

# 3. MAINTENANCE

<b>SERVICE INFORMATION</b>	<b>3-1</b>	<b>BRAKE FLUID</b>	<b>3-10</b>
<b>MAINTENANCE SCHEDULE</b>	<b>3-3</b>	<b>BRAKE SHOE/PAD WEAR</b>	<b>3-10</b>
<b>FUEL LINE/FUEL STRAINER</b>	<b>3-4</b>	<b>BRAKE SYSTEM</b>	<b>3-11</b>
<b>THROTTLE OPERATION</b>	<b>3-4</b>	<b>BRAKELIGHT SWITCH</b>	<b>3-11</b>
<b>CARBURETOR CHOKE</b>	<b>3-5</b>	<b>HEADLIGHT AIM</b>	<b>3-12</b>
<b>AIR CLEANER</b>	<b>3-6</b>	<b>CLUTCH SYSTEM</b>	<b>3-12</b>
<b>SPARK PLUG</b>	<b>3-6</b>	<b>SIDE STAND</b>	<b>3-13</b>
<b>VALVE CLEARANCE</b>	<b>3-6</b>	<b>SPARK ARRESTER (U.S.A. only)</b>	<b>3-13</b>
<b>CYLINDER COMPRESSION</b>	<b>3-7</b>	<b>SUSPENSION</b>	<b>3-14</b>
<b>CARBURETOR IDLE SPEED</b>	<b>3-8</b>	<b>NUTS, BOLTS, FASTENERS</b>	<b>3-15</b>
<b>DRIVE CHAIN</b>	<b>3-8</b>	<b>WHEELS/TIRES</b>	<b>3-15</b>
<b>DRIVE CHAIN SLIDER</b>	<b>3-10</b>	<b>STEERING HEAD BEARINGS</b>	<b>3-15</b>

## SERVICE INFORMATION

### GENERAL

Engine oil level check	Page 2-3
Engine oil change	Page 2-3
Engine oil filter replacement	Page 2-4
Engine oil strainer nut cleaning	Page 2-5

### SPECIFICATIONS

#### ENGINE

Spark plug:	Plug gap:	0.8 – 0.9 mm (0.031 – 0.035 in)
Plug type:		

Standard		For extended high speed riding	
ND	NGK	ND	NGK
X24EPR-U9	DPR8EA-9	X27EPR-U9	DPR9EA-9

Valve clearance:	INTAKE:	0.10 mm (0.004 in)
	EXHAUST:	0.12 mm (0.005 in)
Throttle grip free play:		2 – 6 mm (1/8 – 1/4 in)
Carburetor idle speed:		1,300 ± 100 rpm
Cylinder compression:		12.5 kg-cm <sup>2</sup> (177.75 psi) with the right exhaust valve clearance about 1 mm (0.04 in)

#### FRAME

Choke valve travel:		10 – 11 mm (0.39 – 0.43 in)
Chain slider service limit:		3 mm (1/8 in)
Drive chain slack:		30 – 40 mm (1-1/4 – 1-5/8 in)
Rear brake pedal free play:		20 – 30 mm (4/8 – 1-1/4 in)
Clutch lever free play:		10 – 20 mm (3/8 – 3/4 in)
Tire pressures (rider only):	Front:	150 kPa (1.5 kg/cm <sup>2</sup> , 22 psi)
	Rear:	150 kPa (1.5 kg/cm <sup>2</sup> , 22 psi)
Tire size:	Front:	90/90 – 21 54S
	Rear:	120/90 – 17 64S

## MAINTENANCE

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### TORQUE VALUES

Fuel cup	4 N·m (0.4 kg-m, 3 ft-lb)
Valve adjusting screw lock nut	25 N·m (2.5 kg-m, 18 ft-lb)
Rear axle nut	95 N·m (9.5 kg-m, 69 ft-lb)
Spoke nipple	4 N·m (0.4 kg-m, 3 ft-lb)

### TOOLS

#### Special

Compression gauge attachment 07908—KK60000—or equivalent commercially available in U.S.A.

#### Common

Spanner C, 5.8 x 6.1 mm 07701—0020300—or equivalent commercially available in U.S.A.

# MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION at each scheduled maintenance period.

I: INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY.

C: CLEAN R: REPLACE A:ADJUST L:LUBRICATE

ITEMS	FREQUENCY	NOTES	ODOMETER READING (NOTE (1))								Refer to page	
			x 1,000 mi	0.6	4	8	12	16	20	24		
			x 1,000 km	1	6.4	12.8	19.2	25.6	32.0	38.4		
EMISSION RELATED ITEMS	* FUEL LINE					I			I		I	3-4
	* FUEL STRAINER SCREEN				C	C	C	C	C	C	C	3-4
	* THROTTLE OPERATION					I			I		I	3-4
	* CARBURETOR-CHOKE					I			I		I	3-5
	AIR CLEANER	(NOTE 2)			C	C	R	C	C	R		3-6
	CRANKCASE BREATHER ('88)	(NOTE 3)			C	C	C	C	C	C		4-7
	SPARK PLUG				R	R	R	R	R	R		3-6
	* VALVE CLEARANCE			I	I	I	I	I	I	I		3-6
	ENGINE OIL			R	EVERY 2,000 mi (3,200 km) R							2-3
	ENGINE OIL FILTER			R		R		R		R		2-4
	* ENGINE OIL STRAINER SCREEN IN DOWN TUBE					C		C		C		2-5
	* CARBURETOR IDLE SPEED			I	I	I	I	I	I	I		3-8
	* SECONDARY AIR SUPPLY SYSTEM						I			I		4-19
	* EVAPORATIVE EMISSION CONTROL SYSTEM	(NOTE 4)					I			I		4-17
NON EMISSION RELATED ITEMS	DRIVE CHAIN	(NOTE 5)		EVERY 600 mi (1,000 km) I, L							3-8	
	DRIVE CHAIN SLIDER				I	I	I	I	I	I		3-10
	BRAKE FLUID	(NOTE 7)			I	I	R	I	I	R		3-10
	BRAKE SHOE/PAD WEAR				I	I	I	I	I	I		3-10
	BRAKE SYSTEM			I		I		I		I		3-11
	* BRAKE LIGHT SWITCH					I		I		I		3-11
	* HEADLIGHT AIM					I		I		I		3-12
	CLUTCH SYSTEM			I	I	I	I	I	I	I		3-12
	SIDE STAND					I		I		I		3-13
	* SUSPENSION					I		I		I		3-14
	* SPARK ARRESTER	(NOTE 6)			C	C	C	C	C	C		3-13
	* NUTS, BOLTS, FASTENERS	(NOTE 5)		I		I		I		I		3-14
	** WHEELS/TIRES	(NOTE 5)		I	I	I	I	I	I	I		3-15
** STEERING HEAD BEARINGS			I		I		I		I		3-15	

\* 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 recommend these items be serviced ONLY by an authorized Honda dealer.

NOTES: 1. At higher odometer readings, repeat at the frequency interval established here.

2. Service more frequently when riding in unusually wet or dusty areas.

3. Service more frequently when riding in rain or at full throttle.

4. California type only.

5. Service more frequently when riding OFF-ROAD.

6. USA only.

7. Replace every two years, or at indicated odometer interval, whichever comes first. Replacement requires mechanical skill.

