

- 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

4

SPECIFICATIONS		ITEM	
3 - 4 mm (1/16 - 3/16 in)		Throttle grip free play	
DPR8E-A 3 (DPR8E-A-3)		Spark plug	
X3AEPH-UB (X3AEPH-UB)		Location	
0.80 - 0.90 mm (0.031 - 0.035 in)		Spark plug gap	
0.16 ± 0.03 mm (0.006 ± 0.001 in)		Valve clear-	
SERVICE INFORMATION.....	4-2	DRIVE CHAIN.....	4-20
0.33 liter (4.0 US qt, 3.3 imp qt)		Engine oil	
MAINTENANCE SCHEDULE.....	4-4	DRIVE CHAIN SLIDER.....	4-24
Honda 4 stroke oil or equivalent		After draining	
FUEL LINE.....	4-5	BRAKE FLUID.....	4-25
Viscous 10W-40		After draining	
THROTTLE OPERATION.....	4-6	BRAKE PAD WEAR.....	4-26
DOT 4		The brake	
CHOKE OPERATION.....	4-6	BRAKE SYSTEM.....	4-26
DOT 4		The brake	
AIR CLEANER.....	4-7	BRAKE LIGHT SWITCH.....	4-27
MACADAM 100XC		The brake	
CRANKCASE BREATHER.....	4-7	HEADLIGHT AIM.....	4-27
250 cc (15.9 US qt, 13.1 imp qt)		Driver only	
SPARK PLUG.....	4-8	CLUTCH SYSTEM/CLUTCH FLUID.....	4-28
250 cc (15.9 US qt, 13.1 imp qt)		Driver and	
VALVE CLEARANCE.....	4-9	SIDE STAND.....	4-29
1.5 mm (0.06 in)		Minimum tire tread depth	
ENGINE OIL/OIL FILTER.....	4-14	SUSPENSION.....	4-29
Apply grease to the threads		Timing hole cap	
ENGINE IDLE SPEED.....	4-17	NUTS, BOLTS, FASTENERS.....	4-32
Apply grease to the threads		Spark plug	
RADIATOR COOLANT.....	4-17	WHEELS/TIRES.....	4-33
Apply clean engine oil to the O-ring		Engine oil filter cartridge	
COOLING SYSTEM.....	4-18	STEERING HEAD BEARINGS.....	4-33
Apply clean engine oil to the O-ring		Drive sprocket special nut	
SECONDARY AIR SUPPLY SYSTEM.....	4-19	First driven sprocket nut	
Apply clean engine oil to the O-ring		Rear master cylinder push rod joint nut	

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 – 3/16 in)	
Spark plug (option)	NGK	DPR8EA-9 (DPR9EA-9)	
	DENSO	X24EPR-U9 (X27EPR-U9)	
Spark plug gap		0.80 – 0.90 mm (0.031 – 0.035 in)	
Valve clearance	IN	0.16 ± 0.03 mm (0.006 ± 0.001 in)	
	EX	0.22 ± 0.03 mm (0.009 ± 0.001 in)	
Engine oil capacity	After draining	3.8 liter (4.0 US qt, 3.3 Imp qt)	
	After draining/oil filter change	4.0 liter (4.2 US qt, 3.5 Imp qt)	
Recommended engine oil		Honda 4-stroke oil or equivalent motor oil API service classification SE, SF or SG Viscosity: SAE 10W-40	
Engine idle speed		1,000 ± 100 min ⁻¹ (rpm)	
Drive chain slack		25 – 35 mm (1.0 – 1.4 in)	
Recommended brake fluid		DOT 4	
Tire size		Front	120/70 ZR 17 M/C (58W)
		Rear	180/55 ZR 17 M/C (73W)
Tire brand	Dunlop	Front	D220FSTK
		Rear	D220STK
	Michelin	Front	MACADAM 100XC
		Rear	MACADAM 100XC
Tire air pressure	Driver only	Front	250 kPa (2.50 kgf/cm ² , 36 psi)
		Rear	290 kPa (2.90 kgf/cm ² , 42 psi)
	Driver and passenger	Front	250 kPa (2.50 kgf/cm ² , 36 psi)
		Rear	290 kPa (2.90 kgf/cm ² , 42 psi)
Minimum tire tread depth		Front	1.5 mm (0.06 in)
		Rear	2.0 mm (0.08 in)

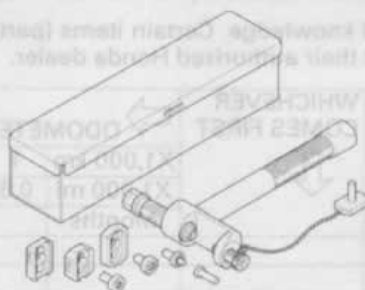
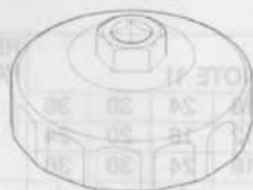
TORQUE VALUES

Timing hole cap	10 N·m (1.0 kgf·m, 7 lbf·ft)	Apply grease to the threads
Crankshaft hole cap	10 N·m (1.0 kgf·m, 7 lbf·ft)	Apply grease to the threads
Spark plug	15 N·m (1.5 kgf·m, 11 lbf·ft)	
Cylinder head cover bolt	10 N·m (1.0 kgf·m, 7 lbf·ft)	
Engine oil drain plug	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	108 N·m (11.0 kgf·m, 80 lbf·ft)	U-nut
Rear master cylinder push rod joint nut	18 N·m (1.8 kgf·m, 13 lbf·ft)	

The diagram illustrates the components of the Drive chain tool set (07HMH-MR10103) and the Tensioner stopper (07NMG-MY90101). The Drive chain tool set includes a long rectangular box, a cylindrical tool with a handle, and several small components like pins and washers. The Tensioner stopper is a single cylindrical component with a threaded end.

Drive chain tool set
07HMH-MR10103

Tensioner stopper
07NMG-MY90101



MAINTENANCE SCHEDULE

TOOLS

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 km	1	6	12	18	24	30	36	
			X1,000 mi	0.6	4	8	12	16	20	24	
			Months		6	12	18	24	30	36	
* FUEL LINE						I		I		I	4-5
* THROTTLE OPERATION						I		I		I	4-5
* CHOKE OPERATION						I		I		I	4-6
AIR CLEANER		NOTE 2					C			C	4-7
CRANKCASE BREATHER		NOTE 3			I	I	I	I	I	I	4-7
SPARK PLUG						I		R		I	4-8
* VALVE CLEARANCE								I			4-9
ENGINE OIL				R		R		R		R	4-14
ENGINE OIL FILTER				R		R		R		R	4-15
* ENGINE IDLE SPEED				I		I		I		I	4-17
RADIATOR COOLANT		NOTE 4				I		I		R	4-17
* COOLING SYSTEM						I		I		I	4-18
* SECONDARY AIR SUPPLY SYSTEM						I		I		I	4-19
DRIVE CHAIN											4-20
DRIVE CHAIN SLIDER						I		I		I	4-24
BRAKE FLUID		NOTE 4			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	4-27
CLUTCH SYSTEM						I		I		I	4-28
CLUTCH FLUID		NOTE 4			I	I	R	I	I	R	4-28
SIDE STAND						I		I		I	4-29
* SUSPENSION						I		I		I	4-29
* NUT, BOLTS, FASTENERS				I		I		I		I	4-32
** WHEELS/TIRES						I		I		I	4-33
** STEERING HEAD BEARINGS				I		I		I		I	4-33

* 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

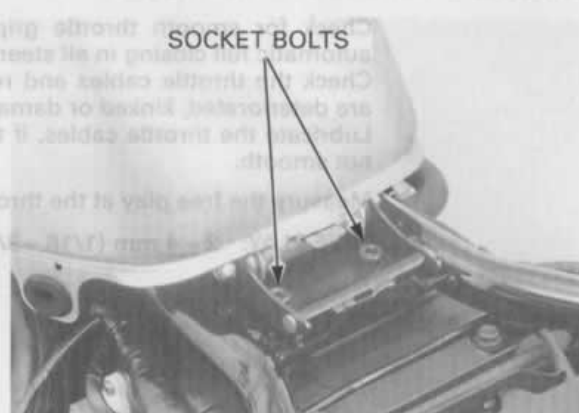
NOTES:

- At higher odometer reading, repeat at the frequency interval established here.
- Service more frequency if the motorcycle is ridden in unusually wet or dusty areas.
- Service more frequently when riding in rain or at full throttle.
- Replace every 2 years, or at indicated odometer interval, whichever comes first. Replacement requires mechanical skill.

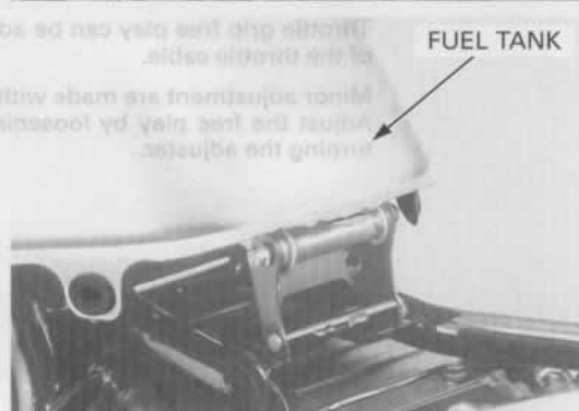
FUEL LINE

Remove the seat and side covers (page 3-4).

