HONDA
CB750A

3. SERVICE INFORMATION

● GENERAL SAFETY

WARNING

If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.

WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.

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 your eyes were exposed.
- The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.

WARNING

In any automatic transmission, "creep" is unavoidable. Due to creep, the rear wheel turns if it is clear off the ground, when the engine is running. While servicing with the engine running, place the motorcycle on its center stand and apply the parking brake.

● SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalent. Parts that do not meet HONDA's design specifications may damage the motorcycle.
2. Use the special tools designed for this product.
3. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
4. When torquing bolts or nuts, begin with larger-diameter or inner bolt first, and tighten to the specified torque diagonally, unless a particular sequence is specified.
5. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
6. After reassembly, check all parts for proper installation and operation.
7. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the motorcycle.

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• SPECIAL TOOLS

Ref. No.	Tool Parts No.	Tool Name	QTY	Remarks	CB750A '76 model	CB750A1 '77 model	CB750A2 '78 model
	07900–3930001	Special tool set	1	Includes (1) to (27)	O	—	—
(1)	07902–2000000	Spanner, pin 48 mm	1		O	O	O
(2)	07908–3230000	Wrench, tappet adjusting	1		O	O	O
(3)	07910–3230101	Wrench, F. retainer	1	Front wheel	O	O	O
(4)	07910–2830000	Wrench, R. retainer	1	Rear wheel	O	O	O
(5)	07914–3230001	Pliers, snap ring	1	Master cylinder piston	O	O	O
(6)	07917–3230000	Wrench, hollow set 6 mm	1	Front fork	O	O	O
(7)	07920–6710001	Wrench, lock 50 mm	1	Fuel unit	O	O	O
(8)	07933–3000000	Puller, rotor	1		O	O	O
(9)	07934–3930000	Puller ATT, converter	1	Torque converter	O	O	O
(10)	07942–3000000	Driver, valve guide	1		O	O	O
(11)	07944–9350100	Driver, pin 2.5 mm	1	Kick starter spindle	O	O	O
(12)	07945–3330100	Driver, inner bearing	1	Wheel bearing	O	O	O
(13)	07945–3710101	Driver ATT. A, bearing	1	Torque converter	O	O	O
(14)	07946–3710200	Driver ATT. B, bearing	1	Wheel bearing	O	O	O
(15)	07946–3710400	Driver, ball race	1		O	O	O
(16)	07947–3290000	Driver, fork seal	1	Front fork oil seal	O	O	O
(17)	07947–6340000	Driver, bearing	1	Primary shaft	O	O	O
(18)	07949–6110000	Handle, driver	1	With (12), (14), (26)	O	O	O
(19)	07954–3000000	Slider, piston	2		O	O	O
(20)	07957–3290001	Compressor, valve spring	1		O	O	O
(21)	07958–3000000	Base, piston	2		O	O	O
(22)	07959–3290000	Compressor, shock absorber	1		O	O	O
(23)	07960–6120000	Compressor, clutch spring	1		O	O	O
(24)	07984–6110000	Reamer, valve guide	1		O	O	O
(25)	07910–3930000	Wrench, RW retainer	1	Rear wheel	O	O	O
(26)	07946–3600000	Driver ATT. bearing	1	Rear wheel	O	O	O
(27)	07797–0010700	Case, special tool	1		O	O	O

• OPTIONAL TOOLS

Ref. No.	Tool Parts No.	Tool Name	QTY	Remarks	CB750A '76 model	CB750A1 '77 model	CB750A2 '78 model
(1)	07504–3000100	Gauge set, vacuum	1	Carburetor synchronization	O	O	O
(2)	07510–3000100	ATT. A, gauge	2	With (1)	O	O	O
(3)	07510–3000200	ATT. B, gauge	2	With (1)	O	O	O
(4)	07510–3930300	Joint, vacuum	1	With (1)	O	O	O
(5)	07908–3690000	Wrench, carb. adjusting	1	With (1)	O	O	O
(6)	07510–3930100	Joint, engine pressure	1	Stall speed test	O	O	O
(7)	07510–3930200	Gauge ATT. pressure	1	Oil pressure test	O	O	O
(8)	07975–3930000	Tool set, drive chain	1	Includes (8)–1 to (8)–3	O	X	X
(8-1)	07975–3930100	Wedge set, joint	(1)	With (8)	O	X	X
(8-2)	07975–3930200	Bolt B, pressure	(1)	With (8)	O	X	X
(8-3)	07975–3930300	Pin, flare	(1)	With (8)	O	X	X
(9)	07975–3930500	Pincher, choke butterfly	1		O	O	O

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● TORQUE SPECIFICATIONS

● Engine

No.	Tightening Point	Torque Values kg-m (lbs-ft)	Remarks
1	Crankcase	2.0– 2.5 (14.5–18.1)	
2	Cylinder head	2.0– 2.5 (14.5–18.1)	
3	Connecting rod nut	1.8– 2.2 (13.0–15.9)	Apply molybdenum disulfied base grease to threads and under side of nuts
4	A.C. generator rotor	10.0–12.0 (72.3–86.8)	Degrease taper area thoroughly
5	Oil filter center bolt	2.7– 3.3 (19.5–23.9)	
6	Cam sprocket	1.8– 2.2 (13.0–15.9)	
7	T.C. turbine set bolt	1.2– 1.6 (8.7–11.6)	
8	Oil drain bolt	3.5– 4.5 (25.3–32.5)	
9	Starting clutch screw	2.3– 2.9 (16.6–19.5)	Apply THREE-BOND
10	Oil pressure switch	1.5– 2.0 (10.8–14.5)	Apply THREE-BOND
11	Tappet adjusting hole cap	1.0– 1.4 (7.2–10.1)	
12	Tappet adjusting nut	1.1– 1.5 (8.0–10.8)	
13	Shift stopper pivot, shift return spring pin	2.3– 2.7 (16.6–19.5)	
14	Spark plug	1.2– 1.9 (8.7–13.7)	

● Frame

No.	Tightening Point	Torque Values kg-m (lbs-ft)	Remarks
1	Steering stem nut	8.0–12.0 (57.9–86.8)	
2	Front fork top bridge pinch bolt	0.9– 1.3 (6.5– 9.4)	
3	Front axle nut	5.5– 6.5 (39.8–47.0)	
4	Engine hanger bolt	5.5– 6.5 (39.8–47.0)	
5	Rear axle nut	8.0–10.0 (57.9–72.3)	
6	Step bar	5.5– 6.5 (39.8–47.0)	
7	Rear swing arm pivot bolt	5.5– 7.0 (39.8–50.6)	
8	Front disk plate	2.7– 3.3 (19.5–23.9)	
9	Final driven sprocket	5.5– 6.5 (39.8–47.0)	
10	Seat grip fixing bolt	1.4– 2.0 (10.1–14.5)	'76 model only

● Standard parts

Type	Torque Values kg-m (lbs-ft)	Type	Torque Values kg-m (lbs-ft)
5 mm (0.20 in.) bolt and nut	0.45–0.6 (3.3– 4.3)	5 mm (0.20 in.) screw	0.35–0.5 (2.5– 3.6)
6 mm (0.24 in.) bolt and nut	0.8 –1.2 (5.8– 8.7)	6 mm (0.24 in.) screw	0.7 –1.1 (5.1– 8.0)
8 mm (0.31 in.) bolt and nut	1.8 –2.5 (13.0–18.1)	6 mm (0.24 in.) flange bolt and nut	1.0 –1.4 (7.2–10.1)
10 mm (0.39 in.) bolt and nut	3.0 –4.0 (21.7–28.9)	8 mm (0.31 in.) flange bolt and nut	2.4 –3.0 (17.4–21.7)
12 mm (0.47 in.) bolt and nut	5.0 –6.0 (36.2–43.4)	10 mm (0.39 in.) flange bolt and nut	3.0 –4.0 (21.7–28.9)

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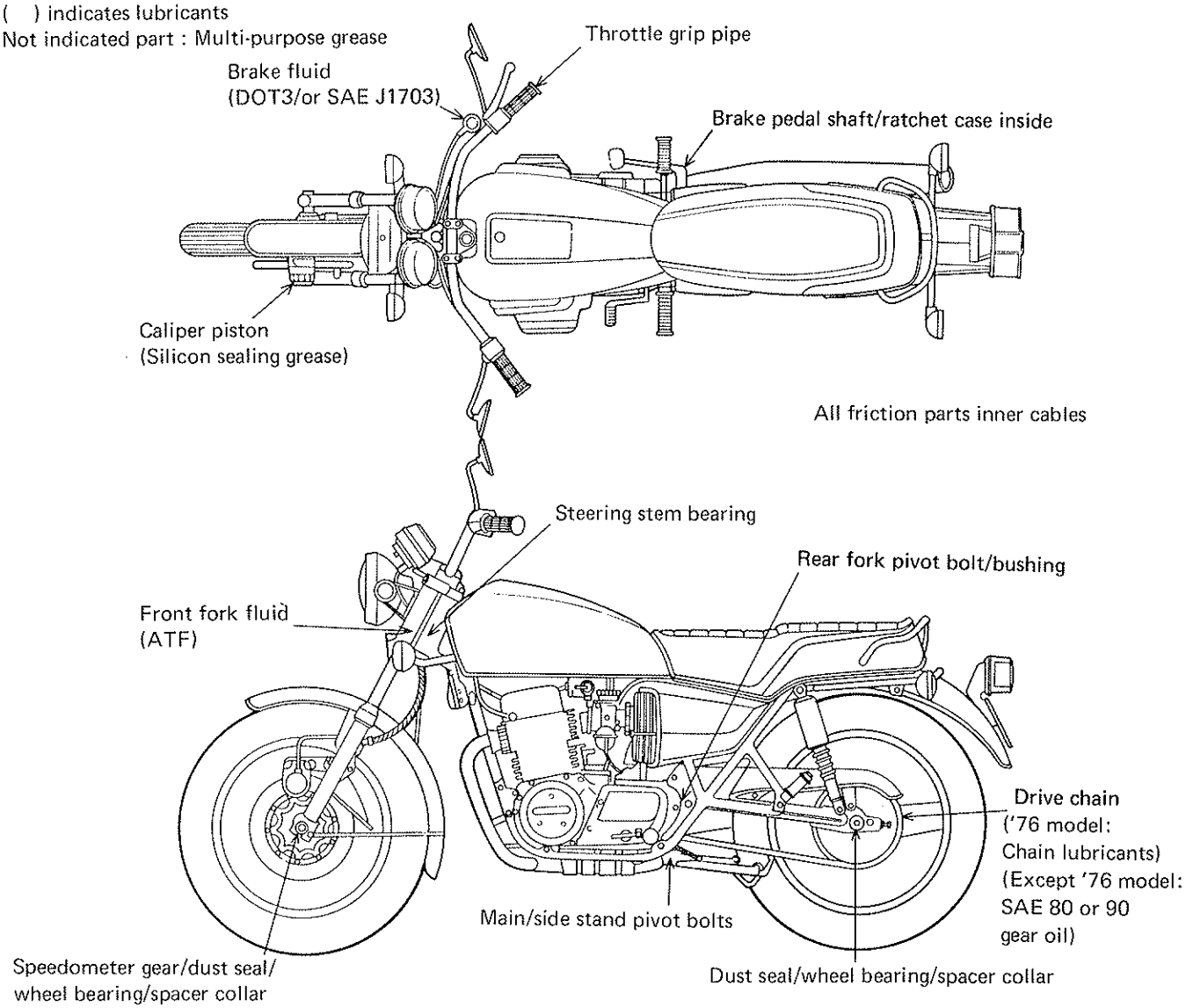
● LUBRICATION/SEALING

ENGINE

No.	Point of lubrication or sealing	Lubricant or sealant	Remarks
1.	Contact surfaces of upper and lower crankcase	Liquid sealant	Evenly coat lower case surface
2.	Crankshaft main bearing	Multi-purpose grease NLGI-No. 2	
3.	Connecting rod bearing		
4.	Rotating part	Engine oil	
5.	Friction part		
6.	Gear teeth		
7.	Clutch assembly (L/D)		
8.	Oil seal lip		

FRAME

* ( ) indicates lubricants
* Not indicated part : Multi-purpose grease



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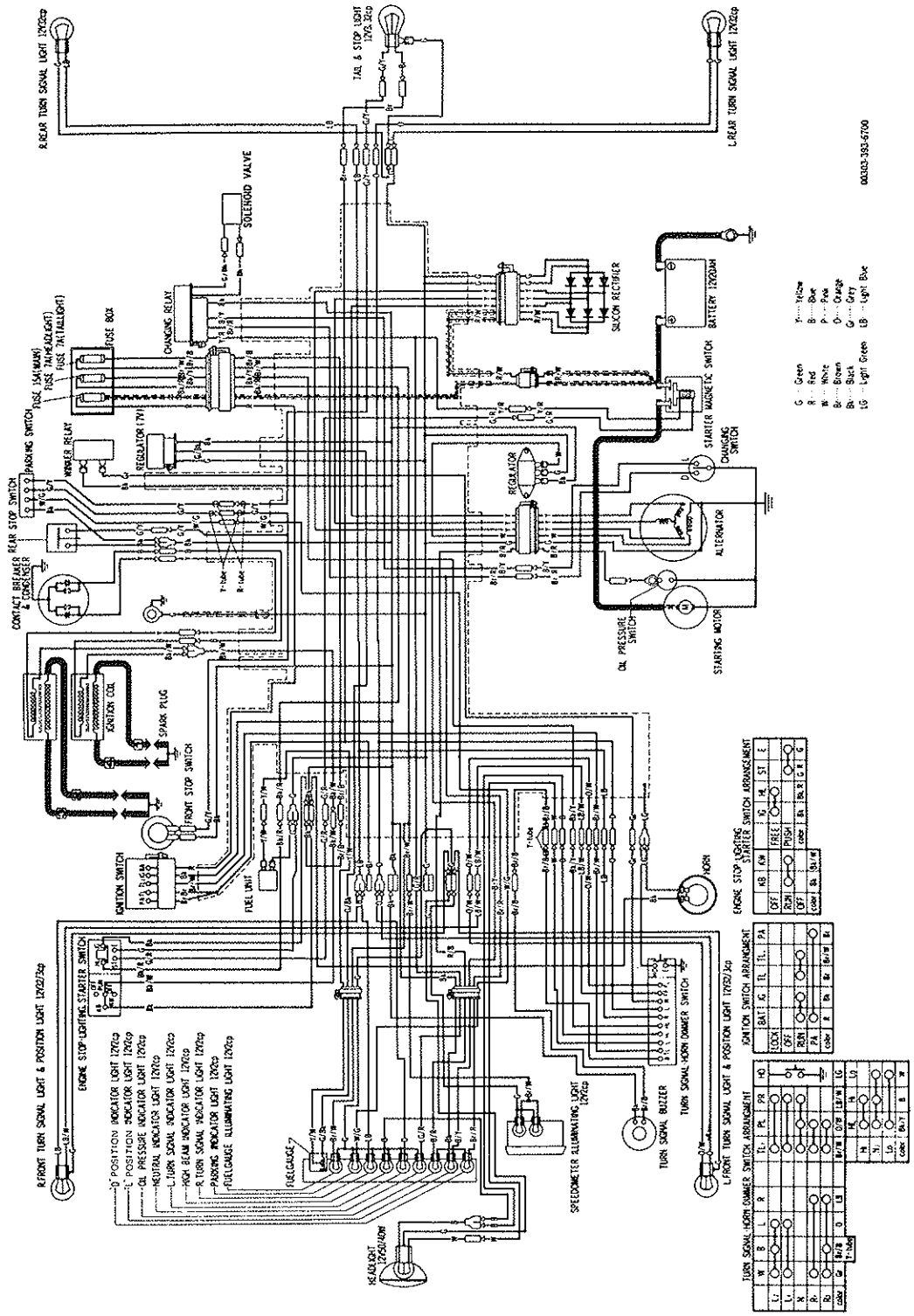
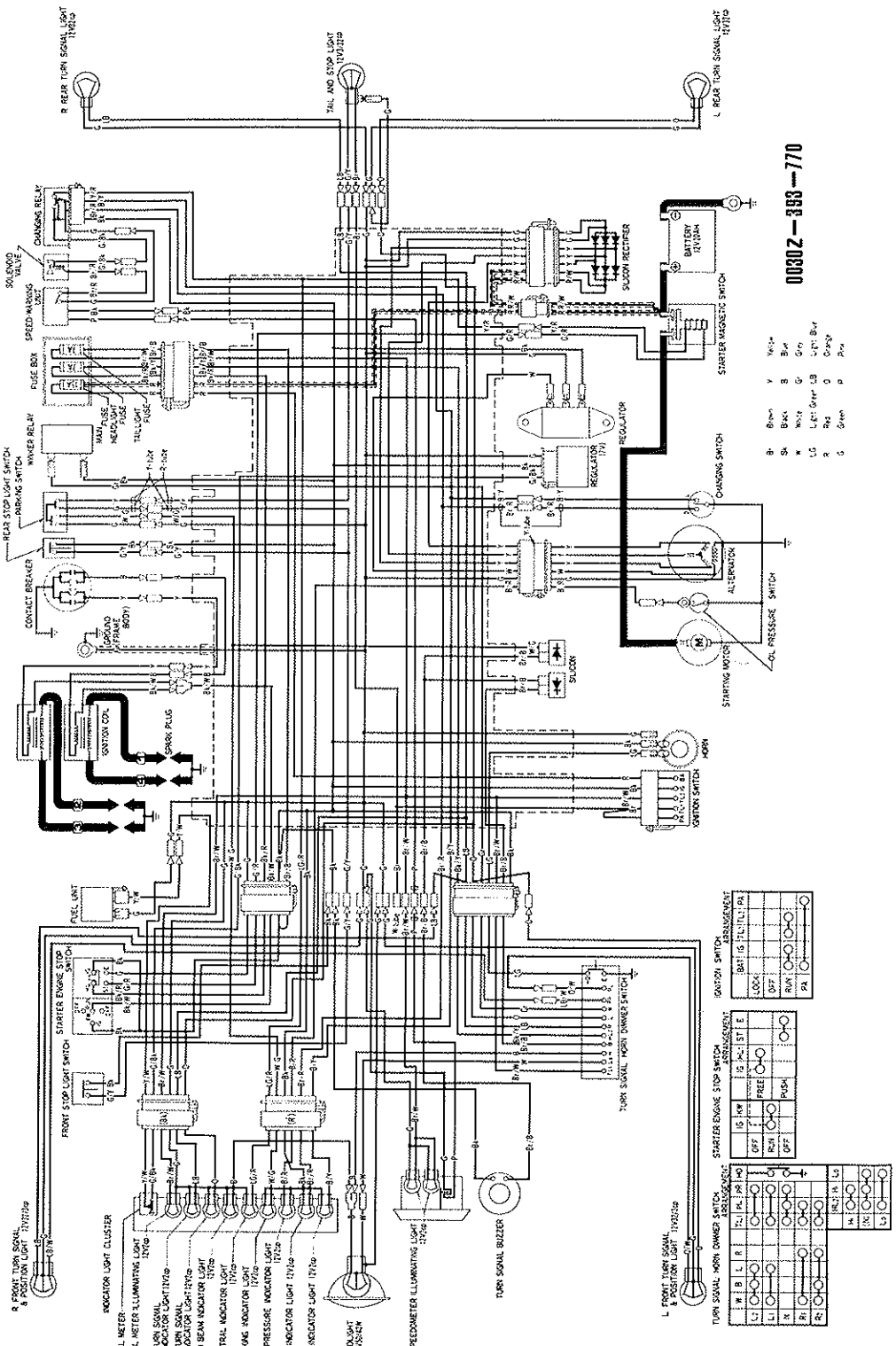
● WIRING DIAGRAM

