

# PERIODIC MAINTENANCE

## CONTENTS

<b>PERIODIC MAINTENANCE SCHEDULE .....</b>	<b>2- 2</b>
<b>PERIODIC MAINTENANCE CHART .....</b>	<b>2- 2</b>
<b>LUBRICATION POINTS .....</b>	<b>2- 4</b>
<b>MAINTENANCE AND TUNE-UP PROCEDURES .....</b>	<b>2- 5</b>
<b>AIR CLEANER .....</b>	<b>2- 5</b>
<b>SPARK PLUG .....</b>	<b>2- 6</b>
<b>TAPPET CLEARANCE .....</b>	<b>2- 8</b>
<b>FUEL HOSE .....</b>	<b>2-14</b>
<b>ENGINE OIL AND OIL FILTER .....</b>	<b>2-14</b>
<b>ENGINE IDLE SPEED .....</b>	<b>2-16</b>
<b>THROTTLE CABLE PLAY .....</b>	<b>2-16</b>
<b>THROTTLE VALVE SYNCHRONIZATION .....</b>	<b>2-17</b>
<b>EVAPORATIVE EMISSION CONTROL SYSTEM (FOR E-33 ONLY) ..</b>	<b>2-17</b>
<b>PAIR (AIR SUPPLY) SYSTEM .....</b>	<b>2-17</b>
<b>CLUTCH .....</b>	<b>2-18</b>
<b>COOLING SYSTEM .....</b>	<b>2-19</b>
<b>DRIVE CHAIN .....</b>	<b>2-21</b>
<b>BRAKE .....</b>	<b>2-23</b>
<b>TIRE .....</b>	<b>2-27</b>
<b>STEERING .....</b>	<b>2-27</b>
<b>FRONT FORK .....</b>	<b>2-28</b>
<b>REAR SUSPENSION .....</b>	<b>2-28</b>
<b>EXHAUST PIPE BOLT .....</b>	<b>2-28</b>
<b>CHASSIS BOLT AND NUT .....</b>	<b>2-29</b>
<b>COMPRESSION PRESSURE CHECK .....</b>	<b>2-31</b>
<b>COMPRESSION TEST PROCEDURE .....</b>	<b>2-31</b>
<b>OIL PRESSURE CHECK .....</b>	<b>2-32</b>
<b>OIL PRESSURE TEST PROCEDURE .....</b>	<b>2-32</b>

## 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 kilometers, miles and time for your convenience.

**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 that reliability and performance of the motorcycle.

**NOTE:**

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

## PERIODIC MAINTENANCE CHART

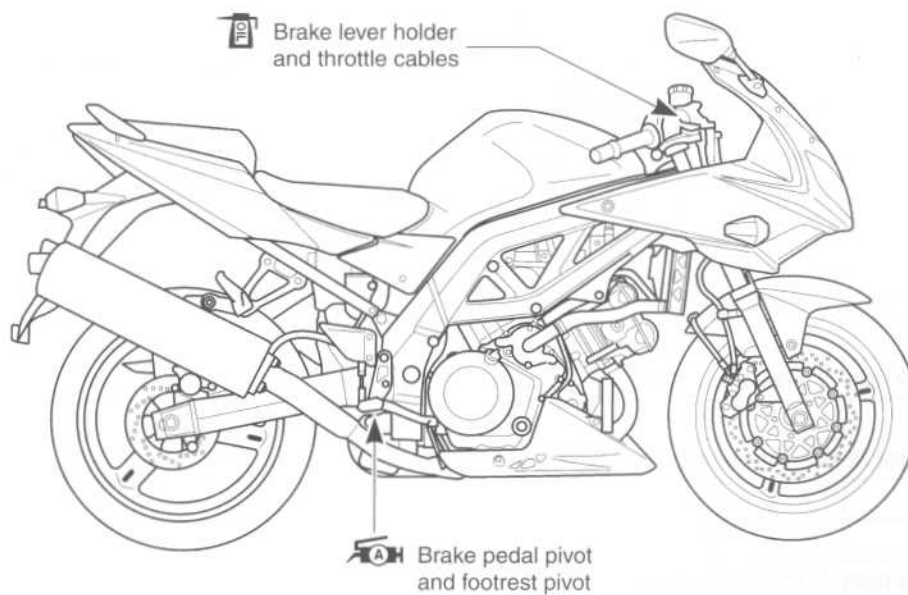
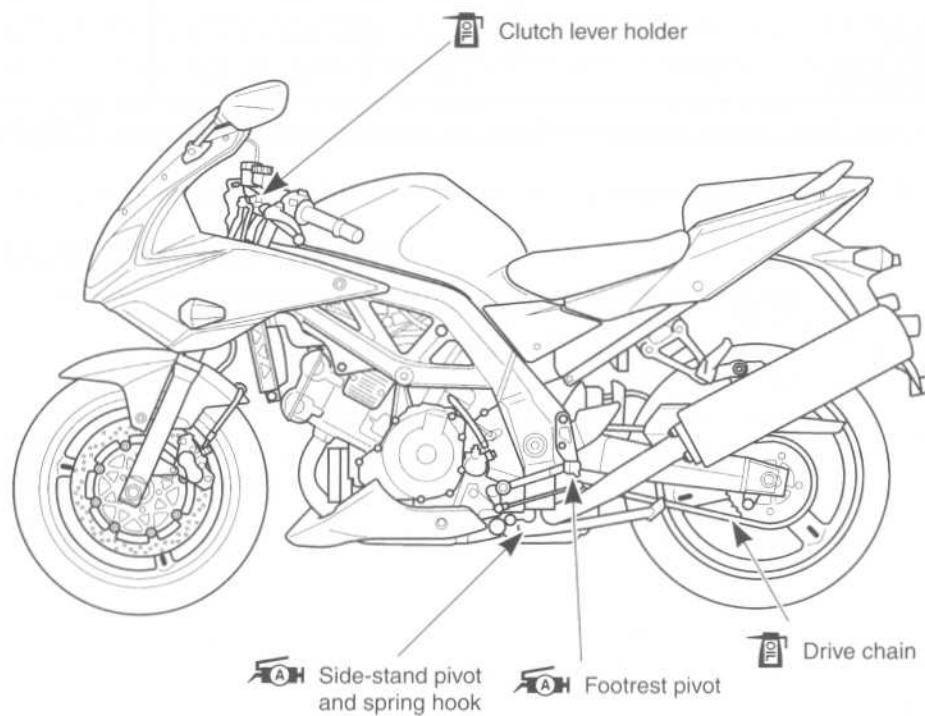
Item	Interval	km	1 000	6 000	12 000	18 000	24 000
		miles	600	4 000	7 500	11 000	15 000
		months	1	6	12	18	24
Air cleaner element			—	I	I	R	I
Exhaust pipe bolts and muffler bolts			T	—	T	—	T
Tappet clearance			—	—	—	—	I
Spark plugs			—	I	R	I	R
Fuel hose			—	I	I	I	I
			Replace every 4 years.				
Engine oil			R	R	R	R	R
Engine oil filter			R	—	—	R	—
Idle speed			I	I	I	I	I
Throttle cable play			I	I	I	I	I
Throttle valve synchronization			I (E-33 only)	—	I	—	I
Evaporative emission control system (E-33 only)			—	—	I	—	I
			Replace vapor hose every 4 years.				
PAIR (air supply) system			—	—	I	—	I
Engine coolant			Replace every 2 years.				
Radiator hose			—	I	I	I	I
Clutch hose			—	I	I	I	I
			Replace every 4 years.				
Clutch fluid			—	I	I	I	I
			Replace every 2 years.				
Drive chain			I	I	I	I	I
			Clean and 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.				
Tires			—	I	I	I	I
Steering			I	—	I	—	I

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
Front fork			—	—	I	—	I
Rear suspension			—	—	I	—	I
Chassis bolts and nuts			T	T	T	T	T

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

## 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.

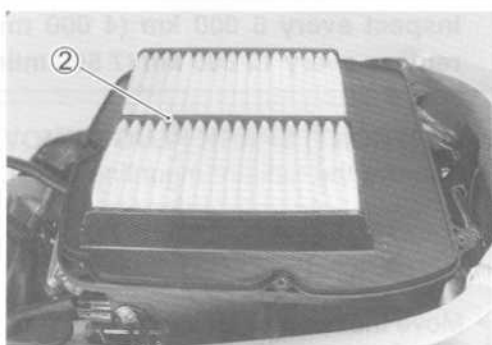
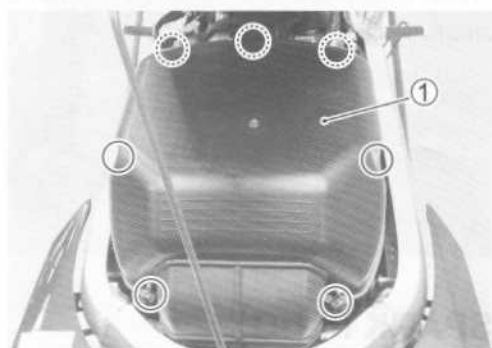
### AIR CLEANER

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

- Remove the seat. (☞ 6-7)
- Lift and support the fuel tank. (☞ 4-65)
- Remove the air cleaner box cap ①.
- Remove the air cleaner element ②.
- Carefully use air hose to blow the dust from the cleaner element.

#### CAUTION

Always use air pressure on the throttle body side of the air cleaner element. If air pressure is used on the other side, 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.

**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:**

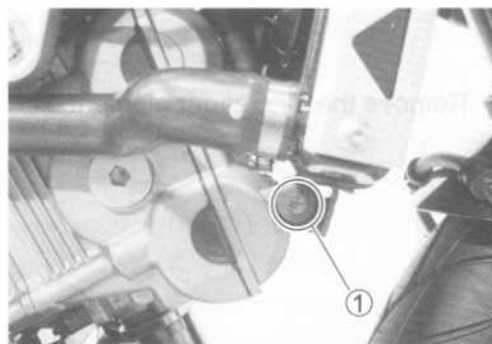
When cleaning the air cleaner element, drain water from the air cleaner by removing the drain plug.