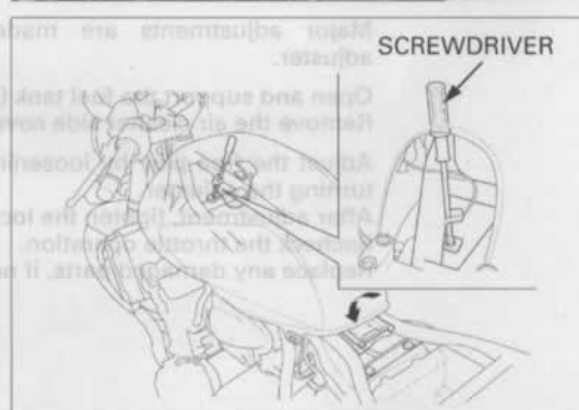
Remove the fuel tank rear bracket socket bolts.



Pull up the rear end of the fuel tank and release the tank from the cushion rubbers on the frame.



Open and support the front end of fuel tank using a equipped screwdriver as shown.



Check the fuel line for deterioration, damage or leakage. Replace the fuel line if necessary.

Install the fuel tank in the reverse order of removal.

Tighten the fuel tank rear bracket socket bolts to the specified torque.

TORQUE: 22 N·m (2.2 kgf·m, 16 lbf·ft)



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 – 3/16 in)



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

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



Major adjustments are made with the lower adjuster.

Open and support the fuel tank (page 4-5). Remove the air cleaner side covers (page 3-5).

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.



CHOKE OPERATION

This motorcycle is equipped with a bypass air volume control choke system, controlled by the starter valve.

The starter valve opens a bypass air circuit when the choke knob is pulled in.

Check for smooth operation of the choke knob.

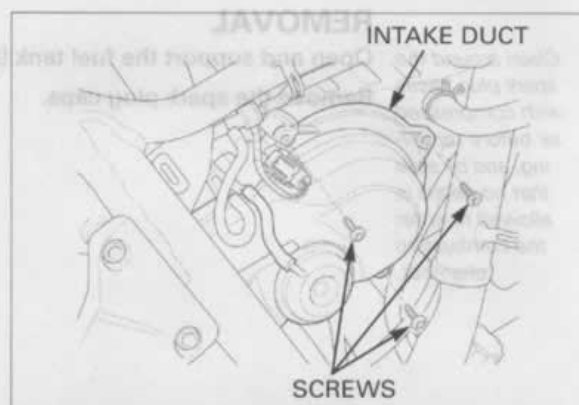
Lubricate the choke cable if the operation is not smooth.



AIR CLEANER

Remove the right side cover (page 3-4).

Remove the screws and air cleaner intake duct assembly.

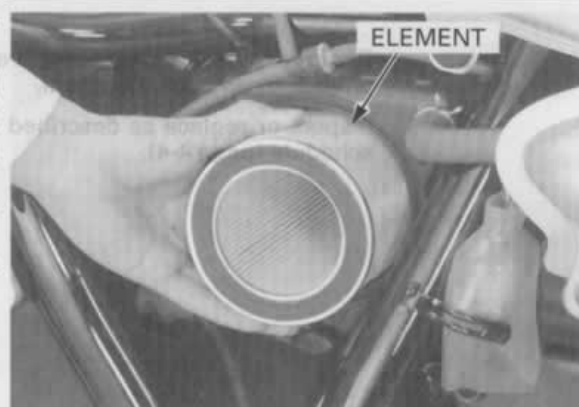


Clean the air cleaner element in accordance with the maintenance schedule (page 4-4).

If the surface of the element is dirty, remove the dust first by tapping the element gently. Then, blow away any remaining dust on the surface of the filter with compressed air from the clean side toward the dirty side.

Replace the air cleaner element any time it is excessively dirty or damage.

Install the removed parts in the reverse order of removal.



CRANKCASE BREATHER

Place a drain pan under the crankcase breather hose plug.

Remove the plug from the front air cleaner housing to drain the deposits in the hose.

Reinstall the crankcase breather hose plug.



Remove the plug from the rear air cleaner housing drain hose to drain the deposits in the hose.

Reinstall the crankcase breather hose plug.



Service more frequently when riding in wet or dusty area.

INSULATOR

Service more frequently when riding in wet or dusty area.

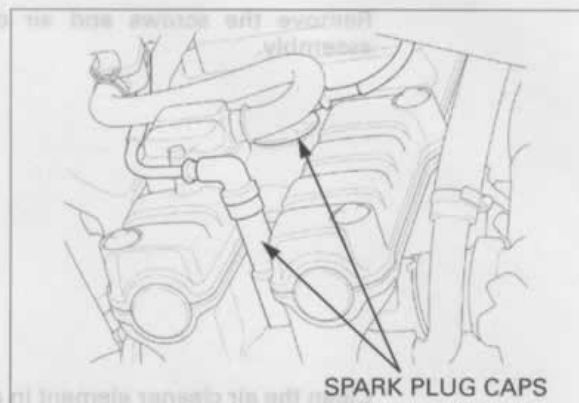


SPARK PLUG

REMOVAL

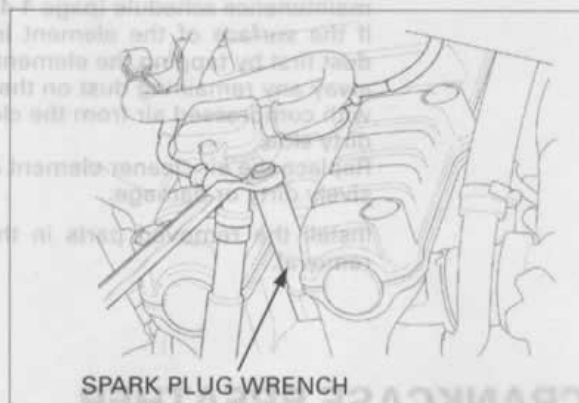
Clean around the spark plug bases with compressed air before removing, and be sure that no debris is allowed to enter the combustion chamber.

Open and support the fuel tank (page 4-5).
Remove the spark plug caps.



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

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

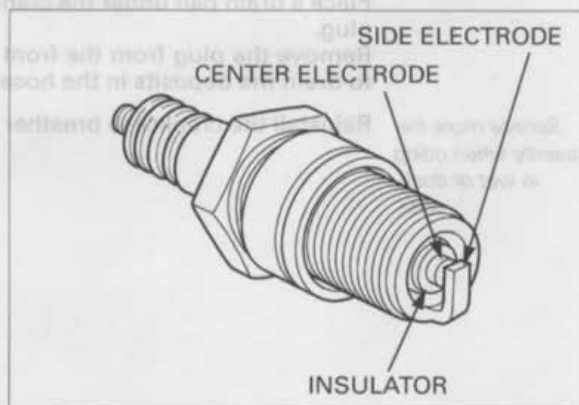


INSPECTION

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

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

If the electrode is contaminated with accumulated objects or dirt, replace the spark plug.

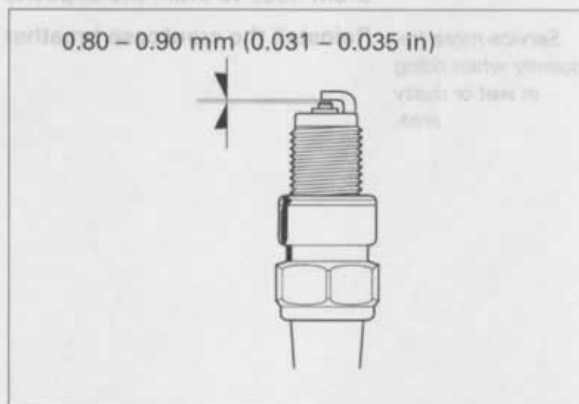


REUSING A SPARK PLUG

Clean the spark plug electrodes with a wire brush or special plug cleaner.

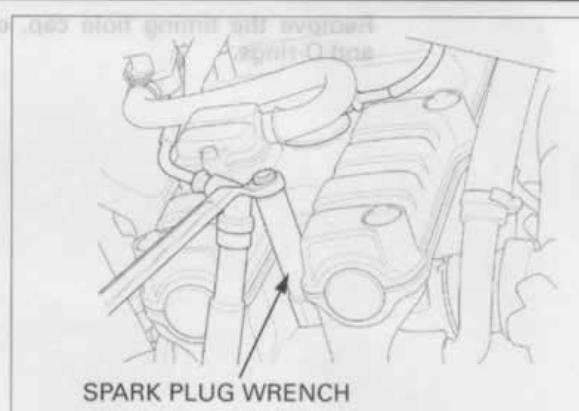
Check the gap between the center and side electrodes with a wire-type feeler gauge. If necessary, adjust the gap by bending the side electrodes carefully.

SPARK PLUG GAP: 0.80 – 0.90 mm (0.031 – 0.035 in)



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

TORQUE: 15 N·m (1.5 kgf·m, 11 lbf·ft)

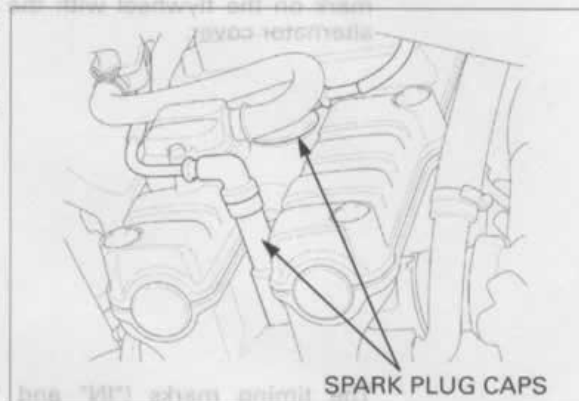


REPLACING A SPARK PLUG

Set the plug gap to specification with a wire-type feeler gauge (page 4-8).

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.

Install the spark plug caps.



Do not overtighten the plug.

