

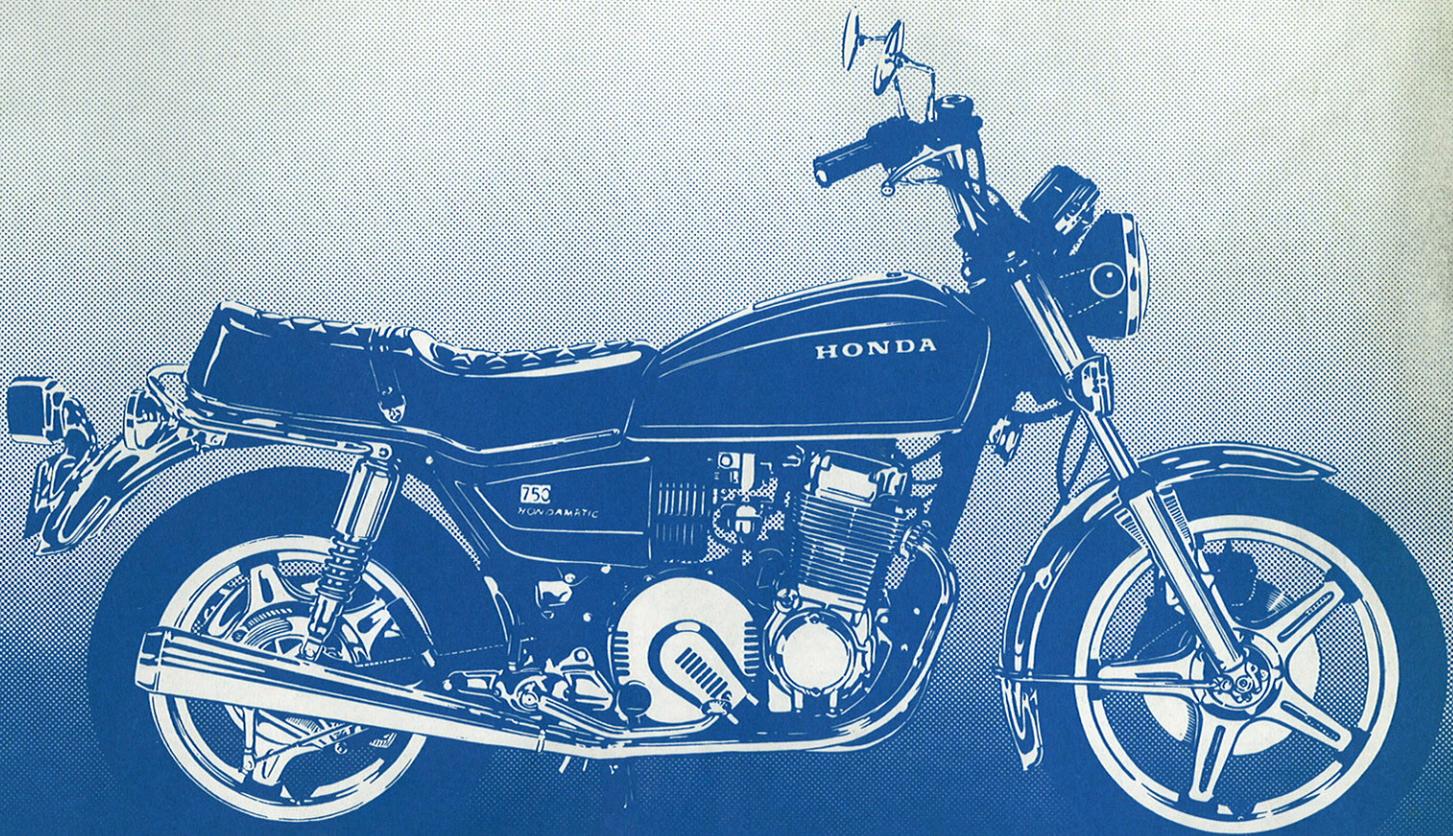
Official

HONDA

SHOP MANUAL

CB750A

HONDAMATIC



'76 - '78

© HONDA MOTOR CO., LTD. 1977
PRINTED IN JAPAN

6139300
英 Y A20007712

hondamatic.net

IMPORTANT SAFETY NOTICE

WARNING

Indicates a possibility of personal injury or loss of life if instructions are not followed.

CAUTION

Indicates a possibility of equipment damage if instructions are not followed.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains *some* warnings and cautions against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that those warnings could not cover all conceivable ways in which service, whether or not recommended by Honda might be done or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service method or tools selected.



HONDA
CB750A

FOREWORD

This shop manual describes the technical features and service procedures for the HONDA CB750A.

This shop manual is divided into 18 sections.

The first page of each section has a Table of Contents that gives page references within the section.

Obvious or commonly known information is excluded as much as possible from the manual and written instructions are made as concise as possible.

Illustrations and explanations are closely interrelated and reader can grasp meaning rapidly and clearly.

HONDA MOTOR CO., LTD.
Service Publications Office

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION WHATEVER.

NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION.



SECTION INDEX

1. SPECIFICATIONS	1-1
2. TECHNICAL FEATURES	2-1
3. SERVICE INFORMATION	3-1
4. INSPECTION/ADJUSTMENT	4-1
= ENGINE =	
5. ENGINE REMOVAL/INSTALLATION	5-1
6. CYLINDER HEAD/VALVE MECHANISM	6-1
7. CYLINDER/PISTON	7-1
8. TORQUE CONVERTER	8-1
9. OIL PUMP/REGULATOR VALVE	9-1
10. VALVE SHIFT MECHANISM	10-1
11. TRANSMISSION/CLUTCH	11-1
12. CRANKSHAFT/CONNECTING ROD/PRIMARY SHAFT/ KICK STARTER	12-1
13. CARBURETOR	13-1
14. ELECTRICAL	14-1
= FRAME =	
15. FRONT WHEEL/SUSPENSION/BRAKE/STEERING SYSTEM	15-1
16. REAR WHEEL/SUSPENSION/SWING ARM	16-1
17. FRAME BODY RELATED PARTS	17-1
18. WIRING	18-1



HONDA CB750A

1. SPECIFICATIONS

[] : '76 Model Frame No. CB750A-7000000-
 [] : '77 Model Frame No. CB750A-7100000-
 [] : '78 Model Frame No. CB750A-7200000-
 [] : '77 and '78 Models

	Item	Metric	English	
Dimensions	Overall length	2,250 mm	88.6 in.	
	Overall width	865 mm	34.1 in.	
	Overall height	1,185 mm [1,190 mm]	46.7 in. [46.9 in.]	
	Wheel base	1,480 mm	58.3 in.	
	Seat height	820 mm [810 mm]	32.3 in. [31.9 in.]	
	Foot peg height	330 mm [340 mm]	13.0 in. [13.4 in.]	
	Ground clearance	135 mm [140 mm]	5.3 in. [5.5 in.]	
	Dry weight	241 kg [242 kg] [245 kg]	531 lbs. [534 lbs.] [540 lbs.]	
Frame	Type	Double cradle		
	Front suspension and travel	Telescopic fork 141.5 mm (5.6 in.)		
	Rear suspension and travel	Swing arm 91.5 mm (3.6 in.)		
	Front tire size and air pressure	3.50H 19 (4PR), 1.75 [2.0] / 2.0 kg/cm ² (25 [28] / 28 psi.)		
	Rear tire size and air pressure	4.50 H 17A (4PR), 2.25 [2.0] / 2.5 kg/cm ² (32 [28] / 36 psi.)		
	Front brake	Disc brake		
	Rear brake	Internal expanding shoe		
	Fuel capacity	19.5 lit.	5.1 U.S.gal., 4.2 Imp.gal.	
	Fuel reserve capacity	4.0 lit.	1.1 U.S.gal., 0.9 Imp.gal.	
	Caster angle	61.5° [62.5°]		
	Trail length	115 mm	4.5 in.	
	Front fork oil capacity	145-155 cc 135-145 cc (After draining)	4.9-5.3 oz 4.6-4.9 oz	
Engine	Type	Air cooled, 4-stroke O.H.C. engine		
	Cylinder arrangement	4 cylinder in line		
	Bore and stroke	61 x 63 mm	2.402 x 2.480 in.	
	Displacement	736 cc	44.9 cu.in.	
	Compression ratio	8.6 : 1		
	Valve train	Chain drive over head camshaft		
	Oil capacity	5.5 lit.	5.8 U.S.qt., 4.8 Imp.qt.	
	Lubrication system	4.0 lit. (After draining)	4.2 U.S.qt., 3.5 Imp.qt.	
	Lubrication check point	Forced lubrication with wet sump		
	Cylinder head compression pressure	Hex head plug on right side of engine above ignition point cover (for oil pressure gauge adapter)		
	Engine weight (dry)	12 kg/cm ² 97.0 kg	171 psi. 214 lbs.	
	Intake valve	Opens 1 mm lift (0 mm lift) Closes 1 mm lift (0 mm lift)	At 5° (48°) (A.T.D.C.) At 30° (121°) (A.B.D.C.)	
	Exhaust valve	Opens 1 mm lift (0 mm lift) Closes 1 mm lift (0 mm lift)	At 40° (97°) (B.B.D.C.) At 5° (63°) (B.T.D.C.)	
	Valve tappet clearance	IN : 0.05 mm EX : 0.08 mm	IN : 0.002 in. EX : 0.003 in.	
	Idle speed	950 ± 100 rpm/"N" range		


SPECIFICATIONS

	Item	Metric	English	
Carburetion	Type	Four piston valve type		
	Setting number	PD44A	PD44B [PD43A]	
	Standard main jet	# 102	[# 108]	
	Standard slow jet	# 38		
	Air jet	# 150	[# 200]	
	Slow air jet	# 150		
	Idle mixture screw initial setting	1-1/4	[1] [1-1/8]	
	Float level height	14.5 mm [12.5 mm]	0.571 in. [0.492 in.]	
	Standard needle position	3		
Power train	Transmission	2 speeds with torque converter		
	Primary reduction ratio	1.351	[1.349]	
	Gear ratio	I	2.263 N-L-D [N-1-2]	
		II	1.520	
	Final reduction ratio	2.824 (17 : 48) [2.800 (15 : 42)]		
	Gear shift pattern	Left foot operated return system		
Electrical	Ignition	Battery and ignition coil		
	Contact breaker point gap	0.3-0.4 mm	0.012-0.016 in.	
	Ignition advance	"F" mark	10° (BTDC) static or idle speed	
		Max. advance	33°-36°	
		R.P.M. from "F" to max. advance	1,400-2,500 rpm	
	Starting system	Starting motor or kick starter		
	Generator	THREE PHASE ALTERNATOR 12V, 0.29 kw/5,000 rpm		
	Battery capacity	12V-20AH		
Spark plug	NGK D8ES-L, ND X24ES [NGK D8EA, NDX24ES-U] [⊗ NGK DR8ES-L, ND X24ESR-U]			
Spark plug gap	0.6-0.7 mm	0.024-0.028 in.		
Dwell angle	235°-245°			
Condenser capacity	0.24 μF			
Lights	Headlight (low/high beam)	12V-40/50W		
	Tail/stoplight	12V- 8/27W	12V- 3/32 CP (SAE TRADE No. 1157)	
	Turn signal light (front)	12V-23W	12V-32 CP (SAE TRADE No. 1034)	
	(Rear)	12V-23W	12V-32 CP (SAE TRADE No. 1073)	
	Speedometer light	12V- 3.4W x 2	12V- 2 CP x 2 (SAE TRADE No. 57)	
	Change indicator light	12V- 3.4W x 3	12V- 2 CP x 3 (SAE TRADE No. 57)	
	Turn signal indicator light	12V- 3.4W x 2	12V- 2 CP x 2 (SAE TRADE No. 57)	
	High beam indicator light	12V- 3.4W	12V- 2 CP	
	Gear position light	12V- 8W x 2	12V- 3 CP x 2	

⊗ : Canadian Model



HONDA
CB750A

2. TECHNICAL FEATURES

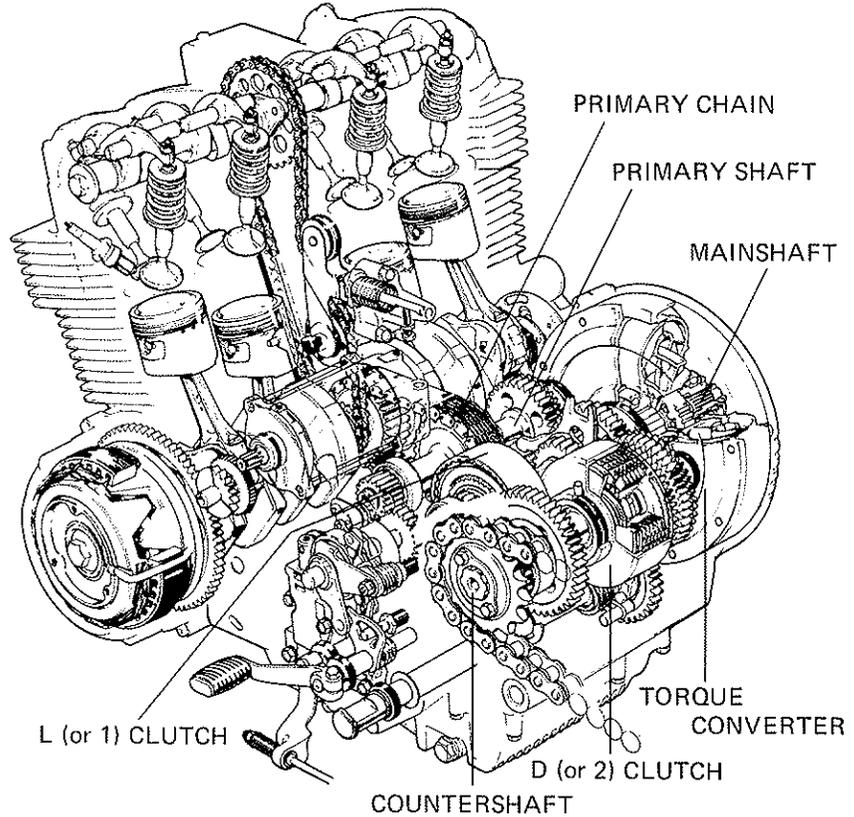
HONDAMATIC TRANSMISSION	2- 2
AUTOMATIC NEUTRAL RETURN SYSTEM	2-11
CARBURETOR THROTTLE OPENER	2-12
ACCELERATOR PUMP	2-14
PARKING BRAKE	2-15



● HONDAMATIC TRANSMISSION

1. POWER TRANSMITTING SYSTEM

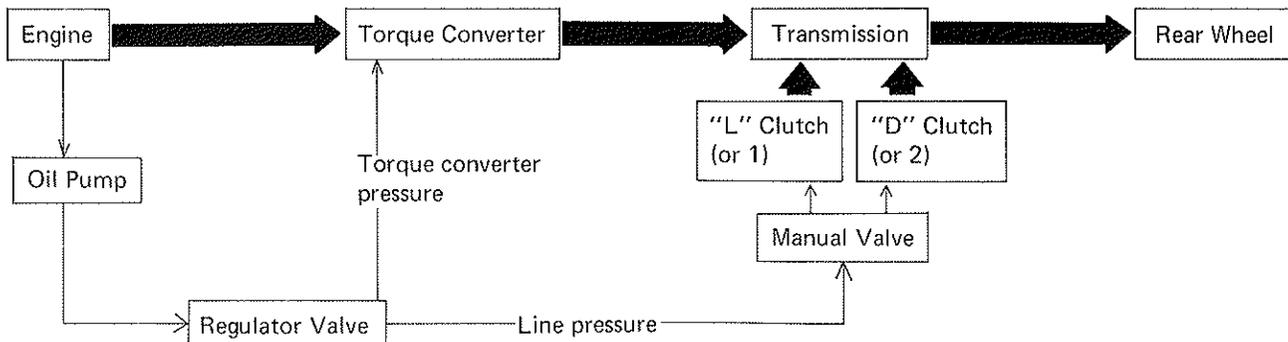
The Hondamatic consists of a torque converter, which replaces the conventional clutch, and a 2-speed forward constant-mesh transmission. The torque converter provides torque multiplication like a gear transmission with a large number of gearshift positions. It is driven by the primary gear train. The mainshaft is directly connected to the torque converter, using the 2-speed forward transmission. The transmission consists of a mainshaft, countershaft, "D" (or 2) and "L" (or 1) clutches, and a series of gears on those shafts. The clutches are a multi-plate hydraulic type, "D" (or 2) on the countershaft and "L" (or 1) on the mainshaft. The drive sprocket is attached to the left end of the countershaft.



2. CONFIGURATION OF OIL PRESSURE CONTROL SYSTEM

1. Oil pressure	Oil pump → Regulator valve → Line pressure ↳ Torque converter oil pressure
2. Pressure distribution	Manual valve → Line select
3. Operation	Torque converter pressure → Torque converter Clutch pressure → "L" (or 1) clutch or "D" (or 2) clutch

3. SCHEMATIC DIAGRAM

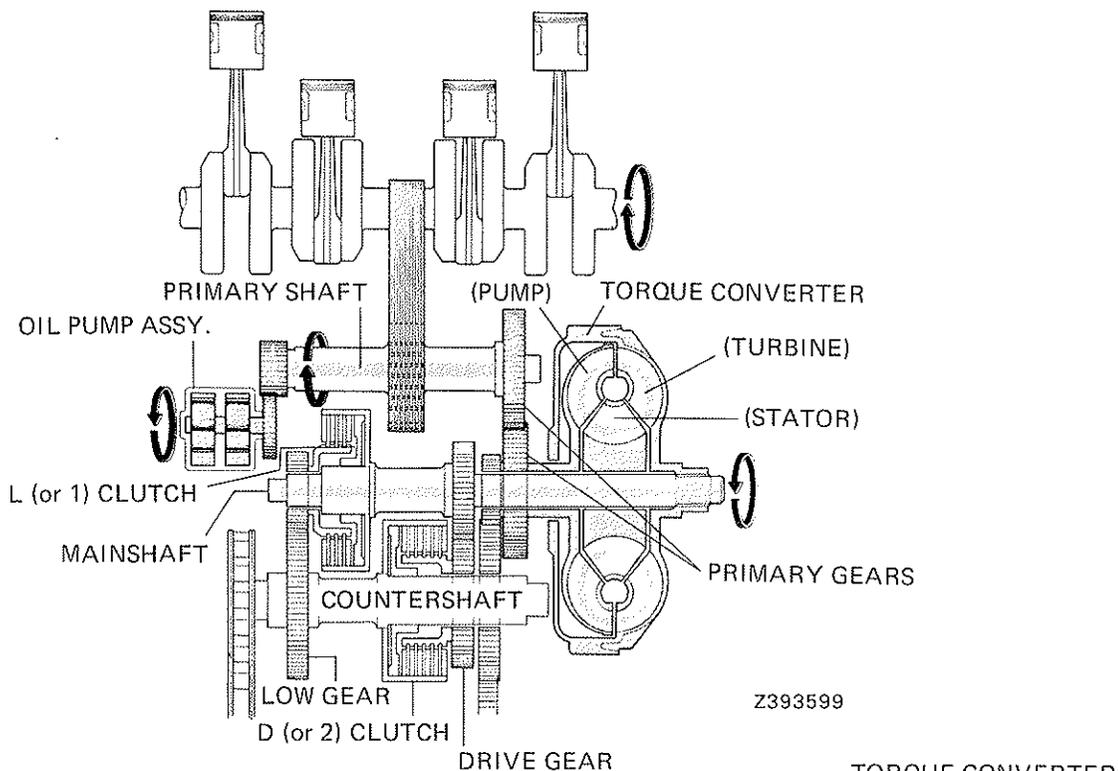




4. TRANSMISSION AND HYDRAULIC CIRCUITS

OPERATING IN "N" RANGE

As the engine is started, the oil pump supplies oil pressure to the torque converter. With the transmission in the "N" range, no oil is sent to either clutch, hence no power is transmitted from the mainshaft to the countershaft.

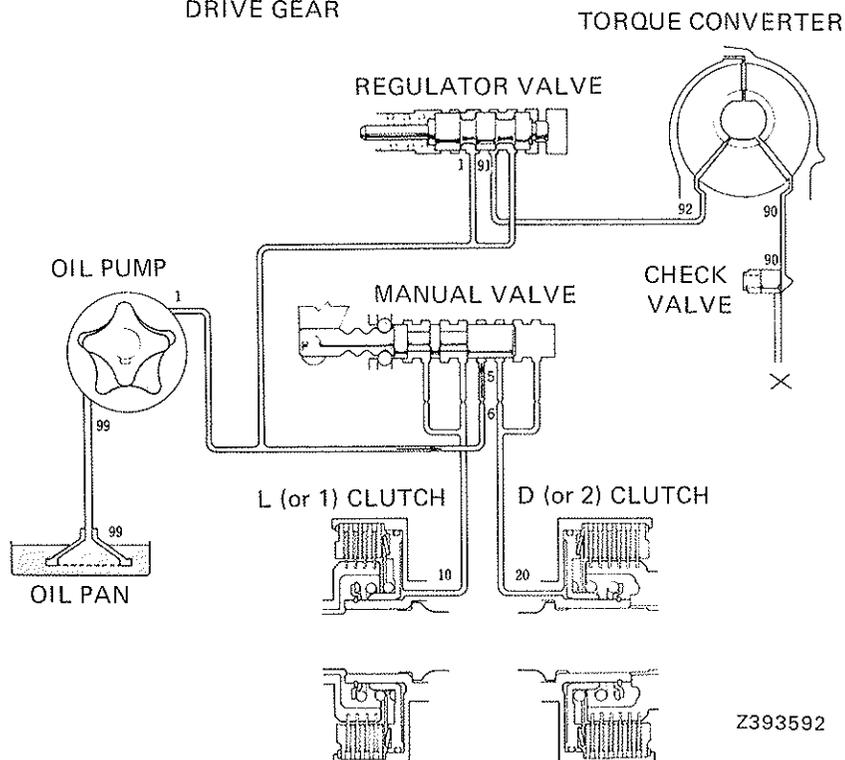


Once the engine has started and the oil pump is rotated by the primary shaft, oil in the oil pan is sucked up by the pump. The oil is then transferred to the regulator valve (1) through the strainer (99).

The oil is controlled by the regulator valve, changing to the line pressure (1) for control of "L" (or 1) and "D" (or 2) clutches and then enters the torque converter (91).

In the "N" range, the line pressure (1) is cut with the manual valve operation, causing no oil to enter any clutch, (10) or (20).

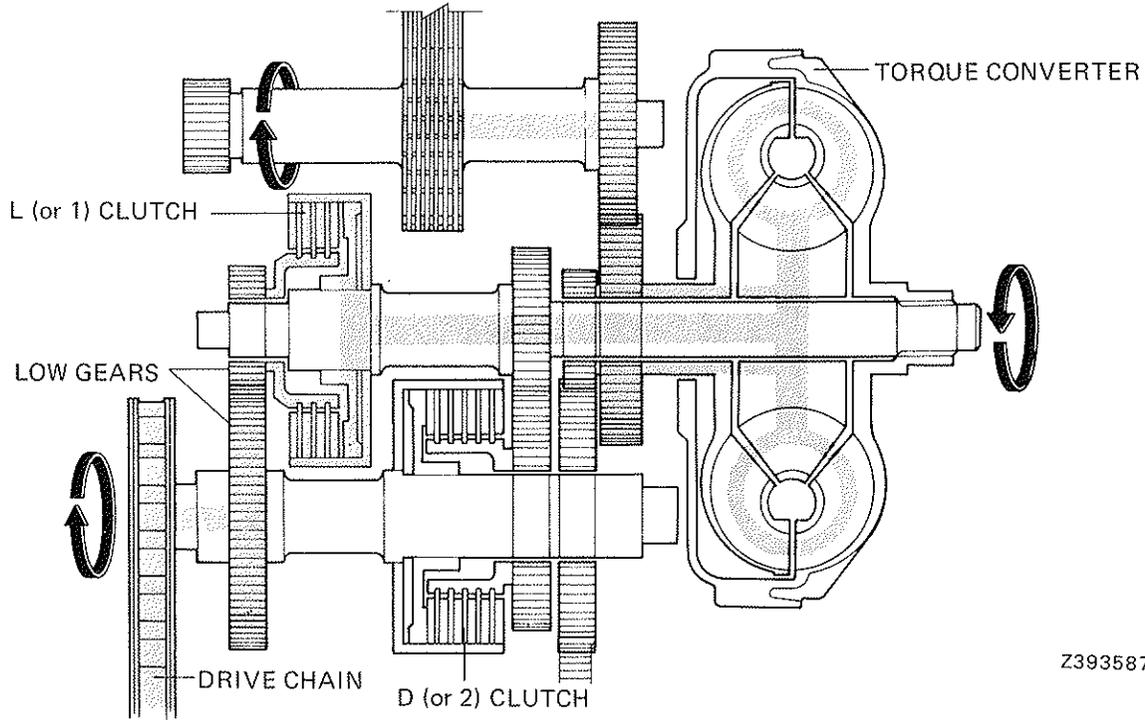
The clutches are then disengaged.





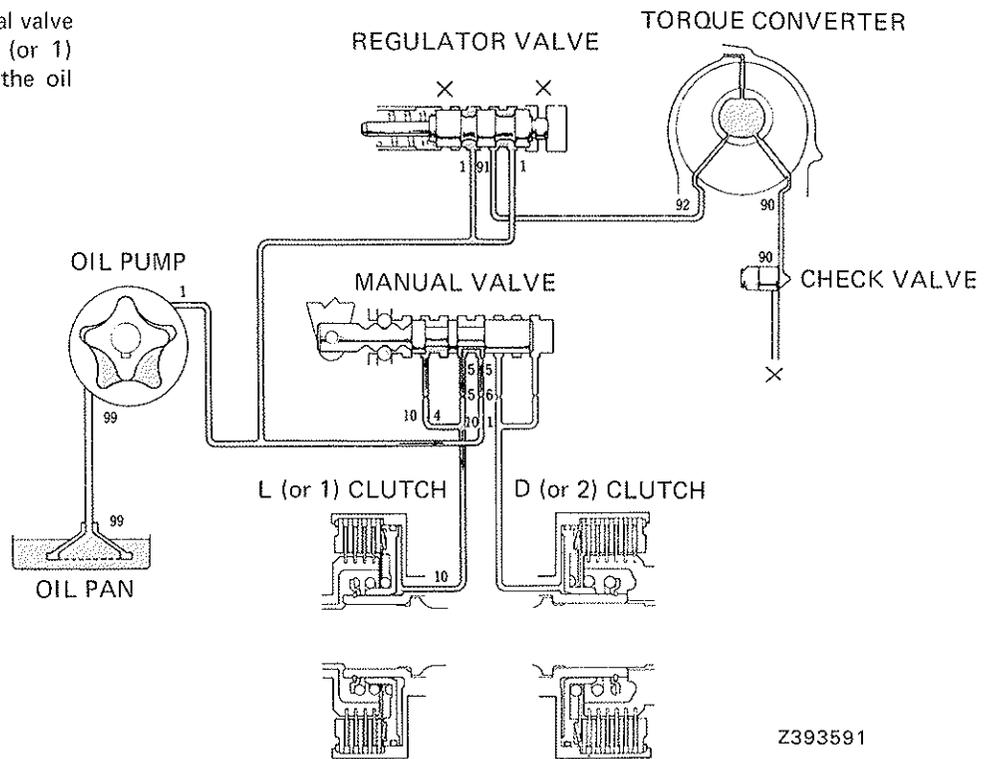
OPERATING IN "L" (or 1) RANGE

In the "L" (or 1) range, the "L" (or 1) clutch is engaged. The flow of power from the engine is as follows:
Torque converter → Mainshaft → L (or 1) clutch → Low gear → Countershaft → Final drive sprocket → Final drive chain.



Z393587

In the "L" (or 1) range, the manual valve admits the pressure into the "L" (or 1) clutch through the port (5) and the oil line (10).

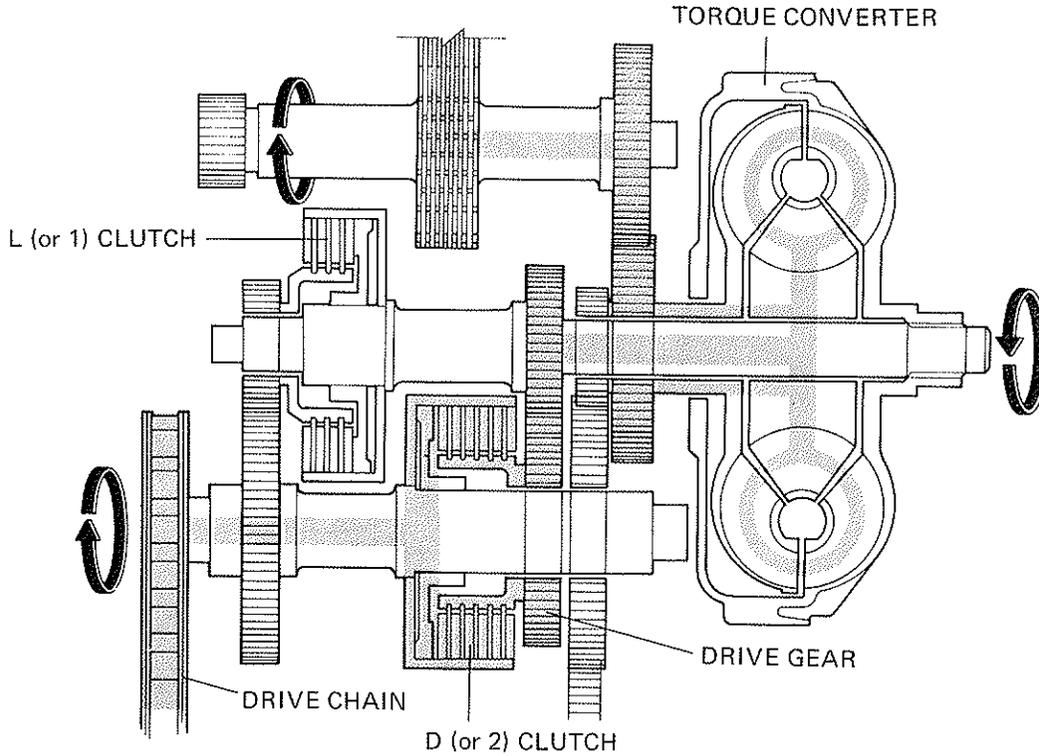


Z393591



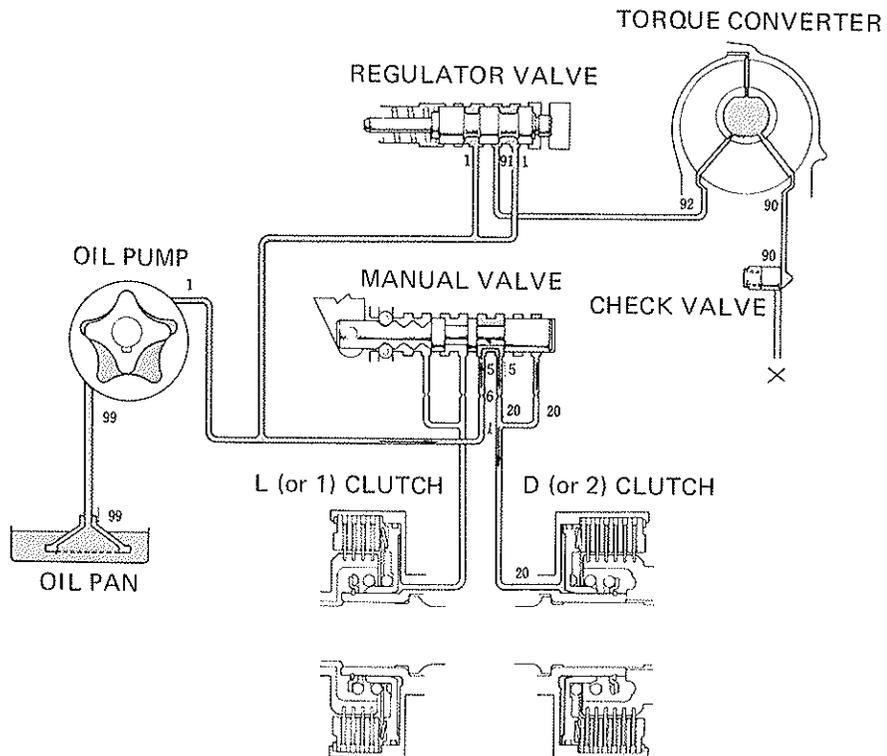
OPERATING IN "D" (or 2) RANGE

In the "D" (or 2) range, the "D" (or 2) clutch is engaged. Engine power is transmitted from the mainshaft to the countershaft.



Z393588

In the "D" (or 2) range, the pressure (1) is directed through the port (5) and oil line (20) into the "D" (or 2) clutch.



