SUZUKI

SERVICE MANUAL

SUZUKI

T250
T350

Cable
Clutch 15001
Brake 18000
Gas

Red left Cylnder
Black Right

1975 GT250

TO Check CHARGing Coils in BOTTOM end
UNHOOK All WIRES FROM BOTTOM end EXCEPT Ign
Coil + NETURAL Switch WIRES.

Should get AC. VOLT READING BETWEEN

Y/G TO R/G	2000 RPM — 34	NO READING BETWEEN
Y/G TO G/W	4000 RPM — 67	Y/G TO GREEN ONLY SLIG. ~~MOVEMENT~~ Needle
	6000 RPM — 101	

RESTIENCE Check ohms SCALE 1
Y/G TO R/G — 1.6 ohms
Y/G to G/W — .9 ohms

RETIFIER Check

CONTINUITY TEST

Red Lead FROM TESTER ON Red WIRE on rectifier, Black lead from tester to other leads on rectifier, ~~then~~ reverse probes should get reading one way not other way

FOREWORD

This service manual explains mainly how to overhaul and maintain SUZUKI T250 and T

To give satisfaction to all customers during a long life of the motorcycle, it is most importar the mechanic to prevent even a trivial trouble of the motorcycle by periodical inspections adjustments.

Concerning the construction and the operation of the motorcycle, important matters are sel and compiled in this booklet for the purpose of getting the mechanic to take prompt steps ac troubles on the basis of the correct understanding of them.

Proper use of this booklet may solve any difficult problems which might arise in servicing m cycles.

Home of Would Champion motorcycles

February, 1969

SUZUKI MOTOR CO.,LT

Hamamatsu, Shizuoka, Japa

CONTENTS

1. TIPS ON OPERATING NEW MOTORCYCLE

1-1. Breaking-in

For the first 1600 km (1000 miles), the motorcycle must be ridden carefully until the engine is properly broken in. If moving parts of the engine are not broken in at low speeds and the engine is run at high revolutions, insufficient lubrication can result and cause serious damage to the engine. Please advise users to keep the following speed limits during the break-in period, 800 km (500 miles) :

For first 800 km (500 miles) . . . . . below 4,000 rpm
For next 800 km (500 miles) . . . . . below 5,000 rpm

In this periods keep he engine rpm below the red zone.

1-2. Fuel & Engine Oil

These engines require no gas/oil mixture as fuel unlike conventional 2-stroke engines. The engine's moving parts such as crankshaft, crankshaft bearings, conrod, piston and cylinder wall are positively lubricated by fresh oil which is separately pressure-delivered from the variable displacement oil pump. This unique forced oiling system is called "Suzuki Posi-Force Lubrication" Put gasoline only in the fuel tank and lubrication oil in the oil tank. Recommended fuel for both the motorcycles as for all Suzuki motorcycles, is a premium grade gasoline. Recommended oil for the "Posi-Force Lubrication" system is a quality grade 2-stroke oil.
Be sure to use one of these prescribed oils :

* If the temperature is below 10 °C (50 °F)

SHELL ST TWO STROKE OIL
MOBIL SUPER MOTOR OIL
SUPER SHELL MOTOR OIL
SHELL SUPER TWO STROKE OIL

* If the temperature is above 10 °C (50 °F)

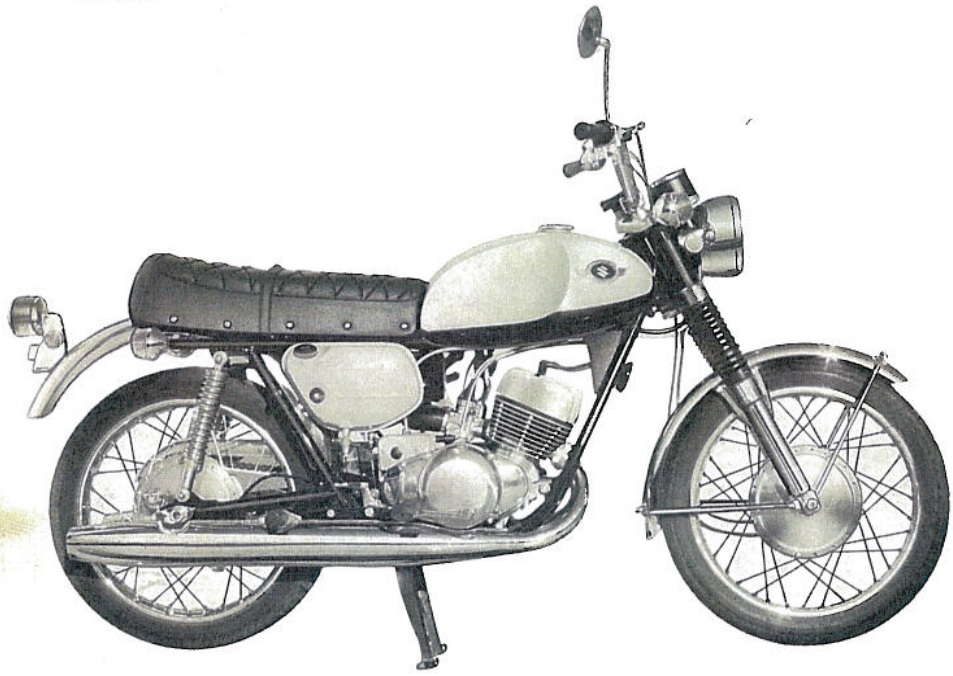
SHELL 2T TWO STROKE OIL
MOBIL SUPER MOTOR OIL
ESSO OUTBOARD OIL
TEXACO OUTBOARD OIL
MOBIL MIX TT
CALTEX 2T PLUS MOTOR OIL
SHELL SUPER TWO STROKE OIL
SUPER SHELL MOTOR OIL
MOBIL OIL OUTBOARD
STANDARD OUTBOARD OIL
SHELL OUTBOARD ENGINE OIL
ESSO 2T MOTOR OIL
UNION 76 OUTBOARD OIL

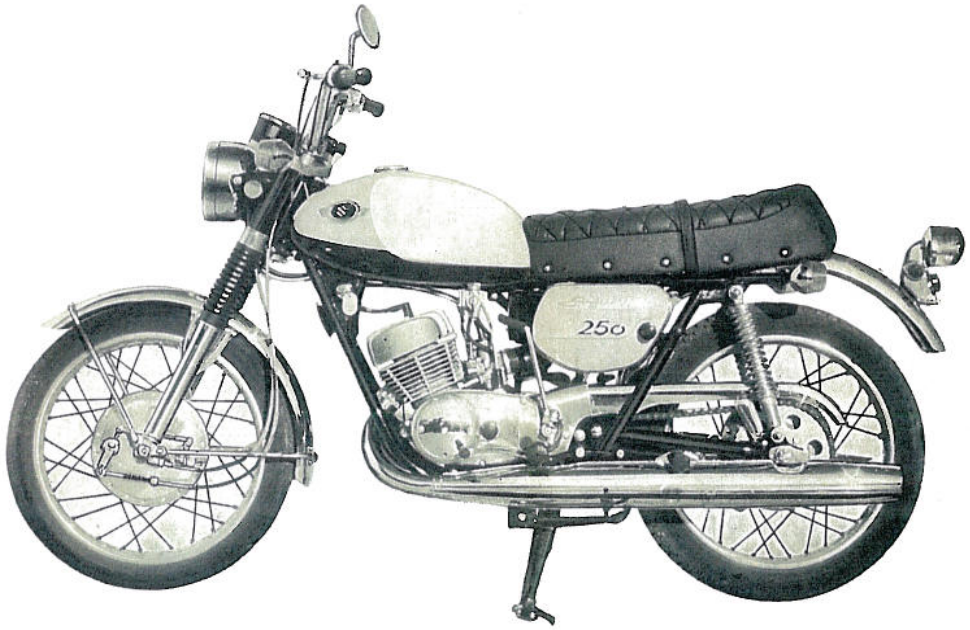
1-3. Genuine Parts

When replacing parts, always use genuine Suzuki parts, which are precision-made under severe quality controls. If imitation parts (not genuine parts) are used, good performance cannot be expected from the motorcycle and in the worst case, they can cuase a breakdown.

