SUZUKI

OWNER'S MANUAL

This owner's manual contains important safety information. Please read it carefully.

SV650/S

SV650/S

⚠ WARNING

Failure to follow these safety precautions may increase your risk of injury:

- Wear a helmet, eye protection, and bright protective clothing.
- Don't ride after consuming alcohol or other drugs.
- Slow down on slippery surfaces, unfamiliar terrain, or when visibility is reduced.
- Read owner's manual carefully.

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Y, K1

California Proposition 65 Warning

⚠ WARNING

Engine exhaust, some of its constituents, and certain product components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

This manual should be considered a permanent part of the motorcycle and should remain with the motorcycle when resold or otherwise transferred to a new owner or operator. The manual contains important safety information and instructions which should be read carefully before operating the motorcycle.

IMPORTANT

WARNING/CAUTION/NOTE

Please read this manual and follow its instructions carefully. To emphasize special information, the symbol ⚠ and the words WARNING, CAUTION and NOTE have special meanings. Pay special attention to the messages highlighted by these signal words:

⚠ WARNING

Indicates a potential hazard that could result in death or injury.

⚠ CAUTION

Indicates a potential hazard that could result in motorcycle damage.

NOTE: Indicates special information to make maintenance easier or instructions clearer.

WARNINGs and CAUTIONs are arranged like this:

⚠ WARNING-or-⚠ CAUTION

The first part will describe a POTENTIAL HAZARD and WHAT CAN HAPPEN if you ignore the WARNING or CAUTION.

The second part will describe HOW TO AVOID THE HAZARD.

FOREWORD

Motorcycling is one of the most exhilarating sports and to ensure 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 ensure 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.

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 production changes at any time, without notice and without incurring any obligation to make the same or similar changes to vehicles previously built or sold.

Suzuki Motor Corporation believes in conservation and protection of Earth's natural resources. To that end, we encourage every vehicle owner to recycle, trade in, or properly dispose of, as appropriate, used motor oil, coolant, and other fluids, batteries and tires.

SUZUKI MOTOR CORPORATION

TABLE OF CONTENTS

THE SPORT OF MOTORCYCLING

Your motorcycle and this owner's manual have been designed by people like you who enjoy motorcycling. People become motorcyclists for many reasons. For starters, street riding is fun and invigorating. But no matter why you became a motorcyclist, or how experienced you are, you will eventually face some challenging situations.

In preparing for these challenges, you will be fine-tuning your coordination, concentration, and attitude. Learning the skills and strategies associated with motorcycling is the basis for safely participating in this sport. Many motorcyclists find that as they become better riders, they also get more enjoyment from the freedom unique to motorcycling.

Please remember:

Most accidents can be avoided. The most common type of motorcycle accident in the U.S. occurs when a car traveling towards a motorcycle turns left in front of the motorcycle. Is that because other drivers are out to get motorcyclists? No. Other drivers simply don't always notice motorcyclists.

Ride defensively. Wise motorcyclists use a strategy of assuming they are invisible to other drivers, even in broad daylight. Pay careful attention to other motorists, especially at intersections, because they may not be paying attention to you. Select a lane position that gives you the best view of others, and other motorists the best view of you. Wear bright, reflective clothing. Put reflective strips on your helmet.

If you don't have a helmet, buy a helmet and wear it EVERY TIME YOU RIDE.
Most accidents occur within a few miles of home, and almost half occur at speeds of less than 30 mph. So even if you're just going on a quick errand, be prepared strap on your helmet before you take off.

Helmets do not reduce essential vision or hearing. Generally, helmets do not cause or intensify injury if you crash. Helmets simply help your skull protect your intelligence, your memory, your personality, and your life.

Your eyesight is equally valuable. Wearing suitable eye protection can help keep your vision unblurred by the wind and save your eyes from airborne hazards like bugs, dirt, or pebbles kicked up by tires.

If a collision is imminent, DO SOMETHING.
Many riders fear locking up their brakes or haven't learned to swerve to avoid an accident. Many inexperienced riders (and too many seasoned riders) use only their rear brake in an emergency, resulting in unnecessary impacts in some cases and unnecessarily high impact speeds in other cases. Your rear brake can only provide about 30% of your motorcycle's potential stopping power. The front and rear brakes can and should be used together to maximize braking effectiveness.

Experienced motorcyclists learn to "cover" the front brake lever by lightly resting a couple of fingers over the lever when riding in traffic and near intersections to give their reaction time a head start.

Emergency stopping and swerving are techniques that you should practice and master before you find yourself in an emergency situation. The best place to practice such techniques is in a controlled environment such as the Motorcycle Safety Foundation's (MSF) rider training courses. The MSF's Motorcycle RiderCourses (fundamental techniques) and Experienced RiderCourses (advanced strategies) present hands-on instruction of the basic principles of motorcycling and a variety of accident-avoidance maneuvers. Even a seasoned motorcyclist can improve his or her riding skills, and pick up a few new skills, through these courses. Some insurance companies even offer discounts to course graduates.

Special situations require special care.
Of course, there are some times when full-force braking is not the correct technique. When the road surface is wet, loose, or rough, you should brake with care. When you're leaned over in a corner, avoid braking. Straighten up before braking. Better yet, slow down before entering the corner.

In these situations, the traction available between your tires and the road surface is limited. Overbraking when traction is limited will cause your tires to skid, possibly resulting in loss of directional control or causing you and your motorcycle to fall over.

Know your limits.
Always ride within the boundaries of your own skills. Knowing these limits and staying within them will help you avoid accidents.

A major cause of accidents involving only a motorcycle (and no cars) is going too fast through a turn. Before entering a turn, select an appropriately low cornering speed.

Even on straight roads, ride at a speed that is appropriate for the traffic, visibility and road conditions, your motorcycle, and your experience.

Riding a motorcycle safely requires that your mental and physical skills are fully part of the experience. You should not attempt to operate a motor vehicle, especially one with two wheels, if you are tired or under the influence of alcohol or other drugs. Alcohol, illegal drugs, and even some prescription and over-the-counter drugs can cause drowsiness, loss of coordination, loss of balance, and especially the loss of good judgment. If you are tired or under the influence of alcohol or other drugs, PLEASE DO NOT RIDE your motorcycle.

Be extra safety-conscious on bad weather days.
Riding on bad weather days, especially wet ones, requires extra caution. Braking distances increase on a rainy day. Stay off the painted surface marks, manhole covers, and greasy-appearing areas, as they can be especially slippery. Use extra caution at railway crossings and on metal gratings and bridges. When it starts to rain, any oil or grease on the road rises to the surface of the water. Pull over and wait a few minutes until this oil film is washed away before riding. Whenever in doubt about road conditions, slow down!

Practice away from traffic.
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. Again, consider taking one of the MSF's RiderCourses. Even experts will be pleased with the caliber of the information presented in these courses. As the MSF says: "The more you know, the better it gets!"

Inspection before riding.
Review the instructions in the "INSPECTION BEFORE RIDING" section of this manual. Perform an entire pre-ride inspection before you head out on the road.

Spending a few minutes preparing your machine for a ride can help prevent accidents due to mechanical failure or costly, inconvenient breakdowns far from home.

Accessories and Loading.
The accessories you use with your motorcycle and the manner in which you load your gear onto the bike might create hazards. Aerodynamics, handling, balance, and cornering clearance can suffer, and the suspension and tires can be overloaded. Read the "ACCESSORY USE AND MOTORCYCLE LOADING" section.

Carrying a Passenger.
Carrying a passenger, when done correctly, is a great way to share the joy of motorcycling. You will have to alter your riding style somewhat since the extra weight of a passenger will affect handling and braking. You may also need to adjust tire pressures and suspension; please refer to the Tire Pressure and Loading section and the Suspension section for more details.

A passenger needs the same protection that you do, including a helmet and proper clothing. The passenger should not wear long shoe laces or loose pants that could get caught in the wheel or the chain. Passengers must be tall enough that their feet reach the footrests.

Motorcycle Safety Foundation's "Riding Tips and Practice Guide" Handbook (for owners in USA).
This special handbook, supplied with your owner's manual, contains a variety of safety tips, helpful hints, and practice exercises. This manual can increase your riding enjoyment and safety. You should read it thoroughly.

Be street smart.
Always heed speed limits, local laws, and the basic rules of the road. Set a good example for others by demonstrating a courteous attitude and a responsible riding style.

Conclusion.
Traffic, road and weather conditions vary. Other motorists' actions are unpredictable. Your motorcycle's condition can change. These factors can best be dealt with by giving every ride your full attention.

Circumstances beyond your control could lead to an accident. You need to prepare for the unexpected by wearing a helmet and other protective gear, and learning emergency braking and swerving techniques to minimize the damage to you and your machine.

The best way to learn basic riding skills and evasive maneuvers or refresh your own riding skills is to take one of the courses offered by the Motorcycle Safety Foundation. Your Suzuki dealer can help you locate the fundamental or advanced riding skills course nearest you, or you can call toll-free 1-800-446-9227.

Good riding on your new Suzuki!

FUEL, ENGINE OIL AND COOLANT RECOMMENDATION

FUEL

Your motorcycle requires regular unleaded gasoline with a minimum pump octane rating of 87 ((R+M)/2 method). In some areas,the only fuels that are available are oxygenated fuels. Oxygenated fuels which meet the minimum octane requirement and the requirements described below may be used in your motorcycle without jeopardizing the New Vehicle Limited Warranty or the Emission Control System Warranty.

NOTE: Oxygenated fuels are fuels which contain oxygen-carrying additives such as MTBE or alcohol.

Gasoline Containing MTBE

Unleaded gasoline containing MTBE (Methyl Tertiary Butyl Ether) may be used in your motorcycle if the MTBE content is not greater than 15%. This oxygenated fuel does not contain alcohol.

Gasoline/Ethanol Blends

Blends of unleaded gasoline and ethanol (grain alcohol), also known as GASOHOL, may be used in your vehicle if the ethanol content is not greater than 10%.

Gasoline/Methanol Blends

Fuels containing 5% or less methanol (wood alcohol) may be suitable for use in your motorcycle if they contain co-solvents and corrosion inhibitors.

DO NOT USE fuels containing more than 5% methanol under any circumstances. Fuel system damage or motorcycle performance problems resulting from the use of such fuels are not the responsibility of Suzuki and may not be covered under the New Vehicle Limited Warranty or the Emission Control System Warranty.

Fuel Pump Labeling

In some states, pumps that dispense oxygenated fuels are required to be labeled for the type and percentage of oxygenate, and whether important additives are present. Such labels may provide enough information for you to determine if a particular blend of fuel meets the requirements listed above. In other states, pumps may not be clearly labeled as to the content or type of oxygenate and additives. If you are not sure that the fuel you intend to use meets these requirements, check with the service station operator or the fuel suppliers.

NOTE:

- *To help clean the air, Suzuki recommends that you use the oxygenated fuels.*
- *Be sure that any oxygenated fuel you use has octane ratings of at least 87 pump octane ((R+M)/2 method).*
- *If you are not satisfied with the driveablity or fuel economy of your motorcycle when you are using an oxygenated fuel, you should switch back to regular unleaded gasoline.*
- *If engine pinging is experienced, substitute another brand as there are differences between brands.*

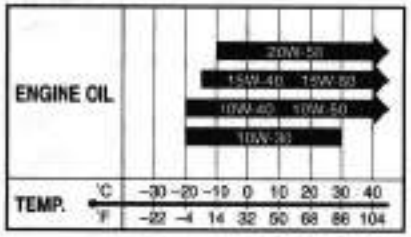
⚠ CAUTION

Spilled gasoline containing alcohol can harm your motorcycle. Alcohol can damage painted surfaces.

Be careful not to spill any fluid when filling the fuel tank. Wipe spilled gasoline up immediately.

ENGINE OIL

Suzuki recommends the use of SUZUKI PERFORMANCE 4 MOTOR OIL or an oil which is rated SF or SG under the API (American Petroleum Institute) classification system. The viscosity rating should be SAE 10W-40. If an SAE10W-40 oil is not available, select an alternative according to the chart below.



ENGINE COOLANT SOLUTION

Use engine coolant that is compatible with an aluminum radiator, mixed with distilled water at a 50:50 mixture ratio for engine coolant solution. An engine coolant mixture other than 50:50 can affect cooling efficiency or rust inhibiting performance.

Engine Coolant

Engine coolant should be used at all times in your motorcycle's radiator, even if the temperature in your area does not go down to the freezing point. Engine coolant acts as a rust inhibitor and water pump lubricant as well as an antifreeze solution.

⚠ WARNING

Engine coolant is harmful if swallowed or if it comes in contact with your skin or eyes.

Keep engine coolant away from children and pets. Call your doctor immediately if engine coolant is swallowed, and induce vomiting. Flush eyes or skin with water if engine coolant gets in eyes or comes in contact with skin.

⚠ CAUTION

Spilled engine coolant can damage painted surfaces.

Do not spill any fluid when filling the radiator. Wipe spilled engine coolant up immediately.

Water for Mixing

Use distilled water only. Water other than distilled water can corrode and clog the aluminum radiator.

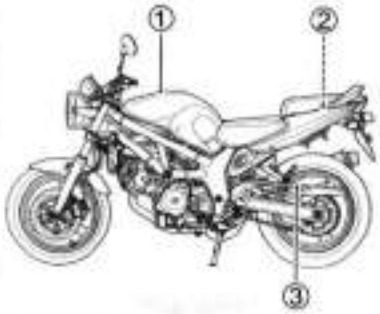
Required amount of engine coolant/water solution capacity (total): 1600 ml (3.4 US pt)

Engine coolant	800 ml (1.7 US pt)
Water	800 ml (1.7 US pt)

LOCATION OF LABELS

Read and follow all of the warnings labeled on your motorcycle. Make sure you understand all of the labels. Keep the labels on your motorcycle. Do not remove them for any reason.

(SV650)



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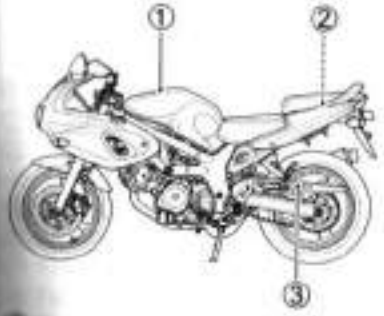


①

⚠ WARNING

Failure to follow these safety precautions may increase your risk of injury:

- **Wear a helmet, eye protection, and bright protective clothing.**
- **Don't ride after consuming alcohol or other drugs.**
- **Slow down on slippery surfaces, unfamiliar terrain, or when visibility is reduced.**
- **Read owner's manual carefully.**

②

The owner's manual contains important safety information and instructions which should be read carefully before operating the vehicle.
If the vehicle has been resold, obtain the owner's manual from the previous owner or contact your local SUZUKI dealer for assistance.

③

⚠ WARNING

- Check tire condition, wear, and cold tire pressure before each ride.
- Replace only with TUBELESS tires of listed size and type.

