

# PERIODIC MAINTENANCE AND TUNE-UP PROCEDURES

## CONTENTS

<b>PERIODIC MAINTENANCE SCHEDULE</b> .....	2- 1
<b>PERIODIC MAINTENANCE CHART</b> .....	2- 1
<b>LUBRICATION POINTS</b> .....	2- 2
<b>MAINTENANCE PROCEDURES</b> .....	2- 3
<b>BATTERY</b> .....	2- 3
<b>CYLINDER NUTS, CYLINDER HEAD NUTS AND EXHAUST PIPE NUTS</b> .....	2- 3
<b>CYLINDER HEAD, CYLINDER AND MUFFLER</b> .....	2- 4
<b>SPARK PLUG</b> .....	2- 4
<b>AIR CLEANER</b> .....	2- 5
<b>TRANSMISSION OIL</b> .....	2- 6
<b>COOLING SYSTEM</b> .....	2- 6
<b>CARBURETOR</b> .....	2- 7
<b>FUEL LINE</b> .....	2- 8
<b>OIL PUMP</b> .....	2- 8
<b>CLUTCH</b> .....	2- 8
<b>DRIVE CHAIN</b> .....	2- 9
<b>BRAKES</b> .....	2-10
<b>TIRES</b> .....	2-13
<b>STEERING</b> .....	2-14
<b>FRONT FORK</b> .....	2-14
<b>REAR SUSPENSION</b> .....	2-14
<b>CHASSIS BOLTS AND NUTS</b> .....	2-15

## 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**. Traveling distances are expressed in terms of kilometers.

**NOTE:**

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

### PERIODIC MAINTENANCE CHART

This interval should be judged by odometer reading or months, whichever comes first.	km	1 000	6 000	12 000	18 000	24 000
	months	2	12	24	36	48
Battery		—	I	I	I	I
Cylinder nuts, cylinder head nuts and exhaust pipe nuts		T	T	T	T	T
Cylinder head, cylinder and muffler		—	C	C	C	C
Spark plug		I	R	R	R	R
Air cleaner		Clean every 3 000 km				
Transmission oil		R	—	R	—	R
Radiator hoses		I	—	I	—	I
		Replace every 4 years				
Coolant		Replace every 2 years				
Carburetor		I	I	I	I	I
Fuel line		I	I	I	I	I
		Replace every 4 years				
Oil pump		I	I	I	I	I
Clutch		I	I	I	I	I
Drive chain		I	I	I	I	I
		Clean and lubricate every 1 000 km				
Brakes		I	I	I	I	I
Brake hoses		I	I	I	I	I
		Replace every 4 years				
Brake fluid		I	I	I	I	I
		Replace every 2 years				
Tires		I	I	I	I	I
Steering		I	I	I	I	I
Front fork		—	—	I	—	I
Rear suspension		—	—	I	—	I
Chassis bolts and nuts		T	T	T	T	T

