

SUZUKI



OWNER'S MANUAL

GS650G

FOREWORD

OIL 3.4 qts - 10W40
(3200 mi)

PLUGS D8EA (GAP 024-028)

TIRE 2 P 4.25x7

F 3.25x7

110/70x17

90/60x17

THANK YOU for choosing Suzuki. We at Suzuki have designed, tested and produced this motorcycle using the most modern technology available to provide you with many happy, enjoyable, safe miles of riding. Motorcycling is one of man's most exhilarating sports and to insure your riding enjoyment, you should become thoroughly familiar with the information presented in this Owner's Manual before riding the motorcycle.

The proper care and maintenance that your motorcycle requires is outlined in this manual. By following these instructions explicitly you will insure a long trouble free operating life for your motorcycle. This motorcycle also conforms to the U.S. Environmental Protection Agency emission regulations which apply to new motorcycles. The proper adjustment of engine components is necessary for this motorcycle to comply with the EPA regulations. Therefore, please follow the maintenance instructions closely to ensure emission compliance. Your Suzuki dealer has experienced technicians that are trained to provide your machine with the best possible service with the right tools and equipment.

SUZUKI MOTOR CO.,LTD.

Fuel Tank:

- Holds 4.2 gallons
- Reserve last 1.2 gallons

Tire Pressures:

Front: 25/28 PSI

Rear: 28/40 PSI

See Pg. 44

MFG \approx 50 (May 2011)

IMPORTANT NOTICE

Please read this manual and follow its instructions carefully.

*To emphasize special information the words **WARNING**, **CAUTION** and **NOTE** carry special meanings and should be carefully reviewed.*

- WARNING** The personal safety of the rider may be involved. Disregarding this information could result in injury to the rider.
- CAUTION**..... These instructions point out special service procedures or precautions that must be followed to avoid damaging the machine.
- NOTE**..... Special information to make maintenance easier or important instructions more clear.

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All information, illustrations, photographs and specifications contained in this manual are based on the latest product information available at the time of publication. Due to improvements or other changes, there may be some discrepancies in this manual Suzuki reserves the right to make changes at any time.

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CONSUMER INFORMATION

ACCESSORY INSTALLATION AND PRECAUTION SAFETY TIPS

There are a great variety of accessories available to Suzuki owners. Suzuki can not have direct control over the quality or suitability of accessories you may wish to purchase. The addition of unsuitable accessories can lead to unsafe operating conditions. It is not possible for Suzuki to test each accessory on the market or combinations of all the available accessories; however, your dealer can assist you in selecting quality accessories and installing them correctly.

Use extreme caution when selecting and installing the accessories for your Suzuki. We have developed some general guidelines which will aid you when deciding whether, and how to equip your motorcycle.

- (1) Never exceed the GVWR (Gross Vehicle Weight Rating) shown on the Safety Label attached to the steering stem frame tube. The GVWR is the combined weight of the machine, accessories, payload and rider. When selecting your accessories, keep in mind the weight of the rider as well as the weight of the accessories. The additional weight of the accessories may not only create an unsafe riding condition but may also affect the steering ease.

GVWR - GS650G : 999 lbs (453kg) at the tire pressure (cold): Front 28 psi (2.00 kg/cm²), Rear 40 psi (2.80 kg/cm²).

- (2) Anytime that additional weight or aerodynamic affecting accessories are installed, they should be mounted as low as possible as close to the motorcycle and as near the center of gravity as is feasible. The mounting brackets and other attachment hardware should be carefully checked to ensure that it provides for a rigid, non-moveable mount. Weak mounts can allow the shifting of the weight and creat a dangerous, unstable condition.
- (3) Inspect for proper ground clearance and bank angle. An improperly mounted load could critically reduce these two safety factors. Also determine that the "load" does not interfere with the operation of the suspension, steering or other control operations.

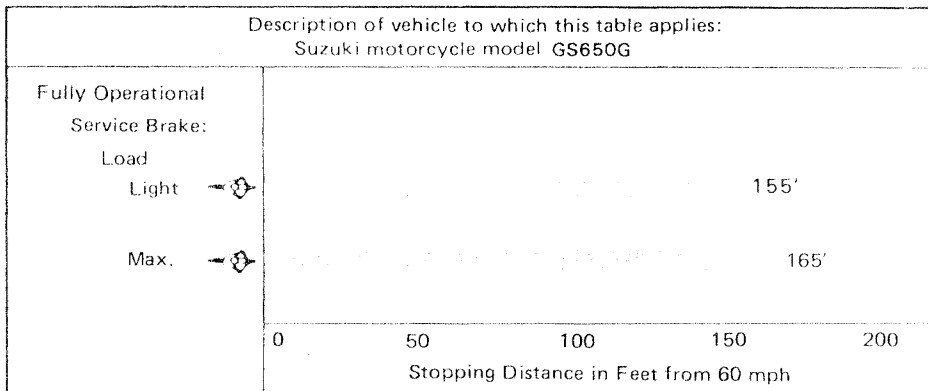
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- (4) Accessories fitted to the handlebars or the front area can create serious stability problems. This extra weight will cause the motorcycle to be less responsive to your steering control. The weight may also cause oscillations in the front end and lead to instability problems. Accessories added to the handlebar or front fork of the machine should be as light as possible and kept to a minimum.
 - (5) Windshields, fairings, backrests, saddlebags, travel trunks, etc., may affect the stability of the motorcycle due to their aerodynamic effects. The motorcycle may be affected by a lifting condition or by an instability in cross winds or when being passed or passing large vehicles. Improperly mounted or poorly designed accessories can result in an unsafe riding condition, therefore caution should be used when selecting and installing all accessories.
 - (6) Certain accessories displace the rider from his normal riding position. This limits the freedom of movement of the rider and may limit his control ability.
 - (7) Additional electrical accessories may overload the existing electrical system. Severe overloads may damage the wiring harness or create a dangerous situation due to the loss of electrical power during the operation of the motorcycle.

When carrying a load on the motorcycle, mount it as low as possible and as close as possible to the machine. An improperly mounted load can create a high center of gravity which is very dangerous and makes the motorcycle difficult to handle. The size of the "load" can also affect the aerodynamics and handling of the motorcycle. Balance the load between the left and right side of the motorcycle and fasten it securely.

VEHICLE STOPPING DISTANCE

This figure indicates braking performance that can be met or exceeded by the vehicle to which it applies, without locking the wheels, under different condition of loading and with partial failures of the braking system.

NOTICE: The information presented represents results obtainable by skilled drive under controlled road and vehicle conditions, and the information may not be correct under other conditions.



SAFE-RIDING RECOMMENDATION FOR MOTORCYCLE RIDERS

Motorcycle riding is great fun and an exciting sport. Motorcycle riding also requires that some extra precautions be taken to ensure the safety of the rider and passenger. These precautions are:

WEAR A HELMET

Motorcycle safety equipment starts with a quality safety helmet. One of the most serious injuries that can happen is a head injury. ALWAYS wear a properly approved helmet. You should also wear suitable eye protection.

RIDING APPAREL

Loose fancy clothing can be uncomfortable and unsafe when riding your motorcycle. Choose good quality motorcycle riding apparel when riding your motorcycle.

INSPECTION BEFORE RIDING

Review thoroughly the instructions in the "INSPECTION BEFORE RIDING" section of this manual. Do not forget to perform an entire safety inspection to ensure the safety of the rider and its passenger.

FAMILIARIZE YOURSELF WITH THE MOTORCYCLE

Your riding skill and your mechanical knowledge form the foundation for safe riding practices. We suggest that you practice riding your motorcycle in a non-traffic situation until you are thoroughly familiar with your machine and its controls. Remember practice makes perfect.

KNOW YOUR LIMITS

Ride within the boundaries of your own skill at all times. Knowing these limits and staying within them will help you to avoid accidents.

BE EXTRA SAFETY CONSCIOUS ON BAD WEATHER DAYS

Riding on bad weather days, especially wet ones, requires extra caution. Braking distances double on a rainy day. Stay off of the painted surface marks, manhole covers and greasy appearing areas as they can be especially slippery. Use extreme caution at railway crossings and on metal gratings and bridges. Whenever in doubt about road conditions, slow down!

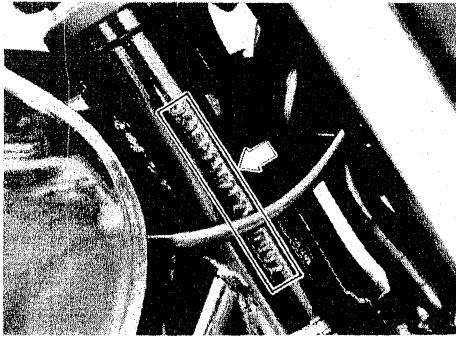
MOTORCYCLE SAFETY FOUNDATIONS "RIDING TIPS FOR THE MOTORCYCLIST" HANDBOOK

This special manual, supplied in the pouch with your Owner's Manual, contains safety tips on a wide variety of topics. This manual can increase your riding enjoyment and safety and should be read thoroughly.

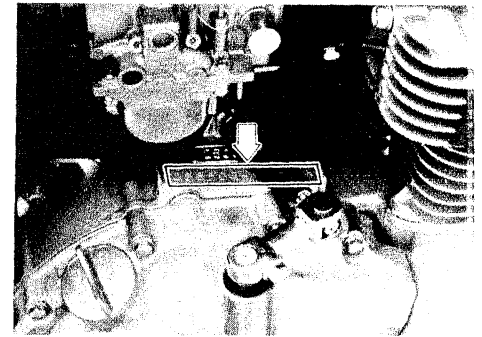
SERIAL NUMBER LOCATION

The frame and/or engine serial numbers are used to register the motorcycle. They are also used to assist your dealer when ordering parts or referring to special service information;

The frame number is stamped on the steering head tube and steering head I.D. plate. The engine serial number is stamped on the right side of the crankcase assembly.



Frame number



Engine number

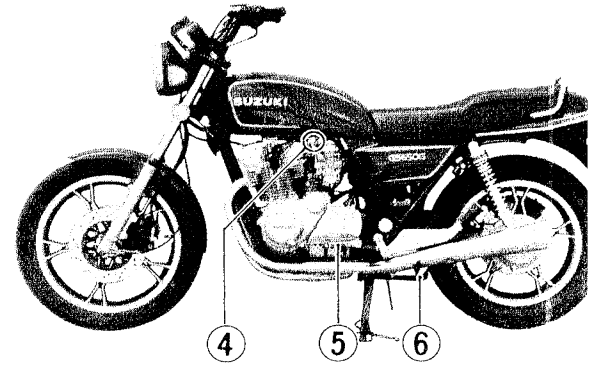
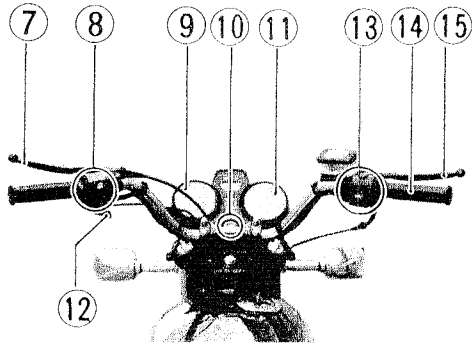
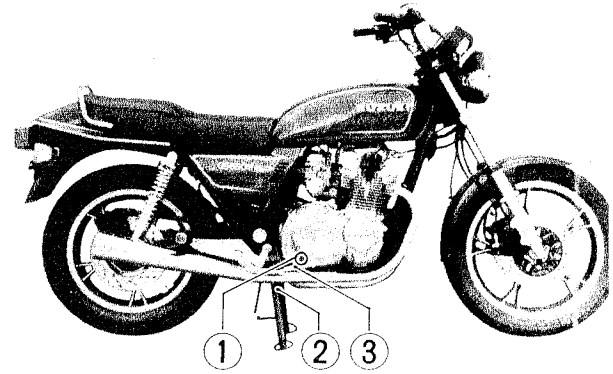
Please write down the numbers for your reference.

Frame No.:

Engine No.:

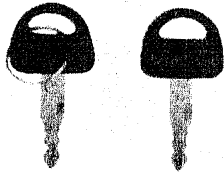
LOCATION OF PART

- ① Engine oil inspection window
- ② Center stand
- ③ Rear brake pedal
- ④ Fuelcock
- ⑤ Gearshift lever
- ⑥ Side stand
- ⑦ Clutch lever
- ⑧ Left handlebar switch
- ⑨ Speedometer
- ⑩ Ignition switch
- ⑪ Tachometer
- ⑫ Carburetor choke lever
- ⑬ Right handlebar switch
- ⑭ Throttle grip
- ⑮ Front brake lever



CONTROLS

KEY



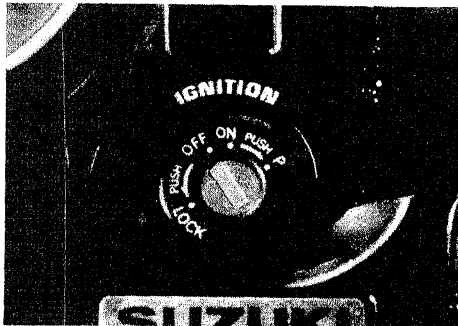
This motorcycle comes equipped with two (2) identical keys. Keep the spare key in a safe place.

Your motorcycle ignition keys are stamped with an identifying number. This number is used when making replacement keys.

Please write your key number in the box provided for your future reference.

KEY NO.:

IGNITION SWITCH



The ignition switch has four (4) positions:

"OFF" POSITION

All electrical circuits are cut off.

"ON" POSITION

The ignition circuit is completed and the engine can now be started. The headlight and taillight will automatically be turned on when the key is in this position. The key cannot be removed from the ignition switch in this position.

"PARKING" POSITION ("P" POSITION)

When parking the motorcycle, turn the handlebar all the way to the right or to the left. Push down and turn the key to

the parking position. The key can now be removed and the taillight will remain lit and the steering will be locked. This position is for night time roadside parking to increase visibility.

"LOCK" POSITION

To lock the steering, turn the handlebar all the way to the right or the left. Push down and turn the key to the "LOCK" position and remove the key. All electrical circuits are cut off.

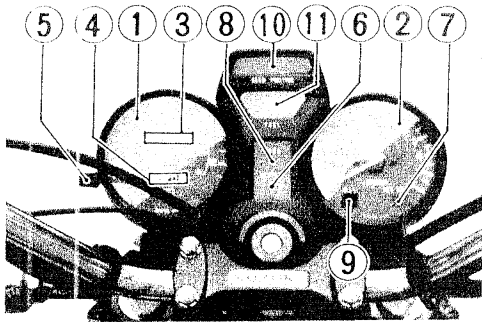
CAUTION:

Start the engine promptly after turning the ignition key to the "ON" position. The reason for this is that the headlight and taillight come on at the same time the ignition is turned on and will cause the battery to lose power.

