

3. MAINTENANCE

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SERVICE INFORMATION

GENERAL

Engine oilEngine oil filter

See page 2-3

See page 2-3

SPECIFICATIONS

<Engine>

Spark plug:

Recommended spark plug

Stan	dard	For extended high speed riding
ND	NGK	ND
X27ESR-U	DR8ES	X31ESR-U

Plug gap

0.6-0.7 mm (0.02-0.03 in)

MAINTENANCE



Ignition timing

At idle

: 10°BTDC

Advance starts

1,700 rpm

Full advance

38°30' BTDC at 3,500 rpm

Valve clearance:

Cold (Below 35°C/95°F)

Intake/Exhaust : 0.06-0.13 mm (0.002-0.005 in)

Idle speed

: 1,000 ± 100 rpm

Carburetor synchronization : All carburetors within 60 mm Hg (2.4 in Hg) of each other

Cylinder compression

: $12 \pm 2 \text{ kg/cm}^2 (170 \pm 28 \text{ psi})$

Throttle grip free play

: 2-6 mm (1/8-1/4 in)

<CHASSIS>

Clutch lever free play

: 10-20 mm (3/8-3/4 in)

Tire

Tire siz		Front	Rear
1116 312		100/90 V-18	130/90 V-17
Cold tire pressures kg/cm ² (psi)	Up to 90 kg (200 lbs) load	2.50 (36)	2.50 (36)
Cold the pressures kg/chi (psi)	90 kg (200 lbs) load to vehicle capacity load	2.50 (36)	2.90 (41)
Tire brand	BRIDGESTONE	L303	G508
The brand	DUNLOP	F11	K627

Front fork air pressure

: 0-0.6 kg/cm² (0-8 psi)

TOOLS

Special

Valve adjusting tool set

M9501-277-94752

Vacuum gauge

07404-0020000 or M937B-021-XXXXX (U.S.A. only)

Carburetor adjusting wrench

07908-4220100



MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION Iin the Owner's Manual at each scheduled maintenance period.

- Inspect and Clean, Adjust, Lubricate, or Replace if Necessary.
- C: Clean
- R: Replace
- A: Adjust
- L: Lubricate

			WHICHEVER		0					(NOTE 3)
		FREQUENCY	COMES ■ FIRST	▶ /		/	7.5.80 h 7.00 km	16.20 km	20.00 km	Refer to page
		ITEM	III.	/;	4.00 km/	(m) 000000000000000000000000000000000000				
		TTEIVI		\ 8°	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,	%.\%.		\$\\\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	δ ₂ /_
	*		EVERY	6	./ 🗱					Refer to page
		FUEL LINES		<u> </u>	!	1	<u> </u>	ı		3-4
	*	FUEL STRAINER		С	С	С	С	С	С	3-4
MS	*	THROTTLE OPERATION		1	1	1	ı	- 1	l	3-5
ITEMS	*	CARBURETOR-CHOKE			<u>,</u>	1	ı	1	l	3-6
		AIR CLEANER	NOTE 1		С	R	С	R	С	3-6
		CRANKCASE BREATHER	NOTE 2		С	С	С	С	С	3-7
ELATED		SPARK PLUGS			R	R	R	R	R	3-7
<u> </u>	*	VALVE CLEARANCE		1	1	1	1	1	ı	3-8
8		ENGINE OIL	YEAR	R	R	R	R	R	R	2-3
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EMISSION	*	CAM CHAIN TENSION		Α	Α	Α	Α	Α	Α	3-12
-	*	CARBURETOR-SYNCHRONIZATION		ı		ı	ı	ı	I	3-12
	*	CARBURETOR-IDLE SPEED		ı	ı	1	1	ı	ı	3-13
		DRIVE CHAIN		1,	L Eve	ry 300) mi (5	00 kr	n)	3-15
		BATTERY	MONTH	ı	1	1	ı	1	ı	3-17
RELATED ITEMS		BRAKE FLUID	MONTH I 2 YEARS*R	1	1	1	*R	١	ı	3-17
		BRAKE PAD WEAR		ı	1	1	1	ı	ı	3-18
H		BRAKE SYSTEM		1	ı	1	1	ı	ı	3-18
EL/	*	BRAKE LIGHT SWITCH		1	1	ı	1	1	1	3-19
	*	HEADLIGHT AIM		1	Į, j	ı	I	ı	ı	3-19
0		CLUTCH		1	ı	Ī	ı	ı	ı	3-20
ISS		SIDE STAND			ı	ı	I	ı	1	3-21
Ξ	*	SUSPENSION		1	1	ī	ı	ı	1	3-21
NON-EMISSION	*	NUTS, BOLTS, FASTENERS		1	1	1	ı	ı	ı	3-25
ž	**	WHEELS		ı	I	1	ı	ı	ı	3-24
	**	STEERING HEAD BEARINGS	H HH	1		1		ı		3-25

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

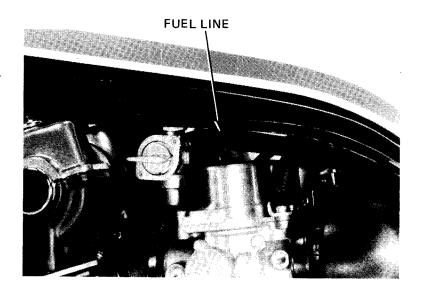
- NOTES: 1. Service more frequently when riding in dusty areas.
 - 2. Service more frequently when riding in rain or at full throttle.
 - 3. For higher odometer readings, repeat at the frequency interval established here.

In the interest of safety, we recommend these items be serviced ONLY by an authorized HONDA dealer.



<ENGINE> FUEL LINES

Replace any parts which show deterioration, damage or leakage.



FUEL STRAINER

Turn the fuel valve OFF.

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

WARNING

Gasoline is flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks near the equipment while draining fuel.

