

## 4. MAINTENANCE

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## MAINTENANCE

### SERVICE INFORMATION

#### GENERAL

- Place the motorcycle on a level ground before starting any work.
- The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and may lead to death. Run the engine in an open area or with an exhaust evacuation system in and enclosed area.

#### SPECIFICATIONS

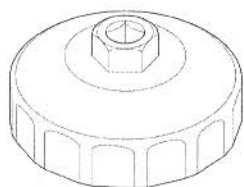
ITEM			SPECIFICATIONS
Throttle grip free play			2 – 4 mm (1/16 – 1/8 in)
Spark plug			IMR9C-9HE (NGK)
Spark plug gap			0.80 – 0.90 mm (0.031 – 0.035 in)
Valve clearance	IN		0.20 ± 0.03 mm (0.008 ± 0.001 in)
	EX		0.28 ± 0.03 mm (0.011 ± 0.001 in)
Engine oil capacity	After draining		2.6 liter (2.7 US qt, 2.3 Imp qt)
	After oil filter change		2.9 liter (3.1 US qt, 2.6 Imp qt)
Recommended engine oil			Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil (U.S.A. & Canada) or Honda 4-stroke oil (Canada only), or an equivalent motorcycle oil API service classification: SG or higher except oils labeled as energy consening on the circular API service label JASO T 903 standard: MA Viscosity: SAE 10W-40
Engine idle speed			1,300 ± 100 rpm
Drive chain	Size/link	DID	DID525HV-120ZB
		RK	RK525ROZ1-120LJ-FZ
	Slack		25 – 35 mm (1 – 1-3/8 in)
Recommended brake fluid			Honda DOT 4 brake fluid
Clutch lever free play			10 – 20 mm (3/8 – 13/16 in)
Tire size		Front	120/70 ZR 17 M/C (58W)
		Rear	180/55 ZR 17 M/C (73W)
Tire brand	Bridgestone	Front	BT012F RAGIAL G
		Rear	BT012R RAGIAL L
	Dunlop	Front	D208FK
		Rear	D208K
	Michelin	Front	Pilot SPORT E
		Rear	Pilot SPORT E
Tire air pressure	Driver only	Front	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)
		Rear	290 kPa (2.90 kgf/cm <sup>2</sup> , 42 psi)
	Driver and passenger	Front	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)
		Rear	290 kPa (2.90 kgf/cm <sup>2</sup> , 42 psi)
Minimum tire tread depth		Front	1.5 mm (0.06 in)
		Rear	2.0 mm (0.08 in)

#### TORQUE VALUES

Spark plug	16 N·m (1.6 kgf·m, 12 lbf·ft)	
Timing hole cap	18 N·m (1.8 kgf·m, 13 lbf·ft)	Apply grease to the threads
Cylinder head cover bolt	9.8 N·m (1.0 kgf·m, 7 lbf·ft)	
Engine oil drain bolt	29 N·m (3.0 kgf·m, 22 lbf·ft)	
Engine oil filter cartridge	26 N·m (2.7 kgf·m, 20 lbf·ft)	Apply clean engine oil to the O-ring
Rear axle nut	113 N·m (11.5 kgf·m, 83 lbf·ft)	U-nut
Drive sprocket special bolt	54 N·m (5.5 kgf·m, 40 lbf·ft)	
Final driven sprocket nut	64 N·m (6.5 kgf·m, 47 lbf·ft)	U-nut
Rear master cylinder push rod joint nut	18 N·m (1.8 kgf·m, 13 lbf·ft)	

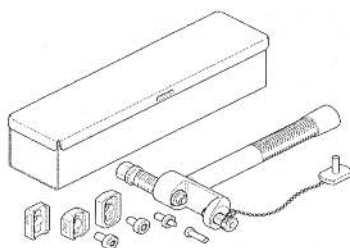
TOOLS

Oil filter wrench  
07HAA-PJ70101



or 07HAA-PJ70100 (U.S.A. only)

Drive chain tool set  
07HMH-MR10103



or 07HMH-MR1010C (U.S.A. only)

## MAINTENANCE

### MAINTENANCE SCHEDULE

Perform the Pre-ride inspection in the Owner's Manual at each scheduled maintenance period.

I: Inspect and Clean, Adjust, Lubricate or Replace if necessary. C: Clean. R: Replace. A: Adjust. L: Lubricate.

The following items require some mechanical knowledge. Certain items (particularly those marked \* and \*\*) may require more technical information and tools. Consult their authorized Honda dealer.

ITEMS	FREQUENCY	WHICHEVER COMES FIRST ↓	ODOMETER READING (NOTE 1)								REFER TO PAGE
			X1,000 mi	0.6	4	8	12	16	20	24	
			X1,000 km	1.0	6.4	12.8	19.2	25.6	32.0	38.4	
* FUEL LINE						I		I		I	4-5
* THROTTLE OPERATION						I		I		I	4-6
* AIR CLEANER		NOTE2					I			I	4-6
SPARK PLUG					EVERY 25,750 km (16,000 mi) I, EVERY 51,500 km (32,000 mi) R						4-7
* VALVE CLEARANCE								I			4-11
ENGINE OIL				R		R		R		R	4-15
ENGINE OIL FILTER				R		R		R		R	4-15
* ENGINE IDLE SPEED				I	I	I	I	I	I	I	4-18
RADIATOR COOLANT		NOTE3				I		I		R	4-18
* COOLING SYSTEM						I		I		I	4-19
* SECONDARY AIR SUPPLY SYSTEM						I		I		I	4-19
* EVAPORATIVE EMISSION CONTROL SYSTEM		NOTE 4					I			I	4-20
DRIVE CHAIN				EVERY 500 mi (800 km) I, L							4-21
BRAKE FLUID		NOTE3			I	I	R	I	I	R	4-25
BRAKE PAD WEAR					I	I	I	I	I	I	4-26
BRAKE SYSTEM				I		I		I		I	4-26
* BRAKE LIGHT SWITCH						I		I		I	4-27
* HEADLIGHT AIM						I		I		I	4-28
CLUTCH SYSTEM				I	I	I	I	I	I	I	4-28
SIDE STAND						I		I		I	4-29
* SUSPENSION						I		I		I	4-29
* NUTS, BOLTS, FASTENERS				I		I		I		I	4-33
** WHEELS/TIRES						I		I		I	4-33
** STEERING HEAD BEARINGS				I		I		I		I	4-34

\* Should be serviced by an authorized Honda dealer, unless the owner has proper tools and service data and is mechanically qualified

\*\* In the interest of safety, we recommended these items be serviced only by an authorized Honda dealer

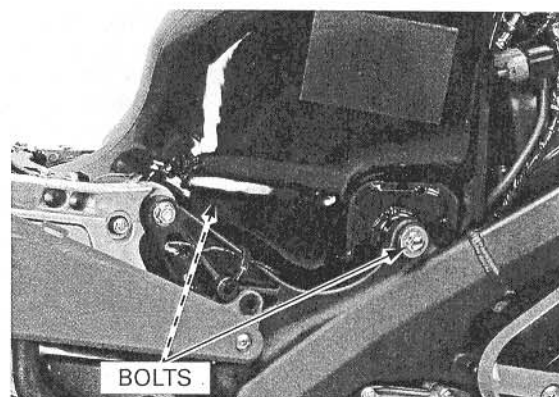
#### NOTES:

1. At higher odometer reading, repeat at the frequency interval established here.
2. Service more frequency if the motorcycle is ridden in unusually wet or dusty areas.
3. Replace every 2 years, or at indicated odometer interval, whichever comes first. Replacement requires mechanical skill.
4. California type only.

# FUEL LINE

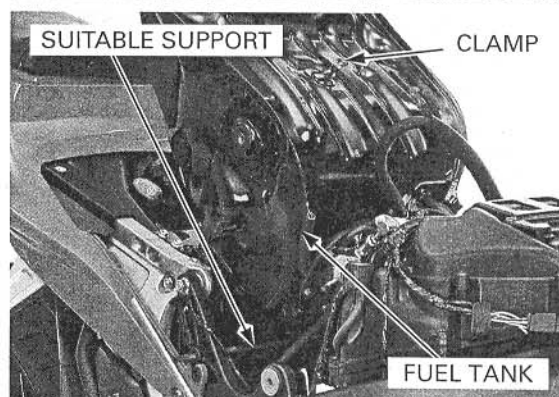
Remove the fuel tank cover (page 3-15).

Remove the fuel tank mounting bolts.



Lift the front end of fuel tank and release the fuel hose from the clamp.

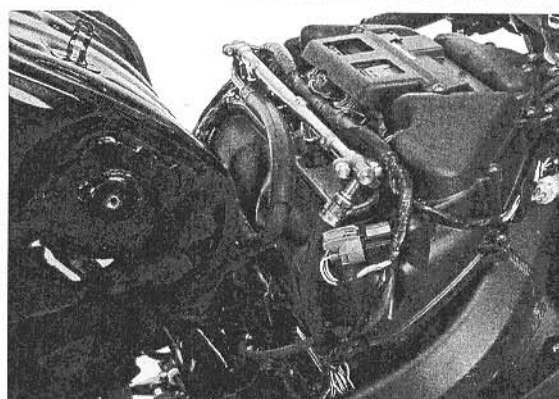
Support the fuel tank using a suitable support as shown.



Check the fuel lines for deterioration, damage or leakage. Replace the fuel line if necessary.  
 Check the fuel pipes and fuel line joint for damage or leakage. Replace them if necessary.  
 Check the fuel pump mounting area for leakage. Replace the fuel pump packing if necessary.  
 Check the upper/lower injectors for damage or leakage. Replace them if necessary.

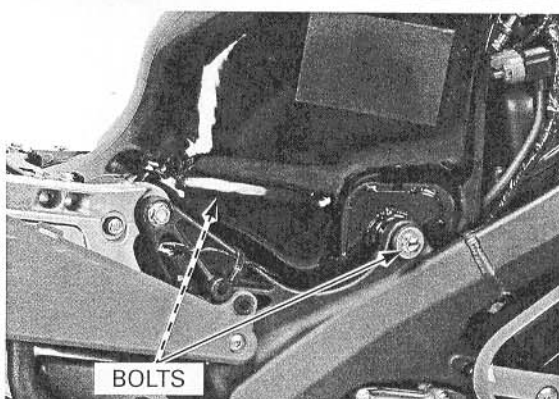
*Route the wires and harness properly (page 1-22). Be careful not to damage the harness and hose.*

Remove a suitable support, then lower the fuel tank.



Install and tighten the fuel tank mounting bolts securely.

Install the fuel tank cover (page 3-15).



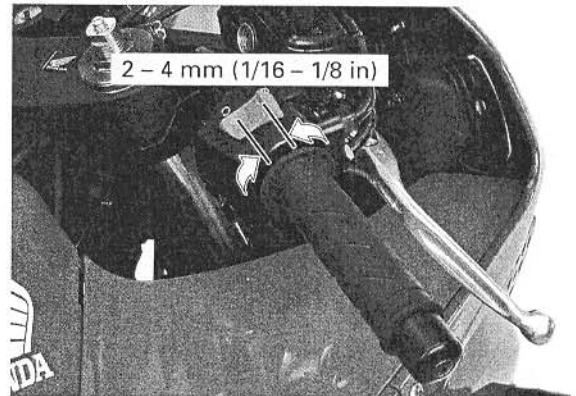
## MAINTENANCE

### THROTTLE OPERATION

Check for smooth throttle grip full opening and automatic full closing in all steering positions. Check the throttle cables and replace them if they are deteriorated, kinked or damaged. Lubricate the throttle cables, if throttle operation is not smooth.

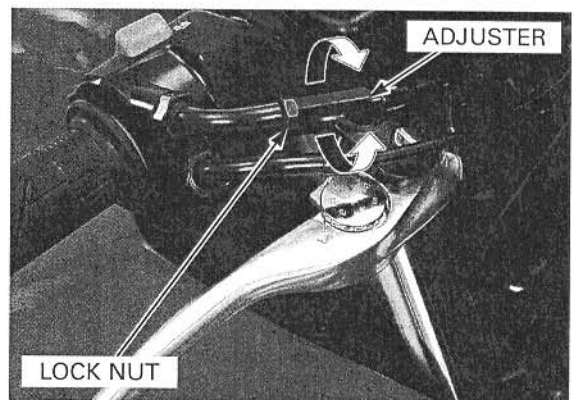
Measure the free play at the throttle grip flange.

**FREE PLAY:** 2 – 4 mm (1/16 – 1/8 in)



Throttle grip free play can be adjusted at either end of the throttle cable.

Minor adjustment is made with the upper adjuster. Adjust the free play by loosening the lock nut and turning the adjuster.



Major adjustment is made with the lower adjuster.

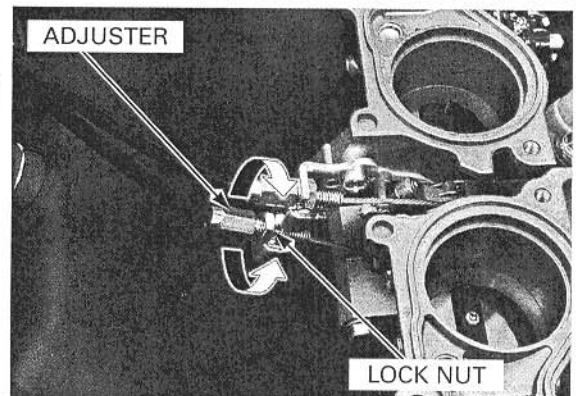
Remove the air cleaner housing (page 6-64).

Adjust the free play by loosening the lock nut and turning the adjuster.

After adjustment, tighten the lock nut securely.

Recheck the throttle operation.

Replace any damaged parts, if necessary.

