

SUZUKI

SERVICE MANUAL

SUZUKI

T250

T350

FOREWORD


This service manual explains mainly how to overhaul and maintain SUZUKI T250 and T350. To give satisfaction to all customers during a long life of the motorcycle, it is most important for the mechanic to prevent even a trivial trouble of the motorcycle by periodical inspections and adjustments.

Concerning the construction and the operation of the motorcycle, important matters are selected and compiled in this booklet for the purpose of getting the mechanic to take prompt steps against 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 motorcycles.



Home of World Champion motorcycles

 SUZUKI MOTOR CO., LTD.

Hamamatsu, Shizuoka, Japan.

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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 the 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 C.C.I."

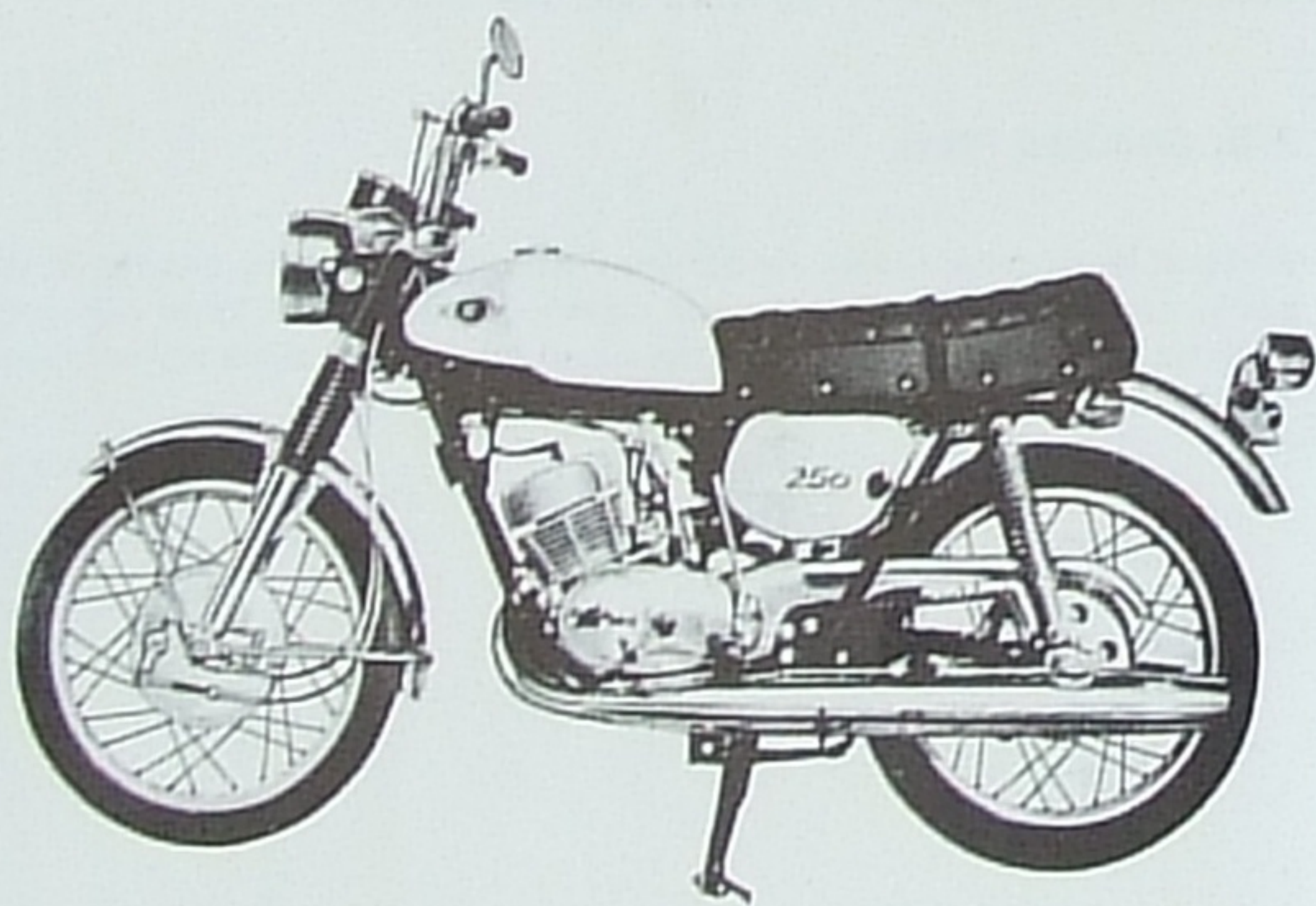
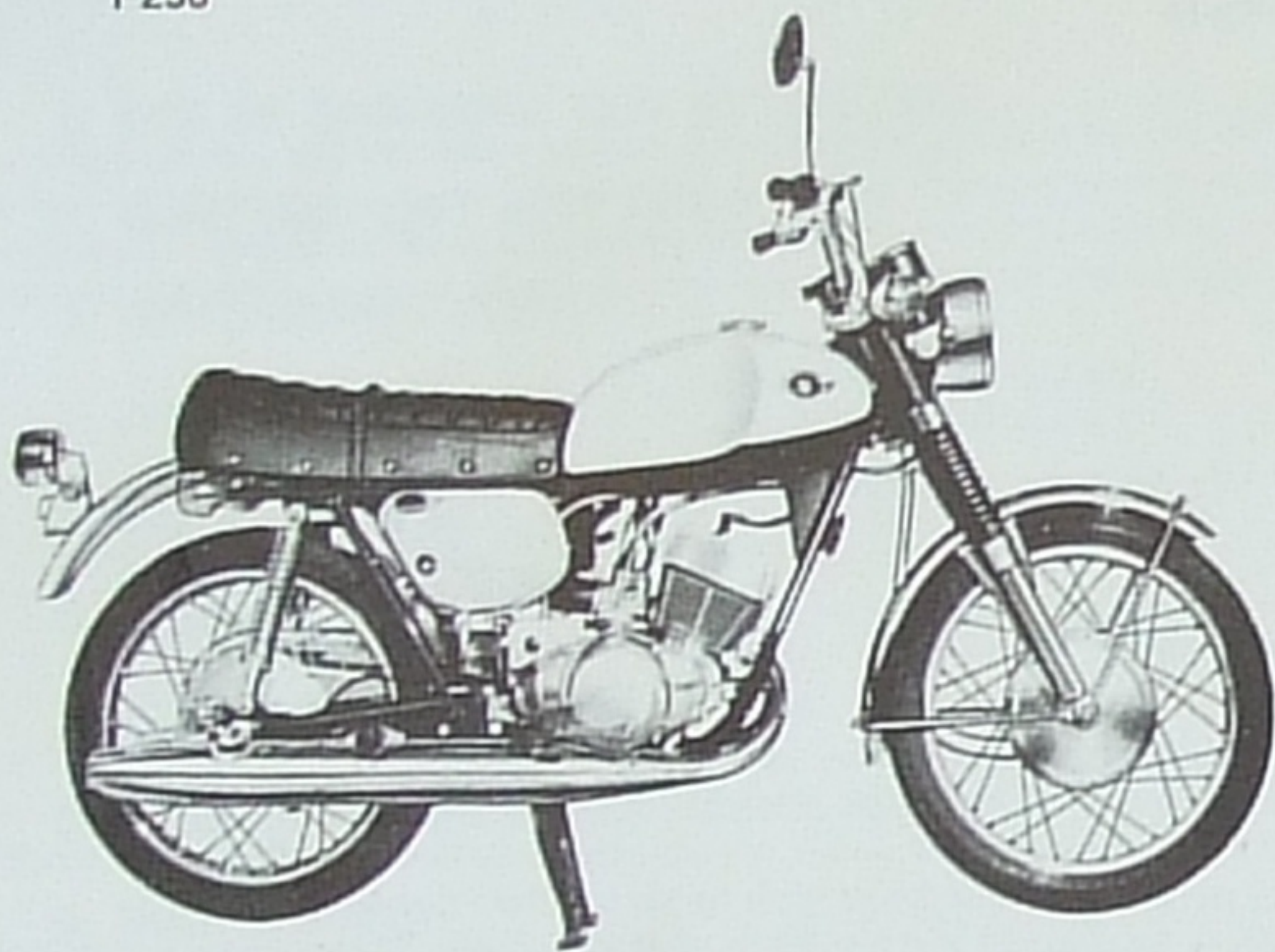
Put gasoline only in the fuel tank and lubrication oil in the oil tank. Recommended fuel for both the motorcycles as for all Suzuki motorcycles, is a premium grade gasoline. Recommended oils for the "Suzuki C.C.I." system are Suzuki C.C.I. Oil, non-diluent (non-self mixing type) Two Stroke Oil or Outboard Motor Oil with around SAE # 30wt.

1-3. Genuine Parts

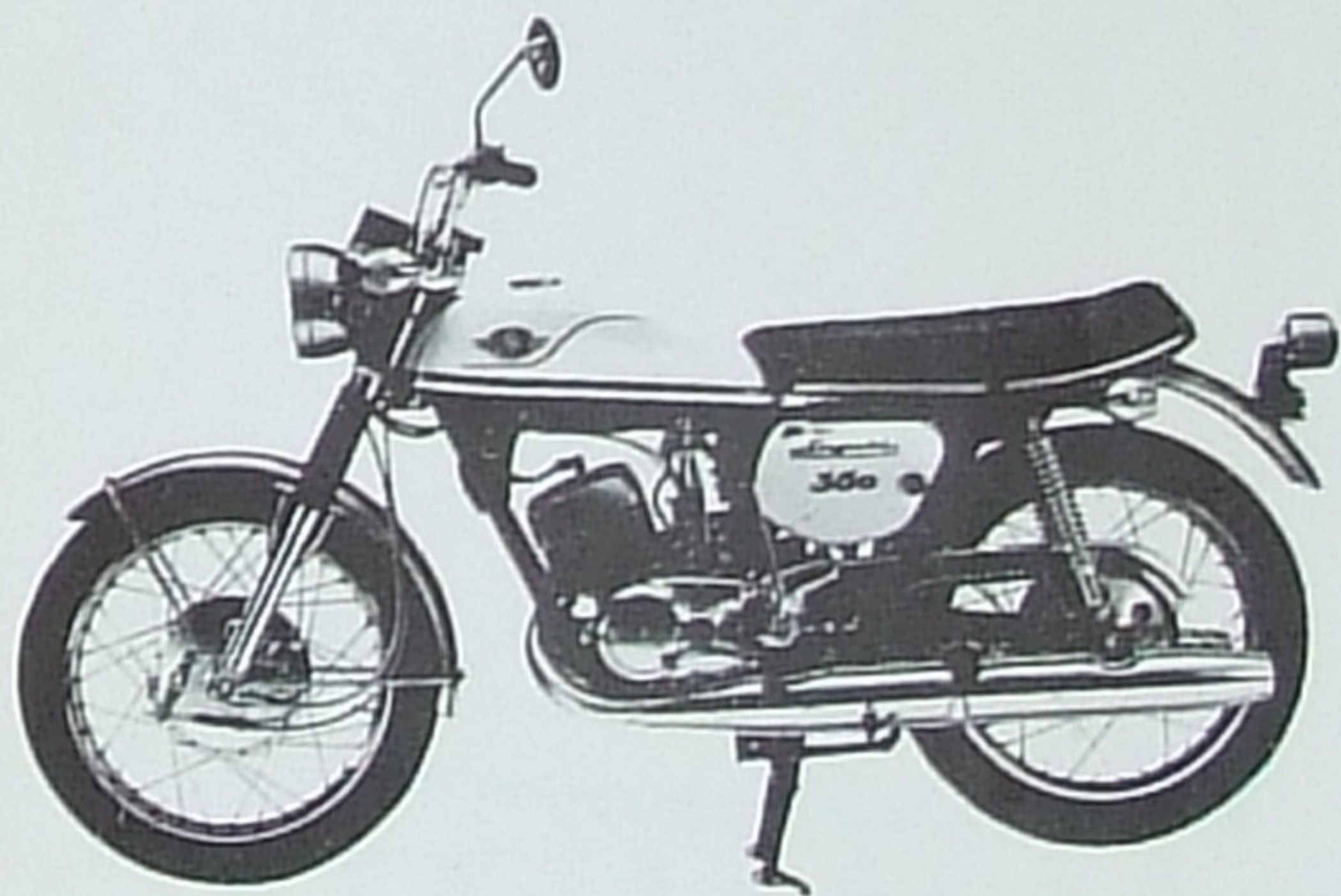
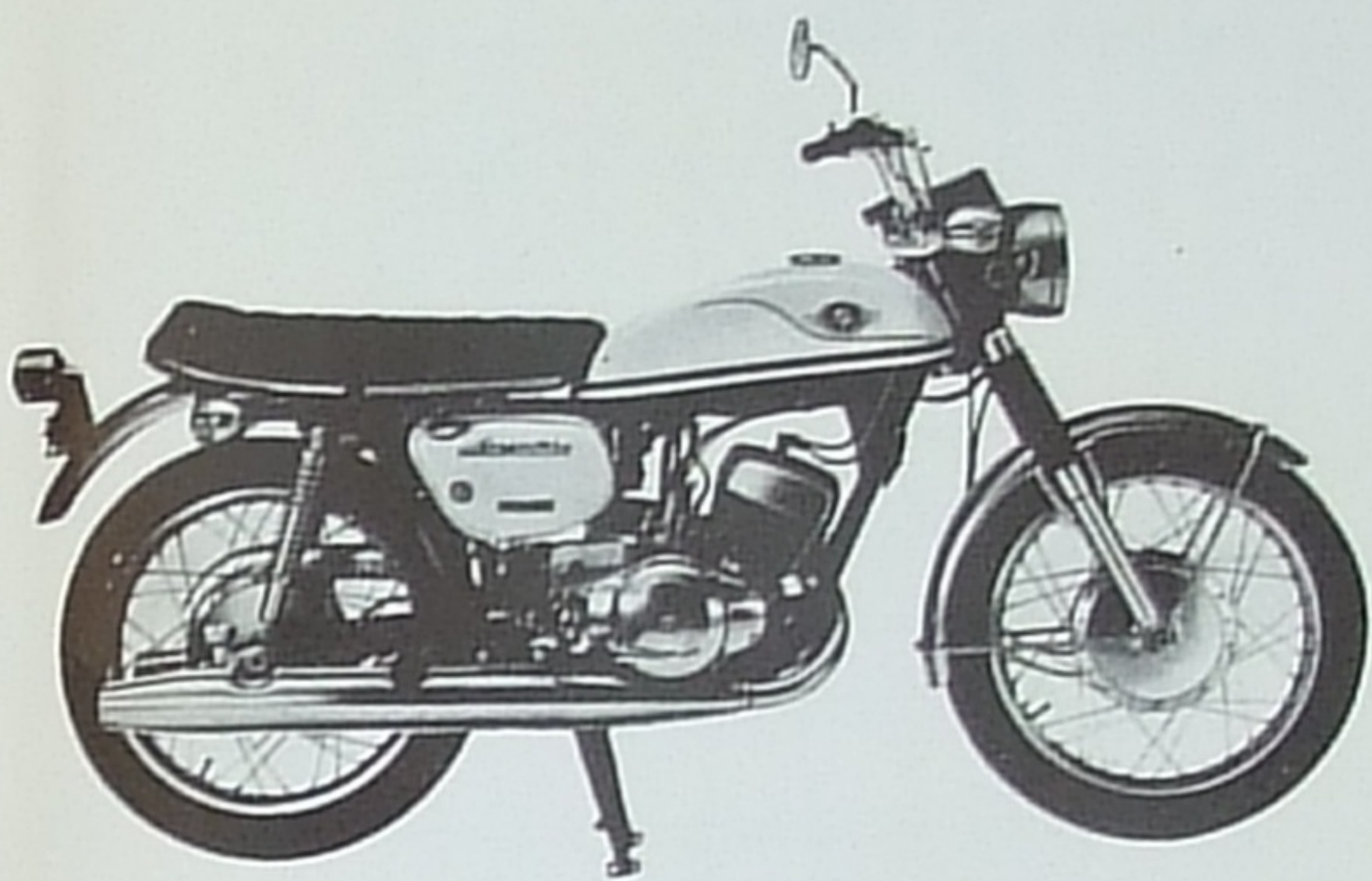
When replacing parts, always use genuine Suzuki parts, which are precision-made under severe quality controls. If imitation parts (not genuine parts) are used, good performance cannot be expected from the motorcycle and in the worst case, they can cause a breakdown.