## MAINTENANCE

### FUEL LINE/FUEL STRAINER

Check the fuel line for damage, cracks or fatigue, and replace if necessary.

Turn the fuel valve "OFF".

Remove the fuel cup, O-ring and strainer screen and drain the gasoline into a suitable container.

#### ⚠ WARNING

- *Gasoline is extremely flammable and is explosive under certain conditions. Work in a well ventilated area. Do not smoke or allow flames or sparks in the work area.*

Wash the cup and strainer screen in clean non-flammable or high flash point solvent.

Reinstall the screen, aligning the index marks on the fuel valve body and strainer screen.

Install a new O-ring into the fuel valve body.

Reinstall the fuel cup, making sure the O-ring is in place.

Hand tighten the fuel cup and then torque it to specification.

**TORQUE: 4 N·m (0.4 kg-m, 3 ft-lb)**

#### CAUTION

- *Do not overtighten the fuel cup.*

After installing, turn the fuel valve "ON" and check that there are no fuel leaks.

### THROTTLE OPERATION

Check that the throttle grip opens smoothly to full throttle and fully closes automatically in all steering positions.

Make sure there is no deterioration, damage, or kinking in the throttle cables, and that the throttle grip free play is 2–6 mm (1/8–1/4 in) at the throttle grip flange.

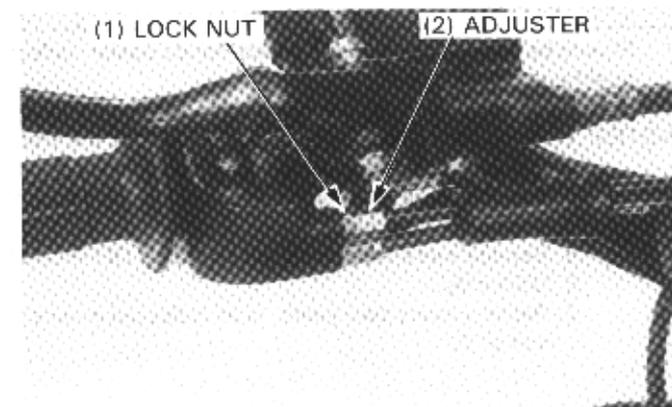
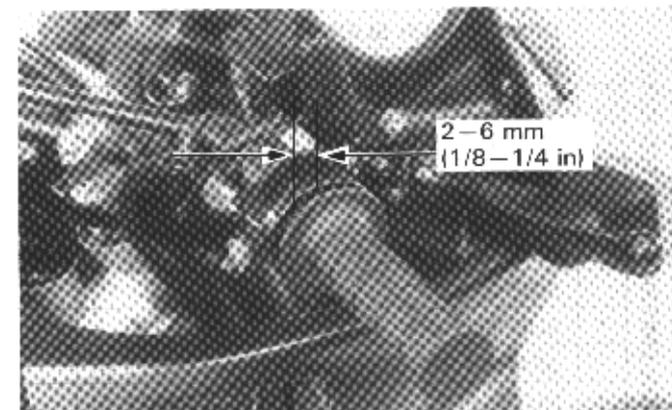
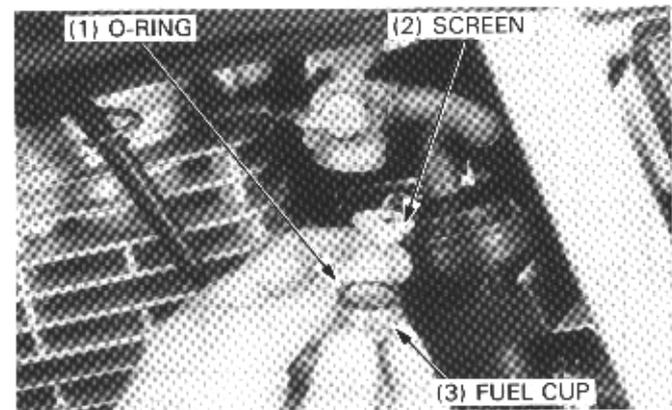
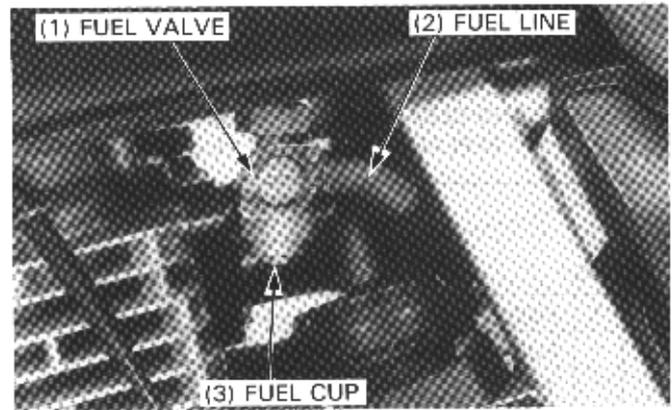
Throttle grip free play can be adjusted at either end of the throttle cable. Replace any damaged parts before beginning this adjustment.

Minor adjustments are made with the upper throttle cable adjuster.

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

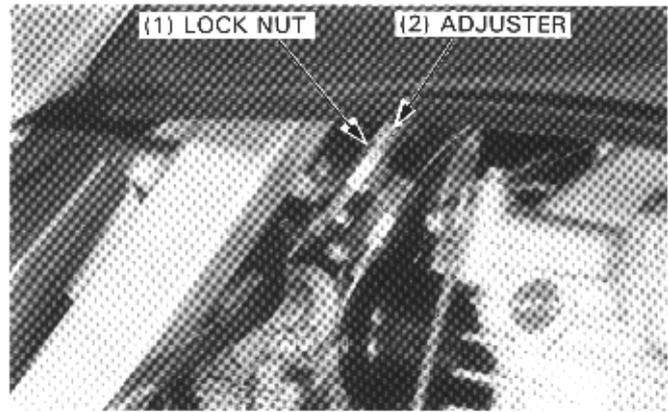
Tighten the lock nut.

Recheck throttle operation.



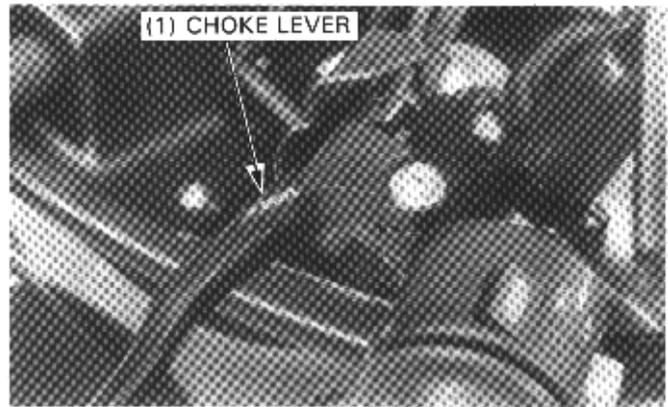
Major adjustment is made with the lower adjuster.  
Adjust free play by loosening the lock nut and turning the adjuster.  
After adjustment, tighten the lock nut.

Recheck the throttle operation.  
Replace any damaged parts, if necessary.