('76 model)



('77 and '78 models)



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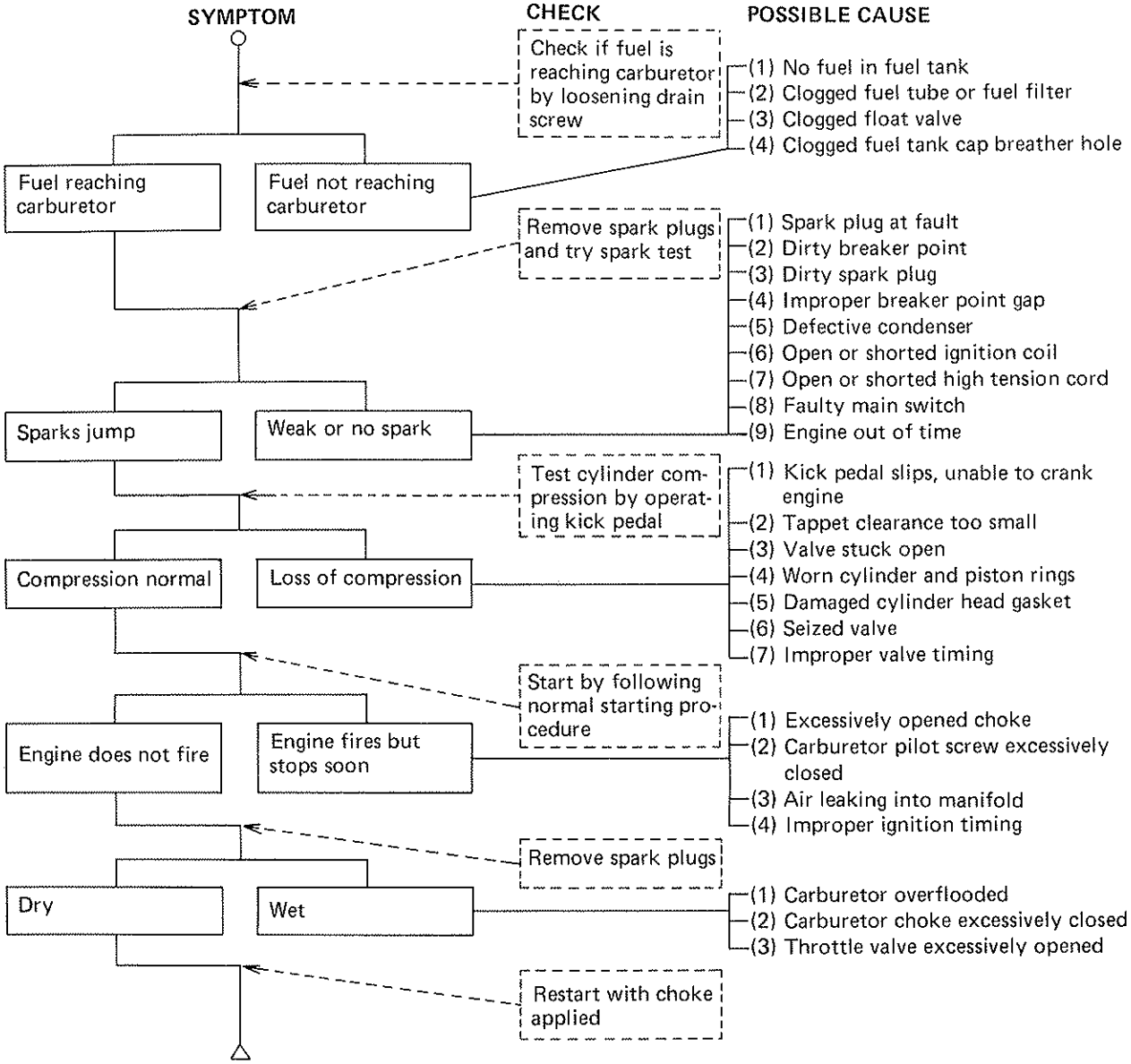
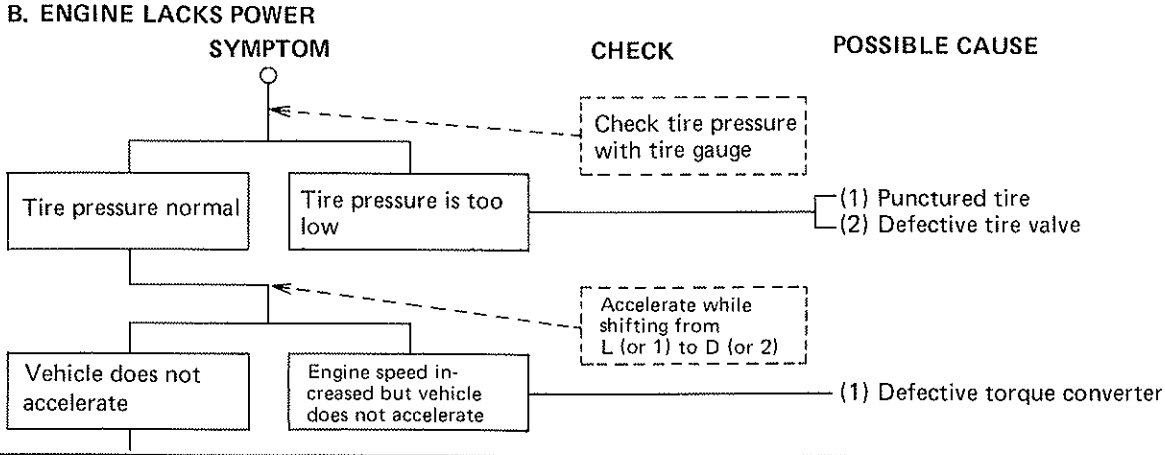
● TROUBLESHOOTING

A. ENGINE DOES NOT START OR IS HARD TO START



B. ENGINE LACKS POWER



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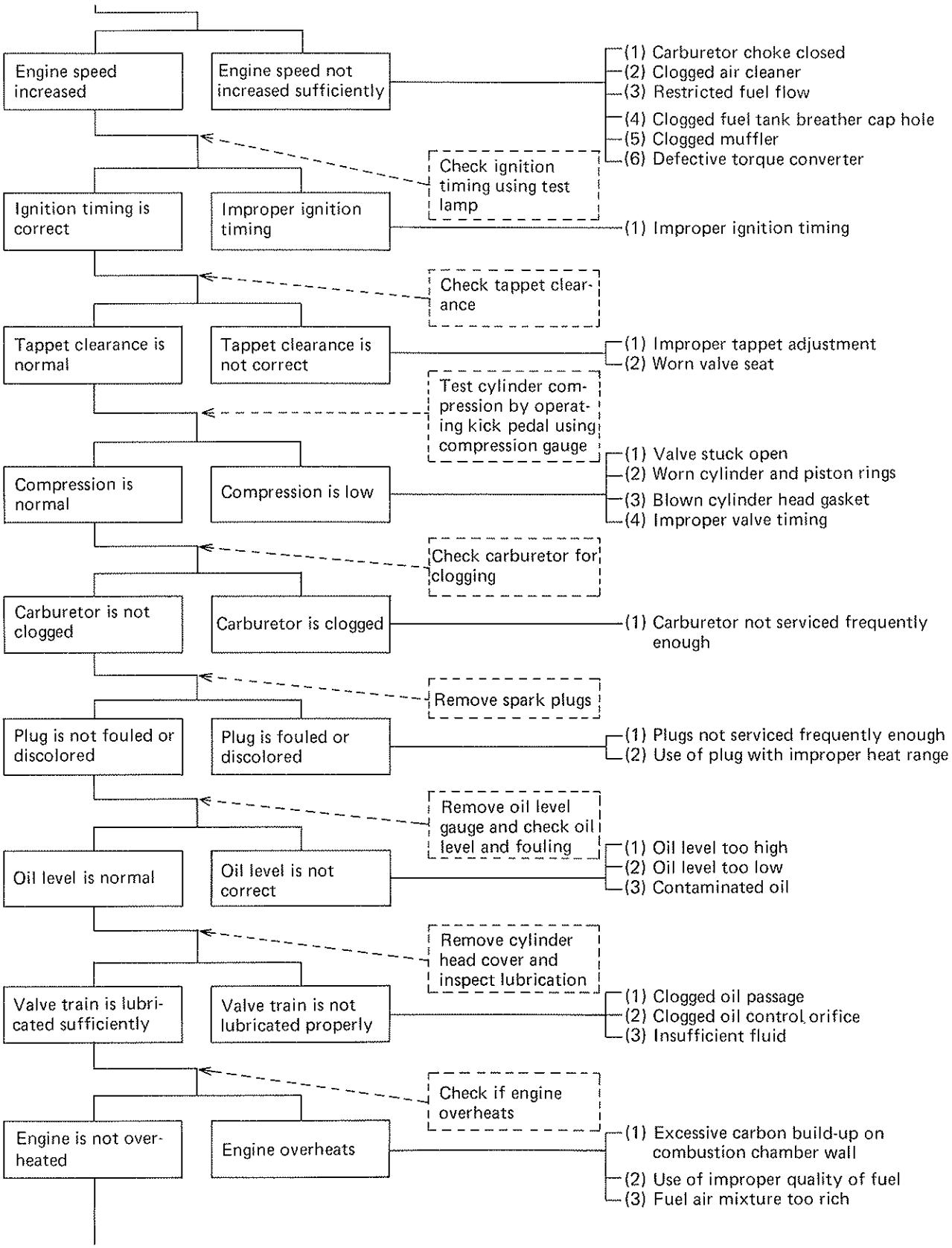

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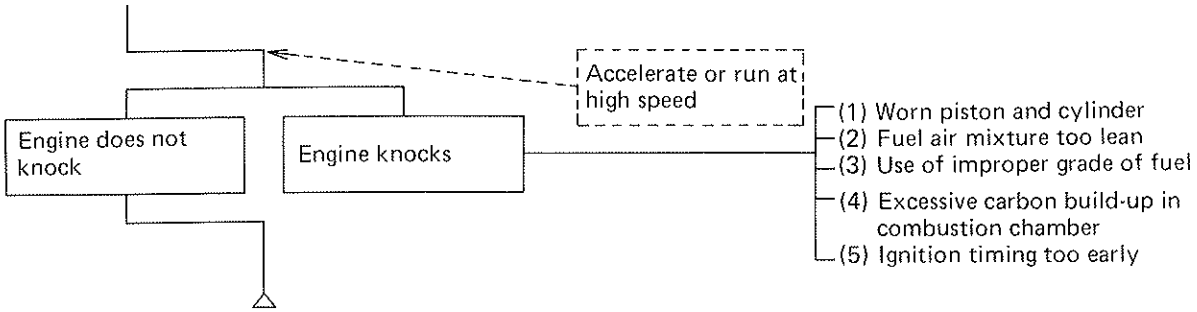
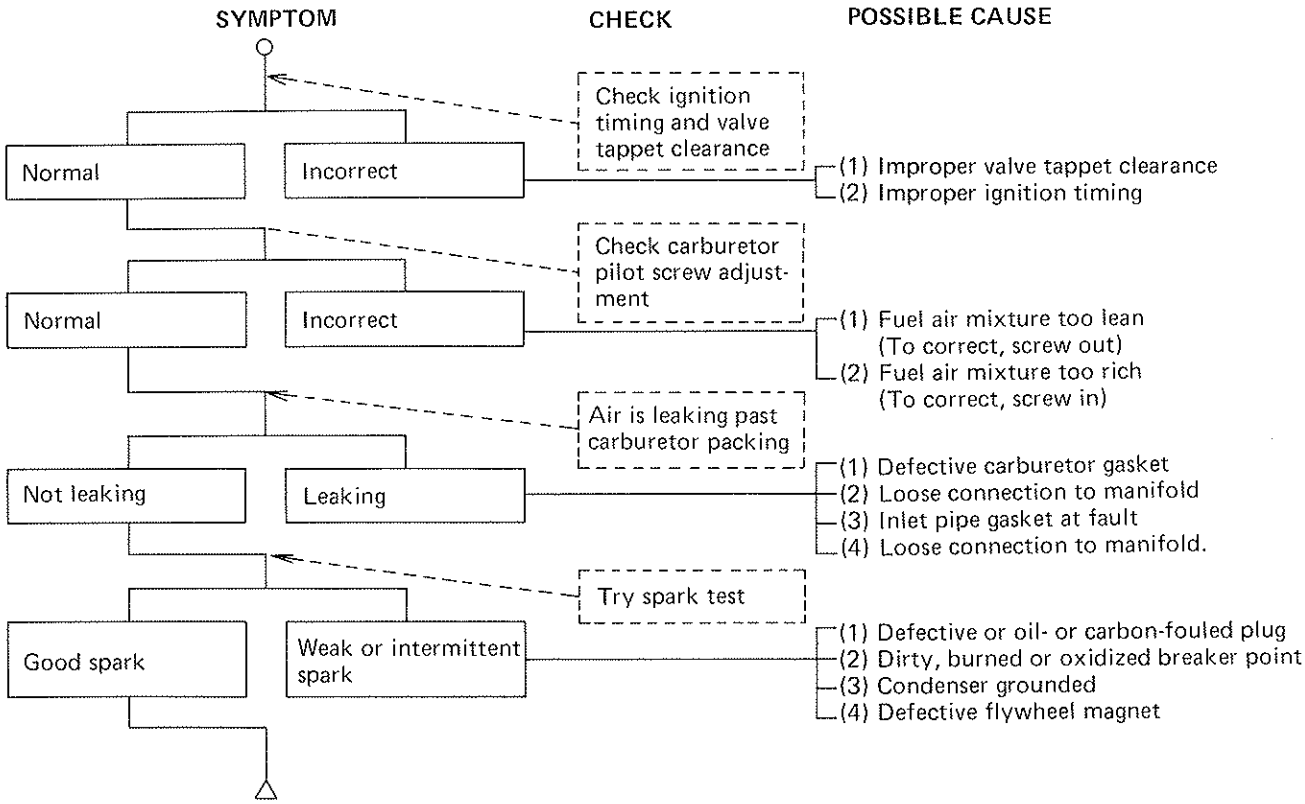
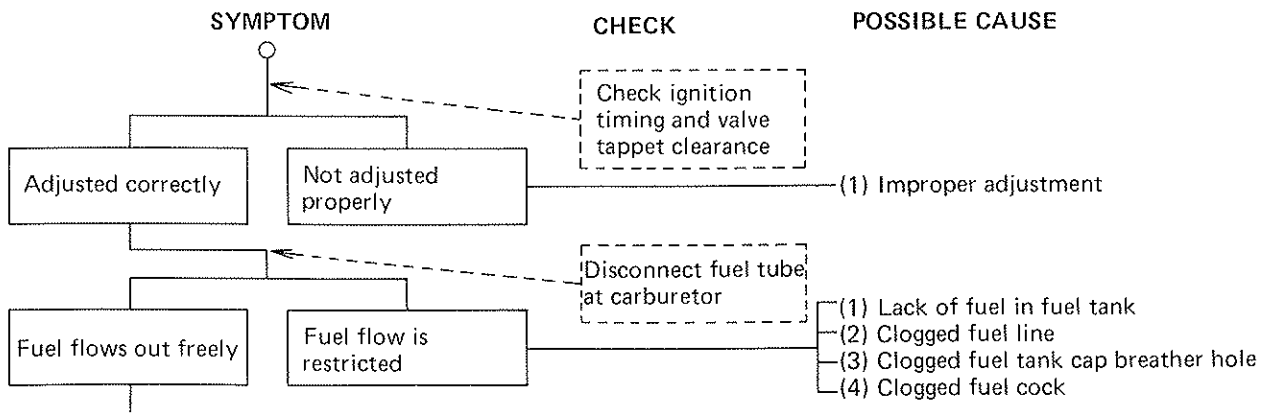
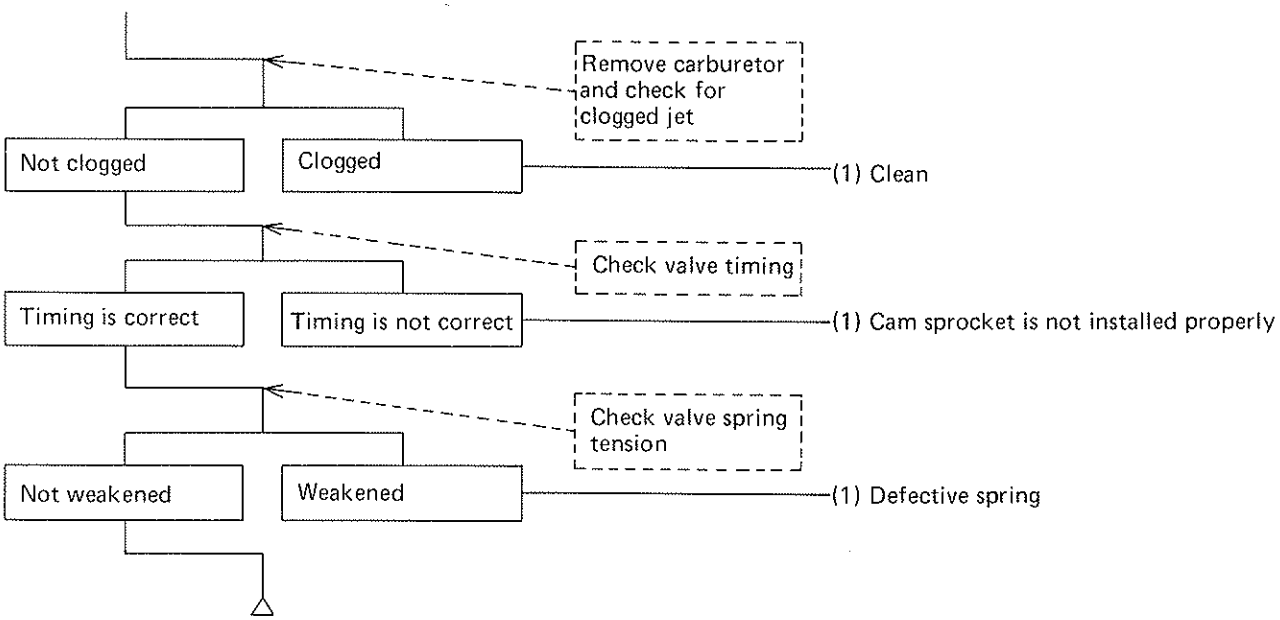