**SPARK PLUG**

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

**No. 1 (FRONT) SPARK PLUG REMOVAL**

- Remove the radiator mounting bolt ①.



- Move the radiator forward.
- Remove the spark plug cap ②.

**NOTE:**

Be careful not to damage the radiator fins.

**⚠ WARNING**

The hot radiator and the hot engine can burn you. Wait until the radiator and the engine are cool enough to touch.

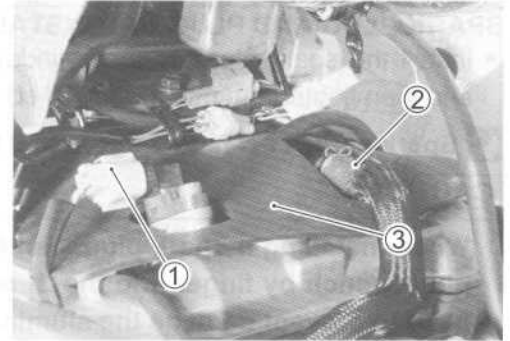


- Remove the spark plug with a spark plug wrench.



**No. 2 (REAR) SPARK PLUG REMOVAL**

- Remove the seat. (☞ 6-7)
- Lift and support the fuel tank. (☞ 4-65)
- Disconnect the camshaft position sensor ① and breather hose ②.
- Remove the rubber heat shield ③.
- Remove the spark plug cap.
- Remove the spark plug with a spark plug wrench.

**HEAT RANGE**

- Check to see the heat range of the plug.

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

**CARBON DEPOSIT**

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

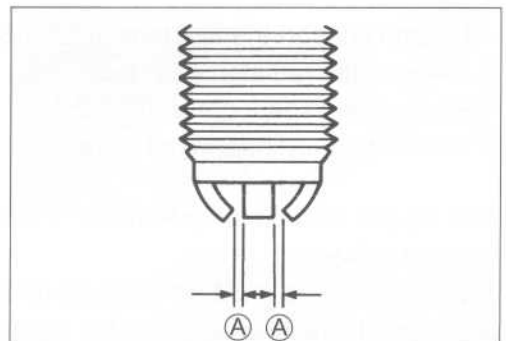
**SPARK PLUG GAP**

- Measure the plug gap with a thickness gauge. If out of specification, adjust it to the following gap.

**TOOL** 09900-20803: Thickness gauge

**DATA** Spark plug gap <sup>Ⓐ</sup>

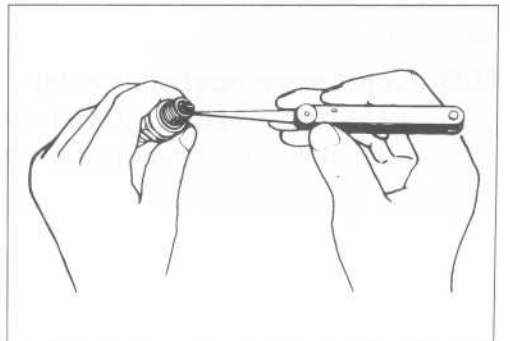
Standard: 0.6 – 0.7 mm (0.024 – 0.028 in)

**ELECTRODES 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.

**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.





**SPARK PLUG AND PLUG CAP INSTALLATION**

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

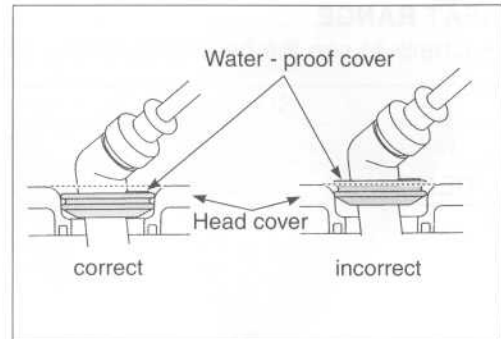
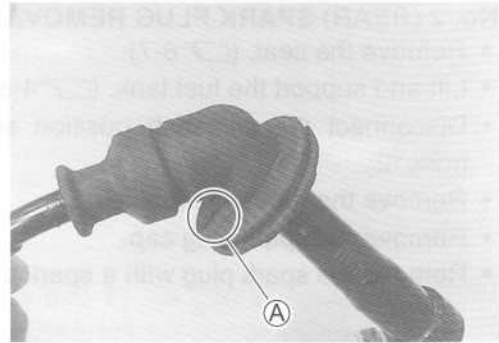
**Spark plug: 11 N·m (1.1 kgf-m, 8.0 lb-ft)**

**CAUTION**

When installing a spark plug, carefully turn the spark plug wrench by finger into the threads of the cylinder head to prevent damage the aluminum threads.

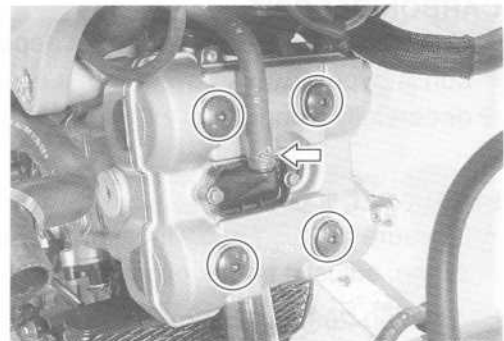
**NOTE:**

When installing the spark plug caps, front and rear, face the triangle mark **A** on the water-proof cover to the each cylinder exhaust side. Insert the spark plug cap securely to the dead end.

**TAPPET CLEARANCE**

Inspect every 24 000 km (15 000 miles, 24 months).

- Remove the seat. (6-7)
- Lift and support the fuel tank. (4-65)
- Remove the radiator. (5-5)
- Remove the spark plugs. (2-6)
- Remove the cylinder head covers.



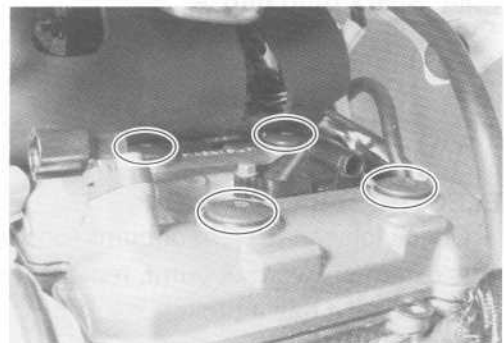
The tappet clearance specification is different for intake and exhaust valves.

Tappet clearance 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.

**DATA Tappet clearance (when cold)**

IN. : 0.10 – 0.20 mm (0.004 – 0.008 in)

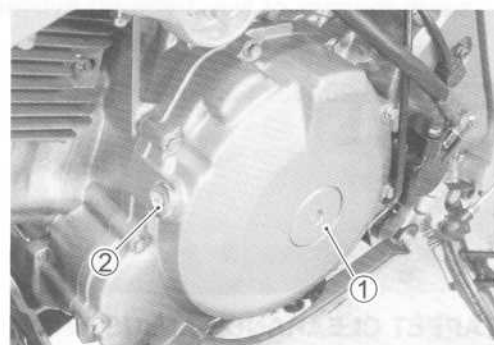
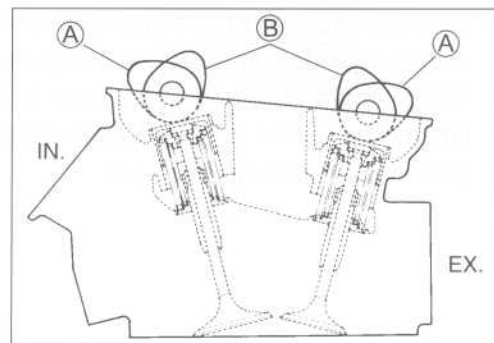
EX. : 0.20 – 0.30 mm (0.008 – 0.012 in)



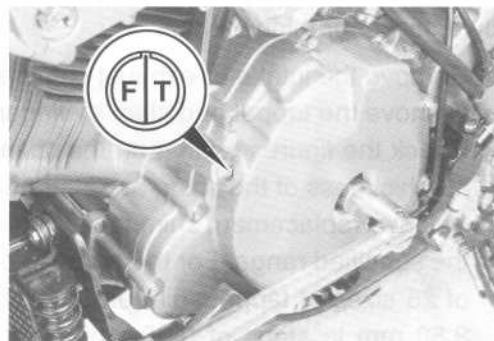


**NOTE:**

- \* The tappet clearance should be taken when each cylinder is at Top Dead Center (TDC) of compression stroke.
- \* The cams (IN & EX) on the front cylinder at position (A) show the front cylinder at TDC of compression stroke.
- \* The cams (IN & EX) on the rear cylinder at position (B) show the rear cylinder at TDC of compression stroke.
- \* The clearance specification is for COLD state.
- \* To turn the crankshaft for clearance checking, be sure to use a 17-mm wrench, and rotate in the normal running direction. All spark plugs should be removed.
- Remove the generator cover plug (1) and timing inspection plug (2).

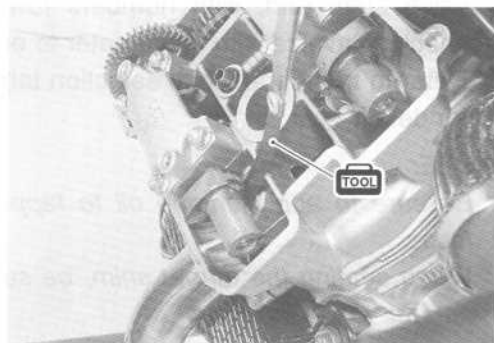


- Turn the crankshaft to set the No. 1 (Front) cylinder at TDC of compression stroke. (Align the "F | T" line on the generator rotor to the index mark of valve timing inspection hole and also bring the camshafts to the position as shown above.)

