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SERVICE INFORMATION

GENERAL INSTRUCTIONS

Engine oil level check	See page 2-2
Engine oil change	See page 2-2
Oil strainer screen cleaning	See page 2-3

SPECIFICATION

< ENGINE>

Spark plug gap	0.6–0.7 mm (0.024–0.028 in)
Spark plug type	

U.S.A. model

For cold climate below 5°C (41°F)		Standard		For extending high speed riding	
ND	NGK	ND	NGK	ND	NGK
X22ES-U (X22ESR-U)	D7EA (DR7ES)	X24ES-U (X24ESR-U)	D8EA (DR8ES-L)	X27ES-U (X27ESR-U)	D9EA (DR8ES)

Type in parenthesis ( ) for CANADA model or U.S. model with radio installed.

Manufacturer
ND: Nippondenso Co., Ltd.
NGK: NGK Spark Plug Co., Ltd.

Ignition timing	Initial 10° BTDC (Static)
Valve clearance: IN. and EX.	0.06–0.13 mm (0.0022–0.005 in)
Idle speed	900 ± 100 rpm
Synchronization vacuum	Difference between each cylinder 40 mm Hg (1.6 in Hg)
Compression	1200 ± 100 kPa (12 ±1 kg/cm², 170 ± 14 psi)
Firing order	1–5–3–6–2–4

TOOLS

Special

Valve lifter holder	07964–4220002 or M9501–277–94052 (USA only)
Carb. throttle wrench	07908-4220100 07908-4600000
Degree wheel	07974-4220001
Vacuum gauge	07404-0020000 or M9378–021–XXXXX (USA only)

< CHASSIS >

Drive chain free play	15–25 mm (5/8 in)
Clutch free play	10–20 mm (3/8–3/4 in)

Tire

Cold tire pressure kPa (kg/cm², psi)	Front 250 (2.5, 36) Rear 250 (2.5, 36) At maximum load 290 (2.9, 4.1)
Vehicle capacity load limit	175 kg (385 lbs)
Tire size	Front 350-V19 (4PR) Rear 130/90V18
Tire brand (Tubeless only)	Front GOLD SEAL F11 (DUNLOP) MAG. MOPUS-S706 (BRIDGESTONE)
	Rear GOLD SEAL K127 (DUNLOP) MAG. MOPUS-G508 (BRIDGESTONE)

TORQUE VALUES

Front axle holder nut	18–25 N·m (1.8–2.5 kg·m, 13–18 ft·lb)
Rear axle nut	85-105 N·m (8.5–10.5 kg·m, 62–76 ft·lb)

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MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION in the Owner's Manual at each scheduled maintenance.
I: INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.
C: CLEAN A: ADJUST
R: REPLACE L: LUBRICATE

		ITEM \ FREQUENCY	WHICHEVER COMES FIRST: EVERY	ODOMETER READING (NOTE 3) 600 mi (1,000 km)	4,000 mi (6,400 km)	8,000 mi (12,800 km)	12,000 mi (19,200 km)	16,000 mi (25,600 km)	20,000 mi (32,000 km)	Refer to
EMISSION RELATED ITEMS	*	FUEL LINES			I	I	I	I	I	Page 3-4
	*	THROTTLE OPERATION		I	I	I	I	I	I	Page 3-7
	*	CARBURETOR CHOKE			I	I	I	I	I	Page 3-10
		AIR CLEANER	NOTE 1			R		R		Page 3-3
		CRANKCASE BREATHER	NOTE 2		C	C	C	C	C	Page 3-4
		SPARK PLUGS			R	R	R	R	R	Page 3-4
	*	VALVE CLEARANCE		I	I	I	I	I	I	Page 3-11
	*	IGNITION TIMING		I	I	I	I	I	I	Page 3-5
		ENGINE OIL	YEAR	R	R	R	R	R	R	Pages 2-2 3-8
		ENGINE OIL FILTER	YEAR	R	R	R	R	R	R	Page 2-2
	*	ENGINE OIL SCREEN					C			Page 2-3
	*	CAM CHAIN TENSION		A	A	A	A	A	A	Page 3-15
	*	CARBURETOR-SYNCHRONIZE		I	I	I	I	I	I	Page 3-8
	*	CARBURETOR-IDLE SPEED		I	I	I	I	I	I	Page 3-10
NON-EMISSION RELATED ITEMS		DRIVE CHAIN		I, L EVERY 300 mi. (500 km)						Pages 2-5, 3-17
		BATTERY	MONTH	I	I	I	I	I	I	Page 3-18
		BRAKE FLUID	MONTH I 2 YEARS *R	I	I	I	*R	I	I	Page 3-18
		BRAKE PAD WEAR			I	I	I	I	I	Page 3-19
		BRAKE SYSTEM		I	I	I	I	I	I	Page 3-19
	*	BRAKE LIGHT SWITCH		I	I	I	I	I	I	Page 3-20
	*	HEADLIGHT AIM		I	I	I	I	I	I	Page 3-20
		CLUTCH		I	I	I	I	I	I	Page 3-22
		SIDE STAND			I	I	I	I	I	Page 3-23
	*	SUSPENSION		I	I	I	I	I	I	Page 3-24
	*	NUTS, BOLTS, FASTENERS		I	I	I	I	I	I	Page 3-25
	**	WHEELS		I	I	I	I	I	I	Page 3-25
	**	STEERING HEAD BEARING		I		I		I		Page 3-25

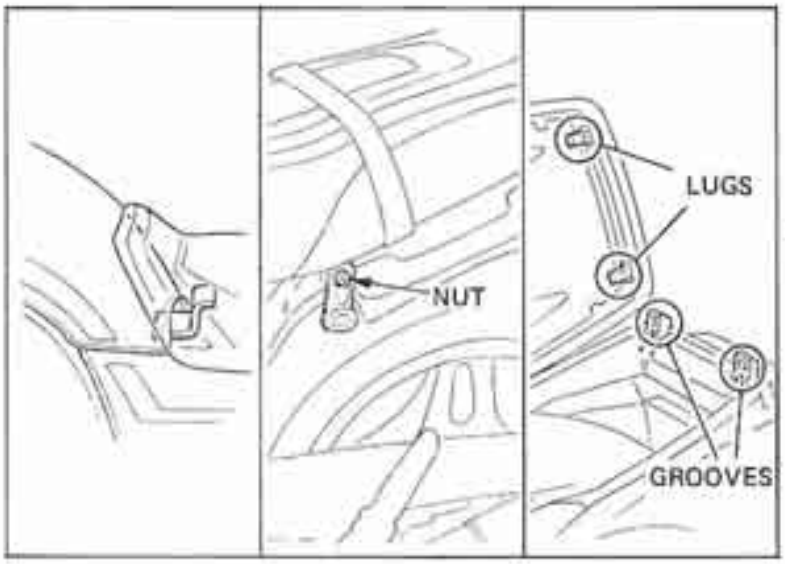
*SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.
**IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES: 1. SERVICE MORE FREQUENTLY WHEN RIDING IN DUSTY AREAS.
2. SERVICE MORE FREQUENTLY WHEN RIDING IN RAIN OR AT FULL THROTTLE (USA ONLY).
3. FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.

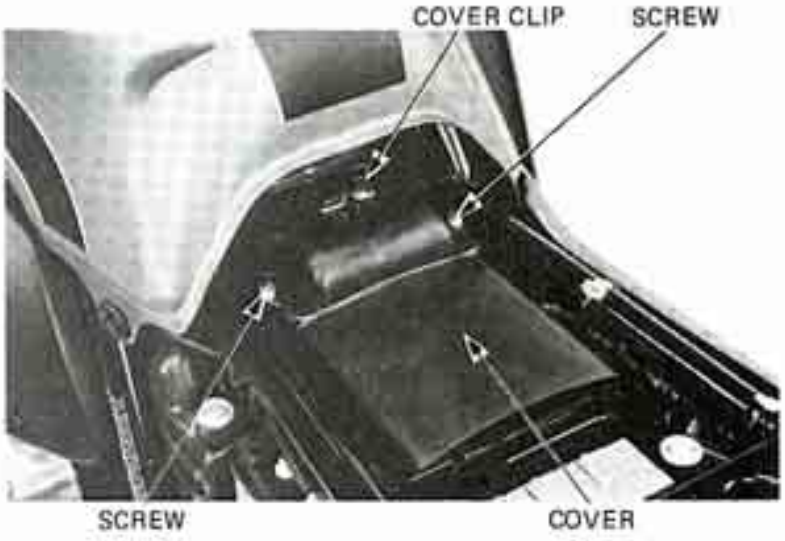
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AIR CLEANER

Remove the seat by loosening the nuts on the sides of the seat and lifting the seat to the rear.



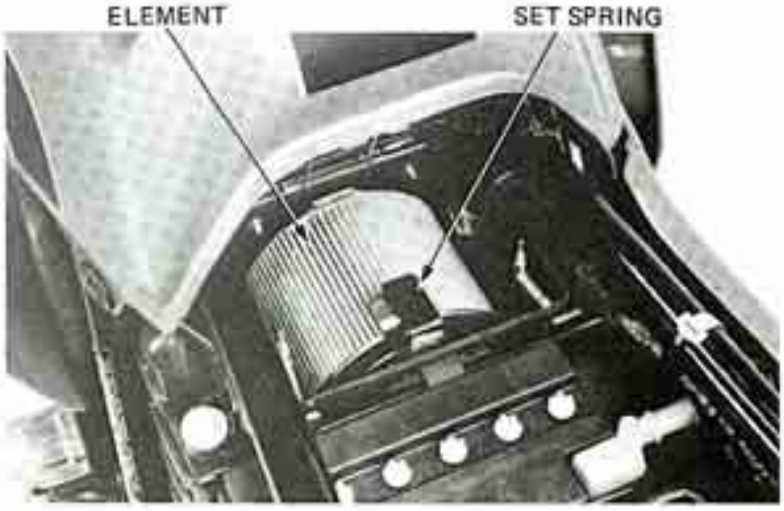
Lift the air cleaner cover clip up.
Remove the two air cleaner cover screws and the air cleaner cover.



Remove the air cleaner set spring.
Replace the element with a new one according to the maintenance schedule.
Install the holder, set spring and air cleaner cover.
When replacing the seat, align the grooves with the lugs and push down firmly. Install the nuts and tighten them to the recommended torque.

Torque specification: 3-4 N-m
(3.0-4.0 kg-m, 22-29 ft-lbs)

Lift the seat to make sure the latches are secure.



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CRANKCASE BREATHER

For U.S.A. model

Remove the plug from the drain tube to empty any deposits.
Reinstall the drain plug.