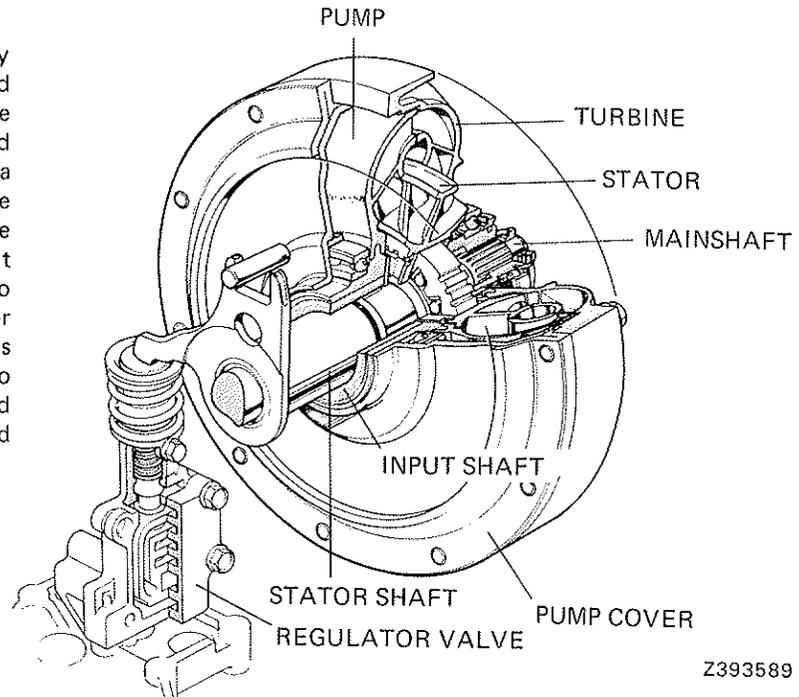
Z393590



5. TORQUE CONVERTER

The torque converter offers torque multiplication by providing varying drive ratios between the driving and driven members. However, it no longer enters into the torque converter action as driven member speed approaches driving member speed. It then acts as a coupling fluid. The principal parts of the torque converter are the turbine, pump, stator and the one-way clutch. The pump is splined to the input shaft, the stator to the stator shaft and the turbine to the mainshaft. The mainshaft transmits the power output to the transmission. The stator shaft controls the line pressure with the regulator valve according to the stator shaft reaction generated by the speed and/or torque differences between the pump and turbine.

Operation of the regulator valve is dependent upon reaction caused by the stator shaft. The stator is held stationary when there is a difference in pump and turbine speeds. There is always a reaction force at the stator shaft so that, in effect, it compresses the reaction and regulator springs until an equilibrium is reached between the oil pressure and the spring force. (Refer to Page. 2—9 for operation of the regulator valve).



Z393589

Line pressure control by the stator shaft reaction

The torque converter is filled inside with oil pressurized by the oil pump.

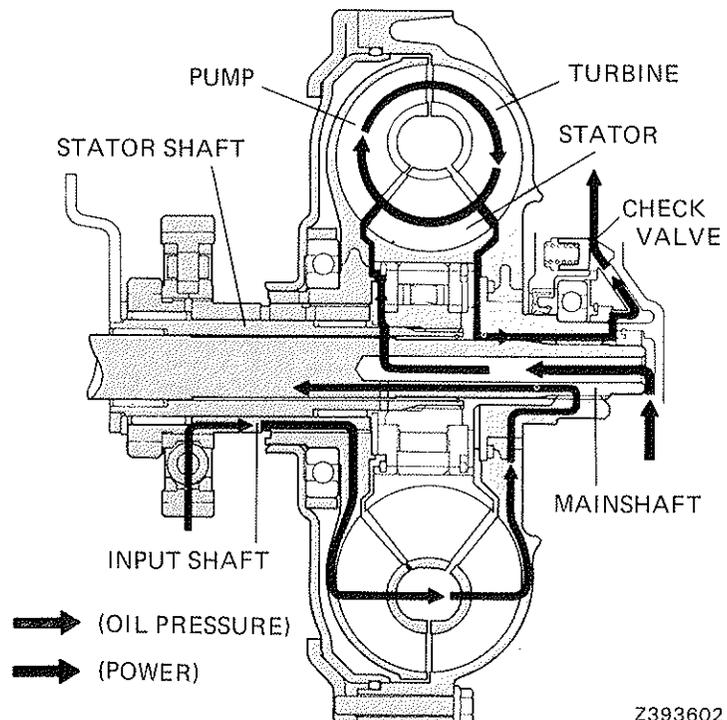
The oil pump is rotated by the input shaft.

The oil supply for the torque converter is:

Oil pump → regulator valve → oil passage in the torque converter → center of the case → mainshaft.

As the pump rotates, centrifugal force is generated, causing circulation from the pump and turbine to the stator.

Oil flows from the clearance between the bearing cap and the mainshaft.



Z393602



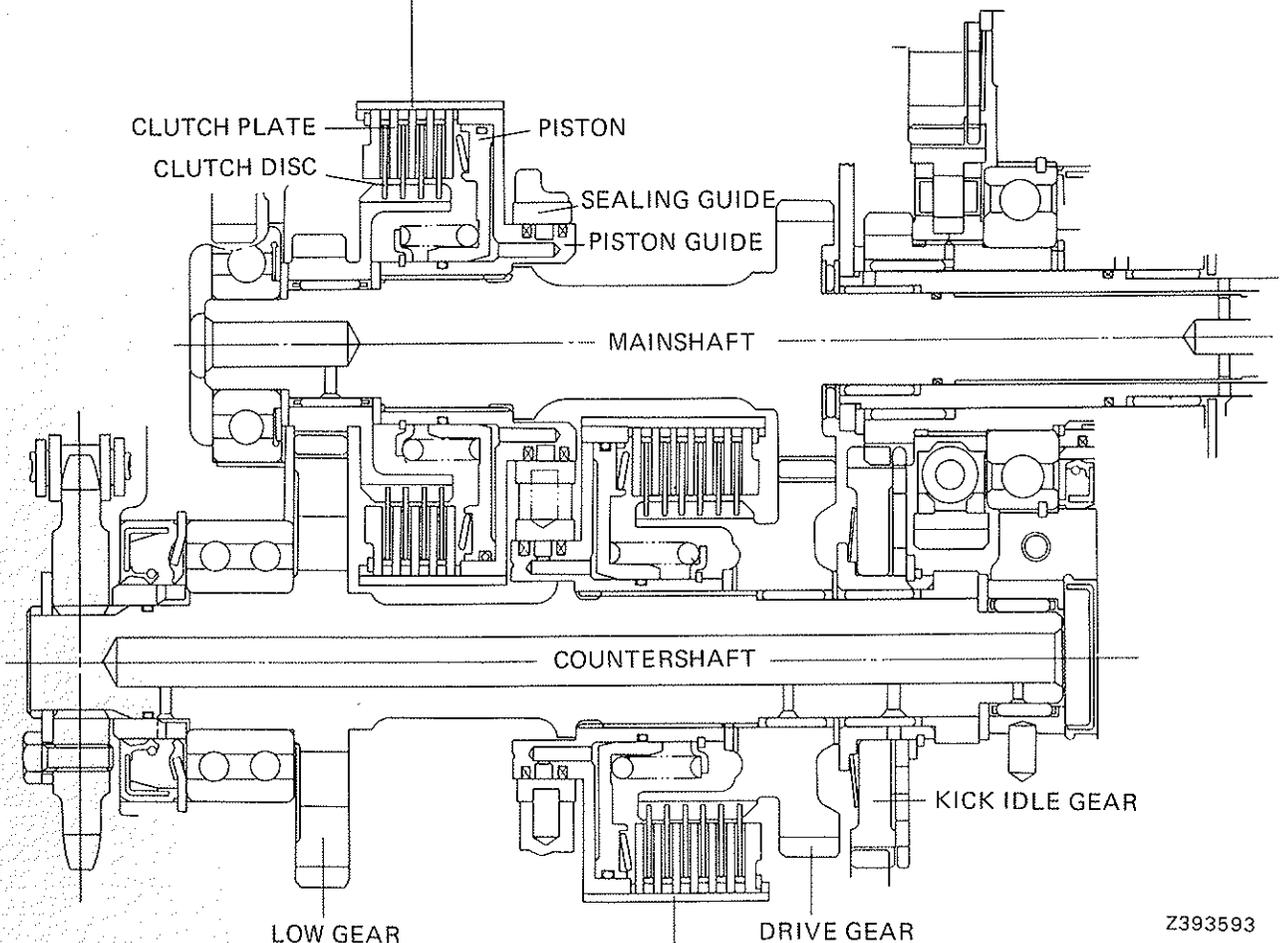
6. TRANSMISSION/CLUTCH

The transmission is a 2-speed forward constant mesh type. The "D" (or 2) range is for all normal and high-speed driving. The "L" (or 1) range is for starting, ascending or descending steep slopes, etc. Control of this transmission is achieved by two built-in hydraulic clutches and shift pedal.

L (or 1) CLUTCH

In the "L" (or 1) range, power is transmitted from the mainshaft to the "L" gear through the "L" (or 1) clutch which is engaged by oil pressure operation.

- Oil enters the "L" (or 1) clutch through the sealing guide and the piston guide, forcing the piston in. Clutch discs are then clamped between the clutch plates, transmitting power from the mainshaft to the countershaft.



Z393593

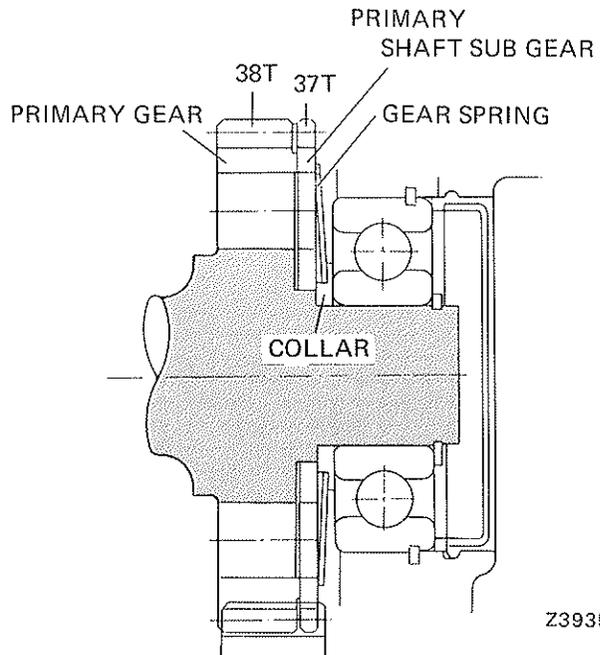
D (or 2) CLUTCH

Construction similar to L (or 1) clutch. Power is transmitted from mainshaft drive gear to countershaft via countershaft D (or 2) clutch.



7. PRIMARY GEAR DAMPER

The damper consists of a sub gear and a dish spring with the gear held tight against the side of the main gear. The sub gear has one less tooth than the main gear. The spring allows movement of the sub gear to fill in backlash as the main and driven gears mesh so that smooth, quiet running results.

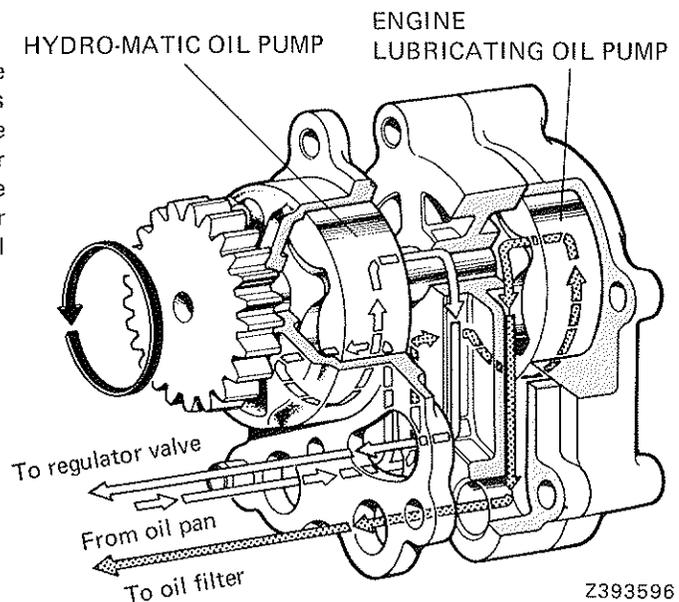


8. KICK IDLE GEAR DAMPER

The construction is similar to the primary gear damper in that the "fill in" takes place between the input shaft and the kick idle gear. The number of gear teeth is increased by one as compared to that of the idle gear as it works on the driven side. Idle gear: 39T; Sub gear: 40T

9. OIL PUMP

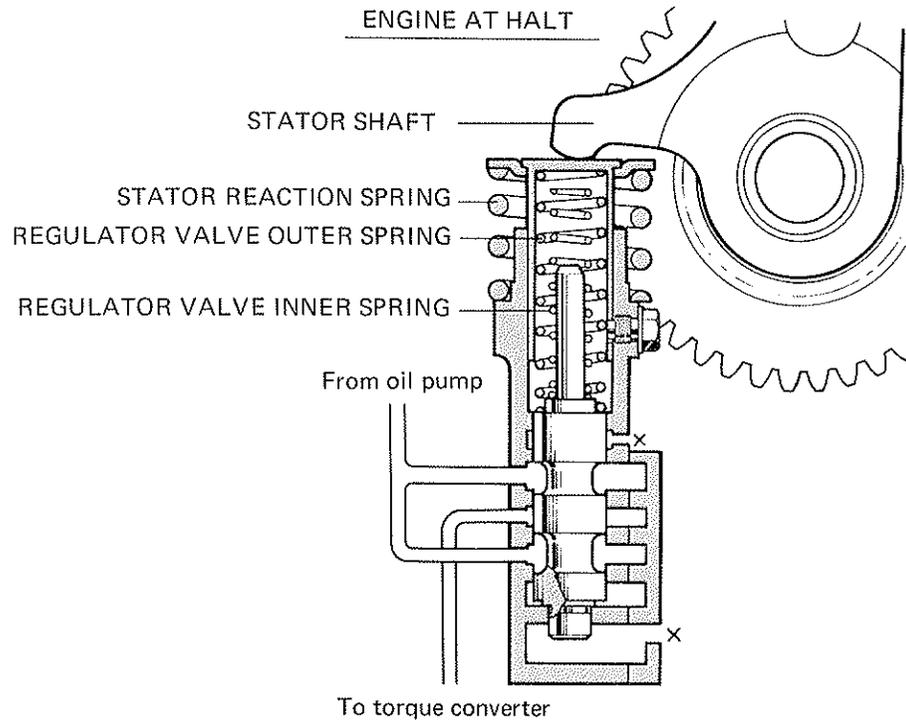
A tandem trochoid rotor pump furnishes pressure to circulate oil through the engine and the Hydro-matic system. It is located on the left side of the crankcase and is driven by the pump drive gear mounted on the primary shaft. The inner rotor is integral with the drive shaft, making a line contact with the outer rotor. The outer and inner rotor are eccentric. The outer rotor rotates at $4/5$'s the speed of the inner rotor, furnishing oil under pressure each time it passes over the discharge port.





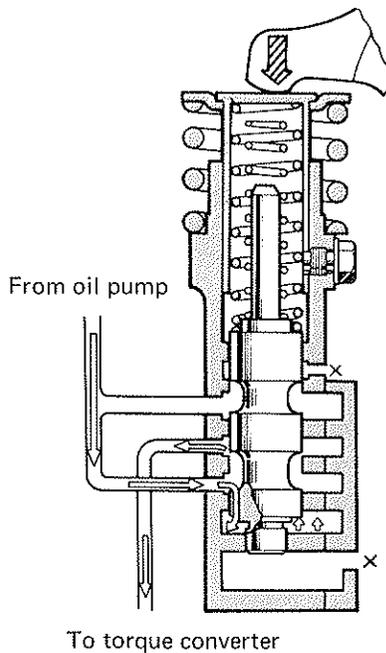
10. REGULATOR VALVE

The valve maintains constant line pressure regardless of changes in engine speed and engine load. It consists of two springs and a spool.



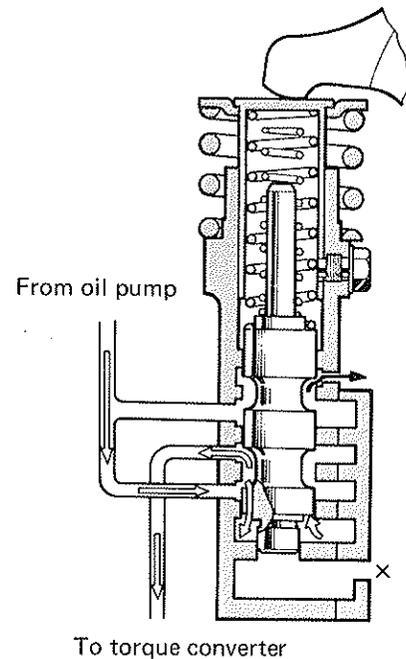
Z393594

WITH CHANGING TORQUE



Z393595

UNDER REGULATION



Z393604



11. TORQUE CONVERTER CHECK VALVE

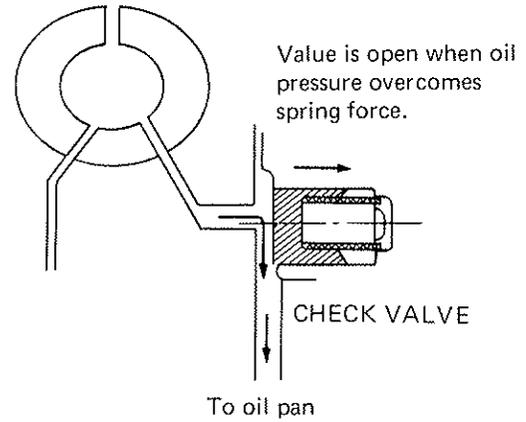
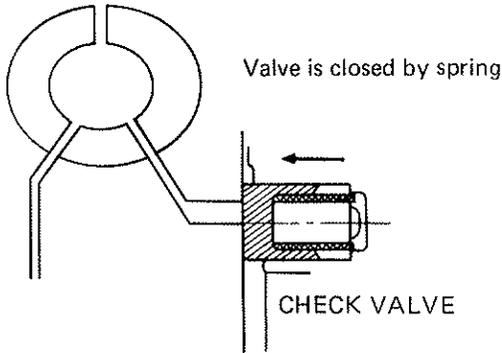
This check valve maintains constant torque converter pressure and prevents the converter to empty while the engine is running. When the oil pressure is low, this valve will close. When the oil pressure is above 1.0 kg/cm², the valve allows the excess oil to flow out.

VALVE CLOSED

VALVE OPENED

TORQUE CONVERTER

TORQUE CONVERTER



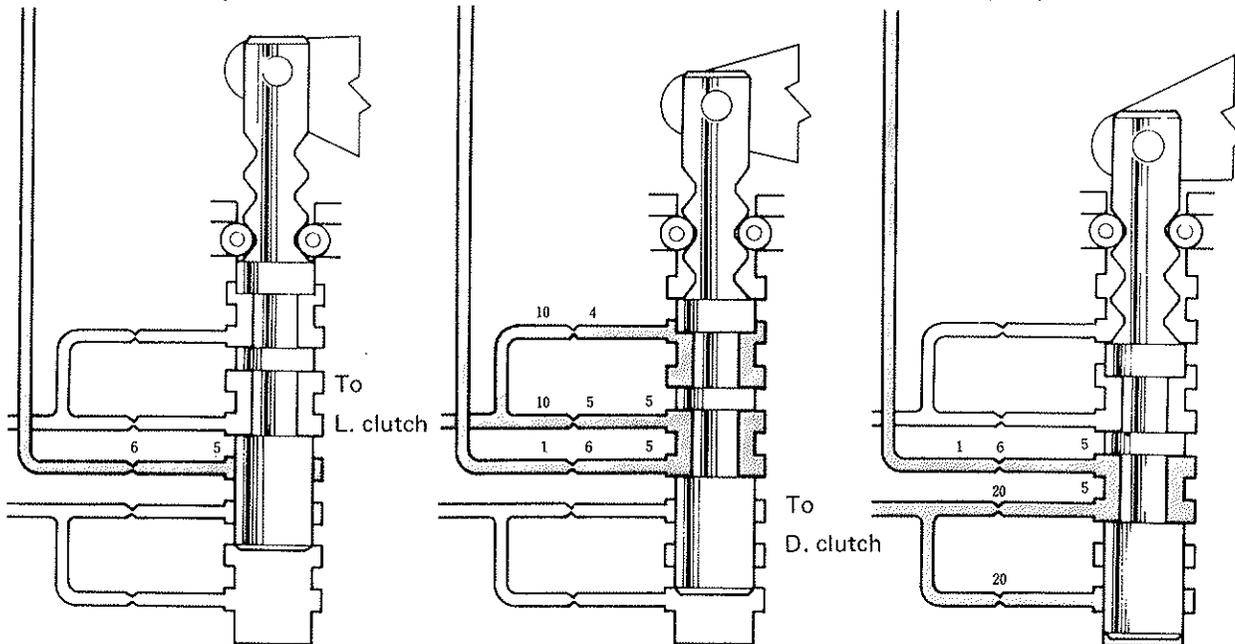
12. MANUAL VALVE

This valve provides hydraulic clutch operation. It is linked to the shift pedal to shift the transmission into "N", "D" (or 2) or "L" (or 1) range, depending on pedal operation.

N. RANGE

L. (or 1) RANGE

D. (or 2) RANGE





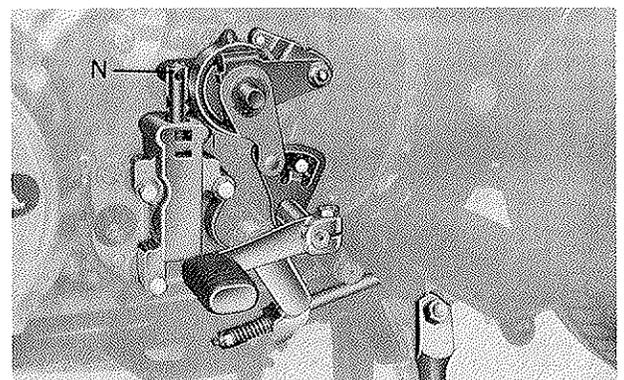
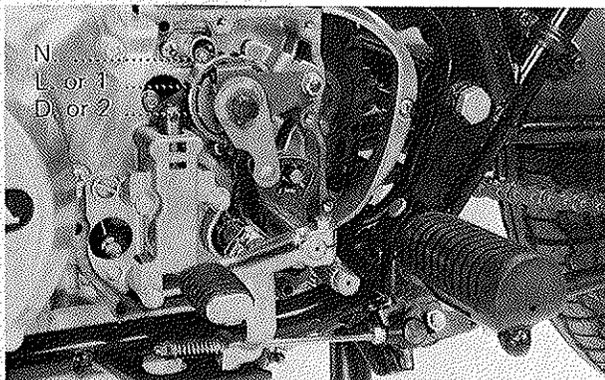
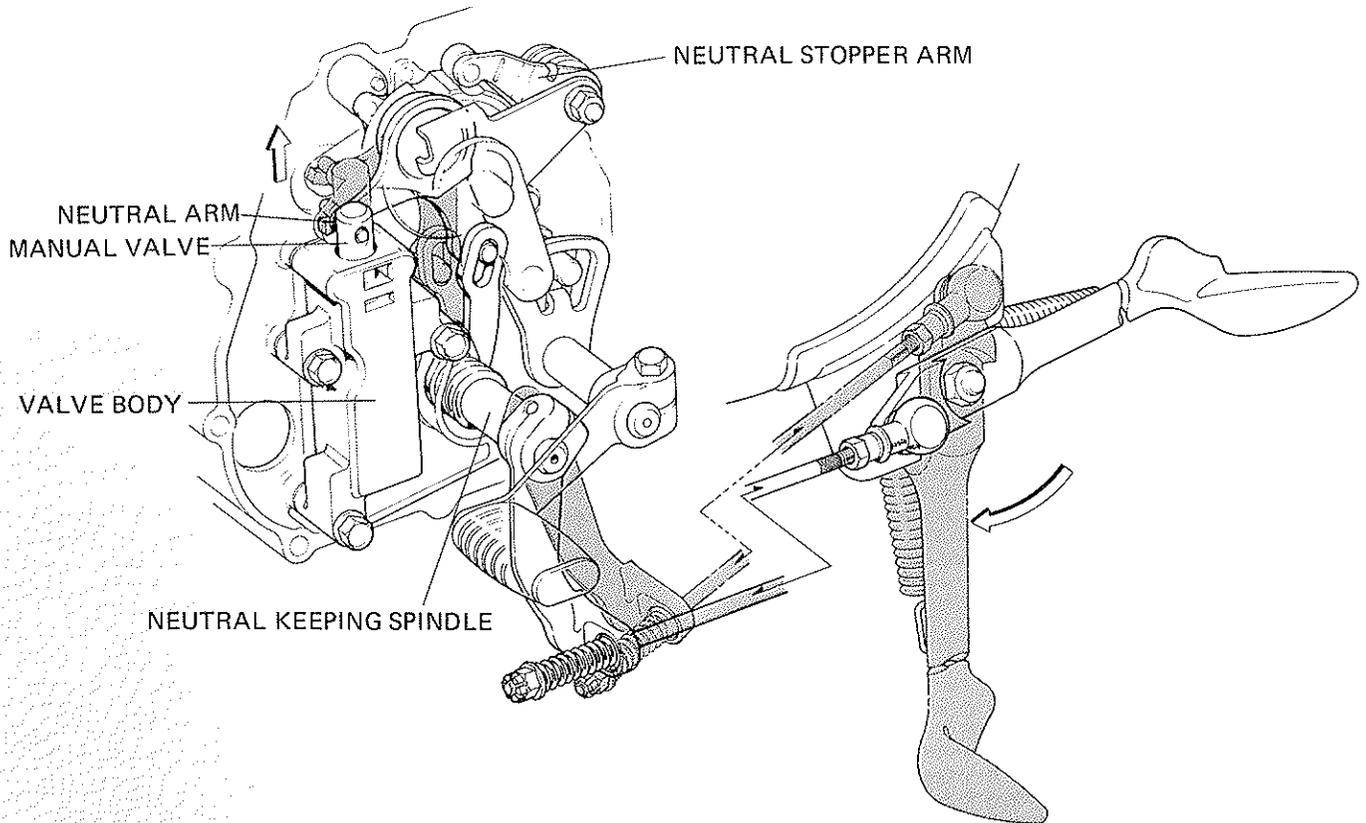
TECHNICAL FEATURES

● AUTOMATIC NEUTRAL RETURN SYSTEM

Operation of the automatic neutral return system is dependent upon application of the sidestand. As long as the sidestand is applied, the gearshift mechanism will remain in neutral. This prevents unintentional starts. Starting can be made safely, immediately after returning the sidestand.

- Neutral (sidestand down)
The neutral arm prevents the manual valve from shifting, keeping the gearshift mechanism in neutral.

- Sidestand raised
Neutral arm is lowered, allowing shifting.

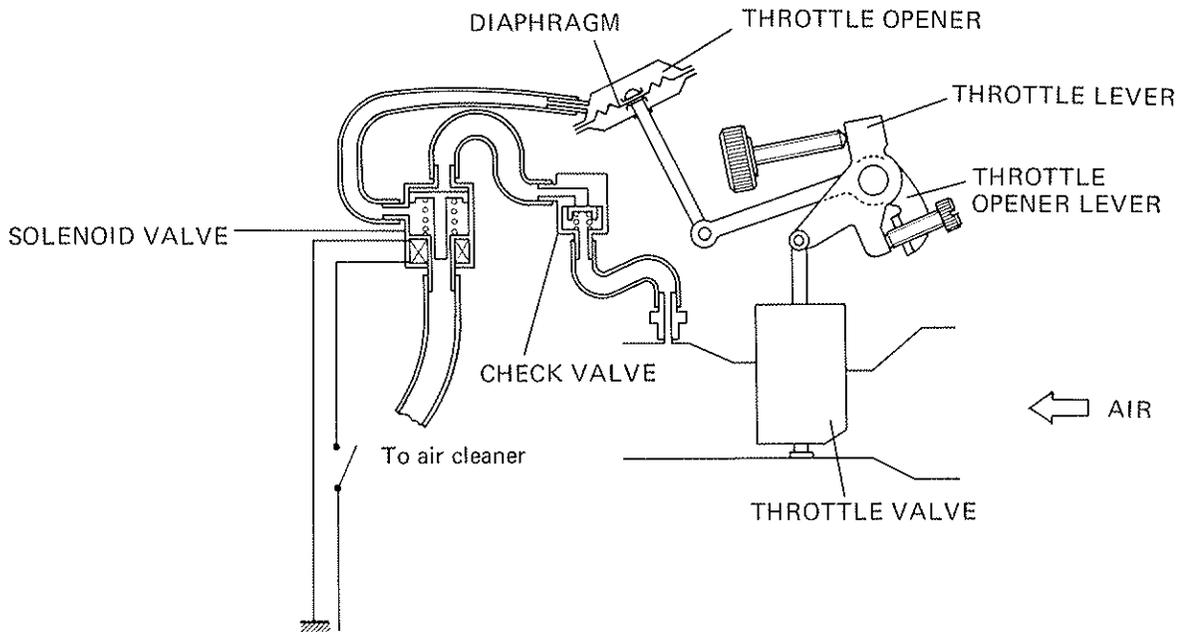




● CARBURETOR THROTTLE OPENER

CB750A ('76 model)

The purpose of the throttle opener which is essential for stable engine idling, is to provide an additional fuel mixture to compensate for changes in torque when shifting from neutral to the "D" (or 2) or "L" (or 1) positions.

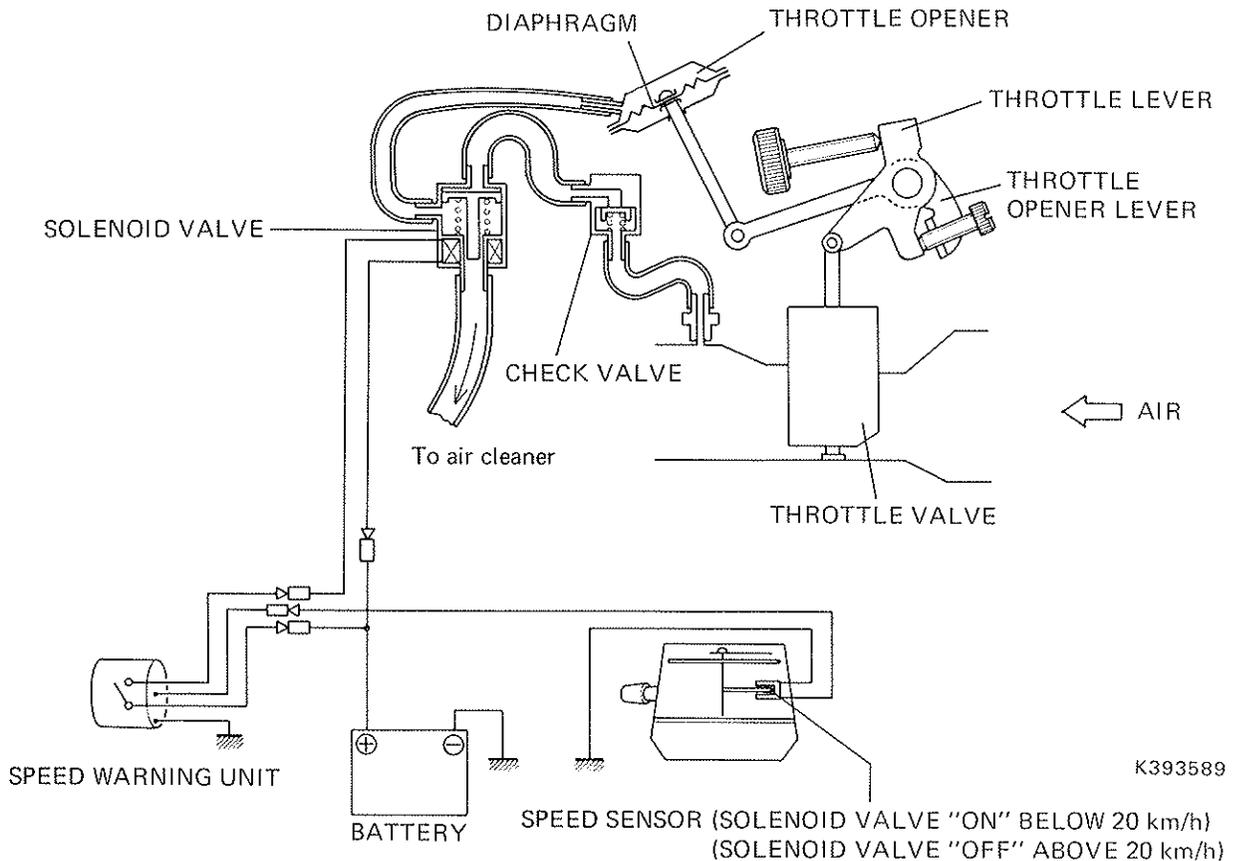


When the transmission is shifted from Neutral to "D" (or 2) or "L" (or 1) position, the change switch is turned on. This energizes the solenoid valve, causing the circuit between the opener and carburetor outlet side to open. Negative pressure at the carburetor airhorn acts on the diaphragm, causing it to move upward. Since the opener lever is attached to the diaphragm by a rod, the lever pulls the throttle lever up; supplying fuel and air to the engine cylinders. Returning the gearshift pedal to neutral causes the change switch to turn off. In the "N" range, the upper chamber of the throttle opener is open to the air cleaner. The specified idling is regained by the throttle opener returning to its original position.



