PERIODIC MAINTENANCE

CONTENTS

PERIODIC MAINTENANCE SCHEDULE

The chart below lists the recommended intervals for all the required periodic service work necessary to keep the vehicle operating at peak performance and economy. Maintenance intervals are expressed in terms of months.

NOTE:

More frequent servicing may be performed on vehicles that are use under severe conditions.

PERIODIC MAINTENANCE CHART

Item \ Interval	Initial 1 month	Every 3 months	Every 6 months
Air cleaner element	—	C	C
Exhaust pipe nuts and muffler bolts	T	T	T
Valve clearance	I	—	I
Spark plug	—	—	I
	Replace every 18 months.		
Spark arrester	—	—	C
Idle speed	I	I	I
Throttle cable play	I	I	I
Throttle body	—	I	I
Fuel line	—	I	I
	Replace every 4 years.		
Fuel filter	Replace every 4 years.		
Engine oil and oil filter	R	—	R
Engine oil hose	I	I	I
Clutch cable play	I	I	I
Engine coolant	Replace every 2 years.		
Radiator	—	I	I
Radiator hose	—	—	I
Drive chain	Clean, lubricate and inspect each time the vehicle is ridden.		
Drive chain buffer	Inspect each time the vehicle is ridden.		
Brakes	I	I	I
Brakes fluid	—	I	I
	Replace every 2 years.		
Brake hose	—	—	I
	Replace every 4 years.		
Tires	—	I	I
Suspensions	—	—	I
Front and rear wheel set nuts	Tighten each time the vehicle is ridden.		
Rear axle nut and lock-nut	T	T	T
Steering	I	I	I
Chassis bolts and nuts	T	T	T
General lubrications	L	L	L

NOTE:

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

R = Replace *C = Clean*

T = Tighten *L = Lubricate*

MAINTENANCE AND TUNE-UP PROCEDURES

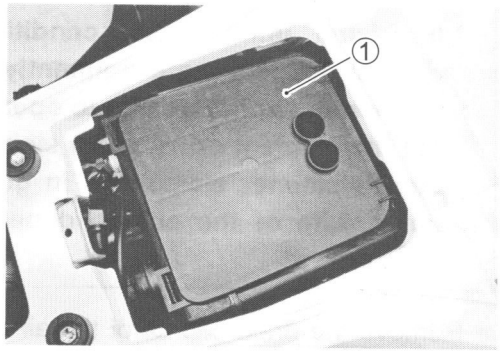
This section describes the servicing procedures for each item mentioned in the Periodic Maintenance chart.

AIR CLEANER

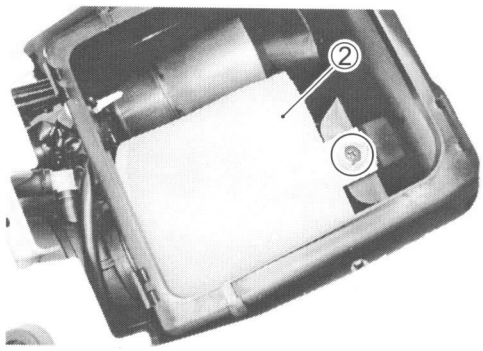
Clean every 3 months.

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 air cleaner element in the following manner.

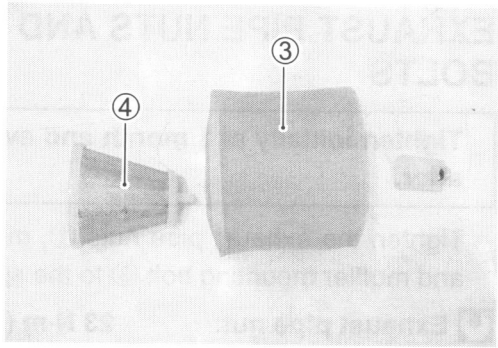
- Remove the seat. (☞7-6)
- Remove the air cleaner case cover ①.



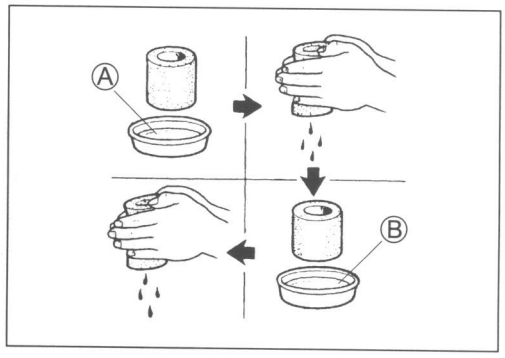
- Remove the air cleaner element ②.



- Separate the polyurethane foam element ③, element frame ④ and element holder.



- Fill a wash pan of a proper size with a non-flammable cleaning solvent. Immerse the air cleaner element in the cleaning solvent and wash it.
- Press the air cleaner element between the palms of both hands to remove the excess solvent: do not twist or wring the element or it will tear.
- Immerse the element in motor oil, and then squeeze out the excess oil leaving the element slightly wet.

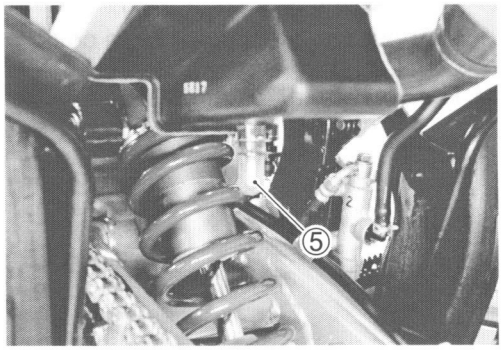


Ⓐ Non-flammable cleaning solvent
Ⓑ MOTUL AIR FILTER OIL or equivalent filter oil

CAUTION

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

- Remove the drain cap ⑤ of the air cleaner box to allow any water to drain out.

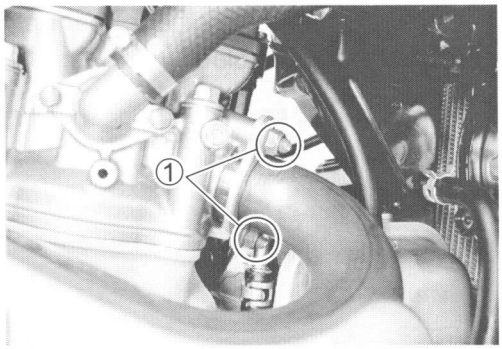


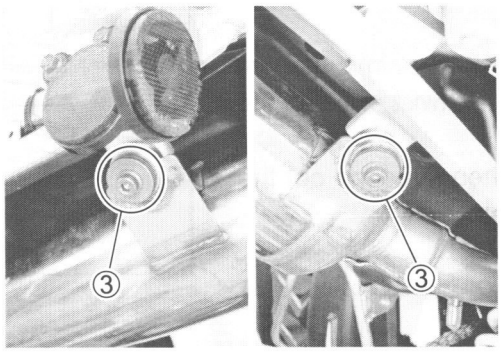
EXHAUST PIPE NUTS AND MUFFLER BOLTS

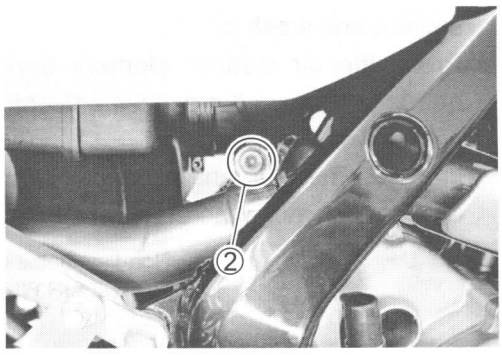
Tighten initially at 1 month and every 3 months thereafter.

- Tighten the exhaust pipe nuts ①, muffler connection bolt ②, and muffler mounting bolt ③ to the specified torque.

Exhaust pipe nut: 23 N·m (2.3 kgf-m, 16.5 lb-ft)
Muffler connection bolt: 23 N·m (2.3 kgf-m, 16.5 lb-ft)
Muffler mounting bolt: 23 N·m (2.3 kgf-m, 16.5 lb-ft)





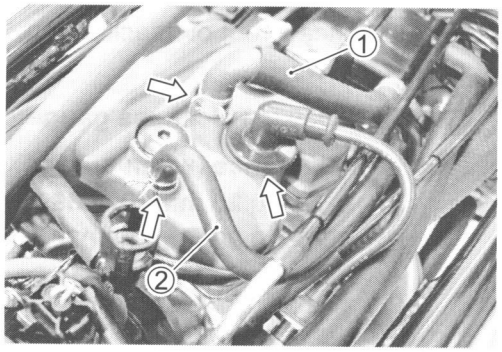


VALVE CLEARANCE

Inspect initially at 1 month and every 6 months thereafter.

Excessive valve clearance results in valve noise and insufficient valve clearance results in valve damage and reduced power. Check the intake and exhaust valve clearances at the distances indicated above and adjust the valve clearances to specification, if necessary.

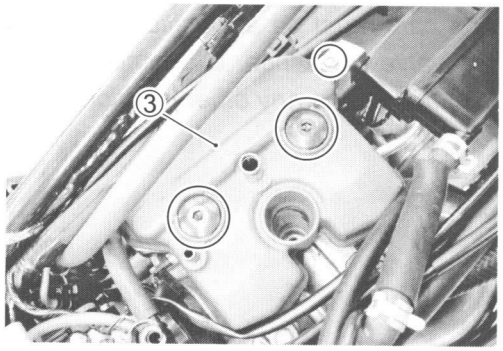
- Remove the seat. (☞7-6)
- Remove the side covers, fuel tank cover and front fender. (☞7-6)
- Remove the fuel tank and fuel tank lower cover. (☞5-4)
- Remove the spark plug cap and spark plug. (☞2-10)
- Disconnect the breather hose ① and oil tank over-flow hose ②.



- Remove the cylinder head cover ③.

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

Valve 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 removed for servicing.

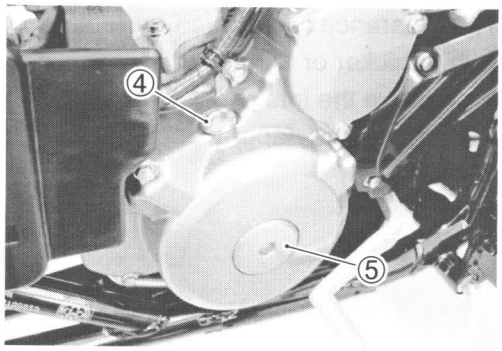


- Remove the valve timing inspection plug ④ and generator cover cap ⑤.

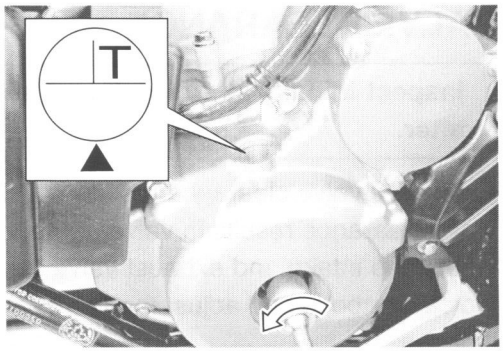
NOTE:

** The piston must be at top dead center (TDC) on the compression stroke in order to check or adjust the tappet clearance.*

** The tappet clearance should only be checked when the engine is cold.*



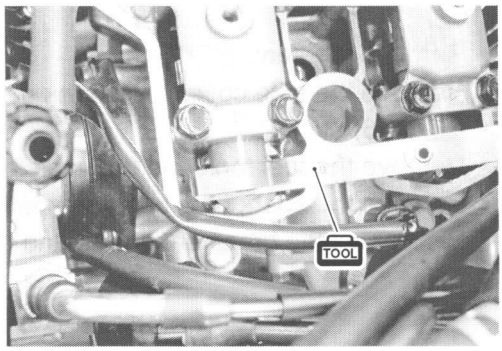
- Rotate the crankshaft with a box wrench to set the piston at TDC on the compression stroke. (Rotate the crankshaft until the "T" line on the generator rotor is aligned with the triangle mark on the generator cover.)



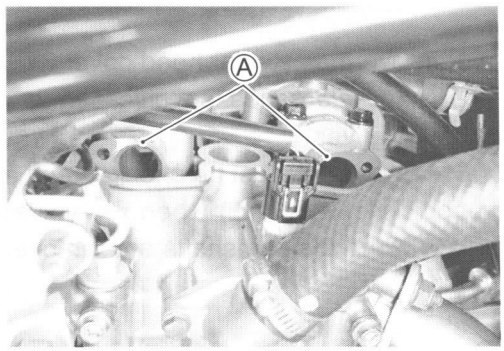
- Insert a thickness gauge between the tappet and the cam. If the clearance is out of specification, adjust it to the specification as follows.

TOOL 09900-20803: Thickness gauge

DATA Valve clearance (when cold)
IN: 0.10 – 0.20 mm (0.0039 – 0.0079 in)
EX: 0.20 – 0.30 mm (0.0079– 0.0118 in)

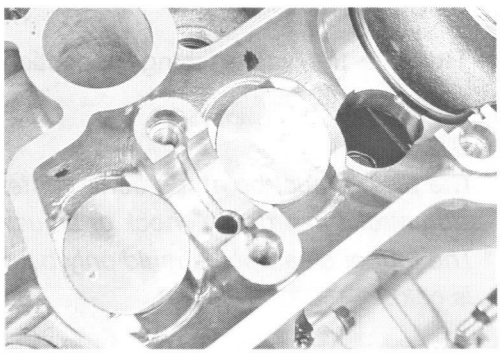


NOTE:
The cam must be at position Ⓐ, when checking and adjusting the valve clearance. Clearance readings should not be taken with the cam in any other position than this position.