NOTE

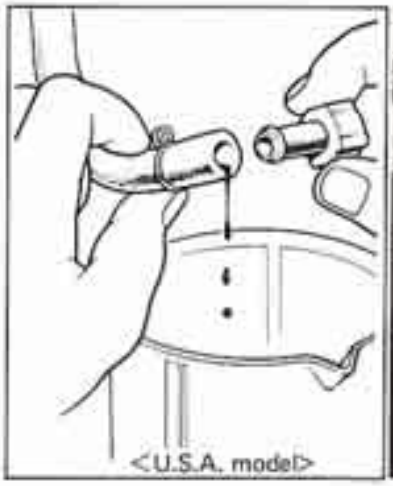
Service more frequently when ridden in rain or at fully throttle, or if the deposit level can be seen in the transparent section of the drain tube.

For Canada model

Squeeze to open the lower end of the drain tube.
Remove any oil or water which may have accumulated.

CAUTION

Check the drain tube for clogging and routing.





FUEL LINES

Check the fuel lines for deterioration, damage, or leakage. Replace any parts which show deterioration, damage or leakage.



SPARK PLUGS

Disconnect the spark plug caps.
Clean any dirt from around the spark plug bases.
Remove and discard the spark plugs.

RECOMMENDED SPARK PLUG

( ) Canada model
US. optional

For cold climate below 5°C (41°F)		Standard		For extending high speed riding	
ND	NGK	ND	NGK	ND	NGK
X22ES-U (X22ESR-U)	D7EA (DR7ES)	X24ES-U (X24ESR-U)	D8EA (DR8ES-L)	X27ES-U (X27ESR-U)	D9EA (DR8ES)

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Measure the new spark plug gaps using a wire-type feeler gauge.

SPARK PLUG GAP:
0.6–0.7 mm (0.024–0.028 in)

Adjust by bending the side electrode carefully.

With the plug washer attached, thread the new spark plugs in by hand to prevent crossthreading.

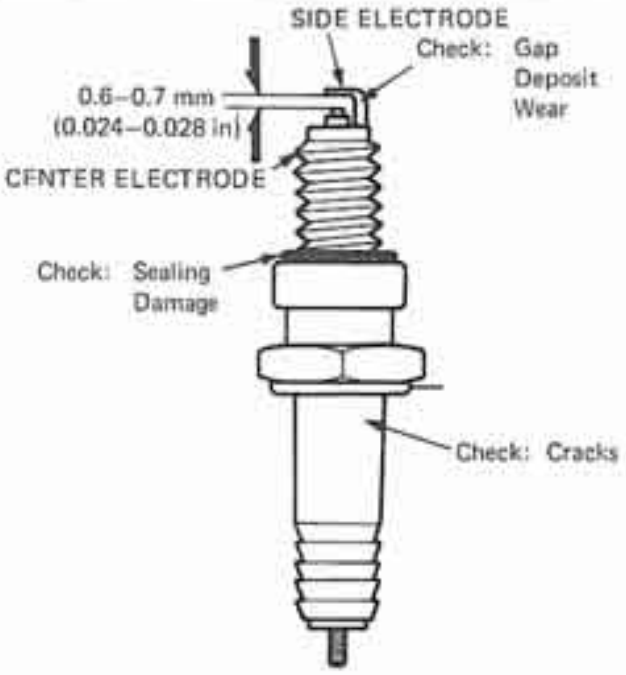
Tighten the spark plugs another 1/2 turn with a spark plug wrench to compress the plug washer.

TORQUE:
12–14 N·m (1.2–1.4 kg·m, 9–12 ft·lb)

Connect the spark plug caps.

NOTE

First tighten the spark plug finger tight, then tighten 1/2 turn with a spark plug wrench.



IGNITION TIMING CHECK

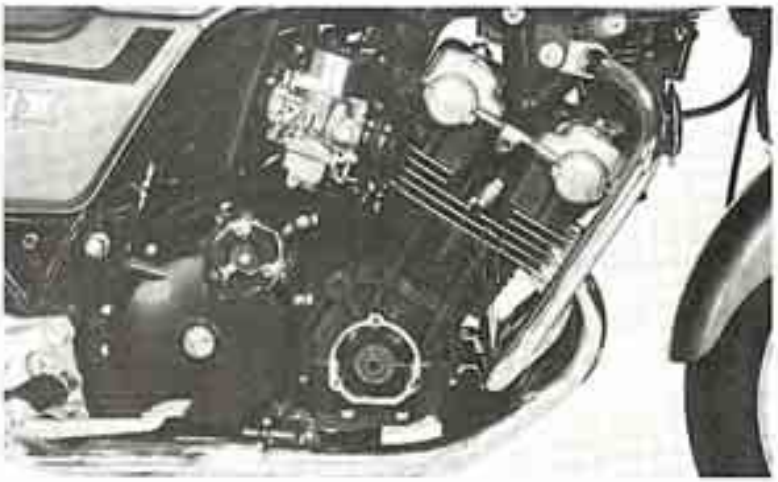
- DYNAMIC

NOTE

Drain oil from engine for this inspection method. Place an oil drain pan under the right crankshaft end.

Remove all spark plug caps and either No. 6 spark plug or No. 1 spark plug.
Connect the removed plug with the spark plug cap and ground the plug to the cylinder head.

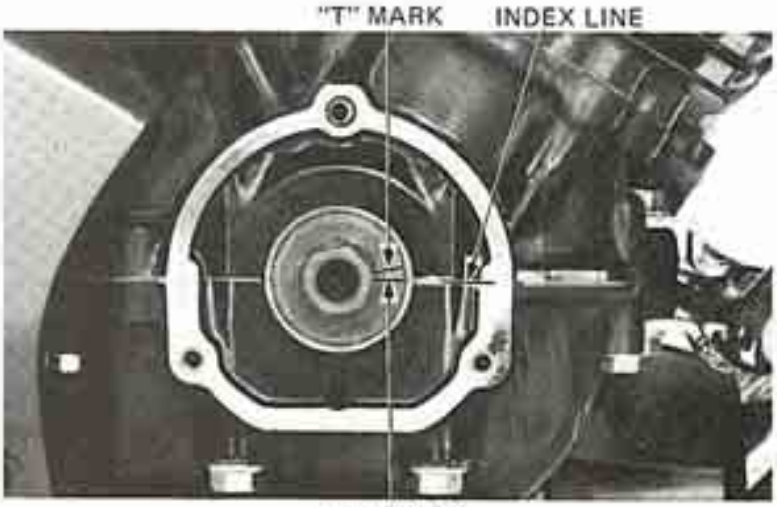
Remove the right crankshaft cap.
Connect a stroboscopic timing light to the grounded high tension wire.
Operate the starter motor while aiming the timing light at the right crankshaft end.
The "F" mark should align with the front crankcase mating surfaces.



ADJUSTMENT

Remove the pulse generator cover.
Adjust by loosening the three pulse generator base plate locking screws and rotating the plate.
Turn the base plate counterclockwise to advance and turn it clockwise to retard the timing.
Tighten the base plate locking screws and recheck the timing.

Install the removed parts in the reverse order of disassembly. Add the correct amount of engine oil.



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ALTERNATIVE METHOD

- STATIC

NOTE

This check can be done with oil in the engine.

Remove the right crankcase cap and pulse generator cover.

Rotate the crankshaft clockwise and align the "F" mark with the crankcase front upper and lower mating surface.

Either No. 6 or No. 1 piston must be near TDC of the compression stroke.

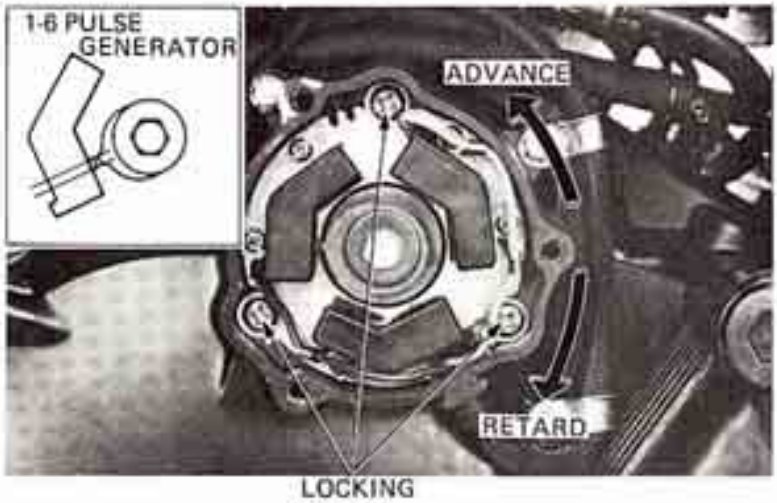
The timing is correct if the narrow projection of the 1,6 pulse generator is aligned with the rotor tooth.

If the ignition timing is incorrect, loosen the three pulse generator base plate locking screws.
Rotating the base plate counterclockwise will advance the ignition timing.

Rotating the base plate clockwise will retard the ignition timing.

Tighten the base plate locking screws and recheck the ignition timing.

Install the removed parts in the reverse order of disassembly.

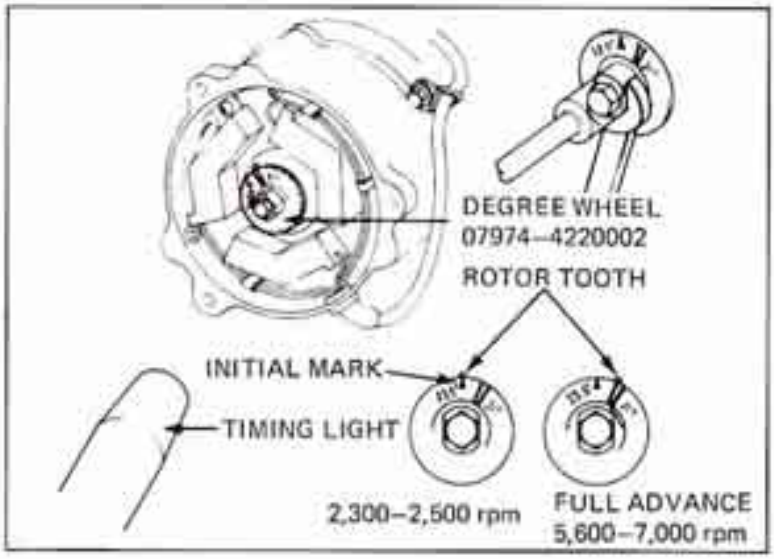


SPARK ADVANCER

NOTE

- Check the spark advancer only if engine performance difficulties occur.
- A high quality stroboscopic timing light designed for transistorized ignition systems must be used. It should also be capable of accurate operation at 9,000 rpm.