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

Reinstall the screen, aligning the index marks on the fuel valve body and filter screen. Install a new O-ring into the fuel valve body. Reinstall the fuel cup, making sure the new O-ring is in place.

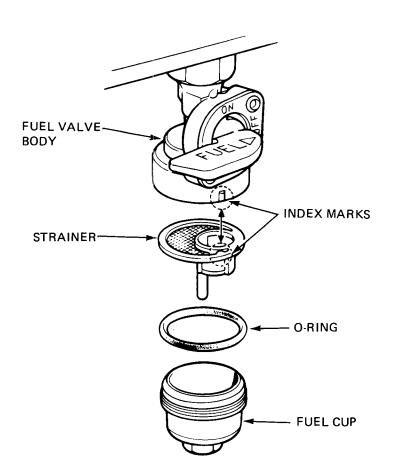
Hand tighten the fuel cup and torque to specification.

CAUTION:

Do not overtighten the fuel cup.

TORQUE: 3-5 N·m (0.3-0.5 kg·m, 2-4 ft-lb)

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





THROTTLE OPERATION

NOTE:

The accelerator pump may flood the carburetors during this inspection.

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 (page 2-10) if throttle operation is not smooth.

Measure throttle grip free play at the throttle grip flange.

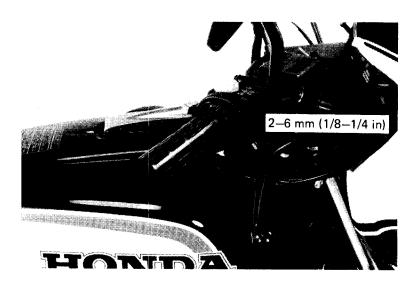
FREE PLAY: 2-6 mm (1/8-1/4 in)

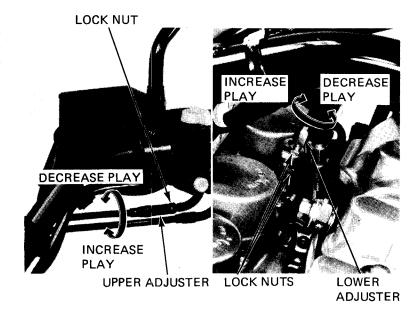
Adjustment can be made at either end of the throttle cable. Minor adjustments are made at the upper end and major adjustments are made at the lower end, after removing the fuel tank.

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

Tighten the lock nut(s) and recheck throttle operation.

Install the fuel tank.







CARBURETOR CHOKE

Remove the fuel tank.

Operate the choke lever and check for smooth ope-

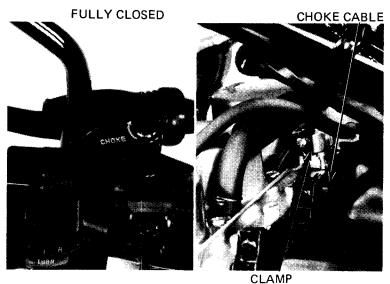
Lubricate the choke cable if the operation is not smooth.

Push the choke lever on the handlebar all the way forward to fully closed. Make sure that the choke valve is closed by moving the choke lever on the carburetor.

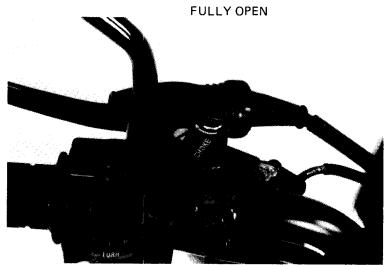
Adjust by loosening the choke cable clamp on the carburetor and moving the choke cable casing so the choke lever is fully closed.

Tighten the clamp, holding the choke lever fully closed.

Pull the choke lever all the way back to fully open. Make sure the choke valve is fully open by checking for free play in the cable between the lever on the carburetor and cable casing. Install the fuel tank.

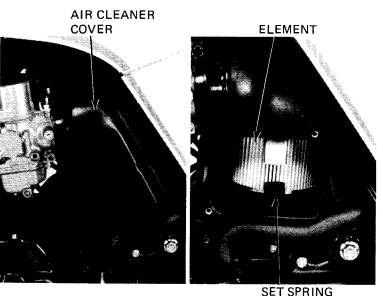






AIR CLEANER

Remove the two air cleaner cover screws and cover. Pull out the air cleaner element set spring and remove the element.

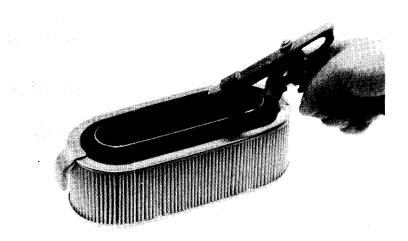




Clean the element by tapping it lightly to loosen dust. Blow away the remaining dust by applying compressed air from inside the element.

Replace the element if it is excessively dirty, torn or damaged.

Install the element, element set spring and air cleaner cover.



CRANKCASE BREATHER

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

NOTE:

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

SPARK PLUGS

RECOMMENDED SPARK PLUGS

Standard	ND	X27ESR-U
Standard	NGK	DR8ES
For extended high speed riding	ND	X31ESR-U

Disconnect the spark plug caps.

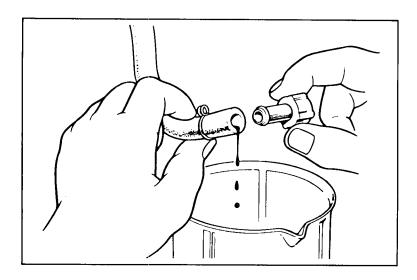
Clean any dirt from around the spark plug bases. Remove and discard the spark plugs.

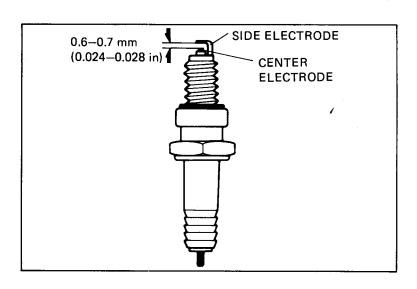
Measure the new spark plug gaps using a wire-type feeler gauge.