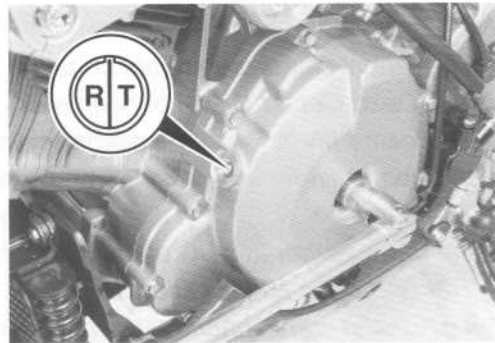


- To inspect the No. 1 (Front) cylinder tappet clearance, use a thickness gauge between the tappet and the cam. If the clearance is out of specification, adjust it into the specified range.

**TOOL 09900-20803: Thickness gauge**



- Turn the crankshaft 270 degrees (3/4 turns) to set the No. 2 (Rear) cylinder at TDC of compression stroke. (Align the "R | T" line on the generator rotor to the index mark of valve timing inspection hole and also bring the camshafts to the position as shown in page 2-9.)



- Inspect the No. 2 (Rear) cylinder tappet clearance as the same manner of No. 1 (Front) cylinder and adjust the clearance if necessary.

**TOOL 09900-20803: Thickness gauge**

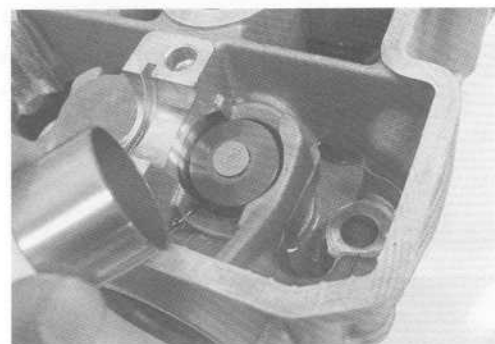


### TAPPET CLEARANCE ADJUSTMENT

The clearance is adjusted by replacing the existing tappet shim by a thicker or thinner shim.

- Remove the intake or exhaust camshafts. (3-18)
- Remove the tappet and shim by fingers or magnetic hand.
- Check the figures printed on the shim. These figures indicate the thickness of the shim, as illustrated.
- Select a replacement shim that will provide a clearance within the specified range. For the purpose of this adjustment, a total of 25 sizes of tappet shim are available ranging from 2.30 to 3.50 mm in steps of 0.05 mm. Fit the selected shim to the valve stem end, with numbers toward tappet. Be sure to check shim size with micrometer to ensure its size.

Refer to the tappet shim selection table (Pages 2-12 and -13) for details.



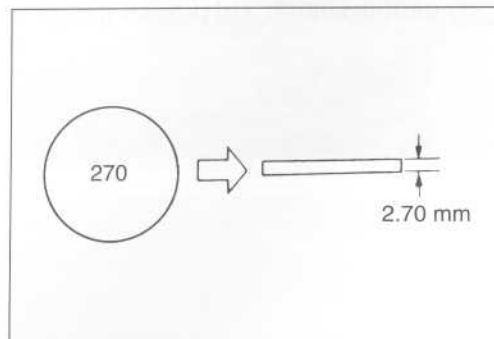
#### NOTE:

- \* Be sure to apply engine oil to tappet shim top and bottom faces.
- \* When seating the tappet shim, be sure to face figure printed surface to the tappet.

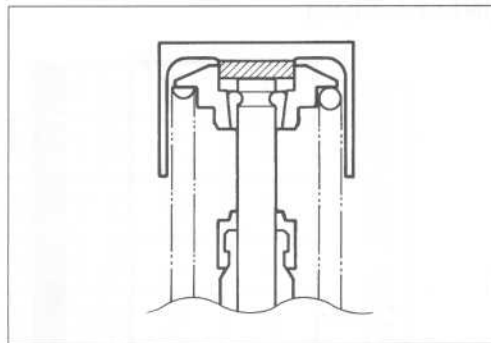
#### CAUTION

**Reinstall the camshafts as the specified manner.**

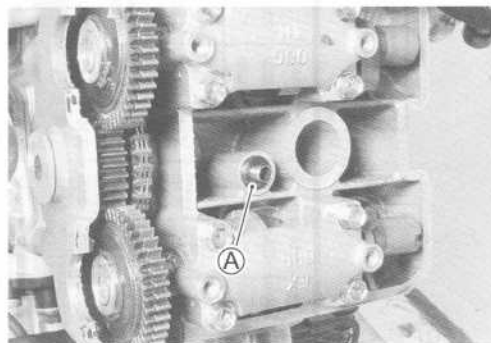
(3-106)



- After replacing the tappet shim and camshafts, rotate the engine so that the tappet is depressed fully. This will squeeze out oil trapped between the shim and the tappet that could cause an incorrect measurement, then check the clearance again to confirm that it is within the specified range.
- After finishing the tappet clearance adjustment, reinstall the following items.
- When installing the cylinder head cover, do not forget the gasket (A).



	Page
* Cylinder head cover .....	3-112
* Spark plug and plug cap.....	2-8
* Radiator.....	5-5
* Seat.....	6-7



(INTAKE SIDE)

TAPPET SHIM SELECTION TABLE [INTAKE]  
TAPPET SHIM NO. (12892-41C00-XXX)

TAPPET SHIM SET (12800-41810)

		OPTION																									
		SUFFIX NO.	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350
MEASURED TAPPET CLEARANCE (mm)		PRESENT SHIM SIZE (mm)	2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50
0.00-0.04					2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40
0.05-0.09			2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	
0.10-0.20			SPECIFIED CLEARANCE/NO ADJUSTMENT REQUIRED																								
0.21-0.25			2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	
0.26-0.30			2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50		
0.31-0.35			2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50			
0.36-0.40			2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50				
0.41-0.45			2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50					
0.46-0.50			2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50						
0.51-0.55			2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50							
0.56-0.60			2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50								
0.61-0.65			2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50									
0.66-0.70			2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50										
0.71-0.75			2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50											
0.76-0.80			2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50												
0.81-0.85			3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50													
0.86-0.90			3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50														
0.91-0.95			3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50															
0.96-1.00			3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																
1.01-1.05			3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																	
1.06-1.10			3.25	3.30	3.35	3.40	3.45	3.50	3.50																		
1.11-1.15			3.30	3.35	3.40	3.45	3.50	3.50																			
1.16-1.20			3.35	3.40	3.45	3.50	3.50																				
1.21-1.25			3.40	3.45	3.50	3.50																					
1.26-1.30			3.45	3.50	3.50																						
1.31-1.35			3.50	3.50																							
1.36-1.40			3.50																								

## HOW TO USE THIS CHART:

- I . Measure tappet clearance. "ENGINE IS COLD"
- II . Measure present shim size.
- III . Match clearance in vertical column with present shim size in horizontal column.

## EXAMPLE

Tappet clearance is      0.23 mm  
 Present shim size        2.70 mm  
 Shim size to be used    2.80 mm

TAPPET SHIM SELECTION TABLE [EXHAUST]  
TAPPET SHIM NO. (12892-41C00-XXX)

TAPPET SHIM SET (12800-41810)

MEASURED TAPPET CLEARANCE (mm)	SUFFIX NO.  PRESENT SHIM SIZE (mm)	OPTION				230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350
		2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50
0.00-0.04						2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50
0.05-0.09					2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50
0.10-0.14				2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50
0.15-0.19			2.30	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50
0.20-0.30		SPECIFIED CLEARANCE/NO ADJUSTMENT REQUIRED																												
0.31-0.35		2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.36-0.40		2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.41-0.45		2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.46-0.50		2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.51-0.55		2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.56-0.60		2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.61-0.65		2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.66-0.70		2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.71-0.75		2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.76-0.80		2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.81-0.85		2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.86-0.90		2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.91-0.95		3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
0.96-1.00		3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.01-1.05		3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.06-1.10		3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.11-1.15		3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.16-1.20		3.25	3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.21-1.25		3.30	3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.26-1.30		3.35	3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.31-1.35		3.40	3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.36-1.40		3.45	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.41-1.45		3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
1.46-1.50		3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

## HOW TO USE THIS CHART:

- I. Measure tappet clearance. "ENGINE IS COLD"
- II. Measure present shim size.
- III. Match clearance in vertical column with present shim size in horizontal column.

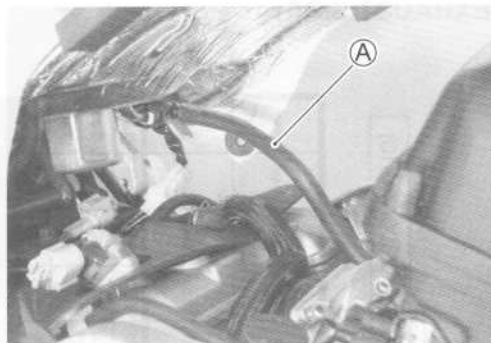
## EXAMPLE

Tappet clearance is 0.38 mm  
Present shim size 2.90 mm  
Shim size to be used 3.05 mm

## FUEL HOSE

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

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



## 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.

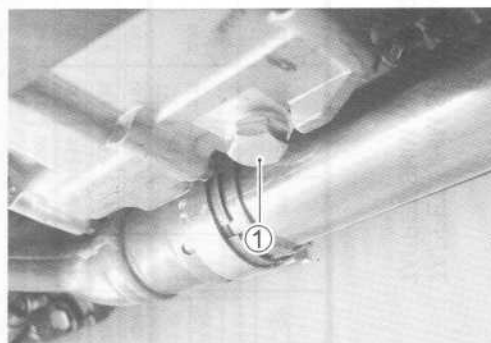
### (OIL FILTER)

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

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.

