

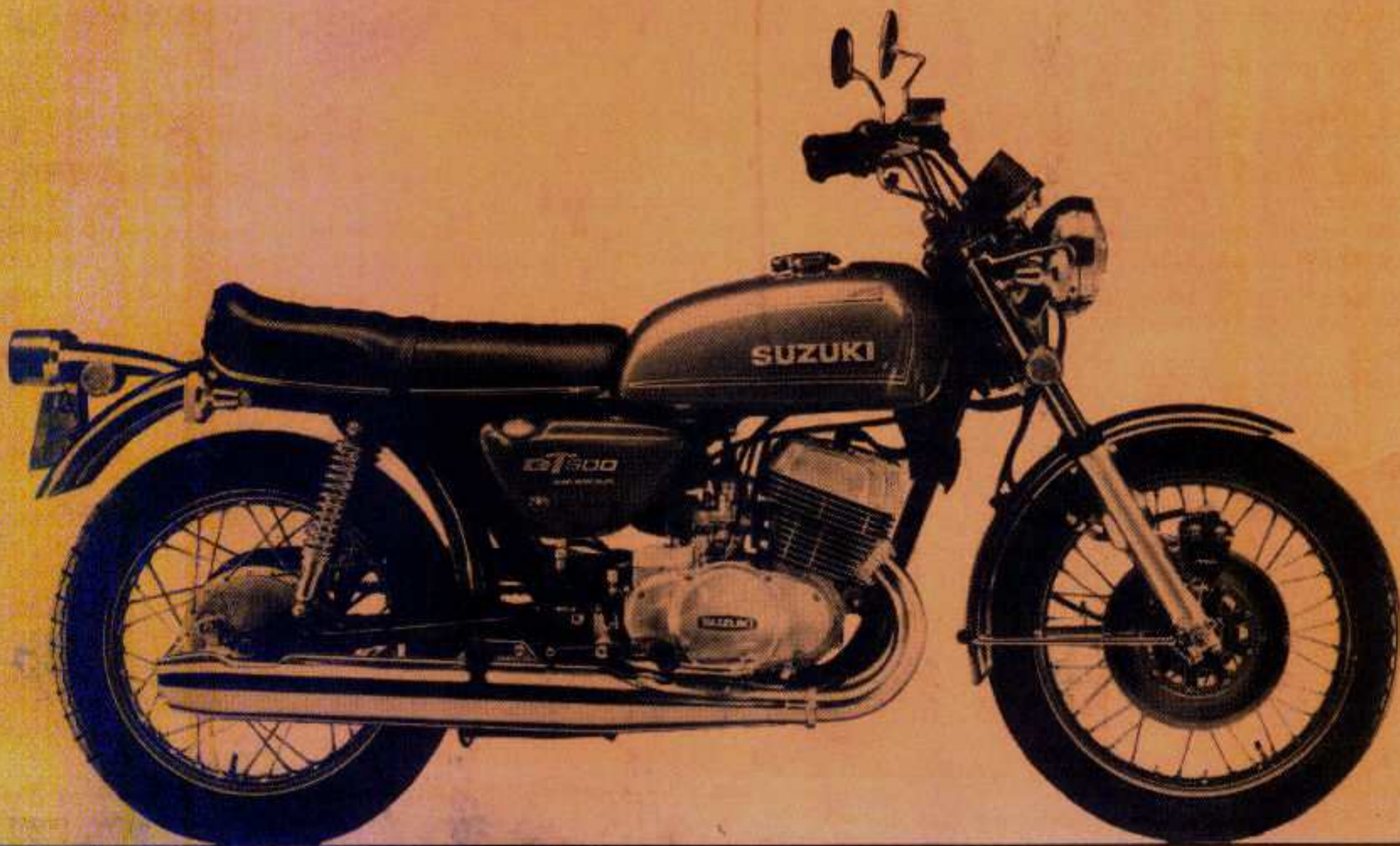


NEW MODEL

TECHNICAL BULLETIN

SUZUKI

GT500A



INTRODUCTION

Model GT500—the new 500-cc sport model already introduced in other SUZUKI publications—is described here in greater detail to emphasize its sales points to our SUZUKI salesmen.

The new GT500 has been developed by redesigning Model T500, the 500-cc machine that had thrilled and delighted thousands of speed enthusiasts all over the world, and now comes with improved features in its brakes, suspension, electrical equipment and body to repeat the success with which the old T500 model was met years ago when it made a debut.

Additional information is given in this booklet on interchangeability of parts between Model GT500 and Model T500 and also on maintenance of the new model. This booklet is thus intended not only for salesmen but also for those engaged in servicing work or in control of spare and replacement parts supply.

SUZUKI MOTOR CO., LTD.

*Service Department
Overseas Marketing Division*

NEW FEATURES ON MODEL GT500

As contrasted to the predecessor Model T500, the new model has these new features:

- **DISC BRAKE** – *Front wheel is equipped with a disc brake for improved braking performance.*
- **NEWLY DESIGNED FRONT FORK** – *Outer tubes of the front fork are made of a high-strength aluminum alloy for weight reduction and, hence, increased stability of steering control.*
- **LARGE-CAPACITY FUEL TANK** – *A 17-litre tank is fitted to Model GT500 to cover a greater mileage with a single filling than was possible with Model T500.*
- **LARGE-SIZE TURN SIGNAL LAMPS** – *To secure greater safety on the road.*
- **SUZUKI "PEI"** – *The conventional ignition system is supplanted by the SUZUKI "PEI" system to make available increased ignition energy to the spark plugs.*

SPECIFICATIONS

DIMENSIONS AND WEIGHT

Overall length	2,206 mm (86.9 in)
Overall width	880 mm (34.6 in)
Overall height	1,135 mm (44.7 in)
Wheelbase	1,466 mm (57.7 in)
Ground clearance	160 mm (6.3 in)
Dry weight	179 kg (395 lbs)

ENGINE

Type	Two-stroke cycle, air-cooled gasoline engine
Intake system	Piston valve
Number of cylinders	2
Bore	70.0 mm (2.76 in)
Stroke	64.0 mm (2.52 in)
Piston displacement	492 cc (30.0 cu in)
Corrected compression ratio	6.6 : 1
Carburetor	Two, MIKUNI VM32SS
Air cleaner	Wet polyurethane filter
Starter system	Kick
Lubrication system	SUZUKI "CCI"

TRANSMISSION SYSTEM

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down 4-up
Primary reduction	2.500 (65/26)
Final reduction	2.200 (33/15)
Gear ratios, low	2.500 (30/12)
2nd	1.563 (25/16)
3rd	1.158 (22/19)
4th	0.955 (21/22)
top	0.870 (20/23)
Drive chain, size	DAIDO, #50HDS
number of links	110 links

CHASSIS

Front suspension	Telescopic fork with hydraulic damper
Rear suspension	Swinging arm with hydraulic damper, spring 5-way adjustable
Steering angle	40° (right & left)
Caster	61°
Trail	121 mm (4.76 in)
Turning radius	2.6 m (8.53 ft)
Front brake	Hydraulic operated, caliper disc
Rear brake	Mechanical, internal expanding
Front tire size	3.25S19-4PR
Rear tire size	4.00S18-4PR

ELECTRICAL

Ignition type	SUZUKI "PEI"
Ignition timing	24° B.T.D.C.
Battery	12V 7AH
Generator	Flywheel magneto

CAPACITIES

Fuel tank including reserve	17 lit (4.5/3.7 US/Imp gal)
reserve	3.5 lit (0.9/0.8 US/Imp gal)
Engine oil tank	1.8 lit (3.8/3.2 US/Imp pt)

* The specifications are subject to change without notice.

DETAILS OF NEW FEATURES

Each new feature will be described in detail in contrast to its counterpart in the predecessor Model T500:

CHASSIS

Front Fork

Note the differences, in the illustrations below, between GT500 and T500 in terms of the front fork. Weight reduction is made in GT500 by using aluminum-alloy outer tubes in the fork in order to secure improved damper performance.