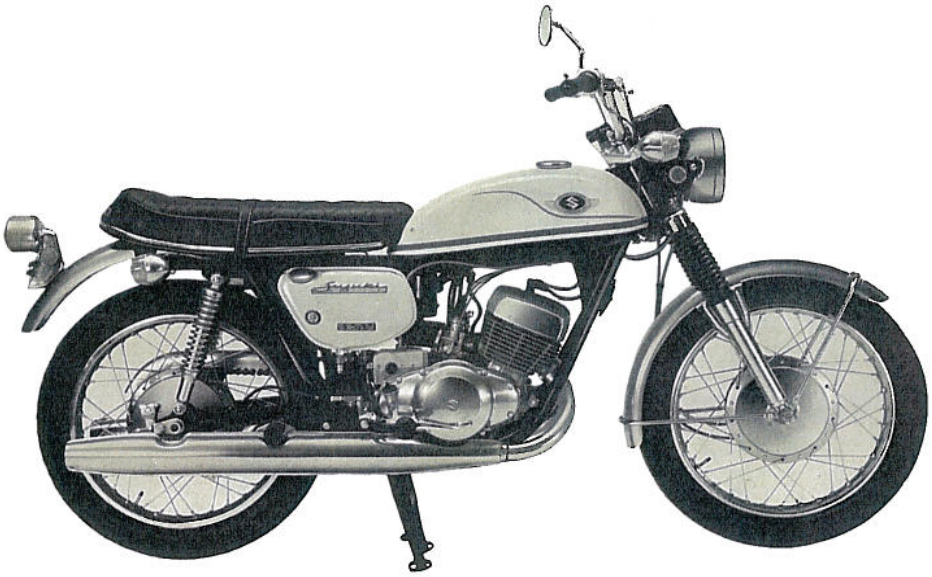
2. RIGHT AND LEFT SIDE VIEWS

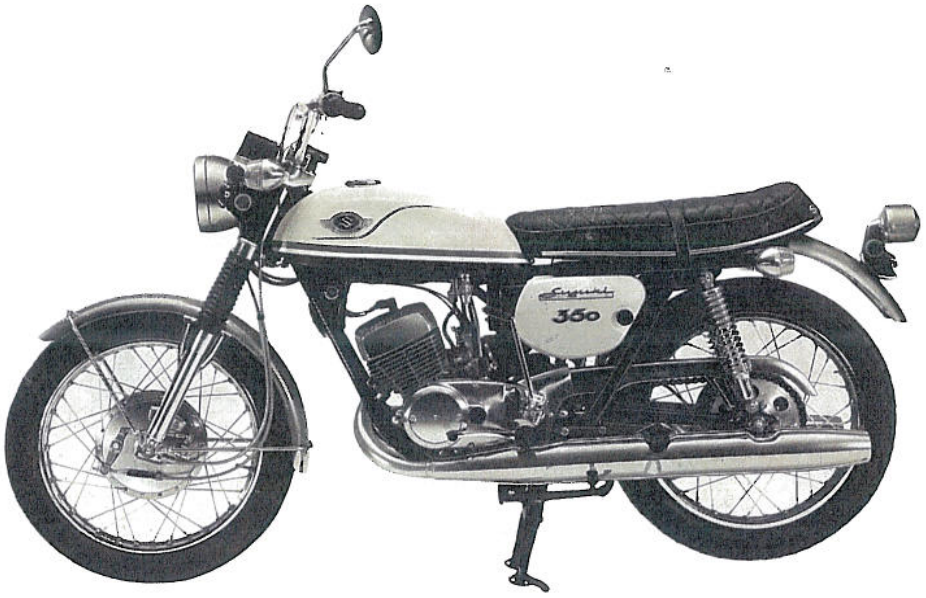
T 250





T 350

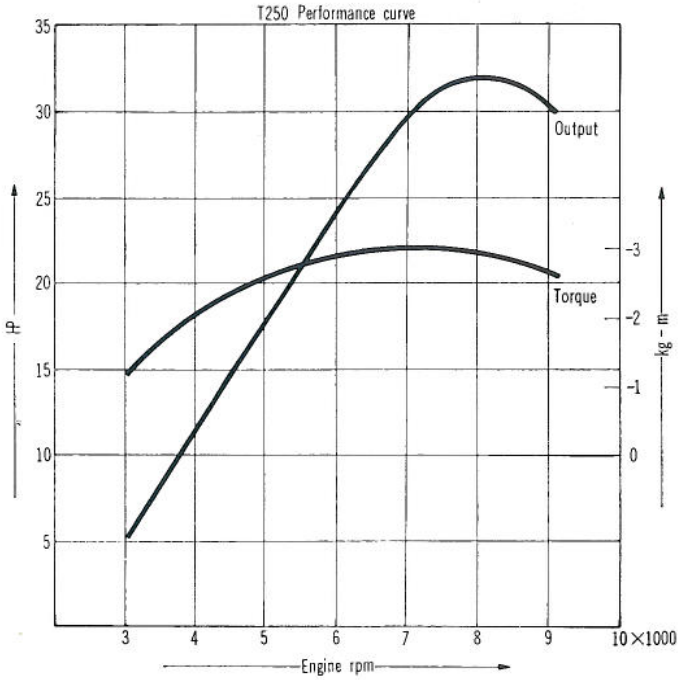




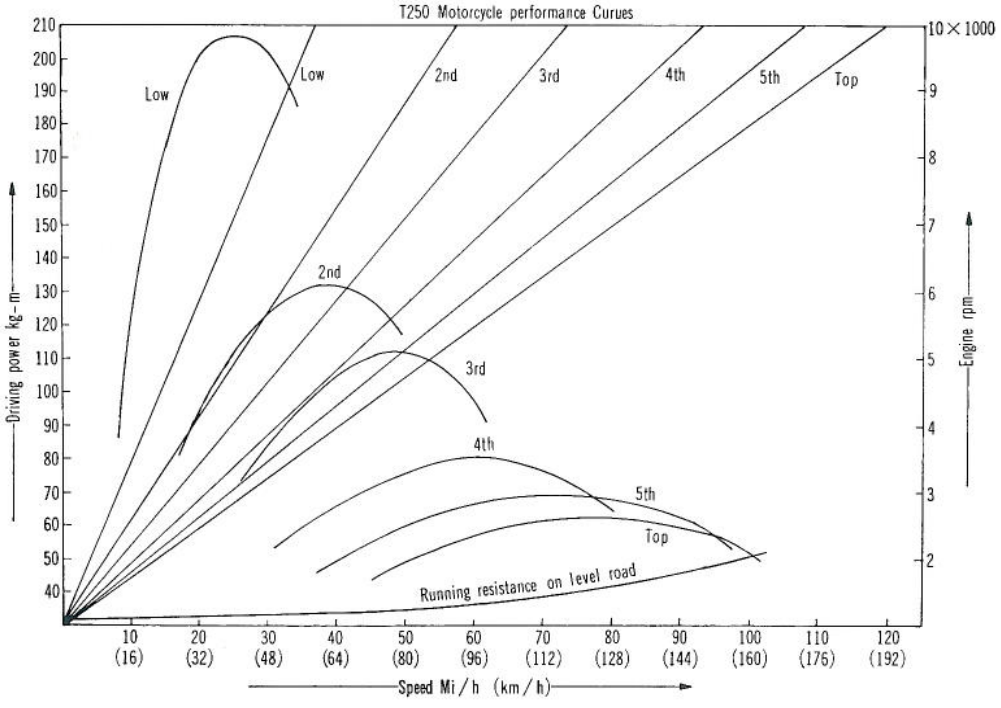
3. PERFORMANCE CURVES

T 250

Motorcycle Performance Curves

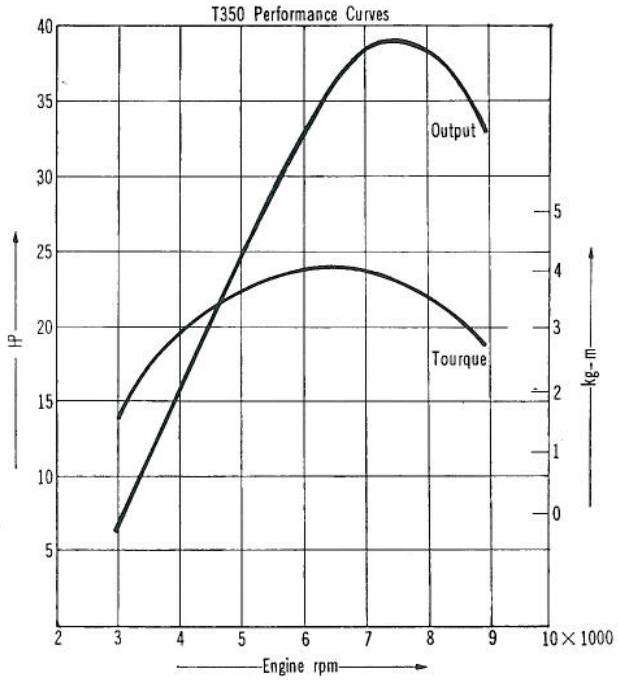


Motorcycle Performance Curves

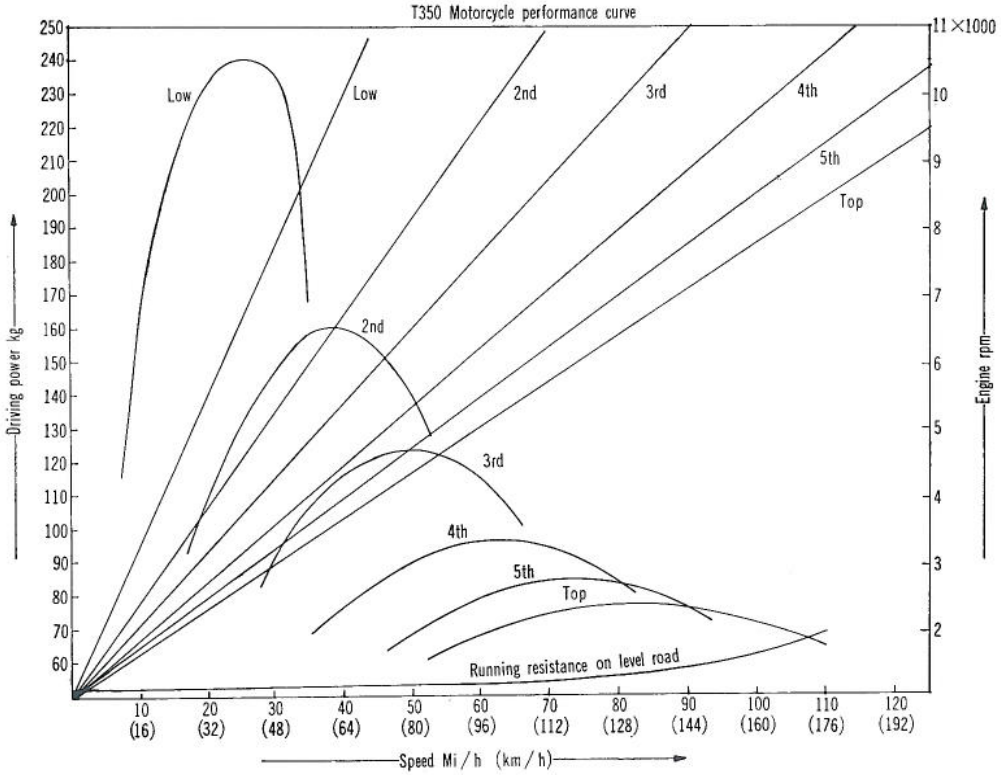


T 350

Engine Performance Curves



Engine Performance Curves



4. SPECIFICATIONS

	T250	T350
Dimensions		
Overall length	1,975 mm (77.8 in)	1,975 mm (77.8 in)
Overall width	820 mm (32.2 in)	825 mm (32.5 in)
Overall height	1,080 mm (42.5 in)	1,080 mm (42.5 in)
Wheelbase	1,290 mm (50.8 in)	1,290 mm (50.8 in)
Ground clearance	155 mm (6.1 in)	160 mm (6.3 in)
Tires, front	2.75-18, 4P.R.	3.00-18, 4P.R.
rear	3.00-18, 4P.R.	3.25-18, 4PR
Tire pressure, front	1.6 kg/sq cm (23 lb/sq in)	1.6 kg/sq cm (23 lb/sq in)
rear	Solo riding 1.8 kg/sq cm (25 lb/sq in) Dual riding 2.3 kg/sq cm (30 lb/sq in)	Solo riding 2.0 kg/sq cm (29 lb/sq in) Dual riding 2.3 kg/sq cm (30 lb/sq in)
Dry weight	140 kg (283 lb)	142 kg (285 lb)
Performance		
Maximum speed	160-168 (kph) 100-105 mph	168-176 (kph) 105-110 mph
Climbing ability	23° ($\sin\theta$ =0.39)	25° ($\sin\theta$ =0.423)
Braking distance	14 m (46 ft) at 50 kph (30 mph)	14 m (46 ft) at 50 pkh (30 mph)
Engine		
Type	2-stroke, air cooled gasoline engine	2-stroke, air cooled gasoline engine
Displacement (piston)	247 cc	315 cc
Bore ×Stroke	54 ×54 mm (2.13 ×2.13 in)	61 ×54 mm (2.40 ×2.13 in)
Corrected compression ratio	7.5 : 1	6.94 : 1
Compression pressure	9.8 kg/cm² at engine 1,000 rpm (full kick)	8.5 kg/cm² at engine 1,000 rpm (full kick)
Maximum horse power	32 HP at 8,000	39 HP at 7,500
Maximum torque	3.0 kg-m at 7,000 rpm	4.0 kg-m at 6,500 rpm
Starter	Kick	Kick
Fuel System		
Carburetor	VM24SH 2 pcs.	VM32SH 2 pcs.
Air cleaner	Resin-Processed fibrous tissue	Resin-Processed fibrous tissue
Fuel tank capacity	12 ltr (3.9/2.6 gal, US/Imp) Including 2.0 ltr(2.2/1.8 qt, US/Imp) reserve	12 ltr (3.9/2.6 gal, US/Imp) Including 2.0 ltr (2.2/1.8 qt, US/Imp) reserve
Lubrication		
Engine	"Posi-Force" : oil fed to both Crankshaft and cylinder walls from pump	"Posi-Force" : oil fed to both Crankshaft and cylinder walls from pump
Oil tank capacity	1.8 ltr (1.9/1.6 qt, US/Imp)	1.8 ltr (1.9/1.6 qt, US/Imp)
Gear box	Oil bath 1.2 ltr (1.3/1.1 qt, US/Imp)	Oil bath 1.2 (1.3/1.1 qt, US/Imp)

Ignition system	T250	T350
Spark plug	NGK B-77HC	NGK B-77HC
Ignition	Battery	Battery
Ignition timing	B.T.D.C. 24° (Piston stroke 2.88 mm)	B.T.D.C. 24° (Piston stroke 2.88 mm)
Transmission system		
Clutch	Wet multi-plate	Wet multi-plate
Gear box	6 speed constant-mesh	6 speed constant-mesh
Gear shifting	Left foot, lever-operated return change	Left foot, lever-operated return change
Gear ratios Low	2.33 (28/12)	2.33 (28/12)
2nd	1.50 (24/16)	1.50 (24/16)
3rd	1.16 (22/19)	1.16 (22/19)
4th	0.90 (19/21)	0.90 (19/21)
5th	0.78 (18/23)	0.78 (18/23)
Top	0.71 (17/24)	0.71 (17/24)
Primary reduction ratio	3.05 (61/20)	3.05 (61/20)