TECHNICAL FEATURES

('77 and '78 models)



Speed warning unit and sensor are added for '77 and '78 models.

Operation of the throttle opener is the same as that for '76 model.

As the engine speed goes over 20 km/h, the speed sensor in the speedometer is turned off (solenoid valve is also turned off). The throttle opener lever is returned to the original position as the vacuum chamber now communicates with the air cleaner.

If the speed falls below 20 km/h, the speed sensor is turned on and diaphragm is pulled up, causing the carburetor to supply additional air-fuel mixture to the engine. The same sequence of events takes place within the system to maintain engine idle speed.

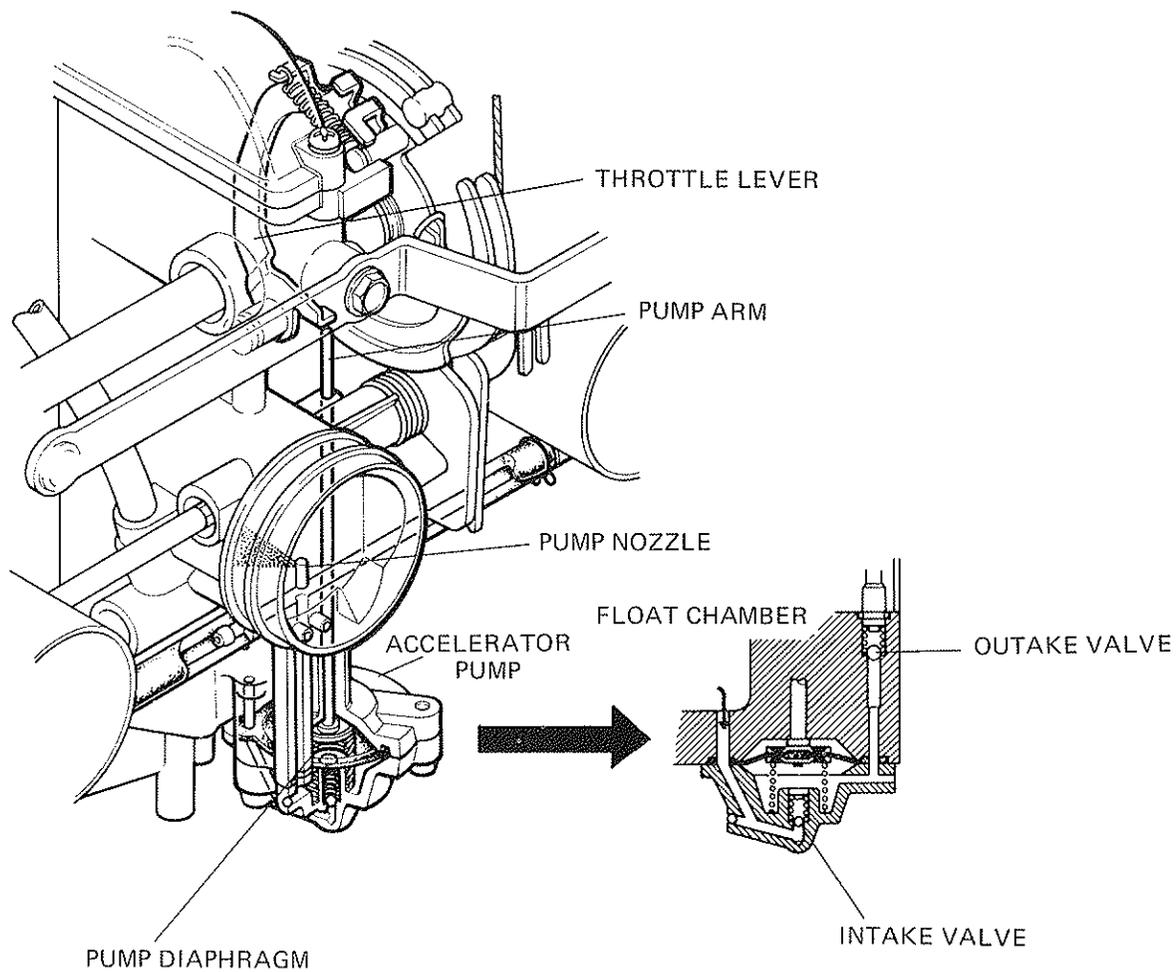


● ACCELERATOR PUMP

The accelerator pump supplies additional fuel to keep the fuel mixture strength correct or slightly rich when the throttle is opened quickly.

When the pump arm is at the top of its stroke, the pump diaphragm is charged with fuel from the float chamber through the intake valve. As the throttle is opened, the chamber is pressurized by the pump arm and discharges a stream of fuel through the outtake valve into the air stream through the pump nozzle in the individual carburetors.

When the throttle is closed, pressure in the chamber drops according to the pump arm returning up and the outtake valve closes. The diaphragm chamber is charged again with the fuel flowing from the float chamber.



K393606

Z393624

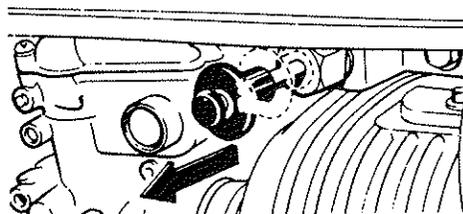


● **PARKING BRAKE**

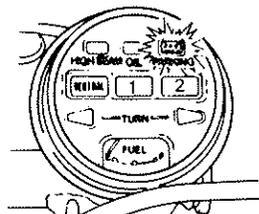
The parking brake is used to prevent creeping when the motorcycle is stopped with the engine running.

● **Using Parking Brake**

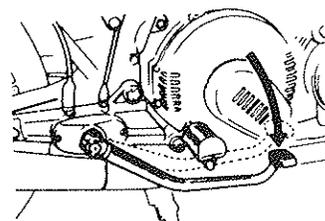
● **Locking** Pull knob.



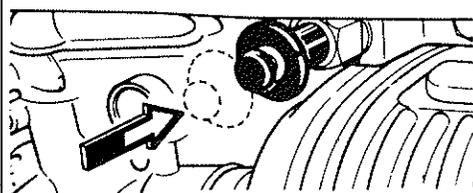
Make sure "PARKING" light comes on.



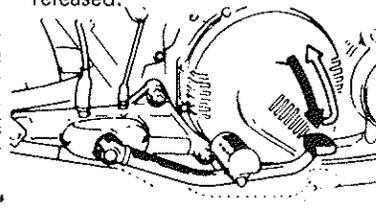
Depress brake pedal. Check rear wheel is locked.



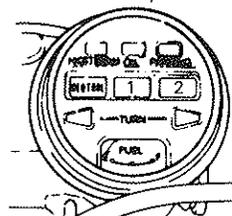
● **Unlocking** Push knob by pushing center button.



Depress brake pedal. Next make sure brake pedal is released.

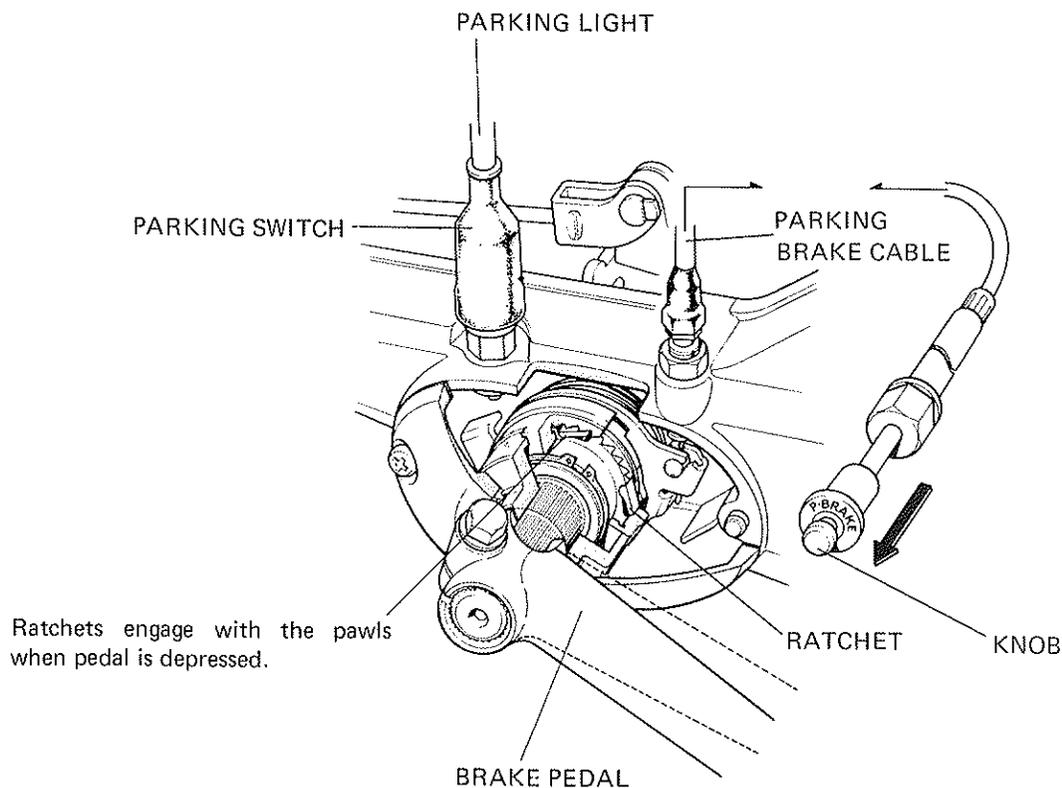


Make sure "PARKING" light goes out.

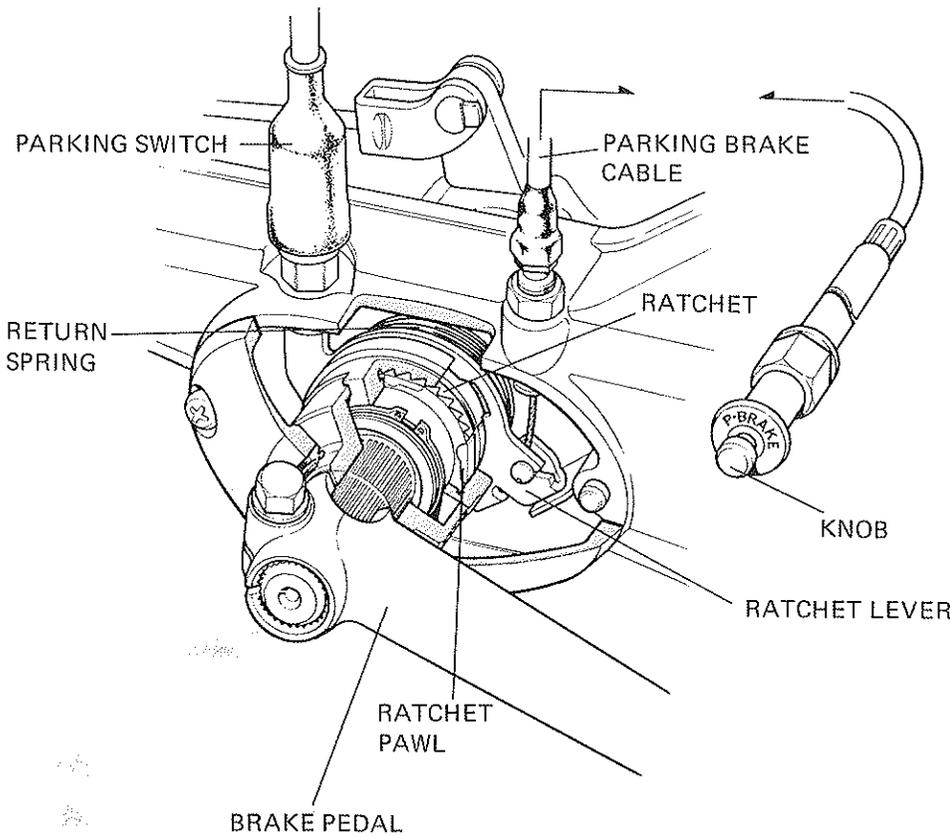


Sketches are based on '78 model. On '76 and '77 models, shift indicator lamps have "L" and "D" lenses instead of "1" and "2".

● **CONSTRUCTION**



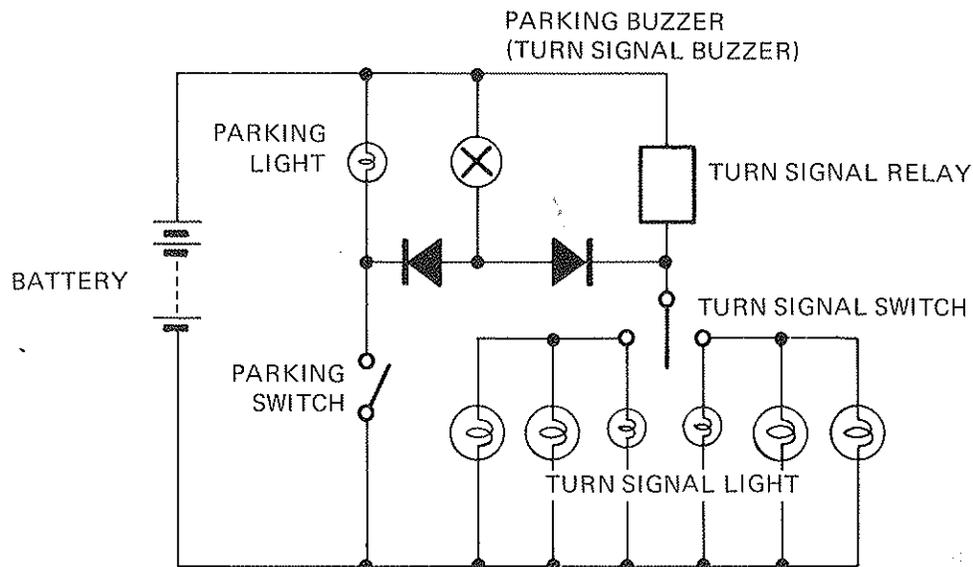
Z393627



(1) Ratchet assembly is actuated by parking cable. Ratchet lever rotates over ratchet pawls when cable knob is pulled out.

Z393623

- (2) Under normal condition, the pawls are held in place in their respective notches by the ratchet lever. As the lever is rotated, the pawls can engage with ratchet teeth.
- (3) With the lever rotated, when the pedal is depressed, the pedal is held down by the engagement of the ratchets and pawls.
- (4) To release, return the parking cable so that the ratchet lever can be returned to the original position by means of the return spring. Depressing the pedal again removes friction between the ratchet pawls and ratchet case. The ratchet lever then returns to its normal position pressing the ratchet pawls down into their positions. And then the warning light goes out by the ratchet lever pushing the parking switch contact.



Q393544



GENERAL SAFETY	3-1
SERVICE RULES	3-1
SPECIAL TOOLS	3-2
TORQUE SPECIFICATIONS	3-3
LUBRICATION/ SEALING	3-4
WIRING DIAGRAM	3-5
TROUBLESHOOTING	3-7

● 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

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.

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.

● 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.


● 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)	○	—	—
(1)	07902-2000000	Spanner, pin 48 mm	1		○	○	○
(2)	07908-3230000	Wrench, tappet adjusting	1		○	○	○
(3)	07910-3230101	Wrench, F. retainer	1	Front wheel	○	○	○
(4)	07910-2830000	Wrench, R. retainer	1	Rear wheel	○	○	○
(5)	07914-3230001	Pliers, snap ring	1	Master cylinder piston	○	○	○
(6)	07917-3230000	Wrench, hollow set 6 mm	1	Front fork	○	○	○
(7)	07920-6710001	Wrench, lock 50 mm	1	Fuel unit	○	○	○
(8)	07933-3000000	Puller, rotor	1		○	○	○
(9)	07934-3930000	Puller ATT, converter	1	Torque converter	○	○	○
(10)	07942-3000000	Driver, valve guide	1		○	○	○
(11)	07944-9350100	Driver, pin 2.5 mm	1	Kick starter spindle	○	○	○
(12)	07945-3330100	Driver, inner bearing	1	Wheel bearing	○	○	○
(13)	07945-3710101	Driver ATT. A, bearing	1	Torque converter	○	○	○
(14)	07946-3710200	Driver ATT. B, bearing	1	Wheel bearing	○	○	○
(15)	07946-3710400	Driver, ball race	1		○	○	○
(16)	07947-3290000	Driver, fork seal	1	Front fork oil seal	○	○	○
(17)	07947-6340000	Driver, bearing	1	Primary shaft	○	○	○
(18)	07949-6110000	Handle, driver	1	With (12), (14), (26)	○	○	○
(19)	07954-3000000	Slider, piston	2		○	○	○
(20)	07957-3290001	Compressor, valve spring	1		○	○	○
(21)	07958-3000000	Base, piston	2		○	○	○
(22)	07959-3290000	Compressor, shock absorber	1		○	○	○
(23)	07960-6120000	Compressor, clutch spring	1		○	○	○
(24)	07984-6110000	Reamer, valve guide	1		○	○	○
(25)	07910-3930000	Wrench, RW retainer	1	Rear wheel	○	○	○
(26)	07946-3600000	Driver ATT. bearing	1	Rear wheel	○	○	○
(27)	07797-0010700	Case, special tool	1		○	○	○

● 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	○	○	○
(2)	07510-3000100	ATT. A, gauge	2	With (1)	○	○	○
(3)	07510-3000200	ATT. B, gauge	2	With (1)	○	○	○
(4)	07510-3930300	Joint, vacuum	1	With (1)	○	○	○
(5)	07908-3690000	Wrench, carb. adjusting	1	With (1)	○	○	○
(6)	07510-3930100	Joint, engine pressure	1	Stall speed test	○	○	○
(7)	07510-3930200	Gauge ATT. pressure	1	Oil pressure test	○	○	○
(8)	07975-3930000	Tool set, drive chain	1	Includes (8)-1 to (8)-3	○	X	X
(8-1)	07975-3930100	Wedge set, joint	(1)	With (8)	○	X	X
(8-2)	07975-3930200	Bolt B, pressure	(1)	With (8)	○	X	X
(8-3)	07975-3930300	Pin, flare	(1)	With (8)	○	X	X
(9)	07975-3930500	Pincher, choke butterfly	1		○	○	○



● TORQUE SPECIFICATIONS

● Engine

No.	Tightening Point	Torque Values kg-m (lbs-ft)	Remarks
1	Crankcase	2.0- 2.5 (14.5-18.1)	Apply molybdenum disulfide base grease to threads and under side of nuts Degrease taper area thoroughly Apply THREE-BOND Apply THREE-BOND
2	Cylinder head	2.0- 2.5 (14.5-18.1)	
3	Connecting rod nut	1.8- 2.2 (13.0-15.9)	
4	A.C. generator rotor	10.0-12.0 (72.3-86.8)	
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)	
10	Oil pressure switch	1.5- 2.0 (10.8-14.5)	
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)	'76 model only
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)	

● 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)



SERVICE INFORMATION

● LUBRICATION/SEALING

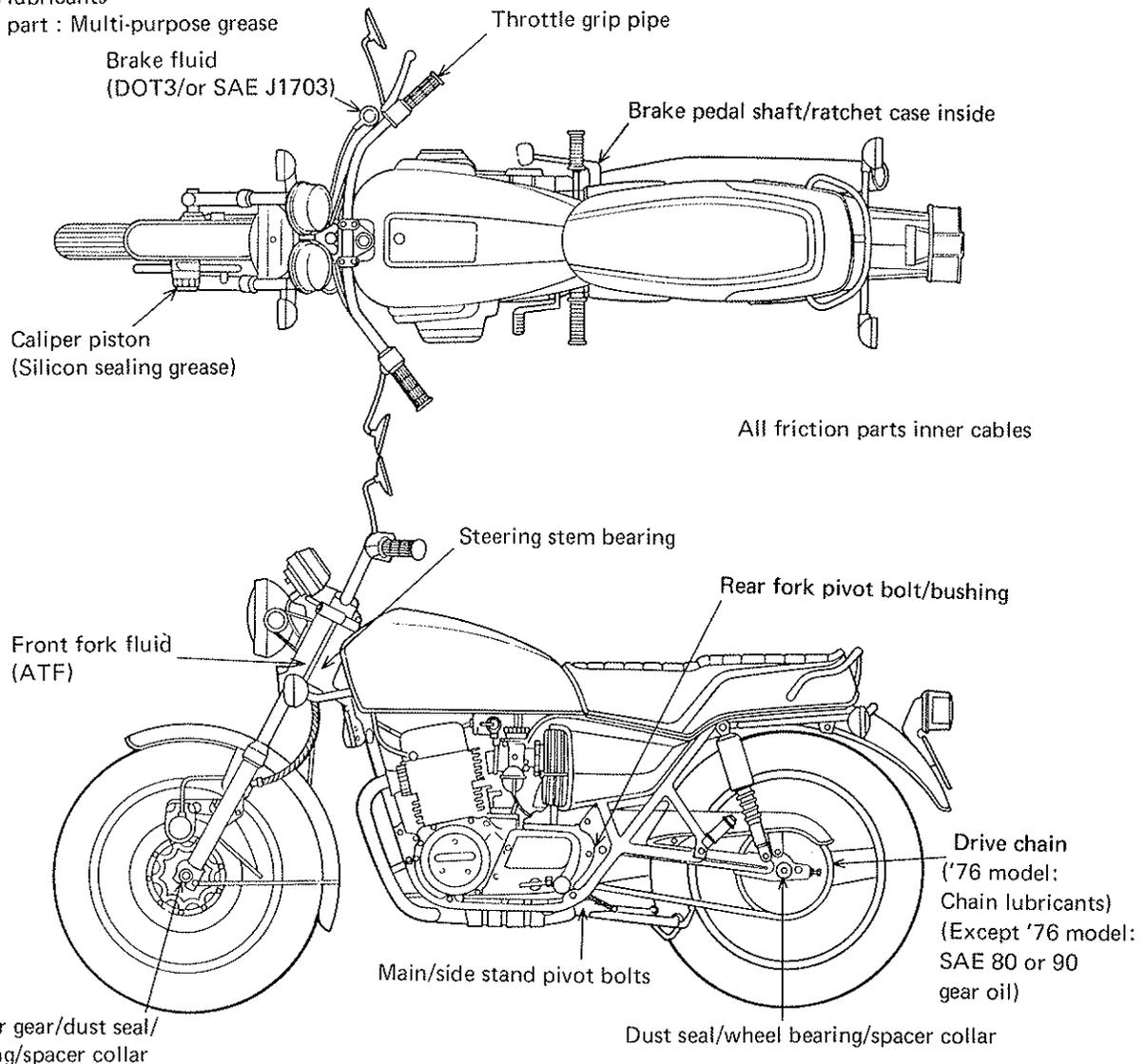
ENGINE

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 Engine oil	
3.	Connecting rod bearing		
4.	Rotating part		
5.	Friction part		
6.	Gear teeth		
7.	Clutch assembly (L/D)		
8.	Oil seal lip		

FRAME

* () indicates lubricants

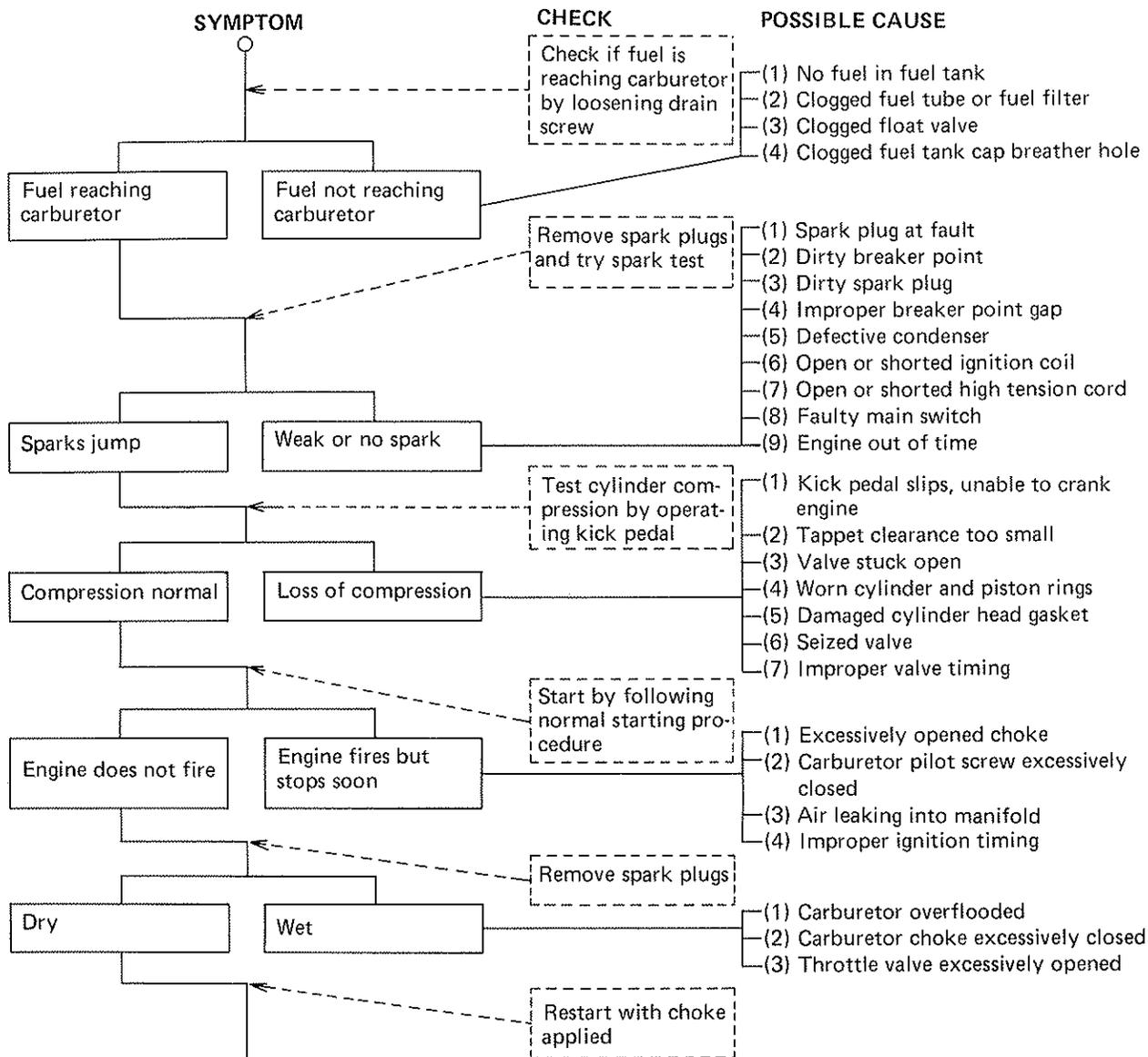
* Not indicated part : Multi-purpose grease