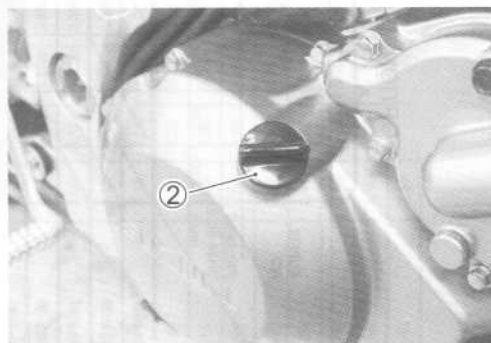
## ENGINE OIL REPLACEMENT

- Keep the motorcycle upright.
- Place an oil pan below the engine, and drain oil by removing the drain plug ① and filler cap ②.



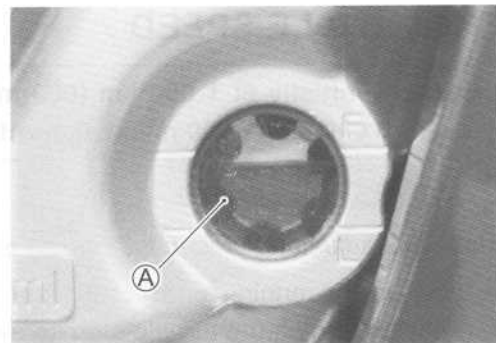
- Tighten the drain plug ① to the specified torque, and pour fresh oil through the oil filler. The engine will hold about 2.7 L (2.9/2.4 US/Imp qt) of oil. Use an API classification of SF or SG oil with SAE 10W-40 viscosity.

 Oil drain plug: 23 N·m (2.3 kgf-m, 16.5 lb-ft)



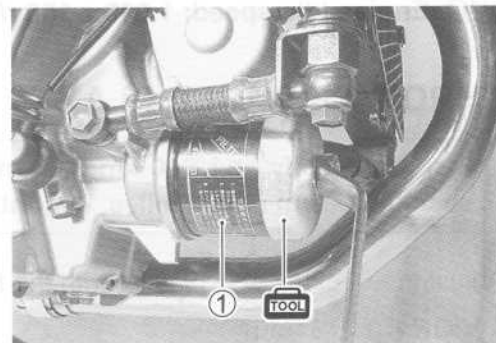


- Start up the engine and allow it to run for several minutes at idling speed.
- Turn off the engine and wait about three minutes, then check the oil level through the inspection window (A). If the level is below mark "L", add oil to "F" level. If the level is above mark "F", drain oil to "F" level.



### OIL FILTER REPLACEMENT

- Remove the under cowling. (6-5)
- Drain engine oil in the same manner of engine oil replacement procedure.
- Remove the oil filter (1) by using the oil filter wrench. (Special tool)
- Apply engine oil lightly to the O-ring of the new filter before installation.
- Install the new filter turning it by hand until you feel that the filter O-ring contacts the mounting surface. Then tighten it 2 turns using the oil filter wrench.



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

#### NOTE:

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

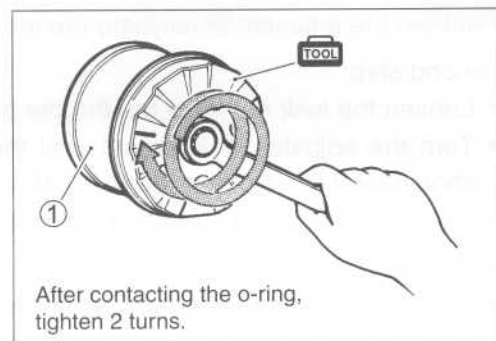
- Pour fresh engine oil and check the oil level in the same manner of engine oil replacement procedure.

#### **DATA** Engine oil capacity

Oil change: 2.7 L (2.9/2.4 US/Imp qt)

Filter change: 2.9 L (3.1/2.6 US/Imp qt)

Overhaul engine: 3.3 L (3.5/2.9 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.



## ENGINE IDLE SPEED

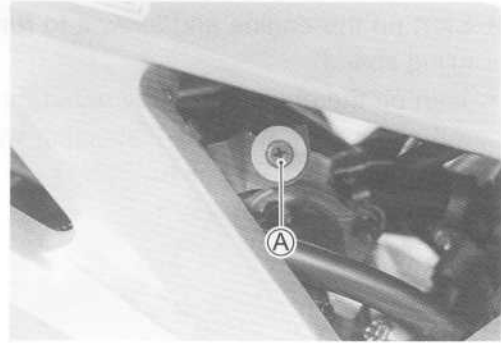
Inspect initially at 1 000 km (600 miles, 1 month) and every 6 000 km (4 000 miles, 6 months) thereafter.

### NOTE:

Make this adjustment when the engine is hot.

- Start up the engine and set its idle speed to the specified range by turning the throttle stop screw (A).

**DATA** Engine idle speed: 1 200 ± 100 r/min



## 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) with the following three steps.

### MINOR ADJUSTMENT

First step:

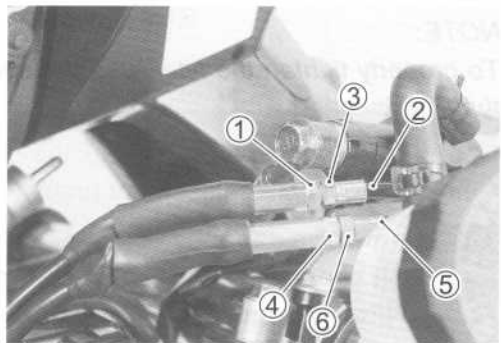
- Loosen the lock nut (1) of the throttle returning cable (2) and turn in the adjuster (3) fully into the threads.

Second step:

- Loosen the lock nut (4) of the throttle pulling cable (5).
- Turn the adjuster (6) in or out until the throttle cable play (A) should be 2.0 – 4.0 mm (0.08 – 0.16 in) at the throttle grip.
- Tighten the lock nut (4) while holding the adjuster (6).

Third step:

- While holding the throttle grip at the fully closed position, slowly turn out the adjuster (3) of the throttle returning cable (2) to feel resistance.
- Tighten the lock nut (1) while holding the adjuster (3).



**DATA** Throttle cable play (A): 2.0 – 4.0 mm (0.08 – 0.16 in)

### ⚠ WARNING

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

### NOTE:

Major adjustment can be made by the throttle body side adjuster.

## MAJOR ADJUSTMENT

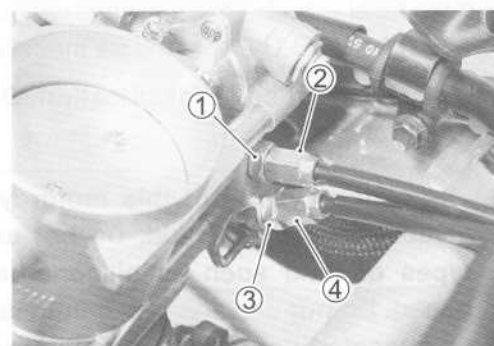
- Lift and support the fuel tank. (☞ 4-65)
- Remove the air cleaner box. (☞ 4-75)
- Loosen the lock nut ① of the throttle returning cable.
- Turn the returning cable adjuster ② to obtain proper cable play.
- Loosen the lock nut ③ of the throttle pulling cable.
- Turn the pulling cable adjuster ④ in or out until the throttle cable play A should be 2.0 – 4.0 mm (0.08 – 0.16 in) at the throttle grip.
- Tighten the lock nut ③ securely while holding the adjuster ④.

**DATA** Throttle cable play A: 2.0 – 4.0 mm (0.08 – 0.16 in)

- While holding the throttle grip at the fully closed position, slowly turn the returning cable adjuster ② to obtain a slack of 1.0 mm (0.04 in).
- Tighten the lock nut ① securely.

### ⚠ WARNING

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



## THROTTLE VALVE SYNCHRONIZATION

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

(☞ 4-88)

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

Inspect every 12 000 km (7 500 miles, 12 months).  
Replace vapor hose every 4 years.

(☞ 9-5)

## PAIR (AIR SUPPLY) SYSTEM

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

(☞ 9-6)

## CLUTCH

### (CLUTCH HOSE AND CLUTCH FLUID)

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

Replace hose every 4 years.

Replace fluid every 2 years.

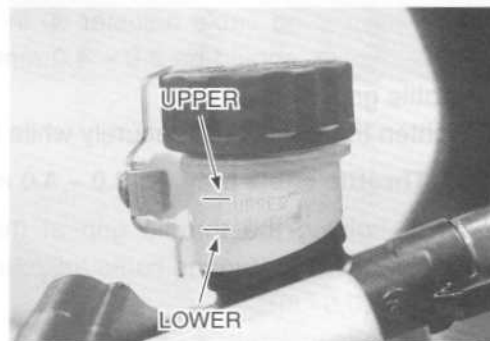
### CLUTCH FLUID LEVEL

- Keep the motorcycle upright and place the handlebars straight.
- Check the clutch fluid level by observing the lower limit line on the clutch fluid reservoir.
- If the level is found to be lower than the lower mark, replenish with BRAKE FLUID that meets the following specification.

**Specification and Classification: DOT 4**

### ⚠ WARNING

The clutch 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 periods. Check the clutch hose and hose joints for cracks and oil leakage.



### BLEEDING AIR FROM THE CLUTCH FLUID CIRCUIT

The clutch fluid circuit may be purged of air in the following manner.

- Keep the motorcycle upright and place the handlebars straight.
- Fill up the master cylinder reservoir to the upper end of the inspection window. Replace the reservoir cap to prevent entry of dirt.
- Attach a pipe to the bleeder valve and insert the free end of the pipe into a receptacle.
- Squeeze and release the clutch 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 fluid runs into the receptacle; this will remove the tension of the clutch 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.
- Close the bleeder valve, and disconnect the pipe. Fill the reservoir with brake fluid to the upper end of the inspection window.