Final reduction ratio	2.93 (41/14)	2.71 (38/14)
Overall reduction ratio	6.34 : 1 (in top gear)	5.87 : 1 (in top gear)
Suspension		
Front	Telescopic fork with hydraulic damper	Telescopic fork with hydraulic damper
Rear	Hydraulically damped swinging arm	Hydraulically damped swinging arm
Front fork oil amount	approx. 220 cc (7.4/7.7oz, US/Imp)	approx. 220cc (7.4/7.7 oz, US/Imp.)
Steering		
Steering angle	40°(Right & Left)	40°(Right & Left)
Trail	87 m (3.43 in)	90 mm (3.51 in)
Caster	64°	64°
Turning radius	2.2 m (86.7 in)	2.2 m (86.7 in)
Damper	Friction-plate	Friction-plate
Brake		
Front	Right hand, internal expanding double cam	Right hand, internal expanding double cam
Rear	Right foot, internal expanding	Right foot, internal expanding
Electrical equipment		
Generator	Internal rotating alternator	Internal rotating alternator
Battery	12 V-5 AH	12 V-5 AH
Fuse	15 A	15 A
Head lamp	12 V 35/25 W	12 V 35/25 W
Tail/brake lamp	12 V 4/32 CP (12 V 7/23 W)	12 V 4/32 CP (12 V 7/23 W)
Turn signal lamp	12 V 32 CP (12 V 23 W)	12 V 32 CP (12 V 23 W)
Neutral indicator lamp	12 V 3 W	12 V 3 W
Turn signal indicator lamp	12 V 1.5 W	12 V 1.5 W
Parking lamp	12 V 3 W	12 V 3 W
Speedometer lamp	12 V 3 W	12 V 3 W
High beam indicator lamp	12 V 3 W	12 V 3 W

Stecifications subject to change with out notic.

5. SUZUKI POSI-FORCE LUBRICATION

5-1. Explanation of mechanism

As shown in Fig 5-1 oil which is completely separate from the gasoline is supplied to the main parts of the engine and lubricates the engine parts.
Oil is supplied directly to both right and left cylinder walls and crankshaft bearings at a determined pressure by a plunger type pump lubricating the bearings properly. At the same time the oil passes through the inside of the crankpin and lubricates the connecting rod big end needle bearings. The oil is then atomized and sprayed by centrifugal force and lubricates the connecting rod small ends and pistons. The amount of oil discharged by the plunger pump is controlled by the throttle opening and engine rpm so that the proper amount of oil is always supplied to the engine in accordance with the engine load.
The middle crankshaft bearing is lubricated by oil circulating from the transmission gear box. Oil sprayed by the transmission gears enters an oil intake located in the crankcase wall and drops to the bottom of the engine, where foreign mattery is precipitated, and clean oil is supplied to the middle crankshaft bearing at all times. Oil which has lubricated the middle bearing returns to the transmission gear box through an oil return hole. The middle bearing is lubricated by the gravity lubrication system.

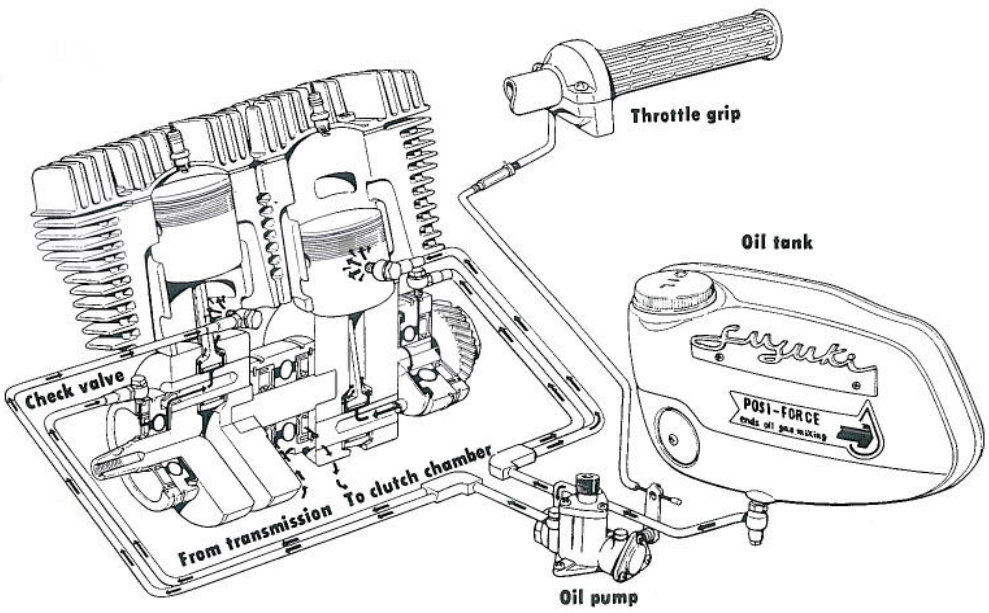


Fig. 5-1 Posi-force lubrication system

6. ENGINE

6-1 Cylinder Head and Gasket

6-1-1. Inspection

If the mating surface of the cylinder head is warped, the compression leakage is caused, resulting in the decrease of engine power.
In this case, it is better to grind the mating surface with #400 emery paper as shown in Fig. 6-1-1.