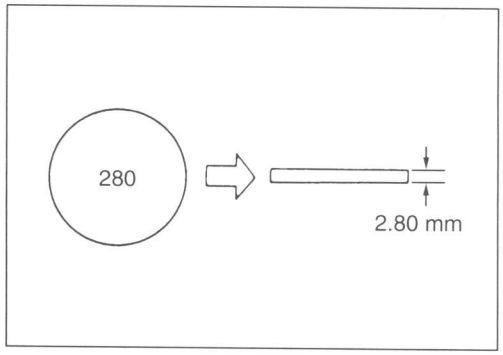


ADJUSTMENT
The clearance is adjusted by replacing the existing tappet shim with a thicker or thinner shim.

- Remove the intake or exhaust camshafts. (☞3-13)
- Remove the tappet and shim by hand or with a magnet. (☞3-25)



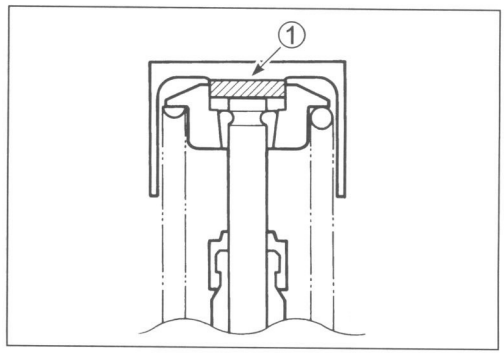
- Check the numbers printed on the tappet shim. These numbers indicate the thickness of the tappet shim, as illustrated.
- Select a replacement tappet shim that will provide the proper clearance. Tappet shims are available in 25 sizes, ranging from 2.30 to 3.50 mm (0.09 to 0.14 in) in increments of 0.05 mm (0.002 in). Install the selected shim ① at the valve stem end, with the numbers facing towards the tappet. Be sure to measure the shim with a micrometer to ensure that it is of the proper size.
  Refer to the tappet shim selection table for details.



NOTE:

** Be sure to apply molybdenum oil solution to the top and bottom faces of the tappet shim.*

** When installing the tappet shim, make sure that the side with the numbers face towards the tappet.*

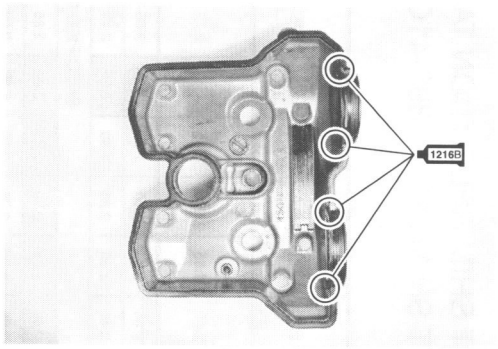


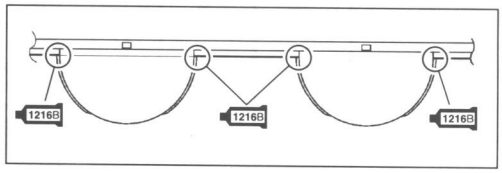
CAUTION

Install the camshafts as specified. (☞3-76)

- After replacing the tappet shim and camshafts, rotate the crankshaft so that the tappet is depressed fully (this will squeeze out any oil trapped between the tappet shim and the tappet that could cause an incorrect measurement). After rotating the crankshaft, check the valve clearance again to make sure that it is within specification.
- When installing the cylinder head cover, apply SUZUKI BOND "1216B" to the cam end caps of the cylinder head cover gasket.

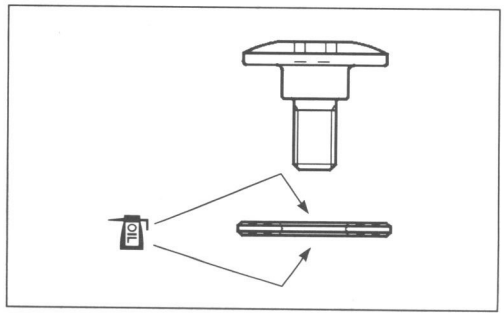
1216B 99000-31230: SUZUKI BOND "1216B"





- Tighten the generator cover cap and valve inspection plug. (☞3-78)
- Apply engine oil to both sides of the washers.
- Tighten the cylinder head cover bolts to the specified torque. (☞3-79)

Cylinder head cover bolt:
Initial 10 N·m (1.0 kgf-m, 7.0 lb-ft)
Final 14 N·m (1.4 kgf-m, 10.0 lb-ft)



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

TAPPET SHIM SET NO.(12800-41810)

MEASURED TAPPET CLEARANCE (mm) \ SUFFIX NO. / PRESENT SHIM SIZE (mm)	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
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 when the 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 NO.(12800-41810)

MEASURED TAPPET CLEARANCE (mm) \ SUFFIX NO. / PRESENT SHIM SIZE (mm)	230 2.30	235 2.35	240 2.40	245 2.45	250 2.50	255 2.55	260 2.60	265 2.65	270 2.70	275 2.75	280 2.80	285 2.85	290 2.90	295 2.95	300 3.00	305 3.05	310 3.10	315 3.15	320 3.20	325 3.25	330 3.30	335 3.35	340 3.40	345 3.45	350 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
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
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
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
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	
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		
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			
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				
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					
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						
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							
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								
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									
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										
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											
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												
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													
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														
1.01–1.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	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																
1.11–1.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																	
1.16–1.20	3.25	3.30	3.35	3.40	3.45	3.50	3.50																		
1.21–1.25	3.30	3.35	3.40	3.45	3.50	3.50																			
1.26–1.30	3.35	3.40	3.45	3.50	3.50																				
1.31–1.35	3.40	3.45	3.50	3.50																					
1.36–1.40	3.45	3.50	3.50																						
1.41–1.45	3.50	3.50																							
1.46–1.50	3.50																								

How to use this chart:

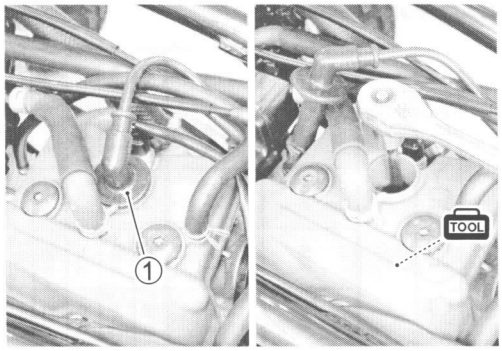
I. Measure tappet clearance when the engine is cold.
II. Measure present shim size.
III. Match clearance in vertical column with present shim size in horizontal column.

Example:

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

SPARK PLUG

Inspect every 6 months.
Replace every 18 months.

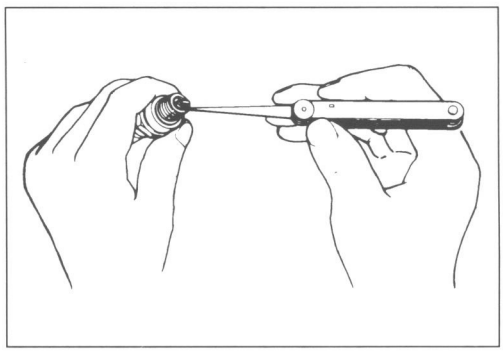


- Remove the fuel tank and fuel tank lower cover. (☞5-4)
- Disconnect the spark plug cap ① and remove the spark plug.

	Hot type	Standard	Cold type
NGK	CR7EB	CR8EB	CR9EB

CARBON DEPOSITS

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



SPARK PLUG GAP

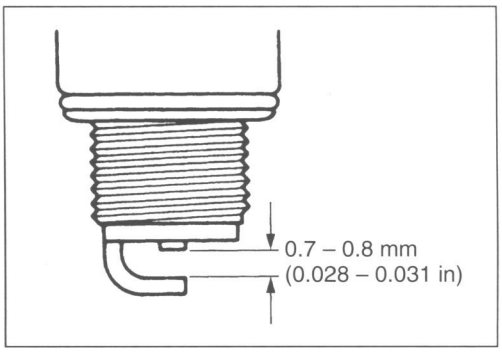
Measure the spark plug gap using a thickness gauge. If the spark plug gap is out of specification, adjust the gap.

DATA Standard
Spark plug gap: 0.7 – 0.8 mm (0.028 – 0.031 in)

TOOL 09900-20803: Thickness gauge

ELECTRODE

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



CAUTION

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

SPARK PLUG INSTALLATION

CAUTION

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

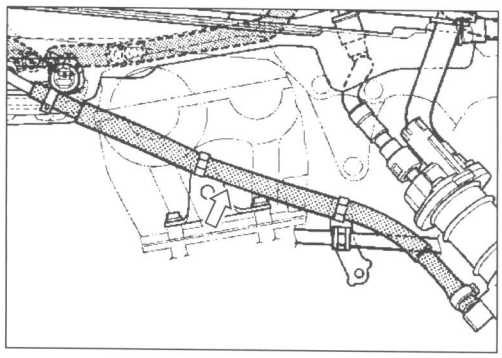
- Insert the spark plug and finger tighten it to the cylinder head and then, tighten it to the specified torque.

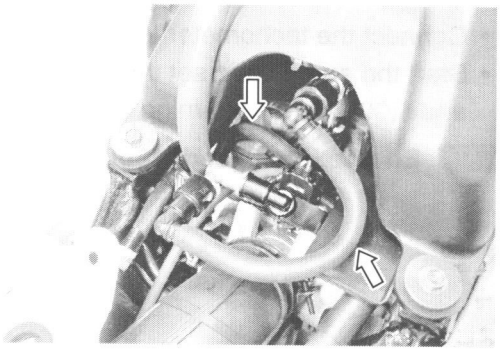
Spark plug: 11 N·m (1.1 kgf-m, 8.0 lb-ft)

FUEL LINE

Inspect every 3 months.
Replace every 4 years.

Inspect the fuel hose for damage and fuel leakage. If any defects are found, replace the fuel hoses with new ones.

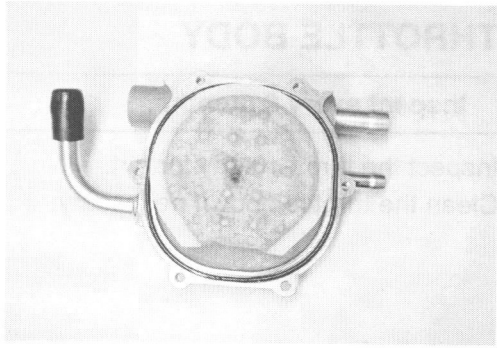




FUEL FILTER

Replace every 4 years.

Inspect the fuel filter for damage and rust. If any defects are found, blow the fuel filter with compressed air or replace the fuel filter, O-ring and fuel filter cap with a new one. (☞5-9)



THROTTLE CABLE PLAY

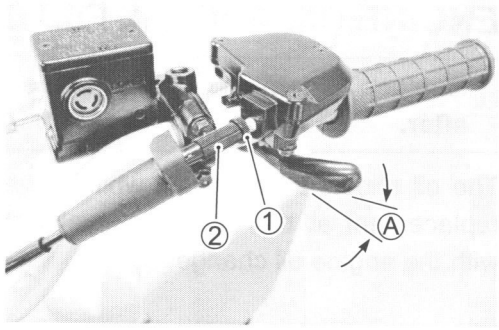
Inspect initially at 1 month and every 3 months thereafter.

Adjust the throttle cable play Ⓐ as follows.

- Loosen the lock-nut ① of the throttle cable.
- Turn the adjuster ② in or out to obtain the correct play.

DATA **Throttle cable play: 3 – 5 mm (0.12 – 0.20 in)**

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



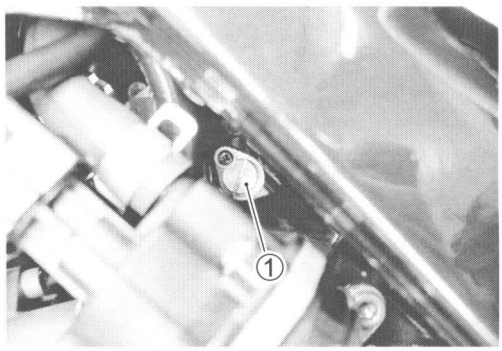
ENGINE IDLE SPEED

Inspect initially at 1 month and every 3 months thereafter.

NOTE:
Make this adjustment when the engine is hot.

- Connect the tachometer to the high-tension cord.
- Start the engine and set the engine idle speed between 1 700 and 1 900 r/min by turning the idle air screw ①.

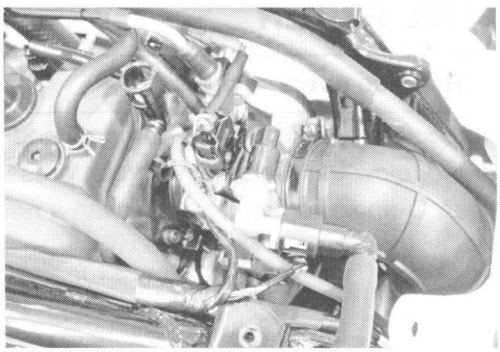
DATA **Engine idle speed: 1800 ± 100 r/min**



THROTTLE BODY

Inspect every 3 months.

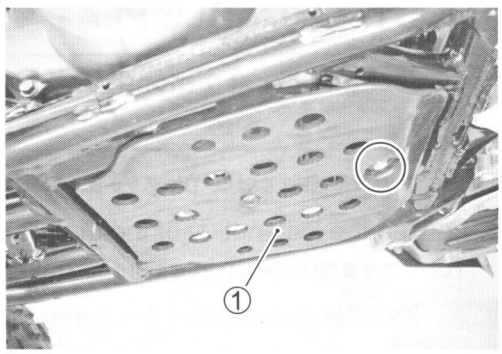
Inspect the throttle body for dirt.
Clean the throttle body if necessary.



ENGINE OIL AND OIL FILTER

Replace initially at 1 month and every 6 months thereafter.

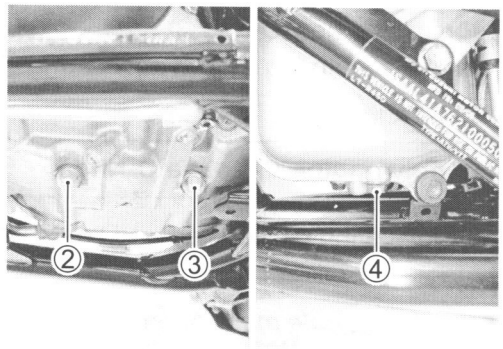
The oil should be changed while the engine is warm. Oil filter replacement at the above intervals, should be done together with the engine oil change.