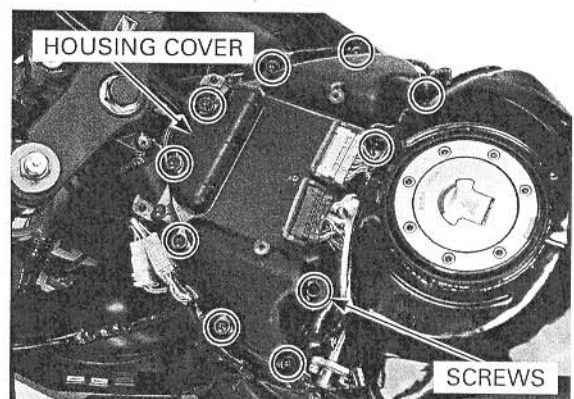


### AIR CLEANER

Remove the following:

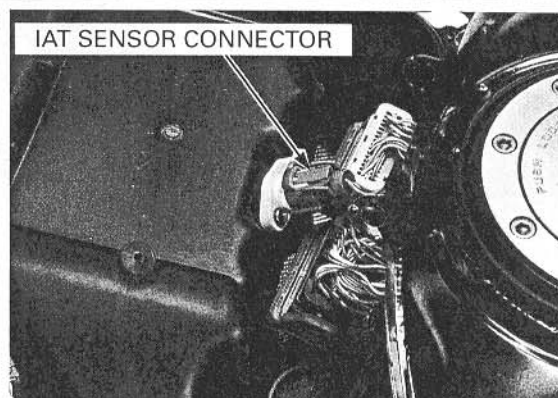
- Fuel tank cover (page 3-15)
- ECM (page 6-94)

Remove the air cleaner housing cover screws.





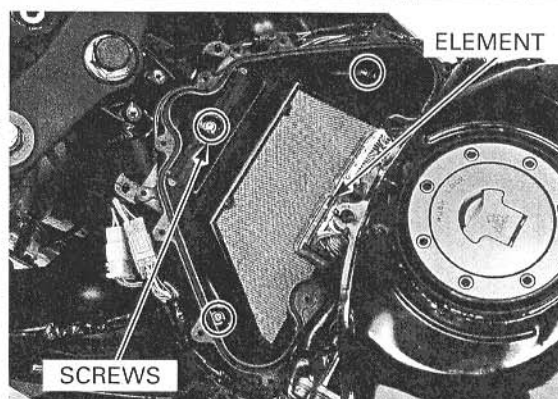
Pull up the air cleaner housing cover and disconnect the IAT sensor connector.



IAT SENSOR CONNECTOR

Remove the three screws.  
Remove and discard the air cleaner element in accordance with the maintenance schedule (page 4-4).  
Also replace the air cleaner element any time it is excessively dirty or damaged.

Install the removed parts in the reverse order of removal.



ELEMENT

SCREWS

## SPARK PLUG

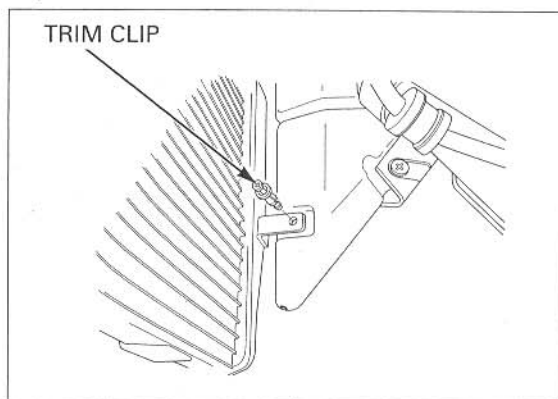
### REMOVAL

*Be careful not to damage the radiator fins.*

Remove the following:

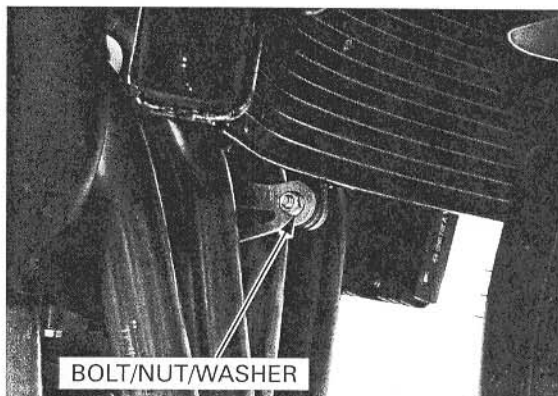
- Lower cowls (page 3-6)
- Middle cowls (page 3-7)

Remove the two trim clips and resonator chambers from the radiator.



TRIM CLIP

Remove the radiator lower mounting bolt, nut and washer.



BOLT/NUT/WASHER

## MAINTENANCE

Remove the wire band.

Remove the radiator upper mounting bolt and washer and horn mounting stay.

Release the radiator grommet from the frame boss by moving the radiator to the left side, then move the radiator downward.

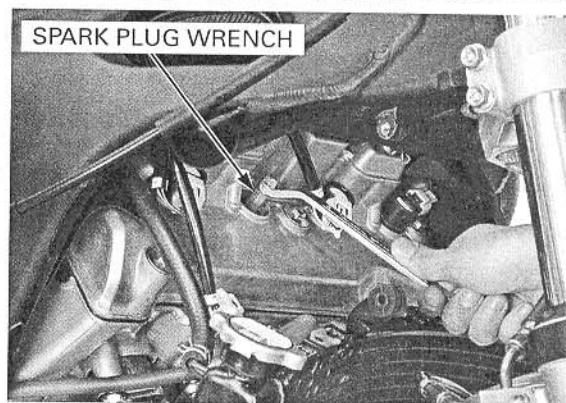
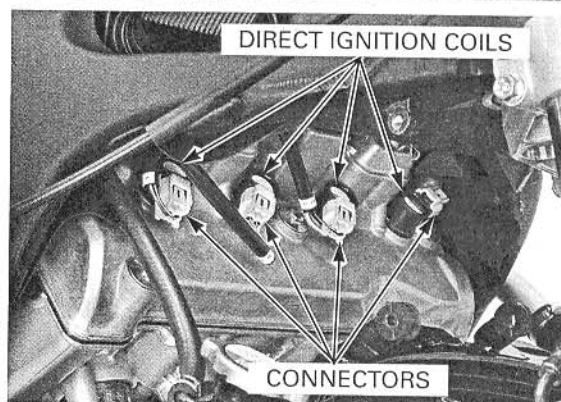
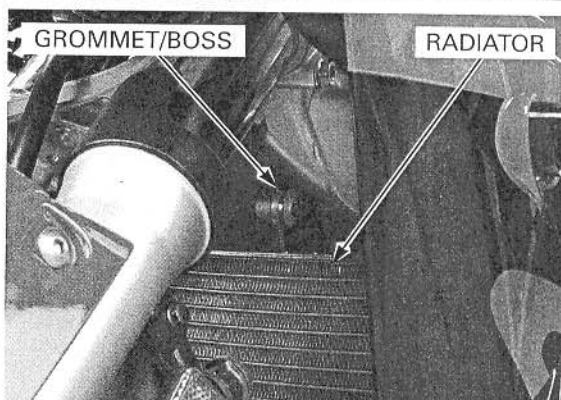
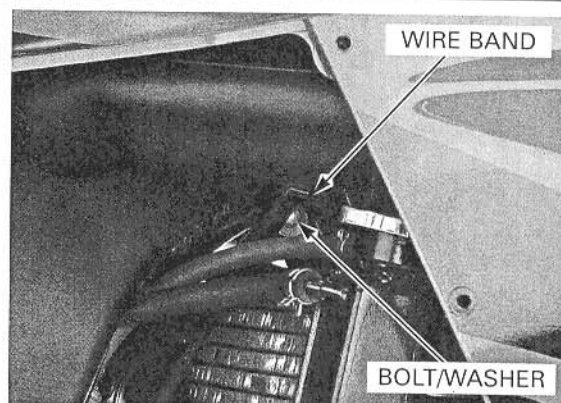
Disconnect the direct ignition coil connectors.

Remove the direct ignition coils from the spark plugs.

*Clean around the spark plug bases with compressed air before removing, and be sure that no debris is allowed to enter the combustion chamber.*

Remove the spark plug using a equipped spark plug wrench or an equivalent.

Inspect or replace as described in the maintenance schedule (page 4-4).





# INSPECTION

Check the following and replace if necessary (recommended spark plug: page 4-2)

- Insulator for damage
- Electrodes for wear
- Burning condition, coloration

*This motorcycle's spark plug equipped with iridium center electrode. Replace the spark plug if the electrodes are contaminated.*

If the electrodes are contaminated with accumulated objects or dirt, replace the spark plug.

Replace the plug if the center electrode is rounded as shown in the illustration.

*Always use specified spark plugs on this motorcycle.*

**SPECIFIED SPARK PLUG: IMR9C-9HE (NGK)**

*To prevent damaging the iridium center electrode, use a wire type feeler gauge to check the spark plug gap.*

Check the gap between the center and side electrodes with a wire type feeler gauge.

Make sure that the  $\phi$  1.0 mm (0.04 in) plug gauge does not insert between the gap.

*Do not adjust the spark plug gap. If the gap is out of specification, replace with a new one.*

If the gauge can be inserted into the gap, replace the plug with a new one.

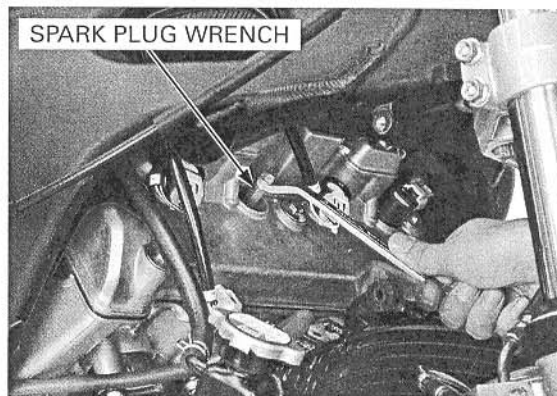
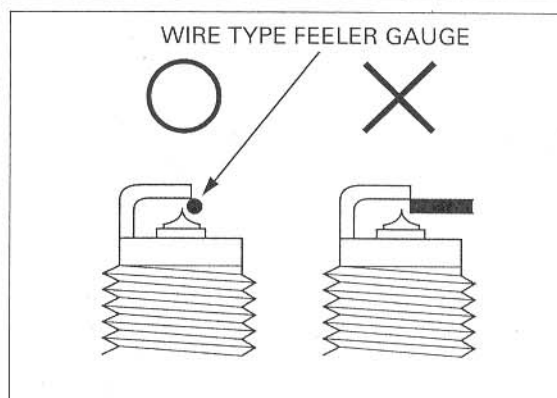
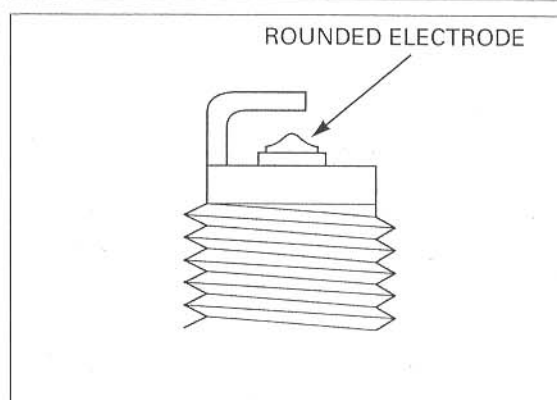
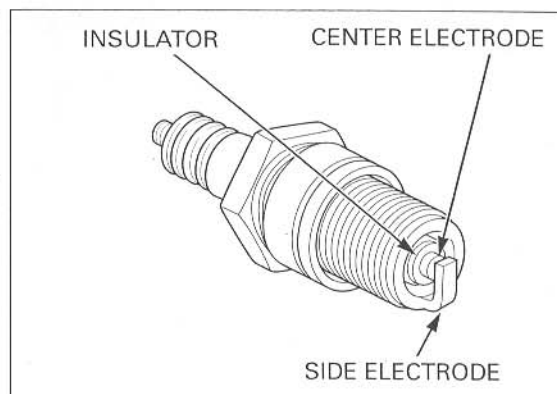
Reinstall the spark plug in the cylinder head and hand tighten, then torque to specification.

**TORQUE: 16 N·m (1.6 kgf-m, 12 lbf-ft)**

If using the new plug, install as follows:

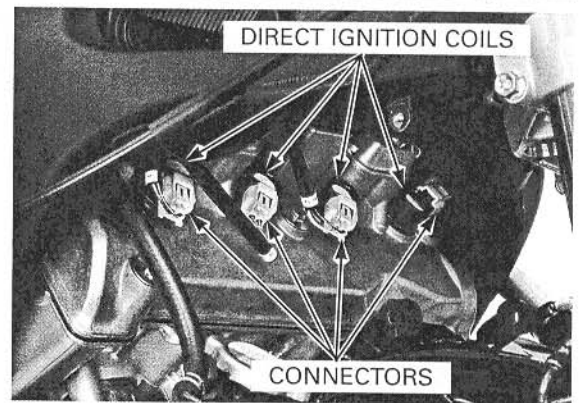
*Do not over tighten the plug.*

Install and hand tighten the new spark plug, then tighten it about 1/2 turn after the sealing washer contacts the seat of the plug hole.

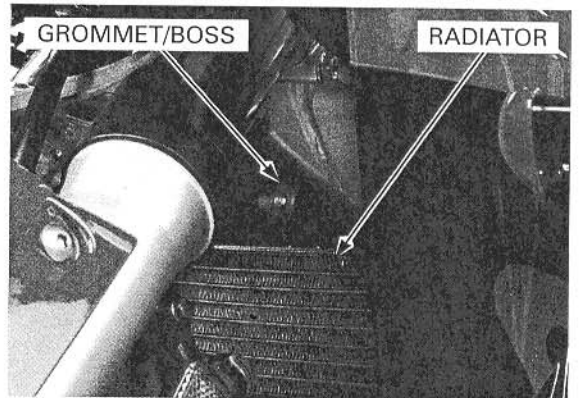


## MAINTENANCE

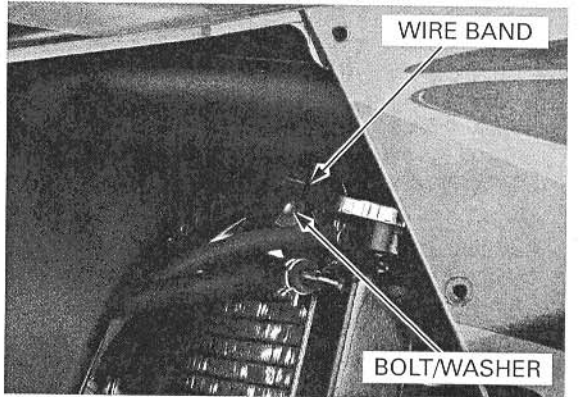
Install the direct ignition coils.  
Connect the direct ignition coil connectors.



