# SUZUKI

# GSF600

# SERVICE MANUAL



99500-35044-01E

# FOREWORD

*This manual contains an introductory description on SUZUKI GSF600 and procedures for its inspection/service and overhaul of its main components.*

*Other information considered as generally known is not included.*

*Read GENERAL INFORMATION section to familiarize yourself with outline of the vehicle and MAINTENANCE and other sections to use as a guide for proper inspection and service.*

*This manual will help you know the vehicle better so that you can assure your customers of your optimum and quick service.*

* *This manual has been prepared on the basis of the latest specification at the time of publication.*
  *If modification has been made since then, difference may exist between the content of this manual and the actual vehicle.*
* *Illustrations in this manual are used to show the basic principles of operation and work procedures.*
  *They may not represent the actual vehicle exactly in detail.*
* *This manual is intended for those who have enough knowledge and skills for servicing SUZUKI vehicles. Without such knowledge and skills, you should not attempt servicing by relying on this manual only.*
  *Instead, please contact your nearby authorized SUZUKI motorcycle dealer.*

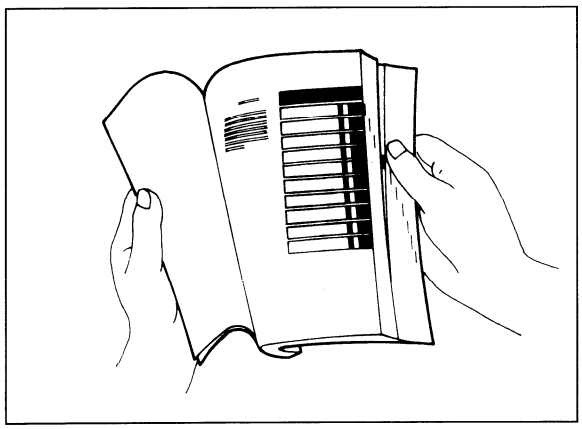
**SUZUKI MOTOR CORPORATION**
*Motorcycle Service Department*

# GROUP INDEX

# HOW TO USE THIS MANUAL

## TO LOCATE WHAT YOU ARE LOOKING FOR:

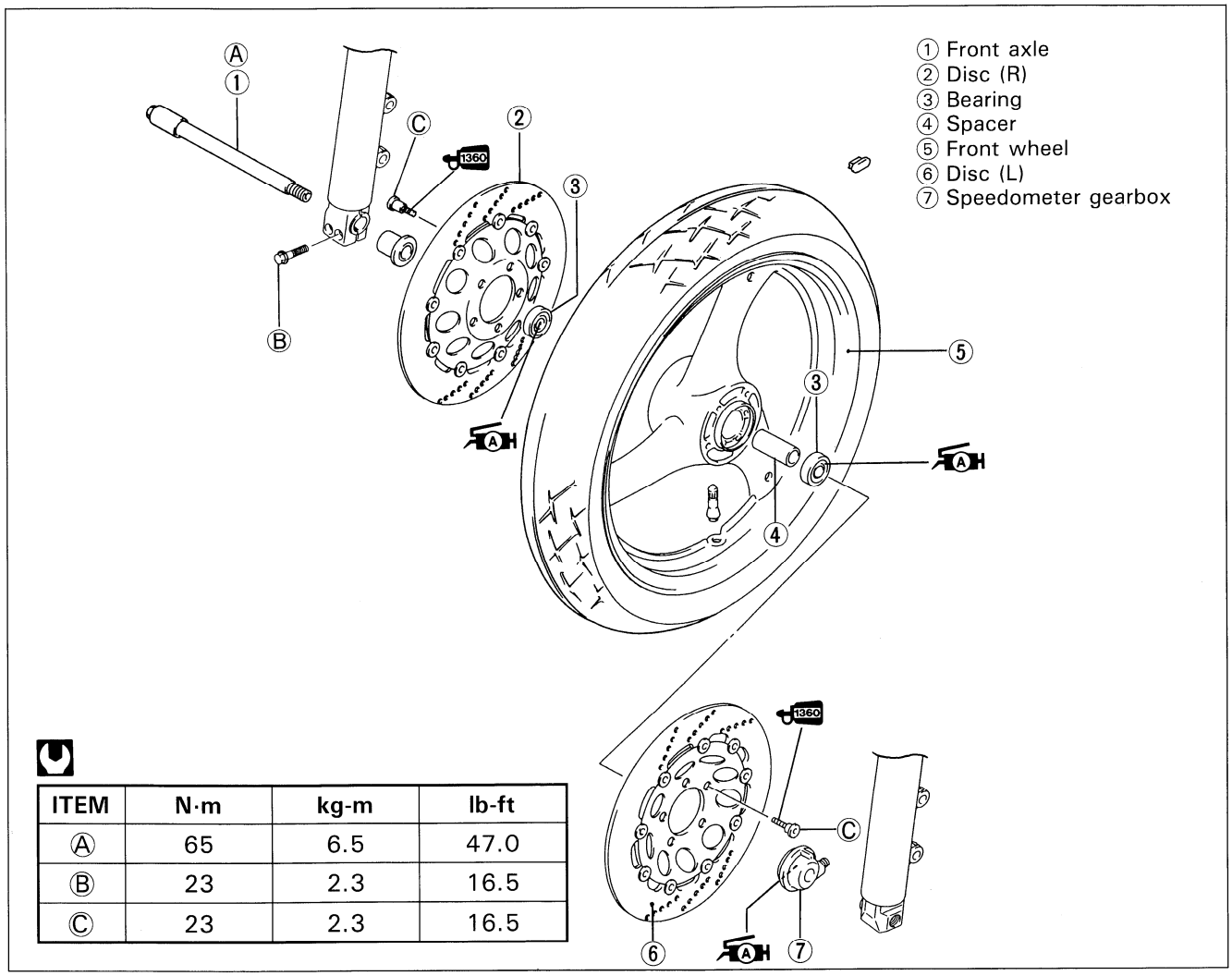
1. The text of this manual is divided into sections.
2. As the title of these sections are listed on the previous page as GROUP INDEX, select the section where what you are looking for belong.
3. Holding the manual as shown at the right will allow you to find the first page of the section easily.
4. On the first page of each section, its contents are listed. Find the item and page you need.



## COMPONENT PARTS AND WORK TO BE DONE

Under the name of each system or unit, its exploded view is provided with work instruction and other service information such as the tightening torque, lubricating points and locking agent points.

Example: Front wheel




| ITEM | N·m | kg-m | lb-ft |
|---|---|---|---|
| Ⓐ | 65 | 6.5 | 47.0 |
| Ⓑ | 23 | 2.3 | 16.5 |
| Ⓒ | 23 | 2.3 | 16.5 |

## SYMBOL

Listed in the table below are the symbols indicating instructions and other information necessary for servicing and meaning associated with them respectively.

| SYMBOL | DEFINITION | SYMBOL | DEFINITION |
|---|---|---|---|
|  | Torque control required.<br>Data beside it indicates specified torque. |  | Apply THREAD LOCK SUPER "1303".<br>99000-32030 |
|  | Apply oil. Use engine oil unless otherwise specified. |  | Use fork oil.<br>99000-99044-10G |
|  | Apply SUZUKI SUPER GREASE "A".<br>99000-25010 |  | Apply or use brake fluid. |
|  | Apply SUZUKI SILICONE GREASE.<br>99000-25100 |  | Measure in voltage range. |
|  | Apply SUZUKI MOLY PASTE.<br>99000-25140 |  | Measure in resistance range. |
|  | Apply SUZUKI BOND "1207B".<br>99000-31140 |  | Measure in current range. |
|  | Apply THREAD LOCK "1342".<br>99000-32050 |  | Use special tool. |
|  | Apply THREAD LOCK SUPER "1360".<br>99000-32130 | | |

# GENERAL INFORMATION

1

CONTENTS

# 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 vehicle damage.**

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

Please note, however, that the warnings and cautions contained in this manual cannot possibly cover all potential hazards relating to the servicing, or lack of servicing, of the motorcycle. In addition to the WARNINGS and CAUTIONS stated, you must use good judgement and basic mechanical safety principles. If you are unsure about how to perform a particular service operation, ask a more experienced mechanic for advice.

# GENERAL PRECAUTIONS

**⚠ WARNING**

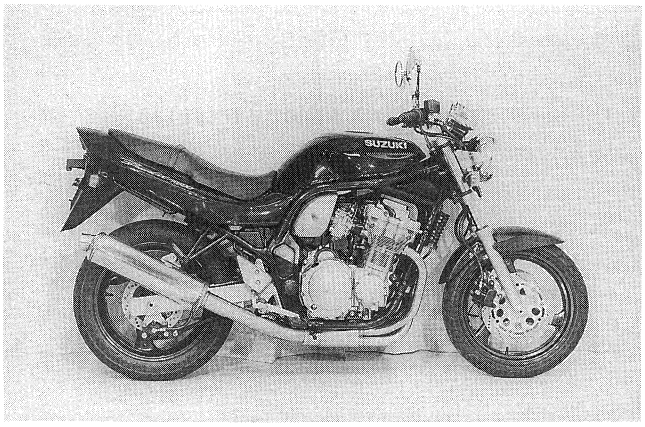
- **Proper service and repair procedures are important for the safety of the service mechanic and the safety and reliability of the vehicle.**
- **When 2 or more persons work together, pay attention to the safety of each other.**
- **When it is necessary to run the engine indoors, make sure that exhaust gas is forced outdoors.**
- **When working with toxic or flammable materials, make sure that the area you work in is well-ventilated and that you follow all of the material manufacturer's instructions.**
- **Never use gasoline as a cleaning solvent.**
- **To avoid getting burned, do not touch the engine, engine oil or exhaust system during or for a while after engine operation.**
- **After servicing fuel, oil, exhaust or brake systems, check all lines and fittings related to the system for leaks.**