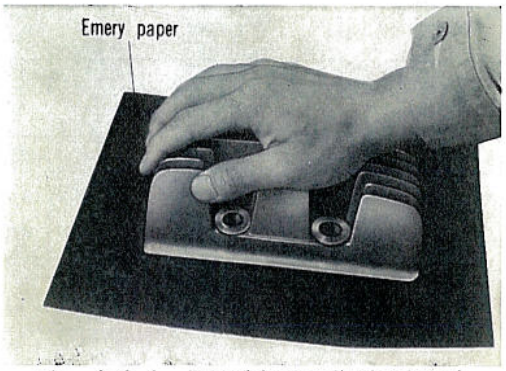


Fig. 6-1-1 Repairing cylinder head warp

6-1-2. Caution

As regards the cylinder head gasket for T250, be sure to install it with its projecting side facing upwards.

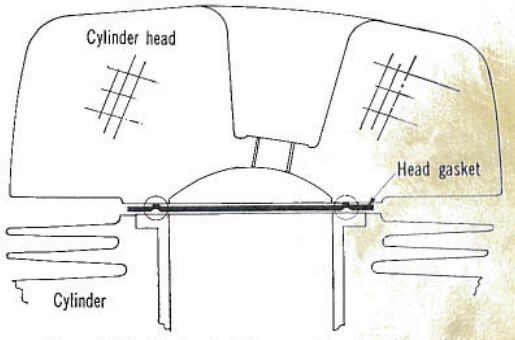


Fig. 6-1-2 Installing cylinder head gasket

6-2. Cylinder

6-2-1 Inspection

Check the cylinder for wear. To determine the amount of wear, measure the cylinder bore with a cylinder gauge.
Measure the cylinder bore from front to back and from side to side at three points. If the figure obtained by subtracting the smallest measurement from the largest one is over 0.05 mm (0.02 in) rebore the cylinder.

Fig. 6-2-1 Measuring cylinder bore

Limit	Operation
0.05 mm (0.002 in)	Rebore cylinder

When refinishing the cylinder to oversize, first add the oversize step to the standard cylinder bore size.
Check carefully the refinished bore with an accurate cylinder gauge to make sure that it is finished to the calculated size.

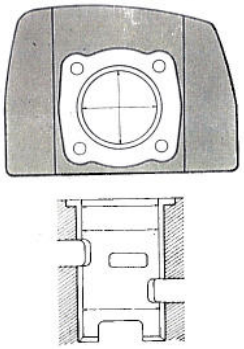


Fig. 6-2-2 Points to be measured

	T250	T350
Standard cylinder bore	54.000—54.015 mm (2.1259—2.1265 in)	61.000—61.015 mm (2.4015—2.4021 in)

If this is accurately done, an oversize piston will fit with normal clearance. Oversize pistons are provided in 0.5 mm (0.02 in), 1.0 mm (0.04 in) and 1.5 mm (0.06 in) sizes.

It must be born in mind that edges of the parts need to be rounded after reboring the cylinders. If they are not round, rapid wear of the piston rings and unpleasant cylinder noise will result. Round the top and bottom edges of the ports with a hand grinder or file according to the prescribed dimension. Finish with #400 emery paper.

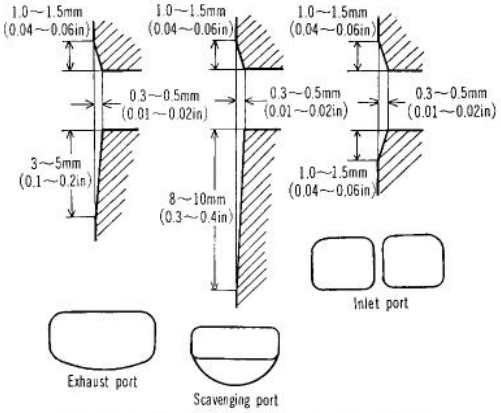


Fig. 6-2-3 Rounding port edges

6-2-2 Servicing

Carbon deposits will tend to collect around the cylinder exhaust ports, resulting in increase of resistance to the passage of exhaust gas and loss in engine power and engine overheating. Remove carbon deposits every 6,000 km (4,000 miles).

6-3. Piston

6-3-1. Installing

As the piston pin is off-center, the piston can be installed in only one direction. If it is installed backwards the scavenging ports will not align with the slots on the piston skirt, piston rings will break and engine will be badly damaged.

Install the piston with the arrow mark stamped on the piston head pointing toward the exhaust port (front side).

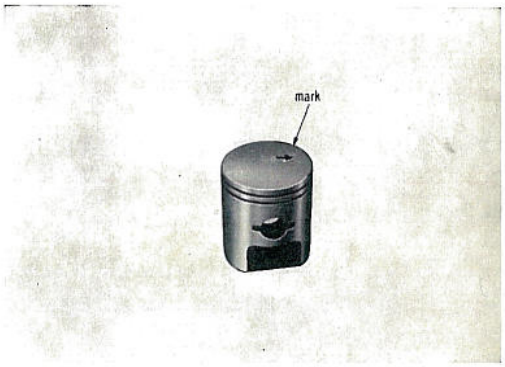


Fig. 6-3-1 Arrow mark

6-4. Piston Ring

6-4-1. Inspection

If the piston ring end gap is too large, compression leakage occurs, causing increased fuel consumption, poor acceleration and hard starting, etc.

To check the piston ring end gap, first insert the ring into the skirt of the cylinder, where wear is the smallest, and then measure the end gap with a feeler gauge.

Use a piston to insert the piston ring into the cylinder so that the ring is fitted square with the cylinder.

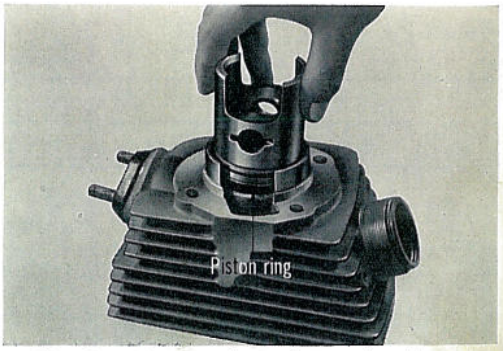


Fig. 6-4-1 Inserting piston ring into cylinder

	Models	Standard	Limit	Operation
End gap	T250 T350	0.15—0.35 mm (0.0059—0.014 in)	1.0 mm (0.040 in)	Replace

6-4-2. Installing

The keystone type piston rings with its upper surface tapered by 7° are used as the top and second ones. Install the rings so as to face it R mark upward.

Fig. 6-4-2 Measuring end gap

Fig. 6-4-3 Stamped mark

6-5. Oil pump

Do not disassemble the oil pump as it is precision-made and its pumping performance may change after it is reassembled.

6-5-1. Oil pump performance curve

The following diagrams show the relation between control lever angle and amount of oil pumped when the driving worm speed is kept a 1,000 rpm.

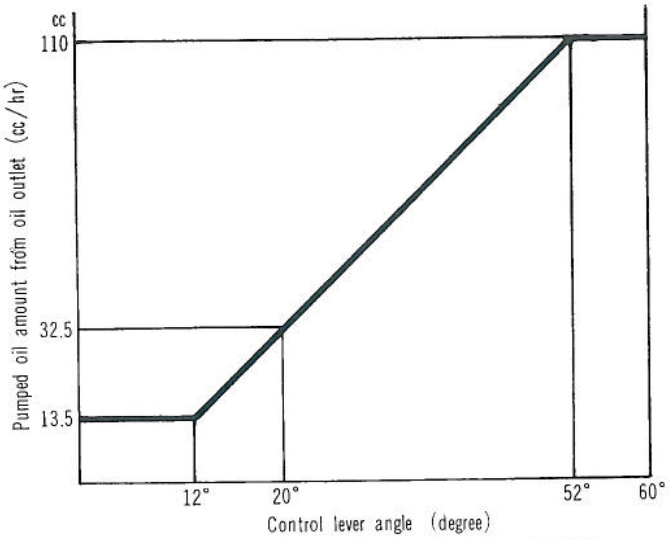


Fig. 6-5-1 Oil pump performance curve of T250

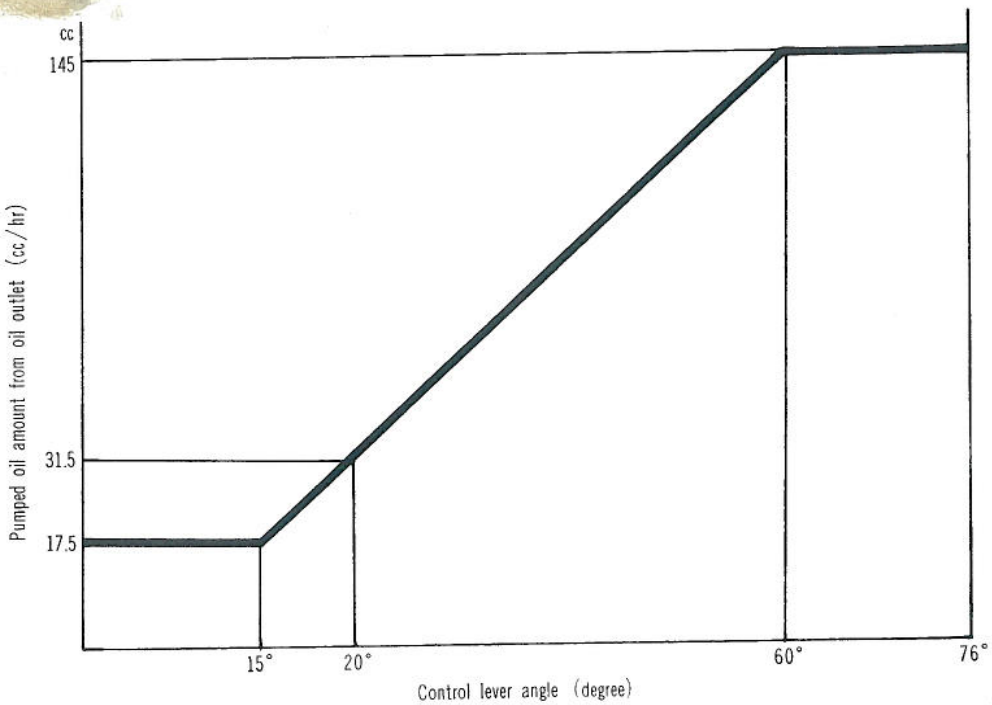


Fig. 6-5-2 Oil pump performance curve of T350

6-5-2. Adjusting oil pump control cable

1. Open the throttle completely and check to make sure there is no play in either the right or left throttle cable.
   If necessary, adjust with the throttle cable adjuster on top of each carburettor.