ENGINE OIL REPLACEMENT

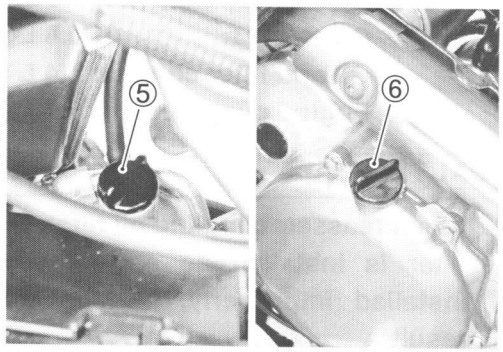
Crankcase side

- Remove the engine protector cover ①.
- Place an oil pan below the drain plug ② and ③ on the crankcase and drain plug ④ on the oil tank. Then drain out the engine oil by removing the engine oil drain plug ②, ③, ④ and engine oil filler cap ⑤, ⑥.
- Reinstall the drain plug ②, ③, ④ and gasket. Tighten the engine oil drain plug ②, ③ and ④ to the specified torque, and then pour the fresh oil through the oil filler hole. When performing an oil change (without oil filter replacement), the oil tank will hold about 1.2 L (1.3 US qt, 1.1 Imp qt) of oil and the engine will hold about 0.4 L (0.4 US qt, 0.4 Imp qt) of oil. Use of SF/SG or SH/SJ in API with MA in JASO.



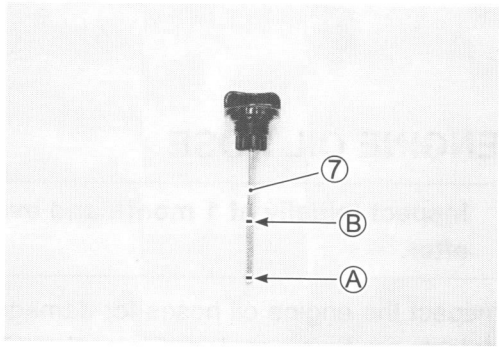
Engine oil drain plug ②, ③: 18 N·m (1.8 kgf-m, 13.0 lb-ft)
Engine oil tank drain plug ④: 12 N·m (1.2 kgf-m, 8.5 lb-ft)

- Make sure that the engine is cooled.
- Place the motorcycle on level ground and hold it vertically.
- Install the oil filter cap ⑤, ⑥.
- Start the engine and allow it to run for three minutes at idling speed.



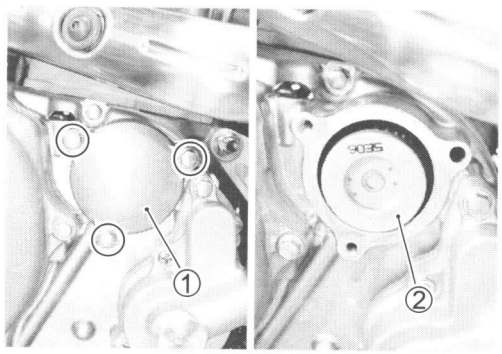
- Turn off the engine and wait about three minutes, and then check the oil level on the dipstick ⑦. The oil level should be between the "L" (low) Ⓐ and "F" (full) Ⓑ level lines. If the oil level is lower than the "L" Ⓐ level line, add oil to the "F" Ⓑ level line.

NOTE:
Engine oil expands and oil level increase when the engine oil is hot.

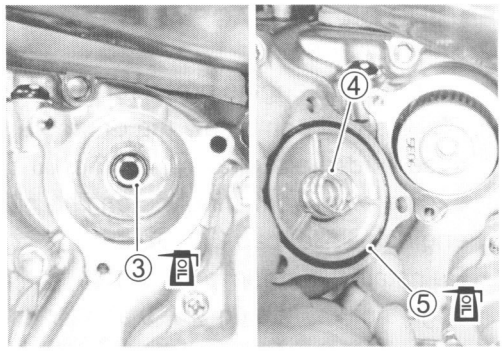


OIL FILTER REPLACEMENT

- Drain the engine oil as described in the engine oil replacement procedure.
- Remove the oil filter cap ① and oil filter ②.
- Replace the oil filter with a new one.



- Install the new O-ring ③.
- Install the spring ④ and new O-ring ⑤.

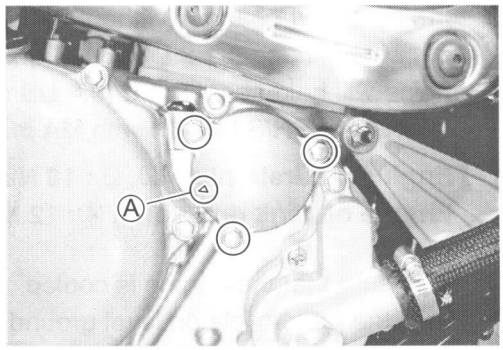


CAUTION

Apply engine oil to the O-rings.

- Replace the oil filter cap and tighten the bolts securely.

NOTE:
Face the triangle mark Ⓐ on the cap rearward.



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

DATA **Engine oil capacity (oil tank side)**

Oil change:	**1.2 L (1.3 US qt, 1.1 Imp qt)**
Oil and filter change:	**1.3 L (1.4 US qt, 1.1 Imp qt)**
Engine overhaul:	**1.4 L (1.5 US qt, 1.2 Imp qt)**

Engine oil capacity (engine side)

Oil change:	**0.4 L (0.4 US qt, 0.4 Imp qt)**
Oil and filter change:	**0.4 L (0.4 US qt, 0.4 Imp qt)**
Engine overhaul:	**0.4 L (0.4 US qt, 0.4 Imp qt)**

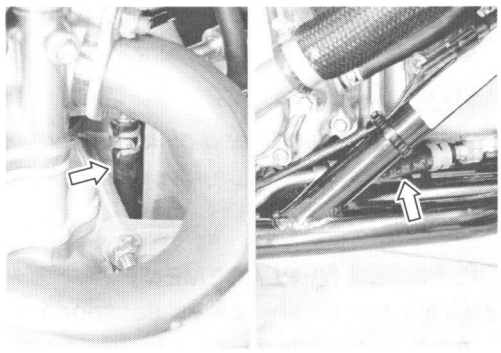
CAUTION

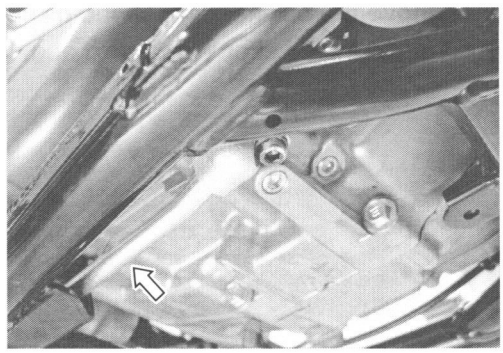
When reassembling the oil filter, make sure that the oil filter is installed as shown above. If the filter is installed improperly, serious engine damage may result.

ENGINE OIL HOSE

Inspect initially at 1 month and every 3 months thereafter.

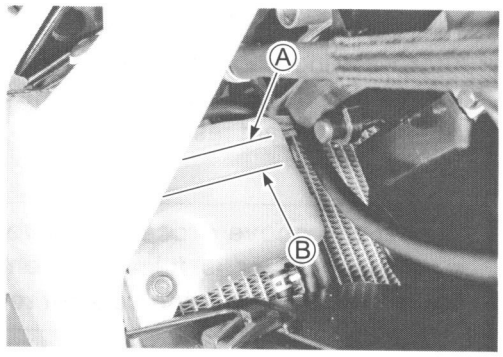
Inspect the engine oil hoses for damage and oil leakage. If any defects are found, replace the engine oil hoses with new ones.





ENGINE COOLANT

Replace the engine coolant every 2 years.

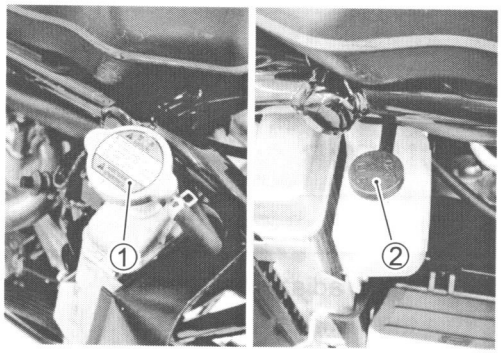


ENGINE COOLANT LEVEL CHECK

- Check the engine coolant level by observing the upper Ⓐ and lower Ⓑ lines on the engine coolant reservoir.
- If the level is below the lower line, remove the front fender (☞7-6), add engine coolant until the level reaches the upper line.

ENGINE COOLANT REPLACEMENT

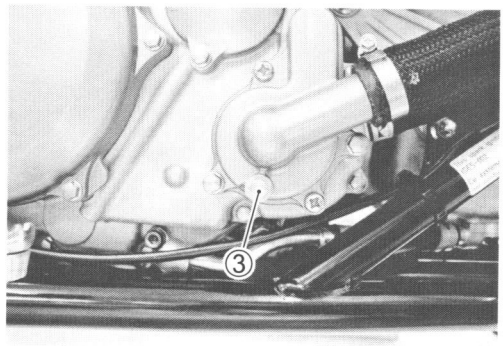
- Remove the front fender. (☞7-6)
- Remove the radiator cap ① and engine coolant reservoir cap ②.
- Place a pan below the water pump, and then drain the engine coolant by removing the drain plug ③.



⚠ WARNING

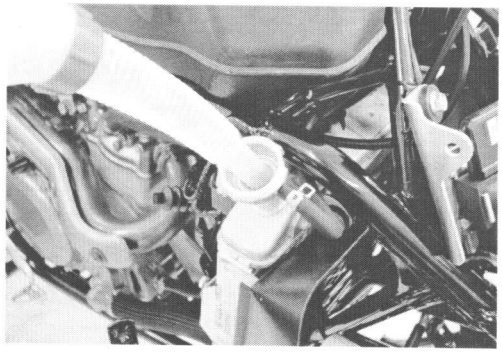
*** Do not open the radiator cap when the engine is hot, as you may be injured by escaping hot liquid or vapor.**

*** Engine coolant may be harmful if swallowed or if it comes in contact with the skin or eyes. If engine coolant gets into the eyes or contacts the skin, flush the eyes or wash the skin thoroughly, with plenty of water. If engine coolant is swallowed, induce vomiting and call a physician immediately.**

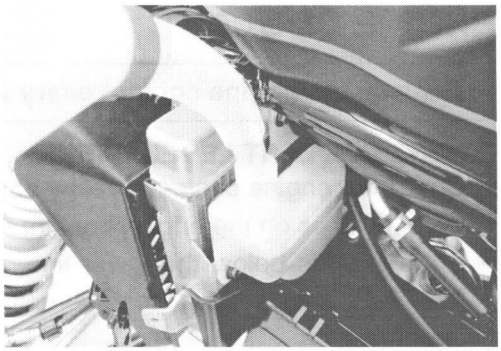


- Flush the radiator with fresh water, if necessary.
- Tighten the drain plug securely.
- Pour the specified engine coolant into the reservoir.

NOTE:
For engine coolant information, refer to page 6-2.



- Install the radiator cap securely.
- After warming up and cooling down the engine, add engine coolant until the level is between the upper and lower lines on the engine coolant reservoir.

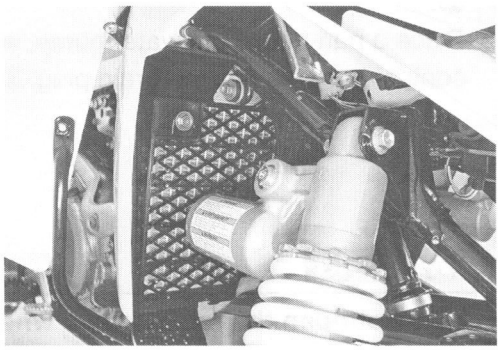


CAUTION

Repeat the above procedure several times and make sure the radiator is filled with engine coolant to the upper line of the engine coolant reservoir.

DATA Engine coolant capacity (including reserve):
1 400 ml (1.5 US qt, 1.2 Imp qt)

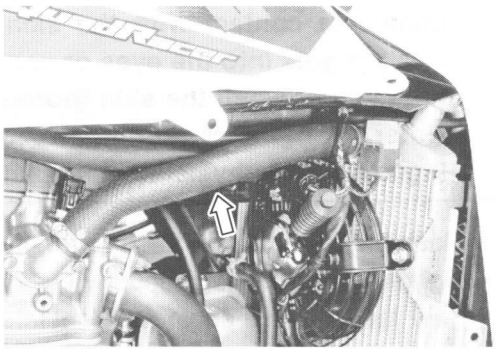
RADIATOR



Inspect every 3 months.

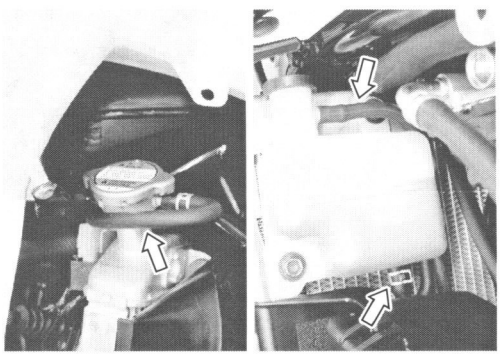
Inspect the radiator for dirt.
Clean the radiator if necessary.