**⚠ CAUTION**

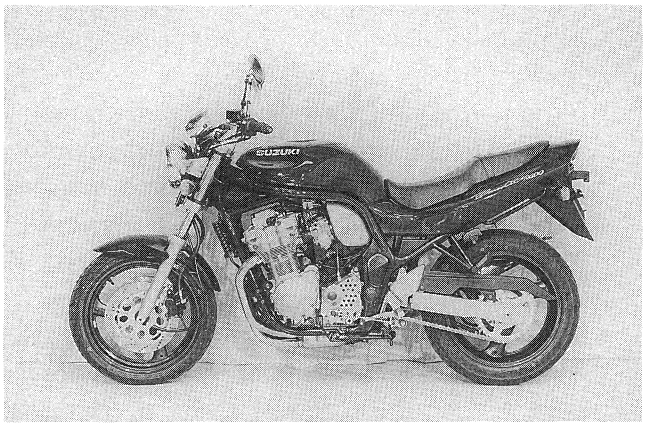
- If parts replacement is necessary, replace the parts with Suzuki Genuine Parts or their equivalent.
- When removing parts that are to be reused, keep them arranged in an orderly manner so that they may be reinstalled in the proper order and orientation.
- Be sure to use special tools when instructed.
- Make sure that all parts used in reassembly are clean, and also lubricated when specified.
- When use of a certain type of lubricant, bond, or sealant is specified, be sure to use the specified type.
- When removing the battery, disconnect the negative cable first and then the positive cable. When reconnecting the battery, connect the positive cable first and then the negative cable, and replace the terminal cover on the positive terminal.
- When performing service to electrical parts, if the service procedures not require use of battery power, disconnect the negative cable the battery.
- Tighten cylinder head and case bolts and nuts, beginning with larger diameter and ending with smaller diameter, from inside to outside diagonally, to the specified tightening torque.
- Whenever you remove oil seals, gaskets, packing, O-rings, locking washers, cotter pins, circlips, and certain other parts as specified, be sure to replace them with new ones. Also, before installing these new parts, be sure to remove any left over material from the mating surfaces.
- Never reuse a circlip. When installing a new circlip, take care not to expand the end gap larger than required to slip the circlip over the shaft. After installing a circlip, always ensure that it is completely seated in its groove and securely fitted.
- Do not use self-locking nuts a few times over.
- Use a torque wrench to tighten fastners to the torque values when specified. Wipe off grease or oil if a thread is smeared with them.
- After reassembly, check parts for tightness and operation.

- To protect environment, do not unlawfully dispose of used motor oil and other fluids: batteries, and tires.
- To protect Earth's natural resouces, properly dispose of used vehicles and parts.

# SUZUKI GSF600S ('95-MODEL)



RIGHT SIDE

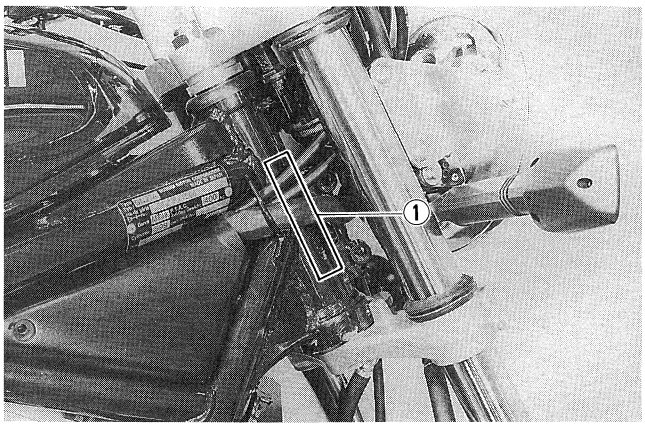


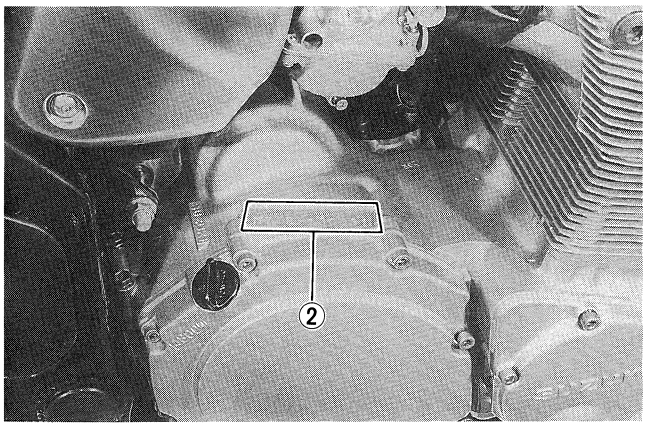
LEFT SIDE

*Difference between photographs and actual motorcycles depends on the markets.

# SERIAL NUMBER LOCATION

The frame serial number or V.I.N. (Vehicle Identification Number) ① is stamped on the right side of the steering head pipe. The engine serial number ② is located on the right side of the crankcase. These numbers are required especially for registering the machine and ordering spare parts.




# FUEL AND OIL RECOMMENDATION

## FUEL (For U.S.A. model)

1. Use only unleaded gasoline of at least 87 pump octane ($\frac{R+M}{2}$) method or 91 octane or higher rated by the research method.
2. Suzuki recommends that customers use alcohol free, unleaded gasoline whenever possible.
3. Use of blended gasoline containing MTBE (Methyl Tertiary Butyl Ether) is permitted.
4. Use of blended gasoline/alcohol fuel is permitted, provided that the fuel contains not more than 10% ethanol. Gasoline/alcohol fuel may contain up to 5% methanol if appropriate cosolvents and corrosion inhibitors are present in it.
5. If the performance of the vehicle is unsatisfactory while using blended gasoline/alcohol fuel, you should switch to alcohol-free unleaded gasoline.
6. Failure to follow these guideline could possibly void applicable warranty coverage. Check with your fuel supplier to make sure that the fuel you intend to use meets the requirements listed above.

## FUEL (For Canadian model)

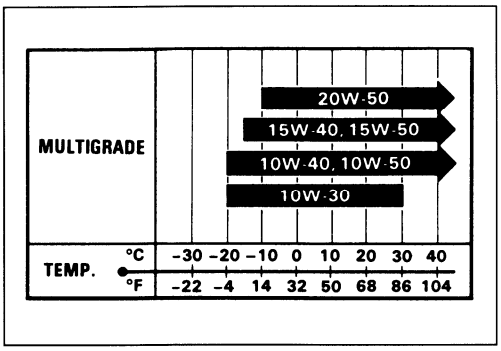
Use only unleaded gasoline of at least 87 pump octane ($\frac{R+M}{2}$) method or 91 octane or higher rated by the research method.

## FUEL (For the other models)

Gasoline used should be graded 85—95 octane (Research Method) or higher. An unleaded gasoline type is recommended.

## ENGINE OIL (For U.S.A. model)

SUZUKI recommends the use of SUZUKI PERFORMANCE 4 MOTOR OIL or an oil which is rated SE or SF under the API (American Petroleum Institute) classification system. The viscosity rating is SAE 10W/40. If an SAE 10W/40 motor oil is not available, select an alternate according to the right chart.




## ENGINE OIL (For the other models)

Make sure that the engine oil you use comes under API classification of SE or SF and that its viscosity rating is SAE 10W/40. If an SAE 10W/40 motor oil is not available, select an alternate according to the right chart.

## BRAKE FLUID

**Specification and classification: DOT 4**

**⚠ WARNING**

**Since the brake system of this motorcycle is filled with a glycol-based brake fluid by the manufacturer, do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise serious damage will result.**
**Do not use any brake fluid taken from old or used or unsealed containers.**
**Never re-use brake fluid left over from a previous servicing, which has been stored for a long period.**

## FRONT FORK OIL

Use fork oil # 10

# BREAK-IN PROCEDURES

During manufacture only the best possible materials are used and all machined parts are finished to a very high standard but it is still necessary to allow the moving parts to "BREAK-IN" before subjecting the engine to maximum stresses. The future performance and reliability of the engine depends on the care and restraint exercised during its early life. The general rules are as follows.

- Keep to these break-in engine speed limits:

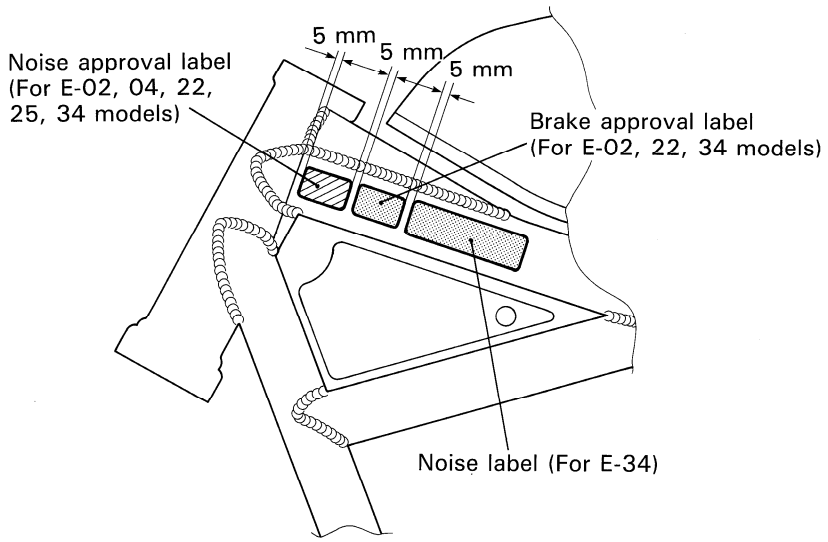
**Initial 800 km ( 500 miles): Below 6 000 r/min**
**Up to 1 600 km (1 000 miles): Below 9 000 r/min**
**Over 1 600 km (1 000 miles): Below 12 000 r/min**