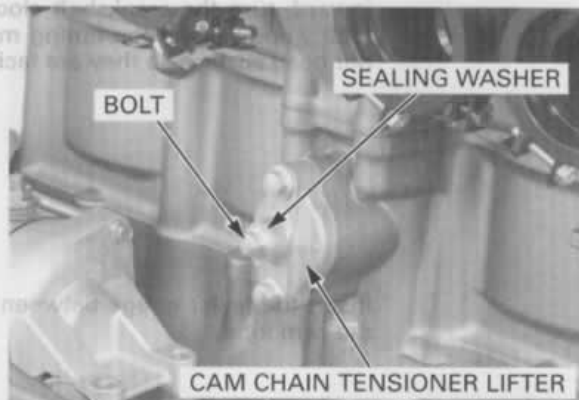
VALVE CLEARANCE

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

INSPECTION

Remove the cylinder head cover (page 9-7).

Remove the cam chain tensioner lifter sealing bolt and sealing washer.



Turn the cam chain tensioner lifter shaft fully and secure it using the tensioner stopper.

TOOL:

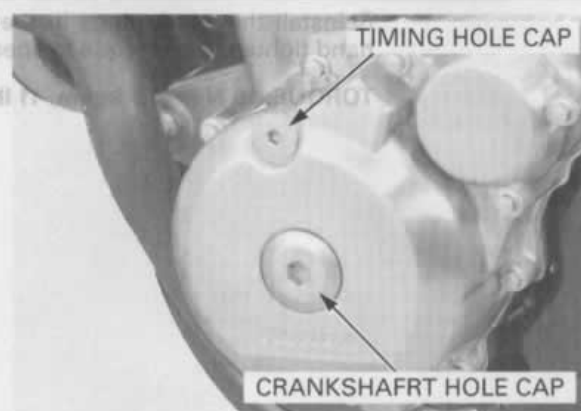
Tensioner stopper

07NMG-MY90101

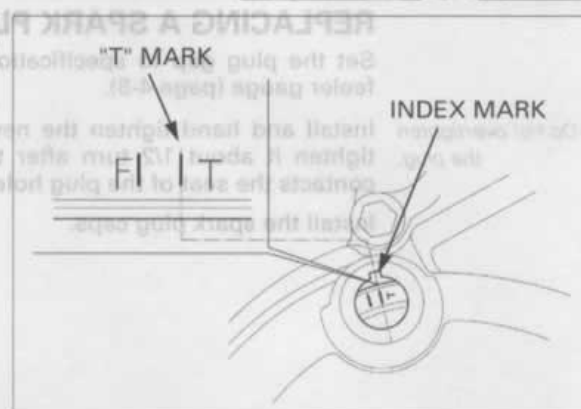


MAINTENANCE

Remove the timing hole cap, crankshaft hole cap and O-rings.

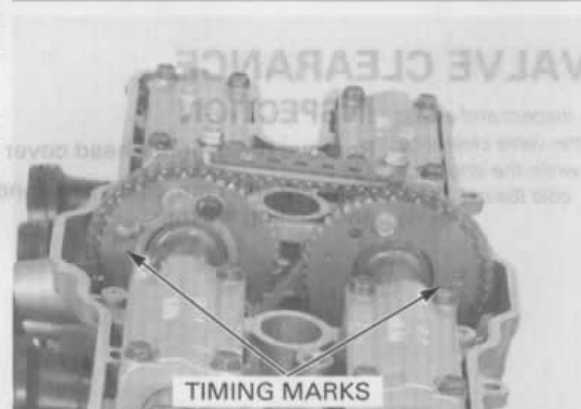
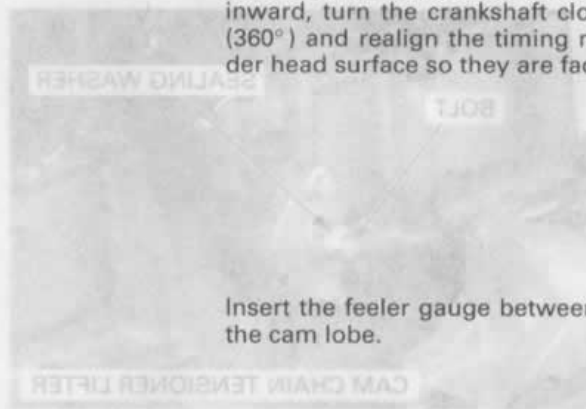


Turn the crankshaft counterclockwise, align the "T" mark on the flywheel with the index mark on the alternator cover.

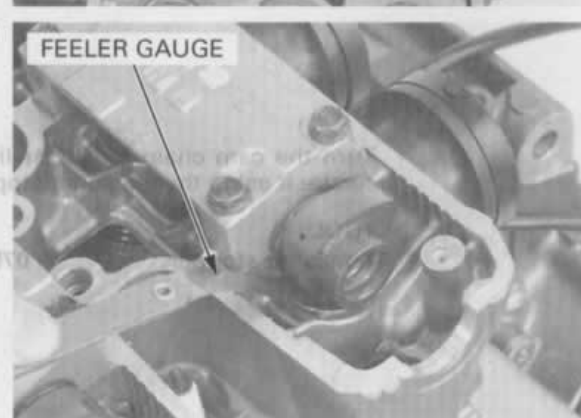


The timing marks ("IN" and "EX") on the cam sprockets must be flush with the cylinder head surface and facing outward as shown.

If the timing marks on the cam sprocket 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 the cam lobe.

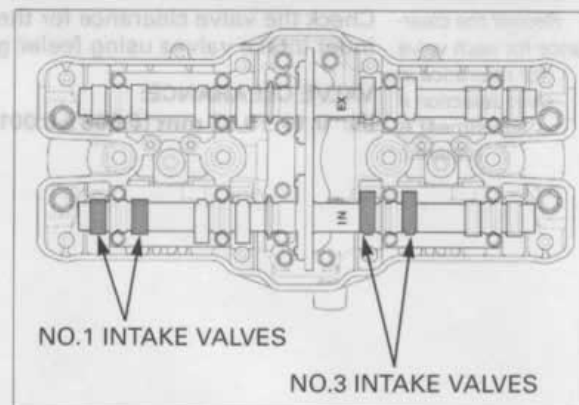


Record the clearance for each valve for reference in shim selection if adjustment is required.

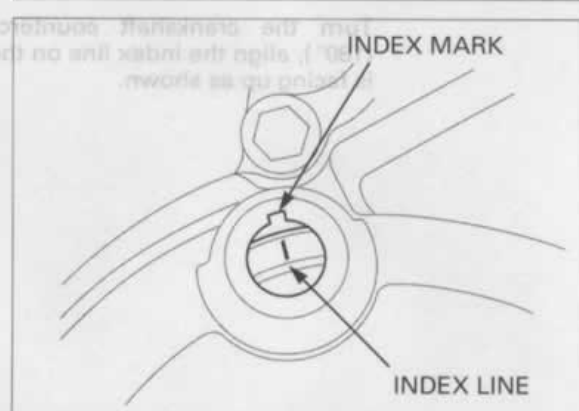
Check the valve clearance for the No.1 and No.3 cylinder intake valves using a feeler gauge.

VALVE CLEARANCE:

IN: 0.16 ± 0.03 mm (0.006 ± 0.001 in)



Turn the crankshaft counterclockwise 1/2 turn (180°), align the index line on the flywheel so that it is facing up as shown.

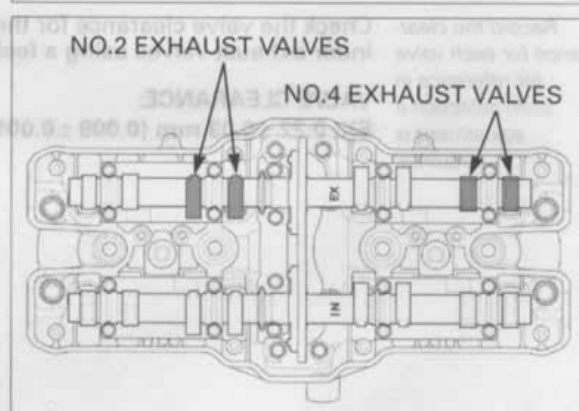


Record the clearance for each valve for reference in shim selection if adjustment is required.

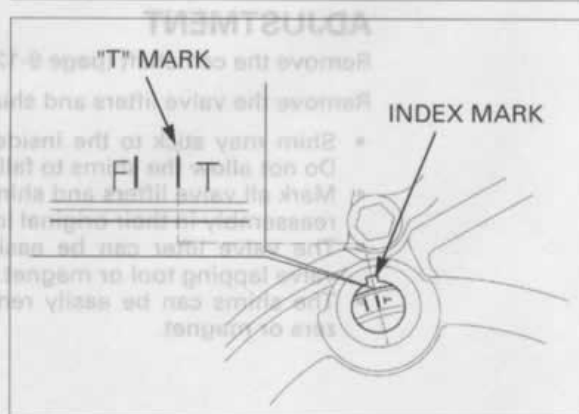
Check the valve clearance for the No.2 and No.4 cylinder exhaust valves using a feeler gauge.

VALVE CLEARANCE:

EX: 0.22 ± 0.03 mm (0.009 ± 0.001 in)



Turn the crankshaft counterclockwise 1/2 turn (180°), align the "T" mark (near the "F" mark) on the flywheel with the index mark on the alternator cover.