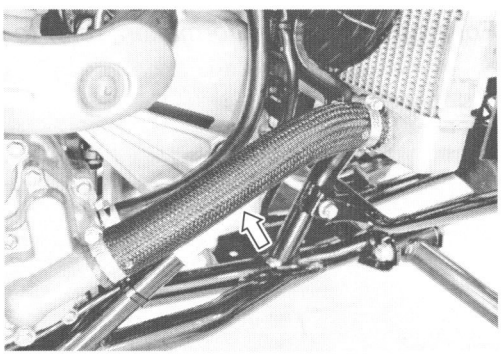
RADIATOR HOSE



Inspect every 6 months.

Inspect the radiator hoses for damage and engine coolant leakage. If any defects are found, replace the radiator hoses with new ones.

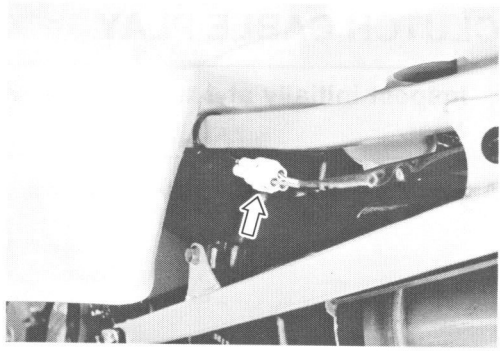




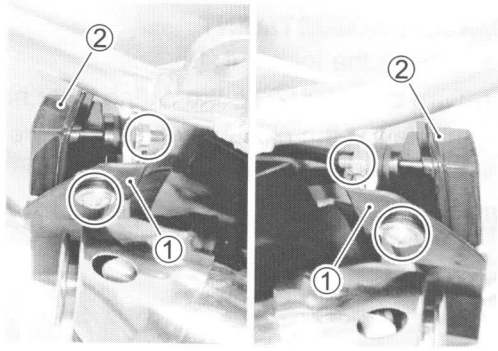
SPARK ARRESTER

Clean every 6 months.

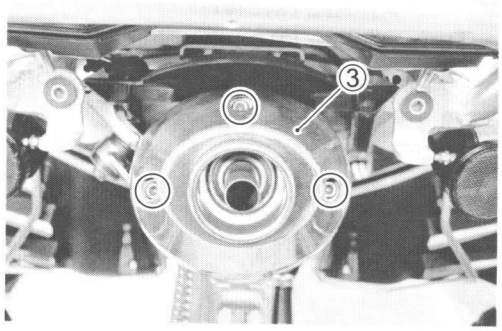
- Disconnect the brake light/taillight coupler.



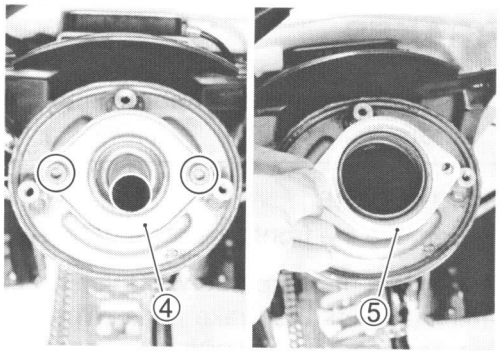
- Remove the brake light/taillight cover ① and rear brake light ②.



- Remove the spark arrester cover ③.



- Remove the spark arrester pipe ④.
- Remove the gasket ⑤.



- Clean the spark arrester pipe by brush.
- Reinstall the spark arrester pipe.
- Reinstall the spark arrester cover.
- Reinstall the brake light/taillight and brake light/taillight cover.

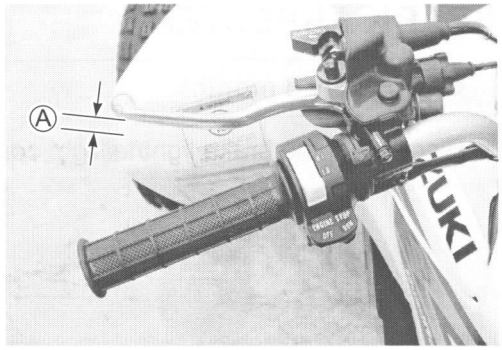
⚠ WARNING

Only clean the spark arrester in an open area away from combustible materials. Exhausted hot carbon particles can start a fire.

CLUTCH CABLE PLAY

Inspect initially at 1 month and every 3 months thereafter.

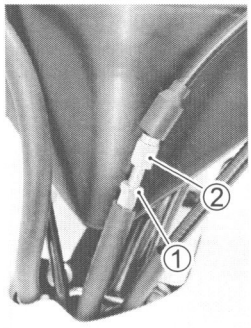
Adjust the clutch cable play as follows:



MAJOR ADJUSTMENT

- Loosen the lock-nut ①.
- Turn adjuster ② so the clutch lever has 10 – 15 mm (0.4 – 0.6 in) play at the clutch lever end before pressure is felt.
- Tighten the lock-nut ①.

DATA **Clutch lever play Ⓐ: 10 – 15 mm (0.4 – 0.6 in)**



MINOR ADJUSTMENT

- Turn adjuster ③ so the clutch lever has 10 – 15 mm (0.4 – 0.6 in) play at the clutch lever end before pressure is felt.

DATA **Clutch lever play Ⓐ: 10 – 15 mm (0.4 – 0.6 in)**

BRAKES

Inspect initially at 1 month and every 3 months thereafter.

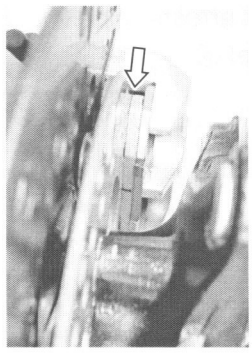
BRAKE PADS

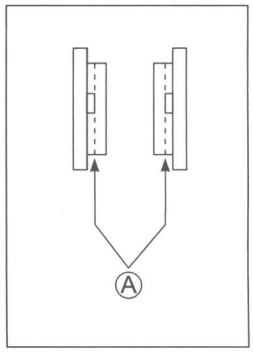
- Remove the front wheels. (☞7-10)

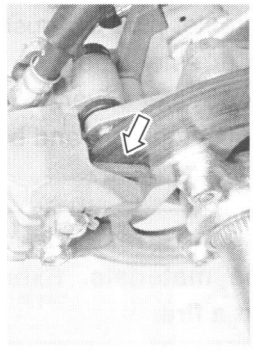
The extent of brake pad wear can be checked by observing the limit line Ⓐ on the brake pads. When the wear reaches the limit line, replace the pads with new ones. (☞7-19, -55)

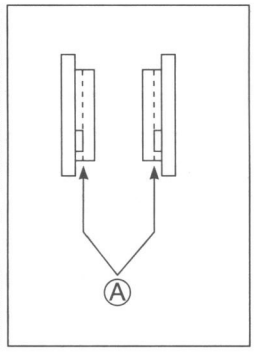
CAUTION

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







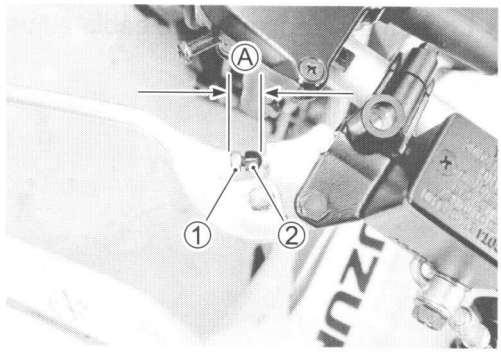


FRONT BRAKE LEVER ADJUSTMENT

Adjust the brake lever position as follows:

- Loosen the lock-nut ①.
- Turn in or out adjuster ② to obtain the proper brake lever position.
- The standard adjuster length Ⓐ is 11 – 15 mm (0.4 – 0.6 in).
- Tighten the lock-nut ① securely.

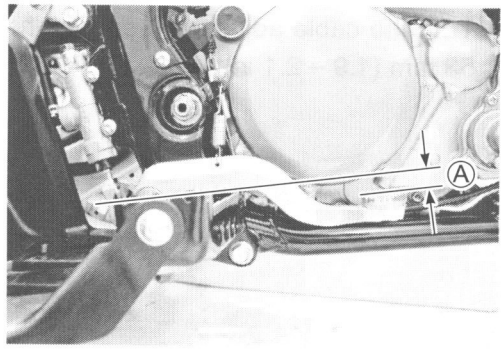
Front brake lever adjuster lock-nut:
5 N·m (0.5 kgf-m, 3.5 lb-ft)



REAR BRAKE PEDAL AND LEVER

The procedure for adjusting the rear brake pedal and brake lever is as follows:

NOTE:
First adjust the brake pedal, and then adjust the brake lever.

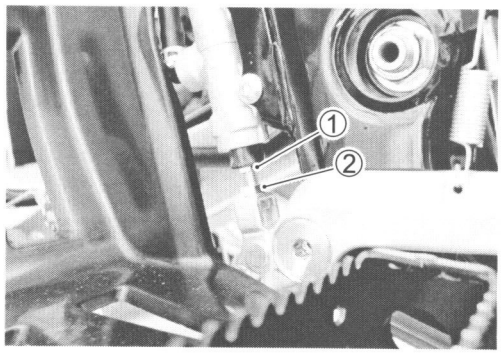


Brake pedal

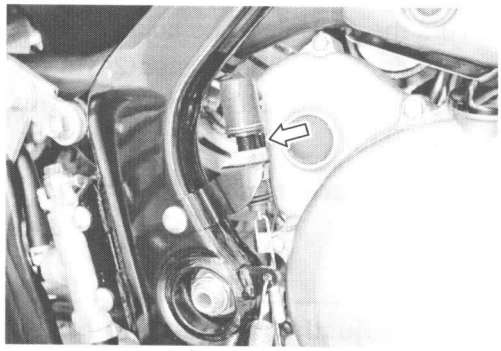
- Turn the adjuster ① in or out until the pedal height Ⓐ to the specification, after loosening the lock-nut ②.
- Make sure to tighten the lock-nut ② securely.

DATA Brake pedal height Ⓐ: 0 – 10 mm (0 – 0.4 in)

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



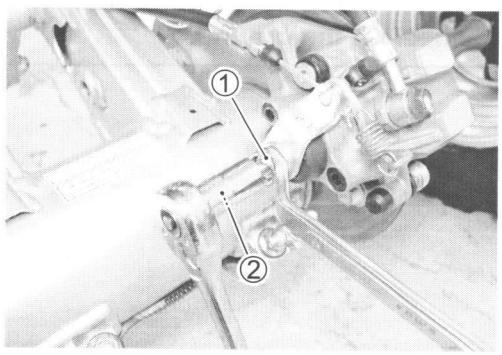
- Adjust the rear brake light switch so that the brake light will come on just before pressure is felt when the brake pedal is depressed.



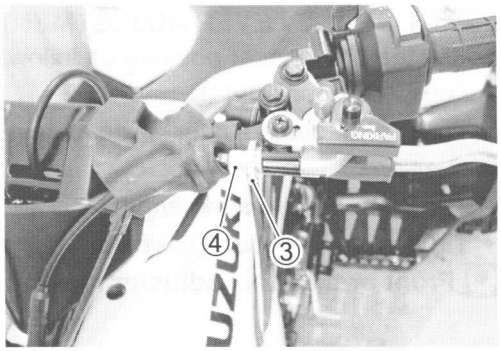
PARKING BRAKE

Parking brake adjustment may be required if the parking brake does not work properly. Every time the brake pads are replaced, adjust the parking brake.

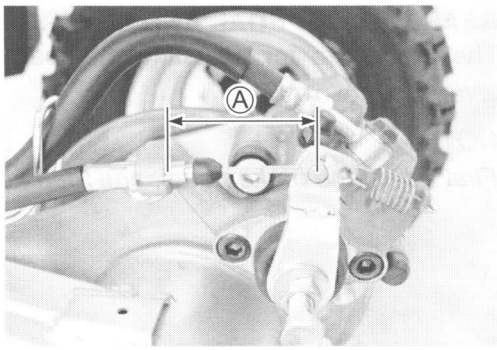
- Loosen the parking brake adjuster lock-nut ① while holding the adjuster ② with a tool.
- Loosen the adjuster ②.



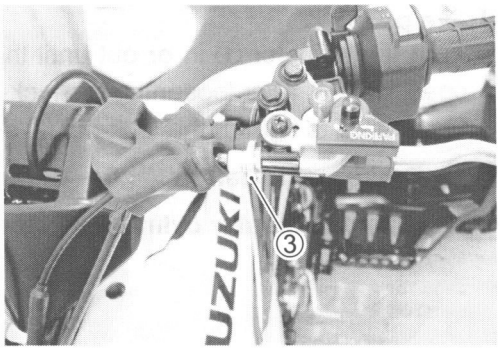
- Loosen the parking brake cable adjuster lock-nut ③.



- Turn the cable adjuster ④ so that the cable length Ⓐ is 49 – 53 mm (1.9 – 2.1 in).

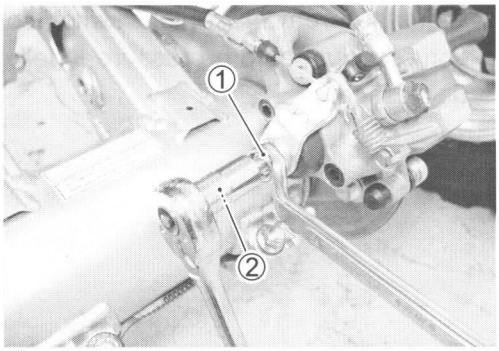


- Tighten the adjuster lock-nut ③.



- Turn the parking brake adjuster ② clockwise until it stops.
- Then, turn out the adjuster ② 1/8 – 1/4.
- Tighten the adjuster lock-nut ① while holding the adjuster ② with a tool.

Parking brake adjuster lock-nut:
18 N·m (1.8 kgf-m, 13.0 lb-ft)

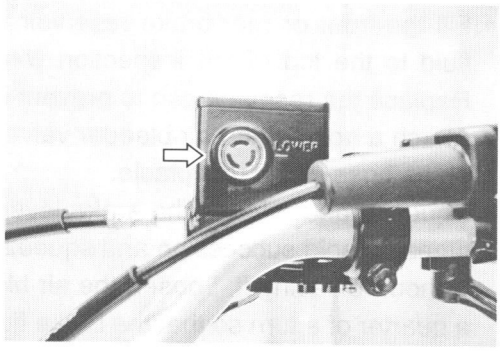


CAUTION

After adjusting the parking brake, check that there is no dragging when turning the rear wheel with the wheel off the ground.