I: Inspection and adjust, clean, lubricate or replace as necessary

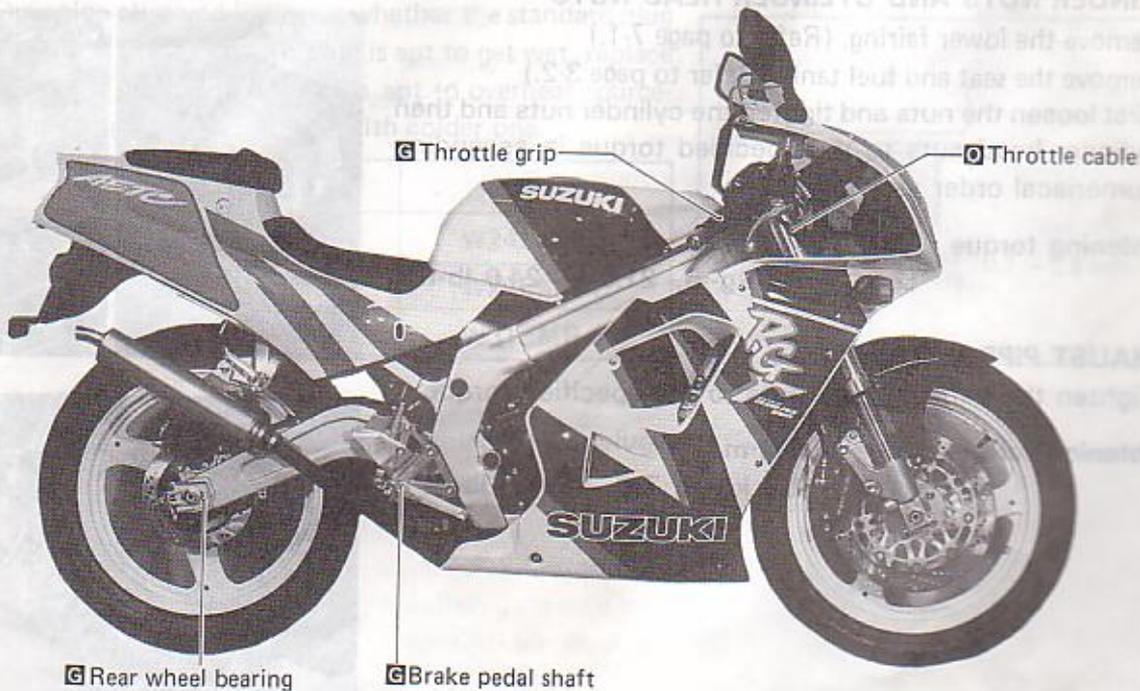
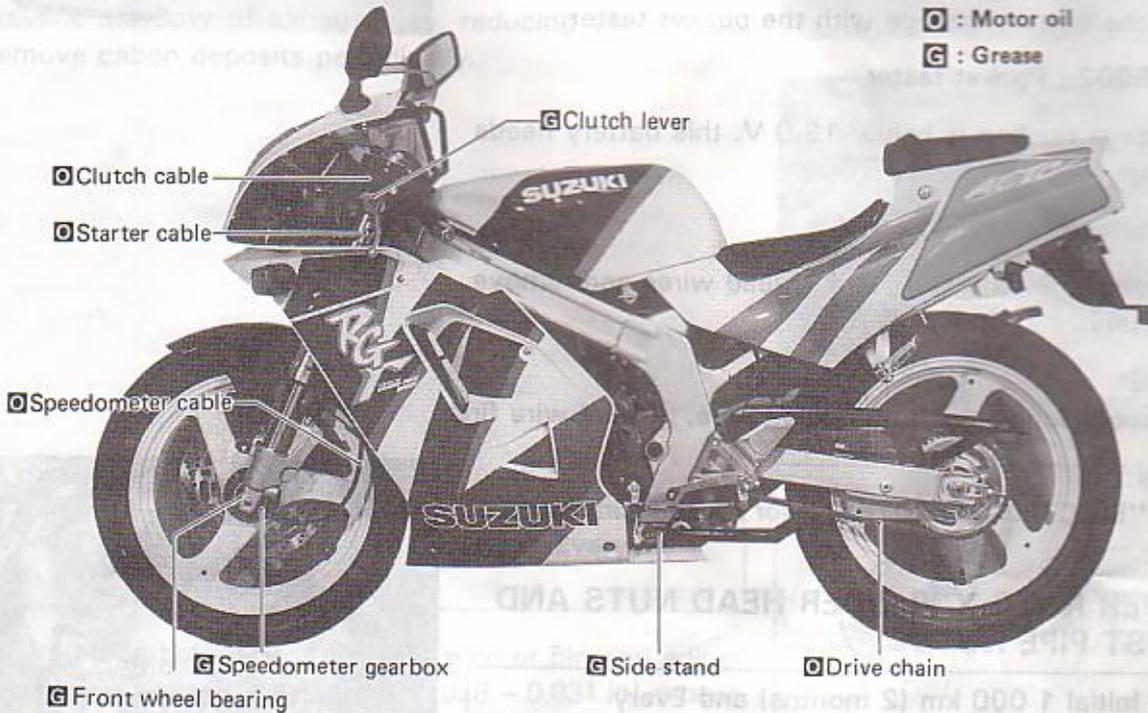
C: Clean R: Replace T: Tighten

### LUBRICATION POINTS

Proper lubrication is important for smooth operation and long life of each working parts 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 motor oil or grease.



## MAINTENANCE PROCEDURES

This section describes the service procedures for each section of Periodic Maintenance.

### BATTERY

**Inspect Every 6 000 km (12 months)**

- Remove the seat.
- Check the battery voltage with the pocket tester.

#### 09900-25002 : Pocket tester

If the voltage reading is below 12.0 V, this battery needs recharging.

#### Battery voltage : Above 12.0 V

- Disconnect the battery  $\ominus$  and  $\oplus$  lead wires and remove the battery.

#### WARNING:

When disconnecting the battery lead wire,  $\ominus$  lead wire first.

#### CAUTION:

Read the "ELECTRICAL SECTION", for the servicing battery.

### CYLINDER NUTS, CYLINDER HEAD NUTS AND EXHAUST PIPE NUTS

**Tighten Initial 1 000 km (2 months) and Every 6 000 km (12 months)**

#### CYLINDER NUTS AND CYLINDER HEAD NUTS

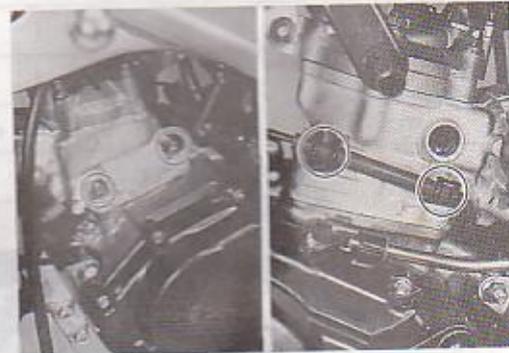
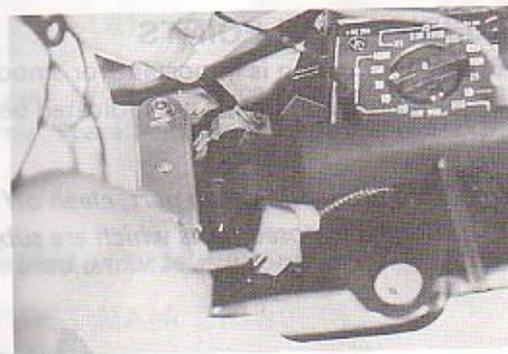
- Remove the lower fairing. (Refer to page 7-1.)
- Remove the seat and fuel tank. (Refer to page 3-2.)
- First loosen the nuts and tighten the cylinder nuts and then cylinder head nuts to the specified torque in ascending numerical order as shown.

**Tightening torque : 29 – 33 N·m**  
(2.9 – 3.3 kg-m, 21.0 – 24.0 lb-ft)

#### EXHAUST PIPE NUTS

- Tighten the exhaust pipe nuts to the specified torque.