SPARK PLUG GAP: 0.6-0.7 mm (0.025-0.028 in)

Adjust by bending the side electrode carefully. With the plug washers attached, thread the 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 washers.

Connect the spark plug caps.







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 frame right and left side covers and seat. Turn the fuel valve OFF and remove the fuel tube and fuel tank.

Remove the tachometer cable and disconnect the spark plug caps.

Remove the cylinder head cover bolts and cylinder head cover.

Remove the alternator cover.



Rotate the crankcshaft clockwise to align index mark # 1 on the exhaust camshaft right end with the front cylinder head mating surface.

Measure and record the clearances of the No. 1 and No. 3 exhaust valves by inserting a ffeler gauge between the camshaft and the valve lifter shim.

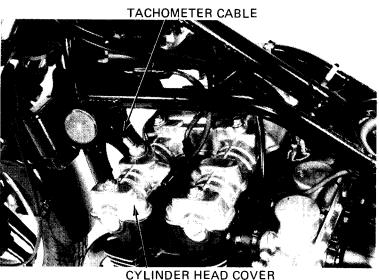
Rotate the camshaft 105° clockwise to align index mark # 2 with the front cylinder head mating surface. Check and record the clearances of the No. 1 and No. 3 intake valves.

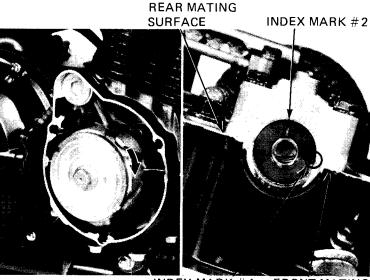
Rotate the camshaft 75° clockwise to align index mark #1 with the rear cylinder head mating surface. Measure and record the clearances of the No. 2 and No. 4 exhaust valves.

Rotate the camshaft 105° clockwise to align index mark # 2 with the rear cylinder head mating surface. Measure and record the No. 2 and No. 4 intake valve clearances.

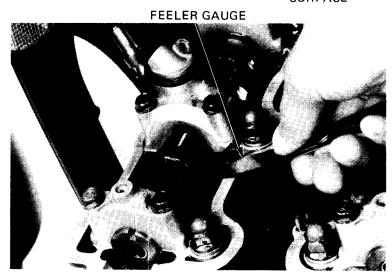
VALVE CLEARANCE (cold): 0.06-0.13 mm (0.002-0.005 in)

If any clearance is not within specification, perform the adjustment procedures on the next page.





INDEX MARK #1 FRONT MATING SURFACE





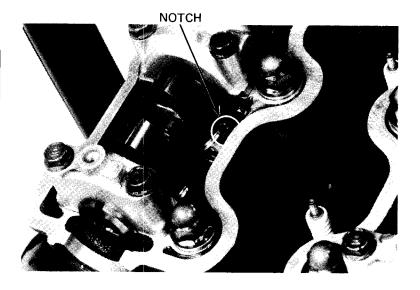
ADJUSTMENT

NOTE:

- Adjustment shims are available in 0.05 mm increments, from 2.30 to 3.50 mm.
- The No. 2 EX. shim must be removed from the front.

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

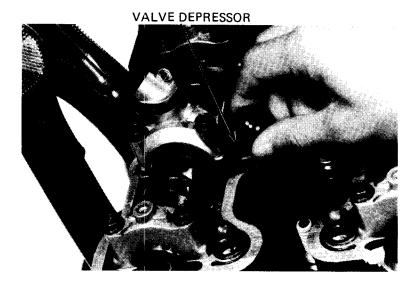
Rotate the valve lifter until the notch is facing the spark plug.



Rotate the crankshaft so that the cam lobe faces away from the valve lifter. Insert the Valve Depressor between the cam and shim. It should be pushed into place. It has a ramp which will open the valve.

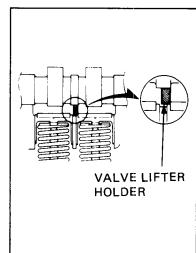
CAUTION:

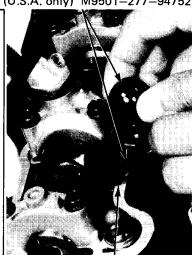
Use the Depressor as a wedge, not as a pry bar, or the lifter and camshaft will be damaged.



VALVE ADJUSTING TOOL SET (U.S.A. only) M9501-277-94752

Position the end of the valve lifter holder under the camshaft so it rests on the edge of the depressed lifter and contacts the side of the adjacent lifter. Do not let the lifter holder contact the shim or you will not be able to remove it.





VALVE LIFTER HOLDER



Pull out the Valve Depressor and remove the shim with tweezers or a magnet. The valve depressor can also be used to lift the shim out.

NOTE:

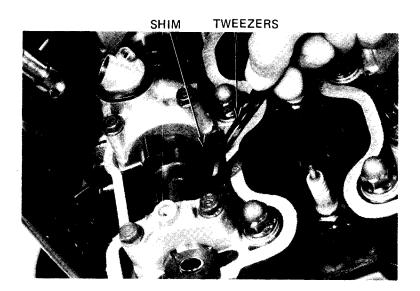
If more clearance is needed to remove the shim, reinsert the valve depressor and invert the valve lifter holder. Pull out the valve depressor and remove the shim.

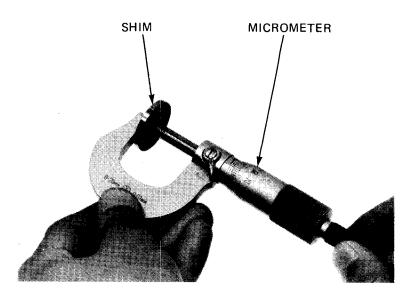
CAUTION:

If the valve lifter holder is inverted, don't let it damage the cylinder head cover mating surface.

