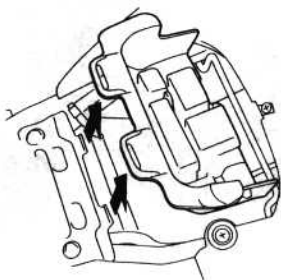


BATTERY



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 $1.2A \times 5 - 10$ hours and the maximum rate is $5.0A \times 1$ 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.

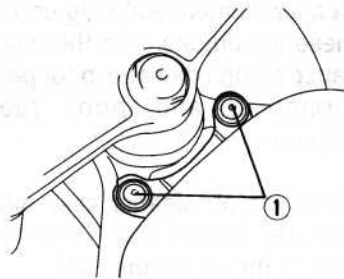
⚠ CAUTION

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.

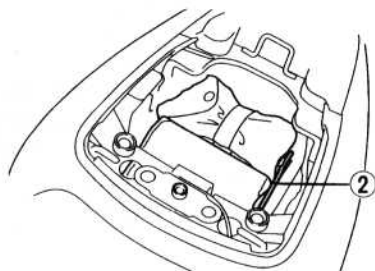
Clean the air cleaner case and element immediately if water gets in the air cleaner box.

Air Cleaner Element Removal

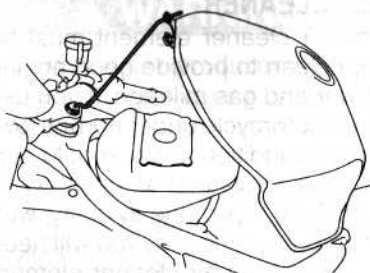
1. Place the motorcycle on the side stand.
2. Remove the front seat by referring to the SEAT LOCK AND HELMET HOLDERS section.



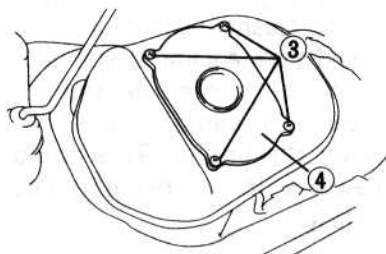
3. Remove the fuel tank fitting bolts (1).



4. Take the prop stay (2) off.

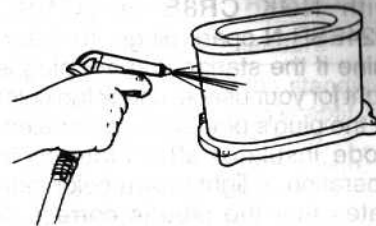


5. Lift the front end of the fuel tank and prop it up as shown above. Insert the crank end of the prop stand into the hole of the steering shaft.



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.

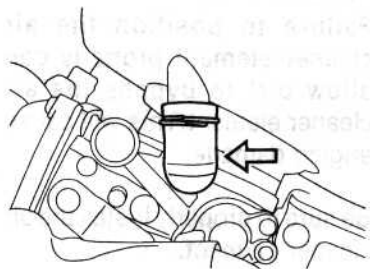
Carefully examine the air cleaner element for tears during cleaning. Replace it with a new one if it is torn.

⚠ 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

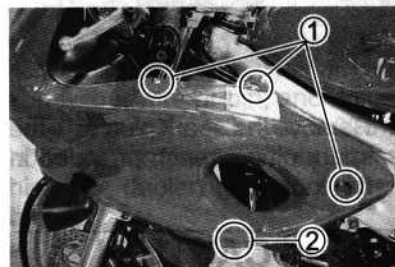
NGK	DENSO	REMARKS
CR8E	U24ESR-N	Standard
CR9E	U27ESR-N	If the standard plug is apt to overheat, replace with this plug.

