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**SUZUKI**

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**GSX600F**

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**SERVICE MANUAL**

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## FOREWORD

This manual contains an introductory description on the SUZUKI GSX600F and procedures for its inspection/service and overhaul of its main components.

Other information considered as generally known is not included.

Read the GENERAL INFORMATION section to familiarize yourself with the motorcycle and its maintenance. Use this section as well as other sections as a guide for proper inspection and service.

This manual will help you know the motorcycle better so that you can assure your customers of fast and reliable service.

- \* This manual has been prepared on the basis of the latest specifications at the time of publication. If modifications have been made since then, differences may exist between the content of this manual and the actual motorcycle.
- \* Illustrations in this manual are used to show the basic principles of operation and work procedures. They may not represent the actual motorcycle exactly in detail.
- \* This manual is written for persons who have enough knowledge, skills and tools, including special tools, for servicing SUZUKI motorcycles. If you do not have the proper knowledge and tools, ask your authorized SUZUKI motorcycle dealer to help you.

### ⚠ WARNING

Inexperienced mechanics or mechanics without the proper tools and equipment may not be able to properly perform the services described in this manual. Improper repair may result in injury to the mechanic and may render the motorcycle unsafe for the rider and passenger.

## IMPORTANT

All street-legal Suzuki motorcycles with engine displacement of 50cc or greater are subject to Environmental Protection Agency (EPA) emission regulations. These regulations set specific standards for exhaust emission output levels as well as particular servicing requirements. This manual includes specific information required to properly inspect and service the GSX600F in accordance with all EPA regulations. It is strongly recommended that the chapter on Emission Control, Periodic Servicing and Carburetion be thoroughly reviewed before any type of service work is performed.

Further information concerning the EPA emission regulations and U.S. Suzuki's emission control program can be found in the U.S. SUZUKI EMISSION CONTROL PROGRAM MANUAL SERVICE BULLETIN.

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**GSX600FX/Y ('99/'00-MODEL)**

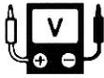
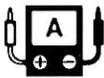
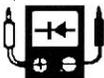
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**GSX600FK1 ('01-MODEL)**

**10**

## SYMBOL

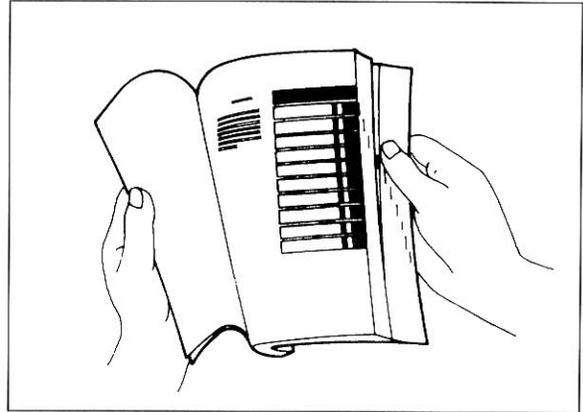
Listed in the table below are the symbols indicating instructions and other information necessary for servicing. The meaning of each symbol is also included in the table.

SYMBOL	DEFINITION	SYMBOL	DEFINITION
	Torque control required. Data beside it indicates specified torque.		Apply THREAD LOCK SUPER "1303". 99000-32030
	Apply oil. Use engine oil unless otherwise specified.		Use fork oil. 99000-99044-10G
	Apply SUZUKI SUPER GREASE "A". 99000-25030 (for USA) 99000-25010 (for the other countries)		Apply or use brake fluid.
	Apply SUZUKI SILICONE GREASE. 99000-25100		Measure in voltage range.
	Apply SUZUKI MOLY PASTE. 99000-25140		Measure in current range.
	Apply SUZUKI BOND "1207B". 99104-31140 (for USA)		Measure in diode test range
	Apply SUZUKI BOND "1215". 99000-31110 (Except USA)		Measure in continuity test range.
	Apply THREAD LOCK "1342". 99000-32050		Use special tool.
	Apply THREAD LOCK SUPER "1360". 99000-32130		

# HOW TO USE THIS MANUAL

## TO LOCATE WHAT YOU ARE LOOKING FOR:

1. The text of this manual is divided into sections.
2. The section titles are listed in the GROUP INDEX.
3. Holding the manual as shown at the right will allow you to find the first page of the section easily.
4. The contents are listed on the first page of each section to help you find the item and page you need.



## COMPONENT PARTS AND WORK TO BE DONE

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

Example: Front wheel

① Washer  
 ② Collar  
 ③ Brake disc (R)  
 ④ Bearing (R)  
 ⑤ Spacer  
 ⑥ Bearing (L)  
 ⑦ Brake disc (L)  
 ⑧ Collar  
 ⑨ Collar  
 ⑩ Front axle  
 ⑪ Front wheel  
 ⑫ Air valve  
 ⑬ Balancer

A Axle nut  
 B Brake disc bolt  
 C Front axle pinch bolt

ITEM	N•m	kg-m	lb-ft
Ⓐ	44	4.4	32.0
Ⓑ	23	2.3	16.5
Ⓒ	23	2.3	16.5

# GENERAL INFORMATION

1

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## WARNING/CAUTION/NOTE

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

### **⚠ WARNING**

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

### **⚠ CAUTION**

Indicates a potential hazard that could result in motorcycle damage.

### *NOTE:*

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

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 motorcycle.
- \* When two 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 manufacturer's instructions.
- \* Never use gasoline as a cleaning solvent.
- \* To avoid getting burned, do not touch the engine, engine oil, and exhaust system until they have cooled.
- \* After servicing the fuel, oil, exhaust or brake systems, check all of the 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.
  - \* Be sure to use special tools when instructed.
  - \* Make sure that all parts used in reassembly are clean. Lubricate them when specified.
  - \* Use the specified lubricant, bond, or sealant.
  - \* 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 cover the positive terminal with the terminal cover.
  - \* When performing service to electrical parts, disconnect the battery negative cable unless the service procedure requires the battery power.
  - \* When tightening cylinder head and crankcase bolts and nuts, tighten the larger sizes first. Always tighten the bolts and nuts from the inside working out, in a crisscross pattern and to the specified tightening torque.
  - \* Whenever you remove oil seals, gaskets, packing, O-rings, self-locking nuts, 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.
  - \* Use a torque wrench to tighten fasteners to the specified torque. Wipe off grease and oil if a thread is smeared with them.
  - \* After reassembling, check parts for tightness and proper operation.
- 
- \* To protect the environment, do not unlawfully dispose of used motor oil and all other fluids, batteries and tires.
  - \* To protect the earth's natural resources, properly dispose of used motorcycles and parts.

## SUZUKI GSX600FW ('98-MODEL)



RIGHT SIDE

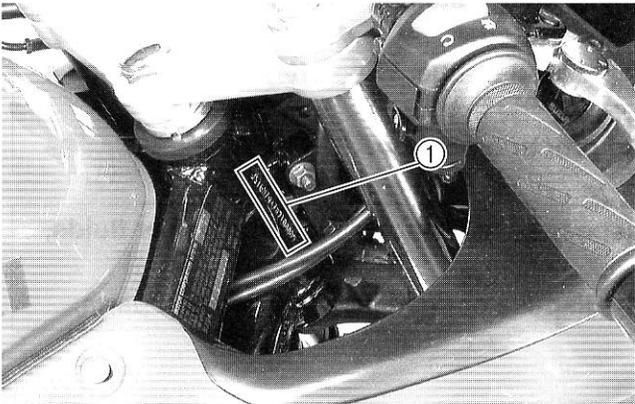


LEFT SIDE

\* Difference between photographs and the actual motorcycle 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.