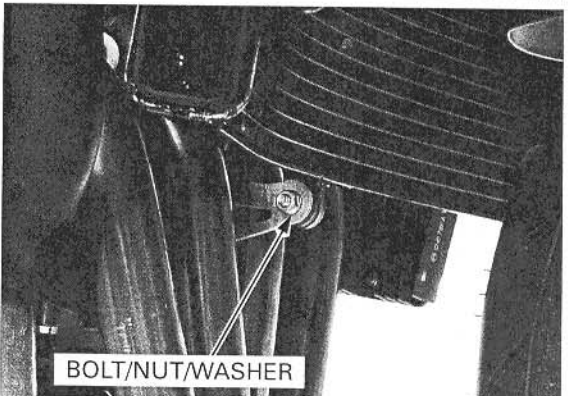
Install the radiator by aligning the grommet and frame boss.



Install the horn mounting stay, washer and radiator upper mounting bolt.  
Install the wire band.



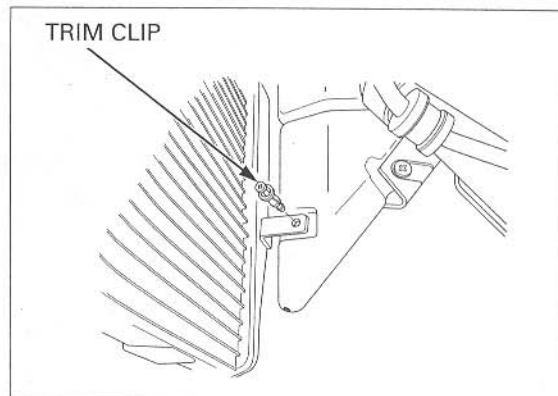
Install the radiator lower mounting bolt, washer and nut.  
Tighten the nut securely.



Install the trim clips and resonator chambers onto the radiator.

Install the following:

- Middle cowls (page 3-8)
- Lower cowls (page 3-6)

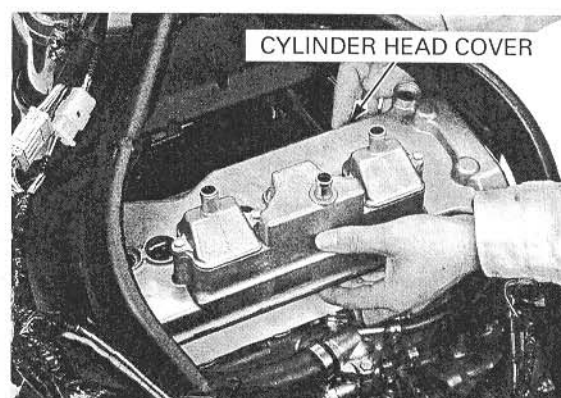


## VALVE CLEARANCE

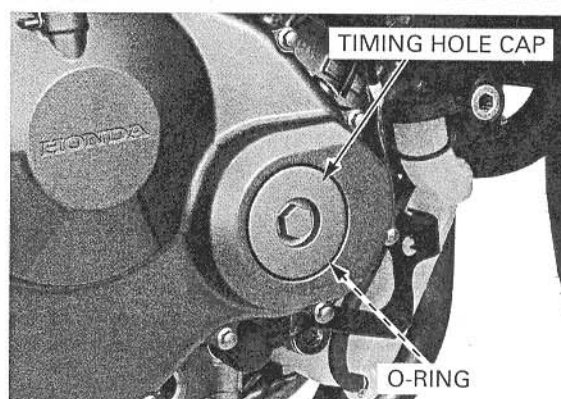
*Inspect and adjust the valve clearance while the engine is cold (below 35°C/95°F).*

### INSPECTION

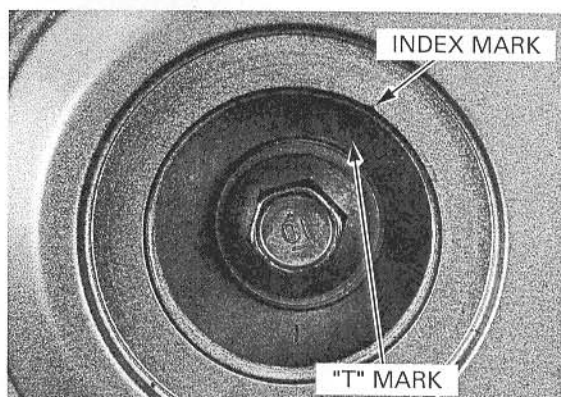
Remove the cylinder head cover (page 9-6).



Remove the timing hole cap and O-ring.



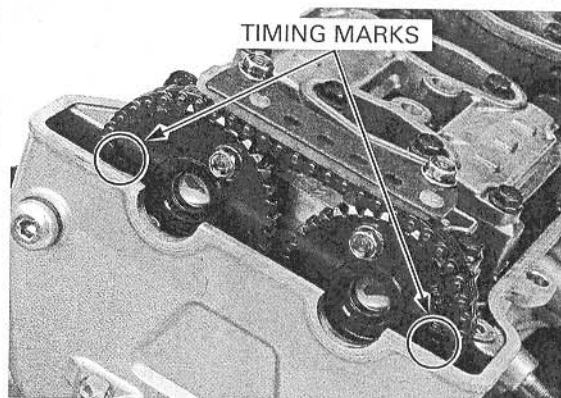
Turn the crankshaft clockwise, align the "T" mark on the ignition pulse generator rotor with the index mark on the right crankcase cover.



## MAINTENANCE

The timing marks ("IN" and "EX") on the cam sprockets must be flush with the cylinder head surface and facing outward as shown.

If the timing marks on the cam sprockets are facing inward, turn the crankshaft clockwise one full turn (360°) and realign the timing marks with the cylinder head surface so they are facing outward.



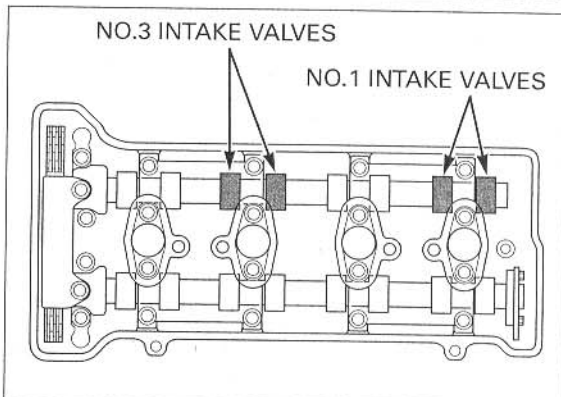
Insert the feeler gauge between the valve lifter and cam lobe.

*Record the clearance for each valve for reference in shim selection if adjustment is required.*

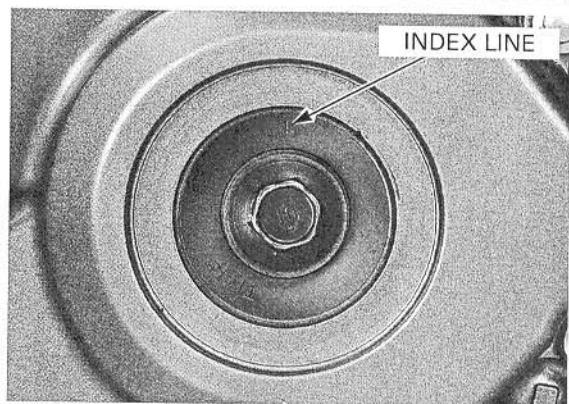
Check the valve clearance for the No.1 and No.3 cylinder intake valves using a feeler gauge.

### VALVE CLEARANCE:

**IN:**  $0.20 \pm 0.03$  mm ( $0.008 \pm 0.001$  in)



Turn the crankshaft clockwise 1/2 turn (180°), align the index line on the ignition pulse generator rotor so that it is facing up as shown.

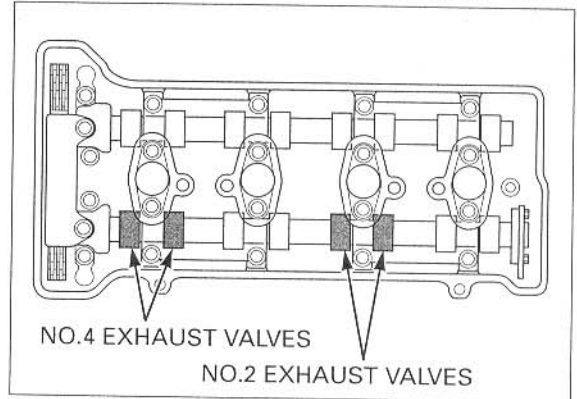


*Record the clearance for each valve for reference in shim selection if adjustment is required.*

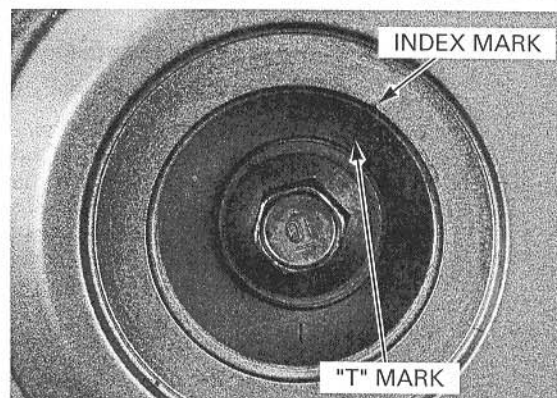
Check the valve clearance for the No.2 and No.4 cylinder exhaust valves using a feeler gauge.

### VALVE CLEARANCE:

**EX:**  $0.28 \pm 0.03$  mm ( $0.011 \pm 0.001$  in)



Turn the crankshaft clockwise 1/2 turn (180°), align the "T" mark on the ignition pulse generator rotor with the index mark on the right crankcase cover.

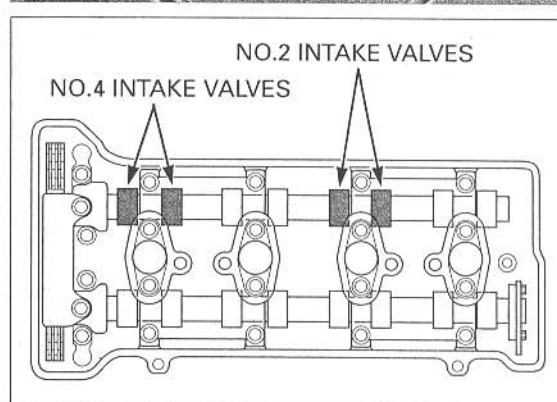


*Record the clearance for each valve for reference in shim selection if adjustment is required.*

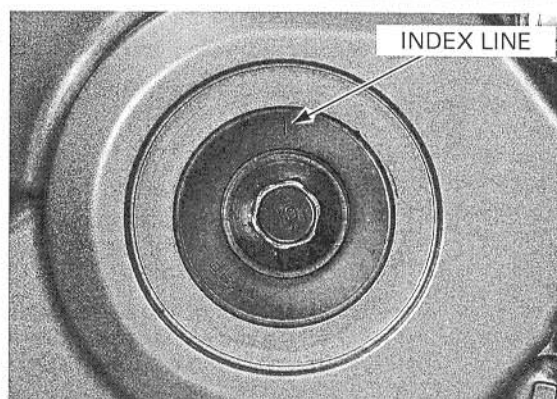
Check the valve clearance for the No.2 and No.4 cylinder intake valves using feeler gauge.

## VALVE CLEARANCE:

**IN:**  $0.20 \pm 0.03$  mm ( $0.008 \pm 0.001$  in)



Turn the crankshaft clockwise 1/2 turn (180°), align the index line on the ignition pulse generator rotor so that it is facing up as shown.

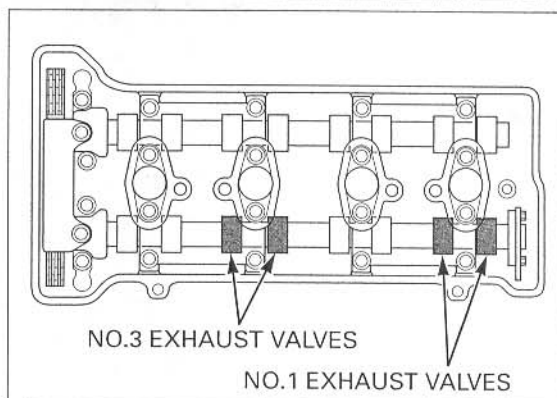


*Record the clearance for each valve for reference in shim selection if adjustment is required.*

Check the valve clearance for the No.1 and No.3 cylinder exhaust valves using a feeler gauge.

## VALVE CLEARANCE:

**EX:**  $0.28 \pm 0.03$  mm ( $0.011 \pm 0.001$  in)





## MAINTENANCE

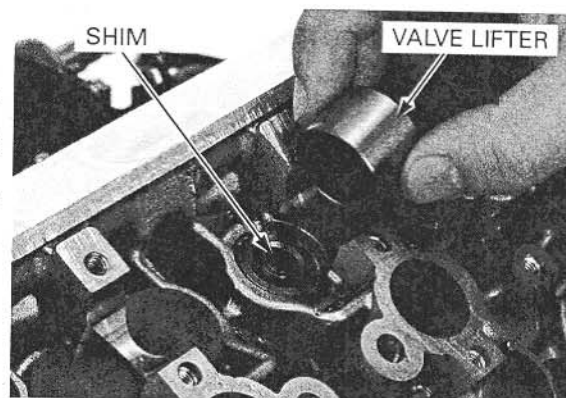
### ADJUSTMENT

*It is not necessary to remove the cam sprocket from the camshaft except when replacing the camshaft and/or cam sprocket.*

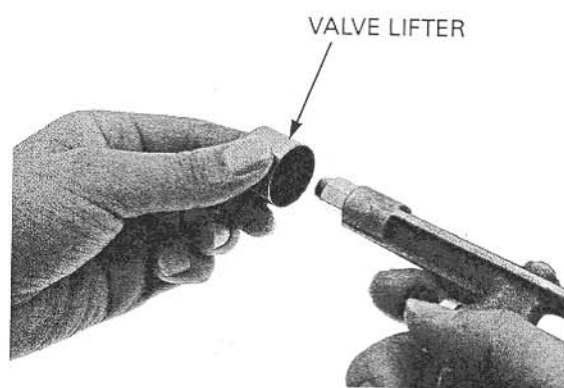
Remove the camshafts (page 9-8).