WARNING:

Before turning the ignition switch to the (P) "PARK" or "LOCK" position, stop the motorcycle and place the motorcycle on either the side stand or the center stand.

INSTRUMENT PANEL



SPEEDOMETER ①

The speedometer indicates the road speed in miles per hour and kilometers per hour.

TACHOMETER ②

The tachometer indicates the engine speed in revolutions per minute (RPM).

ODOMETER ③

The odometer registers the total distance that the motorcycle has been ridden.

TRIP METER ④

The trip meter is a resetable odometer located in the speedometer assembly. It can be used to indicate the distance traveled on short trips or between fuel stops. Turning the knob ⑤ counter-

clockwise will return the meter to zero.

NEUTRAL INDICATOR LIGHT ⑥

The green light will come on when the transmission is in neutral. The light will go out when you shift into any gear other than neutral.

HIGH BEAM INDICATOR LIGHT ⑦

The blue indicator light will be lit when the headlight high beam is turned on.

TURN SIGNAL INDICATOR LIGHT ⑧

When the turn signals are being operated either to the right or left side, the amber indicator light will flash.

OIL PRESSURE INDICATOR LIGHT ⑨

With the ignition switch in the "ON" position but the engine not started, the oil pressure indicator light should be lit. As soon as the engine is started, the light should go out.

CAUTION:

Whenever the oil pressure indicator lights up, indicating no oil pressure, stop the engine immediately. First check the oil level and determine if the proper amount of oil is in the engine. If the oil level is low, refill the engine to the correct level. If the light

still does not go out, then have your authorized Suzuki dealer inspect your motorcycle to determine the difficulty. Do not operate the motorcycle when the light is lit as it may cause serious damage to the internal parts of the engine or transmission.

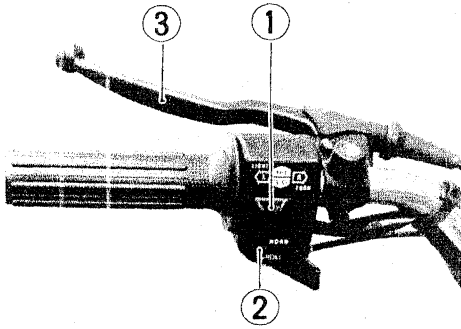
GEAR POSITION INDICATOR ⑩

The numeral in this indicator shows the gear position, 1, 2, 3, 4, or 5. The numeral "disappears" as you shift back to neutral; NEUTRAL INDICATOR LIGHT (green) will burn instead.

FUEL GAUGE ⑪

The fuel gauge indicates the amount of gasoline remaining in the fuel tank. The "E" mark indicates the tank is empty or nearly so. The "F" mark indicates the fuel tank is full.

LEFT HANDLEBAR



LIGHTS OPERATING SWITCH DIMMER OPERATING ①

When the lights operating switch is pushed up to the "HIGH" position, the high beam will be lit and the switch return to the center position. At the same time that the high beam is lit, the high beam indicator will also light in the center instrument panel. When the switch is pushed down to the "LO" position, the low beam will be lit.

TURN SIGNAL SWITCH ①

Sliding the switch to the "L" position will flash the left turn signal. Moving the switch to the "R" position will flash the right turn signal. The pilot or indicator light will also flash intermittently.

WARNING:

Always use the turn signal when you intend to change lanes or make a turn. ALWAYS be sure to turn the turn signal switch to the "OFF" position after completing the turn or lane change.

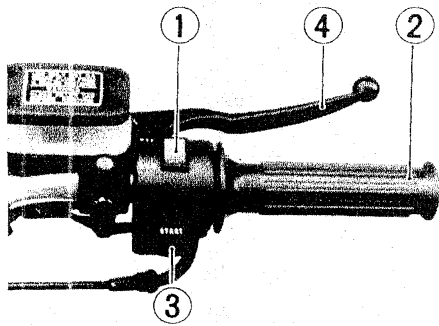
HORN BUTTON ②

Press the button to operate the horn.

CLUTCH LEVER ③

The clutch lever is used to disengage the drive to the rear wheel when starting the engine or shifting the transmission gear. Squeezing the lever disengages the clutch.

RIGHT HANDLEBAR



ENGINE KILL SWITCH (1)

The engine "kill switch" is located on the top of the right handlebar grip switch housing. This is a "rocker" style switch which pivots in the center.

In the "RUN" position the ignition circuit is on and the engine will operate. The switch is intended primarily as a safety or emergency switch. When the switch is in the "OFF" position neither the starter motor nor the ignition circuit will be energized.

THROTTLE GRIP (2)

Engine speed is controlled by the position of the throttle grip. Twist it toward you to increase engine RPM's. Turn it away from you to decrease the engine RPM's.

ELECTRIC STARTER BUTTON (3)

Push the electric starter button in to engage the starter motor. The transmission should be in neutral for safety and the clutch disengaged during starting.

NOTE: The starter disconnect switch is equipped on this motorcycle. If the clutch lever is not disengaged, the starter motor will not rotate.

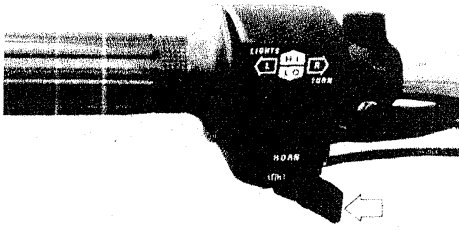
CAUTION:

Do not engage the starter motor for more than five (5) seconds at a time as it may overheat the wiring harness and starter motor. If the engine does not start after several attempts, check the fuel supply and ignition systems. (Refer to the troubleshooting section.)

FRONT BRAKE LEVER (4)

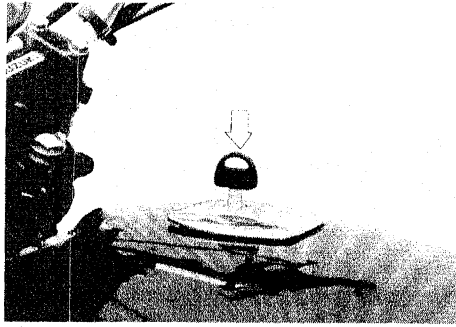
The front brake is applied by squeezing the brake lever gently towards the throttle grip. This motorcycle is equipped with a disc brake and excessive pressure is not required to slow the machine down properly. The brake light will be lit when the lever is squeezed inward.

CARBURETOR CHOKE LEVER



The carburetors are equipped with a "choke" system to provide easy starting. When starting a cold engine, pivot the choke lever all the way left and engage the electric starter. After the engine starts, try to limit the engine RPM to approximately 2 000 RPM by varying the choke lever position. The choke system will operate only when the throttle is in the closed position as opening the throttle will bypass the choke system. When the engine is warm, the choke system does not need to be used for starting. Always be certain to return the choke lever back to its normal position after the engine reaches normal operating temperatures.

FUEL TANK CAP

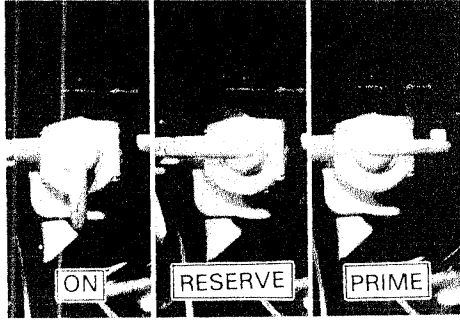


The fuel tank cap is a new low profile style which blends in smoothly with the lines of the fuel tank. To open the fuel tank cap insert the ignition key and turn the key clockwise. With the key still held in a clockwise position, lift up on the key and remove the filler cap. To install the fuel tank cap, face the arrow mark forward, simply line up the fuel tank cap guide pins and push down until the locking pins click into position. The key must be in the cap lock or turned before installing cap. Turn the key counter-clockwise and remove it.

WARNING:

When re-fueling, always shut the engine off and turn the ignition key to the "OFF" position. Never refuel near an open flame.

FUELCOCK



This motorcycle is equipped with an automatic type, diaphragm style fuelcock. There are three (3) positions: "ON", "RESERVE" and "PRIME".

"ON" The normal position for the fuelcock lever is on the "ON" position. In this position, no fuel will flow from the fuelcock to the carburetor unless the engine is running or being started.

"RESERVE"

If the fuel level in the tank is too low, turn the lever to the "RESERVE" position to use the 4.5 liters (4.8 US qt) of the reserve fuel supply. In this position, no fuel will flow from the fuelcock to the carburetor unless the engine is running or being started.

"PRIME"

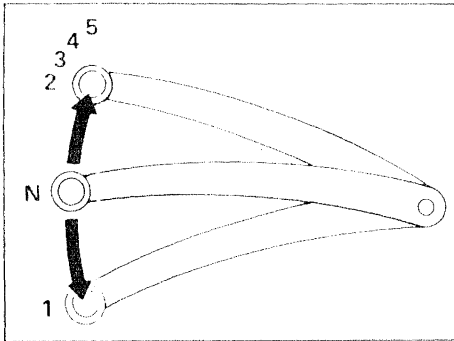
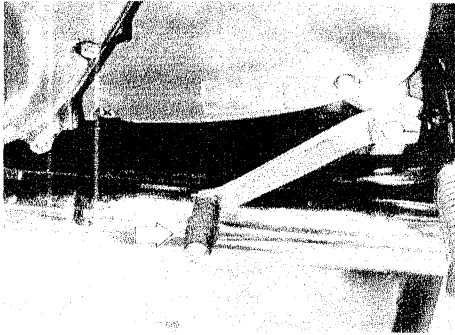
If the motorcycle has run out of fuel or has been stored for an extended period, there may not be any gasoline in the carburetors. In this instance the fuelcock lever should be moved to the "PRIME" position. This will allow the fuel to flow directly into the carburetors even though the engine is not operating. Upon starting the engine, be sure to return the lever to the "ON" position or, if necessary, to the "RESERVE" position.

CAUTION:

Leaving the fuelcock in the "PRIME" position may cause the carburetors to overflow and fuel to run into the engine. It is possible that this may cause severe mechanical damage when the engine is started.

NOTE: After switching the fuel supply to the "RESERVE" position, it is advisable that the tank be refilled at the closest gas station. After re-fueling, be sure to move the fuelcock to the "ON" position.

GEARSHIFT LEVER



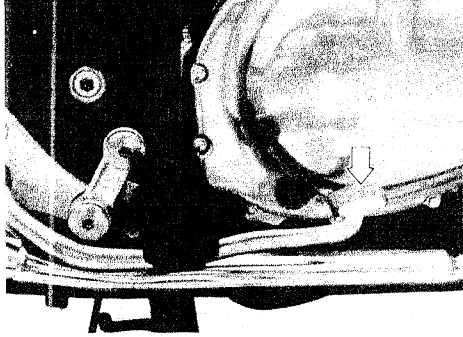
This motorcycle is equipped with a 5 speed constant mesh transmission which operates as shown in the figure. The shift lever is attached to a ratchet type mechanism in the transmission. Each time that a gear is selected, the gear shift lever will return to its normal position ready to select the next gear. Neutral is located between low and 2nd gear. Low gear is engaged by depressing the lever downward from the neutral position. Shifting into the higher gears is accomplished by lifting up on the shift lever once for each gear. It is not possible to up shift or down shift more than one gear at a time due the ratchet mechanism being used. When shifting from low to 2nd gear or 2nd gear to low, neutral will be automatically skipped. When neutral is desired, depress or lift the lever to a position halfway between low and 2nd gear.

CAUTION:

When the transmission is in neutral the green indicator light on the instrument panel will be lit. However, even though the light is illuminated, cautiously release the clutch lever slowly to determine whether the transmission is positively in neutral.

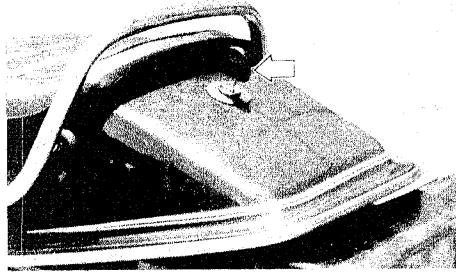
Reduce your road speed before downshifting. When down shifting, the engine RPM's should be increased before the clutch is engaged. This will prevent unnecessary wear on the drivetrain components and rear tire.

REAR BRAKE PEDAL

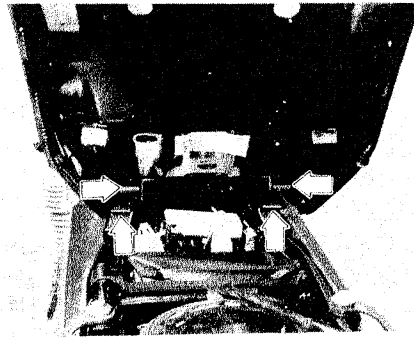


Depressing the rear brake pedal will apply the rear disc brake. The brake light will be illuminated when the rear brake is operated.

SEAT LOCK



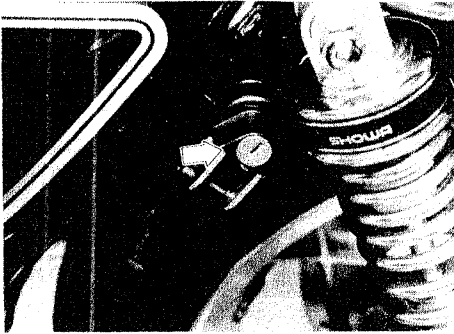
Seat lock



Seat holding hooks

The seat lock is located back side of the seat. To remove the seat, insert the ignition key and turn it clockwise until the lock is released. Raise and slide back the seat by hand and unhook the seat hooks from the seat holding hooks. To lock the seat, hook the seat hooks into the seat holding hooks carefully, push down firmly, insert the key into the lock, push and turn the key counterclockwise and lock.

HELMET HOLDER

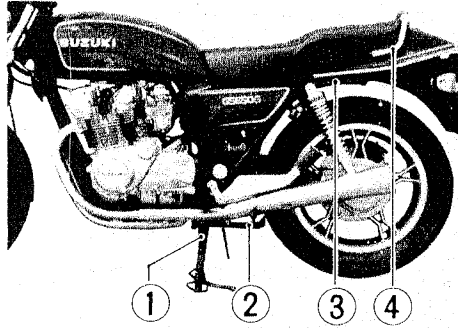


The helmet holder is located under the left side of the seat. Insert the key, and twist it clockwise to open one of the latches and twist it counterclockwise to open the other side of the latches. Hook your helmet fastener ring to the latch and return back the latch to the closed position to lock the holder.