Remove the pulse generator cover.
Remove the rotor bolt and install the special degree wheel. (07974–4220002).
Align the initial mark on the degree wheel with the rotor tooth and tighten the rotor bolt.
Connect a timing light to the No. 6 high tension wire.



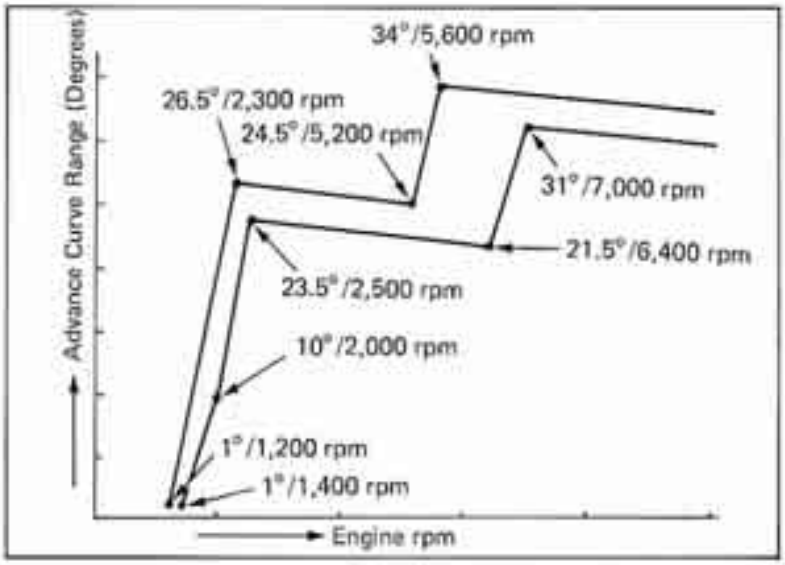
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Start the engine.
Check that the initial mark remains aligned with the rotor tooth at idle.
Increase engine speed and check that the 23.5° mark aligns with the rotor tooth at 2,300–2,500 rpm.
And then check that the 31° mark aligns with the rotor tooth at 5,600–7,000 rpm.

CAUTION

Do not allow engine speed to exceed 8,000 rpm or engine damage may result.

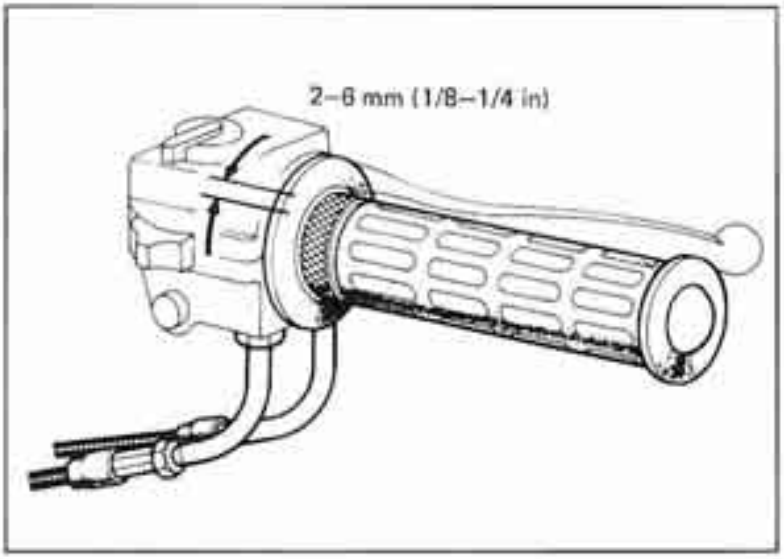
Replace the advancer assembly if it is not functioning properly.
Install the pulse generator cover.



THROTTLE OPERATION

Make sure that there is no deterioration, damage, or kinks in the throttle cables, and that the throttle grip free play is 2–6 mm (1/8–1/4) on the outer edge of the throttle grip flange. Replace any damaged parts.

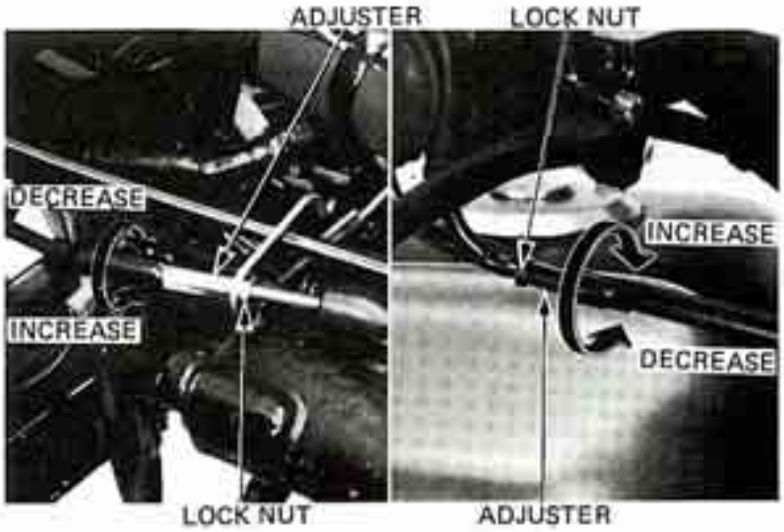
Check for smooth throttle grip rotation from fully closed to fully open in all steering positions and that it automatically returns to "fully closed" when released.
Adjust if necessary.



Major adjustments are made at the middle adjuster.
Remove the fuel tank.
To adjust, loosen the grip play adjuster lock nut and turn the adjuster.
Tighten the lock nut.

Minor adjustments are performed at the upper adjuster.

Recheck throttle operation.



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CARBURETOR SYNCHRONIZATION

NOTE

Perform carburetor synchronization with engine at normal operating temperature, transmission in neutral and motorcycle on the center stand.

Remove the legshield.
Remove the seat and air cleaner inlet duct.
Turn the fuel valve OFF and remove the fuel tube and fuel tank.
Prepare a longer fuel tube and reconnect it to the fuel tank and carburetor.



Position the fuel tank higher than its normal position.
Remove plugs from the carburetor intake parts (except No. 3 carburetor) and install long adapters to inner carburetors and short adapters to outer carburetors.
Connect vacuum gauges.

Start the engine and adjust the idle speed to 900 ± 100 rpm. Clip the vacuum tube for the fuel auto cock and disconnect the vacuum tube from the plug.
Remove the plug from carburetor 3 and install the long adapter, then connect the vacuum gauge.
Make sure that the maximum difference in vacuum readings is 40 mmHg (1.6 inHg) or less.



VACUUM GAUGE 07404–0020000 or M937B–021–XXXXX (USA only)

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ADJUSTMENT

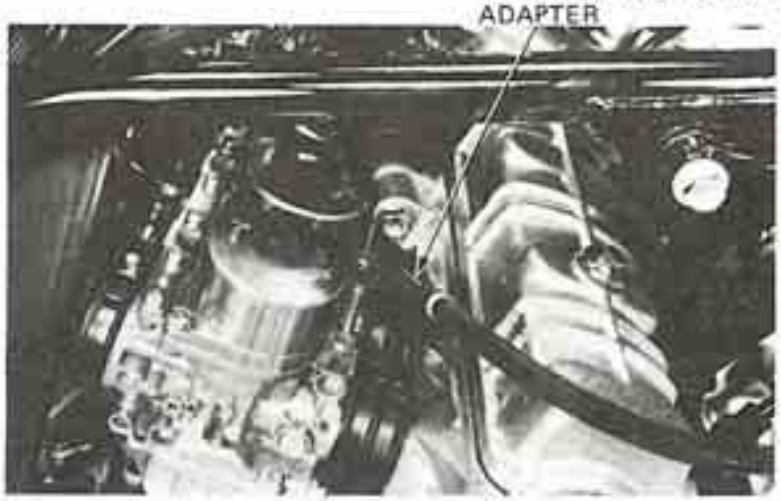
NOTE

The No.4 carburetor cannot be adjusted; it is the base carburetor.

Start the engine and adjust the idle speed.

IDLE SPEED: 900 ± 100 rpm

Make sure that the maximum difference in vacuum readings does not exceed 40 mm Hg (1.6 in Hg).



Adjust by loosening the locknuts and turning the adjusting screws with the special tool Carburetor Throttle Wrench. Adjust to a maximum difference in vacuum readings between carburetors of less than 40 mm Hg (1.6 in Hg).

Adjust in the following order:

CARBURETOR

No. 5→No. 6→
No. 3→No. 2→No. 1

NOTE

Use carb. throttle wrench (07908-4600000) to adjust the No. 5 and No. 6 carburetors.

Hold the adjusting screws and tighten the lock nuts.



Recheck the idle speed and synchronization.

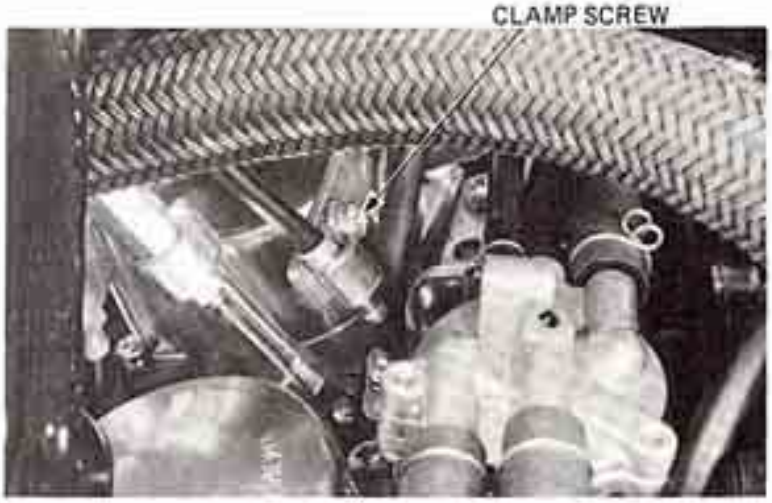
Install the removed parts in the reverse order of disassembly.



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CHOKE MECHANISM

Operate the choke lever and check for smooth operation.
Pull the choke to "fully close" and make sure that the choke lever fully closed at the carburetors.
Adjust by loosening the choke cable clamp and moving the choke cable casing.
Retighten the clamp, holding the choke lever fully closed.
Push the choke lever down all the way to fully open. Make sure the choke valve is fully open by checking for free play in the cable between the lever and the cable casing.



IDLE SPEED

NOTE

Adjust idle speed after synchronizing carburetors. The engine must be warm for accurate idle adjustment. Ten minutes of stop-and-go riding is sufficient.