C. POOR PERFORMANCE AT LOW AND IDLE SPEED

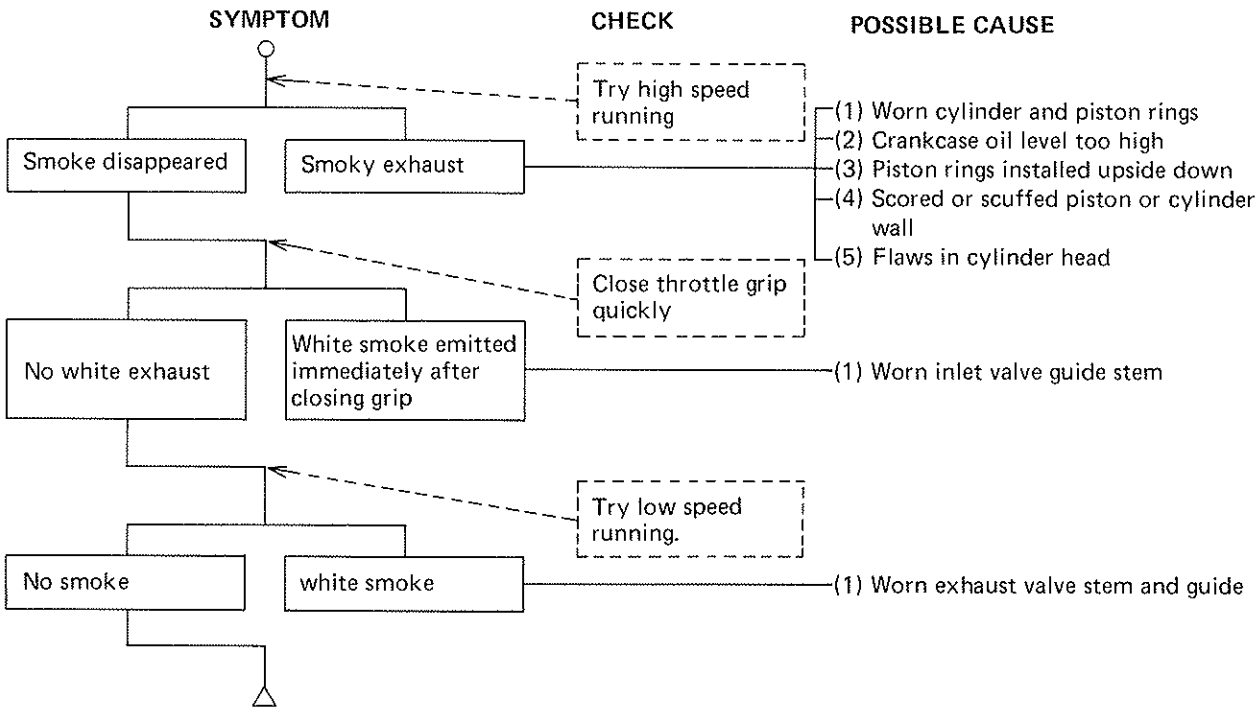


D. POOR PERFORMANCE AT HIGH SPEED





E. SMOKY EXHAUST (OIL BURNING IN COMBUSTION CHAMBER)



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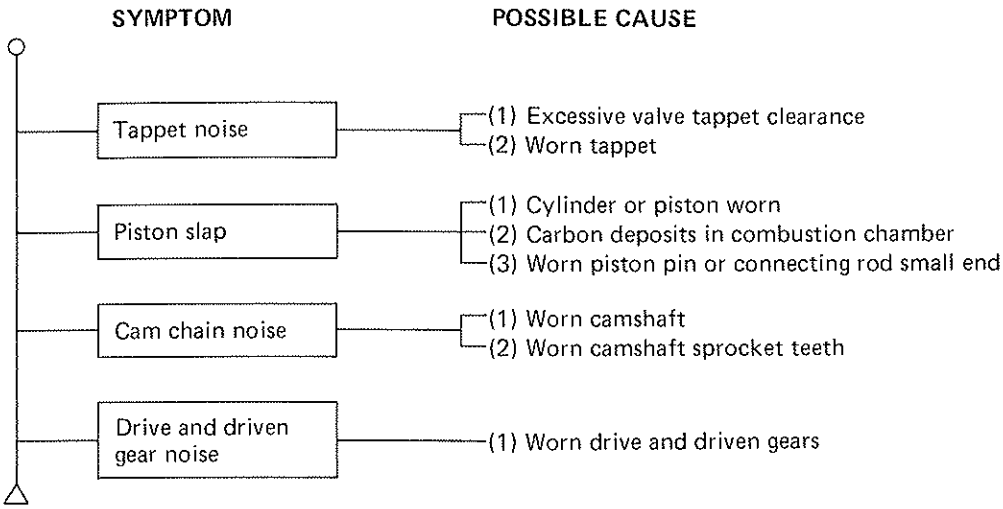
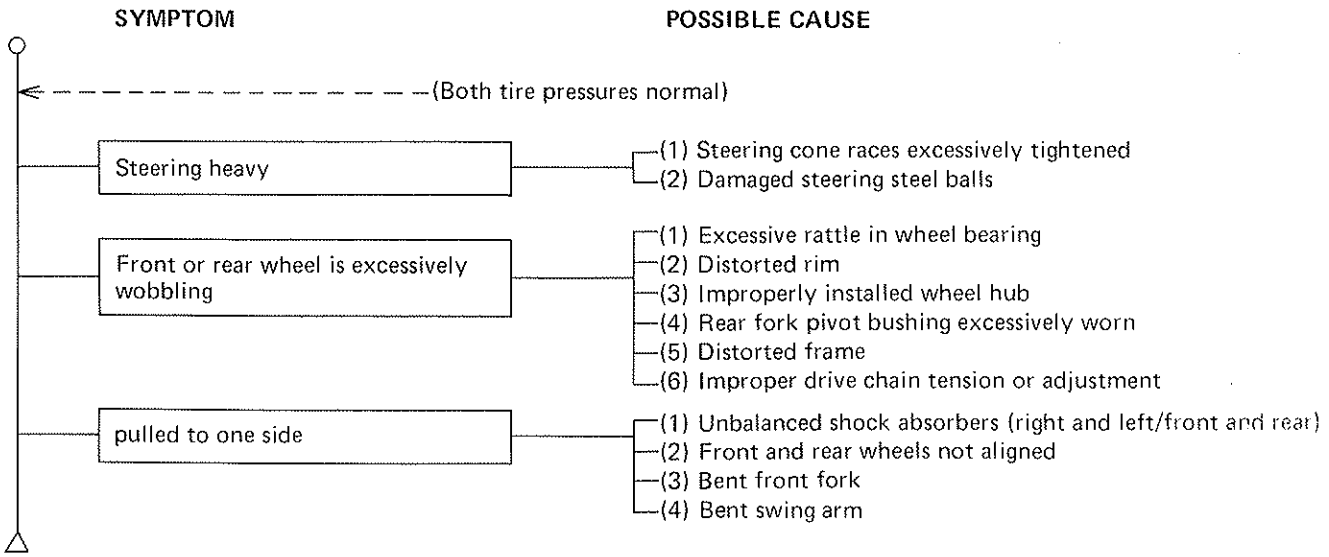
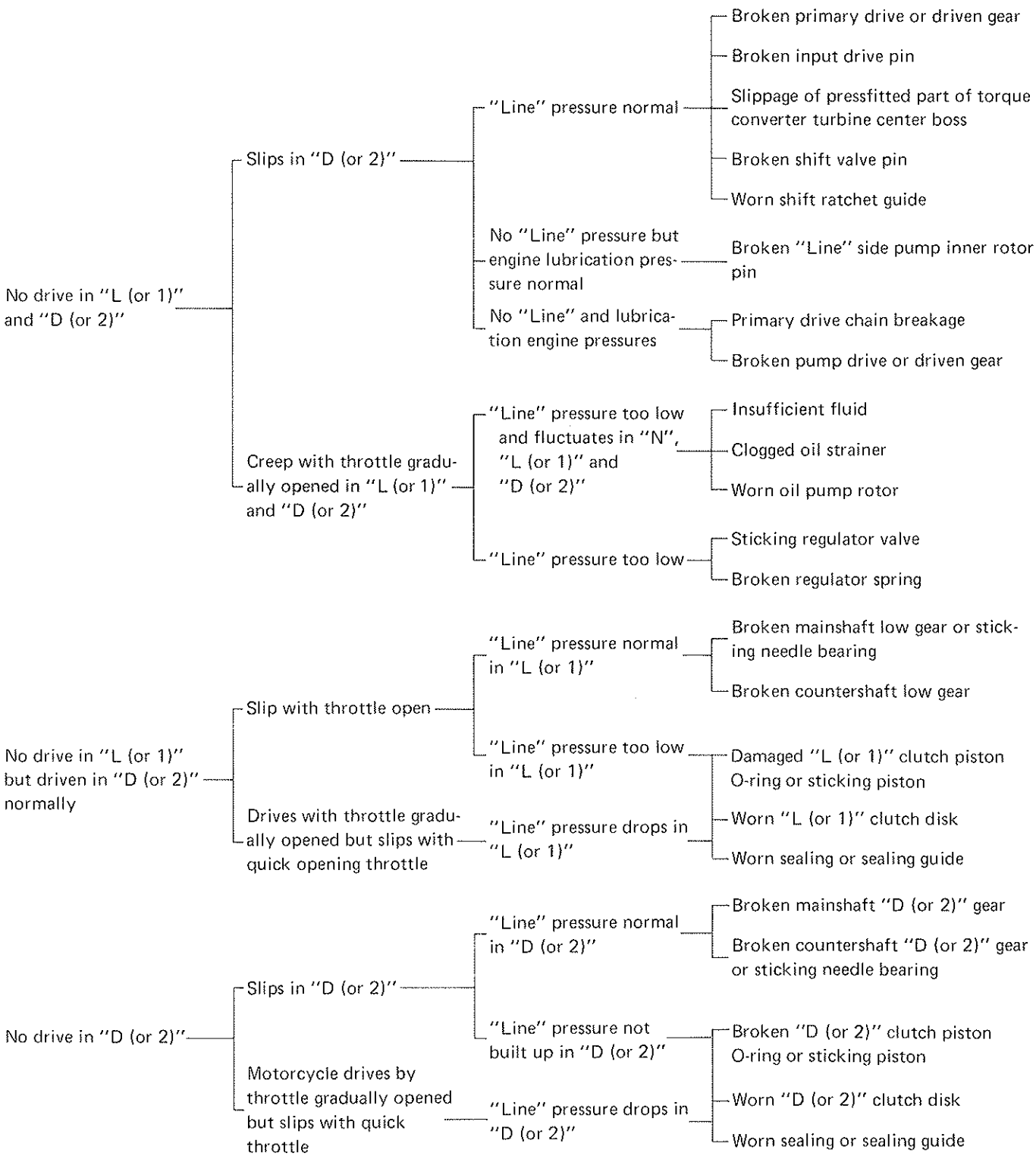
F. ENGINE IS NOISY



G. PULLS TO ONE SIDE



H. TORQUE CONVERTER



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- Poor start acceleration in "L (or 1)" and "D (or 2)" — Stall rpm too high in "L (or 1)" and "D (or 2)"
  - Stall pressure too low and fluctuating
    - Insufficient fluid
    - Clogged oil strainer
    - Worn oil pump rotor
  - Stall pressure too low
    - Sticking regulator spring cap to body
    - Weak or broken regulator spring
    - Sticking regulator valve to body
  - Stall pressure normal
    - Sticking torque converter check valve or weak spring
- Poor start acceleration in "L (or 1)" — Stall rpm too high in "L (or 1)" but normal in "D (or 2)" — "L (or 1)" stall pressure too low
  - Worn "L (or 1)" clutch sealing or sealing guide
  - Broken "L (or 1)" clutch piston O-ring
  - Malfunction or "L (or 1)" clutch piston check valve
- Poor start acceleration in "D (or 2)" — Stall rpm too high in "D (or 2)" but normal in "L (or 1)" — "D (or 2)" stall pressure too low
  - Worn "D (or 2)" clutch sealing or sealing guide
  - Broken "D (or 2)" clutch piston O-ring
  - Malfunction of "D (or 1)" clutch piston check valve
- Maximum speed too low, poor acceleration — Stall rpm normal — "L (or 1)", "D (or 2)" stall pressure are normal
  - Too much fluid
  - Sticking one-way clutch
- Poor start acceleration in "L (or 1)" and "D (or 2)", normal high speed acceleration — Stall rpm too low — Stall pressure too low — Worn or slip stator one-way clutch
- Rough initial engagement when quick starting — Stall rpm normal — Stall pressure normal — Insufficient fluid
- Poor start and high speed acceleration — Stall rpm too low — Stall pressure normal
  - Insufficient engine power (Check ignition timing, carburetor compression pressure, valve timing and air cleaner)
  - Maladjusted throttle cable

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4. INSPECTION/ ADJUSTMENT

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● MAINTENANCE SCHEDULE

('76 and '77 models)

MAINTENANCE SCHEDULE		INITIAL SERVICE PERIOD	REGULAR SERVICE PERIOD Perform at every indicated month or mileage interval, whichever occurs first.			
	Month	–	1	6	12	24
	Mile	500	500	3,000	6,000	12,000
	Km	1,000	1,000	5,000	10,000	20,000
ENGINE OIL		R		R		
ENGINE OIL FILTER ELEMENT		R		R		
ENGINE OIL FILTER SCREEN					C	
SPARK PLUGS				I		
*CONTACT BREAKER POINTS		I		I		
*IGNITION TIMING		I		I		
*VALVE TAPPET CLEARANCE		I		I		
*CAM CHAIN TENSION		I		I		
AIR FILTER BREATHER ELEMENT				I		
AIR FILTER					R	
*CARBURETORS		I		I		
THROTTLE OPERATION		I		I		
*FUEL FILTER SCREEN				C		
FUEL LINES				I		
DRIVE CHAIN		I & L	I & L			
BRAKE FLUID LEVEL		I		I		
BRAKE FLUID						R
*BRAKE SHOES/PADS				I		
BRAKE CONTROL LINKAGE		I		I		
*WHEEL RIMS AND SPOKES		I		I		
TIRES		I		I		
FRONT FORK OIL		**R				R
FRONT AND REAR SUSPENSIONS		I		I		
SWING ARM BUSHING				I & L		
*STEERING HEAD BEARINGS					I	
BATTERY ELECTROLYTE LEVEL		I		I		
LIGHTING EQUIPMENT		I		I		
PARKING BRAKE		I			I	
SIDE STAND		I		I		
NUTS, BOLTS (TIGHTEN)		I		I		

I – Inspect, clean, adjust or replace if necessary R – Replace C – Clean L – Lubricate
Items marked * should be serviced by an authorized Honda dealer, unless the owner has proper tools and is mechanically proficient. Other maintenance items may be serviced by the owner.
**Initial service period 1,500 miles.

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INSPECTION/ADJUSTMENT

('78 model)

Perform Pre-Ride Inspection in Owner's Manual at each maintenance period.
I : INSPECT, CLEAN, ADJUST, OR REPLACE IF NECESSARY.
C: CLEAN
R: REPLACE
A: ADJUST

	ITEM / FREQUENCY	WHICHEVER COMES FIRST ⬇ EVERY	ODOMETER READING (NOTE (3)) 600 mi. (1,000 km)	3,600 mi. (6,000 km)	7,200 mi. (12,000 km)	10,800 mi. (18,000 km)	14,400 mi. (24,000 km)	18,000 mi. (30,000 km)	REFER TO
	ENGINE OIL	YEAR	R	REPLACE EVERY 1,800 mi. (3,000 km)					Page 4— 4
	ENGINE OIL FILTER	YEAR	R	R	R	R	R	R	Page 4— 5
*	ENGINE OIL SCREEN					C			Page 4— 5
	CRANKCASE BREATHER	NOTE (1)		C	C	C	C	C	
	AIR CLEANER	NOTE (2)		C	R	C	R	C	Page 4— 5
*	FUEL LINES			I	I	I	I	I	Page 4— 6
	SPARK PLUGS			I	R	I	R	I	Page 4— 6
*	VALVE CLEARANCE		I	I	I	I	I	I	Page 4— 7
*	CONTACT BREAKER POINTS		I	I	I	I	I	I	Page 4— 7
*	IGNITION TIMING		I	I	I	I	I	I	Page 4— 8
*	CAM CHAIN TENSION		A	A	A	A	A	A	Page 4—10
*	THROTTLE OPERATION		I	I	I	I	I	I	Page 4—10
*	CARBURETOR IDLE SPEED		I	I	I	I	I	I	Page 4—11
*	CARBURETOR CHOKE			I	I	I	I	I	Page 4—13
*	CARBURETOR SYNCHRONIZE		I	I	I	I	I	I	Page 4—14
	DRIVE CHAIN		INSPECT EVERY 600 mi. (1,000 km)						Page 4—15
	BATTERY ELECTROLYTE	MONTH	I	I	I	I	I	I	Page 4—17
	BRAKE FLUID LEVEL	MONTH	I	I	I	I	I	I	Page 4—17
*	BRAKE FLUID	2 YEARS				R			Page 4—18
	BRAKE SHOE/PAD WEAR			I	I	I	I	I	Page 4—19
*	BRAKE LIGHT SWITCH		I	I	I	I	I	I	Page 14—21
*	HEADLIGHT AIM		I	I	I	I	I	I	Page 4—21
	SIDE STAND			I	I	I	I	I	Page 4—22
*	SUSPENSION		I	I	I	I	I	I	Page 4—22
*	NUTS, BOLTS, FASTENERS		I	I	I	I	I	I	Page 4—23
**	WHEELS		I	I	I	I	I	I	Page 4—23
**	STEERING HEAD BEARING		I		I		I		Page 4—23

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED **ONLY** BY AN AUTHORIZED HONDA DEALER.

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND IS MECHANICALLY QUALIFIED.

NOTES: (1) MORE FREQUENT SERVICE MAY BE REQUIRED WHEN RIDING IN RAIN, OR AT WIDE OPEN THROTTLE.
(2) MORE FREQUENT SERVICE MAY BE REQUIRED WHEN RIDING IN DUSTY AREAS.
(3) FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.

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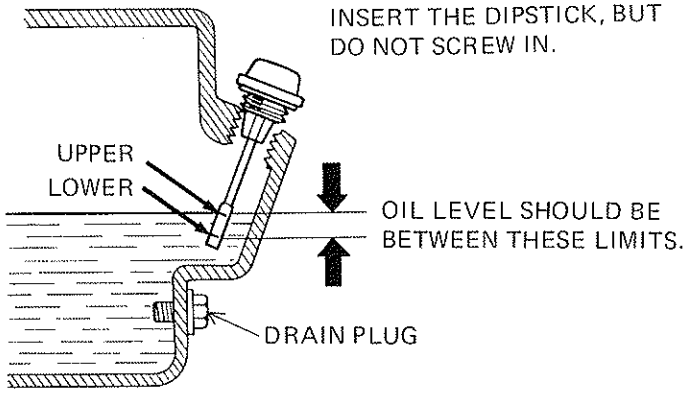
● ENGINE OIL LEVEL

Warm up the engine to the normal operating temperature. Stop the engine and place the motorcycle on the center stand. If the engine has just been operated at high RPMs, idle the engine at least 30 seconds before stopping the engine to prevent a low reading.

CAUTION

If the oil pressure light does not go out, stop the engine immediately as severe engine damage may result.

Check the oil level with the filler cap dipstick. Do not screw in the cap when making this check. If the level is below the lower level mark on the dipstick, fill to the upper level mark.



● ENGINE OIL CHANGE

NOTE

Engine oil change is performed with engine at normal operating temperature and motorcycle on center stand to assure complete and rapid draining.

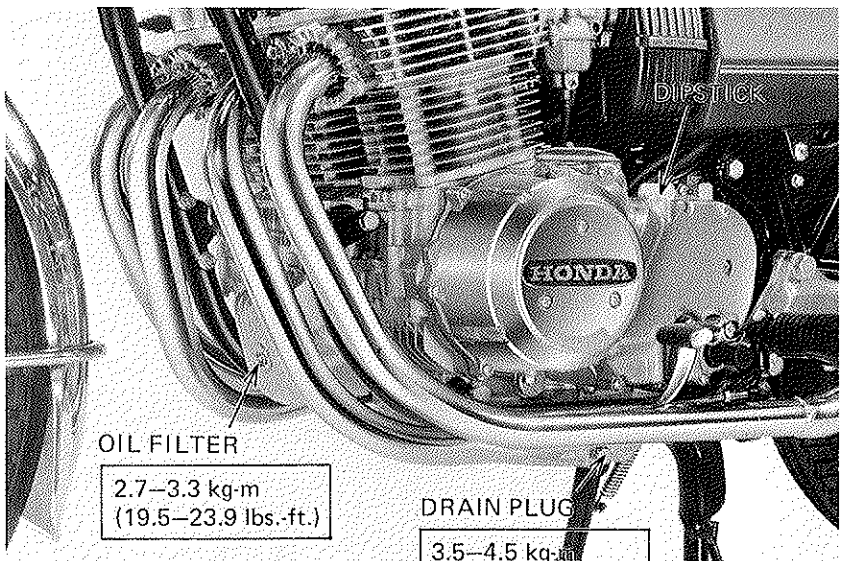
Remove the oil filler cap, crankcase drain plug and oil filter to drain oil.