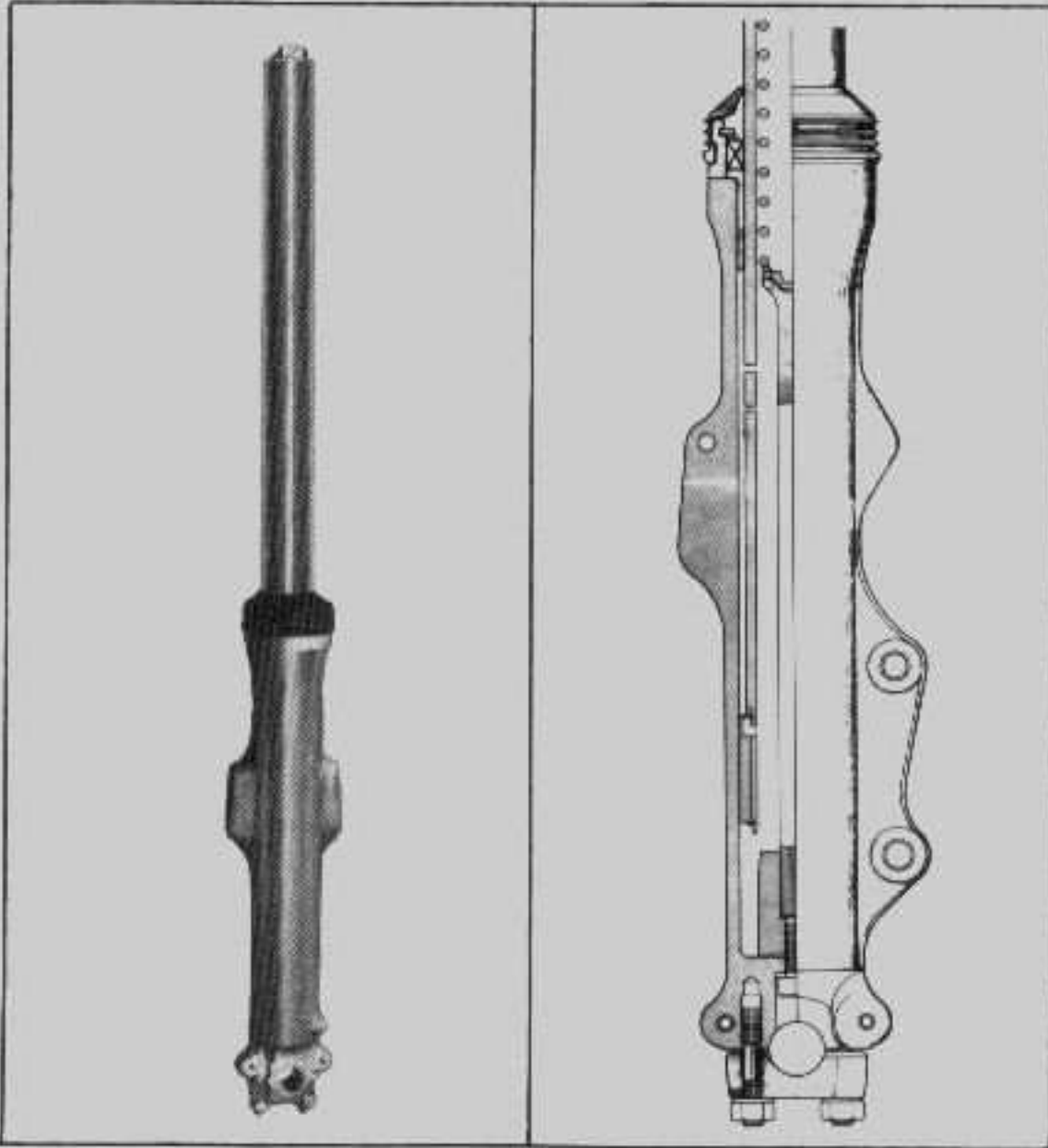


Fig. 1. GT500 Front Fork

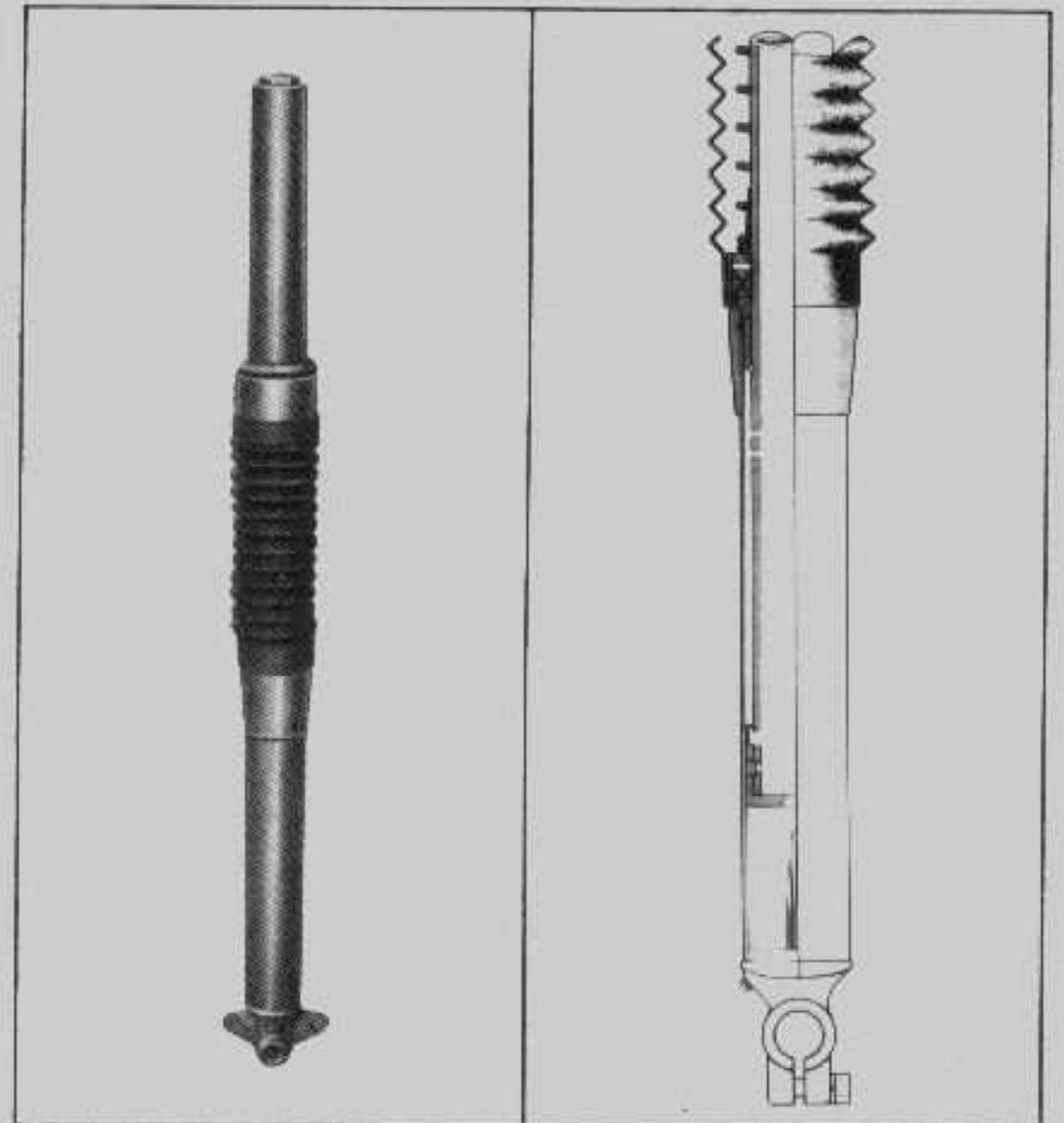


Fig. 2. T500 Front Fork

Front Brake

The unmistakable mark of difference between GT500 and T500 that hits the eyes of the beholder is the front brake: a caliper-type disc brake is incorporated as the front brake in GT500 to provide a braking performance better suited to high-speed cruising.

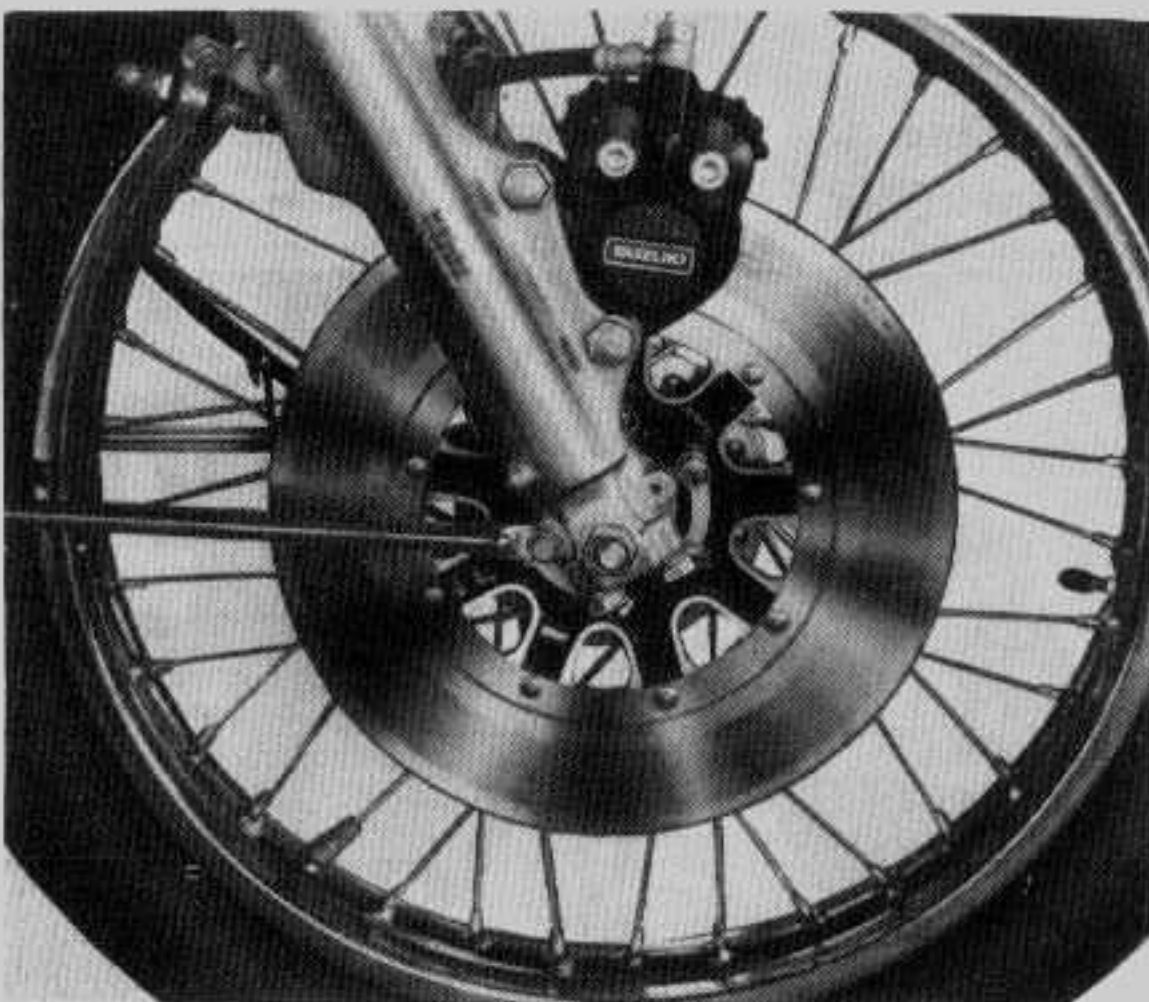


Fig. 3. GT500 Front Brake

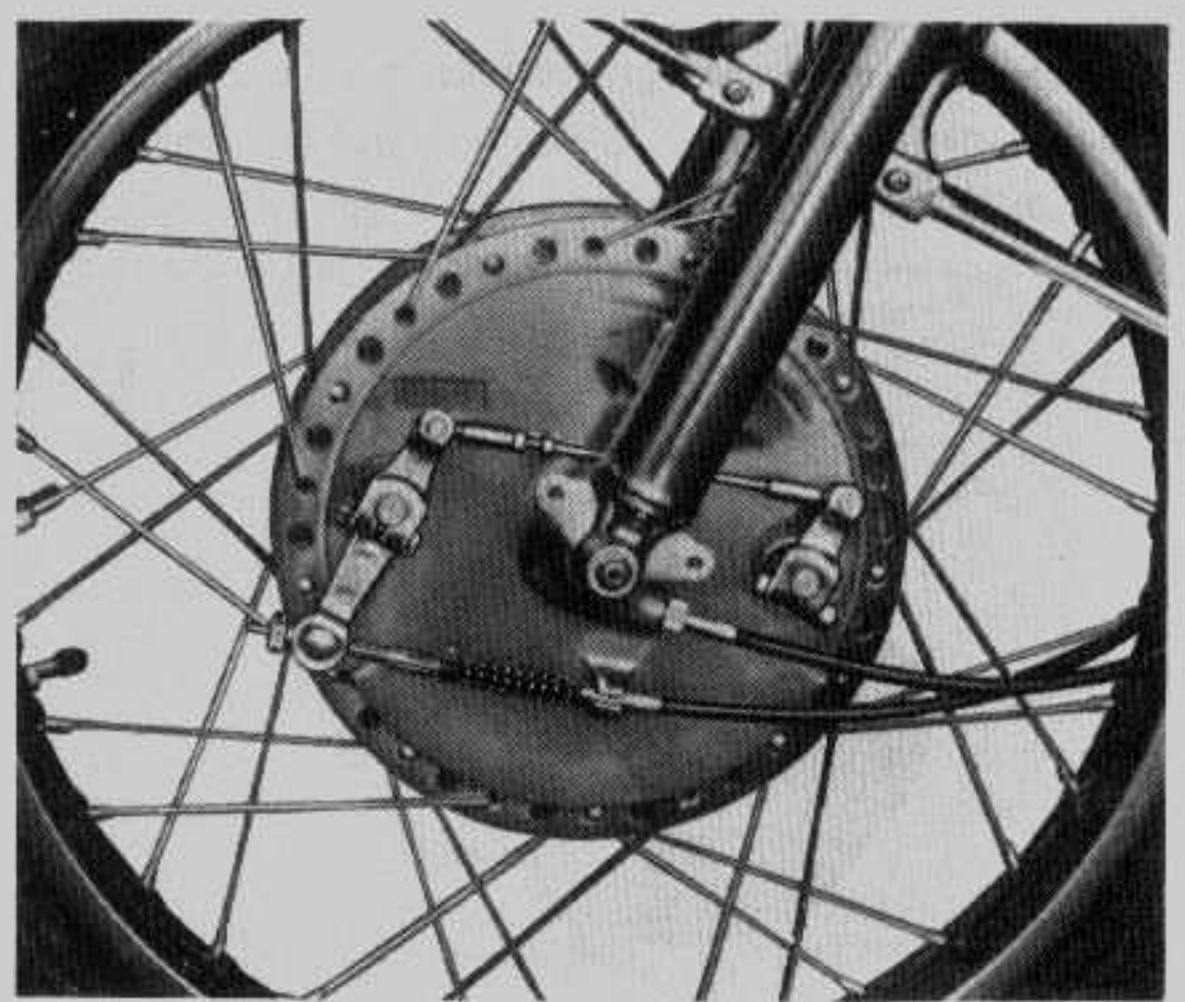


Fig. 4. T500 Front Brake

Front Fender

The brace staying the front fender in T500 is omitted in GT500; instead, the front fender of GT500 is stayed differently to present a sharp, sporty appearance at the front end.