WARNING:

Do not operate the motorcycle with a helmet fastened to the helmet holder. The helmet may be caught in the wheel causing an accident, or interfere with the safe operation of the motorcycle.

STANDS



- ① Center stand
- ② Side stand
- ③ Lift bar
- ④ Passenger hand rail

The motorcycle is equipped with both a center stand and a side stand. To place the motorcycle on the center stand, place your foot firmly on the stand extension and then rock the motorcycle to the rear and upward with the lift bar with your right hand, while steadying the handlebars with your left hand.

CAUTION:

The hand rail is designed to be used as a passenger hand hold only. Attempting to place or remove the motorcycle on or from the center stand using the passenger hand rail will damage it.

FUEL AND OIL RECOMMENDATION

FUEL

Use only unleaded or low-lead type gasoline of at least 85–95 pump octane ($\frac{R+M}{2}$ -method) or 89 octane or higher rated by the Research method. If engine pinging is experienced, substitute another brand as there are differences between brands.

NOTE: Unleaded and low-lead gasoline will extend spark plug life.

GEAR OIL

Use an SAE 90 hypoid gear oil which is rated GL-5 under the API classification system. If you operate the motorcycle where ambient temperature is below 0°C (32°F), use an SAE 80 hypoid gear oil.

ENGINE OIL

Using a premium quality four stroke motor oil will increase the service life of your motorcycle. Use only oils which are rated SE under the API classification system. The viscosity rating should be SAE 10W–40. If the SAE 10W–40 motor oil is not available, select an alternative according to the chart below.

SAE	40								
	30								
	20W-50								
	10W-50								
	10W-30								
	20W								
	10W								
Temperature	°C	-20	-10	0	10	20	30	40	
	°F	-4	14	32	50	68	86	104	

BREAK-IN

Suzuki parts are manufactured with the best possible materials. All machined parts are finished to a very fine tolerance and it is necessary to allow these moving parts to "break-in" before subjecting the engine to full throttle stresses. The ultimate performance and reliability of the engine depends on special care and proper restraint exercised during the break-in period. The general operating rules are as follows:

During the break-in period, the engine speed should be fluctuated and not held at a constant speed. This allows the engine parts to be "loaded" with pressure and then the pressure is

decreased and the parts can cool. This aids the mating process of the parts. It is essential that some stress be placed on the engine components during break-in to ensure this mating process. Operating the engine at constant low speed (light load) can cause the parts to plaze and no seat properly. After the engine has been operated for 1600 km (1000 miles), the motorcycle can be subjected to full throttle operation for short periods of time. Under no circumstances should the engine red line of 9 500 rpm be exceeded.

Initial 800 km (500 miles)	Below 4000 rpm
Up to 1600 km (1000 miles)	Below 6000 rpm
Over 1600 km (1000 miles)	Below 9500 rpm

INSPECTION BEFORE RIDING

Before riding the motorcycle, be sure to check the following items. Never underestimate the importance of these checks and form all of them before riding the machine.

WHAT TO CHECK	CHECK FOR:
Steering	1) Smoothness 3) No play or looseness 2) No restriction of movement
Brakes	1) Corrected pedal and lever play 3) No cracks or cuts 2) No "sponginess"
Fuel	Enough fuel for the planned distance of operation
Lighting	Operation of all lights - HEADLIGHT, TAILLIGHT, BRAKE LIGHT, INSTRUMENT LIGHTS, TURN SIGNALS
Indicator Lights	Oil pressure, High beam, Neutral, Turn signal, Gear position, Fuel gauge
Horn and "Kill Switch"	Correct function
Engine Oil	Correct level
Throttle	1) Correct play in the throttle cable 2) Smooth operation and positive return of the throttle grip to the closed position
Clutch	1) Correct play in the cable 2) Smooth and progressive action
Gear Oil	Correct level
Air Forks	1) Smooth movement 2) Recommended air pressure for type of usage.

RIDING TIPS

STARTING THE ENGINE

Check that the fuelcock lever is in the "ON" position and that the engine kill switch is in the "RUN" position. Insert the ignition key into the ignition switch and turn it clockwise one notch to the "ON" position. The neutral indicator light will light if the transmission is in neutral.

CAUTION:

Always start the engine with the transmission in neutral, the clutch lever pulled in, and the rider in the normal riding position.

When the engine is cold:

Pivot the carburetor choke lever to the engaged position all the way. Close the throttle completely and squeeze the clutch lever. Push the electric starter button and the engine will start. Immediately after the engine starts, keep the engine revolutions to a maximum of 2 000 rpm's by using the choke lever position for throttle control. Return the choke lever all the way back to its normal disengaged position approximately 30 seconds after the engine starts. In ex-

remely cold weather it may be necessary to use the choke longer than 30 seconds.

When the engine is warm:

Open the throttle 1/8th to 1/4th turn and push the electric starter button. Operation of the carburetor choke system is usually not necessary when the engine is warm.

WARNING:

Do not run the engine indoors where there is little or no ventilation available. Carbon monoxide fumes are extremely poisonous. Never leave the motorcycle running while unattended, even for a moment.

STARTING OFF

Pull the clutch lever in and pause momentarily. Engage first gear by depressing the gear shift lever downward. Twist the throttle grip toward you and at the same time release the clutch lever gently and smoothly. As the clutch engages, the motorcycle will start moving forward.

To shift to the next higher gear, accelerate gently, then close the throttle and pull the clutch lever in simultaneously. Lift the gear shift lever upward to select the next gear and release the clutch lever and open the throttle again. Select the gears in this manner until top gear is reached.

USING THE TRANSMISSION

The transmission is provided to keep the engine operating smoothly in its normal operating rpm range. The gear ratios have been carefully chosen to meet the characteristics of the engine. The rider should always select the most suitable gear for the prevailing conditions. Never slip the clutch to control road speed, but rather downshift to allow the engine to run within its normal operational range. The table below shows the approximate speed range for each gear.

Shifting up schedule is as follows:

miles/h	0 - 12	12 - 19	19 - 25	25 - 31	Over 31
Gear position	1st	2nd	3rd	4th	5th
km/h	0 - 20	20 - 30	30 - 40	40 - 50	Over 50

Shifting down schedule is as follows:

miles/h	19 miles/h	12 miles/h
Gear position	5th → 4th	4th → 3rd
km/h	30 km/h	20 km/h

Disengage clutch when speed drops below 15 km/h.

RIDING ON HILLS

- When climbing steep hills, the motorcycle may begin to slow down and "lug" the engine excessively. At this point you should shift to a lower gear so that the engine will again be operating in its normal power range. Shift rapidly to prevent the motorcycle from losing momentum.
- When riding down a hill, the engine may be used for braking by shifting to a lower gear.
- Be careful, however, not to allow the engine to over rev.

WARNING:

- (1) If this is the first time that you have ridden a machine of this type, we suggest that you practice on a non-public road to become thoroughly familiar with the controls and operation of the motorcycle.
- (2) Before starting off, always return the side stand to its normal "up" position.
- (3) Slow down to a safe speed before negotiating a corner.
- (4) Don't down shift in the midst of cornering.
- (5) One-hand riding is extremely dangerous. Keep both hands firmly on the handlebars and both feet securely on the foot rests. Under no circumstances should both hands be removed from the handlebars.

USING THE BRAKES AND PARKING

- Twist the throttle grip away from yourself to close the throttle completely.
- Apply the front and rear brakes evenly and at the same time.
- Downshift through the gears as road speed decreases.
- Select neutral with the clutch lever squeezed towards the grip (disengaged position) just before the motorcycle stops. Neutral position can be confirmed by observing the neutral indicator light.

NOTE: Inexperienced riders tend to use the rear brake only. This can lead to premature brake wear and excessive stopping distances.

WARNING:

Using only the front or rear brake is dangerous and can cause skidding and loss of control.

- Apply the brakes lightly and with great care on a wet highway pavement or other slippery surfaces and at all corners. Any abrupt braking on slippery or irregular roads can be particularly dangerous.
- If the motorcycle is to be parked on the side stand and on a slight slope, you may wish to leave the motorcycle in 1st gear to prevent it from rolling off of the side stand. Return to neutral before starting engine.
- Turn the ignition switch to the "OFF" position to stop the engine.
- Remove the ignition key from the switch.
- Lock the steering for security.

HIGH SPEED RIDING

The rear suspension setting should be adjusted to meet the suspected road conditions and motorcycle speeds. Tire pressures should also be increased for high speed riding as described on page 44.

CAUTION:

Never allow the engine to exceed 9500 rpm in any gear.

WARNING:

High speed cruising requires special care. Be sure that you review the pre-ride instruction chart and be sure that your machine is in top condition. Do not exceed the posted speed limits.


EMISSION INFORMATION

EPA

MAINTENANCE, REPLACEMENT OR REPAIR OF THE EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY MOTORCYCLE REPAIR ESTABLISHMENT OR INDIVIDUAL USING ANY MOTORCYCLE PART WHICH HAS BEEN CERTIFIED UNDER THE PROVISIONS IN THE CLEAN AIR ACT Sec. 207 (a)(2).

COMPLIANCE LABEL

The EPA compliance label is located on the rear fender. It provides much of the date required to perform an engine tune up on your GS650G.

VEHICLE EMISSION CONTROL INFORMATION
SUZUKI MOTOR CO., LTD.  DISPLACEMENT: 674cc
ENGINE FAMILY NAME: CSK067444A7 SUZUKI: GS65
EXHAUST EMISSION CONTROL SYSTEM: ENGINE MODIFICATION
ENGINE TUNE-UP SPECIFICATIONS: ALL ADJUSTMENTS ARE TO BE PERFORMED WITH TRANSMISSION IN NEUTRAL.
VALVE LASH: 0.03-0.08 mm
IGNITION TIMING: 10° BTDC AT IDLE SPEED.
IDLE SPEED: 1,100 RPM ADJUSTMENT IS MADE BY TURNING THE THROTTLE STOP SCREW.
IDLE AIR/FUEL: NO ADJUSTMENT IS NECESSARY.
FUEL: LOW-LEADED OR UNLEADED GASOLINE
ENGINE OIL: SE OR SD IN API CLASSIFICATION, AND VISCOSITY RATING OF SAE 10W-40
REFER TO YOUR OWNER'S MANUAL FOR ADDITIONAL MAINTENANCE INSTRUCTIONS.
THIS VEHICLE CONFORMS TO U.S. EPA AND CALIFORNIA REGULATIONS APPLICABLE TO 1982 MODEL YEAR NEW MOTORCYCLES.

PERIODIC MAINTENANCE SCHEDULE

MAINTENANCE SCHEDULE

The chart indicates the intervals between periodic services in miles (kilometers) and months. At the end of each interval, be sure to inspect, check, lubricate and service as instructed. If your motorcycle is used under high stress conditions such as continuous full throttle operation, or is operated in a dusty climate, certain services should be performed more often to insure reliability of the machine as explained in the maintenance section. Your Suzuki dealer can provide you with further guidelines. Steering components, suspension and wheel components are key items and require very special and careful servicing. For maximum safety we suggest that you have these items inspected and serviced by your authorized Suzuki dealer.

CAUTION:

Periodical inspections may reveal one or more parts that may need replacement. Whenever replacing parts on your motorcycle, it is recommended that you use Genuine Suzuki replacement parts or their equivalent. Whether you are an expert or do-it-yourself mechanic, Suzuki recommends that those items on the Inspection Chart marked with an asterisk(*), be performed by your authorized Suzuki dealer or a qualified service mechanic. You may perform the unmarked items easily by referring to the instructions in this section.

WARNING:

Proper break-in maintenance (600 miles or 1 000 km) is a **MANDATORY** item for making certain that your machine is reliable and gives full performance at all times. Be sure that this periodic maintenance is performed thoroughly and in accordance with the instructions in this manual.

INTERVAL: THIS INTERVAL SHOULD BE JUDGED BY ODOMETER READING OR MONTHS, WHICHEVER COMES FIRST.	miles	600	4,000	7,500	11,000	15,000
	km	1,000	6,000	12,000	18,000	24,000
	months	2	12	24	36	48
Battery (Specific gravity of electrolyte)		—	I	I	I	I
* Cylinder head nut & exhaust pipe bolt		T	T	T	T	T
Air cleaner element		—	C	C	C	C
* Tappet clearance		I	I	I	I	I
Spark plugs		—	C	R	C	R
* Fuel line	Replace every two years.					
Engine oil and oil filter		R	R	R	R	R
Carburetor idle rpm		I	I	I	I	I
Clutch		I	I	I	I	I
Final Gear oil	Change oil at initial 600 miles (1,000 km) and thereafter every 7,500 miles (12,000 km).					

NOTE: T = Tighten, I = Inspect, R = Replace, C = Clean.

INTERVAL: THIS INTERVAL SHOULD BE JUDGED BY ODOMETER READING OR MONTHS, WHICHEVER COMES FIRST.	miles	600	4,000	7,500	11,000	15,000
	km	1,000	6,000	12,000	18,000	24,000
	months	2	12	24	36	48
* Brake hose	Replace every two years					
* Brake	I	I	I	I	I	I
Tires	I	I	I	I	I	I
* Steering stem	I	I	I	I	I	I
* Chassis bolt and nut	T	T	T	T	T	T
Front forks	-	-	I	-	I	I
	Check air pressure every 6 months					

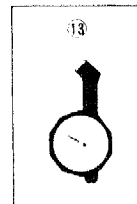
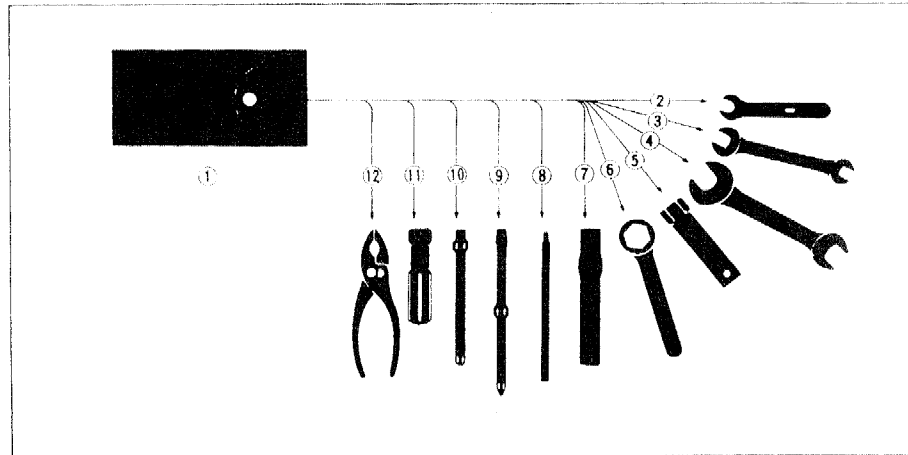
NOTE: T = Tighten, I = Inspect, R = Replace, C = Clean

INSPECTION AND MAINTENANCE

TOOLS

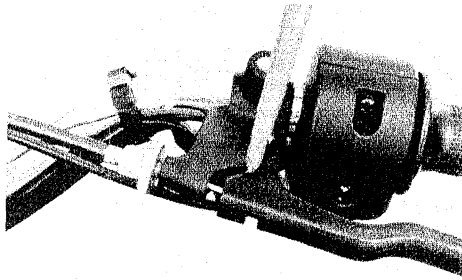
To assist you in the performance of periodic maintenance, a tool kit is supplied and is located under the seat. The tool kit consists of the following items.