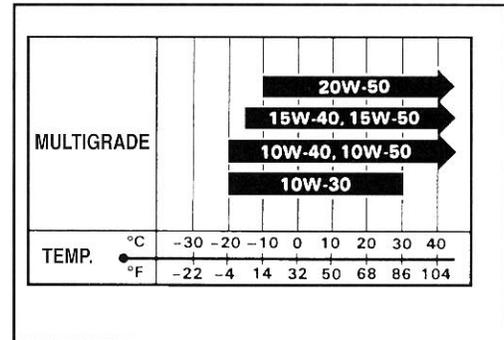


## FUEL AND OIL RECOMMENDATION

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.

## ENGINE OIL

SUZUKI recommends the use of SUZUKI PERFORMANCE 4 MOTOR OIL or an oil which is rated SF or SG under the API (America Petroleum Institute) service classification. The recommended viscosity is SAE 10W/40. If an SAE 10W/40 oil is not available, select an alternative according to the right chart.



## BRAKE FLUID

Use DOT 4 brake fluid.

### ⚠ WARNING

This motorcycle uses a glycol-based brake fluid. Do not use or mix different types of brake fluid such as silicone-based and petroleum-based fluids for refilling the system, otherwise serious damage will result to the brake system.

Never use any brake fluid taken from old, used or unsealed containers.

Never re-use brake fluid left over from the last servicing or which has been stored for a long period of time.

## FRONT FORK OIL

Use fork oil #10

## BREAK-IN PROCEDURES

During manufacturing only the best possible materials are used and all machined parts are finished to a very high standard. 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. Refer to the following break-in engine speed recommendations.

- Keep to these brake-in engine speed limits.

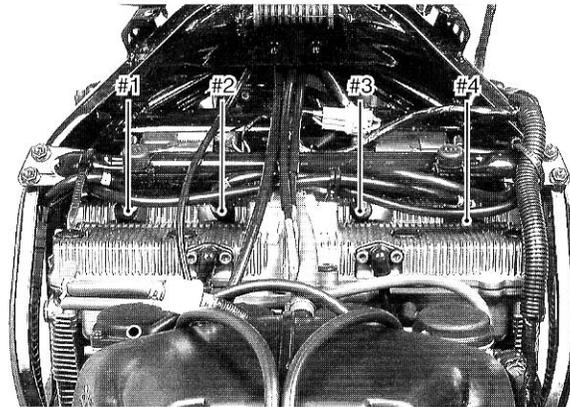
### Break-in engine speeds

Initial 800 km ( 500 miles): Below 5 500 r/min  
 Up to 1 600 km (1 000 miles): Below 8 500 r/min  
 Over 1 600 km (1 000 miles): Below 11 000 r/min

- Upon reaching an odometer reading of 1 600 km (1 000 miles) you can subject the motorcycle to full throttle operation, for short periods of time. However, do not exceed 11 000 r/min at any time.

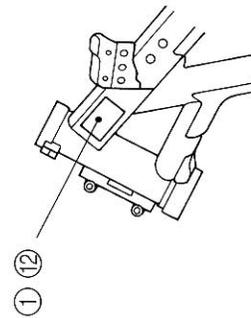
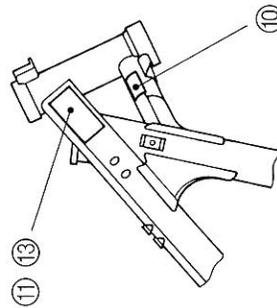
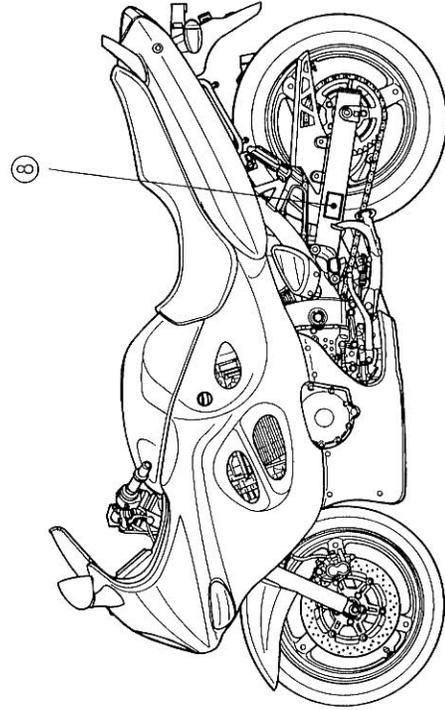
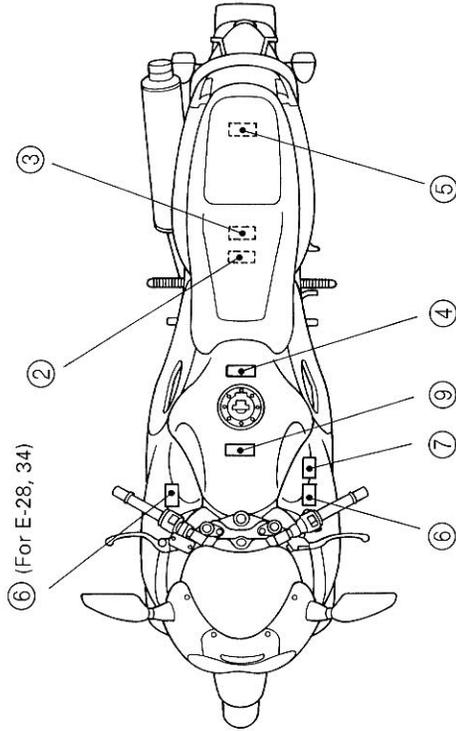
## CYLINDER IDENTIFICATION

The engine cylinders are identified as #1, #2, #3 and #4, as counted from left to right (as viewed by the rider on the seat).



# INFORMATION LABELS

①	Noise label (For E-03, 33, 34)
②	Information label (For E-03, 28, 33)
③	Vacuum hose routing (For E-33)
④	Fuel caution label (For E-02, 24)
⑤	Manual notice label (For E-03, 33)
⑥	Warning screen label
⑦	Warning steering label (For E-03, 28, 33)
⑧	Tire pressure label
⑨	Warning safety label
⑩	ICES canada label (For E-28)
⑪	ID plate (Except for E-03, 28, 33)
⑫	ID plate (For E-18)
⑬	Safety plate (For E-03, 28, 33)



## SPECIFICATIONS

### DIMENSIONS AND DRY MASS

Overall length.....	2 175 mm ( 85.6 in) .....	For E-17, 18, 22
	2 135 mm ( 84.1 in) .....	For the other countries
Overall width .....	745 mm ( 29.3 in)	
Overall height.....	1 195 mm ( 47.0 in)	
Wheelbase .....	1 470 mm ( 57.9 in)	
Ground clearance .....	120 mm ( 4.7 in)	
Seat height.....	785 mm ( 30.9 in)	
Dry mass.....	209 kg (460 lbs) .....	For E-18, 33
	208 kg (458 lbs) .....	For the other countries