2. RIGHT AND LEFT SIDE VIEWS

T 250



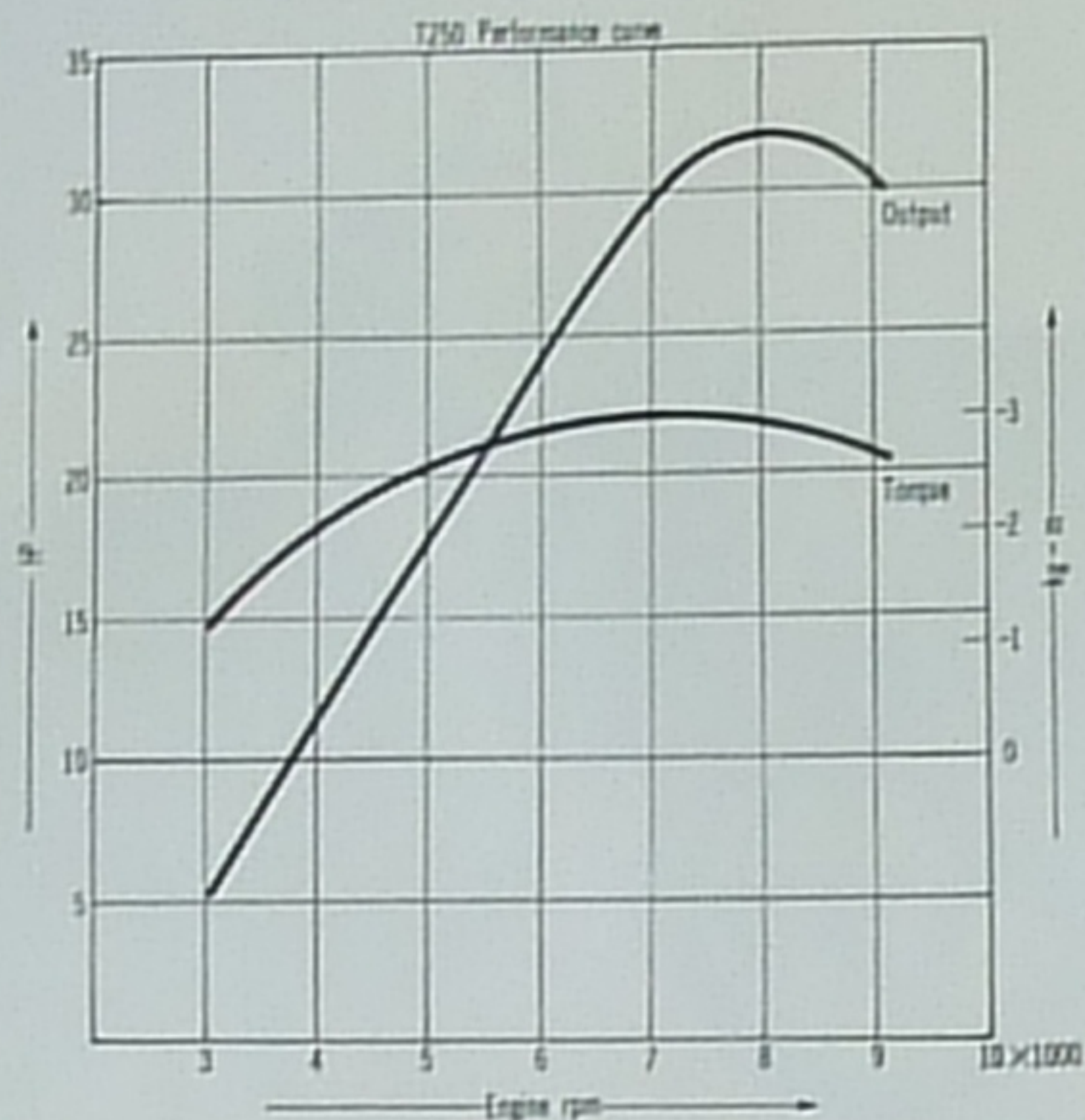
T 350



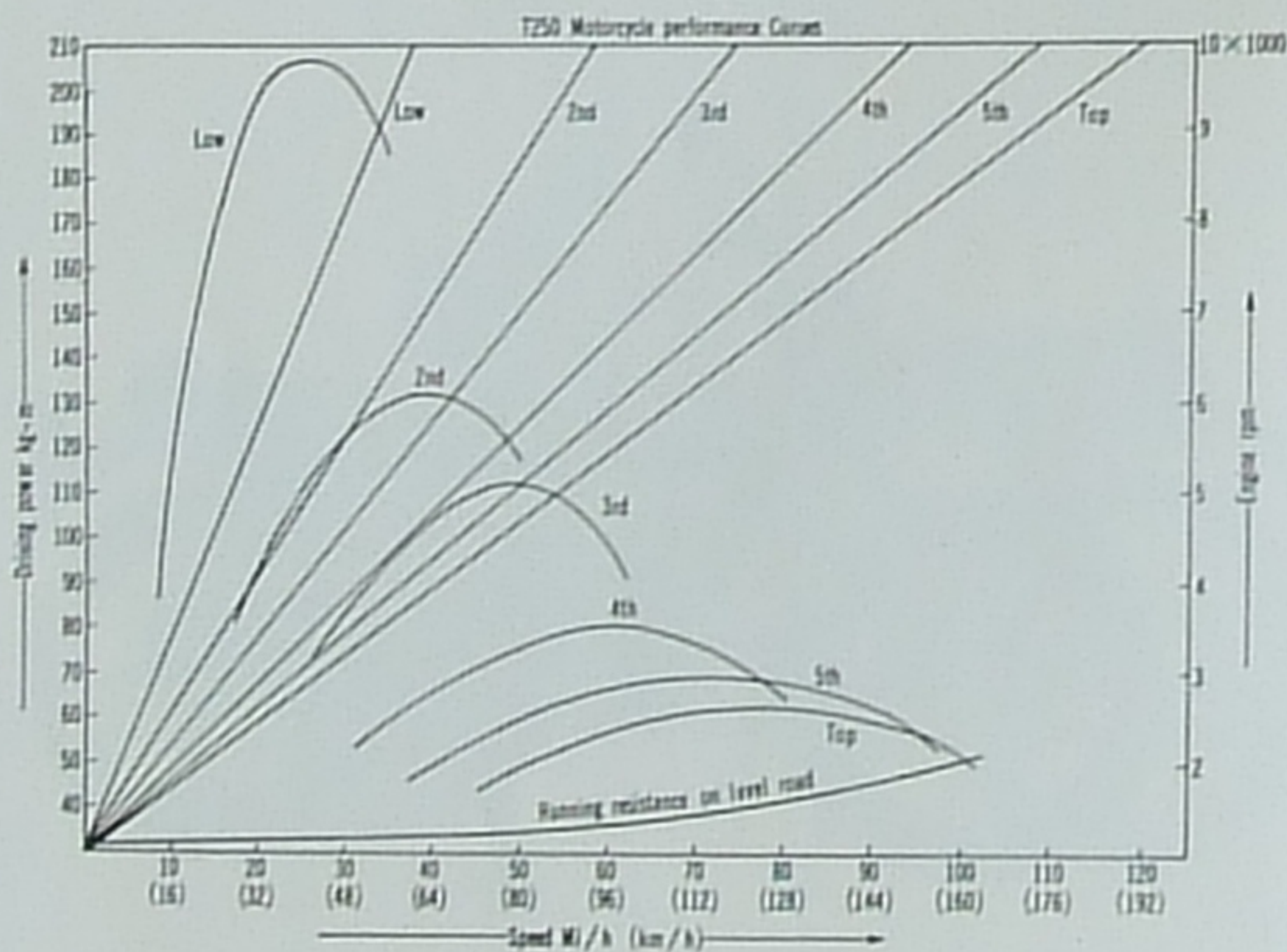
3. PERFORMANCE CURVES

T 250

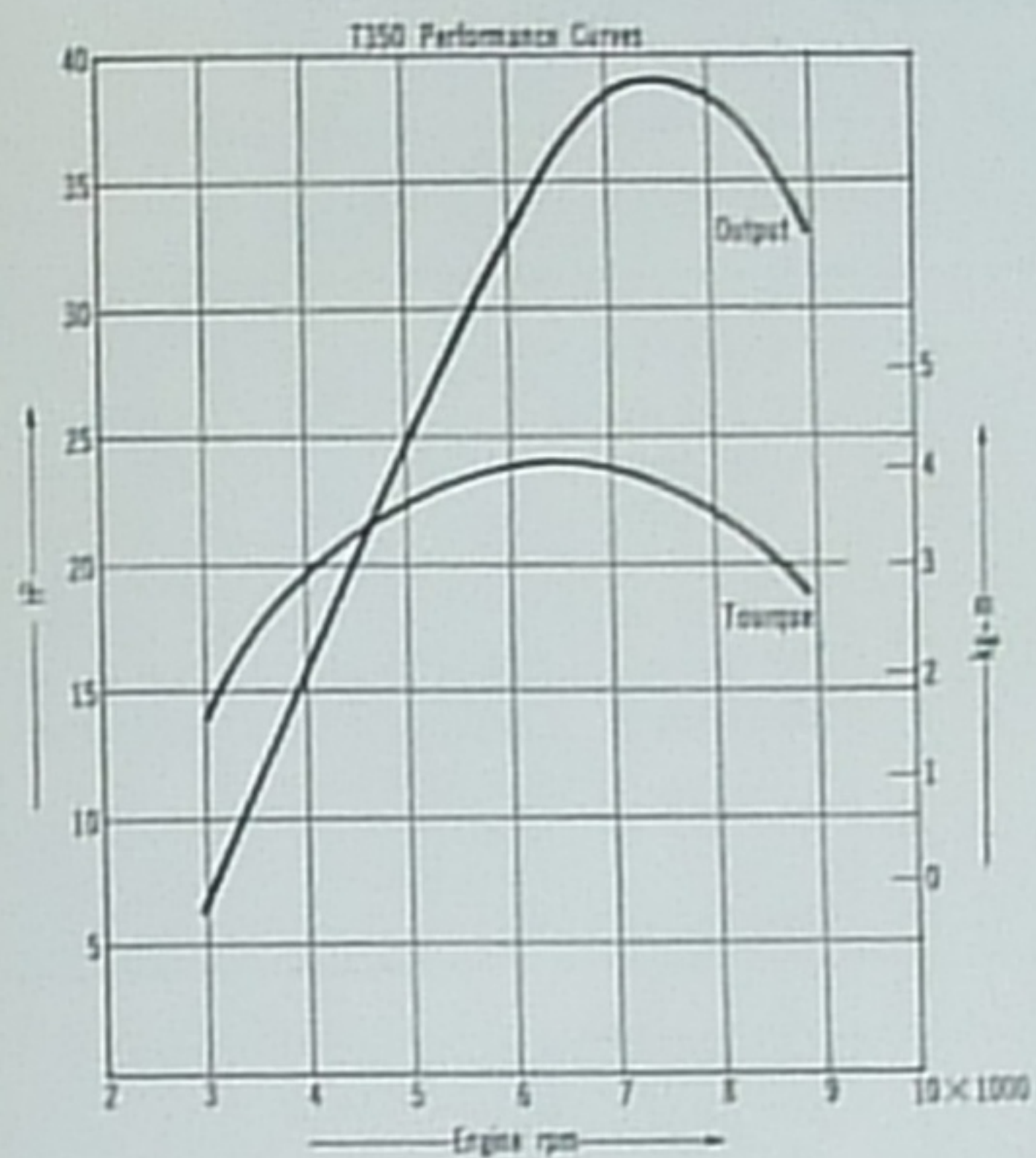
Motorcycle Performance Curves



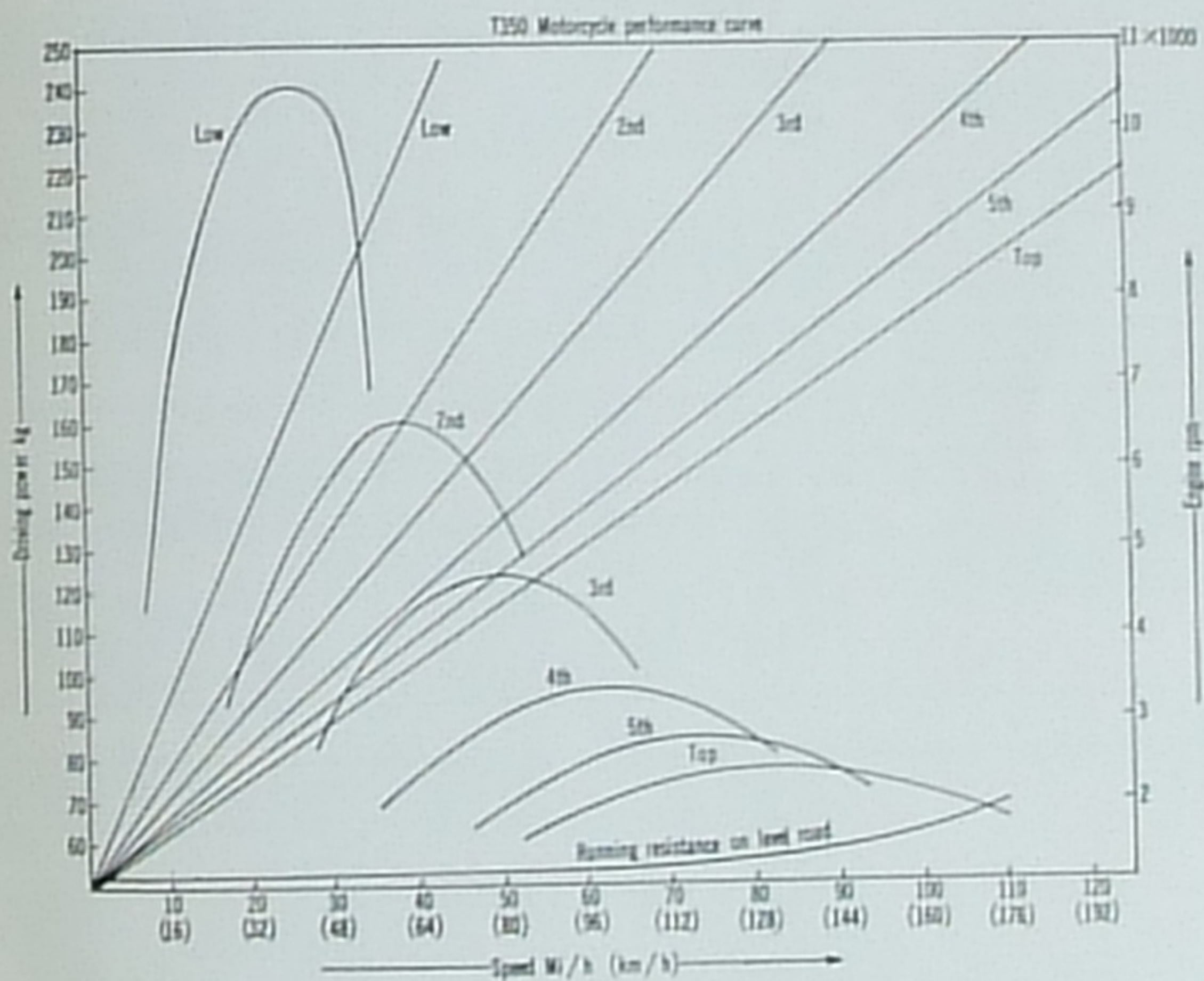
Motorcycle Performance Curves



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) | Solo riding 2.0 kg/sq cm (29 lb/sq in) |
| | Dual riding 2.3 kg/sq cm (30 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° (sinθ = 0.39) | 25° (sinθ = 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/cm ² at engine 1,000 rpm (full kick) | 8.5 kg/cm ² at engine 1,000 rpm (full kick) |
| Maximum horse power | 32 HP at 8,000 rpm | 39 HP at 7,500 rpm |
| 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 | *Suzuki C.G.I.* : oil fed to both Crankshaft and cylinder walls from pump | *Suzuki C.G.I.* : 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) |

| | T250 | T350 |
|-----------------------------|--|--|
| Ignition system | | |
| 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 | 2.33 (28/12) | 2.33 (28/12) |
| Low | 1.50 (24/16) | 1.50 (24/16) |
| 2nd | 1.16 (22/19) | 1.16 (22/19) |
| 3rd | 0.90 (19/21) | 0.90 (19/21) |
| 4th | 0.78 (18/23) | 0.78 (18/23) |
| 5th | 0.71 (17/24) | 0.71 (17/24) |
| Top | 3.05 (61/20) | 3.05 (61/20) |
| Primary reduction ratio | 2.93 (41/14) | 2.71 (38/14) |
| Final reduction ratio | 6.34 : 1 (in top gear) | 5.87 : 1 (in top gear) |
| Overall reduction ratio | | |
| 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 mm (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 |

Specifications subject to change without notice.

5. SUZUKI C.C.I.

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 matter 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.

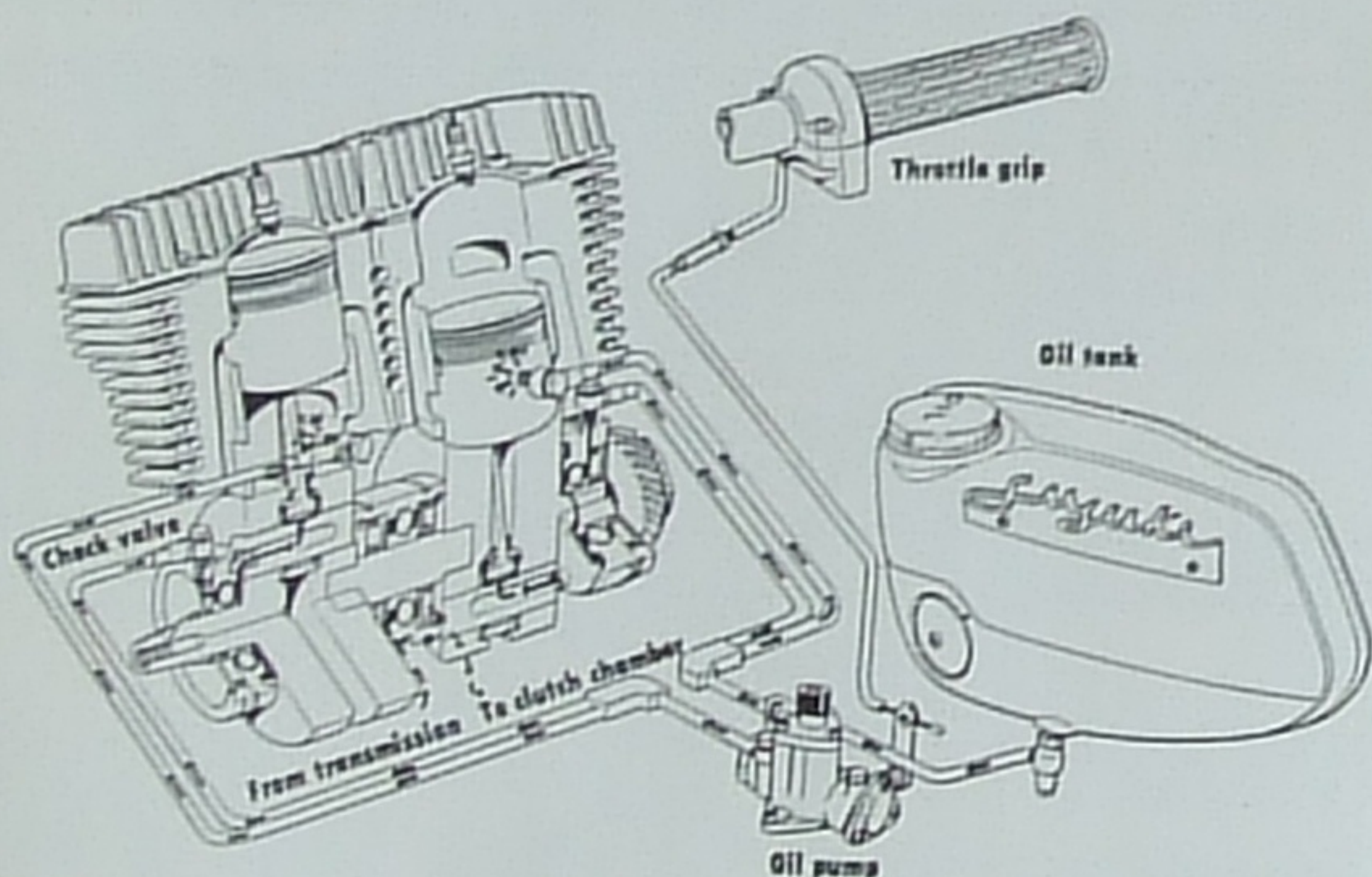


Fig. 5-1 Suzuki C.C.I.