COLD TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kgf/cm²	psi	kPa	kgf/cm²	psi
FRONT	225	2.25	33	225	2.25	33
REAR	250	2.50	36	250	2.50	36

		FRONT	REAR
TIRE SIZE		120/60 ZR17 (55W)	160/60 ZR17 (69W)
MAKE	METZELER	ME24 Front	ME24

(SV650)

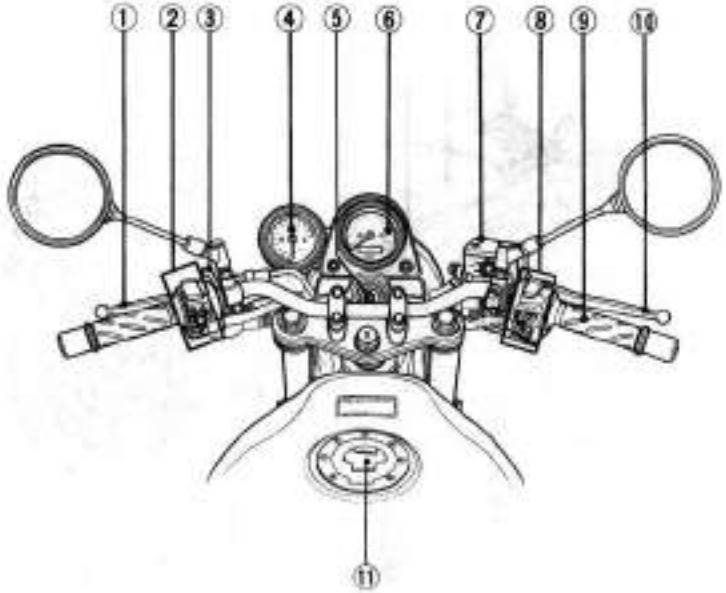
(SV650S)

④

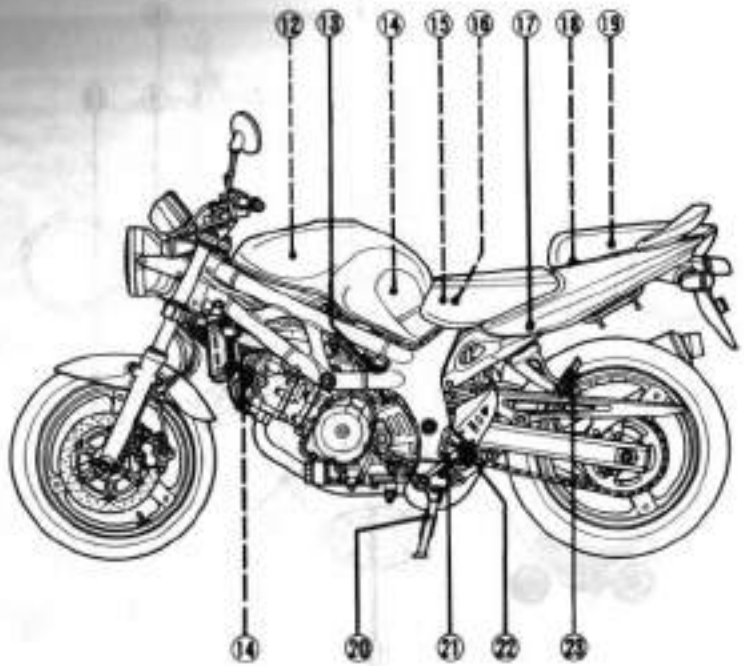
⚠ WARNING

Never make any modifications to the aluminum alloy frame, such as drilling or welding. Such modifications will weaken the frame and may lead to an accident.

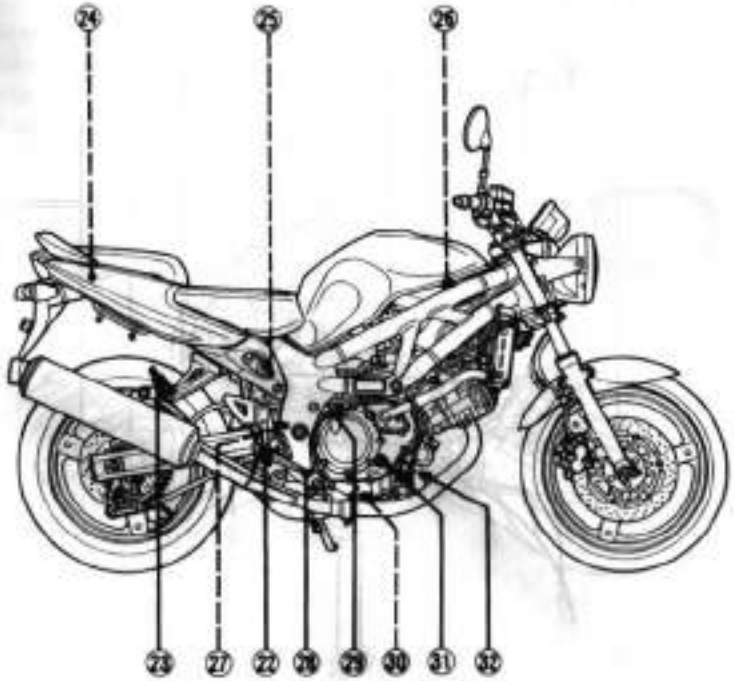
LOCATION OF PARTS (SV650)



① Clutch lever
② Left handlebar switches
③ Choke lever
④ Tachometer
⑤ Ignition switch
⑥ Speedometer
⑦ Front brake fluid reservoir
⑧ Right handlebar switches
⑨ Throttle grip
⑩ Front brake lever
⑪ Fuel tank cap

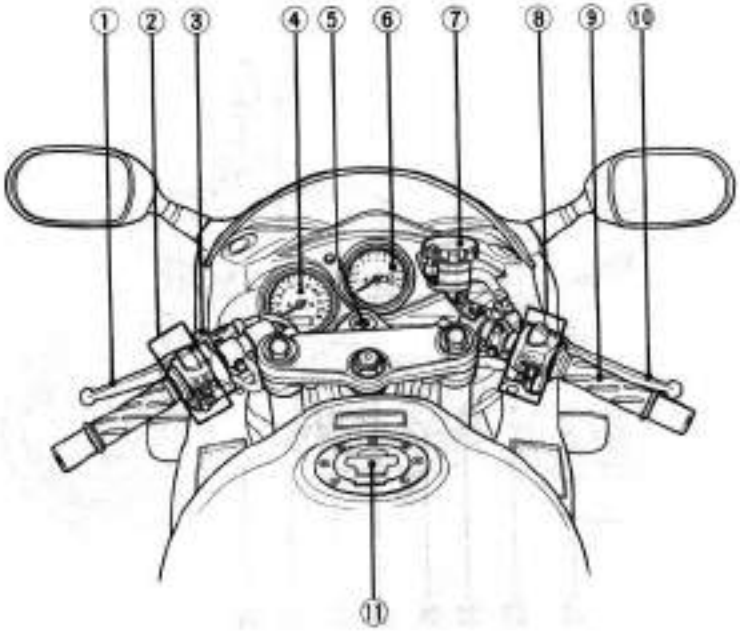


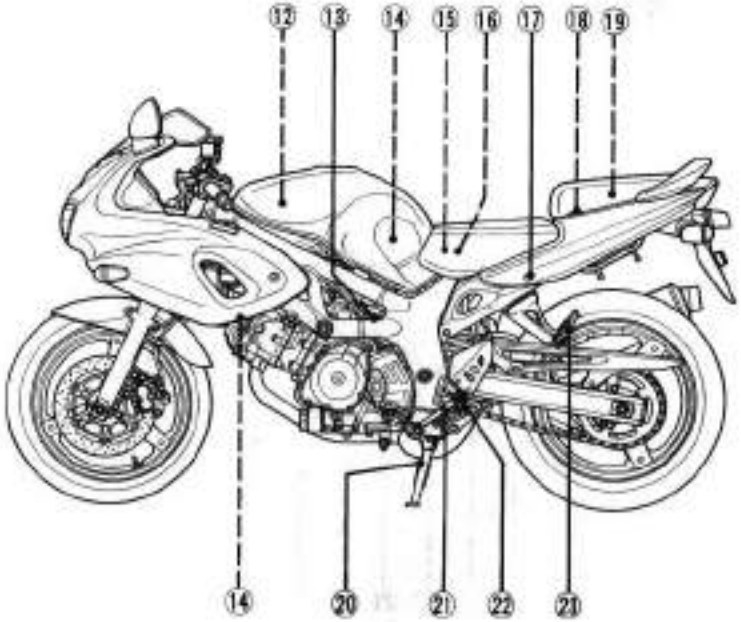
⑫ Air cleaner
⑬ Throttle stop screw
⑭ Spark plug
⑮ Battery
⑯ Fuses
⑰ Seat lock
⑱ Helmet holders
⑲ Tools
⑳ Side stand
㉑ Gearshift lever
㉒ Footrests
㉓ Passenger footrests



㉔ Rear brake fluid reservoir
㉕ Main fuse
㉖ Engine coolant reservoir
㉗ Rear brake light switch
㉘ Rear brake pedal
㉙ Engine oil filler cap
㉚ Engine oil drain plug
㉛ Engine oil inspection window
㉜ Engine oil filter

LOCATION OF PARTS (SV650S)





① Clutch lever
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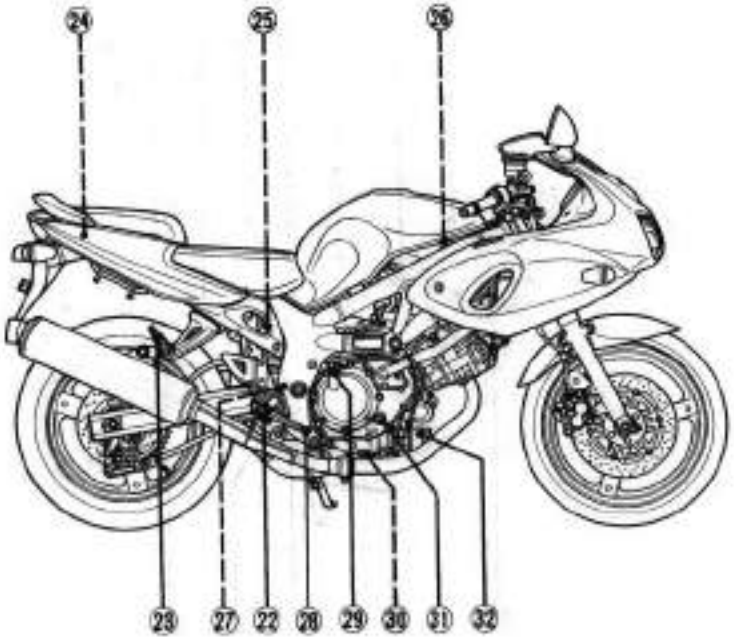

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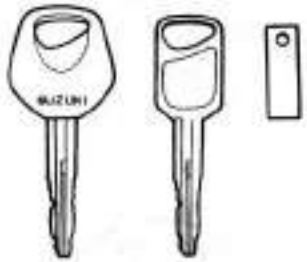
㉙ Engine oil filler cap
㉚ Engine oil drain plug
㉛ Engine oil inspection window
㉜ Engine oil filter

CONTROLS, EQUIPMENT AND ADJUSTMENTS

KEY



Two keys come with this motorcycle. Keep the spare key in a safe place. An identifying number is stamped on the plate. Use this number when making a replacement key.

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

Key No.

IGNITION SWITCH

The ignition switch has 4 positions.

"OFF" position
All electrical circuits are off. The engine will not start. The key can be removed.

"ON" position
The ignition circuit is completed and the engine can run. The headlight and taillight will automatically turn on. The key cannot be removed in this position.

NOTE: Start the engine prompty after turning the key to the "ON" position, or the battery will lose power due to consumption by the headlight and taillight.

"LOCK" position
All electrical circuits are off. The key can be removed and the steering will be locked. Turn the steering all the way to the left and push down the key and turn it to the "LOCK" position.

"P" (PARKING) position
Taillight will come on to increase visibility for temporary road side parking at night. The key can be removed and the steering will be locked.

⚠ WARNING

Turning the ignition switch to the "P" (PARKING) or "LOCK" position while the motorcycle is moving can be hazardous. Moving the motorcycle while the steering is locked can be hazardous. You could lose your balance and fall, or you could drop the motorcycle.

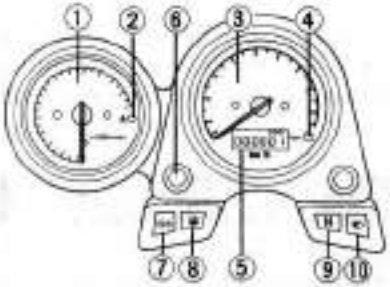
Stop the motorcycle and place it on the side stand before locking the steering. Never attempt to move the motorcycle when the steering is locked.

NOTE: The key hole can be covered by turning the lid for anti-theft purpose.

Turn the ignition switch to "LOCK" position and change the lid hole position when leaving your motorcycle.

Align the lid hole position to the key hole position when inserting the key.

INSTRUMENT PANEL (SV650)



Tachometer ①
The tachometer indicates the engine speed in revolutions per minute (r/min).

Coolant Temperature Check Light ②
If this light comes on while riding it means that the coolant temperature is too high.

⚠ CAUTION

Running the engine with high engine coolant temperature can cause serious engine damage. If the engine coolant temperature check light comes on, stop the engine to let it cool.

Do not run the engine until the coolant temperature check light goes out.

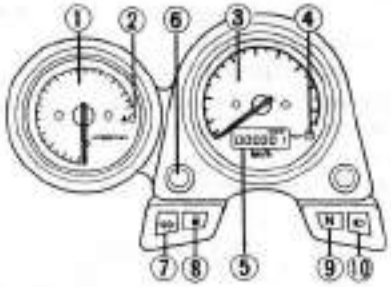
Speedometer ③
The speedometer indicates the road speed in miles per hour and or kilometers per hour.

Oil Pressure Indicator Light ④
This indicator comes on when the engine oil pressure is below the normal operating range. This should come on when the ignition switch is "ON" and the engine is not running. As soon as the engine starts, this should go out.

⚠ CAUTION

Riding the motorcycle with the oil pressure indicator light lit can damage the engine and transmission.

Whenever the oil pressure indicator lights up, indicating low oil pressure, stop the engine immediately. Check the oil level and determine if the proper amount of oil is in the engine. If the light still does not go out, have your authorized SUZUKI dealer or qualified mechanic troubleshoot your motorcycle.



Odometer/Trip Meter ⑤
The display in the speedometer has two functions, odometer and trip meter.

Odometer

ODO
00000.3

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

Trip meter

TRIP
0.0

The trip meter is a resettable odometer. It can be used for indicating the distance traveled on short trips or between fuel stops.

To reset the trip meter to zero, push the button ⑥ for two seconds.

To change the display, push the button ⑥. The display alternates between the odometer and the trip meter.

⚠ WARNING

Operating the display while riding can be hazardous. Removing a hand from the handlebars can reduce your ability to control the motorcycle.

Always keep both hands on the handlebars while riding.

Turn Signal Indicator Light ⑦
When the turn signals are being operated either to the right or to the left, the indicator will flash at the same time.

NOTE: If turn signal light is not operating properly due to bulb filament or circuit failure, the indicator light flickers more quickly to notify the rider of the existence of trouble.

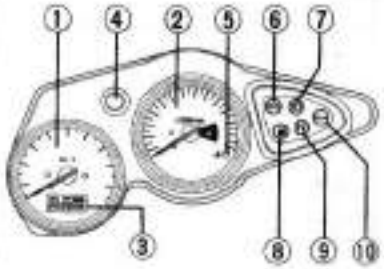
Fuel Indicator Light ⑧
When the fuel in the fuel tank drops below approximately 3.5 L (0.9 US gal), this indicator light flickers. When the fuel drops below approximately 1.5 L (0.4 US gal), the indicator light remains lit. This indicator light comes on when the ignition switch is turned to the "ON" position. The indicator light goes off when the engine is started if there is enough fuel in the tank.

NOTE: When the fuel indicator light comes on, you should add fuel to the fuel tank at the first opportunity to avoid running out of fuel.

Neutral Indicator Light ⑨
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 ⑩
The blue indicator light will be lit when the headlight high beam is turned on.

INSTRUMENT PANEL (SV650S)



Speedometer ①
The speedometer indicates the road speed in miles per hour and/or kilometers per hour.

Tachometer ②
The tachometer indicates the engine speed in revolutions per minute (r/min).