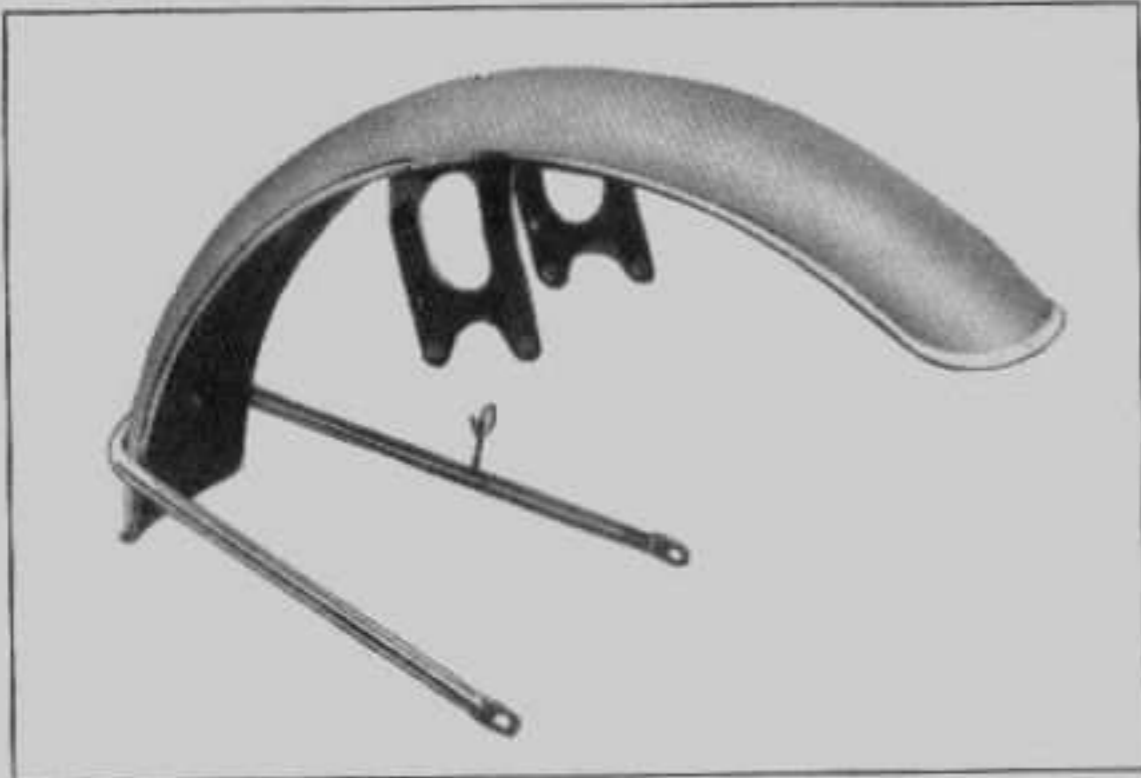


Fig. 5. GT500 Front Fender

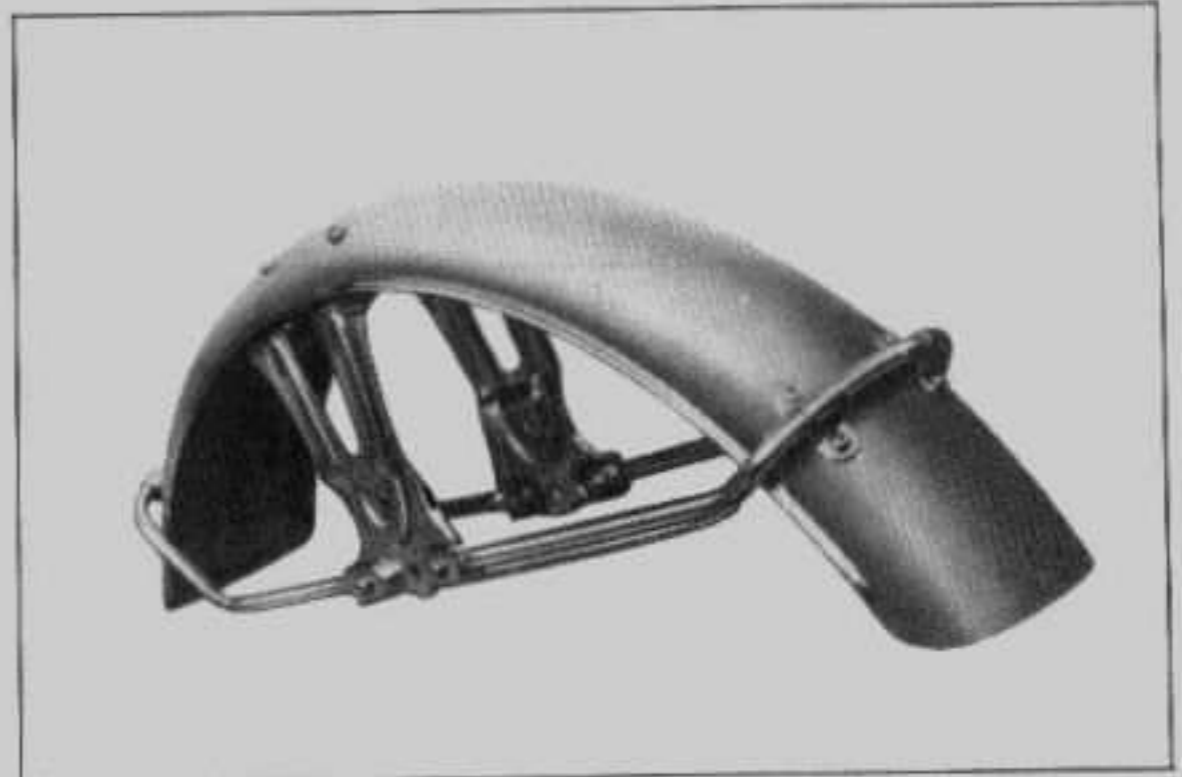


Fig. 6. T500 Front Fender

Turn Signal Lamps

The lamps of GT500 are larger so that they can be recognized at a much greater distance to add to the ability of this machine to avoid accidents.



Fig. 7. GT500 Turn Signal Lamp

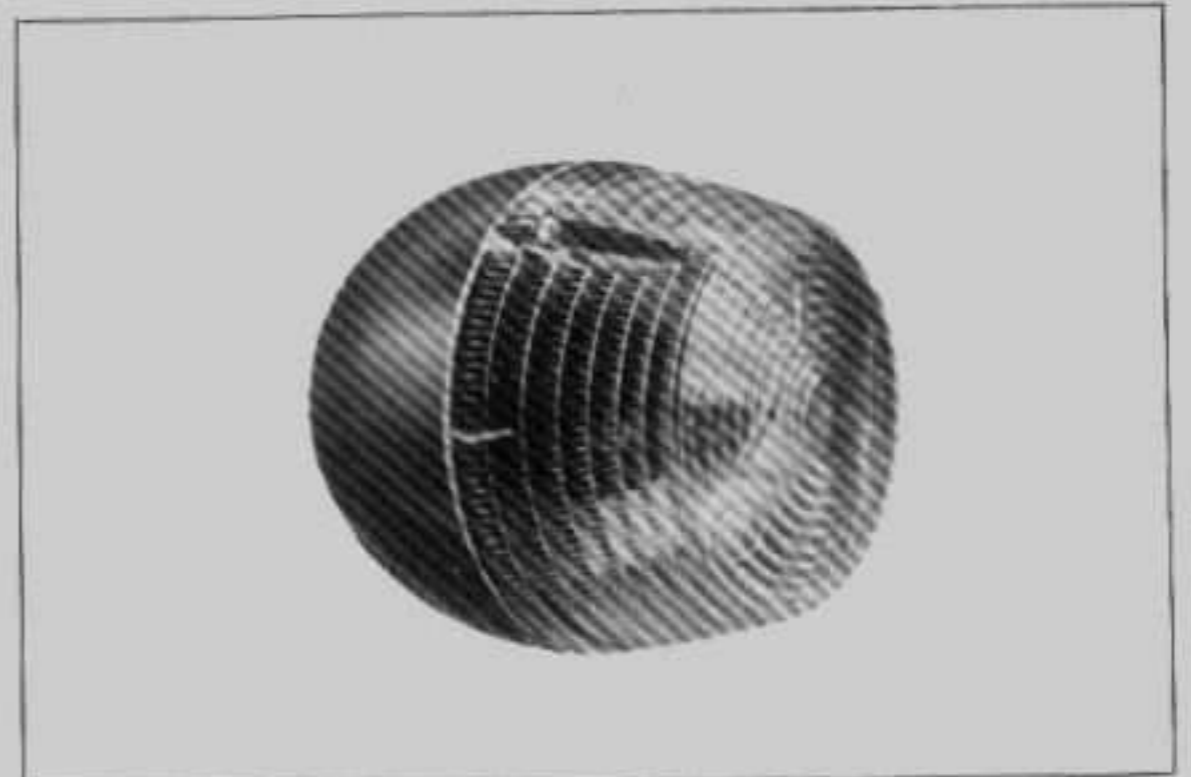


Fig. 8. T500 Turn Signal Lamp

Meter Assembly and Ignition Switch

Sun visors are added, and the ignition switch is relocated. Thus, the meters are easier to read, and the switch is easier to operate.



Fig. 9. Meters and Ignition Switch in GT500



Fig. 10. Meters and Ignition Switch in T500

Fuel Tank

The fuel tank of GT500 holds 3 litres more fuel than that of T500. Note the difference in shape between the two tanks: one holds 14 litres while the other holds 17 litres.



Fig. 11. GT500 Fuel Tank
17 lit. (4.5/3.7 US/Imp gal)



Fig. 12. T500 Fuel Tank
14 lit. (3.7/3.1 US/Imp gal)

Rider's Seat

GT500 has a wider and softer seat.



Fig. 13. GT500 Seat



Fig. 14. T500 Seat

Rear Shock Absorbers

The cover is done away with in GT500 to make the absorber look simplistic and sporty.

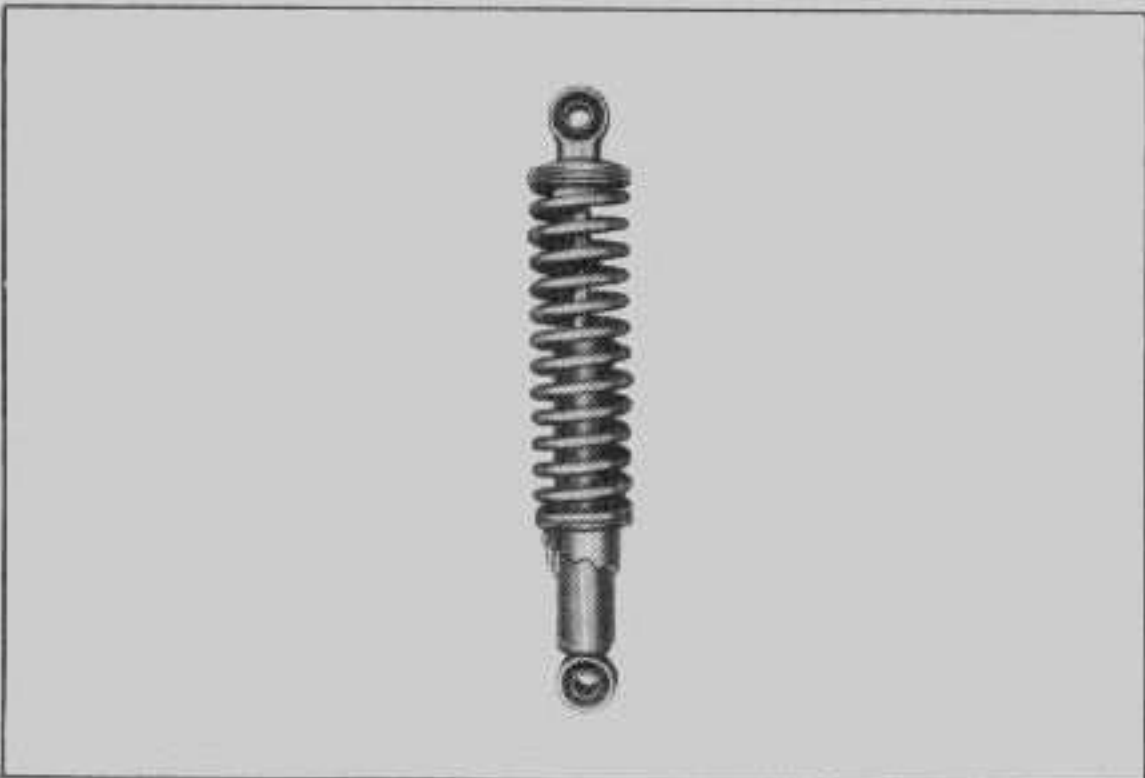


Fig. 15. GT500 Rear Shock Absorber



Fig. 16. T500 Rear Shock Absorber

ELECTRICAL

SUZUKI "PEI" System for Greater Ignition Energy

It will be recalled that, in Model T500, the spark plugs receive energy in the conventional manner, that is, through a contact breaker and an ignition coil. The "PEI" system (for Point-less Electronic Ignition system) used in GT500 is a radical departure not only because it replaces the conventional system but also because this "PEI" system includes innovations and thus differs from the "PEI" system that has long been applied to SUZUKI single-cylinder motorcycles.