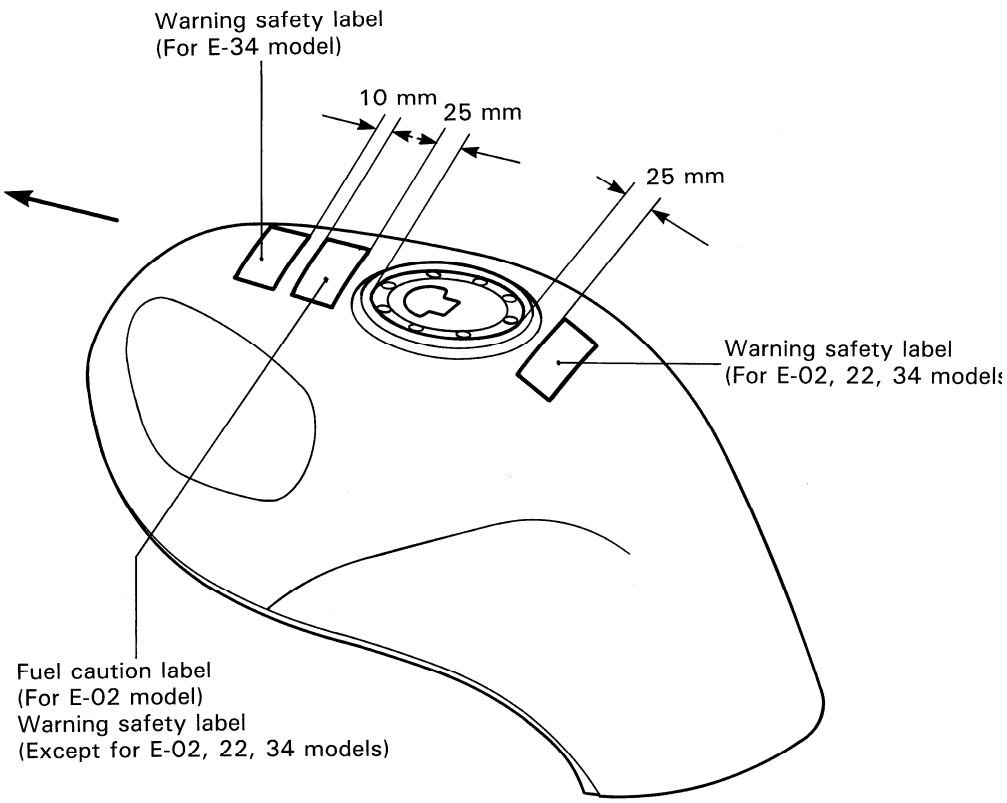
- Upon reaching an odometer reading of 1 600 km (1 000 miles) you can subject the motorcycle to full throttle operation. However, do not exceed 12 000 r/min at any time.

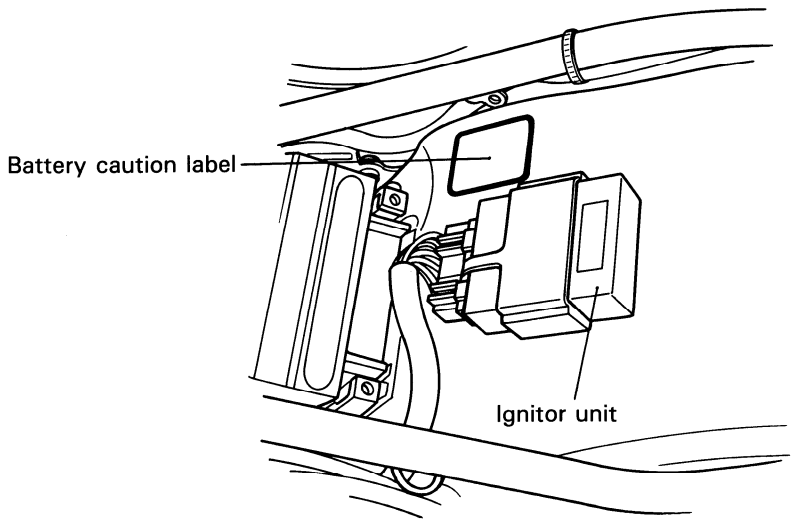
# CYLINDER IDENTIFICATION

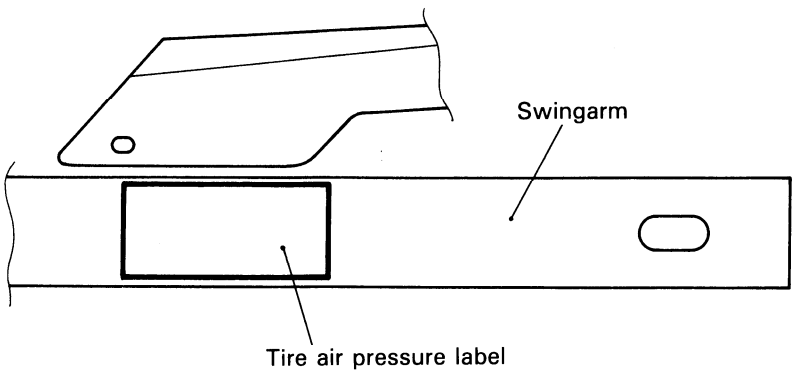
The four cylinders of this engine are identified as No.1, No.2, No.3 and No.4 cylinder, as counted from left to right (as viewed by the rider on the seat).

# INFORMATION LABELS




Battery caution label
Ignitor unit


Swingarm
Tire air pressure label

# SPECIFICATIONS

## DIMENSIONS AND DRY MASS

| | | |
|---|---|---|
| Overall length | 2 155 mm (84.8 in) | For E-15,16,17,22 |
| | 2 085 mm (82.0 in) | For the others |
| Overall width | 745 mm (29.3 in) | |
| Overall height | 1 100 mm (43.3 in) | |
| Wheelbase | 1 430 mm (56.2 in) | |
| Ground clearance | 125 mm ( 4.9 in) | |
| Seat height | 805 mm (31.6 in) | |
| Dry mass | 196 kg (432 lbs) | |

## ENGINE

| | |
|---|---|
| Type | Four-stroke, air-cooled, DOHC |
| Number of cylinders | 4 |
| Bore | 62.6 mm (2.464 in) |
| Stroke | 48.7 mm (1.917 in) |
| Piston displacement | 599 $cm^3$ (36.5 cu. in) |
| Carburetor | KEIHIN CVK32, four |
| Air cleaner | Non-woven fabric element |
| Starter system | Electric starter |
| Lubrication system | Wet sump |

## TRANSMISSION

| | |
|---|---|
| Clutch | Wet multi-plate type |
| Transmission | 6-speed constant mesh |
| Gearshift pattern | 1-down, 5-up |
| Primary reduction ratio | 1.744 (75/43) |
| Final reduction ratio | 3.133 (47/15) |
| Gear ratios, Low | 3.083 (37/12) |
| 2nd | 2.062 (33/16) |
| 3rd | 1.647 (28/17) |
| 4th | 1.400 (28/20) |
| 5th | 1.227 (27/22) |
| Top | 1.095 (23/21) |
| Drive chain | RK50MF0$Z_1$, 110 links |

## CHASSIS

| | |
|---|---|
| Front suspension | Telescopic, coil spring, oil damped |
| Rear suspension | Link type system, oil damped, coil spring, spring pre-load 7-way adjustable |
| Steering angle | 35° (right & left) |
| Caster | 64° 50′ |
| Trail | 100 mm (3.9 in) |
| Turning radius | 2.8 m (9.2 ft) |
| Front brake | Disc brake, twin |
| Rear brake | Disc brake |
| Front tire size | 110/70-17 54H |
| Rear tire size | 150/70-17 69H |
| Front fork stroke | 130 mm (5.1 in) |
| Rear wheel travel | 121 mm (4.8 in) |

## ELECTRICAL

| | |
|---|---|
| Ignition type | Electronic Ignition (Fully Transistorized) |
| Ignition timing | 4° B.T.D.C. at 1 500 r/min ... For E-18,39<br>13° B.T.D.C. at 1 500 r/min ... For the others |
| Spark plug | N.G.K.: CR9EK, NIPPONDENSO U27ETR |
| Battery | 12V 28.8 kC (8 Ah)/10 HR |
| Generator | Three-phase A.C. Generator |
| Main fuse | 30A |
| Fuse | 15/15/15/10/10A |
| Headlight | 12V 60/55W |
| Position light | 12V 4W |
| Turn signal light | 12V 21W |
| Tail/Brake light | 12V 5/21W |
| License plate light | 12V 5W |
| Speedometer light | 12V 1.7W x 2 |
| Tachometer light | 12V 1.7W x 2 |
| Neutral indicator light | 12V 3W |
| High beam indicator light | 12V 1.7W |
| Turn signal indicator light | 12V 3.4W |
| Oil pressure indicator light | 12V 3.4W |

## CAPACITIES

| | |
|---|---|
| Fuel tank, including reserve | 19.0 L (5.0/4.1 US/Imp gal) |
| reserve | 4.5 L (1.1/0.9 US/Imp gal) |
| Engine oil, oil change | 3 300 ml (3.4/2.9 US/Imp qt) |
| with filter change | 3 500 ml (3.6/3.0 US/Imp qt) |
| overhaul | 4 600 ml (4.9/4.0 US/Imp qt) |
| Front fork oil | 521 ml (17.6/18.3 US/Imp oz) |

These specifications are subject to change without notice.