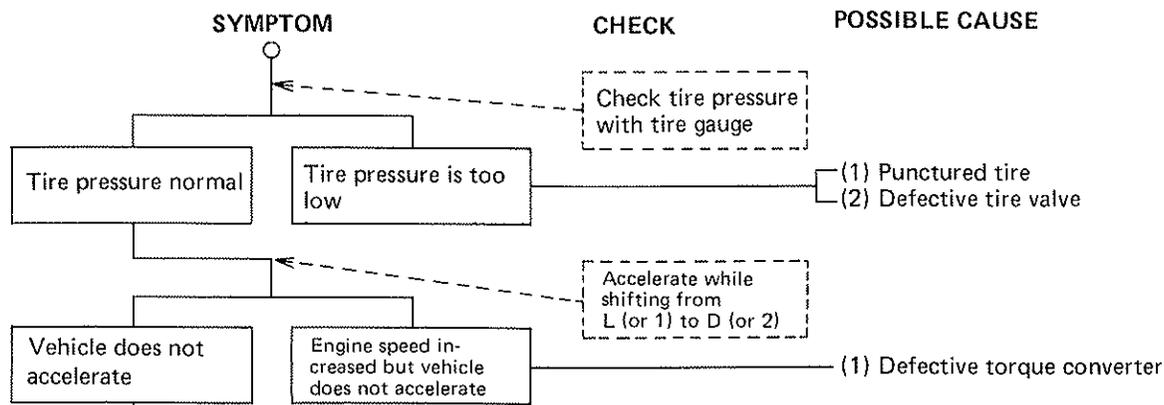


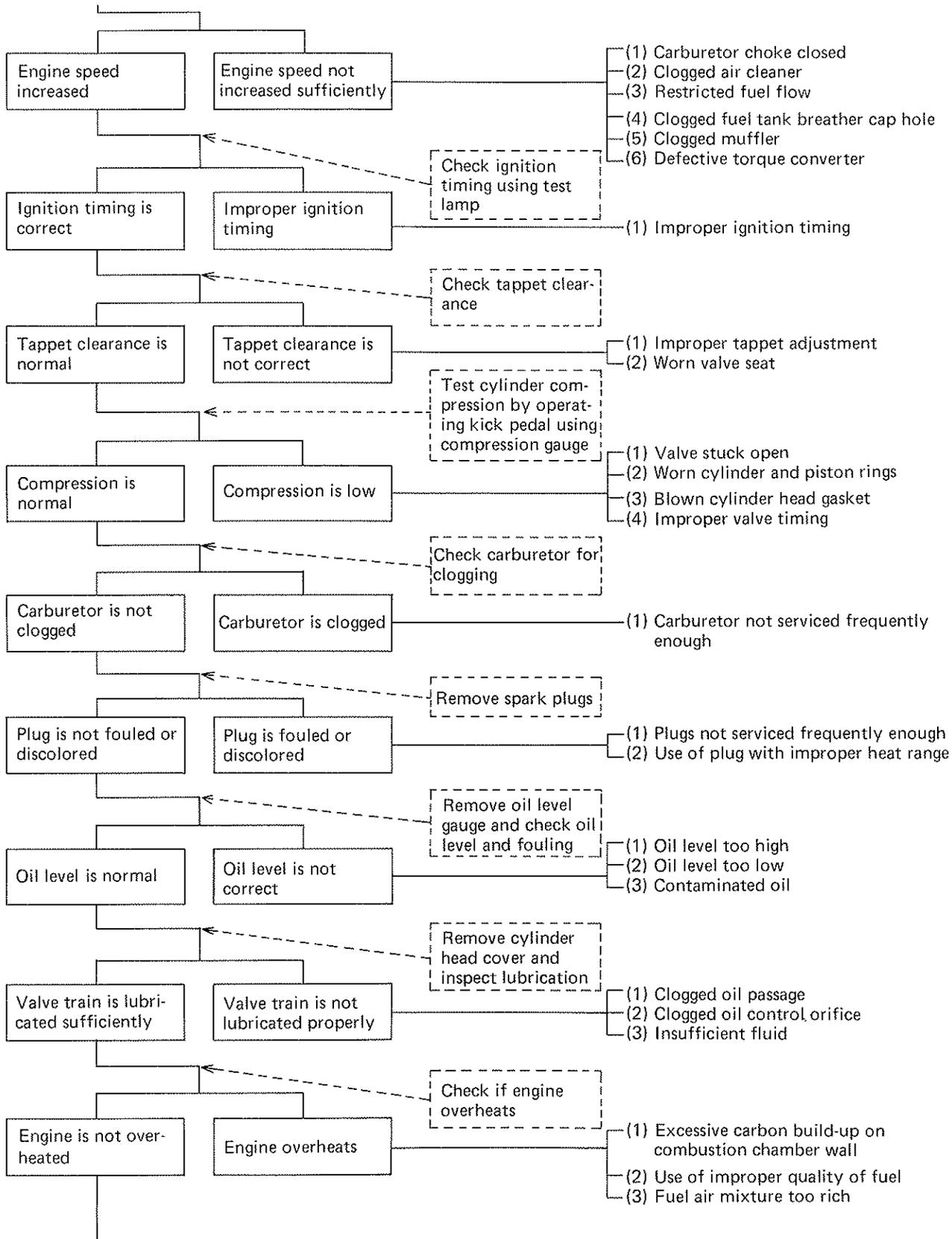
● TROUBLESHOOTING

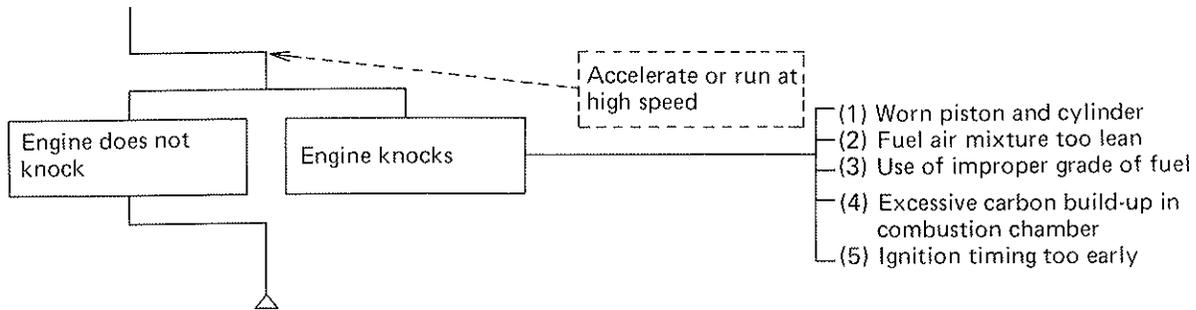
A. ENGINE DOES NOT START OR IS HARD TO START



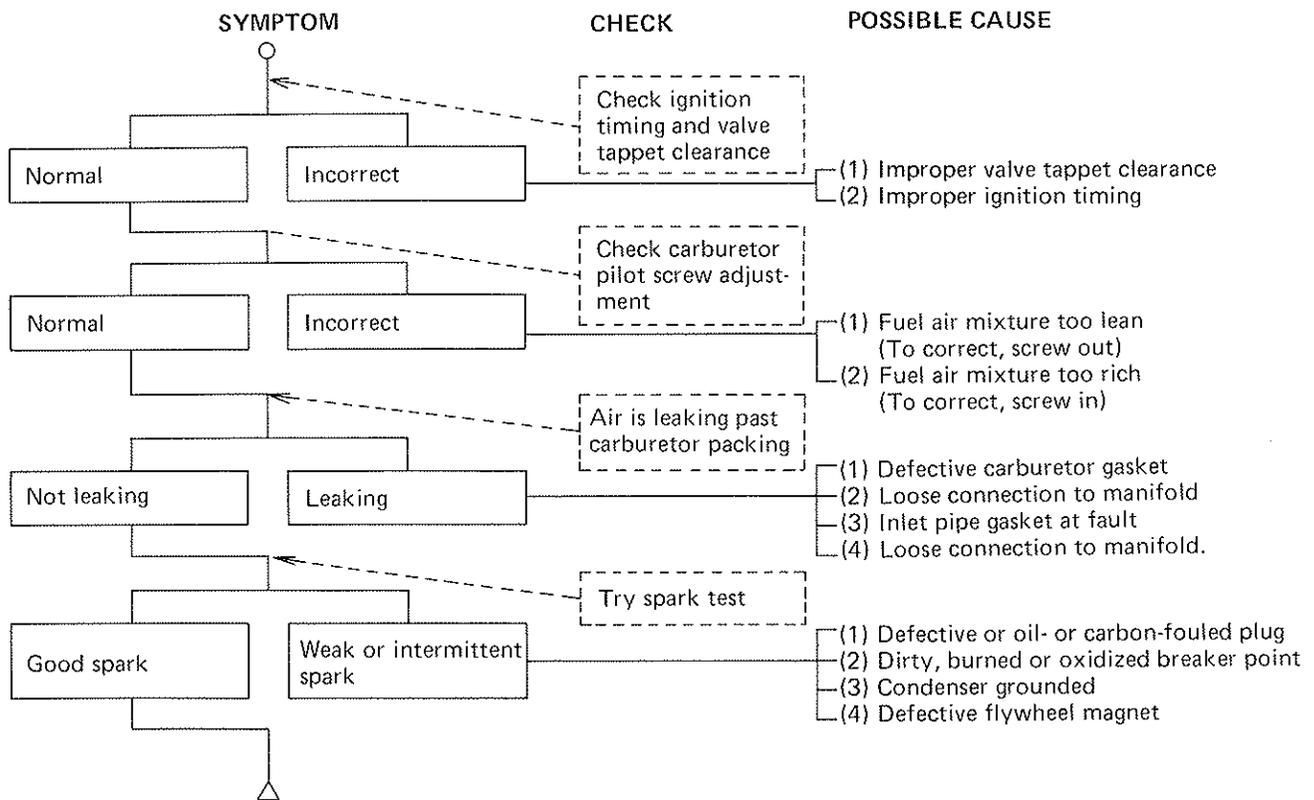
B. ENGINE LACKS POWER



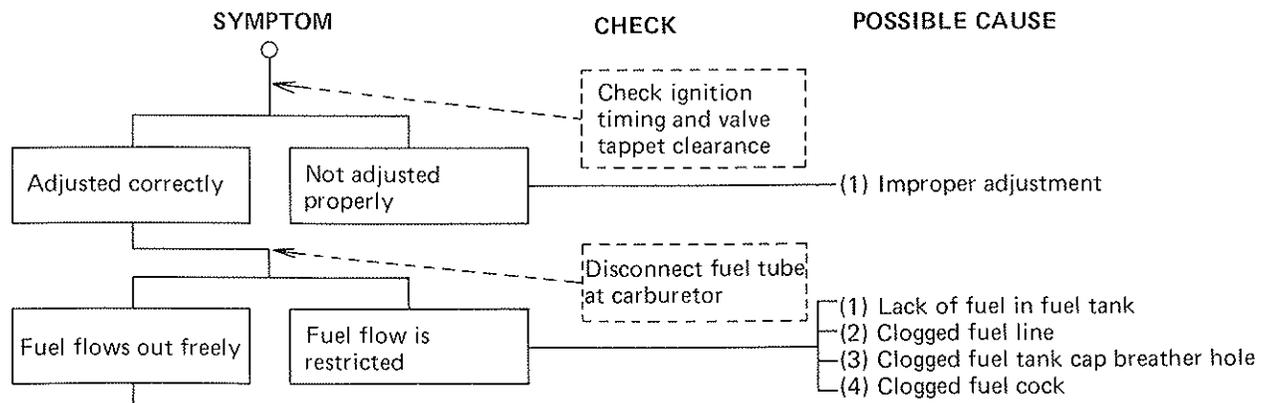


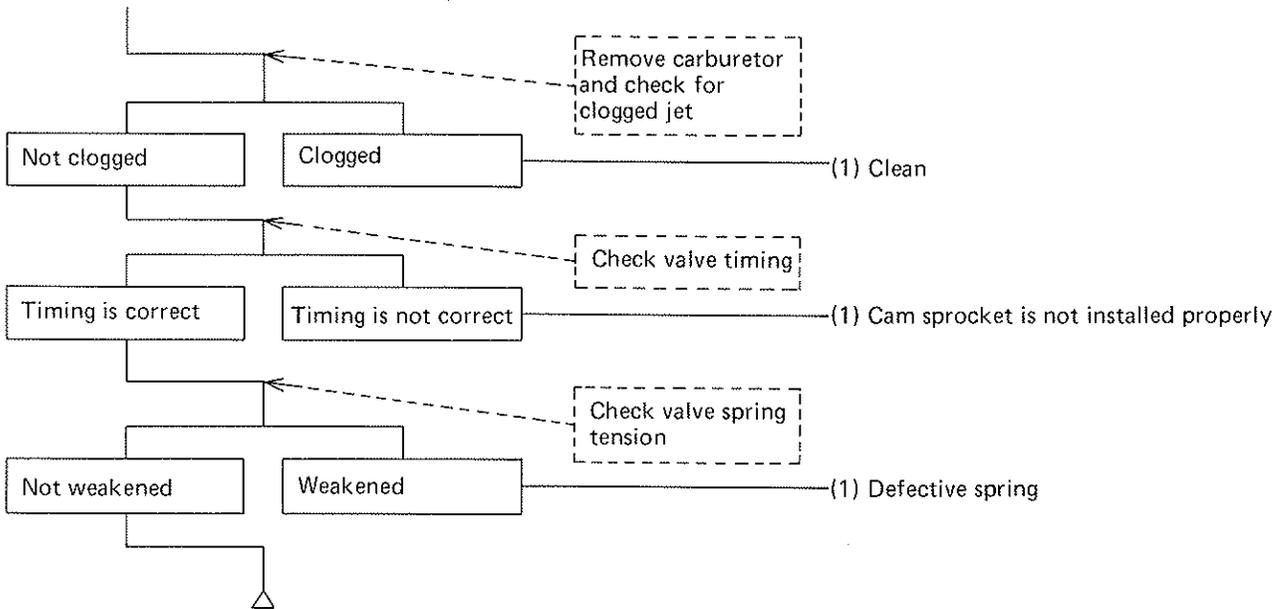


C. POOR PERFORMANCE AT LOW AND IDLE SPEED

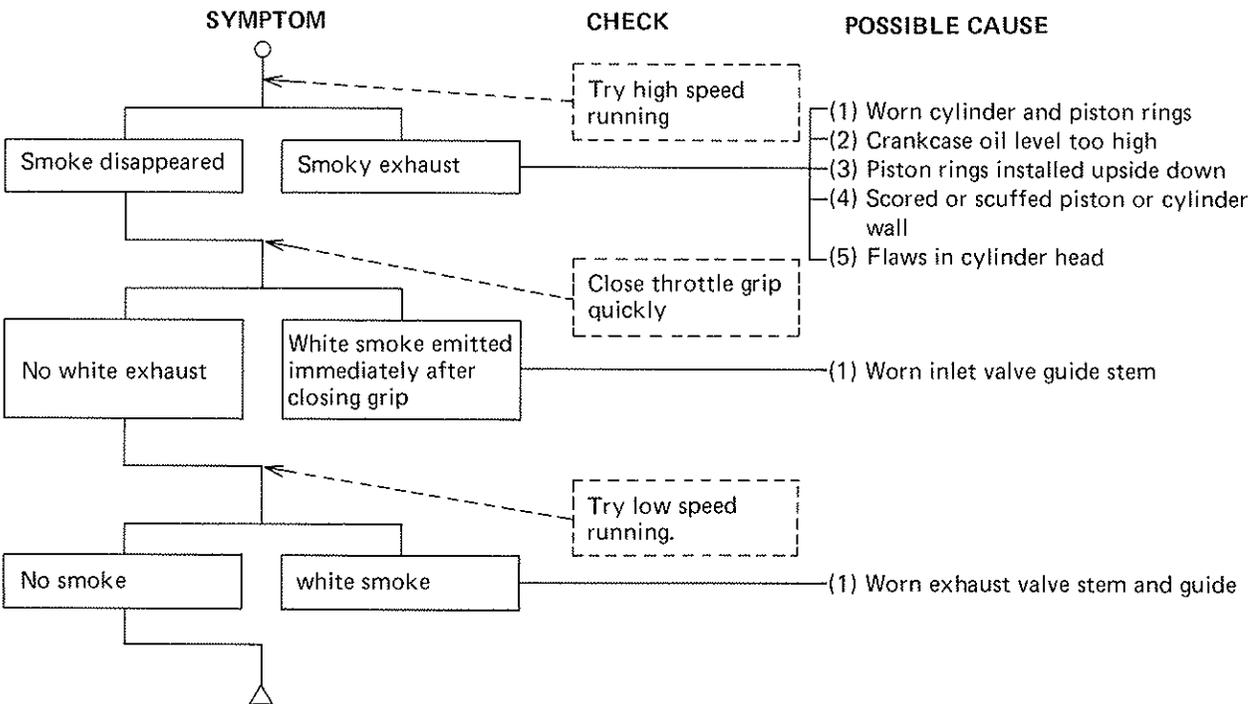


D. POOR PERFORMANCE AT HIGH SPEED



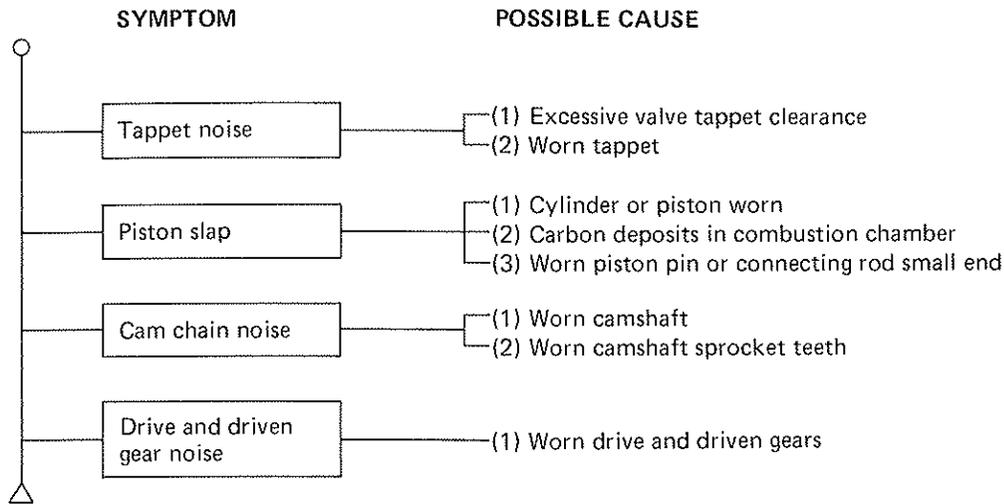


E. SMOKY EXHAUST (OIL BURNING IN COMBUSTION CHAMBER)

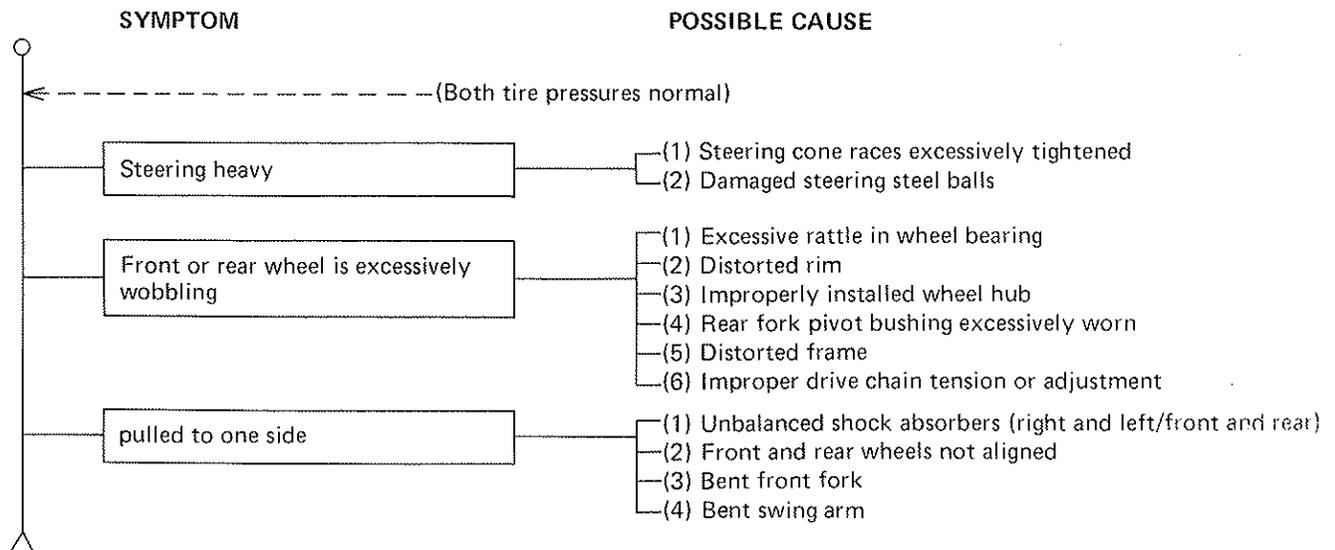




F. ENGINE IS NOISY

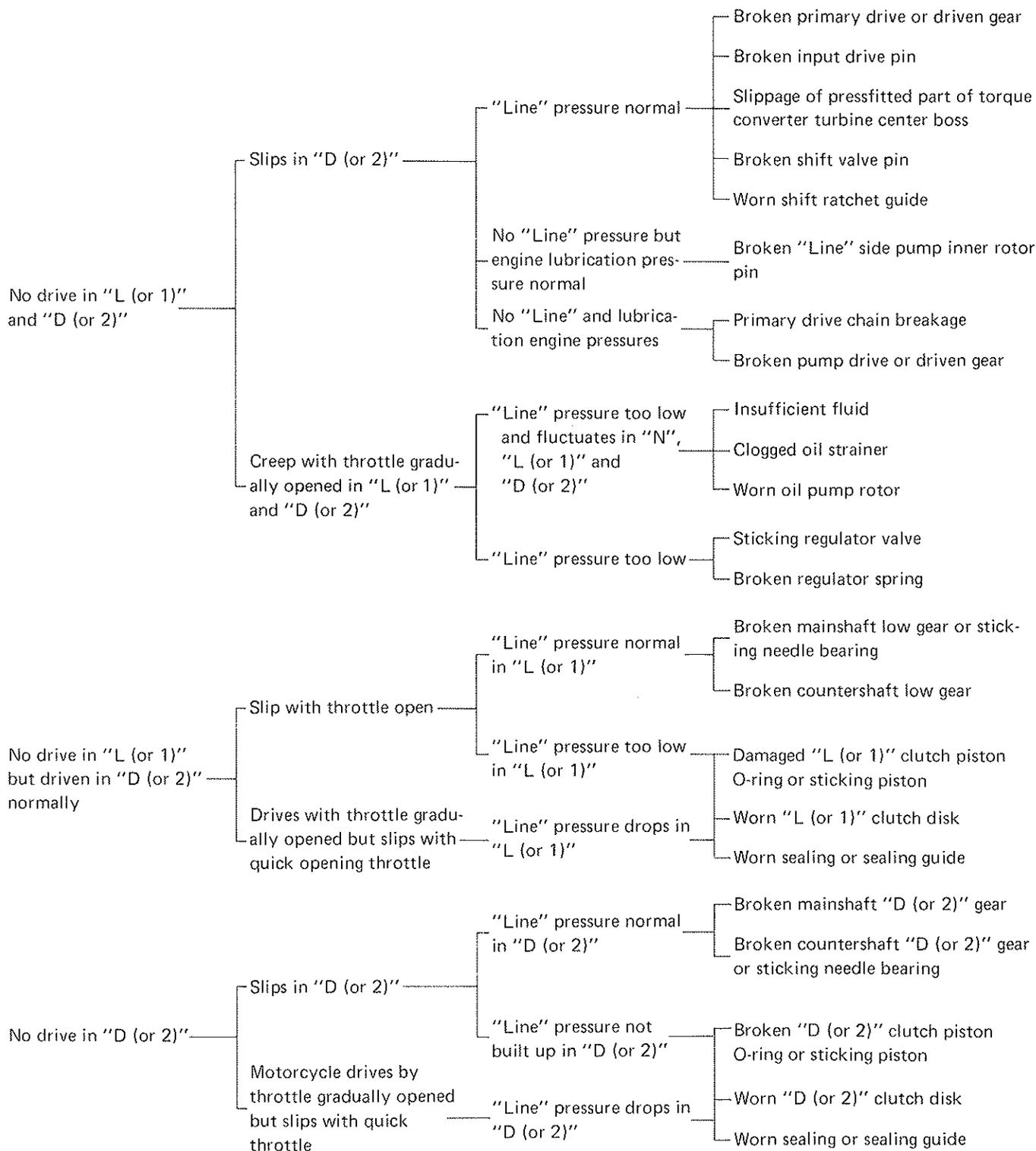


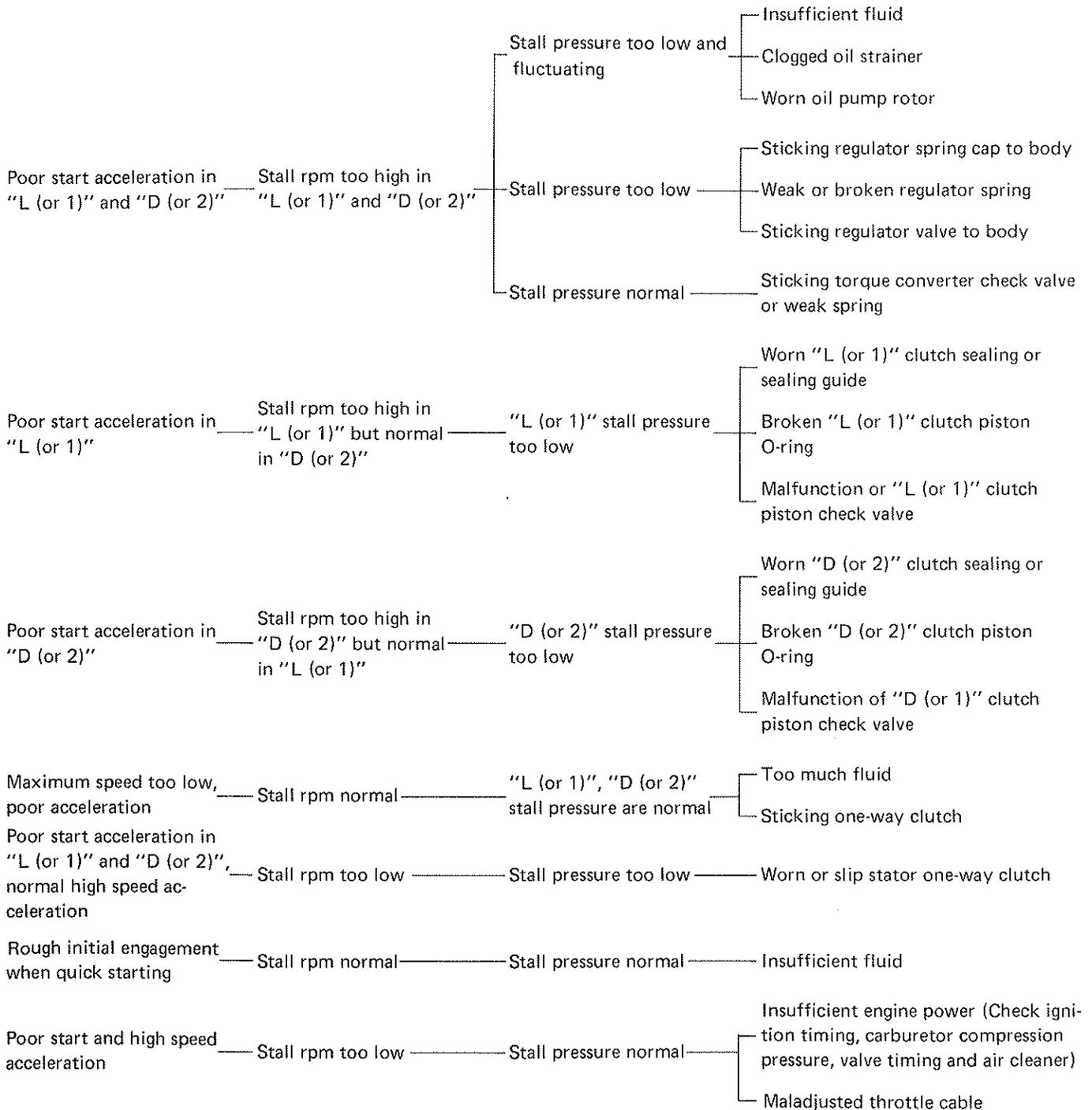
G. PULLS TO ONE SIDE





H. TORQUE CONVERTER









HONDA
CB750A

4. INSPECTION/ ADJUSTMENT

MAINTENANCE SCHEDULE	4-2	CARBURETOR SYNCHRONIZATION	4-14
ENGINE OIL LEVEL	4-4	DRIVE CHAIN	4-15
ENGINE OIL CHANGE	4-4	BATTERY	4-17
ENGINE OIL FILTER	4-5	BRAKE FLUID	4-17
ENGINE OIL SCREEN	4-5	BRAKE PAD WEAR	4-19
AIR CLEANER	4-5	BRAKE SHOE WEAR	4-19
FUEL LINES	4-6	BRAKE SYSTEM	4-19
SPARK PLUGS	4-6	BRAKE LIGHT SWITCH	4-21
VALVE CLEARANCE	4-7	HEADLIGHT AIM	4-21
CONTACT BREAKER POINTS	4-7	SIDE STAND	4-22
IGNITION TIMING	4-8	SUSPENSION	4-22
CAM CHAIN TENSION	4-10	NUTS, BOLTS, FASTENERS	4-23
THROTTLE OPERATION	4-10	WHEELS/SPOKES	4-23
CARBURETOR IDLE SPEED	4-11	STEERING HEAD BEARING	4-23
CARBURETOR CHOKE/FAST IDLE	4-13	COMPRESSION TEST	4-24



● 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.



HONDA CB750A

INSPECTION / ADJUSTMENT

MAINTENANCE SCHEDULE

4

('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))						REFER TO
			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)	
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.

Date of Issue: December, 1977

© HONDA MOTOR CO., LTD.



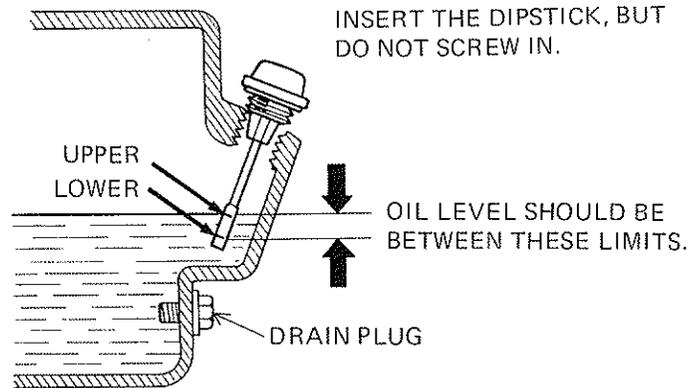
● ENGINE OIL LEVEL

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.

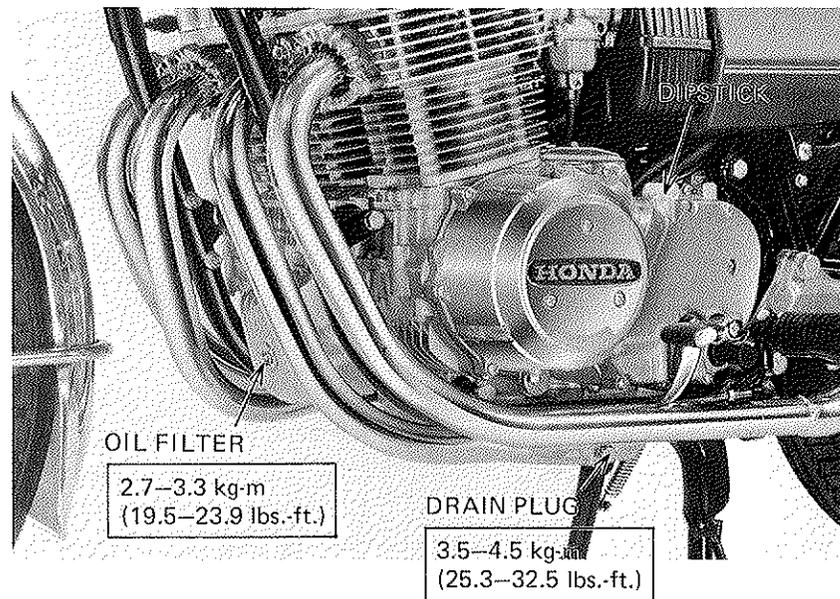
NOTE

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

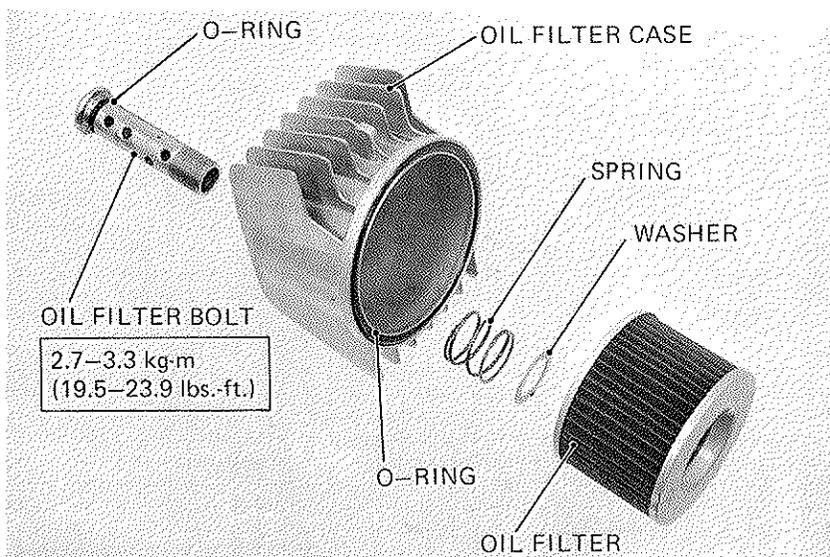
above 15°C/59°F	SAE 30
0°C/32°F - 15°C/59°F	SAE 20 or SAE 20 W
below 0°C/32°F	SAE 10 W



INSPECTION/ADJUSTMENT

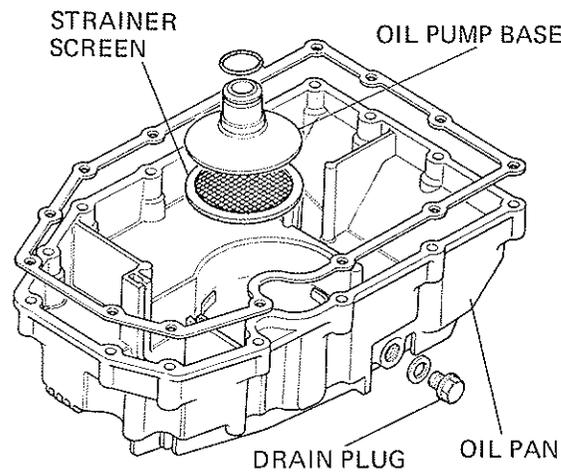
● ENGINE OIL FILTER

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).



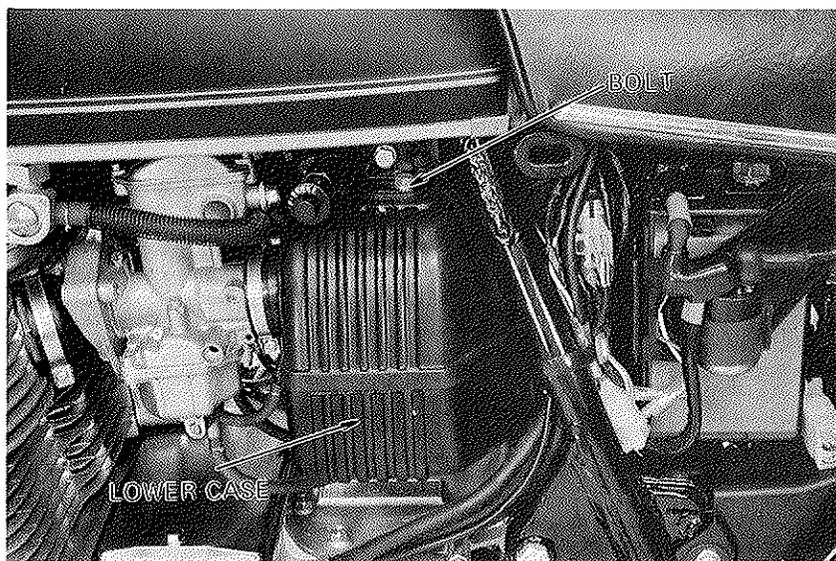
● ENGINE OIL SCREEN

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.



4 FUEL LINES SPARK PLUGS

HONDA
CB750A



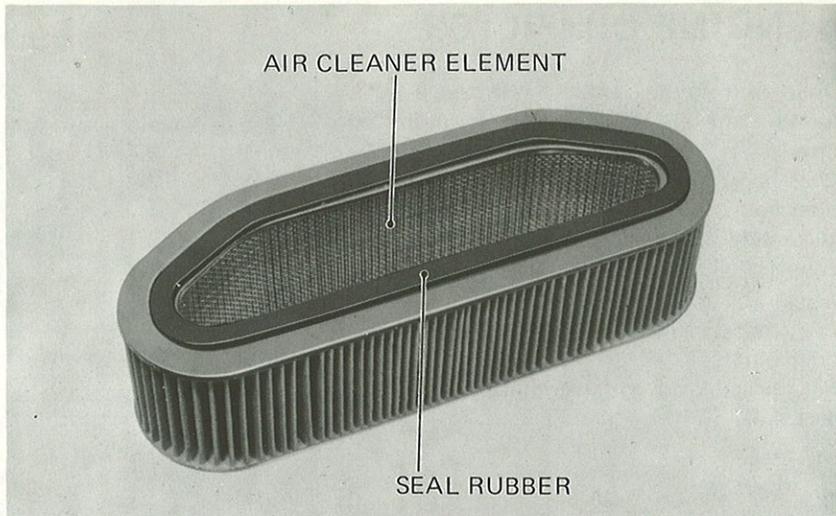
INSPECTION/ADJUSTMENT

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 periodically or if it is fouled excessively, broken or damaged.

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.

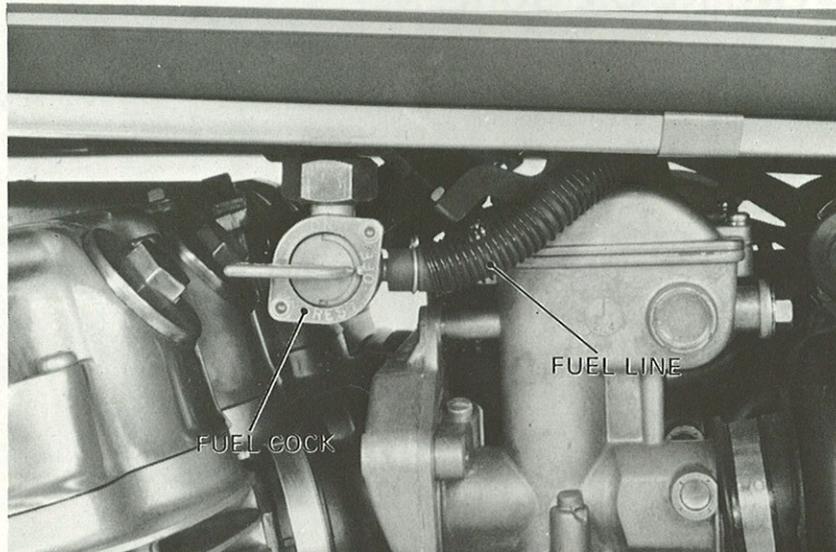
● SPARK PLUGS

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 fouling 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.