Remove the valve lifters and shims.

- Shim may stick to the inside of the valve lifter. Do not allow the shims to fall into the crankcase.
- Mark all valve lifters and shims to ensure correct reassembly in their original locations.
- The valve lifter can be easily removed with a valve lapping tool or magnet.
- The shims can be easily removed with a tweezers or magnet.



Clean the valve shim contact area in the valve lifter with compressed air.



*Sixty-nine different thickness shims are available from the thinnest 1.200 mm thickness shim to the thickest 2.900 mm thickness shim in intervals of 0.025 mm.*

Measure the shim thickness and record it.

Calculate the new shim thickness using the equation below.

$$A = (B - C) + D$$

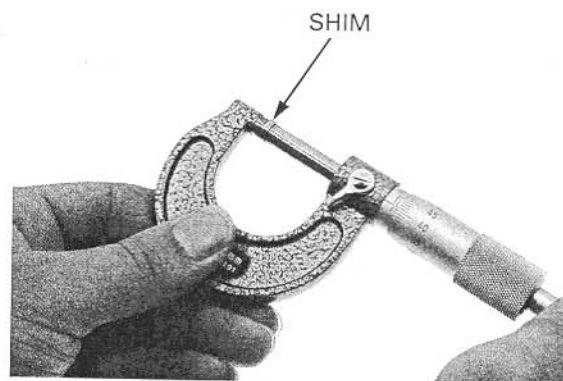
A: New shim thickness

B: Recorded valve clearance

C: Specified valve clearance

D: Old shim thickness

- Make sure of the correct shim thickness by measuring the shim by micrometer.
- Reface the valve seat if carbon deposit result in a calculated dimension of over 2.900 mm.



			
1.80 mm	1.825 mm	1.85 mm	1.875 mm



Install the shims and valve lifters in their original locations

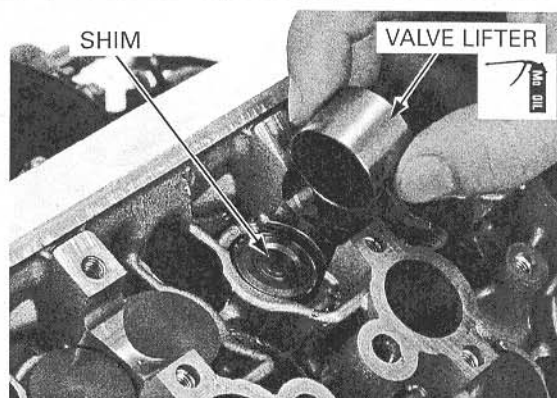
Install the newly selected shim on the valve spring retainer.

Apply molybdenum disulfide oil to the valve lifters. Install the valve lifters into the valve lifter holes.

Install the camshafts (page 9-26).

Rotate the camshafts by rotating the crankshaft clockwise several times.

Recheck the valve clearance.



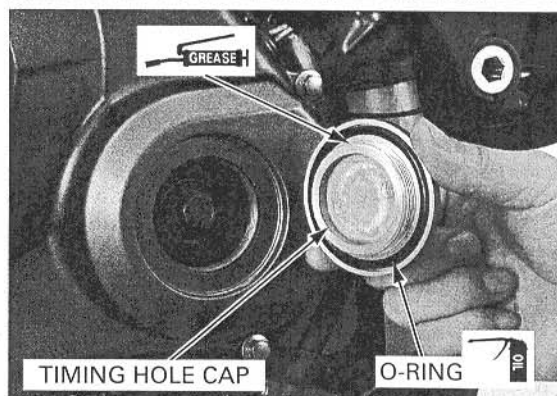
Check that the O-ring is in good condition, replace if necessary.

Apply grease the timing hole cap threads.

Tighten the timing hole cap to the specified torque.

**TORQUE: 18 N·m (1.8 kgf·m, 13 lbf·ft)**

Install the removed parts in the reverse order of removal.



## ENGINE OIL/OIL FILTER

### OIL LEVEL INSPECTION

Start the engine and let it idle for 3 – 5 minutes.

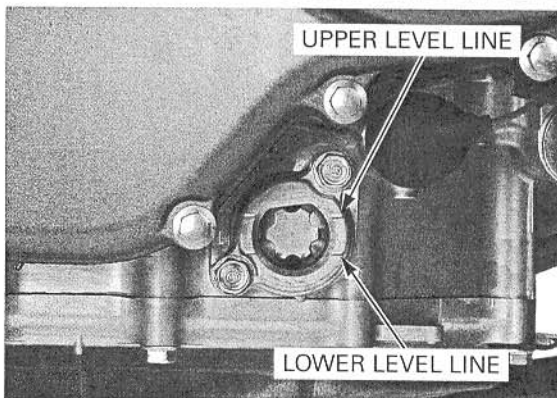
Stop the engine and wait 2 – 3 minutes.

Hold the motorcycle in an upright position.

Check the oil level through the inspection window.

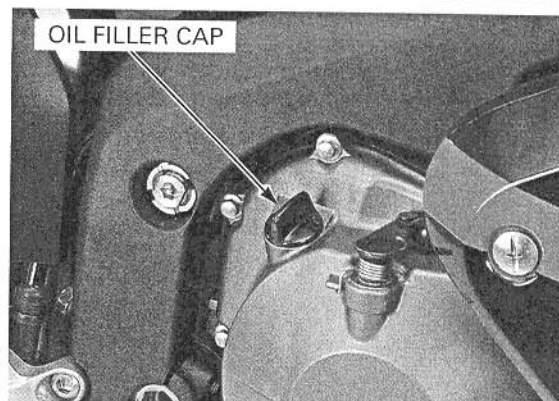


If the level is below the lower level line, remove the oil filler cap and fill the crankcase with the recommended oil up to the upper level line as following procedures.



## MAINTENANCE

Remove the oil filler cap.

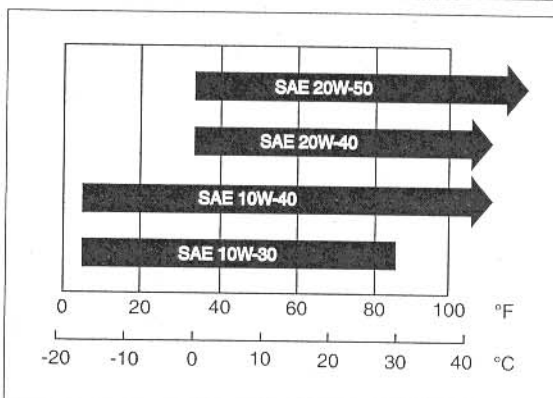


Fill the recommended engine oil up to the upper level line.

*Other viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range.*

### RECOMMENDED ENGINE OIL:

**Pro Honda GN4 or HP4 (without molybdenum additives)**  
**4-stroke oil (U.S.A. & Canada) or Honda 4-stroke oil (Canada only), or an equivalent motorcycle oil**  
**API service classification: SG or higher except oils labeled as energy conserving on the circular API service label**  
**JASO T 903 standard: MA**  
**Viscosity: SAE 10W-40**



Reinstall the oil filler cap.

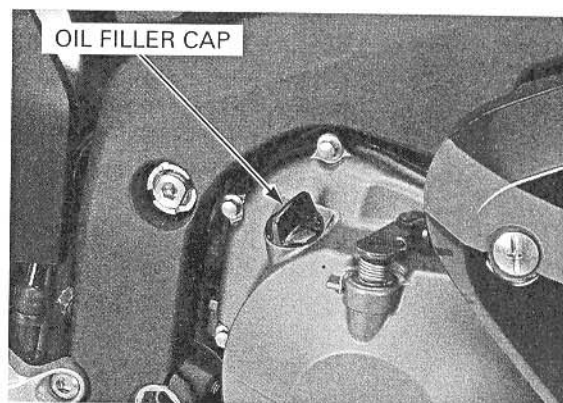
### ENGINE OIL & FILTER CHANGE

*Change the engine oil with the warm and the motorcycle on level ground to assure complete draining.*

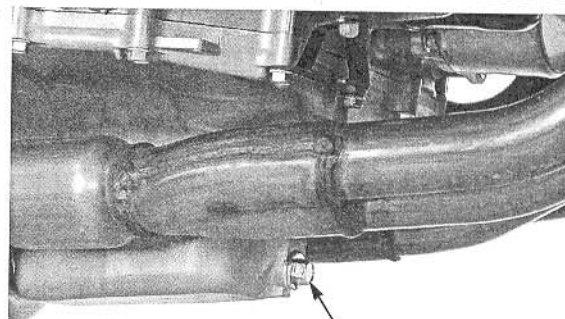
Start the engine and let it idle for 3 – 5 minutes.  
Stop the engine and wait 2 – 3 minutes.  
Hold the motorcycle in an upright position.

Remove the lower cowls (page 3-6).

Remove the oil filler cap.



Remove the drain bolt and sealing washer, drain the oil completely.



OIL DRAIN BOLT/SEALING WASHER

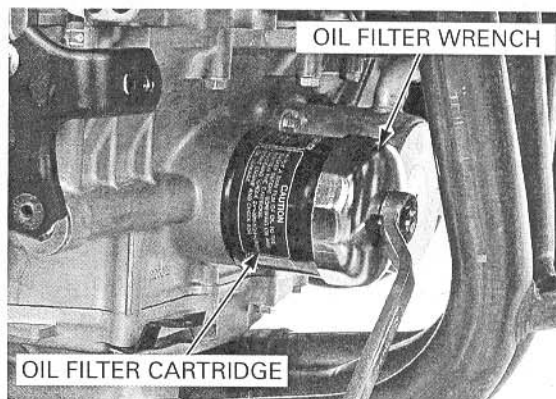
Remove the radiator reserve tank (page 7-17).

Remove and discard the oil filter cartridge using the special tool.

## TOOL:

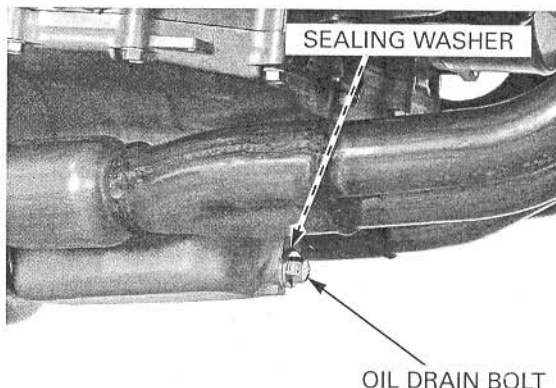
Oil filter wrench

07HAA-PJ70101 or  
07HAA-PJ70100  
(U.S.A. only)

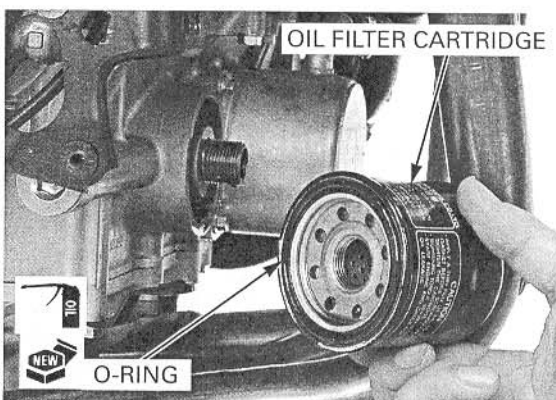


Check that the sealing washer on the drain bolt is in good condition, and replace if necessary. Install and tighten the drain bolt.

**TORQUE: 29 N·m (3.0 kgf·m, 22 lbf·ft)**



Apply clean engine oil to the new oil filter O-ring.



Install the new oil filter and tighten it to the specified torque.

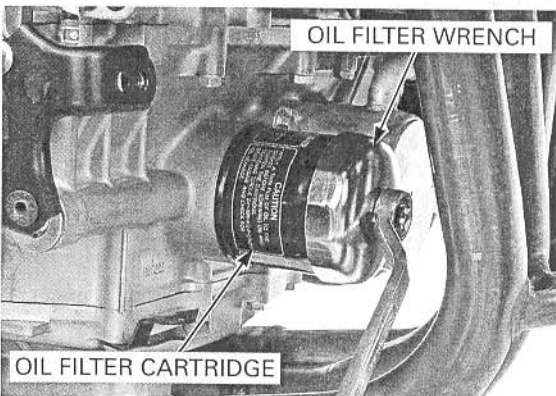
## TOOL:

Oil filter wrench

07HAA-PJ70101

**TORQUE: 26 N·m (2.7 kgf·m, 20 lbf·ft)**

Install the radiator reserve tank (page 7-18).



## MAINTENANCE

Fill the crankcase with recommended engine oil.

### OIL CAPACITY:

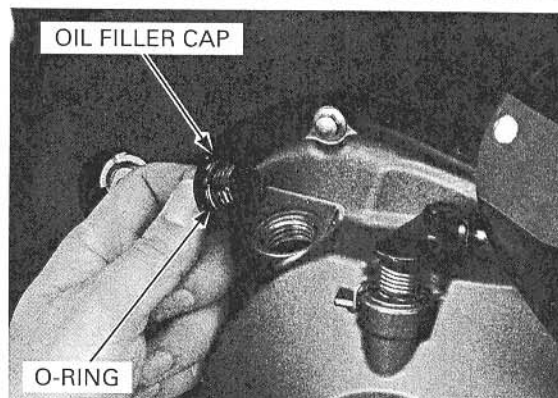
- 2.6 liter (2.7 US qt, 2.3 Imp qt) after draining
- 2.9 liter (3.1 US qt, 2.6 Imp qt) after oil filter change

Check that the O-ring on the oil filler cap is in good condition, and replace it if necessary. Install the oil filler cap.

Start the engine and let it idle for 3 – 5 minutes. Stop the engine and wait 2 – 3 minutes and recheck the oil level.

Make sure there are no oil leaks.

Install the lower cowls (page 3-6).



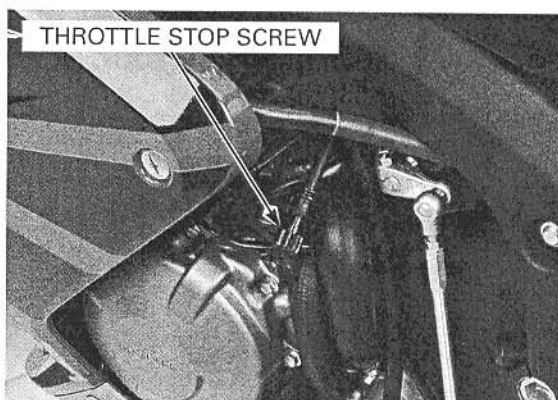
## ENGINE IDLE SPEED

- Inspect and adjust the idle speed after all other engine maintenance items have been performed and are within specification.
- The engine must be warm for accurate idle speed inspection and adjustment.