Ref. No.	Item
1.	Tool Bag
2.	8mm Open End Wrench
3.	10 x 12mm Open End Wrench
4.	14 x 17 mm Open End Wrench
5.	Spark Plug Socket Wrench
6.	24mm Ring Wrench
7.	Ring Wrench Handle
8.	Socket Wrench Handle
9.	Combination Screwdriver
10.	Cross Head Screwdriver
11.	Screwdriver Handle
12.	Pliers
13.	Front Fork Air Pressure Gauge

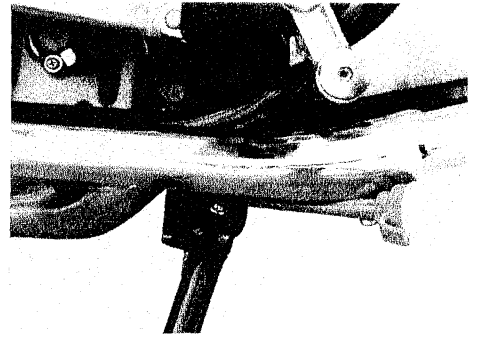


OILING CHART

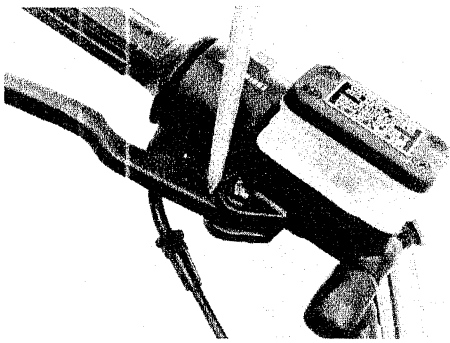
Proper lubrication is important for smooth operation and long life of each working part of your motorcycle and also for safe riding. It is a good practice to oil the machine after a long rough ride and after getting it wet in the rain or after washing it. Major oiling points are indicated below.



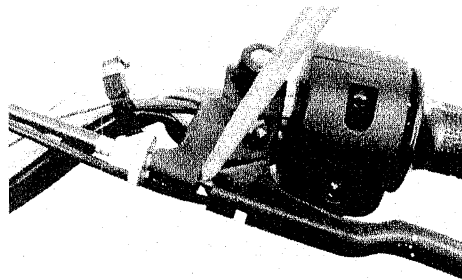
Clutch lever holder



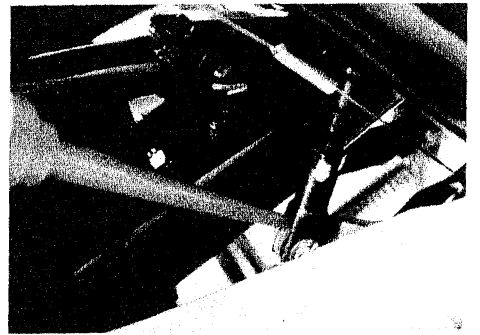
Side stand pivot



Brake lever holder

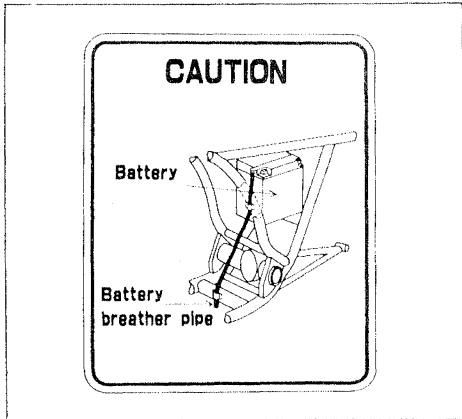
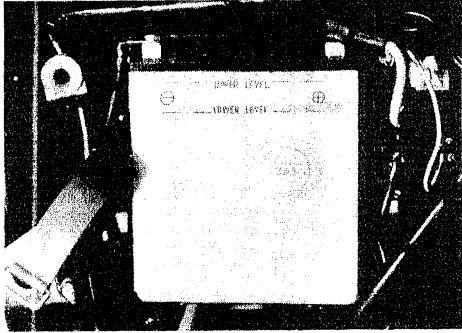


Clutch cable



Rear brake rod link

BATTERY



The battery solution level may be inspected by removing the right frame cover. The solution level must be kept between the upper and lower level lines at all times. If the solution level is below the lower limit line, add **ONLY** distilled water up to the upper limit line. **NEVER** use tap water.

WARNING:

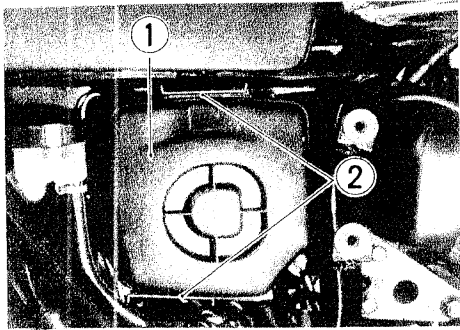
Once the battery has been initially serviced, **NEVER** add diluted sulphuric acid.

CAUTION:

Be careful not to bend, obstruct, or change the routing of the air vent tube from the battery. Make certain that the vent tube is attached to the battery vent fitting and that the opposite end is always open.

NOTE: Every 4,000 miles (6,000 km) have your dealer check the specific gravity of the battery's cells with a battery hydrometer. This will determine the actual condition of each of the six (6) cells.

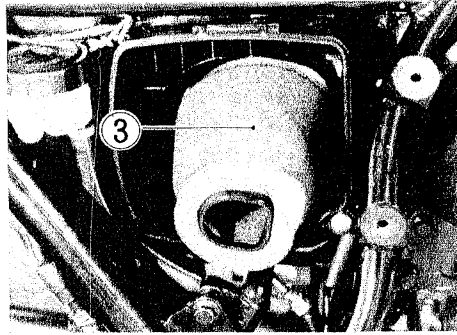
AIR CLEANER



- ① Air cleaner case cover
- ② Fixing slipper

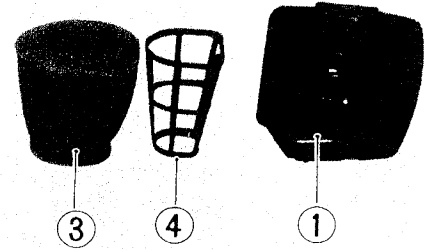
If the air cleaner is clogged with dust, intake resistance will increase with a resultant decrease in output and an increase in fuel consumption. Check and clean the cleaner every 4,000 miles (6,000 km) according to the following procedures.

- 1) Remove the right frame cover and remove air cleaner case cover by sliding two fixing slippers.
- 2) Take out the air cleaner element complete with the element frame.



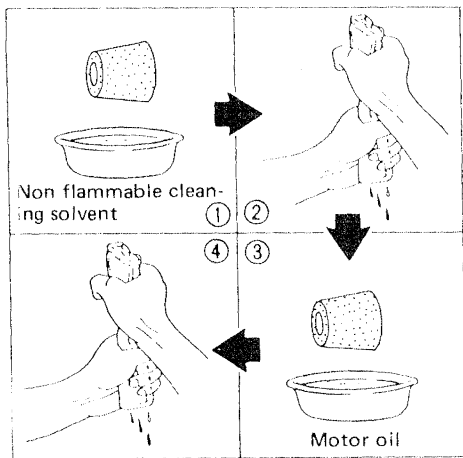
- ③ Air cleaner element

- 3) Remove the polyurethane foam element from the element frame.
- 4) Fill a washing pan of a proper size with non flammable cleaning solvent. Immerse the element in the solvent and wash it clean.
- 5) Squeeze the solvent off the washed element by pressing it between the palms of both hands: do not twist and wring the element or it will develop fissures.
- 6) Immerse the element in a pool of motor oil, and squeeze the oil off the



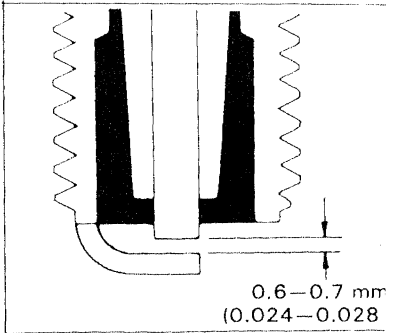
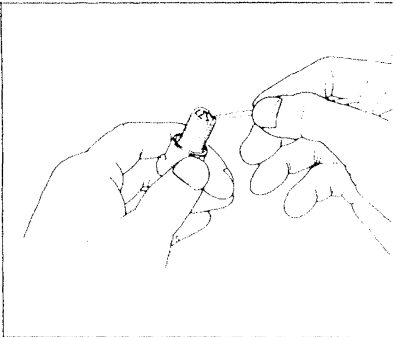
- ④ Element frame

element to make it slightly wet with the oil.



CAUTION:
 If driving under dusty conditions, the air cleaner element must be cleaned more frequently. **NEVER OPERATE THE ENGINE WITHOUT THE ELEMENT IN POSITION.** Operating the engine without the air cleaner element will increase engine wear. Always be sure that the air cleaner element is in excellent operational condition at all times. The life of the engine depends largely on this single component.

SPARK PLUGS



At 4000 miles (6000 km), remove the carbon deposits from the spark plug with a small wire brush of a spark plug cleaning machine. Readjust the spark plug gap to 0.6 – 0.7 mm (0.024 – 0.028 in.) by using a spark plug thickness gauge.

The spark plugs should be replaced every 7500 miles (12000 km).

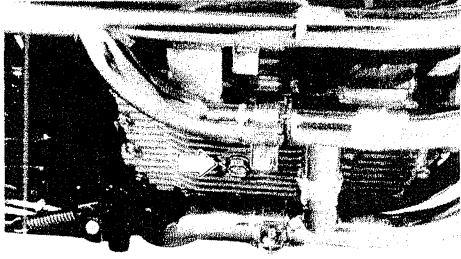
Whenever removing the carbon deposits, be sure to observe the operational color of each spark plug's porcelain tip. This color tells you whether or not the standard spark plug is suitable for your type of usage. If the standard plug is wet appearing or very dark in color, the hotter spark plug may be more suitable. A normal operating spark plug should be very light gray in color. If the spark plug is very white or glazed appearing, then it has been operating much too hot. This spark plug should be replaced with the colder plug.

CAUTION:

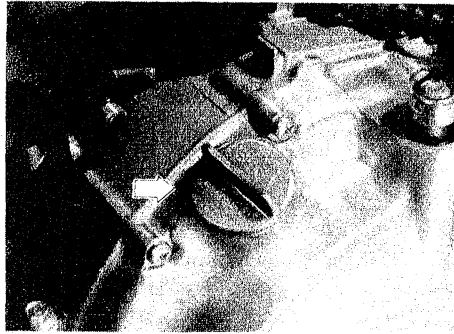
The standard spark plug for this motorcycle has been carefully selected to meet the vast majority of all operational ranges. If the spark plug color indicates that other than a standard spark plug be used, it is best to consult your Suzuki dealer before selecting an alternate plug or heat range. The selection of an improper spark plug can lead to severe engine damage.

NGK	NIPPON DENSO	REMARKS
D7EA	X22ES-U	If the standard plug is apt to get wet, replace with this plug.
D8EA	X24ES-U	Standard
D9EA	X27ES-U	If the standard plug is apt to overheat, replace with this plug.

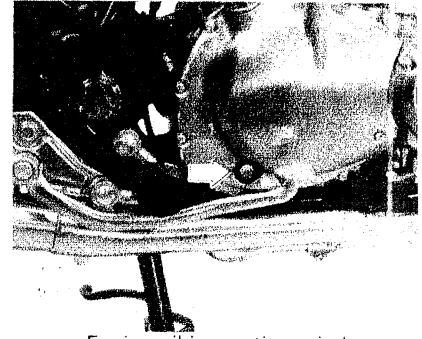
ENGINE OIL AND FILTER CHANGE



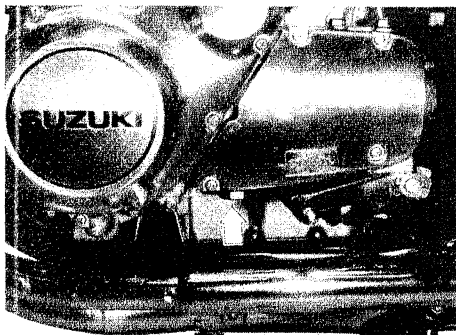
Drain plug



Oil filler cap



Engine oil inspection window



Drain plug (Under the secondary gear case)

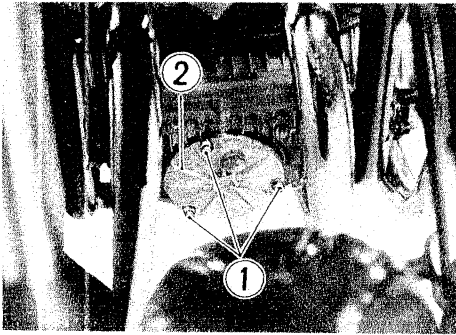
Superior engine life depends much on the selection of quality oil and the periodic changing of the oil. Daily oil level checks and periodic changes are two of the most important maintenances to be performed.