Measure the thickness of the removed shim with a micrometer. Select a replacement shim using the chart on page 3-11.

Insert the replacement shim,





To remove the valve lifter holder, reinstall the valve depressor. First remove the Holder and then remove the depressor.

Rotate the crankshaft several times to fully seat the replacement shims and recheck the valve clearance. Install the following:

- Alternator cover.
- Cylinder head cover.
- Tachometer cable.
- Spark plug caps.
- Fuel tank.

Seat and side covers.



EXAMPLE: 1. Measure valve clearance = 0.16 mm 2. Measure present shim size = 2.50 mm

Refer to chart. (See shaded columns)
 Replacement shim size = 2.55 mm

				VALVE SHIM SEL	E SHI	M SE	LECT	IONC	ECTION CHART		S	STANDARD VALVE CLEARANCE = 0.06-0.13 mm (0.002-0.005 in)	ARD	VAL	/E CI	EAR,	ANCE	= 0.0	6-0.1	3 mm	(0.00	2-0.0	05 in		
						ÄÇ>						PRESE	PRESENT SHIM SIZE mm	IIM SI	ZE mn	_									
	SHIM	230	2.35	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80	2.85 2	2.90 2	2.95 3.	3.00 3.0	3.05 3.10	0 3.15	5 3.20	3.25	3.30	3.35	3.40	3,45	3.50
VALVE CLEARANCE mm	111																								
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	.85 2	2.90 2.	2.95 3.0	3.00 3.05 3.10	5 3.1	0 3.15	3.20	3.25	3.20 3.25 3.30 3.35	3.35	3.40	3.45
0.06-0.13								σ,	SPECIFIED CLARANCE	IED C	LARA	NCE			NO	HANG	NO CHANGE REQUIRED	UIRE	٥						
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	2.95 3	3.00 3.	3.05 3.7	3.10 3.15	5 3.20	0 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	2.95	3.00 3	3.05 3.	3.10 3.7	3.15 3.20	0 3.25	5 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.	3.15 3.20	20 3.25	5 3.30	3.35	3.40	3.45	3.50	\	\	
0.27-0.31	Γ	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	3.15 3.	3.20 3.3	3.25 3.30	0 3.35	5 3.40	3.45	3.45 3.50		`		
0.32-0.36		2.55	2.65	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00	3.05	3.10	3.15 3	3.20 3.	3.25 3.30	30 3.35	5 3.40	0 3.45	3.50	7	`	\setminus		
0.37-0.41	1	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	3.20 3	3.25 3.	3.30 3.35	35 3.40	0 3.45	5 3.50			\setminus			
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	3.25 3	3.30 3.	3.35 3.4	3.40 3.45	5 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	3.25 3	3.30 3	3.35 3.	3.40 3.4	3.45 3.50	0							
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	3.40 3.	3.45 3.50	05	N		\					
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	3.40 3	3.45 3.	3.50	\		\						
0.62-0.66	,	2.85	2.90	¹ 2.95	3.00	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40 3	.45 3	50	15	1	\							
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	*;	⁵ /		NOTE:							
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	3	١,	\		. Me	1. Measure the valve clearance while	the va	lve cl	earand	se wh	ile the	ē
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	DA JO	ا پي	\		2	erig 2. For	erigine is cold (below 35 °C, 95 °F). For shim replacement, see page 3-9	olu (p	ement	see D	Sage 3	_ o	
0.82-0.86	,	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	\		\			(C)		Measure	olda	nd n	and new shims with	ims	£	æ
0.87-0.97	T	3.10	3.15	3.20	3.25	3.30	3.35	3.40	3,45	3.50	\	\	\				•		micrometer.	er.	,				
0.92-0.96	,	3.15	3.20	3.25	3.30	3.35	3.40	3.45	3.50	\	\	\					4	4. Ine	The chart is for reference purposes only.	Is tor	retere	nce pt	arpose	s only	
0.97-1.01	1	3.20	3.25	3.30	3.35	3.40	3.45	3.50		`	\							valv	wite instanting flew stillins, recheck tile valve clearance and adjust if necessary	rance	and a	diust	if neg	essarv	<u>.</u>
1.02-1.06		3.25	3.30	3.35	3.40	3,45	က		`									Bef	Before rechecking, rotate the camshafts	hecki	ng, ro	tate th	te car	nshaft	: 2
1.07-1.11	, .	3.30	3.35	3.40	3.45	3.50		,										seve	several tir	nes tc	seat	times to seat the shims in the	shims	i. Ţ	ē
1.12-1.16	T	3.35	3.40	3.45	3.50			\setminus									נט	IITTERS. 5 If the	litters. If the chim thickness required exceeds	a th	ckneed	1001	o Posi-	Paga	٥
1.17-1.21	ı	3.40	3.45	3.50													1		3.5 mm, there is carbon build-up on the	here i	s carb	on bui	dn-bli	on the	به د
1.22-1.26		3.45	3.50			/												valv	valve seat. Remove the carbon and	t. Re	move	the	carbo	n and	ъ
1.27-1.31		3.50		N		\												refa	reface the seat.	seat.					
					,																				

HONDA **CB1100F**

CAM CHAIN TENSION

NOTE:

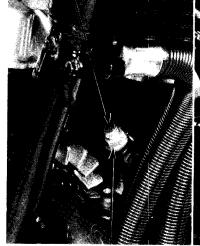
Adjust cam chain tension while the engine is cold (below 35°C, 95°F).

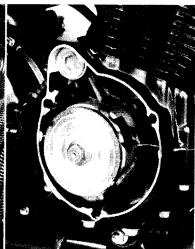
Remove the alternator cover.

Loosen the front cam chain tensioner lock nut and bolt at the front of the cylinder head.

Tighten the bolt while rotating the crankshaft clockwise. Tighten the lock nut.