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

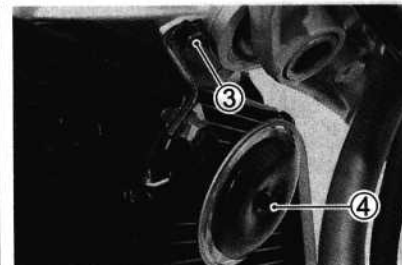
SPARK PLUG REMOVAL

To remove the spark plugs, follow the procedure below:

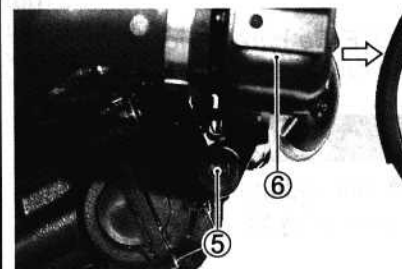
Front Side



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

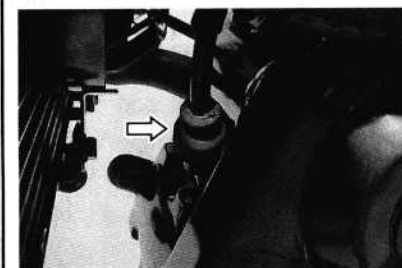


2. Remove the bolt ③ and the horn ④.



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

NOTE: Do not extract the radiator hose.

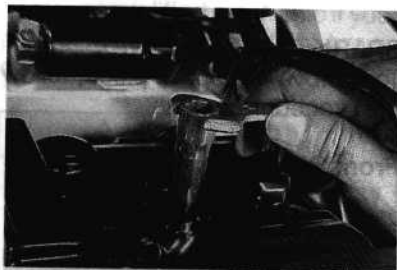


4. Extract the spark plug cap.



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.

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

NOTE: Be careful not to damage the radiator fins.

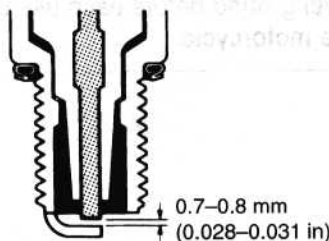
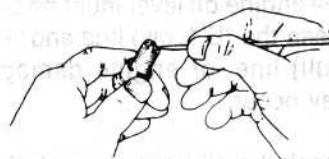
⚠ WARNING

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.



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.

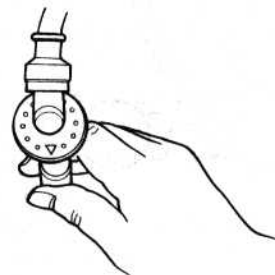
Installation

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 re-using 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.

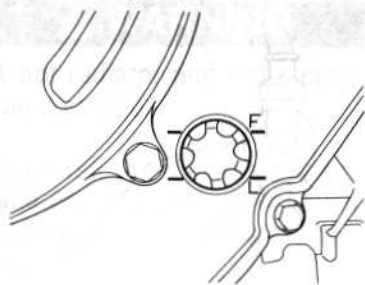
ENGINE OIL

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.

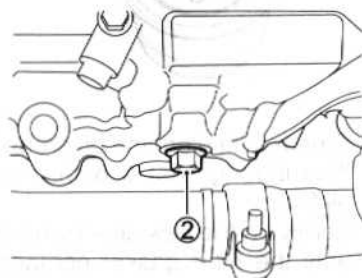
Engine Oil and Filter Change

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.

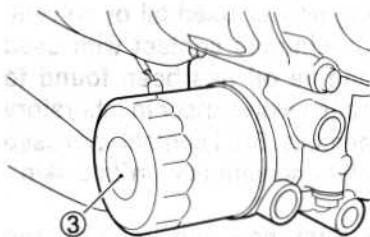
- Keep new and used oil and solvent away from children and pets.
- Wear a long-sleeve shirt and waterproof gloves.
- Wash with soap if oil or solvent contacts your skin.

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

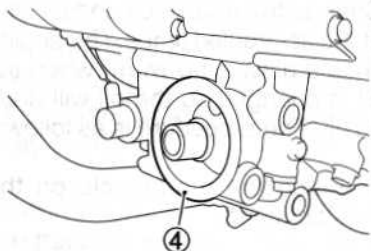
4. Reinstall the drain plug and gasket. Tighten the plug securely with a wrench.



