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**SUZUKI**

FRONT 20,  
BACK 36+18.

**GSXR1100**

**SERVICE MANUAL**

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## FOREWORD

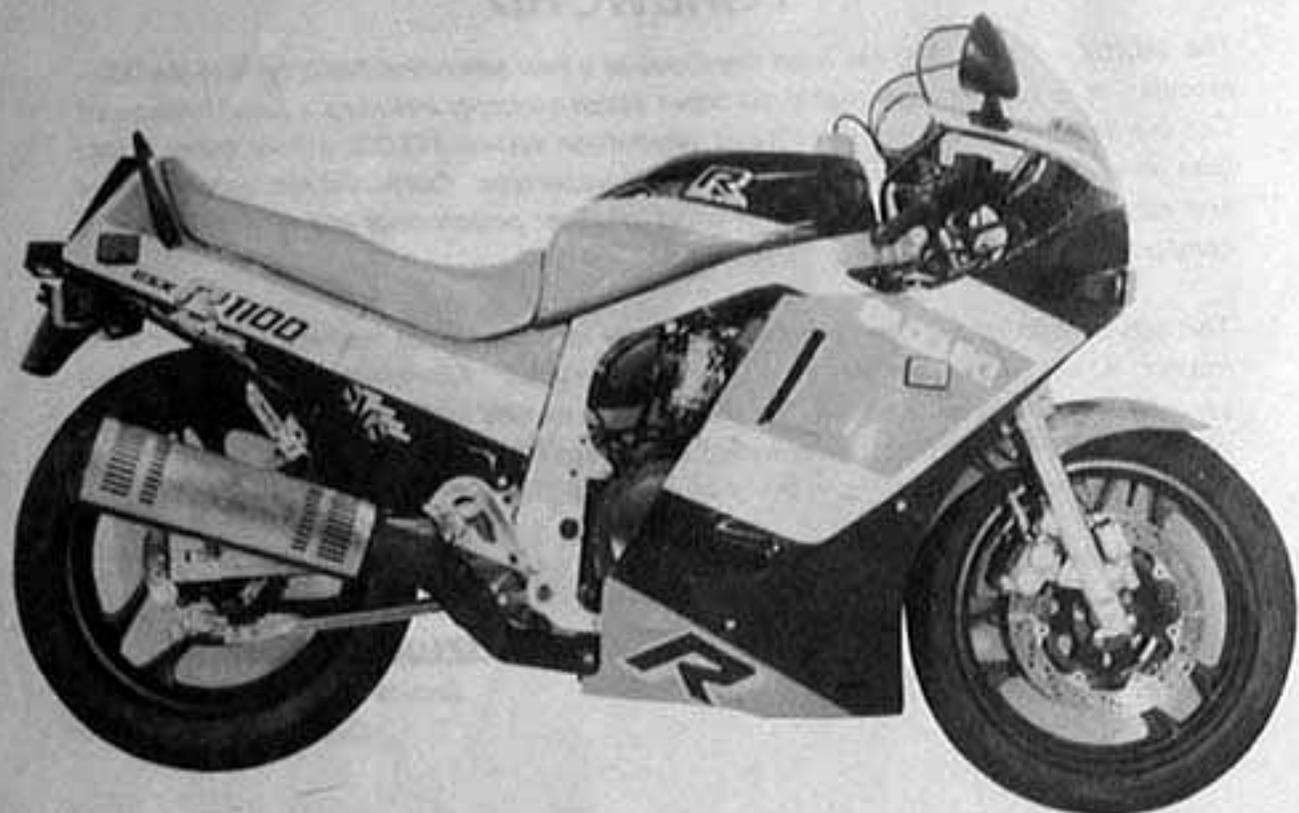
*The SUZUKI GSXR-1100 has been developed as a new generation motorcycle to the GSX-models. It is packed with highly advanced design concepts including a Suzuki Advanced Cooling System, a new highly efficient combustion system (TSCC), a fully transistorized ignition system and a improved full-floater rear suspension. Combined with precise control and easy handling the GSX-R1100 provides excellent performance and outstanding riding comfort.*

*This service manual has been produced primarily for experienced mechanics whose job is to inspect, adjust, repair and service SUZUKI motorcycles. Apprentice mechanics and do-it-yourself mechanics, will also find this manual an extremely useful repair guide. This manual contains the most up-to-date information at the time of publication. The rights are reserved to update or make corrections to this manual at any time.*

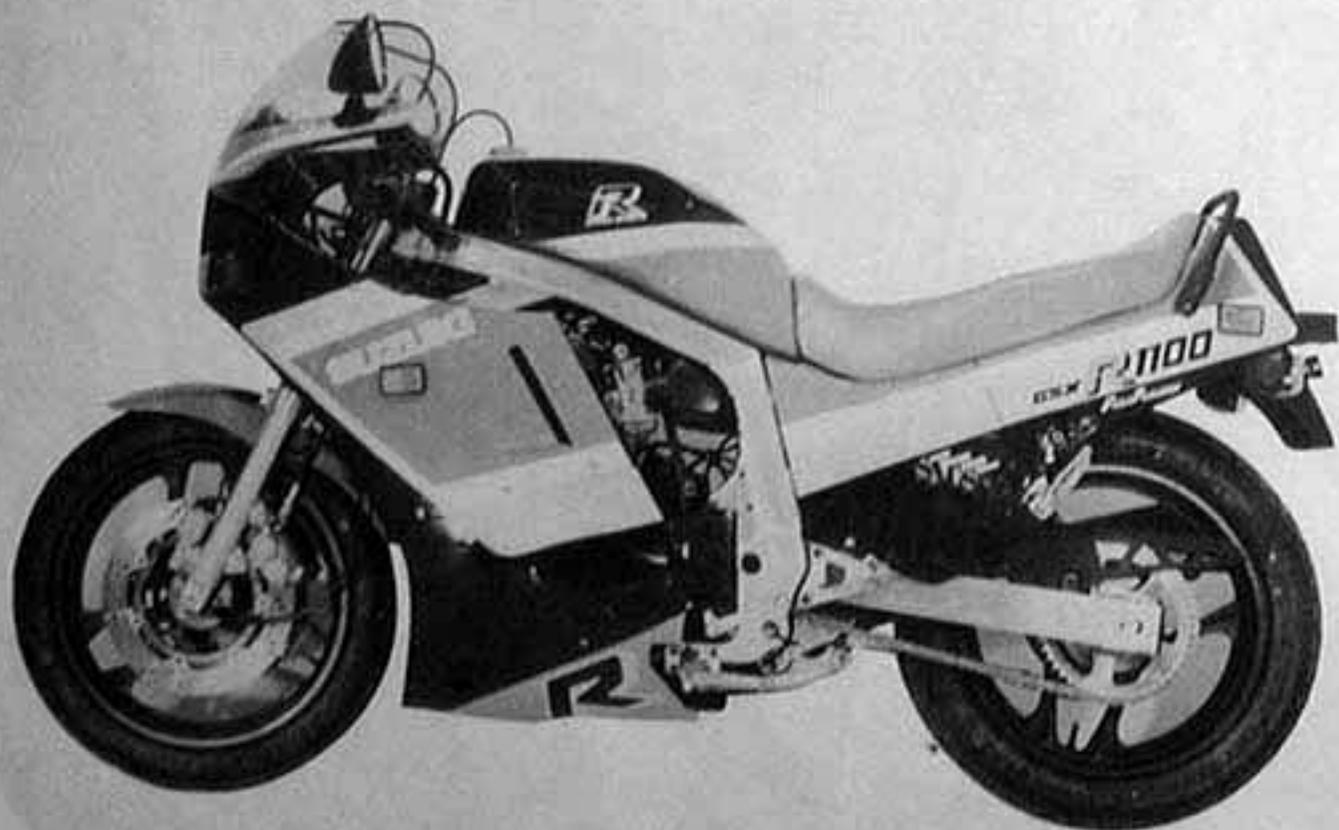
**SUZUKI MOTOR CO., LTD.**  
Service Publications Department  
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VIEW OF GSX-R1100