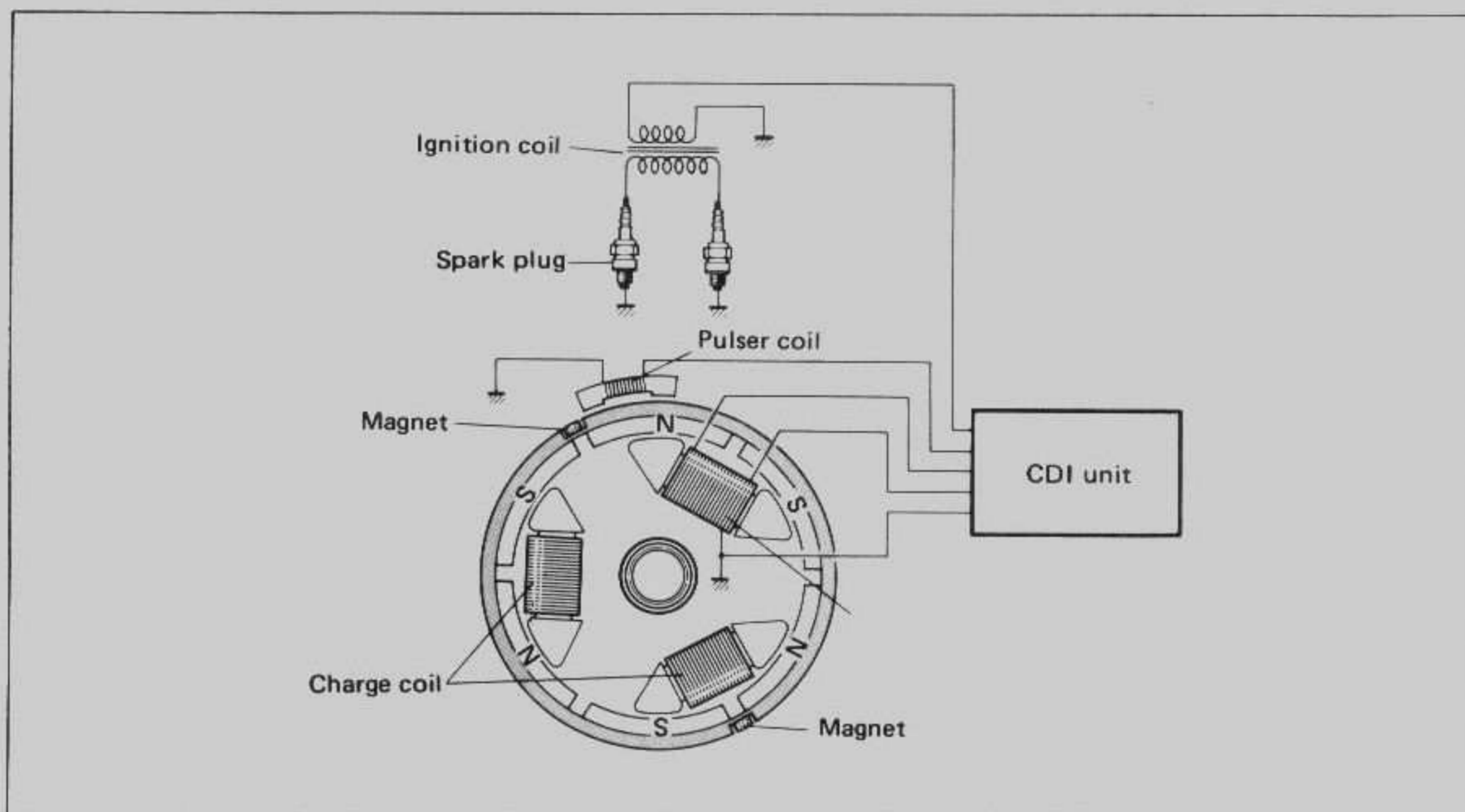


Fig. 17. Ignition System of GT500

Note that the new "PEI" differs from the old one in this regard: the pulser coil for producing signals to trigger the "CDI" unit is located close to the periphery of the flywheel, and is excited by a small magnet imbedded in the flywheel. In operation, as the magnet moves past the pulser coil, a trigger signal is induced in the coil: this intermittent induction corresponds to the contact points separated by the cam in the conventional contact breaker. Actually, there are two such magnets, 180° apart.

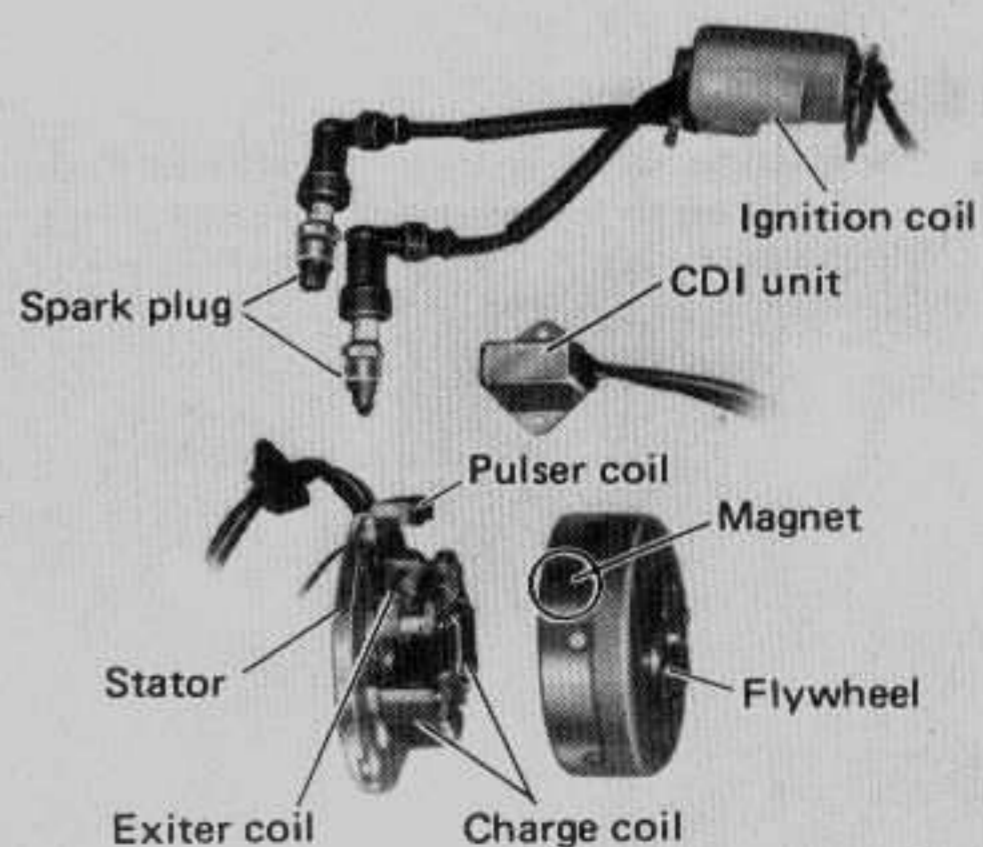


Fig. 18. Components of GT500 Ignition System

For one familiar with the SUZUKI "PEI" system hitherto used in other SUZUKI models, it is obvious that the excitation magnet—the small magnet carried by the flywheel—is discrete from the exciter coil and charge coils and thus represents a new feature of the GT500 "PEI" system. It follows from this feature that the signal-producing action of the pulser coil in terms of timing and signal intensity is not affected at all by the loaded condition of the three coils. Ignition is stable and reliable in Model GT500.

In the "PEI" system hitherto used, the pulser coil is continuously excited to deliver alternating current and its output voltage is devised to intermittently drive the "CDI" unit: in other words, the "CDI" unit is triggered when the pulser coil output voltage rises to a certain level. Although this method permits the ignition timing to be electronically varied for automatic advancing, the merit of the automatic advancing action is canceled off by the fact that the timing becomes disturbed when electrical load on the generator increases, as in night driving or battery charging, to affect the performance of the pulser coil.

The ignition coil used in the "PEI" system of GT500 is slightly different in that each end of its secondary winding is connected through a cord to the spark plug. Thus, the two plugs receive sparking energy at the same time.

MAINTENANCE INFORMATION

Maintenance for GT500 is generally the same as for T500. There are minor differences, however, because of the new features given to GT500. Of those differences relative to inspection, checking and servicing, the ones meriting discussion will be taken up with a view to thoroughly acquainting the servicemen with Model GT500:

Checking and Adjusting Ignition Timing

As long as the screws securing the stator are tight, the ignition timing initially set remains undisturbed to require no re-adjustment. Since engine disassembly involves the removal and installation of the stator, the methods of adjusting and checking the timing will be described:

IGNITION TIMING ADJUSTMENT

Stator has a line mark (shown as "A") and, similarly, crankcase has a line mark (shown as "B"), as will be seen in Fig. 19. Align the two lines by adjusting the stator in place: this sets the timing to the specification. Secure the stator in that position by tightening the screws.