Warm up the engine, shift to NEUTRAL, and place the motorcycle on its center stand.
Turn the throttle stop screw as required to obtain the specified idle speed.

IDLE SPEED: 900 ± 100 rpm

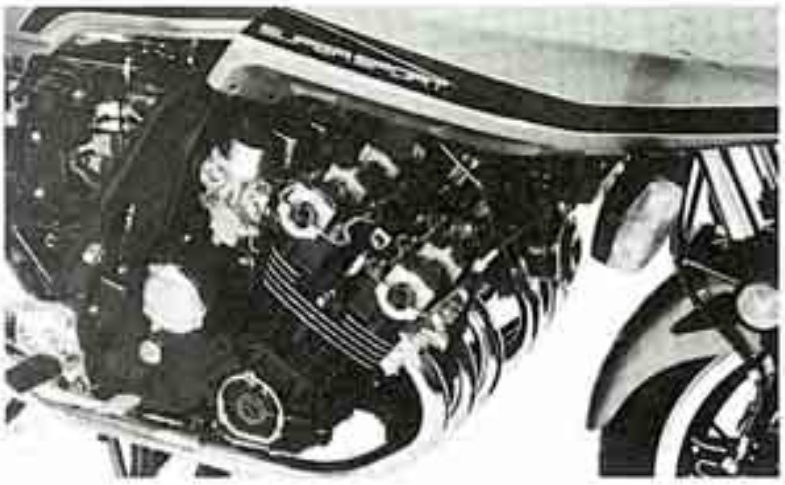


NOTE

Pilot screws are factory pre-set. Do not adjust the pilot screw unless the carburetors are overhauled.

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VALVE CLEARANCE



NOTE

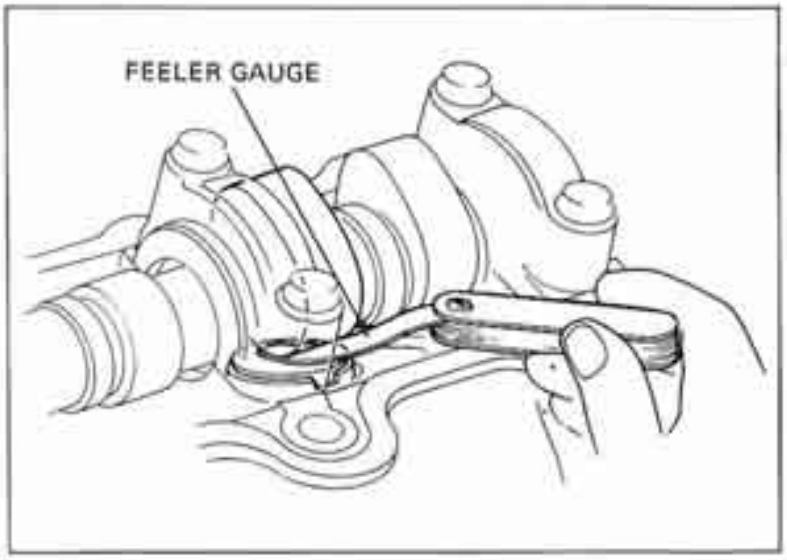
- Inspect and adjust valve clearance while the engine is cold. (Below 35°C, 95°F).
- Lean the motorcycle right and left to drain residual oil from the cylinder head.

Remove the seat and leg shield.
Turn the fuel valve OFF and remove the fuel tube and fuel tank.
Remove the No. 1 and No. 6 spark plugs.
Remove the cylinder head brackets.
Remove the tachometer cable.

Remove the tachometer gear cap and tachometer driven gear.

CAUTION

The tachometer driven gear must be removed to prevent No. 4 camshaft holder breakage when the camshafts are rotated. Camshaft holder breakage necessitates cylinder head assembly replacement.



Remove the four cylinder head side covers.
Remove the eight cylinder head cover mounting bolts and cylinder head cover.

NOTE

- Do not allow engine oil to enter the combustion chambers when the cylinder head cover is removed.
- Make sure the torque of the camshaft holder mounting bolts (32 bolts) is 12–14 N·m (1.2–1.4 kg-m, 104–122 in-lb).

Remove the right crank cap.

INSPECTION

Measure intake and exhaust valve clearances by inserting a feeler gauge between the camshaft and valve lifter shim.

VALVE CLEARANCE:
0.06–0.13 mm (0.002–0.005 in)

Rotate the crankshaft clockwise and measure the valve clearances in the following sequence:

Open No. 2 Ex. Valves to maximum and Measure No. 2 In., No. 1 Ex., No. 3 Ex. clearance
Open No. 4 Ex. Valves to maximum and Measure No. 4 In., No. 5 Ex., No. 6 Ex. clearance
Open No. 2 In. Valves to maximum and Measure No. 1 In., No. 3 In., No. 5 In. clearance
Open No. 5 Ex. Valves to maximum and Measure No. 6 In., No. 2 Ex., No. 4 Ex. clearance

Record the valve clearances.

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ADJUSTMENT

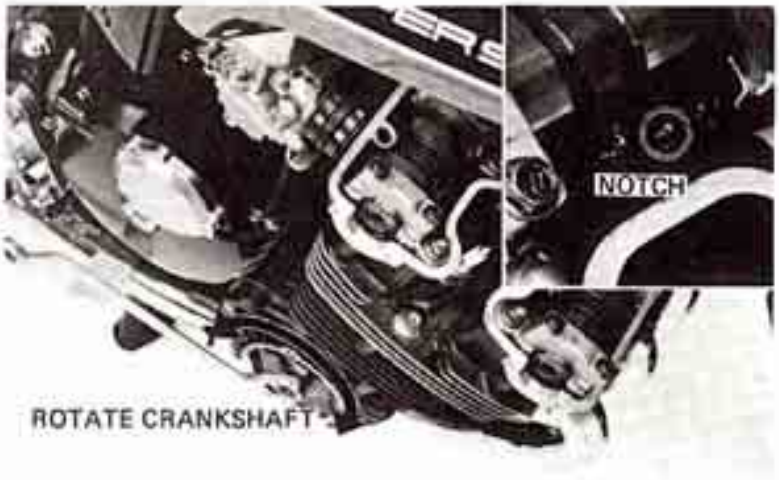
NOTE

Adjustment shims are available in 0.05 mm increments, from 2.30 to 3.50 mm.

Select a replacement shim to achieve the specified valve clearance, using the following procedures.

Turn the valve lifter notch toward the spark plug hole.

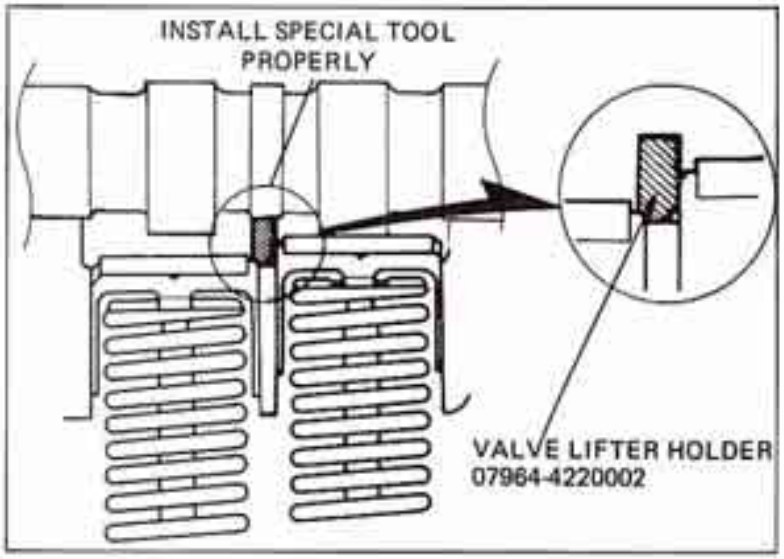
Rotate the crankshaft so that the valve being adjusted is at maximum lift.



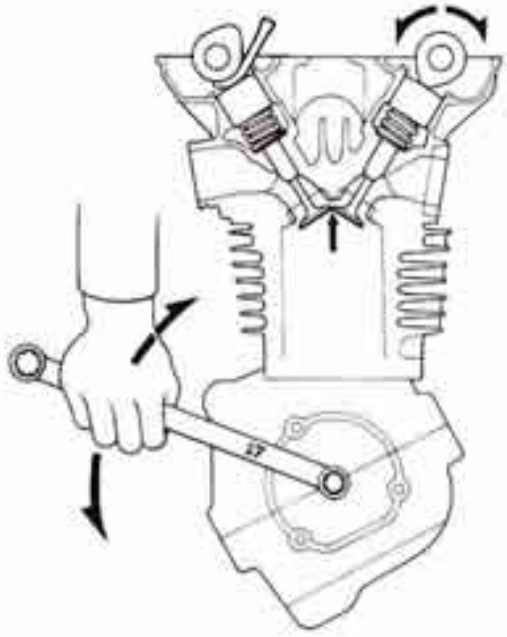
Insert the special tool (Valve Lifter Holder) between the camshaft and adjacent lifter.

CAUTION

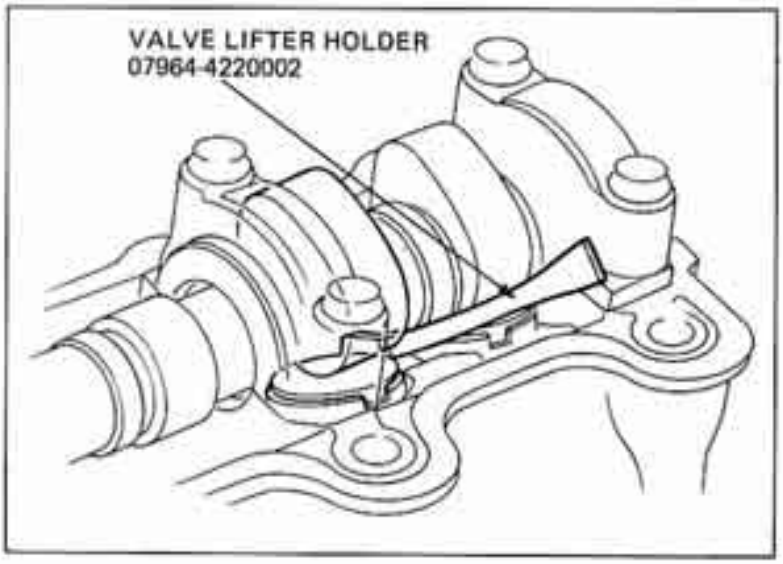
Do not rotate the crankshaft too far or in the wrong direction when the Valve Lifter Holder is depressing a pair of Valves. To do so will cause the intake and exhaust valves to strike and damage each other.