**Tightening torque : 10 – 16 N·m**  
(1.0 – 1.6 kg-m, 7.0 – 11.5 lb-ft)



## CYLINDER HEAD, CYLINDER AND MUFFLER

**Remove carbon Every 6 000 km (12 months)**

- Carbon deposits in the combustion chamber of the cylinder head and at the piston crown will raise the compression ratio and may cause preignition or overheating.
- Carbon deposited at the exhaust port of the cylinder will prevent the flow of exhaust gas, reducing the output. Remove carbon deposits periodically.



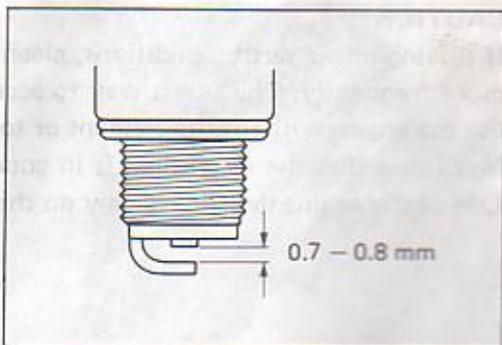
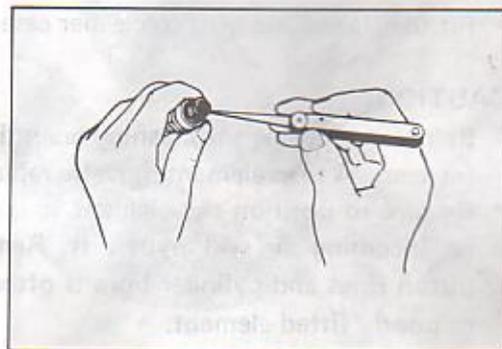
## SPARK PLUG

**Inspect 1 000 km (2 months) and Replace Every 6 000 km (12 months)**

Remove the carbon deposits with a wire or pin and adjust the spark plug gap to 0.7 – 0.8 mm (0.028 – 0.031 in) measuring with a thickness gauge.

When removing carbon deposits, be sure to observe the appearance of the plug, noting the color of the carbon deposits. The color observed indicates whether the standard plug is suitable or not. If the standard plug is apt to get wet, replace with hotter one. If the standard plug is apt to overheat (porcelain is whitish in appearance), replace with colder one.

	NGK	ND
Hotter type	BR8ECM	W24EMR-C
Standard	BR9ECM	W27EMR-C
Colder type	BR10ECM	W31EMR-C



### CAUTION:

Confirm the thread size and reach when replacing the plug.

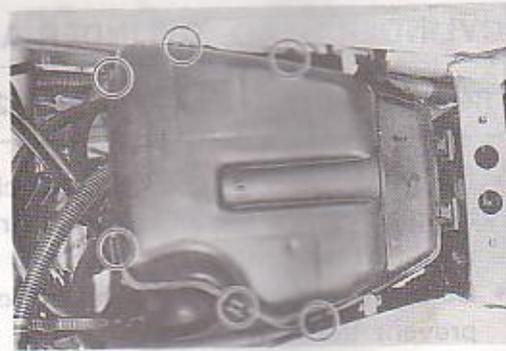
## AIR CLEANER

Clean Every 3 000 km

If the air cleaner is clogged with dust, intake resistance will be increased with a resultant decrease in power output and an increase in fuel consumption.

Check and clean the element in the following manner.

- Remove the seat and fuel tank.
- Remove the air cleaner case cover.
- Remove the polyurethane foam element ①.
- Fill a washing pan of a proper size with nonflammable cleaning solvent. Immerse the element in the cleaning solvent and wash it clean.
- Squeeze the cleaning solvent out of the washed element by pressing it between the palms of both hands: do not twist or wring the element or it will develop tears.
- Immerse the element in SUZUKI CCI or CCI SUPER oil, and squeeze the oil out of the element leaving it slightly wet with oil.
- Fit the cleaner element to cleaner case properly.



### CAUTION:

- \* Before and during the cleaning operation, inspect the element for tears. A torn element must be replaced.
- \* Be sure to position the element snugly and correctly, so that no incoming air will bypass it. Remember, rapid wear of piston rings and cylinder bore is often caused by a defective or poorly fitted element.



### 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!

## TRANSMISSION OIL

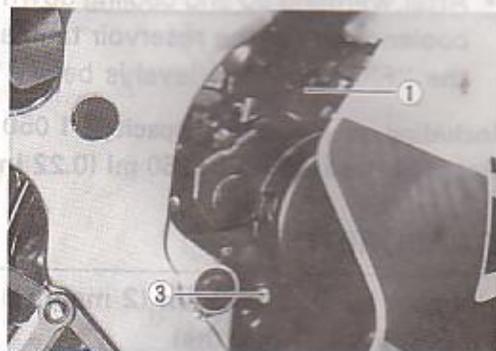
Replace (change) Initial 1 000 km (2 months) and Every 12 000 km (24 months)

After a long period of use, the transmission oil will deteriorate and quicken the wear of sliding and interlocking surfaces. Replace the transmission oil periodically following the procedure below.

- Keep the motorcycle upright.
- Start the engine to warm up the oil, this will facilitate draining of oil. Shut off the engine.
- Place the oil pan below the engine and drain the oil by removing the filler cap ① and drain plug ②.
- After draining the oil completely, fit the drain plug ② securely.

Drain plug tightening torque : 20–25 N·m (2.0–2.5 kg·m, 14.5–18.0 lb·ft)

- Add the good quality SAE10W/40 multi-grade motor oil. The transmission will hold about 1 050 ml of oil.
- Install the filler cap correctly.
- Start up the engine and allow it to run for several seconds at idling speed.
- Turn off the engine and wait for about one minute, and check the oil level screw ③. If the oil does not run out from the hole, add the oil until it runs out.