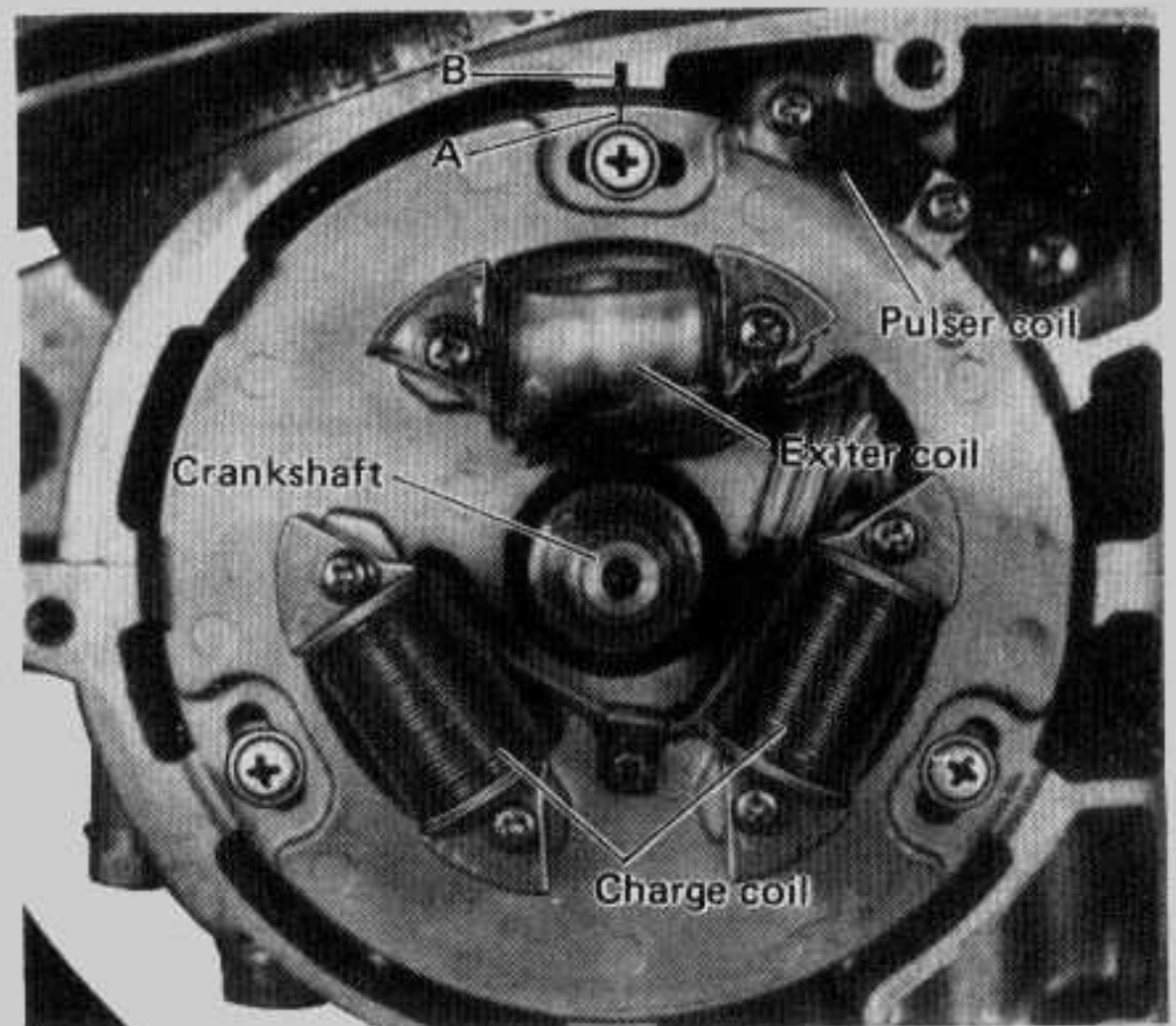


Fig. 19. Timing Marks on Stator and Crankcase

CHECKING THE TIMING

All you have to do is this: check to be sure that lines "A" and "B", mentioned above, are aligned. Remove magneto cover (left cover) to take a look at these lines. There's no need of removing the flywheel.

You may use a timing lamp to check the timing. In this case, run the engine at about 3,000 rpm: if the line on crankcase appears aligned to the line on flywheel, then you may rest assured that ignition is timed correctly.

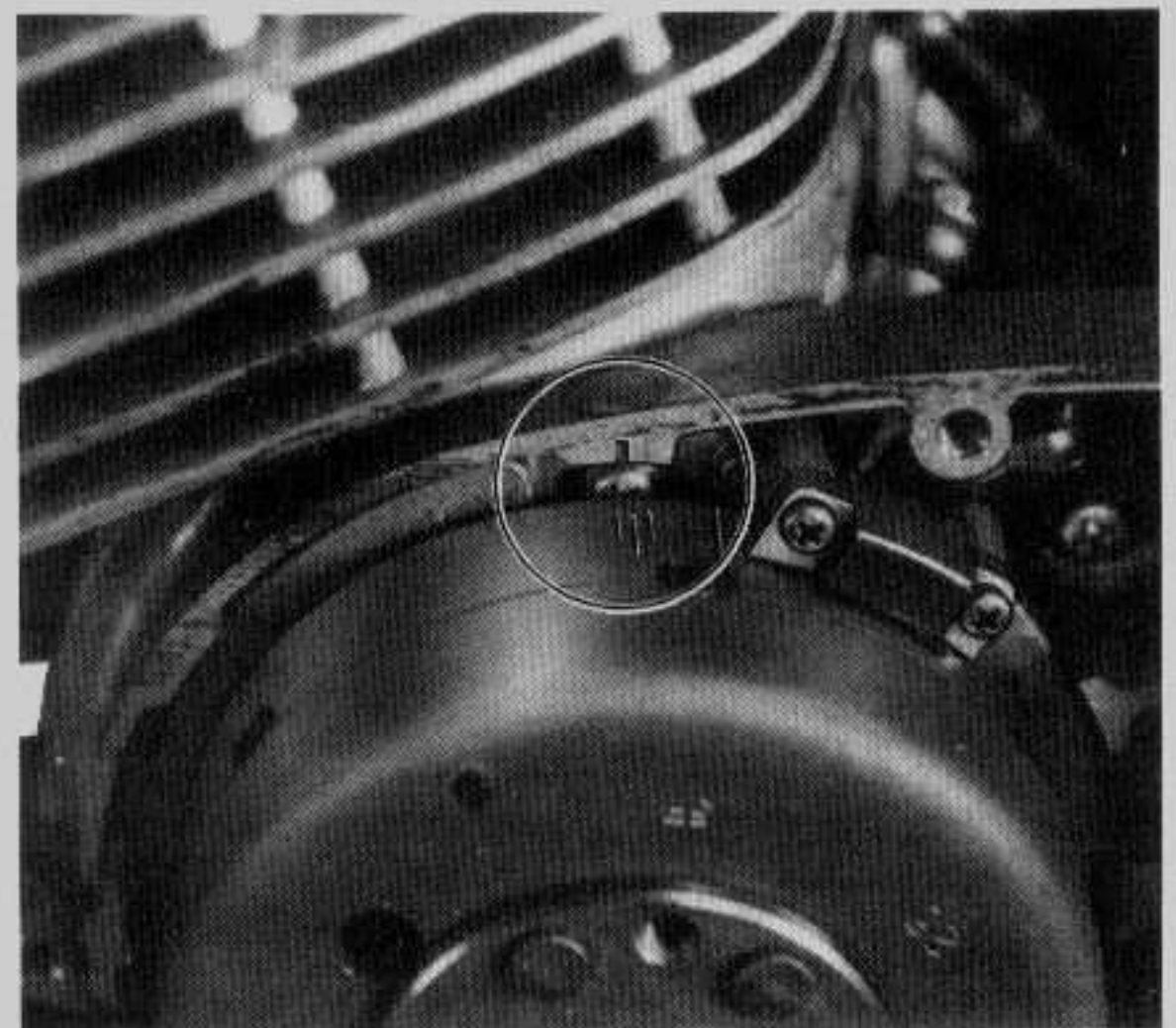


Fig. 20. Timing Marks on Flywheel and Crankcase

Ignition Circuit and Battery Charging Circuit

To check the circuits for malcondition, refer to the circuit diagram, below, covering the ignition and charging circuits:

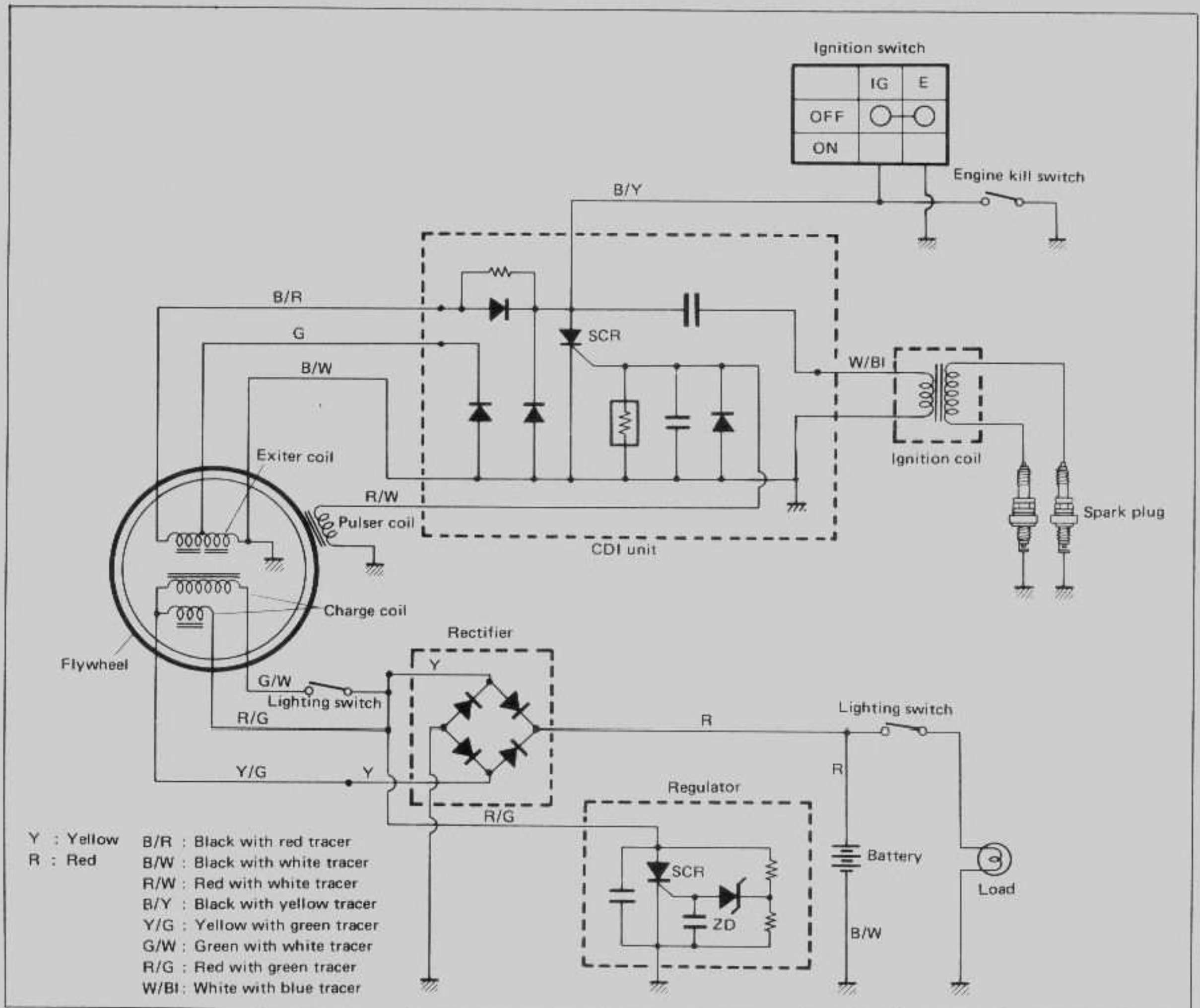


Fig. 21. GT500 Ignition and Charging Circuit

Maintenance information on "CDI" unit, regulator and various coils follow:

CHECKING THE "CDI" UNIT

Use a SUZUKI pocket tester (Special Tool No. 09900-25001) in reference to the chart of Fig. 22, by adhering to these rules:

- 1) Before starting to check the "CDI" unit, be sure to have all lead-wire couplers unmade.
- 2) Just before putting your pocket tester to two "CDI" terminals, briefly shortcircuit them with a jumper.
- 3) Set the tester knob to "RX100" range.

Put negative (-) pin of tester to:	Put positive (+) pin of tester to:					
	B/R	G	B/Y	R/W	W/Bl	B/W
B/R		off	on	off	con	off
G	off		off	off	off	off
B/Y	*off	off		off	con	off
R/W	*off	on	on		con	on
W/Bl	con	off	con	off		off
B/W	*off	on	on	on	con	

Fig. 22. "CDI" Checking Chart

B/R : Black with red tracer B/W : Black with white tracer
 B/Y : Black with yellow tracer G : Green
 R/W : Red with white tracer

This chart presupposes that the "CDI" unit is in sound condition; "on", "off" and "con" in the boxes of the chart refer to what your pocket tester will indicate when its positive and negative pins are put to the indicated terminals of a good "CDI" unit.