BRAKE FLUID

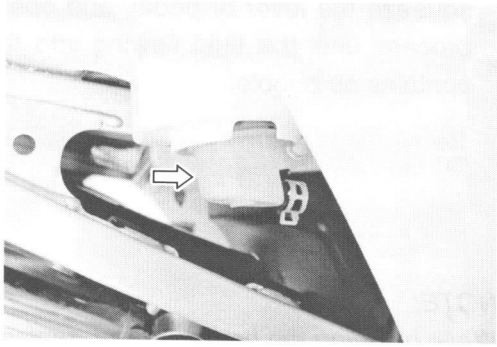
Inspect every 3 months.
Replace every 2 years.



BRAKE FLUID LEVEL

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

Specification and classification: DOT 4



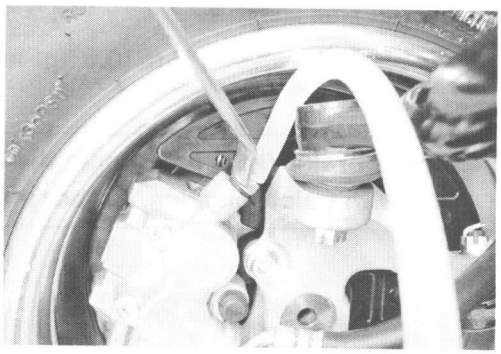
⚠ WARNING

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

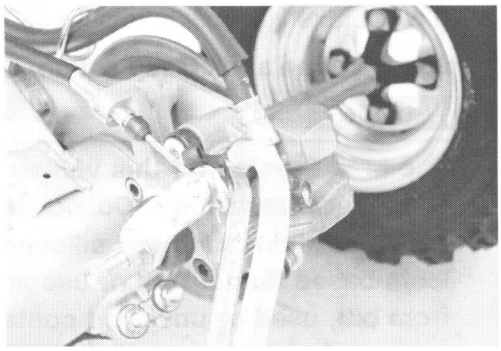
*** Brake fluid, if it leaks, will interfere with safe running and immediately discolor painted surfaces. Check the brake hoses and hose joints for cracks and fluid leakage before riding.**

AIR BLEEDING THE BRAKE FLUID CIRCUIT

Air trapped in the brake fluid circuit acts like a cushion 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:



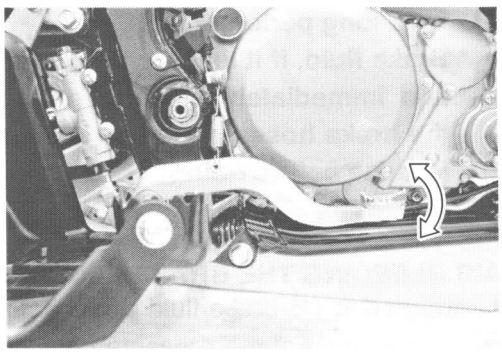
- Fill the front or rear brake reservoir with the specified brake fluid to the top of the inspection window or upper limit line. Replace the reservoir cap to prevent dirt from entering.
- Attach a hose to the air bleeder valve, and insert the free end of the hose into a receptacle.
- Squeeze and release the brake lever or brake pedal several times in rapid succession and squeeze the lever or pedal fully without releasing it. Loosen the air 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 or brake pedal reaching bottom of the stroke. Then, close the air bleeder valve, pump and squeeze the lever or pedal, and open the valve. Repeat this process until the fluid flowing into the receptacle no longer contains air bubbles.



NOTE:
While bleeding the brake system, replenish the brake fluid in the reservoir as necessary. Make sure that there is always some fluid visible in the reservoir.

- Close the air bleeder valve, and disconnect the hose. Fill the reservoir with brake fluid to the top of the inspection window or upper limit line.

Air bleeder valve: 6 N·m (0.6 kgf-m, 4.5 lb-ft)



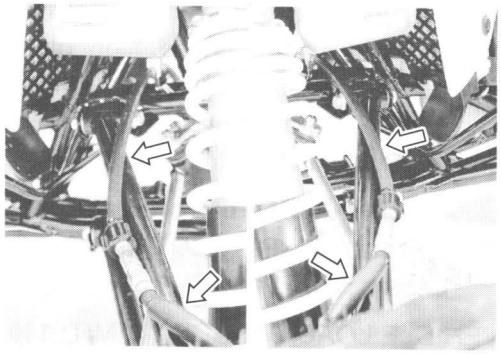
CAUTION

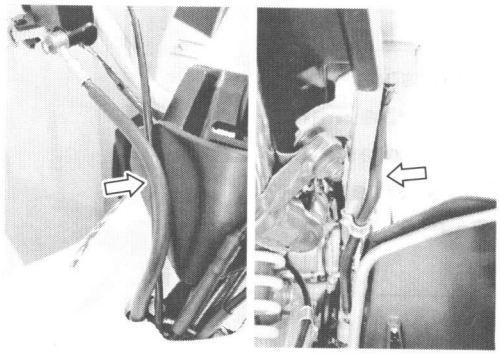
Handle brake fluid with care: the fluid reacts chemically with paint, plastics, rubber materials, etc.

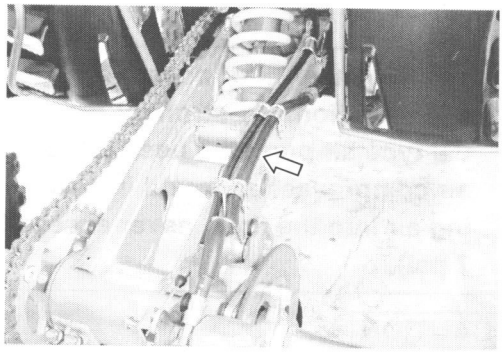
BRAKE HOSE

Inspect every 6 months.
Replace every 4 years.

Inspect the brake hoses for leakage, cracks, wear and damage. If any defects are found, replace the brake hoses with new ones.







TIRES

Inspect every 3 months.

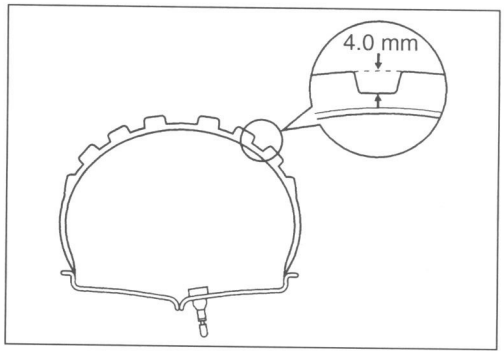
TIRE TREAD CONDITION

Operating the vehicle 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 the tire tread reaches the following specification.

TOOL 09900-20805: Tire depth gauge

DATA Service Limit

Tire tread depth: Front 4.0 mm (0.16 in)
Rear 4.0 mm (0.16 in)



TIRE PRESSURE

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

DATA **Cold inflation tire pressure**
Front: 45 kPa (0.45 kgf/cm², 6.5 psi)
Rear : 45 kPa (0.45 kgf/cm², 6.5 psi)

VEHICLE LOAD CAPACITY LIMIT: 110 kg (243 lbs)

CAUTION

To minimize the possibility of tire damage from over-inflation, we strongly recommended that a manual type air pump be used rather than a high pressure air compressor as found in service stations. When filling air into the tires, never exceed 50 kPa (0.5 kgf/cm², 7 psi).

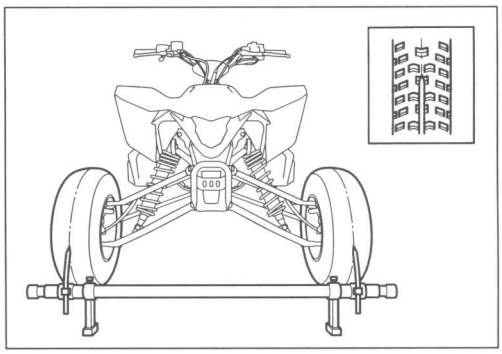
CAUTION

The standard tire fitted on this vehicle is AT20×7R10☆☆☆ for the front and AT18×10R8☆☆☆ for the rear. The use of tires other than those specified may cause instability. It is highly recommended to use the specified tires.

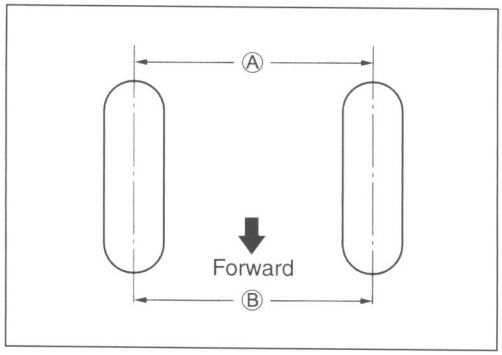
STEERING

Inspect initially at 1 month and every 3 months thereafter.

Steering system should be adjusted properly for smooth manipulation of the handlebars and safe running.



TOE



- Place the vehicle on level ground.
- Make sure the tire pressure for right and left tires is the same and set to the proper specification.
- Set the front wheels in the straight position.
- Place a load of 75 kg (165 lbs) on the seat.
- Measure the distance Ⓐ and Ⓑ of the front wheels with a toe-in gauge as shown and calculate the difference between Ⓐ and Ⓑ.
  Ⓑ – Ⓐ = Toe-in

DATA Toe-in: 0 ± 4 mm (0 ± 0.16 in)

- If the toe-in is out of specification, bring it into the specified range. (☞7-52)

DRIVE CHAIN

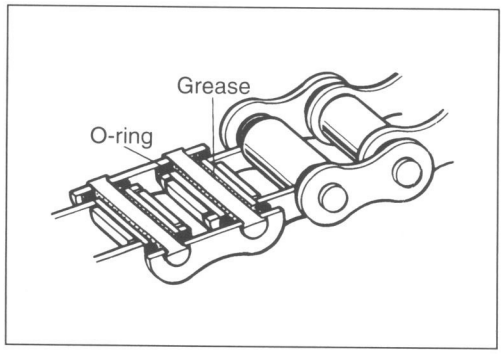
Clean, lubricate and inspect each time the vehicle is ridden.

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

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

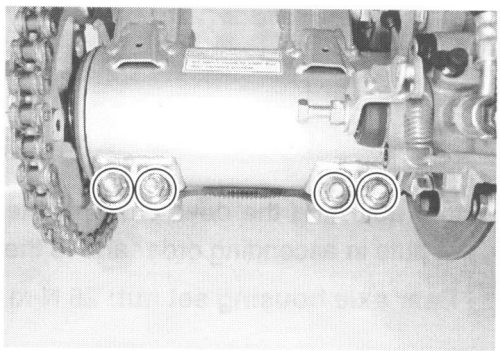
If any defects are found, the drive chain must be replaced.

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

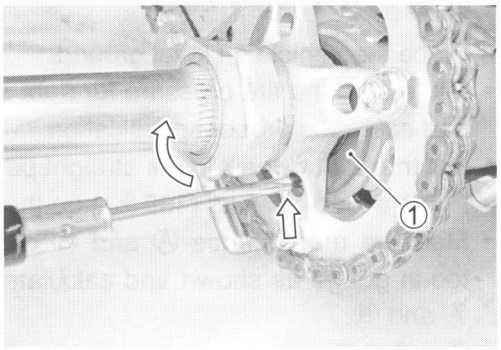


CHECKING

- Place the vehicle on a level ground.
- Loosen the rear axle housing set nuts.

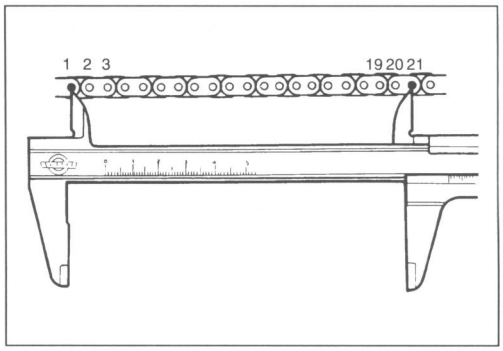


- Insert a tool into the rear sprocket hole and adjuster hole.
- Tense the drive chain fully by turning rear axle holder ①.



- 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.

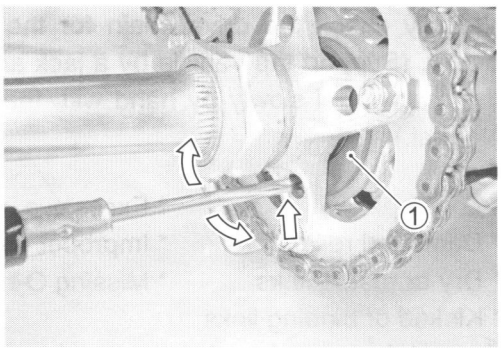
DATA Drive chain 20-pitch length
Service limit: 319.4 mm (12.57 in)

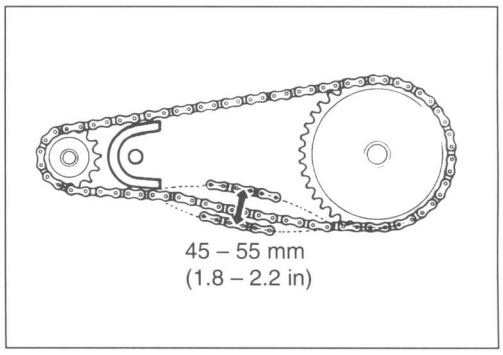


ADJUSTING

- Insert a tool in the rear sprocket hole and adjuster hole.
- Turn rear axle holder ①. Until there is 45 – 55 mm (1.8 – 2.2 in) of slack at the middle point between the chain buffer and the rear sprocket as shown.