## COOLING SYSTEM

Inspect Initial 1 000 km (2 months) and Every 12 000 km (24 months)

Replace (change) coolant Every 2 years

Replace hoses Every 4 years

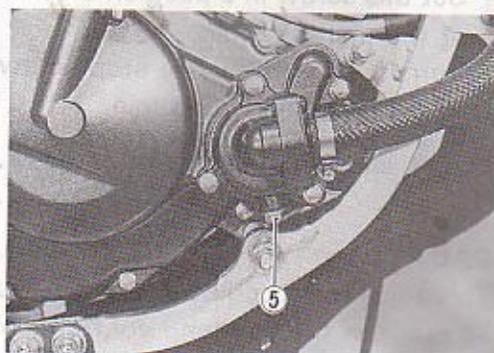
- Loosen the screw and remove the radiator cap ④.
- Remove the lower fairing. (Refer to page 7-1.)
- Remove the drain plug ⑤ and drain the coolant thoroughly while holding the motorcycle upright.

### WARNING:

Do not open the radiator cap when the engine is hot, as you may be injured by escaping hot liquid or vapor.

### WARNING:

Cooling solution may be harmful if swallowed or if it comes in contact with skin or eyes. If cooling solution gets into the eyes or in contact with the skin, it should be flushed thoroughly with plenty of water. If swallowed, induce vomiting and call physician immediately.



- Flush the radiator with fresh water.
- Tighten the drain plug securely.
- Fill the specified coolant up to the radiator inlet hole.

### NOTE:

For coolant information, refer to "COOLING SYSTEM" section page 4-2.)

- Fill the reservoir tank to the "F" level with coolant.
- Close the radiator cap securely.
- After warming up and cooling down the engine, check the coolant level of the reservoir tank and add the coolant to the "F" level if the level is below "L".

Including reservoir tank capacity : 1 050 ml (0.9 Imp qt)

Reservoir tank capacity: 250 ml (0.22 Imp qt)

## CARBURETOR

Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)

### ADJUSTING THROTTLE CABLE

- Loosen the lock nut ①.
- Adjust the cable play ② to 0.5 – 1.0 mm by turning adjuster ③.

Throttle cable play ② : 0.5 – 1.0 mm (0.02 – 0.04 in)

- After adjusting the cable play, tighten the lock nut ①.

### IDLE R/MIN ADJUSTMENT

- Adjust the throttle cable play.

### NOTE:

Make this adjustment when the engine is hot.

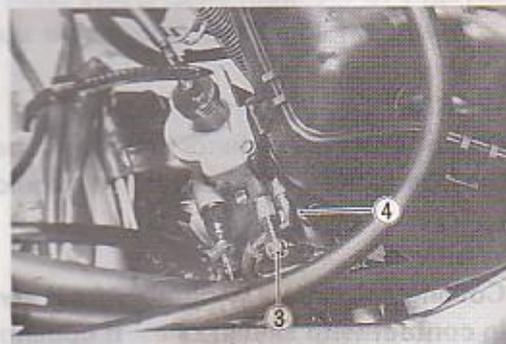
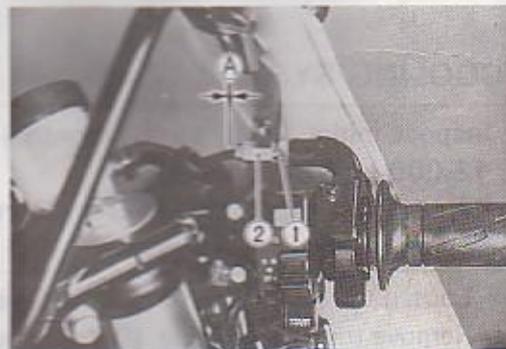
- Connect a tachometer.
- Start the engine and turn the throttle valve stop screw ③ so that engine idles at 1 400 r/min.
- Turn the air screw ④ in or out around 1/4 turn from the original setting. (Refer to page 8-19.)
- The engine r/min will increase or decrease in accordance with the turning of the air screw.
- Set this screw in a position that allows the engine to idle at the highest r/min.
- Turn the throttle valve stop screw again and adjust the specified engine idle r/min.

Engine idle r/min : 1 400 ± 50 r/min ... For Switzerland

1 400 ± 100 r/min ... For the others

### CAUTION:

This adjustment could affect the oil pump control cable play, so readjust the oil pump control cable play if necessary.



## FUEL LINE

Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)  
Replace Every 4 years



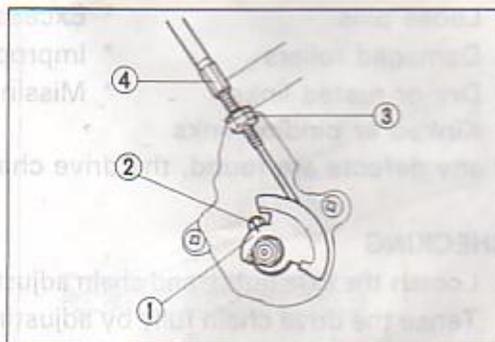
## OIL PUMP

Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)

The engine oil is fed by the oil pump to the engine. The amount of oil fed to it is regulated by engine speed and the oil pump control lever which is controlled by the amount of throttle opening.

Check the oil pump in the following manner to confirm correct operation for throttle valve full opening position.