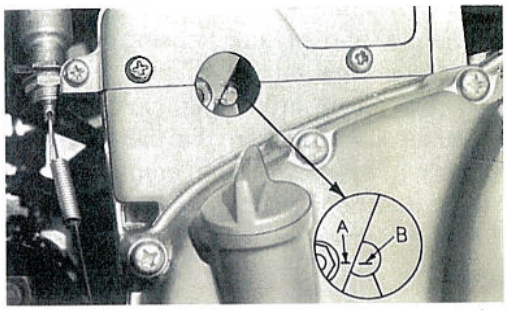


Fig. 6-5-3 Oil pump inspection marks

2. There is an inspection hole on the right side of the oil pump cover.

3. In the state of opening throttle turn the oil pump control cable adjuster so that the adjusting mark of the control lever aligns with the adjusting mark of the oil pump body.

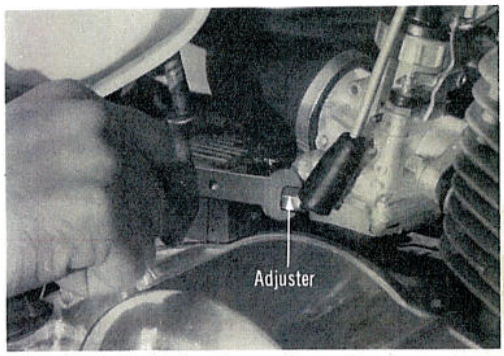


Fig. 6-5-4 Adjusting oil pump control cable

6-6. Clutch

6-6-1. Removing and Installing

For the removal and the installation of the clutch housing, use the special tool (Part Number, 09920-51510)

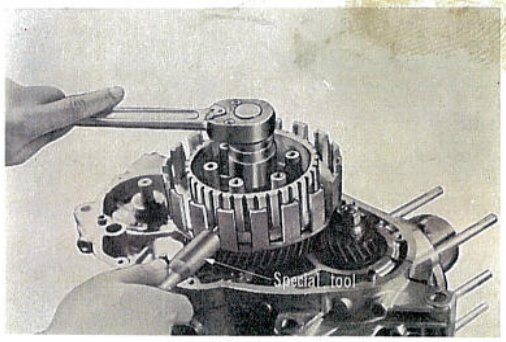


Fig. 6-6-1 Loosening clutch sleeve hubnut

6-6-2. Inspecting

1. Cork plate

When the clutch plates become worn, the clutch will slip even if the clutch adjustment is correct. Measure the thickness and warp of each cork plate with calipers and feeler gauge.

	Part Name	Standard	Limit
Thickness	Cork Plate	3.5 mm (0.138 in)	3.2 mm (0.126 in)

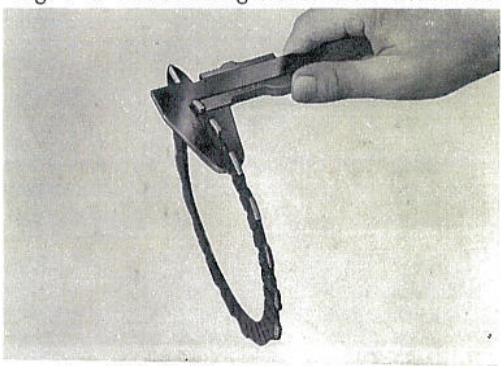


Fig. 6-6-2 Measuring cork plate thickness

2. Play in axial direction

If the play of the clutch housing in the axial direction becomes large, rattling noise is produced. To check the play after fitting the clutch housing on the counter shaft, tighten the clutch sleeve hub, and check it by moving the primary gear toward the axial direction when fitting the dial gauge feeler on the surface of the clutch housing. If the play is found large, grind one end of the spacer on a hone or #200 emery paper.

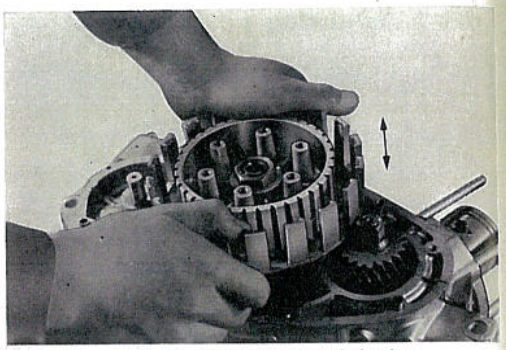


Fig. 6-6-3 Checking axial play

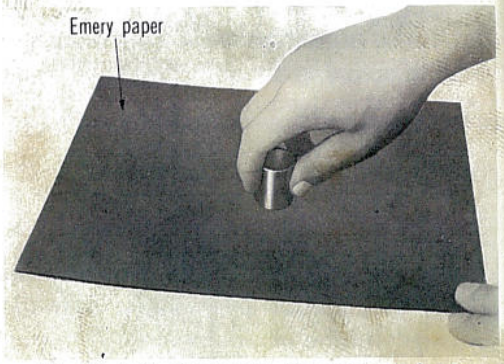


Fig. 6-6-4 Grinding clutch housing spacer

6-7. Transmission

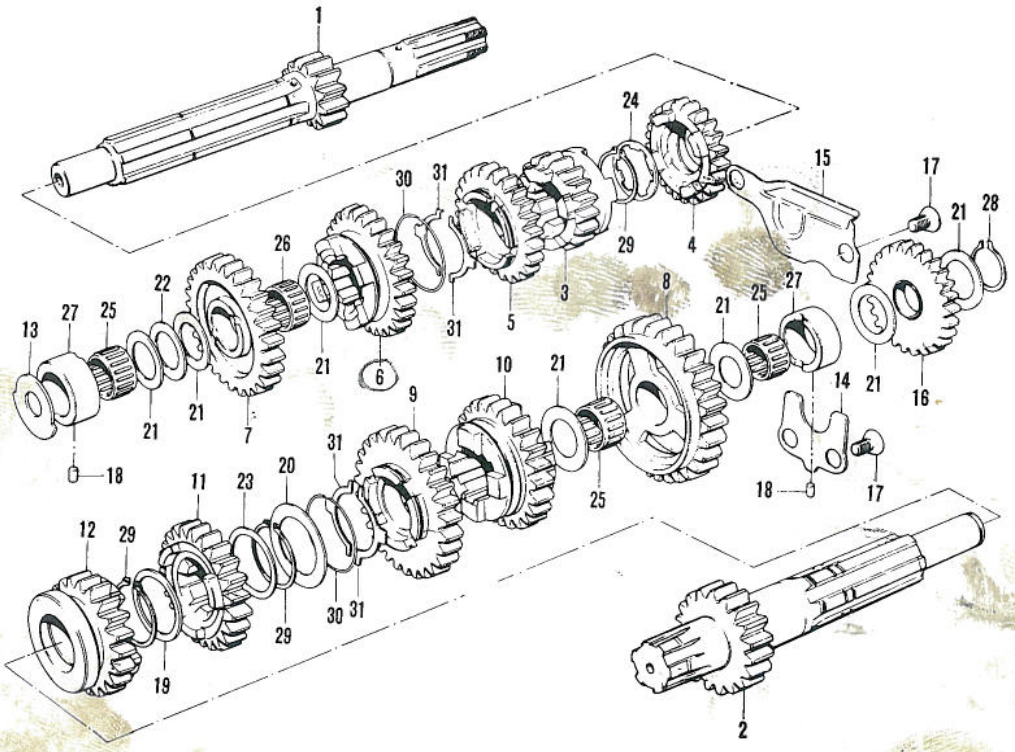


Fig. 6-7-1 Exploded view of transmission

Ref. No.	Description	Remakrs
1	Counter shaft	N.T. =12
2	Drive shaft	N.T. =17
3	Second Drive Gear	N.T. =16
4	Third Drive Gear	N.T. =19
5	Fourth Drive Gear	N.T. =21
6	Fifth Drive Gear	N.T. =23
7	Top Drive Gear	N.T. =24
8	Low Driven Gear	N.T. =28
9	Second Driven Gear	N.T. =24
10	Third Driven Gear	N.T. =22
11	Fourth Driven Gear	N.T. =19
12	Fifth Driven Gear	N.T. =18
13	Counter Shaft Bush Retainer	
14	Drive Shaft Bush Retainer	
15	Oil Reservoir Cup	
16	Kick Starter Idle Gear	N.T. =26
17	Cross Head Screw	
18	Dowel Pin	
19	Thrust Washer	
20	Thrust Washer	

Ref. No.	Description	Remakrs
21	Top Drive Gear Outer Thrust Washer (A)	I.D. =17(0.67), O.D. =29(1.14) T. =1(0.04)
	Top Drive Gear Outer Thrust Washer (B)	I.D. =17(0.67), O.D. =29(1.14) T. =1.5(0.06)
	Top Drive Gear Outer Thrust Washer (C)	I.D. =17(0.67), O.D. =29(1.14) T. =1.2(0.05)
22	Top Drive Gear Thrust Washer	I.D. =17(0.67), O.D. =29(1.14) T. =1(0.04)
23	Fourth Driven Gear Thrust Washer	I.D. =25(0.98), O.D. =35(1.38) T. =1.5(0.06)
24	Third Drive Gear Thrust Washer	O.D. =32(1.32), T. =1(0.04)
25	Transmission Shaft Needle Bearing	I.D. =17(0.67), O.D. =21(0.83) W. =12.8(0.50)
26	Top Drive Gear Bearing	I.D. =17(0.67), O.D. =21(0.83) W. =9.8(0.39)
27	Transmission Shaft Bush	I.D. =21(0.83), O.D. =30(1.18) W. =13(0.51)
28	Transmission Gear Circlip (A)	
29	Transmission Gear Circlip (B)	
30	Transmission Gear Circlip (C)	
31	Transmission Gear Knock Ring	

6-7-1. Transmission System

A constant-mesh six speed transmission is mounted on this motorcycle to enable the rider to select the correct gear according to running speed. Engine power is transmitted to the gears on the drive shaft through the clutch, countershaft and pinions on the countershaft. Power is transmitted to the rear wheel by the drive sprocket and drive chain.
The gear arrangement for each speed consists of a combination of free gears and fixed gears. The free gears and pinions are moved by the gear shifting forks. The gears and pinions are meshed and the combination of gears transmits the engine power.