# COUNTRY OR AREA

The series of symbols on the left stand for the countries or area on the right.

| SYMBOL | COUNTRY or AREA |
|---|---|
| E-02 | England |
| E-04 | France |
| E-15 | Finland |
| E-16 | Norway |
| E-17 | Sweden |
| E-18 | Switzerland |
| E-21 | Belgium |
| E-22 | Germany |
| E-24 | Australia |
| E-25 | Netherlands |
| E-28 | Canada |
| E-34 | Italy |
| E-39 | Austria |
| E-53 | Spain |

(E-15,16 and 17 countries are included in E-22.
E-21 and 53 countries are included in E-34.
E-39 countrie is included in E-18.)

# PERIODIC MAINTENANCE



CONTENTS

# PERIODIC MAINTENANCE SCHEDULE

The chart below lists the recommended intervals for all the required periodic service work necessary to keep the motorcycle operating at peak performance and economy. Mileages are expressed in terms of kilometer, miles and time for your convenience.

*NOTE:*
*More frequent servicing may be performed on motorcycles that are used under severe conditions.*

## PERIODIC MAINTENANCE CHART

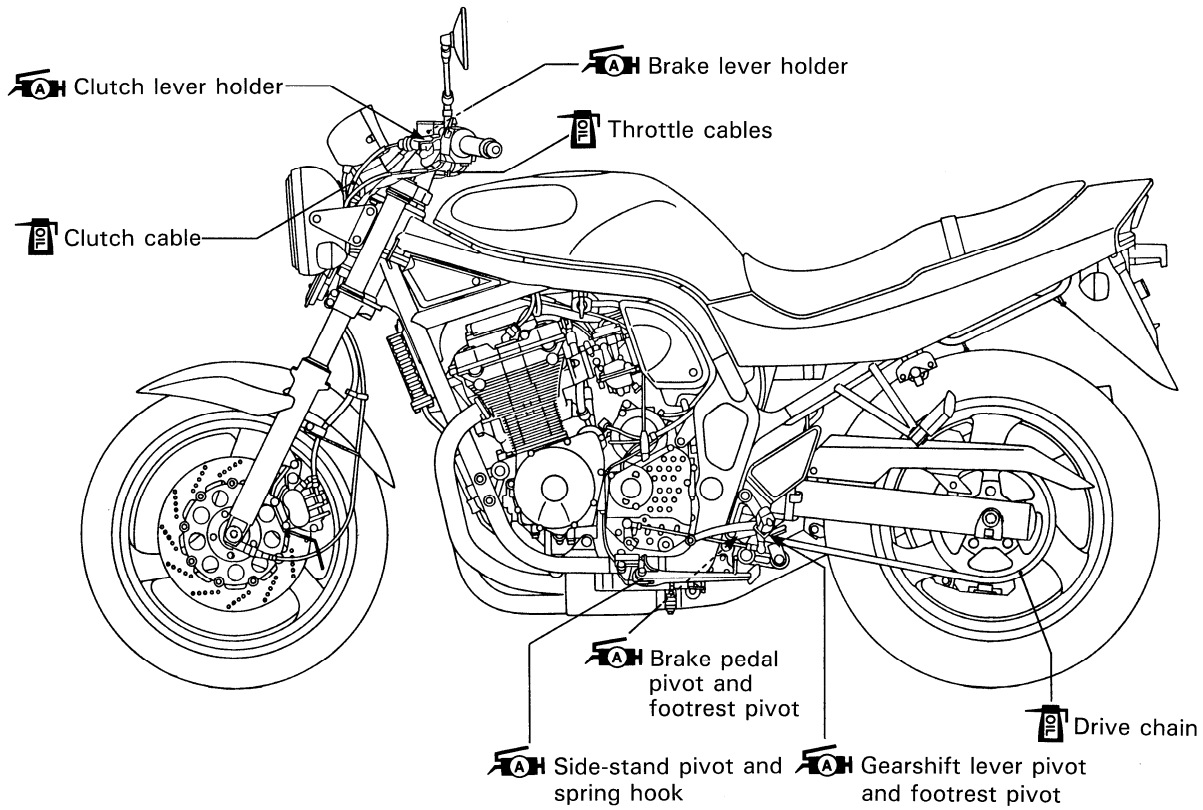
| Interval / Item | | | | | | |
|---|---|---|---|---|---|---|
| | km | 1 000 | 6 000 | 12 000 | 18 000 | 24 000 |
| | miles | 600 | 4 000 | 7 500 | 11 000 | 15 000 |
| | months | 2 | 12 | 24 | 36 | 48 |
| Cylinder head nuts & exhaust pipe bolts | | T | T | T | T | T |
| Valve clearance | | I | I | I | I | I |
| Air cleaner | | — | I | I | R | I |
| Spark plug | | — | I | R | I | R |
| Engine oil | | R | R | R | R | R |
| Engine oil filter | | R | — | R | — | R |
| Fuel line | | — | I | I | I | I |
| | | Replace every 4 years | | | | |
| Engine idle rpm (Carburetor) | | I | I | I | I | I |
| Throttle cable play (Carburetor) | | I | I | I | I | I |
| Clutch | | — | I | I | I | I |
| Drive chain | | I | I | I | I | I |
| | | Lubricate every 1 000 km (600 miles) | | | | |
| Brakes | | I | I | I | I | I |
| Brake hose | | — | I | I | I | I |
| | | Replace every 4 years | | | | |
| Brake fluid | | — | I | I | I | I |
| | | Replace every 2 years | | | | |
| Tire | | — | I | I | I | I |
| Steering | | I | — | I | — | I |
| Front fork | | — | — | I | — | I |
| Rear suspension | | — | — | I | — | I |
| Chassis bolts and nuts | | T | T | T | T | T |

*I = Inspection and adjust, clean, lubricate or replace as necessary*
*C = Clean  R = Replace  T = Tighten*

## LUBRICATION POINTS

Proper lubrication is important for smooth operation and long life of each working part of the motorcycle.

Major lubrication points are indicated below.




*NOTE:*

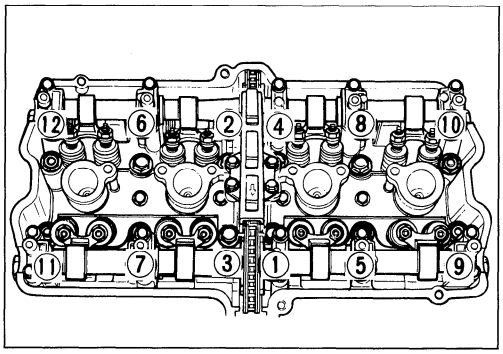
* *Before lubricating each part, clean off any rusty spots and wipe off any grease, oil, dirt or grime.*
* *Lubricate exposed parts which are subject to rust, with a rust preventative spray whenever the motorcycle has been operated under wet or rainy conditions.*

# MAINTENANCE AND TUNE-UP PROCEDURES

This section describes the servicing procedures for each item of the Periodic Maintenance requirements.

## CYLINDER HEAD NUTS AND EXHAUST PIPE BOLTS

**Tighten Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months).**

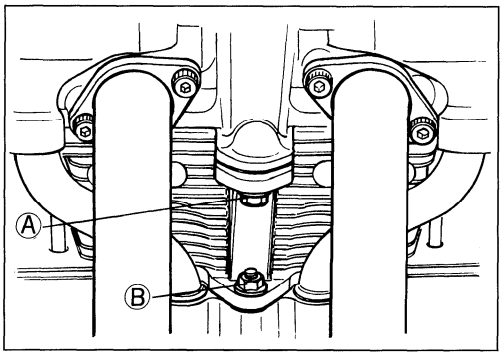



### CYLINDER HEAD

- Remove the seat and fuel tank.
- Remove the cylinder head cover.
- First loosen and retighten the nuts to the specified torque with a torque wrench sequentially in ascending numerical order with the engine cold.

**Cylinder head nut: 38 N·m (3.8 kg-m, 27.5 lb-ft)**

- After firmly tighten the cylinder head nuts, tighten the bolt and nut (Ⓐ and Ⓑ) to the specified torque.




**Cylinder head bolt Ⓐ : 10 N·m (1.0 kg-m, 7.0 lb-ft)**
**Cylinder nut Ⓑ : 9 N·m (0.9 kg-m, 6.5 lb-ft)**

- When installing the cylinder head cover, apply SUZUKI BOND NO. 1207B to the head cover groove and cam end caps. (Refer to page 3-63.)

**1207B 99000-31140: SUZUKI BOND NO. 1207B**

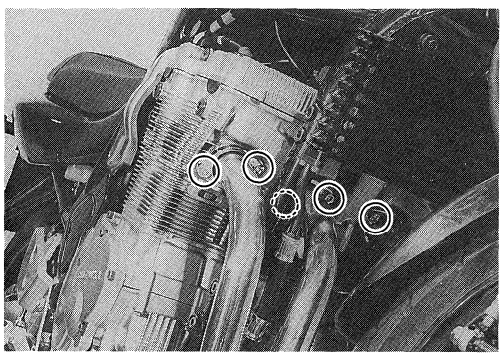
- Tighten the head cover bolts to the specified torque.

**Cylinder head cover bolt: 14 N·m (1.4 kg-m, 10.0 lb-ft)**

### EXHAUST PIPE

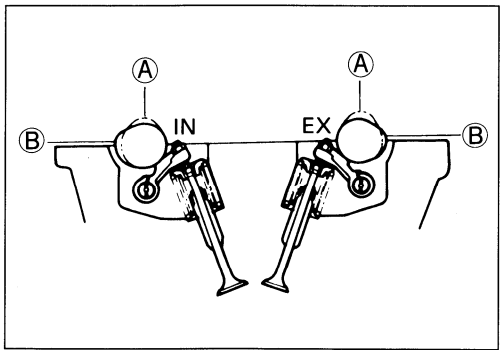
- Tighten the exhaust pipe clamp bolts to the specified torque.