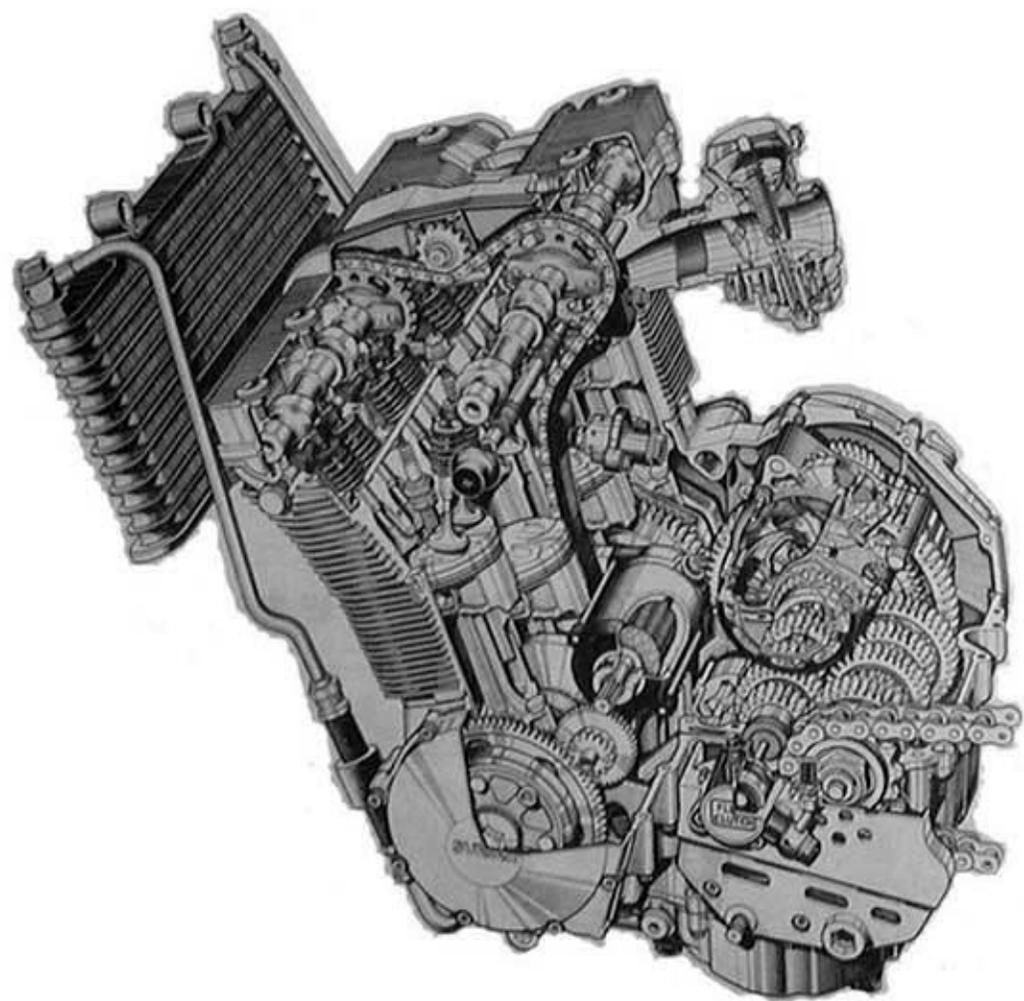
RIGHT SIDE



LEFT SIDE

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## BRAKE AND CLUTCH FLUID

Specification and classification:

SAE J1703, DOT3 or DOT4

## FRONT FORK OIL

Use fork oil #15 . . . . . Only for E-28

Use fork oil #10 . . . . . For the others

## BREAK-IN PROCEDURES

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

### WARNING:

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

- Keep to these break-in engine speed limits:

Initial 800 km (500 miles)	Below 4 000 r/min
Up to 1 600 km (1 000 miles)	Below 6 000 r/min
Over 1 600 km (1 000 miles)	Below 10 500 r/min Below 9 000 r/min . . . . . . Only for E-18

- Upon reaching an odometer reading of 1 600 km (1 000 miles) you can subject the motorcycle to full throttle operation. However, do not exceed 10 500 r/min (9 000 r/min . . . Only for E-18) at any time.

## CYLINDER IDENTIFICATION

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

## SPECIAL MATERIALS

The materials listed below are needed for maintenance work on the GSX-R1100, and should be kept on hand for ready use. They supplement such standard materials as cleaning fluids, lubricants, emery cloth and the like. How to use them and where to use them are described in the text of this manual.

MATERIAL	PART	PAGE	PART	PAGE
 <p>SUZUKI SUPER GREASE "A" 99000-25010</p>	<ul style="list-style-type: none"> <li>• Driveshaft oil seal</li> <li>• Starter motor O-ring</li> <li>• Engine oil pipe O-ring</li> <li>• Generator oil seal</li> <li>• Starter motor oil seal</li> <li>• Wheel bearing</li> <li>• Steering stem bearing</li> <li>• Steering damper bearing</li> <li>• Sprocket mounting drum bearing</li> </ul>	<p>3-54 3-67 3-71 5-7 5-14 6-6 6-41 6-27 6-28 6-41</p>	<ul style="list-style-type: none"> <li>• Swingarm spacer and dust seal</li> <li>• Cushion lever bearing, spacer and dust seal</li> <li>• Shock absorber bearing and dust seal</li> </ul>	<p>6-57 6-57 6-57</p>
 <p>SUZUKI MOLY PASTE 99000-25140</p>	<ul style="list-style-type: none"> <li>• Valve stem</li> <li>• Conrod big end bearing</li> <li>• Countershaft and driveshaft</li> <li>• Crankshaft journal</li> <li>• Camshaft journal</li> <li>• Generator damper</li> <li>• Starter motor armature end</li> <li>• Clutch lever push rod</li> </ul>	<p>3-31 3-43 3-53 3-59 3-72 5-6 5-15 6-63</p>		
 <p>SUZUKI BOND NO. 1207B 99000-31140</p>	<ul style="list-style-type: none"> <li>• Crankcase mating surface</li> <li>• Clutch cover mating surface</li> <li>• Oil pressure switch</li> <li>• Signal generator lead wire grommet</li> <li>• Starter clutch cover mating surface</li> <li>• Cylinder stud bolt</li> <li>• Cylinder head cover</li> </ul>	<p>3-60 3-64 3-65 3-65 3-67 3-69 3-76</p>	<ul style="list-style-type: none"> <li>• Cam end cap</li> </ul>	<p>3-76</p>
 <p>THREAD LOCK SUPER "1303" 99000-32030</p>	<ul style="list-style-type: none"> <li>• Engine sproket nut</li> <li>• Cam sproket bolt</li> <li>• Cam chain guide bolt</li> </ul>	<p>3-9 3-35 3-36</p>		
 <p>THREAD LOCK SUPER "1305" 99000-32100</p>	<ul style="list-style-type: none"> <li>• Starter clutch mounting bolt</li> </ul>	<p>3-66</p>		

MATERIAL	PART	PAGE	PART	PAGE
 <p>THREAD LOCK "1360" 99000-32130</p>	<ul style="list-style-type: none"> <li>• Disc plate mounting bolt</li> </ul>	<p>6-7 6-42</p>		
 <p>THREAD LOCK "1342" 99000-32050</p>	<ul style="list-style-type: none"> <li>• Gearshift cam stopper bolt</li> <li>• Oil pump mounting bolt</li> <li>• Countershaft bearing retainer screw</li> <li>• Gearshift cam guide/pawl lifter screw</li> <li>• Starter motor mounting bolt</li> <li>• Generator bearing retainer screw</li> </ul>	<p>3-22 3-58 3-61 3-62 3-67 5-7</p>	<ul style="list-style-type: none"> <li>• Starter motor housing screw</li> <li>• Front fork damper rod bolt</li> <li>• NEAS unit mounting bolt</li> </ul>	<p>5-15 6-21 6-21</p>
 <p>SUZUKI BRAKE FLUID 99000-23021</p>	<ul style="list-style-type: none"> <li>• Clutch</li> <li>• Brakes</li> </ul>			
 <p>SUZUKI FORK OIL #15 99000-99044-15G (Only for E-28) SUZUKI FORK OIL #10 99000-99044-10G(For the others)</p>				
 <p>Thread lock cement 99000-32040</p>	<ul style="list-style-type: none"> <li>• Carburetor set screw</li> <li>• Starter shaft securing screw</li> </ul>	<p>4-17 4-18</p>		

## PRECAUTIONS AND GENERAL INSTRUCTIONS

Observe the following items without fail when servicing, disassembling and reassembling motorcycles.

- Do not run engine indoors with little or no ventilation.
- Be sure to replace packings, gaskets, circlips, O-rings and cotter pins with new ones.

### CAUTION:

**Never reuse a circlip.** After a circlip has been removed from a shaft, it should be discarded and a new circlip must be installed.

**When installing a new circlip,** care must be taken not to expand the end gap larger than required to slip the circlip over the shaft.

**After installing a circlip,** always insure that it is completely seated in its groove and securely fitted.

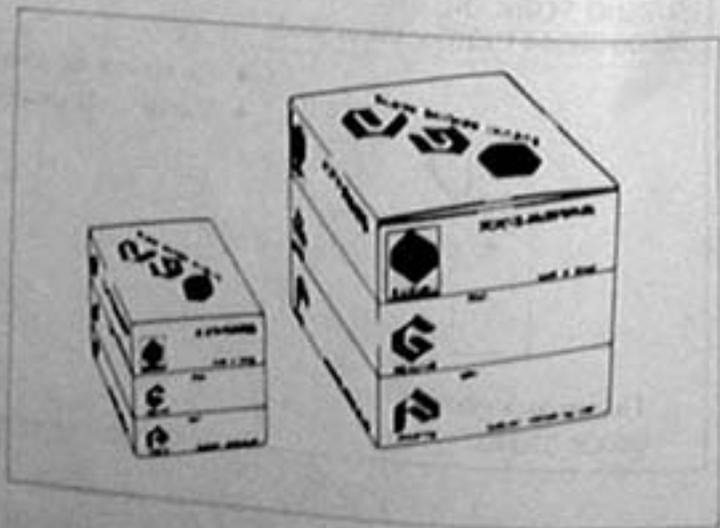
- Tighten cylinder head and case bolts and nuts beginning with larger diameter and ending with smaller diameter, and from inside to out-side diagonally, to the specified tightening torque.
- Use special tools where specified.
- Use genuine parts and recommended oils.
- When 2 or more persons work together, pay attention to the safety of each other.
- After the reassembly, check parts for tightness and operation.
- Treat gasoline, which is extremely flammable and highly explosive, with greatest care. Never use gasoline as cleaning solvent.