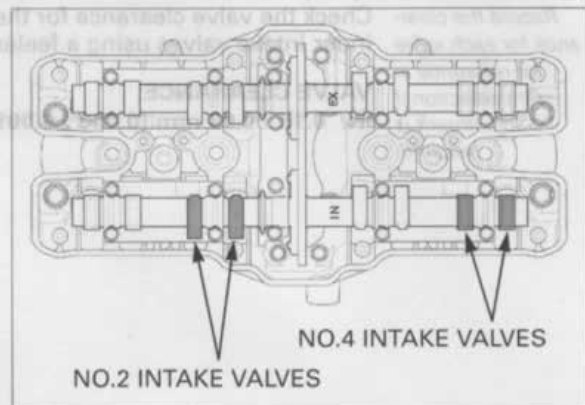
MAINTENANCE

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

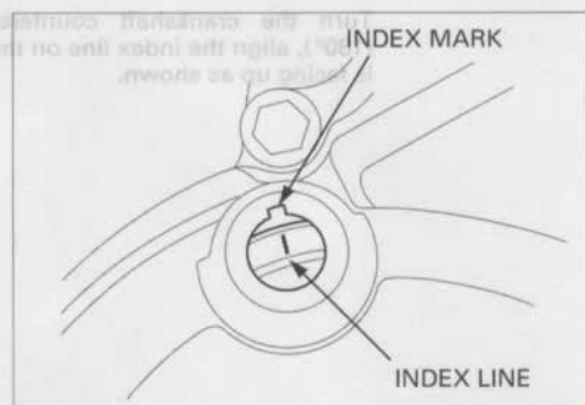
Check the valve clearance for the No.2 and No.4 cylinder intake valves using feeler gauge.

VALVE CLEARANCE:

IN: 0.16 ± 0.03 mm (0.006 ± 0.001 in)



Turn the crankshaft counterclockwise 1/2 turn (180°), align the index line on the flywheel so that it is facing up as shown.

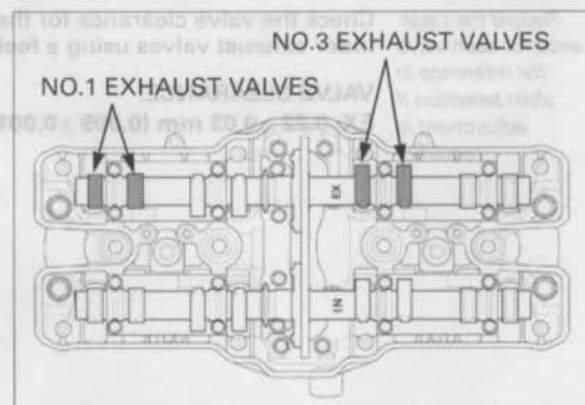


Record the clearance for each valve for reference in shim selection if adjustment is required.

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

VALVE CLEARANCE:

EX: 0.22 ± 0.03 mm (0.009 ± 0.001 in)

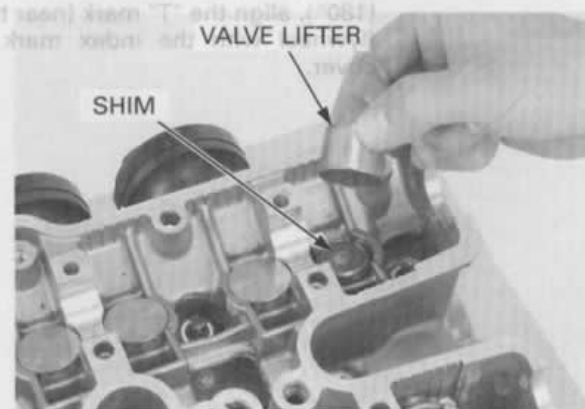


ADJUSTMENT

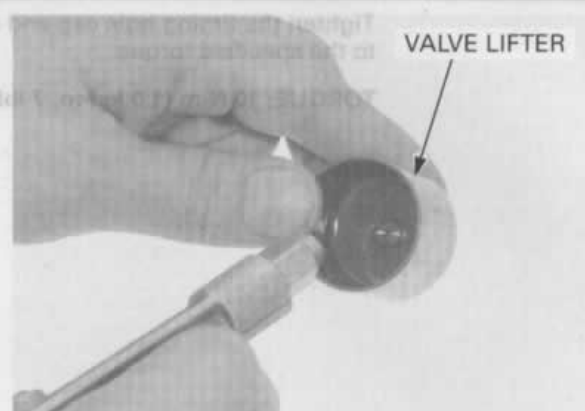
Remove the camshaft (page 9-12).

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-five different thickness shims are available from the thinnest 1.200 mm thickness shim to the thickest 2.800 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.

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

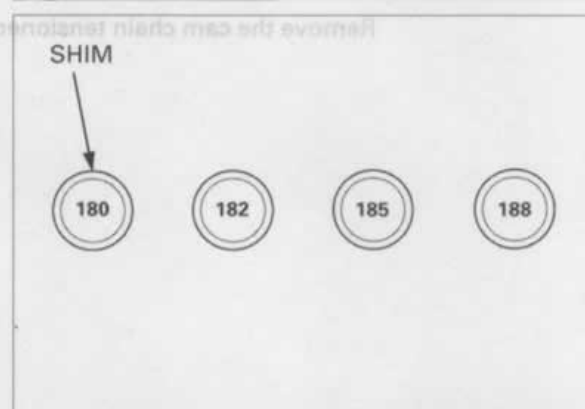
A: New shim thickness

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 2.800 mm.

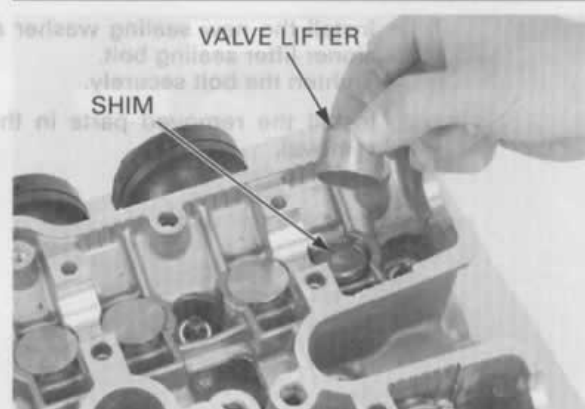


Install the shims and valve lifters in their original locations.

Install the newly selected shim on the valve retainer. Apply molybdenum disulfide oil to the valve lifters. Install the valve lifters into the valve lifter holes.

Install the camshaft (page 9-16).

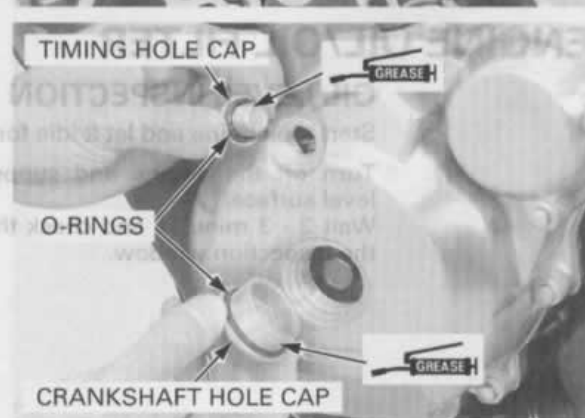
Rotate the camshafts by rotating the crankshaft clockwise several times. Recheck the valve clearance.



Check the O-rings are in good condition, replace them if necessary.

Apply grease to the timing hole cap and crankshaft hole cap threads.

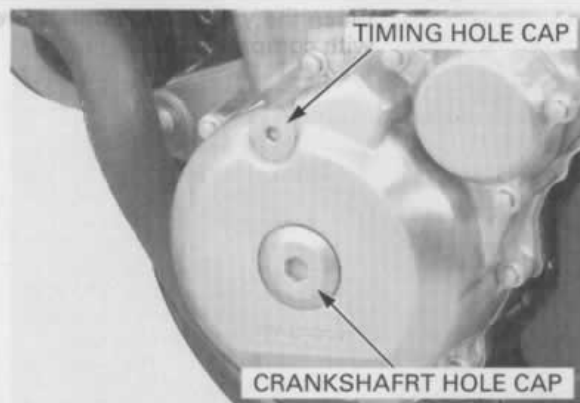
Install the timing hole cap and crankshaft hole cap.



MAINTENANCE

Tighten the timing hole cap and crankshaft hole cap to the specified torque.

TORQUE: 10 N·m (1.0 kgf·m, 7 lbf·ft)

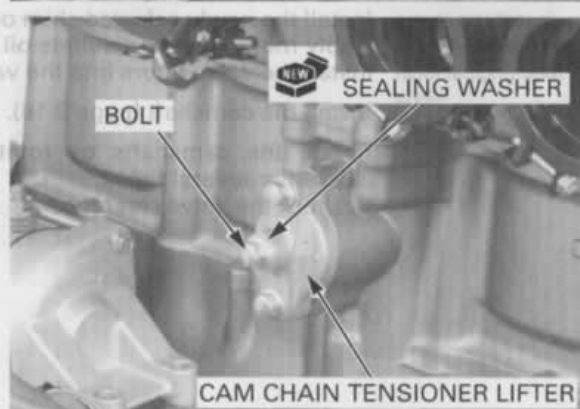


Remove the cam chain tensioner stopper.



Install the new sealing washer and cam chain tensioner lifter sealing bolt. Tighten the bolt securely.

Install the removed parts in the reverse order of removal.



ENGINE OIL/OIL FILTER

OIL LEVEL INSPECTION

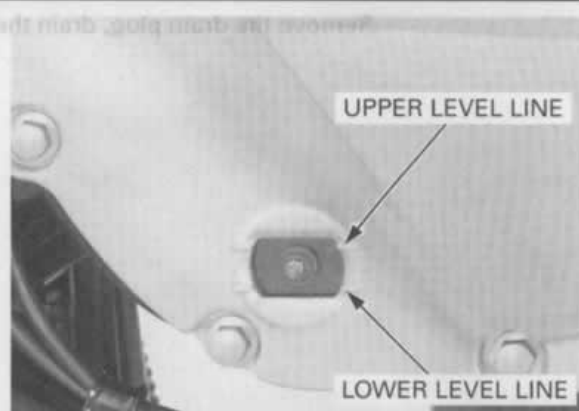
Start the engine and let it idle for 3–5 minutes.