**Exhaust pipe bolt: 23 N·m (2.3 kg-m, 16.5 lb-ft)**



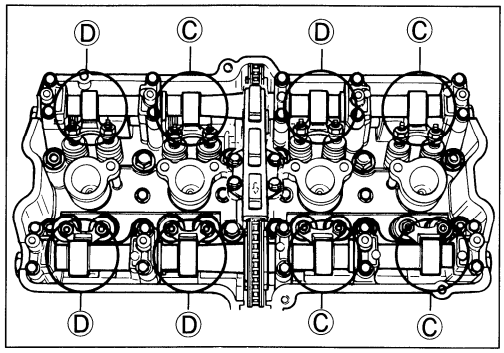
## VALVE CLEARANCE

**Inspect Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months).**

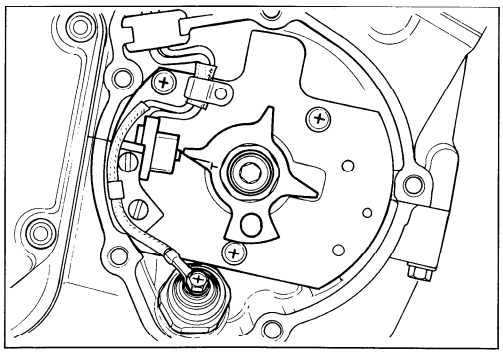



- Remove the seat and fuel tank.
- Remove the all spark plugs.
- Remove the cylinder head cover.

The valve clearance specification is different for both intake and exhaust valves.
Valve clearance adjustment must be checked and adjusted 1) at the time of periodic inspection, 2) when the valve mechanism is serviced, and 3) when the camshafts are disturbed by removing them for servicing.



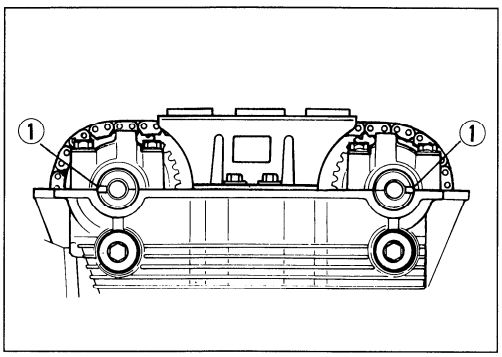

**Valve clearance (when cold):**
**IN. : 0.10—0.15 mm (0.004—0.006 in)**
**EX.: 0.18—0.23 mm (0.007—0.009 in)**



*NOTE:*

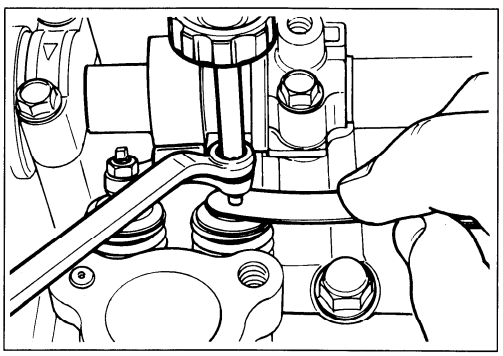
* *The cam must be at positions, Ⓐ or Ⓑ, in order to check the valve clearance or to adjust valve clearance. Clearance readings should not be taken with the cam in any other position than these two positions.*
* *The clearance specification is for COLD state.*
* *To turn the crankshaft for clearance checking, be sure to use a 19-mm wrench and rotate in the normal running direction. All spark plugs should be removed.*

- Turn crankshaft to bring the "T" mark on the rotor to the center of pick up coil and also to bring the notches ① in the right ends of both camshafts (Ex and In) to the positions shown. In this condition, read the valve clearance at the valves Ⓒ (In and Ex of No.1 cylinder, Ex of No.2 and In of No.3).

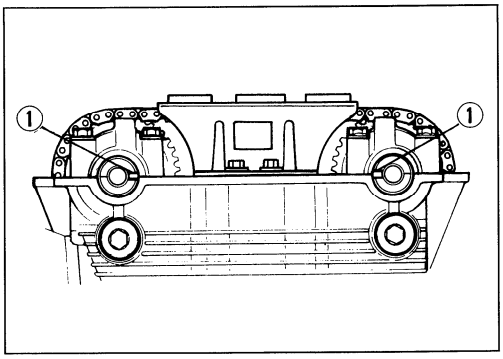



- Use thickness gauge between adjusting screw and valve stem end. If clearance is off the specification, bring it into the specified range by using the special tool.

**TOOL 09900-20803: Thickness gauge**
**09917-14910: Valve adjuster driver**



- Turn the crankshaft 360° (one rotation) to bring the "T" mark on the rotor to the center of pick up coil and also to bring the notches ① to the positions shown.
- Read the clearance at the remaining valves Ⓓ and adjust the clearance if necessary.




| Cam Position | Notch ① position | |
|---|---|---|
| | Intake Camshaft | Exhaust Camshaft |
| Ⓒ | ◐ | ◑ |
| Ⓓ | ◑ | ◐ |

- When installing the cylinder head cover, apply SUZUKI BOND NO.1207B to the head cover groove and cam end caps. (Refer to page 3-63.)

**1207B 99000-31140: SUZUKI BOND NO. 1207B**

- Tighten the cylinder head cover bolts to the specified torque.

**Cylinder head cover bolt: 14 N·m (1.4 kg-m, 10.0 lb-ft)**

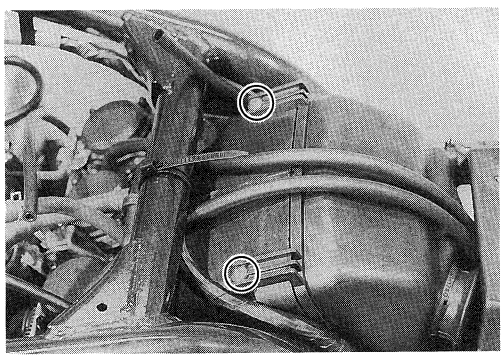
**⚠ CAUTION**

**Both the right and left valve clearances should be as closely as possible.**

## AIR CLEANER

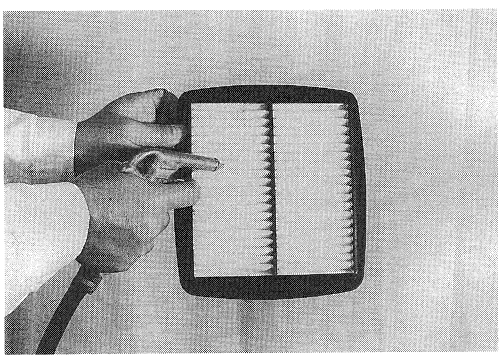
**Inspect Every 6 000 km (4 000 miles, 12 months) and Replace Every 18 000 km (11 000 miles, 36 months).**

- Remove the seat and fuel tank.
- Remove the air cleaner element by removing the screws.
- Carefully use air hose to blow the dust from the cleaner element.

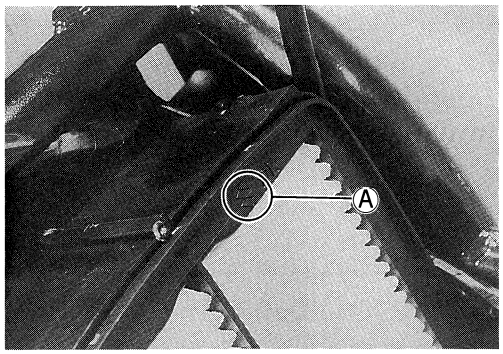


**⚠ CAUTION**

**Always use air pressure on the inside of the air cleaner element. If air pressure is used on the outside, dirt will be forced into the pores of the air cleaner element thus restricting air flow through the air cleaner element.**



- Reinstall the cleaned or new air cleaner element in the reverse order of removal.
- When installing the air cleaner element in the cleaner case, make sure that the ⏏ mark Ⓐ comes upward.




**⚠ CAUTION**

**If driving under dusty condition, clean the air cleaner element more frequently. The surest way to accelerate engine wear is to use the engine without the element or to use a ruptured element. Make sure that the air cleaner is in good condition at all times. Life of the engine depends largely on this component!**

*NOTE:*
*When you clean the air cleaner element, drain water from the air cleaner drain hose by removing the drain plug.*

## SPARK PLUG

**Inspect at 6 000 km (4 000 miles, 12 months), 18 000 km (11 000 miles, 36 months) and Replace Every 12 000 km (7 500 miles, 24 months).**

- Remove the seat and fuel tank.
- Remove all the spark plugs.

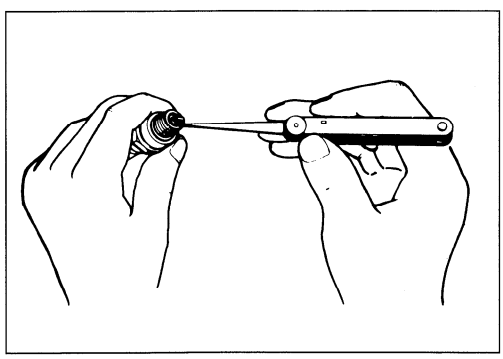
*NOTE:*
*If it is difficult to remove the spark plug cap, pry up it with a screwdriver.*

TOOL **09930-10121: Spark plug socket wrench set**
**09930-14530: Universal joint**
**09914-24510: T-handle**
**09900-20803: Thickness gauge**

| | Standard | Cold type | Hot type |
|---|---|---|---|
| NGK | CR9EK | CR10EK | CR8EK |
| ND | U27ETR | U31ETR | U24ETR |

### CARBON DEPOSIT

Check to see the carbon deposit on the plug.
If the carbon is deposited, remove it with a spark plug cleaner machine or carefully using a tool with a pointed end.