CAUTION:

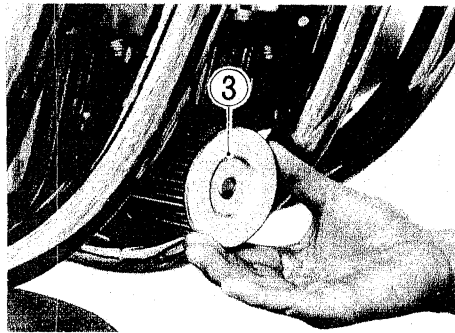
Never operate the motorcycle if the engine oil level is below the "L" (low) line in the inspection window. Never fill the engine oil level above the "F" (full) line.

Change the engine oil and oil filter at initial 600 miles (1,000 km) and also the initial 4,000 miles (6,000 km) up. Thereafter, the oil and oil filter should be changed every 4,000 miles (6,000 km). The oil should always be changed when the engine is hot so that the oil drains thoroughly from the engine. The procedure is as follows:

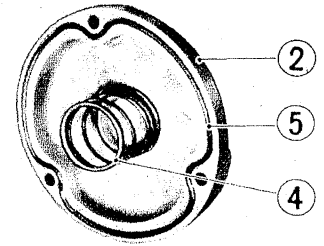
NOTE: About 2,500 ml (2.5 US qt.) oil will be required when changing oil.



(1) Nut (2) Filter cap



(3) Oil filter



(2) Filter cap (4) spring (5) "O" ring

- (1) Place the motorcycle on the center stand.
- (2) Drain the engine oil by removing the drain plug from the bottom of the engine and the drain plug under the secondary gear case.
- (3) Remove the three (3) nuts holding the filter cap in place.
- (4) Remove the filter cap, pull out the element and replace with a new oil filter element. The rubber sealing ring is installed facing the engine.
- (5) Before replacing the oil filter cover, check to be sure that the filter spring and the cap "O" ring are installed correctly.
- (6) Replace the oil filter cover and tighten the nuts securely.
- (7) Replace the drain plug and tighten them securely. Add fresh oil through the filler hole approximately 3 200 ml (3.4 US qt) will be required.
- (8) Start the engine and allow it to idle for several seconds.
- (9) Turn the engine off and wait approximately one minute, then recheck the oil level in the engine oil inspection window. The oil level should be at

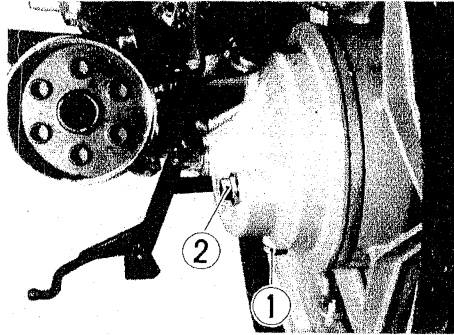
the "F" mark. If lower than the "F" mark, add oil until it reaches the mark.

CAUTION:

Be sure to always use the specified engine oil described on page 20.

GEAR OIL CHANGE

Change the gear oil at initial 1000 km (600 miles), and thereafter every 12000 km (7500 miles). Use SAE 90 hypoid gear oil which is rated GL-5 under API classification system. If you operate the motorcycle where ambient temperature is below 0°C (32°F), use SAE 80 hypoid gear oil. The procedure is as follows:

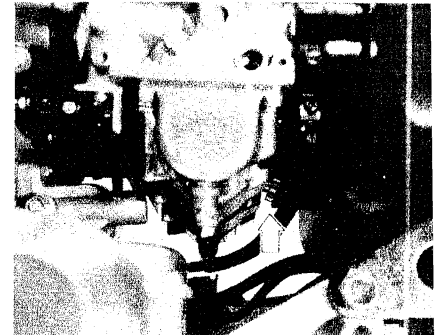


① Drain plug ② Oil filler cap

FINAL GEAR OIL CHANGE

1. Place the machine on the center stand.
2. Remove the oil filler cap.
3. Drain the oil by removing the drain plug from the bottom of the final gear case.
4. Reinstall the drain plug and tighten it securely after all the oil has been drained out. Add fresh oil through the filler hole until the oil drains out from the oil filler hole. Approximately 200-220ml (6.76-7.44/7.04 - 7.75 US/Imp oz) of oil will be required.
5. Reinstall the oil filler cap.

CARBURETOR



Throttle stop screw

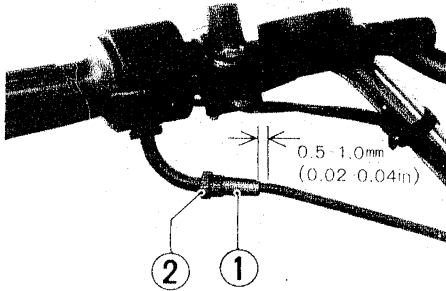
Undisturbed carburetion is the basis the performance you ought to expect your engine. The carburetor is factory for the best carburetion. Do not attempt to alter its setting. There are two items adjustment, however, under your carburetor idle rpm and throttle cable play. Adjust the carburetor idle rpm and throttle cable play at initial 600 mi (1,000 km) and every 4,000 mi (6,000 km).

CARBURETOR IDLE RPM ADJUSTMENT

- (1) Start up the engine and warm it up by running it at 2,000 rpm for 10 minutes in summer (where ambient temperature is 30°C (86°F) or thereabout) or for 20 minutes in winter (where ambient temperature is down to -5°C (23°F) or thereabout).
- (2) After engine warms up, turn the throttle stop screw (1) located on the carburetor in or out so that engine may run at 1000 - 1200 rpm.

CAUTION:

The carburetor idle rpm should be adjusted after the engine warms up.

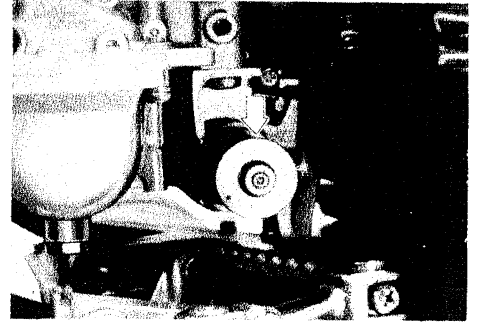


- ① Throttle cable adjuster
- ② Lock nut

THROTTLE CABLE ADJUSTMENT

- 1) Loosen lock nut.
- 2) Adjust the cable slack by turning adjuster in or out to obtain the correct slack 0.5 - 1.0 mm (0.02 - 0.04 in).
- 3) After adjusting the slack, tighten the lock nut.

CAMSHAFT DRIVE CHAIN TENSIONER

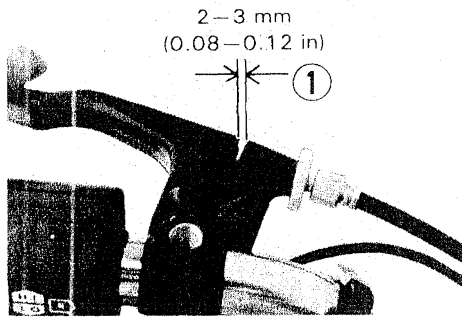


The camshaft drive chain is kept in proper adjustment by an AUTOMATIC camshaft drive chain tensioner. This automatic tensioner never needs servicing by the customer and the camshaft drive chain itself need not be checked for stretch or wear.

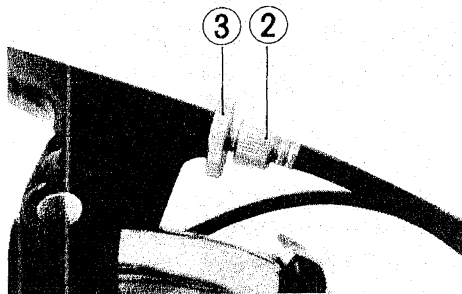
CAUTION:

Never attempt to turn the tensioner wheel in either direction. Turning the wheel even slightly can jam the mechanism which will prevent it from adjusting the chain properly. An improperly adjusted chain can cause severe engine damage.

CLUTCH ADJUSTMENT



① Clutch cable play



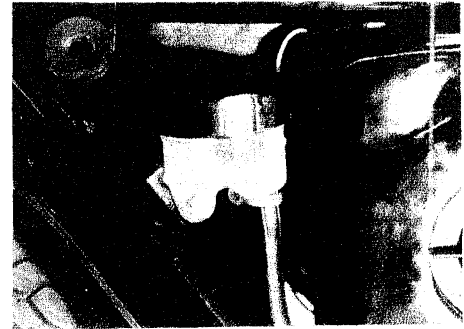
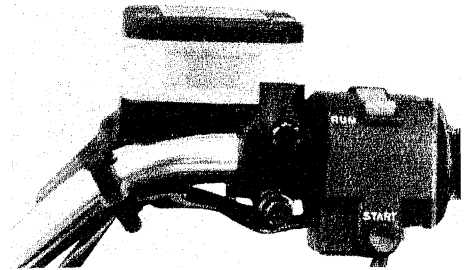
- ② Cable adjuster
- ③ Lock nut

At initial 600 miles (1,000 km) and every 4,000 miles (6,000 km), adjust the clutch by means of clutch cable adjuster. The play of the clutch should be 2-3 mm (0.08 - 0.12 in) as measured at the clutch lever holder before the clutch begins to disengage. If you find the play of the clutch incorrect, adjust it in the following way.

- (1) Loosen the clutch cable adjuster lock nut.
- (2) Turn the clutch cable adjuster to provide the specified play (2-3 mm).
- (3) Tighten the lock nut.

At the same intervals, lubricate the clutch cable with motor oil

BRAKES



This motorcycle utilizes front and rear disc brakes. Properly operating brake systems are vital to safe riding. Be sure to perform the brake inspection requirements as scheduled. The brakes should be inspected at the initial 600 miles (1,000 km) inspection and every 4,000 miles (6,000 km) thereafter, by your authorized Suzuki dealer.

BRAKE FLUID

WARNING:

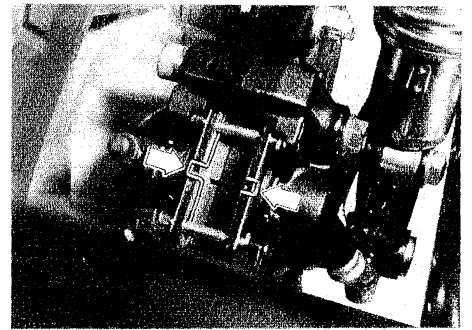
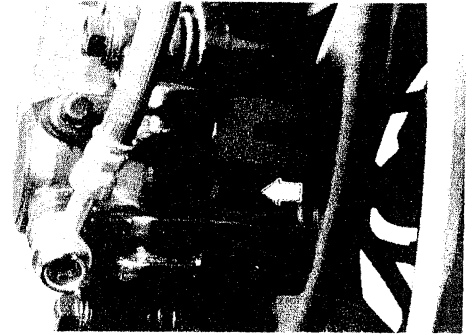
Brake fluid may be harmful if swallowed or if it comes in contact with skin or eyes. Contact your physician immediately. If swallowed induce vomiting. If brake fluid gets into the eyes or incontact with the skin, it should be slushed thoroughly with plenty of water.

WARNING:

This motorcycle uses a glycol-based brake fluid. Do not use or mix different types of brake fluid such as

silicone-based or petroleum-based fluid, otherwise serious damage will result to the brake system. Never use any brake fluid that has been stored in a used or unsealed container. Never reuse brake fluid left over from the last servicing and stored for long periods as it absorbs moisture from the air. Use only DOT 3 or DOT 4 brake fluid. Do not spill any brake fluid on painted or plastic surfaces as it will damage the surface severely.

Be sure to check the brake fluid level in the front and rear reservoirs. If the level was found to be lower than the full mark, replenish with the proper brake fluid that meets Suzuki's requirements. As the brake pads wear, the fluid level will drop to compensate for the new position of the brake pads. Replenishing the brake fluid reservoir is considered normal periodic maintenance.



Inspect the front brake pads by noting whether or not the friction pads are worn down to the red limit line. If a pad is worn to the red limit line it must be replaced with a new one.

Inspect the rear brake pads for wear by noting whether or not the pad is worn down to the shoulder of each pad. If the shoulder is gone or nearly gone, the pad must be replaced with a new one. It is necessary to remove the pad inspection cap.

WARNING:

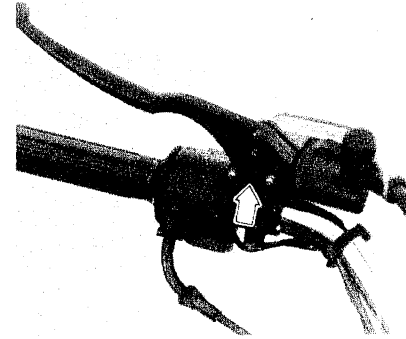
If the brake system or pads need to be repaired or serviced we strongly advise you to have your authorized Suzuki dealer perform service. He has the proper tools and proper training to perform the job in a safe and economical manner.

CAUTION:

Disc brake systems operate under extremely high pressures. For safety, the brake hose and brake fluid should be changed at intervals of no longer than two (2) years. Inspect your brake system for the following items daily.

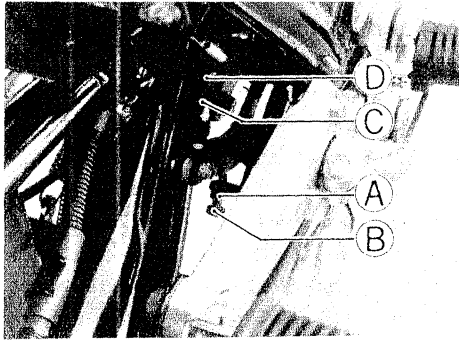
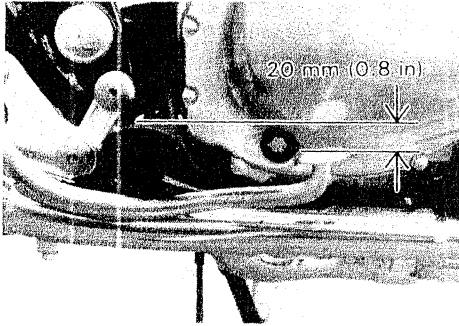
- (1) Inspect the front and rear brake system for signs of fluid leakage.
- (2) Inspect the brake hose for leakage or a cracked appearance.
- (3) The brake lever should have the proper stroke and be firm at all times.
- (4) Check the wear of the disc brake pads.

FRONT BRAKE LIGHT SWITCH



The front brake light switch is located beneath the front brake lever. Loosen the switch fitting screws and adjust the actuating point by moving the switch to the right or to the left so that the light will come on just before a pressure is felt at the lever.