**⚙ Air bleeder valve: 5.4 N·m (0.54 kgf-m, 4.0 lb-ft)**

## COOLING SYSTEM

Inspect every 6 000 km (4 000 miles, 6 months).  
Replace engine coolant every 2 years.

### ENGINE COOLANT LEVEL CHECK

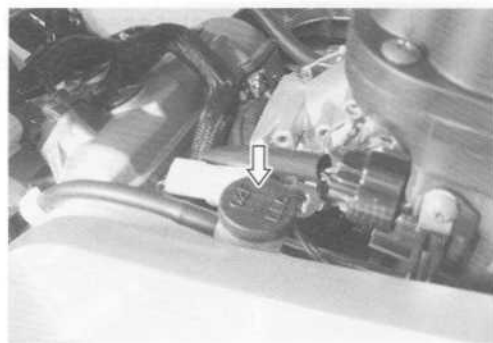
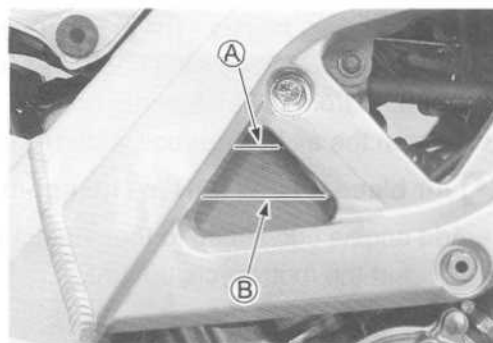
- Keep the motorcycle upright.
- Check the engine coolant level by observing the full and lower lines on the engine coolant reserve tank.

(A) Full line      (B) Lower line

- If the level is below the lower line, add engine coolant to the full line from the engine coolant reserve tank filler.

#### NOTE:

To remove the filler cap, lift and support the fuel tank. (☞ 4-65)

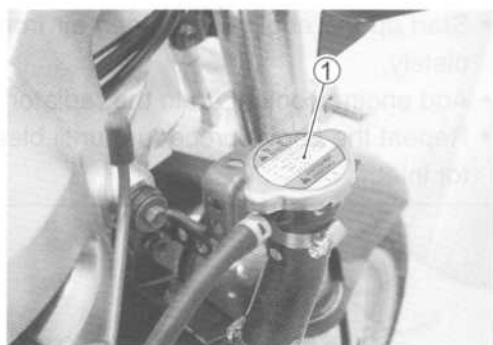


### ENGINE COOLANT CHANGE

- Remove the front cowl body. (☞ 6-5 and -6)
- Remove the radiator cap ①.
- Drain engine coolant by removing the drain bolt (A).

#### ⚠ WARNING

- \* Do not open the radiator cap when the engine is hot, as you may be injured by escaping hot liquid or vapor.
- \* Engine coolant may be harmful if swallowed or if it comes in contact with skin or eyes. If engine coolant gets into the eyes or in contact with the skin, flush thoroughly with plenty of water. If swallowed, induce vomiting and call physician immediately!



- Flush the radiator with fresh water if necessary.
- Tighten the water drain bolt (A) to the specified torque.

#### Water drain bolt (A): 5.5 N·m (0.55 kgf-m, 4.0 lb-ft)

- Pour the specified engine coolant up to the radiator inlet.
- Bleed the air from the engine coolant circuit as following procedure.

#### NOTE:

For engine coolant information, refer to page 5-3.

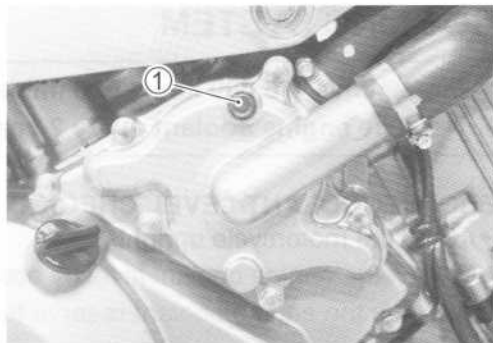


**AIR BLEEDING FROM THE ENGINE COOLANT CIRCUIT**

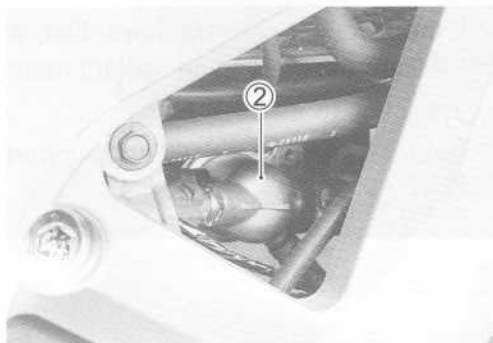
- Remove the front cowling body. (☞ 6-5 and -6)
- Bleed air from the air bleeder bolt ①.
- Tighten the air bleeder bolt ① to the specified torque.

**🔧 Air bleeder bolt: 10 N·m (1.0 kgf-m, 7.3 lb-ft)**

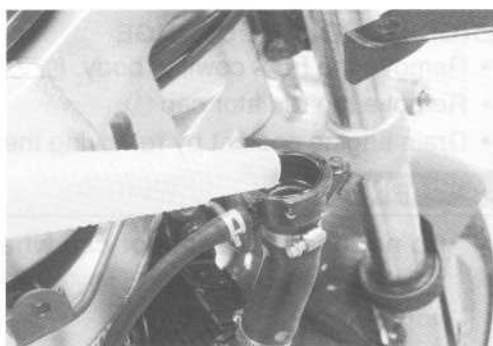
- Add engine coolant up to the radiator inlet.
- Support the motorcycle upright.



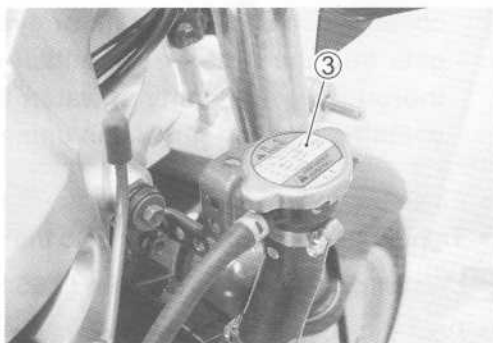
- Lightly tap the thermostat case ② and slowly swing the motorcycle, right and left, to bleed the air trapped in the case ②.
- Add engine coolant up to the radiator inlet.



- Start up the engine and bleed air from the radiator inlet completely.
- Add engine coolant up to the radiator inlet.
- Repeat the above procedure until bleed no air from the radiator inlet.



- Close the radiator cap ③ securely.
- After warming up and cooling down the engine several times, add the engine coolant up to the full level of the reserve tank.

**CAUTION**

Repeat the above procedure several times and make sure that the radiator is filled with engine coolant up to the reserve tank full level.

**🔧 Engine coolant capacity**

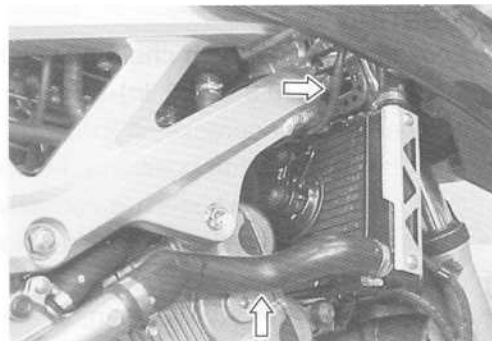
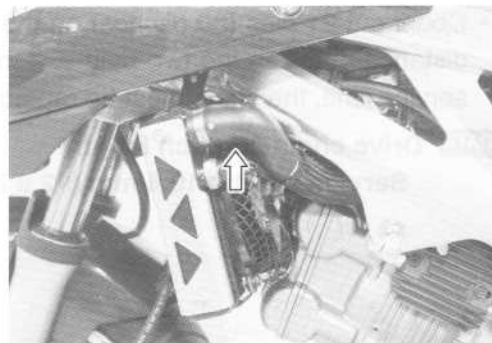
Reverse tank side : 250 ml (0.3/0.2 US/Imp qt)

Engine side : 1 950 ml (2.1/1.7 US/Imp qt)

## RADIATOR HOSES

Check to see the radiator hoses for crack, damage or engine coolant leakage.

If any defects are found, replace the radiator hoses with new ones.



## DRIVE CHAIN

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

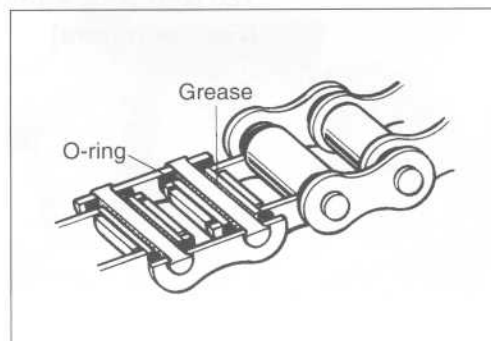
Visually check the drive chain for the possible defects listed below. (Support the motorcycle by a jack and a wooden block, turn the rear wheel slowly by hand with the transmission shifted to Neutral.)

- |                           |                             |
|---------------------------|-----------------------------|
| * Loose pins              | * 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.

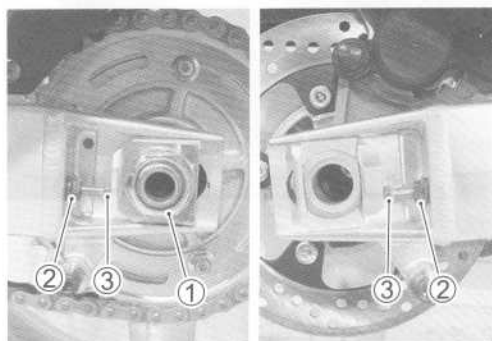
### NOTE:

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



## CHECKING

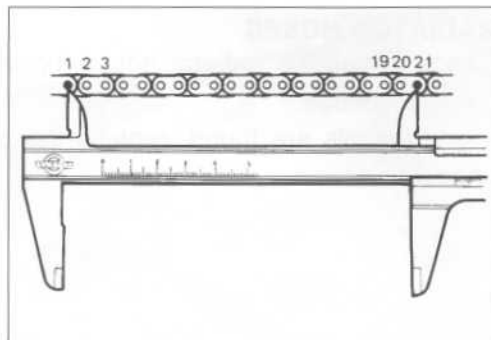
- Remove the axle cotter pin. (For E-03, 28 and 33 models)
- Loosen the axle nut ①.
- Loosen the chain adjuster lock nuts ②.
- Tense the drive chain fully by turning both chain adjusters ③.