### ENGINE

Type .....	Four-stroke, air-cooled, SACS, DOHC, TSCC
Number of cylinders .....	4
Bore .....	62.6 mm (2.465 in)
Stroke.....	48.7 mm (1.917 in)
Piston displacement.....	600 cm <sup>3</sup> (36.6 cu.in)
Compression ratio.....	11.3 : 1
Carburetor type (number of carburetors) .....	BSR32 (Four)
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.....	1.744 (75/43)
Final reduction ratio .....	3.133 (47/15)
Gear ratios, 1st (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)
6th (top).....	1.095 (23/21)
Drive chain .....	RK50MFOZ1, 118 links

## CHASSIS

Front suspension .....	Telescopic, coil spring, oil damped, rebound damping force 4-way adjustable
Rear suspension.....	Link type, coil spring, oil damped, spring pre-load 7-way adjustable, rebound damping force 4-way adjustable
Steering angle .....	33° (right & left)
Caster .....	25°30'
Trail.....	99.5 mm (3.91 in)
Turning radius.....	3.0 m (9.8 ft)
Front brake .....	Disc brake, twin
Rear brake.....	Disc brake
Front tire size.....	120/70 ZR17 (58 W)
Rear tire size .....	150/70 ZR17 (69 W)
Front fork stroke .....	130 mm (5.1 in)
Rear wheel travel.....	142 mm (5.6 in)

## ELECTRICAL

Ignition type .....	Electronic ignition (Transistorized)
Ignition timing .....	4° B.T.D.C. at 1 200 r/min .....For E-03, 33 10° B.T.D.C. at 1 200 r/min ....For the other countries
Spark plug .....	N.G.K.: CR9EK, DENSO: U27ETR
Battery .....	12V 28.8 kC (8 Ah)/10 HR
Generator .....	Three-phase A.C. generator
Main fuse .....	30 A
Fuse.....	15/15/15/10/10 A
Headlight .....	12 V 60/55 W (H4) × 2.....For E-02, 03, 24, 28, 33 12 V 55 W (H1) + 55 W (H7) ..For the other countries
Position light.....	12 V 5 W
Turn signal light .....	12 V 21 W
Brake light/taillight .....	12 V 21/5 W
Speedometer light .....	12 V 1.7 W
Tachometer light.....	12 V 1.7 W
Fuel meter light.....	12 V 1.7 W
Neutral indicator light.....	12 V 1.4 W
High beam indicator light.....	12 V 1.4 W
Turn signal indicator light.....	12 V 1.4 W × 2
Oil pressure indicator light.....	12 V 1.4 W
License plate light.....	12 V 5 W

## CAPACITIES

Fuel tank, including reserve.....	20.0 L (5.3/4.4 US/Imp gal)
Engine oil, oil change .....	3 300 ml (3.5/2.9 US/Imp qt)
oil and filter change .....	3 500 ml (3.7/3.1 US/Imp qt)
engine overhaul.....	4 700 ml (5.0/4.1 US/Imp qt)
Front fork oil (each leg).....	499 ml (16.9/17.6 US/Imp oz)

These specifications are subject to change without notice.

### NOTE:

Country codes appear after some specifications.

## COUNTRY AND AREA CODES

The following codes stand for the applicable country(-ies) and area(-s).

<b>CODE</b>	<b>COUNTRY OR AREA</b>
E-02	UK
E-03	USA
E-04	France
E-17	Sweden, Finland (E-15), Norway (E-16)
E-18	Switzerland, Austria (E-39)
E-22	Germany
E-24	Australia
E-25	Netherlands
E-28	Canada
E-33	California (USA)
E-34	Italy, Belgium (E-21), Spain (E-53)

# PERIODIC MAINTENANCE

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## PERIODIC MAINTENANCE SCHEDULE

**IMPORTANT:** The periodic maintenance intervals and service requirements have been established in accordance with EPA regulations. Following these instructions will ensure that the motorcycle will not exceed emission standards and it will also ensure the reliability and performance of the motorcycle.

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. Maintenance intervals are expressed in terms of kilometers, miles and months, and are dependent on whichever comes first.

### NOTES:

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

## PERIODIC MAINTENANCE CHART

Item	Interval	km	1 000	6 000	12 000	18 000	24 000	
		miles	600	4 000	7 500	11 000	15 000	
		months	1	6	12	18	24	
Valve clearance		I	—	I	—	I		
Spark plugs		—	I	R	I	R		
Exhaust pipe bolts and muffler bolts		T	—	T	—	T		
Air cleaner		—	I	I	R	I		
Engine oil		R	R	R	R	R		
Engine oil filter		R	—	—	R	—		
Fuel hose		—	I	I	I	I		
		Replace every four years						
Fuel filter		—	I	R	I	R		
Engine idle speed		I	I	I	I	I		
Throttle cable play		I	I	I	I	I		
Carburetor synchronization		I (E-33 only)	—	I	—	I		
Evaporative emission control system (E-33 only)		—	—	I	—	I		
		Replace vapor hose every four years						
Secondary air supply system (E-33 only)		—	—	I	—	I		
Clutch cable play		—	I	I	I	I		
Drive chain		I	I	I	I	I		
		Clean and lubricate every 1 000 km (600 miles)						
Brakes		I	I	I	I	I		
Brake hoses		—	I	I	I	I		
		Replace every four years						
Brake fluid		—	I	I	I	I		
		Replace every two years						
Tires		—	I	I	I	I		
Steering		I	—	I	—	I		
Front forks		—	—	I	—	I		
Rear suspension		—	—	I	—	I		
Chassis bolts and nuts		T	T	T	T	T		

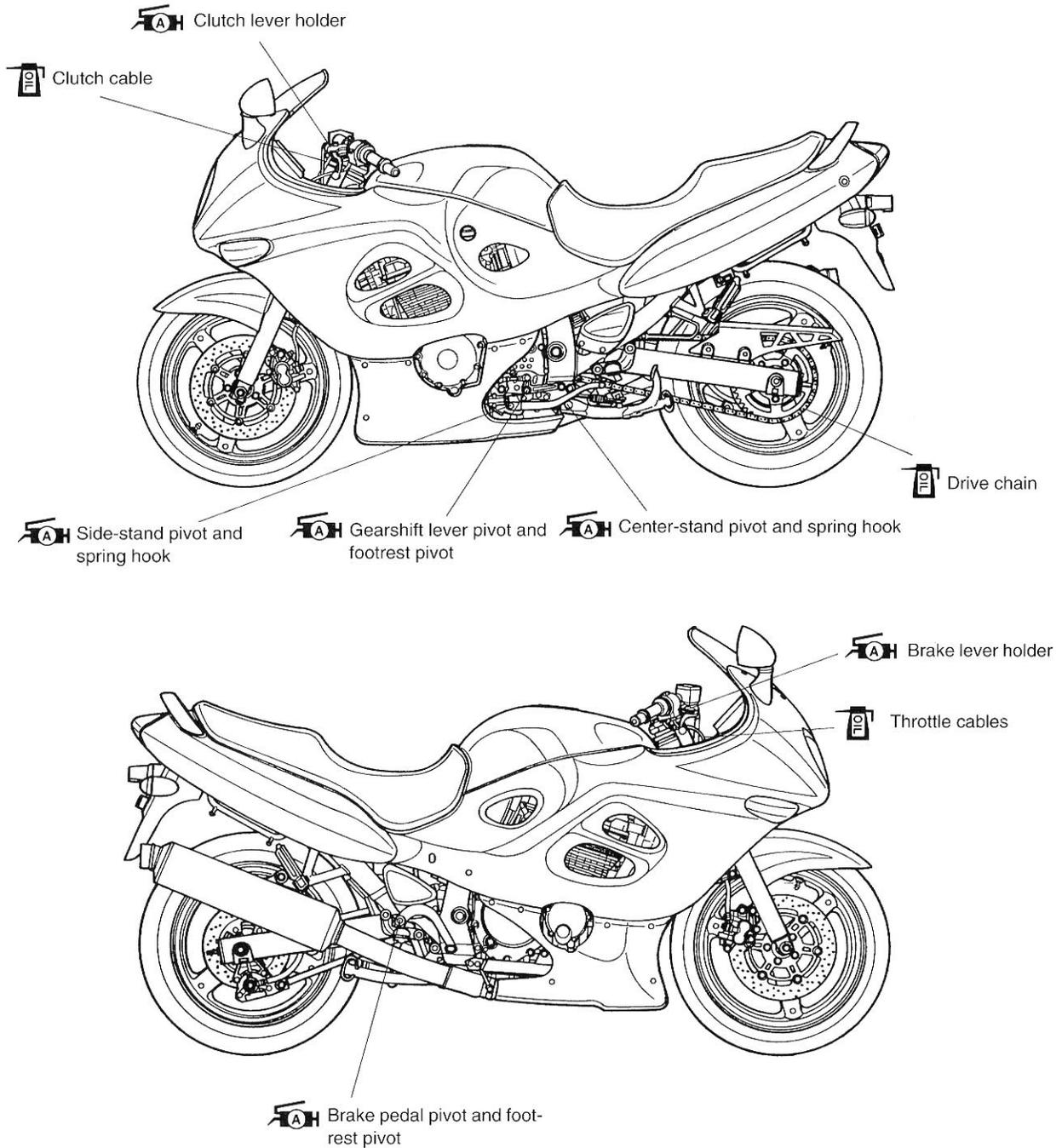
I = Inspect and adjust, clean, lubricate or replace as necessary