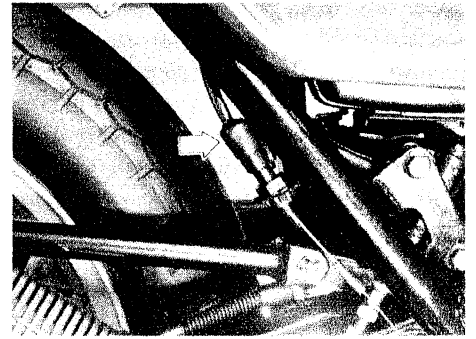
REAR BRAKE PEDAL ADJUSTMENT



The rear brake pedal must have a specified amount of clearance at all times or the disc brake pads will rub the disc causing damage to the pads and to the disc surface. Adjust the brake pedal in the following manner:

- (1) Loosen lock nut (A) and turn the stopper bolt (B) away from the stopper lug.
- (2) Loosen lock nut (C), and rotate the push rod (D) to locate the pedal 20 mm below the top face of the foot rest. Be sure to measure this clearance carefully.
- (3) Retighten lock nut (C) to secure the push rod (D) in the proper position.
- (4) Adjust the clearance between the tip of the return stopper bolt (B) and the stopper lug so that the clearance is zero. Retighten the lock nut (A).

REAR BRAKE LIGHT SWITCH



The rear brake light switch is located under the right frame cover. To adjust the brake light switch: raise or lower the switch so that the brake light will come on just before a pressure rise is felt when the brake pedal is depressed.

TIRES: TUBELESS TYPE

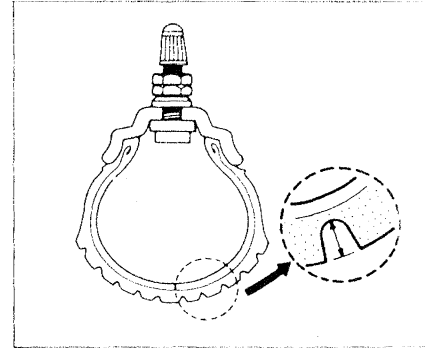
This motorcycle is equipped with tubeless-type tires. These tires have passed rigid factory testing on this motorcycle and their use will ensure handling and high speed stability.

Check the tire inflation pressure and tire tread condition at the initial 600 miles (1000 km) and each 4000 miles (6000 km) inspection. For maximum safety and good tire life, the tire pressure should be inspected more often.

NOTE: Tubeless tires, unlike tube equipped tires, have some self sealing properties. If the tire pressure has dropped, inspect the tire very carefully for punctures, nails or a damaged rim.

TIRE PRESSURE

Insufficient air pressure in the tires not only hastens tire wear but also seriously affects the stability of the motorcycle. Under inflated tires make smooth cornering difficult and over inflated tires decrease the amount of tire in contact with the ground which can lead to skids and loss of control. Be sure that the tire pressure is within the specified limits at all times. Tire pressure should only be adjusted when the tires are cold.



TIRE TREAD CONDITION

Operating the motorcycle with excessively worn tires will decrease ride stability and can lead to loss of control. It is recommended that the front tire be replaced when the remaining depth of tread becomes 1.6 mm (0.06 in) or less. The rear tire should be replaced when the tread becomes 2.0 mm (0.08 in) or less.

COLD INFLATION TIRE PRESSURE	FRONT						REAR					
	SOLO RIDING			DUAL RIDING			SOLO RIDING			DUAL RIDING		
	kPa	P.S.I.	KG/CM ²	kPa	P.S.I.	KG/CM ²	kPa	P.S.I.	KG/CM ²	kPa	P.S.I.	KG/CM ²
NORMAL RIDING	175	25	1.75	175	25	1.75	200	28	2.00	250	36	2.50
CONTINUOUS HIGH SPEED RIDING	200	28	2.00	200	28	2.00	225	32	2.25	280	40	2.80
TIRE SIZE	FRONT: 3.25H19 4PR						REAR: 4.25H17 4PR					

WARNING:

The use of a tire other than original equipment can lead to serious stability problems and possible loss of control. Suzuki strongly recommends that you use only the specified (BRIDGESTONE, IRC) 3.25H19 4PR front tire and 4.25H17 4PR rear tire due to our familiarity with their performance.

Tubeless type tires require that special precautions be taken when changing tires or repairing flats.

- Tubeless tires depend upon the seal between the tire bead and the wheel rim to retain air. Damage to the tire bead surface or the inner wheel rim surface will result in air leak. For this reason, special care must be taken when removing or installing the tire from the wheel. Special tire irons and rim protectors or a specialized tire mounting machine are required to prevent damage.

- Punctures in tubeless tires should be repaired by dismounting the tire and applying an internal patch.
- The use of tubeless tire plugs (external repair) to repair punctures is not recommended, as the cornering forces generated by a motorcycle may cause them to work loose.
- If the puncture is in the sidewall area of if the hole is greater than 6 mm (0.2 in) in diameter, the tire must be replaced.

After reinstalling a repaired tire, you should not exceed 50 mph (80km/h) for at least 24 hours, because repair failure and tire deflation may result. Never exceed 80mph (130km/h) with a repaired tire.

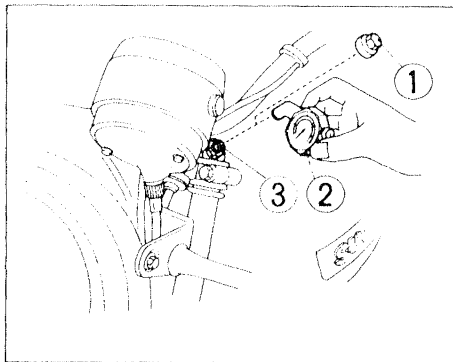
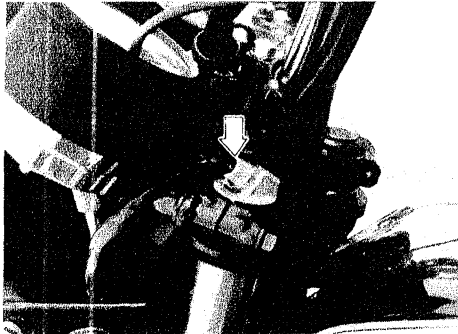
Proper wheel balancing is necessary for safe and stable handling of the motorcycle. You should not remove or change the wheel balance weights. After tire replacement or repair, the wheel must be rebalanced. Trust this work only to someone with the proper tools and equipment.

Due to the importance of tire repair and replacement, we recommend that you consult an authorized Suzuki dealer to perform these services. If an authorized Suzuki dealer is not available, go to an authorized tire repair station with tubeless-tire-on-alloy-wheel experience.

FRONT SUSPENSION

This motorcycle front suspension is pneumatic/coil spring or more commonly referred to as "air" forks. Each fork tube contains compressed air and a light coil spring as well as fork oil.

The GS650G is serviced at the factory with 0.5 kg/cm^2 (7.1 psi) of air pressure in the front forks.



- (1) Air valve protection cap (3) Air valve
(2) Air pressure gauge

CHECKING FORK AIR PRESSURE

The motorcycle should be placed on its center stand and all weight removed from the front end by jacking up the front of the chassis or engine. Remove the air valve protection caps and use the air pressure gauge to check the front fork air pressure. To raise the pressure, use a hand pump to add air to each fork leg. To lower the pressure, bleed the air out from the valve. Double check the pressure and make sure that it is at the setting you desire.

CAUTION:

Do not attempt to alter the front fork air pressure setting by using a high pressure tire filler such as is available in gas stations. A hand type pump must be used so that no damage will occur to the fork assembly. Never use any air containing inflammable gases. Instead of ordinary air, nitrogen gas may be substituted if available. When pumping air in, never increase the pressure above 2.5 kg/cm^2 (35 psi). This is the maximum permissible pressure to avoid fork oil seal and valve damage.

CAUTION:

Be sure to keep air pressure between 0.5 kg/cm^2 (7.1 psi) and 1.0 kg/cm^2 (14.2 psi).

WARNING:

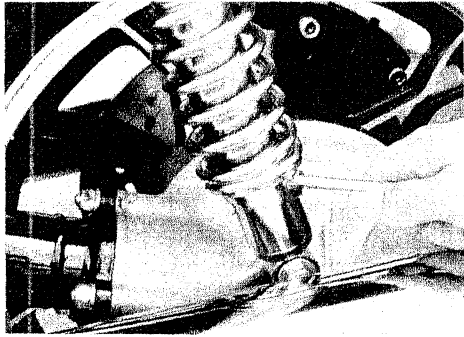
Equalize the air pressures of the two fork tubes. The maximum allowable difference is 0.1 kg/cm² (1.4 psi). This will prevent unnecessary stress on the front axle and on the fork leg assemblies.

NOTE: Fork air pressure, as with tire pressure, should be checked periodically (monthly) and especially after periods of non-use. When checking the pressure, be sure to apply the pressure gauge squarely to the air valve; After taking a reading, remove the gauge quickly. This must be done as some pressure is lost when removing the gauge. The loss ranges from 0.05 to 0.10 kg/cm² (0.7 - 1.4 psi). Take this loss of air pressure into consideration when adjusting for your final air pressure.

REAR SUSPENSION

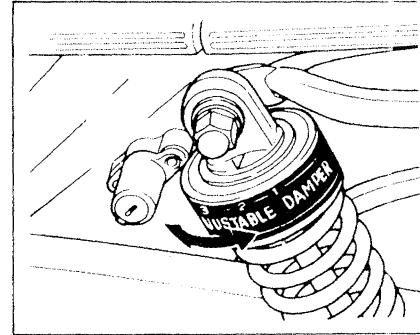
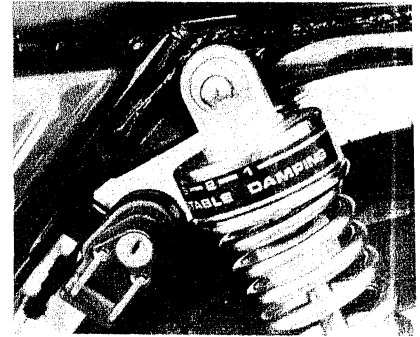
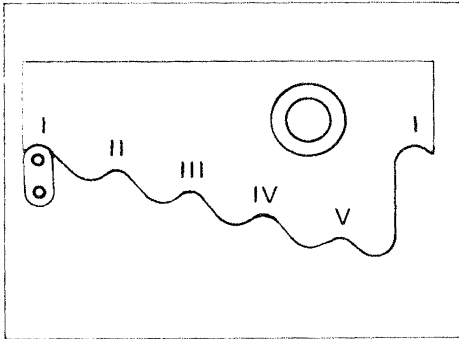
The rear shock absorber's spring preload and damping rate are adjustable. Spring preload can be altered to five different settings and the damping rate to four different settings.

These two variables can be adjusted to optimize the handling of the machine and the smoothness of the ride based on the speed, load, and road condition.



SPRING ADJUSTMENT

Turn the bottom spring seat, as shown in the photo, to the desired notch. This will change the preload on the spring and increase or decrease the stiffness of the ride. This GS650G as delivered from the factory is adjusted so that both springs are on the number 1 notch.



DAMPING ADJUSTMENT

To increase or decrease the damping force, turn this adjusting ring as shown in the photo. Damping adjustments are indicated by the numbers 1 thru 4 engraved on the ring.

ed on the adjusting ring. As you turn the adjusting ring, you will notice a click as you reach each number position. When changing the damping, always be sure that the adjusting ring stops with the number visible, that a click is noticed and the ring feels as if it were sitting in a detent or a notch. Position 1 (softest) provides for the smallest amount of damping force, and position 4 (stiffest) for the largest amount. The GS650G is delivered from the factory with both rear dampers adjusted to the number 1 position.

CAUTION:
 Do not operate rear damper units in any positions other than the click or detented positions. If positions 2½, 3½ etc., is used, the damping force will automatically have the same damping force as number 4 (stiffest) position.

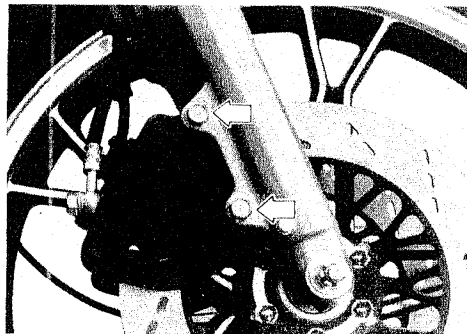
The rear suspension must be made stiffer if two persons are to ride the motorcycle or if accessories have been fitted to the motorcycle.

If the machine is to be used for high performance cruising, then the rear suspension should also be stiffened. A list of the recommended combinations is provided and should be followed.

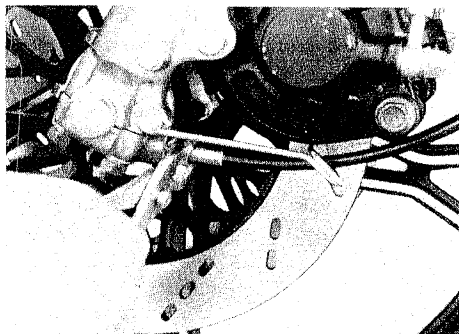
WARNING:
 Be sure to adjust the springs and dampers of the two shock absorbers equally. Making one shock absorber harder than the other will severely disturb the running stability of the machine.

Spring Setting	Damper setting
I	1 or 2
II	2 or 3
III	2 or 3
IV	3 or 4
V	4

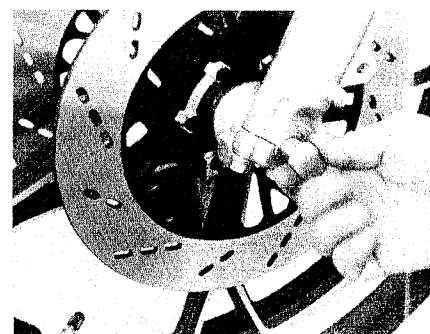
FRONT WHEEL REMOVAL



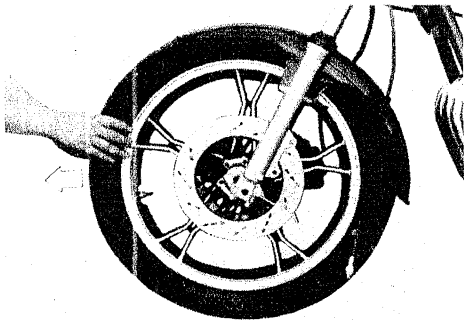
- (1) Place the bike on the center stand.
- (2) Remove either one of two calipers, left or right, from the fork by unfastening its two mounting bolts.