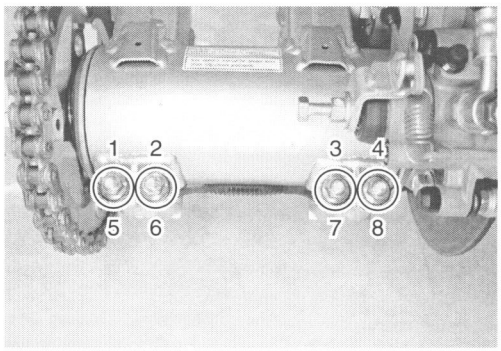
DATA Drive chain slack:
Standard: 45 – 55 mm (1.8 – 2.2 in)





- After adjusting the drive chain, tighten the rear axle housing set nuts in ascending order and to the specified torque.

Rear axle housing set nut: 28 N·m (2.8 kgf-m, 20.0 lb-ft)



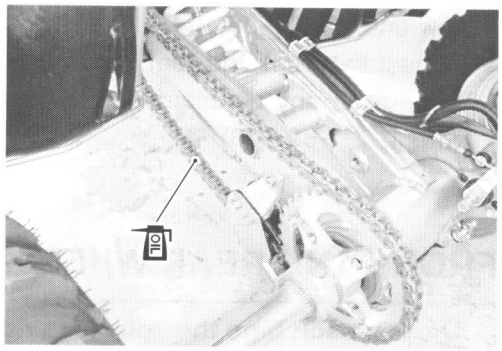
CLEANING AND LUBRICATING

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

CAUTION

Do not use trichloroethylene, gasoline or any similar solvent. These fluids have too great a dissolving power for this chain and they can damage the O-rings. Use only kerosine to clean the drive chain.

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



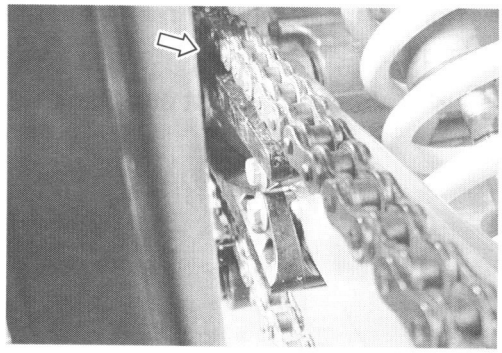
CAUTION

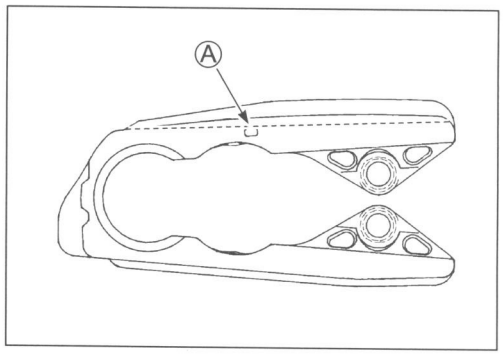
*** Do not use any oil sold commercially as "drive chain oil". Such oil can damage the O-rings.**
*** The standard drive chain is a RK 520SMOZ10S. Suzuki recommends to use this standard drive chain as a replacement.**

DRIVE CHAIN BUFFER

Inspect each time the vehicle is ridden.

The extent of chain buffer wear can be checked by observing the limit line Ⓐ on the chain buffer. When the wear reaches the limit line, replace the chain buffer with a new one.
(☞7-85)





SUSPENSIONS

Inspect every 6 months.

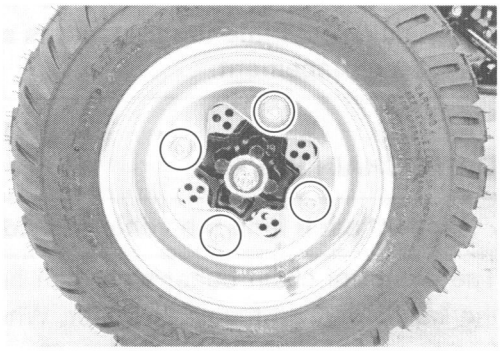
- Support the vehicle with a jack or wooden blocks.
- Remove the front and rear wheels. (☞7-10)
- Inspect the suspension arm and bearing for scratches, wear, or damage. If any defects are found, replace the suspension arm or bearing with a new one. (☞7-78)
- Inspect the swinging arm, rear axle and bearing for scratches, wear or damage. If any defects are found, replace them with a new one. (☞7-86, -94)
- Inspect the front and rear shock absorbers for oil leakage or damage. If any defects are found, replace them with a new one. (☞7-69, -73)

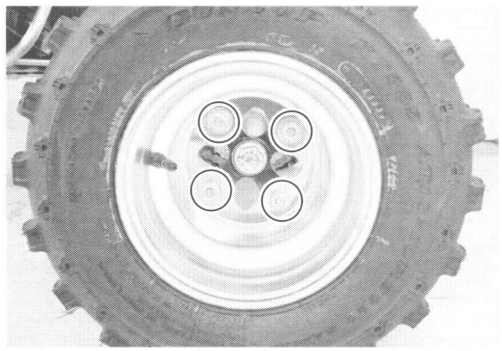
FRONT AND REAR WHEEL SET NUTS

Tighten each time the vehicle is ridden.

- Tighten the front and rear wheel set nuts to the specified torque.

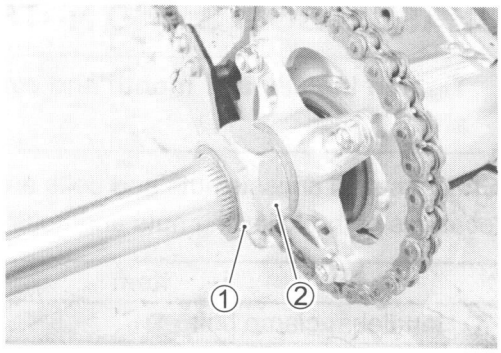
Wheel set nut (Front and Rear):
66 N·m (6.6 kgf-m, 47.5 lb-ft)





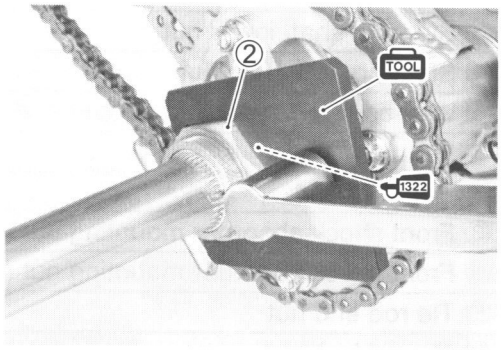
REAR AXLE NUT AND LOCK-NUT

Tighten initially at 1 month and every 3 months thereafter.



- Loosen the axle lock-nut ① and axle nut ② with the special tools.

TOOL 09940-92460: Rear axle nut wrench set



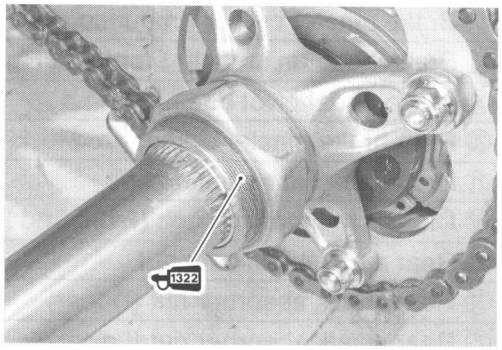
- Apply THREAD LOCK "SUPER 1322" to the thread portion of the axle nut holder.
- Tighten the axle nut ② to the specified torque with the special tool.

Rear axle nut: 240 N·m (24.0 kgf-m, 173.5 lb-ft)

1322 99000-32110: THREAD LOCK SUPER "1322" (or equivalent thread lock)

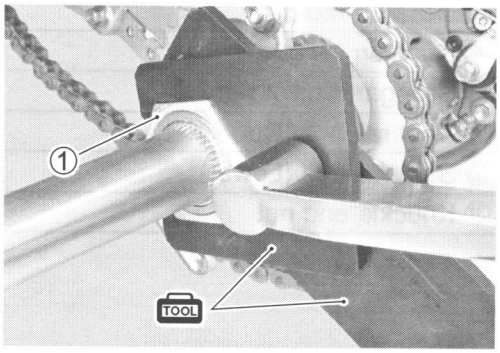
TOOL 09940-92460: Rear axle nut wrench set

NOTE:
When tightening the axle nut with the special tool, the reading torque on the torque wrench is smaller than actual torque that is applied to the axle nut. Therefore convert the tightening torque. (☞7-101)



- Apply THREAD LOCK SUPER "1322" to the thread portion of the axle nut holder.

1322 99000-32110: THREAD LOCK SUPER "1322" (or equivalent thread lock)



- Tighten the axle lock-nut ① to the specified torque with the special tools.

Rear axle lock-nut: 240 N·m (24.0 kgf-m, 173.5 lb-ft)

TOOL 09940-92460: Rear axle nut wrench set

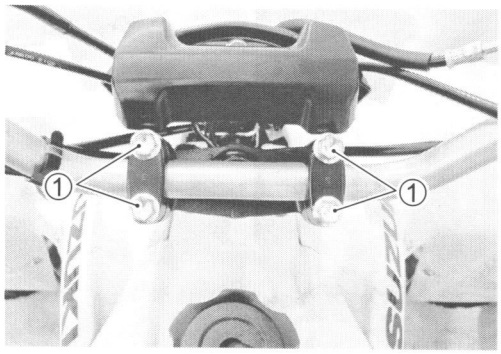
NOTE:
When tightening the axle lock-nut with the special tool, the reading torque on the torque wrench is smaller than actual torque that is applied to the axle lock-nut. Therefore convert the tightening torque. (☞7-101)

CHASSIS BOLTS AND NUTS

Tighten initially at 1 month and every 3 months thereafter.

Check that all chassis nuts and bolts are tightened to their specified torque. (Refer to page 2-31, -32 for the locations of the following nuts and bolts on the vehicle.)