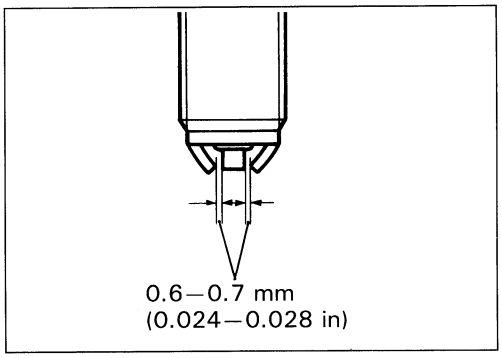


### SPARK PLUG GAP

Measure the plug gap with a thickness gauge if it is correct. If not, adjust it to the following gap.

| | Standard |
|---|---|
| Spark plug gap | 0.6—0.7 mm (0.024—0.028 in) |

**TOOL 09900-20803: Thickness gauge**




### ELECTRODE'S CONDITION

Check to see the worn or burnt condition of the electrodes. If it is extremely worn or burnt, replace the plug. And also replace the plug if it has a broken insulator, damaged thread, etc.

**⚠ CAUTION**

**Confirm the thread size and reach when replacing the plug. If the reach is too short, carbon will be deposited on the screw portion of the plug hole and engine damage may result.**

## ENGINE OIL AND OIL FILTER

**(ENGINE OIL)**
**Replace Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months) thereafter.**

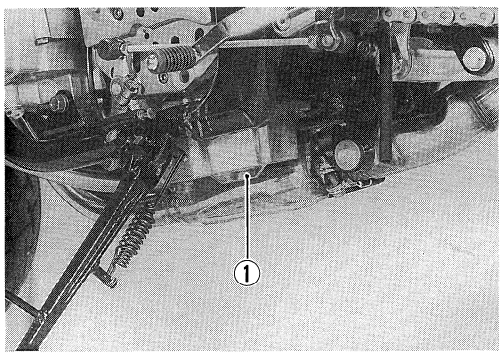
**(OIL FILTER)**
**Replace Initially at 1 000 km (600 miles, 2 months) and Every 12 000 km (7 500 miles, 24 months) thereafter.**

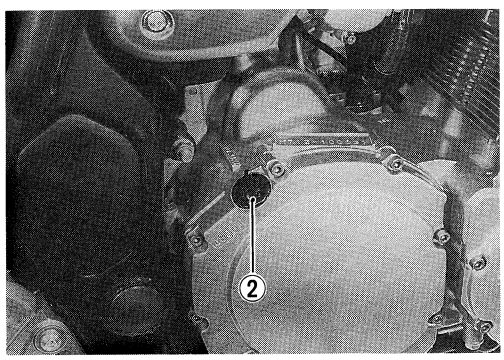
Oil should be changed while the engine is warm. Oil filter replacement at the above intervals, should be done together with the engine oil change.

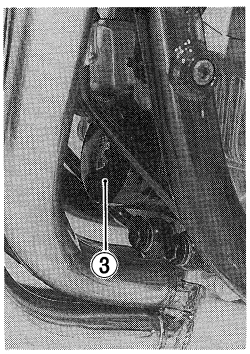
- Keep the motorcycle upright.
- Place an oil pan below the engine, and drain the oil by removing the drain plug ① and filler cap ② .
- Remove the oil filter ③ by using the special tool.
- Apply engine oil lightly to the gasket of the new filter before installation.
- Install the new filter turning it by hand until you feel that the filter gasket contacts the mounting surface. Then tighten it 2 turns using the special tool.

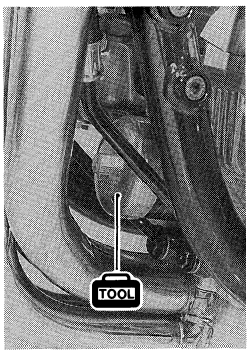
**TOOL 09915-40610: Oil filter wrench**

*NOTE:*
*To properly tighten the filter, use the special tool. Never tighten the filter by hand.*

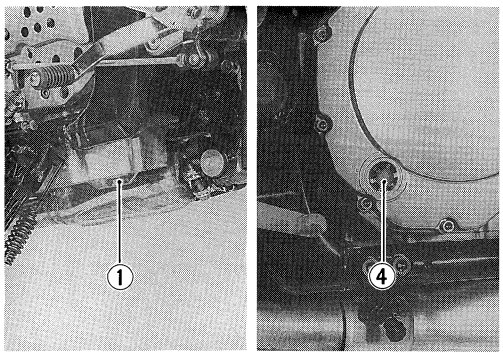


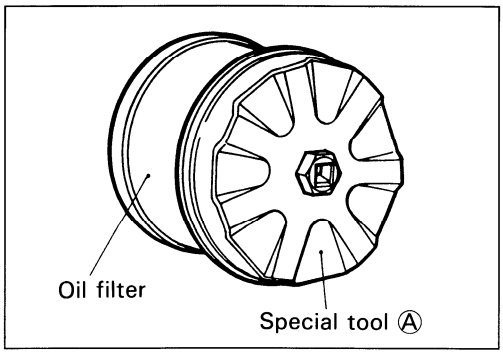
- Fit the drain plug ① securely, and pour fresh oil through the oil filler. The engine will hold about 3.3 L of oil. Use an API classification of SE or SF oil with SAE 10W/40 viscosity.
- Start up the engine and allow it to run for several seconds at idling speed.
- Turn off the engine and wait about one minute, then check the oil level through the inspection window ④ . If the level is below mark ''F'', add oil to that level.

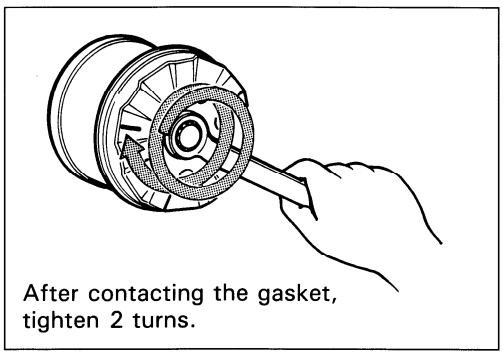



**NECESSARY AMOUNT OF ENGINE OIL**
**Oil change: 3.3 L (3.4/2.9 US/Imp qt)**
**Filter change: 3.5 L (3.6/3.0 US/Imp qt)**
**Overhaul engine: 4.6 L (4.9/4.0 US/Imp qt)**

**⚠ CAUTION**

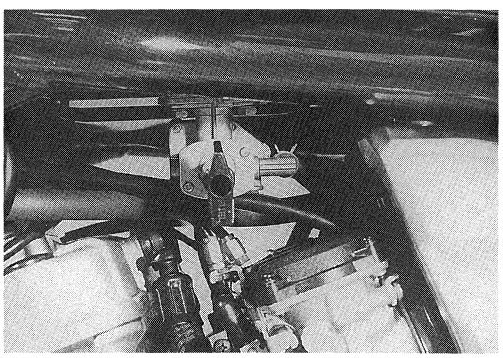
**Use SUZUKI MOTORCYCLE GENUINE OIL FILTER only, since the other make's genuine filters and after-market parts may differ in thread specifications (thread diameter and pitch), filtering performance and durability, which could cause engine damage or oil leaks. Suzuki automobile genuine oil filter is also not usable for the motorcycles.**



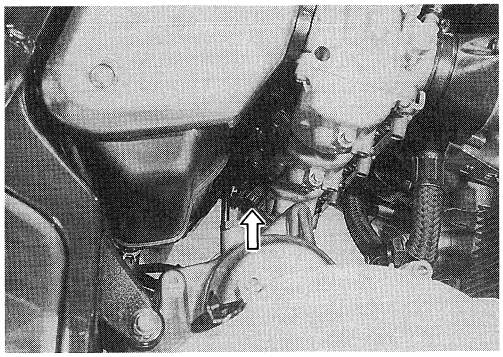




## FUEL LINE

**Inspect Every 6 000 km (4 000 miles, 12 months).**
**Replace Every 4 years.**



# CARBURETOR



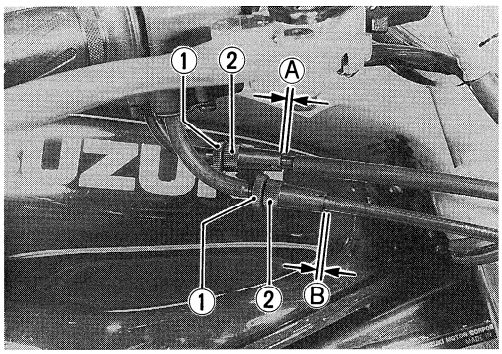
## IDLE RPM (Idling adjustment)

**Inspect Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months) thereafter.**

*NOTE:*
*Make this adjustment when the engine is hot.*

- Connect a tachometer.
- Start up the engine and set its speed at anywhere between 1 100 and 1 300 r/min by turning throttle stop screw.

**Engine idle speed: 1 200 $^{+100}_{-50}$ r/min ... For E-18,39**
**1 200 ± 100 r/min ... For the others**




## THROTTLE CABLE PLAY ADJUSTMENT

To adjust the cable play, adjust the returning cable first and then adjust the pulling cable.

### Returning cable play Ⓐ

The returning cable play Ⓐshould be zero. Adjust the throttle cable play with the following procedures.

- Loosen the lock nut ① and turn the adjuster ② in or out until the specified play is obtained.
- Tighten the lock nut ① while holding the adjuster.

### Pulling cable play Ⓑ

There should be 0.5—1.0 mm (0.02—0.04 in) play Ⓑin the throttle cable. Adjust the throttle cable play in the same manner as the returning cable play adjustment.