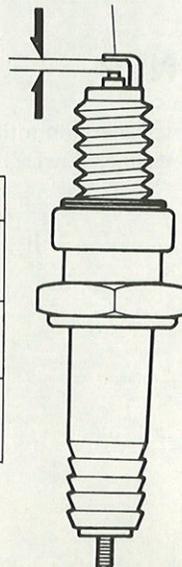
Reinstall the spark plug and reconnect the spark plug cap.



SIDE ELECTRODE

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

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



NOTE

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



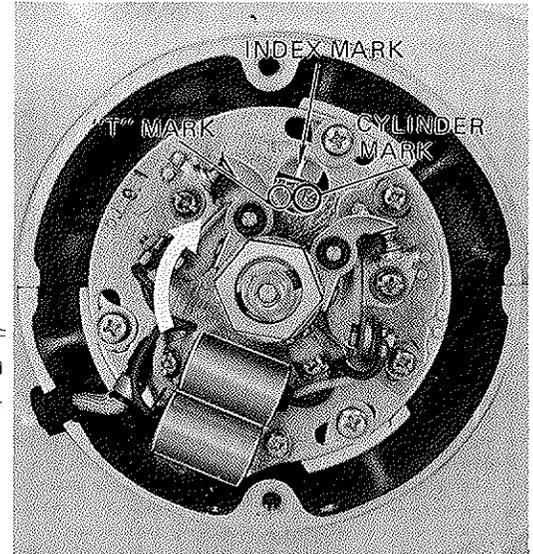
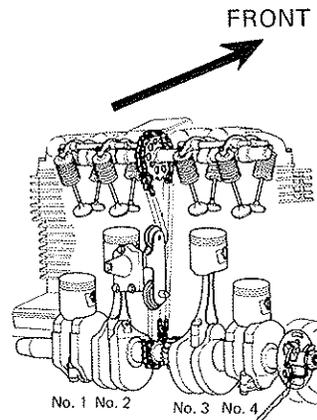
INSPECTION/ADJUSTMENT

● 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.

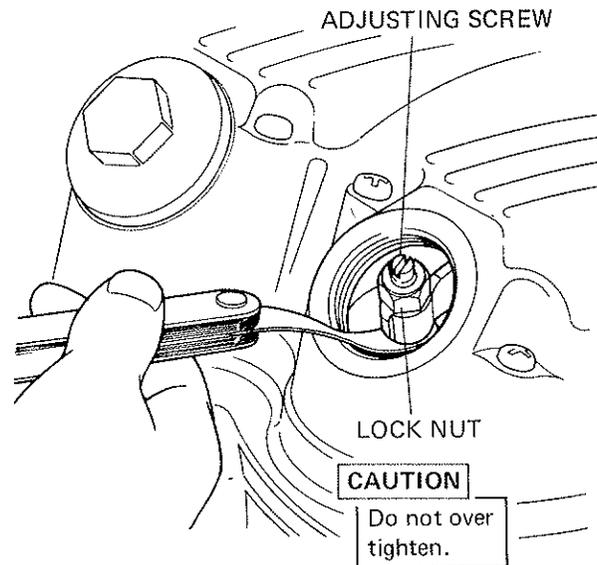
Check and adjust the valve clearance for the valves marked with "○" in the chart. Adjust if necessary same as previously described.

Reinstall the contact breaker point cover, valve adjusting hole caps, fuel tank and fuel tube.

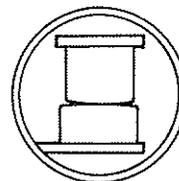
● CONTACT BREAKER POINTS

● INSPECTION AND CLEANING

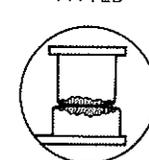
Remove the point cover.
Open the points with finger or small screw-driver blade and check for condition.
If pitted excessively or burned, replace the points. A gray discoloration or pitted slightly can be removed with a point file or sand.
After filing, clean the point contacts with a clean piece of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



CORRECT



PITTED

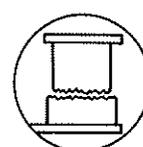


REPAIR OR REPLACE

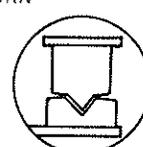
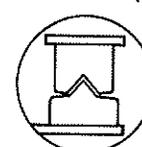
ONE SIDE CONTACT



BURNED



BADLY WORN



REPLACE

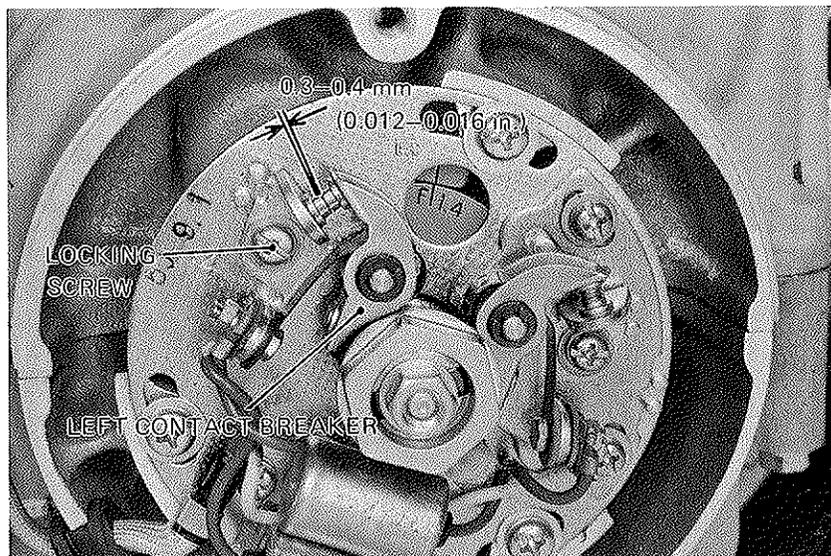


• POINT GAP ADJUSTMENT

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

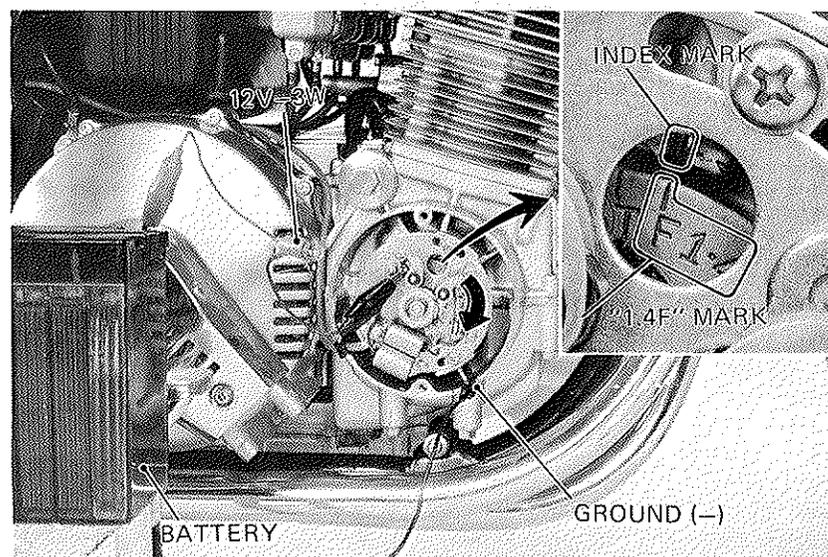
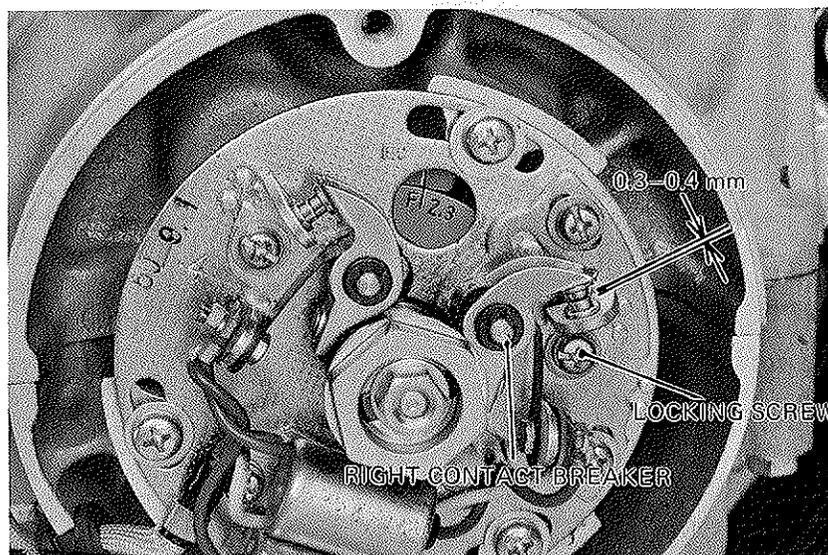
- Contact breaker point gap must be adjusted before the ignition timing adjustment is performed.
- Adjust the No.1 and 4 cylinder timing first, then the No. 2 and 3 cylinders.

• 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.





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.

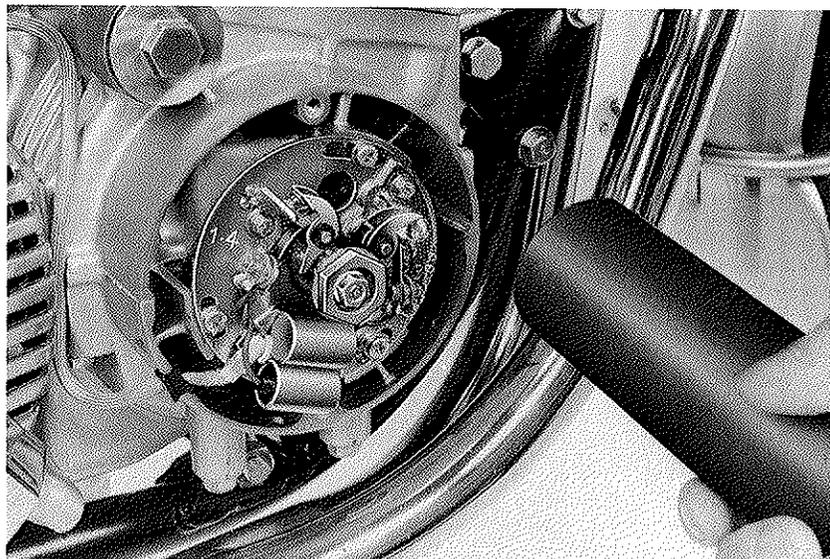
Change the connection of the light lead from the "1.4" point arm to the "2.3" point arm. Rotate the crankshaft clockwise slowly and align the "2.3 F" mark with the index mark. The timing for the No. 2 and No. 3 cylinders is correct if the light goes out when both marks align. Adjust the timing as follows, 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.



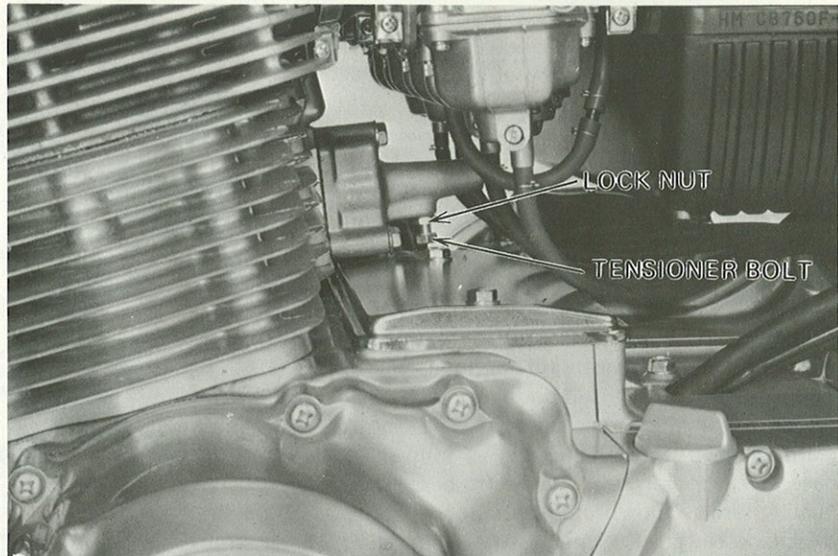
Adjust the timing as follows, if necessary. Loosen the two right base plate locking screws and rotate the right base plate to achieve the correct timing. When the timing is too advanced, rotate the right base plate clockwise. When the timing is too late, rotate the right base plate counterclockwise. 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.



INSPECTION/ADJUSTMENT

● 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 lock nut.

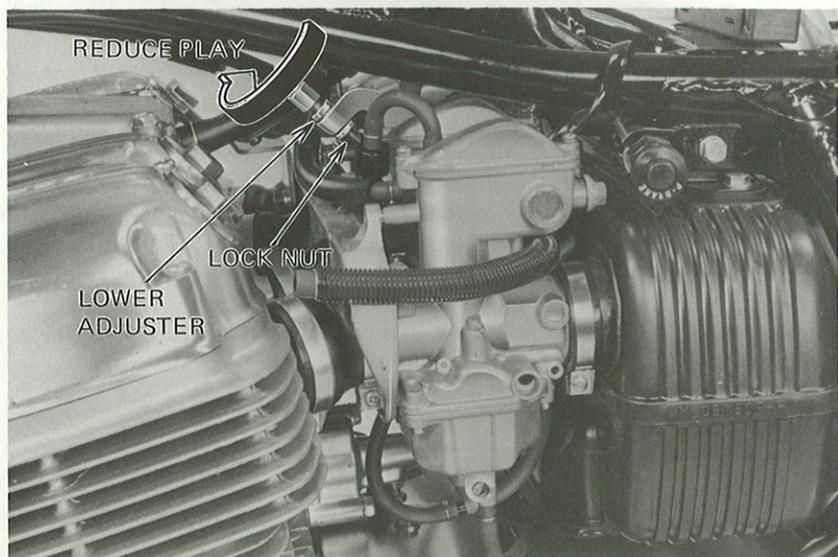
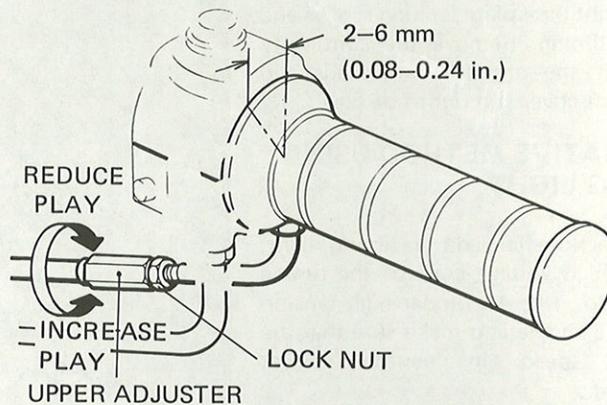


● THROTTLE OPERATION

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.





● **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

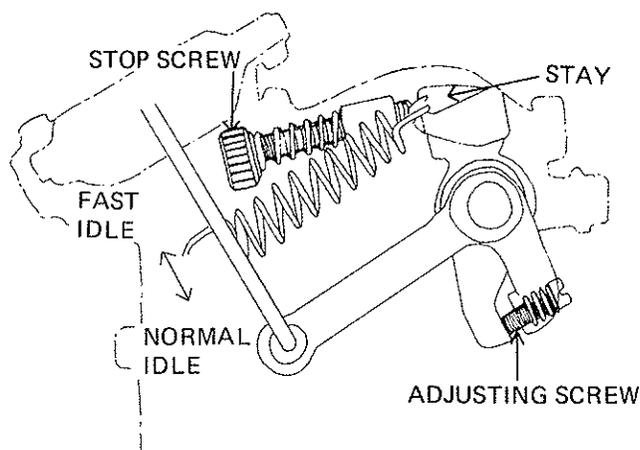
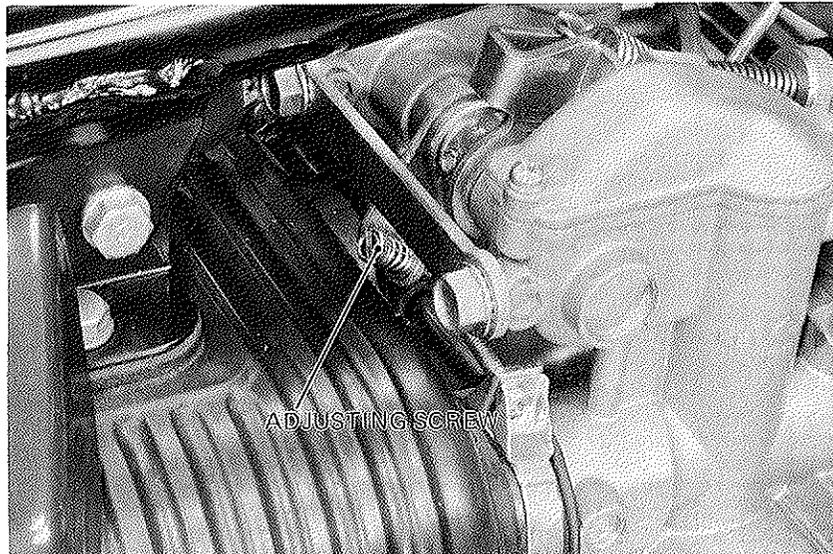
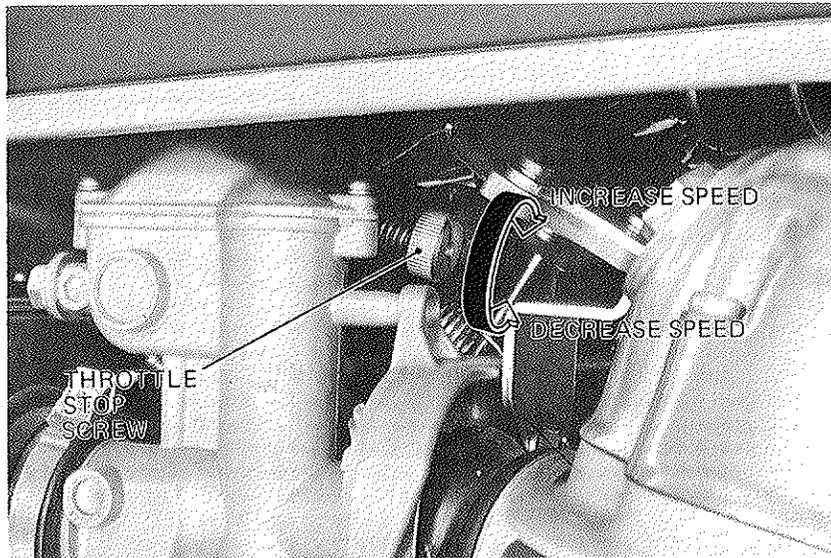
On '76 and '77 models, shift indicator lamps have "L" and "D" lenses instead of "1" and "2".

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).

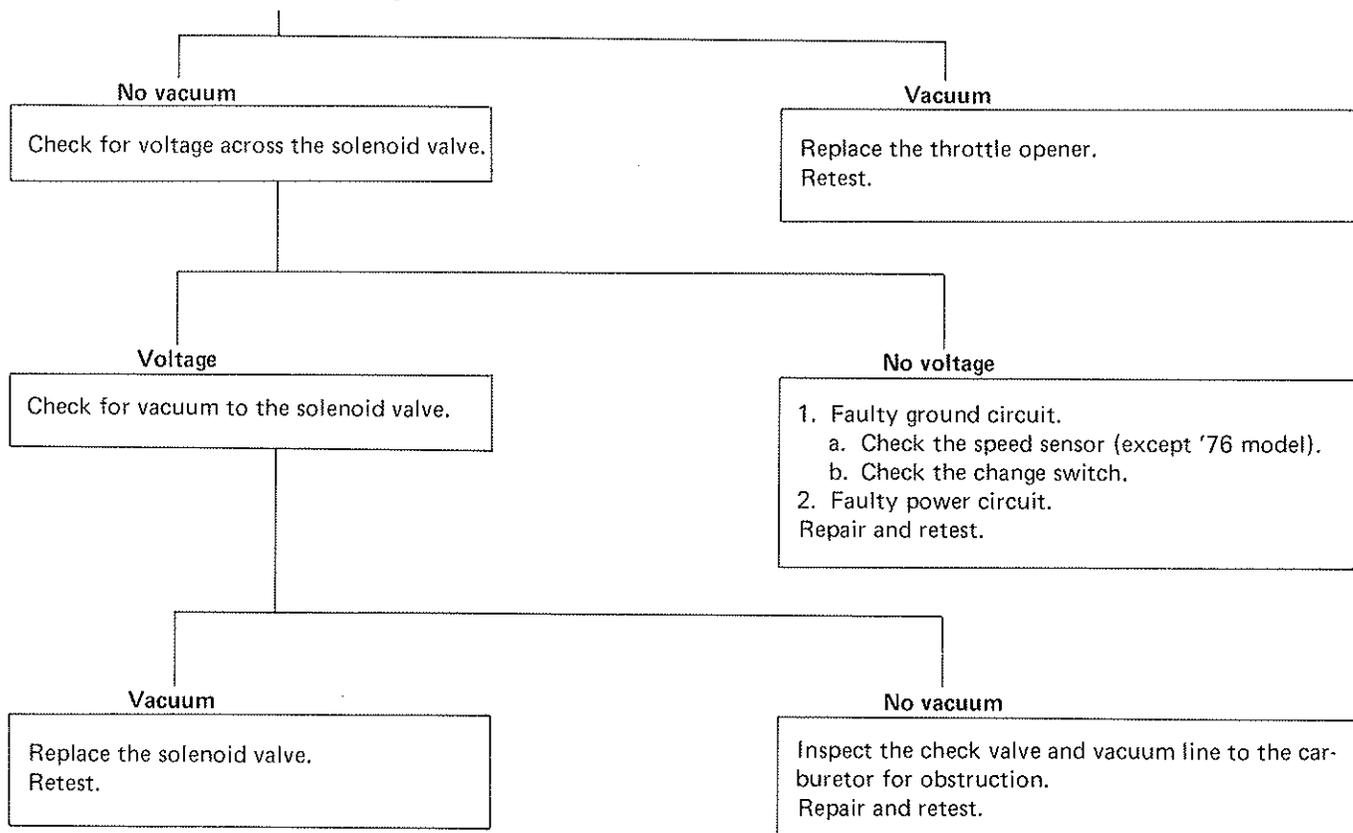




If the stall preventer system does not operate as described in the BASIC TEST, follow the troubleshooting procedure to locate the problem.

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.



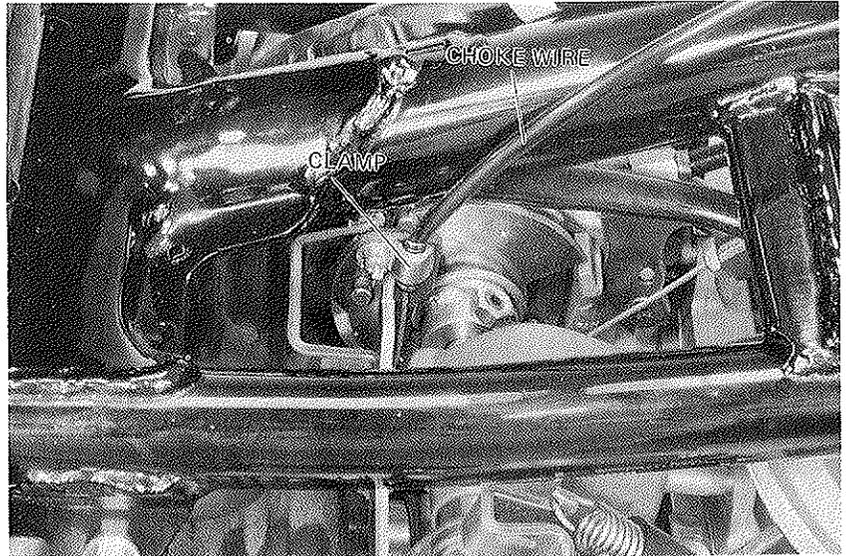
3. If the system passes all parts, except the test ride inspection in the BASIC TEST, replace the speedometer and retest. (Except '76 model.)



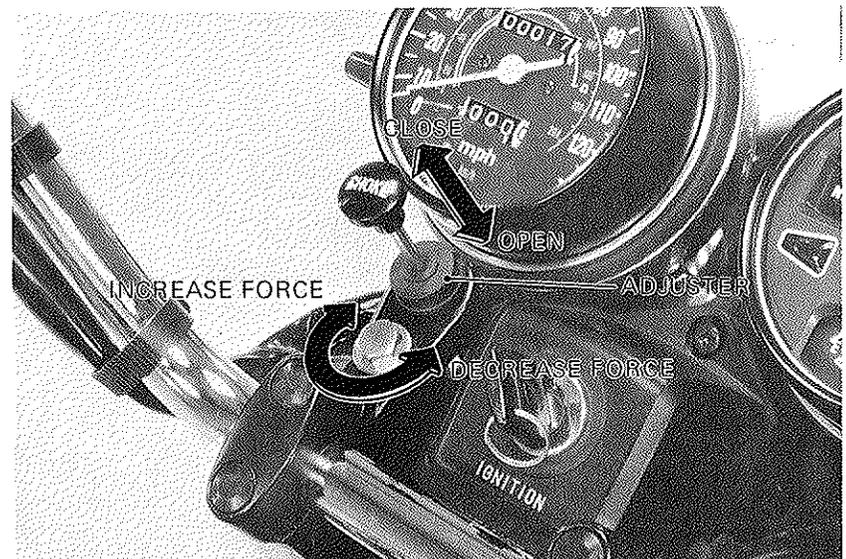
● **CARBURETOR CHOKE /FAST IDLE**

● **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.

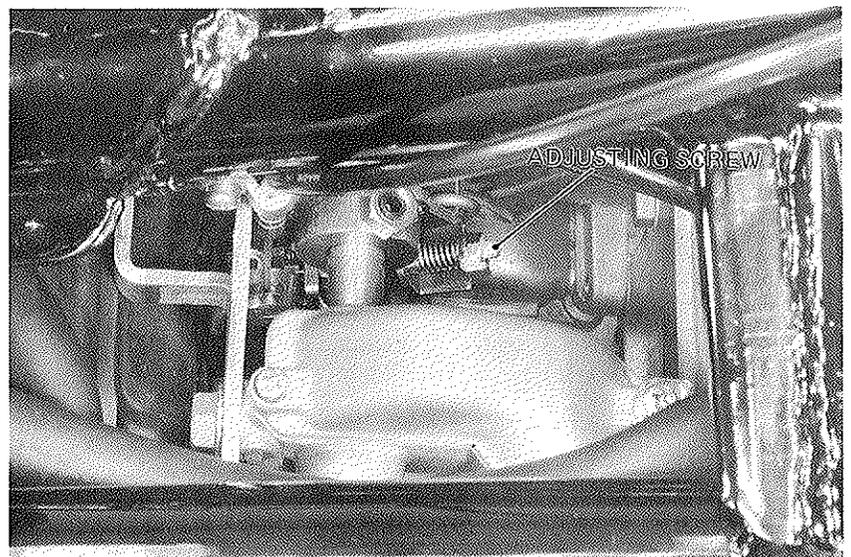
While the engine is cold, pull the choke knob out completely and make sure that the fast idle is within the specifications, immediately after the engine starts.

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.





● CARBURETOR SYNCHRONIZATION

NOTE

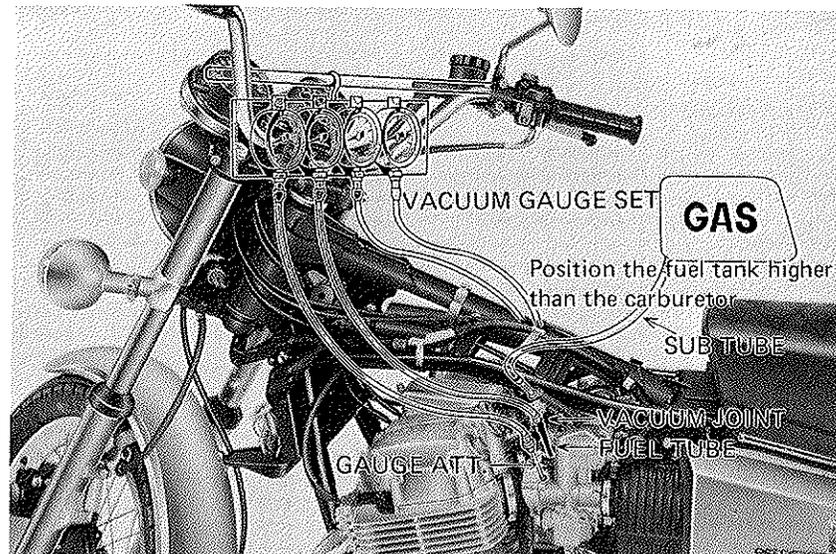
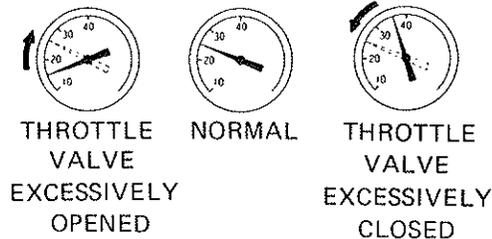
Perform carburetor synchronization with engine at normal operating temperature, transmission in neutral and motorcycle on the center stand.

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.

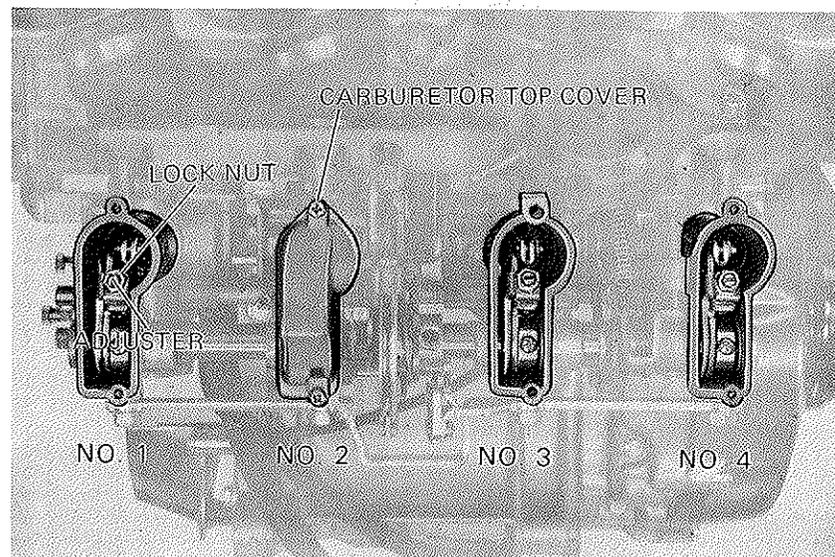


If adjustment is necessary, remove the top covers from the No. 1, 3 and 4 carburetors. No. 2 carburetor can not be adjusted, because it is the base.

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.





● **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 sprockets 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.

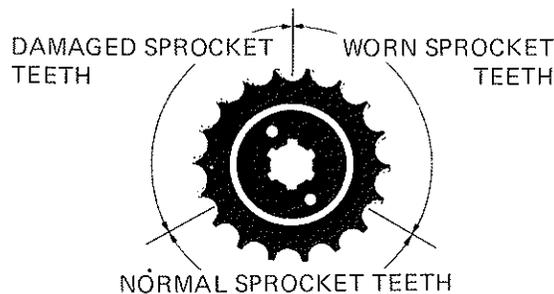
Lubricate the drive chain with **SAE 80 or 90** gear oil.

CAUTION

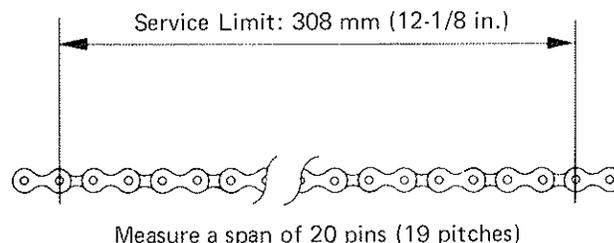
Do not use commercial chain lubricants. It may contain solvents which could damage the rubber O-rings.