- Turn the throttle grip full open.
- Check whether the red mark ① on the oil pump control lever is aligned with the index mark ② when the throttle valve is positioned as above.
- If the marks are not aligned, loosen the lock nut ③ and turn the adjuster ④ in or out to align the marks.
- After aligning the marks, tighten the lock nut ③.



### CAUTION:

Oil pump cable adjustment must be done after throttle cable adjustment.

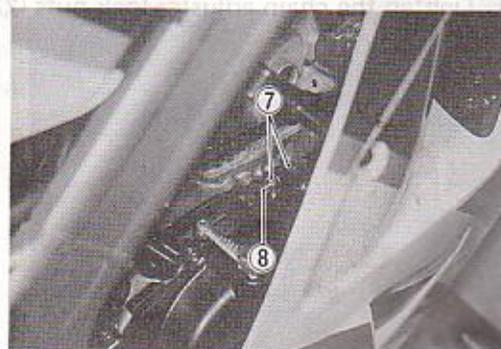
## CLUTCH

Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)

- Loosen the lock nut ⑤ and turn the adjuster ⑥ fully in.
- Loosen the cable lock nuts ⑦ and adjust the play of the cable with the adjuster ⑧ until play of the clutch lever is 2 – 3 mm.

Cable play A : 2 – 3 mm (0.08 – 0.12 in)

- Tighten the lock nuts ⑤, ⑦.
- If the specified play can not be obtained with adjuster ⑧, carry out the adjustment using the adjuster ⑥ on the clutch lever side.



## DRIVE CHAIN

Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)  
Clean and Lubricate Every 1 000 km

Visually inspect the drive chain for the below listed possible malconditions. (Lift the rear wheel and place a jack or block under the engine, and turn the rear wheel slowly by hand, with the transmission in NEUTRAL).

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

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

### CHECKING

- Loosen the axle nut ① and chain adjuster lock nuts ②.
- Tense the drive chain fully by adjusting the chain adjusters ③.
- Count out 21 pins on the chain and measure the distance between the two. If the distance exceeds following limit, the chain must be replaced.

Service Limit : 255.5 mm (10.06 in)

### ADJUSTING

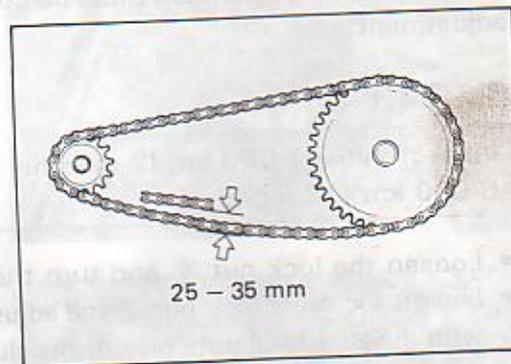
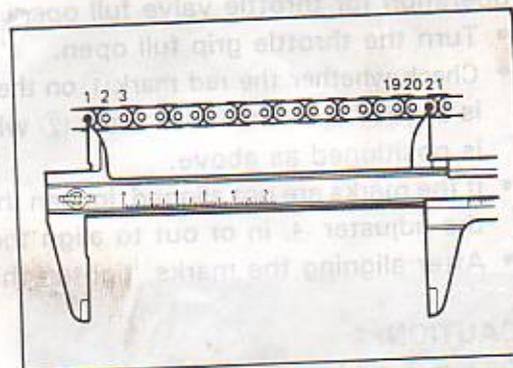
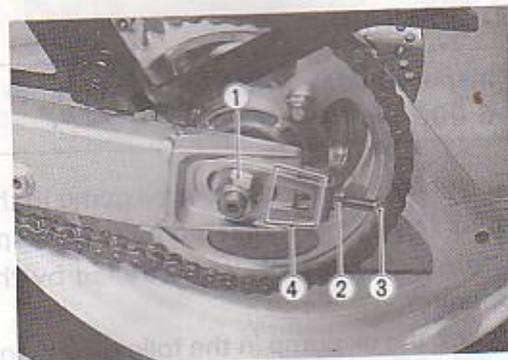
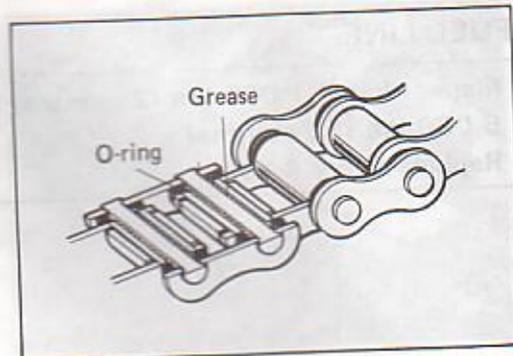
- Adjusting the chain adjusters ③ until the chain has 25 – 35 mm of slack at the middle between engine and rear sprockets. The mark ④ on both chain adjusters must be at the same position on the scale to ensure that the front and rear wheels are correctly aligned. Place the motorcycle on the side stand for accurate adjustment.

Drive chain slack : 25 – 35 mm (1.0 – 1.4 in)

- After adjusting the drive chain, tighten the axle nut ① securely.

Tightening torque : 57 – 89 N·m  
(5.7 – 8.9 kg·m, 41.0 – 64.5 lb·ft)

- Tighten the chain adjuster lock nuts ②.