Item	N·m	kgf-m	lb-ft
① Handlebar clamp bolt	26	2.6	19.0
② Steering shaft holder bolt	23	2.3	16.5
③ Steering shaft lower nut	120	12.0	87.0
④ Steering arm plate bolt	29	2.9	21.0
⑤ Wishbone arm pivot nut (Upper and Lower)	65	6.5	47.0
⑥ Front hub nut	65	6.5	47.0
⑦ Rear hub nut	121	12.1	87.5
⑧ Front shock absorber mounting nut (Upper)	60	6.0	43.5
⑨ Front shock absorber mounting nut (Lower)	60	6.0	43.5
⑩ Tie rod end nut	23	2.3	16.5
⑪ Tie rod lock-nut	29	2.9	21.0
⑫ Brake air bleeder valve	6	0.6	4.5
⑬ Front brake caliper mounting bolt	26	2.6	19.0
⑭ Rear brake caliper mounting bolt	26	2.6	19.0
⑮ Brake pipe nut	16	1.6	11.5
⑯ Footrest bolt	55	5.5	40.0
⑰ Brake master cylinder mounting bolt (Front and Rear)	10	1.0	7.0
⑱ Brake hose union bolt (Front and Rear)	23	2.3	16.5
⑲ Brake pedal pivot bolt	29	2.9	21.0
⑳ Rear brake master cylinder rod lock-nut	18	1.8	13.0
㉑ Rear sprocket mounting bolt	60	6.0	43.5
㉒ Disc plate mounting bolt (Front and Rear)	23	2.3	16.5
㉓ Rear axle housing set nut	28	2.8	20.0
㉔ Rear shock absorber nut (Upper)	60	6.0	43.5
㉕ Rear shock absorber nut (Lower)	60	6.0	43.5
㉖ Cushion rod nut	78	7.8	56.5
㉗ Cushion lever nut	78	7.8	56.5
㉘ Swingarm pivot nut	95	9.5	68.5
㉙ Seat rail bolt (Upper)	60	6.0	43.5
㉚ Seat rail bolt (Lower)	60	6.0	43.5
㉛ Knuckle end nut	23	2.3	16.5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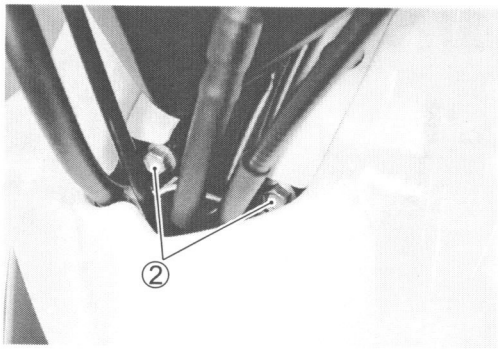
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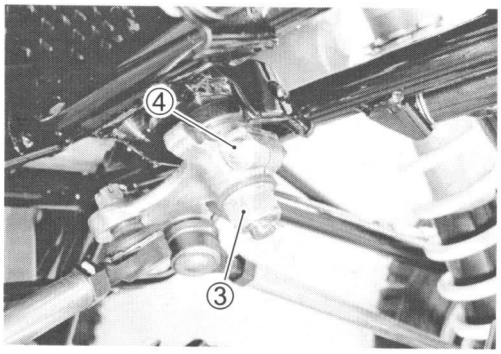
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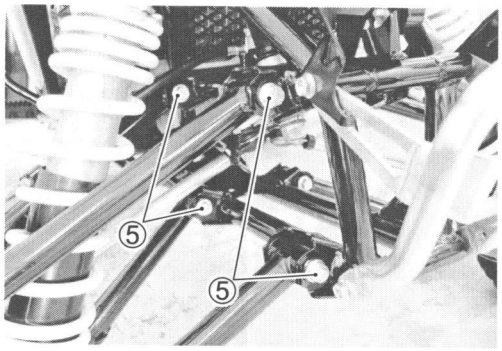
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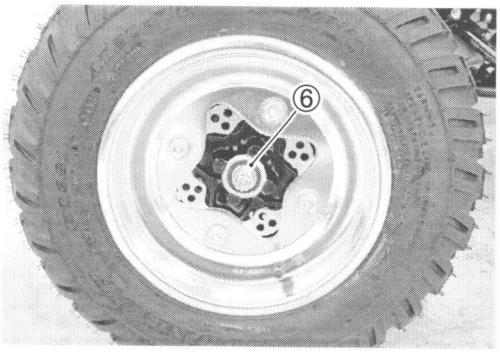
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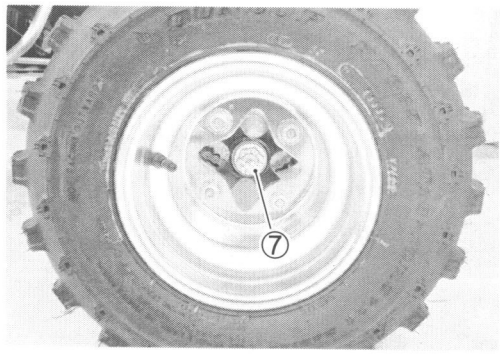
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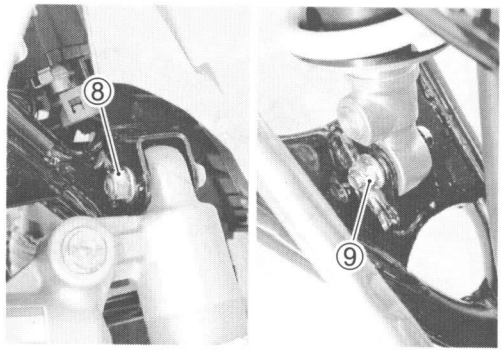
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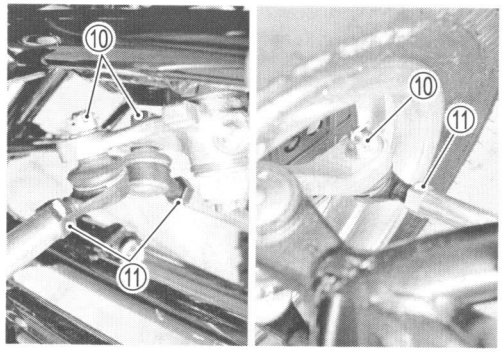
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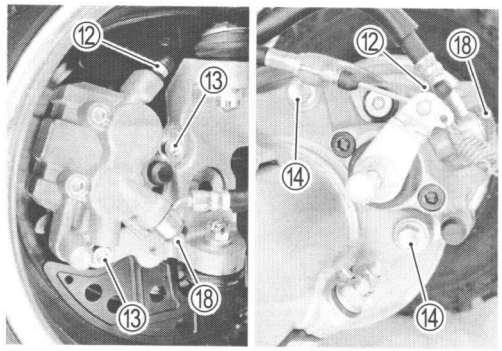
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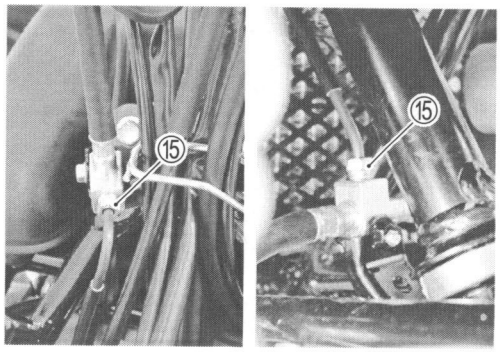
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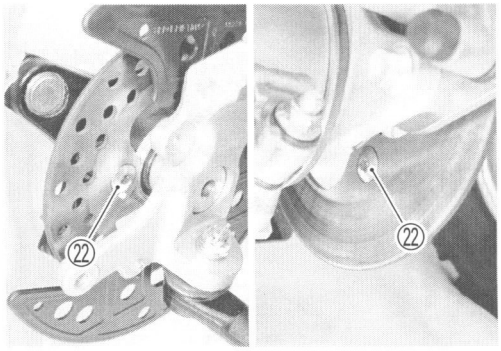
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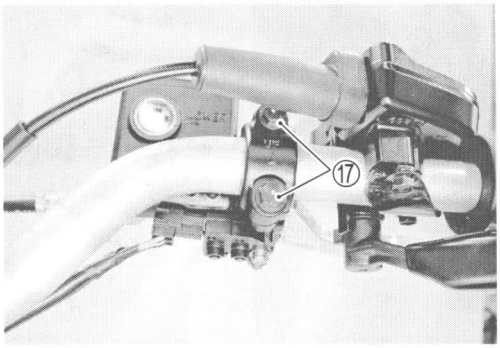
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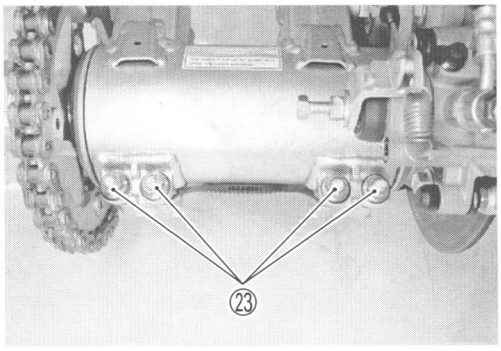
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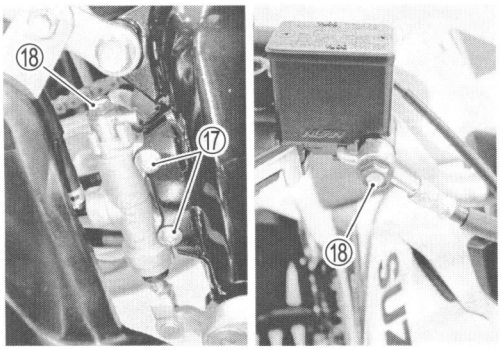
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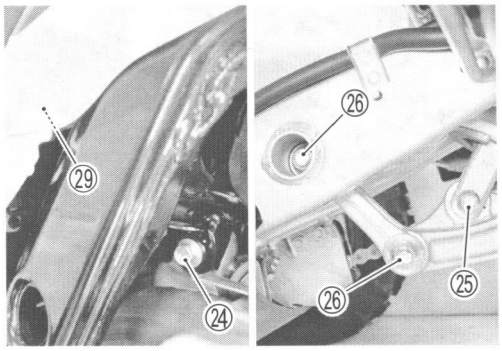
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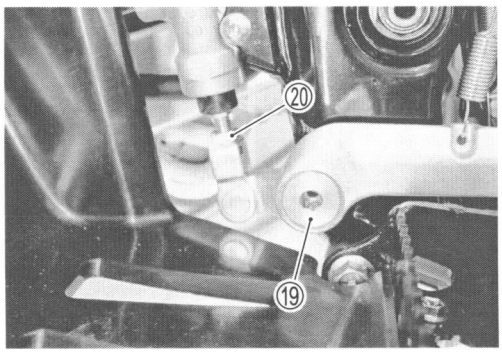
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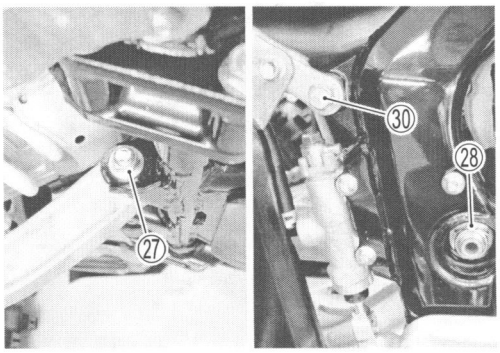
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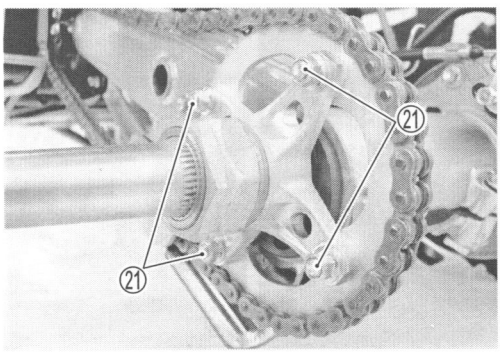
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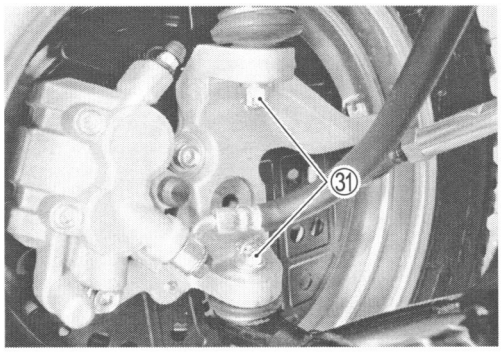
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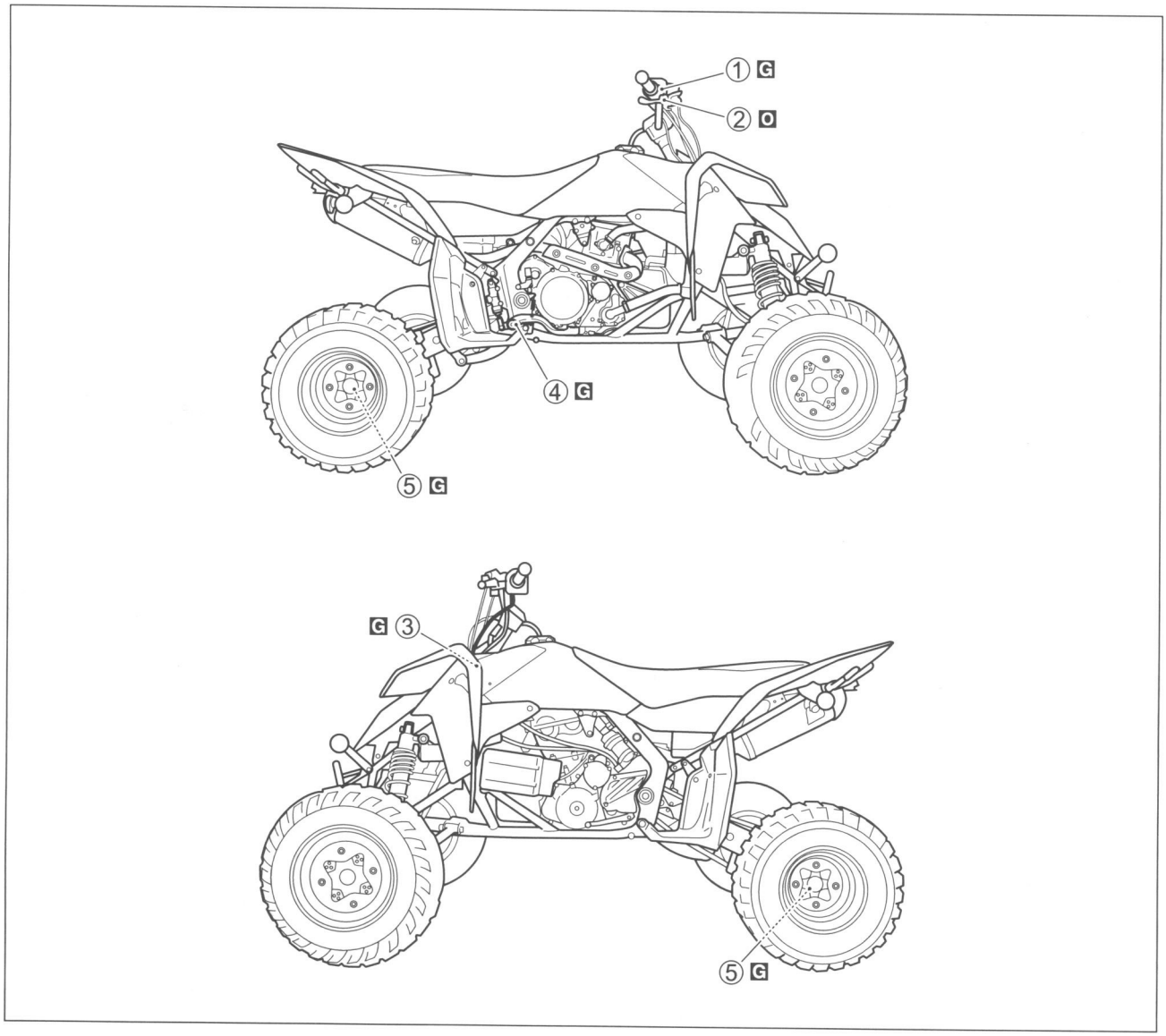
GENERAL LUBRICATION

Lubricate initially at 1 month and every 3 months thereafter.

Proper lubrication is important for smooth operation and long life of each working part of the vehicle. Major lubrication points are indicated below.



①Brake lever holder
②Throttle lever
③Steering shaft holder
④Brake pedal and rod link
⑤Rear axle joint spline

G Grease
O Motor oil

NOTE:

** Before lubricating each part, clean off any rusty spots and wipe off any grease, oil, dirt, or grime.*

** Lubricate exposed parts which are subject to rust, with a rust preventative spray, especially whenever the vehicle has been operated under wet or rainy conditions.*

COMPRESSION PRESSURE CHECK

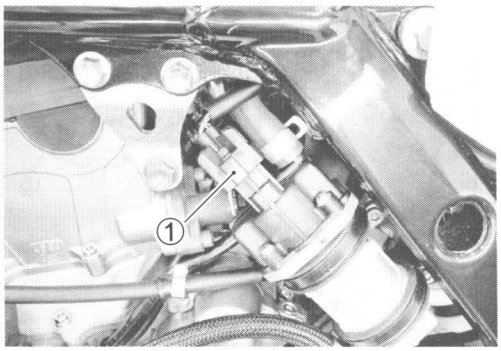
The compression pressure reading of a cylinder is a good indicator of its internal condition.
The decision to overhaul the cylinder is often based on the results of a compression test. Periodic maintenance records kept at your dealership should include compression readings for each maintenance service.

DATA **Compression pressure:**
Standard: 800 kPa (8.0 kgf/cm², 114 psi)
(Automatic decompression actuated)

Low compression pressure can indicate any of the following conditions:

* Excessively worn cylinder walls
* Worn piston or piston rings
* Piston rings stuck in grooves
* Poor valve seating
* Ruptured or otherwise defective cylinder head gasket

NOTE:
When the compression pressure goes below specification, check the engine for conditions listed above.