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.

6-1-2. Caution

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

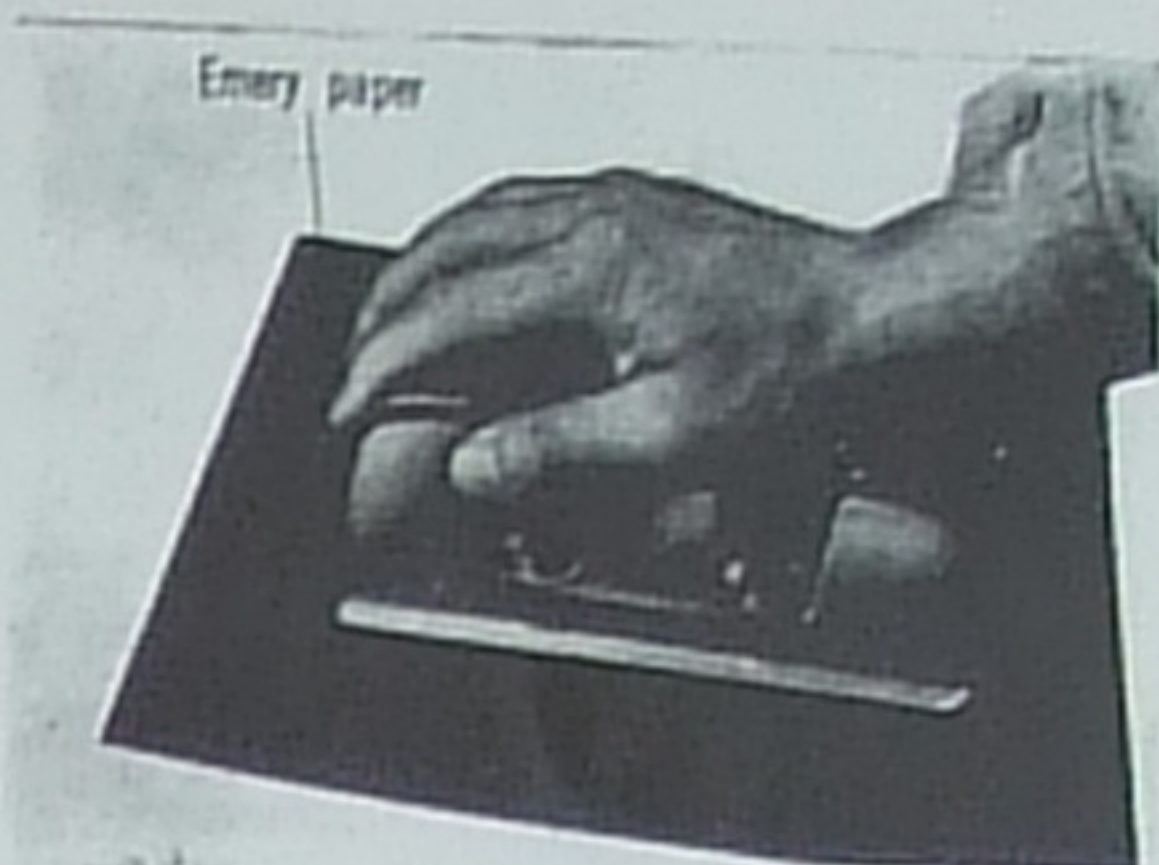


Fig. 6-1-1 Repairing cylinder head warp

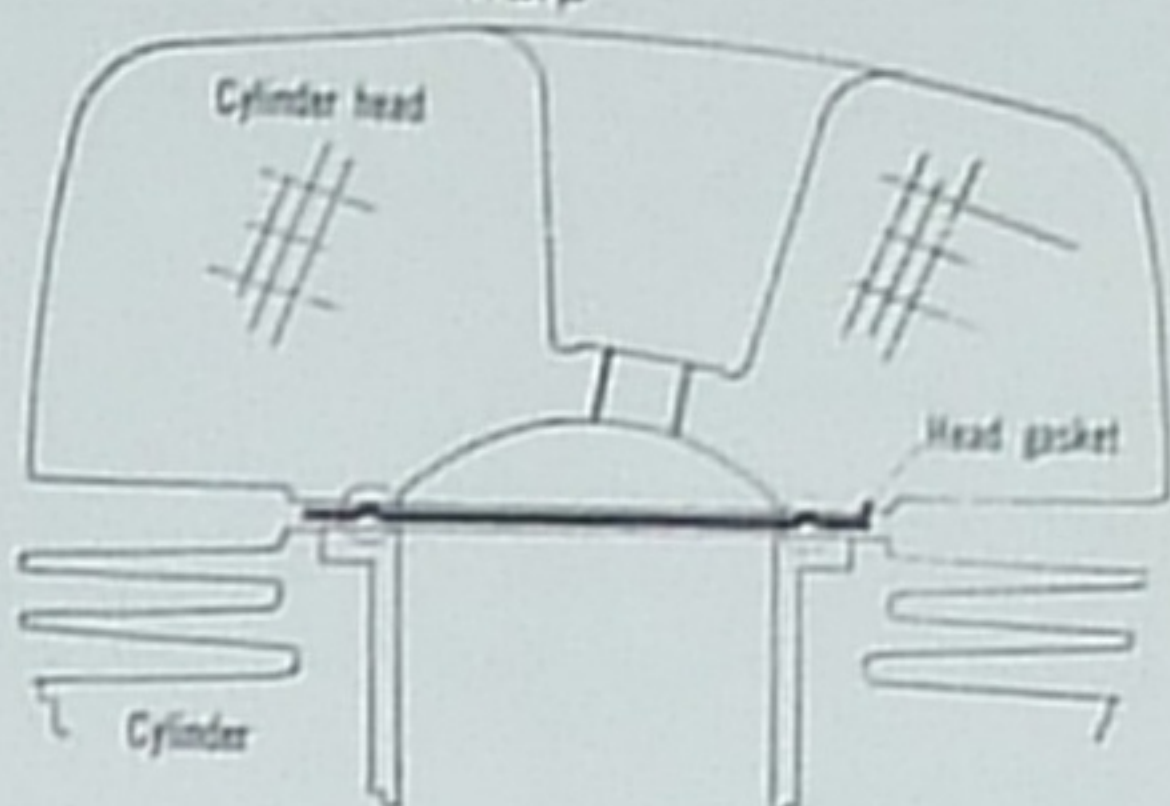


Fig. 6-1-2 Installing cylinder head gasket

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.

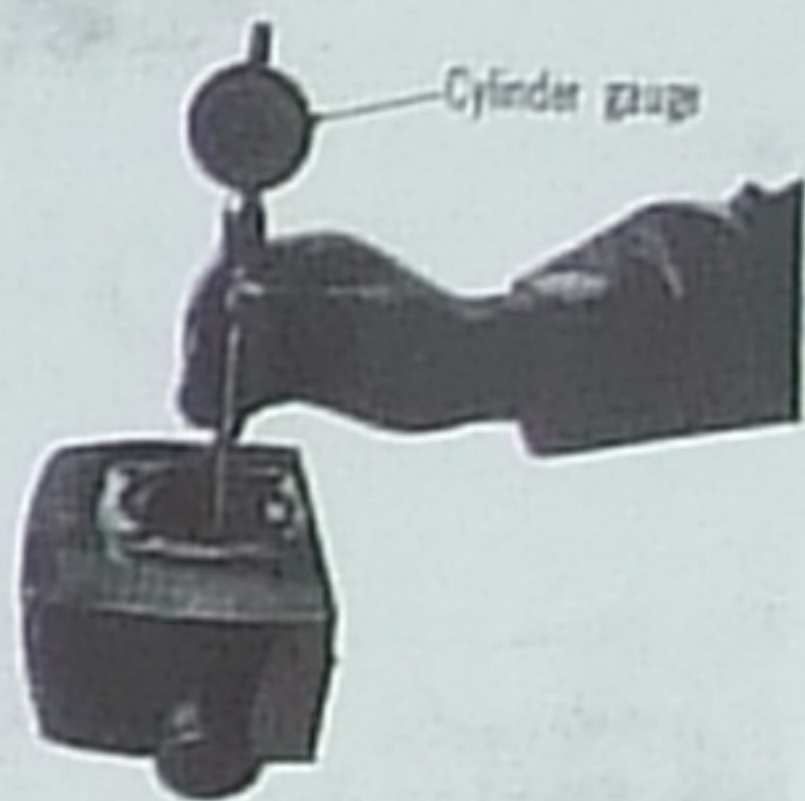


Fig. 6-2-1 Measuring cylinder bore

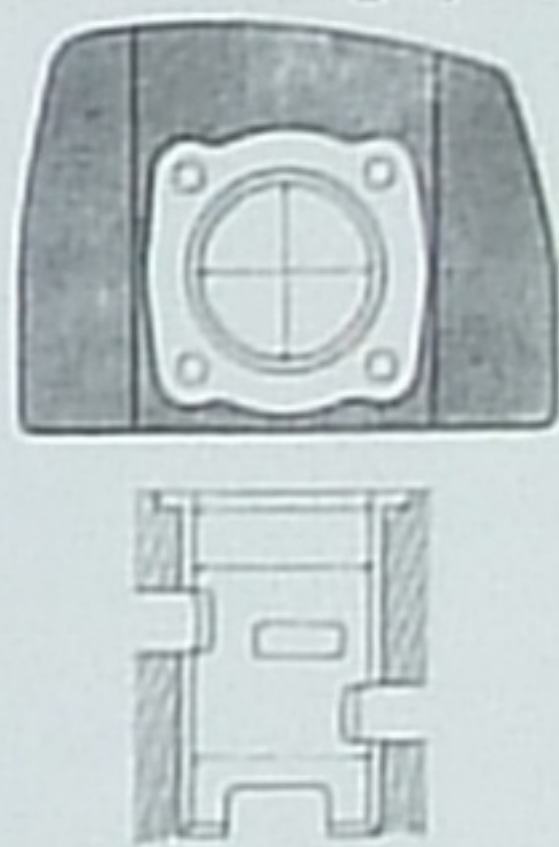


Fig. 6-2-2 Points to be measured

| 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.

| | 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.

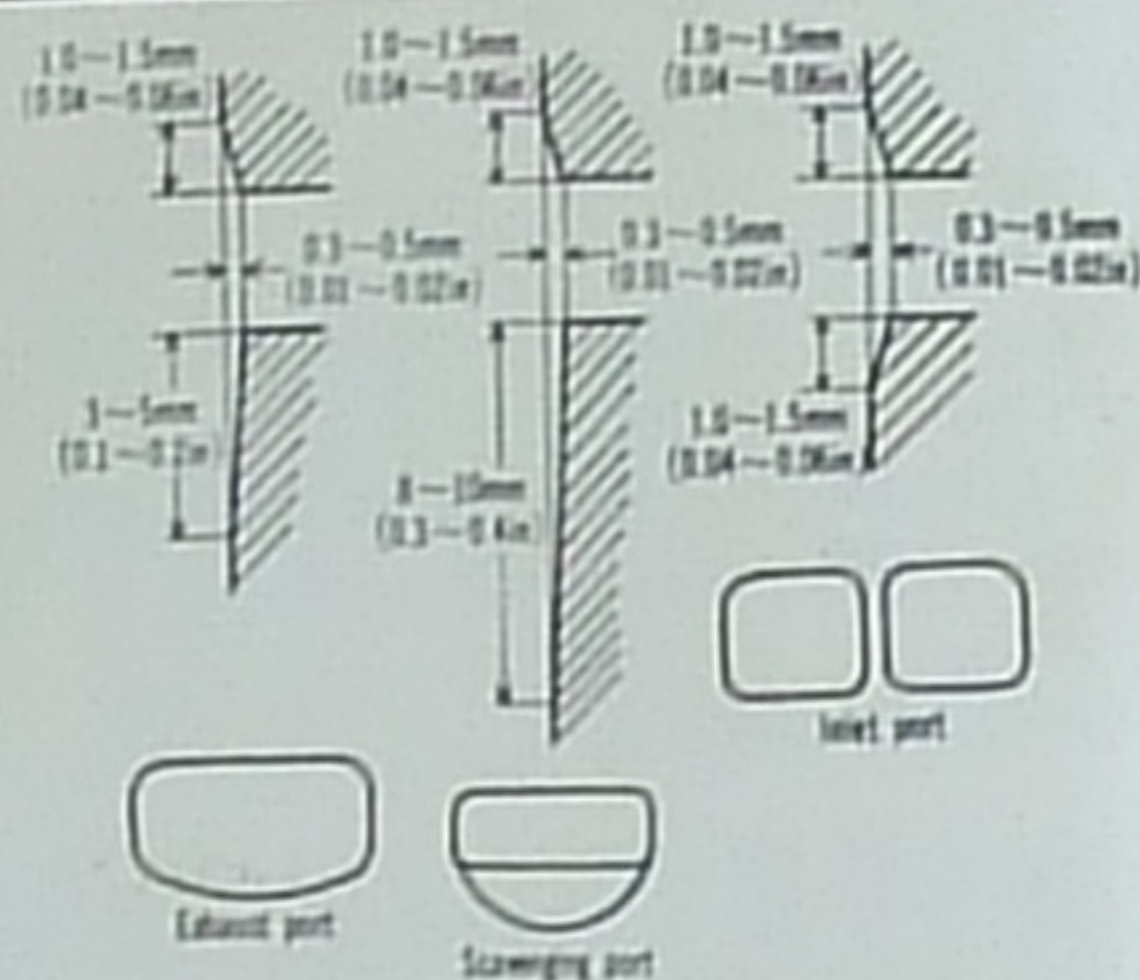


Fig. 6-2-3 Rounding port edges

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).

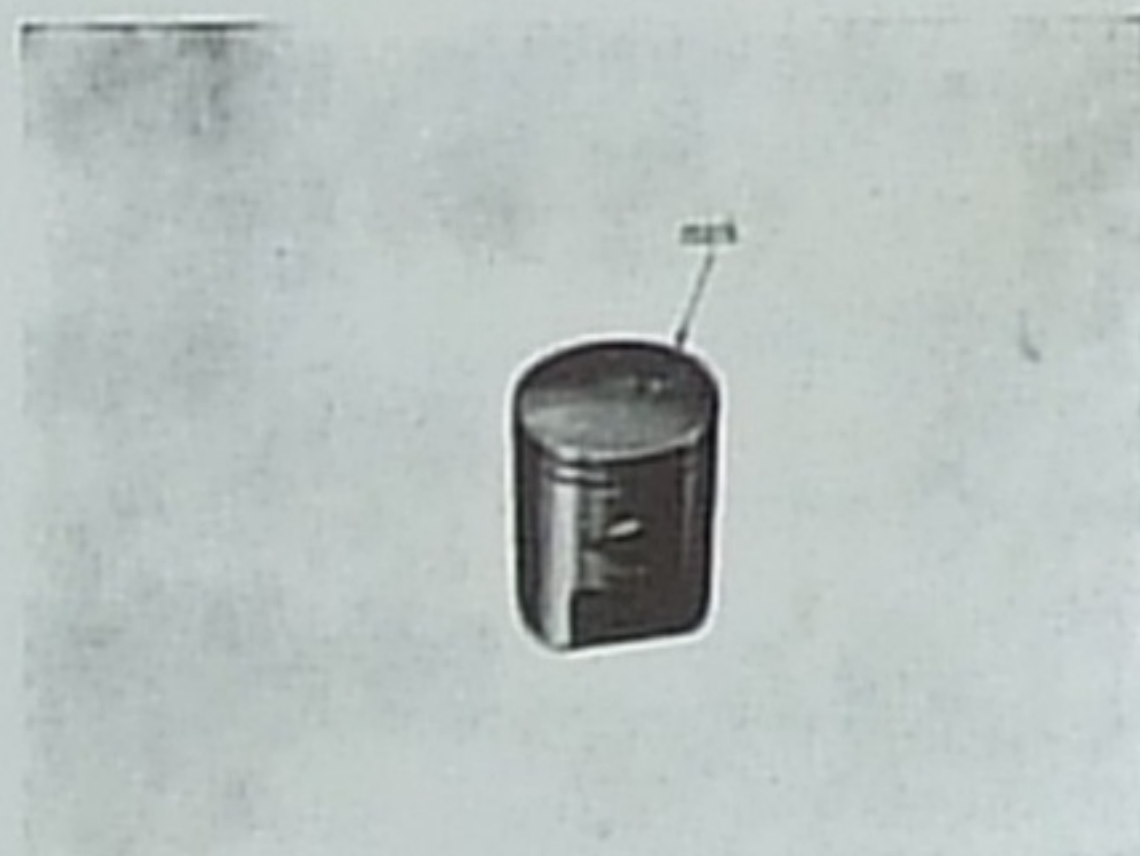


Fig. 6-3-1 Arrow mark

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 | 0.15— 0.35 mm | 1.0 mm (0.040 in) | Replace |
| | T350 | (0.0059— 0.014 in) | | |

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 its 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.