('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)



Recommended sprocket sizes

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

4 DRIVE CHAIN BATTERY

INSPECTION / ADJUSTMENT

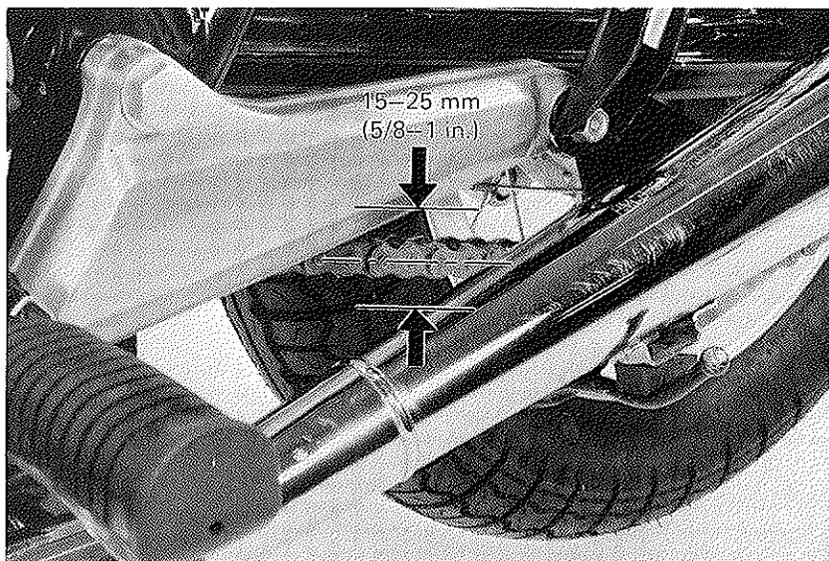
HONDA
CB750A



● 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.

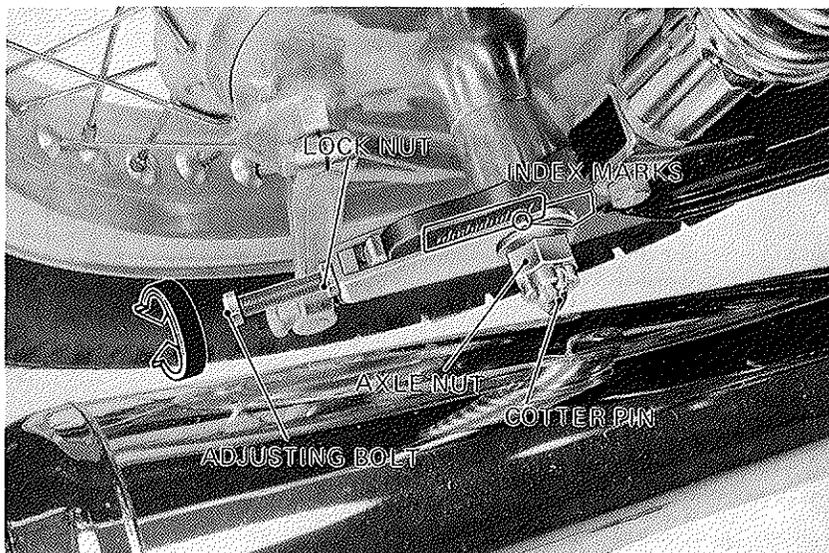
Tighten the axle nut and install a new cotter pin.

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.

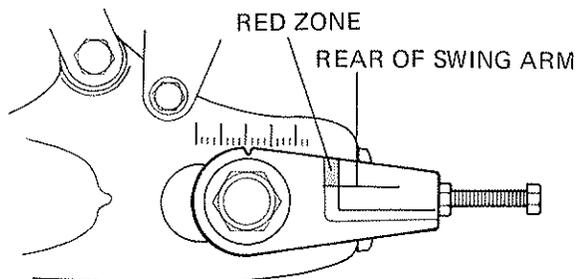


● BATTERY

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.



Date of Issue: December, 1977
© HONDA MOTOR CO., LTD.



NOTE

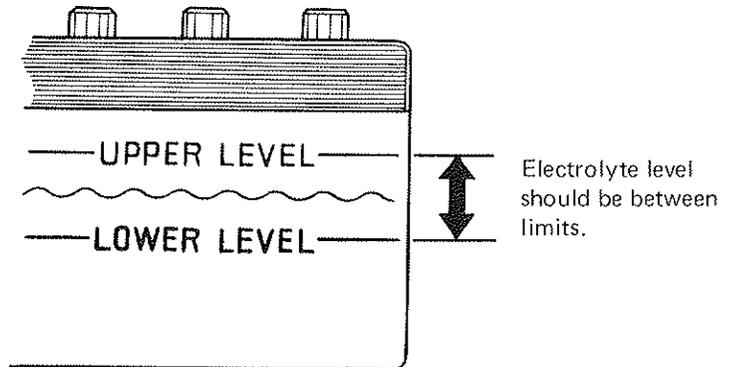
Fill the battery up to the upper level mark at periodical inspection.

CAUTION

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

WARNING

The battery electrolyte contains sulfuric acid.



● **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**

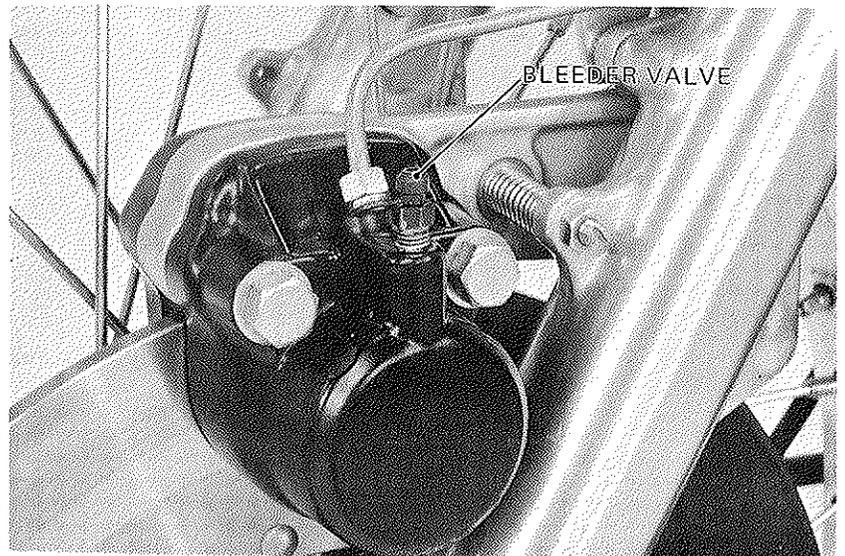
CAUTION

- 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.




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.

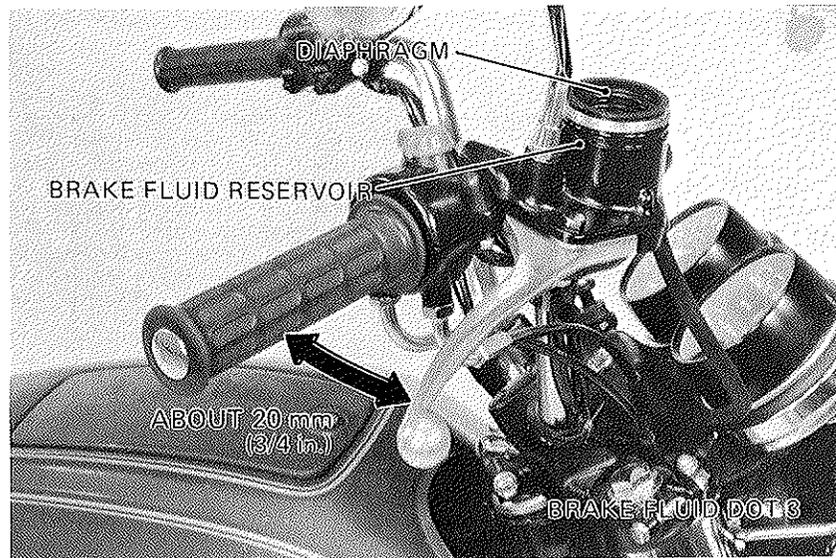
Release the lever gradually and wait several seconds after it reaches the end of its travel. Repeat the above steps until there are no air bubbles in the fluid flowing out of the bleeder valve.

Fill the reservoir to the UPPER FLUID LEVEL.

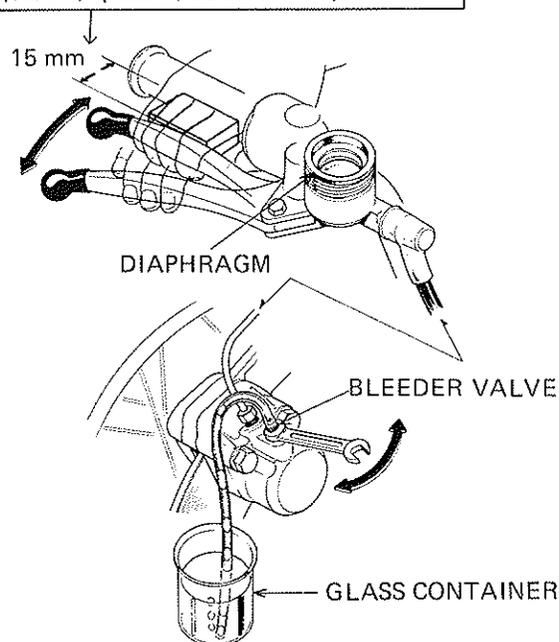
Check the entire system for leaks by operating the brake.

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

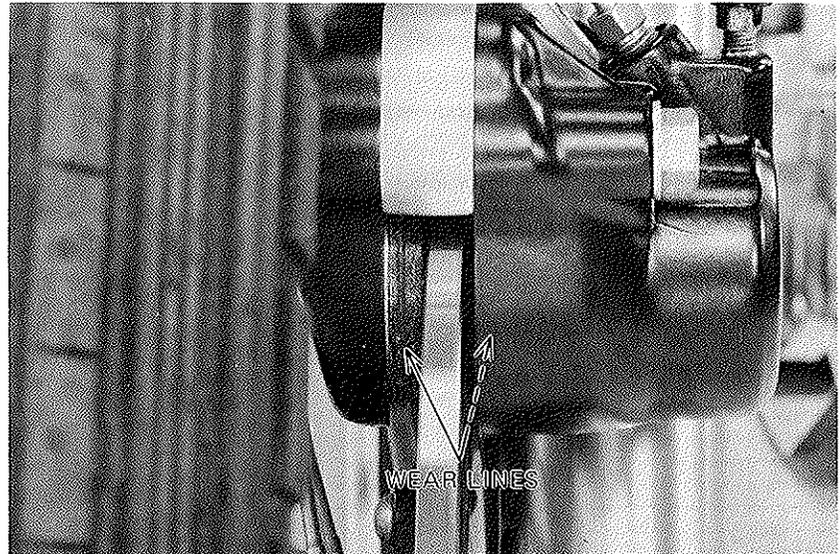


● **BRAKE PAD WEAR**

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).

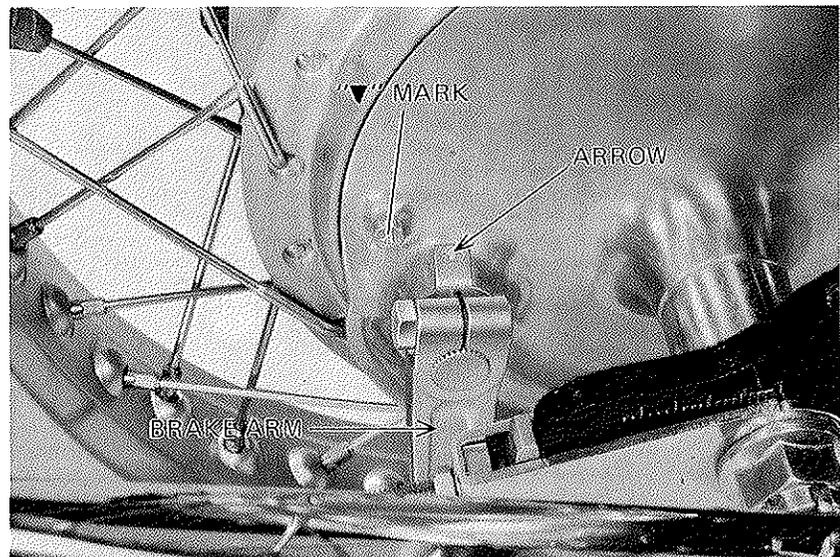
CAUTION

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 deterioration, damage or leaks in brake tube and joints.

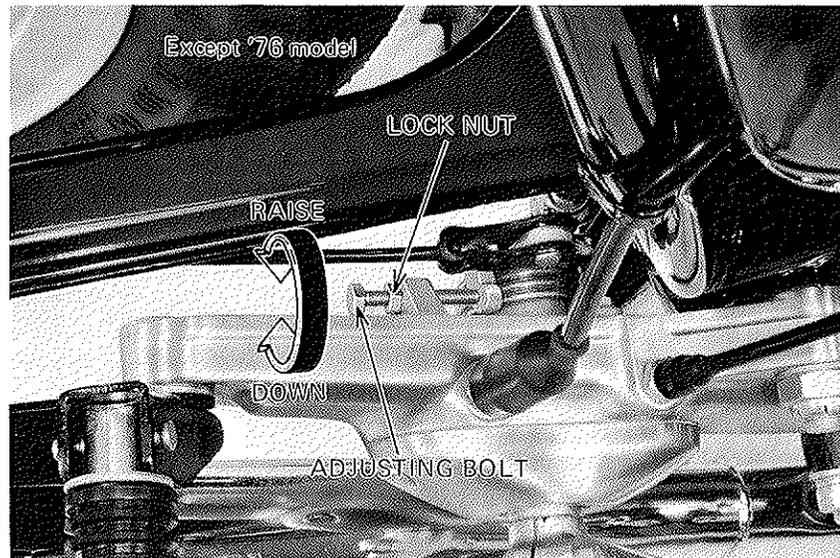
Check the brake rod for loose connection, excessive play, bending or any other defect. Inspect the brake stopper arm for loose connection or damage.

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.



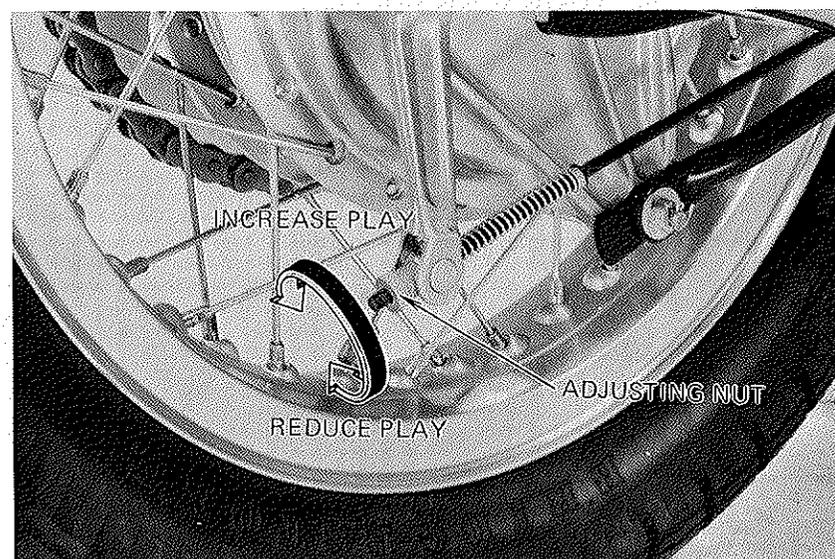
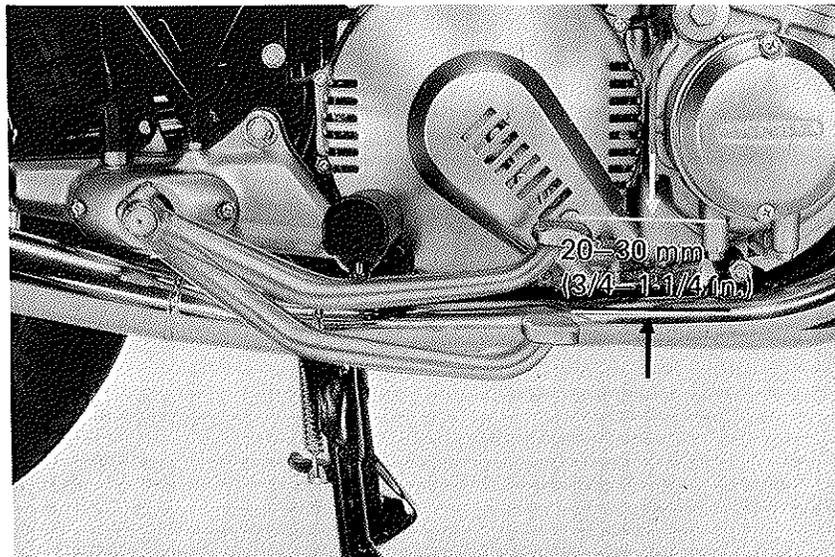


• BRAKE PEDAL FREE PLAY

Check the brake pedal free play.

FREE PLAY: 20–30 mm (3/4–1-1/4 in.)

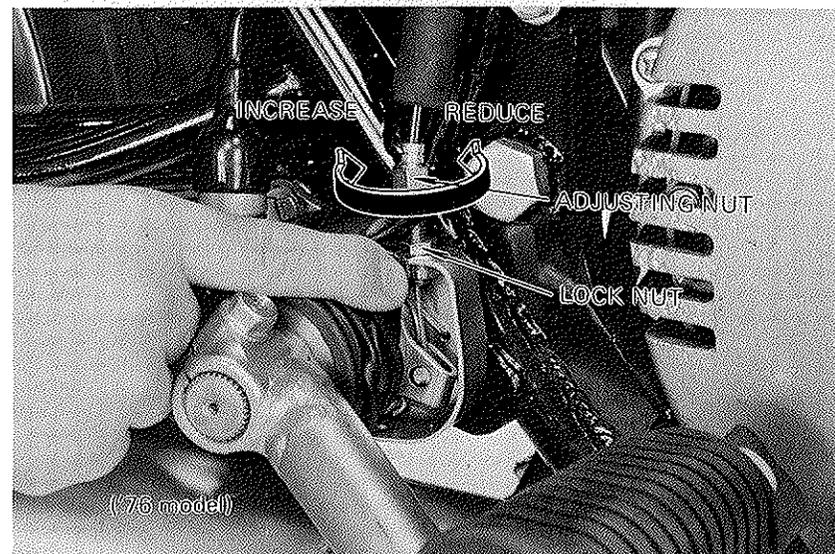
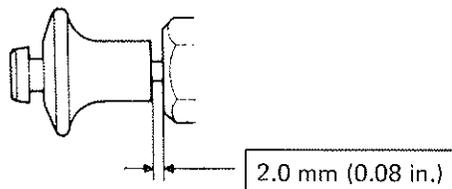
If adjustment is necessary, turn the rear brake adjusting nut.



• PARKING BRAKE

Check the cable free play.

FREE PLAY: 2.0 mm (0.08 in.)



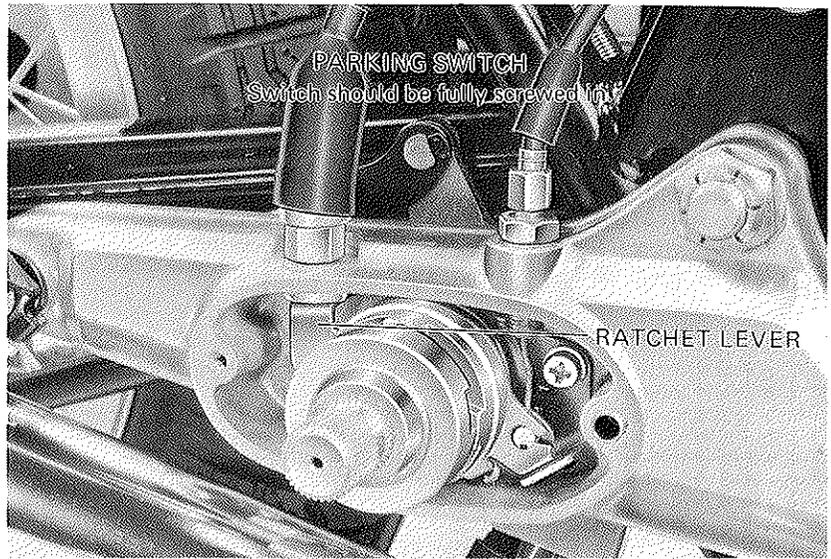
If necessary, adjust the free play by loosening the lock nut and turning the adjusting nut.



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.



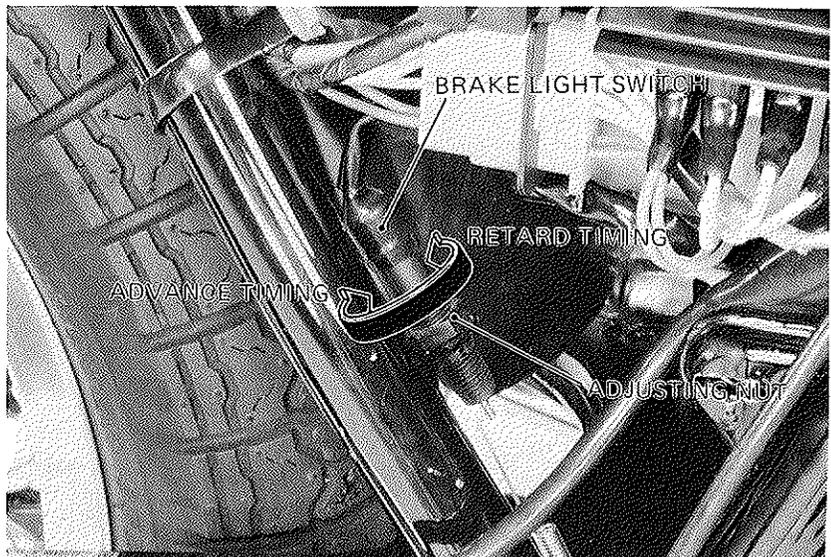
● BRAKE LIGHT SWITCH

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

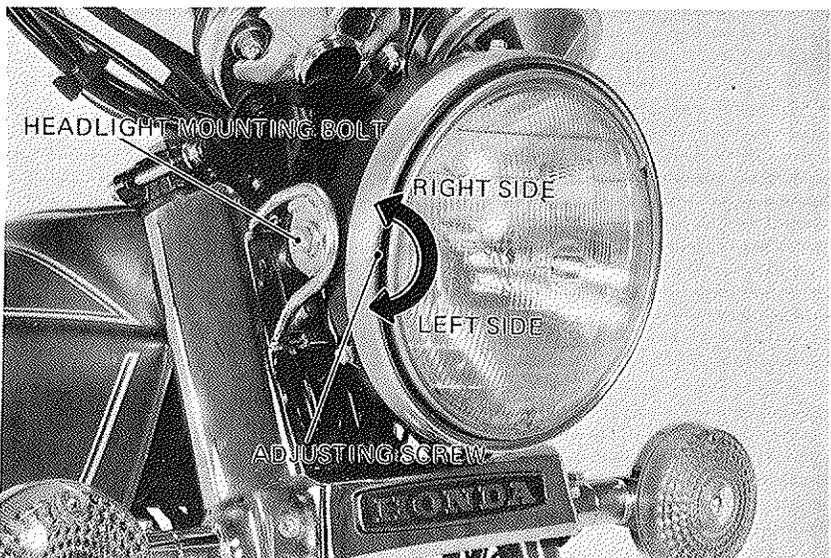
Remove the side marker reflectors. Loosen the headlight mounting bolts and tilt the headlight as required. Install the side marker reflectors.

● 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.



4 SIDE STAND SUSPENSION

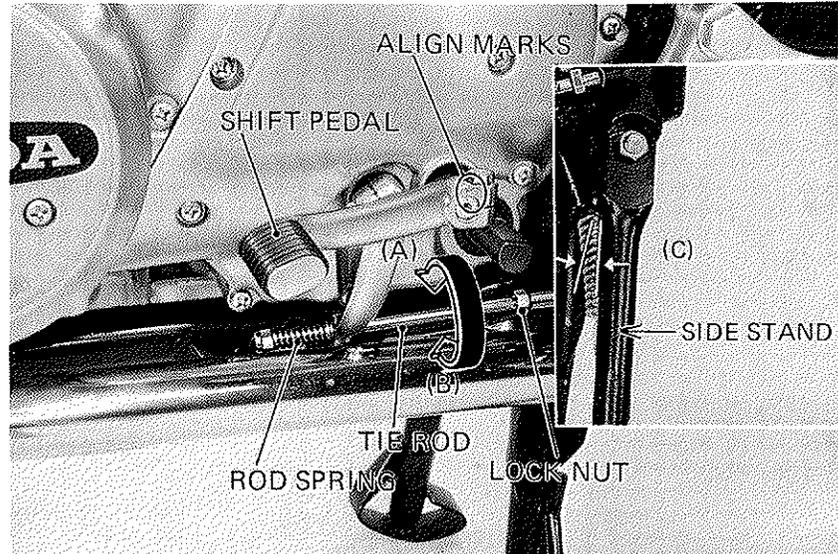
HONDA CB750A



INSPECTION/ADJUSTMENT

● 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)".



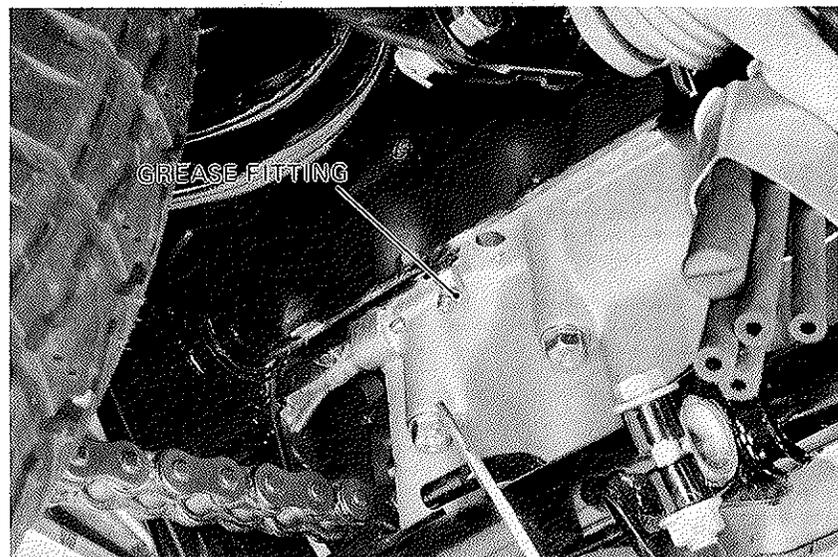
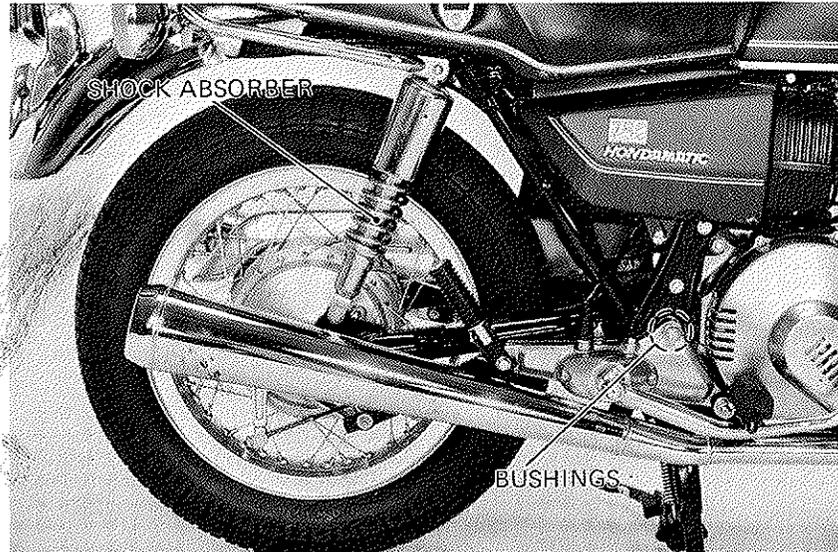
● SUSPENSION

● 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.





INSPECTION/ADJUSTMENT

● **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.

● **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.

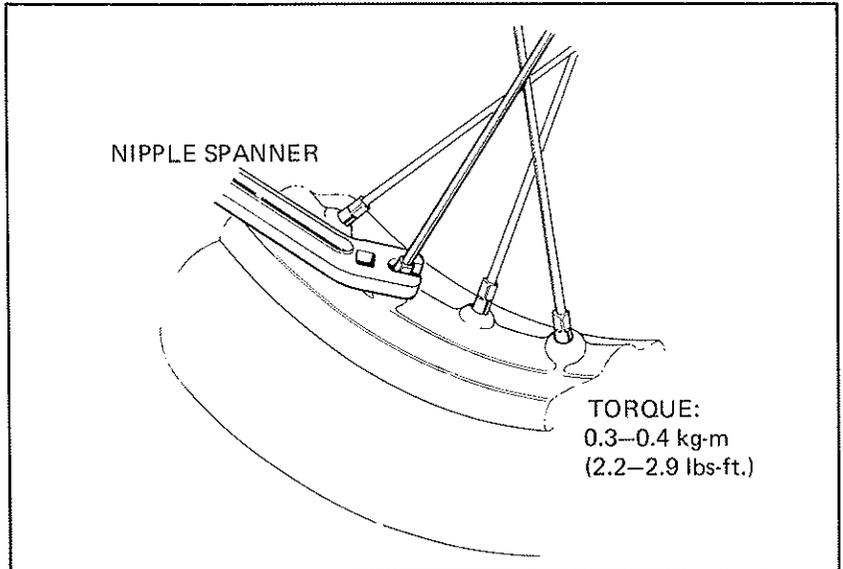
Raise the front wheel off the ground. Check that the handlebar rotates freely.

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).

Cold tire pressures kg/cm ² (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.)

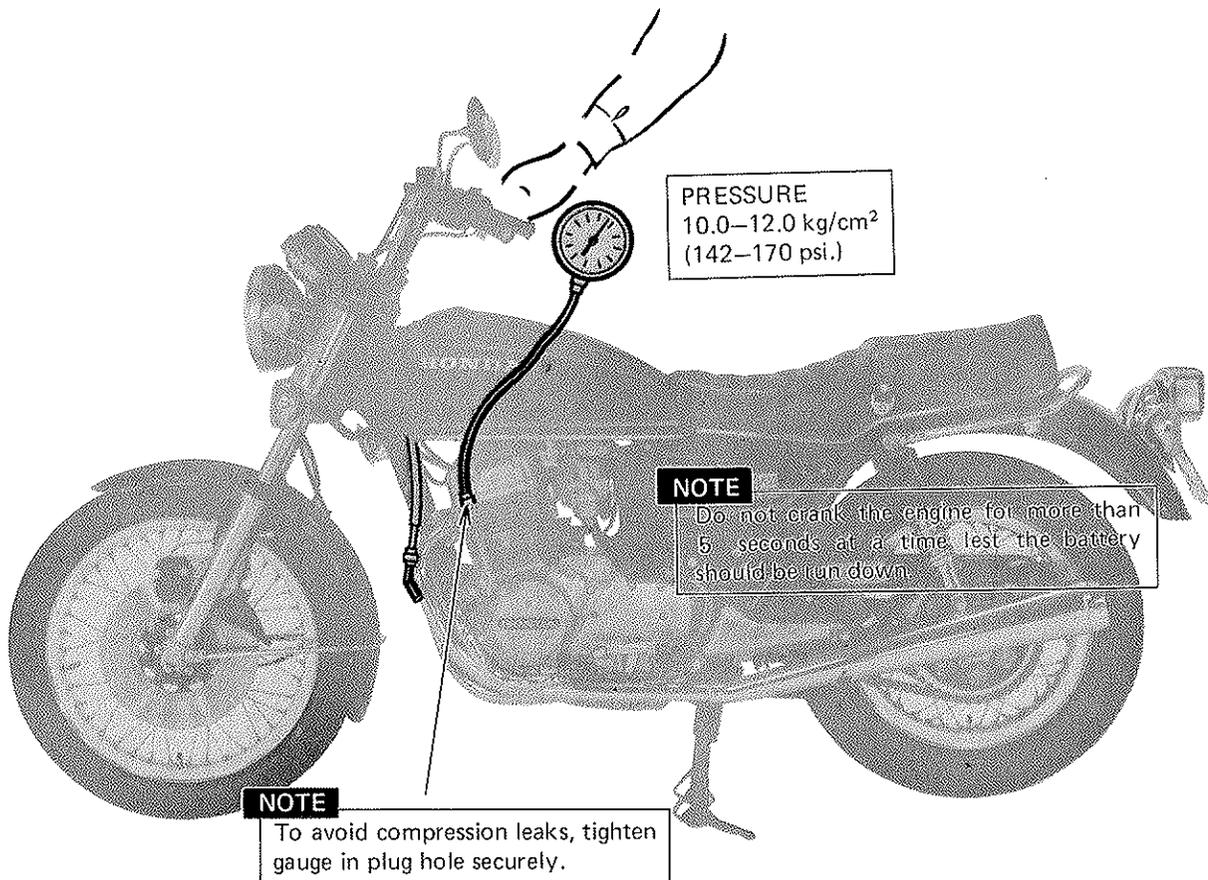
[] : '76 model





● **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.