Warm the engine for about 10 minutes.

Turn the throttle stop screw as required to obtain the specified idle speed.

**IDLE SPEED:  $1,300 \pm 100$  rpm**



## RADIATOR COOLANT

Check the coolant level of the reserve tank with the engine running at normal operating temperature.

The level should be between the "UPPER" and "LOWER" level lines.

If necessary, add recommended coolant.

### RECOMMENDED ANTIFREEZE:

**Pro Honda HP Coolant or an equivalent high quality ethylene glycol antifreeze containing corrosion protection inhibitors.**

Remove the following:

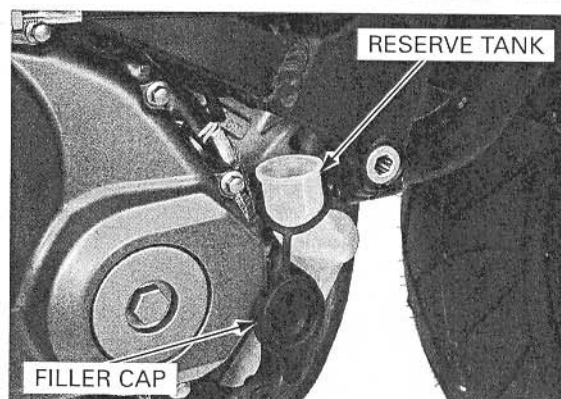
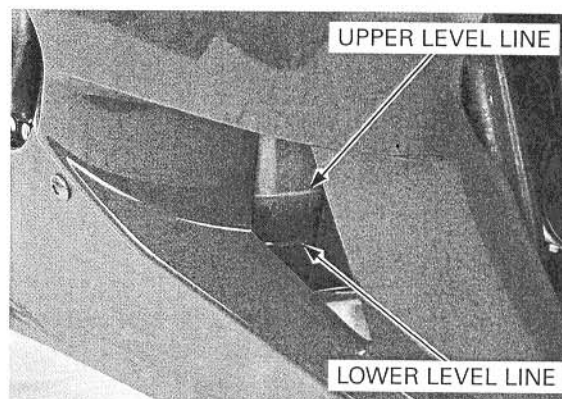
- Lower cowls (page 3-6)
- Middle cowls (page 3-7)

Remove the reserve tank filler cap and fill to the "UPPER" level line with 1:1 mixture of distilled water and antifreeze.

Reinstall the filler cap.

Install the following:

- Middle cowls (page 3-8)
- Lower cowls (page 3-6)



## COOLING SYSTEM

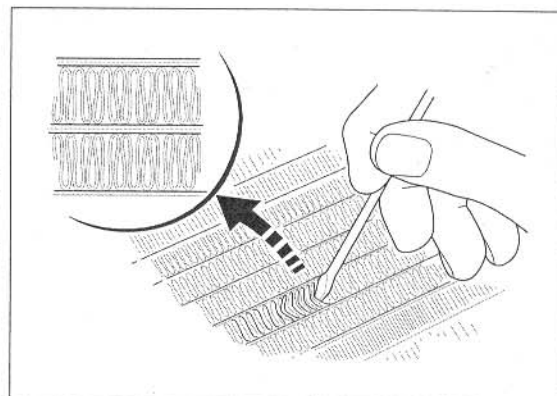
Remove the following:

- Lower cowls (page 3-6)
- Middle cowls (page 3-7)

Check the radiator air passages for clogging or damage.

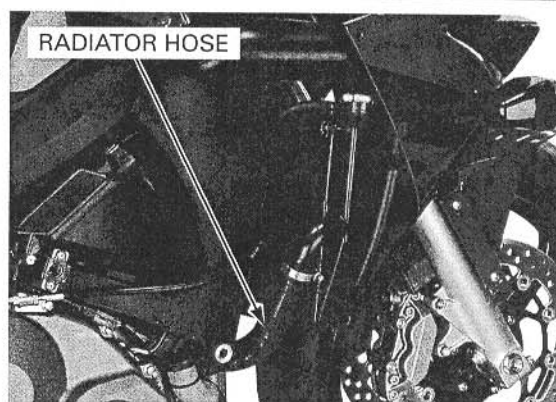
Straighten bent fins, and remove insects, mud or other obstructions with compressed air or low water pressure.

Replace the radiator if the air flow is restricted over more than 20% of the radiating surface.



Inspect the radiator hoses for cracks or deterioration, and replace them if necessary.

Check the tightness of all hose clamps and fasteners.



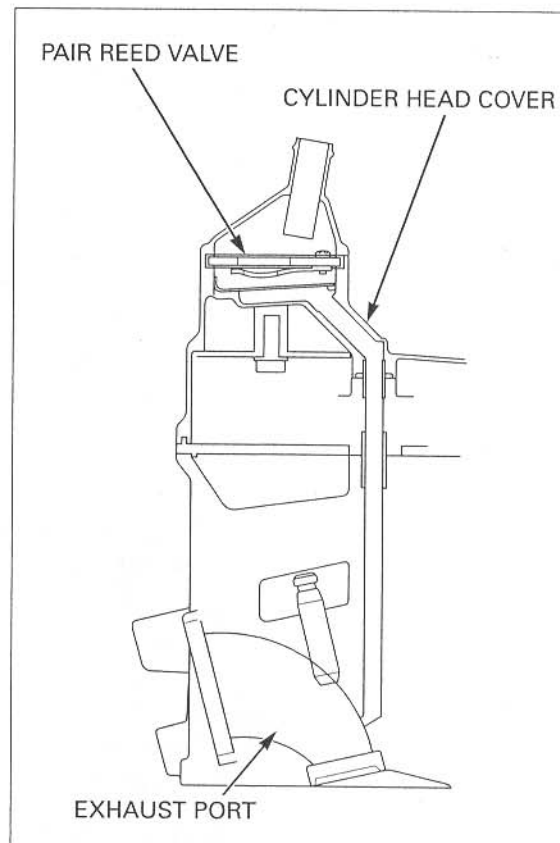
## SECONDARY AIR SUPPLY SYSTEM

- This model is equipped built-in secondary air supply system. The pulse secondary air supply system is located on the cylinder head cover.
- The secondary air supply system introduces filtered air into exhaust gases in the exhaust port. The secondary air is drawn into the exhaust port whenever there is negative pressure pulse in the exhaust system. This charged secondary air promotes burning of the unburned exhaust gases and changes a considerable amount of hydrocarbons and carbon monoxide into relatively harmless carbon dioxide and water.

Remove the air cleaner housing (page 6-64).

*If the hoses show any signs of heat damage, inspect the PAIR reed valves in the PAIR check valves for damage.*

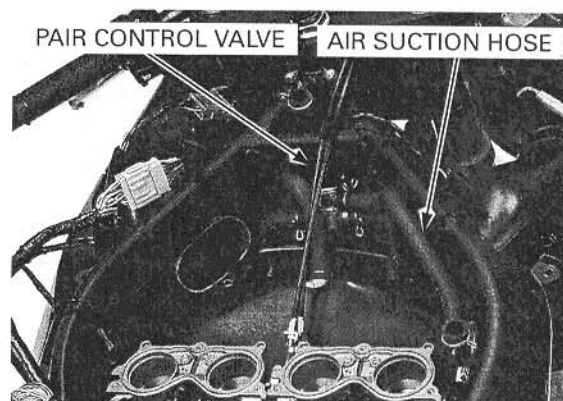
Check the PAIR (pulse secondary air injection) hoses between the PAIR control solenoid valve and cylinder head cover for deterioration, damage or loose connections. Make sure that the hoses are not cracked.





## MAINTENANCE

Check the air suction hose between the air cleaner housing and PAIR control solenoid valve for deterioration, damage or loose connections. Make sure that the hoses are not kinked, pinched or cracked.

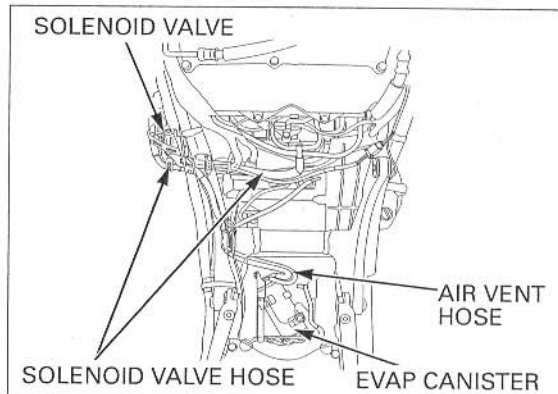


## EVAPORATIVE EMISSION CONTROL SYSTEM (CALIFORNIA TYPE ONLY)

Check the hoses between the fuel tank, EVAP canister, EVAP purge control solenoid valve for deterioration, damage or loose connectors.

Check the EVAP canister for cracks or other damage.

Refer to the Vacuum Hose Routing Diagram Label (page 1-39) and Cable & Harness Routing (page 1-33) for hose connections.

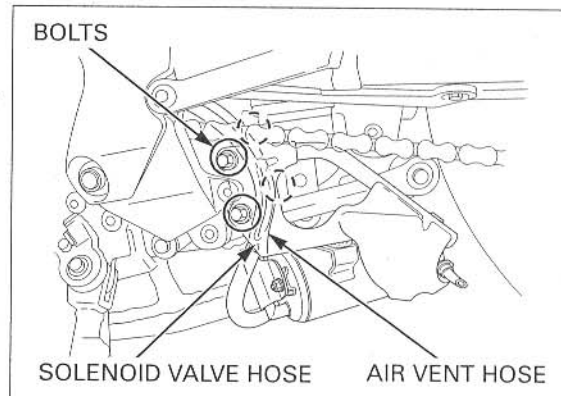


## REMOVAL/INSTALLATION

Disconnect the EVAP purge control solenoid valve hose and fuel tank air vent hose.

Remove the four bolts and EVAP canister.

Install the EVAP canister in the reverse order of removal.





# DRIVE CHAIN

*Never inspect and adjust the drive chain while the engine is running.*

## DRIVE CHAIN SLACK INSPECTION

Turn the ignition switch OFF, place the motorcycle on its side stand and shift the transmission into neutral.

Check the slack in the drive chain lower run midway between the sprockets.

**CHAIN SLACK:** 25 – 35 mm (1 – 1-3/8 in)

### NOTICE

*Excessive chain slack, 50 mm (2.0 in) or more, may damage the frame.*

Lubricate the drive chain with #80 – 90 gear oil or chain lubricant designed specifically for use with O-ring chains. Wipe off the excess oil or chain lubricant.

## ADJUSTMENT

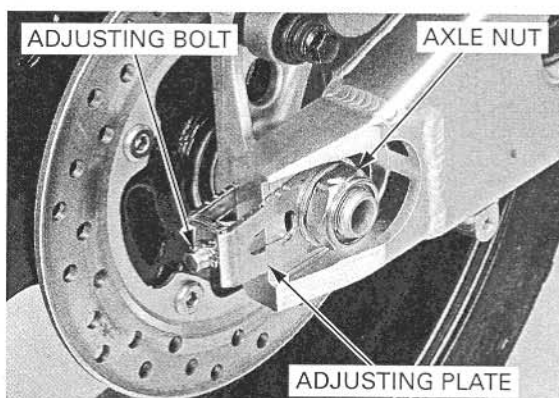
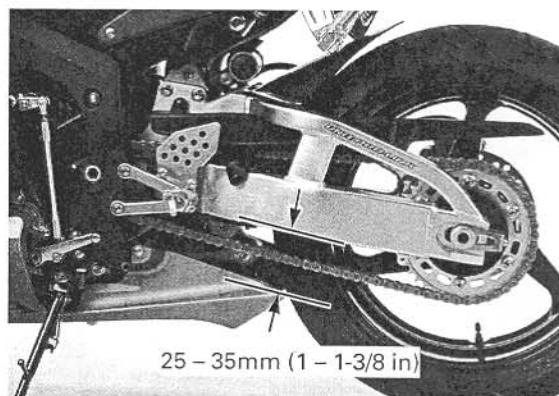
Loosen the rear axle nut.

Turn both adjusting bolts until the correct drive chain slack is obtained.

Make sure the index marks on both adjusting plates are aligned with the end of the swingarm.

Tighten the rear axle nut to the specified torque.

**TORQUE:** 113 N·m (11.5 kgf·m, 83 lbf·ft)

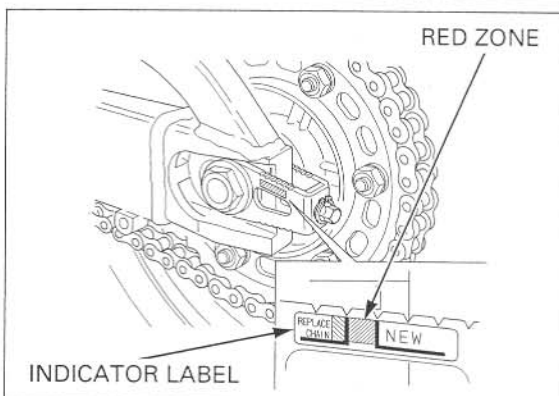


Recheck the drive chain slack and free wheel rotation.

Lubricate the drive chain with #80 – 90 gear oil or drive chain lubricant designed specifically for use with O-ring chains. Wipe off the excess oil or chain lubricant.

Check the drive chain wear indicator label attached on the left drive chain adjusting plate.

If the swingarm index mark reaches red zone of the indicator label, replace the drive chain with a new one (page 4-23).



## CLEANING AND LUBRICATION

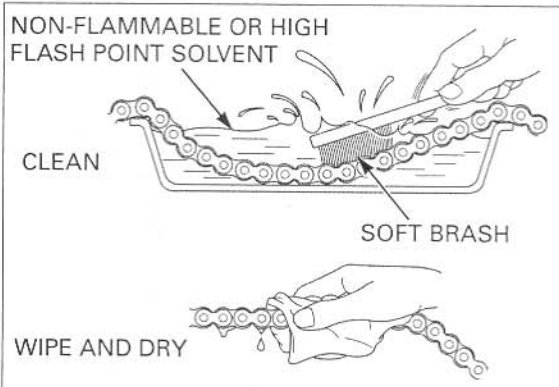
Clean the chain with non-flammable or high flash point solvent and wipe it dry.