**Throttle cable play Ⓐ: Zero mm**
**Ⓑ: 0.5—1.0 mm (0.02—0.04 in)**

**⚠WARNING**

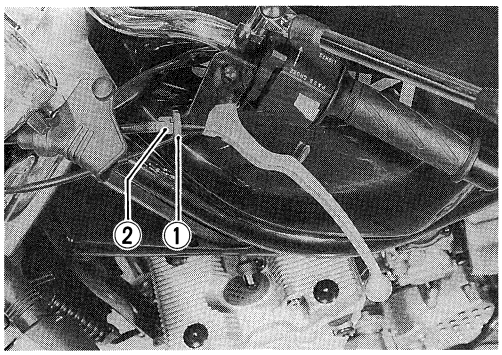
**After the adjustment is completed, check that handlebar movement does not raise the engine idle speed and that the throttle grip returns smoothly and automatically.**

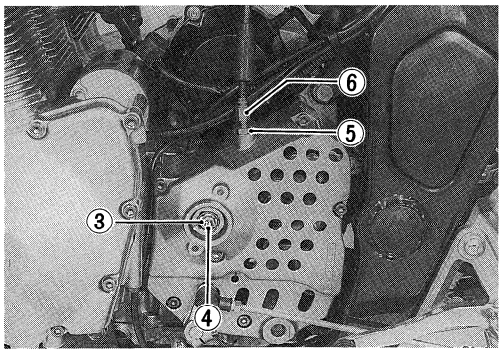
## CLUTCH

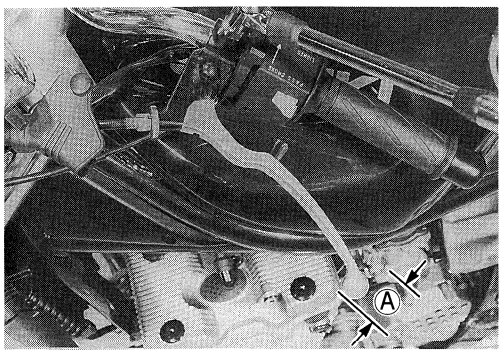
**Inspect Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months).**

- Loosen the lock nut ① and turn in the adjuster ② all the way into the clutch lever assembly.
- Remove the clutch release cover.
- Loosen the lock nut ③ and turn out the adjusting screw ④ two or three rotations.
- From that position, slowly turn in the adjusting screw ④ to feel resistance.
- From this position, turn out the adjusting screw ④ 1/4 — 1/2 rotation, and tighten the lock nut ③.
- Loosen the lock nut ⑤, and turn the cable adjuster ⑥ to obtain 10—15 mm (0.4—0.6 in) of free play Ⓐ at the clutch lever end.
- Tighten the lock nuts (⑤ and ③).

**Clatch lever play Ⓐ: 10—15 mm (0.4—0.6 in)**




## DRIVE CHAIN

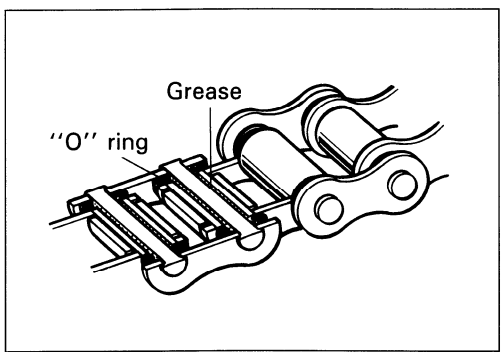
**Inspect Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months) thereafter. Lubricate Every 1 000 km (600 miles).**

Visually check the drive chain for the possible defects listed below. (Support the motorcycle by a jack and a wooden block, turn the rear wheel slowly by hand with the transmission shifted to Neutral.)

* Loose pins
* Damaged rollers
* Dry or rusted links
* Kinked or binding links
* Excessive wear
* Improper chain adjustment
* Missing O-ring seals

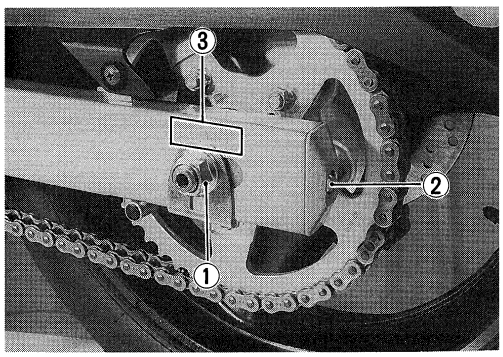
If any defects are found, the drive chain must be replaced.

*NOTE:*
*When replacing the drive chain, replace the drive chain and sprockets as a set.*



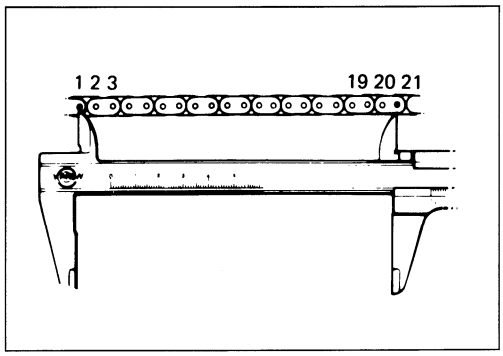
### CHECKING

- Loosen the axle nut ① .
- Tense the drive chain fully by turning both chain adjuster bolts ② .




- Count out 21 pins (20 pitches) on the chain and measure the distance between the two points. If the distance exceeds the service limit, the chain must be replaced.

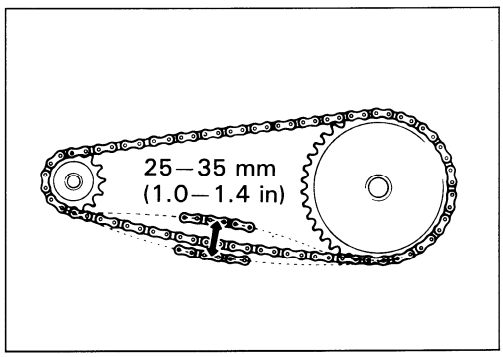
| | Service Limit |
|---|---|
| Drive chain 20-pitch length | 319.4 mm (12.6 in) |




### ADJUSTING

- Loosen or tighten both chain adjuster bolts ② until the chain has 25—35 mm (1.0—1.4 in) of slack in the middle between engine and rear sprockets. The mark ③ on both chain adjusters must be at the same position on the scale to ensure that the front and rear wheels are correctly aligned.
- Place the motorcycle on its side-stand for accurate adjustment.
- After adjusting the drive chain, tighten the axle nut ① to the specified torque.
- Tighten both chain adjuster bolts ② securely.

**Rear axle nut: 100 N·m (10.0 kg-m, 72.5 lb-ft)**

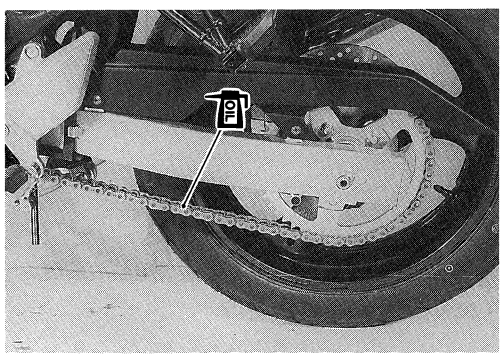



### CLEANING AND LUBRICATING

- Wash the chain with kerosene. If the chain tends to rust quickly, the intervals must be shortened.

**⚠ CAUTION**

**Do not use trichlene, gasoline or any similar fluids: These fluids have too great a dissolving power for this chain and, what is more important, they can damage the "O"-rings (or seals) confining the grease in the bush to pin clearance. Remember, high durability comes from the presence of grease in that clearance.**



- After washing and drying the chain, oil it with a heavy-weight motor oil.

**⚠ CAUTION**

*** Do not use any oil sold commercially as "drive chain oil". Such oil can damage the "O"-rings (or seals).**
*** The standard drive chain is RK50MF0Z1. SUZUKI recommends that this standard drive chain should be used for the replacement.**

## BRAKE

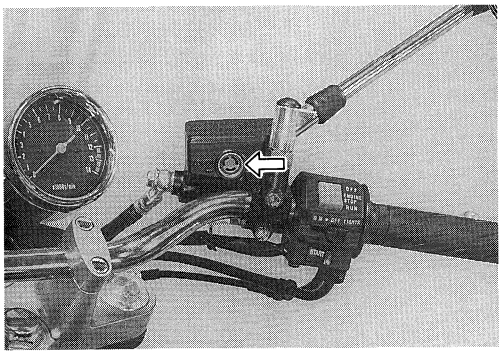
**(BRAKE)**
**Inspect Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months) thereafter.**

**(BRAKE HOSE AND BRAKE FLUID)**
**Inspect Every 6 000 km (4 000 miles, 12 months). Replace hoses Every 4 years. Replace fluid Every 2 years.**

### BRAKE FLUID LEVEL

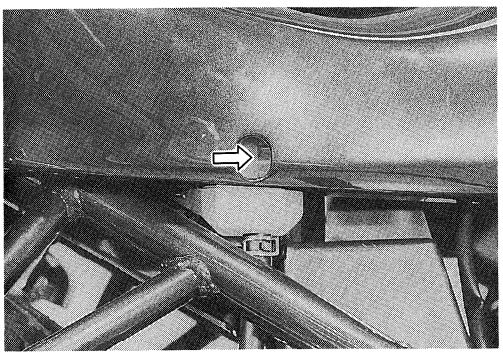
- Keep the motorcycle upright and place the handlebars straight.
- Check the brake fluid level by observing the lower limit lines on the front and rear brake fluid reservoirs.
- When the level is below the lower limit line, replenish with brake fluid that meets the following specification.