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, especially 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 mentioned in the Periodic Maintenance chart.

### VALVE CLEARANCE

**Inspect initially at 1 000 km (600 miles, 1 month) and every 12 000 km (7 500 miles, 12 months).**

- Remove the fuel tank. (See p. 4-2.)
- Remove all of the spark plugs.
- Remove the cylinder head cover and signal generator cover. (See p. 3A-1.)

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 removed for servicing.

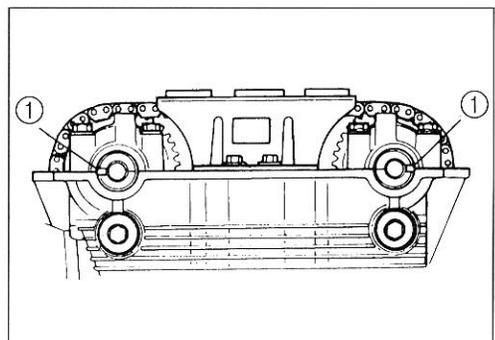
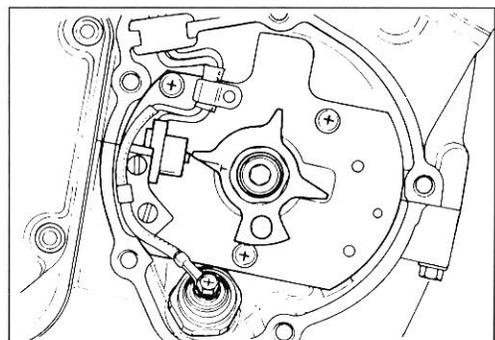
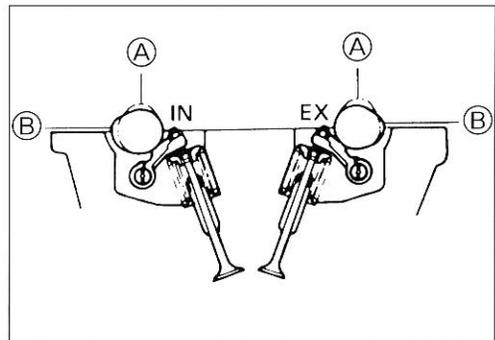
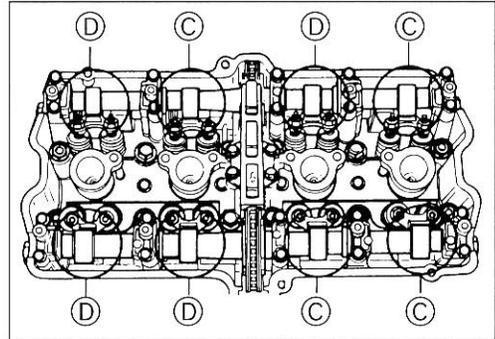
#### Valve clearance (when cold):

**IN.: 0.10–0.15 mm (0.004–0.006 in)**

**EX.: 0.18–0.23 mm (0.007–0.009 in)**

#### NOTE:

- \* The camshafts must be at positions (A) or (B), in order to check or adjust the valve clearance. Clearance readings should not be taken with the camshafts in any other position than the ones shown.
- \* The valve clearance should only be checked when the engine is cold.
- \* Turn the crankshaft clockwise using a 19-mm wrench. Make sure that all of the spark plugs have been removed.
- Turn the crankshaft clockwise and align the “T” mark on the signal generator rotor with the center of the pickup coil. Also, position the notches (1) on the right end of each camshaft as shown. Then, measure the following valve clearances (C):
  - Cylinder #1: intake and exhaust valve clearances
  - Cylinder #2: exhaust valve clearance
  - Cylinder #3: intake valve clearance



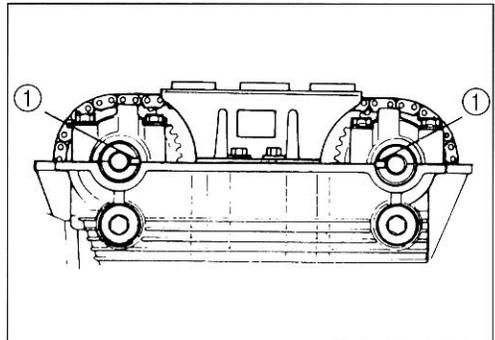
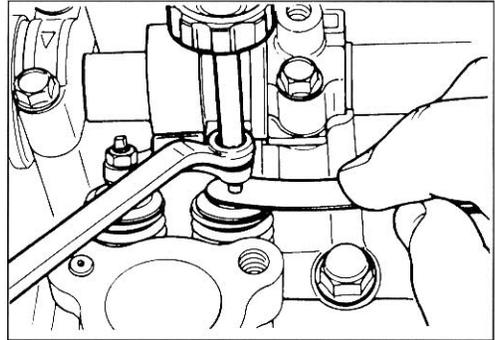
- Insert a thickness gauge between the end of the valve stem and the adjusting screw on the rocker arm. If the clearance is out of specification, hold the locknut with a wrench and use the special tool to adjust the clearance.

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

**CAUTION**

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

- Turn the crankshaft clockwise 360° (one full rotation) and align the “T” mark on the signal generator rotor with the center of the pickup coil. Also, position the notches ① on the right end of each camshaft as shown.
- Measure the valve clearances of the remaining valves ④ and adjust them if necessary.



Camshaft position	Notch ① position	
	Intake camshaft	Exhaust camshaft
③	⊖	⊖
④	⊕	⊖

- When installing the cylinder head cover, apply the recommended bond to the cylinder head cover groove and camshaft end caps. (See p. 3-45.)