Turn off the engine and support the motorcycle level surface.

Wait 2–3 minutes and check the oil level through the inspection window.



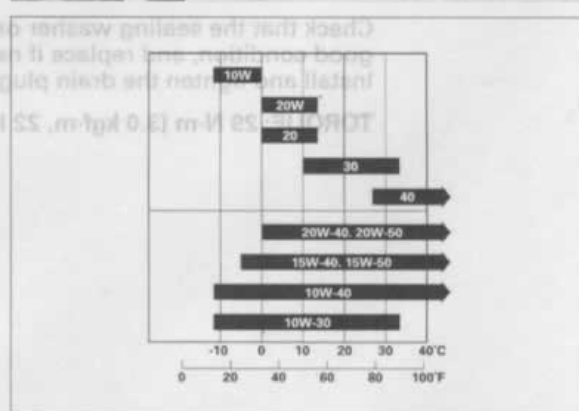
If the level is below the lower line, remove the oil filler cap and fill the crankcase with recommended oil up to the upper level line.



Remove the oil filler cap.



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



RECOMMENDED ENGINE OIL:

Honda 4-stroke oil or equivalent motor oil API service classification: SE, SF or SG
Viscosity: 10W-40

Reinstall the filler cap.

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

ENGINE OIL & FILTER CHANGE

Warm up the engine.

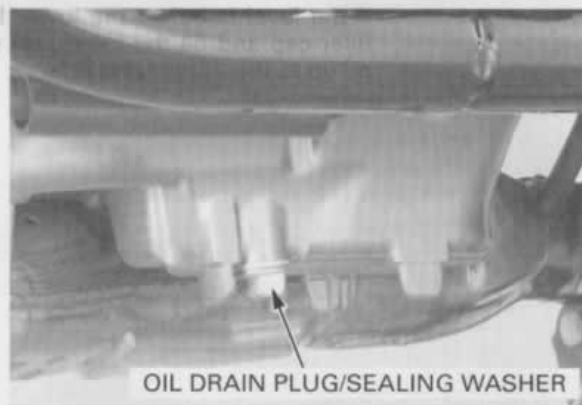
Stop the engine and remove the oil filler cap.

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



MAINTENANCE

Remove the drain plug, drain the oil completely.

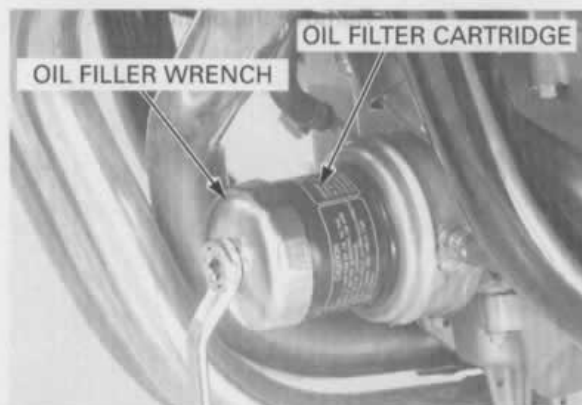


Remove and discard the oil filter cartridge using the special tool.

TOOL:

Oil filter wrench

07HAA-PJ70101

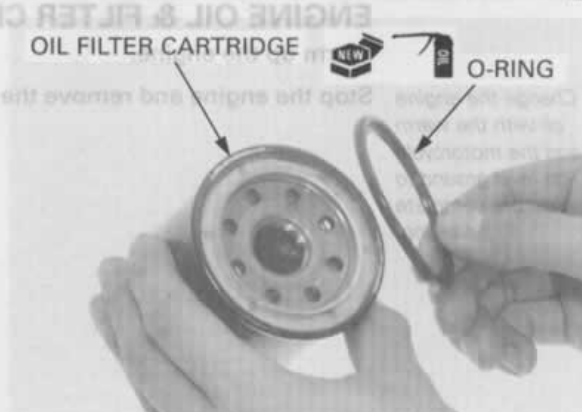


Check that the sealing washer on the drain bolt is in good condition, and replace if necessary. Install and tighten the drain plug.

TORQUE: 29 N·m (3.0 kgf·m, 22 lbf·ft)



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

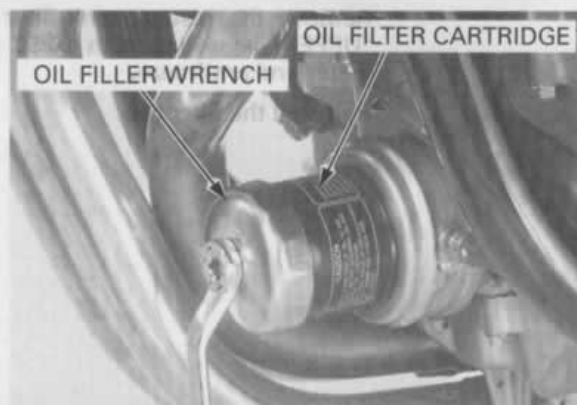


Install the new oil filter and tighten it to the specified torque.

TOOL:

Oil filter wrench 07HAA-PJ70101

TORQUE: 26 N·m (2.7 kgf·m, 20 lbf·ft)



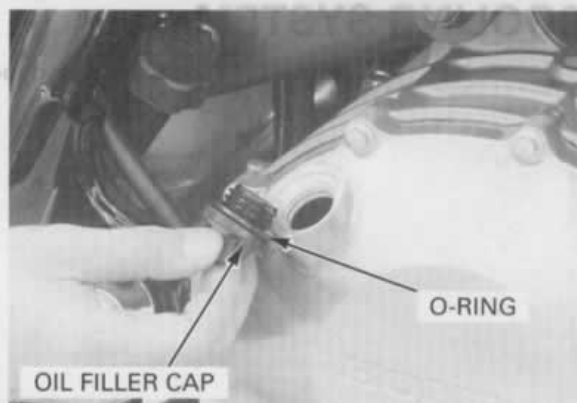
Fill the crankcase with recommended engine oil.

OIL CAPACITY:

3.7 liter (3.9 US qt, 3.3 Imp qt) after draining
3.9 liter (4.1 US qt, 3.4 Imp qt) after draining/filter change

Install the oil filler cap.

Start the engine and let it idle for 2 to 3 minutes.
Stop the engine and recheck the oil level.
Make sure there are no oil leaks.



ENGINE IDLE SPEED

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

Warm up the engine for about ten minutes.

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

IDLE SPEED: 1,000 ± 100 min⁻¹ (rpm)



RADIATOR COOLANT

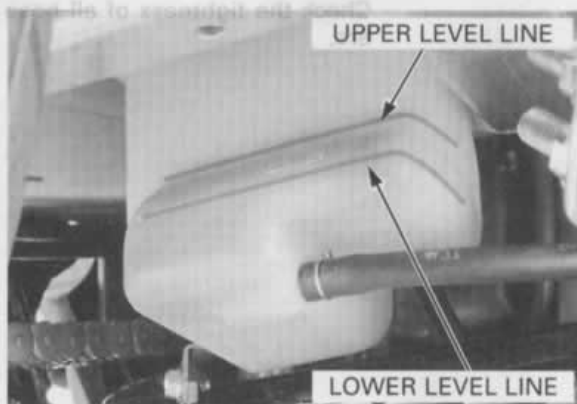
Check the coolant level of the reserve tank with the engine running at normal operating temperature.

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

If necessary, add recommended coolant.

RECOMMENDED ANTIFREEZE:

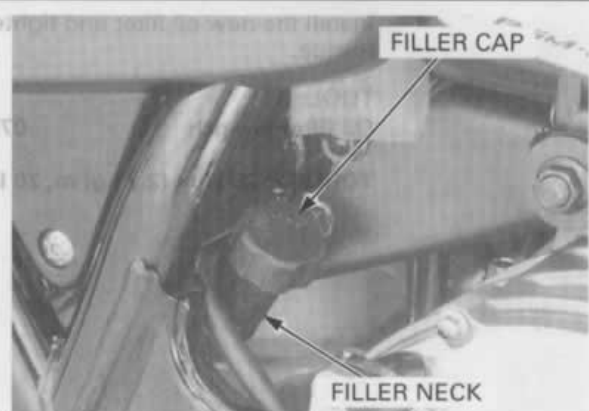
High quality ethylene glycol antifreeze containing corrosion protection inhibitors.



MAINTENANCE

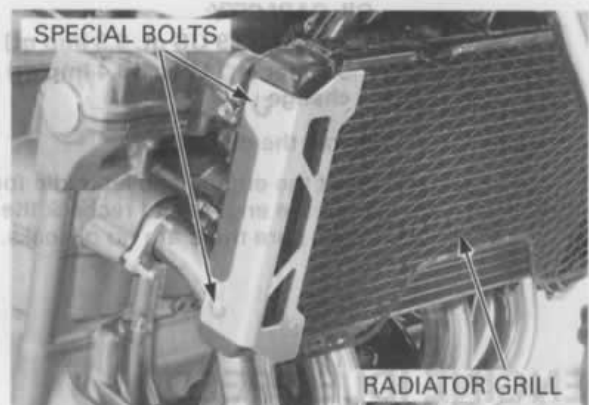
Remove the reserve tank filler cap and fill to the "UPPER" level line with 50/50 mixture of distilled water and antifreeze.

Reinstall the filler cap.