Warning, Caution and Note are included in this manual occasionally, describing the following contents.

- WARNING** ..... When personal safety of the rider is involved, disregard of the information could result in injury.
- CAUTION** ..... For the protection of the motorcycle, the instruction or rule must be strictly adhered to.
- NOTE** ..... Advice calculated to facilitate the use of the motorcycle is given under this heading.

## USE OF GENUINE SUZUKI PARTS

To replace any part of the machine, use a genuine SUZUKI replacement part. Imitation parts or parts supplied from any other source than SUZUKI, if used to replace SUZUKI parts can reduce the machine's performance and, even worse, could induce costly mechanical troubles.



## SPECIFICATIONS

### DIMENSIONS AND DRY MASS

Overall length	2 115 mm (83.3 in)
Overall width	745 mm (29.3 in)
Overall height	1 215 mm (47.8 in)
Wheelbase	1 460 mm (57.5 in)
Ground clearance	125 mm (4.9 in)
Dry mass	197 kg (434 lbs)

### ENGINE

Type	Four-stroke, Air-Cooled with SACS, DOHC, TSCC
Number of cylinders	4
Bore	76.0 mm (2.9 in)
Stroke	58.0 mm (2.3 in)
Piston displacement	1 052 cm <sup>3</sup> (64.2 cu.in)
Carburetor	MIKUNI BST34SS four
Air cleaner	Polyester fiber element
Starter system	Electric
Lubrication system	Wet sump

### TRANSMISSION

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down, 4-up
Primary reduction	1.622 (73/45)
Final reduction	3.285 (46/14) . . . For E-02, 18, 21, 22, 25, 34 3.357 (47/14) . . . . . For the others
Gear ratios, Low	2.385 (31/13)
2nd	1.632 (31/19)
3rd	1.250 (25/20)
4th	1.045 (23/22)
Top	0.913 (21/23)
Drive chain	DAIDO: D.I.D. 532ZL TAKASAGO: RK532GSV, 114 links

### CHASSIS

Front suspension	Telescopic, coil spring, oil damped, spring preload 4-way adjustabl, damping force 3-way adjustable
------------------	---

Rear suspension	Full-floating suspension system, gas/oil damped, spring preload fully adjustable, damping force 4-way adjustable
Steering angle	30° (right & left)
Caster	63° 30'
Trail	116 mm (4.6 in)
Turning radius	3.2 m (10.5 ft)
Front brake	Disc brake, twin
Rear brake	Disc brake
Front tire size	110/80VR 18V 260
Rear tire size	150/70VR 18V 260
Front fork stroke	130 mm (5.1 in)
Rear wheel travel	135 mm (5.3 in)

### ELECTRICAL

Ignition type	Transistorized
Ignition timing	13° B.T.D.C. below 1 500 r/min and 35° B.T.D.C. above 2 350 r/min
Spark plug	N.G.K.: J9A . . . . . . . . For E-01, 24, 25, 34 N.G.K.: JR9A . . . . . . . . . . For the others
Battery	12V 50.4 kC (14Ah) / 10HR
Generator	Three-phase A.C. Generator
Fuse	10/10/10/10/10A
Circuit breaker	30A

### CAPACITIES

Fuel tank including reserve	21.0 L (5.5 US gal) . . . . . . Only for E-24 19.0 L (5.0 US gal) . . . . . . For the others
reserve	4.5 L (4.8 US qt)
Engine oil with filter change	3.7 L (3.9 US qt)
Front fork oil	417 ml (14.1 US oz)

These specifications are subject to change without notice.

## COUNTRY OR AREAS

The series of symbols on the left stand for the countries and areas on the right.

SYMBOL	COUNTRY OR AREA	SYMBOL	COUNTRY OR AREA
E-01	General	E-21	Belgium
E-02	England	E-22	W. Germany
E-04	France	E-24	Australia
E-06	S. Africa	E-25	Netherlands
E-15	Finland	E-28	Canada
E-16	Norway	E-34	Italy
E-17	Sweden	E-39	Austria
E-18	Switzerland		

# PERIODIC MAINTENANCE AND TUNE-UP PROCEDURES

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## PERIODIC MAINTENANCE SCHEDULE

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

**NOTE:**

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

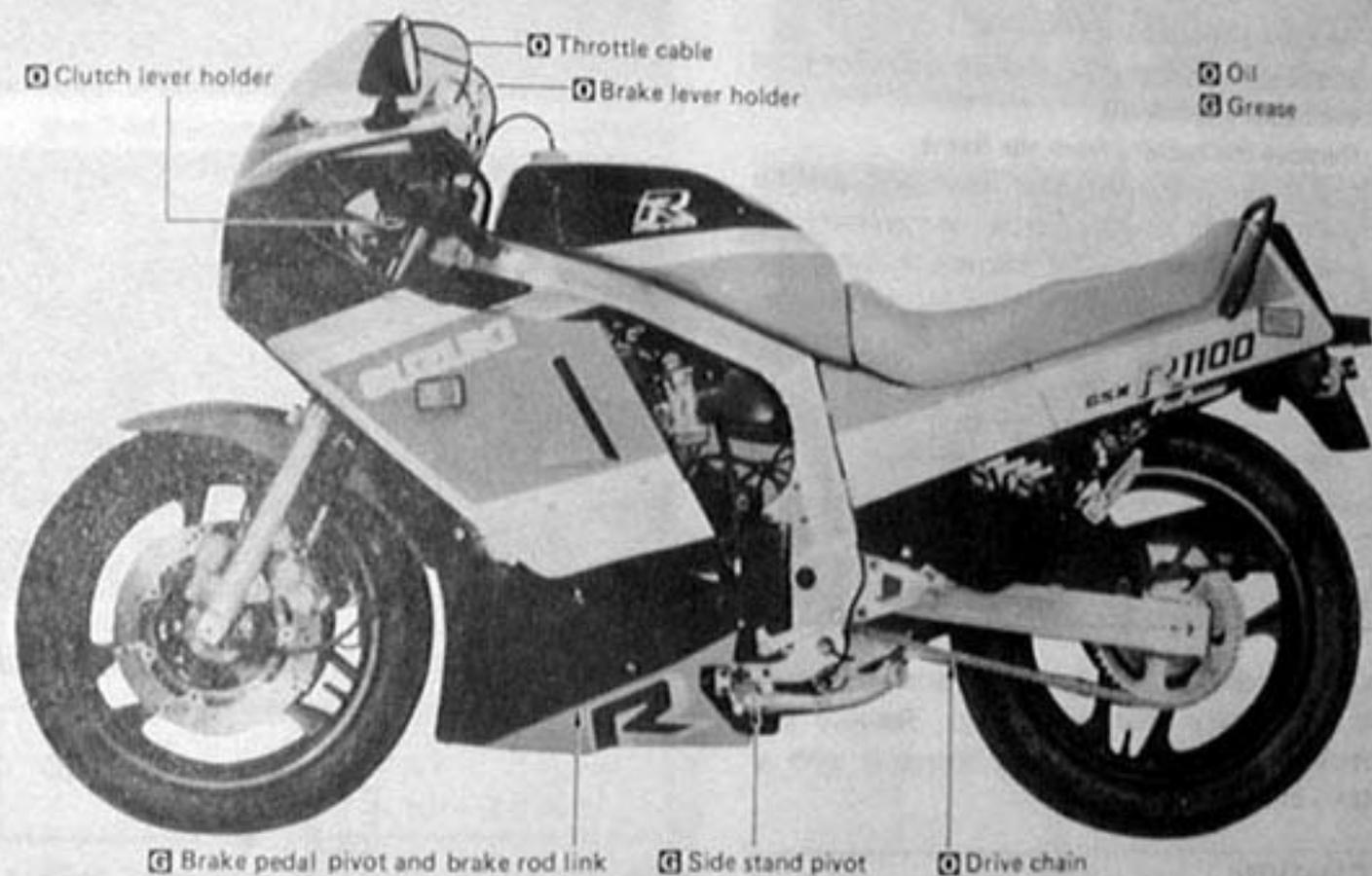
### PERIODIC MAINTENANCE CHART

Item	Interval	km	1 000	6 000	12 000	18 000	24 000
		miles	600	4 000	7 500	11 000	15 000
		months	2	12	24	36	48
Battery			—	I	I	I	I
Cylinder head nuts & exhaust pipe bolts			T	T	T	T	T
Air cleaner		Clean every 3 000 km (2 000 miles) and replace every 12 000 km (7 500 miles)					
Valve clearance			I	I	I	I	I
Spark plugs			—	I	R	I	R
Fuel line			I	I	I	I	I
		Replace every four years					
Engine oil and filter			R	R	R	R	R
Carburetors (Idle rpm)			I	I	I	I	I
Clutch hose			I	I	I	I	I
		Replace every four years					
Clutch fluid			I	I	I	I	I
		Replace every two years					
Drive chain			I	I	I	I	I
		Clean and lubricate every 1 000 km (600 miles)					
Brake hoses			I	I	I	I	I
		Replace every four years					
Brake fluid			I	I	I	I	I
		Replace every two years					
Brakes			I	I	I	I	I
Tires			I	I	I	I	I
Steering			I	I	I	I	I
Front fork			I	I	I	I	I
Rear suspension			I	—	I	—	I
Chassis bolts and nuts			I	—	I	—	I
			T	T	T	T	T