Be sure the chain has dried completely before lubricating.

Inspect the drive chain for possible damage or wear. Replace any chain that has damaged rollers, loose fitting links, or otherwise appears unserviceable.

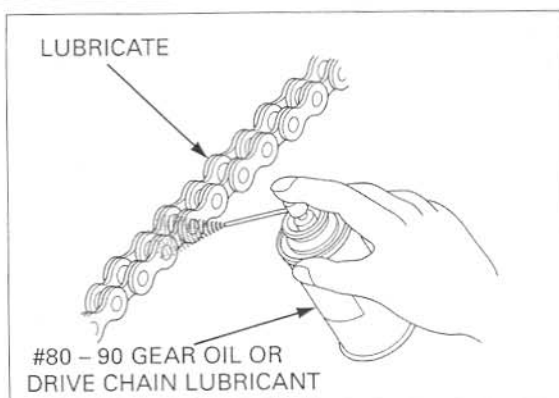
Installing a new chain on badly worn sprockets will cause the new chain to wear quickly.

Inspect and replace sprocket as necessary.



## MAINTENANCE

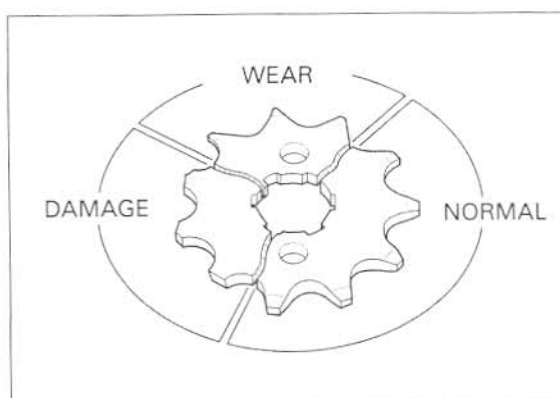
Lubricate the drive chain with #80 – 90 gear oil or drive chain lubricant designed specifically for use with O-ring chains. Wipe off the excess oil or chain lubricant.



### SPROCKET INSPECTION

Inspect the drive and driven sprocket teeth for wear or damage, replace if necessary.

Never use a new drive chain on worn sprockets. Both chain and sprockets must be in good condition, or the new replacement chain will wear rapidly.

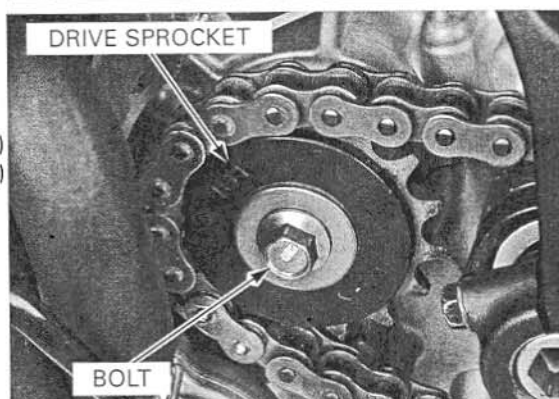


Check the attaching bolts and nuts on the drive and driven sprockets. If any are loose, torque them.

#### TORQUE:

Drive sprocket special bolt: 54 N·m (5.5 kg·m, 40 lbf·ft)

Final driven sprocket nut: 64 N·m (6.5 kgf·m, 47 lbf·ft)



## REPLACEMENT

This motorcycle uses a drive chain with a staked master link.

Loosen the drive chain (page 4-21).

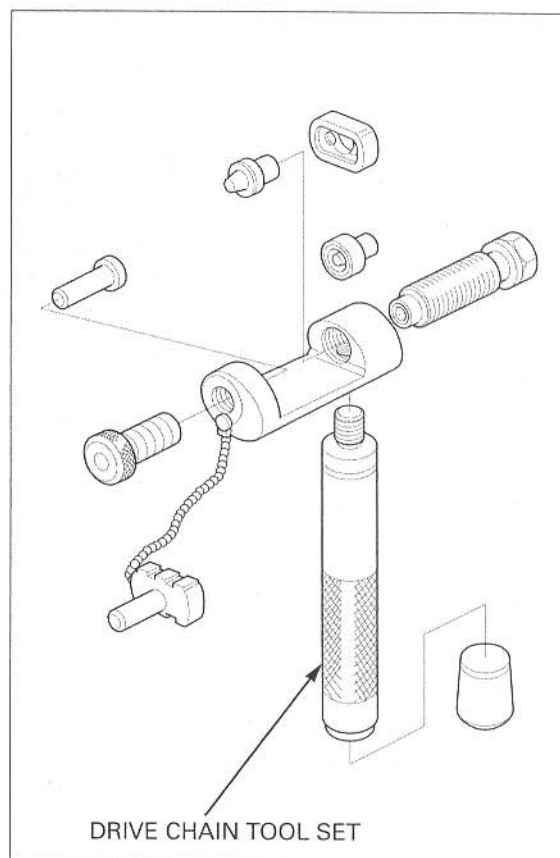
Assemble the special tool as shown.

### TOOL:

**Drive chain tool set**

**07HMH-MR10103 or  
07HMH-MR1010C  
(U.S.A. only)**

*When using the special tool, follow the manufacturer's instruction.*



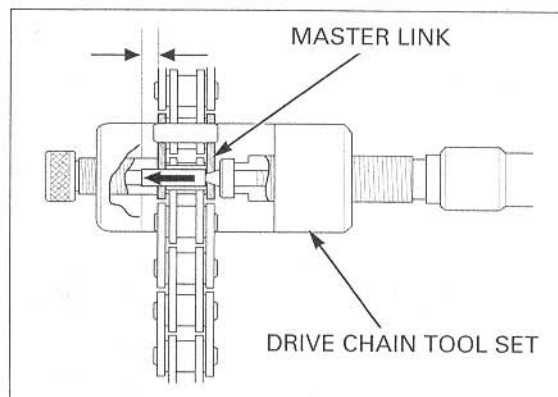
Locate the crimped pin ends of the master link from the outside of the chain, and remove the link with the drive chain tool set.

### TOOL:

**Drive chain tool set**

**07HMH-MR10103 or  
07HMH-MR1010C  
(U.S.A. only)**

Remove the drive chain.



*Include the master link when you count the drive chain links.*

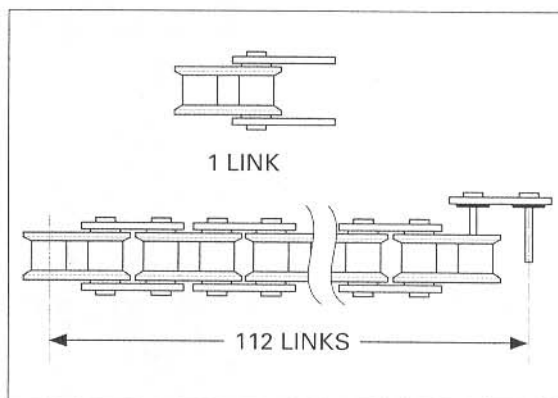
Remove the excess drive chain links from the new drive chain with the drive chain tool set.

**STANDARD LINKS: 112 LINKS**

### REPLACEMENT CHAIN

**DID: DID525HV-120ZB**

**RK: RK525ROZ1-120LJ-FZ**

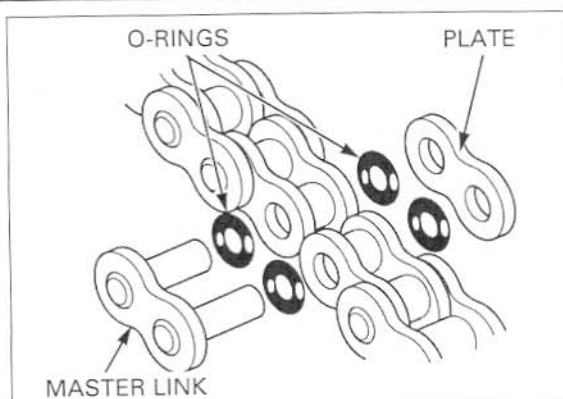


## MAINTENANCE

- Never reuse the old drive chain, master link, master link plate and O-rings.

*Insert the master link from the inside of the drive chain, and install the plate with the identification mark facing the outside.*

Assemble the new master link, O-rings and plate.

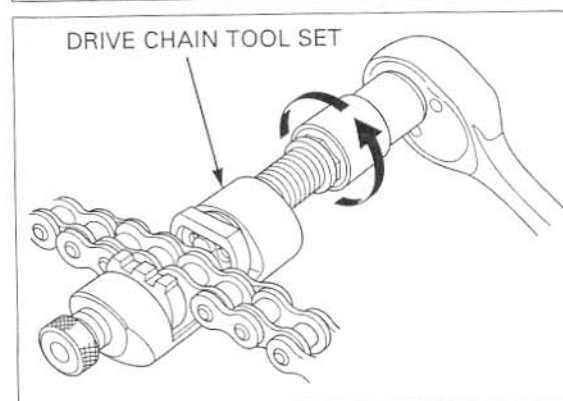


Assemble and set the drive chain tool set.

**TOOL:**

Drive chain tool set

07HMH-MR10103 or  
07HMH-MR1010C  
(U.S.A. only)



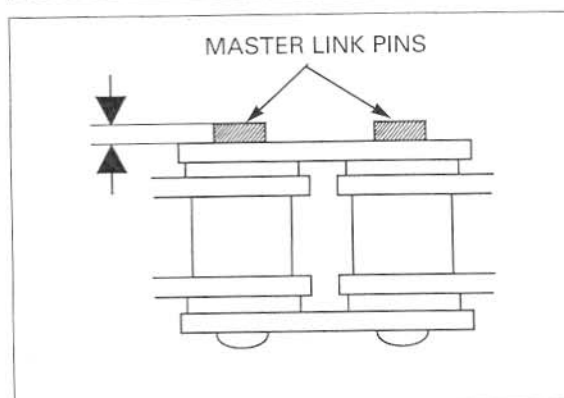
Make sure that the master link pins are installed properly.  
Measure the master link pin length projected from the plate.

**STANDARD LENGTH:**

DID: 1.15 – 1.55 mm (0.045 – 0.061 in)

RK: 1.2 – 1.4 mm (0.05 – 0.06 in)

Stake the master link pins.

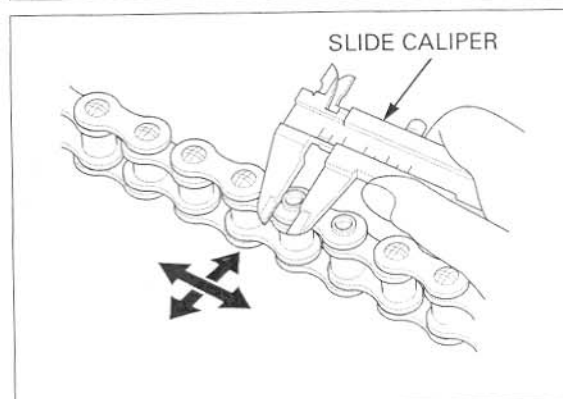


Make sure that the pins are staked properly by measuring the diameter of the staked area using a slide caliper.

**DIAMETER OF THE STAKED AREA:**

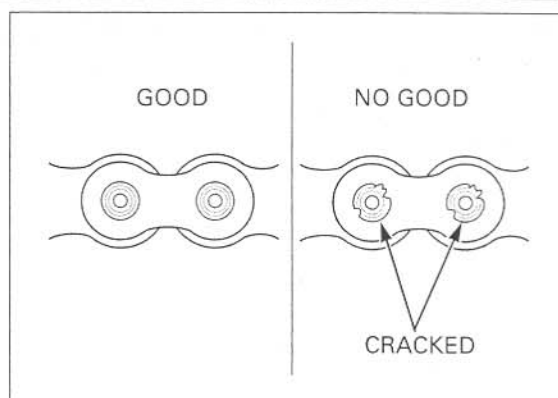
DID: 5.50 – 5.80 mm (0.217 – 0.228 in)

RK: 5.30 – 5.70 mm (0.208 – 0.224 in)



A drive chain with a clip-type master link must not be used.

After staking, check the staked area of the master link for cracks. If there is any cracking, replace the master link, O-rings and plate.



## BRAKE FLUID

### NOTICE

Spilled fluid can damage painted, plastic or rubber parts. Place a rag over these parts whenever the system is serviced.

- Do not mix different types of fluid, as they are not compatible with each other.
- Do not allow foreign material to enter the system when filling the reservoir.

When the fluid level is low, check the brake pads for wear (page 4-26). A low fluid level may be due to wear of the brake pads. If the brake pads are worn, the caliper piston is pushed out, and this accounts for a low reservoir level. If the brake pads are not worn and the fluid level is low, check entire system for leaks (page 4-26).

### FRONT BRAKE

Turn the handlebar so that the reservoir is level and check the front brake fluid level. If the level is near the lower level line, check the brake pad wear (page 4-26).



### REAR BRAKE

Remove the rear cowl (page 3-5).

Place the motorcycle on a level surface, and support it in an upright position.

Check the rear brake fluid level.

If the level is near the lower level line, check the brake pad wear (page 4-26).



## MAINTENANCE

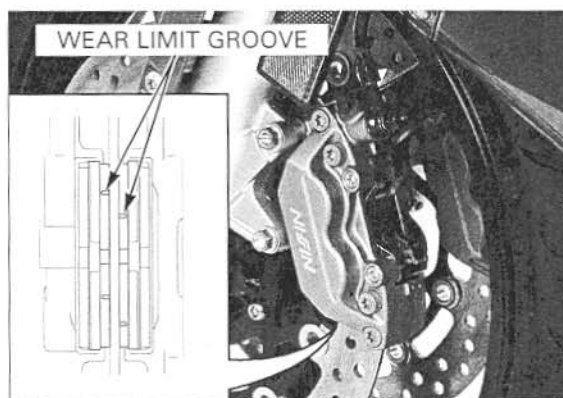
### BRAKE PAD WEAR

#### FRONT BRAKE PADS

Check the brake pads for wear.

Replace the brake pads if either pad is worn to the bottom of wear limit groove.