NOTE

Make sure that the ignition switch is OFF. Operate the kick starter pedal several times to drain any oil which may be left in the recesses of the engine.

Make sure that the sealing washer on the drain plug and the O-ring on the oil filter case is in good condition. Reinstall the oil filter and drain plug. Fill the crankcase with approximately **4.0 liters (4.2 U.S. qt.)** of recommended oil.

Reinstall the oil filler cap.
Start the engine and allow to idle for a few minutes. Stop the engine and make sure that oil level is at upper level mark and there are no oil leaks.



OIL SPECIFICATIONS:
Use HONDA 4-STROKE OIL or equivalent.
API service classification: SE
Viscosity:
General, all temperatures
SAE 10 W–40
Alternate

above 15°C/59°F	SAE 30
0°C/32°F – 15°C/59°F	SAE 20 or SAE 20 W
below 0°C/32°F	SAE 10 W

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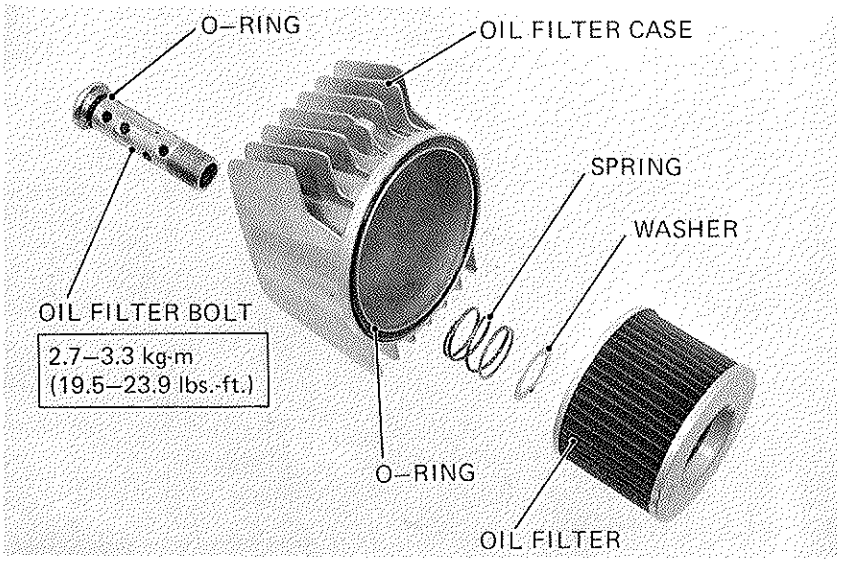
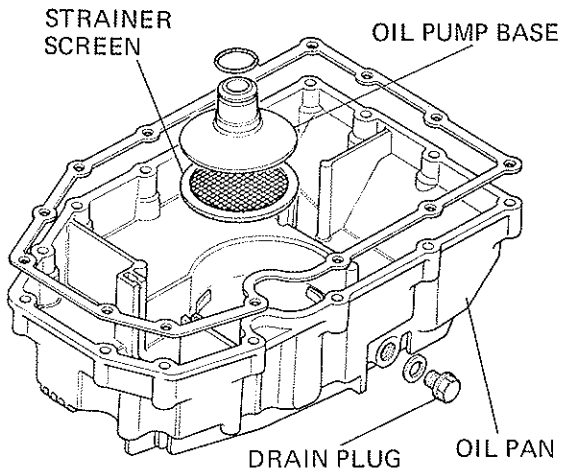
● ENGINE OIL FILTER

Drain oil from the crankcase (see page 4-4).
Remove the oil filter element from the oil filter case.
Check operation of the by-pass valve in the oil filter bolt.
Make sure that the O-rings on the oil filter bolt and oil filter case are in good condition.
Install a new oil filter element in the oil filter case. Reinstall the oil filter case and crankcase drain plug.
Fill the crankcase with recommended oil. (See page 4-4).



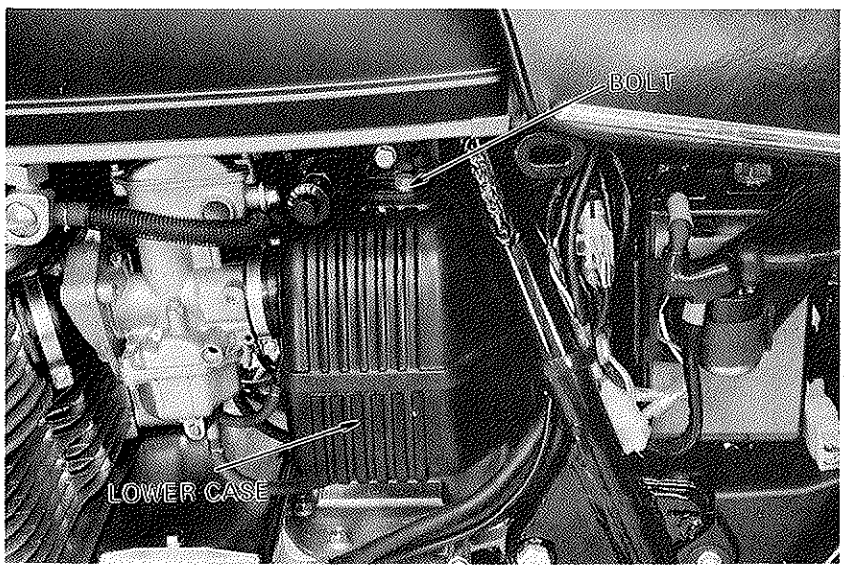
● ENGINE OIL SCREEN

Drain oil from the crankcase.
Remove the oil pan securing bolts and oil pan.
Remove the oil screen from the oil pump base.
Clean the oil screen in clean solvent. Replace the oil screen if damaged or broken.
Reinstall the oil screen and oil pan.
Fill the crankcase with recommended oil. (See page 4-4).



● AIR CLEANER

Remove the two air cleaner mounting bolts and remove the air cleaner lower case and element.



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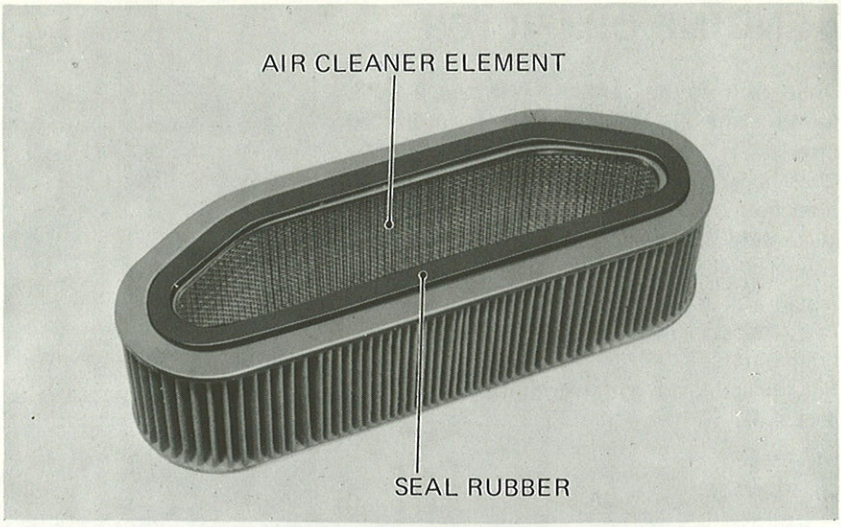
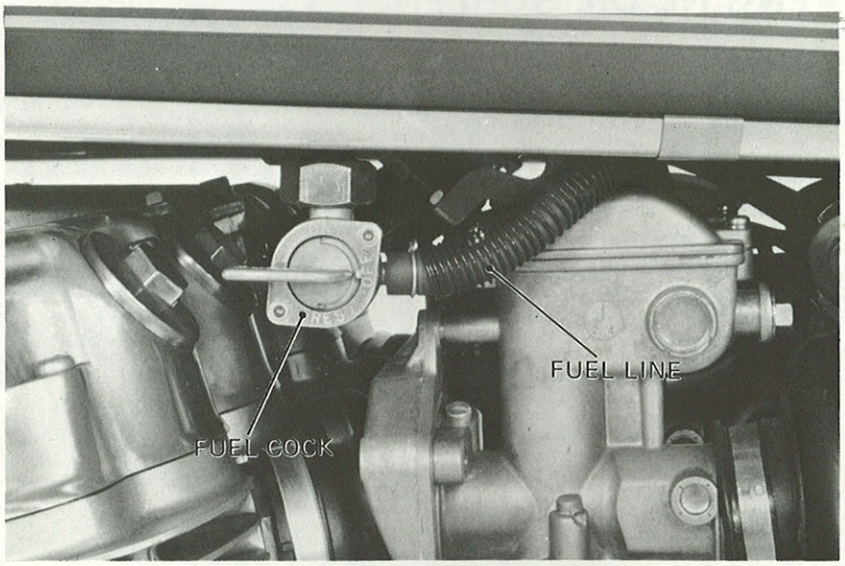
Clean the element by tapping it lightly to loosen dust. Blow away the remaining dust by applying compressed air from the inside of the element.
Replace the element periodicaly or if it is fouled excessively, broken or damage.
Clean the lower case.
Reinstall the element and lower case and tighten with two mounting bolts.



● FUEL LINES

Make sure that there is no deterioration, damage or leaks in fuel tube and joints.
If there is any deterioration, damage or leakage, install new parts.
Open the fuel valve to make sure that the fuel filter screen is not clogged. Replace or clean the fuel filter screen if it is clogged.

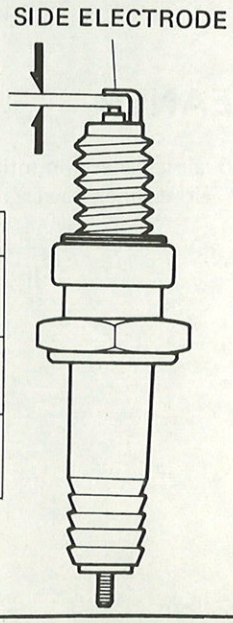


● SPARK PLUGS

Disconnect the spark plug cap and remove the spark plug.
Visually inspect the spark plug electrodes for deposits, eroded electrodes, or carbon fouling. The center electrode should have square edges and the side electrode should have a constant thickness. Discard the spark plug if deposits are heavy, electrodes appear to be eroded excessively, or insulator is cracked or chipped.
If the spark plug's carbon or wet fouled can be removed by sandblasting or wire brush, the spark plug can be reused.
Adjust the spark plug gap by bending the side electrode carefully.
Reinstall the spark plug and reconnect the spark plug cap.

NOTE
First tighten the spark plug finger tight, then tighten with a spark plug wrench.

Specified gap: 0.6–0.7 mm (0.024–0.028 in.)



Standard spark plugs:	
'76 '77	D8ES-L (NGK) X24ES (ND)
'78	D8EA (NGK) X24ES-U (ND)
CANADIAN MODEL	DR8ES-L (NGK) X24ESR-U (ND)

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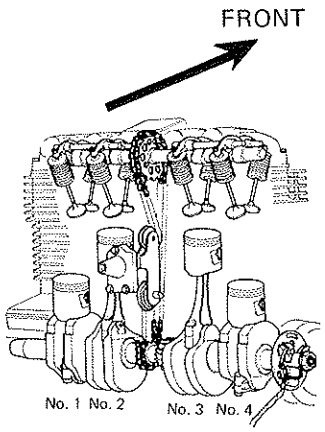
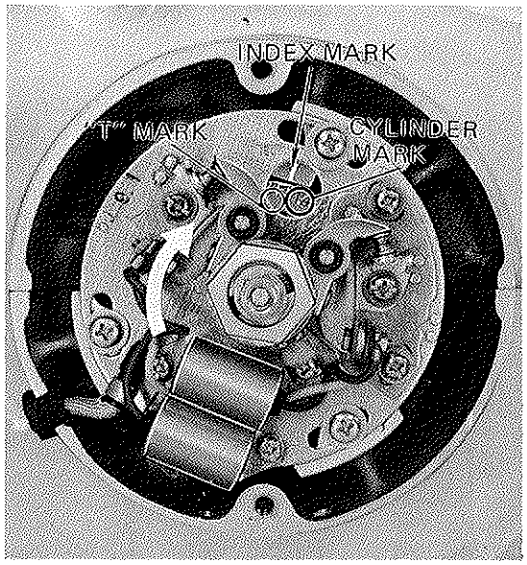
● VALVE CLEARANCE

NOTE

Inspect and adjust valve clearance while the engine is cold.

Raise the seat.
Turn the fuel valve "OFF" and remove the fuel tube and fuel tank.
Remove the valve adjusting hole caps and point cover.
Rotate the crankshaft clockwise slowly until the "1.4 T" mark is aligned with the index mark on the crankcase. Make sure that the No. 1 piston is at T.D.C. (Top Dead Center) of the compression stroke.
Check the valve clearance for the valves marked with "●" in the chart below.

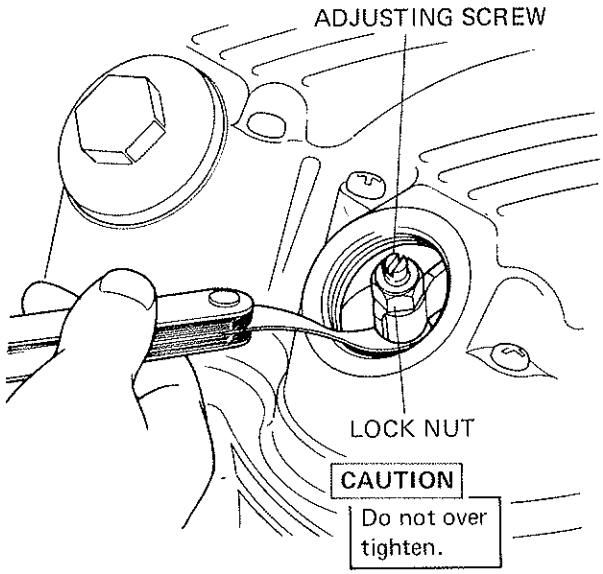




Cylinder No.	No. 1	No. 2	No. 3	No. 4
IN.	●	○	●	○
EX.	●	●	○	○

STANDARD VALVE CLEARANCE:
IN. 0.05 mm (0.002 in.)
EX. 0.08 mm (0.003 in.)

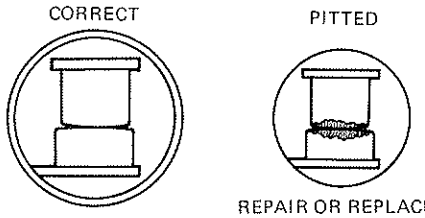
If adjustment is necessary, loosen the adjusting screw lock nut and turn the adjusting screw by using a special tool "valve clearance adjusting wrench (Tool No. 07908-3230000) until there is slight drag on the feeler gauge. Tighten the lock nut and recheck the clearance.
Rotate the crankshaft one full turn (360°) clockwise and align the "1.4 T" mark with the index mark.
Check and adjust the valve clearance for the valves marked with "○" in the chart. Adjust if necessary same as previously described.
Reinstall the contact breaker point cover, valve adjusting hole caps, fuel tank and fuel tube.

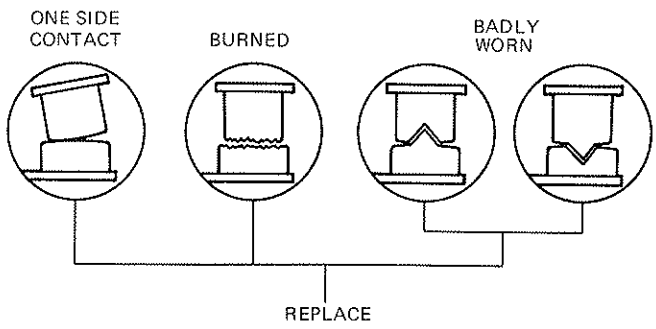


● CONTACT BREAKER POINTS

• INSPECTION AND CLEANING

Remove the point cover.
Open the points with finger or small screwdriver blade and check for condition.
If pitted excessively or burned, replace the points. A gray discoloration or pitted slightly can be removed with a point file or sand. After filing, clean the point contacts with a clean piece of unwaxed paper such as a business card, or with chemical point cleaner.





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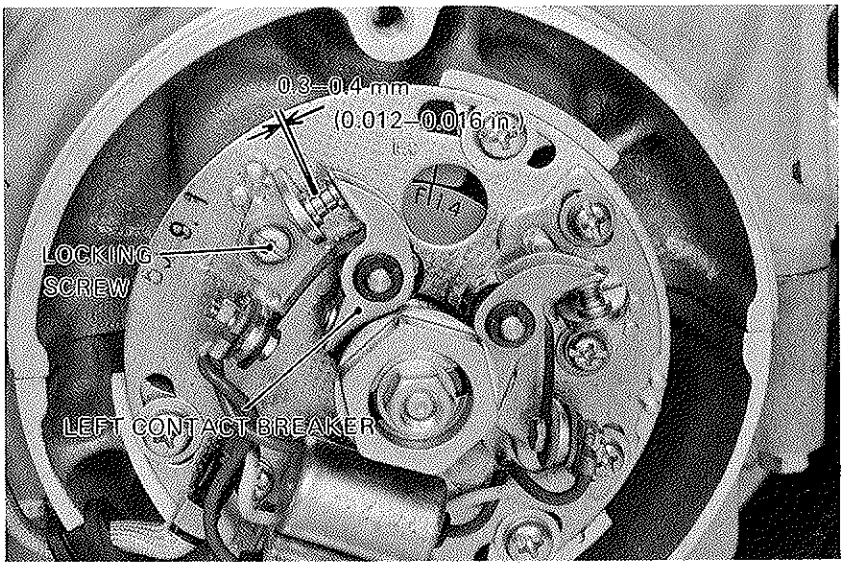
• POINT GAP ADJUSTMENT

Rotate the crankshaft clockwise to find the position where each breaker point gap is at maximum and check using a feeler gauge.

POINT GAP: 0.3-0.4 mm (0.012-0.016 in.)

If adjustment is necessary, loosen the contact breaker plate locking screw and move the contact breaker plate to achieve correct gap. Retighten the locking screw and recheck both point gaps.