NOTE: T = Tighten, I = Inspect, R = Replace

## 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:

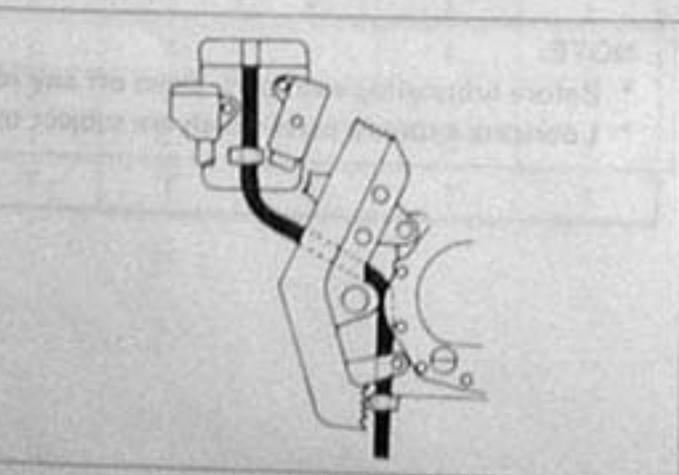
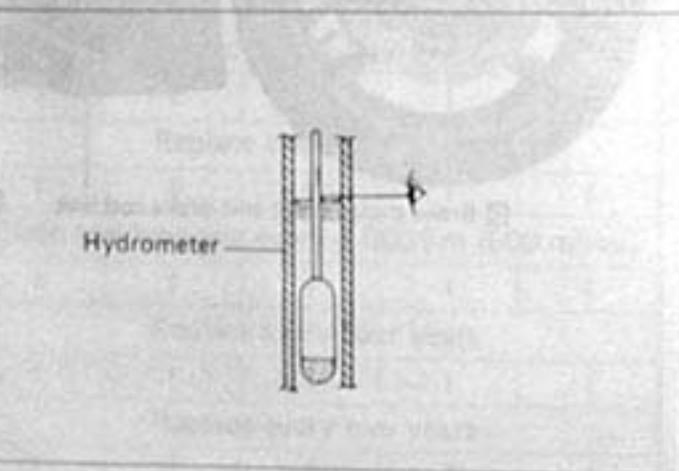
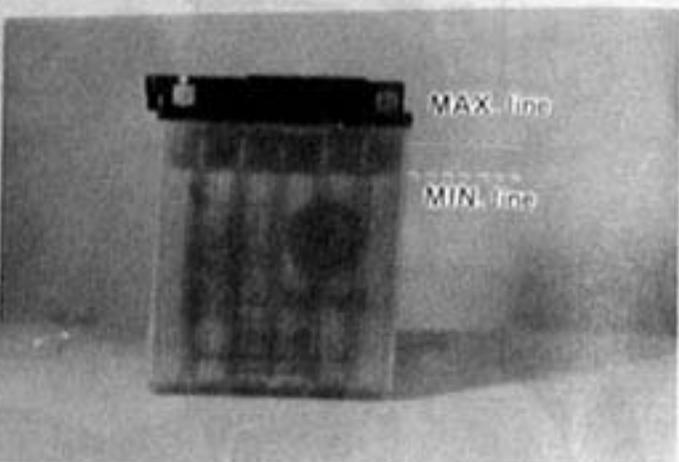
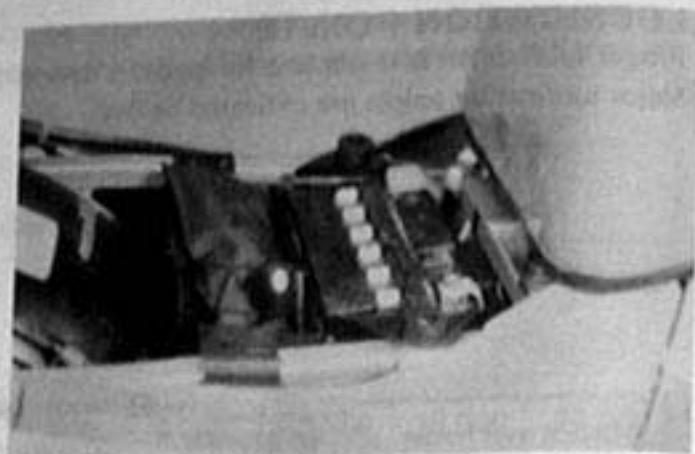
- Before lubricating each part, clean off any rusty spots and wipe off any grease, oil, dirt or grime.
- Lubricate exposed parts which are subject to rust, with oil or grease.

## MAINTENANCE AND TUNE-UP PROCEDURES

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

### BATTERY

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



- Remove the seat.
- Remove the battery  $\ominus$  and  $\oplus$  lead wires from the battery terminals.
- Remove the battery from the frame.
- Check the electrolyte for level and specific gravity. Add distilled water, as necessary, to keep the surface of the electrolyte above the MIN. level line but not above the MAX. level line.
- For checking specific gravity, use a hydrometer to determine the charged condition.

09900-28403	Hydrometer
-------------	------------

Standard specific gravity	1.28 at 20°C (68°F)
---------------------------	---------------------

An S.G. reading of 1.22 (at 20°C) or under means that the battery needs recharging. Remove the battery from the machine and charge it with a battery charger.

#### CAUTION:

Never charge a battery while still in the machine as damage may result to the battery or regulator/rectifier.

- Charge at a maximum of 1.2 amps.
- To install the battery, reverse the procedure described above.

#### WARNING:

When installing the battery lead wires, fix the  $\oplus$  lead first and  $\ominus$  lead last.

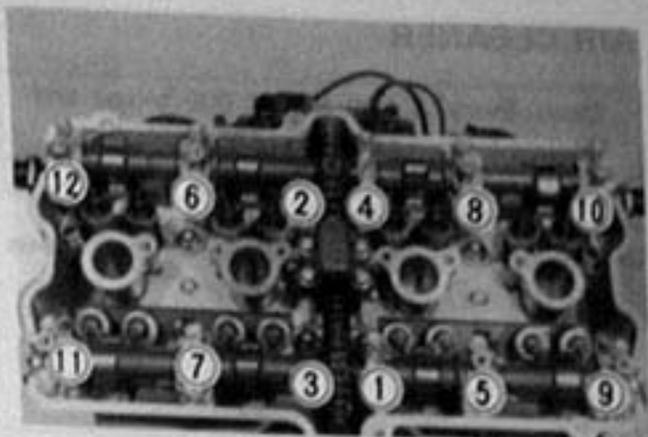
- Make sure that the breather pipe is tightly secured and undamaged, and is routed as shown in the figure.

## CYLINDER HEAD NUTS AND EXHAUST PIPE BOLTS

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

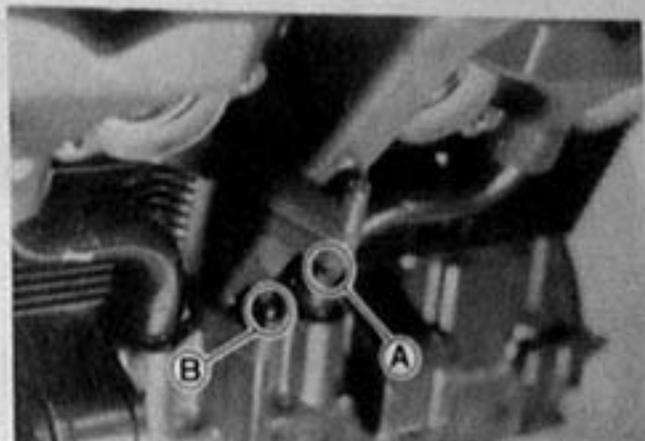
### CYLINDER HEAD

- Remove the seat, fairing and fuel tank. (Refer to page 3-3 and 6-1)
- Remove the cylinder head cover.
- First loosen and retighten the nuts to the specified torque with a torque wrench sequentially in ascending numerical order with the engine cold.



Cylinder head nut	35 – 40 N·m (3.5 – 4.0 kg·m) (25.5 – 29.0 lb·ft)
-------------------	--

- After firmly tightening the 12 nuts, tighten the bolt and nut (indicated as A and B) to the torque value below:



Cylinder head bolt A	7 – 11 N·m (0.7 – 1.1 kg·m) (5.0 – 8.0 lb·ft)
----------------------	---

Cylinder nut B	7 – 11 N·m (0.7 – 1.1 kg·m) (5.0 – 8.0 lb·ft)
----------------	---

- When installing the cylinder head cover, apply SUZUKI Bond No. 1207B to the head cover groove and cam end caps. (Refer to page 3-76)
- Tighten the head cover bolts to the specified torque.