Oil filter wrench
(Part No. 09915-40610)



5. Turn the oil filter ③ counter-clockwise 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.



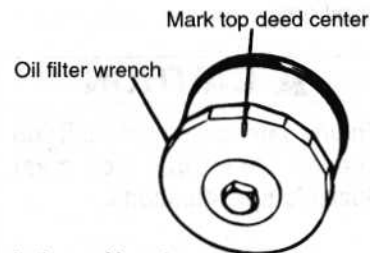
7. Smear a little engine oil around the rubber gasket ⑤ of the new oil filter.
8. Screw on the new filter by hand until the filter gasket contacts the mounting surface (a small resistance will be felt).

▲ 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.

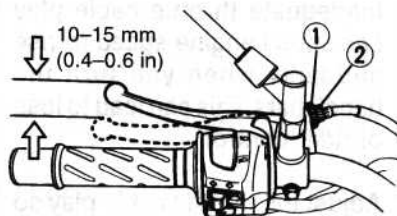


In the position at which the filter gasket first contacts the mounting surface.



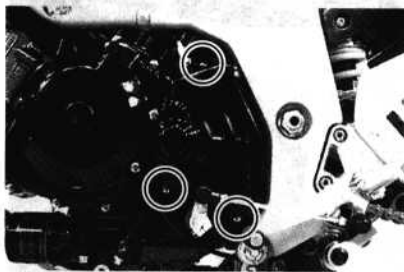
9. Mark the top dead center position on the "cap type" filter wrench or on the oil filter. Use an oil filter wrench to tighten the filter 2 turns.
10. Reinstall the drain plug and tighten it securely. Pour about 2400 ml (2.5 US qt) of the specified engine oil in the filler hole. (See FUEL, ENGINE OIL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

CLUTCH

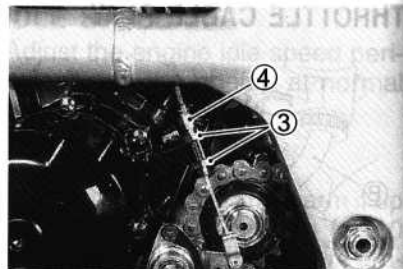


At each maintenance interval, adjust the clutch cable play with the clutch cable adjuster. The cable play should be 10 – 15 mm (0.4 – 0.6 in) as measured at the clutch lever end before the clutch begins to disengage. If you find the play of clutch incorrect, adjust it in the following way:

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



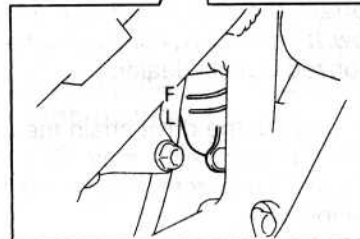
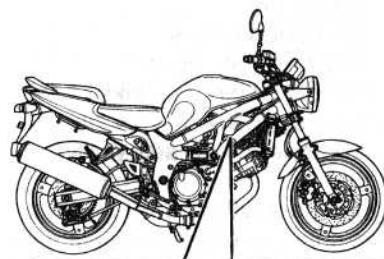
3. Remove the engine sprocket cover.



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.

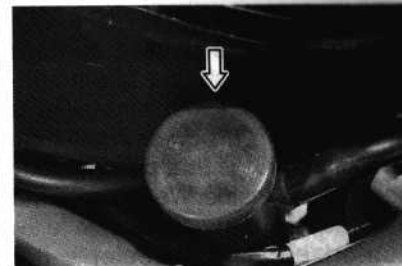
ENGINE COOLANT COOLANT LEVEL



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 physician 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.

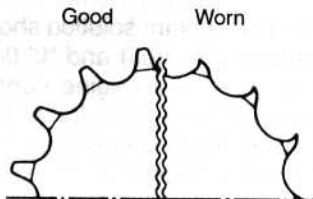
Inspecting the Drive Chain

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.

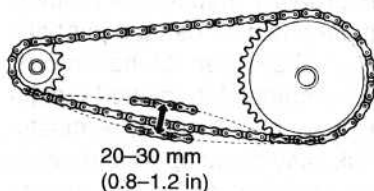
2. Allow the chain to dry, then lubricate the links with Suzuki chain lube or an equivalent.