## CARBURETOR CHOKE

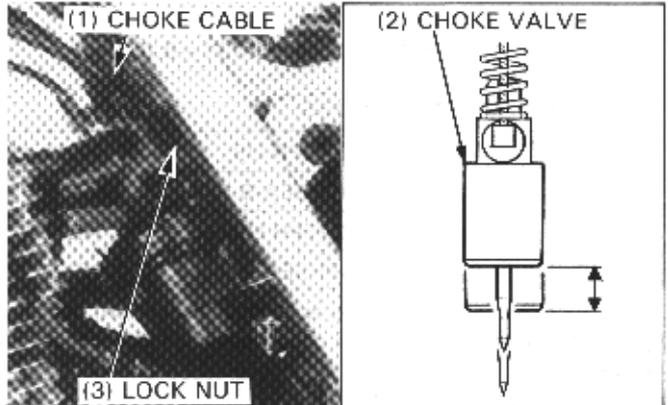
Check that the choke lever moves smoothly.  
Lubricate the choke cable if the operation is not smooth.



Remove the fuel tank (page 4-3).  
Loosen the choke cable nut and disconnect the choke cable from the carburetor.

Measure the choke valve stroke, moving the choke lever from the full open position to the close position.

**Choke valve stroke: 10–11 mm (0.39–0.43 in)**



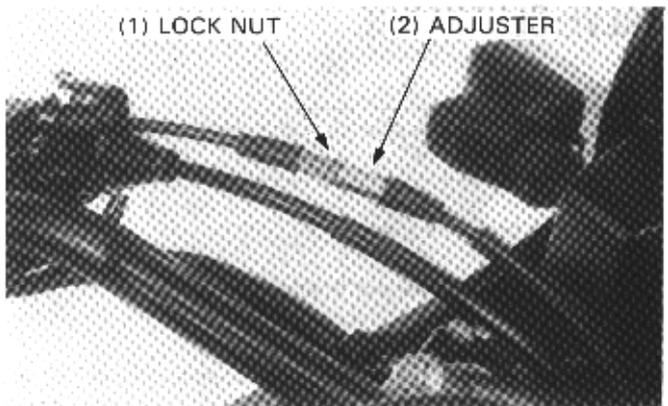
If the choke valve stroke is out of the standard, adjust by loosening the lock nut and turning the adjuster.

Operate the choke lever and make sure the choke valve stroke is within the standard.

Connect the choke cable to the carburetor and tighten the choke cable nut.

Tighten the adjuster lock nut.

Connect the choke cable to the carburetor and tighten the choke cable nut.

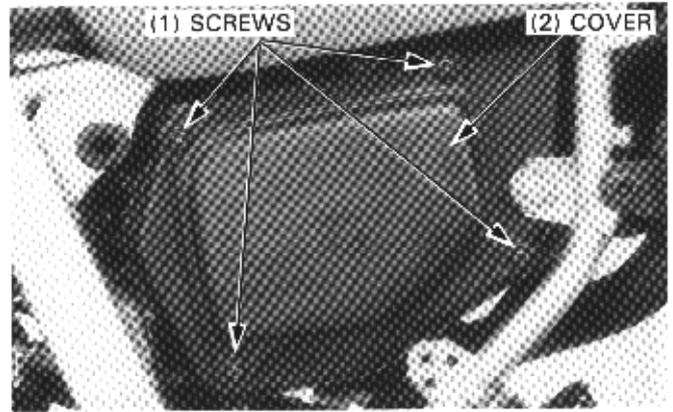


Install the fuel tank (page 4-3), seat and side cover (page 15-1).

## MAINTENANCE

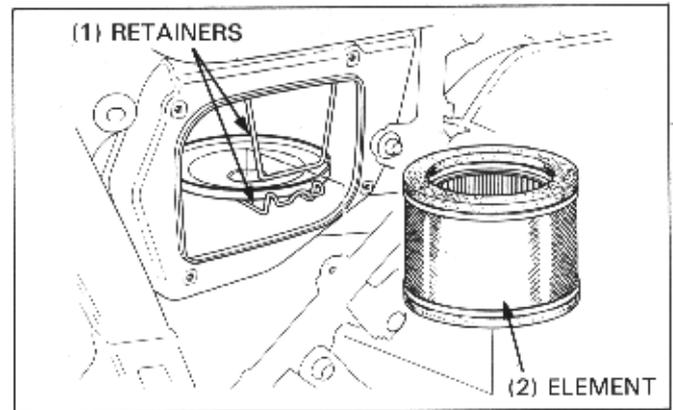
### AIR CLEANER

Remove the left side cover.  
Remove the air cleaner cover screws and the cover.



Unhook the upper element retainer from the lower retainer, and remove the element.

According to the maintenance schedule, clean the element by applying compressed air from the outside and if necessary, replace the element with a new one.  
Install the element in the reverse order of removal.



### SPARK PLUG

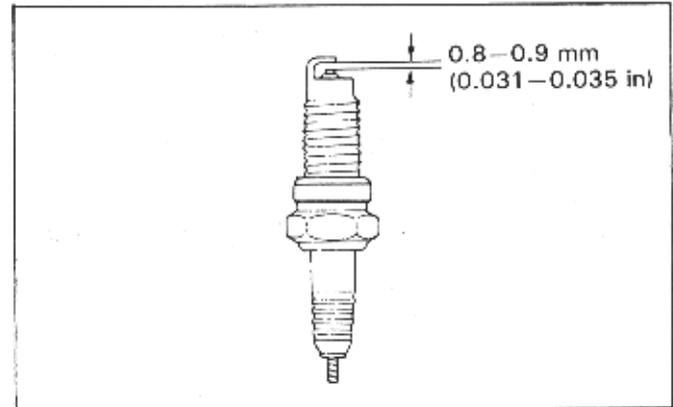
Disconnect the spark plug cap and remove the spark plug. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped.  
Measure the spark plug gap with a wire-type feeler gauge. Adjust the gap by bending the side electrode carefully.

**SPARK PLUG GAP: 0.8–0.9 mm (0.031–0.035 in)**

RECOMMENDED SPARK PLUGS:

Standard	X24EPR-U9	ND
	DPR8EA-9	NGK
For extended high speed riding	X27EPR-U9	ND
	DPR9EA-9	NGK

Make sure the sealing washer is in good condition. Install the spark plug, tighten it by hand, then tighten with a spark plug wrench.  
Connect the spark plug cap.



### VALVE CLEARANCE

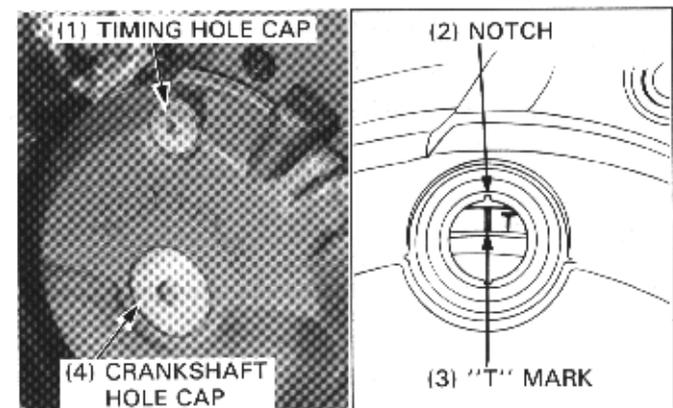
#### NOTE

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

Remove the fuel tank (page 4-3).