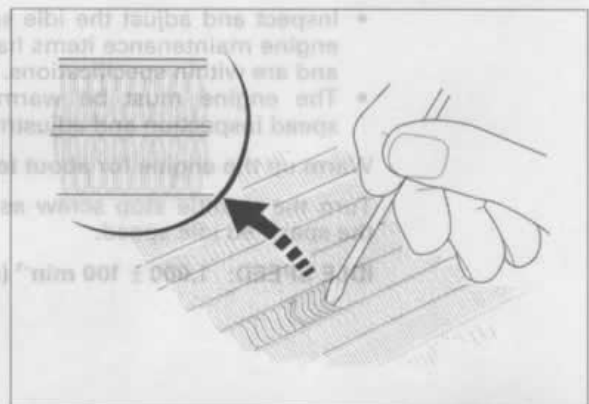


COOLING SYSTEM

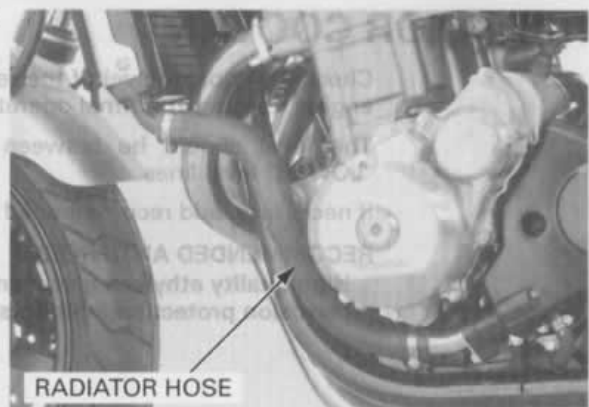
Remove the special bolts and radiator grill.



Check the radiator air passages for clogging or damage. Straighten bend 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 if necessary. Check the tightness of all hose clamps and fasteners.



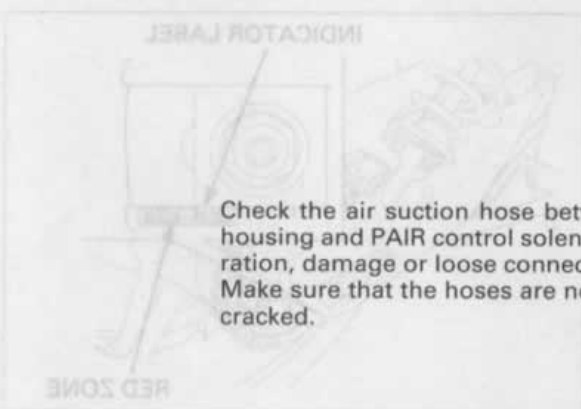
SECONDARY AIR SUPPLY SYSTEM

- 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.

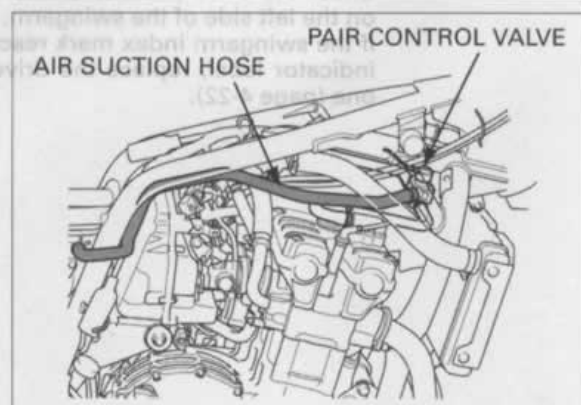
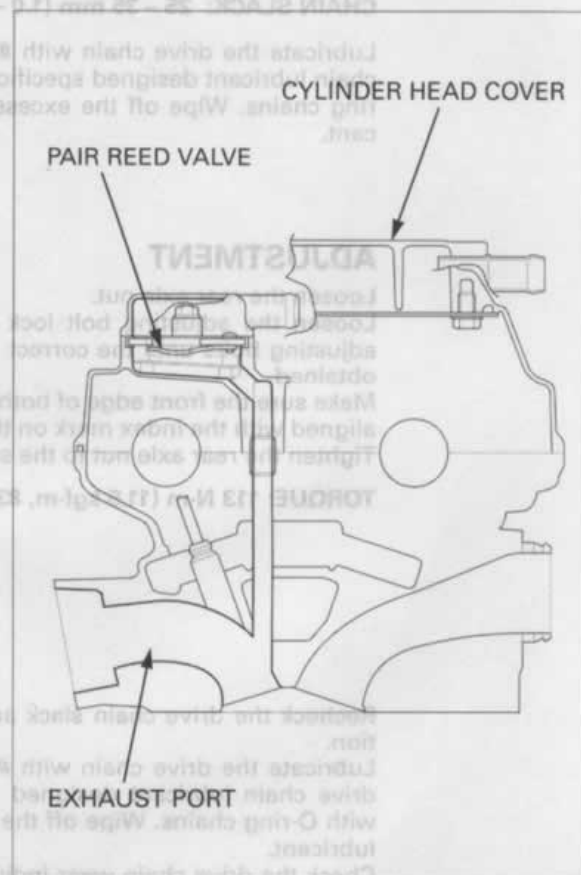
Open and support the front end of the fuel tank (page 4-5).

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

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



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.



DRIVE CHAIN

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

DRIVE CHAIN SLACK INSPECTION

NOTICE

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

Turn the ignition switch OFF, place the motorcycle on its center 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 (1.0 – 1.4 in)

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.

Loosen the adjusting bolt lock nut and turn both adjusting bolts until the correct drive chain slack is obtained.

Make sure the front edge of both adjusting plate are aligned with the index mark on the swingarm.

Tighten the rear axle nut to the specified torque.

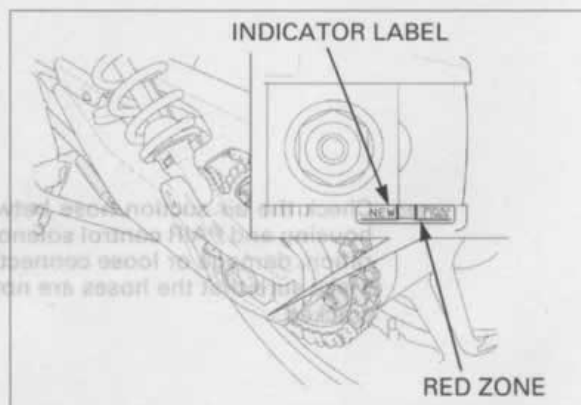
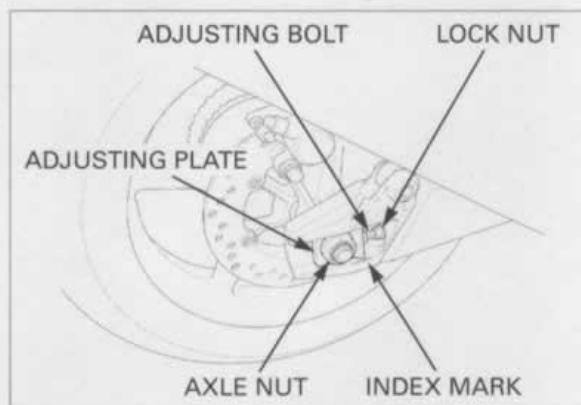
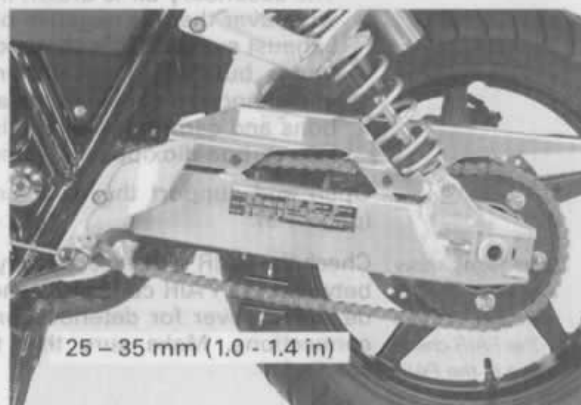
TORQUE: 113 N·m (11.5 kgf·m, 83 lbf·ft)

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 side of the swingarm.

If the swingarm index mark reaches red zone of the indicator label, replace the drive chain with a new one (page 4-22).



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.

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.

NON-FLAMMABLE OR HIGH FLASH POINT SOLVENT

CLEAN

SOFT BRASH

WIPE AND DRY

LUBRICATE

#80 – 90 GEAR OIL OR DRIVE CHAIN LUBRICANT

SPROCKETS 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.



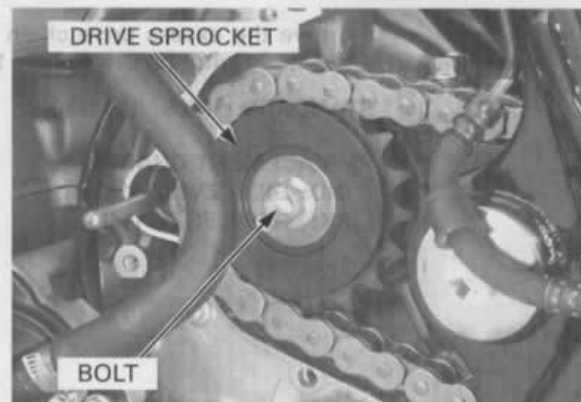
Check the attaching bolts and nuts on the drive and driven sprockets.

If any are loose, torque them.

TORQUE:

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

Driven sprocket nut: 108 N·m (11.0 kgf·m, 80 lbf·ft)



REPLACEMENT

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

Loosen the drive chain (page 4-20).