- 1) "on" – Tester should indicate continuity; it means that you are checking a diode for continuity in its normal (forward) direction.
- 2) "con" – This stands for a condenser. The indicating hand of your tester will momentarily deflect and settles back to indicate infinity, meaning that the condenser being checked is not ruptured.
- 3) "off" – Tester should indicate infinity, that is, its indicating hand should remain undeflected to mean that the circuit being checked has an infinitely large resistance or, possibly, off as it should be.
- 4) "*off" – The indicating hand should deflect just a little, indicating a resistance value close to infinity.

CHECKING THE REGULATOR

The purpose of this check is to judge whether or not the charging system is working properly, and is accomplished by checking the battery terminal voltage while the charging system is in operation. Read the voltage at the battery under the conditions enumerated below; if the reading is off the specification, it means that the regulator or, less frequently, rectifier or magneto is in defective condition to demand closer investigation:

- 1) Run the engine at 4,000 rpm.
- 2) Make sure that the battery is in fully charged state.
- 3) Have lamps and other electrical loads turned off.

The specified terminal voltage is 14 ± 0.5 volts. If the reading is off this value, replace the existing regulator by a new one; if this replacement results in a reading of 14 ± 0.5 volts, it means that the existing regulator is out of order.

CHECKING THE COILS

Various coils are used in the ignition and charging system. Using the tester, check each coil for continuity and for ohmic resistance in reference to this table:

Coil	Check at: (Lead wire)	Standard Resistance
Exciter coil	G GROUND	185 ohms \pm 10%
Exciter coil	B/R GROUND	214 ohms \pm 10%
Pulser coil	R/W GROUND	67 ohms \pm 10%
Ignition coil, primary	W/B – B/W	4 ohms \pm 10%
Ignition coil, secondary	Between plug cords	12 kilohms \pm 10%
Charge coil	Y/G – R/G	1 ohm \pm 10%
Charge coil	Y/G – G/W	1 ohm \pm 10%

Fig. 23. Coils Checking Chart

- | | |
|-------------------------------|--------------------------------|
| B/R : Black with red tracer | G : Green |
| R/W : Red with white tracer | Y/G : Yellow with green tracer |
| W/B : White with black tracer | R/G : Red with green tracer |
| B/W : Black with white tracer | G/W : Green with white tracer |

Servicing Air Cleaner

At regular intervals, indicated below, clean the air cleaner element (which is a polyurethane element for GT500) in the following manner:

Fill a properly sized pan or pot with gasoline; immerse the element in the gasoline; and wash it gently while examining it for evidence of rupture or fissure. (A ruptured or otherwise damaged element must be replaced.)

After washing, squeeze gasoline off the element; and dry it completely.

Immerse the dried element in a pool of SUZUKI CCI oil or high-grade motor oil of SAE #30, and squeeze oil off the element to make it oil-wet without dripping.

CAUTION:

Do not wring the element to squeeze liquid off. Wringing could damage the element.

Cleaning interval	3,000 km (2,000 miles)
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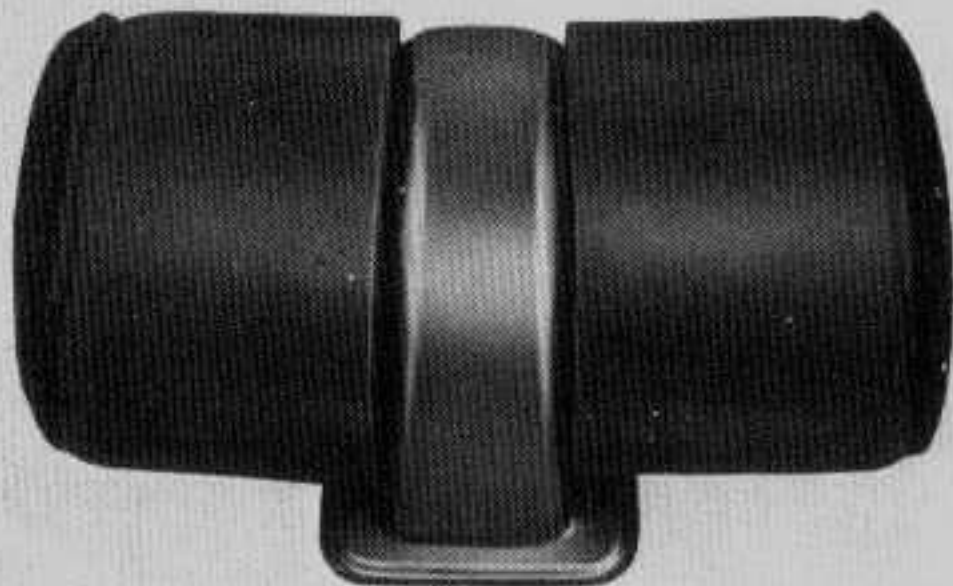


Fig. 24. Air Cleaner Element

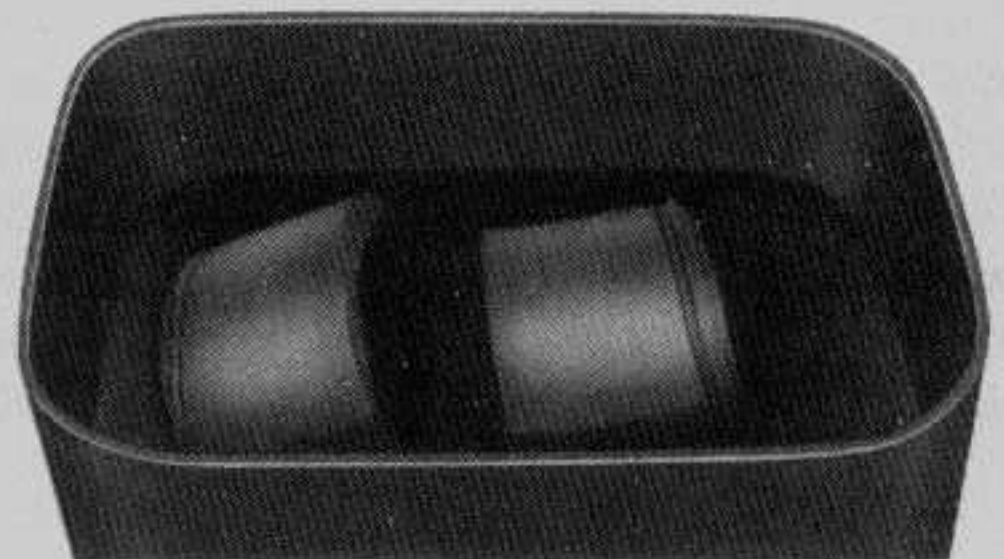


Fig. 25. Washing the Element

Servicing the Front Fork

The front fork of GT500 differs in construction from that of T500, and must be taken care of as follows:

OIL CHANGE

A drain plug is located at the lower section of each fork leg, as shown in Fig. 26. To drain out oil, remove this plug and also the cap bolt. To fill up the leg, pour oil through the hole for the cap bolt.

- 1) Oil specification: Use SAE 10W/20 motor oil, or automatic transmission fluid.
- 2) Oil capacity: Each leg needs 266 cc (9.0/9.4 US/Imp oz) of oil, in contrast to 220 cc (7.4/7.7 US/Imp oz) needed by the fork leg in T500.

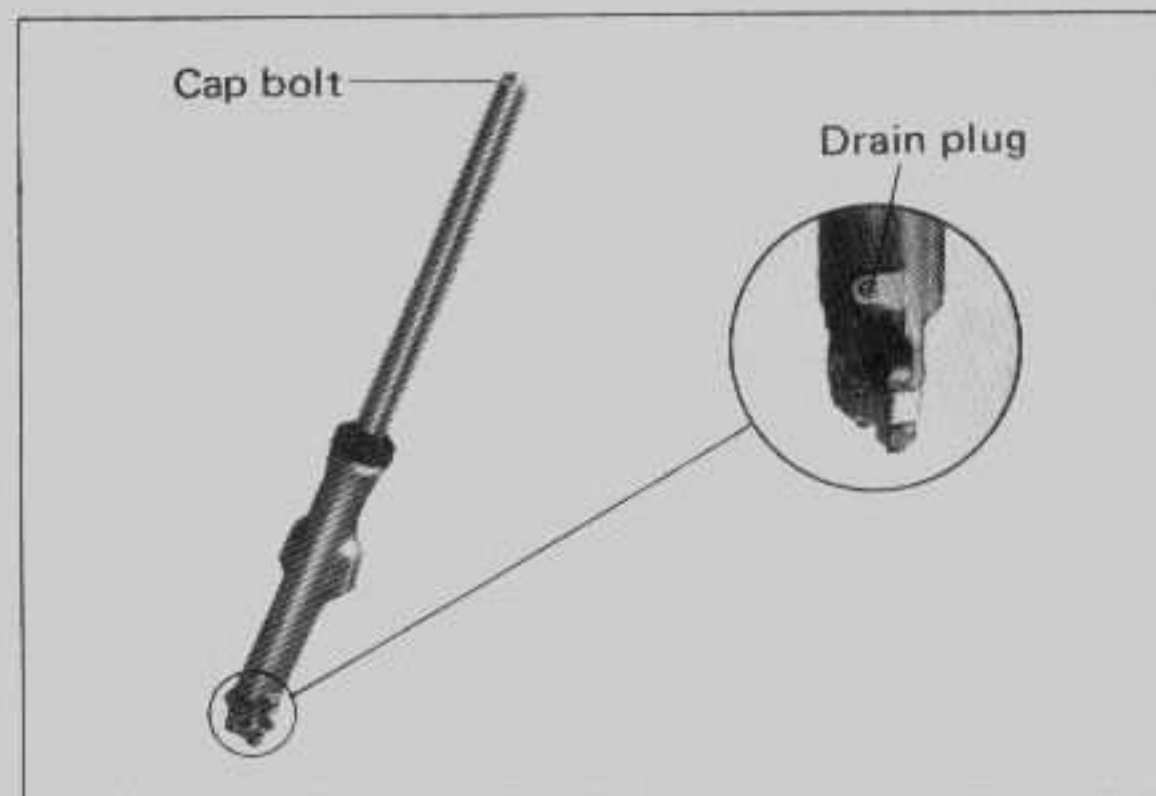


Fig. 26. Drain Plug and Cap Bolt

DISASSEMBLY

First, remove the circlip on each leg. With the circlips removed, the front fork can be disassembled by removing its parts one after another.

Do not attempt to loosen the bolt securing the spring seat in the bottom section of the leg: the seat is centered inside the inner tube by this bolt. Loosening the bolt may result in a mispositioned seat and, hence, in chattering or rattle noise coming from the fork during operation. The front fork disassembly does not require the removal of these bolts.