VALVE LIFTER HOLDER
07964-4220002

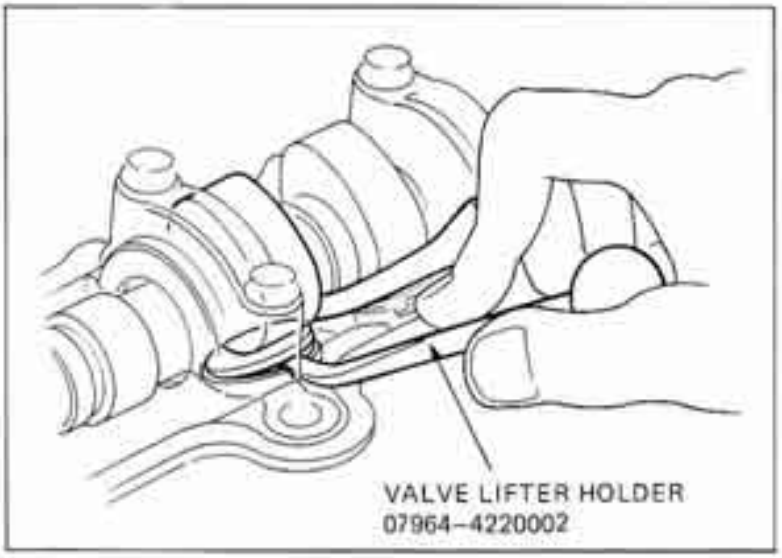


Rotate the crankshaft clockwise until there is enough clearance to remove the shim.

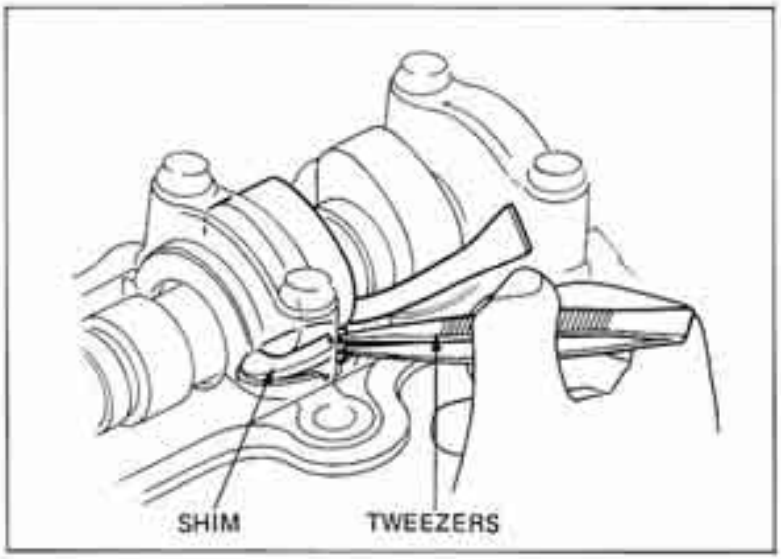


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Begin removal of the shim by prying it off with the valve lifter.



Then remove the shim with tweezers.

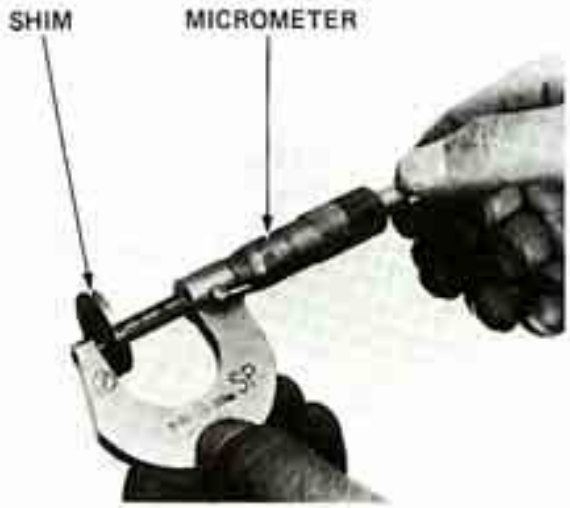


Measure the thickness of the used shim with a micrometer.
Select a replacement shim using the chart on Page 3-13.

Insert the replacement shim.

CAUTION

Make sure the opposite pair of valves does not open. The valves could be bent or damaged if the crankshaft is rotated incorrectly.



Rotate the crankshaft in the correct direction until the valves being adjusted are at maximum lift.
Remove the special tool "Valve Lifter Holder".
Rotate the crankshaft 2-3 revolutions to fully seat the replacement shim.
Recheck the valve clearance.
Install the removed parts in the reverse order of disassembly.

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EXAMPLE: 1. Measure valve clearance = 0.16 mm
2. Measure present shim size = 2.50 mm
3. Refer to chart. (See shaded columns)
4. Replacement shim size = 2.55 mm

VALVE SHIM SELECTION CHART

STANDARD VALVE CLEARANCE = 0.06 – 0.13 mm

VALVE CLEARANCE mm	SHIM mm	PRESENT SHIM SIZE mm (EX ⇩)																									
		2.30	2.35	2.40	2.45	**2.50**	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50
0.01–0.05			2.30	2.35	2.40	**2.45**	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45
0.06–0.13		SPECIFIED CLEARANCE — NO CHANGE REQUIRED																									
EX ⇨ 0.14–0.16		**2.35**	**2.40**	**2.45**	**2.50**	**2.55**	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	
0.17–0.21		2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50		
0.22–0.26		2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50			
0.27–0.31		2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50				
0.32–0.36		2.55	2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50					
0.37–0.41		2.60	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50						
0.42–0.46		2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50							
0.47–0.51		2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50								
0.52–0.56		2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50									
0.57–0.61		2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50										
0.62–0.66		2.85	2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50											
0.67–0.71		2.90	2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50												
0.72–0.76		2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50													
0.77–0.81		3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50														
0.82–0.86		3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50															
0.87–0.91		3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50																
0.92–0.96		3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50																	
0.97–1.01		3.20	3.25	3.30	3.35	3.40	3.45	3.50																		
1.02–1.06		3.25	3.30	3.35	3.40	3.45	3.50																			
1.07–1.11		3.30	3.35	3.40	3.45	3.50																				
1.12–1.16		3.35	3.40	3.45	3.50																					
1.17–1.21		3.40	3.45	3.50																						
1.22–1.26		3.45	3.50																							
1.27–1.31		3.50																								

REPLACE WITH THIS SHIM

NOTE

(1) Measure the valve clearance while the engine is cold.
(2) For shim replacement, see page 3–12.
(3) Measure old and new shims with a micrometer.
(4) The chart is for reference purpose only. After installing new shims, recheck the valve clearance.
Before rechecking, rotate the camshafts several times to seat the shims in the lifters.
(5) If the shim thickness required exceeds 3.5 mm, there is carbon build-up on the valve seat. Remove the carbon and reface the seat.

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CAM CHAIN

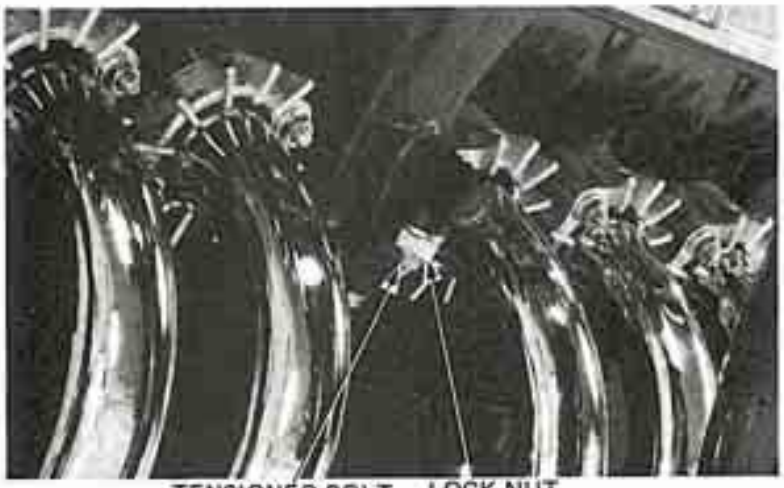
Start the engine and allow it to idle.
Loosen the rear cam chain tensioner lock nut and bolt at the rear of the cylinder head.
Tighten the bolt and lock nut.

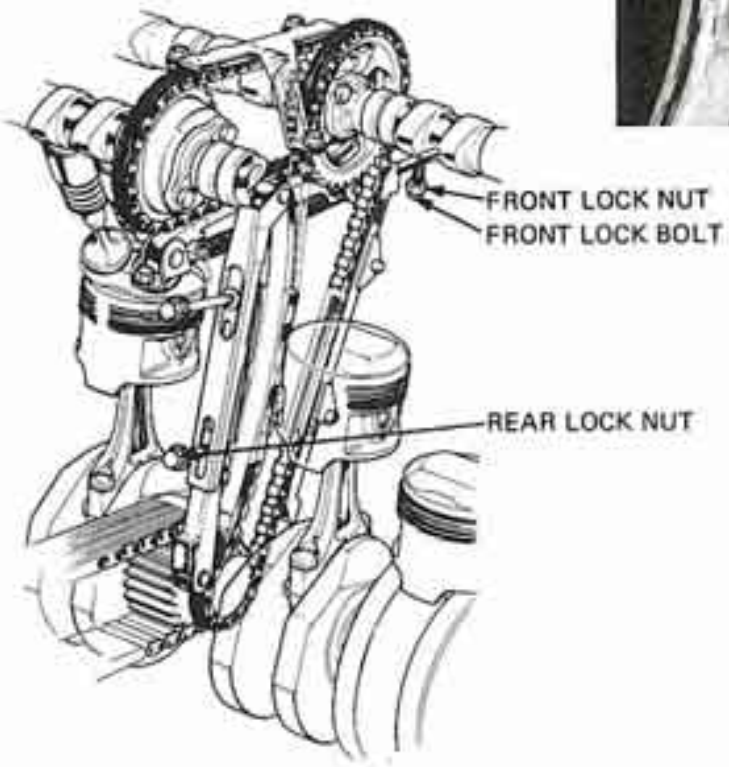


Loosen, then tighten, the front cam chain tensioner lock nut and bolt at the front of the cylinder.

NOTE

With engine running at idle, the tensioner will automatically position itself to provide the correct tension.





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COMPRESSION TEST

NOTE

The battery must be fully charged for this test.

Warm up the engine.
Remove all spark plugs.
Insert the compression gauge.
Open the choke and throttle valves fully.
Crank the engine with the starter motor.