Remove the crankshaft and timing hole caps.  
Remove the valve adjuster caps.

Rotate the crankshaft counterclockwise to align the "T" mark on the flywheel with the notch on the left crankcase cover.



Make sure the piston is at TDC(Top Dead Center) on the compression stroke.

Check the clearance of the left exhaust, and left and right intake valves by inserting a feeler gauge between the adjusting screw and the sub-rocker arm.

**NOTE**

- When checking the clearance, slide the feeler gauge from the inside out in the direction of the arrow.

**Valve clearance:**

**Intake:** 0.10 mm (0.004 in)  
**Exhaust:** 0.12 mm (0.005 in)

Adjust by loosening the lock nut and turning the adjusting screw until there is a slight drag on the feeler gauge.

Hold the adjusting screw and tighten the lock nut.

**TORQUE: 25 N·m (2.5 kg·m, 18 ft-lb)**

**Right exhaust valve:**

**NOTE**

- Special care must be taken when measuring valve clearance at the right-hand exhaust valve.  
 The Half-decompressor slightly lifts the right hand, exhaust valve when the crankshaft position is before compression TDC.  
 Therefore it is necessary to position the crankshaft where there is no valve lift in order to obtain the correct valve clearance.

**CAUTION**

- If the crankshaft passed the "T" mark (aligning mark), rotate the crankshaft counterclockwise again and align it with the "T" mark. This must be done to prevent the one-way decompressor system from functioning and to obtain the correct valve clearance.

After tightening the valve adjusting lock nut, recheck the valve clearance.

Install the removed parts in the reverse order of the removal.

**CYLINDER COMPRESSION**

Before measuring cylinder compression, adjust the right exhaust valve with the valve clearance approximately 1 mm (0.04 in) (page 3-6).

Warm up the engine.

Stop the engine and remove the spark plug.

Install the attachment to the compression gauge.

**TOOL:**

**Compression gauge attachment**

07908—KK6000 or equivalent commercially available in U.S.A.

Connect the compression gauge.

Position the engine stop switch OFF.

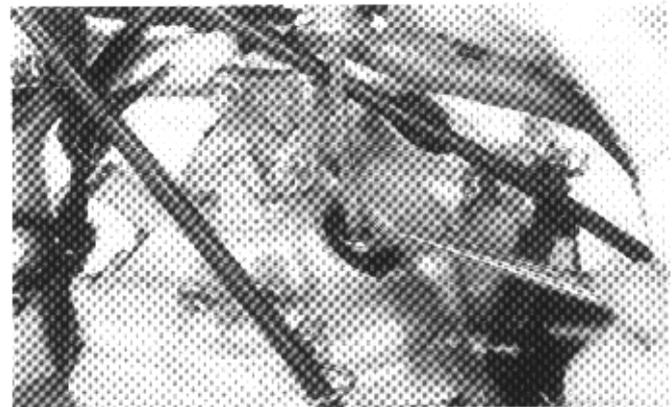
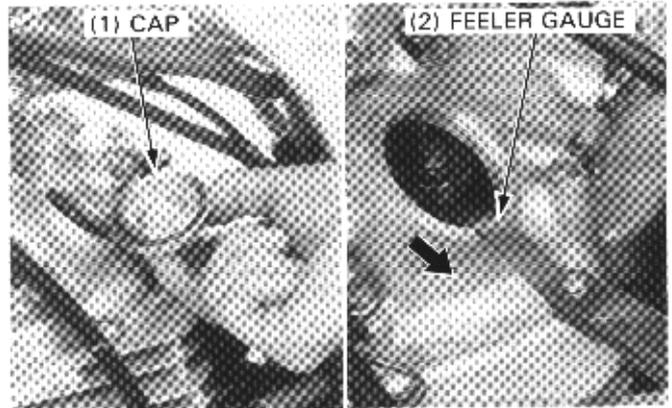
Open the throttle grip all the way. Crank the engine with the starter motor until the gauge stops rising.

Check the gauge reading.

**NOTE**

- Check that there is no leakage at the gauge connection.

**COMPRESSION: 12.5 kg/cm (177.75 psi)**



## MAINTENANCE

### Low compression can be caused by:

- Improper valve clearance adjustment
- Valve leakage
- Leaking cylinder head gasket
- Worn piston rings or cylinder

### High compression can be caused by:

- Carbon deposits in the combustion chamber or on the piston head.

#### NOTE

- After inspection, reinstall the spark plug and adjust the valve clearance (page 3-6).

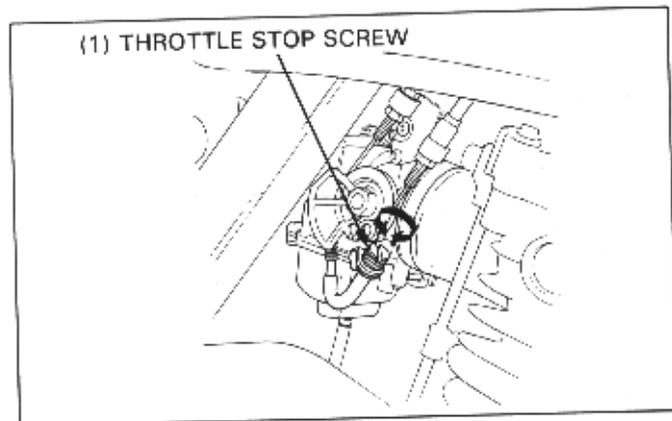
## CARBURETOR IDLE SPEED

#### NOTE

- Inspect and adjust idle speed after all other engine adjustments are within specifications. The engine must be warm for accurate idle inspection and adjustment. Ten minutes of stop and go riding is sufficient.

Warm up the engine, shift to neutral, and hold the motorcycle upright. Connect a tachometer. Turn the throttle stop screw to obtain the specified idle speed.

**IDLE SPEED: 1,300 ± 100 rpm**



## DRIVE CHAIN

### DRIVE CHAIN SLACK INSPECTION

#### ▲ WARNING

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

Turn the ignition switch OFF, place the motorcycle on its side stand and shift the transmission into neutral. Check drive chain slack in the lower run midway between the sprockets.

**STANDARD SLACK: 30–40 mm (1-1/4–1-5/8 in)**

### DRIVEN CHAIN ADJUSTMENT

Loosen the rear axle nut.  
Loosen both lock nuts and turn both adjusting nuts as necessary.