⚠ 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



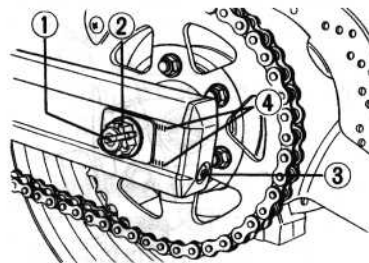
Inspect the drive chain slack before each use of the motorcycle. Place the motorcycle on the side stand. The drive chain should be adjusted for 20 – 30 mm (0.8 – 1.2 in) of slack, as shown.

⚠ 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 ad-

juster 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

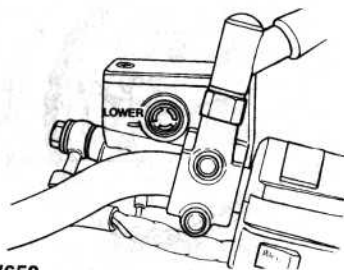
Failure to inspect and properly maintain the brakes increases your chance of having an accident.

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

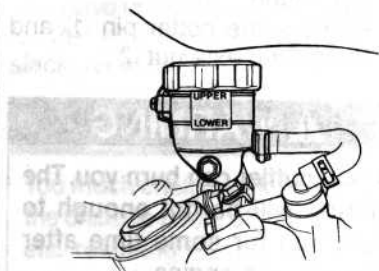
*NOTE: Operating in mud, water, sand or other extreme conditions can cause accelerated brake wear. If you operate your motorcycle under these conditions, the brakes must be inspected more often than recommended in the **MAINTENANCE SCHEDULE**.*

Brake Fluid

FRONT

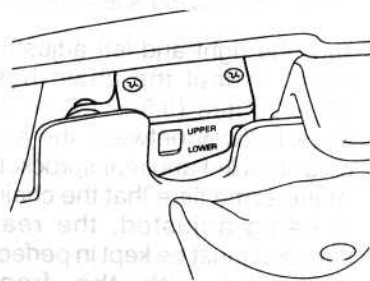


SV650



SV650S

REAR



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

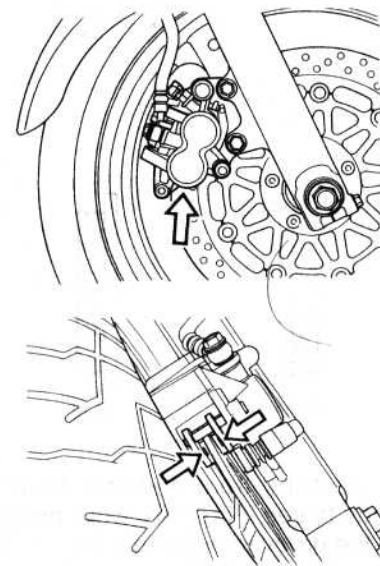
⚠ CAUTION

Spilled brake fluid can damage painted surfaces and plastic parts.

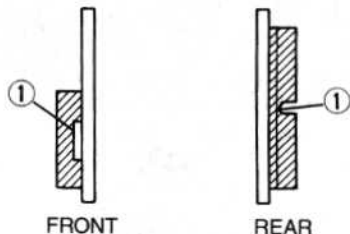
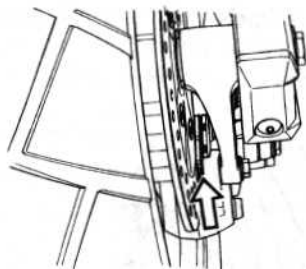
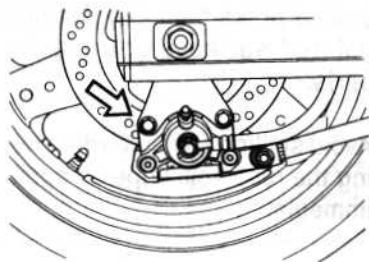
Avoid spilling any fluid when filling the reservoir. Wipe up spills immediately.