**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 spoil 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.

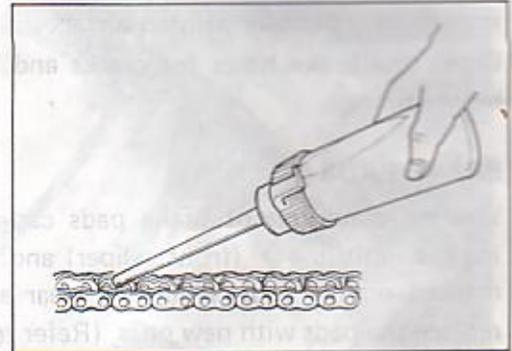
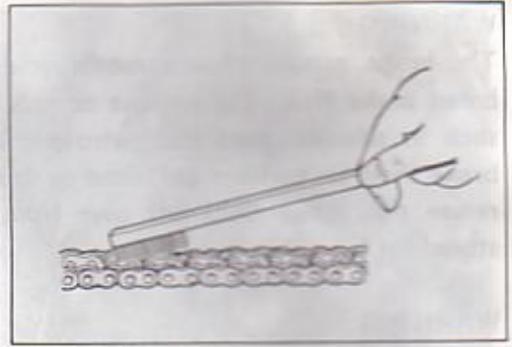
- After washing and drying the chain, oil it with a heavy-weight motor oil.

**CAUTION:**

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

**CAUTION:**

The standard drive chain is DAIDO DID428VCA or TAKASAGO RK428HO. SUZUKI recommends that the abovementioned standard drive chain be used for the replacement.



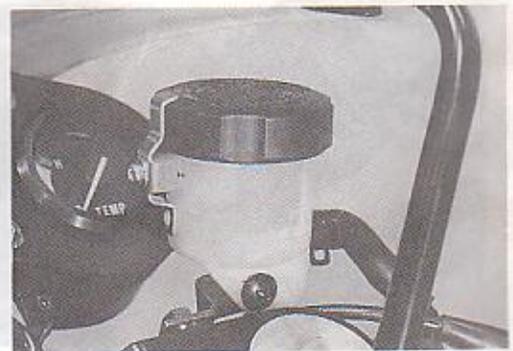
**BRAKES**

Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)  
 Replace hoses Every 4 years  
 Replace (change) fluid Every 2 years

**BRAKE FLUID LEVEL**

- Keep the motorcycle upright and place the handlebar straight.
- Check the brake fluid level by observing the upper and lower 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 : DOT 4  
 99000-23110 : SUZUKI BRAKE FLUID



**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 the brake fluid left over from the last servicing and stored for long periods.

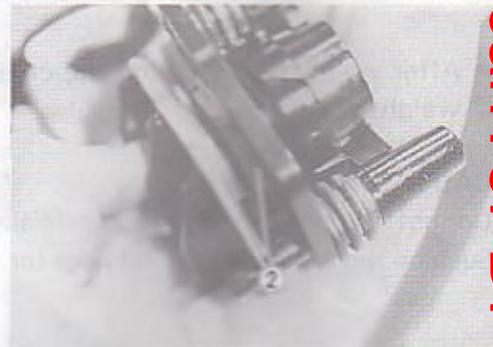
**WARNING:**

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

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

**BRAKE PADS**

Wearing condition of brake pads can be checked by observing the limit line ① (front caliper) and groove ② (rear caliper) marked on the pads. When the wear exceeds the limit mark, replace the pads with new ones. (Refer to page 7-6 and 7-35.)



**BRAKE PEDAL HEIGHT**

- Loosen the lock nut ③, and rotate push rod ④ to locate brake pedal 55 mm (B) below the top face of the footrest.
- Retighten the lock nut ③ to secure the push rod ④ in the proper position.

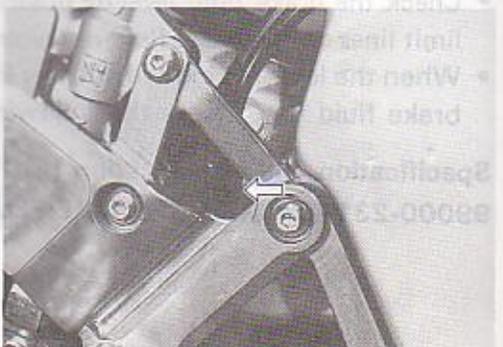


Brake pedal height (B) : 55 mm (2.2 in)



**REAR BRAKE LIGHT SWITCH**

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



**BLEEDING AIR 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. 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.

Front brake : Bleed the air from the bleeder valve.

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

**NOTE:**

Replenish the brake fluid 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 line.

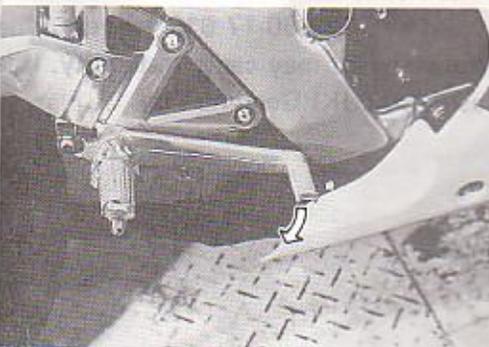
Rear brake: Differences between front and rear are that the master cylinder is actuated by a pedal.