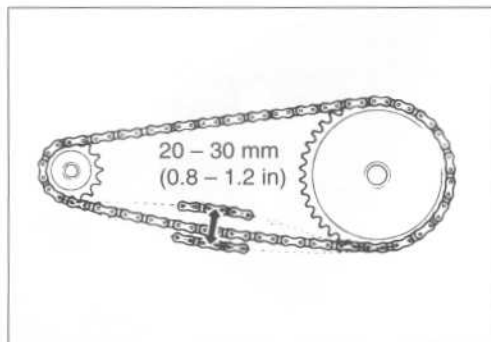
- Count out 21 pins (20 pitches) on the chain and measure the distance between the two points. If the distance exceeds the service limit, the chain must be replaced.

**DATA** Drive chain 20-pitch length  
Service Limit: 319.4 mm (12.6 in)

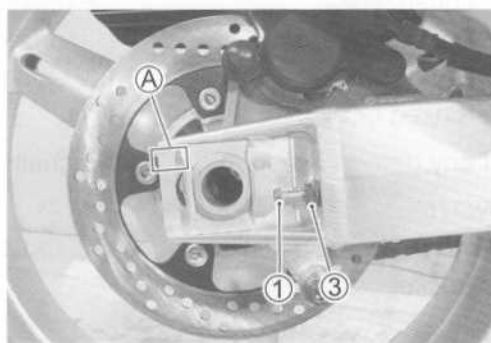
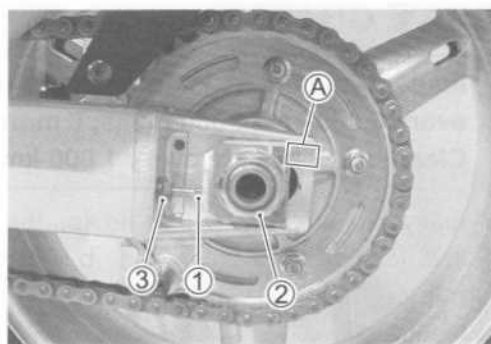


### ADJUSTING

- Loosen or tighten both chain adjusters ① until the chain has 20 – 30 mm (0.8 – 1.2 in) of slack in the middle between engine and rear sprockets. The ends of left and right spacers must be at the same position on the scales ④ 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 ② to the specified torque.
- Recheck the drive chain slack after tightening the axle nut ②.
- Tighten both chain adjuster lock nuts ③ securely.



**ⓘ** Rear axle nut: 100 N·m (10.0 kgf-m, 72.5 lb-ft)  
[For E-03, 28, 33]  
120 N·m (12.0 kgf-m, 87.0 lb-ft)  
[For the others]





**CLEANING AND LUBRICATING**

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

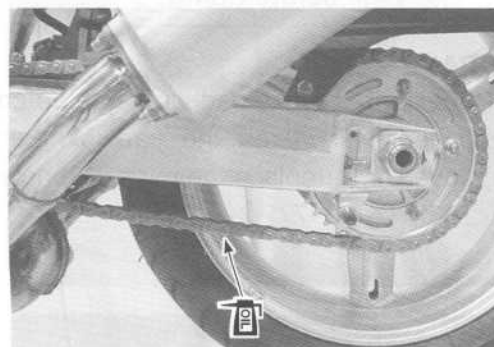
**CAUTION**

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**

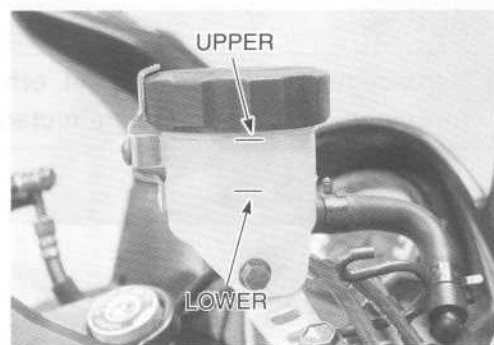
- \* Do not use any oil sold commercially as "drive chain oil". Such oil can damage the O-rings (or seals).
- \* The standard drive chain is RK530SMOZ1. SUZUKI recommends that this standard drive chain should be used for the replacement.

**BRAKE****(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)**

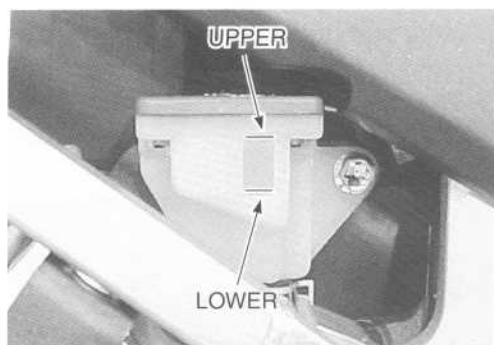
Inspect every 6 000 km (4 000 miles, 6 months). Replace hoses every 4 years. Replace fluid every 2 years.

**BRAKE FLUID LEVEL CHECK**

- 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.



**Specification and Classification: DOT 4**



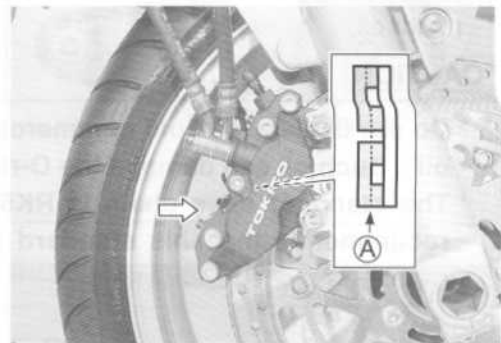
**⚠ WARNING**

- \* 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.
- \* 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.

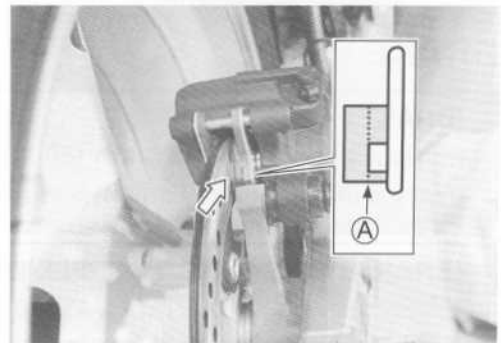
**BRAKE PADS**

The extent of brake pad wear can be checked by observing the grooved limit **A** on the pad. When the wear exceeds the grooved limit, replace the pads with new ones.

(➡ 6-66 and -77)

**CAUTION**

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

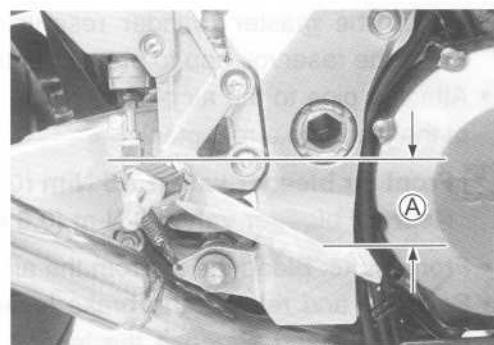
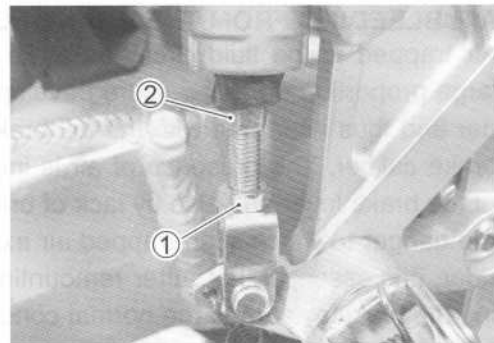


**BRAKE PEDAL HEIGHT**

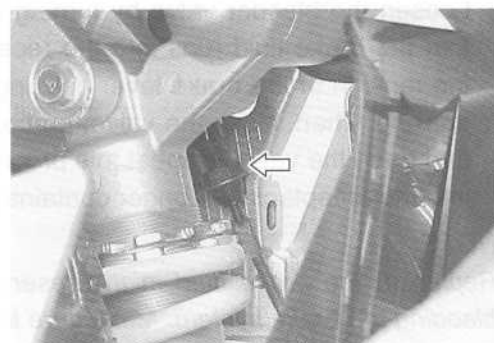
- Loosen the lock nut ① and rotate the push rod ② to locate brake pedal 55 – 65 mm (2.17 – 2.56 in) A below the top face of the footrest.
- Retighten the lock nut ① to secure the push rod ② in the proper position.

**DATA** Brake pedal height A: 55 – 65 mm (2.17 – 2.56 in)

**U** Rear brake master cylinder rod lock nut ①:  
18 N·m (1.8 kgf-m, 13.0 lb-ft)

**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 FROM 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. Place the reservoir cap to prevent entry of dirt.
- Attach a pipe to the air bleeder valve, and insert the free end of the pipe into a receptacle.