NOTE

Crank the engine until the gauge reading stops rising. The maximum reading is usually reached in several seconds.

COMPRESSION PRESSURE:
1200 ± 100 kPa (12 ±1 kg/cm^2, 170 ± 14 psi)

If compression is low, check the following:

- Leaky valves
- Improper valve clearance
- Leaking cylinder head gasket
- Worn piston/rings/cylinder

If compression is high, it indicates that carbon deposits have accumulated on the combustion chamber wall or on the piston crown.



COMPRESSION GAUGE

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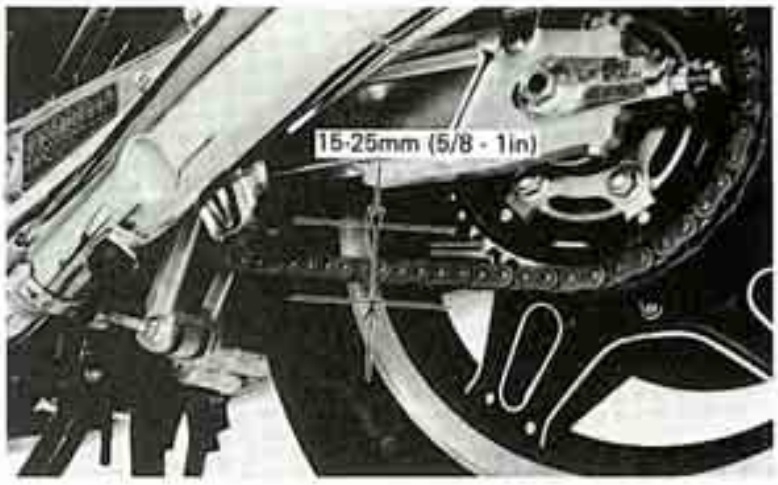
DRIVE CHAIN

NOTE

Perform the following with the ignition switch "OFF".

Place the vehicle on its center stand and shift the transmission into neutral.
Inspect the drive chain midway between the sprockets on the lower chain run.

FREE PLAY: 15–25 mm (5/8–1 in)
SERVICE LIMIT: 40 mm (1.5 in)



Adjust as follows:
Remove the rear axle cotter pin and loosen the nut.
Loosen the adjuster bolt lock nuts.
Turn the adjuster bolts an equal number of turns to obtain the specified free play.

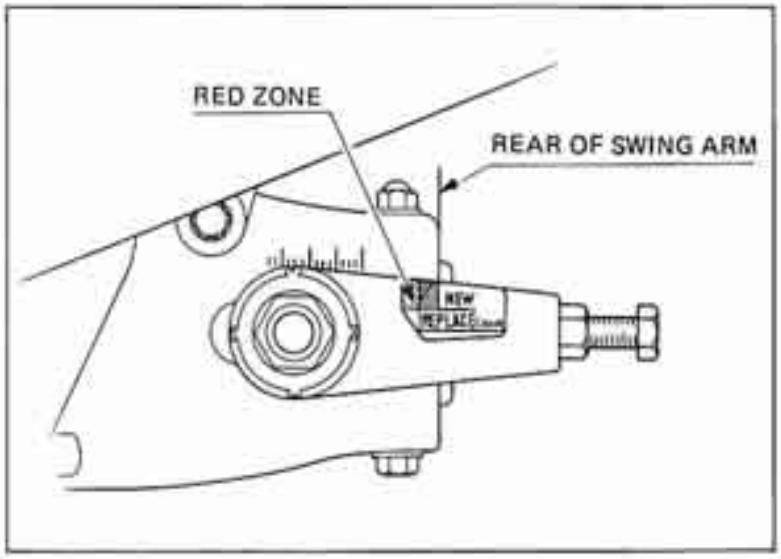
CAUTION

Be sure that the index mark aligns with the same graduation of the scale on both sides.

Tighten the adjuster bolt lock nuts.
Tighten the axle nut securely.
Recheck free play and free wheel rotation.
Lubricate the drive chain (Page 2-5).

AXLE NUT TORQUE:
85-105 N-m, (8.5-10.5 kg-m, 61-76 ft-lb)

Replace the drive chain when the red zone on the label aligns with the rear of the swing arm with a chain free play of 20 mm (3/4 in).



Replacement chain: DID 50ZL, RK 50LO

Inspect the sprocket teeth for excessive wear or damage.
Replace if necessary.

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 replacement chain or sprockets will wear rapidly.

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BATTERY

Remove the right and left side covers.
Disconnect the ground cable at the battery terminal.
Disconnect the positive cable at the magnetic switch terminal.
Remove the battery.

Inspect the battery fluid level.
When the fluid level nears the lower level, refill with distilled water to the upper level.

NOTE

Add only distilled water. Tap water will shorten the service life of the battery.

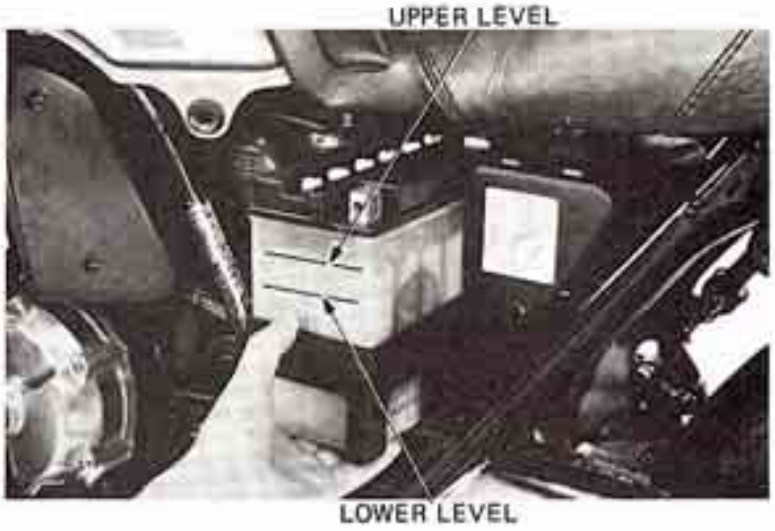
WARNING

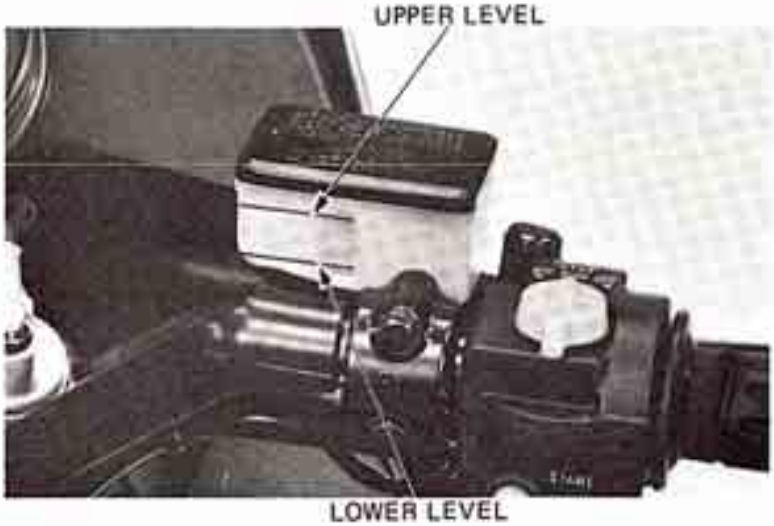
The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if electrolyte gets in your eyes.

Replace the battery, if sulfation forms or sediments accumulate on the bottom.

CAUTION

- *To prevent damage to the battery, do not tap it with a hammer during installation.*
- *Do not grease the battery.*





BRAKE FLUID

Check that the front and rear brake fluid reservoirs are filled to the upper level mark.
If the level nears the lower level mark, fill the reservoir with DOT–3 BRAKE FLUID to the upper level mark.
Check the entire system for leaks, if the level is low.

CAUTION

- *Do not mix different brands of fluid as they may not be compatible.*
- *Do not remove the cap until the handlebar has been turned full right so that the reservoir is level.*
- *Avoid operating the brake lever with the removed.*
  Brake fluid will squirt out if the lever is pulled.



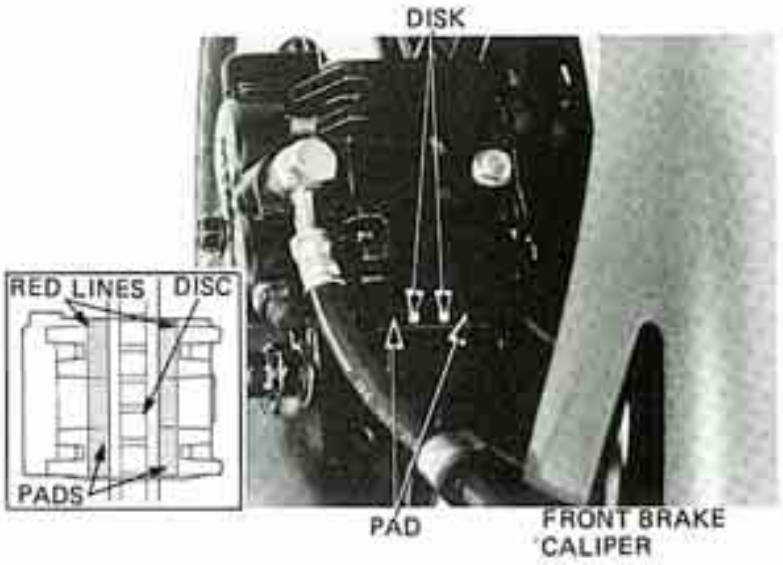
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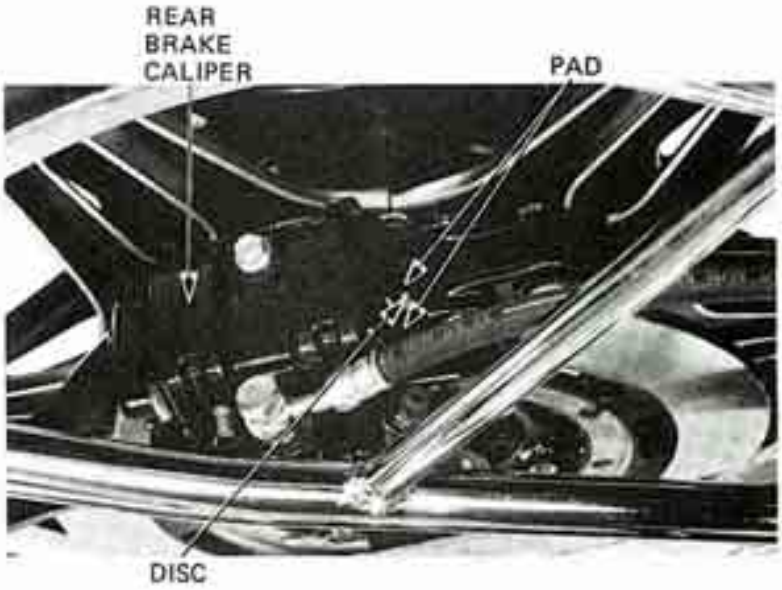
BRAKE PAD WEAR

Check for brake pad wear.
Replace the brake pads if the red line on the top of the pads reaches the edge of the brake disc. (Refer to Section 12).