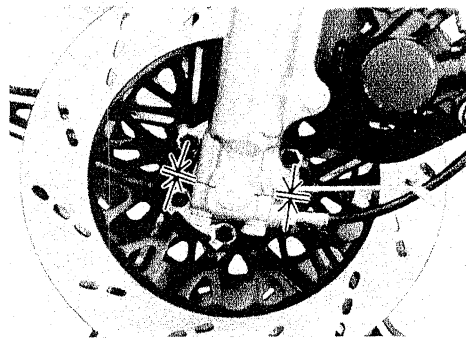
- (3) Disconnect the speedometer cable from the front wheel. When the cable is released, prevent the inner drive cable from sliding out of the outer cable housing.



- (4) Draw out the axle shaft.



- (5) Lift the front end of the motorcycle up and place a jack or a block under the engine or chassis tubes.
- (6) Slide the front wheel forward. To reinstall the wheel assembly reverse the sequence as described.



WARNING:

If the front wheel has to be removed, it is very important to have the loosened nuts and bolts torqued to the proper specifications. We suggest that you have this performed by an authorized Suzuki Dealer.

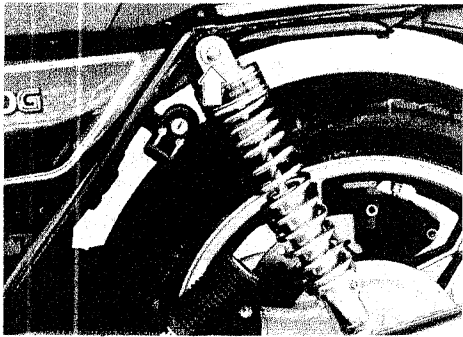
CAUTION:

Before tightening the axle holders in place, locate the speedometer drive gear box so that the arrow on the gear box housing points up. This will align the speedometer cable properly when installed. To secure the axle properly, the axle holders should be tightened down so that the gap on each side of the cap is equal.

CAUTION:

Never squeeze the front brake lever with the front wheel removed. It is very difficult to force the pads back into the caliper assembly.

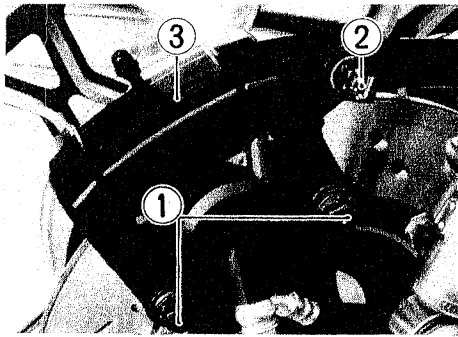
REAR WHEEL REMOVAL



1. Locate the motorcycle on level ground and place the motorcycle on the centerstand.
2. Remove the upper shock absorber nuts and pull the top side of the shock absorbers free from the mounting lugs. This will allow the swingarm/bevelgear assembly to be easily moved.

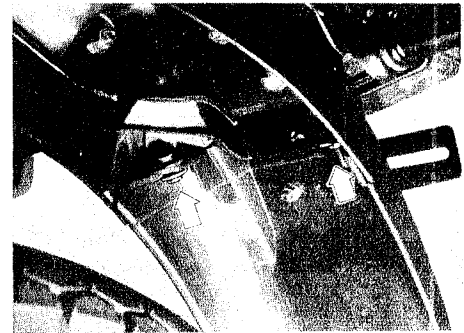
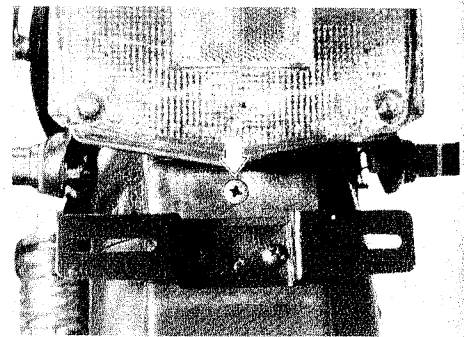
CAUTION:

Take care not to burn yourself if the mufflers are hot.

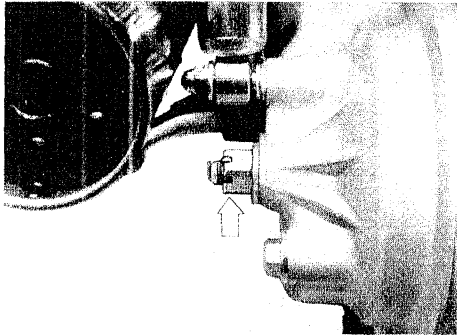


- ① Caliper mounting bolt
- ② Torque link bolt
- ③ Caliper

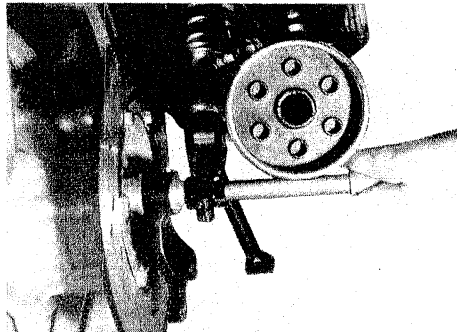
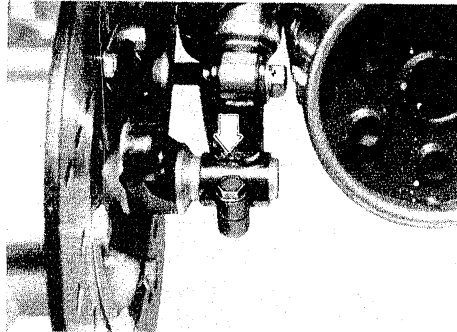
3. Remove the caliper mounting bolts, the torque link bolt cotter pin and the torque link bolt. Pivot the caliper out of the way.



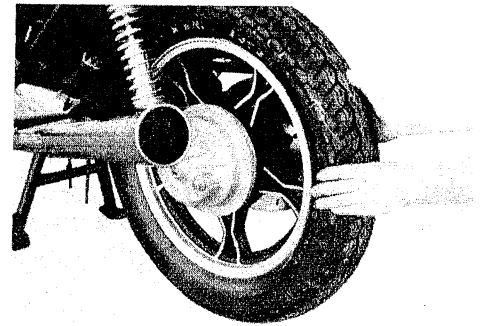
4. Remove the rear fender.



5. Remove the cotter pin and loosen the axle nut.



6. Loosen the axle shaft holder bolt and draw out the axle shaft.



7. Remove the axle from the bevel gear housing. Remove the wheel from the splined drive and set the wheel assembly on the ground.
8. Remove the rear wheel assembly.

WARNING:

If you have found it necessary to remove the rear wheel, it is very important that the nuts and bolts be torqued to the proper specification. We strongly recommend that you have these bolts checked and retorqued by your authorized Suzuki Dealer.

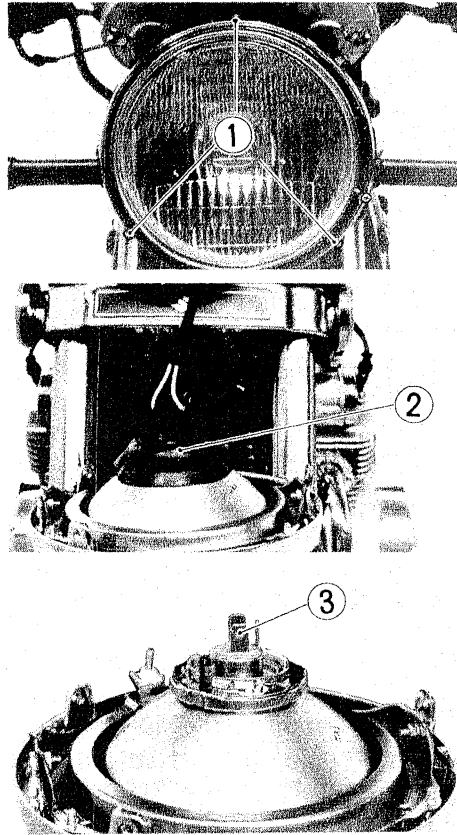
CAUTION:

- (1) When reinstalling the rear wheel, check all nuts, bolts and cotter pins.
- (2) While removing the caliper from the mounting bracket it is possible for the brake hose to touch the muffler. If the muffler is still hot, the hose could be damaged. Protect the hose with a cloth or wait until the muffler cools.
- (3) When reinstalling the rear caliper, be careful not to twist the brake hose or route it improperly.

LIGHT BULB REPLACEMENT

The wattage rating of each bulb is shown on the chart below. When replacing a burned out bulb, always use the exact same wattage rating. Using other than the specified rating can result in overloading the electrical system or premature failure of a bulb.

Headlight	12V 60/55W
Tail/Brake light	12V 8/23 (3/32 cp)
Turn signal light	12V 23W (32 cp)

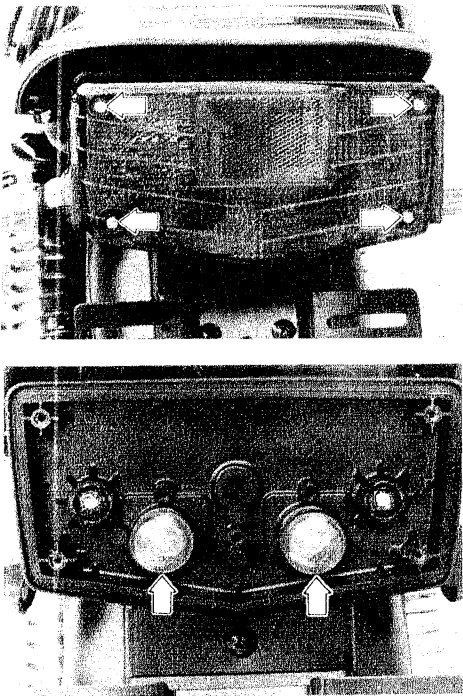


HEADLIGHT

- (1) Remove three screws (1); take off the headlight assembly.
- (2) Roll up the rubber cap (2) and unhook the bulb holder spring, and you can pull out the bulb (3).

CAUTION:

In this motorcycle, the halogen light is used for the headlight. When replacing the headlight bulb, be careful not to touch the lens of its bulb.



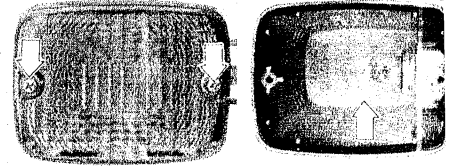
TAIL/BRAKE LIGHT

To replace the tail/brake light bulb, follow these directions:

- (1) Remove the four screws and take off the lens.
- (2) Push the bulb in, twisting it to the left until the engagement pins are disconnected and remove the bulb. To fit the replacement bulb into position, push the bulb in firmly and twist it to the right while pushing in.

CAUTION:

When replacing the lens, do not overtighten the four securing screws.



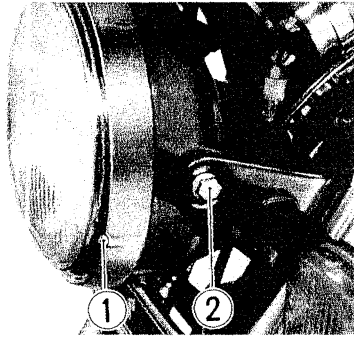
TURN SIGNAL LIGHT

- (1) Remove two screws and take off the lens.
- (2) Push the bulb, twisting it to the left and pull it off.
- (3) To fit the replacement bulb, push in and twist it to the right while pushing.

CAUTION:

After setting the lens, be careful not to overtighten the two securing screws lest the lens should break.

HEADLIGHT ADJUSTMENT



The headlight beam can be adjusted both horizontally and vertically if necessary.

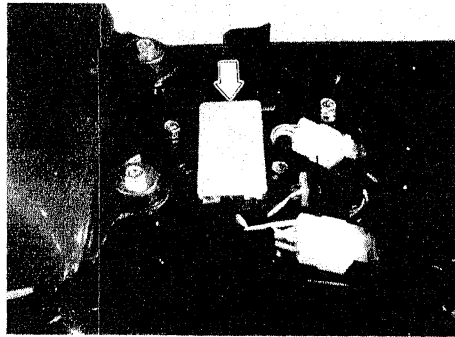
To adjust the beam horizontally:

Turn the cross head screw ① located on the left side of the headlight unit clockwise or counter-clockwise.

To adjust the beam vertically:

Loosen the headlight housing fitting bolt ② and move the headlight housing up and down as required.

FUSE BOX/OUTPUT TERMINAL



The fuse box/output terminal is located inside the left hand frame cover. There are five fuses. If there is a sudden halting of the engine while running or any electrical system failure then the fuses must be checked. In case one or more of the fuses blow there are two spare fuses, a 15A and a 10A fuses, located in the fuse box cover.

For attaching electric accessories, this output terminal is provided.

When feeding current to an electric accessory from this output terminal, first remove terminal cover. Then, connect it to the terminal with extreme care not to

confuse its positive (+) and negative (-), following marks positive (+) and negative (-) on the terminal. After that, replace the terminal cover. The allowable current is 10A (12V).

CAUTION:

This output terminal is strictly provided for electric accessories, and so, any other usages are forbidden. In actual use for any electric accessory, please consult Suzuki dealer. It should be noted that a burnt out fuse should be replaced, removing terminal cover.

CAUTION

Never use other than specified 10A fuse for the output terminal.

CAUTION:

Always be sure to replace the blown fuse with the correct amperage fuse. Never use a substitute, for example aluminum foil or wire, to replace a blown fuse. If the spare fuse installed blows out in a short period of time it means that you could have a major electrical problem. You should consult your Suzuki dealer immediately.

FUSE LIST

1. 15A MAIN fuse protects all electrical systems.
2. 10A HD LAMP fuse protects headlight, taillights license plate light, instrument lights and high beam indicator light.
3. 10A SIGNAL fuse protects brake light, turn signal lights, turn signal indicator light, turn signal buzzer and horn.
4. 10A IGNITION fuse protects the ignition system and electrical start system.
5. 10A OUTPUT TERMINAL fuse protects the electric accessories.

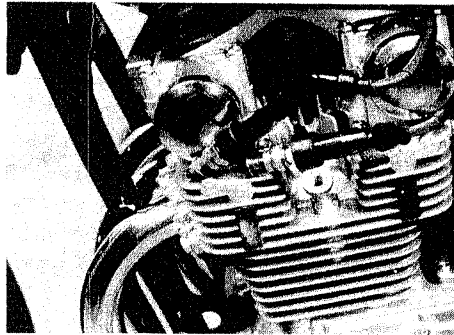
TROUBLESHOOTING

If the engine refuses to start, perform the following inspections to determine the cause.