**Front air bleeder valve: 7.5 N·m (0.75 kgf-m, 5.5 lb-ft)**  
**Rear air bleeder valve: 6 N·m (0.6 kgf-m, 4.4 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 handle-bar 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:**

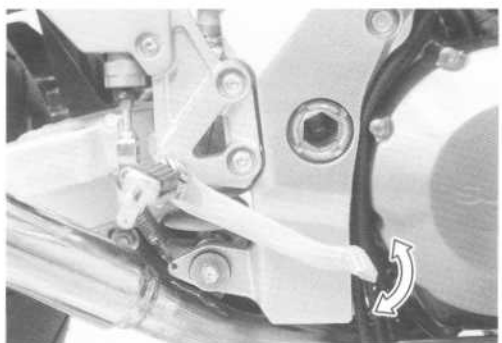
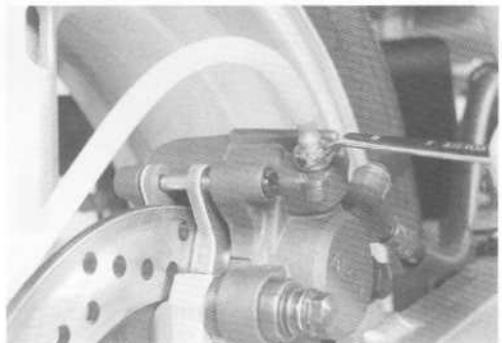
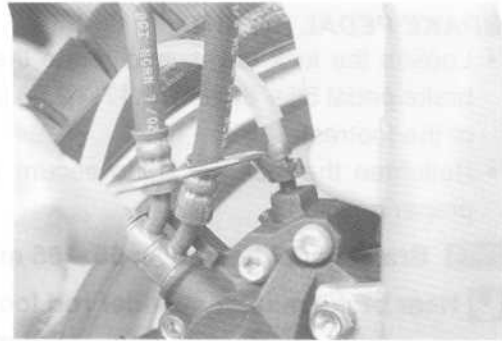
*Replenish the brake fluid in the reservoir as necessary while bleeding the brake system. Make sure that there is always some fluid visible in the reservoir.*

- Close the bleeder valve, and disconnect the pipe. Fill the reservoir with brake fluid to the "UPPER" line.

**CAUTION**

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

- 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, 6 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.

**TOOL** 09900-20805: Tire depth gauge

**DATA** Tire tread depth

Service 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	kgf/cm <sup>2</sup>	psi	kPa	kgf/cm <sup>2</sup>	psi
FRONT	250	2.50	36	250	2.50	36
REAR	250	2.50	36	290	2.90	42

### CAUTION

The standard tire fitted on this motorcycle is 120/70 ZR17M/C (58W) for front and 180/55 ZR17M/C (73W) for rear. The use of tires other than those specified may cause instability. It is highly recommended to use a SUZUKI Genuine Tire.

### TIRE TYPE

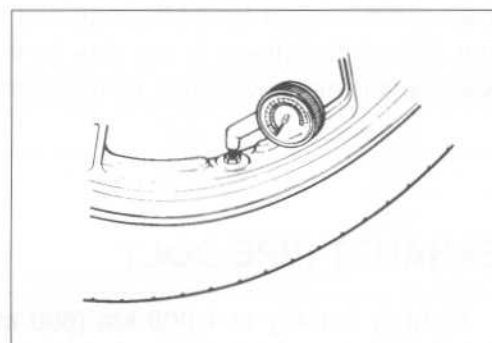
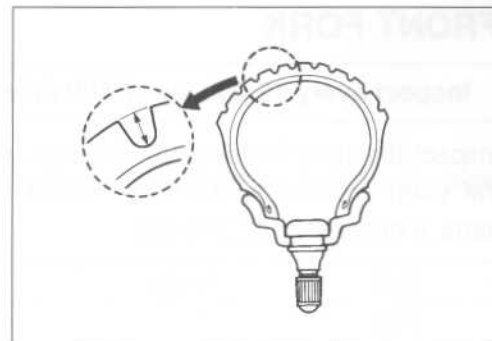
MICHELIN (FRONT) : PILOT SPORT E

(REAR) : PILOT SPORT L

## STEERING

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

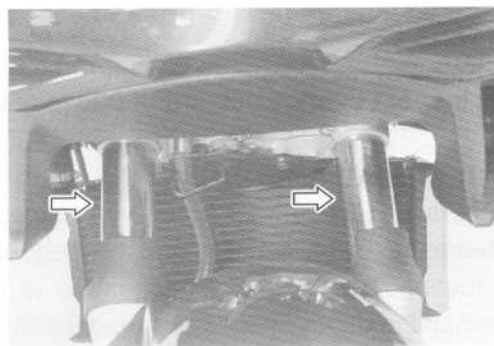
Steering should be adjusted properly for smooth turning of handlebars and safe running. Overtight steering prevents smooth turning of the handlebars and too loose steering will cause poor stability. Check that there is no play in the steering stem while grasping the lower fork tubes by supporting the machine so that the front wheel is off the ground, with the wheel straight ahead, and pull forward. If play is found, perform steering bearing adjustment as described in page 6-36 of this manual.



## FRONT FORK

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

Inspect the front forks for oil leakage, scoring or scratches on the outer surface of the inner tubes. Replace any defective parts, if necessary. (🔧 6-20)



## REAR SUSPENSION

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

Inspect the damper for oil leakage and the spring unit for damage. Check that there is no play in the swingarm assembly. Replace any defective parts, if necessary. (🔧 6-51)



## EXHAUST PIPE BOLT

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

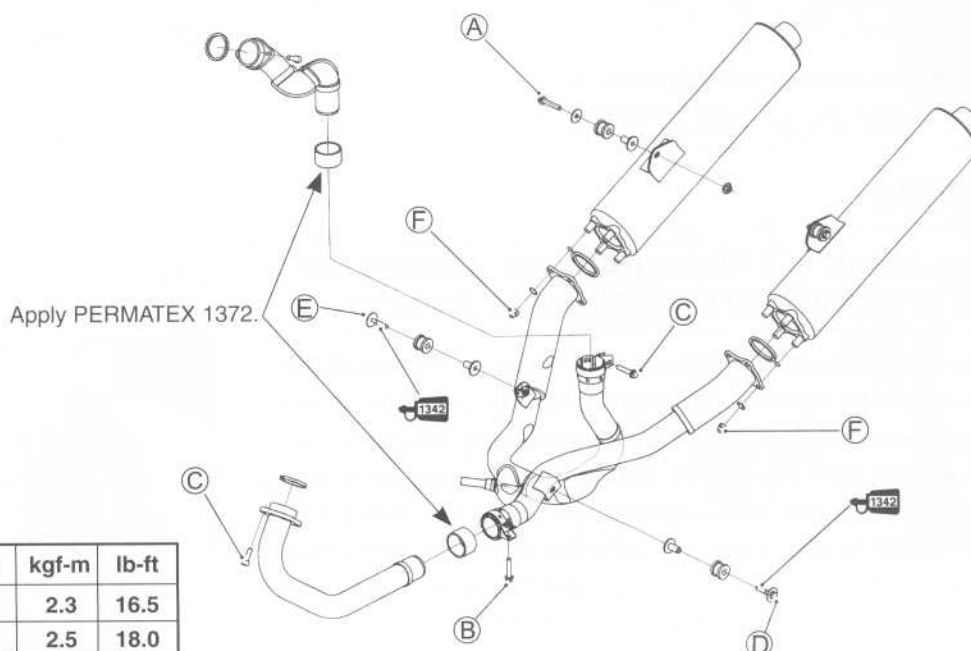
- Tighten the exhaust pipe bolts and muffler mounting bolts to the specified torque.