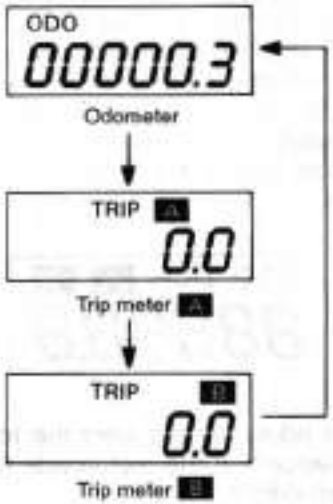
Odometer/Trip Meter ③
The display in the speedometer has three functions, odometer and two trip meters. When the ignition switch is turned to the "ON" position, the display indicates the test pattarn shown below for three seconds. Then the disply changes to odometer or tripmeter, as indicated before turning the ignition switch off.

ODO TRIP A B
88888.8

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

The two trip meters are resettable odometers. They can register two kinds of distance at the same time. For instance, trip meter A can register the trip distance and trip meter B can register the distance between fuel stops.

To change the display, push the **button** ④. The display changes in the order below.

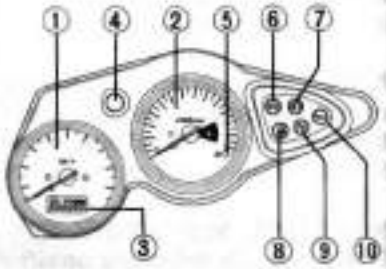


To reset the trip meter to zero, push the button ④ for two seconds while the display indicates the trip meter A or B you want to reset.

⚠ WARNING

Operating the display while riding can be hazardous. Removing a hand from the handlebars can reduce your ability to control the motorcycle.

Always keep both hands on the handlebars while riding.



Coolant Temperature Check Light ⑤
If this light comes on while riding it means that the coolant temperature is too high.

⚠ CAUTION

Running the engine with high engine coolant temperature can cause serious engine damage. If the engine coolant temperature check light comes on, stop the engine to let it cool.

Do not run the engine until the coolant temperature check light goes out.

Turn Signal Indicator Light ⑥
When the turn signals are being operated either to the right or to the left, the indicator will flash at the same time.

NOTE: If turn signal light is not operating properly due to bulb filament or circuit failure, the indicator light flickers more quickly to notify the rider of the existence of trouble.

High Beam Indicator Light ⑦
The blue indicator light will be lit when the headlight high beam is turned on.

Fuel Indicator Light ⑧
When the fuel in the fuel tank drops below approximately 3.5 L (0.9/0.8 US/Imp. gal), this indicator light flickers. When the fuel drops below approximately 1.5 L (0.4/0.3 US/Imp. gal), the indicator light remains lit. This indicator light lit for three seconds when the ignition switch is turned to the "ON" position then the indicator light should go out if there is enough fuel in the tank.

NOTE: When the fuel indicator light comes on, you should add fuel to the fuel tank at the first opportunity to avoid running out of fuel.

Neutral Indicator Light ⑨
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.

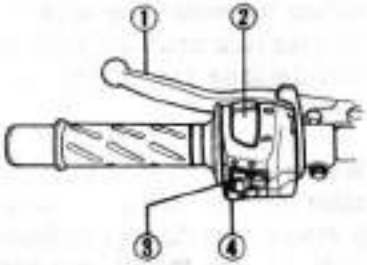
Oil Pressure Indicator Light ⑩
This indicator comes on when the engine oil pressure is below the normal operating range. This should come on when the ignition switch is "ON" and the engine is not running. As soon as the engine starts, this should go out.

⚠ CAUTION

Riding the motorcycle with the oil pressure indicator light lit can damage the engine and transmission.

Whenever the oil pressure indicator lights up, indicating low oil pressure, stop the engine immediately. Check the oil level and determine if the proper amount of oil is in the engine. If the light still does not go out, have your authorized SUZUKI dealer or qualified mechanic troubleshoot your motorcycle.

LEFT HANDLEBAR



Clutch Lever ①
The clutch lever is used for disengaging the drive to the rear wheel when starting the engine or shifting the transmission. Squeezing the lever disengages the clutch.

Dimmer Switch ②
"≡D" position
The headlight low beam and taillight turn on.

"≡D" position
The headlight high beam and taillight turn on. The high beam indicator light also turns on.

Turn Signal Switch ③
Moving the switch to the "⇦" position will flash the left turn signals. Moving the switch to the "⇨" position will flash the right turn signals. The indicator light will also flash intermittently. To cancel turn signal operation, push the switch in.

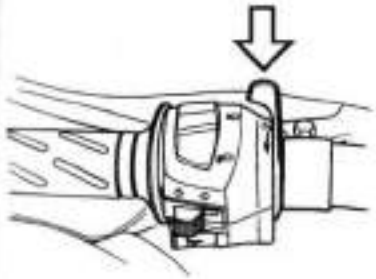
⚠ WARNING

Failure to use the turn signals, and failure to turn off the turn signals can be hazardous. Other drivers may misjudge your course and this may result in an accident.

Always use the turn signals when you intend to change lanes or make a turn. Be sure to turn off the turn signals after completing the turn or lane change.

Horn Button "📯" ④
Press the button to sound the horn.

Choke Lever

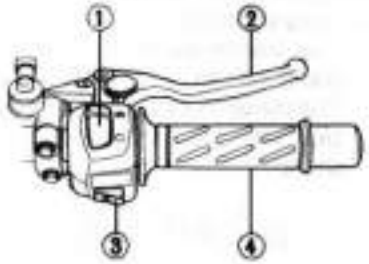


This motorcycle has a choke system to provide easy starting when the engine is cold. The choke system works by turning the choke lever all the way toward you. The choke system opens the throttle valve slightly to raise idling speed.

When the engine is warm, you do not need to use the choke system for starting.

NOTE: Refer to the STARTING THE ENGINE section of the manual for the engine starting procedure.

RIGHT HANDLEBAR



Engine Stop Switch ①
"✕" position
The ignition circuit is off. The engine cannot start or run.

"◯" position
The ignition circuit is on and the engine can run.

Front Brake Lever ②
Apply the front brake by squeezing the front brake lever towards the grip. The brake light will come on when the lever is squeezed.

Electric Starter Button "⚡" ③
Use this button to operate the starter motor. With the ignition switch in the "ON" position, the engine stop switch in the "◯" position, and the transmission in neutral, pull in the clutch lever and push the electric starter button to start the engine.

NOTE: This motorcycle has a starter interlock system for the ignition and starter circuit. The engine can only be started if:

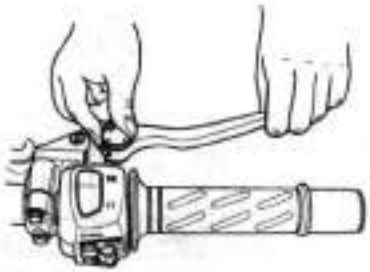
- *The transmission is in neutral and the clutch is disengaged, or*
- *The transmission is in gear, the side stand is fully up, and the clutch is disengaged.*

⚠ CAUTION

To prevent electrical system damage, do not operate the starter motor more than five seconds at a time.

If the engine does not start after several attempts, check the fuel supply and ignition system. Refer to the TROUBLESHOOTING section in this manual.

Front Brake Lever Adjustment



The distance between the throttle grip and the front brake lever is adjustable among six positions. To change the position, push the brake lever forward and turn the adjuster to the desired position. Be sure the adjuster stops in the proper position; This motorcycle is delivered from the factory with its adjuster set on position 4.

⚠ WARNING

Adjusting the front brake lever position while riding can be hazardous. Removing a hand from the handlebars can reduce your ability to control the motorcycle.

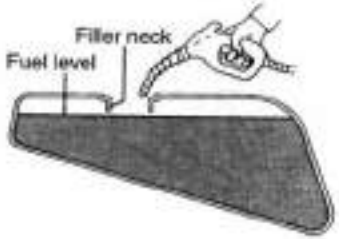
Always keep both hands on the handlebars while riding.

Throttle Grip ④

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

FUEL TANK CAP

To open the fuel tank cap, insert the ignition key into the lock and turn it clockwise. With the key inserted, lift up the cap. To close the cap, push the cap down firmly with the key in the cap lock.



⚠ WARNING

Overfilling the fuel tank can cause the fuel to overflow when it expands due to heat from the engine or the sun. Spilled fuel can catch on fire.

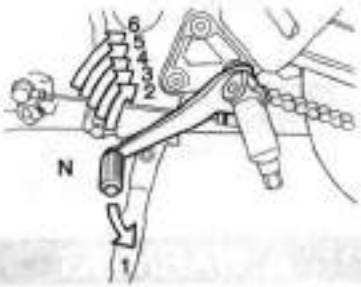
Never fill the fuel above the bottom of the filler neck.

⚠ WARNING

Fuel and fuel vapor are highly flammable and toxic. You can be burned or poisoned when refueling.

- **Stop the engine and keep flames, sparks and heat sources away.**
- **Refuel only outdoors or in a well ventilated area.**
- **Do not smoke.**
- **Wipe up spills immediately.**
- **Avoid breathing fuel vapor.**
- **Keep children and pets away.**

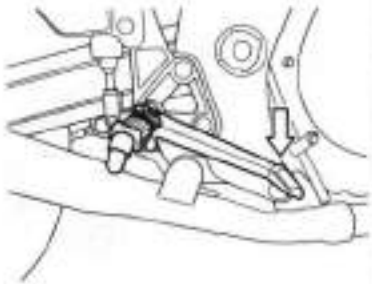
GEARSHIFT LEVER



This motorcycle has a 6-speed transmission which operates as shown. To shift properly, pull the clutch lever and close the throttle at the same time you operate the gearshift lever. Lift the gearshift lever to upshift and depress the lever to downshift. Neutral is located between low and 2nd gear. When neutral is desired, depress or lift the lever halfway between low and 2nd gear.

NOTE: 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.

REAR BRAKE PEDAL



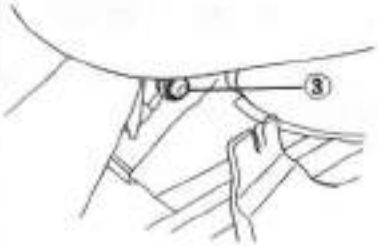
Pressing the rear brake pedal will apply the rear brake. The brake light will come on when the rear brake is operated.

SEAT LOCK AND HELMET HOLDERS

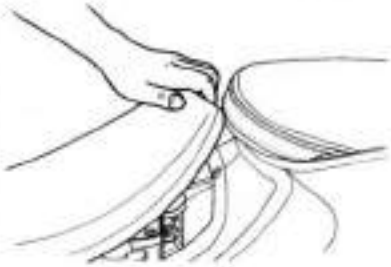
Front Seat

To remove the front seat.

1. Remove the screws ① (right and left) and the fasteners ② (right and left).



2. Remove the bolts ③ (right and left).



Raise the front end of the seat and slide it forward.

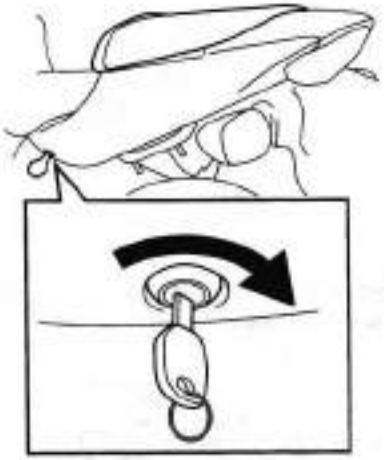
To reinstall the seat, slide the seat hook into the seat hook retainer on the frame and tighten the bolts securely.

⚠ WARNING

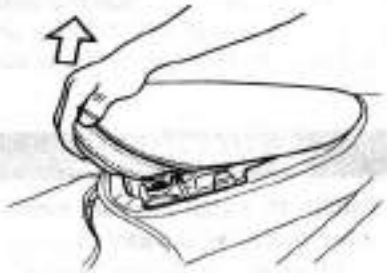
Failure to install the seat properly could allow the seat to move and cause loss of rider control.

Fasten the seat securely in its proper position.

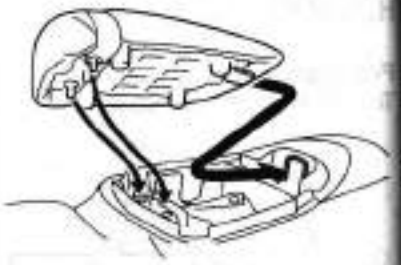
Rear Seat



The seat lock is located at the bottom of the left frame cover. To remove the rear seat, insert the ignition key into the lock and turn it clockwise.



Raise the front end of the seat and slide it forward.



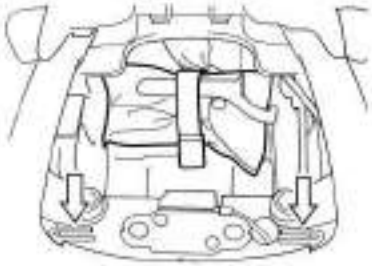
To reinstall the seat, slide the seat hook into the seat hook retainer and push down firmly until the seat snaps into the locked position.

⚠ WARNING

Failure to install the seat properly could allow the seat to move and cause loss of rider control.

Latch the seat securely in its proper position.

Helmet Holders



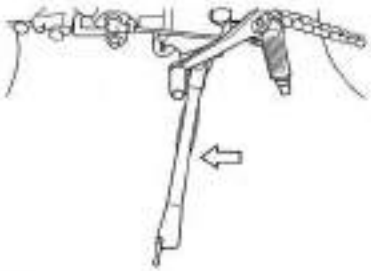
This motorcycle has helmet holders under the rear seat. Hook your helmet on the helmet holder and lock the seat.

⚠ WARNING

Riding with a helmet fastened to the helmet holder can interfere with rider control.

Never carry a helmet fastened to a helmet holder. Fix the helmet securely atop the seat if you must carry it.

SIDE STAND



An interlock system is provided to cut off the ignition circuit when the side stand is down and the transmission is in any gear other than neutral.

The side stand/ignition interlock system works as follows:

- If the side stand is down and the transmission is in gear, the engine cannot be started.
- If the engine is running and the transmission is shifted into gear with the side stand down, the engine will stop running.
- If the engine is running and the side stand is put down with the transmission in gear, the engine will stop running.

⚠ WARNING

Riding with the side stand incompletely retracted can result in an accident when you turn left.

- **Check operation of the side stand/ignition interlock system before riding.**
- **Always retract the side stand completely before starting off.**

⚠ CAUTION

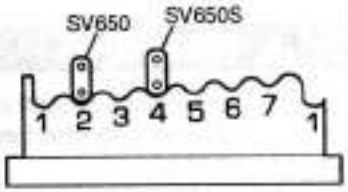
Park the motorcycle on firm, level ground to help prevent it from falling over.

If you must park on an incline, aim the front of the motorcycle uphill and put the transmission into 1st gear to reduce the possibility of rolling off the side stand.

SUSPENSION ADJUSTMENT

REAR SUSPENSION

Spring Pre-load Adjustment



The rear suspension spring pre-load is adjustable. The adjustment can be performed by changing the ring position with the adjuster in the tool kit. Position 1 provides the softest spring pre-load and position 7 provides the stiffest. The spring pre-load is set on position 2 at the factory. (4 position for SV650S)

BREAK-IN

The first 800 km (500 miles) is the most important in the life of your motorcycle. Proper operation during this break-in period will help assure maximum life and performance from your new motorcycle. The following guidelines explain proper break-in procedures.

Maximum Engine Speed Recommendation

The table below shows the maximum engine speed recommendation during the break-in period.

Initial 800 km (500 miles)	Below 5000 r/min
Up to 1600 km (1000 miles)	Below 8000 r/min
Over 1600 km (1000 miles)	Below 10500 r/min

Vary the Engine Speed

Vary the engine speed during the break-in period. This allows the parts to "load" (aiding the mating process) and then "unload" (allowing the parts to cool). Although it is essential to place some stress on the engine components during break-in, you must be careful not to load the engine too much.