**For USA**

**1207B** 99104-31140: SUZUKI BOND “1207B”

**For the other countries**

**1215** 99000-31110: SUZUKI BOND “1215”

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

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

- Install the signal generator cover. (See p. 3-44.)

**SPARK PLUGS**

**Inspect every 6 000 km (4 000 miles, 6 months) and replace every 12 000 km (7 500 miles, 12 months).**

- Remove the fuel tank. (See p. 4-2.)
- Remove all of the spark plugs.

**NOTE:**

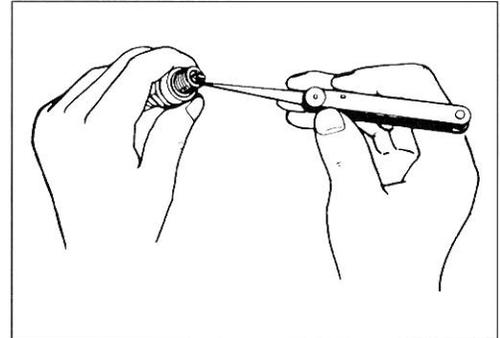
If it is difficult to remove any of the spark plug caps, pry them up using a screwdriver.

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

	Standard	Cold type	Hot type
NGK	CR9EK	CR10EK	CR8EK
DENSO	U27ETR	U31ETR	U24ETR

**CARBON DEPOSITS**

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

**SPARK PLUG GAP**

Measure the spark plug gap using a thickness gauge. If out of specification, regap the spark plug.

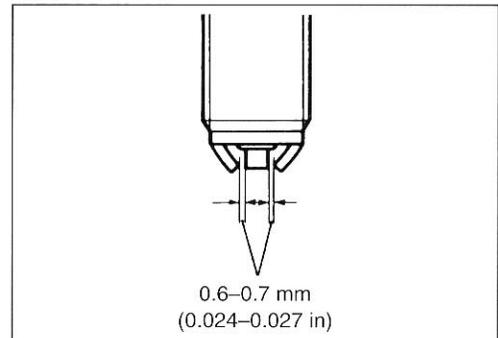
**Standard**

**Spark plug gap:** 0.6–0.7 mm  
(0.024–0.028 in)

- TOOL** 09900-20803: Thickness gauge

**ELECTRODE'S CONDITION**

Check the condition of the electrode. If it is extremely worn or burnt, replace the spark plug. Replace the spark plug if it has a broken insulator, damaged threads, etc.

**⚠ CAUTION**

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

**SPARK PLUG INSTALLATION****⚠ CAUTION**

To avoid damaging the cylinder head threads, first finger tighten the spark plug and then tighten it to the proper torque using the spark plug wrench.

- Insert the spark plugs to the cylinder heads by finger tight, and then tighten them to the specified torque.

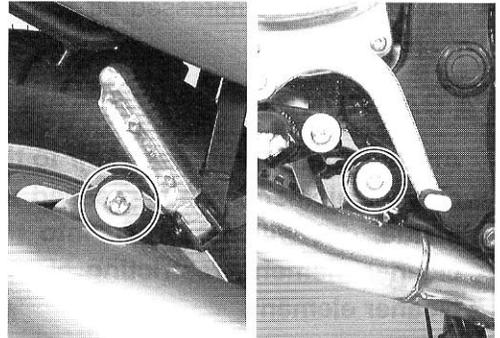
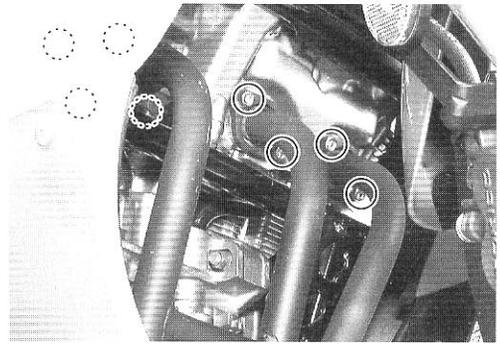
**🔧** Spark plug: 11 N•m (1.1 kg-m, 8.0 lb-ft)

## EXHAUST PIPE BOLTS AND MUFFLER BOLTS AND NUT

**Tighten initially at 1 000 km (600 miles, 1 month) and every 12 000 km (7 500 miles, 12 months) thereafter.**

- Tighten the exhaust pipe bolts and muffler mounting bolts and nut to the specified torque.

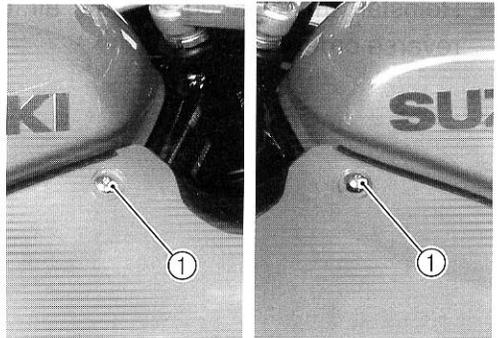
-  **Exhaust pipe bolt: 23 N•m (2.3 kg-m, 16.5 lb-ft)**  
**Muffler mounting bolt and nut: 29 N•m (2.9 kg-m, 21.0 lb-ft)**



## AIR CLEANER

**Inspect every 6 000 km (4 000 miles, 6 months) and replace every 18 000 km (11 000 miles, 18 months).**

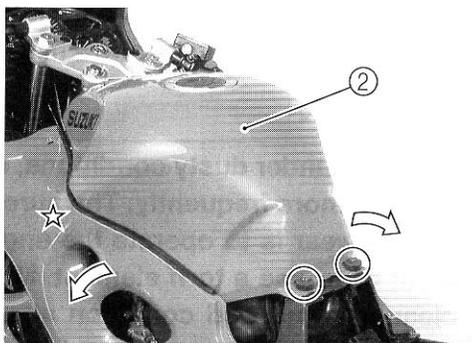
- Remove the seat. (See p. 5-3.)
- Remove the upper fairing mounting screws ①.



- Lift up the fuel tank ②.

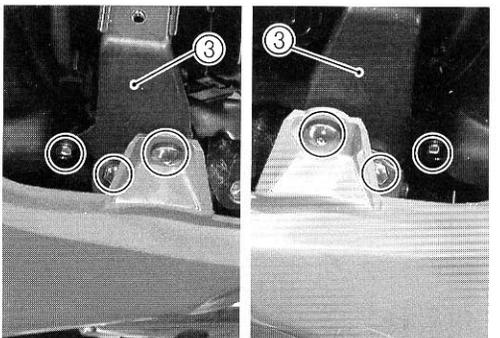
**NOTE:**

*Pull the upper fairings outward and lift up the fuel tank.*

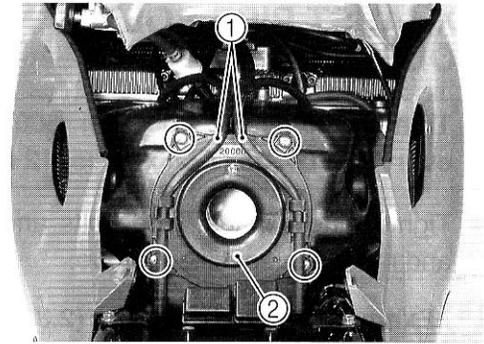


☆ hooked part

- Remove the fuel tank mounting bracket ③.