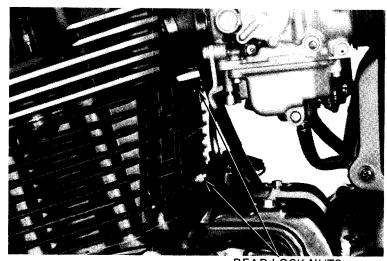




FRONT LOCK NUT

Loosen both top and bottom lock nuts on the rear cam chain tensioner. Tighten the lock nuts while rotating the crankshaft clockwise.

The tensioner will automatically position itself to provide the correct tension when the lock nuts and bolt are loosened.



REAR LOCK NUTS

CARBURETOR SYNCHRONIZATION

NOTE:

Synchronize the carburetors with the engine at normal operating temperature, transmission in neutral and motorcycle on the center stand.

Remove both side covers and seat.

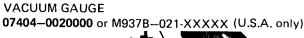
Turn the fuel valve OFF and remove the fuel line and fuel tank.

Prepare a longer fuel line and connect it between the fuel tank and carburetor.

Position the fuel tank higher than normal.

Remove the plugs from the cylinder head ports and install the vacuum gauge adapters.

Connect the vacuum gauges.



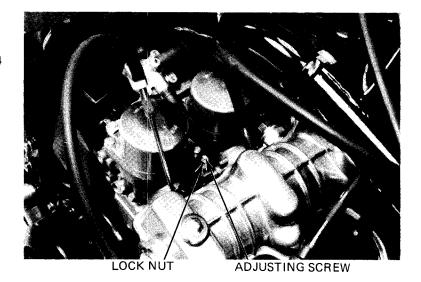




Start the engine and adjust the idle speed.

IDLE SPEED: 1,000 ± 100 rpm

Check that all carburetors are within 60 mm Hg (2.4 in Hg) of each other.



ADJUSTMENT

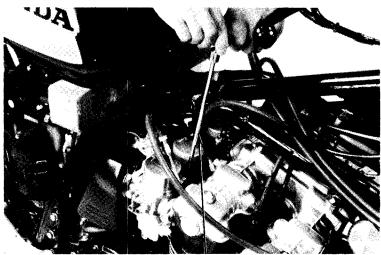
NOTE:

The No. 2 carburetor cannot be adjusted; it is the base carburetor.

Adjust within specifications by loosening the lock nuts and turning the adjusting screws with the carburetor adjusting wrench. Hold the adjusting screws and tighten the lock nuts.

Recheck the idle speed and synchronization. Remove the gauge and install the plugs.

Install the fuel tank, fuel line, seat and both side covers.



CARBURETOR ADJUSTING WRENCH 07908-4220100

THROTTLE STOP SCREW

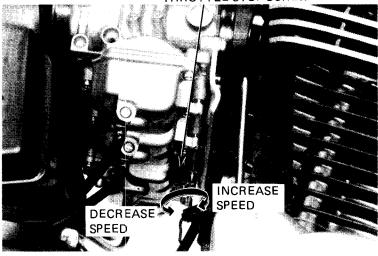
CARBURETOR IDLE SPEED

NOTE:

- Inspect and adjust idle speed after all other engine adjustments are within specifications.
- The engine must be warm for accurate idle 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: 1,000 ± 100 rpm





IGNITION TIMING

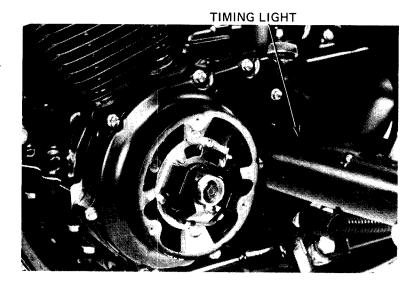
DYNAMIC

Remove the pulse generator cover. Connect a stroboscopic timing light to the No. 1 cylinder's spark plug wire.

Start the engine and let it idle.

IDLE SPEED: 1,000 ± 100 rpm

Aim the timing light at the timing mark. The "1.4 F-1" mark should align with the index mark.



ADJUSTMENT

Adjust by loosening the two pulse generator base plate screws and rotating the plate. Tighten the screws and recheck the timing.



"F-1" MARK

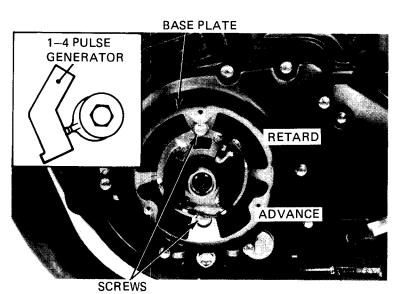
• STATIC

Remove the pulse generator cover. Rotate the crankshaft counterclockwise and align the "1.4 S-F" mark with index mark.

NOTE:

Either No. 1 or No. 4 piston must be near T.D.C. of the compression stroke at this time.

The timing is correct if the narrow projection of "1-4" pulse generator aligns with the rotor tooth.





SPARK ADVANCER

Remove the pulse generator cover. Connect a timing light to the No. 1 spark plug wire.

Start the engine.

Bring engine speed to 3,500 rpm or above and check that the index mark is between the full advance marks.

CAUTION:

Do not allow engine speed to exceed 8,500 rpm or engine damage may result.

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

CYLINDER COMPRESSION

Warm up the engine. Stop the engine and remove the fuel tank.

Disconnect the spark plug caps and remove the spark plugs.

Insert the compression gauge. Open the choke and throttle valves fully and crank the engine with the starter motor.

NOTE:

Crank the engine until the gauge reading stops rising. The maximum reading is usually reached within 4-7 seconds.

COMPRESSION PRESSURE:

 $12 \pm 2 \text{ kg/cm}^2 (170 \pm 28 \text{ psi})$

If compression is low, check the following:

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

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

<CHASSIS> DRIVE CHAIN

Turn the engine off, place the motorcycle on its center stand and shift the transmission into neutral. Check slack in the lower drive chain run midway between the sprockets.