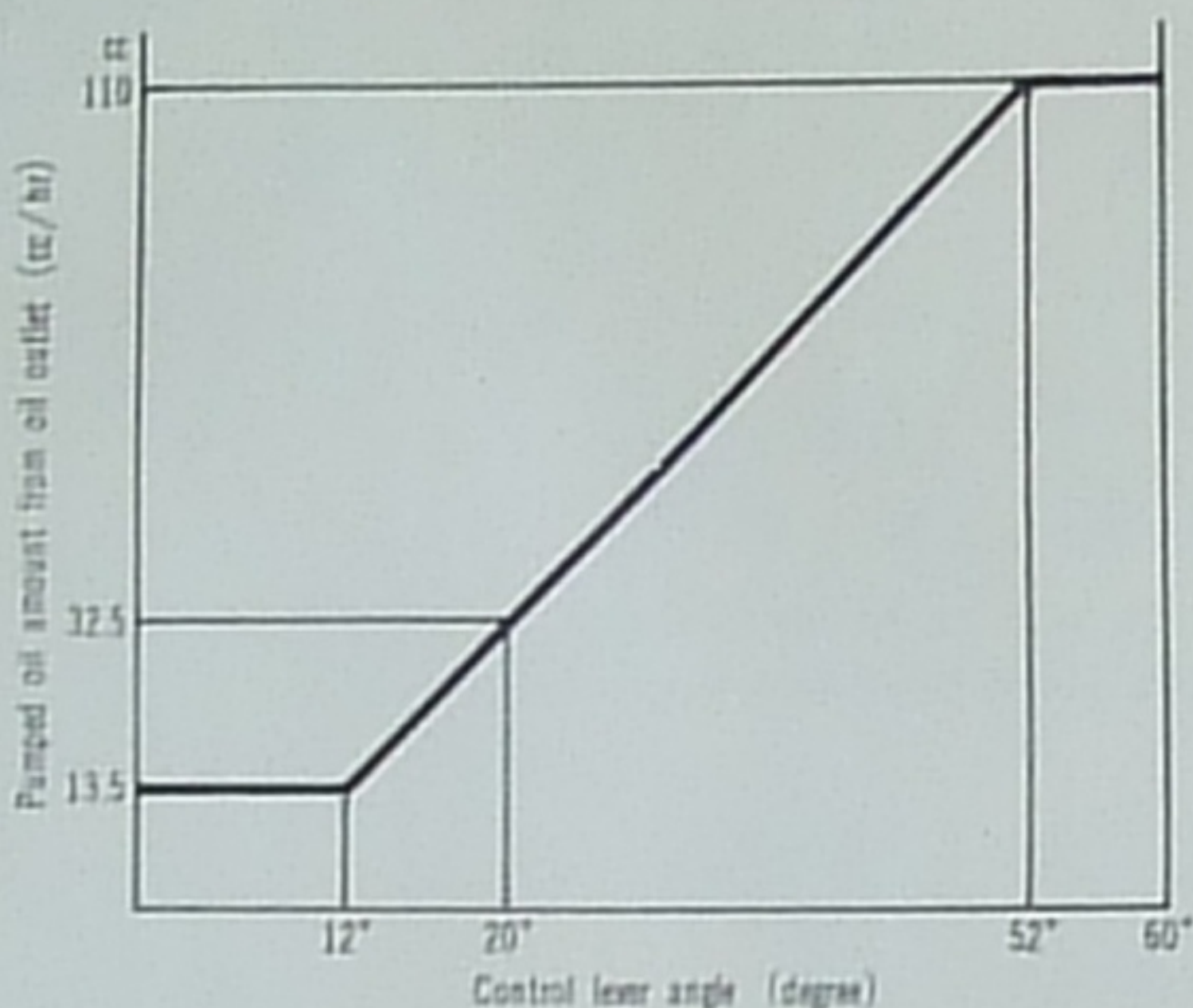


Fig. 6-5-1 Oil pump performance curve of T250

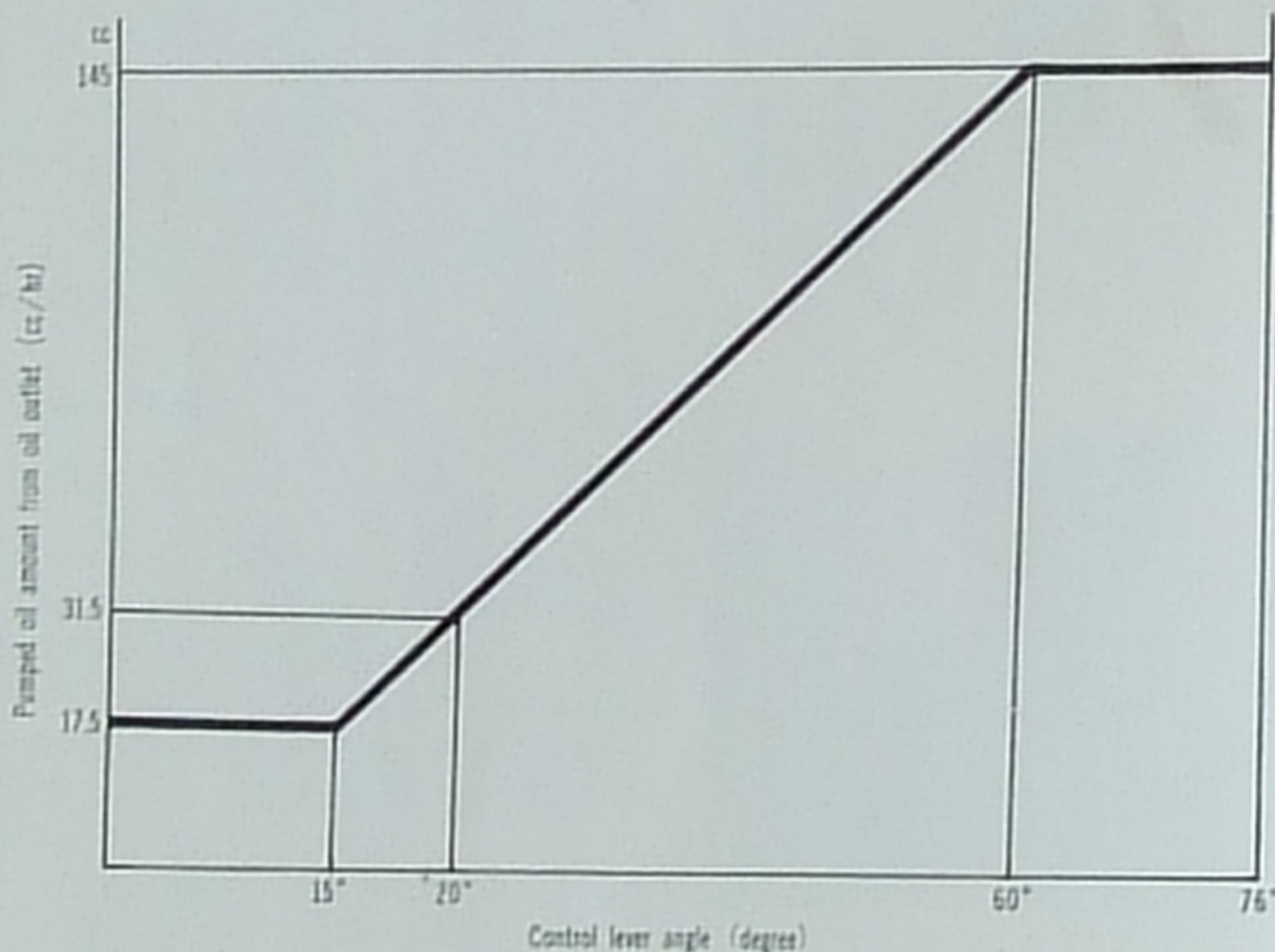


Fig. 6-5-2 Oil pump performance curve of T350

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.

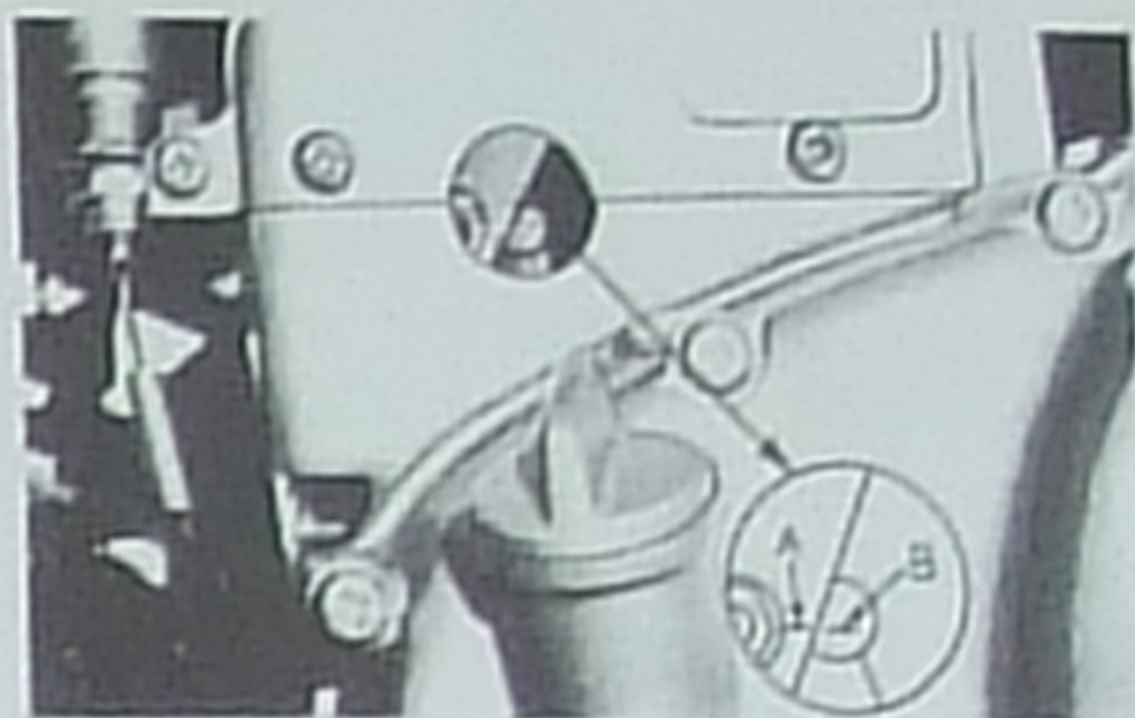


Fig. 6-5-3 Oil pump inspection marks

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.

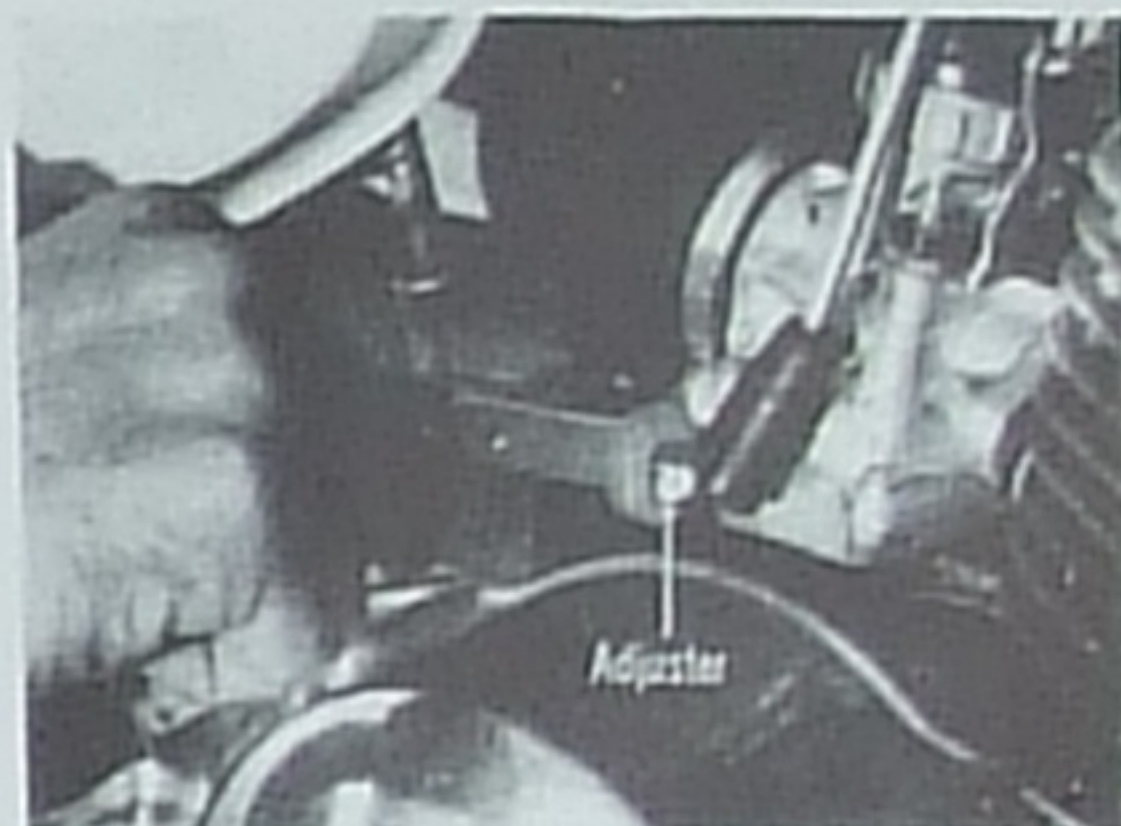


Fig. 6-5-4 Adjusting oil pump control cable

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)