Breaking in the New Tires

New tires need proper break-in to assure maximum performance, just as the engine does. Wear- in the tread surface by gradually increasing your cornering lean angles over the first 160 km (100 miles) before attempting maximum performance. Avoid hard acceleration, hard cornering, and hard braking for the first 160 km (100 miles).

⚠ WARNING

Failure to perform break-in of the tires could cause tire slip and loss of control.

Use extra care when riding on new tires. Perform proper break-in of the tires as described in this section and avoid hard acceleration, hard cornering, and hard braking for the first 160 km (100 miles).

Allow the Engine Oil to Circulate before Riding

Allow enough idling time after warm or cold engine start-up before revving the engine or placing the transmission in gear. This allows time for the lubricating oil to reach all critical engine components.

Observe Your Initial and Most Critical Service

The initial service (break-in maintenance) is the most important service your motorcycle will receive. During break-in operation, all of the engine components will have mated together and seated. Maintenance required as part of the initial service includes correction of all adjustments, tightening of all fasteners and replacement of dirty oil. Timely performance of this service will help make sure you get the best service life and performance from the engine.

INSPECTION BEFORE RIDING

⚠ WARNING

Failure to inspect and maintain your motorcycle properly increases the chance of an accident or equipment damage.

Always perform a pre-ride inspection before each ride. Refer to the table below for check items. For further details, refer to the INSPECTION AND MAINTENANCE section.

⚠ WARNING

Using worn, improperly inflated, or incorrect tires will reduce stability and can cause an accident.

Follow all instructions in the TIRES section in this owner's manual.

Check the condition of the motorcycle to help make sure that you do not have mechanical problems or get stranded somewhere when you ride. Before riding the motorcycle, be sure to check the following items. Be sure your motorcycle is in good condition for the personal safety of the rider, passenger and protection

⚠ WARNING

Checking maintenance items when the engine is running can be hazardous. You could be severely injured if your hands or clothing get caught in moving parts.

Shut the engine off when performing maintenance checks, except when checking the engine stop switch and throttle.

WHAT TO CHECK	CHECK FOR:
Steering	• Smoothness • No restriction of movement • No play or looseness
Brakes	• Correct fluid level • No fluid leakage • No "sponginess" • Proper pedal and lever play • Brake pad wear
Tires	• Proper pressure • Enough tread depth • No cracks, rips, or other damage
Fuel tank	Tank cap locked securely
Lighting	Proper operation of all lights – Headlight, Taillight, Brake light, Instrument lights, Turn signals
Indicator lights	Proper operation of all indicators – Coolant temperature, Oil pressure, High beam, Neutral, Turn signal and Fuel
Engine stop switch	Proper operation
Horn	Correct function
Engine oil	Correct level
Cooling system	• Proper engine coolant level • No leaks or damage
Throttle	• Proper play • Smooth response • Quick return to idle position

Gearshift lever	• No damage • Smooth operation
Clutch	• Correct play in the cable • Smooth and progressive action
Drive chain	• Proper tension • Adequate lubrication • No excessive wear or damage
Side stand /ignition interlock system	Proper operation
General condition	• Bolts and nuts tightness • No rattle from any parts of machine with the engine running • No visible evidence of damage

RIDING TIPS

STARTING THE ENGINE

Before attempting to start the engine, make sure:

1. The transmission is in neutral.
2. The engine stop switch is in the "Ω" position.

NOTE: This motorcycle has interlock switches for the ignition circuit and the starter circuit. The engine can only be started if:

- *The transmission is in neutral and the clutch is disengaged, or*
- *The transmission is in gear, the side stand is fully up, and the clutch is disengaged.*

When the Engine is Cold:

1. Turn the choke lever all the way towards you.
2. Close the throttle completely and push the electric starter button.
3. Immediately after the engine starts, keep the engine speed at 2000 – 2500 r/min by varying the choke lever position.
4. Move the choke lever to the "OFF" position approximately 30 seconds after engine starts. It may be necessary to use the choke longer than 30 seconds in extremely cold weather.

When the Cold Engine is Hard to Start:

1. Turn the choke lever all the way towards you.
2. Open the throttle approximately 1/8 – 1/4 turn and push the electric starter button.
3. Immediately after the engine starts, keep the engine speed at 2000 – 2500 r/min by varying the choke lever position.
4. Move the choke lever to the "OFF" position approximately 30 seconds after engine starts. It may be necessary to use the choke longer than 30 seconds in extremely cold weather.

When the Engine is Warm:

Use of the choke should not be necessary. Close the throttle completely and push the electric starter button.

When the Warm Engine is Hard to Start:

Use of the choke should not be necessary. Open the throttle approximately 1/8 – 1/4 turn and push the electric starter button.

⚠ WARNING

Running the engine indoors or in a garage can be hazardous. Exhaust gas contains carbon monoxide, a gas that is colorless and odorless and can cause death or severe injury.

Only run the engine outdoors where there is fresh air.

⚠ CAUTION

Running the engine too long without riding may cause the engine to overheat. Overheating can result in damage to internal engine components and discoloration of exhaust pipes.

Shut the engine off if you cannot begin your ride promptly.

STARTING OFF AND SHIFTING

⚠ WARNING

Riding this motorcycle at excessive speed increases your chances of losing control of the motorcycle. This may result in an accident.

Always ride within the limits of your skills, your motorcycle, and the riding conditions.

⚠ WARNING

Removing your hands from the handlebars or feet from the footrests during operation can be hazardous. If you remove even one hand or foot from the motorcycle, you can reduce your ability to control the motorcycle.

Always keep both hands on the handlebars and both feet on the footrests of your motorcycle during operation.

⚠ WARNING

Sudden side winds, which can occur when being passed by larger vehicles, at tunnel exits or in hilly areas, can upset your control.

Reduce your speed and be alert to side winds.

Make sure that the side stand is in the fully up position. Pull the clutch lever in and pause momentarily. Engage first gear by depressing the gearshift lever downward. Turn 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 as you open the throttle again. Select the gears in this manner until top gear is reached.

NOTE: This motorcycle has a side stand/ignition interlock switch. If you shift the transmission into gear when the side stand is down, the engine will stop running.

USING THE TRANSMISSION

The transmission is provided to keep the engine operating smoothly in its normal operating speed 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

Gear position			km/h	miles/h
1st	→	2nd	20	12
2nd	→	3rd	30	19
3rd	→	4th	40	25
4th	→	5th	50	31
5th	→	6th	60	37

Shifting down schedule

Gear position			km/h	miles/h
6th	→	5th	50	31
5th	→	4th	40	25
4th	→	3rd	30	19

Disengage the clutch when the motorcycle speed drops below 20 km/h (12 miles/h).

⚠ WARNING

Downshifting when engine speed is too high can;

- **cause the rear wheel to skid and lose traction due to increased engine braking, resulting in an accident; or**
- **force the engine to overrev in the lower gear, resulting in engine damage.**

Reduce speed before downshifting.

⚠ WARNING

Downshifting while the motorcycle is leaned over in a corner may cause rear wheel skid and loss of control.

Reduce your speed and downshift before entering the corner.

⚠ CAUTION

Revving the engine into the red zone can cause severe engine damage.

Never allow the engine to rev into the red zone in any gear.

RIDING ON HILLS

- When climbing steep hills, the motorcycle may begin to slow down and show lack of power. 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 steep hill, the engine may be used for braking by shifting to a lower gear.
- Be careful, however, not to allow the engine to overrev.

STOPPING AND PARKING

1. Turn the throttle grip away from you to close the throttle completely.
2. Apply the front and rear brakes evenly and at the same time.
3. Downshift through the gears as motorcycle speed decreases.
4. 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.

⚠ WARNING

Inexperienced riders tend to underutilize the front brake. This can cause excessive stopping distance and lead to a collision. Using only the front or rear brake can cause skidding and loss of control.

Apply both brakes evenly and at the same time.

⚠ WARNING

Hard braking while turning may cause wheel skid and loss of control.

Brake before you begin to turn.

⚠ WARNING

Hard braking on wet, loose, rough, or other slippery surfaces can cause wheel skid and loss of control.

Brake lightly and with care on slippery or irregular surfaces.

⚠ WARNING

Following another vehicle too closely can lead to a collision. As vehicle speeds increase, stopping distance increases progressively.

Be sure you have a safe stopping distance between you and the vehicle in front of you.

5. Park the motorcycle on a firm, flat surface where it will not fall over.

⚠ WARNING

A hot muffler can burn you. The muffler will be hot enough to burn you for some time after stopping the engine.

Park the motorcycle where pedestrians or children are not likely to touch the muffler.

6. Turn the ignition switch to the "OFF" position.
7. Turn the handlebars all the way to the left and lock the steering for security.
8. Remove the ignition key.

CARRYING A PASSENGER

Before you invite someone to be a passenger on your motorcycle, you need to be thoroughly familiar with motorcycle operation. Adjust tire pressures and suspension according to the Tire Pressure and Loading section and the Suspension section of this manual.

The passenger should always hold onto your waist or hips, or onto the seat strap or grab bar, as equipped. Ask your passenger not to make any sudden movements. When you lean going around a corner, the passenger should lean with you. The passenger should always keep his or her feet on the footrests, even when you are stopped at a light.

To help prevent burn injuries, warn your passenger not to contact the muffler when mounting or dismounting your motorcycle.

ACCESSORY USE AND MOTORCYCLE LOADING

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.

⚠ WARNING

Improper accessories or modifications can make your motorcycle unsafe and can lead to an accident.

Never modify the motorcycle with improper or poorly installed accessories. Follow all instructions in this owner's manual regarding accessories and modifications. Use genuine SUZUKI accessories or equivalent designed and tested for your motorcycle. Consult your SUZUKI dealer if you have any questions.

- Never exceed the GVWR (Gross Vehicle Weight Rating) of this motorcycle. The GVWR is the combined weight of the machine, accessories, payload and riders. When selecting your accessories, keep in mind the weight of the riders 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: 400 kg (885 lbs) at the tire pressure (cold)
Front: 225 kPa
(2.25 kgf/cm², 33 psi)
Rear: 250 kPa
(2.50 kgf/cm², 36 psi)

- 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 they provide for a rigid mount. Weak mounts can allow the shifting of the weight and create a hazardous, unstable condition.
- 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.
- Accessories fitted to the handlebars or the front fork 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 handlebars or front fork of the machine should be as light as possible and kept to a minimum.
- 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 by 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.
- Certain accessories displace the rider from his or her normal riding position. This limits the freedom of movement of the rider and may limit control ability.
- Additional electrical accessories may overload the existing electrical system. Severe overloads may damage the wiring harness or create a hazardous 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 hazardous and makes the motorcycle difficult to handle. The size of the "load" can also affect the aerodynamics of the motorcycle. Balance the load between the left and right sides of the motorcycle and fasten it securely.

Modification
Modification of the motorcycle, or removal of original equipment may render the vehicle unsafe or illegal. Obey all applicable equipment regulations in your area.

The frame of this motorcycle is made of an aluminum alloy. Therefore, never make any modifications such as drilling or welding to the frame as it weakens the frame significantly. This could result in an unsafe vehicle operating condition and subsequent accident. Suzuki will not be responsible in any way for personal injury or damage to the motorcycle caused by frame modifications.

Bolt-on-accessories that do not modify the frame in any way may be installed, provided that the GVWR is not exceeded. For GVWR, refer to the ACCESSORY USE AND MOTORCYCLE LOADING section of the owner's manual.

⚠ WARNING

Modification to an aluminum alloy frame, such as drilling or welding, weakens the frame. This could result in an unsafe operating condition and may lead to an accident.

Never make any modifications to the frame.

INSPECTION AND MAINTENANCE

NOTICE

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).

MAINTENANCE SCHEDULE

It is very important to inspect and maintain your motorcycle regularly. Follow the guidelines in the chart. The intervals between periodic services in kilometers, miles and months are shown. At the end of each interval, be sure to perform the maintenance listed.

⚠ WARNING

Improper maintenance or failure to perform recommended maintenance increases the chance of an accident or motorcycle damage.

Always follow the inspection and maintenance recommendations and schedules in this owner's manual. Ask your SUZUKI dealer or qualified mechanic to do the maintenance items marked with an asterisk (*). You may perform the unmarked maintenance items by referring to the instructions in this section, if you have mechanical experience. If you are not sure how to do any of the jobs, have your SUZUKI dealer or qualified mechanic do them.

⚠ WARNING

Running the engine indoors or in a garage can be hazardous. Exhaust gas contains carbon monoxide, a gas that is colorless and odorless and can cause death or severe injury.

Only run the engine outdoors where there is fresh air.

NOTE: The MAINTENANCE CHART specifies the minimum requirements for maintenance. If you use your motorcycle under severe conditions, perform maintenance more often than shown in the chart. If you have any questions regarding maintenance intervals, consult your SUZUKI dealer or qualified mechanic.

⚠ CAUTION

Using poor quality replacement parts can cause your motorcycle to wear more quickly and may shorten its useful life.

Use only genuine Suzuki replacement parts or their equivalent.

MAINTENANCE CHART

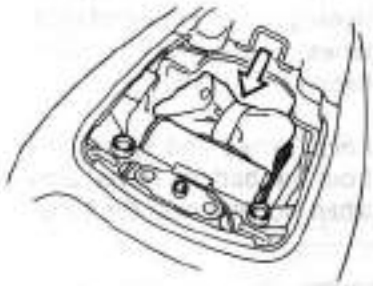
Interval: This interval should be judged by odometer reading or months, whichever comes first.

Item \ Interval						
	km	1000	6000	12000	18000	24000
	miles	600	4000	7500	11000	15000
	months	1	6	12	18	24
Air cleaner element		–	I	I	R	I
Exhaust pipe bolts and muffler bolts		T	–	T	–	T
* Tappet clearance		–	–	–	–	I
Spark plugs		–	I	R	I	R
Fuel line		–	I	I	I	I
		*Replace every four years				
Engine oil		R	R	R	R	R
Engine oil filter		R	–	–	R	–
Idle speed		I	I	I	I	I
Throttle cable play		I	I	I	I	I
* Carburetor synchronization		I (CA only)	–	I	–	I
* Evaporative emission control system (California model only)		–	–	I	–	I
		Replace vaper hose every four years				
* PAIR (air supply) system (California model only)		–	–	I	–	I
* Engine coolant		Replace every two years				
Radiator hose		–	I	I	I	I
Clutch cable play		–	I	I	I	I
Drive chain		I	I	I	I	I
		Clean and lubricate every 1000 km (600 miles)				
* Brakes		I	I	I	I	I
Brake hose		–	I	I	I	I
		*Replace every four years				
Brake fluid		–	I	I	I	I
		*Replace every two years				
Tires		–	I	I	I	I
* Steering		I	–	I	–	I
* Front forks		–	–	I	–	I
* Rear suspension		–	–	I	–	I
* Chassis bolts and nuts		T	T	T	T	T

NOTE: I= Inspect and clean, adjust, replace or lubricate as necessary, R= Replace, T= Tighten

NOTE: (California model only) and (CA. ONLY) mean that the items of the maintenance interval is to be applied only for the California model.

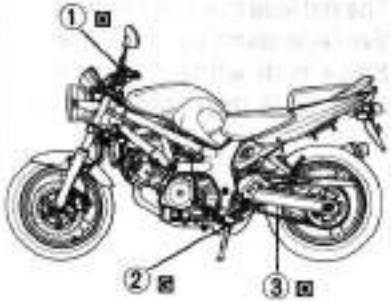
TOOLS

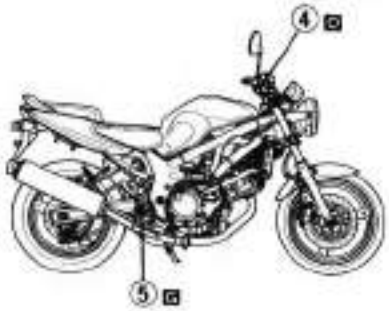


A tool kit is provided with your motorcycle. It is located under the rear seat.