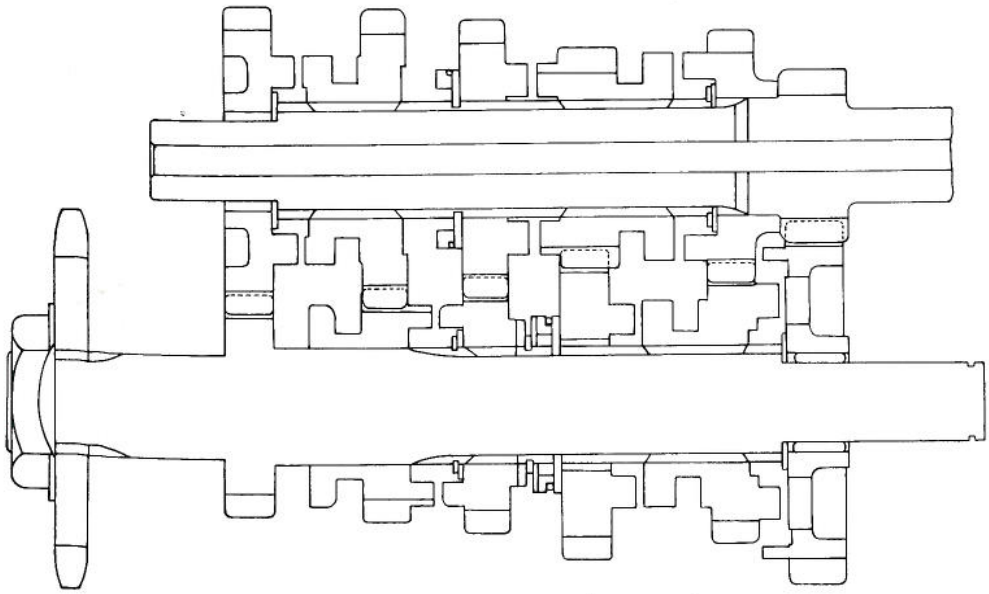


Fig. 6-7-2 Gear position for neutral

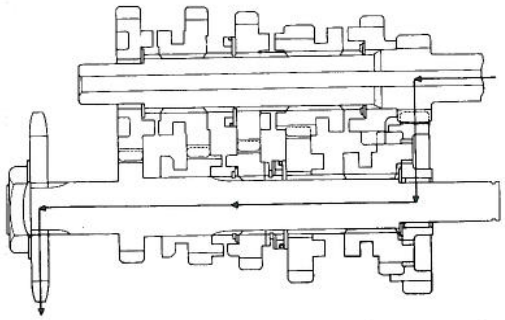


Fig. 6-7-3 Gear position for low speed

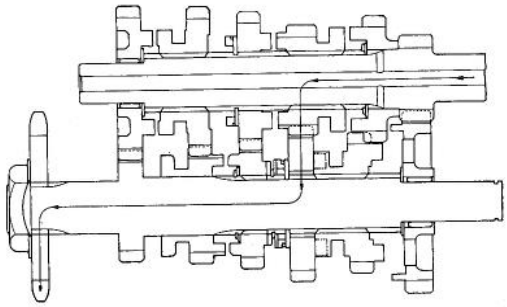


Fig. 6-7-4 Gear position for 2nd speed

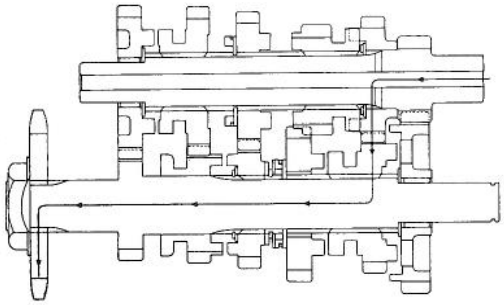


Fig. 6-7-5 Gear position for 3rd speed

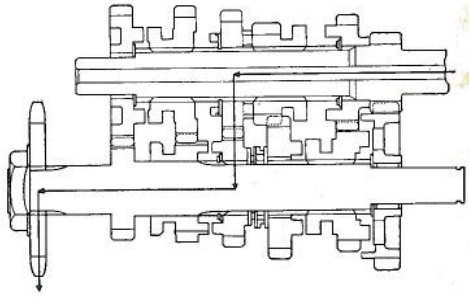


Fig. 6-7-6 Gear position for 4th speed

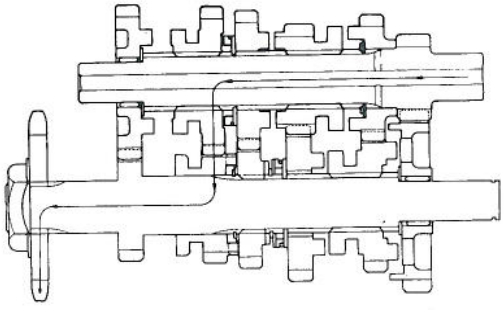


Fig. -7-7 Gear position for 5th speed

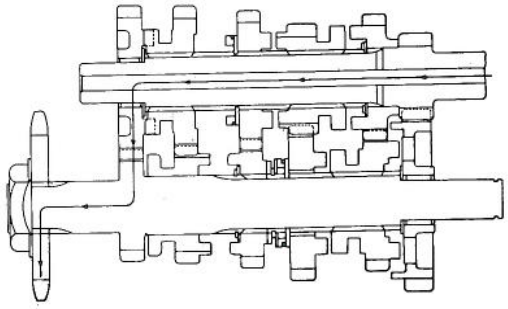


Fig. 6-7-8 Gear position for top speed

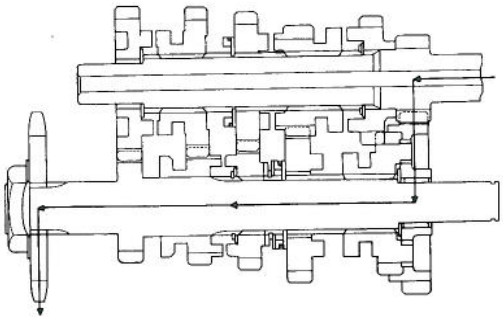


Fig. 6-7-3 Gear position for low speed

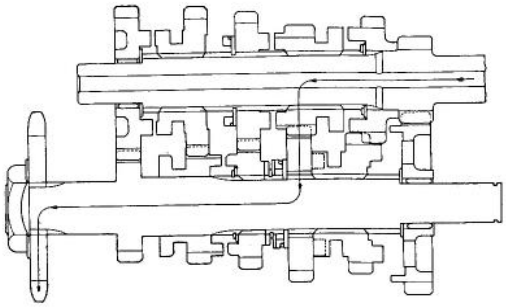


Fig. 6-7-4 Gear position for 2nd speed

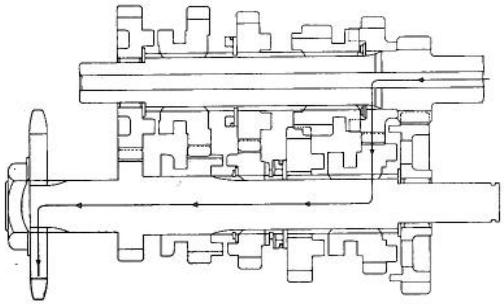


Fig. 6-7-5 Gear position for 3rd speed

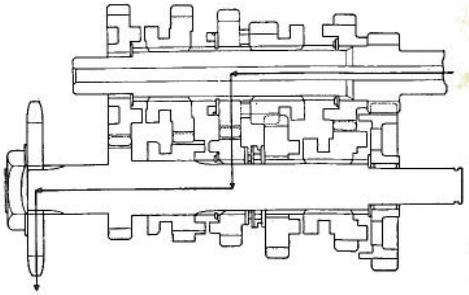


Fig. 6-7-6 Gear position for 4th speed

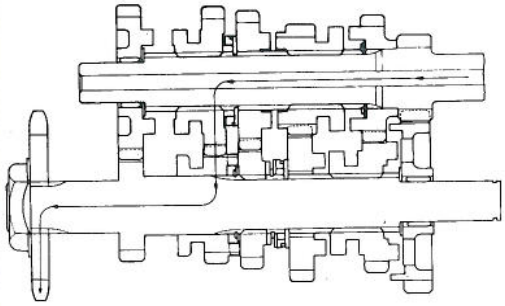


Fig. -7-7 Gear position for 5th speed

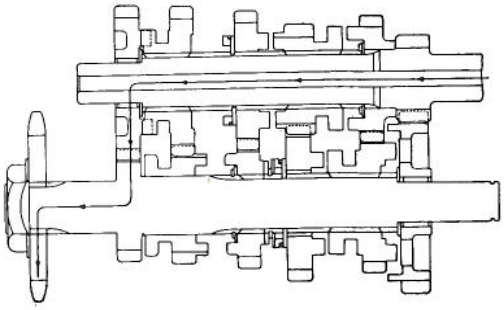


Fig. 6-7-8 Gear position for top speed

6-8. Gear Shifting

6-8-1. Positive Shift Feature.