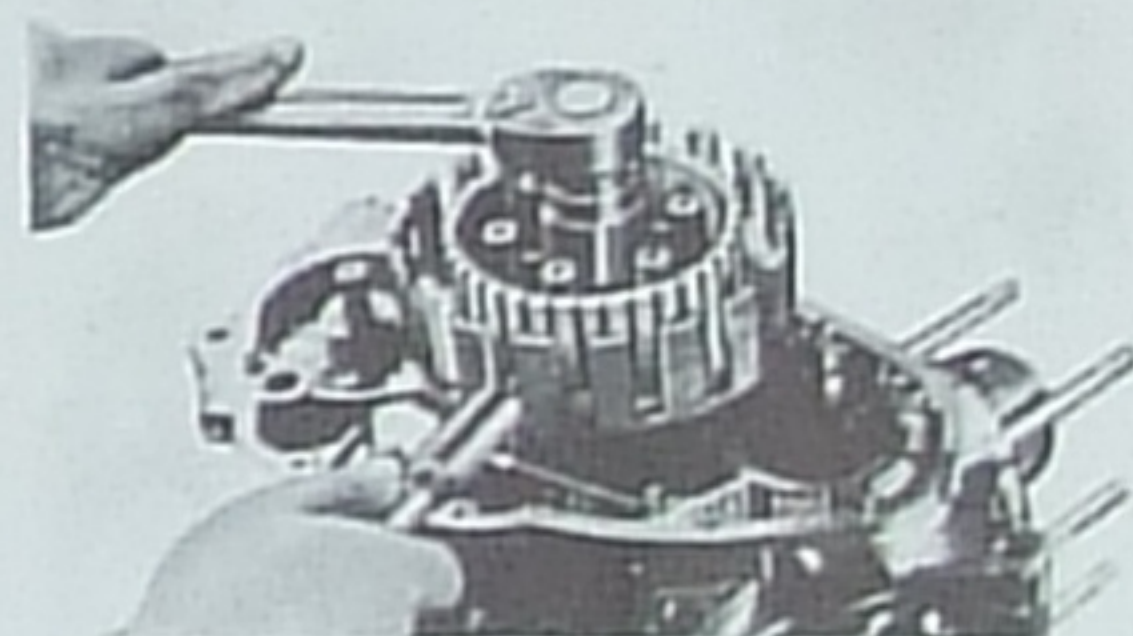


Fig. 6-6-1 Loosening clutch sleeve hubnut

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

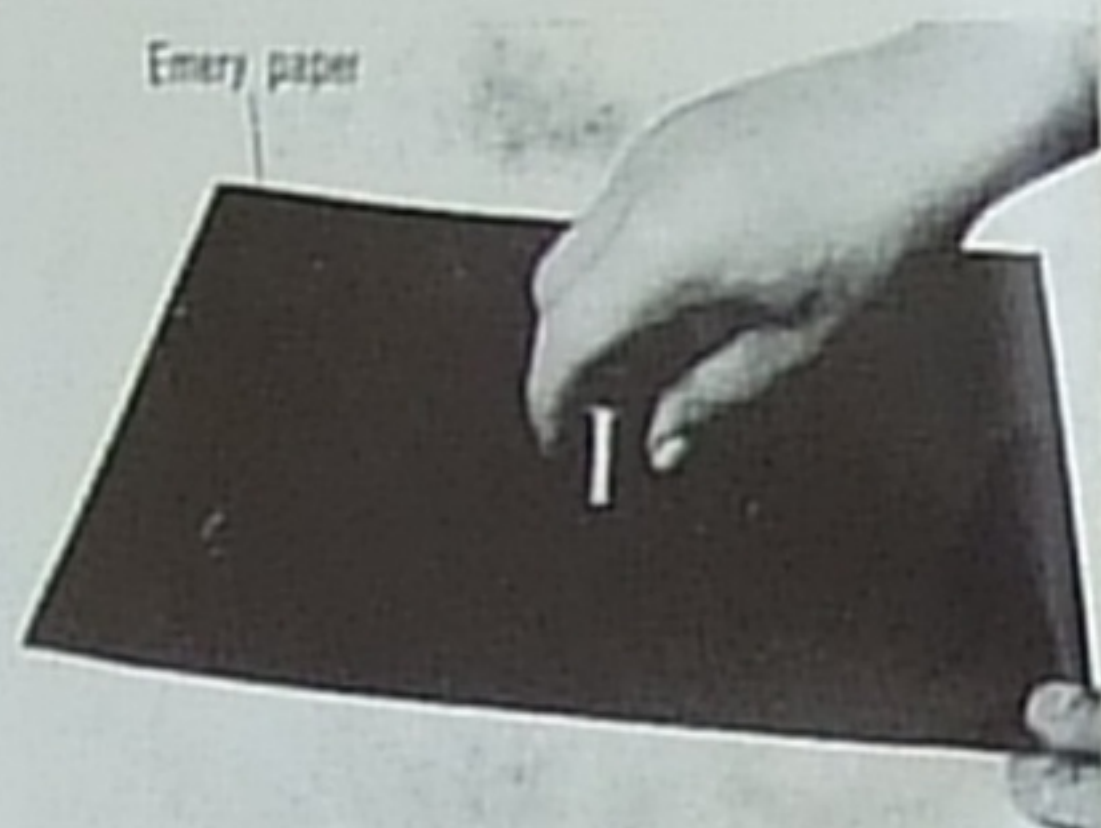


Fig. 6-6-4 Grinding clutch housing spacer

6-7. Transmission

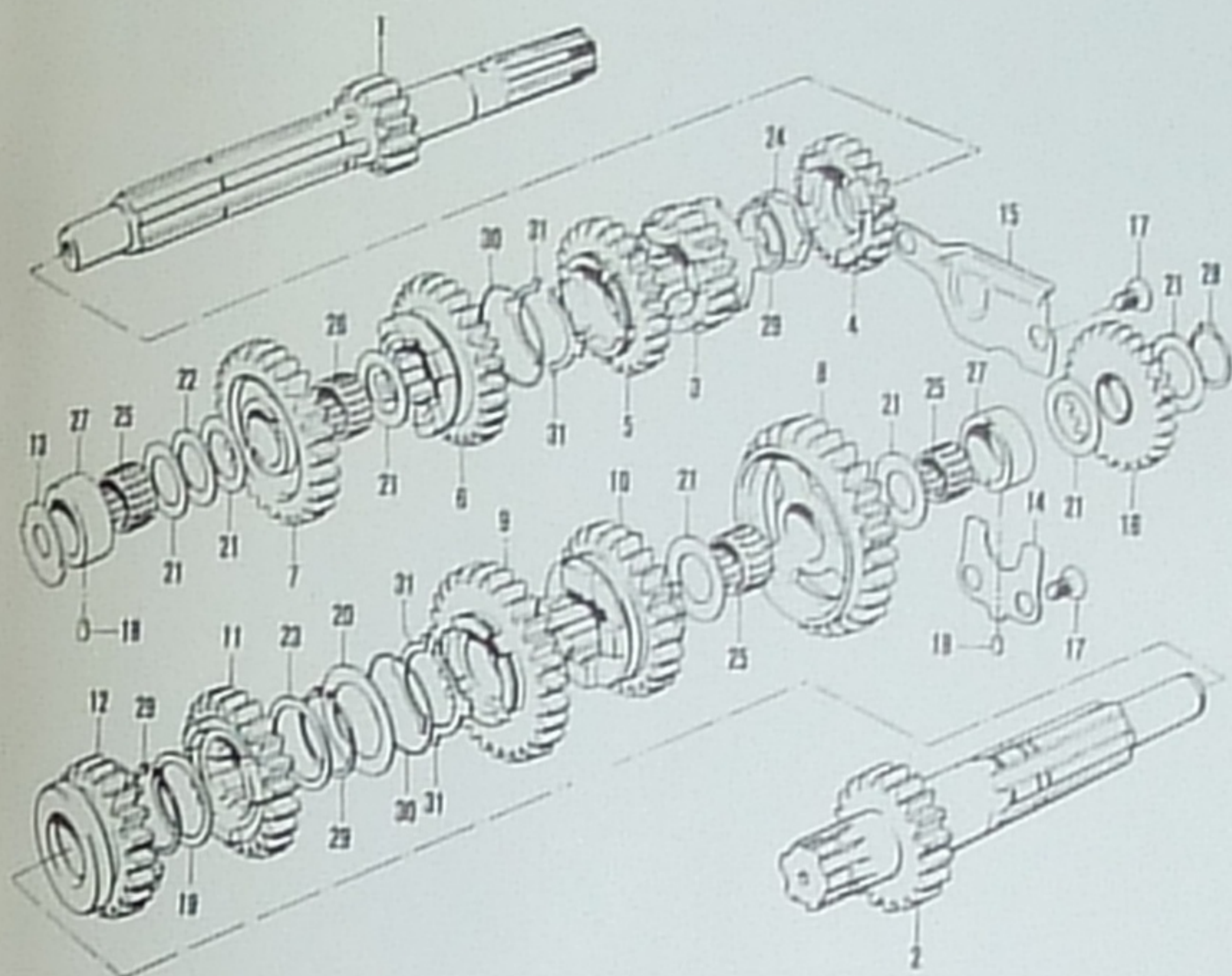


Fig. 6-7-1 Exploded view of transmission

| Ref. No. | Description | Remarks | Ref. No. | Description | Remarks |
|----------|-----------------------------|----------|----------|--|--|
| 1 | Counter shaft | N.T. =12 | 21 | Top Drive Gear Outer Thrust Washer (A) | I.D. =17(0.67), O.D. =29(1.14) T. =1(0.04) |
| 2 | Drive shaft | N.T. =17 | | Top Drive Gear Outer Thrust Washer (B) | I.D. =17(0.67), O.D. =29(1.14) T. =1.5(0.06) |
| 3 | Second Drive Gear | N.T. =16 | | Top Drive Gear Outer Thrust Washer (C) | I.D. =17(0.67), O.D. =29(1.14) T. =1.2(0.05) |
| 4 | Third Drive Gear | N.T. =19 | 22 | Top Drive Gear Thrust Washer | I.D. =17(0.67), O.D. =29(1.14) T. =1(0.04) |
| 5 | Fourth Drive Gear | N.T. =21 | 23 | Fourth Driven Gear Thrust Washer | I.D. =25(0.98), O.D. =25(1.38) T. =1.5(0.06) |
| 6 | Fifth Drive Gear | N.T. =23 | 24 | Third Drive Gear Thrust Washer | O.D. =32(1.32), T. =1(0.04) |
| 7 | Top Drive Gear | N.T. =24 | 25 | Transmission Shaft Needle Bearing | I.D. =17(0.67), O.D. =21(0.83) W. =12.8(0.50) |
| 8 | Low Driven Gear | N.T. =28 | 26 | Top Drive Gear Bearing | I.D. =17(0.67), O.D. =21(0.83) W. =9.8(0.39) |
| 9 | Second Driven Gear | N.T. =24 | 27 | Transmission Shaft Bush | I.D. =21(0.83), O.D. =30(1.18) W. =13(0.51) |
| 10 | Third Driven Gear | N.T. =22 | 28 | Transmission Gear Circlip (A) | |
| 11 | Fourth Driven Gear | N.T. =19 | 29 | Transmission Gear Circlip (B) | |
| 12 | Fifth Driven Gear | N.T. =18 | 30 | Transmission Gear Circlip (C) | |
| 13 | Counter Shaft Bush Retainer | | 31 | Transmission Gear Knock Ring | |
| 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 | | | | |

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.