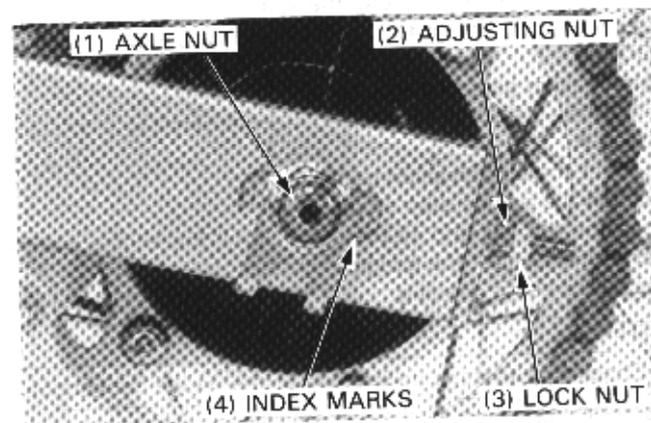
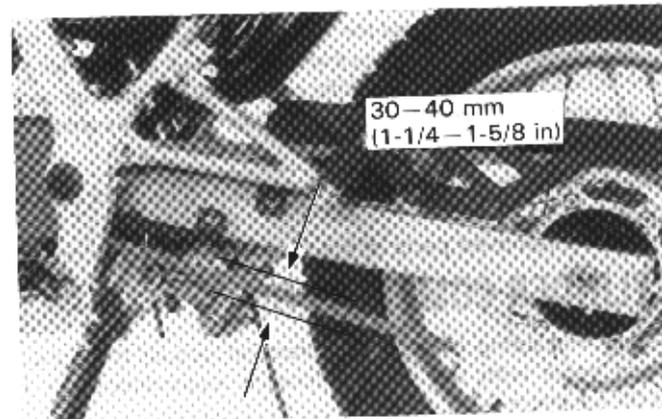
#### CAUTION

- *Be sure the index marks of the same position are aligned with the rear edges of the swing arm holes.*

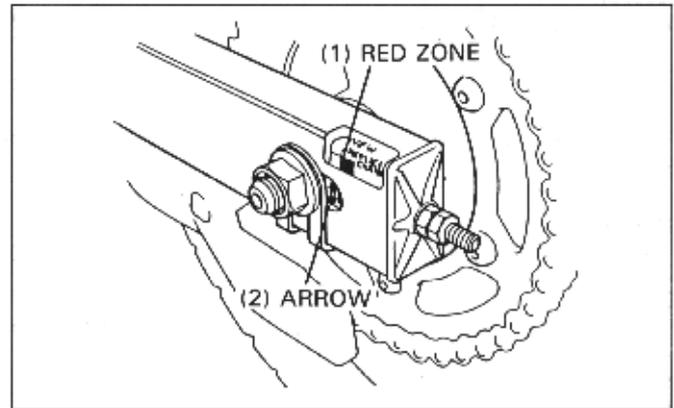
Tighten the rear axle nut.

**TORQUE: 95 N·m (9.5 kg·m, 69 ft·lb)**

Snug the adjuster nuts up against the swing arm end caps.  
Tighten both lock nuts.



Check the chain wear label. If the red zone on the label aligns with the arrow of the chain adjuster after the chain has been adjusted, the chain must be replaced.

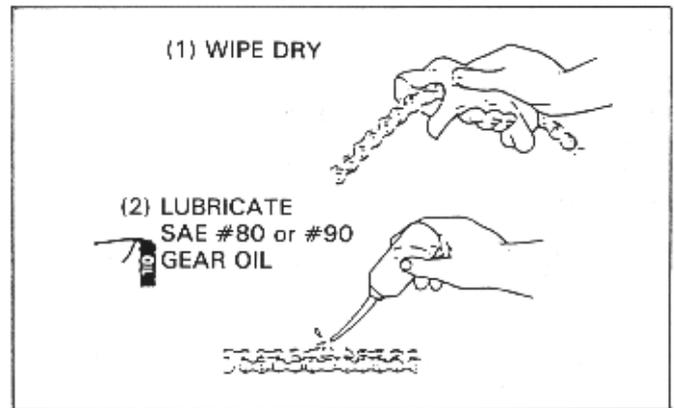


When the drive chain becomes extremely dirty, it should be cleaned prior to lubrication.

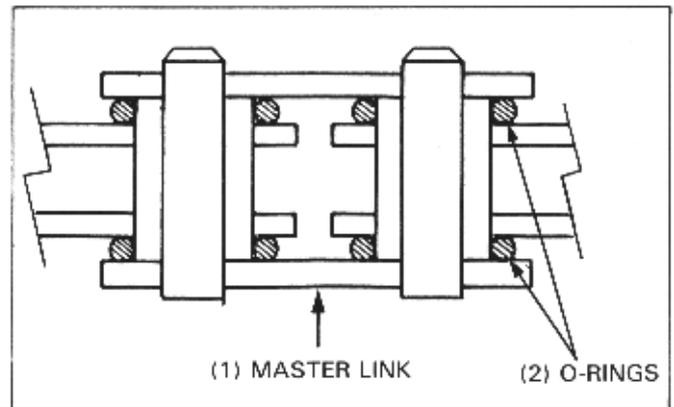
Remove the rear wheel (page 13-3).  
Remove the drive sprocket cover and chain cover.

Clean the drive chain with a non-flammable or high flash point and wipe dry.

Lubricate only with SAE #80 or 90 gear oil.  
Commercial chain lubricants may contain solvents which could damage the rubber O-rings.



Inspect the drive chain and O-rings for possible wear or damage.  
Replace the chain if it is worn excessively or damaged.

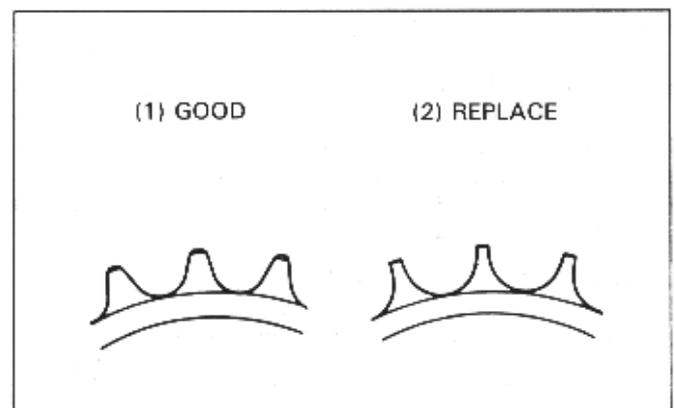


Inspect the sprocket teeth for excessive wear or damage. Replace if necessary.  
Drive sprocket replacement: page 5-4  
Driven sprocket replacement: page 13-5,6

NOTE

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

Reinstall the rear wheel (page 13-7) and chain cover.



## MAINTENANCE

### DRIVE CHAIN SLIDER

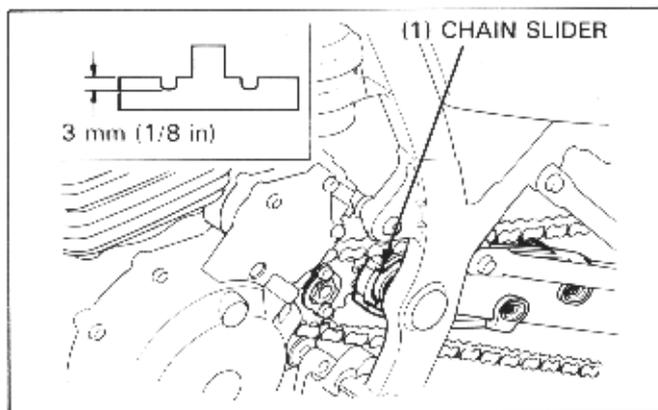
Check the chain slider for wear or damage.

Replace the drive chain slider if the thickness exceeds the service limit.

**SERVICE LIMIT: 3 mm (1/8 in)**

#### CAUTION

- *If the chain slider becomes worn down through to the swing arm, the chain will wear against the swing arm.*



### BRAKE FLUID

Check the front brake fluid reservoir level.