When gears are shifted rapidly, the shifting cam drum tends to rotate beyond the desired position. To prevent the cam drum from turning too far, a positive stop shifting device is incorporated, ensuring confident gear selection. A stopper is included on the gear shifting cam drum guide as shown in Fig. 6-8-1 so that the gear shifting pawl hits the stopper and the gear shifting cam drum cannot be turned too far even if the gear shifting lever is operated roughly. Gear shifting is always positive.

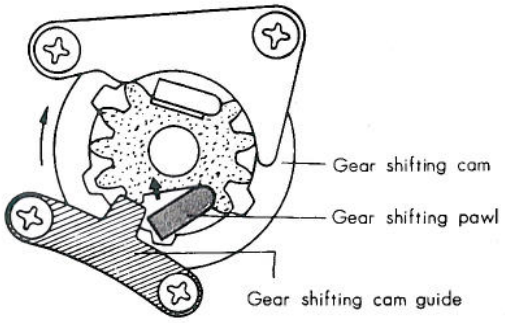


Fig. 6-8-1 Positive shift feature

6-8-2. Gear shifting cam stopper

The gear shifting cam stopper locates the cam to the position fixed in relation to the gearing position at each speed, and at the same time ensure the gear shifting operation.

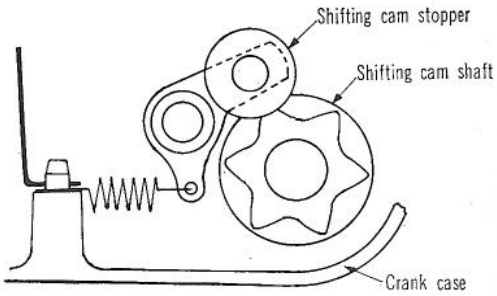


Fig. 6-8-2 Shifting cam stopper

6-8-3. Neutral Brake

The neutral brake is a device which applies the brake to the low gear at the neutral position so as to smooth the rotation of pinions and gears, causing the gearing noise to be reduced. The braking force reacts on the counter shaft through low pinion engaging with the low gear, resulting in the decrease of uneveness in its rotation. In other gearing positions than neutral, the brake doesn't work.

When the gear shifting is done from low or second speed to neutral, the cam rotates and a pin inserted in the cam thrusts out the brake shoe follower, causing the b ake shoe to rub the low gear.

The operation of the brake is shown in Fig. 6-8-3.

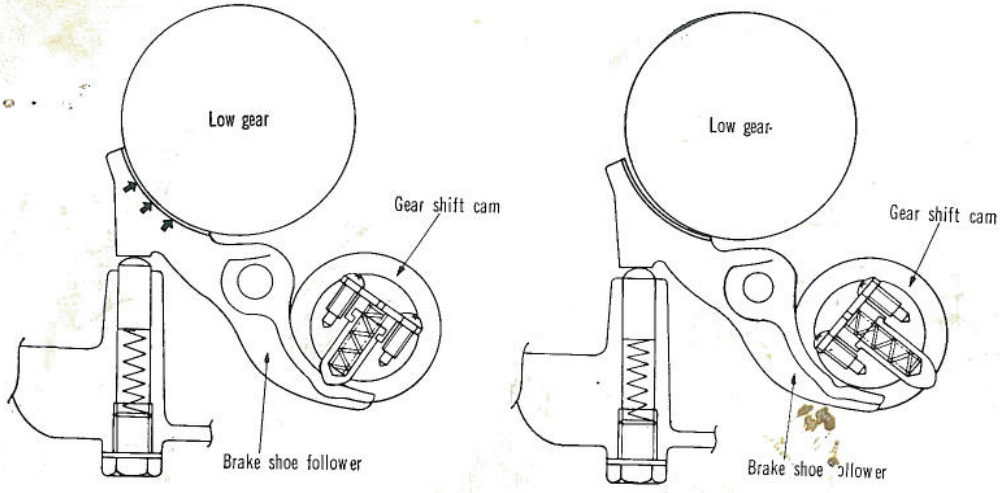


Fig. 6-8-3 Operation of neutral brake

6-8-4. Caution

1. When installing the gear shifting shaft, align the center of the sector located at the gear shifting shaft arm with the center of the five-tooth side of the gear shifting pawl holder regardless of the gear shifting cam position. Do not align it with the four-tooth side of the pawl holder. If the components are installed in the w ong way, the gears cannot be shifted.

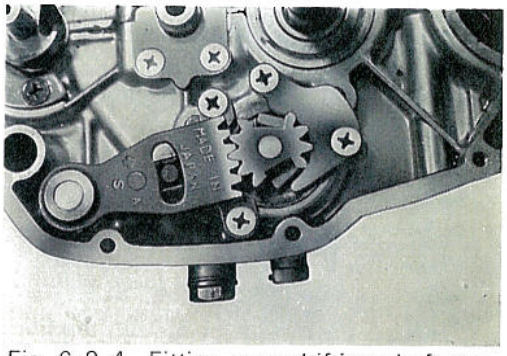


Fig. 6-8-4. Fitting gear shifting shaft arm

When fitting the gear shifting forks on the fork shaft, make sure that each fork is mounted in the correct direction as shown in Fig. 7-8-5

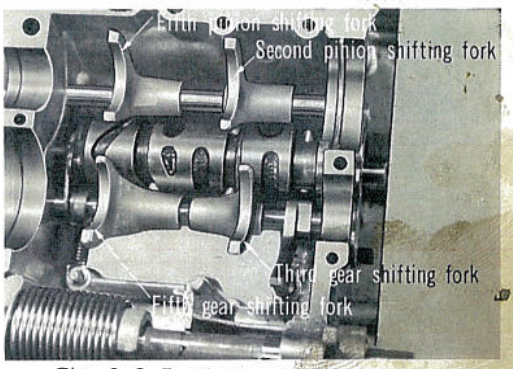


Fig. 6-8-5 Fitting shifting forks

6-9. Carburetors

6-9-1. Specifications

Description	T250	T350
Type	VM24SH	VM32SH
Main Jet	#87.5	#170
Air Jet	#0.5	
Needle Jet	N-6	Q-0
Jet Needle	4DH5-3	5DP2-3
Throttle Valve	2.5	2.5
Pilot Jet	#30	#30
Pilot Outlet	0.6	0.6
Air Screw	1½	1½
Valve Seat	2.0	2.5
Starter Jet	#50	#60
By pass	1.4	1.4

6-9-2. Float level

If the fuel level is out of adjustment, it adversely affects the carburetion resulting in unsmooth running of the vehicle. So make sure the fuel level is correct.
To measure the float level follow the steps given below:

1. Remove the float bowl and float gasket from carburettor body.
2. Hold the carburettor upside down.
3. Lower the float until the float tongue "A" just contacts the tip of float valve "B". Do not compress the float valve spring.
4. Measure the distance between the float bowl seating surface of the carburettor body and the bottom of the float assembly. (Both sides)

a. If your measurement is less than X mm, bend the float tongue torward the float valve "B".
b. If your measurement is more than X mm, bend the float tongue "A" away from the float valve "B"

Model	T250	T350
x mm	25.7 mm (1.0in)	27.5 mm(1.1in)

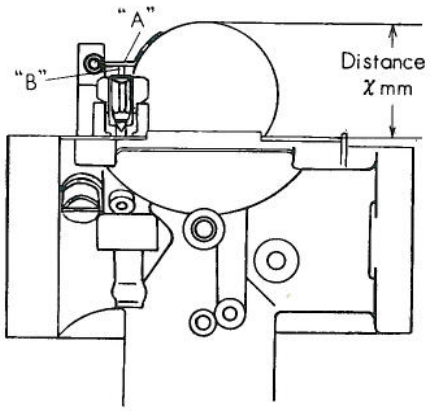


Fig. 6-9-1. Checking float level

6-9-3. Adjusting

Throttle Opening	Too Rich Mixture	Too lean Mixture
0—$\frac{1}{8}$	Turn pilot air adjusting screw out	Turn pilot air adjusting screw in
$\frac{1}{8}$—$\frac{1}{4}$	Use throttle valve with larger cutaway	Use throttle valve with smaller cutaway
$\frac{1}{4}$—$\frac{3}{4}$	Lower jet needle	Raise jet needle
$\frac{3}{4}$—full	Use smaller numbered main jet	Use larger numbered main jet

For the use in high altitudes, it is recommended to try a smaller main jet with decrescence of #5 per every 1,000 meters (3,300 ft.) of rise in the altitude, as a rule.

7. ELECTRICAL EQUIPMENT

7-1. AC Generator

7-1-1. Description

An A.C. generator provides electrical energy through the use of a rotating six-pole magnet.
The stator consists of six coils, the opposite coils being connected in series.
For day operation, one set of coils is used. At night, all three sets of coils are utilized, and work in parallel to supply current needed.
The rotor is mounted on left crankshaft axle inside the stator assembly.
Ignition system components are compactly installed on the stator.