Tightening torque	13 – 15 N·m (1.3 – 1.5 kg·m) (9.5 – 11.0 lb·ft)
-------------------	---

### EXHAUST PIPE

- Tighten the exhaust pipe clamp bolts to the specified torque with a torque wrench.

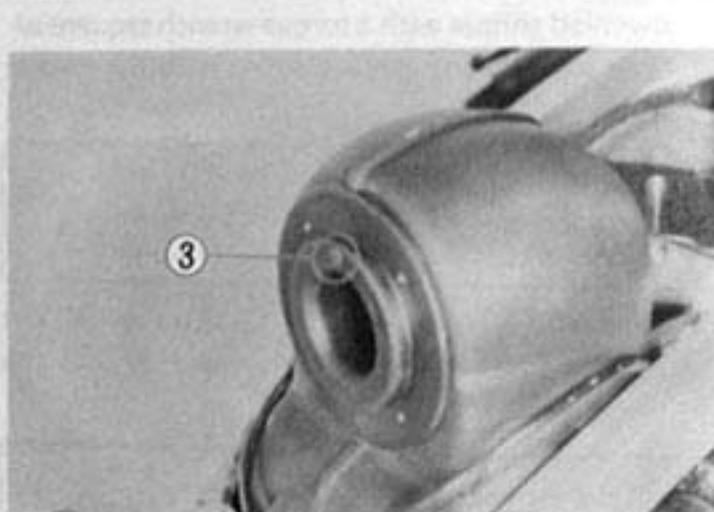
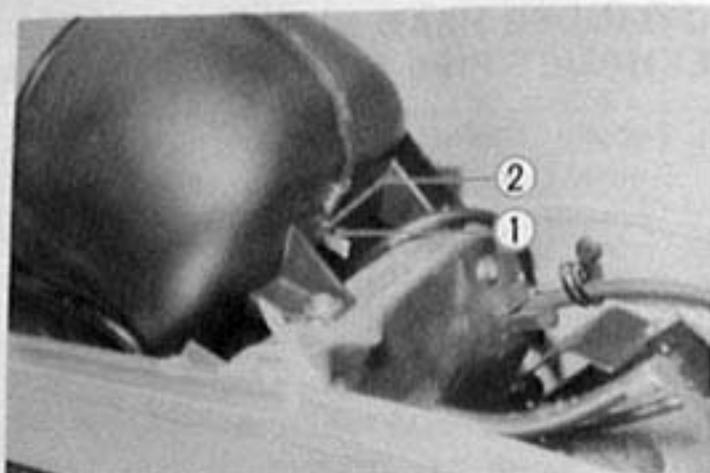
Exhaust pipe clamp bolt	9 – 12 N·m (0.9 – 1.2 kg·m) (6.5 – 8.5 lb·ft)
-------------------------	---



## AIR CLEANER

Clean Every 3 000 km (2 000 miles) and  
Replace Every 12 000 km (7 500 miles).

- Remove the seat and fuel tank.
- Remove the wing nut ① and washer ②, then take out the air cleaner element.



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

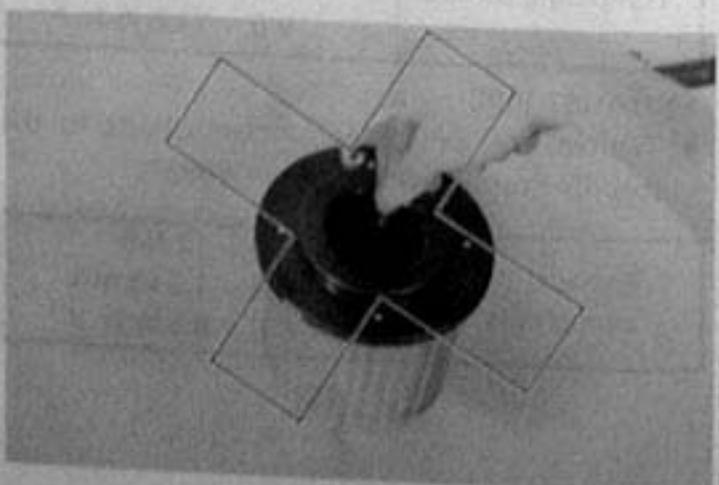
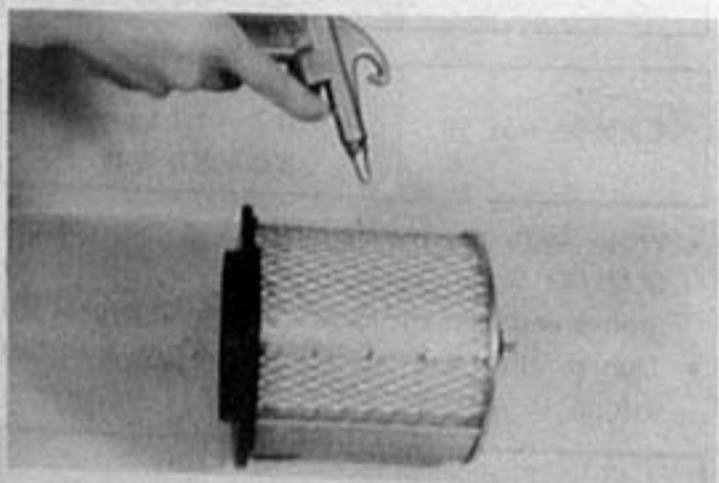
### CAUTION:

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

- Reinstall the cleaned or new cleaner element in the reverse order of removal.
- When installing the air cleaner element in the cleaner case, make sure that the arrow mark ③ comes upward.

### CAUTION:

If driving under dusty conditions, 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!



## VALVE CLEARANCE

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

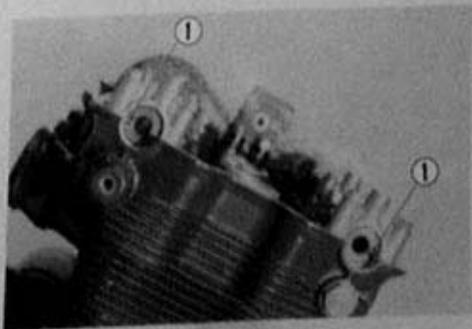
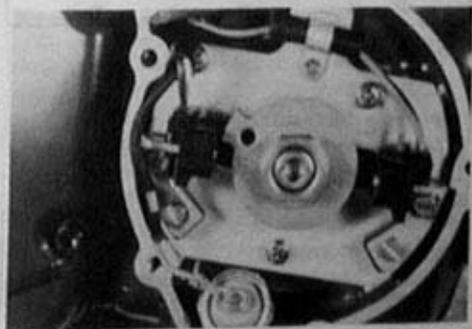
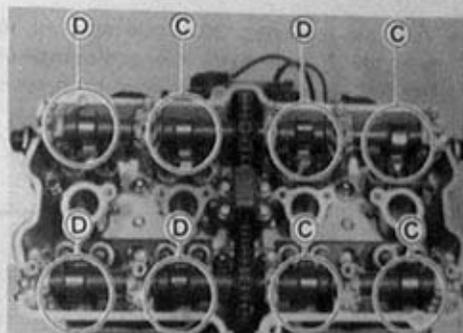
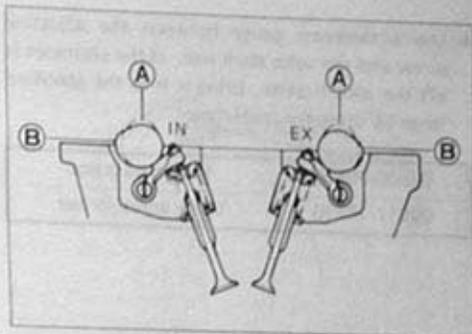
The valve clearance specification is the same for both intake and exhaust valves.

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

Valve clearance (when cold)	0.10 – 0.15 mm (0.004 – 0.006 in)
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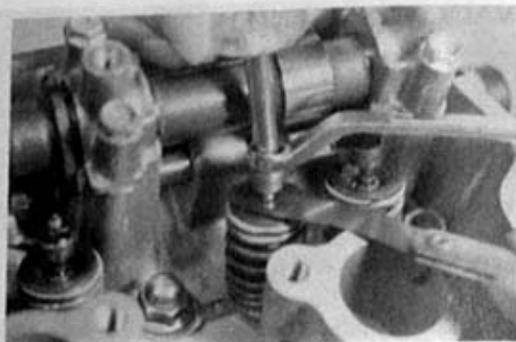
### NOTE:

- The cam must be at positions, **A** or **B**, in order to check the valve clearance or to adjust valve clearance. Clearance readings should not be taken with the cam in any other position than these two positions.
  - The clearance specification is for COLD state.
  - To turn the crankshaft for clearance checking, be sure to use a 19-mm wrench and to rotate in the normal running direction. All spark plugs should be removed.
- Turn crankshaft to bring the "T" mark on the rotor to the center of left pick up coil and also to bring the notches **1** in the right ends of both camshafts (Ex and In) to the positions shown. In this condition, read the valve clearance at the valves **C** (In and Ex of No. 1 cylinder, Ex of No. 2 and In of No. 3).