LUBRICATION POINTS

Proper lubrication is important for safe, smooth operation and a long life for your motorcycle. Be sure that all lubrication is performed during periodic maintenance on the motorcycle. Increase frequency when you use your motorcycle in severe conditions.





◘.... Motor oil
◘.... Grease

① Clutch cable and clutch lever holder
② Side stand pivot and spring hook
③ Drive chain
④ Throttle cable and brake lever holder
⑤ Brake pedal pivot and footrest pivot

BATTERY

The battery is located under the front seat. This battery is a sealed type and requires no maintenance. Have your dealer check the battery's state of charge periodically.

The standard charging rate in 1.2A x 5 – 10 hours and the maximum rate is 5.0A x 1 hour.

⚠ WARNING

Battery posts terminals, and related accessories contain lead and lead compounds.

Wash hands after handling.

⚠ WARNING

Hydrogen gas produced by batteries can explode if exposed to flames or sparks.

Keep flames and sparks away from the battery. Never smoke when working near the battery.

⚠ CAUTION

Exceeding the maximum charging rate for the battery can shorten its life.

Never exceed the maximum charging rate.

⚠ CAUTION

Reversing the battery lead wires can damage the charging system and the battery.

The red lead must go to the positive (+) terminal and the black (or black with white tracer) lead must go to the negative (–) terminal.

AIR CLEANER

The air cleaner element must be kept clean to provide good engine power and gas mileage. If you use your motorcycle under normal low-stress conditions, you should service the air cleaner at the intervals specified. If you ride in dusty, wet, or muddy conditions, you will need to inspect the air cleaner element much more frequently. Use the following procedure to remove the element and inspect it.

⚠ WARNING

Operating the engine without the air cleaner element in place could allow a flame to spit back from the engine to the air cleaner, or could allow dirt to enter the engine. This could cause a fire or severe engine damage.

Never run the engine without the air cleaner element properly installed.

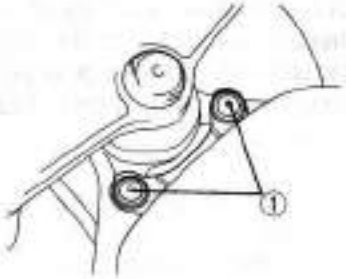
⚠ CAUTION

Clean or replace the air cleaner element frequently if the motorcycle is used in dusty, wet or muddy conditions. The air cleaner element will clog under these conditions, and this may cause engine damage, poor performance, and poor fuel economy.

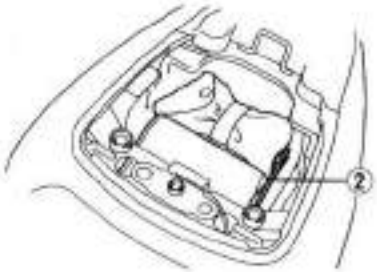
Clean the air cleaner case and element immediately if water gets in the air cleaner box.

Air Cleaner Element Removal

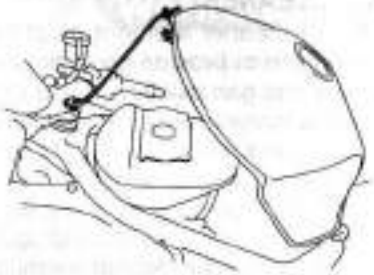
1. Place the motorcycle on the side stand.
2. Remove the front seat by referring to the SEAT LOCK AND HELMET HOLDERS section.



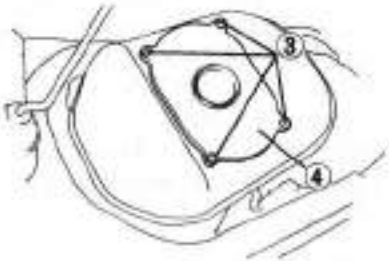
3. Remove the fuel tank fitting bolts ①.



4. Take the prop stay ② off.

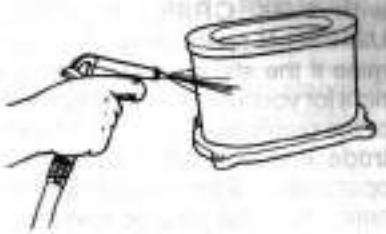


5. Lift the front end of the fuel tank and prop it up as shown above. Insert the crank end of the prop stand into the hole of the steering shaft.



6. Remove the four screws ③.
7. Remove the air cleaner element ④.

Air Cleaner Element Cleaning



Carefully use an air hose to blow the dust from the air cleaner element.

NOTE: Always apply air pressure to the outside of the air cleaner element only. If you apply air pressure to the inside, dirt will be forced into the pores of the element, restricting the air flow through the element.

Installation

Reinstall the air cleaner element in the reverse order of the removal.

▲ CAUTION

A torn air cleaner element will allow dirt to enter the engine and can damage the engine.

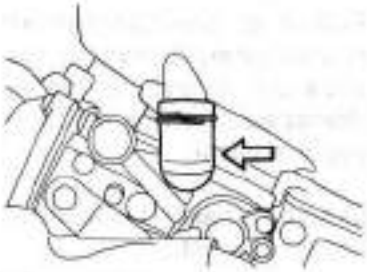
Carefully examine the air cleaner element for tears during cleaning. Replace it with a new one if it is torn.

▲ CAUTION

Failure to position the air cleaner element properly can allow dirt to bypass the air cleaner element. This will cause engine damage.

Be sure to properly install the air cleaner element.

Air Cleaner Drain Plug



Remove the plugs and drain water and oil at the periodic maintenance interval. The air cleaner drain plug is located beneath the air cleaner box.

SPARK PLUG

Your motorcycle comes equipped with NGK CR8E or DENSO U24ESR-N spark plugs. To determine if the standard spark plug is right for your usage, check the color of the plug's porcelain center electrode insulator after motorcycle operation. A light brown color indicates that the plug is correct. A white or dark insulator indicates that the engine may need adjustment, or another plug type may be needed. Consult your Suzuki dealer or qualified mechanic if your plug insulator is not a light brown color.

⚠ CAUTION

An improper spark plug may have an incorrect fit or heat range for your engine. This may cause severe engine damage which will not be covered under warranty.

Use one of the spark plugs listed below or equivalent. Consult your Suzuki dealer or qualified mechanic if you are not sure which spark plug is correct for type of usage.

Plug Replacement Guide

NGK	DENSO	REMARKS
CR8E	U24ESR-N	Standard
CR9E	U27ESR-N	If the standard plug is apt to overheat, replace with this plug.

NOTE: If the above-named plugs are not availale, consult your Suzuki dealer.

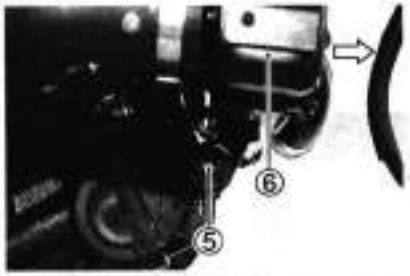
SPARK PLUG REMOVAL

To remove the spark plugs, follow the procedure below:

Front Side

1. (Only for SV650S) Remove the screws ① (right and left) and unhook the hook ② (right and left).

2. Remove the bolt ③ and the horn ④.



3. Remove the radiator mounting bolt ⑤ and move the radiator ⑥ forward.

NOTE: Do not extract the radiator hose.

4. Extract the spark plug cap.

5. Remove the spark plug with the spark plug wrench provided in the tool kit.

NOTE: Be careful not to damage the radiator fins.

⚠ WARNING

A hot radiator and hot engine can burn you.

Wait until the radiator and engine are cool enough to touch with bare hands before starting this work.

Rear Side

1. Lift the fuel tank by referring to the AIR CLEANER section.

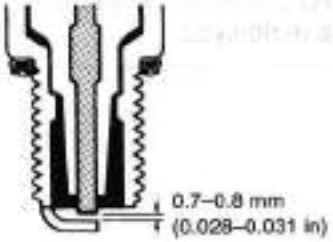
2. Remove the spark plug with the spark plug wrench provided in the tool kit.

⚠ CAUTION

Dirt can damage your engine if it enters an open spark plug hole.

Cover the spark plug hole whenever spark plug is removed.

Spark Plug Cleaning



To maintain a hot, strong spark, keep the plug free from carbon. Remove carbon deposits from the plug with a wire or pin, and adjust the gap to 0.7 – 0.8 mm (0.028 – 0.031 in) for good ignition. Use a thickness (feeler) gauge to check the gap.

Installation

To install a spark plug, turn it in as far as possible with your fingers, then tighten it with a wrench.

⚠ CAUTION

A crossthreaded or overtightened spark plug will damage the aluminum threads of the cylinder head.

Carefully turn the spark plug by hand into the threads until it is finger tight. If the spark plug is new, tighten it with a wrench about 1/2 turn past finger tight. If you are reusing the old spark plug, tighten it with a wrench about 1/8 turn past finger tight.

NOTE: When installing the spark plug caps, point the arrow marks on the spark plug caps to the exhaust side to fit the cover properly.

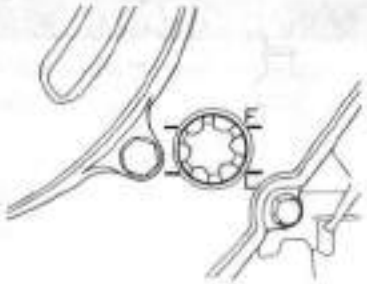
ENGINE OIL

Engine life depends on oil amount and quality. Daily oil level checks and periodic changes are two of the most important maintenance items to be performed.

Engine Oil Level Check

Check the engine oil level as follows:

1. Place the motorcycle on level ground on the side stand.
2. Start the engine and allow it to idle for a few minutes.
3. Stop the engine and wait for three minute.



4. Hold the motorcycle vertically and check the oil level through the oil level inspection window on the right side of the engine. The engine oil level should be between "L" (low) and "F" (full) lines.

⚠ CAUTION

The engine oil level must be between the "L" (Low) line and "F" (Full) line, or engine damage may occur.

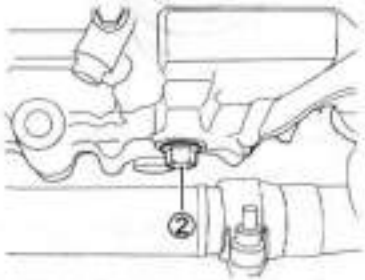
Check the oil level, through the inspection window, with the motorcycle held vertically on level ground before each use of the motorcycle.

Engine Oil and Filter Change

Change the engine oil and oil filter at the scheduled times. The engine should always be warm when the oil is changed so the oil will drain easily. The procedure is as follows:

1. Place the motorcycle on the side stand.

2. Remove the oil filler cap ①.



3. Remove the drain plug ② from the bottom of the engine and drain the engine oil into a drain pan.

⚠ WARNING

Engine oil and exhaust pipes can be hot enough to burn you.

Wait until the oil drain plug and exhaust pipes are cool enough to touch with bare hands before draining oil.

⚠ WARNING

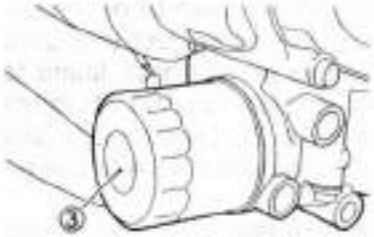
New and used oil and solvent can be hazardous. Children and pets may be harmed by swallowing new or used oil or solvent. Continuous contact with used engine oil has been found to cause skin cancer in laboratory animals. Brief contact with used oil or solvent may irritate skin.

- **Keep new and used oil and solvent away from children and pets.**
- **Wear a long-sleeve shirt and waterproof gloves.**
- **Wash with soap if oil or solvent contacts your skin.**

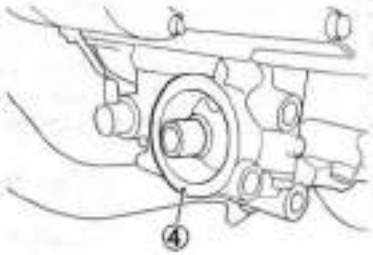
NOTE: Recycle or properly dispose of used oil and solvent.

4. Reinstall the drain plug and gasket. Tighten the plug securely with a wrench.

Oil filter wrench
(Part No. 09915-40610)



5. Turn the oil filter ③ counterclockwise with a Suzuki "cap type" oil filter wrench or a "strap type" filter wrench of proper size.



6. Wipe off the mounting surface ④ on the engine where the new filter will be seated with a clean rag.

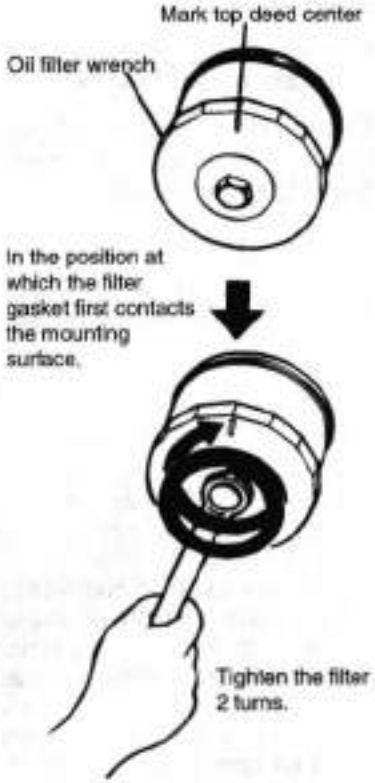
7. Smear a little engine oil around the rubber gasket ⑤ of the new oil filter.
8. Screw on the new filter by hand until the filter gasket contacts the mounting surface (a small resistance will be felt).

▲ CAUTION

Using an oil filter with the wrong design or thread specifications can cause oil leaks or engine damage.

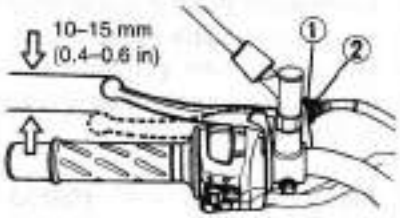
Use a genuine SUZUKI oil filter or an equivalent designed for your motorcycle.

NOTE: To tighten the oil filter properly, it is important to accurately identify the position at which the filter gasket first contacts the mounting surface.



9. Mark the top dead center position on the "cap type" filter wrench or on the oil filter. Use an oil filter wrench to tighten the filter 2 turns.
10. Reinstall the drain plug and tighten it securely. Pour about 2400 ml (2.5 US qt) of the specified engine oil in the filler hole. (See FUEL, ENGINE OIL AND COOLANT RECOMMENDATION section.)

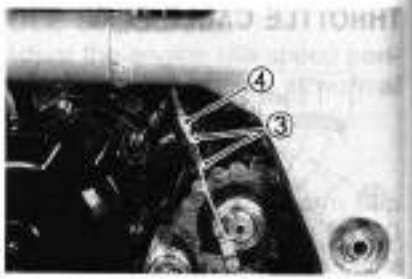
CLUTCH



At each maintenance interval, adjust the clutch cable play with the clutch cable adjuster. The cable play should be 10 – 15 mm (0.4 – 0.6 in) as measured at the clutch lever end before the clutch begins to disengage. If you find the play of clutch incorrect, adjust it in the following way:

1. Loosen the lock nut ①.
2. Turn clutch lever adjuster ② clockwise as far as it will go.

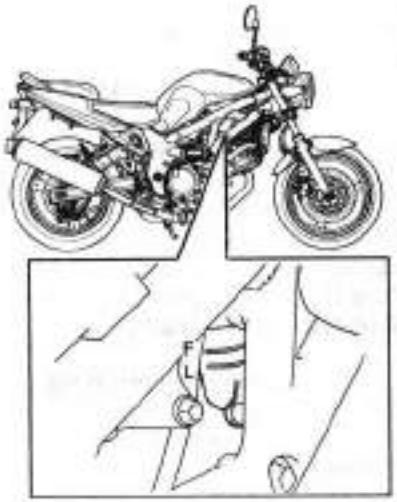
3. Remove the engine sproket cover.