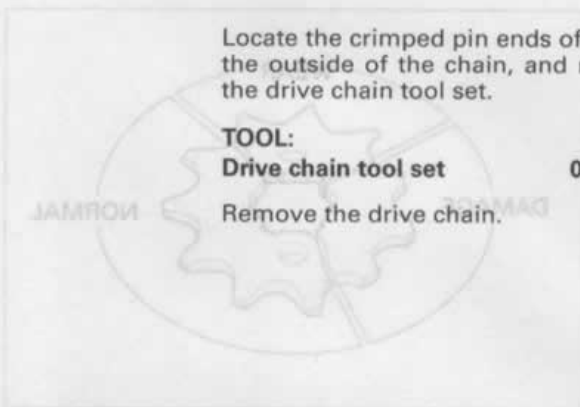
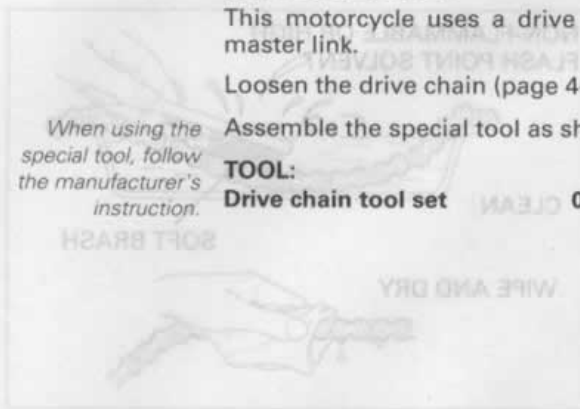
Assemble the special tool as shown.

TOOL:

Drive chain tool set

07HMH-MR10103

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

Remove the drive chain.

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

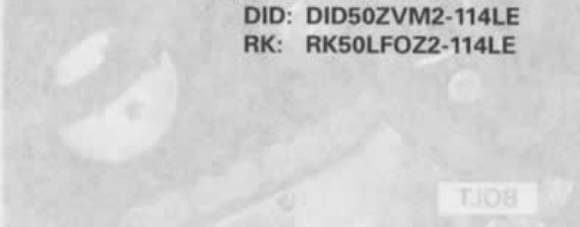
Remove the excess drive chain links from the new drive chain with the drive chain tool set.

STANDARD LINKS: 114 LINKS

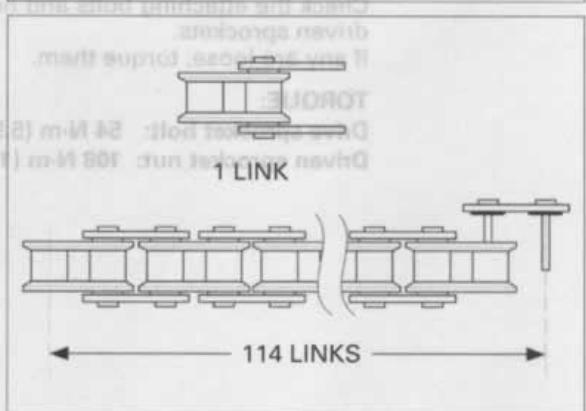
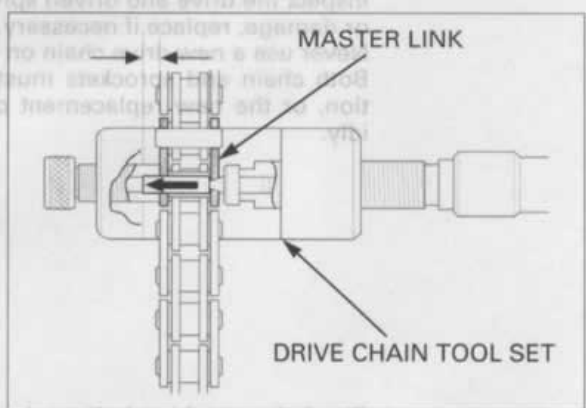
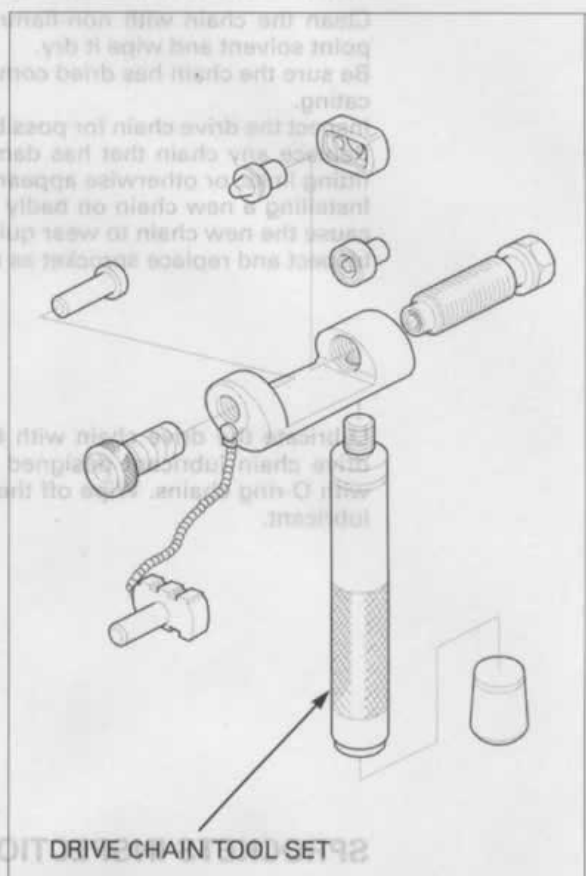
REPLACEMENT CHAIN

DID: DID50ZVM2-114LE

RK: RK50LFOZ2-114LE



CLEANING AND LUBRICATION

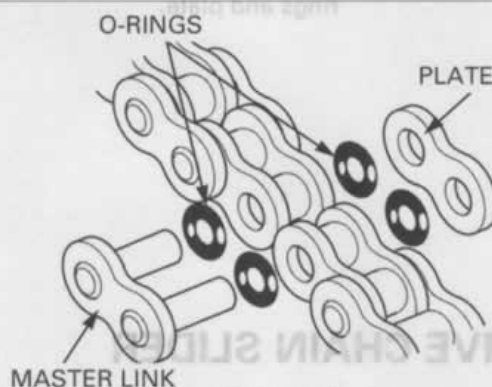


NOTICE

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

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

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

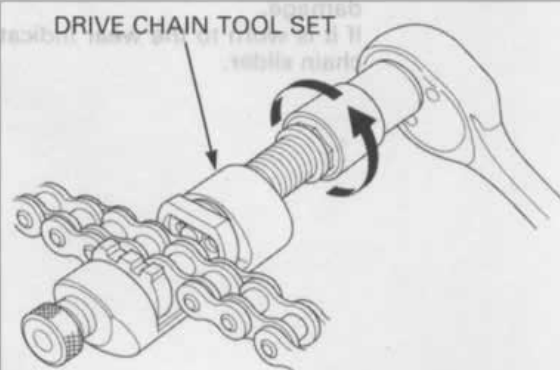


Assemble and set the drive chain tool set.

TOOL:

Drive chain tool set

07HMH-MR10103



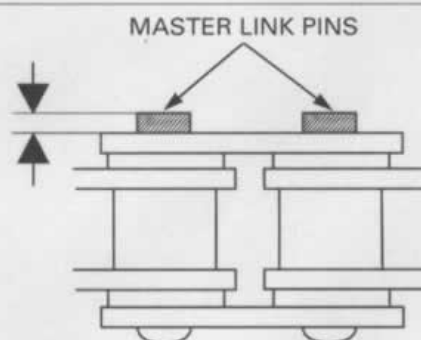
Make sure that the master link pins are installed properly.
Measure the master link pin length projected from the plate.

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.

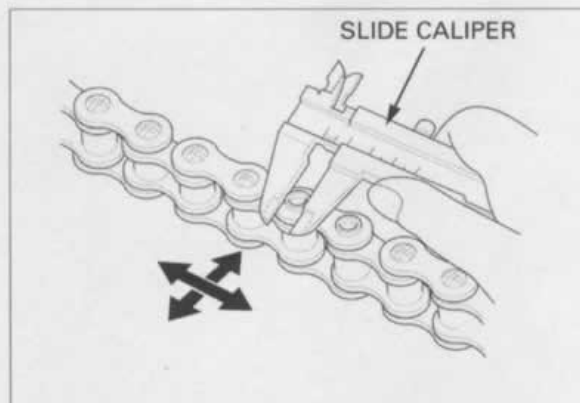


Make sure that the pins are staked properly by measuring the diameter of the staked area using a slide caliper.