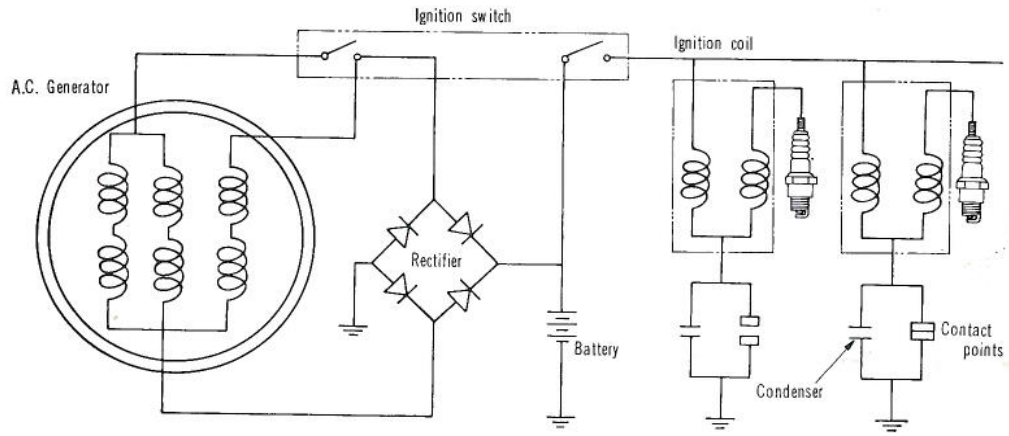


Fig. 7-1-1 A.C. generator wiring diagram

7-2-1. Specifications

Weight	2.9 Kg
Contact point gap	0.35 mm
Condenser capacity	0.22—0.28 μF
Charging ampere	as follows

° With the ignition key in day time position

Engine speed	Reading (Amperage)
Under 2,000 rpm	Pointer begins to swing toward positive side
8,000 rpm	1.5 A—2.5

° With the ignition key in night time position

Engine speed	Reading (Amperage)
Under 2,000 rpm	Pointer begins to swing toward positive side
8,000 rpm	2A—3A

BLACK/Right Cylinder

7-2. Ignition Timing

Ignition timing greatly acts on engine power and engine life. It is necessary to hold the ignition timing correct at all times.

7-2-1. Inspection

1. Turn the crankshaft in the running direction, which is counterclockwise when viewed from the A.C. generator side. If the contact breaker opens when the ignition timing marks on the rotor and stator are aligned, the ignition timing is correct. The maximum contact point gap is 0.35 mm (0.014 mm). Red and black marks are stamped on the rotor.

Black mark: for right cylinder, right contact points
Red mark: for left cylinder, left contact points

2. Checking with dial gauge and timing tester
   Fit a timing gauge into the spark plug hole. Making sure of the contact points opening timing with a timing tester, set the ignition timing when the piston is 2.88 mm (0.113 in) before Top Dead Center (24 degrees BTDC)
   The piston position can be checked by reading the timing gauge dial indicator.
   Repeat this procedure for the other cylinder.

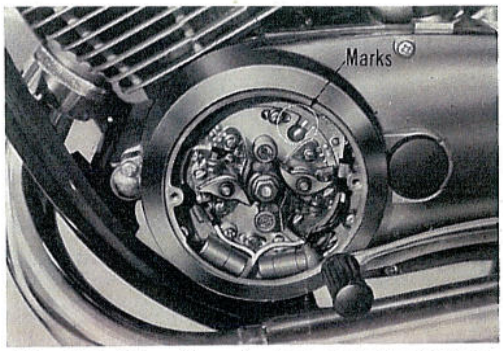


Fig. 7-2-1 Ignition timing corresponding marks.

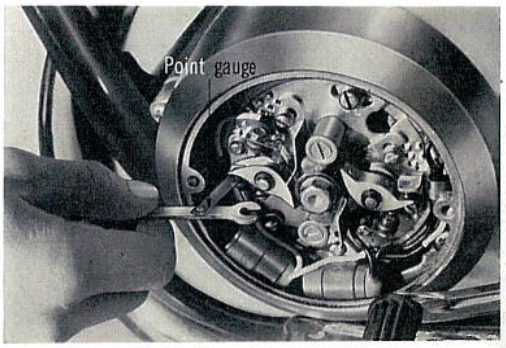


Fig. 7-2-2 Checking point gap

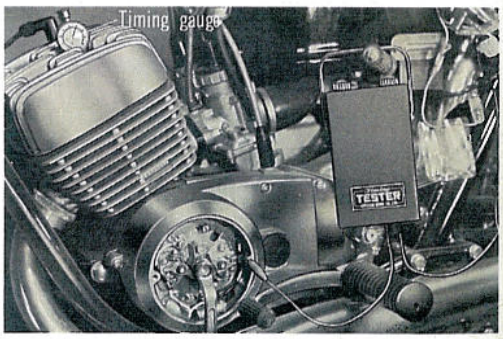


Fig. 7-2-3 Checking ignition timing

Normal ignition timing	Retard Limit		Standard	Advance Limit	
(Piston distance, mm)	2.47	2.65	2.88	3.12	3.37
Degree	22	23	24	25	26

7-3. Silicon Rectifier

7-3-1 Inspection

Connect the rectifier wires to a tester one by one. Check the conductivity in positive direction and negative direction in accordance with 1 to 4 in Fig. 7-3-2. If any of the four checks is not satisfactory, it indicates that electric current is flowing in the reverse direction from what it should. Replace the rectifier with new one as this indicates the rectifier is defective.

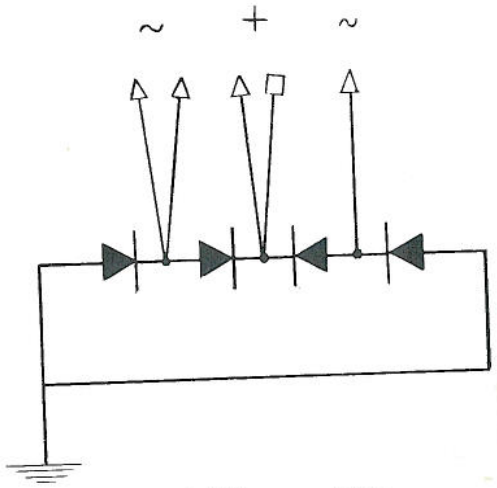


Fig. 7-3-1 Silicon rectifier.

Example:

When conductivity is checked between yellow/green and red in both positive and negative directions and if it is found conductive in both the directions, the rectifier is short-circuited.

And if it is found non-conductive in both the directions, the rectifier is open-circuited.

In both the above cases, the rectifier is defective.

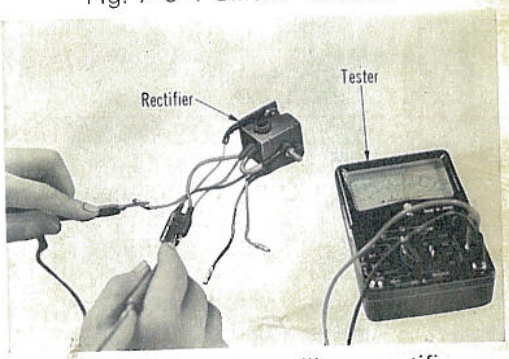


Fig. 7-3-2 Checking silicon rectifier

8. SPECIAL TOOLS

Ref. No.	Tool. No.	Tool Name
(1)	09910-10710	8 mm stud bolt installing tool
(2)	09910-20111	Piston holder
(3)	09910-60610	Exhaust pipe ring nut wrench
(4)	09910-70110	Exhaust pipe cleaner
(5)	09913-50110	Oil seal remover
(6)	09913-61110	Bearing puller
(7)	09913-70122	Bearing & oil seal installing tool
(8)	09920-51510	Clutch sleeve hub holder
(9)	09920-60310	Clutch sleeve hub holder handle
(10)	09920-70111	Snap ring opener
(11)	09921-10111	Engine sprocket holder
(12)	09930-10111	Spark plug wrench
(13)	09930-20111	Point wrench
(14)	09930-31110	Rotor remover
(15)	09931-00110	Timing gauge
(16)	09940-10121	Steering stem nut wrench
(17)	09940-20110	Steering stem lock nut wrench
(18)	09940-30110	Front fork assembling tool
(19)	09940-40112	Front fork oil level gauge
(20)	09940-60111	Spoke nipple wrench
(21)	09941-10110	Front fork outer tube nut wrench

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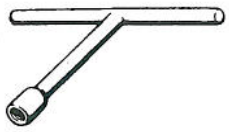

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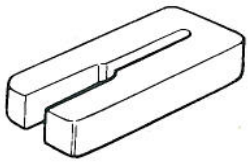

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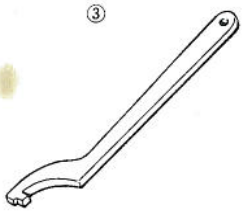

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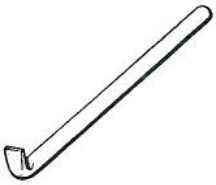

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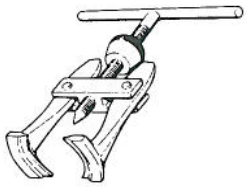

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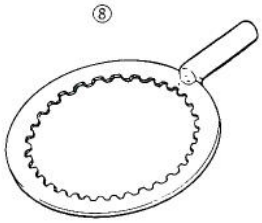

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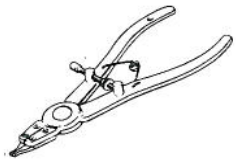

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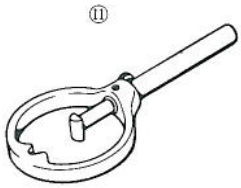

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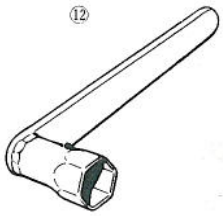

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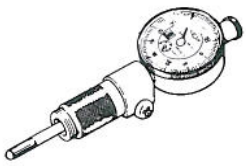

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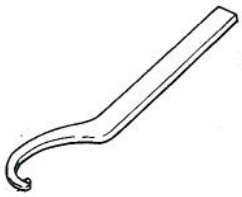

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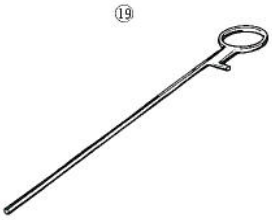

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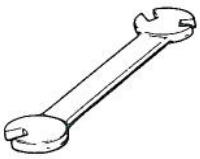

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