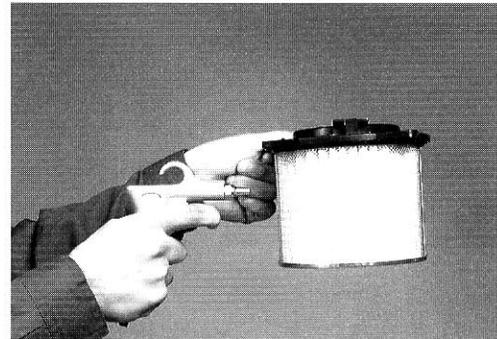
- Remove the air vent hoses ① and air cleaner element ②.



- Carefully use compressed air to clean the air cleaner element.

**⚠ CAUTION**

**Always apply compressed air to the outside of the air cleaner element. If compressed air is applied to the inside, dirt will be forced into the pores of the air cleaner element, restricting air flow through the air cleaner element.**

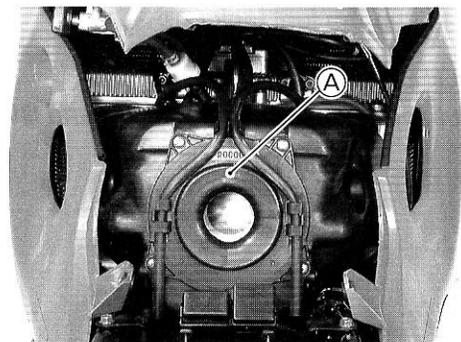


- Reinstall the cleaned or new air cleaner element in the reverse order of removal.

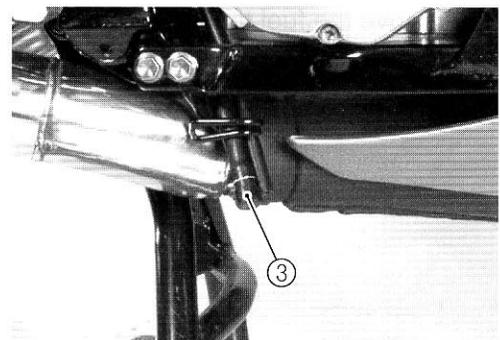
- When installing the air cleaner element into the air cleaner case, make sure that the arrow mark (A) points up.

**⚠ CAUTION**

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



- Remove the drain plug ③ from the air cleaner drain hose to allow any water to drain out.



## ENGINE OIL AND OIL FILTER

### (ENGINE OIL)

Replace initially at 1 000 km (600 miles, 1 month) and every 6 000 km (4 000 miles, 6 months) thereafter.

### (OIL FILTER)

Replace initially at 1 000 km (600 miles, 1 month) and every 18 000 km (11 000 miles, 18 months) thereafter.

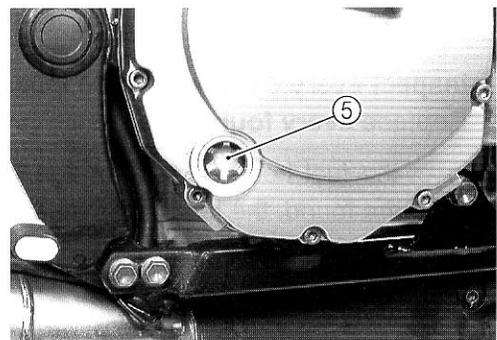
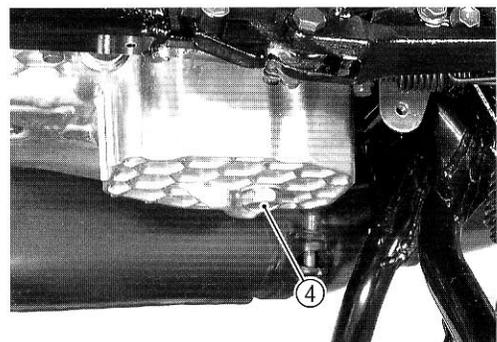
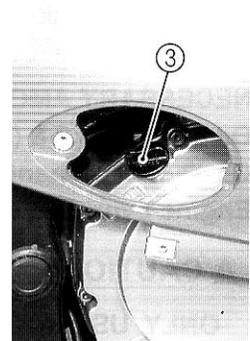
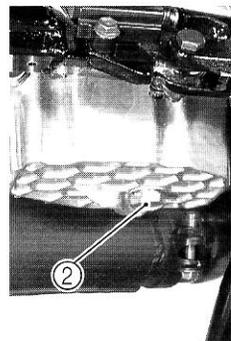
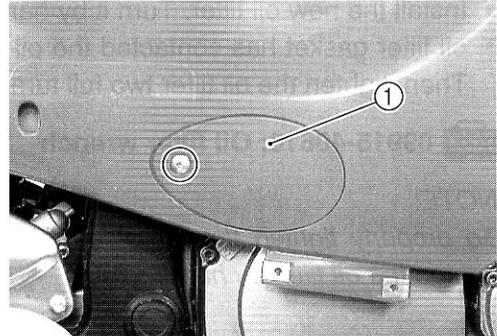
The oil should be changed while the engine is warm. Oil filter replacement at the above intervals, should be done together with the engine oil change.

### ENGINE OIL REPLACEMENT

- Keep the motorcycle upright.
- Remove the lower fairings. (See p. 5-2.)
- Remove the service lid ①.
- Place an oil pan below the engine, and drain the oil by removing the oil drain plug ② and filler cap ③.
- Tighten the oil drain plug ④ to the specified torque, and pour new oil through the oil filler. When performing an oil change (without oil filter replacement), the engine will hold about 3.3 L (3.5/2.9 US/Imp qt) of oil. Use SF or SG classified (API) engine oil with a viscosity rating of 10W/40 (SAE).

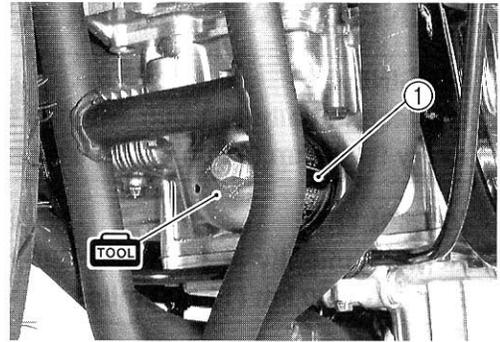
 **Oil drain plug: 23 N•m (2.3 kg-m, 16.5 lb-ft)**

- Start up the engine and allow it to run for several minutes at idling speed.
- Turn off the engine and wait about three minutes, then check the oil level through the inspection window ⑤. If the level is below the “L” mark, add oil to the “F” mark. If the level is above the “F” mark, drain the oil until the level reaches the “F” mark.



### OIL FILTER REPLACEMENT

- Drain the engine oil as described in the engine oil replacement procedure.
- Remove the oil filter ① using the special tool.
- Apply engine oil lightly to the gasket of the new oil filter, before installation.

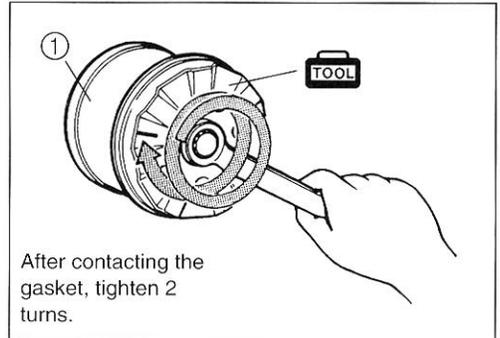


- Install the new oil filter. Turn it by hand until you feel that the oil filter gasket has contacted the oil filter mounting surface. Then, tighten the oil filter two full turns using the special tool.

