstill condition; loosen screw (A), Fig. 2-64, to let out the air; and, after making sure that the trapped air has all been bled out, tighten the screw good and hard.

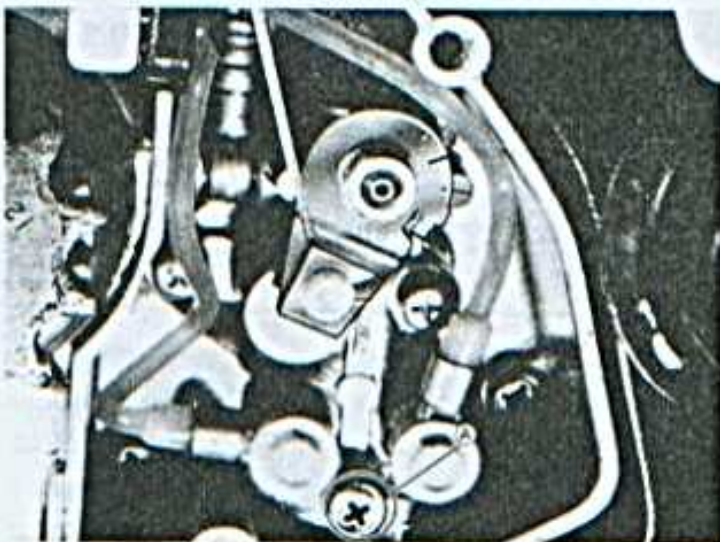


Fig. 2-64

CONTROL CABLE ADJUSTMENT

English Market A50P

This adjustment refers to the oil pump control cable, and is to be effected by means of cable adjuster (A). Three alignment marks are involved: mark (B) for mark (C), and mark (D). As the throttle grip is turned to actuate the throttle valve, thereby bringing dent mark (D) of this valve to the upper part of venturi, mark (B) should come into register with index mark (C).

This requirement is satisfied by adjusting cable adjuster (A). After setting the adjuster, be sure to secure it firmly by tightening its lock nut (F).

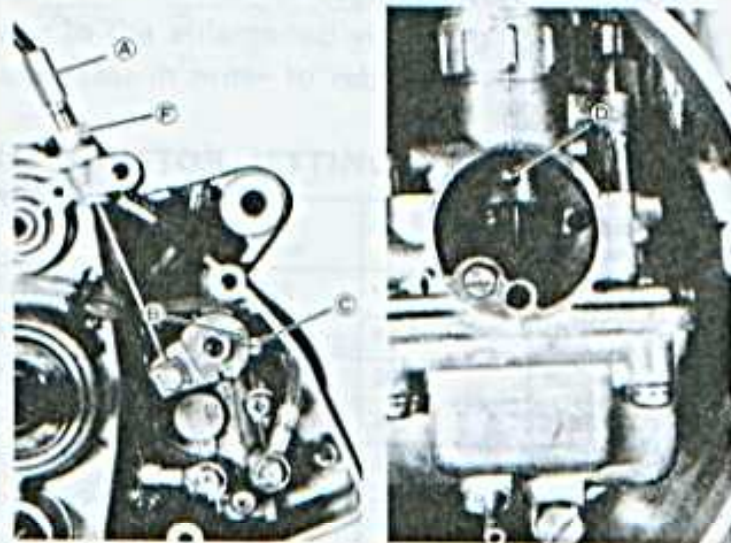


Fig. 2-65

French Market

Mark on the oil pump should be as indicated in Fig. 2-66. When the carburetor is fully closed,