4. Loosen cable adjuster lock nut ③, and turn cable adjuster ④ to obtain approximately 10 – 15 mm (0.4 – 0.6 in) of free play at the clutch lever end as indicated.
5. Minor adjustment can now be made with the adjuster ②.
6. Tighten the lock nuts, ① and ③, after finishing adjustment.

NOTE: Any maintenance of the clutch other than the clutch cable play should be performed by your Suzuki dealer.

ENGINE COOLANT
COOLANT LEVEL



The engine coolant solution should be between "F" (full) and "L" (low) level lines on the engine coolant reservoir. If the level is lower than "L" (low) level line, bring it up to "F" (full) level by adding 50:50 mixture of distilled water and engine coolant.

To add mixed coolant:

1. Remove the front seat by referring to the SEAT LOCK AND HELMET HOLDERS section.
2. Lift the fuel tank by referring to the AIR CLEANER section.

3. Remove the filler cap and add mixed coolant through the filler hole.

⚠ WARNING

Engine coolant is harmful if swallowed or if it comes in contact with your skin or eyes.

Keep engine coolant away from children and pets. Call your physicion immediately if engine coolant is swallowed, and induce vomiting. Flush eyes or skin with water if engine coolant gets in eyes or comes in contact with skin.

NOTE: Adding only water will dilute the engine coolant and reduce its effectiveness. Add 50:50 mixture of engine coolant and water.

DRIVE CHAIN

This motorcycle has an endless drive chain constructed from special materials. It does not use a master link. The drive chain has special "O" rings that permanently seal grease inside. We recommend that you take your motorcycle to an authorized Suzuki dealer if the drive chain needs replacing.

The condition and adjustment of the drive chain should be checked before each use of the motorcycle. Always follow the guidelines below for inspecting and servicing the chain.

⚠ WARNING

Riding with the chain in poor condition or improperly adjusted can lead to an accident.

Inspect, adjust, and maintain the chain properly before each ride, according to this section.

Inspecting the Drive Chain

When inspecting the chain, look for the following:

- Loose pins
- Damaged rollers
- Dry or rusted links
- Kinked or binding links
- Excessive wear
- Improper chain adjustment

If you find anything wrong with the drive chain condition or adjustment, correct the problem if you know how. If necessary, consult your authorized Suzuki dealer.

Damage to the drive chain means that the sprockets may also be damaged. Inspect the sprockets for the following:

- Excessively worn teeth
- Broken or damaged teeth
- Loose sprocket mounting nuts

If you find any of these problems with your sprocket, consult your Suzuki dealer.

⚠ WARNING

Improperly installing a replacement chain, or using a joint-clip type chain, can be hazardous. An incompletely riveted master link, or a joint-clip type master link, may come apart and cause an accident or severe engine damage.

Do not use a joint-clip type chain. Chain replacement requires a special riveting tool and a high-quality, non-joint-clip type chain. Ask an authorized SUZUKI dealer or qualified mechanic to perform this work.

Drive Chain Cleaning and Oiling

Clean and oil the chain as follows:

1. Wash the chain with kerosene. Kerosene will lubricate and clean the chain.

⚠ WARNING

Kerosene can be hazardous. Kerosene is flammable. Children or pets may be harmed from contact with kerosene.

Keep flames and smoking materials away from kerosene. Keep children and pets away from kerosene. If swallowed, do not induce vomiting. Call physician immediately. Dispose of used kerosene properly.

⚠ CAUTION

Cleaning the chain with gasoline or commercial cleaning solvents can damage O-rings and ruin the chain.

Clean the drive chain with kerosene only.

2. Allow the chain to dry, then lubricate the links with Suzuki chain lube or an equivalent.

⚠ CAUTION

Some drive chain lubricants contain solvents and additives which could damage the "O" rings in your chain.

Use Suzuki chain lube or an equivalent that is specifically intended for use with "O" ring chains.

Drive Chain Adjustment

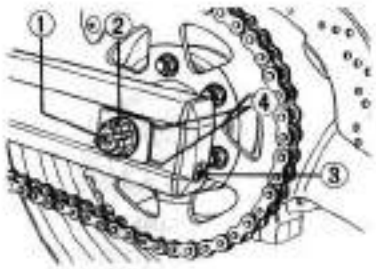
Inspect the drive chain slack before each use of the motorcycle. Place the motorcycle on the side stand. The drive chain should be adjusted for 20 – 30 mm (0.8 – 1.2 in) of slack, as shown.

⚠ WARNING

Too much chain slack can cause the chain to come off the sprockets, resulting in an accident or serious damage to the motorcycle.

Inspect and adjust the drive chain slack before each use.

To adjust the drive chain, follow the procedure below:



1. Place the motorcycle on the side stand.
2. Remove the cotter pin ① and loosen the axle nut ②.

⚠ WARNING

A hot muffler can burn you. The muffler will be hot enough to burn you for some time after stopping the engine.

Wait until the muffler cools to avoid burns.

3. Turn the right and left adjuster bolts ③ until the chain has 20 – 30 mm (0.8 – 1.2 in) of slack halfway between the engine sprocket and rear sprocket.
4. At the same time that the chain is being adjusted, the rear sprocket must be kept in perfect alignment with the front sprocket. To assist you in performing this procedure, there are reference marks ④ on the swing arm and each chain adjuster which are to be aligned with each other and to be used as a reference from one side to the other.
5. Tighten the axle nut ② securely. Replace the cotter pin ① with a new one.
6. Recheck the chain slack after tightening and readjust if necessary.

Rear axle nut tightening torque:
65 N·m (6.5 kgf-m, 47.0 lb-ft)

BRAKES

This motorcycle has front and rear disk brakes.

⚠ WARNING

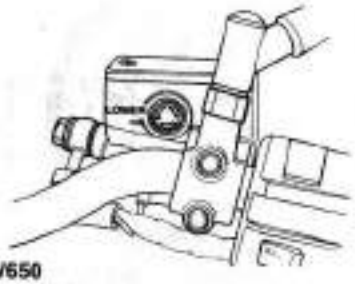
Failure to inspect and properly maintain the brakes increases your chance of having an accident.

Inspect the brake system before each use according to the INSPECTION BEFORE RIDING section. Follow the MAINTENANCE SCHEDULE section to maintain your brake system.

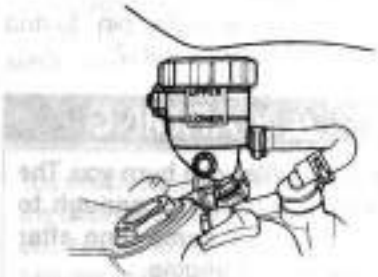
NOTE: Operating in mud, water, sand or other extreme conditions can cause accelerated brake wear. If you operate your motorcycle under these conditions, the brakes must be inspected more often than recommended in the MAINTENANCE SCHEDULE.

Brake Fluid

FRONT

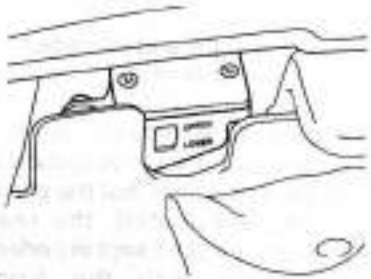


SV650



SV650S

REAR



Check the brake fluid level in both front and rear brake fluid reservoirs. Inspect for brake fluid leaks.

⚠ WARNING

Brake fluid can be hazardous to humans and pets. Brake fluid is harmful or fatal if swallowed, and harmful if it comes in contact with skin or eyes.

Keep brake fluid away from children and pets. Call your doctor immediately if brake fluid is swallowed, and induce vomiting. Flush eyes or skin with water if brake fluid gets in eyes or comes in contact with skin.

⚠ WARNING

Failure to keep the brake fluid reservoir full with proper brake fluid can be hazardous. The brakes may not work correctly without the proper amount and type of brake fluid. This could lead to an accident.

Inspect the brake fluid level before each use. Use only DOT4 brake fluid from a sealed container. Never use or mix different types of brake fluid. If there is frequent loss of fluid, take your motorcycle to a SUZUKI dealer or qualified mechanic for inspection.

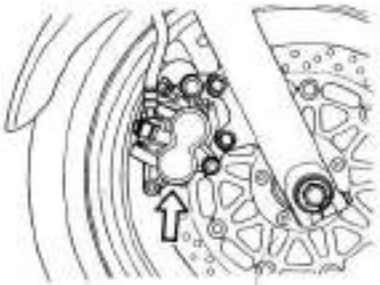
⚠ CAUTION

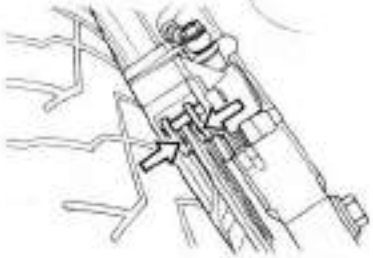
Spilled brake fluid can damage painted surfaces and plastic parts.

Avoid spilling any fluid when filling the reservoir. Wipe up spills immediately.

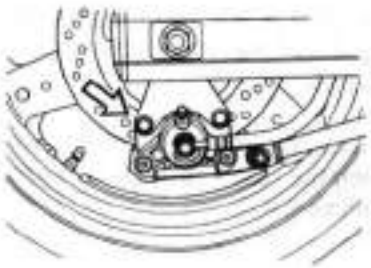
Brake Pads

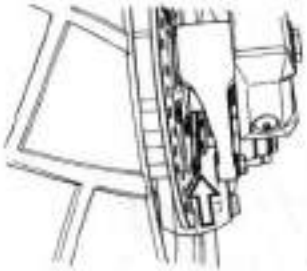
FRONT

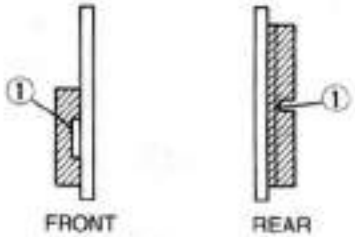




REAR







Inspect the front and rear brake pads to see if they are worn down to the grooved wear limit line ①. If a pad is worn to the grooved wear limit line, it must be replaced with a new one. After replacing either the front or rear brake pads, the brake lever or pedal must be pumped several times. This will extend the pads to their proper position.

⚠ WARNING

Riding with worn brake pads will reduce braking performance and will increase your chance of having an accident.

Inspect brake pad wear before each use. Ask your SUZUKI dealer or qualified mechanic to replace brake pads if any pad is worn to the limit.

⚠ WARNING

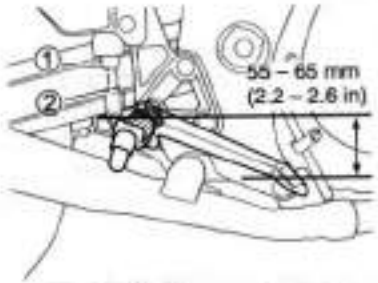
Failure to extend brake pads after repair or replacement can cause poor braking performance and may result in an accident.

Before riding, "pump" the brake repeatedly until brake pads are pressed against the brake disks and proper lever/pedal stroke and firm feel are restored.

NOTE: Do not squeeze/depress the brake lever/pedal when the pads are not in their positions. It is difficult to push the pistons back into position.

Rear Brake Adjustment

The rear brake pedal must be adjusted to set the clearance between the pedal and the footrest. Adjust the brake pedal as follows:



1. Loosen the lock nut ①, and turn the push rod ② to locate the pedal 55 – 65 mm (2.2 – 2.6 in) below the top face of the foot rest.
2. Retighten the lock nut ① to lock the push rod ② in the proper position.

⚠ CAUTION

An incorrectly adjusted brake pedal may force brake pads to rub against the disk at all times, causing damage to the pads and disk.

Follow the steps in this section to adjust the brake pedal properly.

Rear Brake Light Switch

To adjust the brake light switch, hold the switch body and turn the adjuster so that the brake light will come on just before a pressure rise is felt when the brake pedal is depressed.

TIRES

⚠ WARNING

Failure to follow these warnings may result in an accident due to tire failure. The tires on your motorcycle form the crucial link between your motorcycle and the road.

Follow these instructions:

- **Check tire condition and pressure, and adjust pressure before each ride.**
- **Avoid overloading your motorcycle.**
- **Replace a tire when worn to the specified limit, or if you find damage such as cuts or cracks.**
- **Always use the size and type of tires specified in this owner's manual.**
- **Balance the wheel after tire installation.**
- **Read this section of owner's manual carefully.**

⚠ WARNING

Failure to perform break-in of the tires could cause tire slip and loss of control.

Use extra care when riding on new tires. Perform proper break-in of the tires referring to the BREAK-IN section and avoid hard acceleration, hard cornering, and hard braking for the first 160 km (100 miles).

Tire Pressure and Loading

Proper tire pressure and proper tire loading are important factors. Overloading your tires can lead to tire failure and loss of motorcycle control.

Check tire pressure each day before you ride, according to the table below. Tire pressure should only be checked and adjusted before riding, since riding will heat up the tires and lead to higher inflation pressure readings.

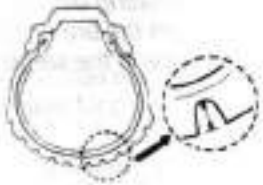
Under-inflated tires make smooth cornering difficult, and can result in rapid tire wear. Over-inflated tires have a smaller amount of tire in contact with the road, which can contribute to skidding and loss of control.

NOTE: When you detect drops in tire pressure, check the tire for nails or other punctures, or a damaged wheel rim. Tubeless tires sometimes lose pressure gradually when punctured.

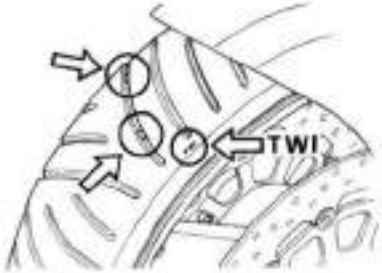
LOAD / TIRE	SOLO RIDING	TWO-UP RIDING
FRONT	225 kPa 2.25 kgf/cm² 33 psi	225 kPa 2.25 kgf/cm² 33 psi
REAR	250 kPa 2.50 kgf/cm² 36 psi	250 kPa 2.50 kgf/cm² 36 psi

Tire Condition and Type

Tire condition and tire type affect motorcycle performance. Cuts or cracks in the tires can lead to tire failure and loss of motorcycle control. Worn tires are susceptible to puncture failures and subsequent loss of motorcycle control. Tire wear also affects the tire profile, changing motorcycle handling characteristics.



Check tire condition each day before you ride. Replace tires if tires show visual evidence of damage, such as cracks or cuts, or if tread depth is less than 1.6 mm (0.06 in) front, 2.0 mm (0.08 in) rear.



The "TWI" mark indicates the place where the wear bars are molded into the tire. When the wear bars contact the road, it indicates that the [illegible] has been reached.

Whenever you replace a tire, use a tire of the size and type listed below. If you use a different size or type of tire, motorcycle handling may be adversely affected, possibly resulting in loss of motorcycle control.

	FRONT	REAR
SIZE	120/60 ZR17 (55W)	160/60 ZR17 (69W)
TYPE	METZELER MEZ4 Front	METZELER MEZ4

Always balance the wheel after repairing a puncture or replacing the tire. Proper wheel balance is important to avoid variable wheel-to-road contact, and to avoid uneven tire wear.