**Bleeder valve**

Tightening torque : 6 – 9 N·m  
(0.6 – 0.9 kg-m, 4.5 – 6.5 lb-ft)

**CAUTION:**

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



**TIRES**

**Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)**

**TIRE TREAD CONDITION**

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

Tire tread depth (Front and Rear)  
 Service Limit : 1.6 mm (0.06 in)  
 09900-20805 : Tire depth gauge

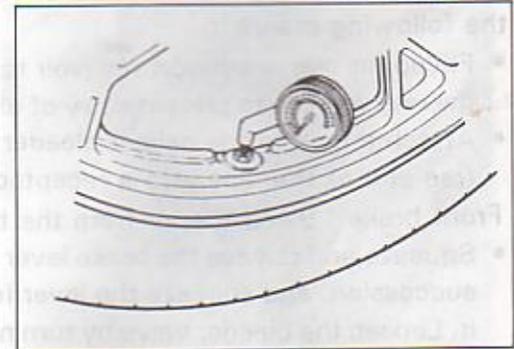
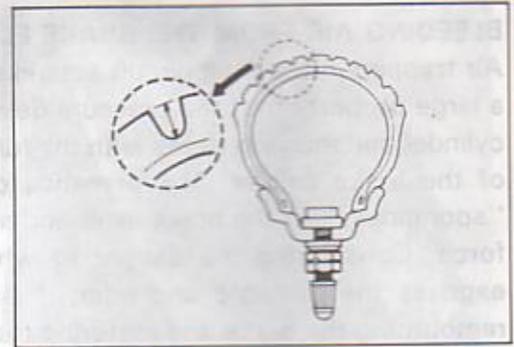
**TIRE PRESSURE**

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.

	Solo riding			Dual riding		
	kPa	kg/cm <sup>2</sup>	psi	kPa	kg/cm <sup>2</sup>	psi
FRONT	175	1.75	25	175	1.75	25
REAR	200	2.00	29	225	2.25	33

**CAUTION:**

The standard tire fitted on this motorcycle is 100/80-17 52S for front and 120/80-17 61S for rear. The use of a tire other than the standard may cause instability. It is highly recommended to use a SUZUKI Genuine Tire.



## STEERING

**Inspect Initial 1 000 km (2 months) and Every 6 000 km (12 months)**

Tapper roller type bearings are applied on the steering system for better handling.

Steering should be adjusted properly for smooth turning of handlebar and safe running. Too stiff steering prevents smooth turning of handlebar and too loose steering will cause poor stability.

Check that there is no play in the front fork assembly by supporting the machine so that the front wheel is off the ground, with wheel straight ahead, grasp lower fork tubes near the axle and pull forward. If play is found, perform steering bearing adjustment. (Refer to page 7-30.)



## FRONT FORK

**Inspect Every 12 000 km (24 months)**

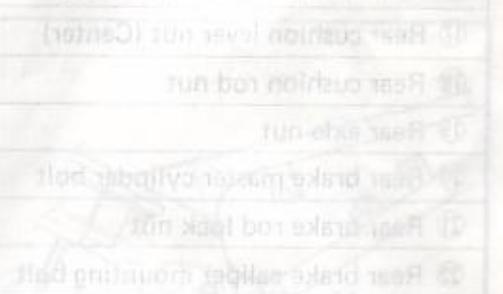
Inspect the front forks for oil leakage, scoring and scratches on the outer surface of the inner tubes.

Replace any defective parts, if necessary.

## REAR SUSPENSION

**Inspect Every 12 000 km (24 months)**

Inspect the rear shock absorber for oil leakage and check that there is no play in the swingarm assembly.

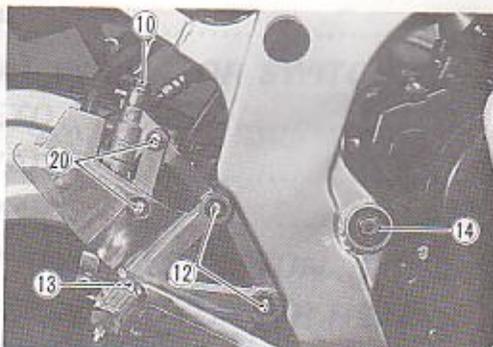
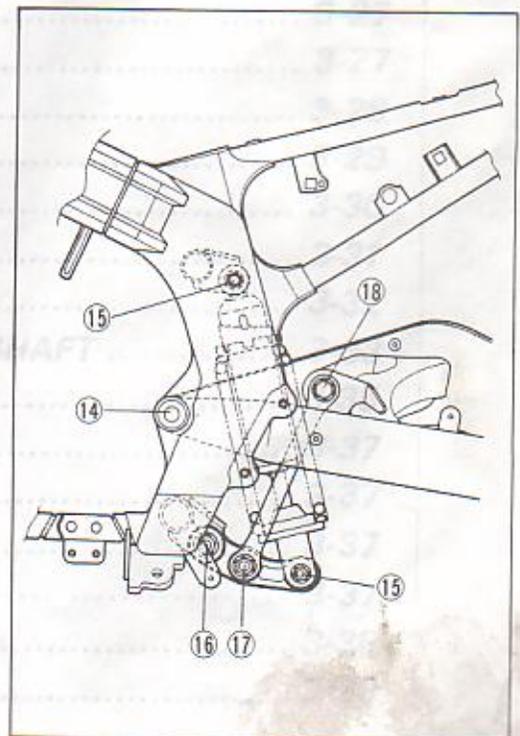
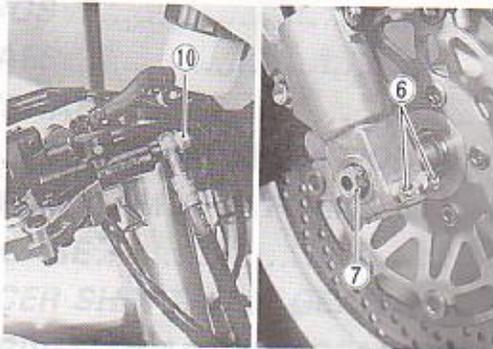
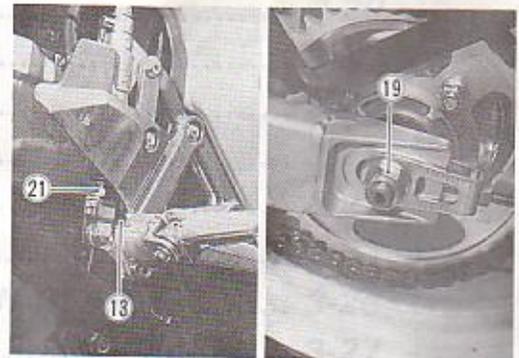
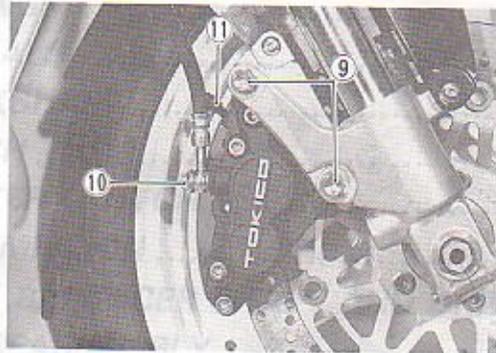
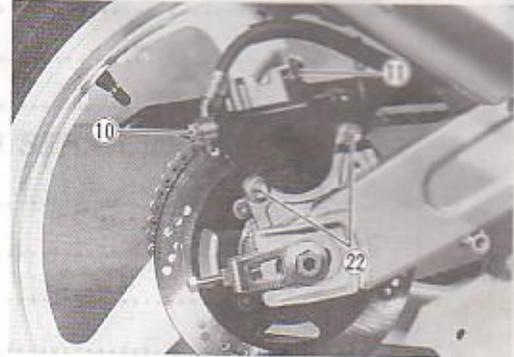
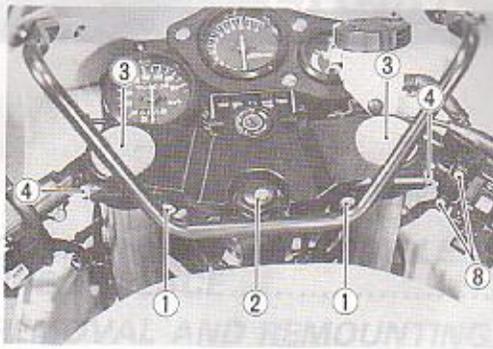