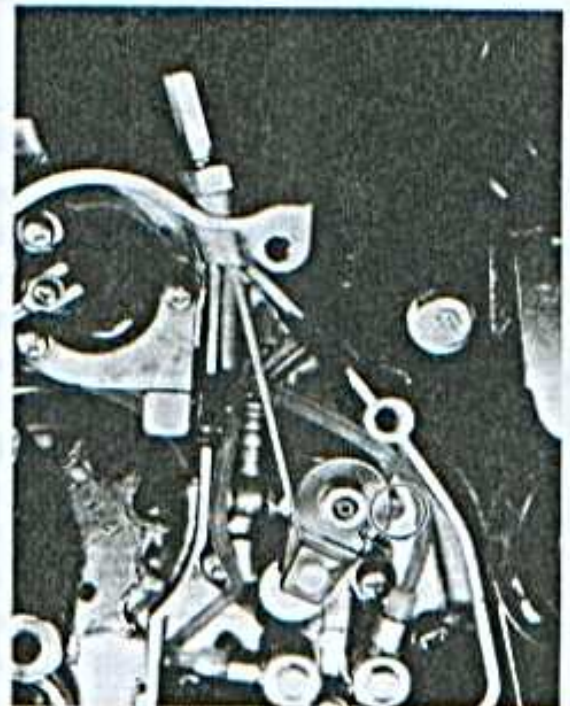


Fig. 2-66

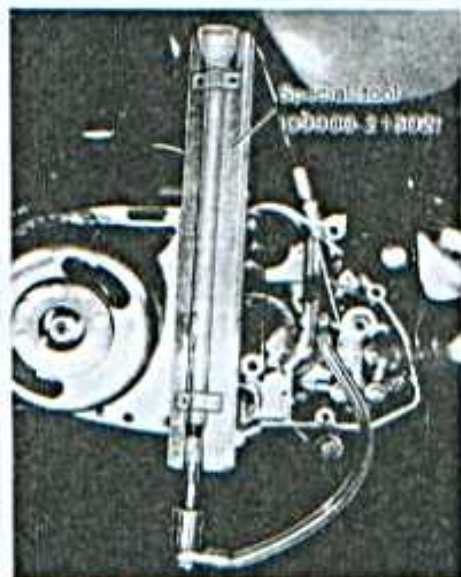
CHECKING THE OIL PUMP CAPACITY

Use special tool (A) (09900-21602), Fig. 2-67, to check the pump for capacity by measuring the amount of oil the pump draws during the specified interval. The checking procedure follows:

1. Have the tool (A) filled with Suzuki CCI oil, and connect it to the suction side of the pump.
2. Run the engine at 2,000 rpm.
3. Hold the oil control lever in full-open position, and let the pump draw the oil for two minutes. The pump is working properly if the special tool indicates anywhere between (English Market 0.35, French Market 0.40) and (English Market 0.43, French Market 0.50) cc.
4. Holding engine speed at the same 2,000 rpm, move the lever down to the middle position and let the pump draw for two minutes. For this operation, the reading taken on the device (A) should be from (English Market 0.35, French Market 0.27) to (English Market 0.43, French Market 0.35) cc. Oil pump capacity specification at 2,000 rpm per 2 minutes.

Oil pump capacity specification at 2,000 rpm

Control lever	Pumping duration	Delivery	
		English Market	French Market
Half open	Two minutes	0.35~0.43 cc	0.27~0.35 cc
Full open	Two minutes	0.35~0.43 cc	0.40~0.50 cc



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Models for Netherlands market are not equipped with CCI oil pump as lubrication oil is mixed in gasoline. Use the gasoline/oil mixture in the 25 : 1 ratio.

CARBURETOR

A single-barrel MIKUNI (English Market VM16SC, French and Netherlands Market VM10SC) carburetor is used. After disassembling the carburetor for overhaul work, be sure to refer to the enlarged view, Fig. 2-68, of the carburetor in order to rebuild it correctly.

CARBURETOR JETTING

	English Market	French Market	Netherlands Market
Type	VM16SC	VM10SC	VM10SC
Main Jet	72.5	67.5	60
Pilot Jet	25	20	20
Jet Needle	3G1-3	3F3-2	3F3-2
Needle Jet	E-2	E-4	E4
Cut-away	2.0	2.5	2.5
Pilot Air Adjusting Screw	1-1/2	1-1/2	1-1/2
Float Level	22.5±1	24±0.5	24±0.5
Identification Number	05112	22650	22671

Fig. 2-68

CARBURETOR FLOAT HEIGHT ADJUSTMENT

Balanced carburetion at each level of speed depends much on the float level setting. Checking and adjustment of this height (level) is particularly important.

Check and adjust the float height in this sequence:

The fuel level inside the float chamber should be set at the proper position. To adjust the fuel level, measure the distance between the surface of the float bowl setting in the carburetor body and the bottom of the float assembly, as shown in the illustration.

FUEL LEVEL ADJUSTMENT

Standard distance A:

English Market 22.5 mm

French and Netherlands Market 24.0 mm

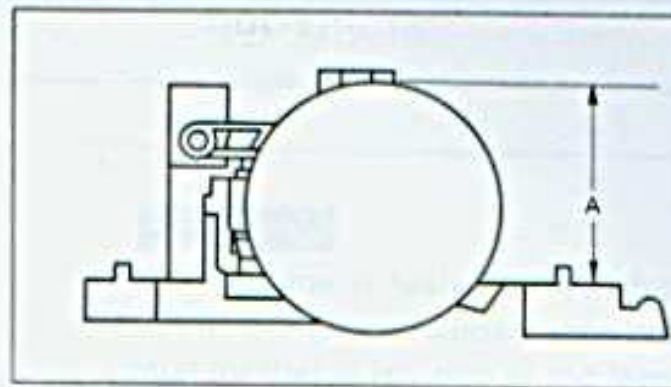
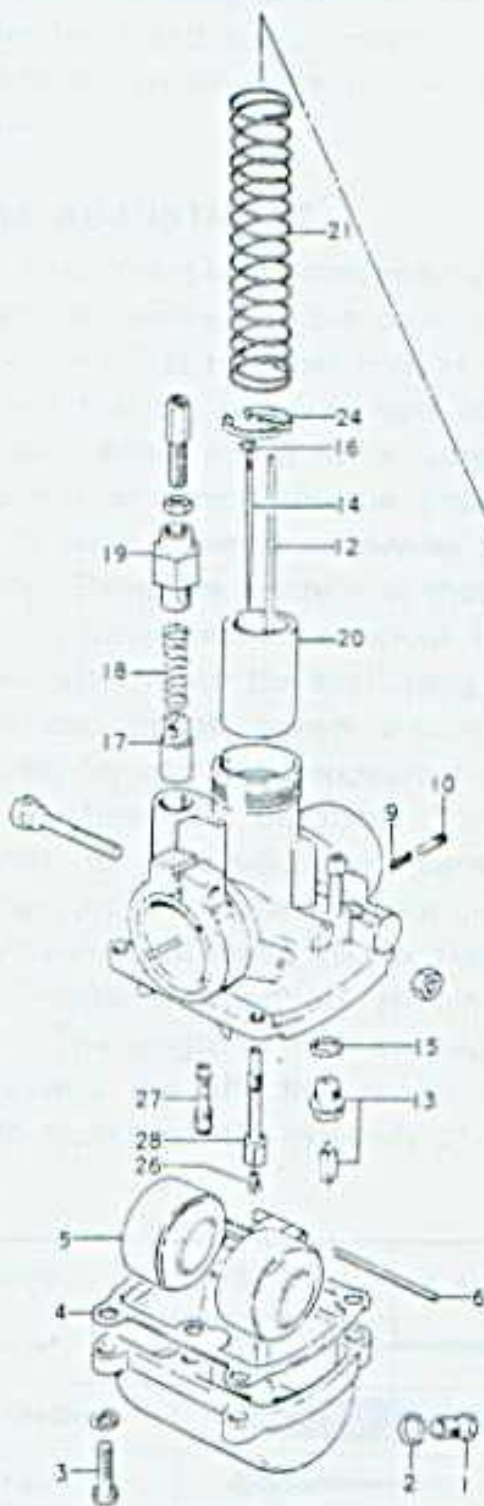


Fig. 2-69

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CARBURETOR CONSTRUCTION



1. Drain plug
2. Drain plug gasket
3. Screw
4. Float chamber gasket
5. Float
6. Float pin
7. Mixing chamber cap
8. Throttle valve stop screw
9. Air screw spring
10. Air screw
11. Throttle valve stop spring
12. Throttle valve stop rod
13. Needle valve assembly
14. Needle jet
15. Valve seat gasket
16. Needle clip
17. Starter plunger
18. Plunger spring
19. Plunger cap
20. Throttle valve
21. Throttle valve spring
22. Adjuster cable
23. Nut
24. Spring seat
25. Cap
26. Main jet
27. Pilot jet
28. Needle jet
29. Cotter pin

DIAGNOSIS ON CARBURETION

Whether the carburetor is producing a proper mixture of fuel and air can be known by making a road test (simulating the way the user operates the machine) with a standard spark plug (English Market NGK B-8HS or NIPPON DENSO W24FS. France and Netherland Market NGK BP-7HS or NIPPON DENSO W22EP) fitted to the engine. After the road test, remove the spark plug, and observe the appearance of the plug as well as the surfaces of cylinder head and piston crown. The color observed shows whether the mixture is too rich or too lean.

MIXTURE ADJUSTMENT

1. This adjustment is effected mainly by main jet and jet needle. Before doing so, check to be sure that the float level is correctly set and that the overflow pipe, inlet hose and air cleaner are in sound condition.
2. Find out at which throttle position the engine lacks power or otherwise performs poorly. Drive the machine at that throttle position for a distance of about 10 km (6 miles), after which the spark plug, cylinder head and piston crown should be inspected for color and appearance. The mixture can be made "richer" or "leaner" by three adjusting means: namely, main jet, jet needle and pilot air screw. Effectiveness of these means depends on the throttle position, as shown in this chart. The length of each shaded pattern represents the effective range, and the width represents the intensity of carburetion.

Throttle	1/4	1/2	3/4	Full
Main jet			[Shaded bar from 3/4 to Full]	
Jet needle	[Shaded bar from 1/4 to Full]			
Pilot air screw	[Shaded bar from 1/4 to 1/2]			

Fig. 2-71

EXAMPLE

If the machine is tested at 1/2 throttle to result in a color and appearance indicating a mixture that is too rich or too lean, make an adjustment by jet needle and pilot air screw.