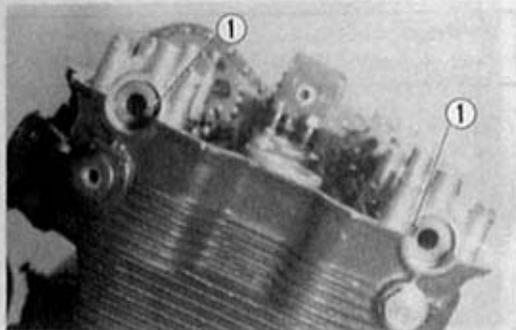
- Use a thickness gauge between the adjusting screw and the valve stem end. If the clearance is off the specification, bring it into the specified range by using the special tool.

09900-20803	Thickness gauge
09917-14910	Valve adjust driver



- Turn the crankshaft 360° (one rotation) to bring the "T" mark on the rotor to the center of left pick up coil and also to bring the notches ① to the positions shown.
- Read the clearance at the remaining valves ② and adjust the clearance if necessary.

Cam Position	Notch ① position	
	Intake Camshaft	Exhaust Camshaft
Ⓒ	⊖	⊖
Ⓓ	⊖	⊖



- When installing the cylinder head cover, apply SUZUKI Bond No. 1207B to the head cover groove and cam end caps. (Refer to page 3-76)
- Tighten the head cover bolts to the specified torque.

Tightening torque	13 – 15 N·m
	(1.3 – 1.5 kg·m)
	(9.5 – 11.0 lb·ft)

**CAUTION:**

At each rocker arm ensure that both the right and left valve clearances are as close as possible.

## SPARK PLUGS

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

- Remove the fairing.

The plug gap is adjusted to 0.6 – 0.7 mm (0.02 – 0.03 in) The gap is correctly adjusted by using a thickness gauge. When carbon is deposited on the spark plug, remove the carbon with a spark plug cleaning machine or by carefully using a tool with a pointed end. If the electrodes are extremely worn or burnt, replace the plug. Also replace the plug if it has a broken insulator, damaged thread, etc.

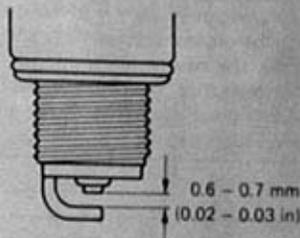
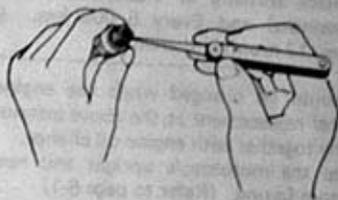
NGK J9A as listed in the table should be used as the standard plug. However, the heat range of the plug should be selected to meet the requirements of speed, actual load, fuel, etc. If the plugs need be replaced, it is recommended that ones having a heat range closest to the standard plug in the table be selected. Remove the plugs and inspect the insulators. Proper heat range would be indicated if all insulators were light brown in color. If they are baked white, they should be replaced by a cold type NGK J10A.

09930-13210	Spark plug socket wrench
09930-14530	Universal joint
09914-24510	T handle
09900-20803	Thickness gauge

### CAUTION:

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

### ENGINE OIL AND OIL FILTER



### Recommended spark plug

	Standard	Cold type
NGK	J9A (JR9A)	J10A (JR10A)

### NOTE:

"R" type spark plug is installed for some specifications. "R" type spark plug has a resistor located at the center electrode to prevent radio noise.

## ENGINE OIL AND OIL FILTER

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

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

- Keep the motorcycle upright and remove the bottom fairing. (Refer to page 6-1)
- Place an oil pan below the engine and drain oil by removing the drain plug (1) and filler cap (2).
- Remove the oil filter (3) by using the oil filter wrench. (Special tool (A))
- Apply engine oil lightly to the gasket of the new filter before installation.
- Install the new filter turning it by hand until you feel that the filter gasket contacts the mounting surface. Then tighten 2 turns using the oil filter wrench. (Special tool (A))

09915-40610

Oil filter wrench

### NOTE:

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

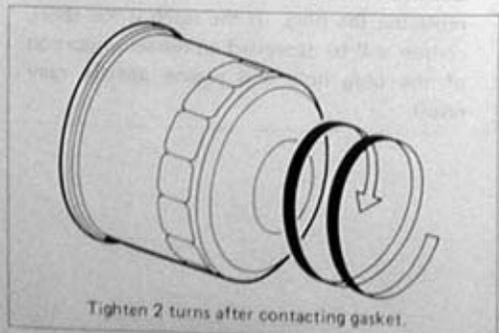
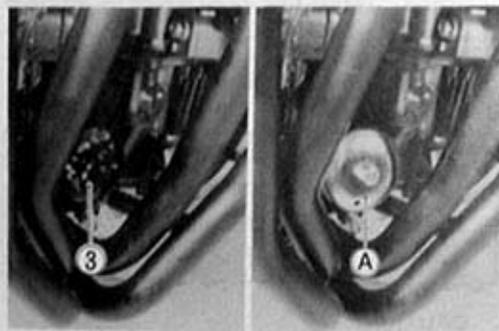
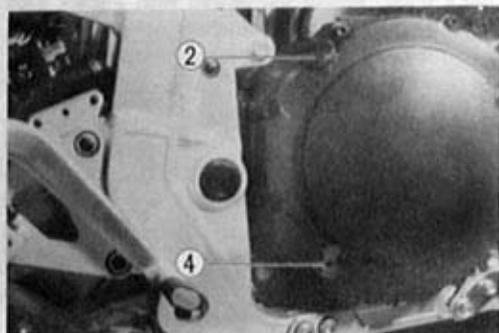
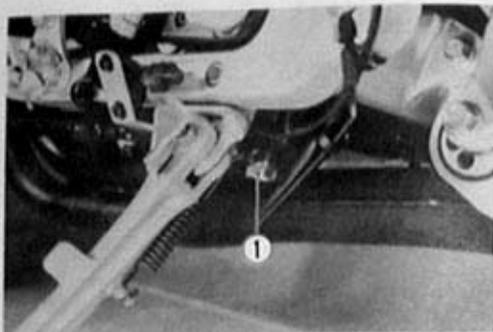
- Fit the drain plug (1) securely, and add fresh oil through the oil filler. The engine will hold about 3.7 L (3.9 US qt) of oil. Use an API classification of SE or SF oil with SAE 10W/40 viscosity.
- Start up the engine and allow it to run for several seconds at idling speed.
- Turn off the engine and wait about one minute, then check the oil level through the inspection window (4). If the level is below mark "F", add oil to that level.

### NECESSARY AMOUNT OF ENGINE OIL

Oil change	3.4 L (3.6 US qt)
Filter change	3.7 L (3.9 US qt)
Overhaul engine	4.7 L (5.0 US qt)

### CAUTION:

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



**FUEL LINE**

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

Replace Every four years.

**CARBURETOR****IDLE R.P.M. (Idling adjustment)**

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

**NOTE:**

Make this adjustment when the engine is hot.

- Connect a tachometer.
- Start up the engine and set its speed at anywhere between 1 000 and 1 200 r/min by turning throttle stop screw ①.

Engine idle speed	1 100 ± 100 r/min
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**THROTTLE CABLE PLAY**

There should be 0.5 – 1.0 mm (0.02 – 0.04 in) play (A) on the throttle cable.

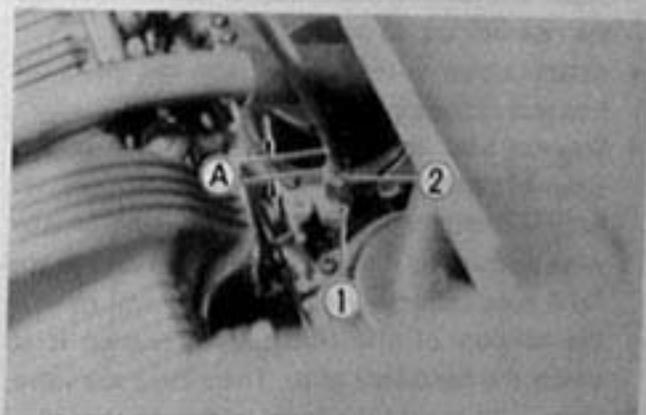
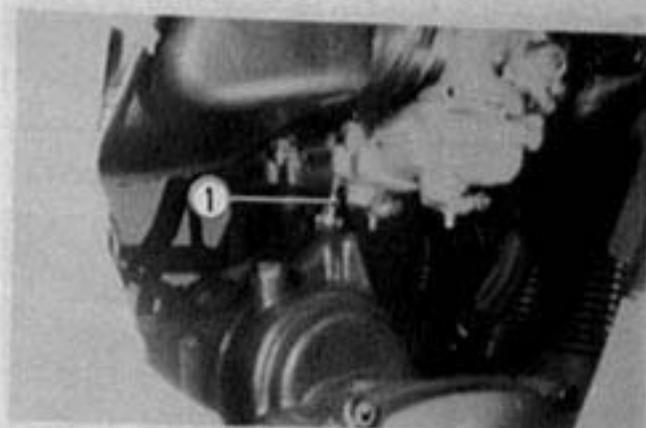
adjust the throttle cable play with the following procedure.