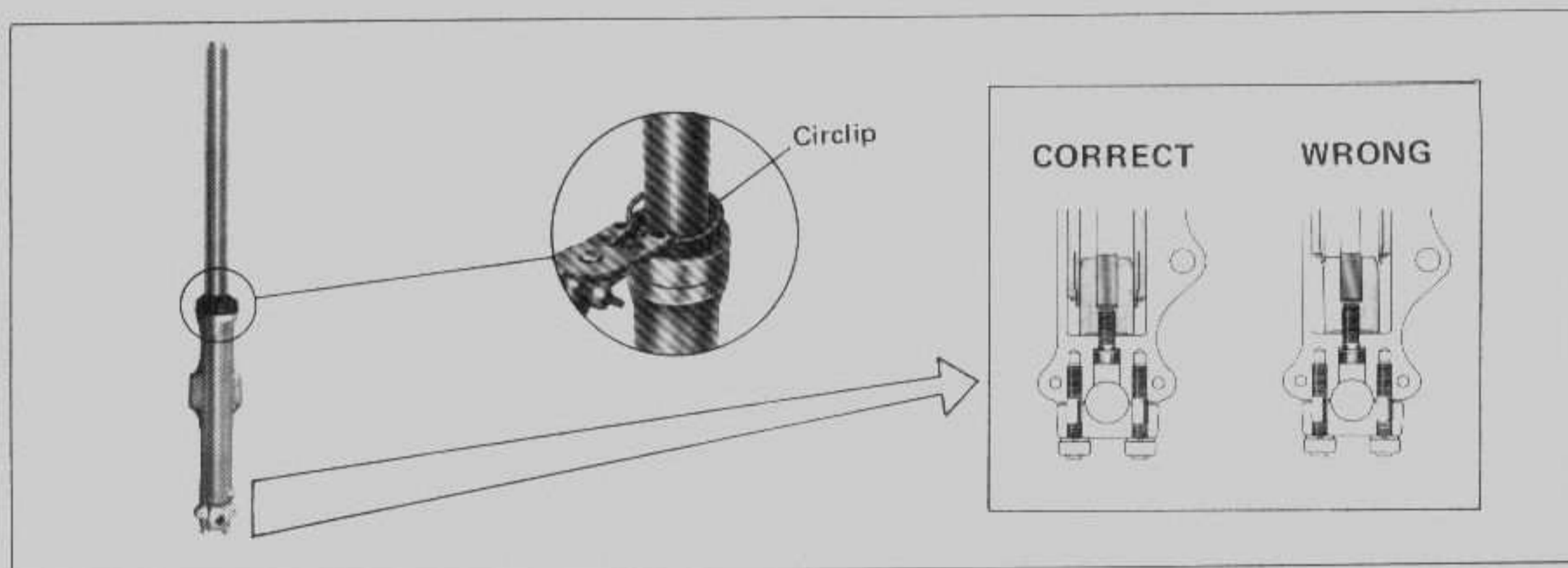


Fig. 27. Front Fork Details

Reassembly is the reverse of disassembly, but must be effected by installing replacement oil seals. Be sure to use the oil seal installing tool (Special Tool No. 09940-53110). Disassembly affords an opportunity for oil change: after reassembling the front fork, be sure to fill up its legs with new oil.



Fig. 28. Oil Seal Installing Tool and Oil Seal

Checking the Disc Brake

BRAKE FLUID

Check to be sure that the brake fluid is up to level between the two limits, UPPER and LOWER, both cast out on the reservoir, as shown. If the fluid in the reservoir is found to be prematurely low, check the brake for oil leakage.

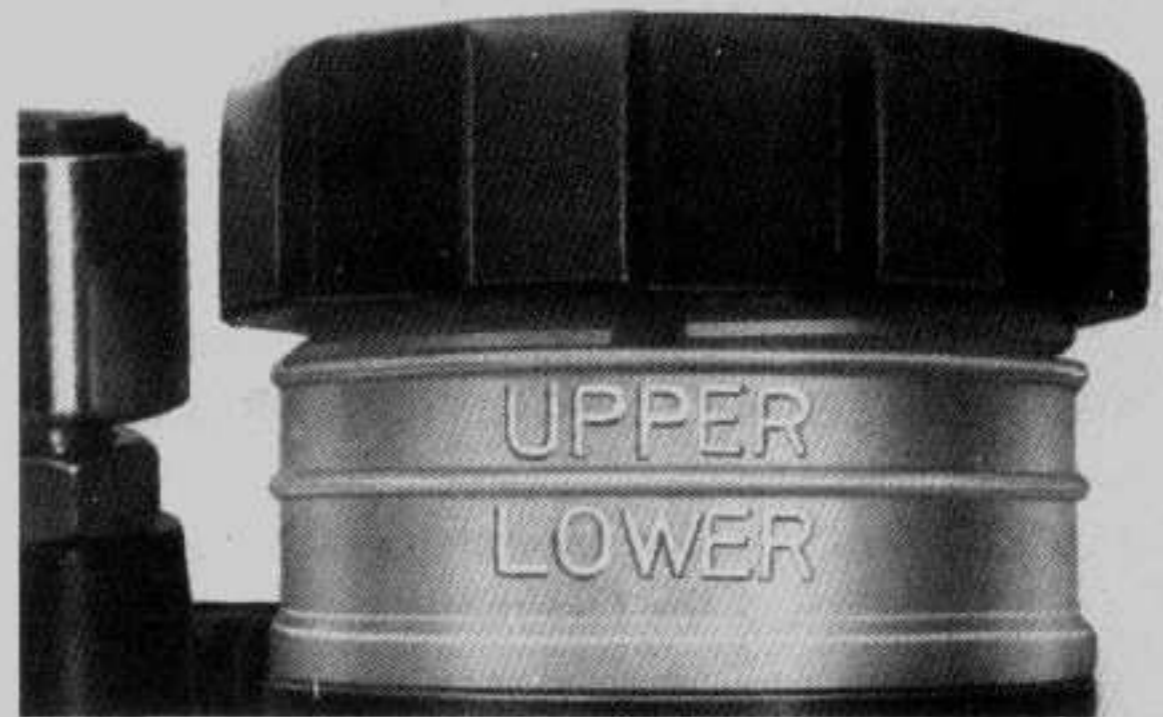


Fig. 29. Brake Fluid Level

Select one brand of brake fluid for GT500 as guided by this chart:

Brake fluid specification	Where
DOT 3 DOT 4	U.S.A.
SAE J 1703a SAE J 1703b SAE J 1703c SAE 70 R 3	Other countries

Fig. 30. Brake Fluid Selection Guide

PAD REPLACEMENT

Each pad has a red line on its periphery. This line is the limit of pad wear. Replace the pad when it is found to have worn down to this line.

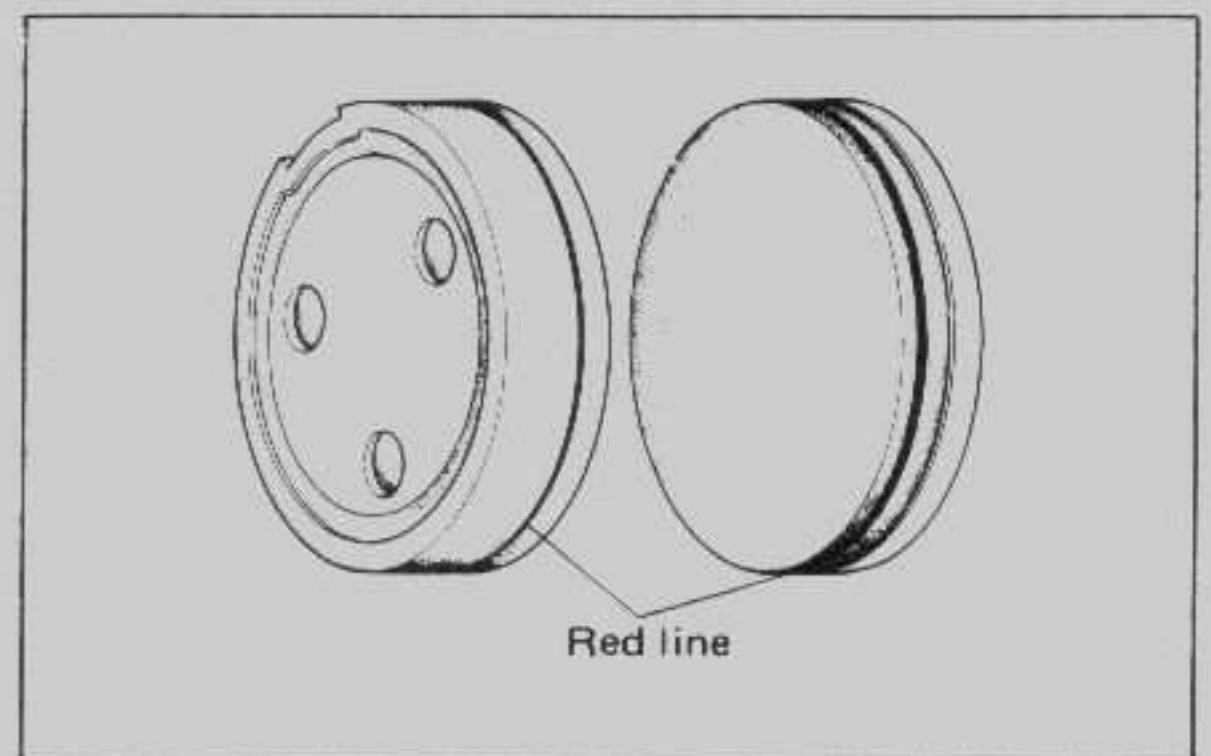


Fig. 31 Disc Brake Pads

BRAKE DISC

The disc too is subject to wear, and needs to be replaced when its wear has progressed to reduce the disc thickness to 6 mm (0.236 in.). Disc thickness refers the middle portion of its friction face coming into contact with the pad; read the thickness there with calipers.

Limit thickness of disc	6 mm (0.236 in)
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PARTS INTERCHANGEABILITY

Interchangeability of parts between GT500 and T500 concerning the major differences is as follows:

- 1) FRONT FORK – Not interchangeable.
- 2) DISC BRAKE – T500 does not accept the disc brake of GT500.
- 3) FRONT FENDER – Not interchangeable because of the difference in installing method.
- 4) TURN SIGNAL LAMPS – Interchangeable.
- 5) METER ASSEMBLY & IGNITION SWITCH – Not interchangeable.
- 6) FUEL TANK – Not interchangeable because the stays securing the tank to frame differ between the two models.
- 7) RIDER'S SEAT – The seat of GT500 is mountable on T500. With this seat mounted on T500, however, a clearance of about 3 cm occurs between seat and fuel tank.