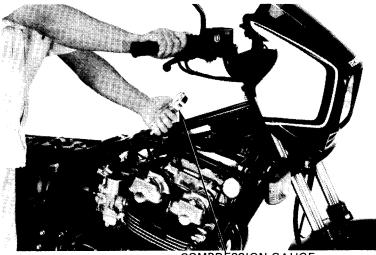
SLACK: 10-20 mm (3/8-3/4 in)

CAUTION:

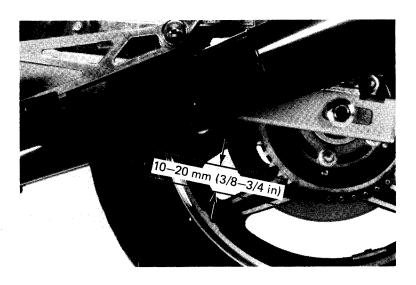
Excessive chain slack, 40 mm (1-1/2 in) or more, may damage the frame.



ADAVANCE MARK



COMPRESSION GAUGE





Adjust as follows:

Loosen the rear axle nut.

Loosen the lock nuts on both adjusters.

Turn both adjusting nuts an equal number of turns until the correct drive chain slack is obtained.

CAUTION:

Make sure the chain adjuster index marks align with the corresponding scale graduation on both sides of the swingarm.

Tighten the lock nuts.

Tighten the rear axle nut.

TORQUE: 80-100 N·m

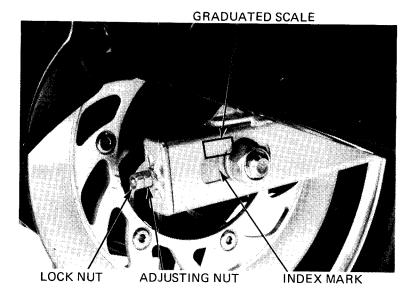
(8.0-10.0 kg-m, 58-72 ft-lb)

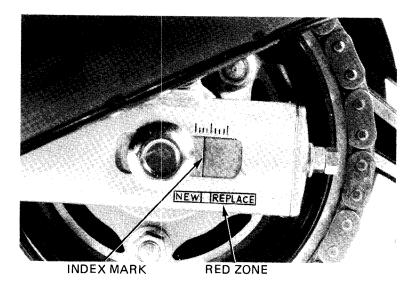
Recheck chain slack and free wheel rotation. Lubricate the drive chain with SAE 80 or 90 gear oil.

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

REPLACEMENT CHAIN: D.I.D. 50ZL or

RK 50L0

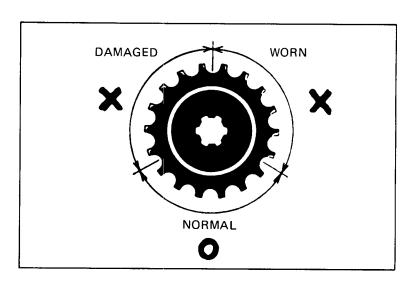




Inspect the drive chain and sprockets for damage or wear. A drive chain with damaged rollers, loose pins, or missing O-rings must be replaced. Replace any sprocket which is damaged or excessively worn.

NOTE:

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





BATTERY

Remove the right and left side covers and remove the seat.

Disconnect the ground cable at the battery terminal. Then disconnect the positive calbe at the starter relay.

Remove the battery holder plate bolt and the battery.

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

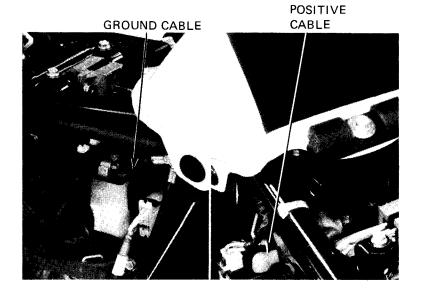
NOTE:

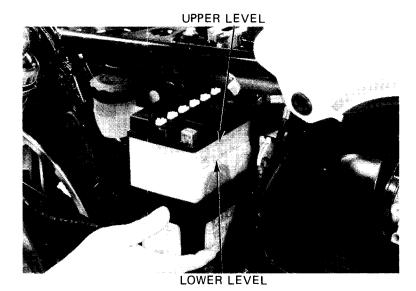
Add only distilled water. Tap water will shorten the service life of the battery.

W 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.





BRAKE FLUID

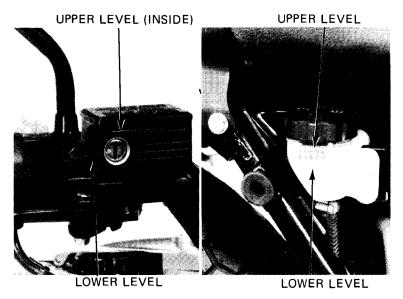
Check the front and rear brake fluid reservoir level. If the level nears the lower level mark, remove the cap and fill the reservoir with DOT-3 brake fluid to the upper level mark. The upper level mark is inside the reservoir.

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

Brake fluid will squirt out if the lever is pulled.





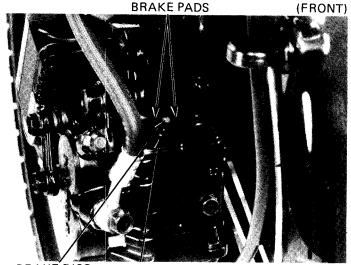
BRAKE PAD WEAR

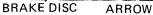
Check the brake pads for wear by looking through the slot pointed to by the cast arrow on the caliper assembly.

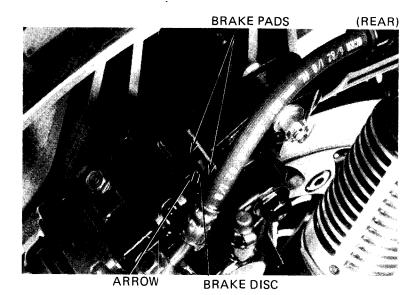
Replace the brake pads if the pads are worn to the wear line. (page 16-5).