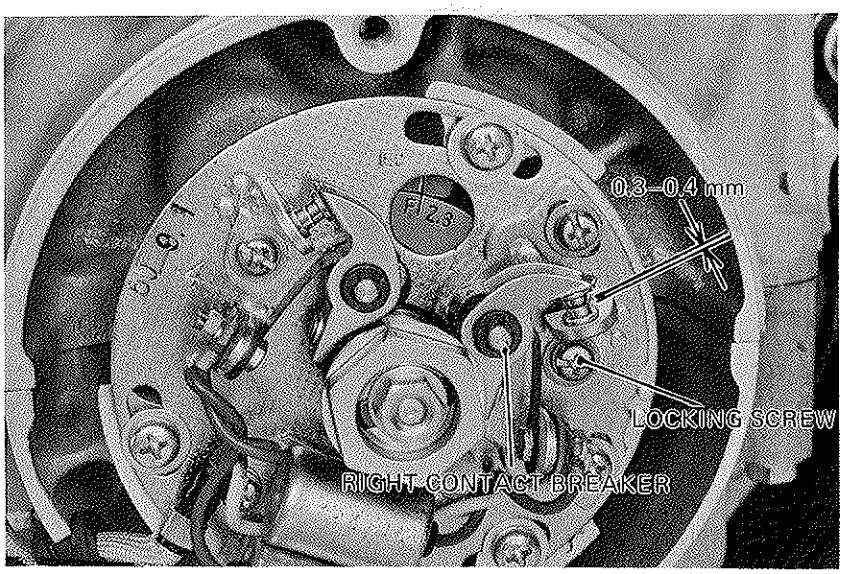


• REPLACEMENT

If the points are excessively pitted, badly worn, one side contact or burned, or if adjustment becomes impossible, replace the points.
After installation, perform the point gap and ignition timing adjustments.

NOTE

Reconnect the point leads properly.



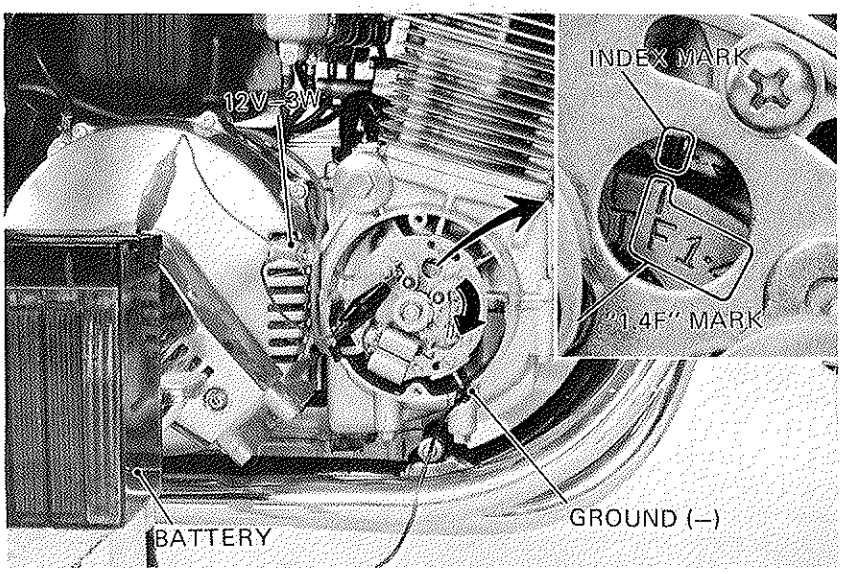
• IGNITION TIMING

NOTE

- Contact breaker point gap must be adjusted before the ignition timing adjustment is performed.
- Adjust the No.1 and 4 cylinder timing first, then the No. 2 and 3 cylinders.

• IGNITION TIMING ADJUSTMENT WITH A CONTINUITY LIGHT (12V-3W)

Prepare a battery and a continuity light (12V-3W).
Remove the right side cover and disconnect the primary wire leads.
Connect one lead of the continuity light to the "1.4" point arm and the other lead to the battery positive (+) terminal. Ground the battery negative (–) terminal to the frame body. Rotate the crankshaft clockwise slowly and align the "1.4 F" mark with the index mark. The timing for the No. 1 and 4 cylinders is correct if the light goes out when both marks align.



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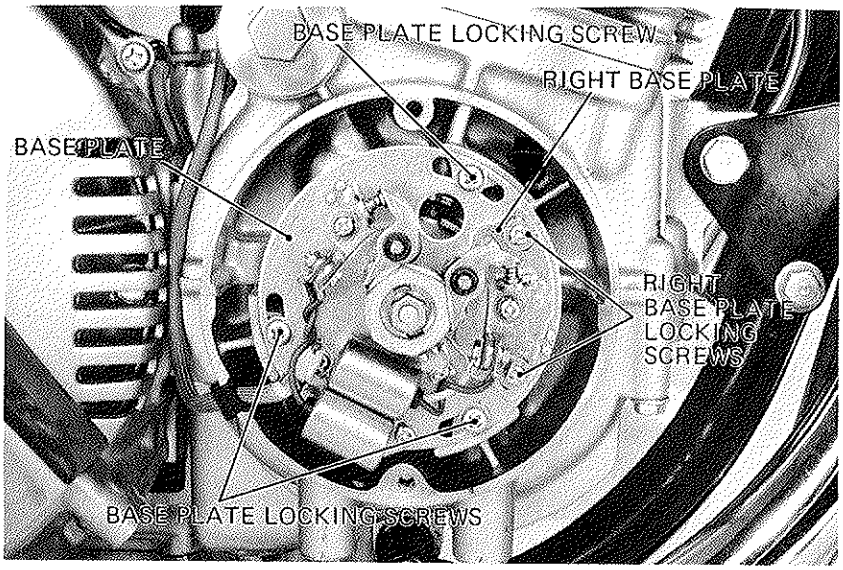
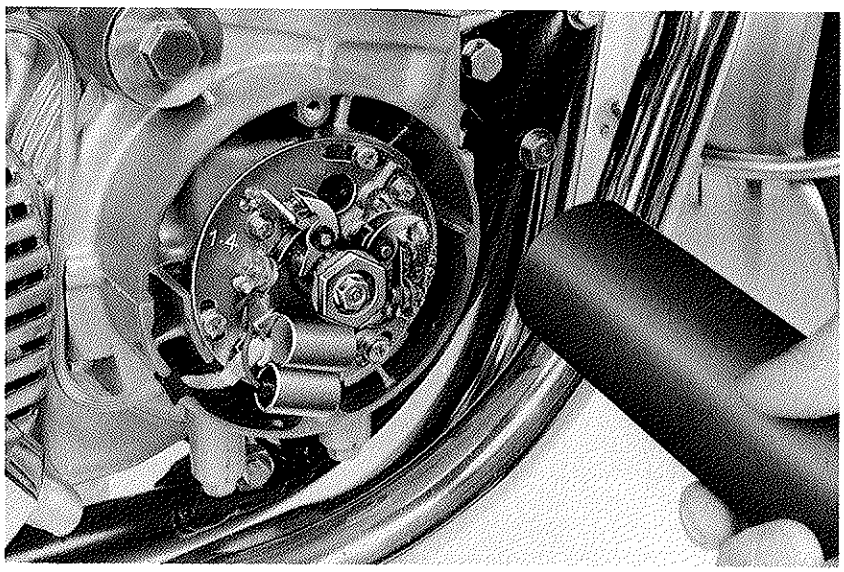
Adjust the timing as follows, if necessary.
Loosen the three base plate locking screws and rotate the base plate to achieve the correct timing.
When the timing is too advanced, rotate the base plate clockwise. When the timing is too late, rotate the base plate counterclockwise. Retighten the base plate locking screws and recheck the timing.
Change the connection of the light lead from the "1.4" point arm to the "2.3" point arm. Rotate the crankshaft clockwise slowly and align the "2.3 F" mark with the index mark. The timing for the No. 2 and No. 3 cylinders is correct if the light goes out when both marks align. Adjust the timing as follows, if necessary. Loosen the two right base plate locking screws and rotate the right base plate to achieve the correct timing. When the timing is too advanced, rotate the right base plate clockwise. When the timing is too late, rotate the right base plate counterclockwise. Retighten the two right base plate locking screws and recheck the timing. Remove the continuity light, connect the primary wire leads and install the point cover and right side cover.



• ALTERNATIVE METHOD USING A TIMING LIGHT

Connect a tachometer and a timing light. Connect the high voltage cord of the timing light to the No. 1 or 4 cylinder high tension cord. Start the engine and make sure that the engine idle speed in neutral is at **950 ± 100 rpm.**
The timing for the No. 1 and 4 cylinders is correct if the "1.4 F" mark aligns with the index mark.



Adjust the timing as follows, if necessary. Loosen the three base plate locking screws and rotate the base plate to achieve the correct timing. When the timing is too advanced, rotate the base plate clockwise. When the timing is too late, rotate the base plate counterclockwise. Retighten the base plate locking screws and recheck the timing. Change the connection of the timing light high voltage cord from the No. 1 or 4 cylinder high tension cord to the No. 2 or 3 cylinder high tension cord. The timing for the No. 2 and 3 cylinders is correct if the "2.3 F" mark aligns with the index mark.

Adjust the timing as follows, if necessary. Loosen the two right base plate locking screws and rotate the right base plate to achieve the correct timing. When the timing is too advanced, rotate the right base plate clockwise. When the timing is too late, rotate the right base plate counterclockwise. Retighten the two right base plate locking screws and recheck the ignition timing and contact breaker point gaps. Disconnect the timing light and tachometer and install the point cover.

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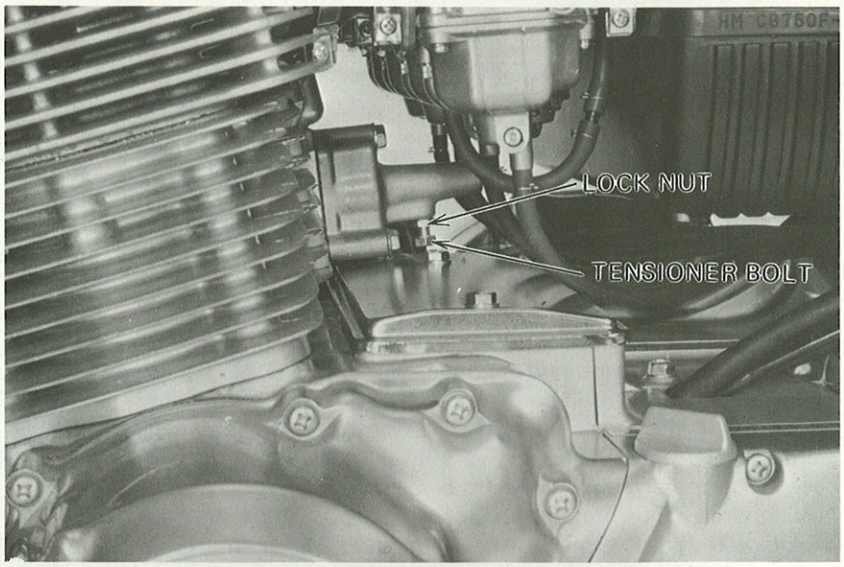
● CAM CHAIN TENSION

Start the engine and allow it to idle. Loosen the cam chain tensioner lock nut and tensioner bolt. When the cam chain tensioner bolt is loosened, the tensioner will automatically position itself to provide the correct tension. Retighten the tensioner bolt and look nut.

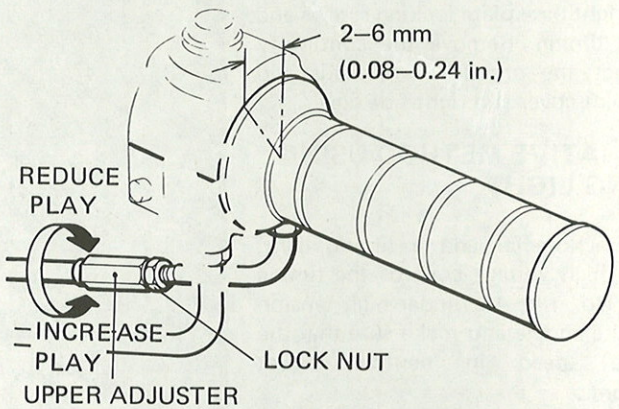


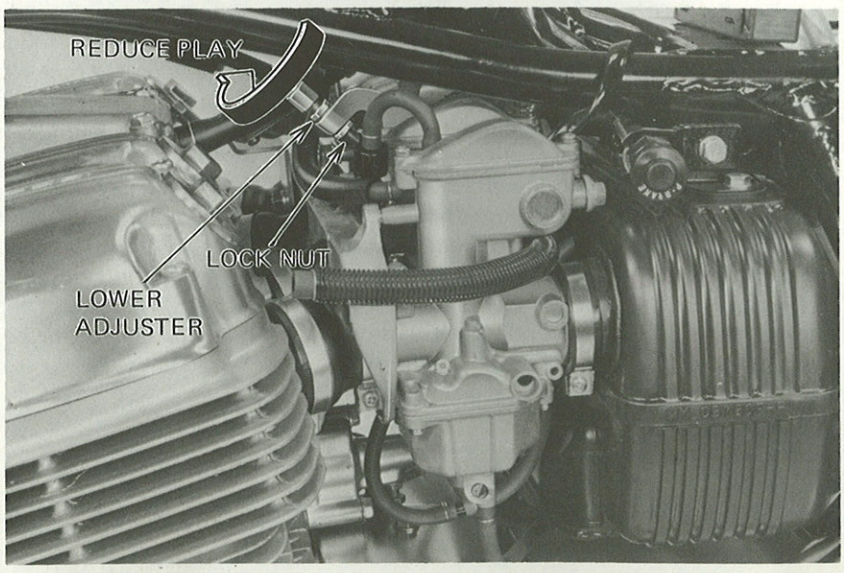
● THROTTLE OPERATION

Make sure that there is no deterioration, damage, or kink in the throttle cables, and that the throttle grip free play is **2-6 mm (0.08-0.24 in.)** on the outer edge of the throttle grip flange. Check for smooth throttle grip rotation from fully closed to fully opened positions at all steering positions.

Inspect that the throttle grip returns from fully open position to fully close position when releasing hand.

Adjust or replace, if necessary. Throttle grip free play can be adjusted at either end of the throttle cable. Major adjustments must be made at the lower adjuster after removing the fuel tank. To adjust, loosen the grip play adjuster lock nut and turn the adjuster in either direction. Minor adjustments must be performed at the upper adjuster.





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• CARBURETOR IDLE SPEED

NOTE

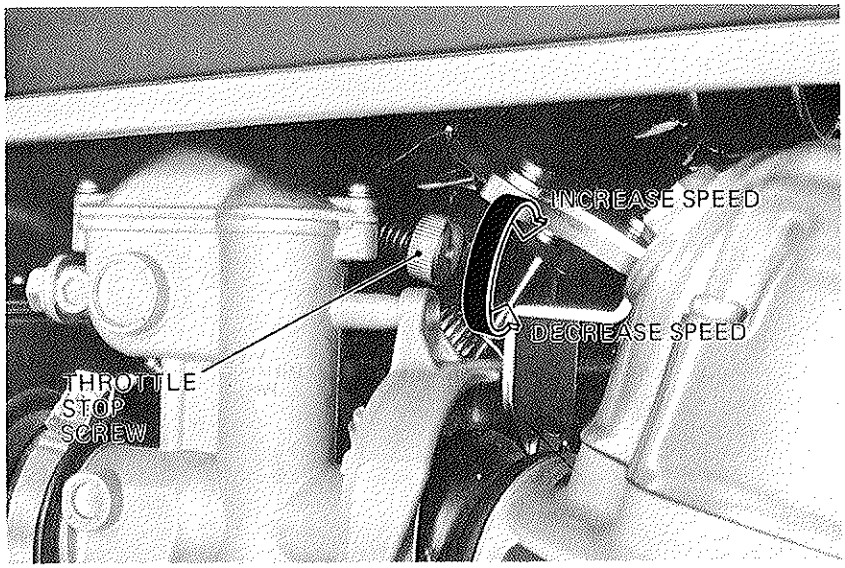
The engine must be warm for accurate idle adjustment. Approximately ten minutes of stop-and-go driving will warm the engine.

• IDLE SPEED IN NEUTRAL

Warm up the engine, shift to NEUTRAL, and place the motorcycle on its center stand. Connect a tachometer. Determine if the engine idle speed is within the specifications.

IDLE SPEED: 950 ± 100 rpm
(in NEUTRAL)

If necessary, adjust the idle speed using the throttle stop screw.

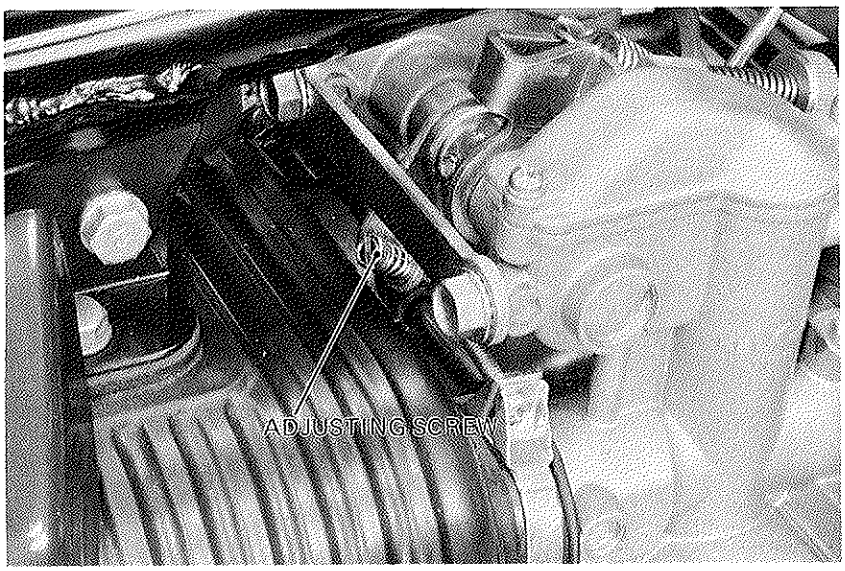


• IDLE SPEED IN GEAR

NOTE

On '76 and '77 models, shift indicator lamps have "L" and "D" lenses instead of "1" and "2".

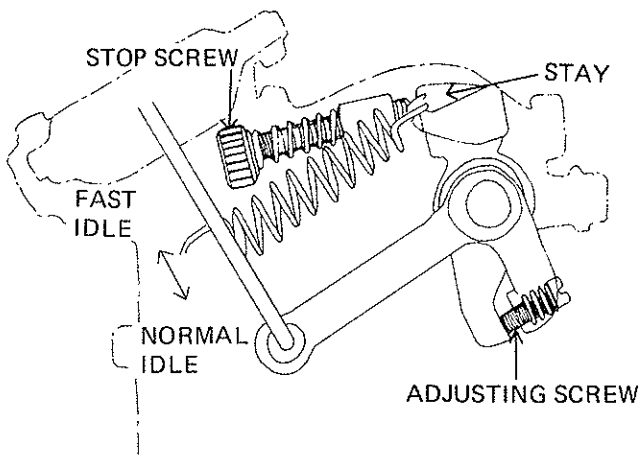
Lock the rear wheel using the parking brake. With the engine idle, shift the transmission in "1". Visually observe that the stall preventer diaphragm linkage moves when shifting "N" to "1". If the diaphragm operates, determine if the idle speed in gear is **1,000 ± 100 rpm.** Adjust the idle speed using the adjusting screw, if necessary. If the diaphragm does not operate, inspect the system as follows:



• STALL PREVENTER (THROTTLE OPENER) SYSTEM TEST

BASIC TEST:

Place the motorcycle on its center stand and lock the rear wheel with the parking brake. Visually observe the diaphragm linkage when shifting "N" to "1" or "2" with the engine idle. The linkage should move to the fast idle position when the gear is shifted into "1" or "2". The linkage should move back for normal idle when "N" is selected. Except '76 model, remove the solenoid valve from the circuit and connect a test light in its place. Test ride the motorcycle observing the test light. The light should go out at speeds over **23 Km/H (14.5 MPH)** and back on under **17 Km/H (10.5 MPH).**



If the stall preventer system does not operate as described in the BASIC TEST, follow the troubleshooting procedure to locate the problem.