If the level is near the lower level mark, remove the cover and diaphragm.

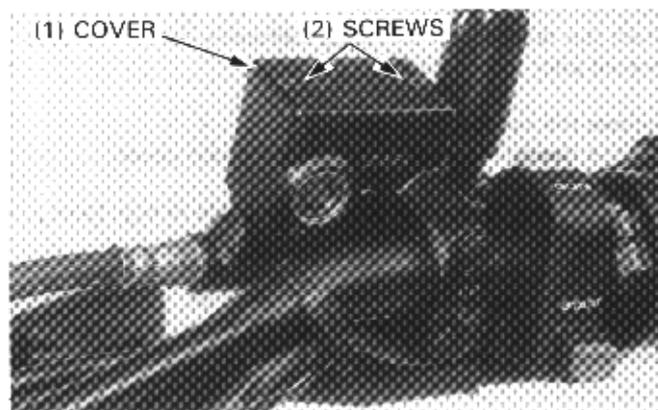
Fill the reservoir with DOT 3 or DOT 4 BRAKE FLUID to the upper level.

Check the entire system for leaks, if the level is low.

#### CAUTION

- *Do not remove the cover until the handlebar has been turned so that the reservoir is level.*
- *Avoid operating the brake lever with the cap removed. Brake fluid will squirt out if the lever is pulled.*
- *Do not mix different types of fluid, they are not compatible with each other.*

Refer to section 14 for brake bleeding procedures.



### BRAKE SHOE/PAD WEAR

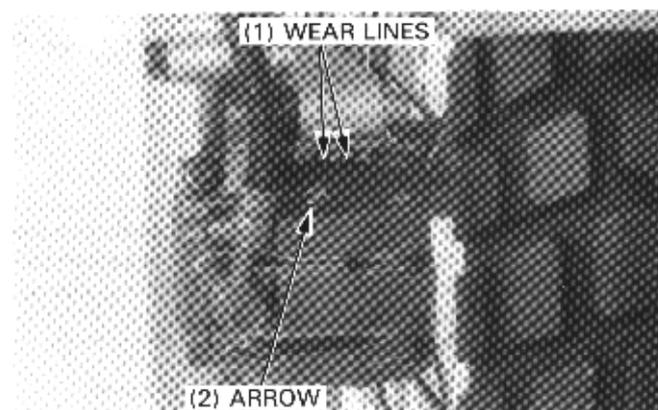
#### BRAKE PAD WEAR

Check the brake pads for wear by looking through slot indicated by arrow cast on the caliper assembly.

Replace the brake pads if the wear line on the pads reaches the edge of the brake disc (page 14-4)

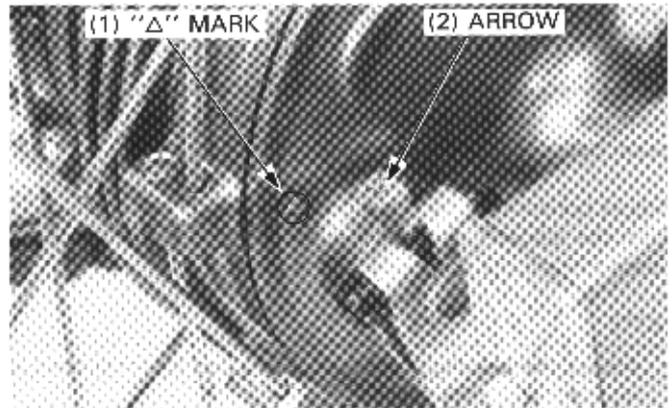
#### CAUTION

- *Always replace the brake pads in pairs to assure even disc pressure.*



### BRAKE SHOE WEAR

Replace the brake shoes if the arrow on the indicator plate aligns with the "Δ" mark on the brake panel when the brake is applied.



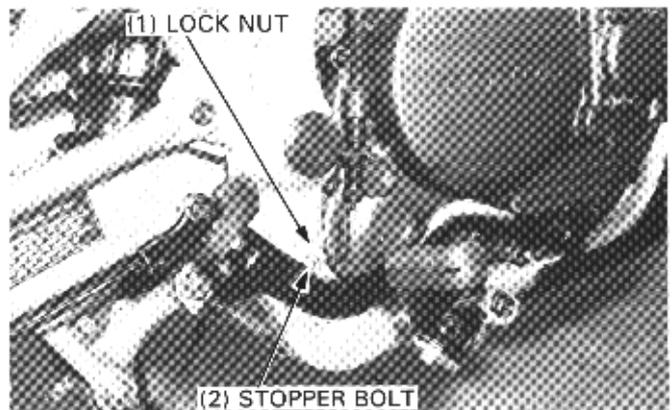
## BRAKE SYSTEM

### BRAKE PEDAL HEIGHT

Loosen the lock nut and adjust the pedal height by turning the stopper bolt.

Tighten the lock nut.

Adjust the brake pedal free play.



### BRAKE PEDAL FREE PLAY

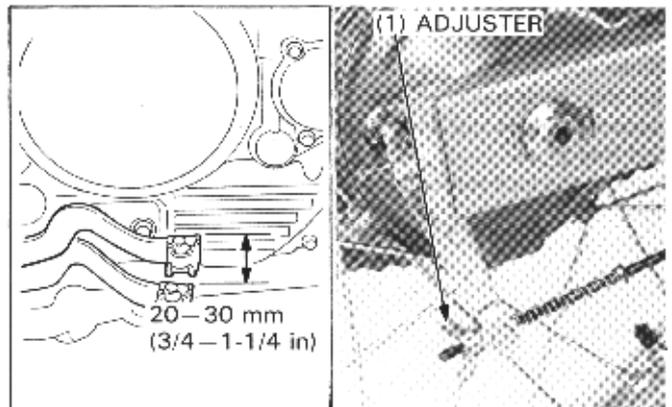
#### NOTE

- Adjust the rear brake pedal free play after adjusting the brake pedal height.

Measure the rear brake pedal free play.

**FREE PLAY: 20–30 mm (3/4–1-1/4 in)**

Adjust the free play by turning the adjuster.



## BRAKE LIGHT SWITCH

#### NOTE

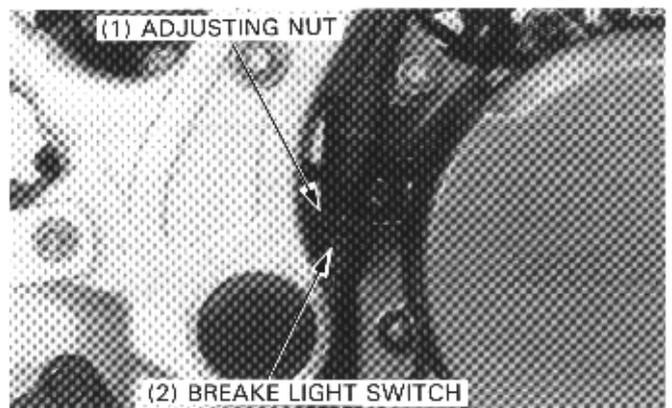
- Perform this adjustment after adjusting brake pedal height and free play.

The brake light should go on when the brake pedal is depressed 10 mm (3/8 in).

Adjust by turning the adjusting nut.