⚠ WARNING

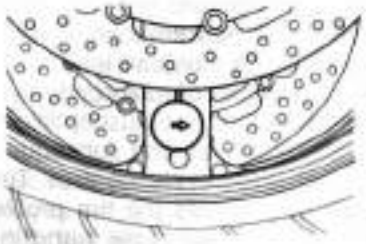
An improperly repaired, installed, or balanced tire can cause loss of control or shorten tire life.

- **Ask your SUZUKI dealer or qualified mechanic to perform tire repair, replacement, and balancing because proper tools and experience are required.**
- **Install tires according to the rotation direction shown by arrows on the sidewall of each tire.**

⚠ WARNING

Failure to follow these instructions about tubeless tires may result in an accident due to tire failure. Tubeless tires require different service procedures than tube tires.

- **Tubeless tires require an airtight seal between the tire bead and wheel rim. Special tire irons and rim protectors or a specialized tire mounting machine must be used for removing and installing tires to prevent tire or rim damage which could result in an air leak.**
- **Repair puncture in tubeless tires by removing the tire and applying an internal patch.**
- **Do not use an external repair plug to repair a puncture since the plug may work loose as a result of the cornering forces experienced in a motorcycle tire.**
- **After repairing a tire, do not exceed 80 km/h (50 mph) for the first 24 hours, 130 km/h (80 mph) thereafter. This is to avoid excessive heat build-up which could result in a tire repair failure and tire deflation.**
- **Replace the tire if it is punctured in the sidewall area, or if a puncture in the tread area is larger than 6 mm (3/16in). These punctures cannot be repaired adequately.**



NOTE: The wheel has arrow marks showing the rotating direction. The arrow marks on the tire and on the wheel should be in the same direction.

SIDE STAND/IGNITION INTERLOCK SYSTEM

Check the side stand/ignition interlock system for proper operation as follows:

1. Sit on the motorcycle in the normal riding position, with the side stand up.
2. Shift into first gear, hold the clutch in, and start the engine.
3. While continuing to hold the clutch in, move the side stand to the down position.

If the engine stops running when the side stand is moved to the down position, then the side stand/ignition interlock system is working properly. If the engine continues to run with the side stand down and the transmission in gear, then the side stand/ignition interlock system is not working properly. Have your motorcycle inspected by an authorized Suzuki dealer or some other qualified service mechanic.

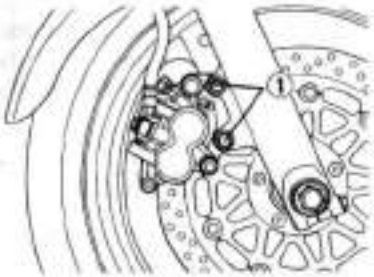
⚠ WARNING

If the side stand/ignition interlock system is not working properly, it is possible to ride the motorcycle with the side stand in the down position. This may interfere with rider control during a left turn.

Check the side stand/ignition interlock system for proper operation before riding. Check that the side stand is returned to its full up position before starting off.

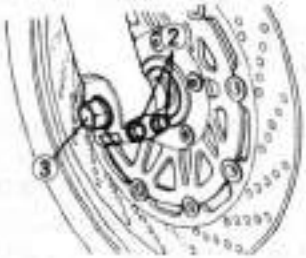
FRONT WHEEL REMOVAL

1. Place the motorcycle on the side stand.



2. Remove both brake calipers from the front forks by removing two mounting bolts ① on each caliper.

NOTE: Never squeeze the front brake lever with the caliper removed. It is very difficult to force the pads back into the caliper assembly and brake fluid leakage may result.



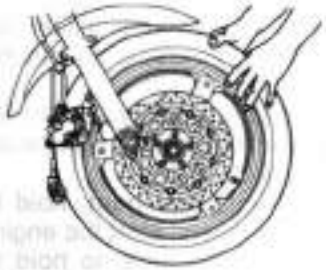
3. Loosen the two axle holder bolts ② on the right front fork.
4. Loosen the axle ③ temporarily.
5. Place an accessory service stand or equivalent under the swing arm to help stabilize the rear end.
6. Carefully position a jack under the engine and raise until the front wheel is slightly off the ground.

⚠ CAUTION

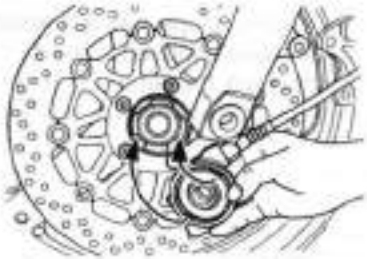
Improper jacking may cause damage to the oil filter.

Do not apply the jack head to the oil filter when jacking up the motorcycle.

7. Turn the axle counterclockwise and draw it out.



8. Slide the front wheel forward.



9. To reinstall the wheel assembly, reverse the sequence as described. Fit the slot of speedometer gearbox to the projections of the wheel hub.

10. After installing the wheel, apply the brake several times to restore the proper lever stroke.

⚠ WARNING

Failure to extend brake pads after installing the wheel can cause poor braking performance and may result in an accident.

Before riding, "pump" the brake repeatedly until brake pads are pressed against the brake disks and proper lever/pedal stroke and firm feel are restored. Also check that the wheel rotates freely.

⚠ WARNING

Installing the front wheel in the reverse direction can be hazardous. The tire for this motorcycle is directional. Therefore, the motorcycle may have unusal handling if the wheel is installed incorrectly.

Install the front wheel in a specified direction, as indicated by the arrow on the sidewall of the tire.

⚠ WARNING

Failure to torque bolts and nuts properly could lead to an accident.

Torque bolts and nuts to the proper specifications. If you are not sure of the proper procedure, have your authorized SUZUKI dealer or qualified mechanic do this.

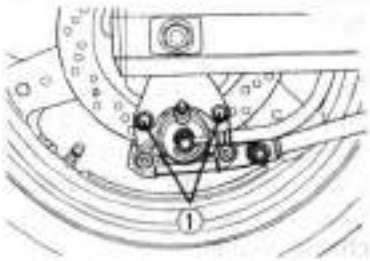
Front axle tightening torque:
65 N·m (6.5 kgf-m, 47.0 lb-ft)

Front axle holder bolt tightening torque:
23 N·m (2.3 kgf-m, 16.5 lb-ft)

Front brake caliper mounting bolt tightening torque:
39 N·m (3.9 kgf-m, 28.0 lb-ft)

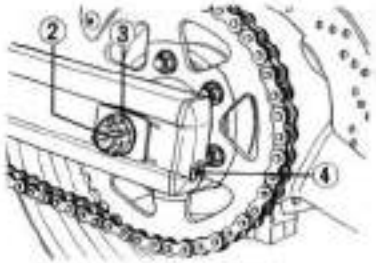
REAR WHEEL REMOVAL

1. Place the motorcycle on the side stand.



2. Remove the caliper bolts ①.

NOTE: Never depress the rear brake pedal with the rear wheel removed. It is very difficult to force the pads back into the caliper assembly.



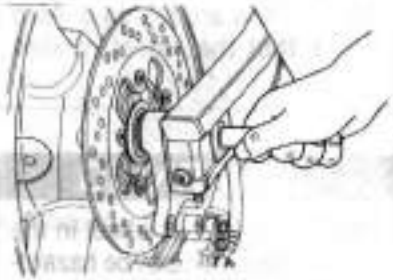
3. Remove the cotter pin ②.
4. Remove the axle nut ③.
5. Loosen the chain adjusting bolts ④ (right and left).

⚠ WARNING

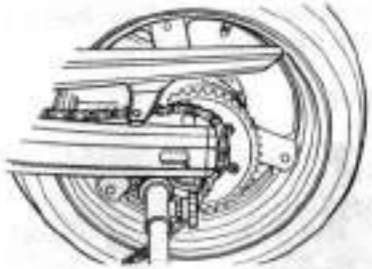
A hot muffler can burn you. The muffler will be hot enough to burn you for some time after stopping the engine.

Wait until the muffler cools to avoid burns.

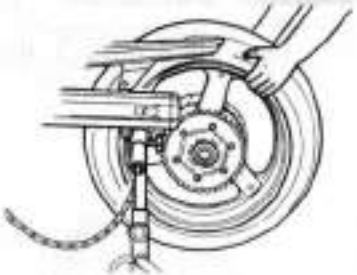
6. Place an accessory service stand or equivalent under the swing arm to lift the rear wheel slightly off the ground.



7. Draw out the axle.



8. With the wheel moved forward, remove the chain from the sprocket.



9. Pull the rear wheel assembly rearward.

NOTE: Never depress the rear brake pedal with the rear wheel removed. It is very difficult to force the pads back into the caliper assembly.

10. To replace the wheel, reverse the complete sequence listed.
11. Replace the cotter pin with a new one.
12. After installing the wheel, apply the brake several times and then check that the wheel rotates freely.

⚠ WARNING

Failure to adjust the drive chain and failure to torque bolts and nuts properly could lead to an accident.

- **Adjust the drive chain as described in DRIVE CHAIN ADJUSTMENT section after installing the rear wheel.**
- **Torque bolts and nuts to the proper specifications. If you are not sure of the proper procedure, have your authorized SUZUKI dealer or qualified mechanic do this.**

Rear axle nut tightening torque:
65 N.m (6.5 kgf-m, 47.0 lb-ft)

⚠ WARNING

Failure to extend brake pads after installing the wheel can cause poor braking performance and may result in an accident.

Before riding, "pump" the brake repeatedly until brake pads are pressed against the brake disks and proper lever/pedal stroke and firm feel are restored. Also check that the wheel rotates freely.

LIGHT BULB REPLACEMENT

The wattage rating of each bulb is shown in the following chart. When replacing a burned out bulb, always use the same wattage rating.

⚠ CAUTION

Using a light bulb with the wrong wattage rating can cause electrical system damage or shorten bulb life.

Always use the specified light bulb.

Headlight	SV650	12V 60/55W
	SV650S	12V 45/45W × 2
Position light (SV650S)		12V 5W
Turn signal light		12V 21W
Brake light/ Taillight		12V 21/5W × 2
License plate light		12V 5W

Headlight

To replace the headlight bulb, perform the following steps:

(SV650)

1. Remove the screws ① (right and left) from the headlight outer ring.

2. Disconnect the socket ② and remove the rubber cap ③.

3. Unhook the bulb holder spring ④ and pull out the bulb ⑤.

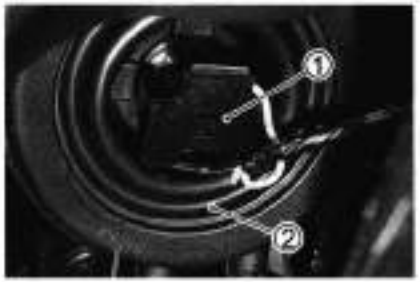
⚠ CAUTION

Oil from your skin may damage the headlight bulb or shorten its life.

Grasp the new bulb with a clean cloth.

(SV650S)

Left Side



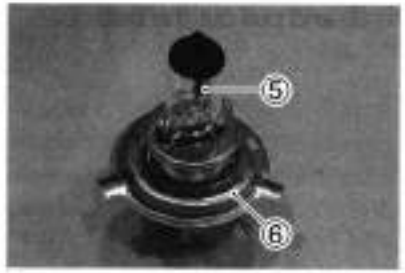
1. Disconnect the socket ① from the headlight and remove the rubber cap ②.

2. Unhook the bulb holder spring ③ and pull out the bulb ④.

Right Side

1. Disconnect the socket ① from the headlight and remove the rubber cap ②.

2. Unhook the bulb holder spring ③ and pull out the bulb ④.



3. (Except for UK, Canada and Australia) Pull off the bulb ⑤ from the socket ⑥.

▲ CAUTION

Oil from your skin may damage the headlight bulb or shorten its life.

Grasp the new bulb with a clean cloth.

Headlight Beam Adjustment

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

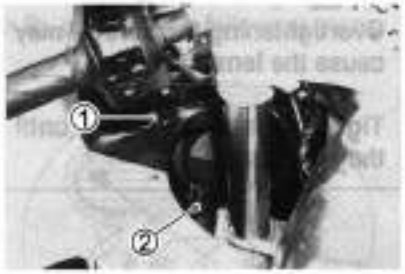
(SV650)

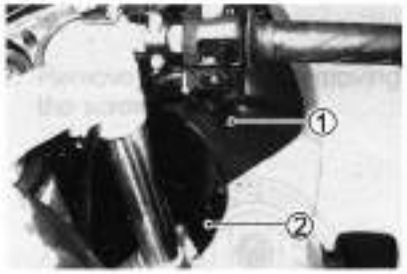
To adjust the beam horizontally:
Turn the adjuster ① clockwise or counterclockwise.

To adjust the beam vertically:
Turn the adjuster ② clockwise or counterclockwise.

NOTE: To adjust the headlight beam, adjust the beam horizontally first, then adjust vertically.

(SV650S)





To adjust the beam horizontally:
Turn the adjuster ① clockwise or counterclockwise.

To adjust the beam vertically:
Turn the adjuster ② clockwise or counterclockwise.

NOTE: To adjust the headlight beam, adjust the beam horizontally first, then adjust vertically.

Position Light

To replace the position light bulb follow the procedure below.

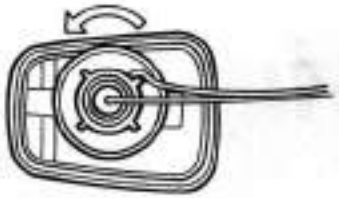
1. Remove the two screws ① and remove the panel ②.

2. Pull off the bulb ③.

Turn Signal Light

To replace the turn signal light bulb, follow these directions.

1. Remove screw and take off the lens.



2. Turn the socket counterclockwise and remove it.

3. Push in on the bulb, turn it to the left, and pull it out.

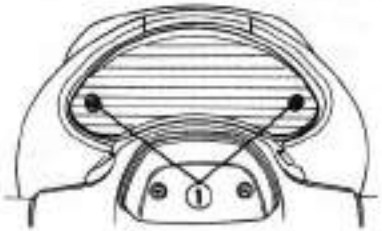
▲ CAUTION

Overtightening the screws may cause the lens to crack.

Tighten the screws only until they are sung.

Brake Light/Taillight

To change the brake light/taillight bulb, perform the following steps:

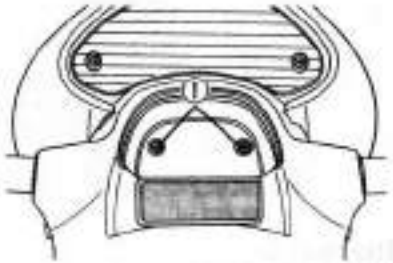


1. Remove the lens by removing the screws ①.

2. Push in the bulb, turn it to the left and pull it off.

License Plate Light

To change the license plate light bulb, perform the following steps:



1. Remove the lens by removing the screws ①.

2. Pull off the bulb.

FUSES

The main fuse is located behind the right frame cover. Remove the frame cover by referring to the SEAT LOCK AND HELMET HOLDERS section. One 30A spare fuse is located inside the fuse box.

The fuses are located under the instrument panel. One 10A and one 15A spare fuses are provided inside the fuse box.

They are designed to open when a circuit overload exists in individual electrical system circuits. If any electrical system fails to operate, then the fuses must be checked.

⚠ CAUTION

Installing a fuse of incorrect rating or using aluminum foil or wire instead of a fuse may seriously damage the electrical system.

Always replace a blown fuse with a fuse of the same type and rating. If the new fuse blows in a short time, consult your Suzuki dealer or qualified mechanic immediately.