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

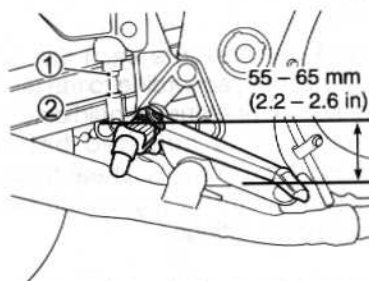
Failure to extend brake pads after repair or replacement can cause poor braking performance and may result in an accident.

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:



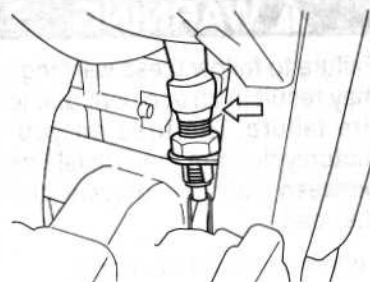
1. Loosen the lock nut ①, and turn the push rod ② to locate the pedal 55 – 65 mm (2.2 – 2.6 in) below the top face of the foot rest.
2. Retighten the lock nut ① to lock the push rod ② in the proper position.

⚠ 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.

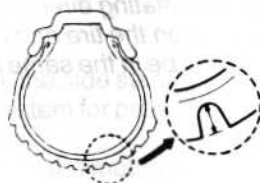
Under-inflated tires make smooth cornering difficult, and can result in rapid tire wear. Over-inflated tires have a smaller amount of tire in contact with the road, which can contribute to skidding and loss of control.

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.

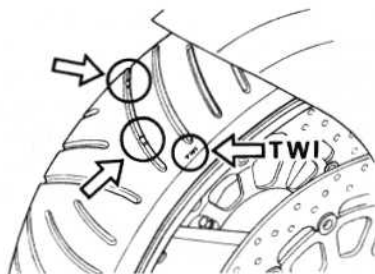
LOAD TIRE	SOLO RIDING	TWO-UP RIDING
FRONT	225 kPa 2.25 kgf/cm ² 33 psi	225 kPa 2.25 kgf/cm ² 33 psi
REAR	250 kPa 2.50 kgf/cm ² 36 psi	250 kPa 2.50 kgf/cm ² 36 psi

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 tire wear limit 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

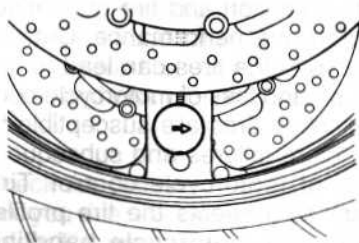
An improperly repaired, installed, or balanced tire can cause loss of control or shorten tire life.

- 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

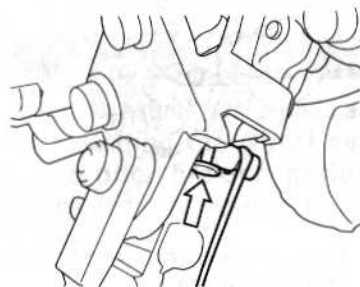
Failure to follow these instructions about tubeless tires may result in an accident due to tire failure. Tubeless tires require different service procedures than tube tires.

- 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 (3/16 in). 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.

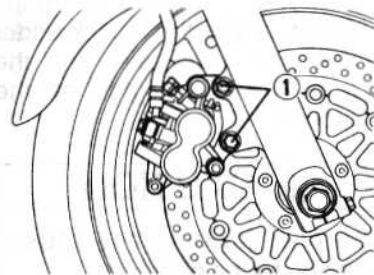
⚠ WARNING

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.

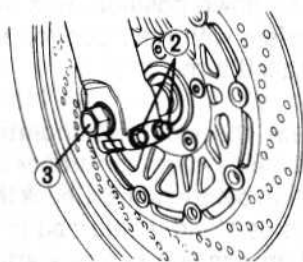
FRONT WHEEL REMOVAL

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.