TROUBLE SHOOTING:

1. Check all vacuum lines for leakage and proper routing. Retest if any repairs were made.
2. Lock the rear wheel with the parking brake. Disconnect the vacuum tube at the preventer.
   Check for vacuum at the diaphragm with the engine running in gear. The vacuum should be 350 mm Hg (13.8 in Hg) min.

No vacuum

Check for voltage across the solenoid valve.

Vacuum

Replace the throttle opener.
Retest.

Voltage

Check for vacuum to the solenoid valve.

No voltage

1. Faulty ground circuit.
   a. Check the speed sensor (except '76 model).
   b. Check the change switch.
2. Faulty power circuit.

Repair and retest.

Vacuum

Replace the solenoid valve.
Retest.

No vacuum

Inspect the check valve and vacuum line to the carburetor for obstruction.
Repair and retest.

3. If the system passes all parts, except the test ride inspection in the BASIC TEST, replace the speedometer and retest. (Except '76 model.)

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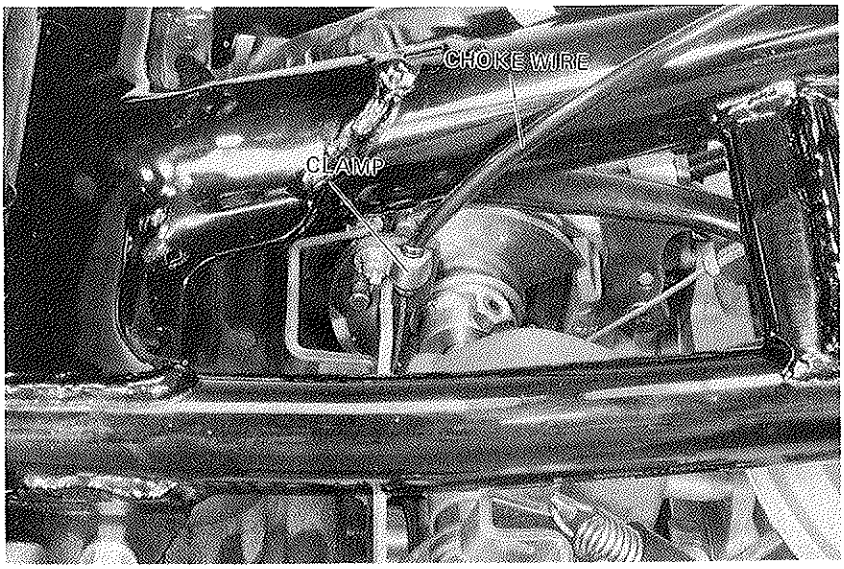
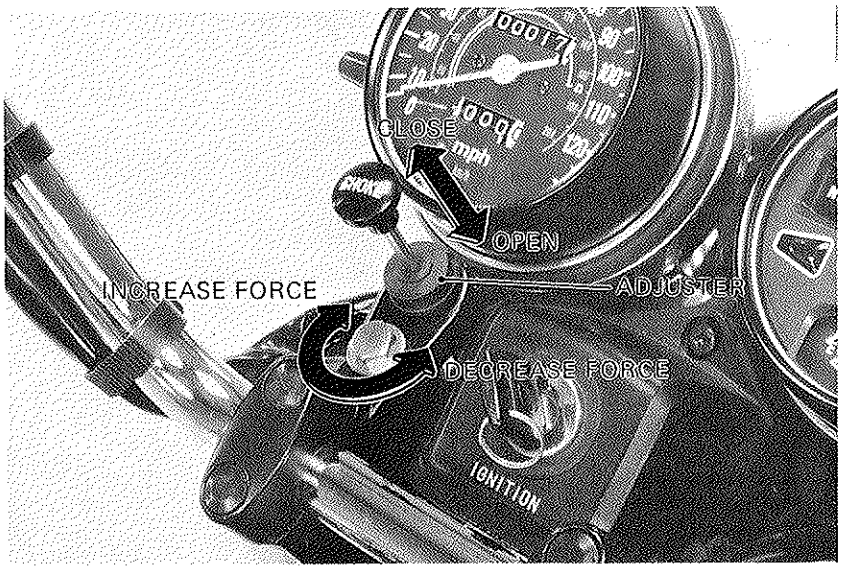
• CARBURETOR CHOKE /FAST IDLE

• CHOKE MECHANISM MAINTENANCE

Check for smooth choke knob operation.
Pull the choke knob to "fully closed" and make sure that the choke is fully closed.
When adjustment is necessary, loosen the choke wire clamp and adjust the choke wire. Retighten the clamp, holding the choke lever fully closed.



Adjust the choke operating force by turning the adjuster.
The choke knob must be moved smoothly and stay at the position which it is pulled.



• FAST IDLE ADJUSTMENT

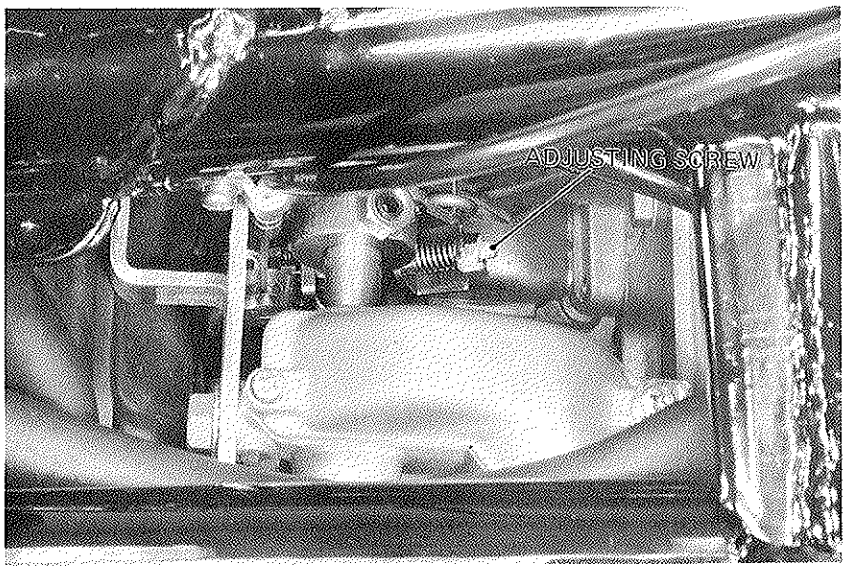
NOTE

Inspection and adjustment must be performed while engine is cold.

While the engine is cold, pull the choke knob out completely and make sure that the fast idle is within the specifications, immediately after the engine starts.

SPECIFIED FAST IDLE: 1,750 ± 750 rpm

If adjustment of the fast idle is necessary, turn the fuel valve "OFF", disconnect the fuel line and remove the fuel tank. Pull the choke knob out completely, turn the adjusting screw until it touches the cam surface. Push the choke knob in and turn the adjusting screw in 2 turns.
Tighten the lock nut and install the fuel tank and fuel line.
Recheck the fast idle.



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• CARBURETOR SYNCHRONIZATION

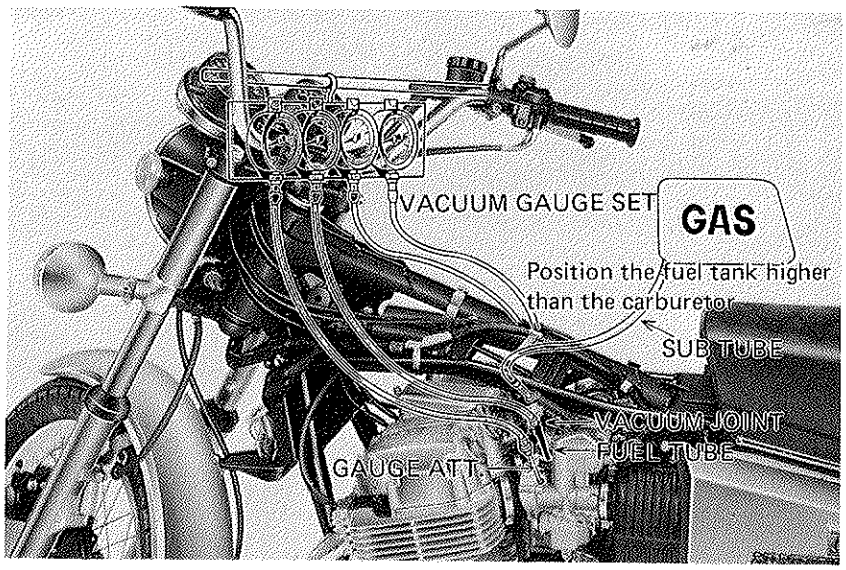
NOTE

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

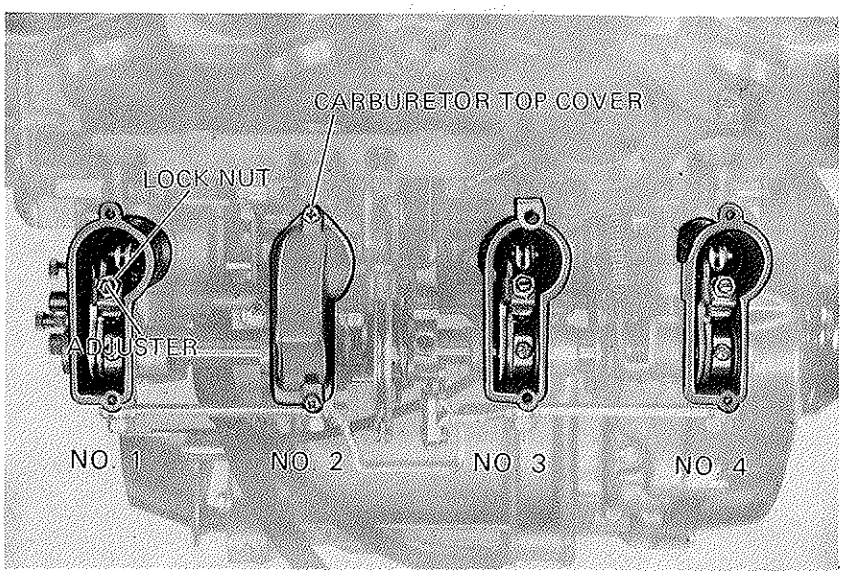
THROTTLE VALVE EXCESSIVELY OPENED | NORMAL | THROTTLE VALVE EXCESSIVELY CLOSED

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 tank higher than normal tank position.
Remove the plugs from the carburetors and install the long attachment of the special tool "Vacuum Joint" to the No. 2 and "Attachment" to the No. 3 carburetors and short ones to the No. 1 and 4 carburetors. Connect the vacuum gauges.

Start the engine and set the idle to **950 ± 100 rpm**, then make sure that the difference in vacuum readings is within **40 mm Hg.**



If adjustment is necessary, remove the top covers from the No. 1, 3 and 4 carburetors. No. 2 carburetor can not be adjusted, because it is the base.
Loosen the lock nuts and turn the adjusting screws using the special tool "Adjusting Wrench (Tool No. 07908-3690000) to achieve the vacuum difference of each cylinder within **40 mm Hg.**
Retighten the lock nuts and recheck the idle speed and synchronization.
Remove the vacuum gauge and attachments. Install the top covers, plugs, fuel tank and proper fuel tube.



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• DRIVE CHAIN

Place the motorcycle on its center stand, with transmission in neutral and ignition switch OFF.

• INSPECTION

Turn the rear wheel slowly and inspect the drive chain and sprokets for damage or wear. Drive chain with damaged rollers, loose pins, or missing O-rings (Except '76 model) must be replaced. Replace any sprocket which is damaged or excessively worn.
Lubricate the drive chain if chain appears dry.

CAUTION

Never install a new drive chain on badly worn sprockets or a badly worn chain on new sprockets. Both chain and sprockets must be in good condition, or the new replacement chain or sprockets will wear rapidly.
When a new drive chain is installed, a new wear label must be attached according to the directions provided with the replacement chain. (Except '76 model)

• DRIVE CHAIN LUBRICATION (EXCEPT '76 MODEL)

Clean the drive chain with kerosene and wipe dry.

CAUTION

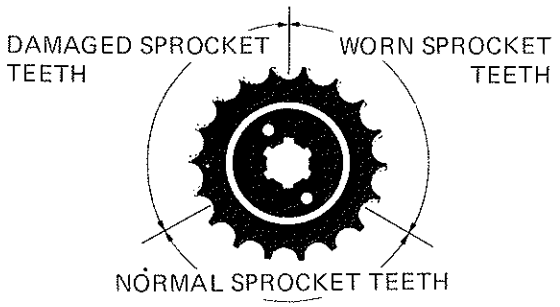
Do not use a steam cleaner, high pressure washers, and certain solvents as these will ruin the O-rings.

Lubricate the drive chain with **SAE 80 or 90** gear oil.

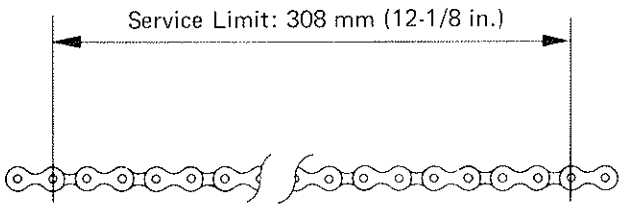
CAUTION

Do not use commercial chain lubricants. It may contain solvents which could damage the rubber O-rings.

('76 MODEL)
If dry or rusted, clean with brush in solvent, wipe and dry with a clean rag.
Apply a liberal amount of high quality chain lubricant.



MEASURING DRIVE CHAIN WEAR ('76 model only)



Measure a span of 20 pins (19 pitches)

Recommended sprocket sizes

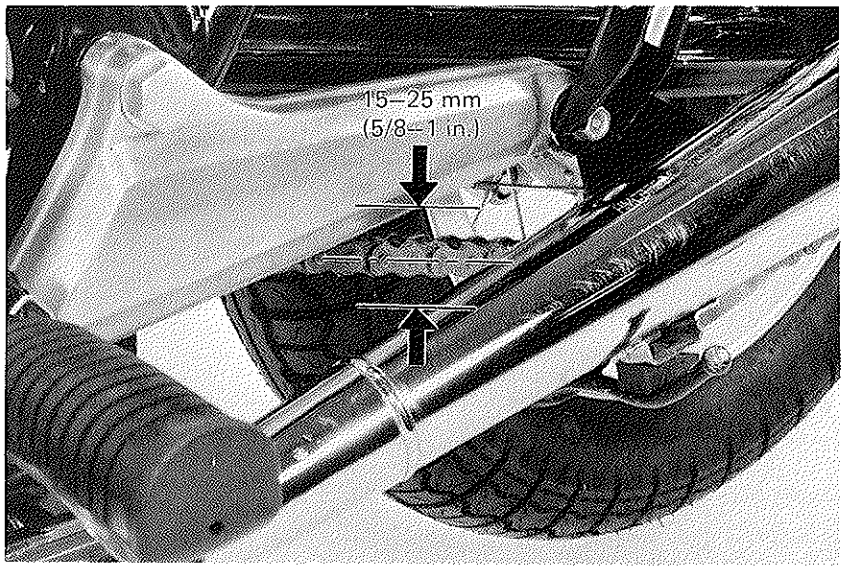
Drive sprocket (engine)	Driven sprocket (rear wheel)
15-Tooth ('76 model: 17-Tooth)	42-Tooth ('76 model: 48-Tooth)

INSPECTION / ADJUSTMENT

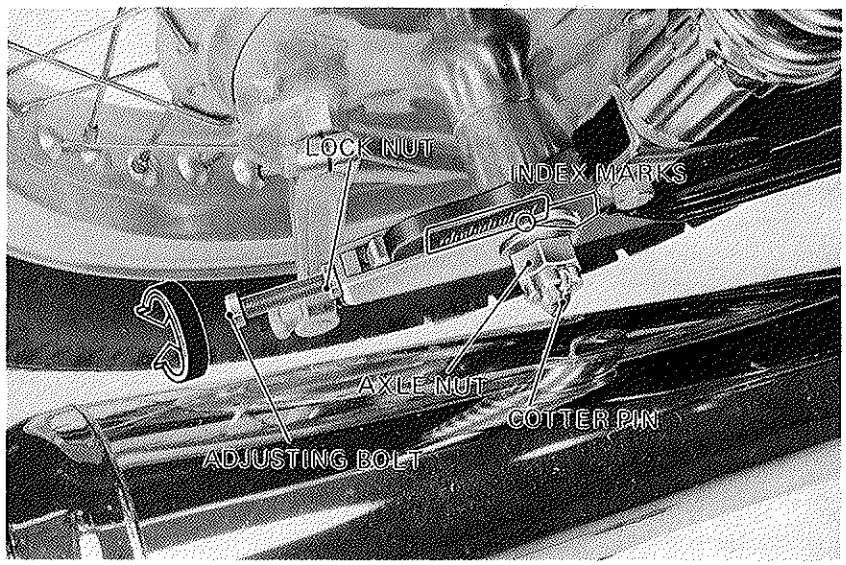
• CHAIN TENSION

Move the chain up and down with fingers and measure the amount of slack at a point midway between the sprockets, on lower chain.

SLACK: 15–25 mm (5/8–1 in.)



To adjust as follows:
Remove the cotter pin from the rear axle nut, and loosen the nut.
Loosen the lock nuts on both adjusting bolts.
Turn both adjusting bolts an equal number of turns until the correct drive chain tension is obtained.



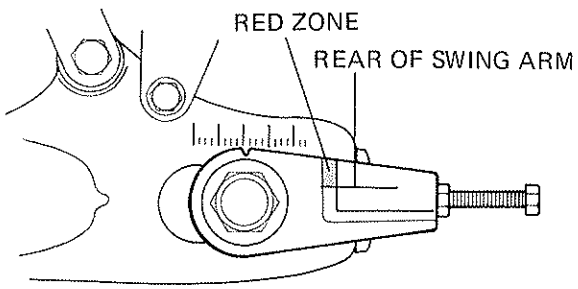
CAUTION

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

For except '76 model, check the chain wear label. If the red zone on the label aligns with the rear of the swing arm, the chain is excessively worn and must be replaced.
Tighten the axle nut and install a new cotter pin.

TORQUE: 8.0-10.0 kg-m (57.9-72.3 lbs-ft)

Tighten the adjusting bolts and lock nuts.
Check that the rear wheel rotates freely by turning it by hand.
Adjust the rear brake if necessary.



• BATTERY

Raise the seat and remove the left side cover.
The electrolyte level must be maintained between the upper and lower level marks.
If the electrolyte level is low, remove the battery filler caps and add distilled water.
If sulfation forms or sediments (paste) accumulate on the bottom, replace the battery with a new one.

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NOTE

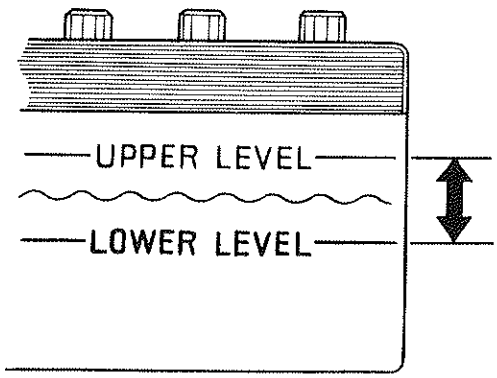
Fill the battery up to the upper level mark at periodical inspection.

CAUTION

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

WARNING

The battery electrolyte containes sulfuric acid.



Electrolyte level should be between limits.