DIAMETER OF THE STAKED AREA:

DID: 5.50 – 5.80 mm (0.217– 0.228 in)

RK: 5.55 – 5.85 mm (0.219 – 0.230 in)



MAINTENANCE

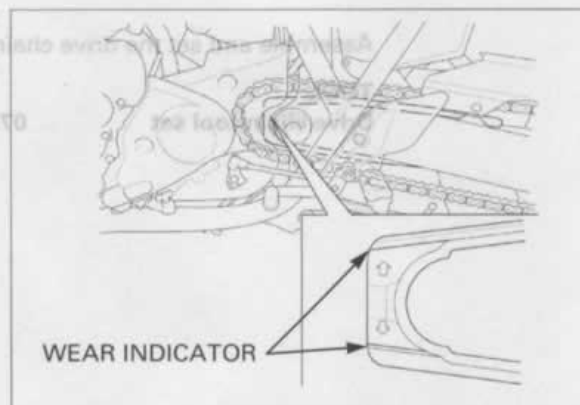
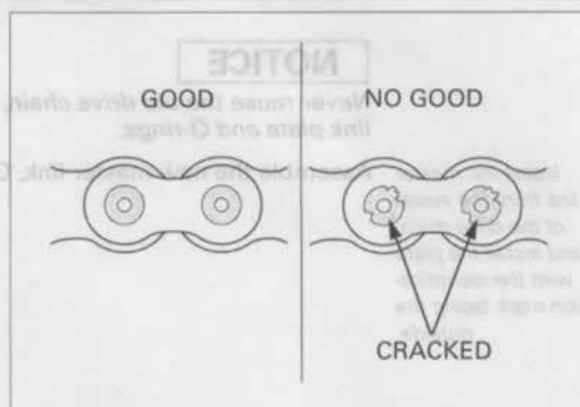
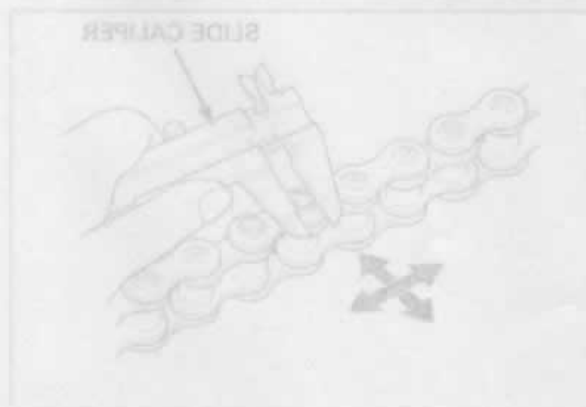
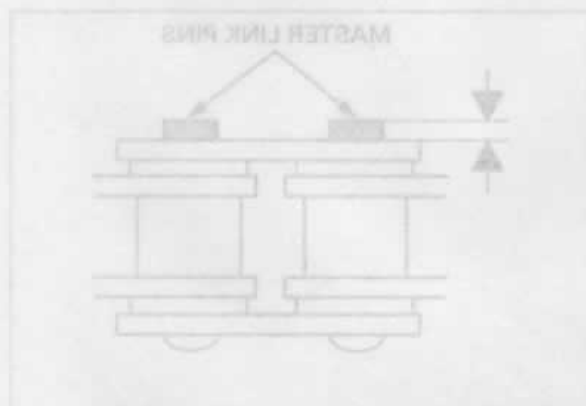
A drive chain with a clip-type master link must not be used.

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.



DRIVE CHAIN SLIDER

Inspect the drive chain slider for excessive wear or damage. If it is worn to the wear indicator, replace the drive chain slider.



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

STANDARD LENGTH:

DID: 1.18 - 1.25 mm (0.046 - 0.051 in)
 RK: 1.3 - 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: 2.50 - 2.80 mm (0.217 - 0.228 in)
 RK: 2.55 - 2.85 mm (0.219 - 0.230 in)

BRAKE FLUID

- 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.

NOTICE

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

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

REAR BRAKE

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

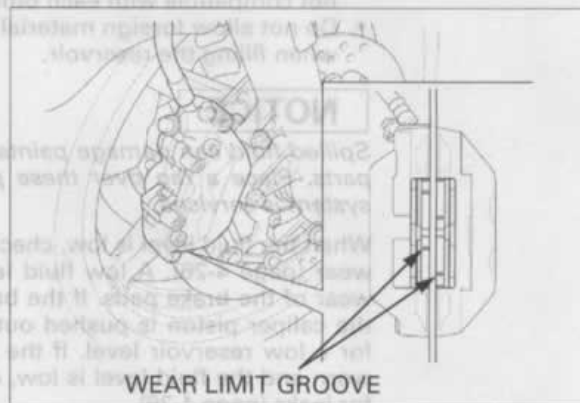


BRAKE PAD WEAR

FRONT BRAKE PADS

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

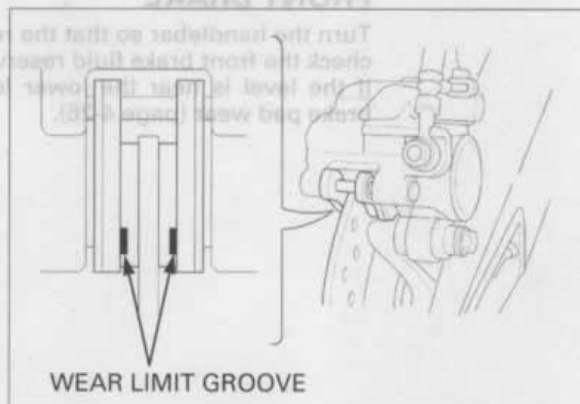
Refer to brake pad replacement (page 15-9).



REAR BRAKE PADS

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

Refer to brake pad replacement (page 15-11).



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.

Inspect the brake hose and fittings for deterioration, cracks and signs of leakage.
Tighten any loose fittings.
Replace hoses and fittings as required.

Refer the procedure for brake bleeding (page 15-8).



BRAKE LEVER ADJUSTMENT

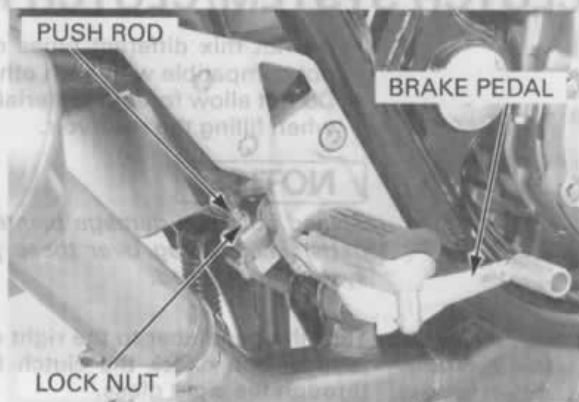
Align the allowance on the brake lever with the index number on the adjuster.

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.



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.



HEADLIGHT AIM

Place the motorcycle on a level surface.

Adjust the headlight beam as specified by local laws and regulations.

Adjust the headlight beam vertically by loosening the headlight case mounting bolts and moving the case.



Adjust the headlight beam horizontally by turning the horizontal beam adjusting screw. A clockwise rotation moves the beam toward the right side of the rider.



ADJUSTING SCREW

CLUTCH SYSTEM/CLUTCH FLUID

- 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.

NOTICE

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

When the fluid level is low, check entire system for leaks.

Turn the handlebar to the right so that the reservoir is level and check the clutch fluid reservoir level through the sight glass.

Firmly apply the clutch lever, and check that no air has entered the system.

If the lever feels soft or spongy when operated, bleed the air from the system.



LOWER LEVEL LINE

Inspect the clutch hose and fittings for deterioration, cracks and signs of leakage. Tighten any loose fittings.

Replace hoses and fittings as required. Refer to page 10-6 for hydraulic clutch bleeding procedures.



CLUTCH HOSE



SIDE STAND

The center stand is optional equipment for this motorcycle.

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 19-26).



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 the fork service (page 13-18).



FRONT SUSPENSION ADJUSTMENT

SPRING PRE-LOAD ADJUSTER

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

TURN CLOCKWISE:

Increase the spring pre-load

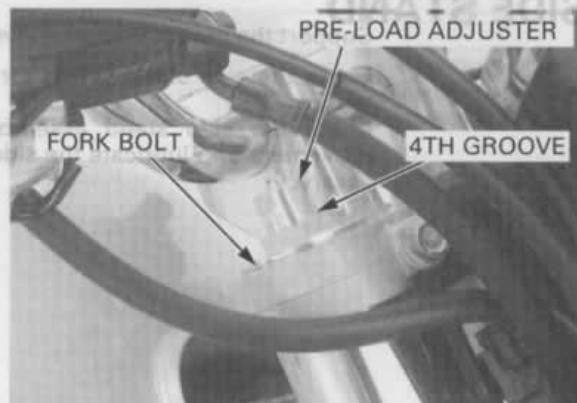
TURN COUNTERCLOCKWISE:

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) from top of fork bolt or
4th groove from top



REBOUND DAMPING ADJUSTERS

- Always start on full hard when adjusting the damping.

NOTICE

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

The rebound damping can be adjusted by turning the adjusters.

DIRECTION H: Increase the damping force

DIRECTION S: Decrease the damping force

Turn the rebound adjuster clockwise until it stops, then turn the adjuster counterclockwise.

REBOUND ADJUSTER STANDARD POSITION:

1-1/2 turns out from full hard



REAR SUSPENSION INSPECTION

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

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



TURN COUNTERCLOCKWISE:
Increase the spring pre-load

TURN CLOCKWISE:
Decrease the spring pre-load

Check for worn swingarm bearings by grabbing the rear 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 the shock absorber service (page 14-13).



NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to their correct torque values (page 7-13).
Check that all safety clips, hose clamps and cable stays are in place and properly secured.

REAR SUSPENSION ADJUSTMENT

SPRING PRELOAD ADJUSTER

- Always start on full hard when adjusting the damping.

NOTICE

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

To adjust the spring preload, turn the spring adjuster using equipped tool.

COUNTERCLOCKWISE TURN: Decrease preload

CLOCKWISE TURN: Increase preload

PRELOAD ADJUSTER STANDARD POSITION:

2nd position from softest



REBOUND DAMPING ADJUSTERS

The rebound damping can be adjusted by turning the adjusters.

DIRECTION H: Increase the damping force

DIRECTION S: Decrease the damping force

Turn the rebound adjuster clockwise until it stops, then turn the adjuster counterclockwise.

REBOUND ADJUSTER STANDARD POSITION:

10 clocks 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

MEMO

Tire pressure should be checked when the tires are COLD.

RECOMMENDED TIRE PRESSURE AND TIRE SIZE:

		FRONT	REAR
Tire pressure kPa (kgf/cm ² , 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	Dunlop	D220FSTK	D2220STK
	Michelin	MACADAM 100XC	MACADAM 100XC

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

Check the front wheel (page 13-12) and rear wheel (page 14-6) 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 13-30).