Refer to page 16-9 for brake pad replacement.

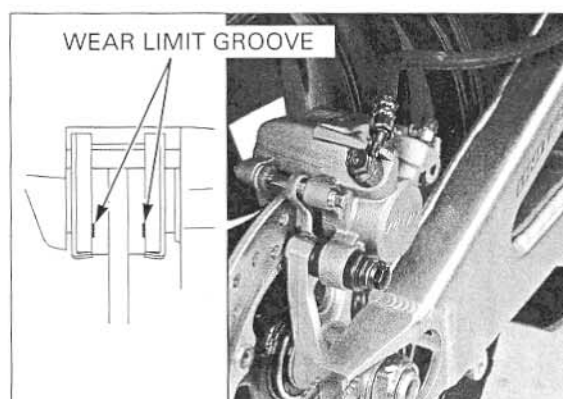


#### REAR BRAKE PADS

Check the brake pads for wear.

Replace the brake pads if either pad is worn to the bottom of wear limit groove.

Refer to page 16-11 for brake pad replacement.



### BRAKE SYSTEM

#### INSPECTION

Firmly apply the brake lever or pedal, and check that no air has entered the system.

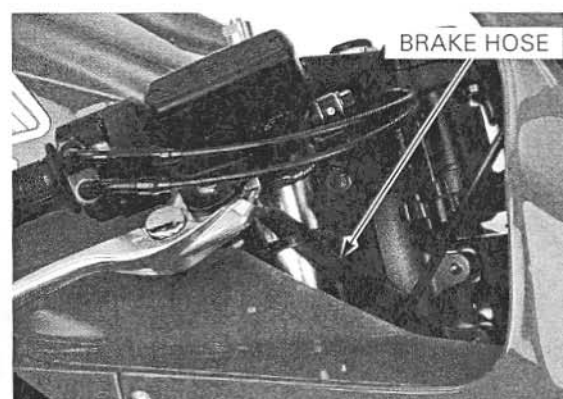
If the lever or pedal feels soft or spongy when operated, bleed the air from the system (page 16-7).

Inspect the brake hose and fittings for deterioration, cracks and signs of leakage.

Tighten any loose fittings.

Replace hoses and fittings as required.

Refer to page 16-6 for brake bleeding procedures.

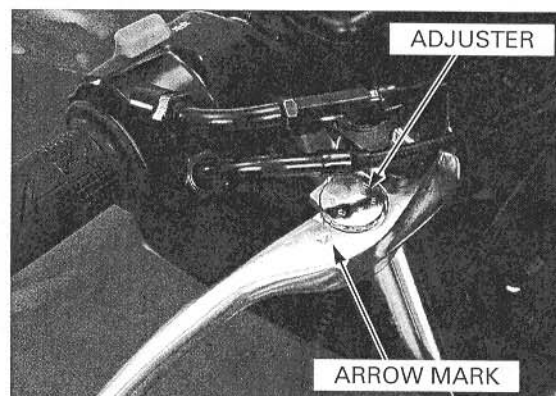




## BRAKE LEVER ADJUSTMENT

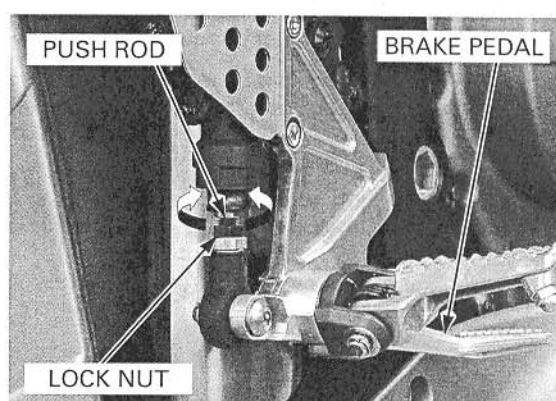
Align the allow mark on the brake lever with the index number on the adjuster.

The distance between the top of the brake lever and the grip can be adjusted by turning the adjuster.



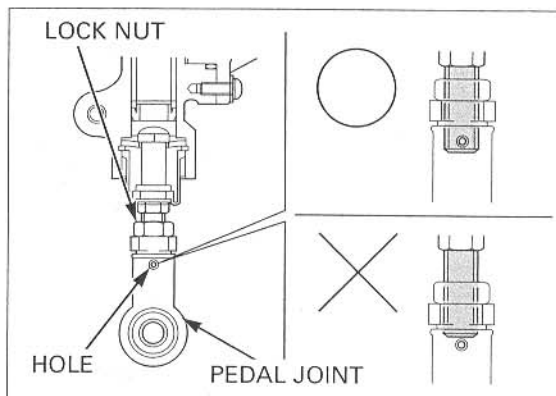
## BRAKE PEDAL HEIGHT ADJUSTMENT

Loosen the lock nut and turn the push rod until the correct pedal height is obtained.



Make sure the push rod threads can be seen through the pedal joint hole. After adjustment, tighten the lock nut to the specified torque.

**TORQUE: 18 N·m (1.8 kgf·m, 13 lbf·ft)**

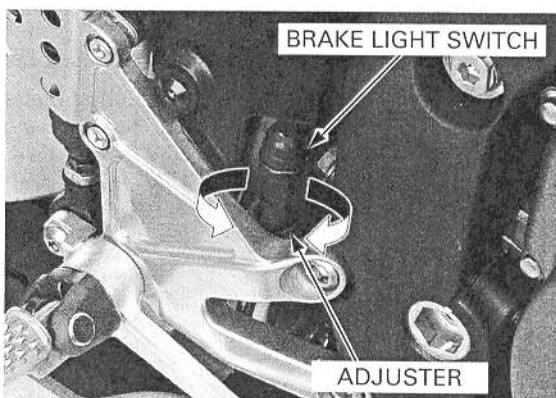


## BRAKE LIGHT SWITCH

The front brake light switch does not require adjustment.

Adjust the brake light switch so that the brake light comes on just prior to the brake actually being engaged.

If the light fails to come on, adjust the switch so that the light comes on at the proper time. Hold the switch body and turn the adjuster. Do not turn the switch body.



## MAINTENANCE

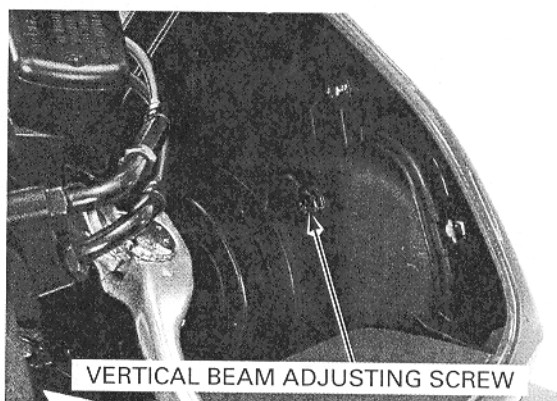
### HEADLIGHT AIM

Place the motorcycle on a level surface.

*Adjust the headlight aim as specified by local laws and regulations.*

Adjust the headlight aim vertically by turning the vertical beam adjusting screw.

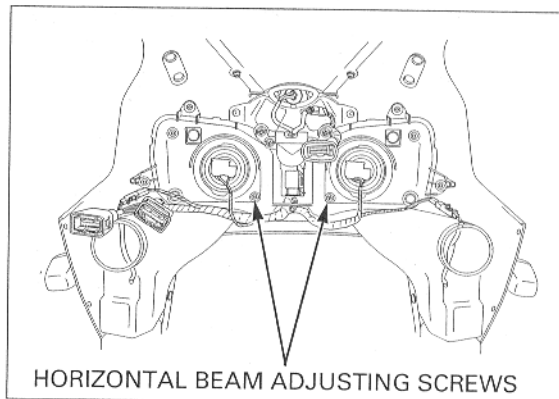
A clockwise rotation moves the beam up and counterclockwise rotation moves the beam down.



Adjust the headlight aim horizontally by turning the horizontal beam adjusting screw.

**Left Headlight:** A clockwise rotation moves the beam toward the right and counterclockwise rotation moves the beam toward the left side of the rider.

**Right Headlight:** A clockwise rotation moves the beam toward the left and counterclockwise rotation moves the beam toward the right side of the rider.

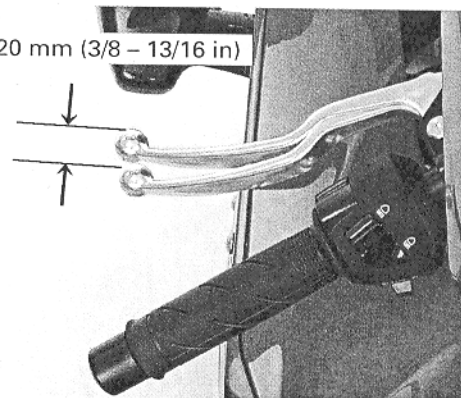


### CLUTCH SYSTEM

Measure the clutch lever free play at the end of the clutch lever.

**FREE PLAY:** 10 – 20 mm (3/8 – 13/16 in)

10 – 20 mm (3/8 – 13/16 in)



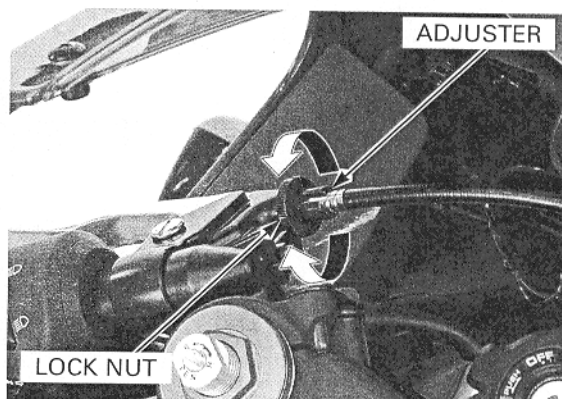
*The adjuster may be damaged if it is positioned too far out, leaving minimal thread engagement.*

Minor adjustment is made using the upper adjuster at the clutch lever.

Loosen the lock nut and turn the adjuster.

If the adjuster is threaded out near its limit and the correct free play cannot be obtained, turn the adjuster all the way in and back out one turn.

Tighten the lock nut while holding the adjuster and make a major adjustment as described as follow.

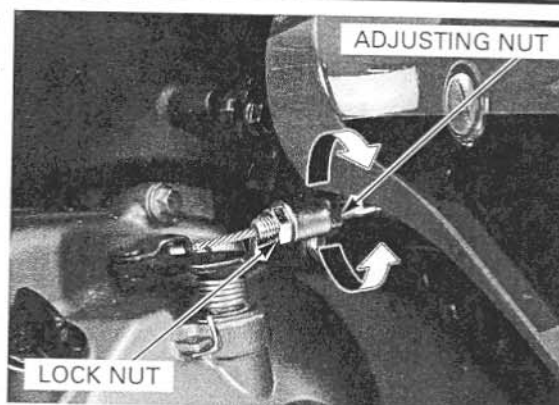


Major adjustment is performed at the clutch lifter lever.

Loosen the lock nut and turn the adjusting nut to adjust the free play.

Tighten the lock nut while holding the adjusting nut.

If proper free play cannot be obtained, or the clutch slips during test ride, disassemble and inspect the clutch (page 10-7).

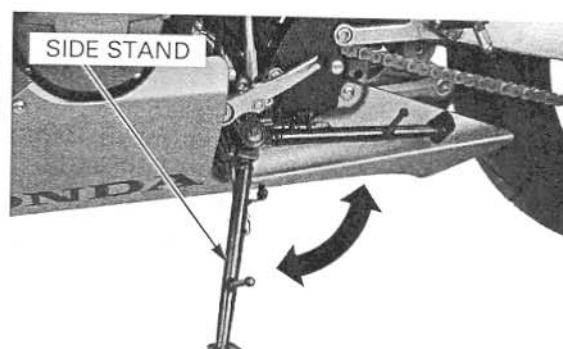


## SIDE STAND

Support the motorcycle on a level surface.

Check the side stand spring for damage or loss of tension.

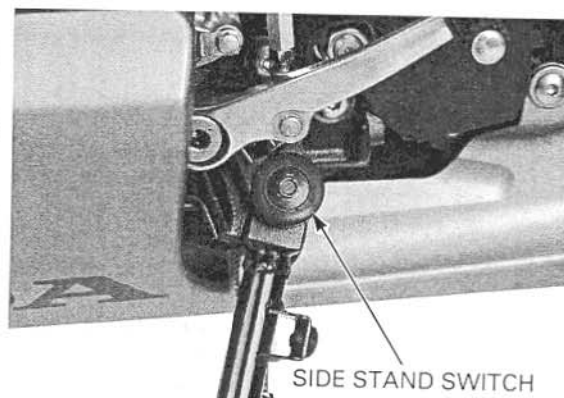
Check the side stand assembly for freedom of movement and lubricate the side stand pivot if necessary.



Check the side stand ignition cut-off system:

- Sit astride the motorcycle and raise the side stand.
- Start the engine with the transmission in neutral, then shift the transmission into gear, with the clutch lever squeezed.
- Move the side stand full down.
- The engine should stop as the side stand is lowered.

If there is a problem with the system, check the side stand switch (page 20-22).



## SUSPENSION

### FRONT SUSPENSION INSPECTION

Check the action of the forks by operating the front brakes and compressing the front suspension several times.

Check the entire assembly for signs of leaks, damage or loose fasteners.

*Loose, worn or damaged suspension parts impair motorcycles stability and control.*

Replace damaged components which cannot be repaired.

Tighten all nuts and bolts.

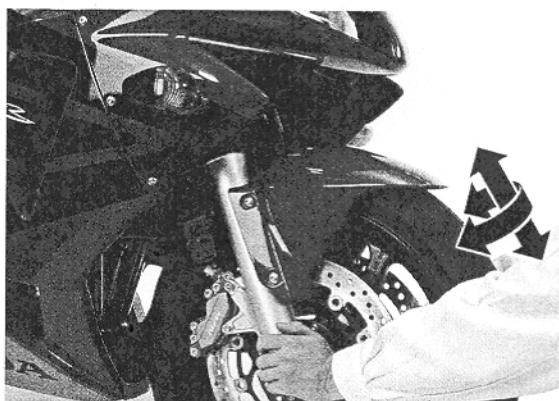
Refer to page 14-18 for fork service.