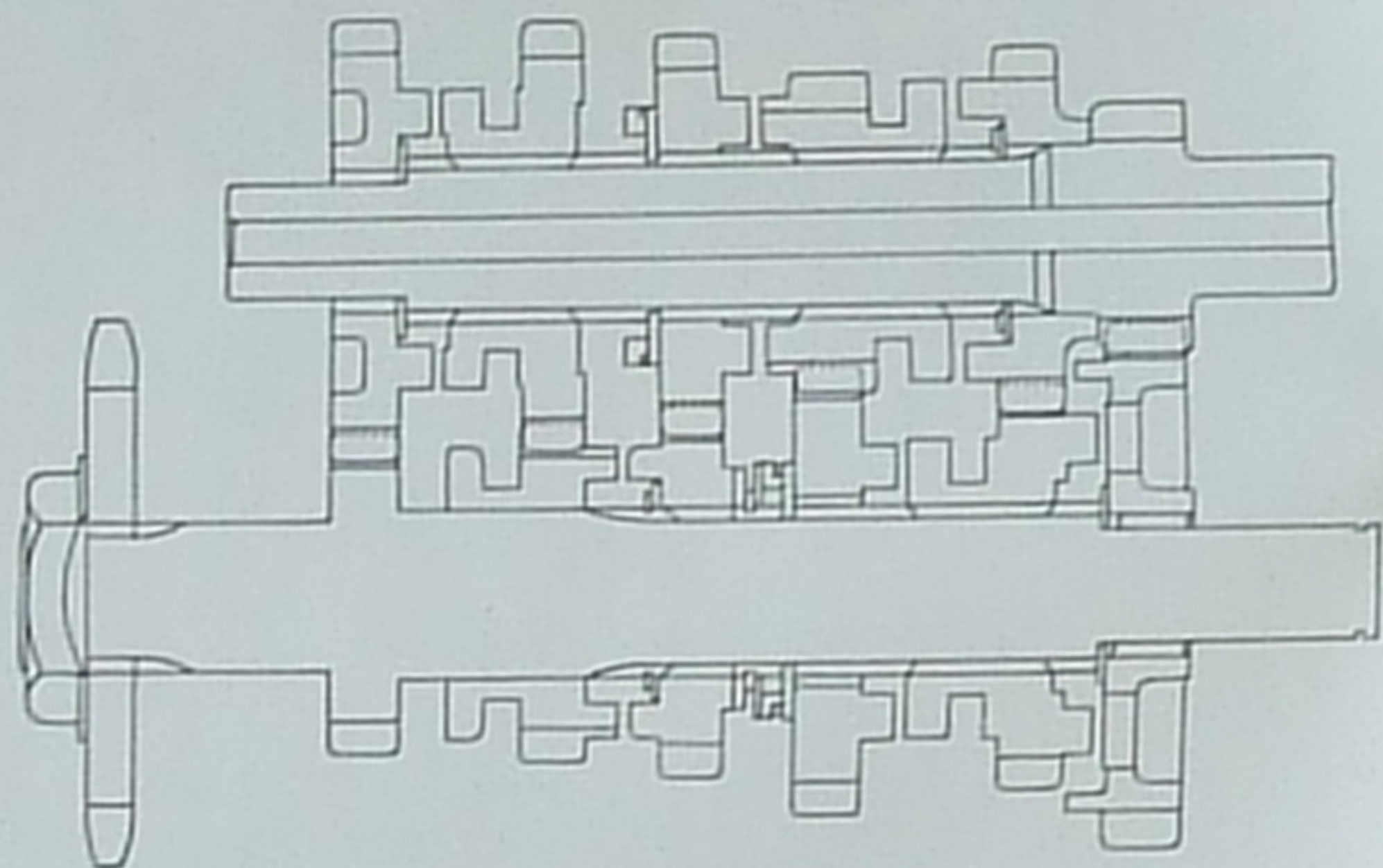


Fig. 6-7-2 Gear position for neutral

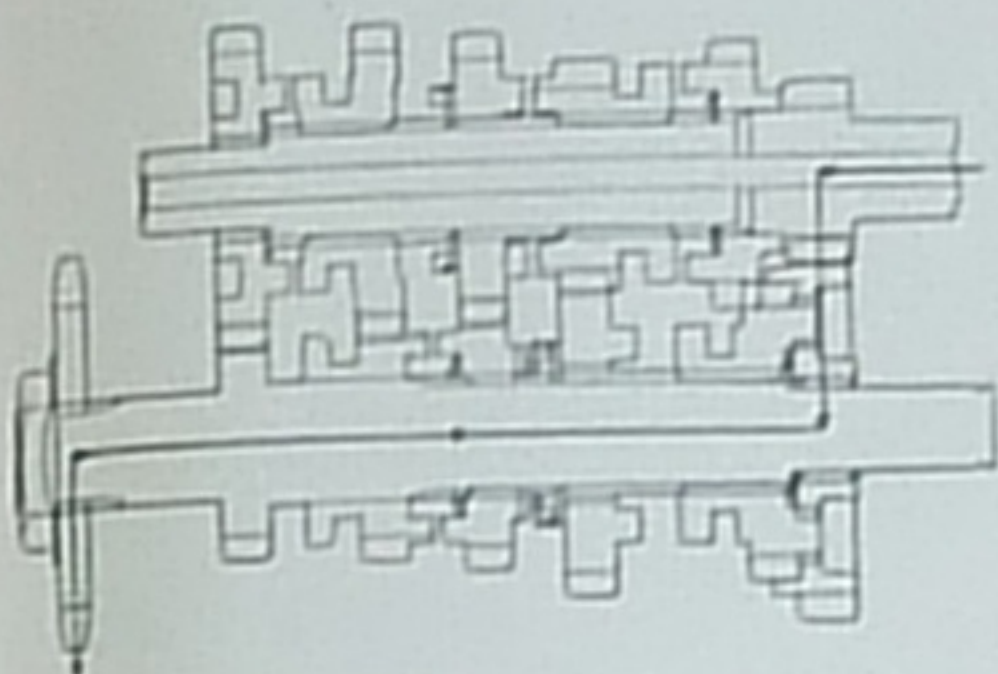


Fig. 6-7-3 Gear position for low speed

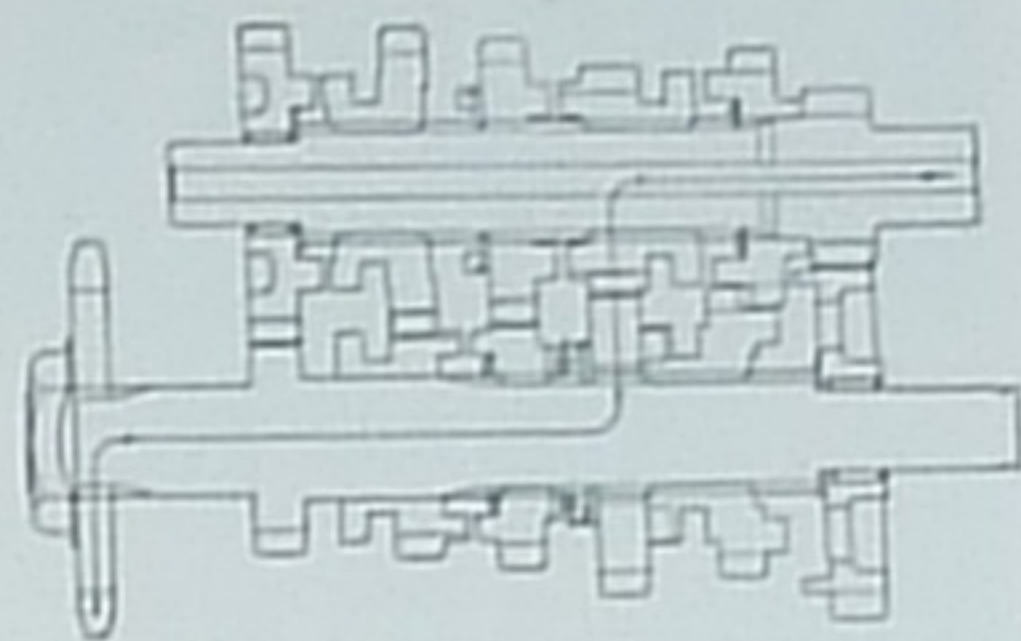


Fig. 6-7-4 Gear position for 2nd speed

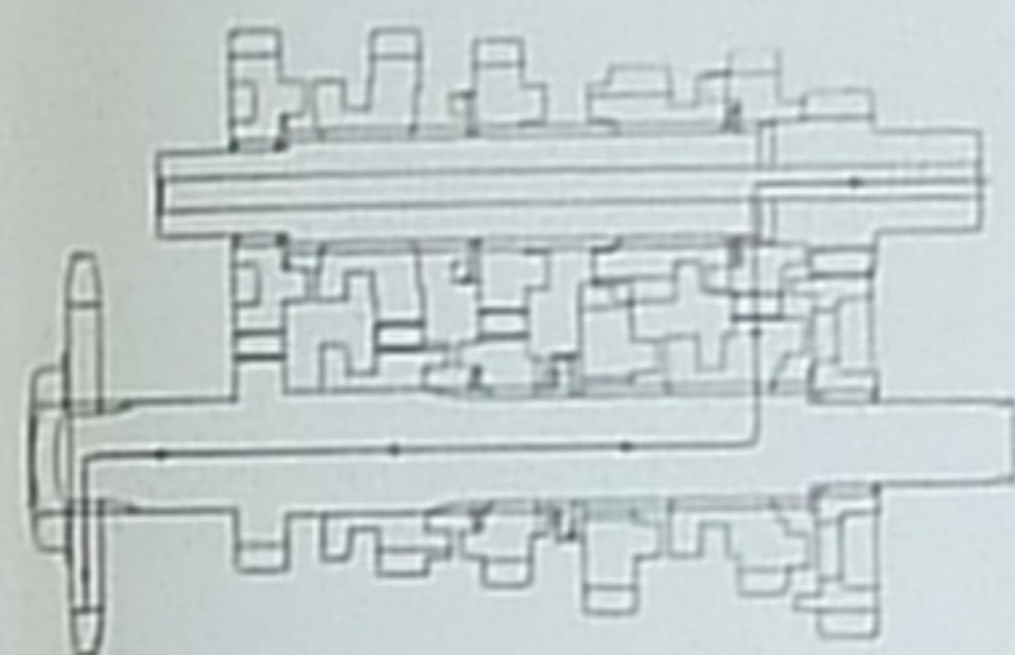


Fig. 6-7-5 Gear position for 3rd speed

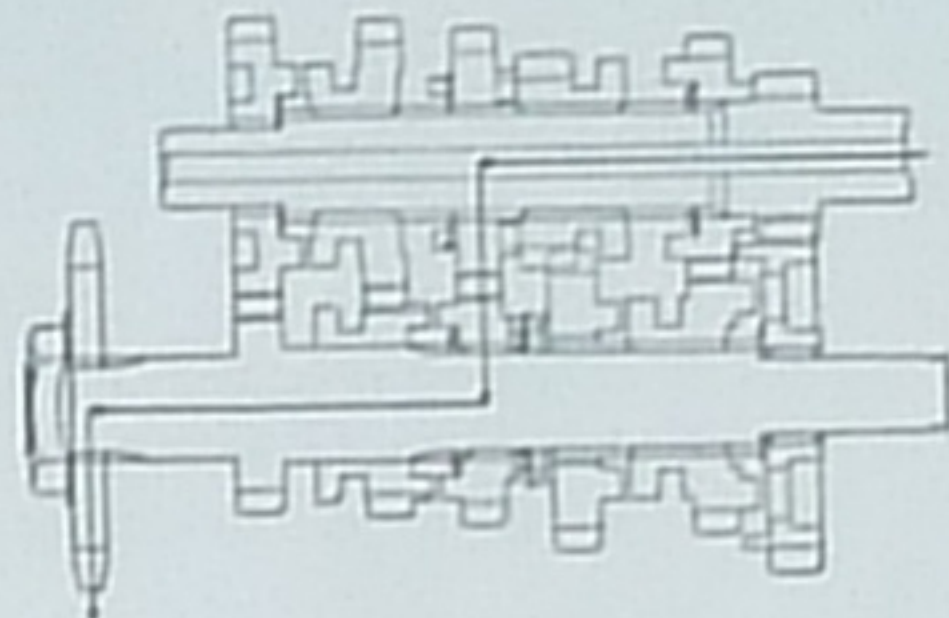


Fig. 6-7-6 Gear position for 4th speed

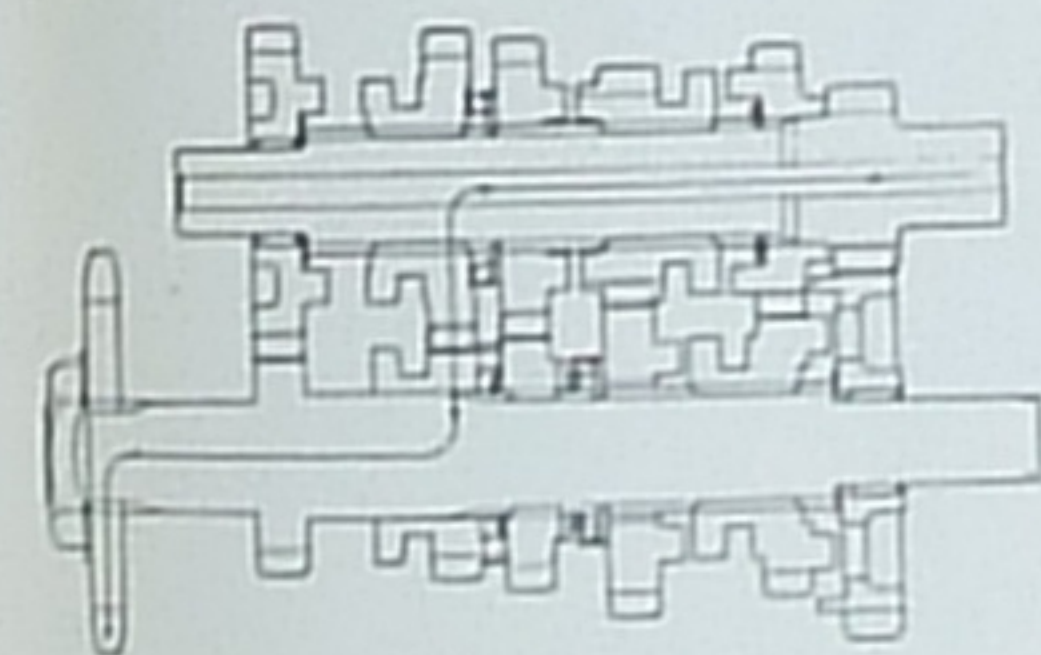


Fig. -7-7 Gear position for 5th speed

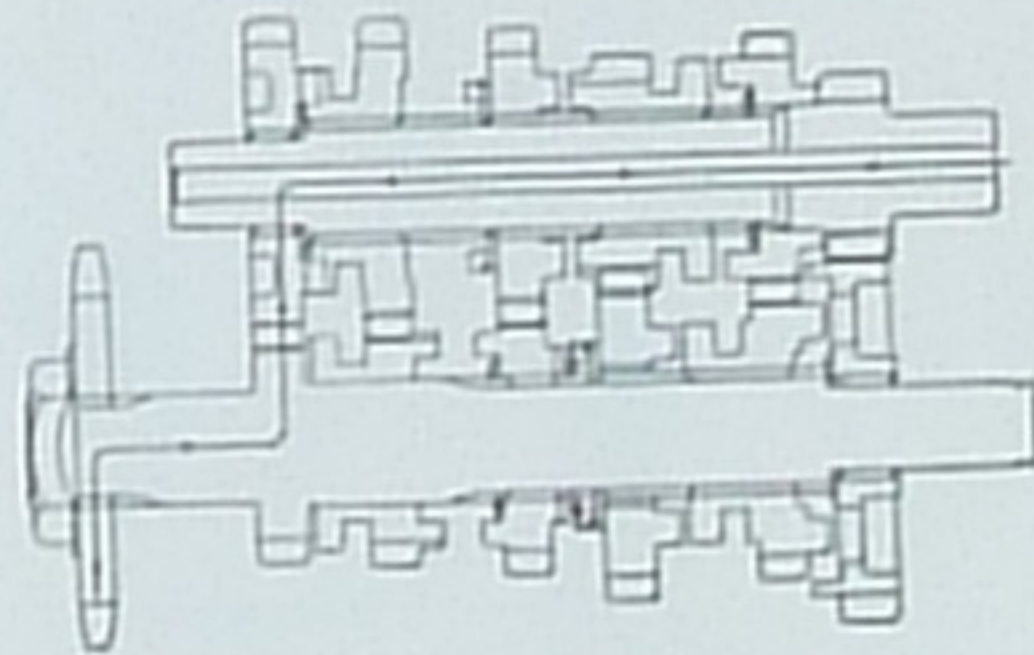


Fig. 6-7-8 Gear position for top speed

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.

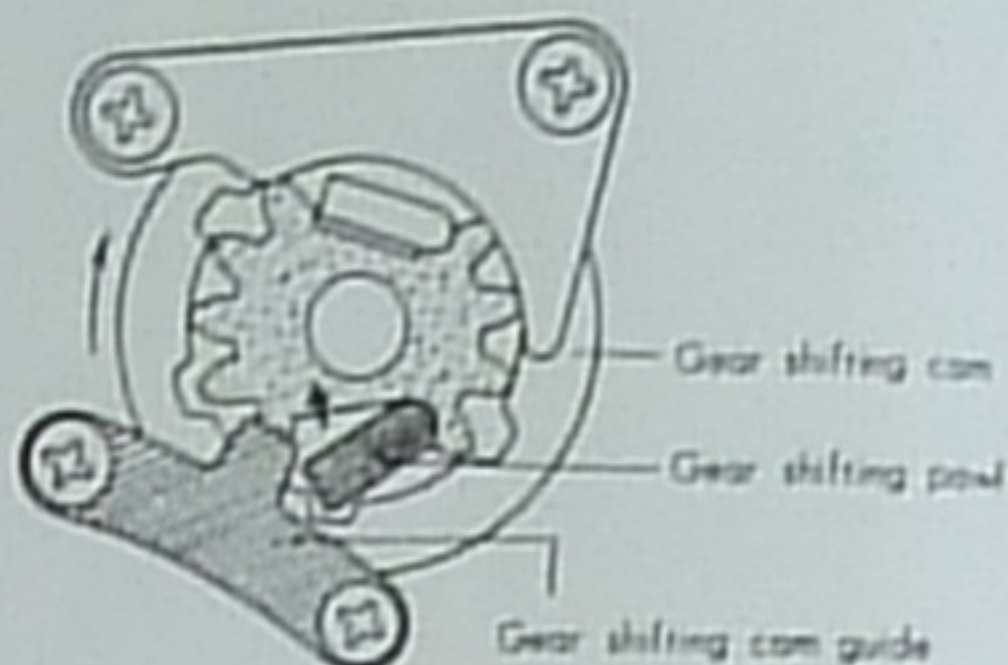


Fig. 6-8-1 Positive shift feature

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.

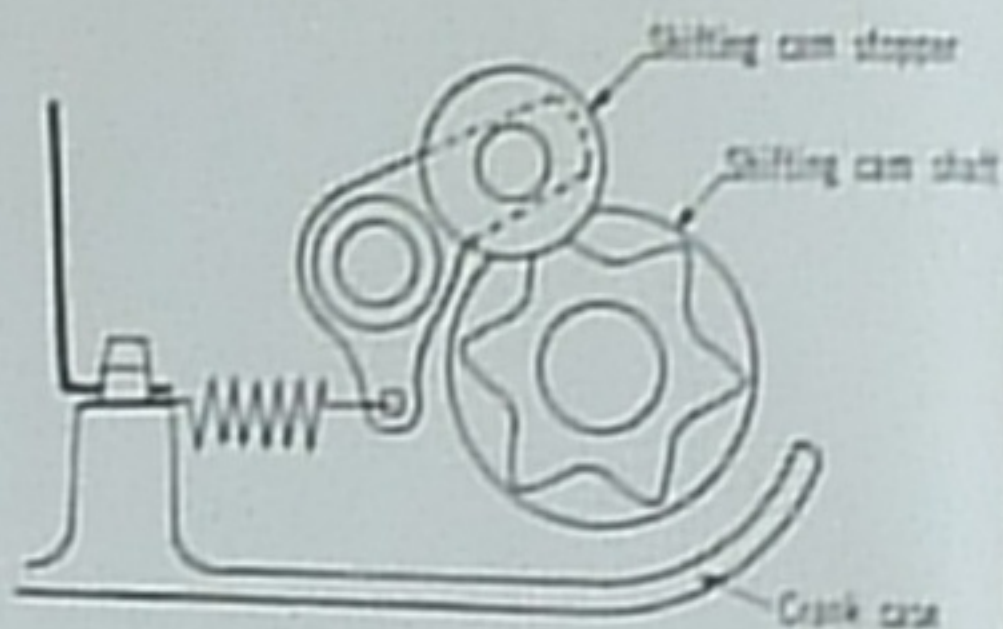


Fig. 6-8-2 Shifting cam stopper

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 unevenness 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 brake shoe to rub the low gear.

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

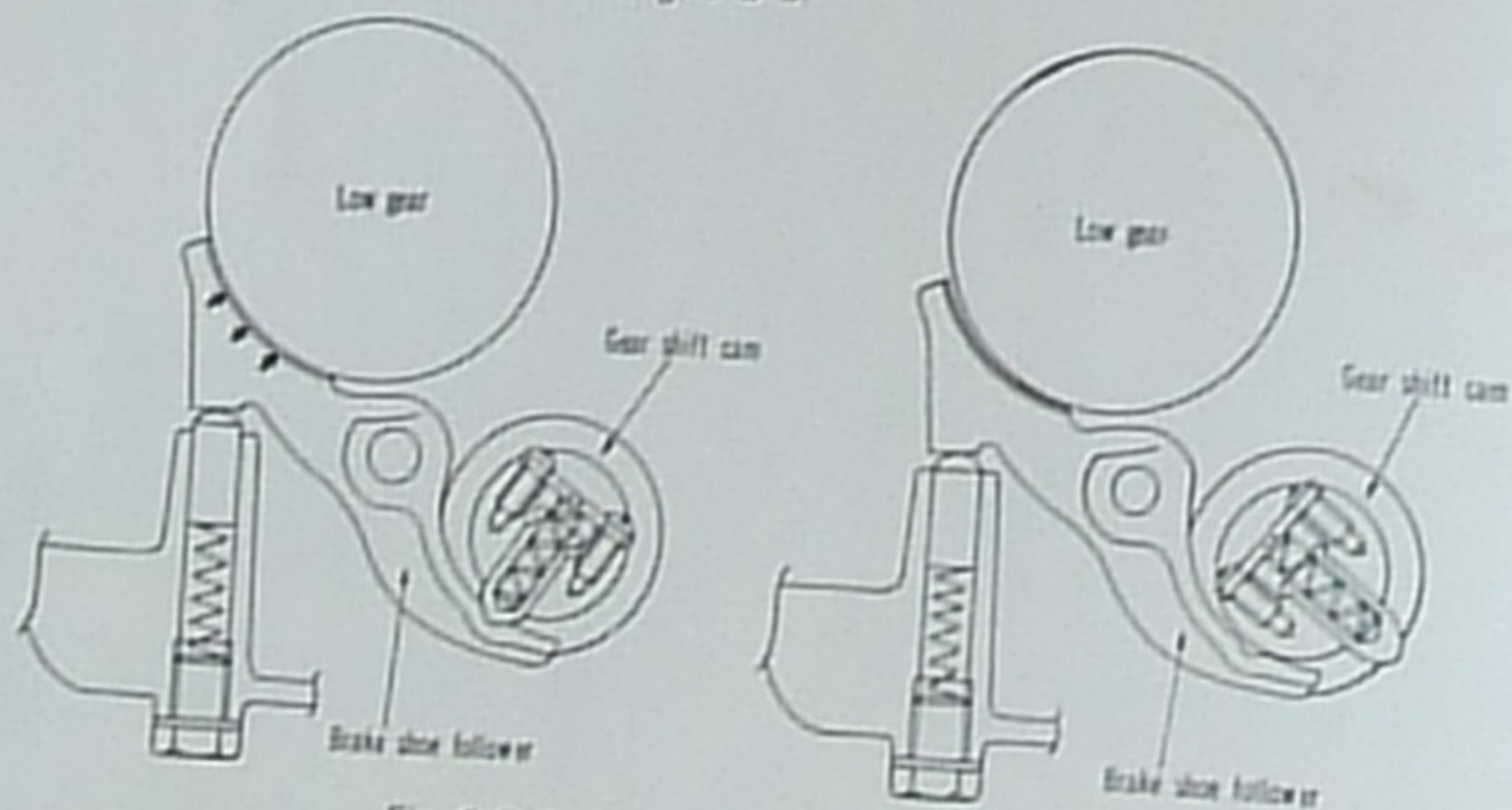


Fig. 6-8-3 Operation of neutral brake

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 wrong way, the gears cannot be shifted.

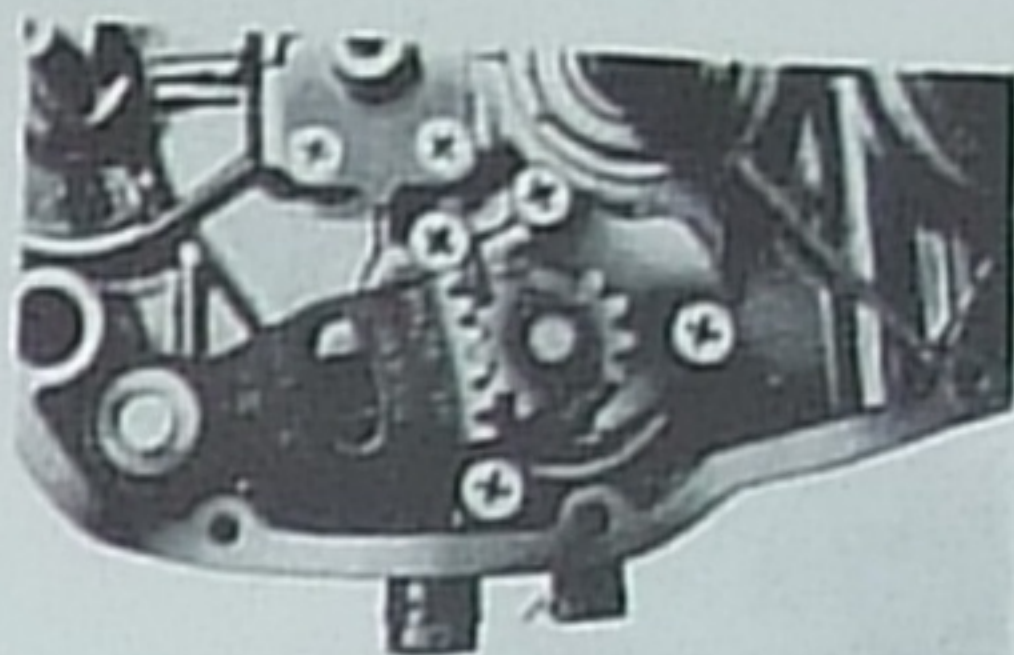


Fig. 6-8-4. Fitting gear shifting shaft arm

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

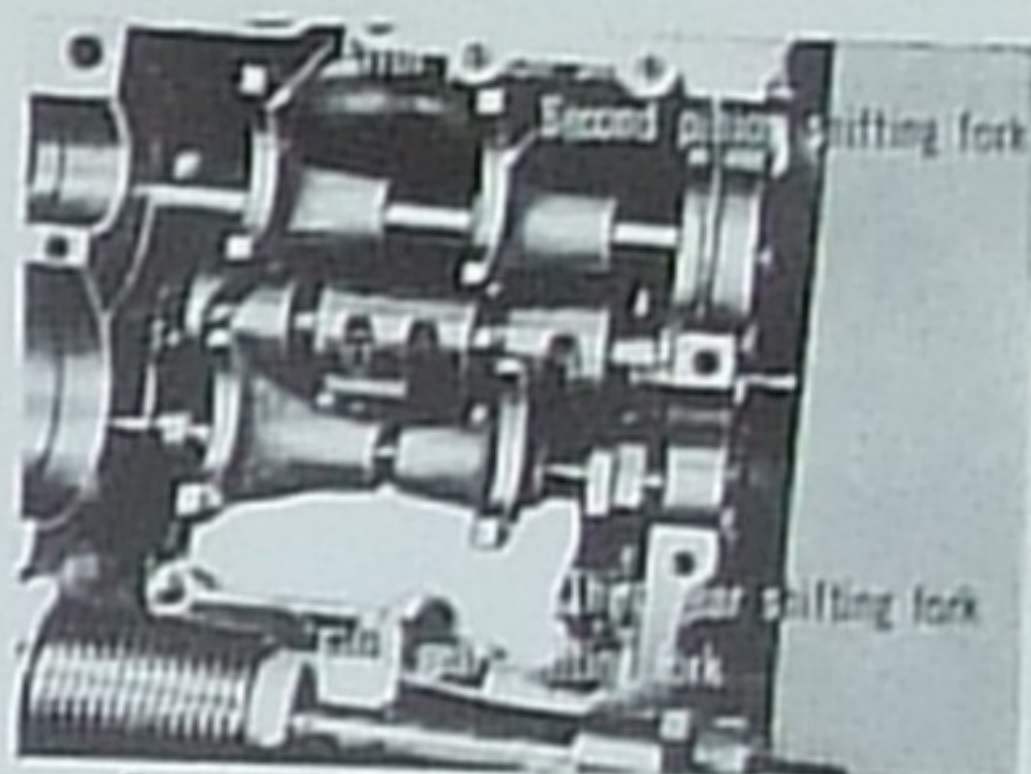


Fig. 6-8-5 Fitting shifting forks

6-9. Carburetors

6-9-1. Specifications

| Description | T250 | T350 |
|----------------|--------|--------|
| Type | VM245H | 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 carburation 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 toward 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) |

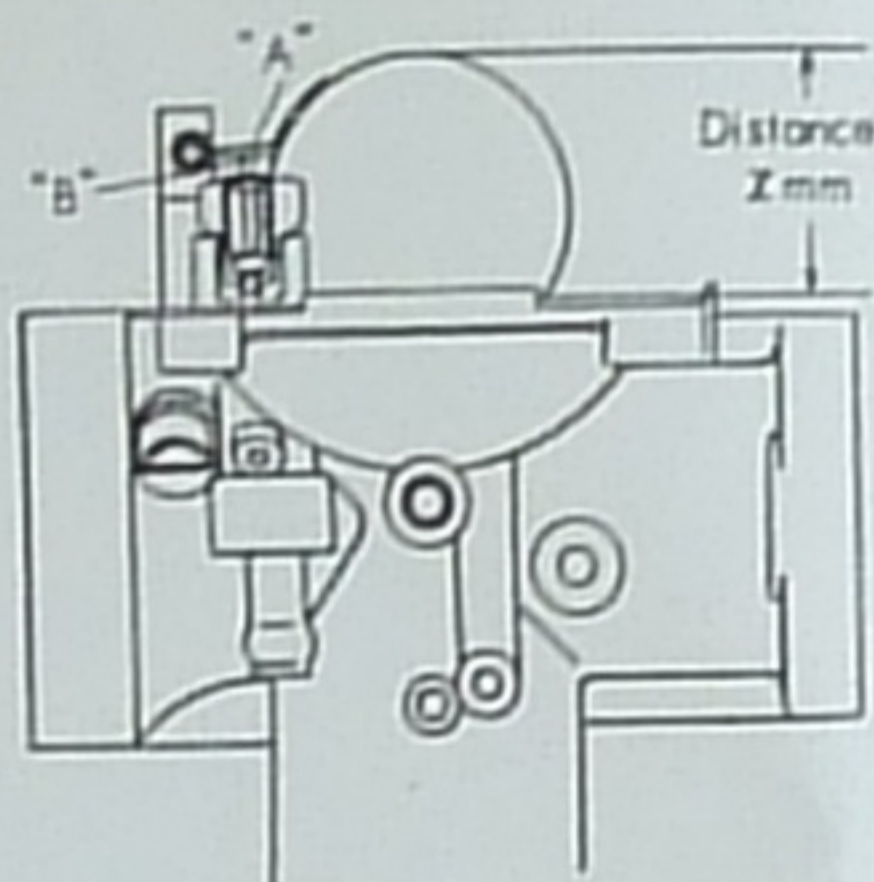


Fig. 6-9-1. Checking float level

6-9-3. Adjusting

| Throttle Opening | Too Rich Mixture | Too lean Mixture |
|-------------------------------|--|---|
| 0— $\frac{1}{2}$ | Turn pilot air adjusting screw out | Turn pilot air adjusting screw in |
| $\frac{1}{2}$ — $\frac{3}{4}$ | Use throttle valve with larger cutaway | Use throttle valve with smaller cutaway |
| $\frac{3}{4}$ — $\frac{1}{2}$ | Lower jet needle | Raise jet needle |
| $\frac{1}{2}$ —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 decreasence of #3 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.