CAUTION:

Always replace the brake pads as a set to assure even disc pressure.







BRAKE SYSTEM

Check that there is no deterioration, damage or leaks in brake lines or fittings.

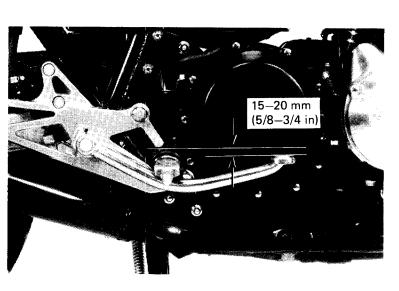
REAR BRAKE PEDAL HEIGHT

Adjust the pedal height so that the distance between the pedal and upper face of the footpeg is correct.

PEDAL HEIGHT: 15-20 mm (5/8-3/4 in)

CAUTION:

Improper brake pedal height adjustment can cause brake drag.



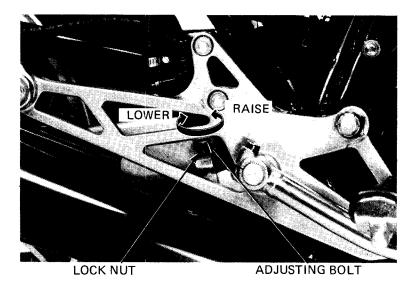


Adjust as follows;

Loosen the adjusting bolt lock nut. Turn the adjusting bolt until the correct pedal height is obtained.

Tighten the lock nut securely.

After adjusting pedal height, adjust the brake light switch.



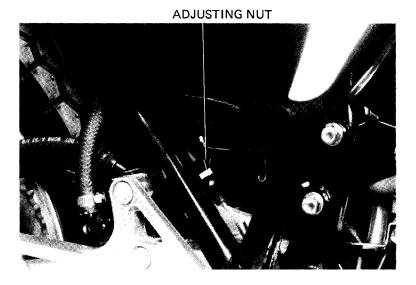
BRAKELIGHT SWITCH

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

NOTE:

- · Do not turn the switch body.
- The front brake light switch does not require adjustment.

Adjust by turning the switch adjusting nut as shown.



HEADLITGHT AIM

Adjust vertically by turning the vertical adjusting screw.

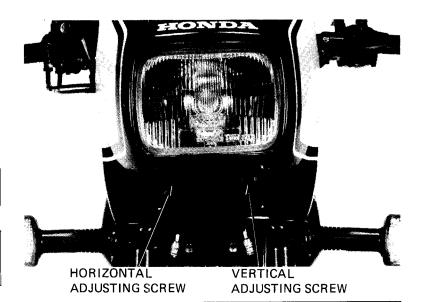
Adjust horizontally by turning the horizontal adjusting screw. Turn it clockwise to direct the headlight beam toward the right side of the rider.

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.



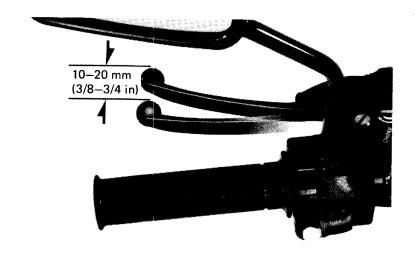


ADJUSTING NUT

CLUTCH

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

FREEPLAY: 10-20 mm (3/8-3/4 in)



ADJUSTMENT

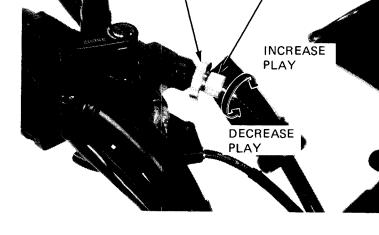
Loosen the upper adjusting bolt's lock nut and turn the adjusting nut until the correct free play is obtained.

Tighten the lock nut.

NOTE:

Do not expose the adjusting bolt threads more than 8 mm (5/16 in).

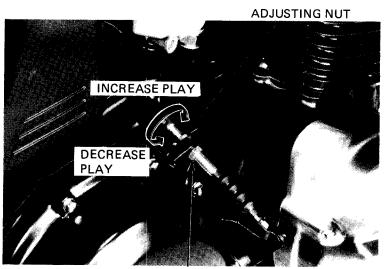
If adjustment cannot be made with the clutch lever adjusting bolt, screw the adjusting bolt all the way in and back it out 1 turn.



LOCK NUT

Loosen the lower adjusting lock nut and turn the 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.

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



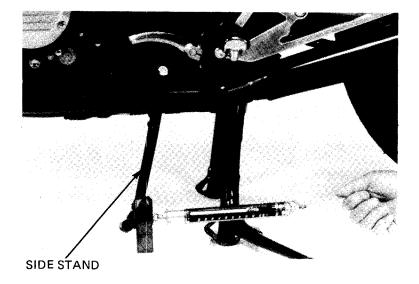
LOCK NUT



SIDE STAND

Check the rubber pad for deterioration or wear. Replace if any wear exceeds to the wear line as shown.

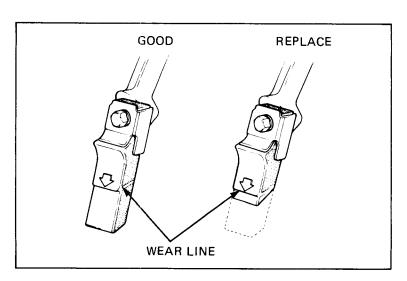
Check the side stand spring for damage and loss of tension, and the side stand assembly for freedom of movement and bending.



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.



SUSPENSION

WARNING

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

FRONT

Check the action of the front forks by compressing them several times.

Check the entire fork assembly for leaks or damage.

Replace damaged components which cannot be repaired.

Tighten all nuts and bolts.





Place the vehicle on its center stand.