● BRAKE FLUID

• FLUID LEVEL

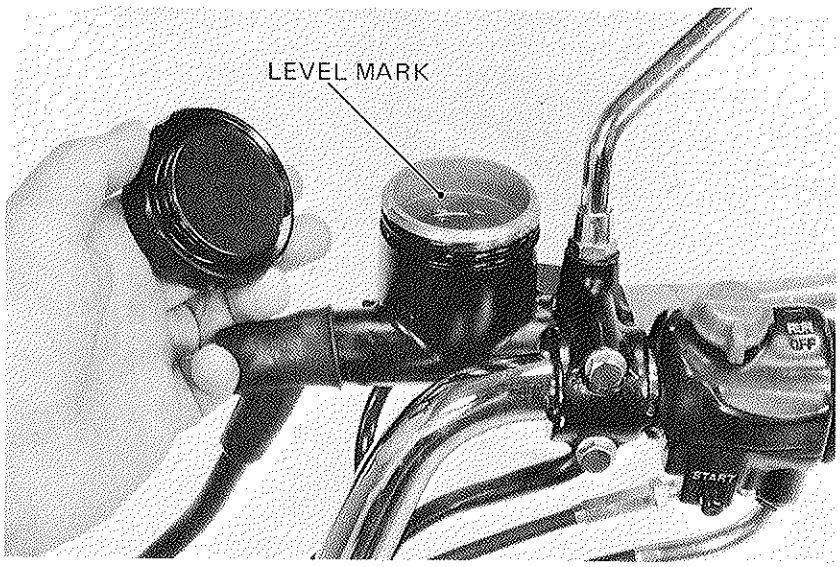
CAUTION

- Before removing the reservoir cap, ensure that the reservoir is level
- Avoid operating the brake lever with the cap removed. Brake fluid will flow out if the lever is operated.

Check that the brake fluid reservoir is filled to the level mark.
If the level is below the mark, fill the reservoir with **DOT-3 BRAKE FLUID** up to the level mark.
Check the entire system for leaks, if the level is low.

CAUTION

Do not mix different brands of fluid as they are not compatible.

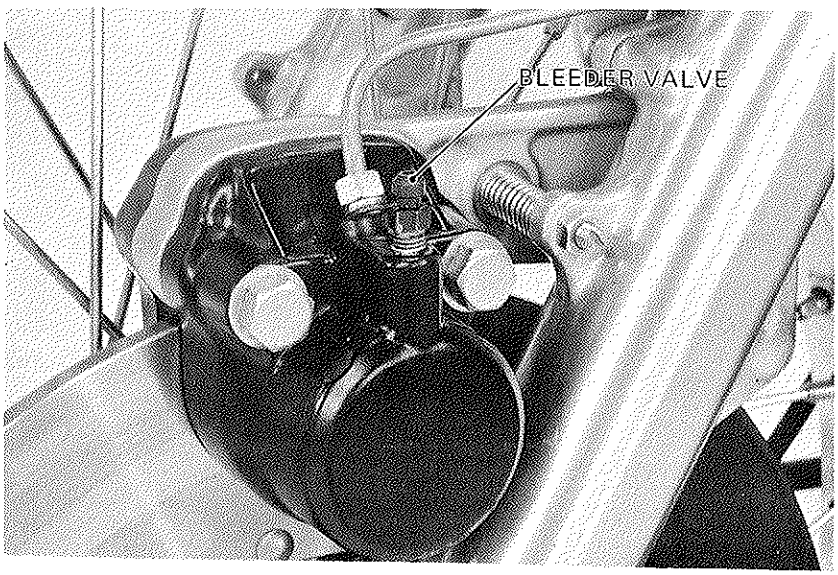


• FLUID REPLACEMENT

CAUTION

- Install the diaphragm on the reservoir when operating the brake lever. Failure to do so will allow brake fluid to squirt out of the reservoir during brake lever operation.
  Avoid spilling fluid on painted surfaces.

Fluid Draining:
Loosen the caliper bleeder valve and pump the brake lever.
Stop pumping operation when no fluid flows out of the bleeder valve.



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Fluid Filling:

CAUTION

Do not mix different brands of fluid since they are not compatible.

Close the bleeder valve, fill the reservoir and install the diaphragm.

To prevent piston overtravel and brake fluid seepage, keep a **20 mm (3/4 in.)** space to the handlebar grip when bleeding the brake system.

Pump up the system pressure with the lever until there are no air bubbles in the fluid flowing out of the reservoir small hole (until lever resistance is felt).

Air Bleeding:

NOTE

Check the fluid level often while bleeding the brake to prevent air from being pumped into the system.

Pull the brake lever all the way back to the handlebar.

Loosen the bleeder valve about 1/2 turns and retighten.

NOTE

Do not release the lever until the bleeder valve has been closed.

Release the lever gradually and wait several seconds after it reaches the end of its travel.

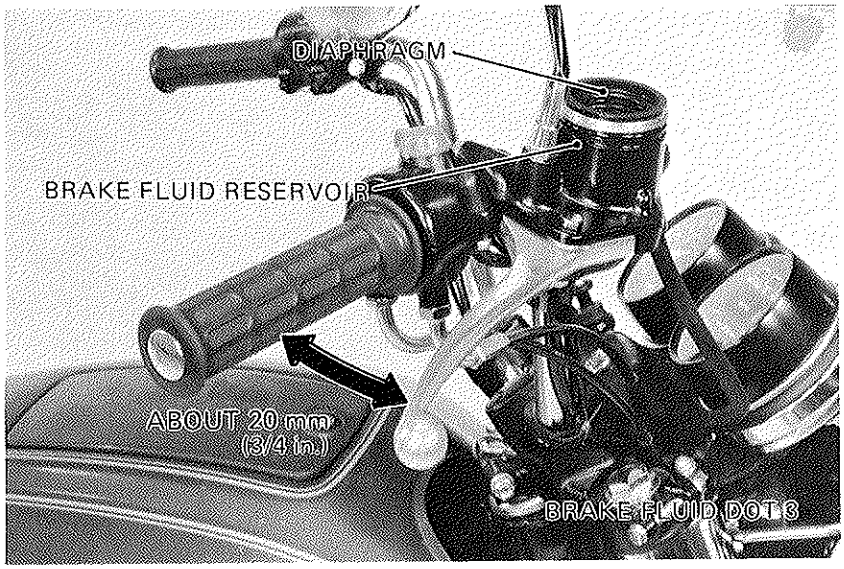
Repeat the above steps until there are no air bubbles in the fluid flowing out of the bleeder valve.

Fill the reservoir to the UPPER FLUID LEVEL.

Check the entire system for leaks by operating the brake.

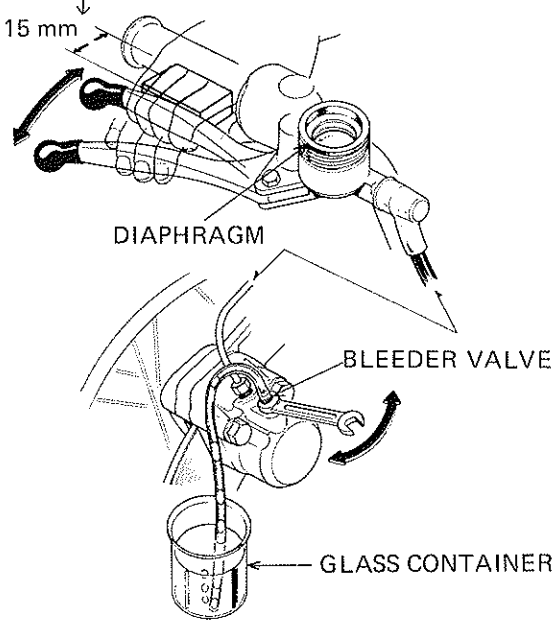
WARNING

A contaminating brake disc or pads reduces stopping power. Replace contaminated pads, and clean a contaminated disc with a good quality degreasing agent.



CAUTION

Do not pull the brake lever all the way down to the handlebar grip. Use a 15 mm (0.6 in.) spacer. ('76 model only)



NEVER REUSE

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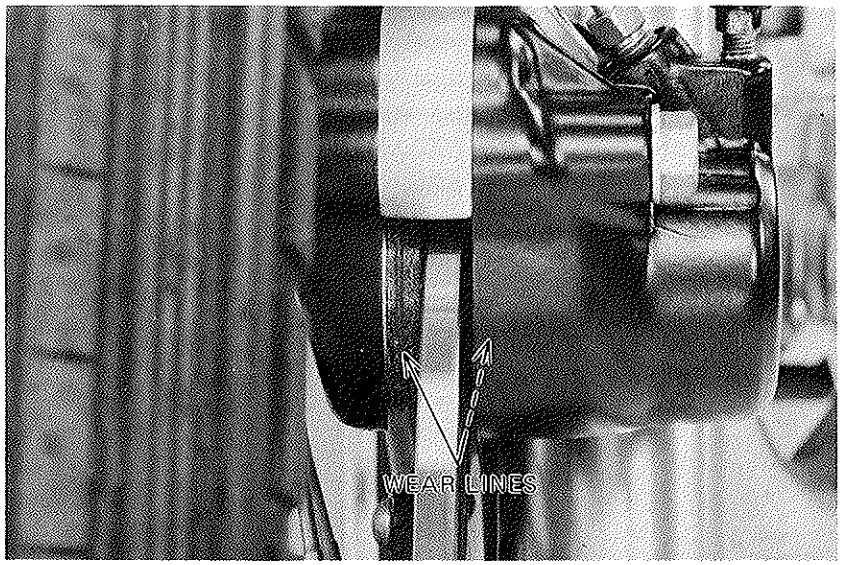
● BRAKE PAD WEAR

Check the brake pad for wear.
Replace the brake pads if the red line on the pads reaches the edge of the brake disc. (Refer to Section 15).

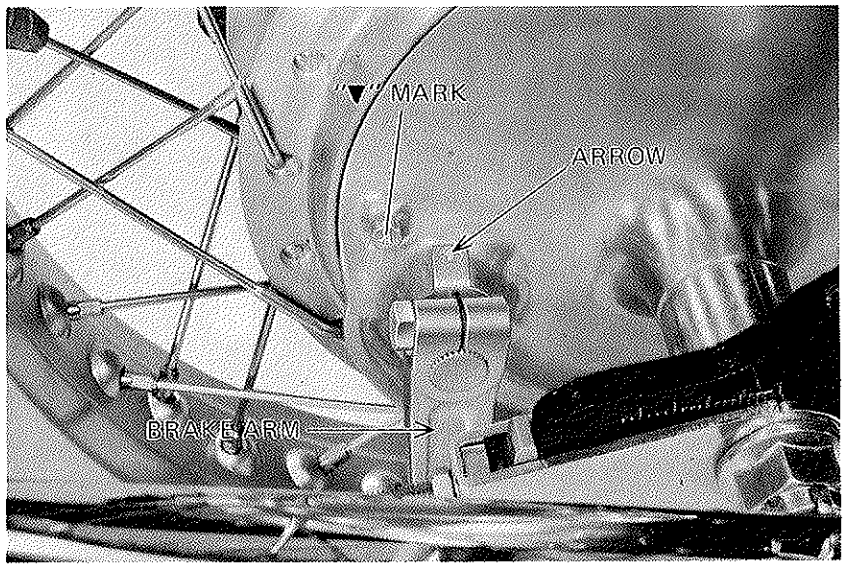
CAUTION

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



● BRAKE SHOE WEAR

Replace the brake shoes if the arrow on the brake arm aligns with the reference mark "▼" on full application of the rear brake.



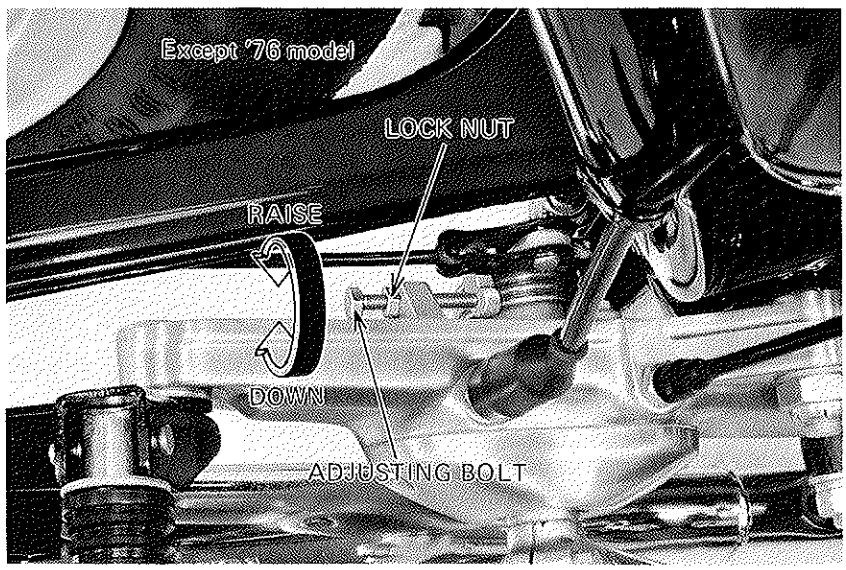
● BRAKE SYSTEM

Make sure that there is no deteriotation, damage or leaks in brake tube and joints.

Check the brake rod for loose connection, excessive play, bending or any other defect.
Inspect the brake stopper arm for loose connection or damage.
Inspect the mounting of the rear brake arm to the brake shoe actuating cam to make sure that the locking bolt is tight and splines undamaged.
Check that the cotter pin is installed properly.
Replace or repair if necessary.

• BRAKE PEDAL HEIGHT

Loosen the lock nut.
Adjust the brake pedal height by turning the adjusting bolt.
Tighten the lock nut.



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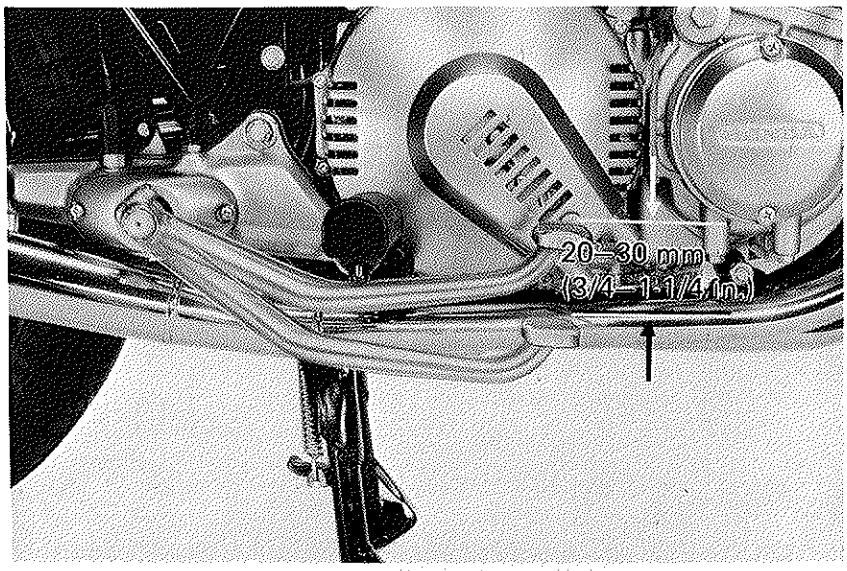
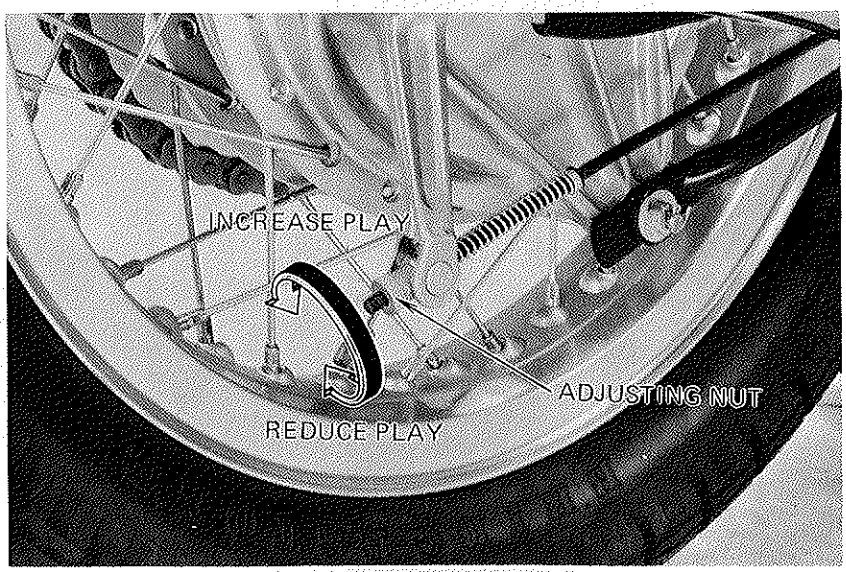
• BRAKE PEDAL FREE PLAY

Check the brake pedal free play.

FREE PLAY: 20–30 mm (3/4–1-1/4 in.)

If adjustment is necessary, turn the rear brake adjusting nut.

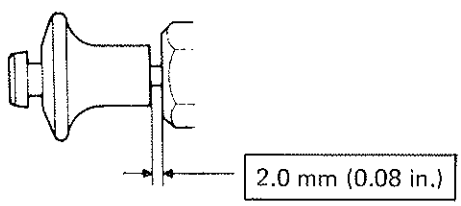




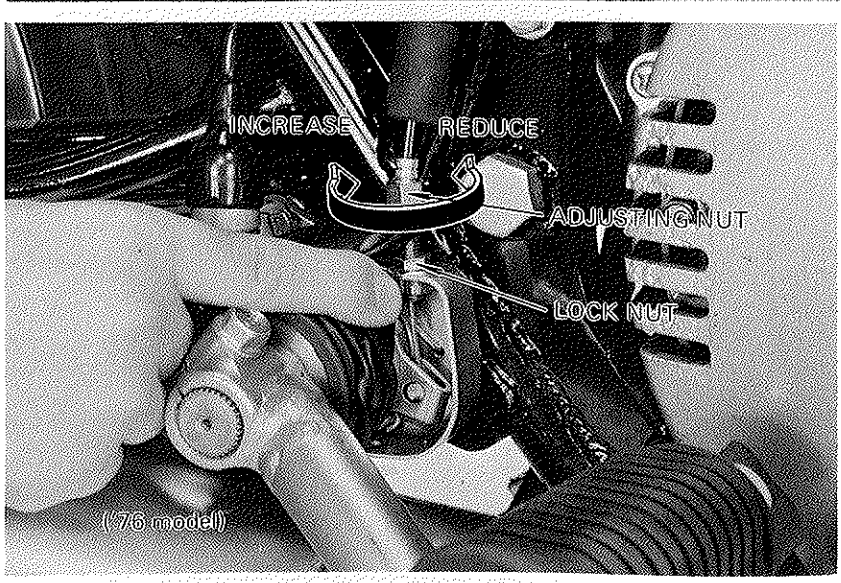
• PARKING BRAKE

Check the cable free play.

FREE PLAY: 2.0 mm (0.08 in.)



If necessary, adjust the free play by loosening the lock nut and turning the adjusting nut.