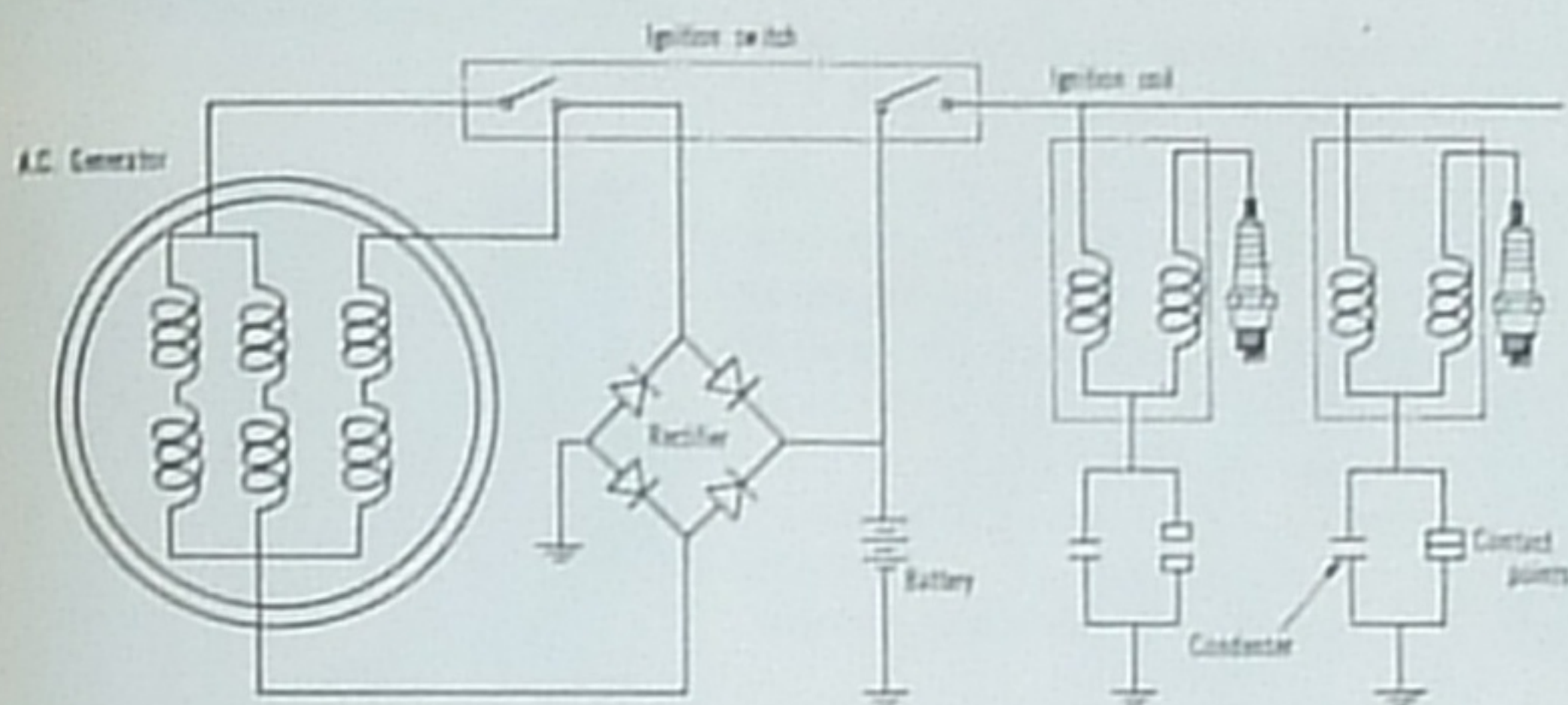


Fig. 7-1-1 A.C. generator wiring diagram

7-2-1. Specifications

| | |
|--------------------|-------------------|
| Weight | 2.9 Kg |
| Contact point gap | 0.35 mm |
| Condenser capacity | 0.22—0.28 μ F |
| 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 |

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 in). 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.

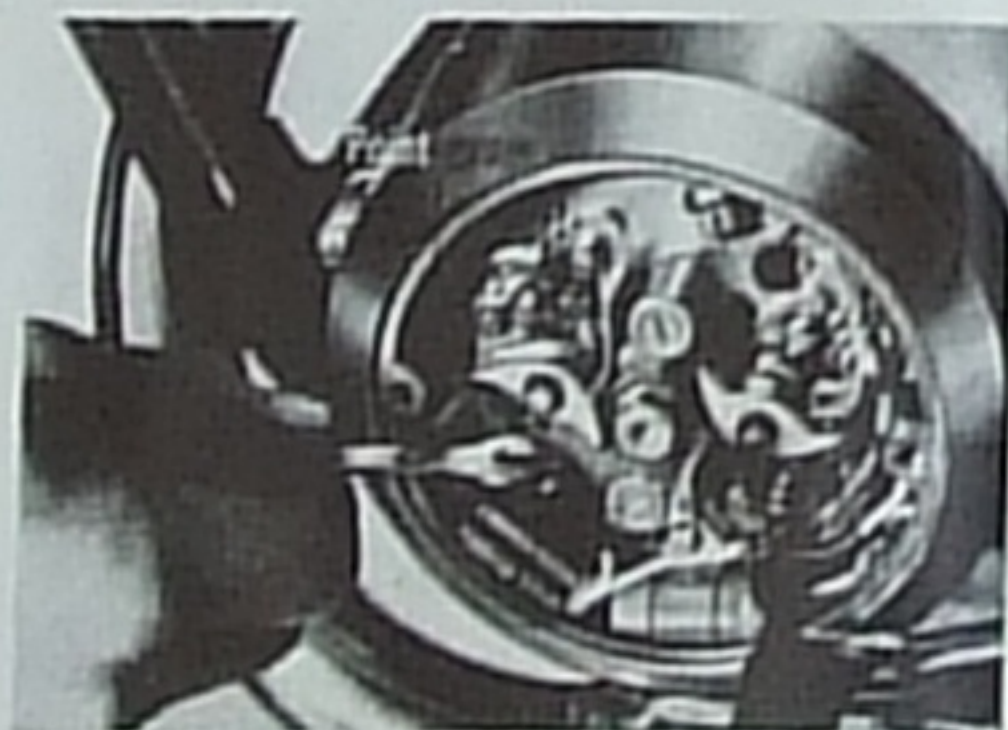


Fig. 7-2-2 Checking point gap



Fig. 7-2-3 Checking ignition timing

| Normal ignition timing (Piston distance, mm) | Retard Limit | | Standard | Advance Limit | |
|---|--------------|------|----------|---------------|------|
| | 2.47 | 2.65 | | 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.

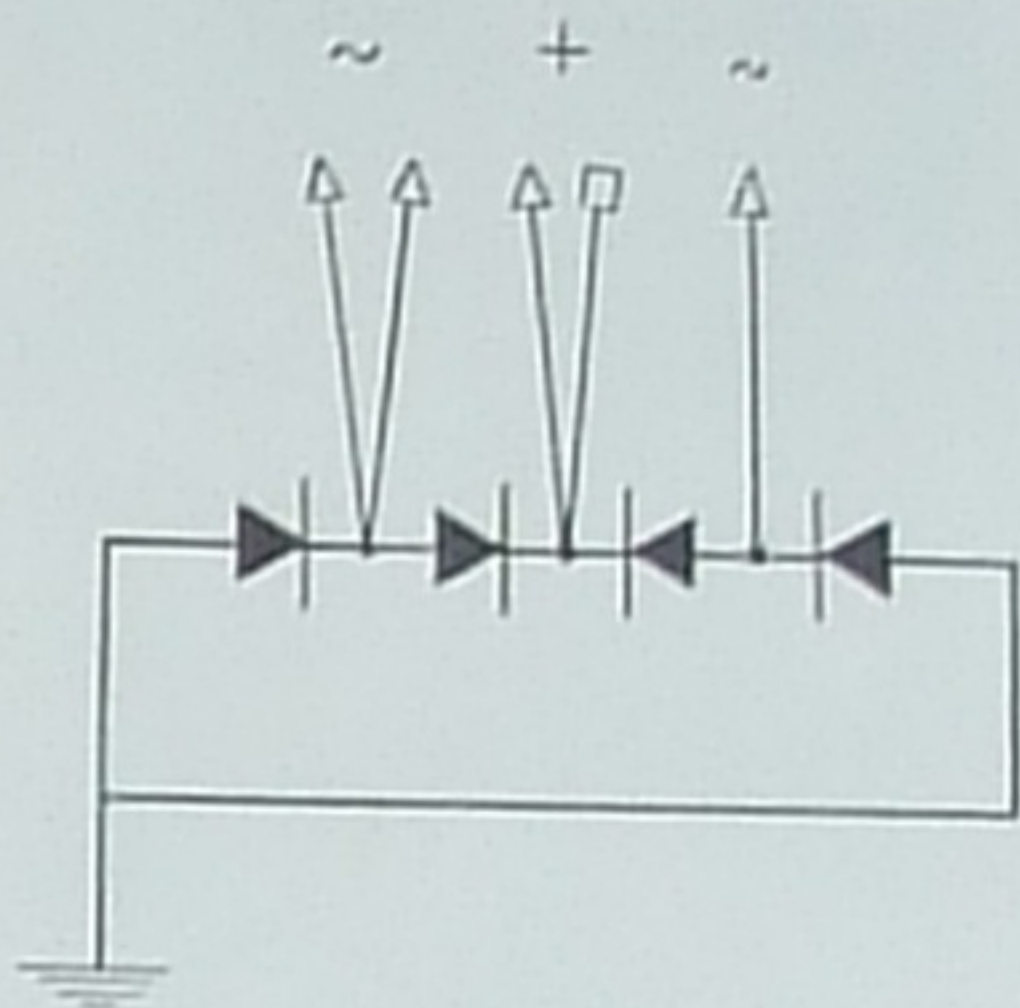


Fig. 7-3-1 Silicon rectifier.

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.