COMPRESSION TEST PROCEDURE

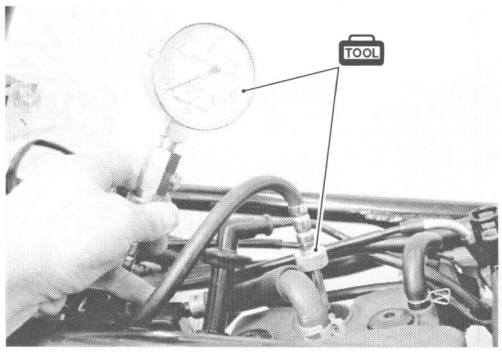
NOTE:

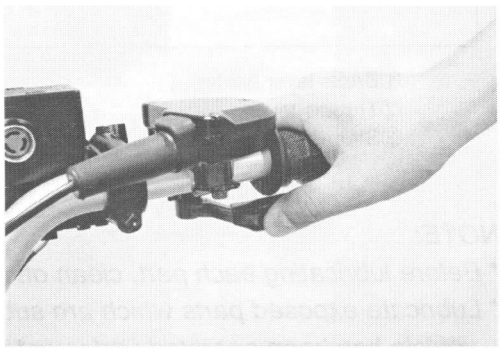
* *Before testing the engine for compression pressure, make sure that the cylinder head nuts are tightened to the specified torque values and the valves are properly adjusted.*
* *Have the engine warmed up before testing.*
* *Make sure that the battery is fully-charged.*

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

- Remove the fuel tank and fuel tank lower cover. (☞5-4)
- Remove the spark plug. (☞2-10)
- Disconnect the fuel pump lead wire coupler ①.
- Install the compression gauge and adaptor in the spark plug hole. Make sure that the connection is tight.
- Keep the throttle lever in the fully open position.
- Press the starter button and crank the engine for a few seconds. Record the maximum gauge reading as the cylinder compression.

TOOL **09915-64512: Compression gauge set**
09913-10750: Adaptor





OIL PRESSURE CHECK

Check the engine oil pressure periodically. This will give a good indication of the condition of the moving parts.

DATA Oil pressure:
10 kPa (0.1 kgf/cm², 1.4 psi) at 3 000 r/min, Oil temp. at 60 °C (140 °F)

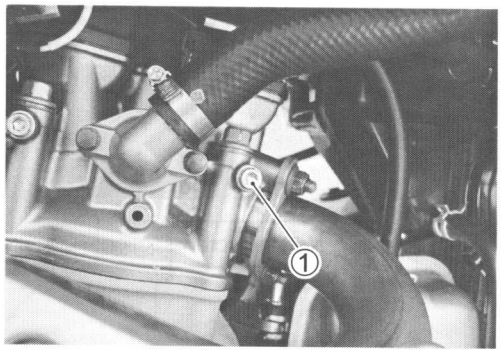
If the oil pressure is lower or higher than the specification, the following causes may be considered.

LOW OIL PRESSURE
* Clogged oil filter
* Oil leakage from the oil passage
* Damaged O-ring
* Defective oil pump
* Combination of the above items

HIGH OIL PRESSURE
* Engine oil viscosity is too high
* Clogged oil passage
* Combination of the above items

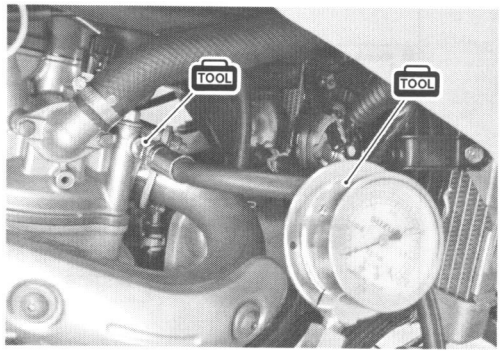
OIL PRESSURE TEST PROCEDURE

- Connect the tachometer onto the spark plug high-tension cord.



- Remove the main oil gallery plug ①.
- Install the oil pressure gauge and adaptor into the main oil gallery.
- Warm up the engine as follows:
  Summer: 10 minutes at 2 000 r/min
  Winter: 20 minutes at 2 000 r/min
- After warming up the engine, increase the engine speed to 3 000 r/min (observe the tachometer), and read the oil pressure gauge.

TOOL 09915-74511: Oil pressure gauge
09940-40211: Adaptor



- Apply engine oil to both sides of the main oil gallery plug washers.
- Tighten the main oil gallery plug ① to the specified torque.

Main oil gallery plug: 10 N·m (1.0 kgf-m, 7.0 lb-ft)

SDS CHECK

Using SDS, take the sample of data from the new vehicle and at the time of periodic maintenance at your dealership.

Save the data in the computer or by printing and filing the hard copies. The saved or filed data are useful for troubleshooting as they can be compared periodically with changes over time or failure conditions of the vehicle.

For example, when a vehicle is brought in for service but the troubleshooting is difficult, comparison with the normal data that have been saved or filed can allow the specific engine failure to be determined.

- Set up the SDS tool. (☞4-24)

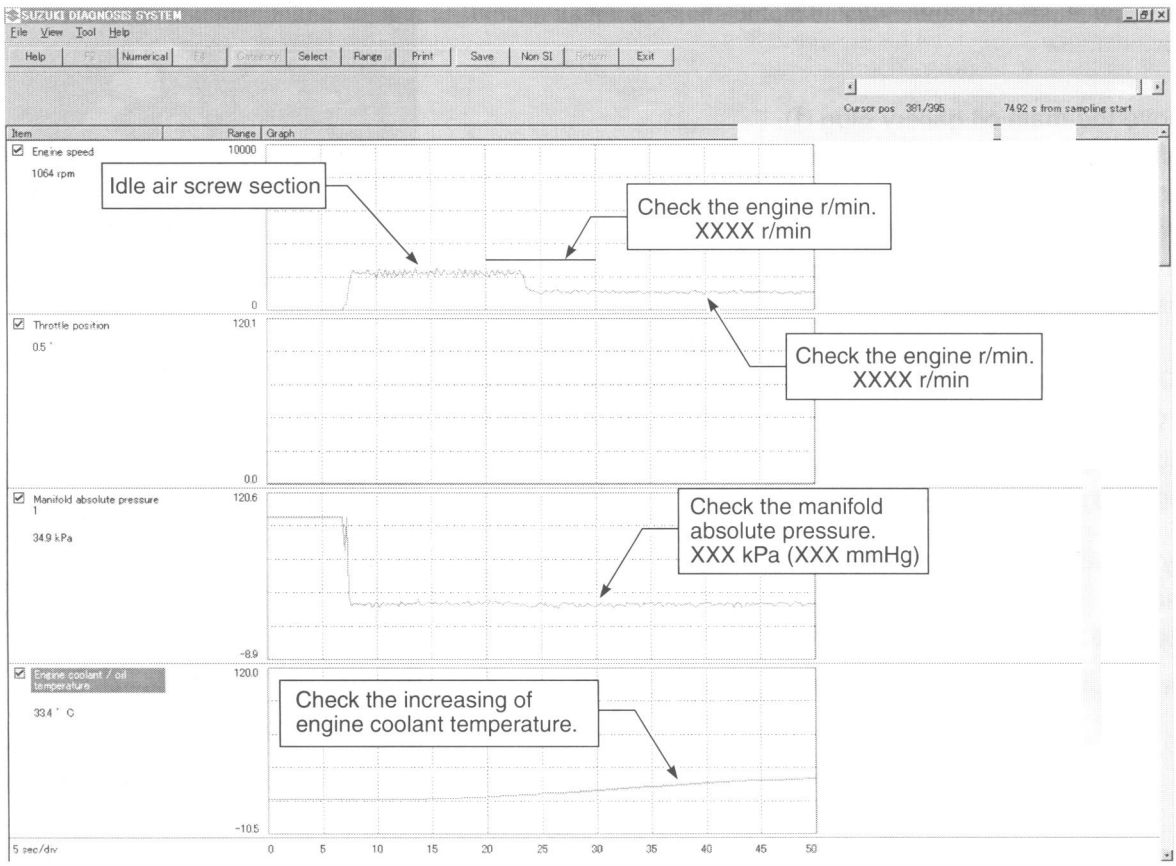
TOOL **09904-41010: SDS set tool**
99565-01010-007: CD-ROM Ver. 7

NOTE:

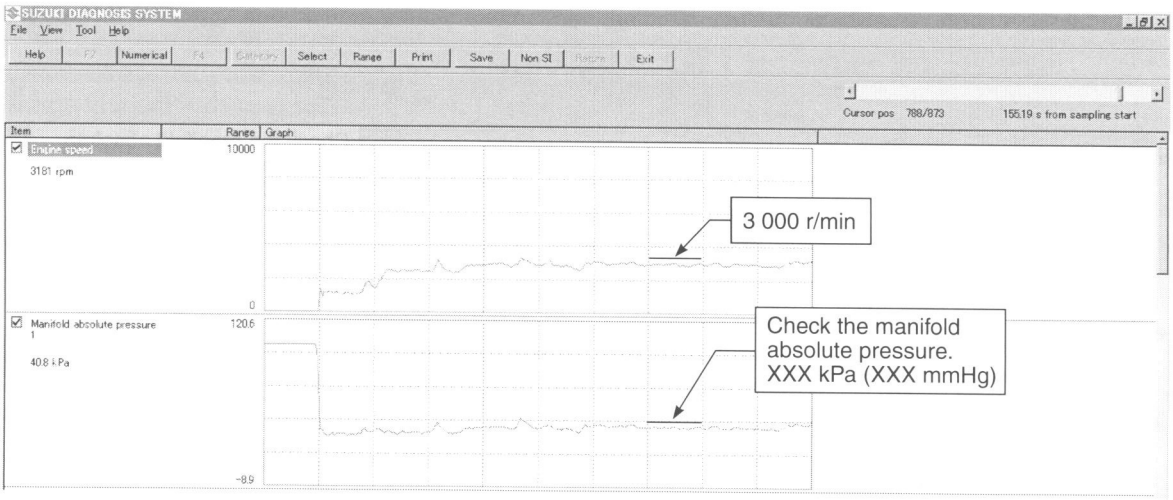
** Before taking the sample of data, check and clear the Past DTC. (☞4-25)*

** A number of different data under a fixed condition as shown below should be saved or filed as sample.*

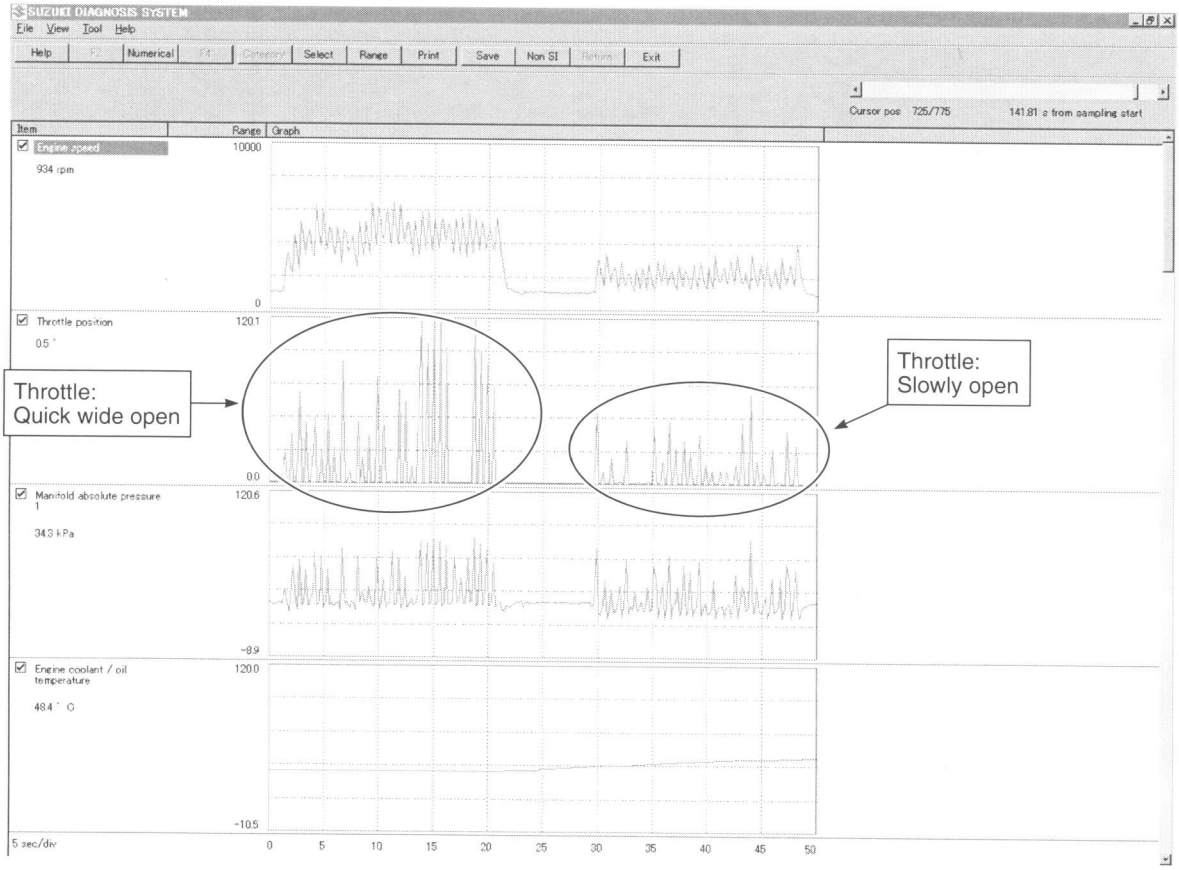
SAMPLE:
Data sampled from cold starting through warm-up



Data at 3 000 r/min under no load



Data at the time of racing



Data of intake negative pressure during idling (100 °C)