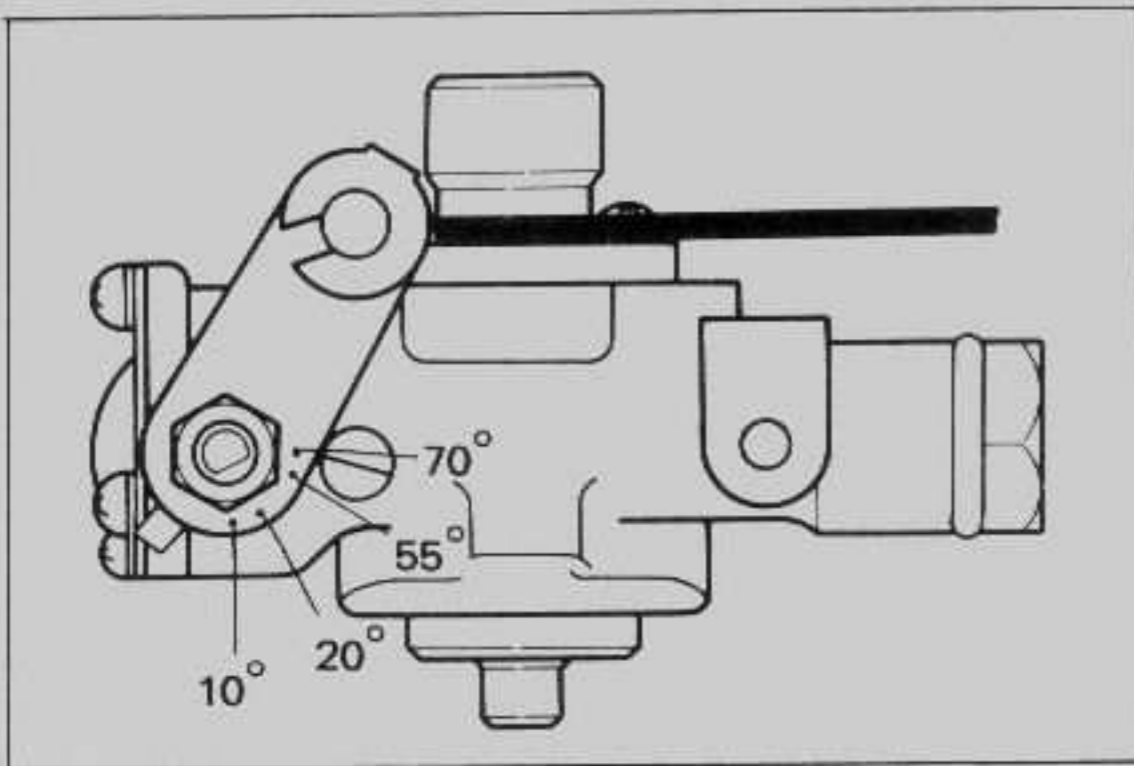
SERVICE DATA

Engine

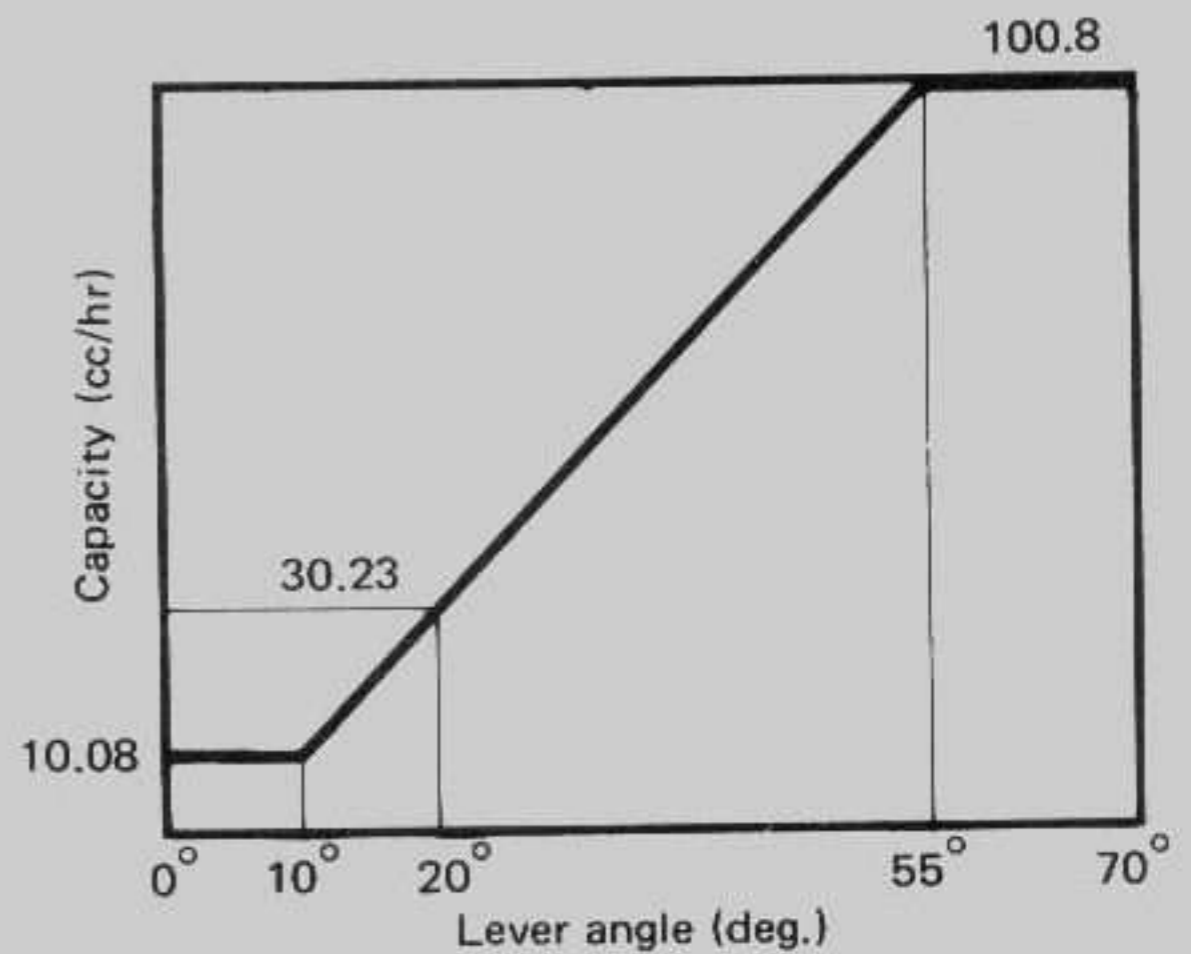
- 1) Piston-to-cylinder clearance: 0.065 ~ 0.075 mm (0.0026 ~ 0.0030 in), based on piston O.D. reading taken at 32 mm above skirt end.
- 2) Standard engine idling speed: 1,300 rpm
- 3) Carburetor jetting:

Main jet	#97.5	Pilot jet	#30
Jet needle	5FP17-3	Air screw setting	1½ turns backed
Needle jet	P-4	Starter jet	#70
Cut-away	2.5	Float level	27.25 mm (1.073 in)

- 4) Oil pump capacity at 1,000 engine rpm:



Oil pump lever angle



Drive Train

- 1) Transmission oil capacity: 1,400 cc (3.0/2.4 US/Imp pt), SAE 20W/40 motor oil.
- 2) Drive chain tension: 15 ~ 20 mm (0.6 ~ 0.8 in) as chain sag between two sprockets without the rider mounted on the machine.

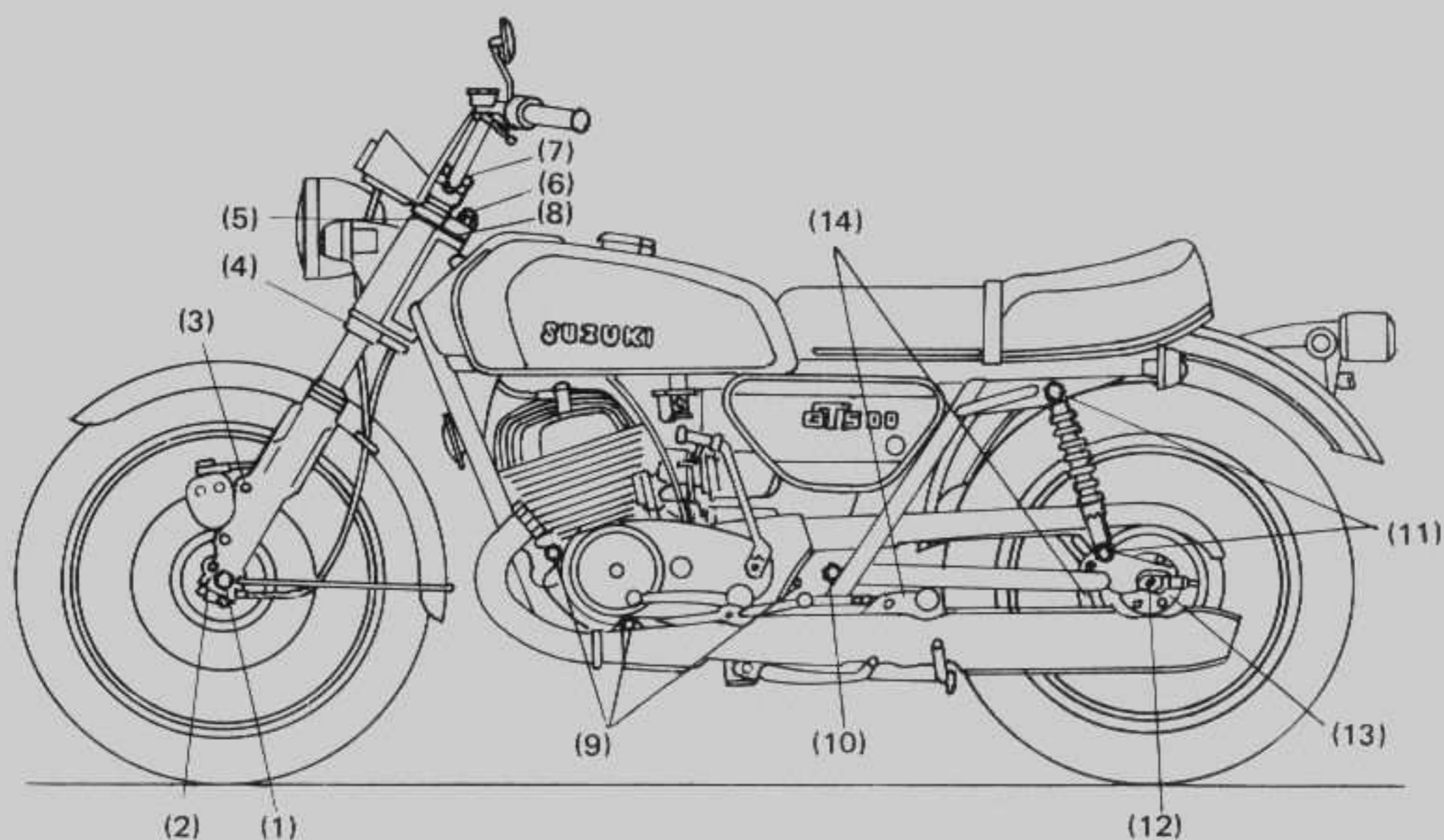
Chassis

- 1) Front fork oil: SAE 10W/20 motor oil or automatic transmission fluid, 266 cc (9.0/9.4 US/Imp oz) for each leg.
- 2) Wear limit on front brake disc: 6 mm (0.236 in)

Electrical

- 1) Standard spark plug: NGK B-7HS, or NIPPON DENSO W22FS
- 2) Spark plug gap: 0.6 ~ 0.7 mm (0.024 ~ 0.028 in)
- 3) Battery electrolyte S.G. in fully charged state: 1.280 (as corrected to 20°C)

TIGHTENING TORQUE



Torque

	kg-cm	lb-ft
(1) Front axle nut	360 - 520	27 - 37
(2) Front axle holder nut	160 - 240	12 - 17
(3) Caliper bolt	260 - 390	19 - 28
(4) Front fork lower bracket	260 - 390	19 - 28
(5) Front fork upper bracket (right & left)	200 - 300	15 - 21
(6) Front fork upper bracket (center)	640 - 960	47 - 69
(7) Handlebar clamp bolt	130 - 190	10 - 13
(8) Steering stem nut	260 - 390	19 - 28
(9) Engine mounting nut	260 - 390	19 - 28
(10) Rear swinging arm shaft nut	500 - 750	37 - 54
(11) Rear shock absorber nut (upper & lower)	200 - 300	15 - 21
(12) Rear axle nut	520 - 780	38 - 56
(13) Rear brake cam lever bolt	55 - 75	4 - 5
(14) Rear brake torque link nut (front & rear)	200 - 300	15 - 21

SPECIAL TOOLS

SUZUKI motorcycles are easy to service, repair or overhaul because a family of handtools tailored to respective needs are available and because each new model is accompanied by new tools, if necessary, for handling those jobs that cannot be coped with by the existing ones.

The special tools listed here for the new GT500 are among the family of already existing ones. Two tools, marked with asterisk (*), are needed by GT500 but not by T500.

1.	09910-10710	8 mm stud installing tool
2.	09910-11510	10 mm stud installing tool
3.	09910-20113	Piston holder
*4.	09911-71510	8 mm hexagon "L" type wrench
5.	09913-70122	Bearing and oil seal installing tool (ID: 40.5 mm, OD: 50.0 mm)
6.	09913-80111	Bearing and oil seal installing tool (ID: 25.2 mm, OD: 34.0 mm)
7.	09920-53710	Clutch sleeve hub holder
*8	09920-73110	Special circlip opener
9.	09930-30101	Rotor remover shaft set
10.	09930-30190	Rotor remover attachment
11.	09930-40113	Engine sprocket and flywheel holder
12.	09940-10122	Steering stem lock nut wrench
13.	09940-53111	Front fork oil seal installing tool
14.	09940-60112	Spoke nipple wrench
15.	09900-20804	Thickness gauge
16.	09900-09002	Shock driver set
17.	09900-21602	Engine oil measuring tool
18.	09900-25001	Pocket tester
19.	09900-28103	Electro tester (Type SS-II)



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