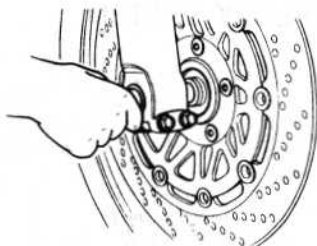


3. Loosen the two axle holder bolts ② on the right front fork.
4. Loosen the axle ③ temporarily.
5. Place an accessory service stand or equivalent under the swing arm to help stabilize the rear end.
6. Carefully position a jack under the engine and raise until the front wheel is slightly off the ground.

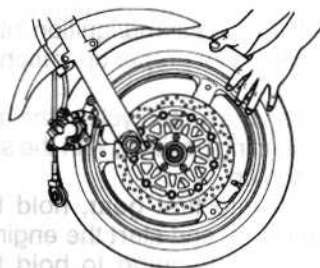
⚠ CAUTION

Improper jacking may cause damage to the oil filter.

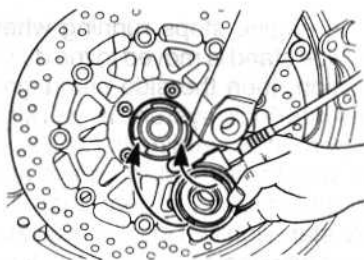
Do not apply the jack head to the oil filter when jacking up the motorcycle.



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 unusual 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.

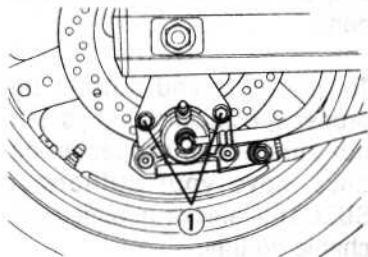
Front axle tightening torque:
65 N·m (6.5 kgf-m, 47.0 lb-ft)

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)

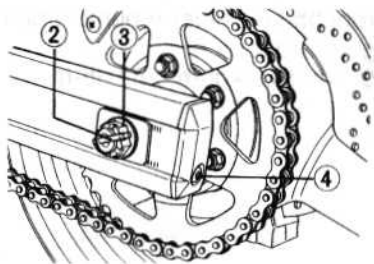
REAR WHEEL REMOVAL

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.



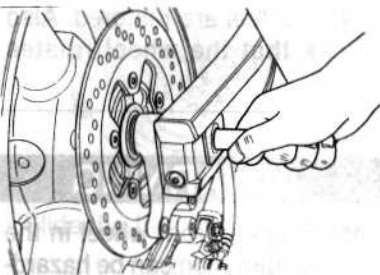
3. Remove the cotter pin ②.
4. Remove the axle nut ③.
5. Loosen the chain adjusting bolts ④ (right and left).

⚠ WARNING

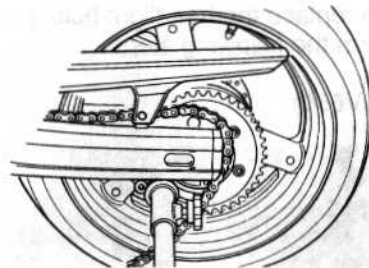
A hot muffler can burn you. The muffler will be hot enough to burn you for some time after stopping the engine.

Wait until the muffler cools to avoid burns.

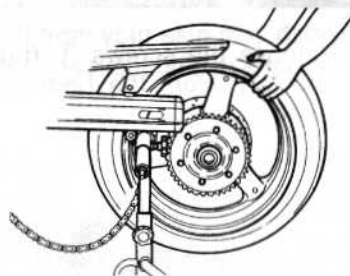
6. Place an accessory service stand or equivalent under the swing arm to lift the rear wheel slightly off the ground.



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.

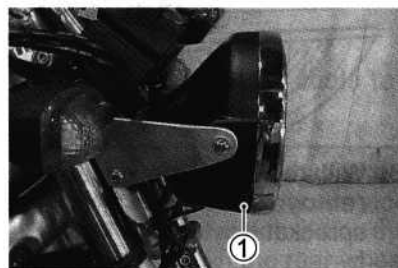
Always use the specified light bulb.