CAUTION

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





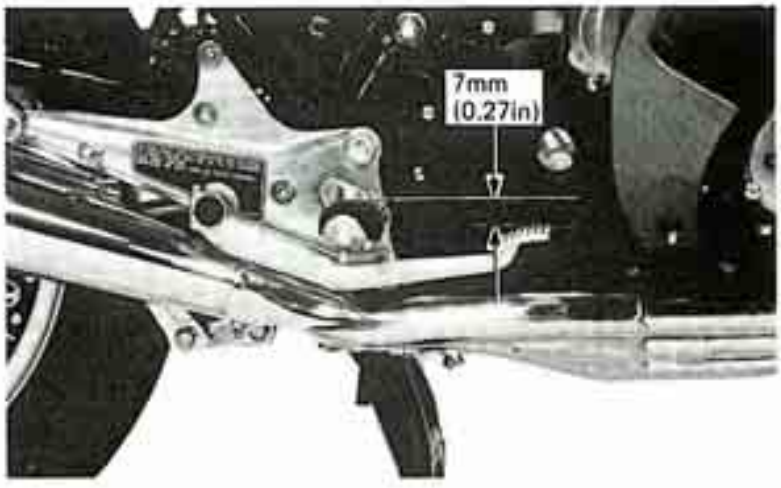
BRAKE SYSTEM

REAR BRAKE PEDAL HEIGHT

Adjust the pedal height so that the distance between the pedal and upper face of the footpeg is 7 mm (0.27 in).

CAUTION

Improper brake pedal height adjustment can cause brake drag.

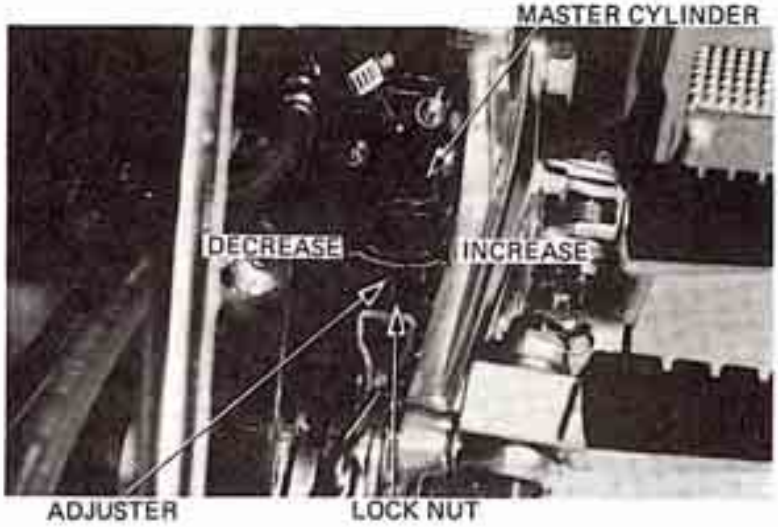


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Adjust as follows:
Loosen the lock nut.
Turn the adjuster until the correct pedal height is obtained.
Tighten the lock nut securely.

NOTE

After adjusting pedal height, adjust the brakelight switch.



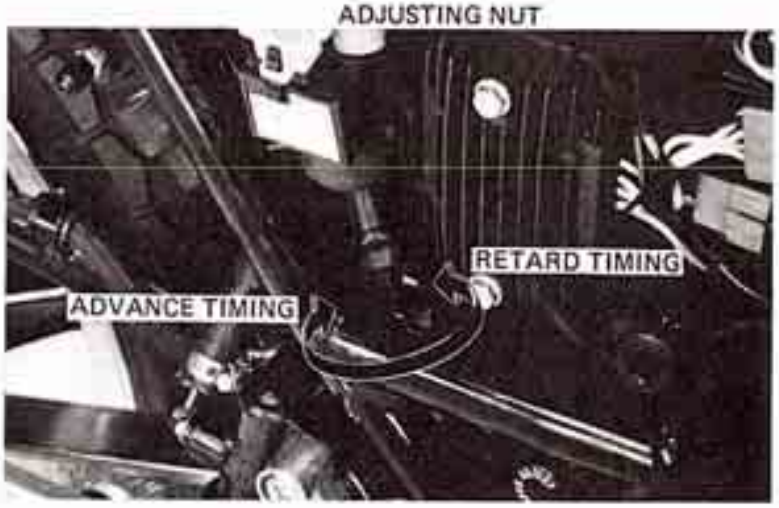
BRAKELIGHT SWITCH

Adjust the brakelight switch so that the brakelight will light when the brake pedal is depressed and the brake begins engagement.

Adjust by turning the switch adjusting nut as shown.

NOTE

- Do not turn the switch body.
- The front brakelight switch does not require adjustment.



HEADLIGHT AIM

VERTICAL BEAM

The headlight beam can be raised or lowered by turning the vertical beam adjusting knob.



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HORIZONTAL BEAM

Remove the headlight cover from the rubber seal in the fairing.
Adjust horizontally by turning the adjusting screw on the headlight rim.
Turn the adjusting screw clockwise to direct the beam toward the right side of the rider.

NOTE

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

WARNING

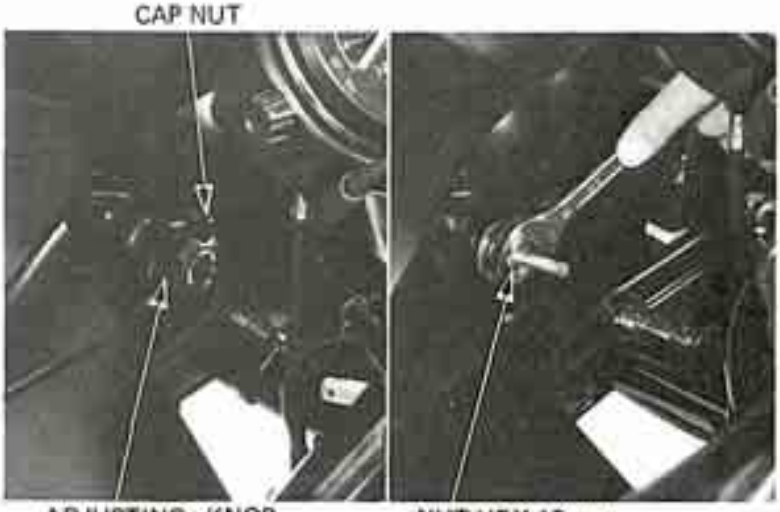
An improperly adjusted headlight may blind oncoming drivers, or it may fail to light the road for a safe distance.



HEADLIGHT BULB REPLACEMENT

Loosen the screw attached to the headlight adjusting knob.

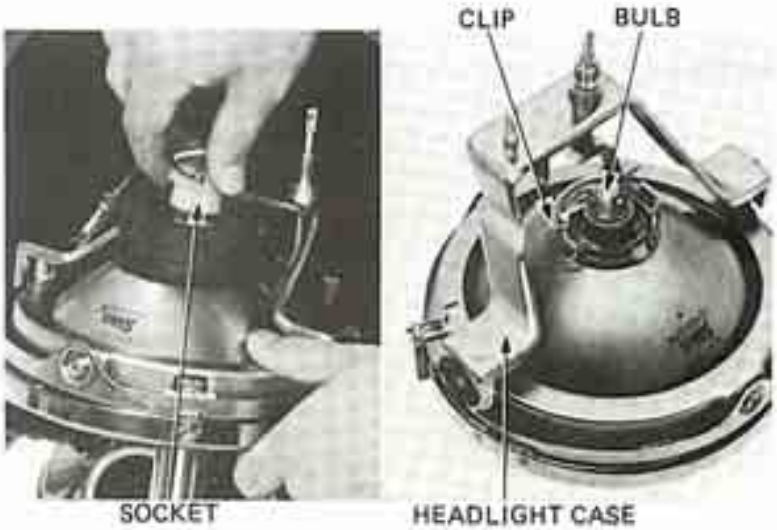
Remove the adjusting knob, nut and washers.
Remove the crown nut.



Remove the headlight cover from the fairing.
Pull out the headlight case and replace the bulb.
Reinstall the bulb clip.

CAUTION

- *Do not touch the glass of a halogen bulb, or early bulb failure will occur.*
- *If you do touch the bulb, wipe it clean with a cloth moistened with alcohol.*

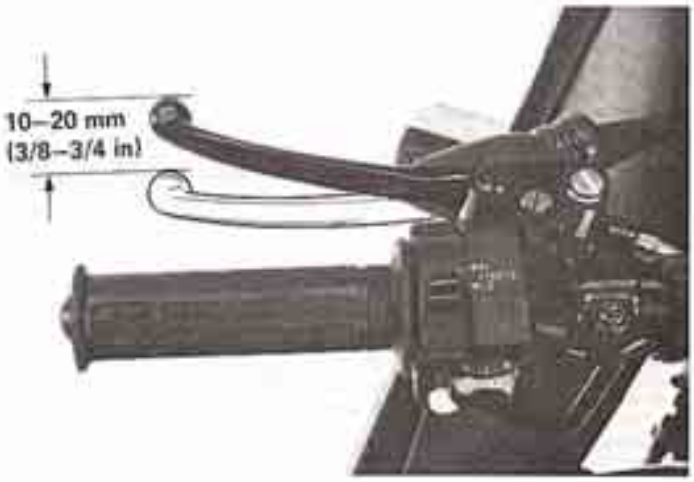


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CLUTCH FREE PLAY

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

FREE PLAY: 10–20 mm (3/8–3/4 in)



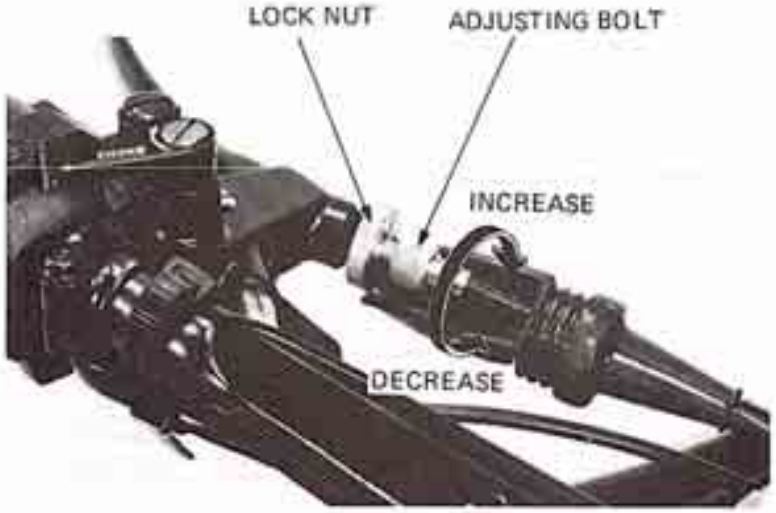
ADJUSTMENT

Loosen the upper adjusting bolt's lock nut and turn the adjusting bolt until the correct free play is obtained.