## CHASSIS BOLTS AND NUTS

Tighten Initial 1 000 km (2 months) and Every  
6 000 km (12 months)

The bolts and nuts listed below are important safety parts. They must be retightened when necessary to the specified torque.

ITEM	N·m	kg-m	lb-ft
① Handlebar bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
② Steering stem head nut	82 – 102	8.2 – 10.2	59.5 – 74.0
③ Front fork cap	30 – 40	3.0 – 4.0	21.5 – 29.0
④ Front fork upper clamp bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
⑤ Front fork lower clamp bolt	23 – 35	2.3 – 3.5	16.5 – 25.5
⑥ Front axle clamp bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
⑦ Front axle shaft	51 – 81	5.1 – 8.1	37.0 – 58.5
⑧ Front brake master cylinder bolt	6 – 9	0.6 – 0.9	4.5 – 6.5
⑨ Front brake caliper mounting bolt	31 – 48	3.1 – 4.8	22.5 – 34.5
⑩ Brake hose union bolt (Front & Rear)	16 – 20	1.6 – 2.0	11.5 – 14.5
⑪ Air bleeder valve (Front & Rear)	6 – 9	0.6 – 0.9	4.5 – 6.5
⑫ Front footrest bracket bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
⑬ Front footrest bolt	28 – 43	2.8 – 4.3	20.0 – 31.0
⑭ Swingarm pivot nut	86 – 97	8.6 – 9.7	62.0 – 70.0
⑮ Rear shock absorber mounting nut (Upper & Lower)	49 – 73	4.9 – 7.3	35.5 – 53.0
⑯ Rear cushion lever nut (Front)	62 – 97	6.2 – 9.7	45.0 – 70.0
⑰ Rear cushion lever nut (Center)	62 – 97	6.2 – 9.7	45.0 – 70.0
⑱ Rear cushion rod nut	62 – 97	6.2 – 9.7	45.0 – 70.0
⑲ Rear axle nut	57 – 89	5.7 – 8.9	41.0 – 64.5
⑳ Rear brake master cylinder bolt	11 – 16	1.1 – 1.6	8.0 – 11.5
㉑ Rear brake rod lock nut	16 – 20	1.6 – 2.0	11.5 – 14.5
㉒ Rear brake caliper mounting bolt	21 – 31	2.1 – 3.1	15.0 – 22.5



ENGINE OIL  
THE ENGINE  
ENGINE REMOVAL AND REMOUNTING  
ENGINE REMOVAL  
ENGINE REPAIR  
ENGINE TUNE-UP  
ENGINE VALVES  
CYLINDER HEAD  
CYLINDER HEAD  
PISTON AND RINGS  
RED VALVES  
BEARING  
OIL SEAL  
CRANKSHAFT  
CLUTCH  
STARTER MOTOR  
TRANSmission  
CRANKSHAFT  
ENGINE REPAIR  
BEARING  
OIL SEAL  
CRANKSHAFT  
CRANKSHAFT  
GEAR  
CRANKSHAFT  
BALANCE SHAFT  
CAM DRIVEN GEAR AND GEARING  
CLUTCH  
NEUTRAL  
MAGNETIC  
REED VALVE  
OIL PUMP  
PISTON  
CYLINDER