#### CAUTION

- Do not turn the switch body.



## MAINTENANCE

### HEADLIGHT AIM

Adjust vertically by turning the vertical adjuster.  
Turn the adjuster counterclockwise (clockwise) to direct the beam down.

Adjust horizontally by turning the horizontal adjuster.  
Turn the adjuster clockwise (counterclockwise) to direct the beam toward the right side of the rider.

#### NOTE

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

#### ▲ WARNING

- An improperly adjusted headlight may blind oncoming drivers, or it may fail to light the road for a safe distance.

### CLUTCH SYSTEM

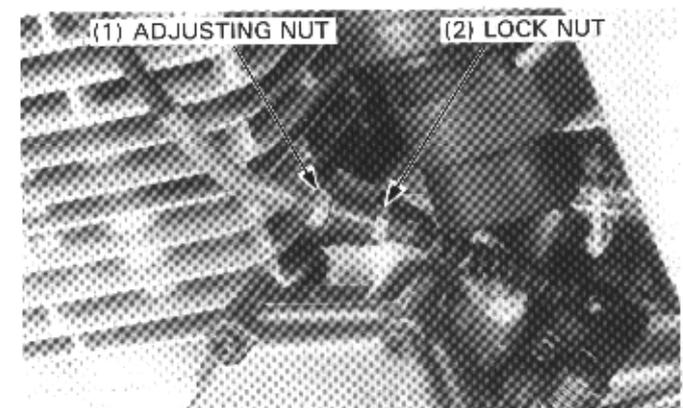
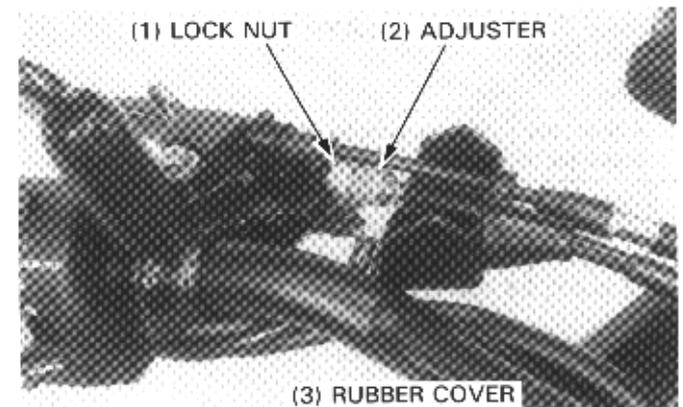
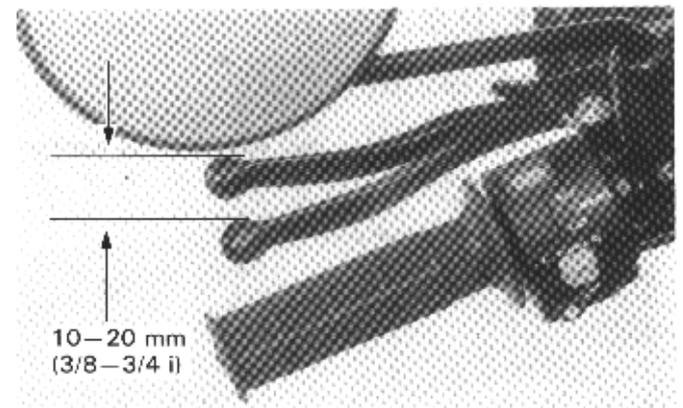
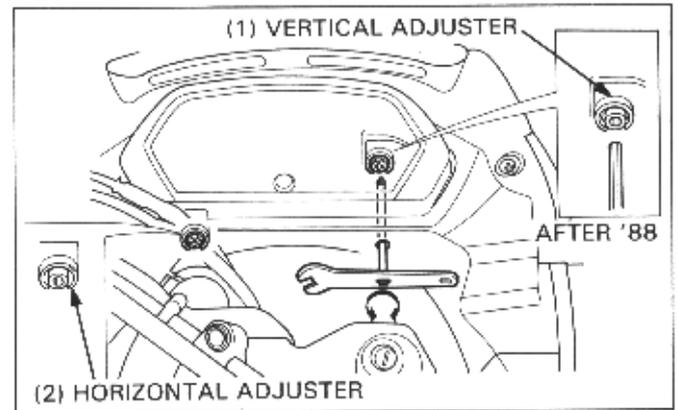
Measure the clutch lever free play at the lever end.

**FREE PLAY: 10–20 mm (3/8–3/4 in)**

Adjust as follows:

Minor adjustments are made with the upper adjuster.  
Pull the cover back.  
Loosen the lock nut and turn the adjuster to obtain the specified free play.  
Tighten the lock nut and install the cover. Check clutch operation.

Major adjustments are made with the lower adjusting nut. If major adjustment is required, turn the upper adjuster in all the way and back out 1 turn.  
Loosen the lock nut and turn the lower adjusting nut to obtain the specified free play.  
Tighten the lock nut.  
Check clutch operation.



## SIDE STAND

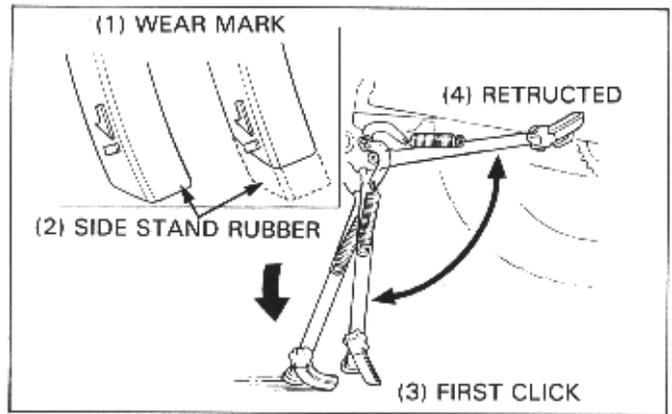
Check the rubber pad on the side stand for deterioration and wear.

Replace the rubber pad if wear extends to the wear line.

Check the side stand operation:

When lowered, the stand should move easily to the first stop, then lock forward to support the motorcycle when the pad touches the ground and the weight of the motorcycle is supported.

When the motorcycle is raised, the stand should automatically move to the first stop, then retract easily when kicked.



If the side stand does not operate smoothly, disassemble and check the side stand assembly as following procedure:

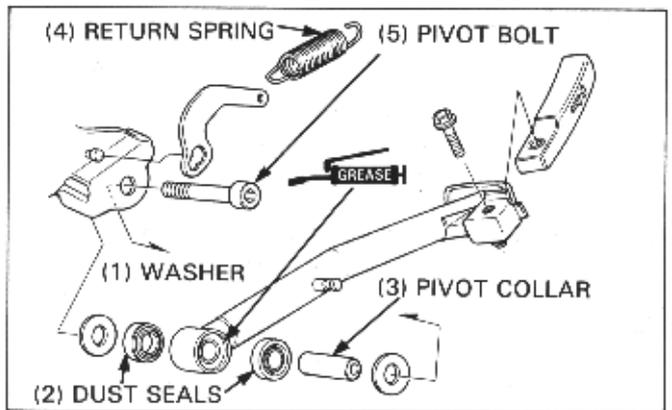
Remove the return spring at the retracted position.