HONDA CB750A

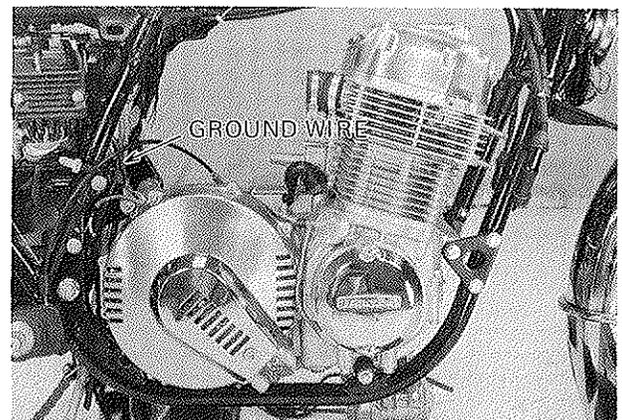
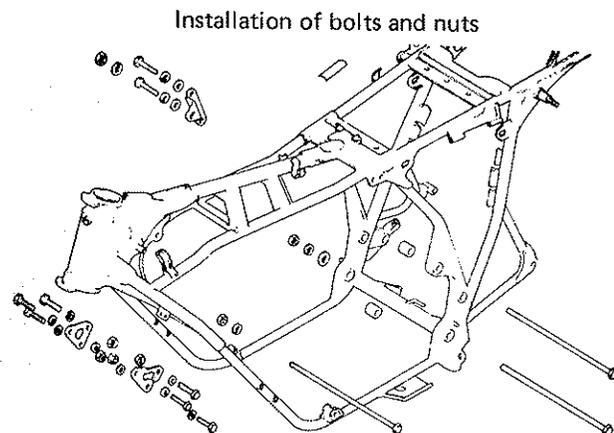
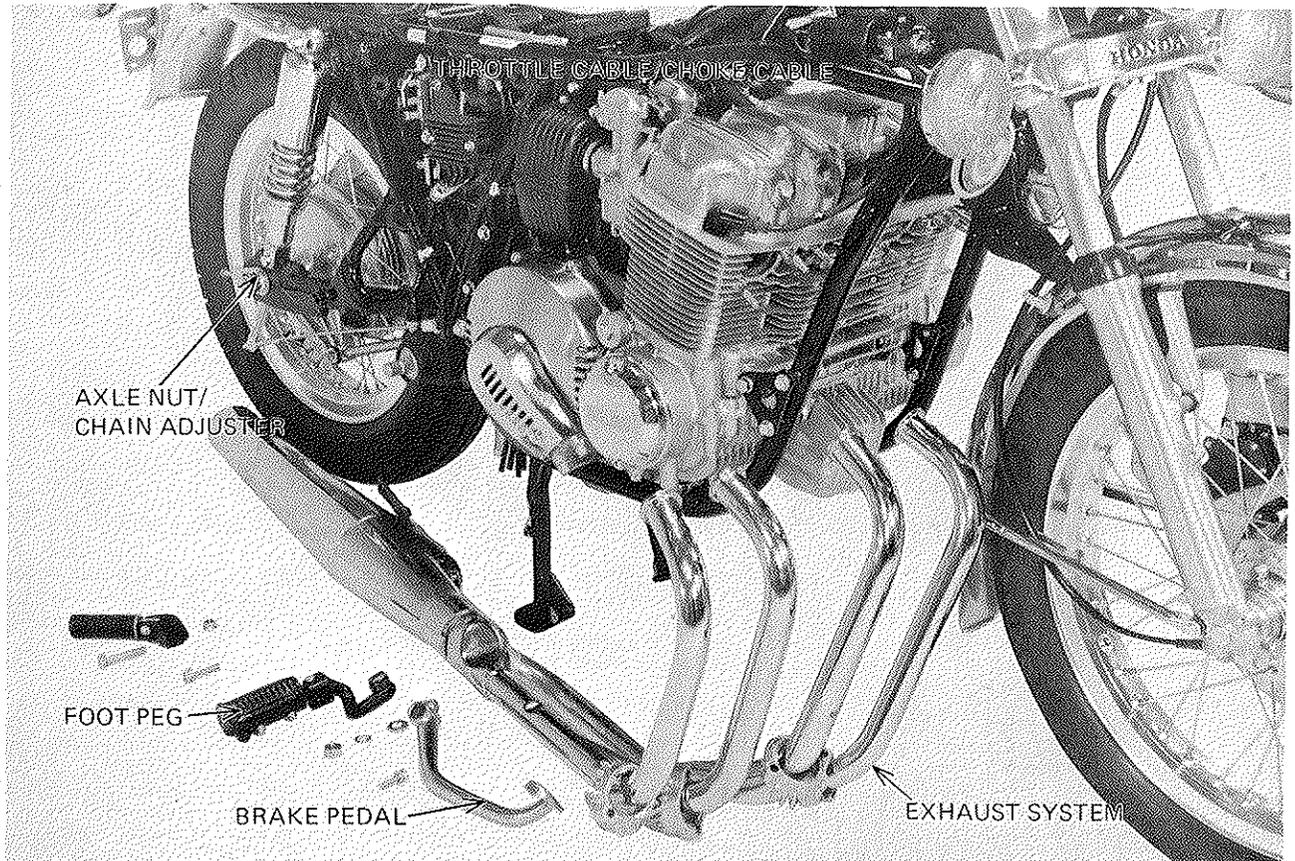
5. ENGINE REMOVAL/ INSTALLTION

('76 model)

- (1) Drain the oil.
- (2) Remove the fuel tank.
- (3) Remove the oil filter element.
- (4) Remove the oil pan/oil strainer.
- (5) Loosen the rear axle nut to loosen the drive chain.

Remove the Right Side

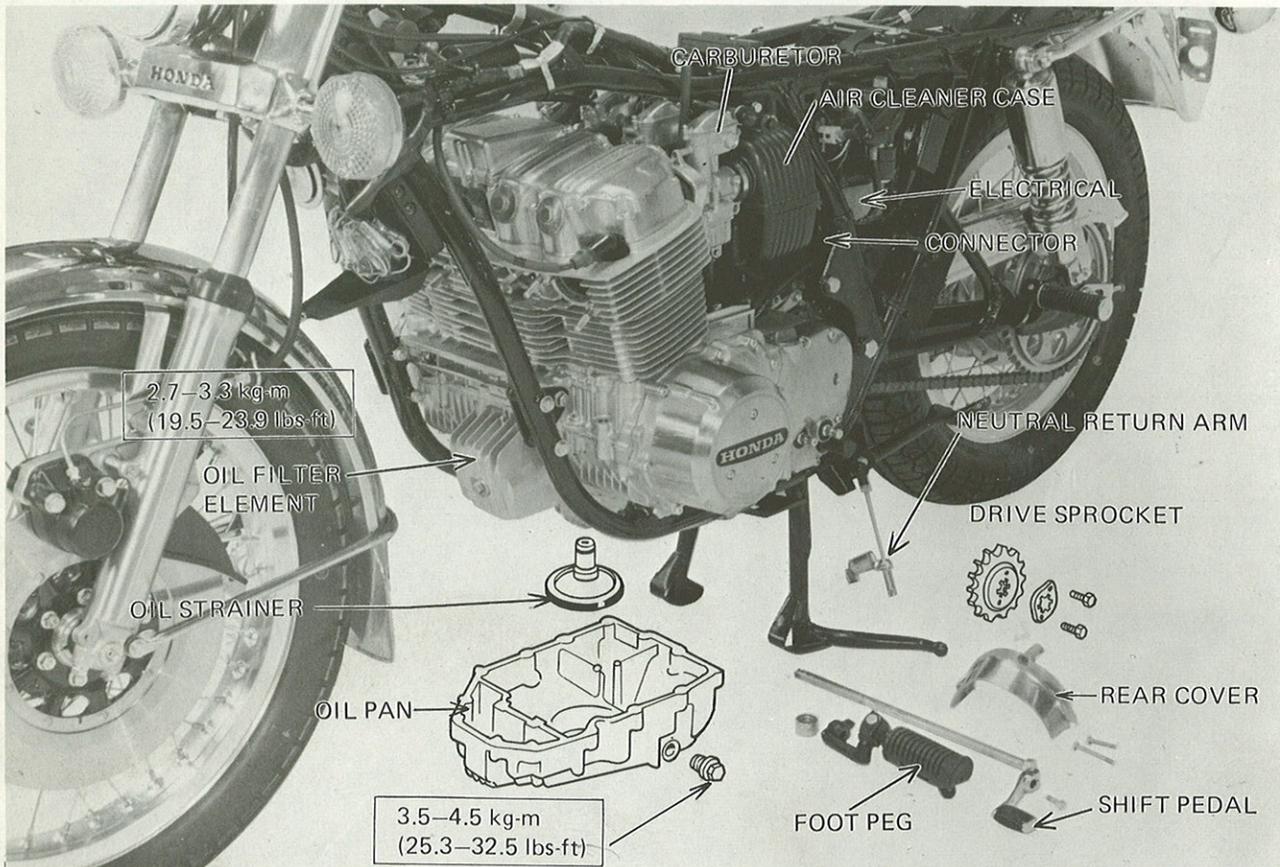
- FOOT PEG
- EXHAUST SYSTEM
- SIDE COVER
- WIRE CONNECTORS




ENGINE REMOVAL/INSTALLATION
Remove the Left Side

- NEUTRAL RETURN ARM
- SHIFT PEDAL
- DRIVE CHAIN COVER
- DRIVE SPROCKET
- A.C.G. COUPLER/WIRE CONNECTORS

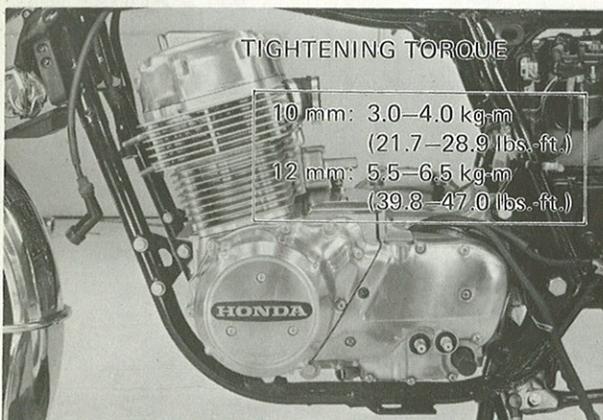
- (6) Remove the air cleaner.
- (7) Remove the carburetor.
- (8) Disconnect the high tension wires.
- (9) Remove the engine from the right side.


CAUTION

Engine oil is a major factor affecting the performance and service life of the engine. Use only specified motor oil. Do not use ATF.

INSPECTION/ADJUSTMENT AFTER ENGINE INSTALLATION

1. OIL LEVEL/LEAKAGE
2. WIRE/CABLE ROUTING
3. INDICATOR LIGHTS
4. DRIVE CHAIN TENSION
15–25 mm (5/8–1 in.)
5. NEUTRAL RETURN ARM OPERATION (See page 4–22)





HONDA CB750A

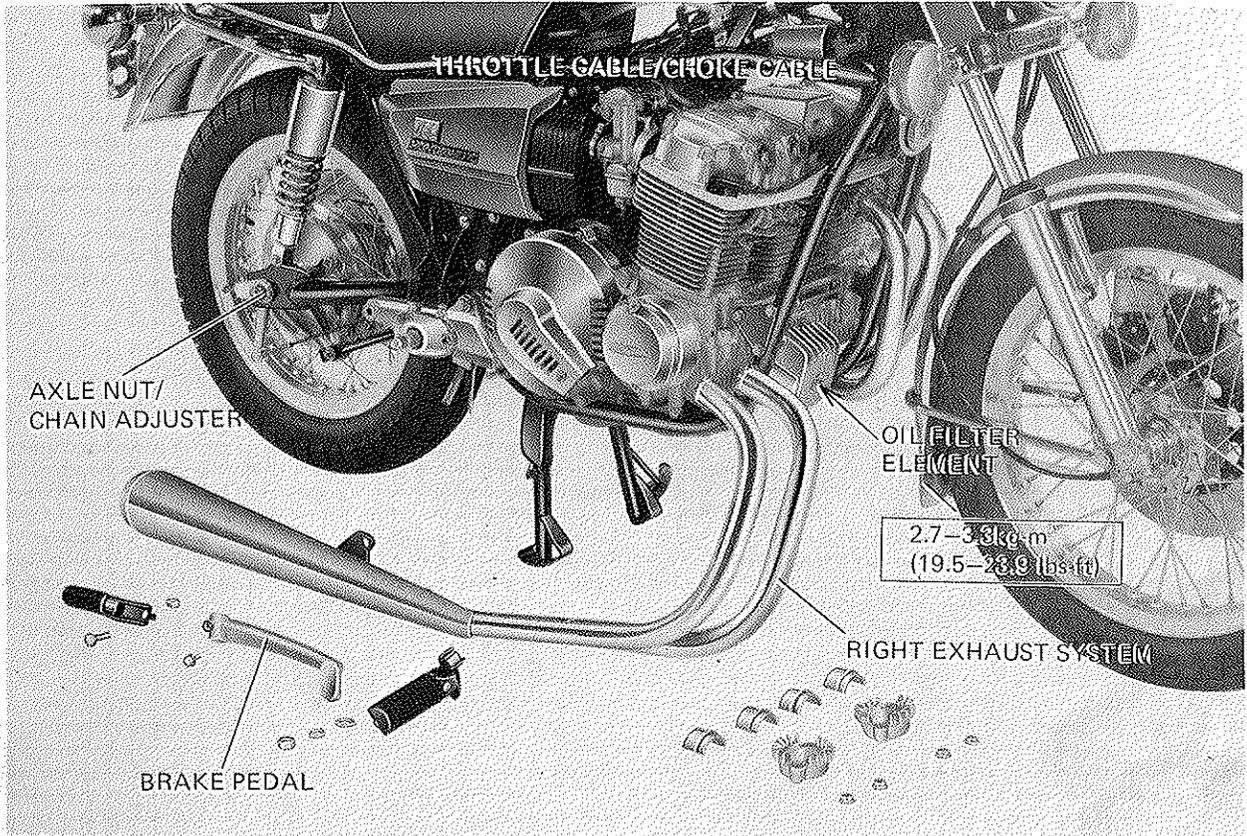
ENGINE REMOVAL/INSTALLATION

('77 and '78 models)

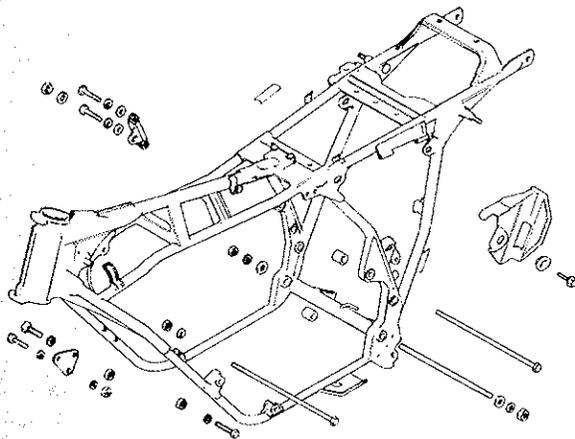
- (1) Drain the oil.
- (2) Remove the fuel tank.
- (3) Remove the oil filter element.
- (4) Remove the oil pan/oil strainer.
- (5) Loosen the rear axle nut to loosen the drive chain.

Remove the Right Side

- FOOT PEG
- EXHAUST SYSTEM
- SIDE COVER
- WIRE CONNECTORS
- REAR BRAKE PEDAL



Installation of bolts and nuts

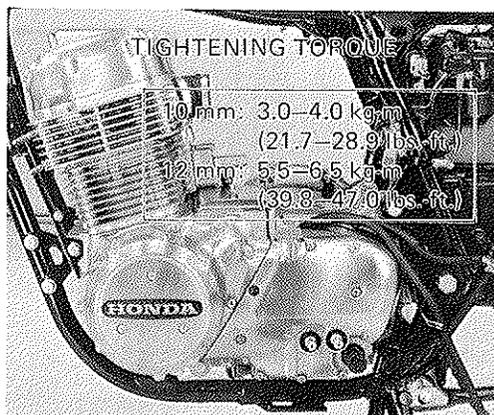
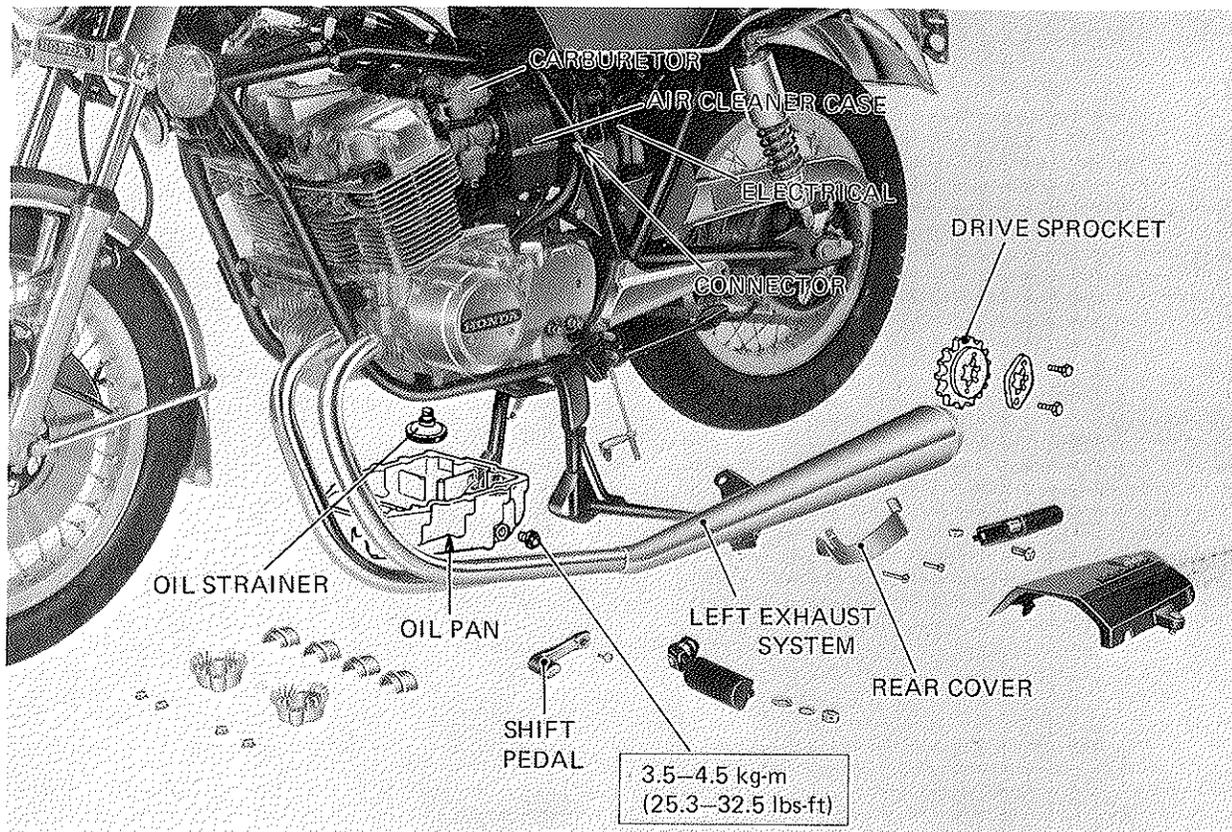



ENGINE REMOVAL/INSTALLATION

Remove the Left Side

- NEUTRAL RETURN ARM
- SHIFT PEDAL
- DRIVE CHAIN COVER
- DRIVE SPROCKET
- A.C.G. COUPLER/WIRE CONNECTORS
- EXHAUST SYSTEM

- (6) Remove the air cleaner.
- (7) Remove the carburetor.
- (8) Disconnect the high tension wires.
- (9) Remove the engine from the right side.


CAUTION

Engine oil is a major factor affecting the performance and service life of the engine. Use only specified motor oil. Do not use ATF.

INSPECTION/ADJUSTMENT AFTER ENGINE MOUNTING

1. OIL LEVEL/LEAKAGE
2. WIRE/CABLE ROUTING
3. INDICATOR LIGHTS
4. DRIVE CHAIN TENSION
15-25 mm (5/8-1 in.)
5. NEUTRAL RETURN ARM OPERATION (See page 4-22)



6. CYLINDER HEAD/ VALVE MECHANISM

SERVICE INFORMATION	6-1	● VALVE/VALVE GUIDE	6-6
TROUBLESHOOTING	6-1	● DRIVING OUT OF VALVE GUIDE	6-7
DISASSEMBLY/ASSEMBLY	6-2	● DRIVING IN OF VALVE GUIDE	6-7
● CYLINDER HEAD	6-3	● REAMING VALVE GUIDE	6-7
● CAMSHAFT/CAM-SPROCKET/VALVE TIMING ADJUSTMENT	6-4	INSPECTION	6-8
● ROCKER ARM/ROCKER ARM SHAFT	6-5	REPAIR	6-11
		● REFACING VALVE SEAT	6-11

● SERVICE INFORMATION

SPECIFICATIONS

Unit: mm (in.)

Item		Standard	Service Limit
Camshaft O.D. (center)		21.789-21.810 (0.8578-0.8587)	21.74 (0.8559)
Camshaft O.D. (ends)		21.939-21.960 (0.8637-0.8646)	21.89 (0.8618)
Camshaft runout		0.1 (0.004)	-
Cam lift	IN	35.314 (1.3903)	35.24 (1.3874)
	EX	34.893 (1.3737)	34.82 (1.3709)
Camshaft holder I.D.		22.02-22.041 (0.8669-0.8678)	22.10 (0.870)
Rocker arm I.D.		12.00-12.018 (0.4724-0.4731)	12.05 (0.4744)
Rocker arm shaft O.D.		11.966-11.984 (0.4711-0.4718)	11.94 (0.4701)
Valve-to-guide clearance	IN	0.01-0.03 (0.0004-0.0012)	0.08 (0.0031)
	EX	0.04-0.06 (0.0016-0.0024)	0.1 (0.004)
Valve spring free length	INNER	38.1 (1.500)	37.0 (1.457)
	OUTER	41.2 (1.622)	40.0 (1.575)
Cylinder head gasket surface warpage		0.05 (0.002)	0.1 (0.004)
Valve guide I.D.		6.60-6.62 (0.2598-0.2606)	6.65 (0.2618)
Valve stem O.D.	EX	6.55-6.56 (0.2579-0.2583)	6.52 (0.2567)
	IN	6.58-6.59 (0.2591-0.2595)	6.55 (0.2579)

TORQUE VALUES

Cylinder head (8 mm)	2.0-2.5 kg-m (14.5-18.1 lbs-ft)
Cam sprocket fixing bolt	1.8-2.2 kg-m (13.0-15.9 lbs-ft)
Tappet adjusting lock nut	1.1-1.5 kg-m (8.0-10.8 lbs-ft)
Tappet adjusting hole cap	1.0-1.4 kg-m (7.2-10.1 lbs-ft)
Spark plug	1.2-1.9 kg-m (8.7-13.7 lbs-ft)
Camshaft	2.4-3.0 kg-m (17.4-21.7 lbs-ft)

SPECIAL TOOLS

Tappet adjusting wrench	07908-3230000
Valve guide driver	07942-3000000
Valve spring compressor	07957-3290001
Valve guide reamer	07984-6110000

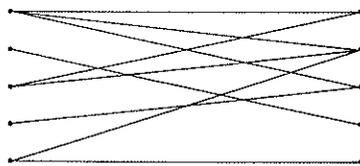
● TROUBLESHOOTING

SYMPTOM

- Compression too low
- Compression too high
- Abnormal noise
- Oil leak
- Engine seized

POSSIBLE CAUSE

- Improper tappet adjustment
- Improper valve mechanism
- Blown cylinder head gasket
- Carbon deposits on cylinder head
- Clogged engine oil circuit





● DISASSEMBLY/ASSEMBLY

- (1) Remove the fuel tank.
- (2) Remove the cam chain tensioner holder.
- (3) Remove the breather/cylinder head cover.



Lubricate all parts with
oil before reassembly.

- (4) ROCKER ARM/SHAFT
Disassembly/Assembly,
Page 6-5.

1.8-2.2 kg-m
(13.0-15.9 lbs.-ft.)

- (5) CAMSHAFT/CAM SPROCKET
Assembly, Page 6-4.

CAMSHAFT HOLDER

2.0-2.5 kg-m
(14.5-18.1 lbs.-ft.)

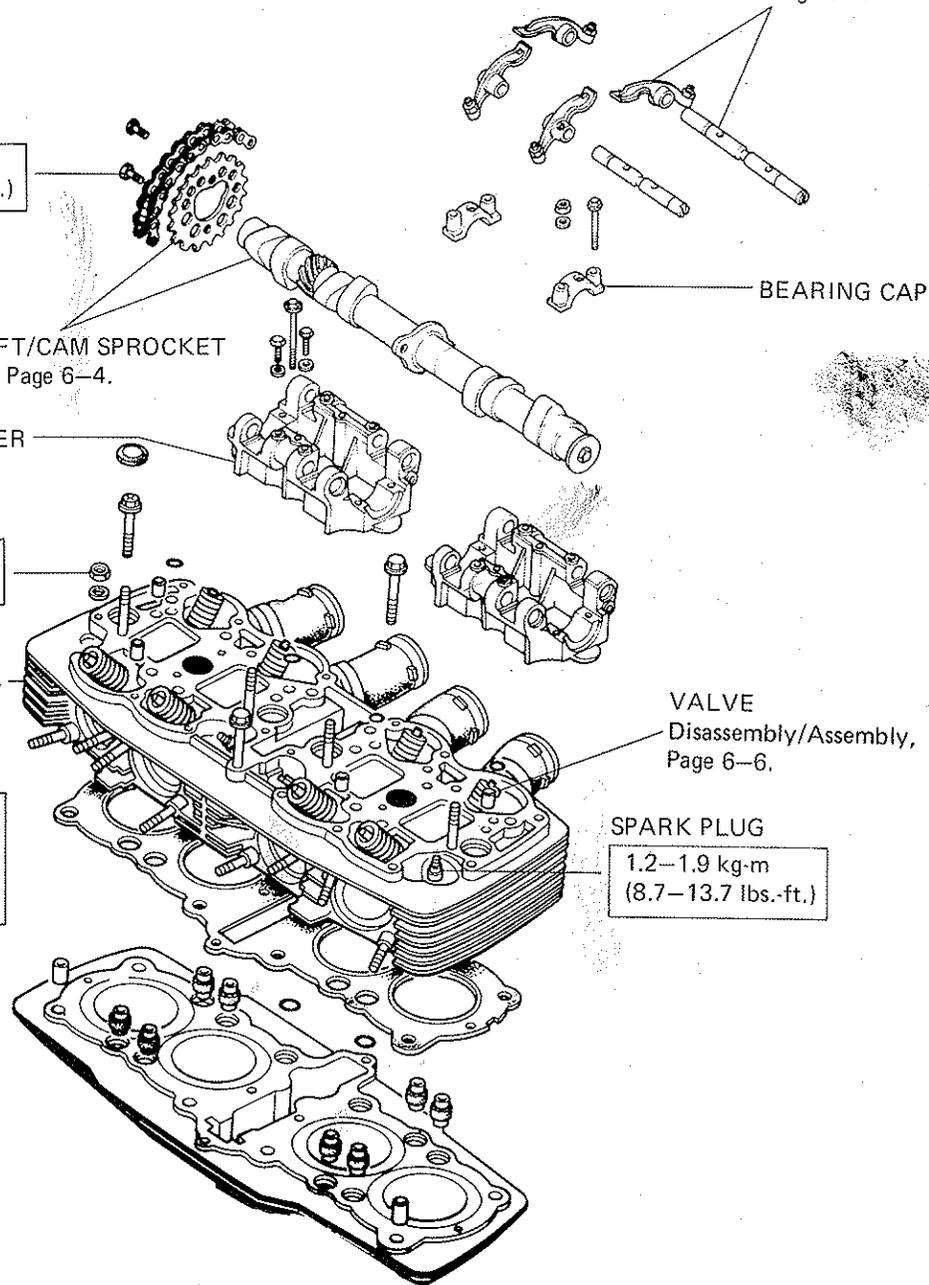
- (6) CYLINDER HEAD ASSY.
Disassembly/Assembly,
Page 6-3.

NOTE

Prior to removing cylinder head, the carburetors and exhaust system must be removed.

VALVE
Disassembly/Assembly,
Page 6-6.

SPARK PLUG
1.2-1.9 kg-m
(8.7-13.7 lbs.-ft.)

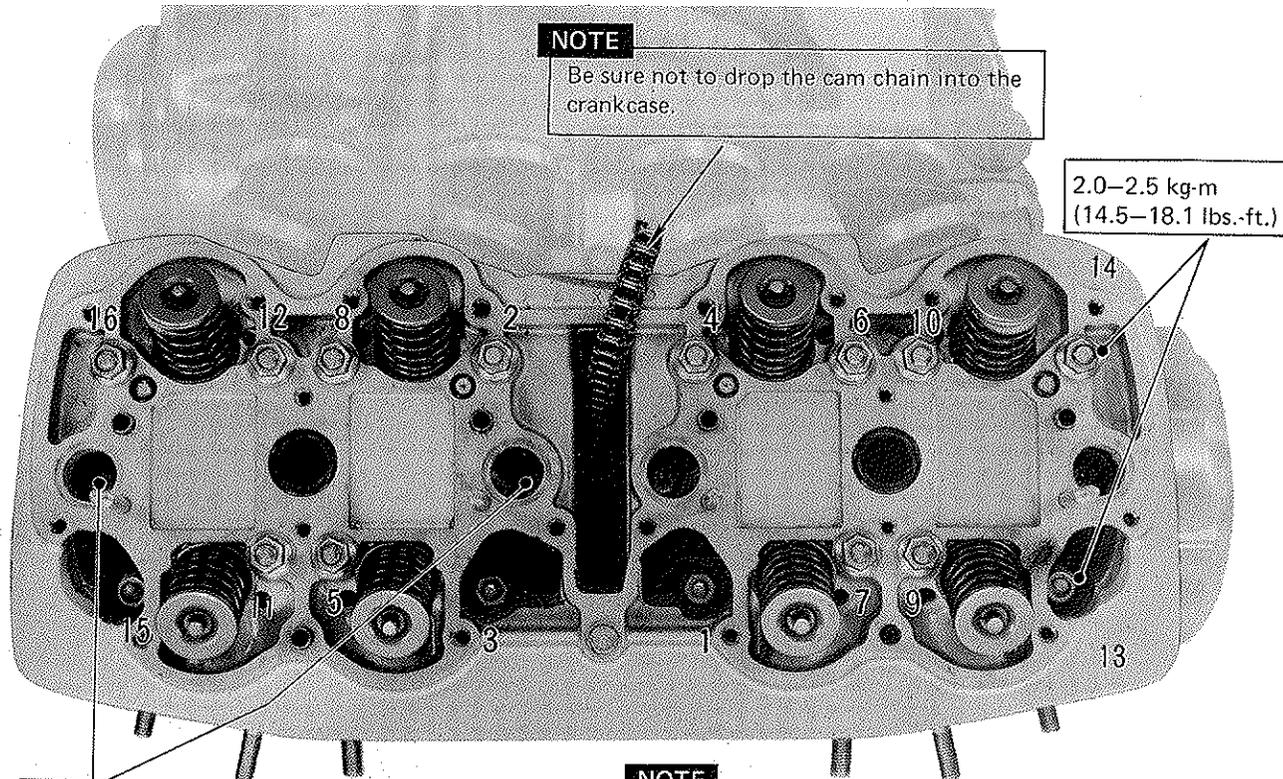


After assembling, inspect the following items and adjust if necessary:

- Tappet clearance Page 4- 7
- Cam chain tension Page 4-10



• CYLINDER HEAD



NOTE

Be sure not to drop the cam chain into the crankcase.

2.0–2.5 kg-m
(14.5–18.1 lbs.-ft.)

NOTE

Disassembly:

Bolts are located behind the caps.