FUSE LIST

- 30A MAIN fuse protects all electrical circuits.
- 15A HEAD-HI fuse protects the headlight high beam and high beam indicator light.
- 15A HEAD-LO fuse protects the headlight low beam.
- 10A IGNITION fuse protects ignition coil and cooling fan motor.
- 15A SIGNAL fuse protects the fuel level indicator light, the oil pressure indicator light, neutral indicator light, horn, brake light, speedometer light.
- 10A METER fuse protects the instrument panel.

TROUBLESHOOTING

This troubleshooting guide is provided to help you find the cause of some common complaints.

⚠ CAUTION

Failure to troubleshoot a problem correctly can damage your motorcycle. Improper repairs or adjustments may damage the motorcycle instead of fixing it. Such damage may not be covered under warranty.

If you are not sure about the proper action, consult your Suzuki dealer about the problem.

COMPLAINT: Engine is hard to start or does not start at all.

Ignition System Check

1. Remove the spark plugs and reattach them to the spark plug leads.

2. Put the engine stop switch in the "◯" position and ignition switch in the "ON" position. While holding a spark plug with its base firmly against the engine, push the electric starter button. If the ignition system is operating properly, a blue spark should jump across the spark plug gap.
3. If there is no spark, clean the spark plug. Replace it if necessary. Retry the above procedure with the cleaned spark plug or new one.
4. If there is still no spark, take your machine to your authorized Suzuki dealer.

⚠ WARNING

Performing the spark test improperly can cause a high voltage electrical shock or an explosion.

Avoid performing this check if you are not familiar with this procedure, or if you have a heart condition or wear a pacemaker. Keep the spark plug away from the spark plug hole during this test.

COMPLAINT: Engine Stalls

1. Make sure there is enough fuel in the fuel tank.
2. Check the ignition system for intermittent spark.
3. Check the idle speed. If necessary, adjust it using a tachometer. The correct idle speed is 1200 – 1400 r/min.

STORAGE PROCEDURE

If your motorcycle is to be left unused for an extended period of time, it needs special servicing requiring appropriate materials, equipment and skill. For this reason, Suzuki recommends that you trust this maintenance work to your Suzuki dealer. If you wish to service the machine for storage yourself, follow the general guidelines below:

MOTORCYCLE

Clean the entire motorcycle. Place the motorcycle on the side stand on a firm, flat surface where it will not fall over. Turn the handlebars all the way to the left and lock the steering, and remove the ignition key.

FUEL

1. Fill the fuel tank to the top with fuel mixed with the amount of gasoline stabilizer recommended by the stabilizer manufacturer.
2. Run the engine for a few minutes until the stabilized gasoline fills the carburators.

ENGINE

1. Pour one tablespoon of motor oil into each spark plug hole. Reinstall the spark plugs and crank the engine a few times.
2. Drain the engine oil thoroughly and refill the crankcase with fresh engine oil all the way up to the filler hole.
3. Cover the air cleaner intake and the muffler outlet with oily rags to prevent humidity from entering.

BATTERY

1. Remove the battery from the motorcycle.
2. Clean the outside of the battery with mild soap and remove corrosion from the terminals and wiring harness.
3. Store the battery in a room above freezing.

TIRES

Inflate tires to the normal pressure.

EXTERNAL

- Spray all vinyl and rubber parts with rubber protectant.
- Spray unpainted surfaces with rust preventative.
- Coat painted surfaces with car wax.

MAINTENANCE DURING STORAGE

Once a month, recharge the battery. The standard charging rate is 1.2A × 5 – 10 hour.

PROCEDURE FOR RETURNING TO SERVICE

1. Clean the entire motorcycle.
2. Remove the oily rags from the air cleaner intake and muffler outlet.
3. Drain all the engine oil. Install a new oil filter and fill the engine with fresh oil as outlined in this manual.
4. Remove the spark plugs. Turn the engine a few times. Reinstall the spark plugs.
5. Reinstall the battery.
6. Make sure that the motorcycle is properly lubricated.
7. Perform the INSPECTION BEFORE RIDING as listed in this manual.
8. Start the motorcycle as outlined in this manual.

CORROSION PREVENTION

It is important to take good care of your motorcycle to protect it from corrosion and keep it looking new for years to come.

Important Information About Corrosion

Common causes of corrosion

- Accumulation of road salt, dirt, moisture, or chemicals in hard-to-reach areas.
- Chipping, scratches, and any damage to treated or painted metal surfaces resulting from minor accidents or impacts from stones and gravel.

Road salt, sea air, industrial pollution, and high humidity will all contribute to corrosion.

How to Help Prevent Corrosion

- Wash your motorcycle frequently, at least once a month. Keep your motorcycle as clean and dry as possible.
- Remove foreign material deposits. Foreign material such as road salt, chemicals, road oil or tar, tree sap, bird droppings and industrial fall-out may damage your motorcycle's finish. Remove these types of deposits as quickly as possible. If these deposits are difficult to wash off, an additional cleaner may be required. Follow the manufacturer's directions when using these special cleaners.
- Repair finish damage as soon as possible. Carefully examine your motorcycle for damage to the painted surfaces. Should you find any chips or scratches in the paint, touch them up immediately to prevent corrosion from starting. If the chips or scratches have gone through to the bare metal, have a Suzuki dealer make the repair.
- Store your motorcycle in a dry, well-ventilated area. If you often wash your motorcycle in the garage or if you frequently park it inside when wet, your garage may be damp. The high humidity may cause or accelerate corrosion. A wet motorcycle may corrode even in a heated garage if the ventilation is poor.
- Cover your motorcycle. Exposure to mid-day sun can cause the colors in paint, plastic parts, and instrument faces to fade. Covering your motorcycle with a high-quality, "breathable" motorcycle cover can help protect the finish from the harmful UV rays in sunlight, and can reduce the amount of dust and air pollution reaching the surface. Your Suzuki dealer can help you select the right cover for your motorcycle.

MOTORCYCLE CLEANING

Washing the Motorcycle

When washing the motorcycle, follow the instructions below:

1. Remove dirt and mud from the motorcycle with running water. You may use a soft sponge or brush. Do not use hard materials which can scratch the paint.
2. Wash the entire motorcycle with mild detergent or car wash soap using a sponge or soft cloth. The sponge or cloth should be frequently soaked in the soap solution.

⚠ CAUTION

Radiator fins can be damaged by spraying high pressure water on them.

Do not spray high pressure water on the radiator fins.

NOTE: Avoid spraying or allowing water to flow over the following places:

- *Ignition switch*
- *Spark plugs*
- *Fuel tank cap*
- *Fuel injection system*
- *Brake master cylinders*

3. Once the dirt has been completely removed, rinse off the detergent with running water.
4. After rinsing, wipe off the motorcycle with a wet chamois or cloth and allow it to dry in the shade.
5. Check carefully for damage to painted surfaces. If there is any damage, obtain "touch-up" paint and "touch-up" the damage.

Windshield Cleaning

Clean the windshield with a soft cloth and warm water with mild detergent. If scratched, polish with a commercially available plastic polish. Replace the windshield if it becomes scratched or discolored so as to obstruct view. When replacing the windshield, use Suzuki replacement windshield.

⚠ CAUTION

Cleaning with any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent will damage the windshield.

Clean only with a soft cloth and warm water with a mild detergent.

Waxing the Motorcycle

After washing the motorcycle, waxing is recommended to further protect and beautify the paint. Observe the precautions specified by the wax manufacturer.

INSPECTION AFTER CLEANING

For extended life of your motorcycle, lubricate according to "GENERAL LUBRICATION" section.

⚠ WARNING

Wet brakes can cause poor braking performance and may lead to an accident.

Avoid a possible accident by expecting longer stopping distances after washing your motorcycle. Apply brakes several times to let heat dry the brake pads or shoes.

Follow the procedures in the "INSPECTION BEFORE RIDING" section to check your motorcycle for any problems that may have arisen during your last ride.

CONSUMER INFORMATION

EMISSION CONTROL WARRANTY

Suzuki Motor Corporation warrants to the ultimate purchaser and each subsequent purchaser that this vehicle 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 its useful life. Useful life is defined for each class of motorcycle as 5 years or the corresponding number of kilometers (miles) shown in the chart below, whichever occurs first.

Vehicle Class	Engine Displacement	Useful Life Distance
Class I	50 to 169 cc	12000 km (7456 miles)
Class II	170 to 279 cc	18000 km (11185 miles)
Class III	280 cc and Over	30000 km (18641 miles)

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.

REPORTING SAFETY DEFECTS

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying American Suzuki Motor Corp.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or American Suzuki Motor Corp.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

To contact American Suzuki, owners in the continental United States can call toll-free 1-800-444-5077, or write to: American Suzuki Motor Corporation Motorcycle Customer Service P.O. Box 1100, Brea, CA 92822-1100.

For owners outside the continental United States, please refer to the distributor's address listed on your Warranty Information brochure.

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

Federal law prohibits the following acts or the causing thereof;

1. The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or
2. The use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

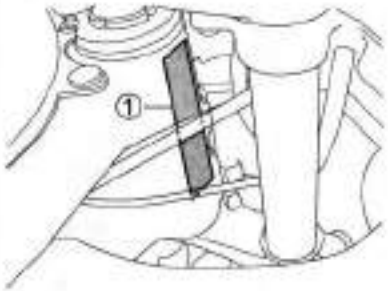
- Removing or puncturing the muffler, baffles, header pipes, screen type spark arrester (if equipped) or any other component which conducts exhaust gases.
- Replacing the exhaust system or muffler with a system or muffler not marked with the same model specific code as the code listed on the Motorcycle Noise Emission Control Information label, and certified to appropriate EPA noise standards.

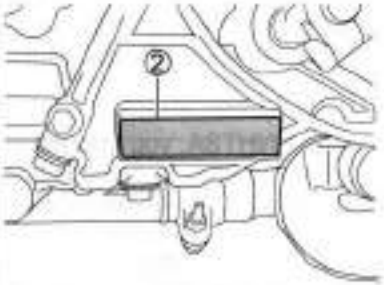
- Removing or puncturing the air cleaner case, air cleaner cover, baffles, or any other component which conducts intake air.

Whenever replacing parts on your motorcycle, Suzuki recommends that you use genuine Suzuki replacement parts or their equivalent.

SERIAL NUMBER LOCATION

You need to know the frame and engine serial numbers to get title documents for your motorcycle. You also need these numbers to help your dealer when you order parts.





The frame number ① is stamped on the steering head as shown in the illustration. The engine serial number ② is stamped on the right side of the crankcase assembly.

Write down the serial numbers here for your future reference.

Frame No.:

Engine No.:

SPECIFICATIONS (SV650)

DIMENSIONS AND DRY MASS	
Overall length	2070 mm (81.5 in)
Overall width	750 mm (29.5 in)
Overall height	1060 mm (41.7 in)
Wheelbase	1430 mm (56.3 in)
Ground clearance	140 mm (5.5 in)
Seat height	805 mm (31.7 in)
Dry mass	165 kg (363 lbs)
ENGINE	
Type	Four-stroke, liquid-cooled, DOHC, TSCC, 90° degree V-twin
Number of cylinders	2
Bore	81.0 mm (3.189 in)
Stroke	62.6 mm (2.465 in)
Displacement	645 cm³ (39.4 cu. in)
Compression ratio	11.5 : 1
Carburetor	MIKUNI BDSR39
Air cleaner	Non-woven fabric element
Starter system	Electric
Lubrication system	Wet sump
TRANSMISSION	
Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction ratio	2.068 (71/34)
Gear ratios, Low	2.461 (32/13)
2nd	1.777 (32/18)
3rd	1.380 (29/21)
4th	1.125 (27/24)
5th	0.961 (25/26)
Top	0.851 (23/27)
Final reduction ratio	3.000 (45/15)
Drive chain	D.I.D. 525V8, 110 links
CHASSIS	
Front suspension	Telescopic, coil spring, oil damped
Rear suspension	Link type, coil spring, gas/oil damped, spring pre-load 7 way adjustable
Caster	25°
Trail	100 mm (3.94 in)
Steering angle	33° (right and left)
Turning radius	2.9 m (9.5 ft)
Front brake	Disk brake
Rear brake	Disk brake
Front tire size	120/60 ZR17 (55W), tubeless
Rear tire size	160/60 ZR17 (69W), tubeless

ELECTRICAL

Ignition type	Electronic ignition (Transistorized)
Spark plug	NGK CR8E or DENSO U24ESR-N
Battery	12V 36 kC(10 Ah)/10 HR
Generator	Three-phase A.C. generator
Fuse	30/15/15/15/10/10A
Headlight	12V 60/55W
Turn signal light	12V 21W
Brake light/Taillight	12V 21/5W × 2
License plate light	12V 5W
Speedometer light	12V 1.7W × 2
Turn signal indicator light	12V 1.7W
High beam indicator light	12V 1.7W
Neutral indicator light	12V 1.7W
Oil pressure indicator light	12V 1.7W

CAPACITIES

Fuel tank	16.0 L (4.2 US gal)
	15.0 L (4.0 US gal) ... For California
Engine oil, Without filter change	2300 ml (2.4 US qt)
With filter change	2400 ml (2.5 US qt)
Engine coolant	1600 ml (1.7 US qt)

SPECIFICATIONS (SV650S)

DIMENSIONS AND DRY MASS

Overall length	2045 mm (80.5 in)
	2120 mm (83.5 in) ... Switzerland and Sweden
Overall width	740 mm (29.1 in)
Overall height	1130 mm (44.5 in)
Wheelbase	1420 mm (55.9 in)
Ground clearance	140 mm (5.5 in)
Seat height	805 mm (31.7 in)
Dry mass	169 kg (372 lbs)

ENGINE

Type	Four-stroke, liquid-cooled, DOHC, TSCC, 90° degree V-twin
Number of cylinders	2
Bore	81.0 mm (3.189 in)
Stroke	62.6 mm (2.465 in)
Displacement	645 cm³ (39.4 cu. in)
Compression ratio	11.5 : 1
Carburetor	MIKUNI BDSR39
Air cleaner	Non-woven fabric element
Starter system	Electric
Lubrication system	Wet sump

TRANSMISSION

Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction ratio	2.068 (71/34)
Gear ratios, Low	2.461 (32/13)
2nd	1.777 (32/18)
3rd	1.380 (29/21)
4th	1.125 (27/24)
5th	0.961 (25/26)
Top	0.851 (23/27)
Final reduction ratio	2.933 (44/15)
Drive chain	D.I.D. 525V9, 108 links

CHASSIS

Front suspension	Telescopic, coil spring, oil damped
Rear suspension	Link type coil spring, gas/oil damped, spring pre-load 7 way adjustable
Caster	25°
Trail	100 mm (3.94 in)
Steering angle	30° (right and left)
Turning radius	3.1 m (9.5 ft)
Front brake	Disk brake
Rear brake	Disk brake
Front tire size	120/60 ZR17 (55W), tubeless
Rear tire size	160/60 ZR17 (69W), tubeless

ELECTRICAL

Ignition type	Electronic ignition (Transistorized)
Spark plug	NGK CR8E or DENSO U24ESR-N
Battery	12V 36 kC(10 Ah)/10 HR
Generator	Three-phase A.C. generator
Fuse	30/15/15/15/10/10A
Headlight	12V 45/45W × 2
Position light	12V 5W
Turn signal light	12V 21W
Brake light/Taillight	12V 21/5W × 2
License plate light	12V 5W
Speedometer light	12V 0.84W × 3
Turn signal indicator light	12V 3W
High beam indicator light	12V 1.7W
Neutral indicator light	12V 1.7W
Oil pressure indicator light	12V 1.7W

CAPACITIES

Fuel tank	16.0 L (4.2 US gal) 15.0 L (4.0 US gal) ... For California
Engine oil, without filter change	2300 ml (2.4 US qt)
with filter change	2400 ml (2.5 US qt)
Engine coolant	1600 ml (1.7 US qt)

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SUZUKI MOTOR CORPORATION

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