- Remove the fuel tank.
- Loosen the lock nut ① and slide the adjuster ② up or down until the specified play is obtained.
- Tighten the lock nut ① while holding the adjuster.

Throttle cable play (A)	0.5 – 1.0 mm (0.02 – 0.04 in)
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**WARNING:**

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



## CLUTCH

Inspect Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 months) thereafter.  
 Replace hose every four years.  
 Replace fluid every two years.

### CLUTCH FLUID LEVEL

- Keep the motorcycle upright, and place the handlebar straight.
- Check the clutch fluid level in the 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

SAE J1703, DOT3 or DOT4

### BLEEDING AIR FROM THE CLUTCH FLUID CIRCUIT

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

- 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.

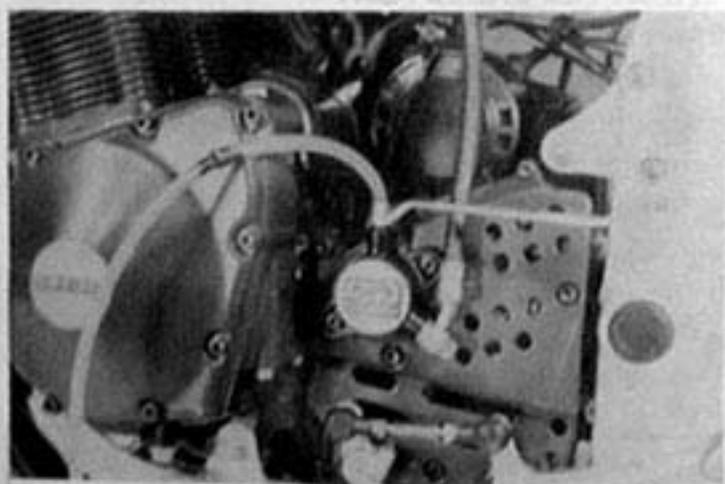
#### NOTE:

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

- Close the bleeder valve, and disconnect the pipe. Fill the reservoir to the upper end of the inspection window.

#### 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 and 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 long periods.



Bleeder valve  
tightening torque

6 – 9 N·m  
 (0.6 – 0.9 kg·m)  
 (4.5 – 6.5 lb·ft)

#### CAUTION:

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

## DRIVE CHAIN

Inspect Initially at 1 000 km (600 miles, 2 months) and Every 6 000 km (4 000 miles, 12 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 with a wooden block, and 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.

### CHECKING

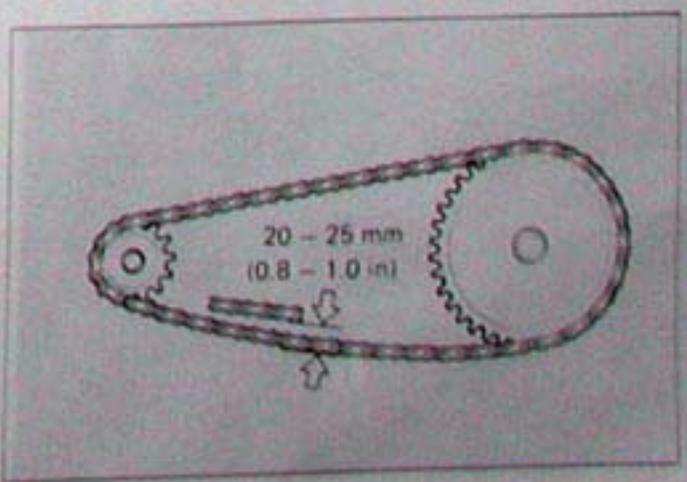
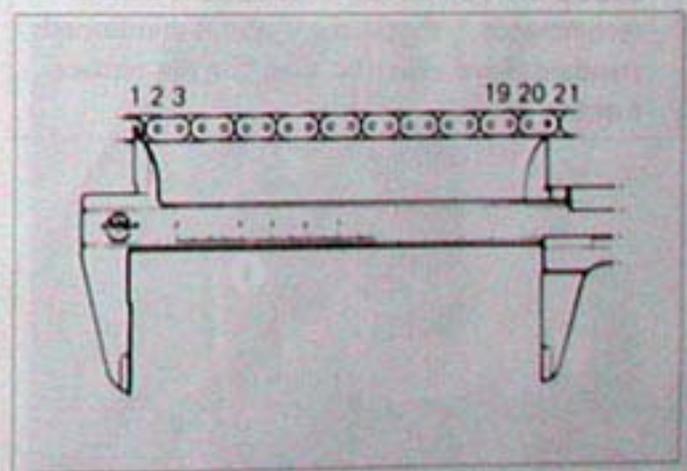
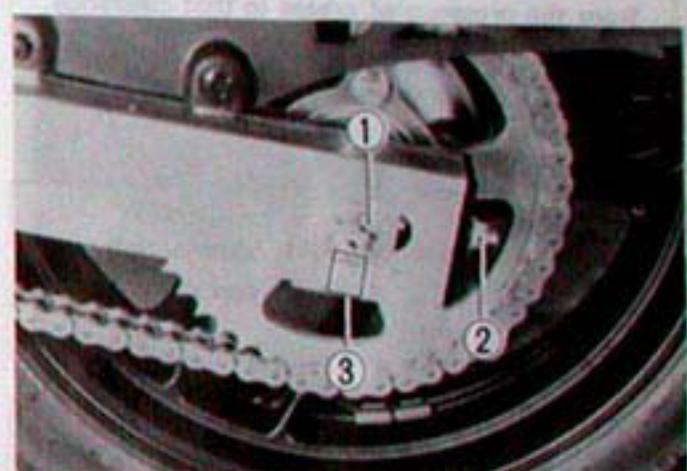
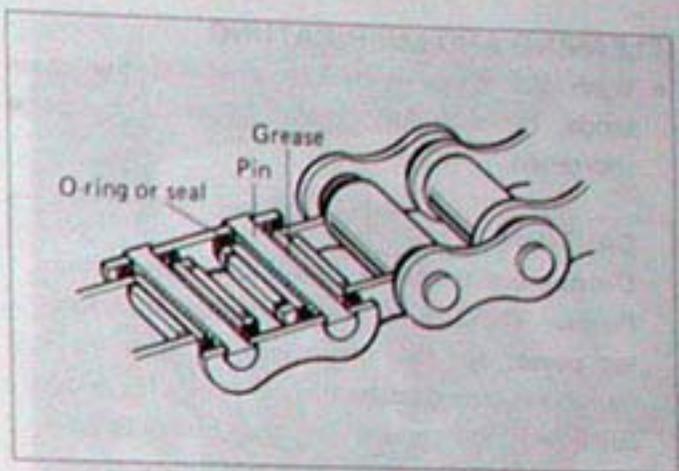
- Remove the cotter pin. (Only for E-28)
- Loosen axle nut ①.
- Tension the drive chain fully by tightening the chain adjuster lock nuts ②.
- Count out 21 pins (20 pitches) on the chain and measure the distance between the two points. If the distance exceeds following limit, the chain must be replaced.

Service Limit	319.4 mm (12.6 in)
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### ADJUSTING

- Loosen the chain adjuster lock nuts ② until the chain has 20 – 25 mm (0.8 – 1.0 in) of slack at the middle between engine and rear sprockets. The mark ③ on both chain adjusters must be at the same position on the scale to ensure that the front and rear wheels are correctly aligned. Place on side stand for accurate adjustment.
- After adjusting the drive chain, tighten the axle nut ① securely.
- Tighten the chain adjuster lock nuts securely.

Rear axle nut Tightening torque	85 – 115 N·m ( 8.5 – 11.5 kg·m ) ( 61.5 – 83.0 lb·ft )
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**CLEANING AND LUBRICATING**

- Wash the chain with kerosene. If the chain tends to rust faster, 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, 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.

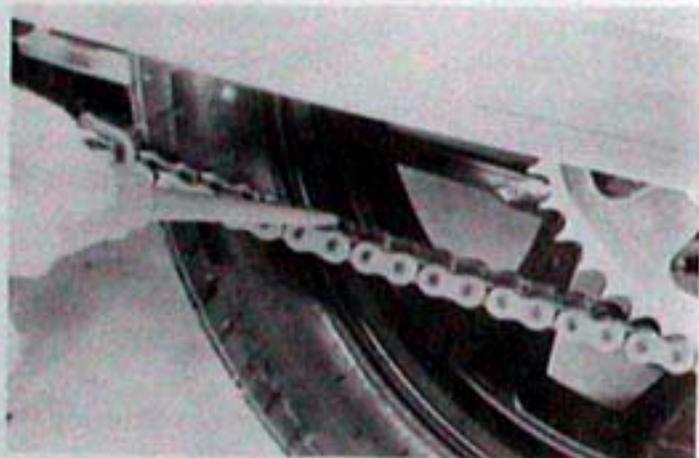
- After washing and drying the chain, oil it with a heavy-weight motor oil.