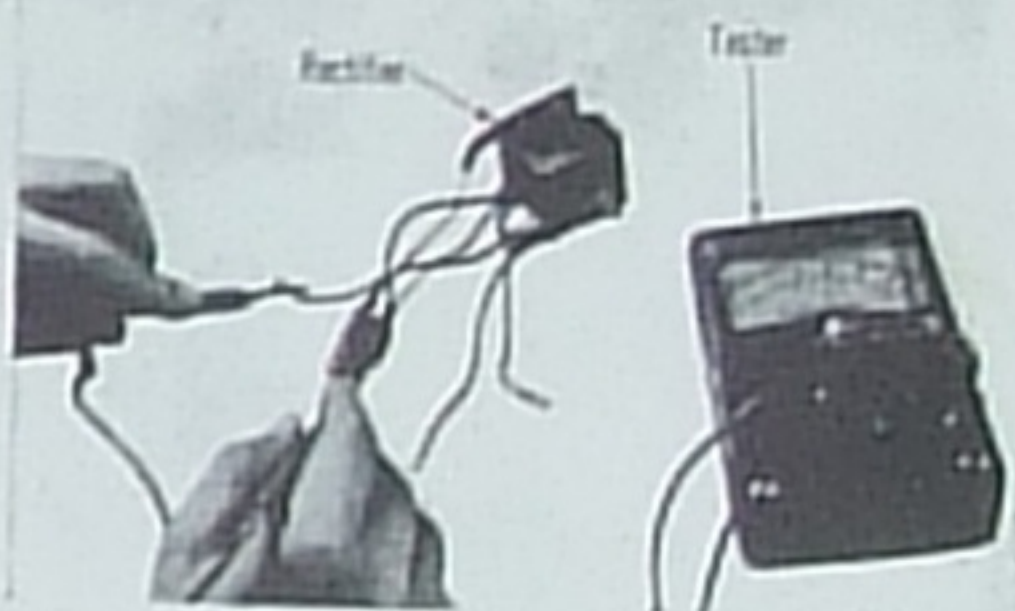
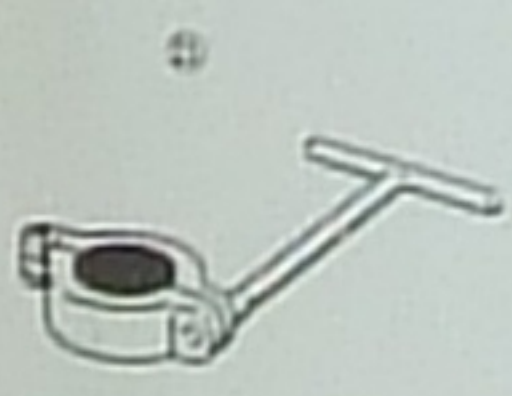
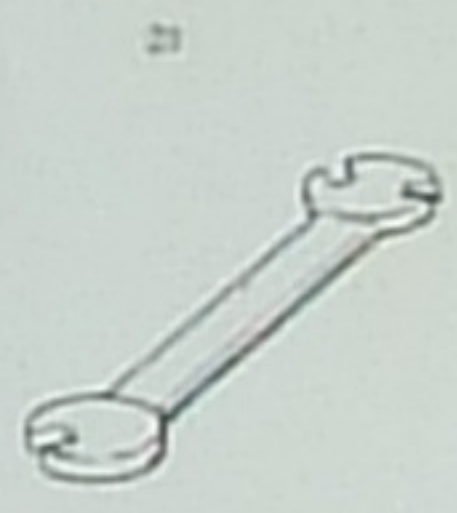
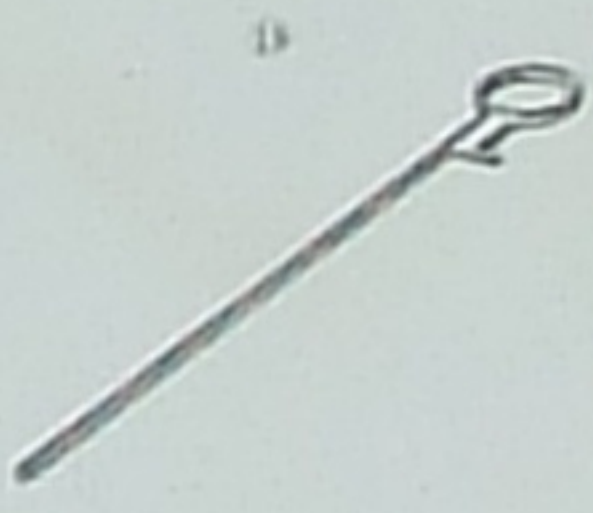
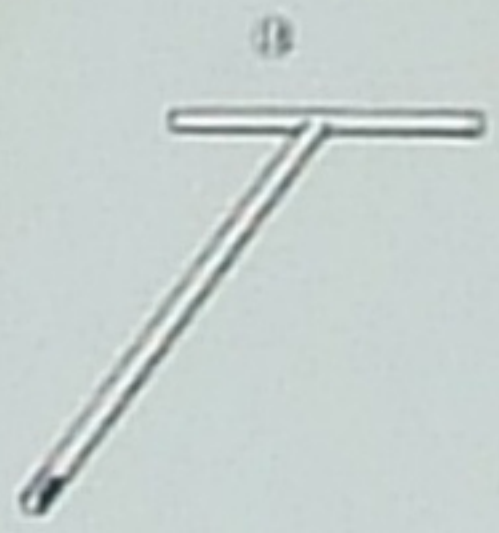
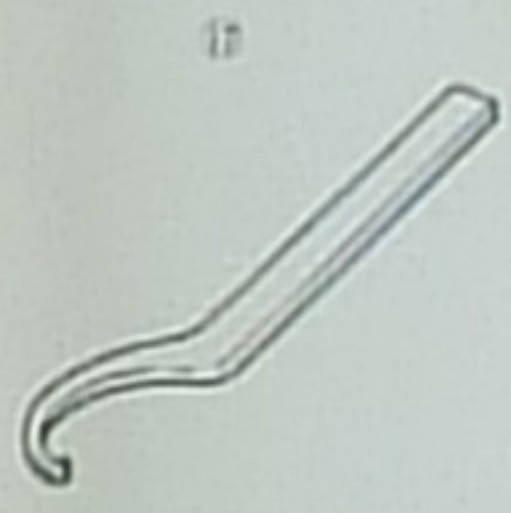
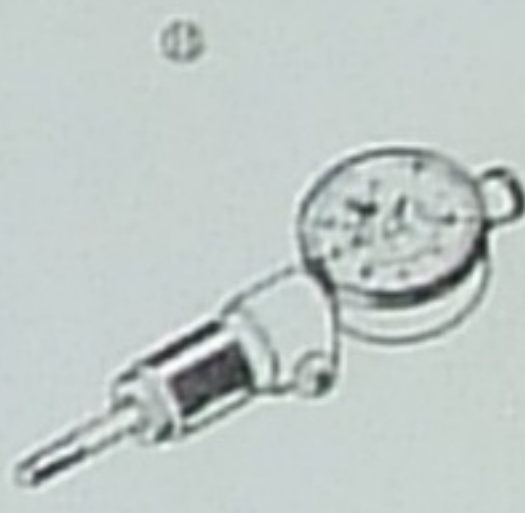
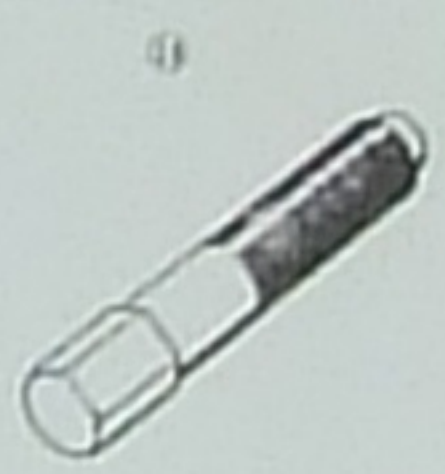
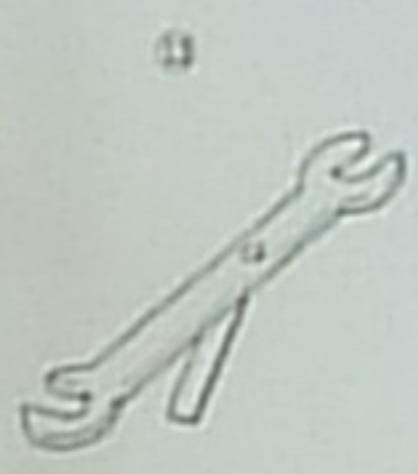
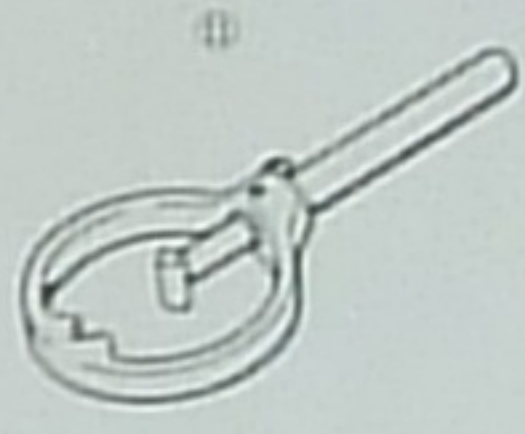
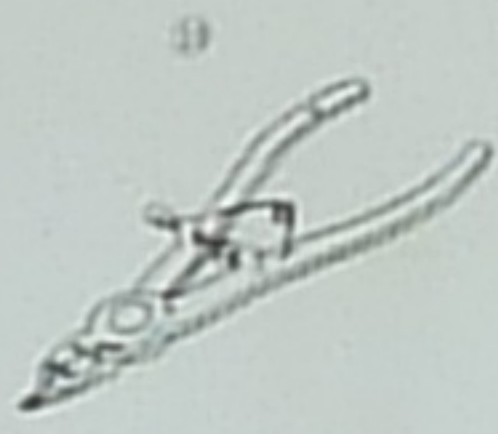
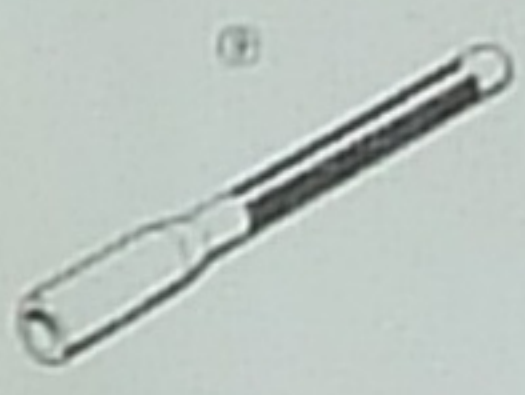
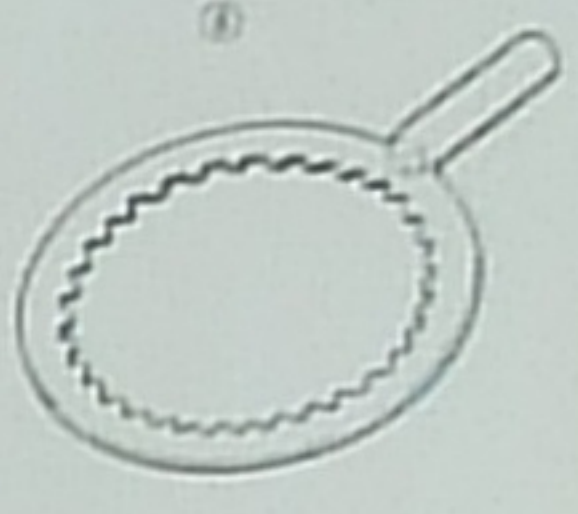
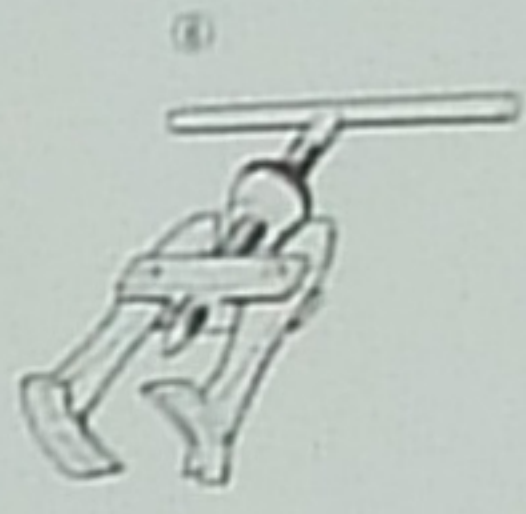
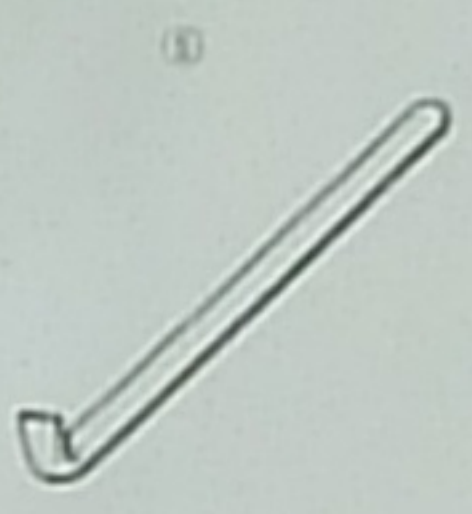
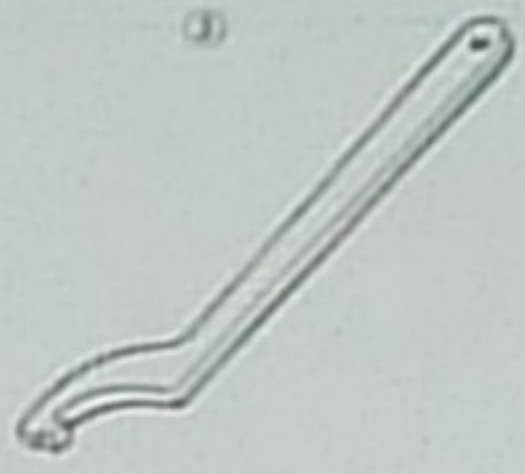
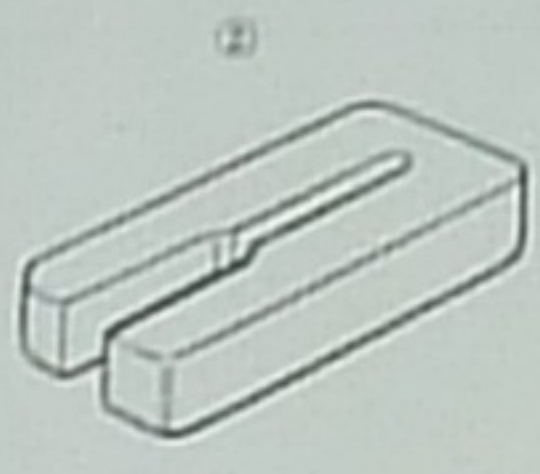
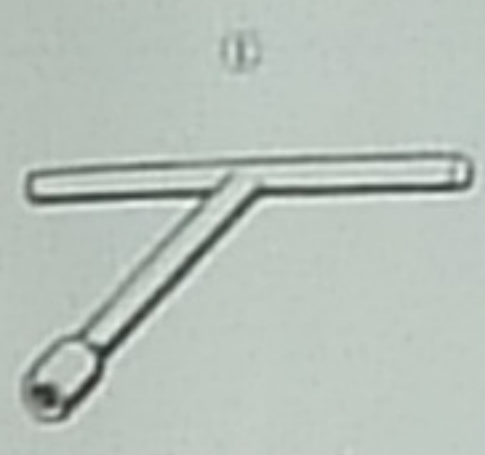


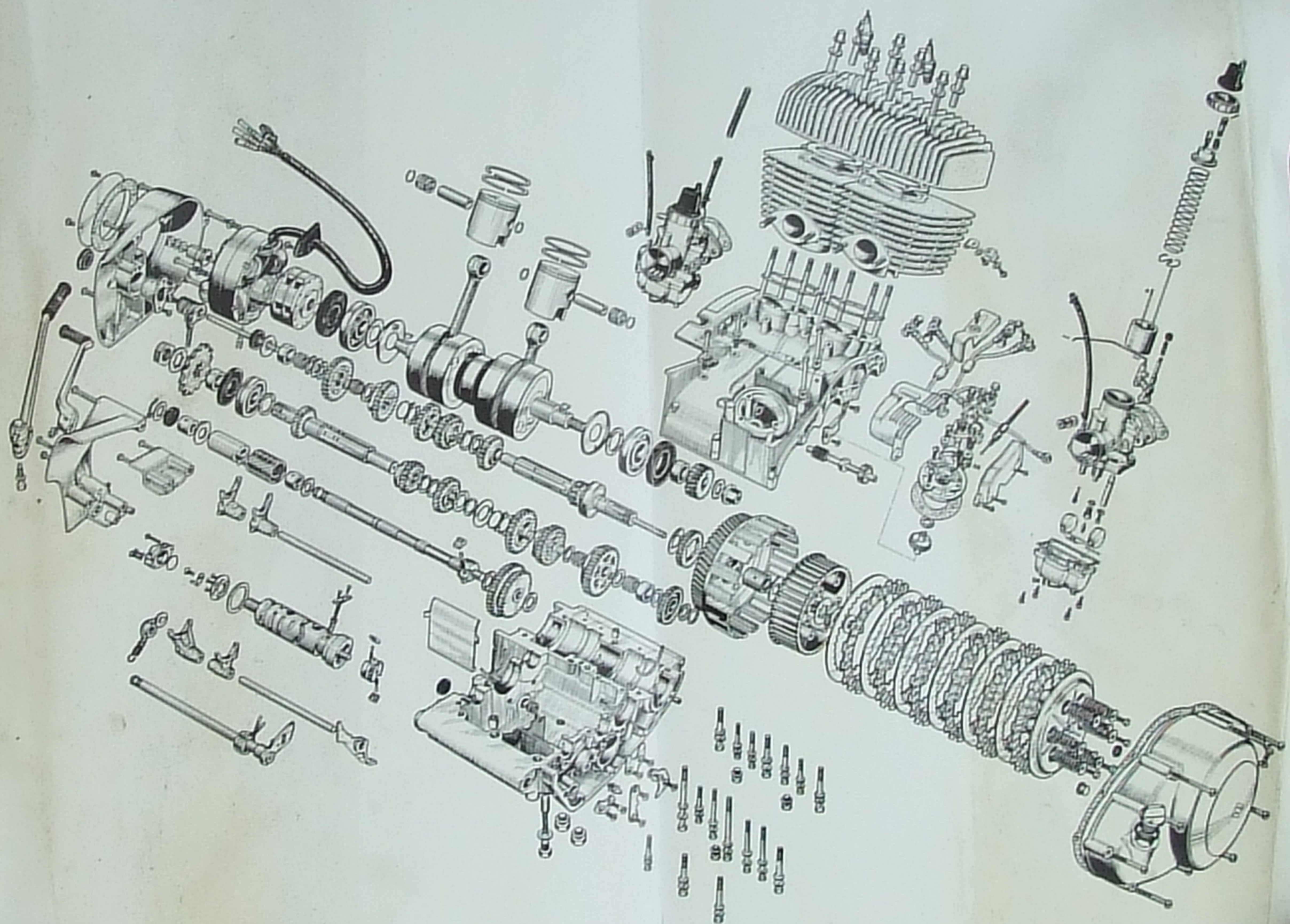
Fig. 7-3-2 Checking silicon rectifier

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 |

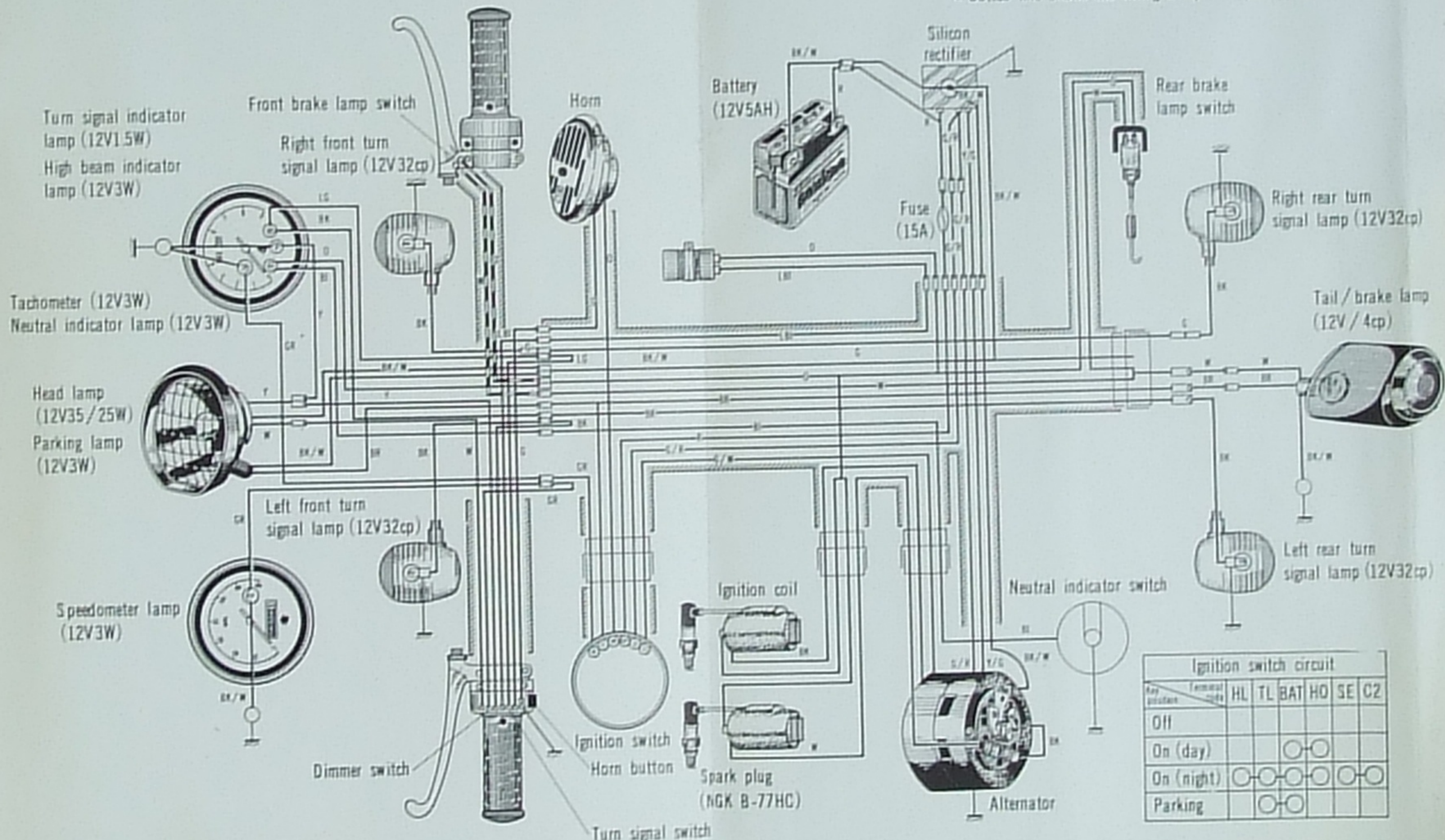


SUZUKI T250/T350 ENGINE CHART



SUZUKI T250/T350 WIRING DIAGRAM

⚡ Dotted line shows the wiring of special specifications.



| Key position | Terminal | HL | TL | BAT | HO | SE | C2 |
|--------------|----------|----|----|-----|----|----|----|
| Off | | | | | | | |
| On (day) | | | | ○ | ○ | | |
| On (night) | | ○ | ○ | ○ | ○ | ○ | |
| Parking | | ○ | ○ | | | | |

- W-----White
- R-----Red
- Y-----Yellow
- G-----Green
- O-----Orange
- Bl-----Blue
- BK-----Black
- GR-----Gray
- LG-----Light Green
- BR-----Brown
- LBl-----Light Blue
- BK/W---Black with White tracer
- Y/G-----Yellow with Green tracer
- G/W-----Green with White tracer
- G/R-----Green with Red tracer



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