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

**NOTE:**

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



- Add new engine oil and check the oil level as described in the engine oil replacement procedure.

### NECESSARY AMOUNT OF ENGINE OIL

**Oil change: 3.3 L (3.5/2.9 US/Imp qt)**

**Oil and filter change: 3.5 L (3.7/3.1 US/Imp qt)**

**Engine overhaul: 4.7 L (5.0/4.1 US/Imp qt)**

**⚠ CAUTION**

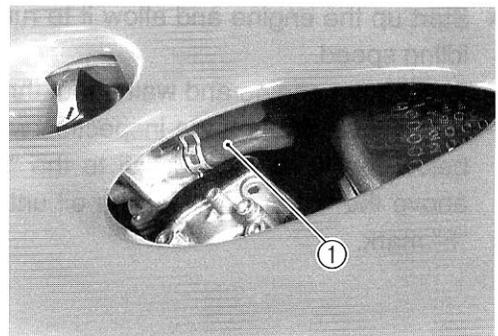
**ONLY USE A GENUINE SUZUKI MOTORCYCLE OIL FILTER.**

**Other manufacturer's oil filters may differ in thread specifications (thread diameter and pitch), filtering performance and durability which may lead to engine damage or oil leaks. Also, do not use a genuine Suzuki automobile oil filter on this motorcycle.**

### FUEL HOSE

**Inspect every 6 000 km (4 000 miles, 6 months).  
Replace every four years.**

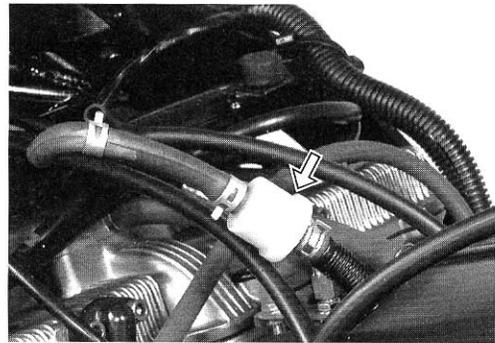
Inspect the fuel hose ① for damage and fuel leakage. If any defects are found, the fuel hoses must be replaced.



## FUEL FILTER

Inspect every 6 000 km (4 000 miles, 6 months) and replace every 12 000 km (7 500 miles, 12 months).

(See p. 4-5.)



## ENGINE IDLE SPEED

Inspect initially at 1 000 km (600 miles, 1 month) and every 6 000 km (4 000 miles, 6 months) thereafter.

**NOTE:**

*Make this adjustment when the engine is hot.*

- Start the engine, turn the throttle stop screw and set the engine idle speed between 1 100 and 1 300 r/min.

**Engine idle speed: 1 200 ± 50 r/min..... For E-18**  
**1 300 ± 100 r/min..... For E-33**  
**1 200 ± 100 r/min..... For the other countries**



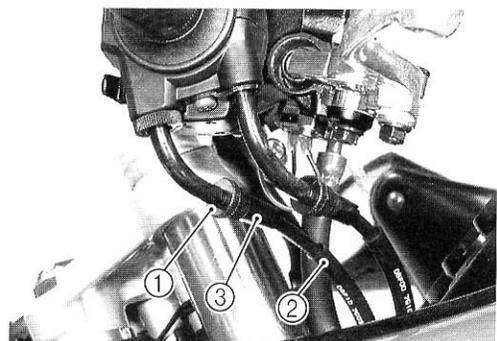
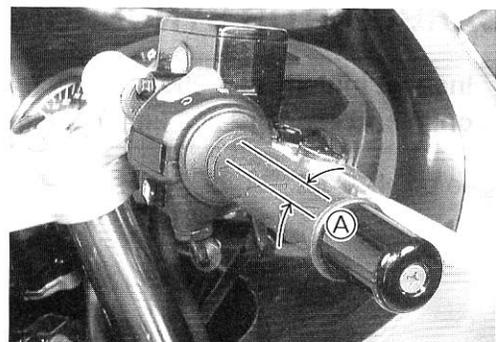
## THROTTLE CABLE PLAY

Inspect initially at 1 000 km (600 miles, 1 month) and every 6 000 km (4 000 miles, 6 months) thereafter.

Adjust the throttle cable play (A) as follows.

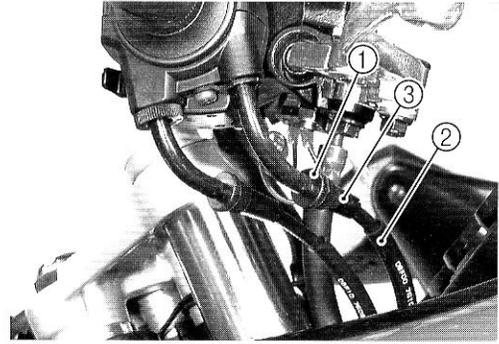
1st step:

- Loosen the locknut ① of the throttle returning cable ② and fully turn in the adjuster ③.



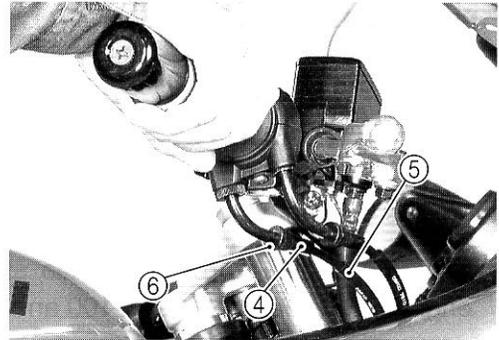
2nd step:

- Loosen the locknut ① of the throttle pulling cable ②.
- Turn the adjuster ③ in or out until the throttle cable play (at the throttle grip) Ⓐ is between 2–4 mm (0.08–0.16 in).
- Tighten the locknut ① while holding the adjuster ③.



3rd step:

- While holding the throttle grip at the fully closed position, slowly turn out the adjuster ④ of the throttle returning cable ⑤ until resistance is felt.
- Tighten the locknut ⑥ while holding the adjuster ④.



Throttle cable play Ⓐ: 2–4 mm (0.08–0.16 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.

NOTE:

Major adjustments can be made at the carburetor side adjuster.

## CARBURETOR SYNCHRONIZATION

Inspect initially at 1 000 km (600 miles, 1 month) (E-33 only) and every 12 000 km (7 500 miles, 12 months).

(See pp. 4-22 ff.)

## EVAPORATIVE EMISSION CONTROL SYSTEM (E-33 ONLY)

Inspect every 12 000 km (7 500 miles, 12 months).  
Replace vapor hose every four years.

(See p. 8-4.)

## SECONDARY AIR SUPPLY (PAIR) SYSTEM (E-33 ONLY)

Inspect every 12 000 km (7 500 miles, 12 months).