**CAUTION:**

Do not use any oil sold commercially as "drive chain oil". Such oil can damage the "O" rings (or seals).

**CAUTION:**

The standard drive chain is DAIDO D.I.D 532ZL or TAKASAGO RK532GSV. SUZUKI recommends that the above-mentioned standard drive chain be used for the replacement.



## BRAKES

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

Replace hoses Every four years.

Change fluid Every two years.

### BRAKE FLUID LEVEL

- Keep the motorcycle upright and place the handlebars straight.
- Remove the right frame cover.
- Check the brake fluid level by observing the upper (Only for rear brake) and lower (Both front and rear brake) limit lines on the brake fluid reservoirs.
- When the level is below the lower limit line, replenish with brake fluid that meets the following specification.

Specification and Classification	SAE J1703, DOT3 or DOT4
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### 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. 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 long periods.

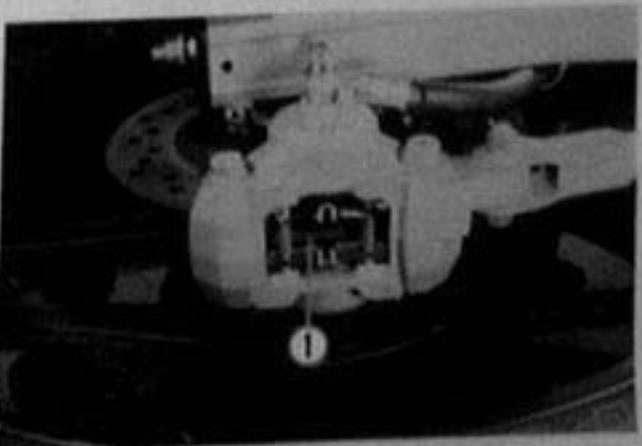
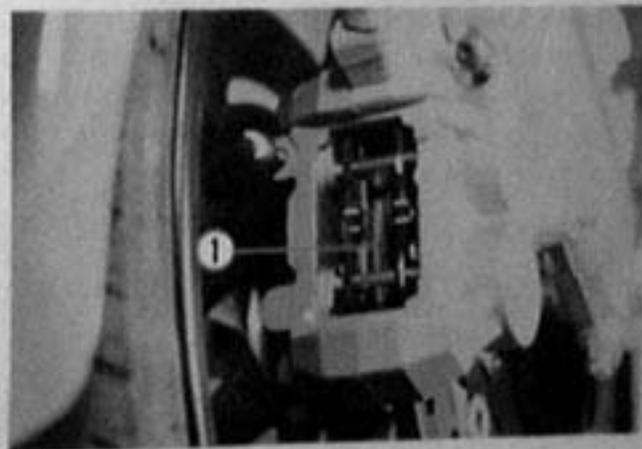
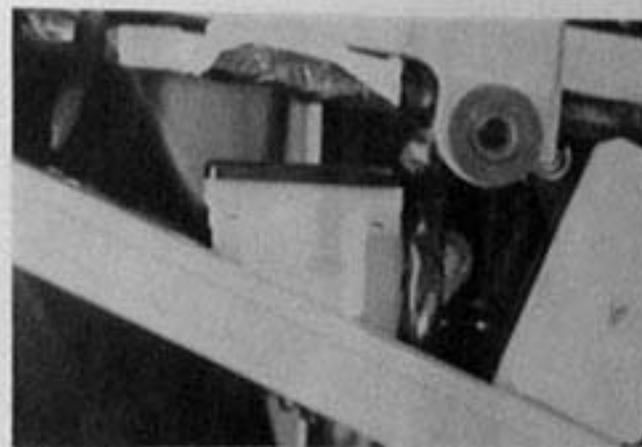
### WARNING:

Brake fluid, if it leaks, will interfere with safe running and immediately discolor painted surfaces.

Check the brake hoses and hose joints for cracks and oil leakage before riding.

### BRAKE PADS

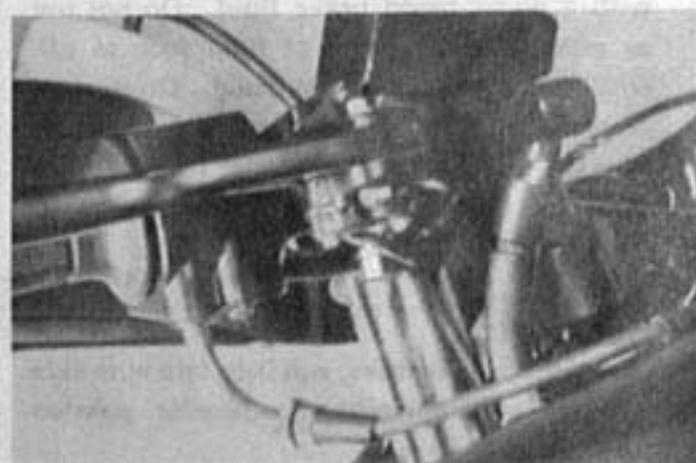
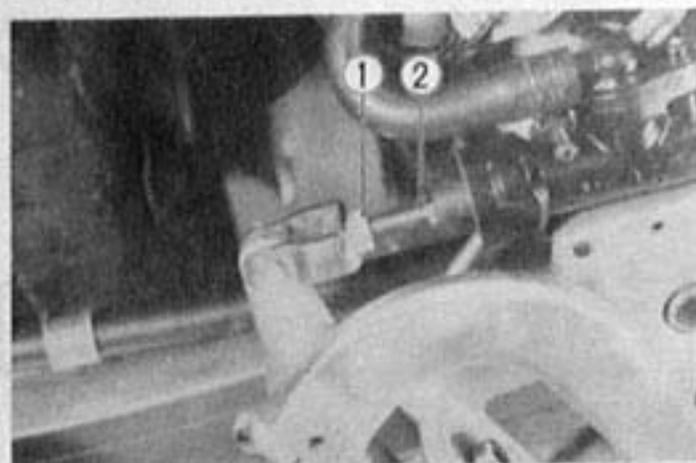
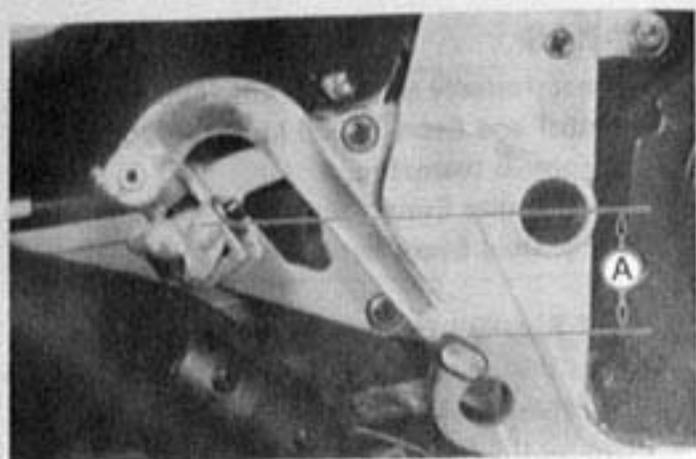
The extent of brake pad wear can be checked by observing the limit line (1) marked on the pad. When the wear exceeds the limit line, replace the pads with new ones. (Refer to pages 6-9 and 6-31)



**BRAKE PEDAL HEIGHT**

- Remove the right frame cover.
- Loosen the lock nut ①, and rotate the push rod ② to locate brake pedal 55 mm (2.2 in) A below the top face of the footrest.
- Retighten the lock nut ① to secure the push rod ② in the proper position.

Brake pedal height A	55 mm (2.2 in)
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**BRAKE LIGHT SWITCHES**

Adjust both brake light switches, front and rear, so that the brake light will come on just before a pressure is felt when the brake lever is squeezed, or the brake pedal is depressed.

Product: 1986-1988 Suzuki GSX-R1100 Motorcycle Service Repair Workshop Manual  
 Full Download: <https://www.arepairmanual.com/downloads/1986-1988-suzuki-gsx-r1100-motorcycle-service-repair-workshop-manual/>

**AIR BLEEDING THE BRAKE FLUID CIRCUIT**

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

- Fill up the master cylinder reservoir to the upper end of the inspection window, (for front brake) and "UPPER" line. (for rear brake) Replace the reservoir cap to prevent entry of dirt.
- Attach a pipe to the caliper bleeder valve, and insert the free end of the pipe into a receptacle.

Bleeder valve tightening torque	6 – 9 N·m (0.6 – 0.9 kg·m) (4.5 – 6.5 lb·ft)
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- Front brake: Bleed the air from the inboard valve first, and then outboard valve.
- Squeeze and release the brake lever several times in rapid succession and squeeze the lever fully without releasing it. Loosen the bleeder valve by turning it a quarter of a turn so that the brake fluid runs into the receptacle; this will remove the tension of the brake lever causing it to touch the handlebar grip. Then, close the valve, pump and squeeze the lever, and open the valve. Repeat this process until the fluid flowing into the receptacle no longer contains air bubbles.

**NOTE:**  
 Replenish the brake fluid 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 to the upper end of the inspection window, (for front brake) and "UPPER"