## MAINTENANCE

Check for worn steering stem bearings by grabbing the front fork leg and attempting to move the front fork side to side.

Replace the bearings if any looseness is noted.



### FRONT SUSPENSION ADJUSTMENT

#### SPRING PRE-LOAD ADJUSTER

Spring pre-load can be adjusted by turning the adjuster.

##### TURN CLOCKWISE:

Increase the spring pre-load

##### TURN COUNTERCLOCKWISE:

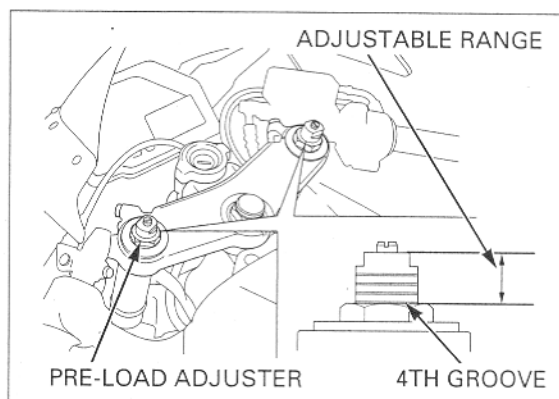
Decrease the spring pre-load

##### PRE-LOAD ADJUSTER ADJUSTABLE RANGE:

6 – 21 mm (0.2 – 0.8 in) from top of fork bolt

##### PRE-LOAD ADJUSTER STANDARD POSITION:

14 mm (0.6 in): 4th groove from top of fork bolt



#### COMPRESSION AND REBOUND DAMPING ADJUSTERS

##### NOTICE

*Do not turn the adjusters more than the given positions or the adjusters may be damaged.*

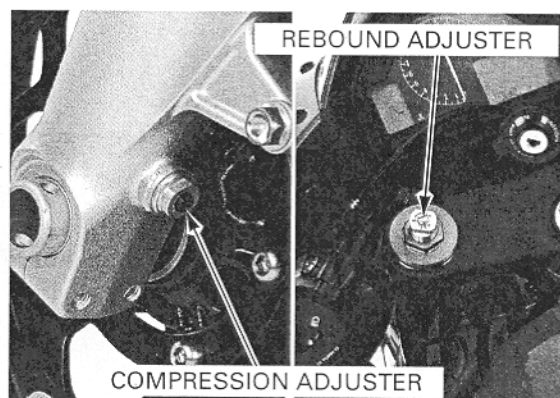
- All damping adjustments are referenced from the full hard position.
- Be sure that the rebound and compression adjusters are firmly located in a detent, and not between positions.

*To adjust both sides equally, set the right and left damping adjusters to the same position.*

The compression and rebound damping can be adjusted by turning the adjusters.

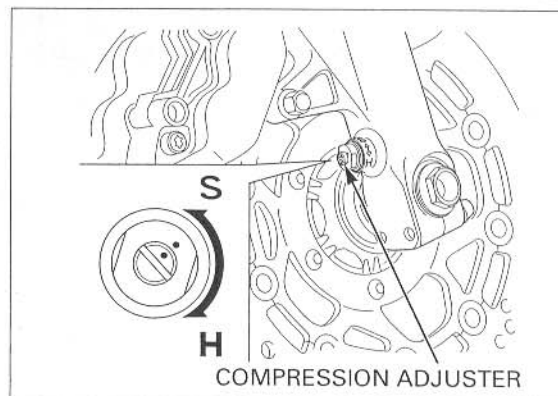
**DIRECTION H:** Increase the damping force

**DIRECTION S:** Decrease the damping force



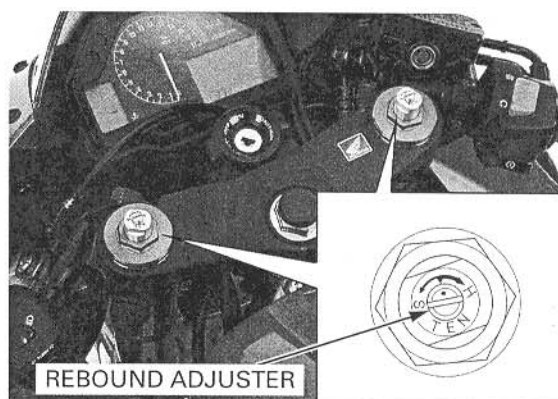
Turn the compression adjuster clockwise until it stops (full hard position), then turn the adjuster counterclockwise.

**COMPRESSION ADJUSTER STANDARD POSITION:**  
2 turns out from full hard



Turn the rebound adjuster clockwise until it stops (full hard position), then turn the adjuster counterclockwise.

**REBOUND ADJUSTER STANDARD POSITION:**  
2 – 1/2 turns out from full hard

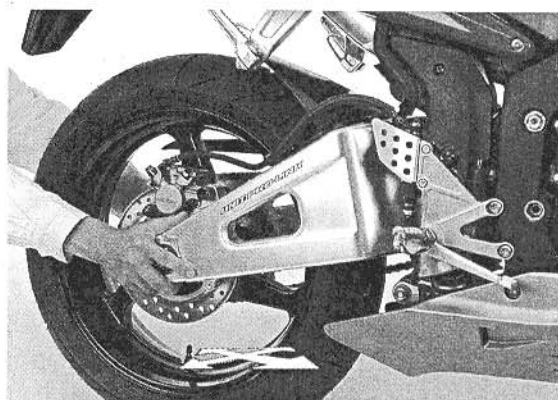


## REAR SUSPENSION INSPECTION

Support the motorcycle securely and raise the rear wheel off the ground.

Check for worn swingarm bearings by grabbing the rear end of the swingarm and attempting to move the swingarm side to side.

Replace the bearings if any looseness is noted.



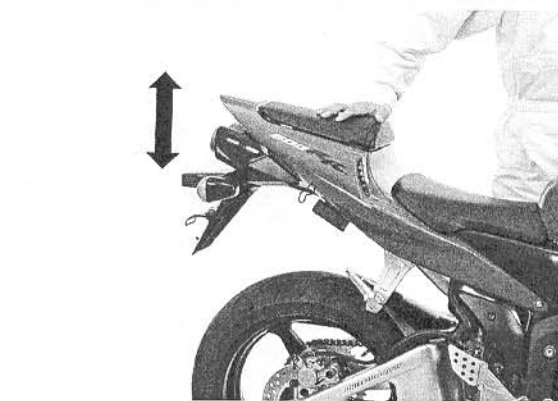
Check the action of the shock absorber by compressing it several times.

Check the entire shock absorber assembly for signs of leaks, damage or loose fasteners.

Replace damaged components which cannot be repaired.

Tighten all nuts and bolts.

Refer to page 15-15 for shock absorber service.



### REAR SUSPENSION ADJUSTMENT

#### COMPRESSION AND REBOUND DAMPING ADJUSTERS

##### NOTICE

*Do not turn the adjusters more than the given positions or the adjusters may be damaged.*

- All damping adjustments are referenced from the full hard position.

The compression and rebound damping can be adjusted by turning the adjusters.

**DIRECTION H:** Increase the damping force

**DIRECTION S:** Decrease the damping force

Turn the compression adjuster clockwise until it stops (full hard position), then turn the adjuster counterclockwise.

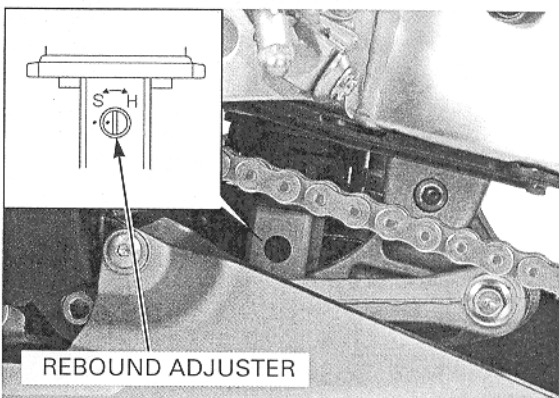
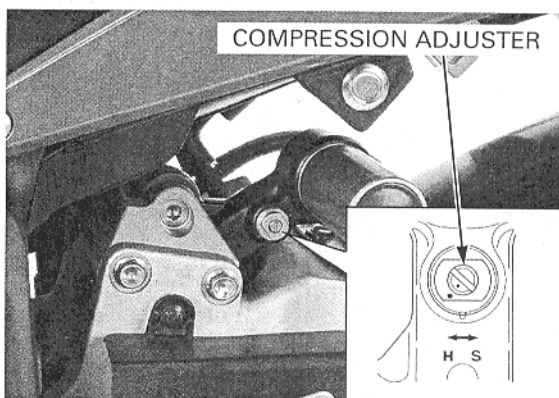
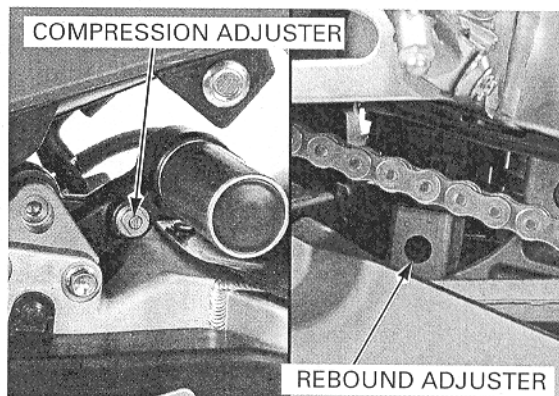
**COMPRESSION ADJUSTER STANDARD POSITION:**

7 clicks out from full hard

Turn the rebound adjuster clockwise until it stops (full hard position), then turn the adjuster counterclockwise.

**REBOUND ADJUSTER STANDARD POSITION:**

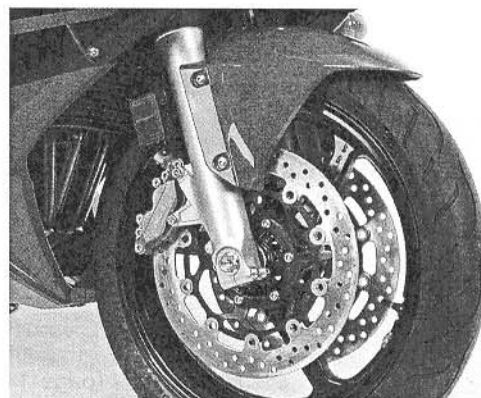
1 – 3/4 turns out from full hard





## NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to their correct torque values (page 1-12).  
Check that all safety clips, hose clamps and cable stays are in place and properly secured.

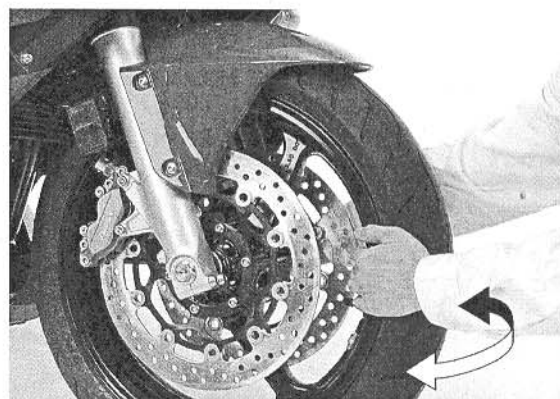


## WHEELS/TIRES

Support the motorcycle securely and raise the front wheel off the ground.

Hold the front fork leg and move the front wheel sideways with force to see if the wheel bearings are worn.

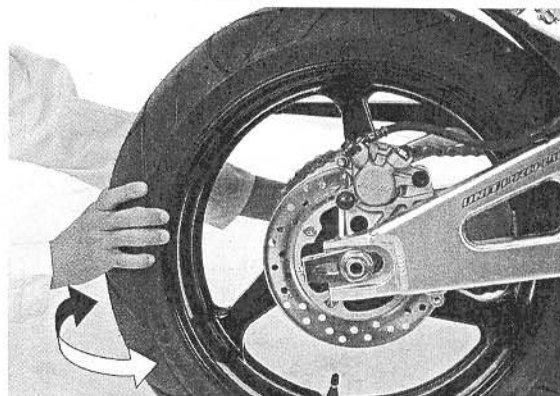
Refer to page 14-12 for front wheel service.



Support the motorcycle securely and raise the rear wheel off the ground.

Hold the swingarm and move the rear wheel sideways with force to see if the wheel bearings are worn.

Refer to page 15-8 for rear wheel service.



## MAINTENANCE

Tire pressure should be checked when the tires are COLD.

### RECOMMENDED TIRE PRESSURE AND TIRE SIZE:

		FRONT	REAR
Tire pressure kPa (kgf/cm <sup>2</sup> , psi)		250 (2.50, 36)	290 (2.90, 42)
Tire size		120/70 ZR 17 M/ C (58W)	180/55 ZR 17 M/ C (73W)
Tire brand	Bridgestone	BT012F RADIAL G	BT012R RADIAL L
	Dunlop	D208FK	D208K
	Michelin	Pilot SPORT E	Pilot SPORT E

Check the tires for cuts, embedded nails, or other damage.

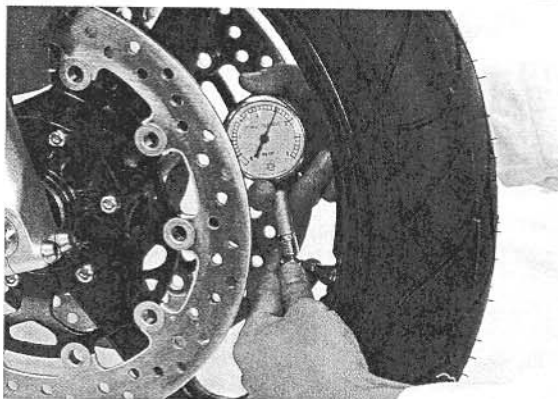
Check the front wheel (page 14-12) and rear wheel (page 15-8) for trueness.

Measure the tread depth at the center of the tires. Replace the tires when the tread depth reaches the following limits.

### MINIMUM TREAD DEPTH:

FRONT: 1.5 mm (0.06 in)

REAR: 2.0 mm (0.08 in)



## STEERING HEAD BEARINGS

Check that the control cables do not interfere with handlebar rotation.

Support the motorcycle securely and raise the front wheel off the ground.

Check that the handlebar moves freely from side to side.

If the handlebar moves unevenly, binds, or has vertical movement, inspect the steering head bearings (page 14-27).