Remove the valve cap and measure the front fork air pressure.

FRONT FORK AIR PRESSURE: 0-0.6 kg/cm² (0-8 psi)

NOTE:

Check the front fork air pressure when the front forks are cold.

ADJUSTMENT OF AIR PRESSURE

Set the damping adjuster to a position so that the selected number of damping force faces outward.

NOTE:

- Be sure the damping adjuster is not between positions but is firmly located in a detent.
- Adjust both damping adjusters to the same positions.

Rebound Damping Adjuster	Riding Conditions
1	Around town
2	Highways or winding roads
3	Rough or uneven

ANTI-DIVE SYSTEM INSPECTION

WARNING

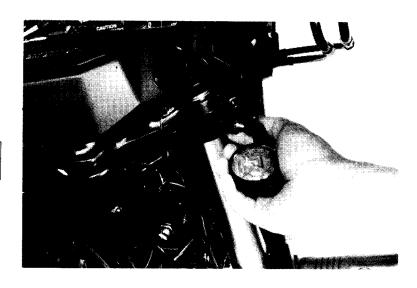
Select a safe place away from traffic to perform this inspection.

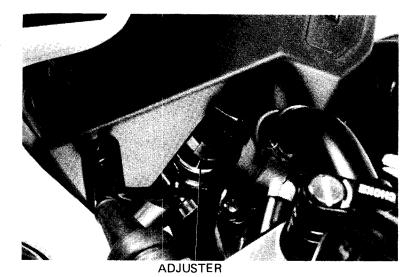
Check the operation of the anti-dive system by riding the motorcycle and firmly applying the brakes.

Position	Anti-dive damper force
1	LIGHT ANTI-DIVE
2	MEDIUM
3	HARD
4	MAXIMUM ANTI-DIVE

Inspect and if necessary, repair the system (Refer to section 14).

Make sure to set the right and left adjusters in the same position.









REAR

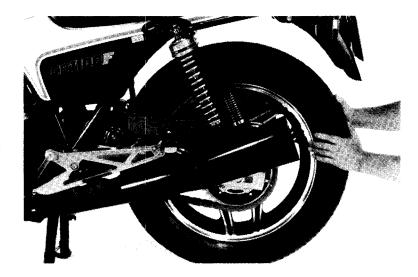
Place the motorcycle on its center stand.

Move the rear wheel sideways with force to see if the swing arm bearings are worn.

Replace the bearings if excessively worn (page 15-12).

Check the shock absorbers for leaks or damage.

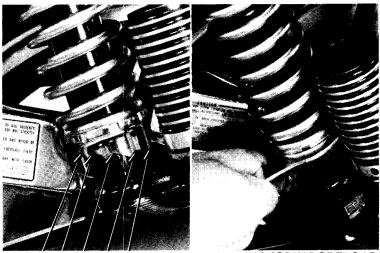
Tighten all rear suspension nuts and bolts to their specified torque values (page 1-4).



The adjustable VHD shock absorbers have three adjustments to provide the desired ride with various rider/cargo weights.

The spring adjuster adjusts spring preload. The rebound damping adjuster and compression damping adjuster adjusts damping.

Adjust spring preload first, using the hook spanner to rotate the spring adjuster. Position I is for light loads and position II to V progressively increase preload for heavier loads.



I II III IV V

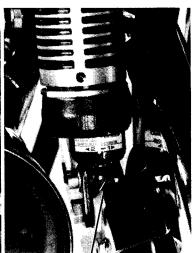
ADJUSTING SPRING PRELOAD

Rotate the rebound damping adjuster to select one of the three positions.

Move the compression damping adjuster lever to position "1" or "2". Damping force increases as you select a higher number.

Be sure to adjust both shock absorbeers equally.





ADJUSTER LEVEL (COMPRESSION)



RECOMMENDED DAMPING ADJUSTER POSTIONS:

Rebound Damping	Compression Damping	Con	ditions	
Adjuster (2)	Adjuster (3)	Riders/Load	Riding Conditions	
1	1	One	Around town	
3	1	One	Highways or winding roads	
3	1	One	Rough or uneven roads	
1	2	One/two	Around town	
2	2	One/Two or carrying load	d Highways or winding roads	
3	2	One/Two or carrying load	Rough or uneven roads	

WHEELS

NOTE:

Tire pressure should be checked when tires are COLD.

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

RECOMMENDED TIRE PRESSURE AND TIRE SIZE:

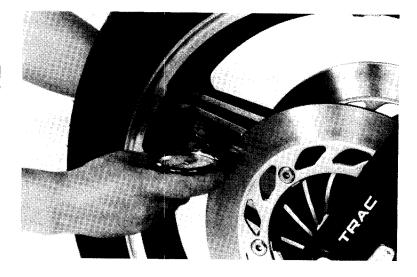
		Front	Rear
		100/90V-18	130/90V-17
Cold tire	Up to 90 kg (200 lbs) load	2.50 (36)	2.50 (36)
kg/cm² (psi)	Up to vehicle capacity load	2.50 (36)	2.90(41)
Tire brand	BRIDGE- STONE	L303	G508
5.40	DUNLOP	F11	K627

Check the front and rear wheels for trueness.

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

Minimum tread depth:

Front: 1.5 mm (1/6 in) Rear: 2.0 mm (3/32 in)





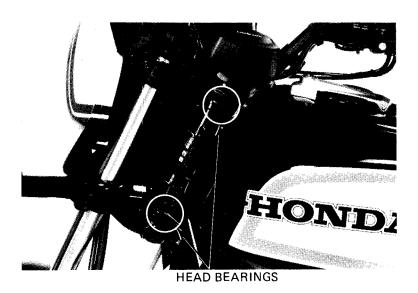
STEERING HEAD BEARINGS

NOTE:

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

Raise the front wheel off the ground and 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 (page 14-36).



NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to correct torque values (page 1-4).

Check all cotter pins and safety clips.