- (1) Is there enough fuel in the fuel tank?
- (2) Is the fuel reaching the carburetors from the fuelcock?
- (3) Disconnect the fuel line from the carburetor, turn the fuelcock to the "PRIME" position and see if gasoline flows from the hose.
- (4) Then turn the fuelcock to the "ON" position and crank the engine for a brief moment and see if fuel still flows.
- (5) If it has been determined that fuel is reaching the carburetor, the ignition system should be checked next.

WARNING:

Do not allow the fuel to spill, catch the fuel in a container.



- (1) Remove a spark plug and re-attach it to the spark plug lead.
- (2) While holding the spark plug firmly against the engine, push the starter button with the ignition switch in the "ON" position and the engine "kill" switch in the "RUN" position. If the ignition system is operating properly, a blue spark should jump across the spark plug gap. If there is no spark, consult your Suzuki Dealer for repairs.

WARNING:

Do not hold the spark plug close to the open spark plug hole in the cylinder head as gasoline vapor inside the cylinder could be ignited, creating a fire hazard.

ENGINE STALLING

- (1) Check the fuel supply in the fuel tank.
- (2) Check the ignition system for intermittent spark.
- (3) Check the engine idle speed.

CAUTION:

It is best to consult your Suzuki dealer before attempting to troubleshoot any problem. If the machine is still within the warranty, then the Suzuki dealer should definitely be consulted before any repairs are attempted on the machine by yourself. Tampering with the machine while in warranty may affect warranty consideration.

STORAGE PROCEDURES

Materials Needed

1. Motor Oil.
2. Commercial Gasoline Stabilizer.
3. Commercial Rust Preventative Fogging Oil. (outboard motor type)
4. Commercial Aerosol Rust Preventative. (moisture displacing lubricant)
5. Commercial Vinyl and Rubber Preservative.
6. Hydrometer for Checking Battery Condition.
7. 1 Amp Battery Charger.

1. Place the motorcycle on its center stand.
2. Thoroughly clean the entire motorcycle. Run the bike until all traces of moisture are gone.
3. Pour the gasoline stabilizer into the fuel tank using the amount of stabilizer recommended by its manufacturer. Unstabilized fuel will form "gum" or "varnish" deposits that will plug the fuelcock and carburetor passageways.

NOTE: Make sure that the fuelcock lever is in the "ON" or "RESERVE" position. If the lever is left in the prime position, fuel may leak into the engine.

NOTE: Steps 4a and 4b are for protecting the top end engine components from rust and corrosion. Step 4b is to be used only if fogging oil is not available. Do either 4a or 4b, but DO NOT do both.

- 4a. Remove the air cleaner element. While the engine is running at idle, spray the rust preventative fogging oil into the air cleaner box. Try to give each cylinder equal amounts of fogging oil. Do this until the engine stalls or emits smoke.
- 4b. Run the engine for a few minutes to get the stabilized fuel into the carburetors. Then, remove the spark plugs and pour 1 to 2 tablespoons of motor oil into each spark plug hole. Reinstall the spark plugs. DO NOT reinstall the spark plug caps at this time. Turn the engine over a few

times with the electric starter. Do not reinstall the spark plug caps.

5. Drain the old engine oil and remove the oil filter, but DO NOT replace it this time. With fresh oil, refill the crankcase all the way up to the fill cap hole. This step is necessary because the old oil contains acid moisture and other contaminants that will damage the engine while it is stored.
6. Refill the fuel tank as completely as possible to eliminate any air space and to reduce the chances of the fuel becoming contaminated.
7. Remove the battery. Make sure you remove the negative terminal before the positive terminal. This will remove the battery from the circuit and will eliminate the chance of grounding the positive terminal with the screwdriver or wrench. Clean the outside of the battery with a baking soda and water solution and dry it carefully. Be sure not to get any solution inside the cells. Remove

any corrosion from the terminals and from the wiring harness connections. Store the battery in a room that stays above freezing, off the floor, and preferably on a wooden shelf.

8. Spray all of the vinyl and rubber parts with the rubber preservative.
9. Spray the unpainted surfaces of the motorcycle with the rust preservative.
10. Deflate the tires to approximately 20 PSI and block up the front of the motorcycle so both front and rear tires are off of the ground. This will keep the tires from developing permanent "flat" spots.

During the storage period, be sure to do the following things:

Once A Week

Turn the engine over a few times by removing the spark plugs and putting the transmission in 5th gear and turning the rear wheel. This will keep the piston rings free and top end coated with oil. Reinstall

the spark plugs and visually inspect your machine for any other things that would be detrimental to the condition of your motorcycle.

Once A Month

Recharge the battery with the one amp battery charger until it is fully charged. If the battery is not kept fully charged, it may become permanently damaged and will have to be replaced.

PROCEDURE FOR RETURNING TO SERVICE

1. Clean the entire motorcycle.

NOTE: Use of a commercial degreaser may stain the finish on the engine. Instead, use a mild detergent and water solution.

2. Drain the oil that was in the engine during the storage period. Install a new oil filter and fill the engine with oil as outlined in your owner's manual.
3. Reinstall the battery. Make sure that the vent hose is connected and routed properly. Install the positive terminal before the negative terminal.
4. Lubricate all places as instructed in the lubrication table in the owner's manual.
5. Inflate the tires to the correct pressure.
6. Before starting the engine, remove the four spark plugs and slowly turn the engine over by putting it in 5th gear and turning the rear wheel. Listen for any abnormal noises and check for smooth movement. If you

think a problem has occurred, contact your local authorized Suzuki dealer for assistance. If there are no problems, reinstall the spark plugs and return the transmission in neutral.

7. Do the "Inspections Before Riding" as listed in the owner's manual.

Often times it's easier to let these sort of services be done by your dealer. Most dealers in the areas where motorcycle storage is common are set up to properly prepare motorcycles for storage. Whether you do it yourself, or have your dealer do it, we sincerely hope you follow our suggestions. This is the only way that your GS can serve you in the manner it was designed. If your dealer does the service for you, you should be among the first to be back on the road when winter becomes spring.

CAUTION:

Clean the brake disc with alcohol only. This will ensure positive braking.

SPECIFICATION

DIMENSIONS AND DRY MASS

Overall length	2 170 mm (85.4 in.)
Overall width	830 mm (32.7 in.)
Overall height	1 175 mm (46.3 in.)
Wheelbase	1 440 mm (56.7 in.)
Ground clearance	160 mm (6.3 in.)
Seat height	790 mm (31.1 in.)
Dry mass	213 kg (470 lbs)

ENGINE

Type	Four-stroke cycle, air-cooled, DOHC
Number of cylinders	4
Bore	62.0 mm (2.441 in.)
Stroke	55.8 mm (2.197 in.)
Piston displacement	673 cm ³ (41.1 cu. in.)*
Compression ratio	9.4 : 1
Carburetor	MIKUNI BS32SS, four
Air cleaner	Polyurethane foam element
Starter system	Electric
Lubrication system	Wet sump

* The engine displacement value listed here may differ slightly from the vehicle emission control information label because a different method of rounding off the displacement value was used.

TRANSMISSION

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down 4-up
Primary reduction	1.956 (90/46)
Gear ratios, Low	2.678 (36/14) x (25/24)
2nd	1.851 (32/18) x (25/24)
3rd	1.438 (29/21) x (25/24)
4th	1.171 (27/24) x (25/24)
Top	1.000 (Direct)
Secondary reduction	0.941 (16/17)
Final reduction	3.090 (34/11)
Drive system	Shaft drive

CHASSIS

Front suspension	Telescopic, pneumatic/coil spring, oil dampened
Rear suspension	Swinging arm, oil dampened damper 4-way, spring 5-way adjustable

Steering angle 40° (right & left)
 Caster 62° 15'
 Trail 113 mm (4.45 in.)
 Turning radius 2.5 m (8.2 ft)
 Front brake Disc brake, twin
 Rear brake Disc brake *109/90-19*
 Front tire size 3.25H19 4PR, tubeless
 Rear tire size 4.25H17 4PR, tubeless *110/90-17*

Headlight 12V 60/55W
 Tail/Brake light 12V 8/23W(3/32 cp)
 Turn signal light 12V 23W (32 cp)
 Speedometer light 12V 3.4W
 Tachometer light 12V 3.4W
 Neutral indicator light 12V 3.4W
 High beam indicator light 12V 3.4W
 Turn signal indicator light 12V 3.4W
 Oil P. indicator light 12V 3.4W
 Fuel meter light 12V 1.7W

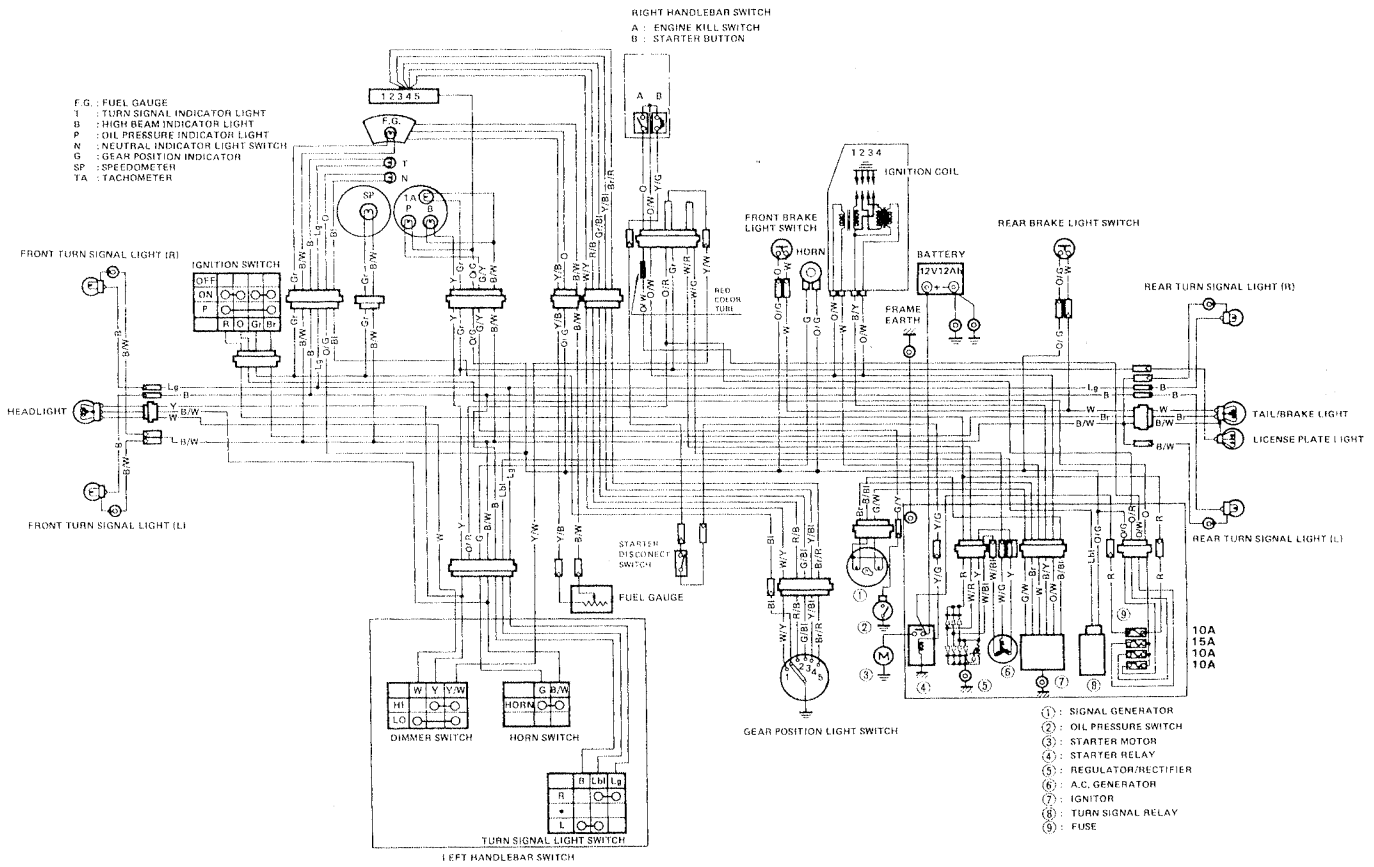
ELECTRICAL

Ignition type Transistorized
 Ignition timing 10° B.T.D.C. below 1650
 r/min and 40° B.T.D.C.
 above 3500 r/min
 Spark plug NGK D8EA or NIPPON DEN-
 SO X24ES-U
 Battery 12V 50.4 kC (14 Ah)/10 HR
 Generator three-phase A.C. generator
 Fuse 10/10/10/10/15A

CAPACITIES

Fuel tank including reserve 16L (4.2/3.5 US/Imp gal)
 reserve 4.5L (4.8/4.0 US/Imp qt)
 Engine oil 2.5L (2.5/2.1 US/Imp qt)
 Front fork oil 210 ml (7.10/7.39 US/Imp
 oz)
 Final bevel gear oil 200–220 ml
 (6.76–7.44/7.04–7.75
 US/Imp oz)

WIRING DIAGRAM



WIRE COLOR

B	Black	G/Y	Green with Yellow tracer
W	White	O/G	Orange with Green tracer
Y	Yellow	O/R	Orange with Red tracer
R	Red	O/W	Orange with White tracer
O	Orange	Y/G	Yellow with Green tracer
G	Green	Y/R	Yellow with Red tracer
Lg	Light green	W/R	White with Red tracer
Br	Brown	W/G	White with Green tracer
Gr	Gray	W/Y	White with Yellow tracer
Bl	Blue	R/B	Red with Black tracer
Lbl	Light blue	G/Bl	Green with Blue tracer
B/W	Black with White tracer	Y/Bl	Yellow with Blue tracer
B/Y	Black with Yellow tracer	Br/R	Brown with Red tracer
G/R	Green with Red tracer	W/Bl	White with Blue tracer

Prepared by

SUZUKI MOTOR CO.,LTD.

Administration Department
Overseas Service Division

July, 1981

Part No. 99011-34221-03A

Printed in Japan

EMISSION CONTROL WARRANTY

SUZUKI MOTOR CO., LTD warrants to the ultimate purchaser and each subsequent purchaser that his vehicle (GS650G) is designed, built, and equipped so as to conform at the time of sale with all U.S. emission standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the period of 5 years or 30,000 km (18,645 miles), whichever occurs first. Failures, other than those resulting from defects in material or workmanship, which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by the warranty.

SUZUKI MOTOR CO. LTD.

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