Remove the pivot bolt and side stand.

Check the following parts:

- Inside of the pivot and pivot collar for wear or damage.
- Pivot dust seals for damage.

Lubricate the pivot area with clean grease and reassemble the side stand. Apply a locking agent to the bolt threads. Tighten the pivot bolt securely.



**TORQUE: 50 N·m (5.0 kg·m, 36 ft·lb)**

### CAUTION

- Install the dust seal with its mark side facing in.
- Make sure that the dust seal lip spring is seated on the outside of the dust seal lips securely.

Check the side stand operation as indicated above.

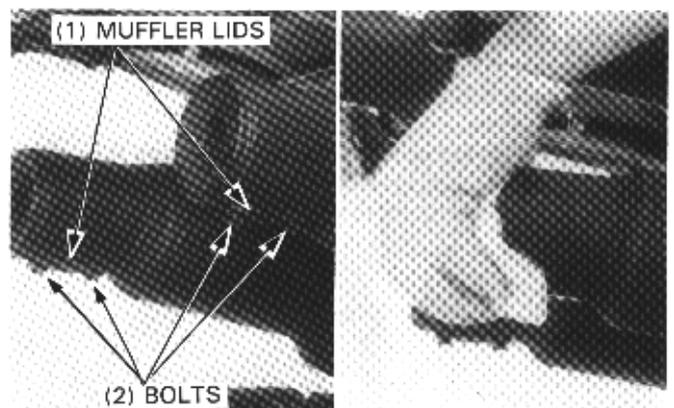
## SPARK ARRESTER (U.S.A. only)

Remove the muffler lid.

Start the engine and increase rpm's to blow carbon out of the exhaust pipe while momentarily creating exhaust system back pressure by blocking the end of the muffler with a shop towel. Repeat until carbon stops coming out.

### WARNING

- Do not perform this operation while the exhaust pipe is hot.
- Perform this operation in a well ventilated area, free from fire hazard.
- Use adequate eye protection.

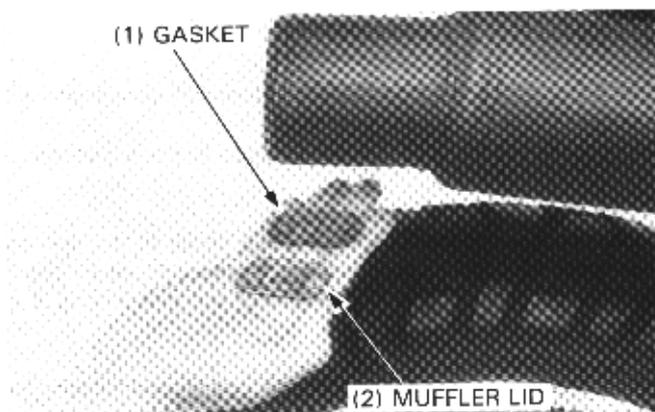


## MAINTENANCE

After cleaning the spark arrester, install the muffler lid and gasket.

### NOTE

- Check that the muffler lid and gasket are in good condition and the bolts are tightened securely.



## SUSPENSION

### FRONT

Check the action of the front suspension by compressing it several times with the front brake applied. Check the entire fork assembly for signs of leaks or damage. Replace any components which are unrepairable. Tighten all nuts and bolts to their specified torque values.

#### ▲ WARNING

- *Do not ride a vehicle with faulty suspension. Loose, worn or damaged suspension parts may affect stability and rider control.*



### REAR

Check the action of the rear suspension components by compressing the suspension several times. Check the entire suspension assembly, to be sure that all of the components are securely mounted and that none are damaged or distorted.

Tighten all nuts and bolts to their specified torque.

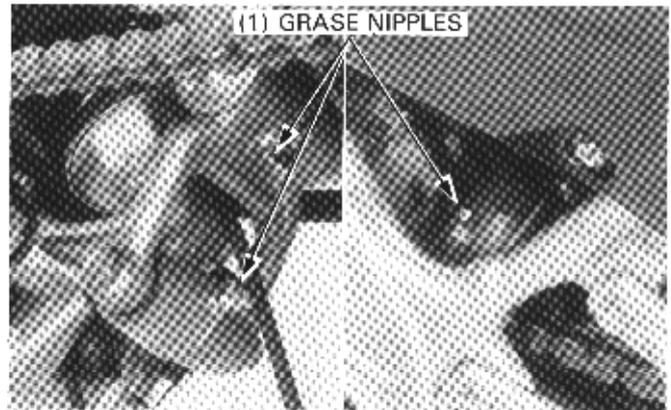
Place the vehicle on a support to raise the rear wheel. Move the rear wheel sideways with force to see if the swing arm pivot or wheel bearings are worn. Replace if excessively worn. Check the entire suspension system to be sure it is securely mounted and not damaged or distorted. Tighten all nuts and bolts to their specified torque values.



Grease the swing arm and shock linkage pivot bearings through their grease nipples.

## NUTS, BOLTS, FASTENERS

Tighten the bolts, nuts and fasteners at the intervals shown in the Maintenance Schedule (Page 3-3).  
 Check that all chassis nuts and bolts are tightened to their correct torque values (Page 1-5 and 6).  
 Check all cotter pins and safety clips.



## WHEELS/TIRES

### TIRE PRESSURE

#### NOTE

- Tire pressure should be checked when the tires are COLD.

#### PRESSURE:

FRONT: 150 kPa (1.5 kg/cm<sup>2</sup>, 22 psi)  
 REAR: 150 kPa (1.5 kg/cm<sup>2</sup>, 22 psi)

#### SIZE:

FRONT: 90/90-21 54S  
 REAR: 120/90-17 64S

Check the tires for cuts, embedded nails, or other sharp objects.

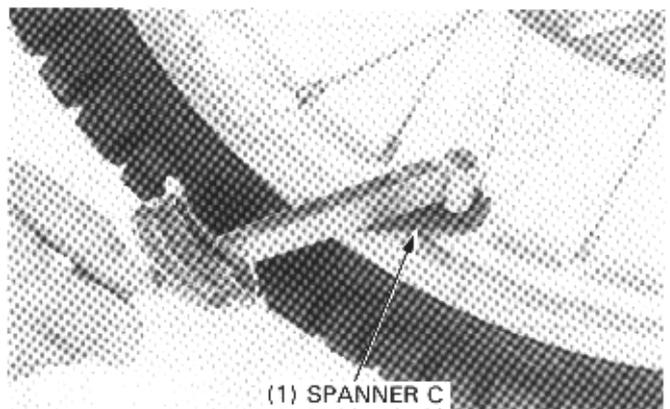
Tighten the wheel spokes periodically. More frequent inspection is necessary when riding off-road.

**TORQUE (front/rear): 4 N·m (0.4 ft·lb, 3 ft·lb)**

#### TOOL:

Spanner C, 5.8 x 6.1 mm

07701-0020300  
 Equivalent commercially  
 available in U.S.A.



## STEERING HEAD BEARINGS

#### NOTE

- Check that the control cables do not interfere with the rotation of the handlebars.

Raise the front wheel off the ground and check that the handlebars rotates freely.

If the handlebars moves unevenly, bind or have vertical movement, adjust the steering head bearings by turning the steering head adjustment nut with a pin spanner. (page 12-20).