3. How these three adjusting means are effective will be explained:

A. MAIN JET

When throttle grip is in the range from 3/4 to full-open, the amount of fuel for carburetion is controlled by this jet. If the mixture is too rich (indicated by a black color due to carbon), replace the main jet by one with a small number. If the color is rather brownish or whitish gray, it means that the mixture is too lean and, in such a case, a main jet with a larger number should be used instead to enrich the mixture.

Standard main jet:

English Market.....	#72.5
French Market.....	#67.5
Netherlands Market.....	#60

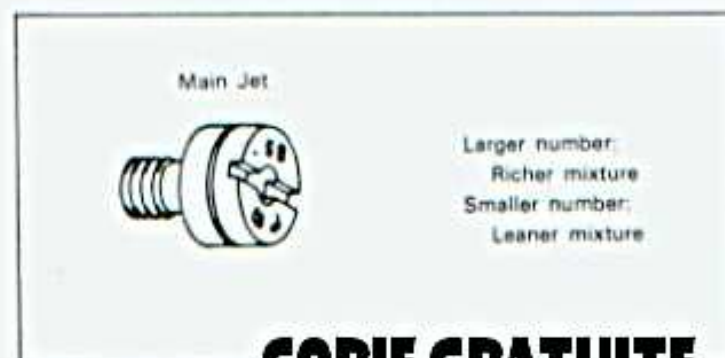


Fig. 2-72

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B. JET NEEDLE

The rate of fuel supply for carburetion is controlled by the jet needle when throttle grip is in the range from 1/4 to 3/4. To enrich the mixture, set the needle by a lower notch, and vice versa. Removing the clip allows the needle to be repositioned. There are a total of five notches for selectively setting the needle by clipping.

Standard jet needle setting: 2nd notch

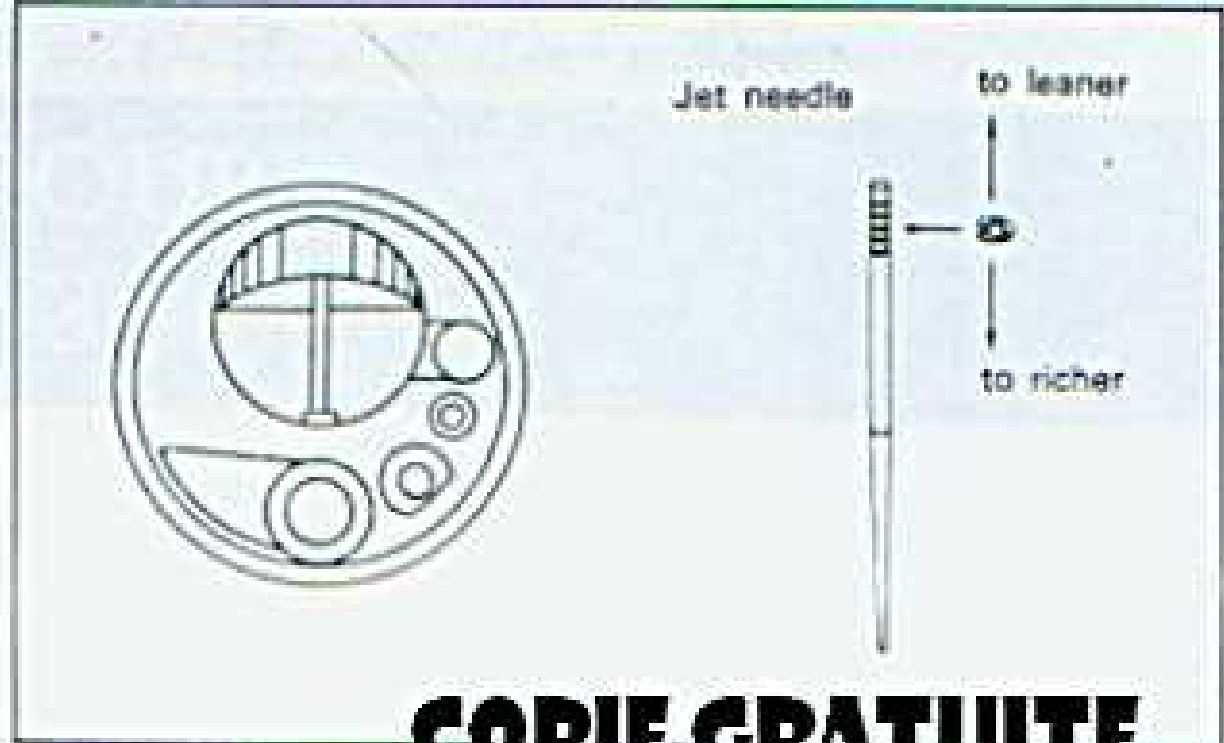


Fig. 2-73

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Adjusting by means of the jet needle affects the carburetion for the lower throttle grip range up to 1/4. For adjustment in this range, reposition the pilot air screw as shown:

Standard pilot air screw setting	Run in all the way and back it away 1-1/2 turns.
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