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

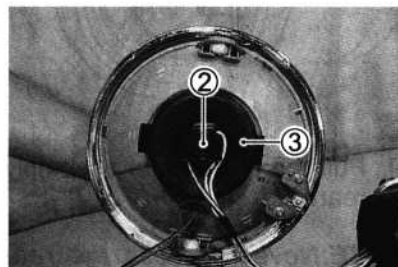
Headlight

To replace the headlight bulb, perform the following steps:

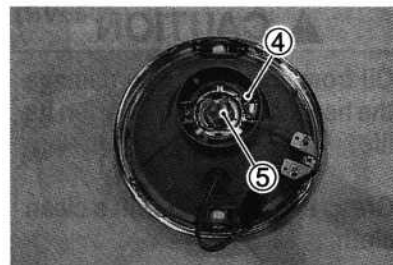
(SV650)



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.

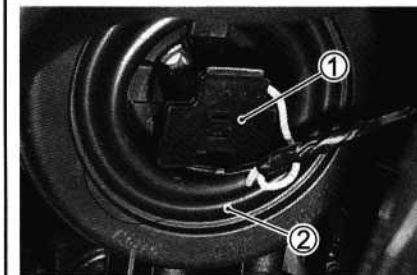
⚠ CAUTION

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

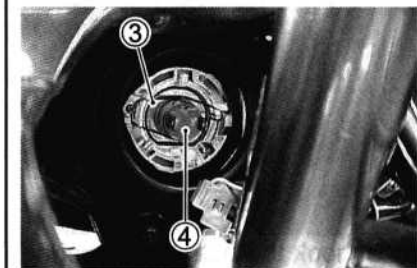
Grasp the new bulb with a clean cloth.

(SV650S)

Left Side

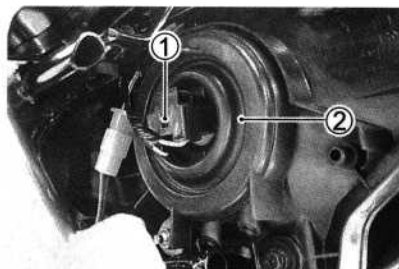


1. Disconnect the socket ① from the headlight and remove the rubber cap ②.

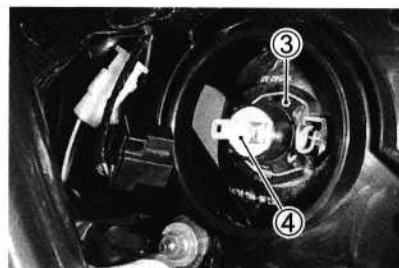


2. Unhook the bulb holder spring ③ and pull out the bulb ④.

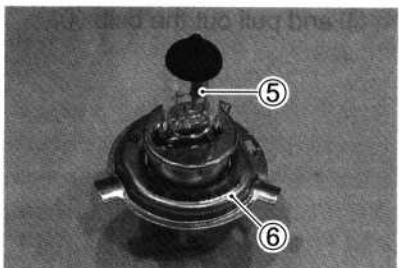
Right Side



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

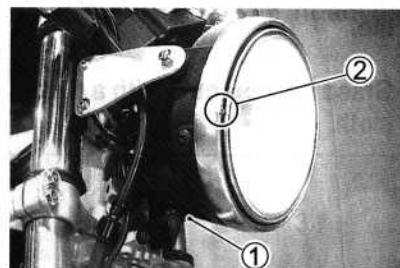
Oil from your skin may damage the headlight bulb or shorten its life.

Grasp the new bulb with a clean cloth.

Headlight Beam Adjustment

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

(SV650)

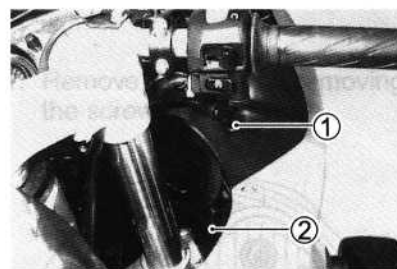
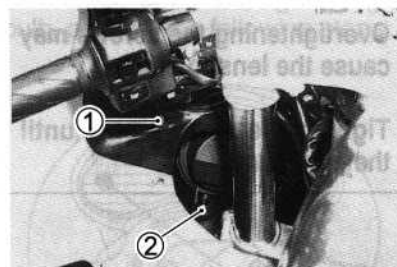


To adjust the beam horizontally:
Turn the adjuster ① clockwise or counterclockwise.