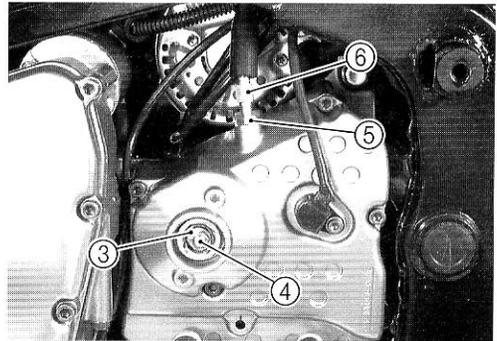
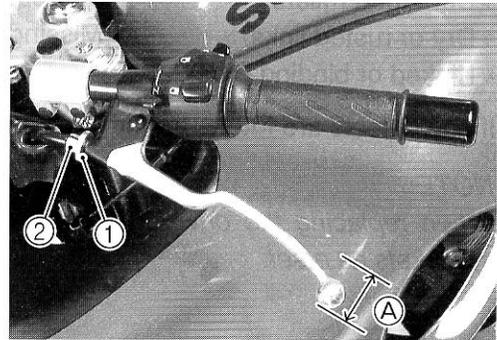
(See pp. 8-7 and 8-8.)

## CLUTCH CABLE PLAY

Inspect every 6 000 km (4 000 miles, 6 months).

- Loosen the locknut ① and turn the adjuster ② all the way into the clutch lever assembly.
- Remove the upper fairings. (See pp. 5-2 f.)
- Remove the clutch release cover.
- Loosen the locknut ③, and turn out the adjusting screw ④ two or three rotations.
- Then, slowly turn in the adjusting screw ④ until resistance is felt.
- Then, turn out the adjusting screw ④  $\frac{1}{4}$  of a turn, and tighten the locknut ③.
- Loosen the locknut ⑤, and turn the cable adjuster ⑥ to obtain 10–15 mm (0.4–0.6 in) of free play ① at the clutch lever end.
- Tighten the locknut ⑤.

Clutch cable play ①: 10–15 mm (0.4–0.6 in)



## DRIVE CHAIN

**Inspect initially at 1 000 km (600 miles, 1 month) and every 6 000 km (4 000 miles, 6 months) thereafter.  
Lubricate every 1 000 km (600 miles).**

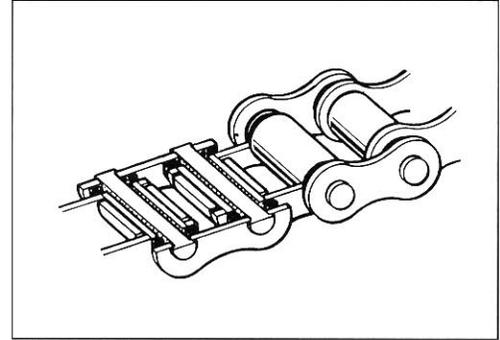
With the transmission in neutral, support the motorcycle using the center-stand and turn the rear wheel slowly by hand. Visually check the drive chain for the possible defects listed below.

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

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.*

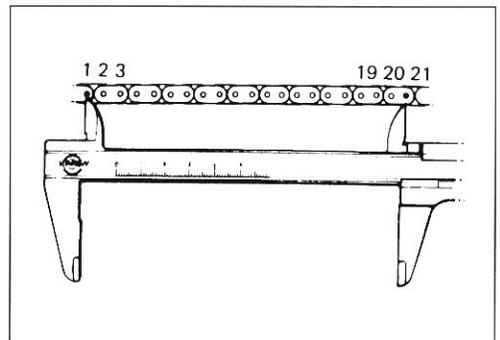
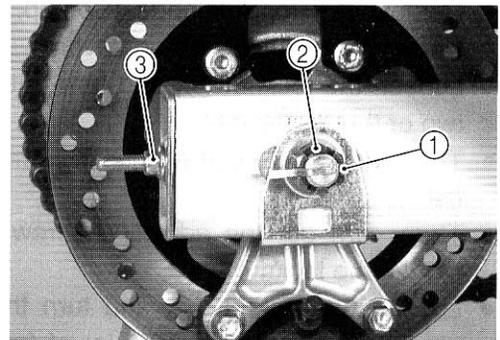


### CHECKING

- Remove the cotter pin ①. (For E-03, 28, 33)
  - Loosen the axle nut ②.
  - Tense the drive chain fully by turning both chain adjuster nuts ③.
- 
- 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)**

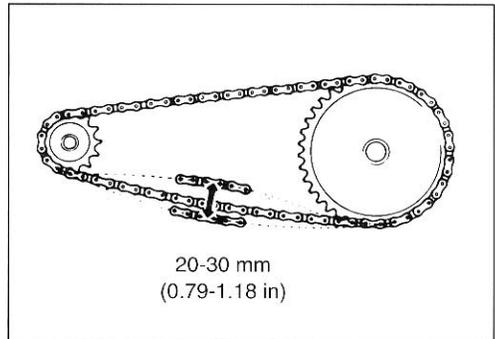
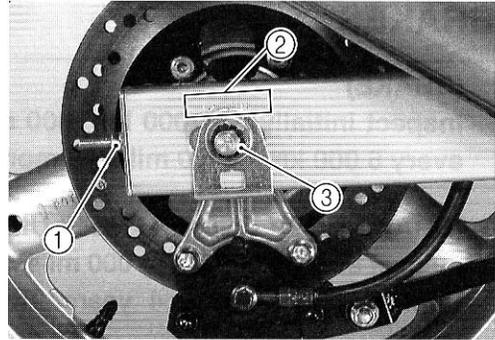


### ADJUSTING

- Loosen or tighten both chain adjuster nuts ① until there is 20–30 mm (0.79–1.18 in) of slack at the middle of the chain between the engine and rear sprockets as shown. The reference marks ② on both sides of the swingarm and the edge of each chain adjuster must be aligned 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 ③ to the specified torque.
- Tighten both chain adjuster nuts ① securely.

#### Rear axle nut: 65 N•m (6.5 kg-m, 47.0 lb-ft)

- Install a new cotter pin. (For E-03, 28, 33)



### CLEANING AND LUBRICATING

- Clean the drive chain with kerosine. If the drive chain tends to rust quickly, the intervals must be shortened.

#### CAUTION

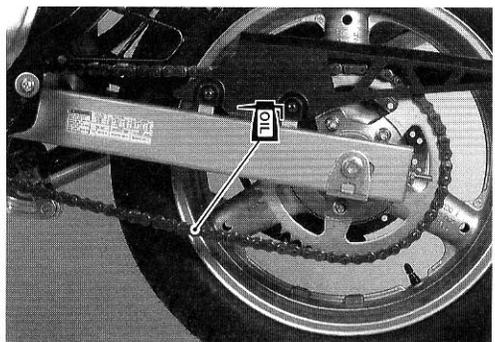
**Do not use trichloroethylene, gasoline or any similar solvent.**

**These fluids have too great a dissolving power for this chain and they can damage the O-rings. Use only kerosine to clean the drive chain.**

- After cleaning and drying the chain, oil it with a heavyweight motor oil.

#### CAUTION

- \* Do not use any oil sold commercially as “drive chain oil”. Such oil can damage the O-rings.
- \* The standard drive chain is a RK50MFOZ1. SUZUKI recommends to use this standard drive chain as a replacement.



## BRAKES

### (BRAKE)

Inspect initially at 1 000 km (600 miles, 1 month) and every 6 000 km (4 000 miles, 6 months) thereafter.

### (BRAKE HOSE AND BRAKE FLUID)

Inspect every 6 000 km (4 000 miles, 6 months).  
Replace hoses every 4 years. Replace fluid every 2 years.

### BRAKE FLUID LEVEL

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

 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 and petroleum-based fluids. Do not use any brake fluid taken from old, used or unsealed containers. Never reuse brake fluid left over from the last servicing or stored for a long period of time.
- \* 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.