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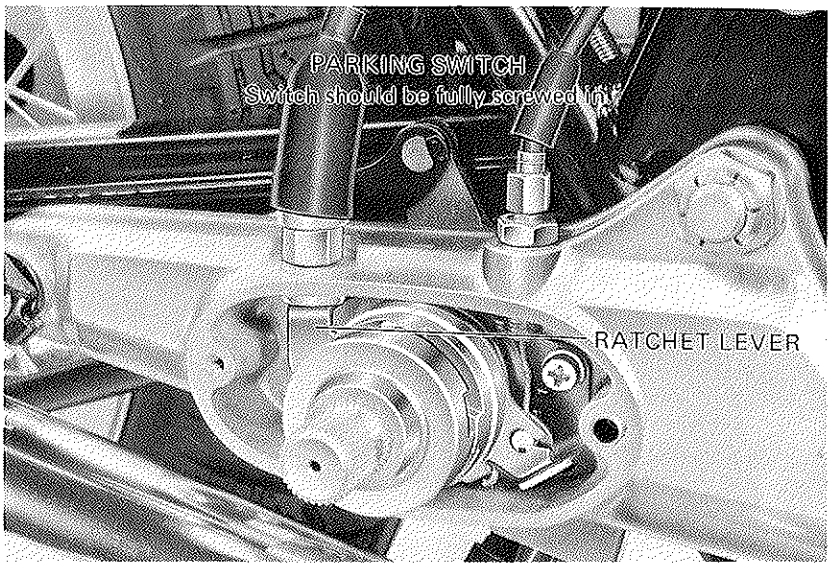
To expose the ratchet mechanism, remove the brake pedal and move the dust cover (ratchet cover except for '76 model).
Check inside for dusty condition or lack of lubrication.

Make sure that the ratchet lever pushes up on switch.

The parking brake should be locked at each detent position every time the pedal moves approx. **20 mm (3/4 in.)**.If the parking brake is not locked, remove the case ratchet and inspect ratchet pawls.

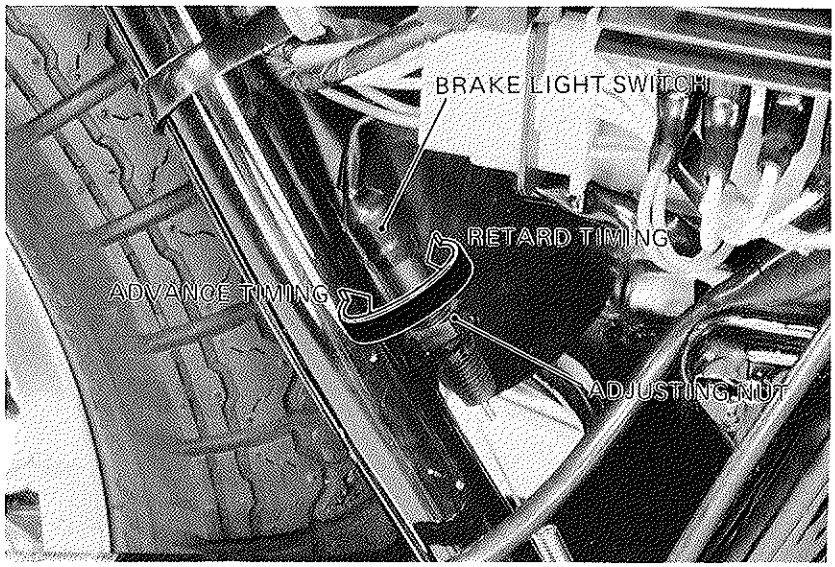


● BRAKE LIGHT SWITCH

Adjust the rear brake light switch so that the stoplight will come on when the brake pedal is depressed 20 mm (3/4 in.) where the brake being engagement.
Adjust by turning the switch adjusting nut.

NOTE

The brake light switch adjustment must be performed after the brake pedal play and pedal height have been adjusted.



● HEADLIGHT AIM

• VERTICAL ADJUSTMENT

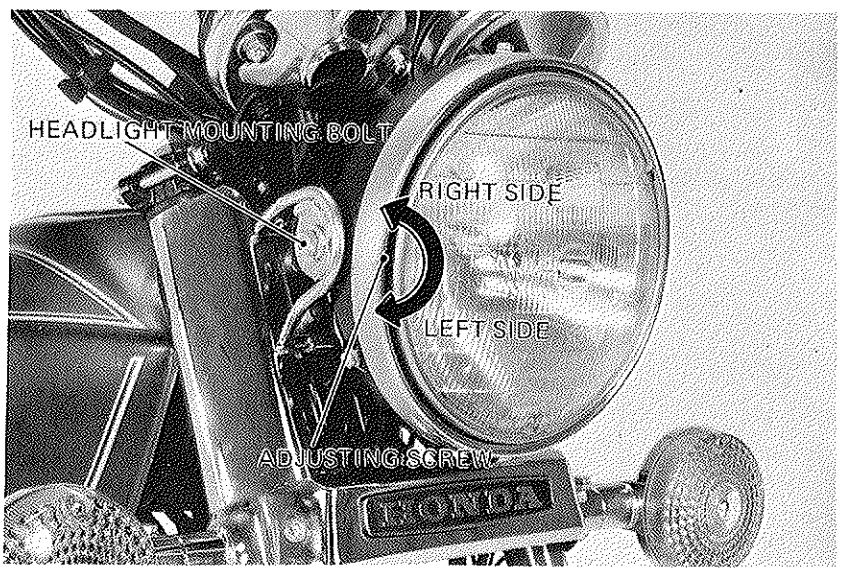
Remove the side marker reflectors.
Loosen the headlight mounting bolts and tilt the headlight as required.
Install the side marker reflectors.

• HORIZONTAL ADJUSTMENT

Turn the adjusting screw clockwise to focus the beam toward the left side of the rider.
Turn the screw counterclockwise to focus the beam toward the right side.

NOTE

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



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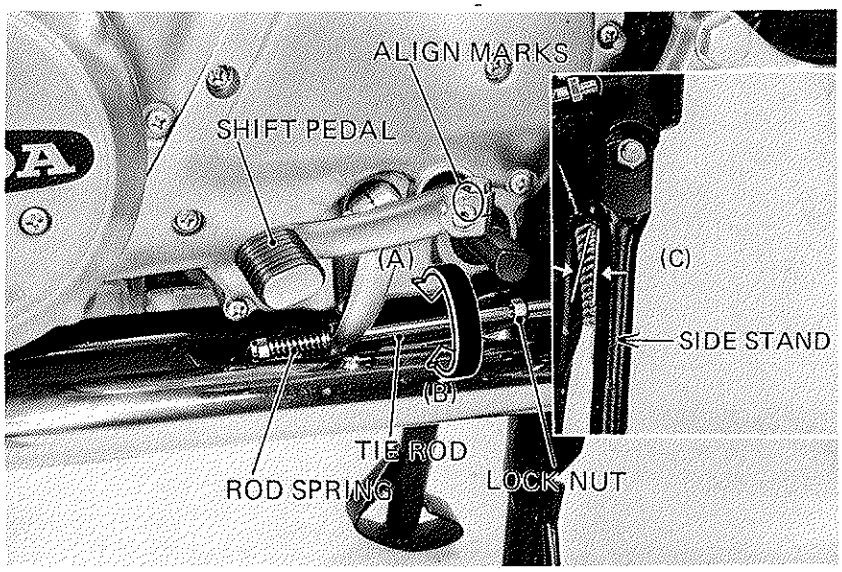
● SIDE STAND

Place the motorcycle on its center stand.
Retract the side stand.
Shift into "D (or 2)".
Loosen the lock nut.
Turn the tie rod in direction (A) until it stops, and then turn it in (B) one turn.
Tighten the lock nut.
Set the side stand and be sure that the shift pedal is shifted into "N". There should be no clearance (C) between the side stand and bracket.
If the shift pedal is not shifted into "N" and/or there is clearance (C), readjust the tie rod. If the rod does not return properly, check the rod spring for weakness and replace if necessary.
Retract the side stand and make sure that the shift pedal can be shifted into "D (or 2)" and "L (or 1)".



● SUSPENSION

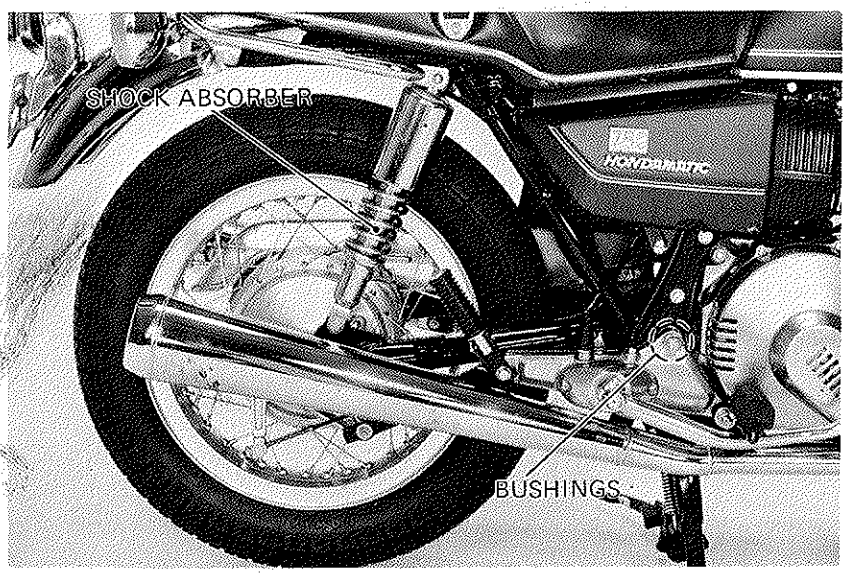
• FRONT SUSPENSION

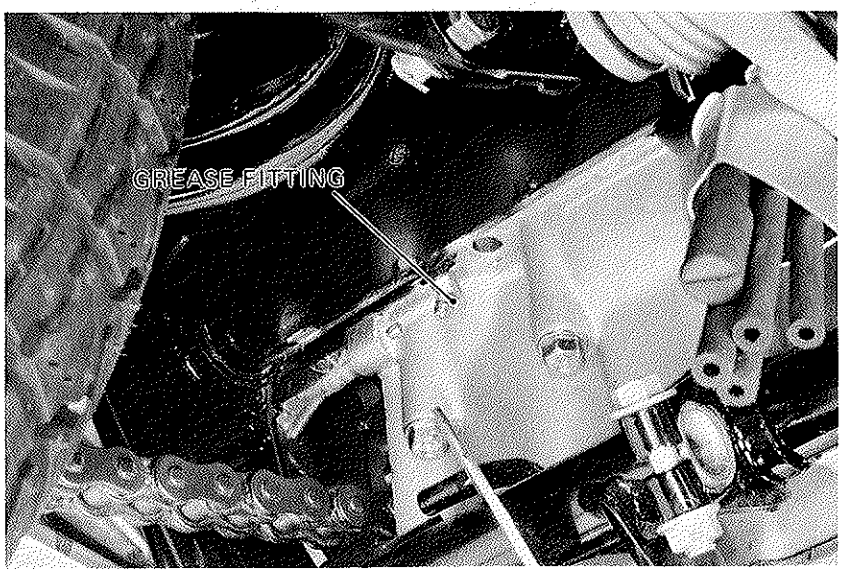
Check the action of the front fork by compressing them several times.
Check the forks for signs of leaks or damage.
Replace any components which are unrepairable.
Check the front wheel for trueness.

• REAR SUSPENSION

Place the motorcycle on its center stand.
Move the rear wheel sideways with force to see if the rear fork bushings are worn. Replace excessively worn.
Check the entire suspension assembly to see if it is securely mounted, damaged or distorted.
Check the rear wheel for trueness.

Pump grease through the grease fitting at the rear fork pivot. Use multipurpose grease, type **NLGI No. 2.**





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● NUTS, BOLTS, FASTENERS

Retighten the frame parts to the specified torque. Refer to page 3–3.

● WHEELS/SPOKES

• TIRE PRESSURE

NOTE

Tire pressure should be checked when the tires are COLD.

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

Cold tire pressures kg/cm² (psi)	Up to 90 kg (200 lb) load	Front: 2.0 (28) [1.75 (25)] Rear: 2.0 (28)
	Up to vehicle capacity load	Front: 2.0 (28) [2.25 (32)] Rear: 2.5 (36)
Vehicle capacity load limit	163 kg (360 lbs)	
Tire size	Front: 3.50H19–4 PR Rear: 4.50H17–4PR	
Tire brand	Front: Bridgestone S21 F2 Dunlop F6 Rear: Bridgestone S21 R2 Dunlop K87 Mark II	

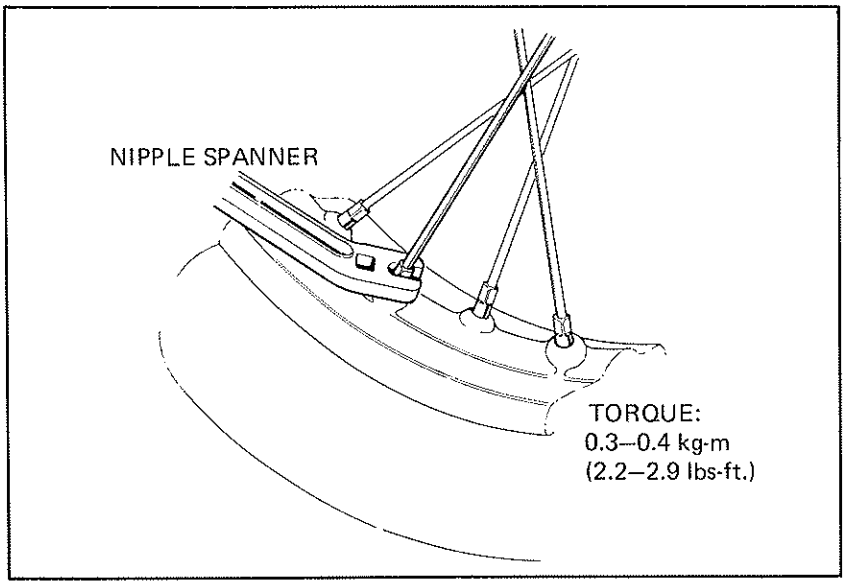
Minimum recommended tire center tread depth
Front: 1.5 mm (1/16 in.) **Rear: 2.0 mm (3/32 in.)**

[ ]: '76 model

• WHEEL SPOKE RETIGHTEN ('76 & '77 models)

Retighten the wheel spokes and recheck rim runout.

TIGHTENING TORQUE: 0.3–0.4 kg-m (2.2–2.9 lbs.-ft.)



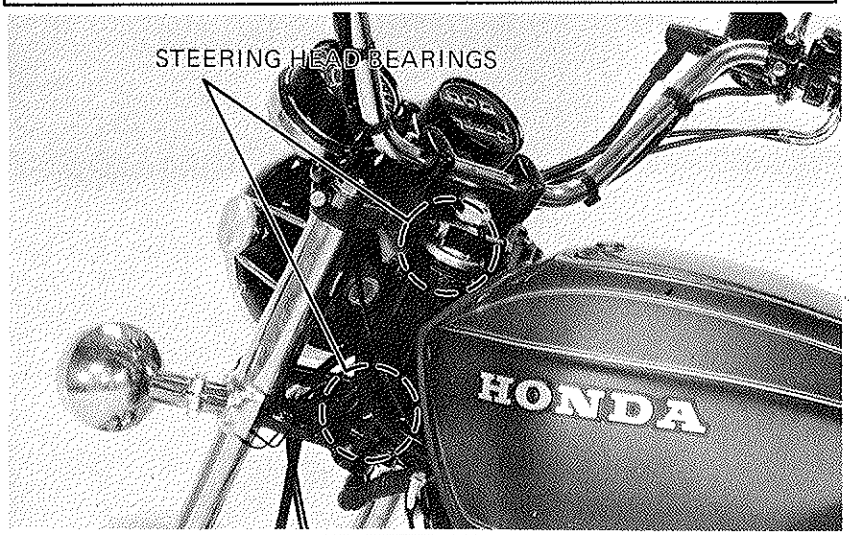
● STEERING HEAD BEARING

NOTE

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

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 (see page 15-10).



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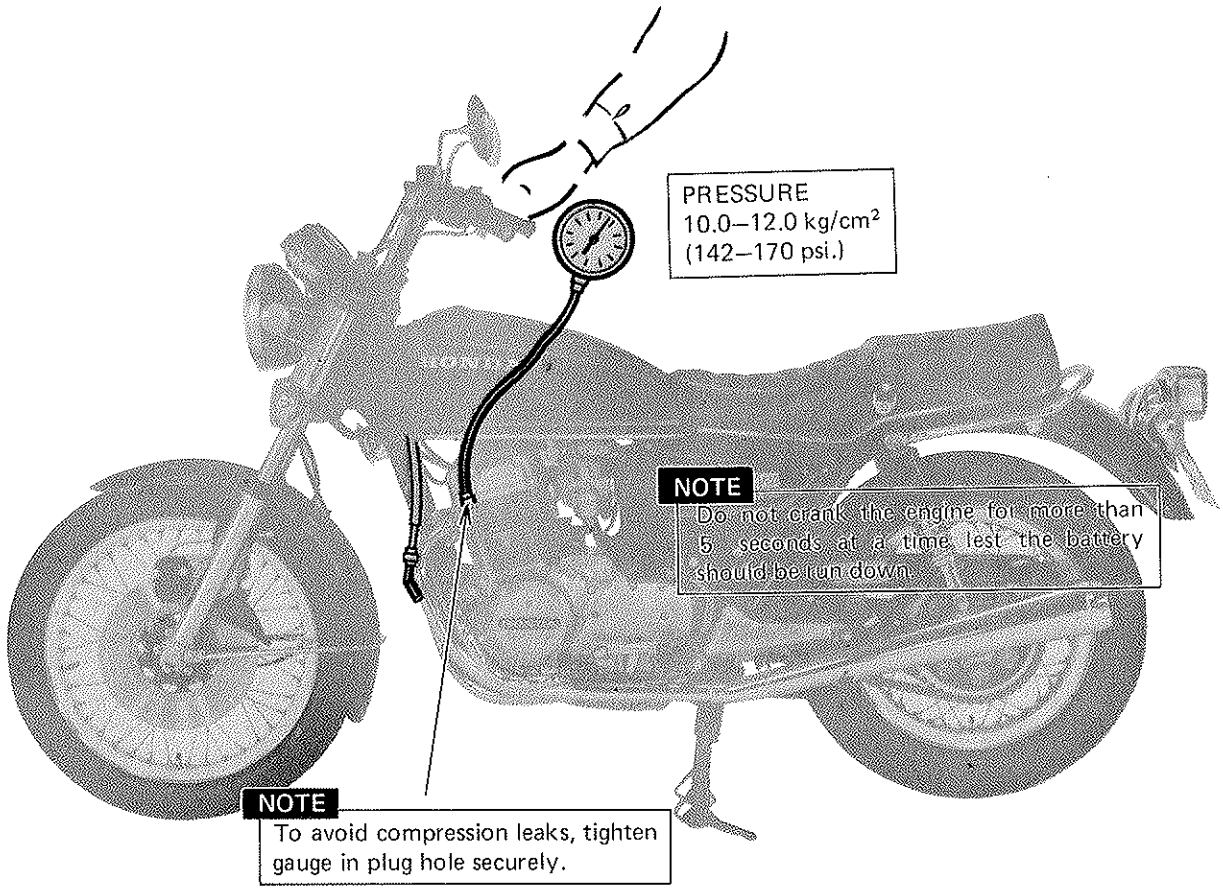
● COMPRESSION TEST

(1) Warm up the engine.
(2) Remove all spark plugs from the cylinder head.
(3) Connect the end of a compression gauge into the spark plug hole.
(4) Set the choke valves to the fully opened position.
(5) Open the throttle fully.
(6) Crank the engine with the starting motor and read the highest pressure.
(7) Check compression pressure for each cylinder.



- Low compression can be due to;
  - Leaky valve
  - Defective or sticking piston rings
  - Blown cylinder head gasket
  - Improper tappet adjustment
- Unusually high compression pressure is due to excessive carbon deposits on the combustion chamber or on the piston head.

Inspect the engine and repair as necessary.

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