Tighten the lock nut.

NOTE

Do not expose the adjusting bolt threads more than 8 mm (3/4 in).



If adjustment cannot be made with the clutch lever adjusting bolt, screw the adjusting bolt all the way in. Adjustment must be made at the clutch housing.

Loosen the lower clutch cable adjusting lock nut and turn the adjusting nut all the way in.

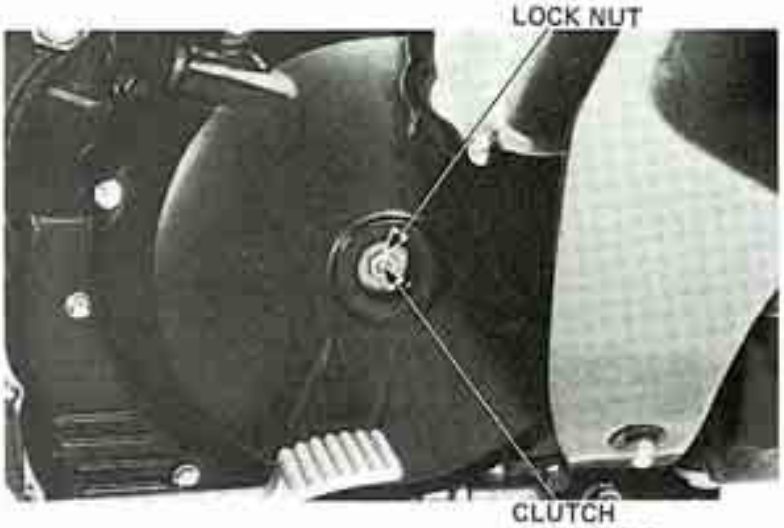


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Remove the clutch lifter cap and loosen the clutch lifter lock nut. Turn the adjusting screw in until a slight resistance is felt. From this position, turn the clutch adjusting screw counterclockwise 1 turn, and tighten the lock nut.

Turn the clutch cable lower adjusting nut so that there is 10–20 mm (3/8–3/4 in) of free play at the end of the clutch lever. Tighten the lock nut.
Any minor adjustment can be obtained with the adjusting bolt and lock nut at the clutch lever.

After adjustment, be sure all lock nuts are tightened securely.
Check to see that the clutch is not slipping and is properly disengaging.



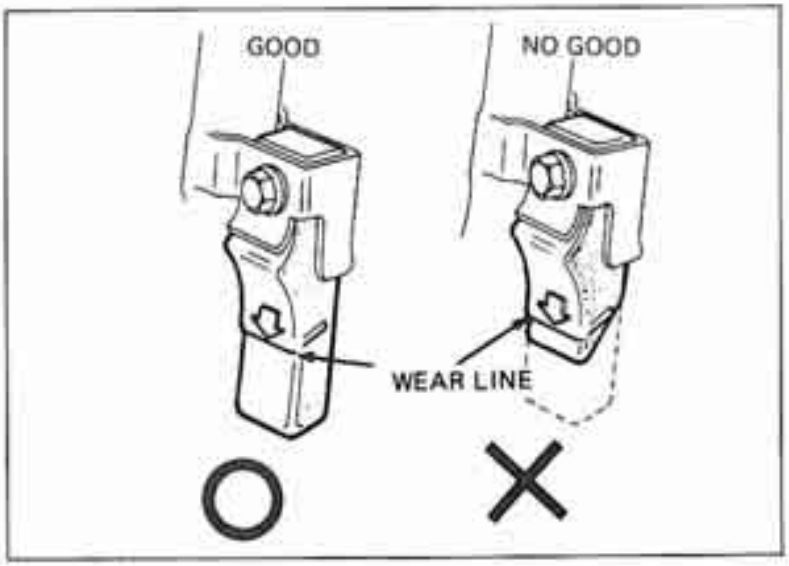
SIDE STAND

Check the rubber pad for deterioration or wear.
Replace if any wear extends to the wear line as shown.
Check the side stand spring for damage and loss of tension, and the side stand assembly for freedom of movement and bending.



NOTE

When replacing, use a rubber pad with the mark "OVER 260 lbs ONLY".
Spring tension is correct if the measurements fall within 1.5–2.5 kg (3.3–5.5 lb) when pulling the side stand lower end with a spring scale.



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SUSPENSION

WARNING

Do not ride a vehicle with faulty suspension. Loose, worn or damaged suspension parts impair vehicle stability and rider control.

FRONT

With the front brake applied, pump the front forks up and down several times.
Place the motorcycle on the center stand.

Measure the air pressure.

STANDARD:
70 ± 20 kPa (0.7 ± 0.2 kg/cm², 10 ± 3 psi)

CAUTION:

- *Use only a hand operated air pump to fill the fork tubes.*
  Do not use compressed air.
- *Maximum pressure is 300 kPa (3 kg/cm², 43 psi). Do not exceed this or fork tube component damage may occur.*

Check the entire fork assembly for leaks or damage.
Replace any components which cannot be repaired.
Tighten all nuts and bolts.



REAR

Place the motorcycle on its center stand.
Move the rear wheel sideways forcefully to see if the swing arm bushings are worn.
Replace if excessively worn.
Check the entire suspension assembly to see if it is securely mounted, and not damaged or distorted.
Tighten all nuts and bolts.
Lubricate the swing arm bushings.



Measure the air pressure.

STANDARD:
200–400 kPa (2.0–4.0 kg/cm², 28–57 psi)

Adjust the rebound damping according to the following chart.

Recommended Rear Suspension Adjustment:

Rear Air Pressure	Rider/ Load	REBOUND DAMPING ADJUSTER	RIDING CONDITIONS
200 kPa (2.0 kg/cm², 28 psi) ↓ 400 kPa (4.0 kg/cm², 57 psi)	One ↕ Up to vehicle capacity load	1	General or around town riding.
		2	Highway or winding road riding
		3	Rough road riding



Rebound damping adjuster

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WHEELS

TIRE PRESSURE

NOTE

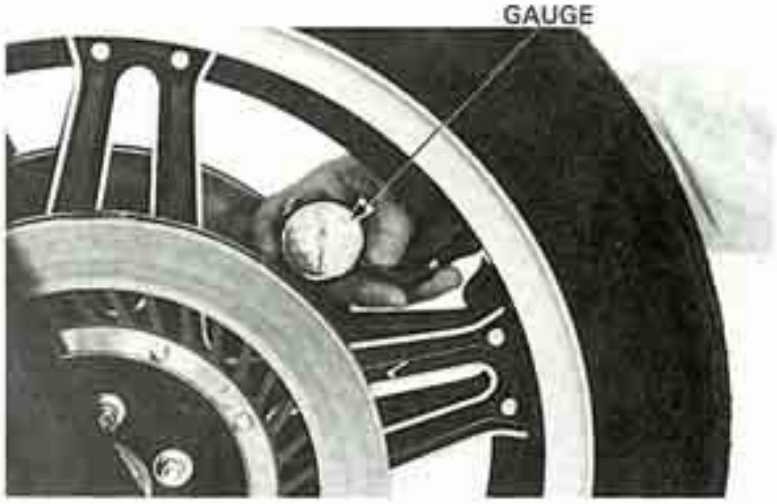
Tire pressure should be checked when tires are **COLD.**

Check the tire for cuts, imbedded nails, or other sharp objects.

Recommended tire pressure and tire size:

Cold tire pressure kPa (kg/cm^2, psi)	Front Rear Max load	250 (2.5, 36) 250 (2.5, 36) 290 (2.9, 41)
Vehicle capacity load limit	175 kg (385 lbs)	
Tire size	Front Rear	3.50V19–4PR 130/90 V18
Tire brand Tubeless only	Front	GOLD SEAL F11 (DUNLOP) MaG. MOPUS-706 (BRIDGESTONE)
	Rear	GOLD SEAL K127 (DUNLOP) MaG. MOPUS-G508 (BRIDGESTONE)

Check the front and rear wheels for trueness (page 14-5).



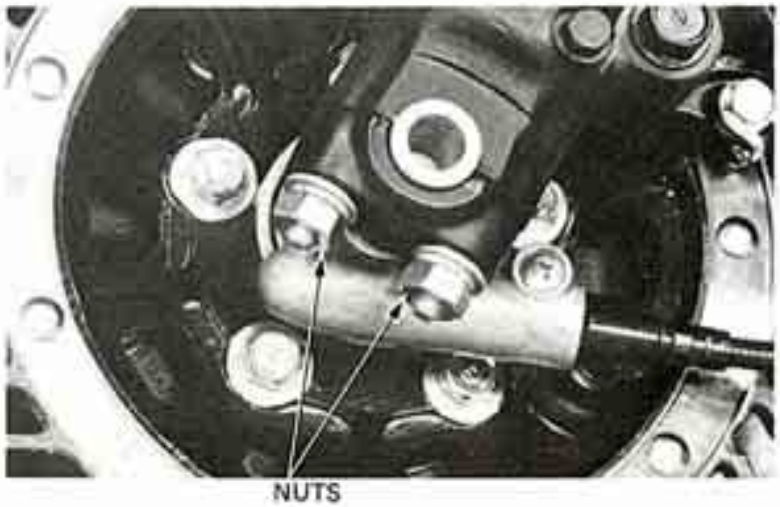


STEERING HEAD BEARINGS

NOTE

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

Raise the front wheel off the ground.
Check that the handlebar rotates freely.
If the handlebar moves unevenly, binds, or has vertical movement, adjust the steering head bearing by turning the steering head adjusting nut with a pin spanner. (page 13-27).



NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to correct torque values.
Check all cotter pins, safety clips and all other fasteners.

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