 **Muffler mounting bolt and exhaust pipe bolt (A B C D E): 23 N·m (2.3 kgf-m, 16.5 lb-ft)**

**Muffler mounting nut (F): 25 N·m (2.5 kgf-m, 18.0 lb-ft)**

 **99000-32050: THREAD LOCK "1342"**

**EXHAUST GAS SEALER: PERMATEX 1372**



ITEM	N·m	kgf-m	lb-ft
(A B C D E)	23	2.3	16.5
(F)	25	2.5	18.0



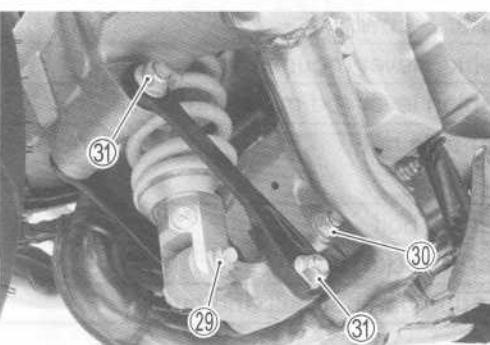
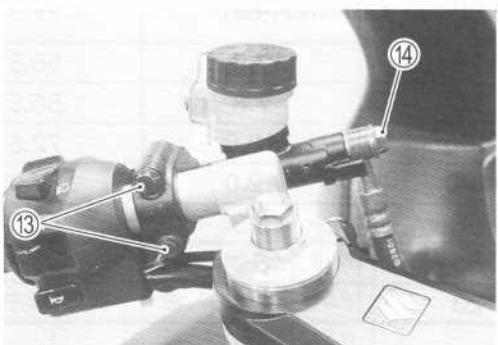
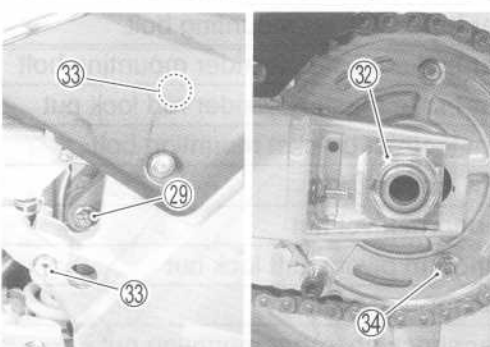
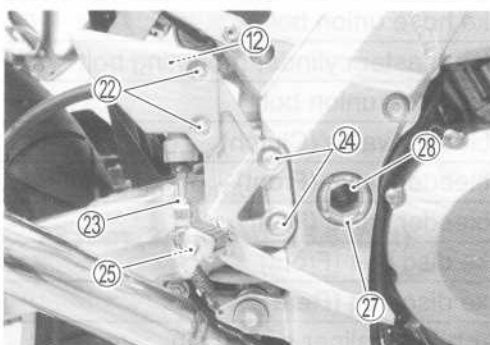
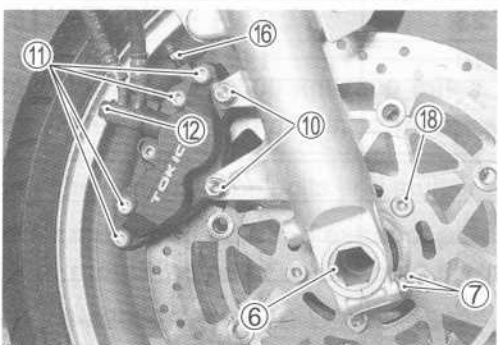
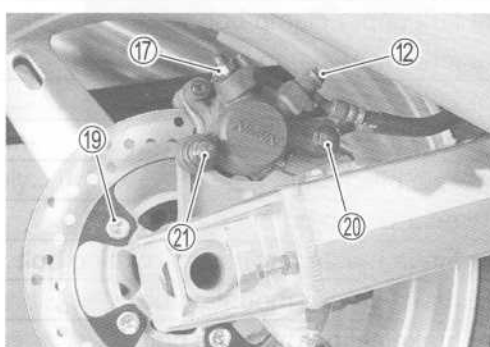
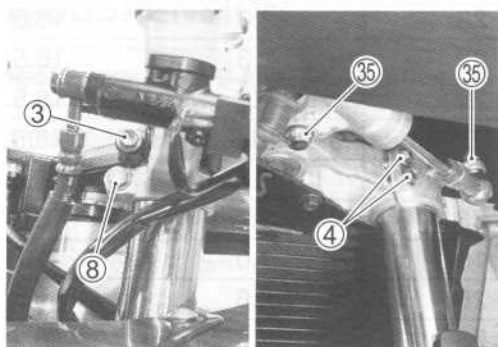
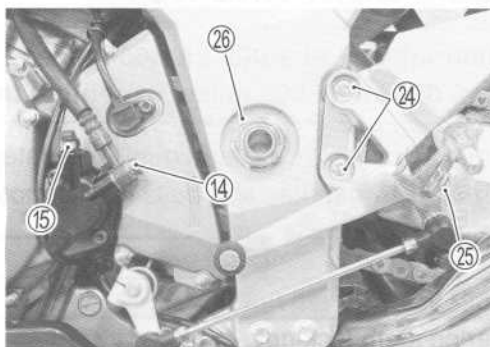
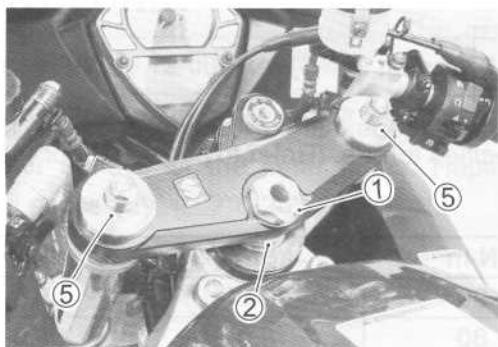
## CHASSIS BOLT AND NUT

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

Check that all chassis bolts and nuts are tightened to their specified torque. (Refer to page 2-30 for the locations of the following nuts and bolts on the motorcycle.)

ITEM	N-m	kgf-m	lb-ft
① Steering stem head nut	90	9.0	65.0
② Steering stem lock nut	80	8.0	58.0
③ Front fork upper clamp bolt	23	2.3	16.5
④ Front fork lower clamp bolt	23	2.3	16.5
⑤ Front fork cap bolt	23	2.3	16.5
⑥ Front axle	100	10.0	72.5
⑦ Front axle pinch bolt	23	2.3	16.5
⑧ Handlebar clamp bolt	23	2.3	16.5
⑨ Front brake master cylinder mounting bolt	10	1.0	7.0
⑩ Front brake caliper mounting bolt	26	2.6	19.0
⑪ Front brake caliper housing bolt	23	2.3	16.5
⑫ Brake hose union bolt	23	2.3	16.5
⑬ Clutch master cylinder mounting bolt	10	1.0	7.0
⑭ Clutch hose union bolt	23	2.3	16.5
⑮ Air bleeder valve (Clutch)	5.4	0.54	4.0
⑯ Air bleeder valve (Front)	7.5	0.75	5.5
⑰ Air bleeder valve (Rear)	6	0.6	4.4
⑱ Brake disc bolt (Front)	23	2.3	16.5
⑲ Brake disc bolt (Rear)	35	3.5	25.5
⑳ Rear brake caliper sliding pin	27	2.7	20.0
㉑ Rear brake caliper mounting bolt	23	2.3	16.5
㉒ Rear brake master cylinder mounting bolt	10	1.0	7.0
㉓ Rear brake master cylinder rod lock nut	18	1.8	13.0
㉔ Front footrest bracket mounting bolt	23	2.3	16.5
㉕ Front footrest bolt	39	3.9	28.0
㉖ Swingarm pivot nut	100	10.0	70.0
㉗ Swingarm pivot shaft lock nut	90	9.0	65.0
㉘ Swingarm pivot shaft	15	1.5	11.0
㉙ Rear shock absorber mounting nut (Upper & Lower)	50	5.0	36.0
㉚ Cushion lever mounting nut	78	7.8	56.5
㉛ Cushion lever rod mounting nut	78	7.8	56.5
㉜ Rear axle nut	(For E-03, 28, 33)	100	72.5
	(For the others)	120	87.0
㉝ Seat rail bolt	55	5.5	40.0
㉞ Rear sprocket nut	60	6.0	43.5
㉟ Steering damper bolt and nut	23	2.3	16.5





## COMPRESSION PRESSURE CHECK

The compression of a cylinder is a good indicator of its internal condition.

The decision to overhaul the cylinder is often based on the results of a compression test. Periodic maintenance records kept at your dealership should include compression readings for each maintenance service.

### COMPRESSION PRESSURE SPECIFICATION (Automatic de-comp. actuated)

Standard	Limit	Difference
1 000 – 1 400 kPa (10 – 14 kgf/cm <sup>2</sup> , 142 – 199 psi)	800 kPa (8 kgf/cm <sup>2</sup> , 114 psi)	200 kPa (2 kgf/cm <sup>2</sup> , 28 psi)

### Low compression pressure can indicate any of the following conditions:

- \* Worn-down piston or piston rings
- \* Piston rings stuck in grooves
- \* Poor seating of valves
- \* Ruptured or otherwise defective cylinder head gasket

### Overhaul the engine in the following cases:

- \* Compression pressure in one of the cylinders is less than 800 kPa (8 kgf/cm<sup>2</sup>, 114 psi).
- \* Difference in compression pressure between two cylinders is more than 200 kPa (2 kgf/cm<sup>2</sup>, 28 psi).
- \* All compression pressure are below 1 000 kPa (10 kgf/cm<sup>2</sup>, 142 psi) even when they measure more than 800 kPa (8 kgf/cm<sup>2</sup>, 114 psi).

## COMPRESSION TEST PROCEDURE

### NOTE:

- \* Before testing the engine for compression pressure, make sure that the cylinder head bolts are tightened to the specified torque values and valves are properly adjusted.
- \* Have the engine warmed up by idling before testing.
- \* Be sure that the battery used is in fully-charged condition.

Remove the parts concerned and test the compression pressure in the following manner.

- Lift and support the fuel tank. (☞ 4-65)
- Remove the radiator mounting bolts and move the radiator forward.
- Remove all the spark plugs. (☞ 2-6)
- Fit the compression gauge in one of the plug holes, while taking care of the tight connection.
- Keep the throttle grip in full-open position.
- While cranking the engine a few seconds with the starter, and record the maximum gauge reading as the compression of that cylinder.
- Repeat this procedure with an other cylinder.

**TOOL** 09915-64512: Compression gauge  
09913-10750: Compression gauge adaptor



## OIL PRESSURE CHECK

Check periodically the oil pressure in the engine to judge roughly the condition of the moving parts.

### OIL PRESSURE SPECIFICATION

Above 350 kPa (3.5 kgf/cm <sup>2</sup> , 50 psi) Below 650 kPa (6.5 kgf/cm <sup>2</sup> , 92 psi)	at 3 000 r/min, Oil temp. at 60°C (140°F)
--	---

If the oil pressure is lower or higher than the specification, the following causes may be considered.

### LOW OIL PRESSURE

- \* Clogged oil filter
- \* Oil leakage from the oil passage way
- \* Damaged O-ring
- \* Defective oil pump
- \* Combination of the above items


### HIGH OIL PRESSURE

- \* Used of high viscosity engine oil
- \* Clogged oil passage way
- \* Combination of the above items

## OIL PRESSURE TEST PROCEDURE

Start the engine and check if the oil pressure indicator light is turned on. If it keeps on lighting, check the oil pressure indicator light circuit. If it is in good condition, check the oil pressure in the following manner.

- Remove the under cowling. (☞ 6-5)
- Remove the main oil gallery plug ①.
- Install the oil pressure gauge with attachment in the position shown in the photo.
- Warm up the engine as follows:  
 Summer 10 min at 2 000 r/min  
 Winter 20 min at 2 000 r/min
- After warming up, increase the engine speed to 3 000 r/min (with the engine tachometer), and read the oil pressure gauge.

-  **09915-72410: Oil pressure gauge attachment**  
**09915-74521: Oil pressure gauge hose**  
**09915-74532: Oil pressure gauge attachment**  
**09915-77331: Meter (for high pressure)**

-  **Oil gallery plug [M 8]: 18 N·m (1.8 kgf-m, 13.0 lb-ft)**