**BF Specification and Classification: DOT 4**



**⚠ WARNING**

**The brake system of this motorcycle is filled with a glycol-based brake fluid. Do not use or mix different types of fluid such as silicone-based or petroleum-based. Do not use any brake fluid taken from old, used or unsealed containers. Never re-use brake fluid left over from the last servicing or stored for a long period.**

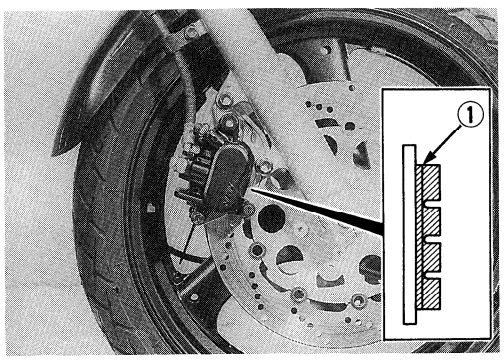


**⚠ WARNING**

**Brake fluid, if it leaks, will interfere with safe running and immediately discolor painted surfaces. Check the brake hoses and hose joints for cracks and oil leakage before riding.**

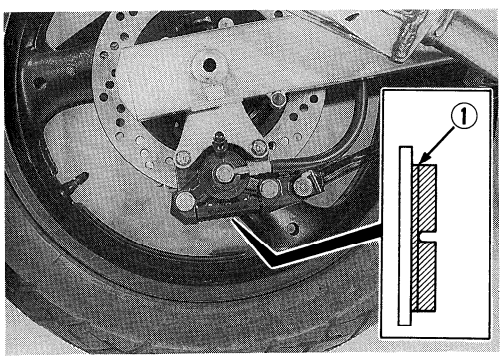
### BRAKE PADS

The extent of brake pad wear can be checked by observing the grooved limit line ① on the pad. When the wear exceeds the grooved limit line, replace the pads with new ones. (Refer to pages 5-14 and 5-40.)

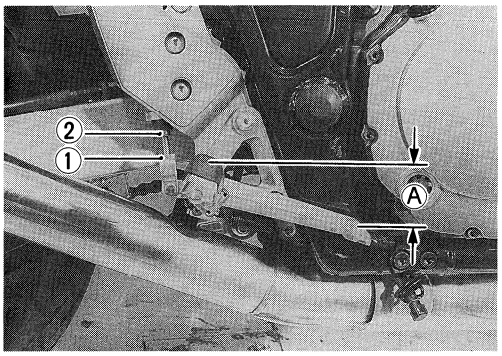



**⚠ CAUTION**

**Replace the brake pad as a set, otherwise braking performance will be adversely affected.**



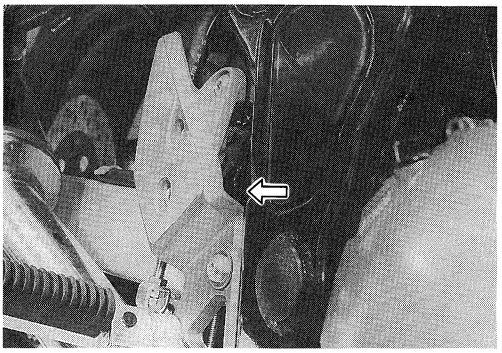
## BRAKE PEDAL HEIGHT



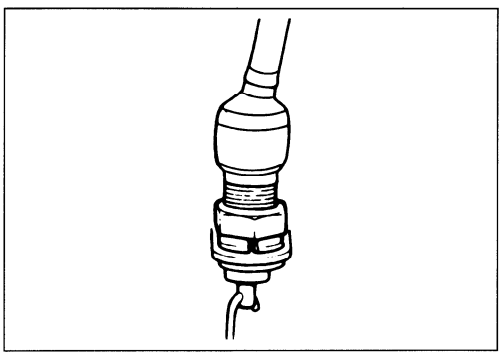

- Loosen the lock nut ① and rotate the push rod ② to locate brake pedal 45 mm (1.8 in) Ⓐ below the top face of the footrest.
- Retighten the lock nut ① to secure the push rod ② in the proper position.

**Brake pedal height Ⓐ: 45 mm (1.8 in)**

## BRAKE LIGHT SWITCH



Adjust the rear brake light switch so that the brake light will come on just before pressure is felt when the brake pedal is depressed.



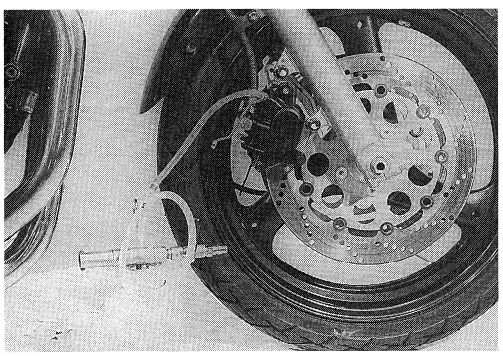
### AIR BLEEDING THE BRAKE FLUID CIRCUIT

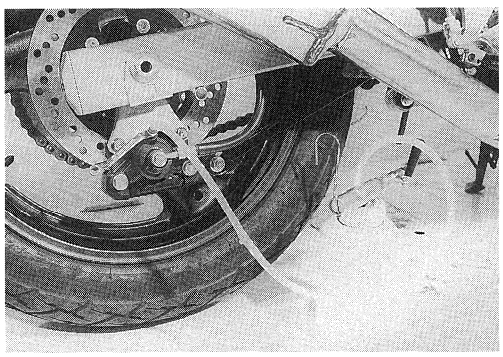
Air trapped in the fluid circuit acts like a cushion to absorb a large proportion of the pressure developed by the master cylinder and thus interferes with the full braking performance of the brake caliper. The presence of air is indicated by ''sponginess'' of the brake lever and also by lack of braking force. Considering the danger to which such trapped air exposes the machine and rider, it is essential that, after remounting the brake and restoring the brake system to the normal condition, the brake fluid circuit be purged of air in the following manner:

- Fill up the master cylinder reservoir to the ''UPPER'' line. Replace the reservoir cap to prevent entry of dirt.
- Attach a pipe to the caliper bleeder valve, and insert the free end of the pipe into a receptacle.

**Air bleeder valve: 8 N·m (0.8 kg-m, 6.0 lb-ft)**

- Front brake: Bleed the air from the air bleeder valve.
- Squeeze and release the brake lever several times in rapid succession and squeeze the lever fully without releasing it. Loosen the bleeder valve by turning it a quarter of a turn so that the brake fluid runs into the receptacle; this will remove the tension of the brake lever causing it to touch the handlebar grip. Then, close the valve, pump and squeeze the lever, and open the valve. Repeat this process until the fluid flowing into the receptacle no longer contains air bubbles.





*NOTE:*
*Replenish the brake fluid in the reservoir as necessary while bleeding the brake system. Make sure that there is always some fluid visible in the reservoir.*

- Close the bleeder valve, and disconnect the pipe. Fill the reservoir with brake fluid to the ''UPPER'' end of the inspection window.

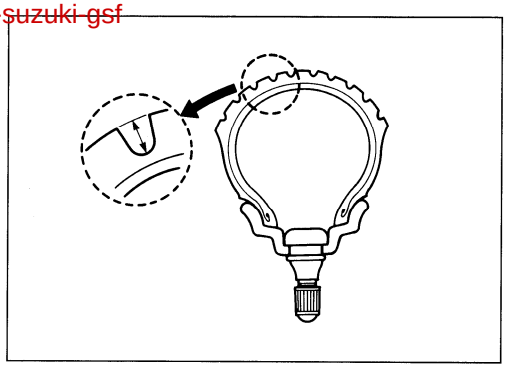
**⚠ CAUTION**

**Handle brake fluid with care: the fluid reacts chemically with paint, plastics, rubber materials etc.**

- The only difference between bleeding the front and rear brakes is that the rear master cylinder is actuated by a pedal.

## TIRE

**Inspect Every 6 000 km (4 000 miles, 12 months).**



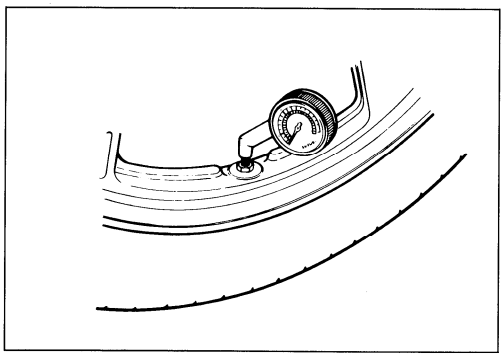
### TIRE TREAD CONDITION

Operating the motorcycle with excessively worn tires will decrease riding stability and consequently invite a dangerous situation. It is highly recommended to replace a tire when the remaining depth of tire tread reaches the following specification.

**Tire tread depth limit: FRONT 1.6 mm (0.06 in)**
**REAR 2.0 mm (0.08 in)**

### TIRE PRESSURE

If the tire pressure is too high or too low, steering will be adversely affected and tire wear increased. Therefore, maintain the correct tire pressure for good roadability or shorter tire life will result. Cold inflation tire pressure is as follows.



| COLD INFLATION TIRE PRESSURE | SOLO RIDING | | | DUAL RIDING | | |
|---|---|---|---|---|---|---|
| | kPa | kg/cm² | psi | kPa | kg/cm² | psi |
| FRONT | 225 | 2.25 | 33 | 225 | 2.25 | 33 |
| REAR | 250 | 2.50 | 36 | 250 | 2.50 | 36 |

**⚠ CAUTION**

**The standard tire fitted on this motorcycle is 110/70-17 for front (BRIDGESTONE G601G) and 150/70-17 for rear (BRIDGESTONE G602). The use of tires other than those specified may cause instability. It is highly recommended to use a SUZUKI Genuine Tire.**