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.

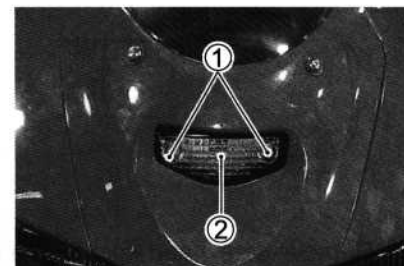
To adjust the beam vertically:

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.

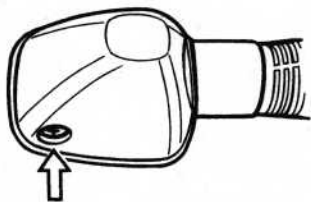


2. Pull off the bulb ③.

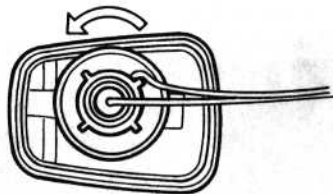


Turn Signal Light

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.

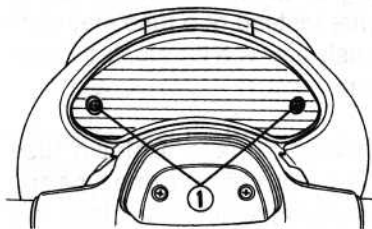
⚠ CAUTION

Overtightening the screws may cause the lens to crack.

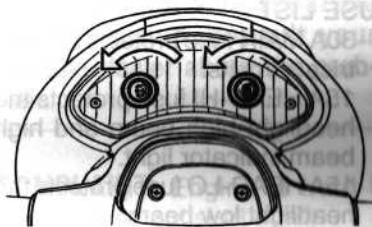
Tighten the screws only until they are snug.

Brake Light/Taillight

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



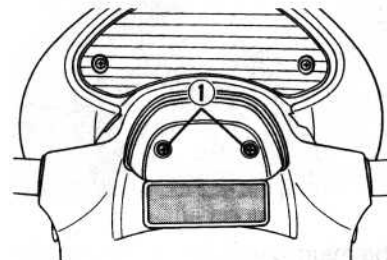
1. Remove the lens by removing the screws ①.



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 "O" 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 carburetors.

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 $1.2A \times 5 - 10$ 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.

APPEARANCE CARE

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:

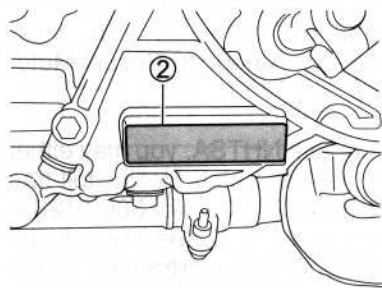
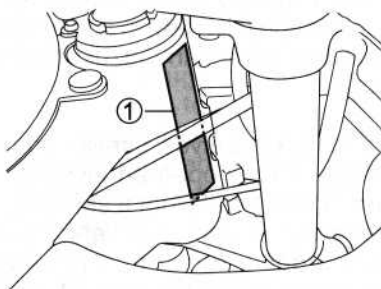
- Removing or puncturing the muffler, baffles, header pipes, screen type spark arrester (if equipped) or any other component which conducts exhaust gases.
- Replacing the exhaust system or muffler with a system or muffler not marked with the same model specific code as the code listed on the Motorcycle 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 cm ³ (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	2.088 (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 x 2
License plate light	12V 5W
Speedometer light	12V 1.7W x 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 cm ³ (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	2.088 (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 x 2
Position light	12V 5W
Turn signal light	12V 21W
Brake light/Taillight	12V 21/5W x 2
License plate light	12V 5W
Speedometer light	12V 0.84W x 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)

Prepared by

SUZUKI MOTOR CORPORATION

Motorcycle Service Department

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