Assembly:

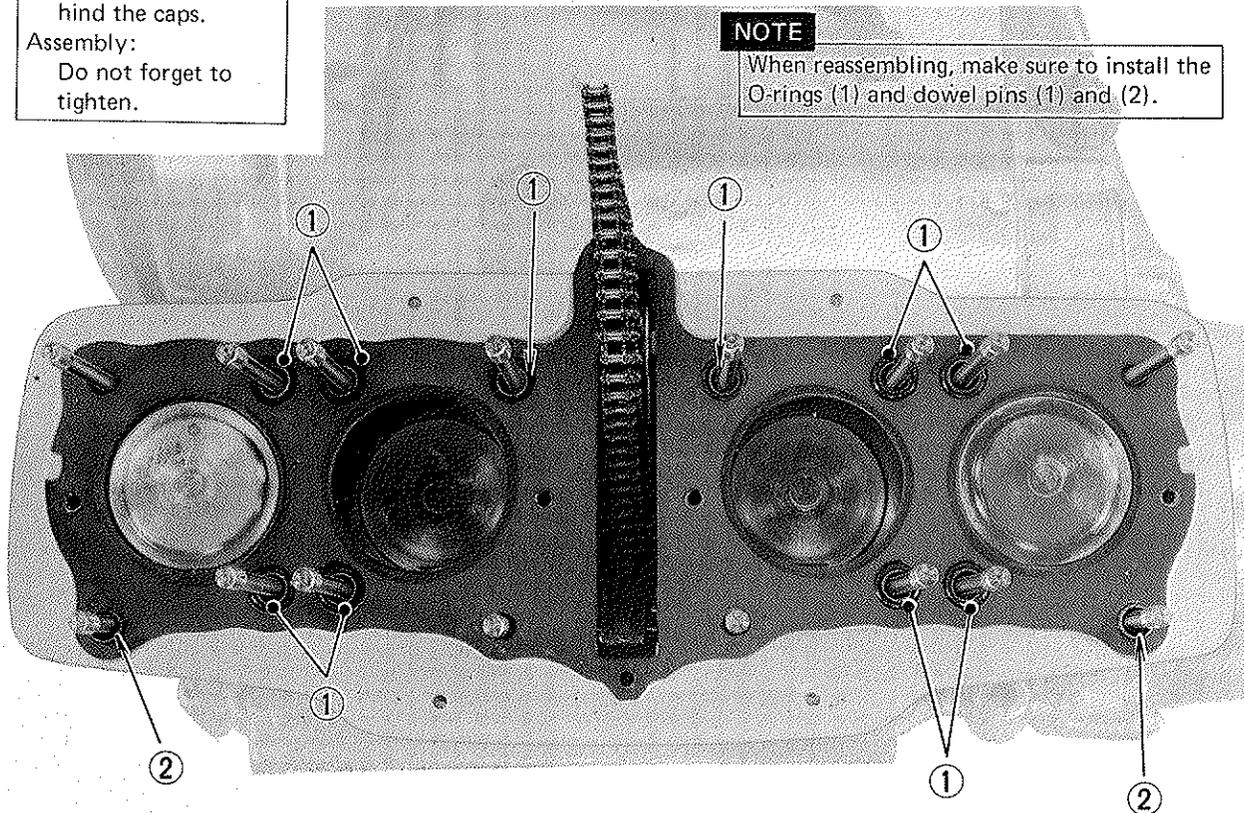
Do not forget to tighten.

NOTE

Tighten in the order of (1), (2), (3), - - - -

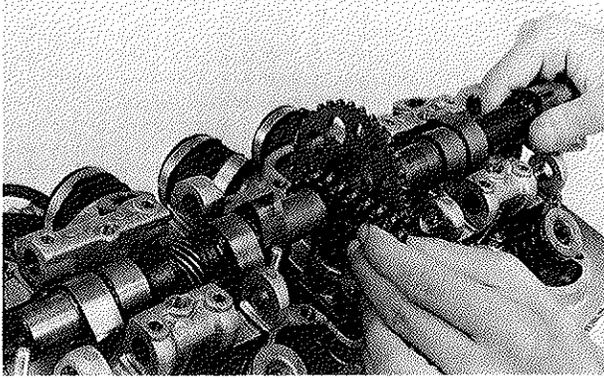
NOTE

When reassembling, make sure to install the O-rings (1) and dowel pins (1) and (2).

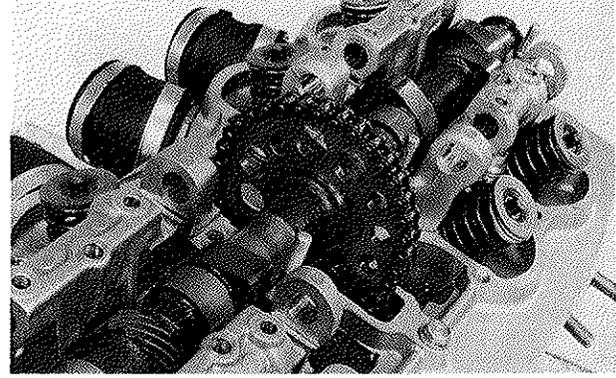




• CAMSHAFT/CAM SPROCKET/VALVE TIMING ADJUSTMENTS

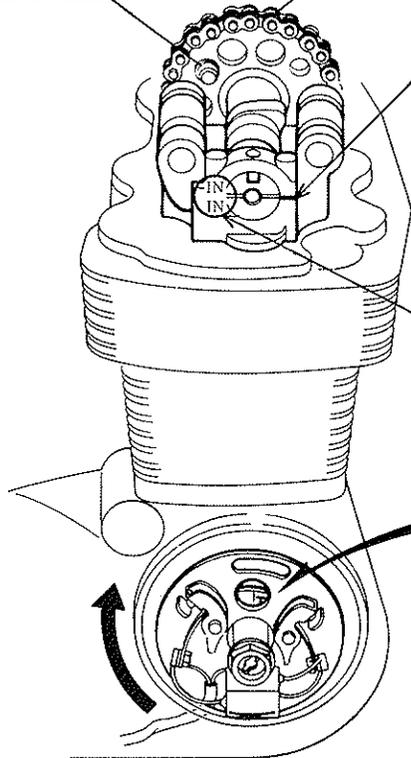


(1) Install the camshaft from the left side of the engine.



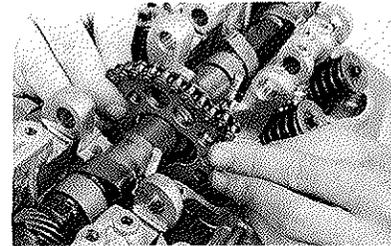
(4) Engage the cam chain with the sprocket and position the sprocket on the camshaft.

1.8–2.2 kg-m
(13.0–15.9 lbs.-ft.)



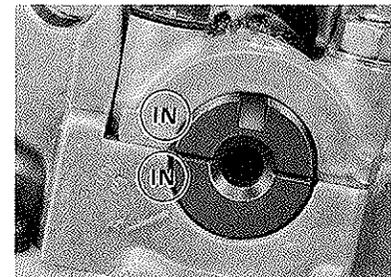
(3) Place the key-way upward. Line up the groove in the camshaft with the camshaft holder mating face.

(2) Align the "1.4 T" mark with the index mark.



(5) If the valve timing is not correct, adjust by changing the chain engagement.

(6) Align the same identification marks.

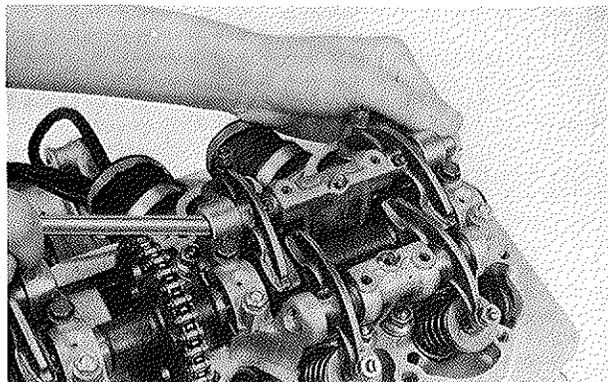


I393652

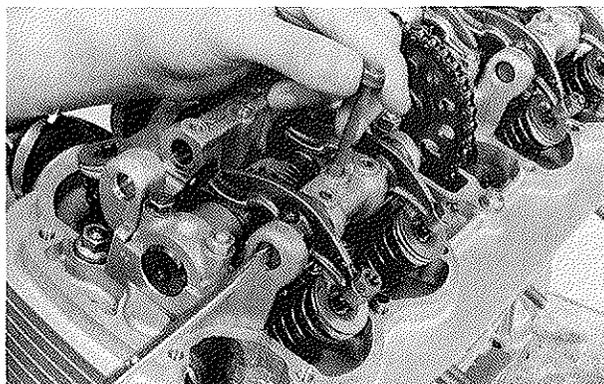


• **ROCKER ARM/ROCKER ARM SHAFT**

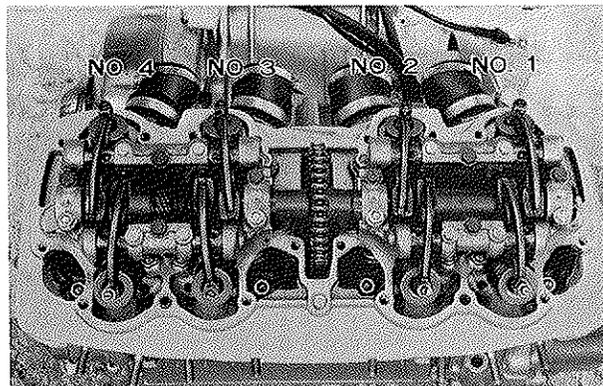
Remove the rocker arm shafts by turning the crankshaft to make each rocker arm free.



When installing the rocker arm shaft, align the bolt holes by turning the rocker arm shaft with a screwdriver.



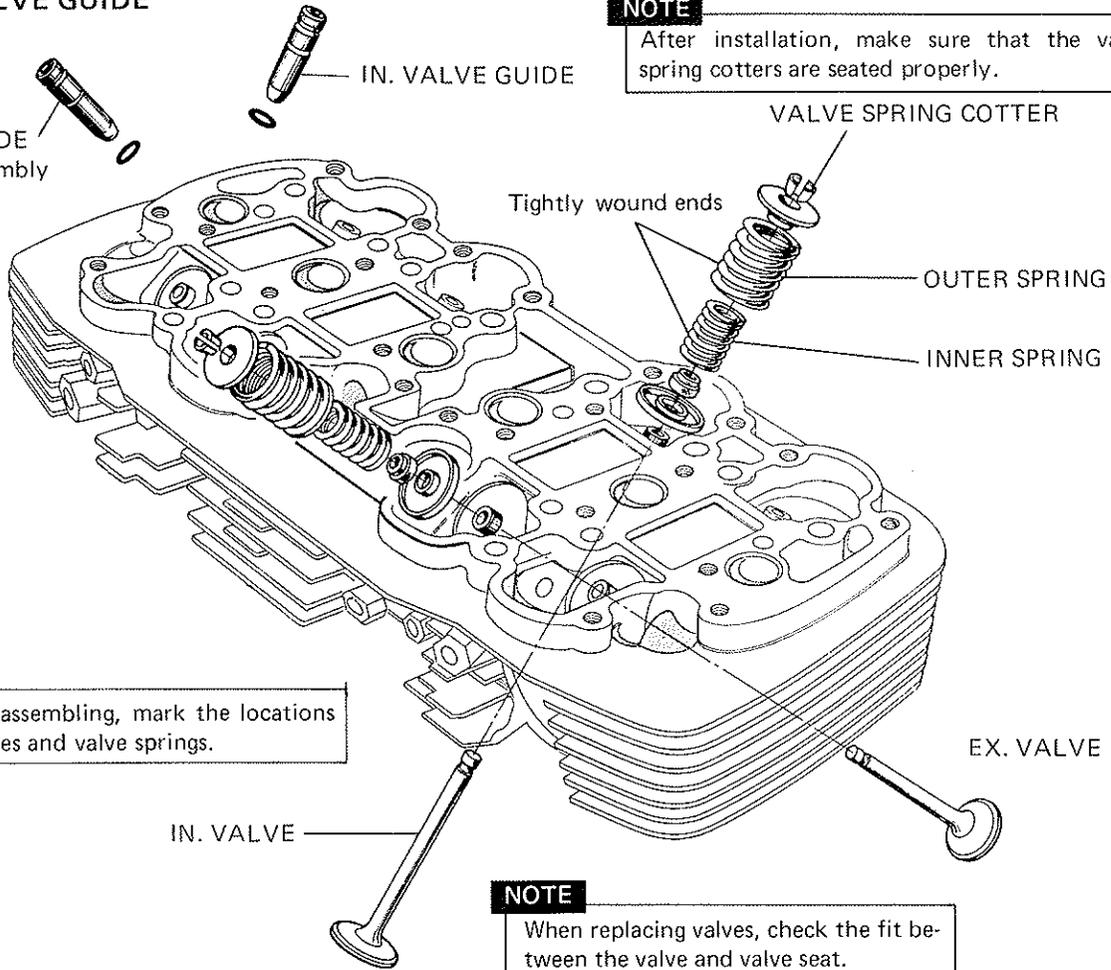
Rocker arms No. 1 and No. 3, and No. 2 and No. 4, are interchangeable.
Do not interchange the arms between these two groups.





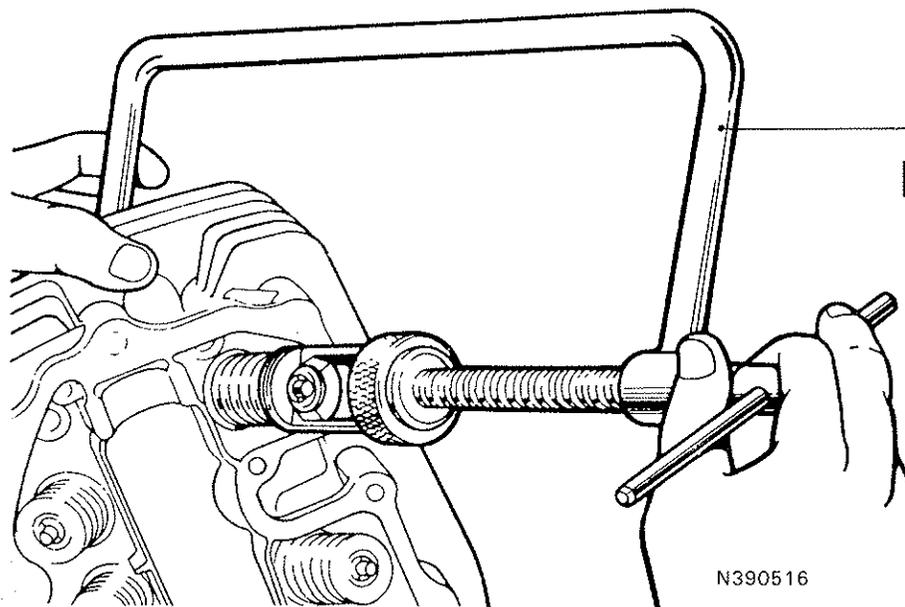
• VALVE/VALVE GUIDE

EX. VALVE GUIDE
Disassembly/Assembly
Page 6-7.



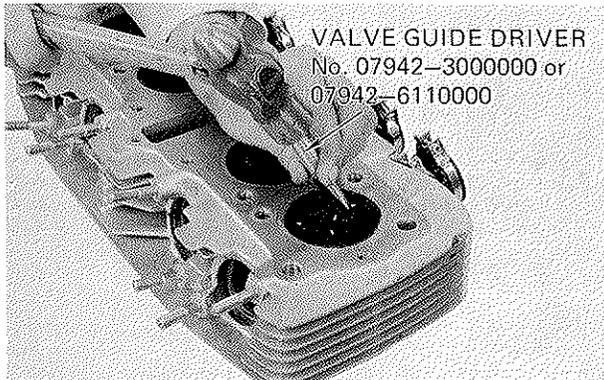
NOTE
Before disassembling, mark the locations of the valves and valve springs.

NOTE
When replacing valves, check the fit between the valve and valve seat.

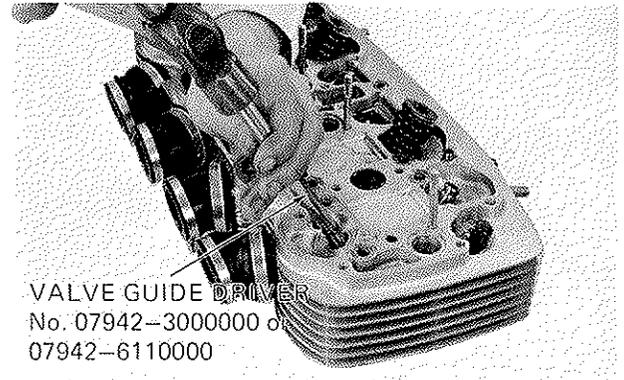




• **DRIVING OUT OF VALVE GUIDE**



• **DRIVING IN OF VALVE GUIDE**



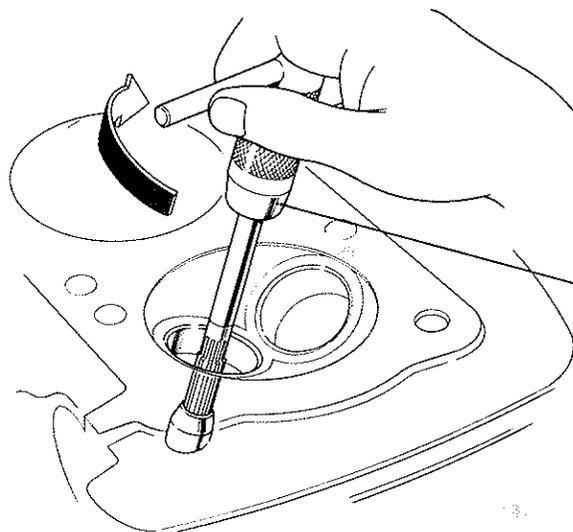
NOTE

- Do not damage the gasket surface of the cylinder head.
- After driving a new valve guide, check for damage.

After the guide is replaced, ream the valve guide I.D. to specification, using a valve guide reamer.

• **REAMING VALVE GUIDE**

- Always turn the valve guide reamer clockwise.
- Check the valve-to-guide clearance (Page 6-10).



VALVE GUIDE REAMER
No. 07984-6110000

STANDARD VALVE GUIDE I.D.

IN/EX: 6.60-6.62 mm (0.2598-0.2606 in.)

P393597

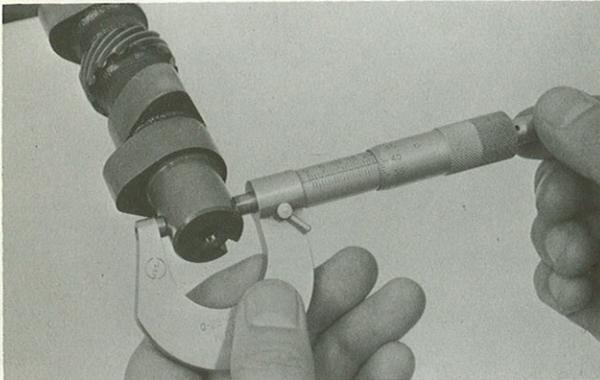
NOTE

After reaming, clean the cylinder head with solvent.



● INSPECTION

● CAMSHAFT O.D.



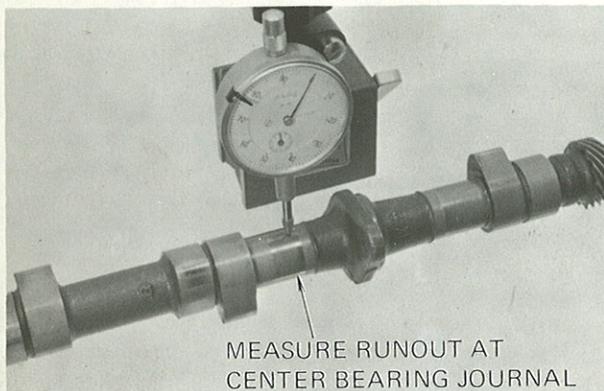
Camshaft ends

21.939–21.960 mm (0.8637–0.8646 in.)
Service Limit: 21.89 mm (0.8628 in.)

Camshaft center

21.789–21.810 mm (0.8578–0.8587 in.)
Service Limit: 21.74 mm (0.8559 in.)

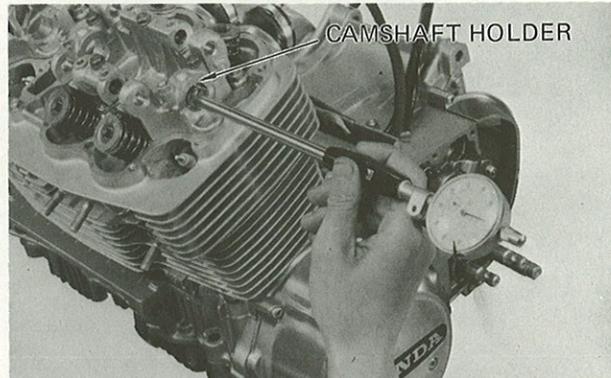
● CAMSHAFT RUNOUT



Measure runout at center bearing journal.

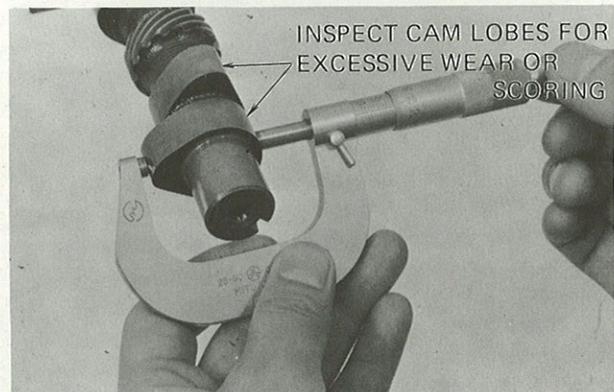
Service Limit: 0.1 mm (0.004 in.)

● CAMSHAFT HOLDER I.D.

Torque the bearing cap bolts.
Measure the bearing I.D.

22.02–22.041 mm (0.8669–0.8678 in.)
Service Limit: 22.10 mm (0.870 in.)

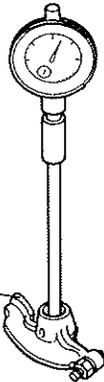
● CAM HEIGHT



Inlet: 35.314 mm (1.3903 in.)
Service Limit: 35.24 mm (1.3874 in.)
Exhaust: 34.893 mm (1.3737 in.)
Service Limit: 34.82 mm (1.3709 in.)



• **ROCKER ARM I.D.**

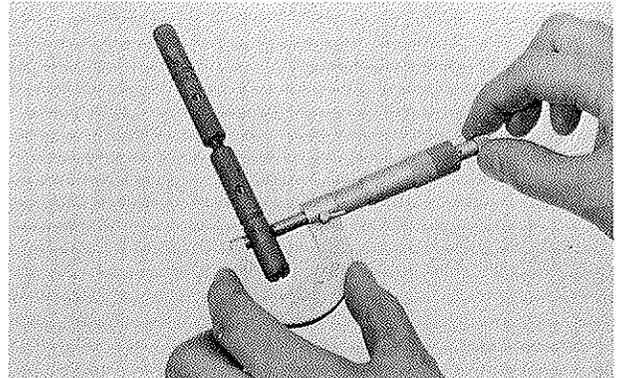


Inspect for excessive wear or scoring

I149557

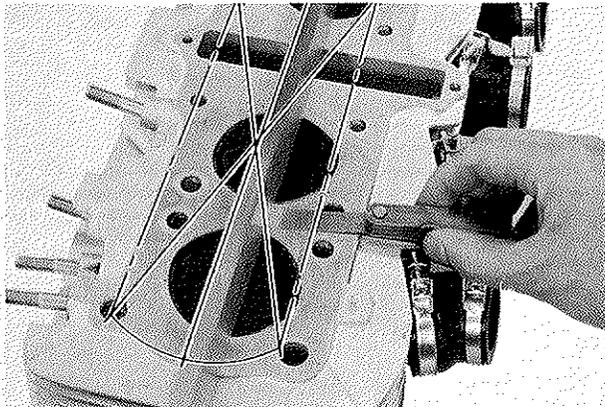
12.00–12.018 mm (0.4724–0.4731 in.)
Service Limit: 12.05 mm (0.4744 in.)

• **ROCKER ARM SHAFT O.D.**



11.966–11.984 mm (0.4711–0.4718 in.)
Service Limit: 11.94 mm (0.4701 in.)

• **CYLINDER HEAD WARPAGE**

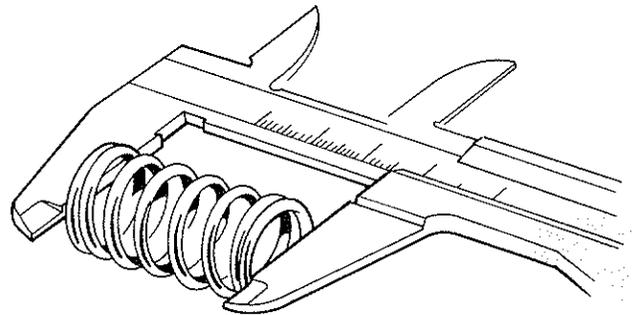


Check for warpage in an X pattern.

0.05 mm (0.002 in.)
Service Limit: 0.1 mm (0.004 in.)

If the service limit is exceeded, lap the cylinder head on a surface plate.

• **VALVE SPRING FREE LENGTH**



I149547

VALVE OUTER SPRING
IN. & EX.

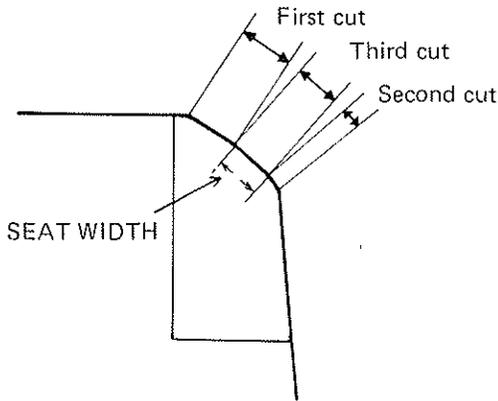
41.2 mm (1.622 in.)
Service Limit: 40.0 mm (1.575 in.)

VALVE INNER SPRING
IN. & EX.

38.1 mm (1.500 in.)
Service Limit: 37.0 mm (1.457 in.)



- VALVE SEAT WIDTH



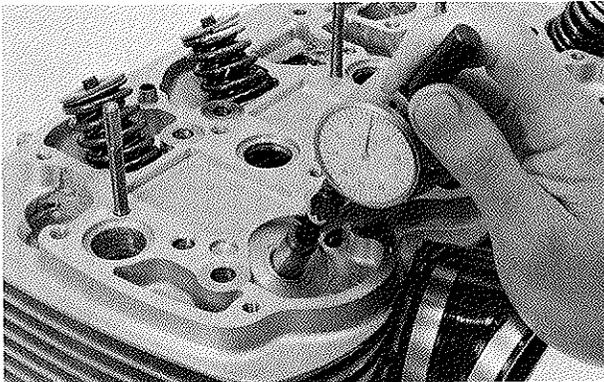
IN. & EX.

1.0 mm (0.039 in.)
Service Limit: 1.5 mm (0.059 in.)

NOTE

If the valve seat contact surface is uneven or exceeds the limit, reface the seat with a valve seat grinder. See page 6-11.

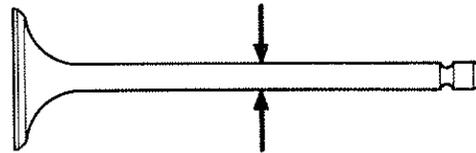
- VALVE GUIDE I.D.



IN. & EX.

6.60–6.62 mm (0.2598–0.2606 in.)
Service Limit: 6.65 mm (0.2618 in.)

- VALVE STEM O.D.



IN.

6.58–6.59 mm (0.2591–0.2595 in.)
Service Limit: 6.55 mm (0.2579 in.)

EX.

6.55–6.56 mm (0.2579–0.2583 in.)
Service Limit: 6.52 mm (0.2567 in.)



● **REPAIR**

● **REFACING VALVE SEAT**

- To determine where the valve contacts the seat, apply a thin coating of Prussian Blue to the seat then put the valve in place.
- If the valve seat is uneven or limits are exceeded, the valve must be replaced and valve seat refaced.

Valve seat width Service Limit (IN. & EX.)	1.5 mm (0.059 in.)
---	--------------------

- (1) Dress the grinding stone with the diamond-tipped dressing tool.
- (2) With the white 45° grinding stone, grind the valve seat until all pits in the seat disappear.

Grinding Stone O.D.	Cutting Angle
IN. (37 mm) EX. (34 mm)	45°

- (3) Narrow the seat with a blue 37.5° stone as shown.

Grinding Stone O.D.	Grinding Angle
IN. (35 mm) EX. (32 mm)	37.5°

- (4) Narrow the valve seat at the bottom using a pink 63.5° stone.

Grinding Stone O.D.	Grinding Angle
IN. (32 mm) EX. (29 mm)	63.5°

- (5) Bring the seat to the correct width and location on the valve face with the 45° stone used in Step (2) above.

NOTE

The grinding stone must be dressed as frequently as possible to insure that the limits are not exceeded.

Valve seat width Standard Limit (IN. & EX.)	1.0 mm (0.039 in.)
--	--------------------

- (6) Apply a small amount of fine grinding compound to the valve face. Lap the two surfaces lightly together by rotating rubber hose or the handle of a lapping tool.

NOTE

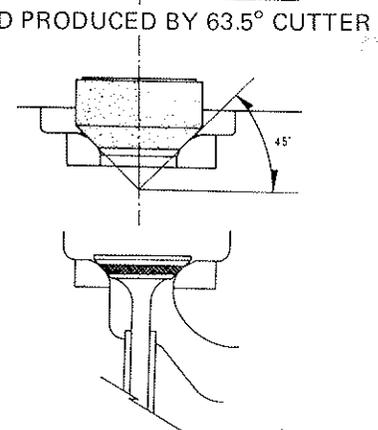
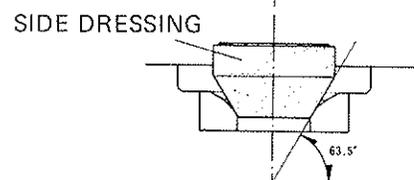
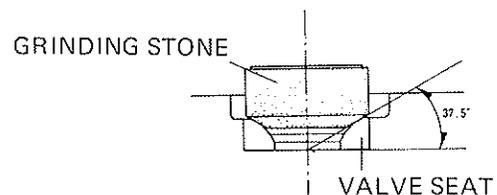
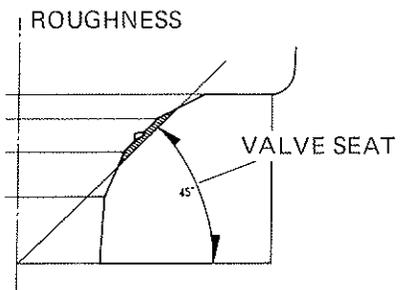
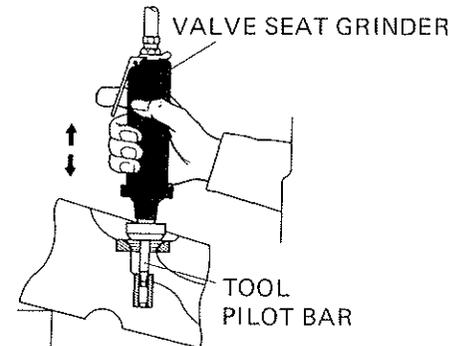
Do not allow the lapping compound to enter the valve guide.

Apply a thin coating of Prussian Blue to the seat and then set the valve in place. The contact is satisfactory if the Prussian Blue is transferred to the center of the seat evenly. Refer to the manual furnished by the refacer manufacturer as for handling of the valve seat grinder.

NOTE

Rotate the valve one full turn with a light pressure.

MOVE UP AND DOWN LIGHTLY



CYLINDER HEAD/
VALVE MECHANISM

HONDA
CB750A





HONDA
CB750A

7. CYLINDER/PISTON

SERVICE INFORMATION	7-1	● PISTON/PISTON RINGS	7-3
TROUBLESHOOTING	7-1	● CYLINDER	7-4
DISASSEMBLY/ ASSEMBLY	7-2	INSPECTION	7-5

● SERVICE INFORMATION

WORKING PRACTICE

All cylinder and piston maintenance and inspection can be accomplished with the engine in the frame. Camshaft lubricating oil is fed to the cylinder head through an orifice in the engine case. Be sure this orifice is not clogged and that the O-ring and dowel pins are in place before installing the cylinder head.

SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
Cylinder bore	61.01-61.02 (2.402-2.4024)	61.1 (2.4055)
Cylinder out of round at bore	0.1 (0.004)	0.15 (0.0059)
Cylinder taper	0.007-0.012 (0.0003-0.0005)	0.05 (0.002)
Difference in I.D. between cylinders	0.02 (0.0008)	0.1 (0.004)
Piston O.D. at skirt	60.965-60.985 (2.4002-2.401)	60.85 (2.3957)
Cylinder to piston clearance	0.025-0.055 (0.001-0.0022)	-
Piston pin bore (piston)	15.000-15.008 (0.5906-0.5909)	15.08 (0.5937)
Piston pin bore (connecting rod small end)	15.016-15.034 (0.5912-0.5919)	15.07 (0.5933)
Piston pin O.D.	14.99-15.000 (0.5902-0.5906)	14.96 (0.5890)
Piston ring side clearance	Top 0.04-0.07 (0.0016-0.0028) Second 0.025-0.055 (0.001-0.0022)	0.18 (0.007) 0.165 (0.0065)
Piston ring thickness	Top 1.170-1.190 (0.0461-0.0469) Second 1.165-1.180 (0.0459-0.0465)	1.120 (0.0441) 1.110 (0.0437)
Piston ring end gap	Top/Second 0.2-0.4 (0.008-0.016)	0.7 (0.028)

SPECIAL TOOLS

- Piston ring compressor 07954-3000000
- Piston base 07958-3000000

● TROUBLESHOOTING

SYMPTOM

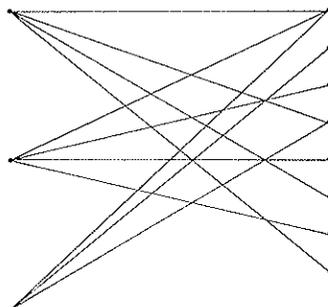
Compression too low
(Poor engine performance)

Piston knock

Smoky exhaust gases

POSSIBLE CAUSE

- Worn cylinder
- Scored or scratched cylinder
- Carbon deposit
- Worn piston rings
- Worn piston
- Seized piston
- Worn piston pin
- Seized piston pin





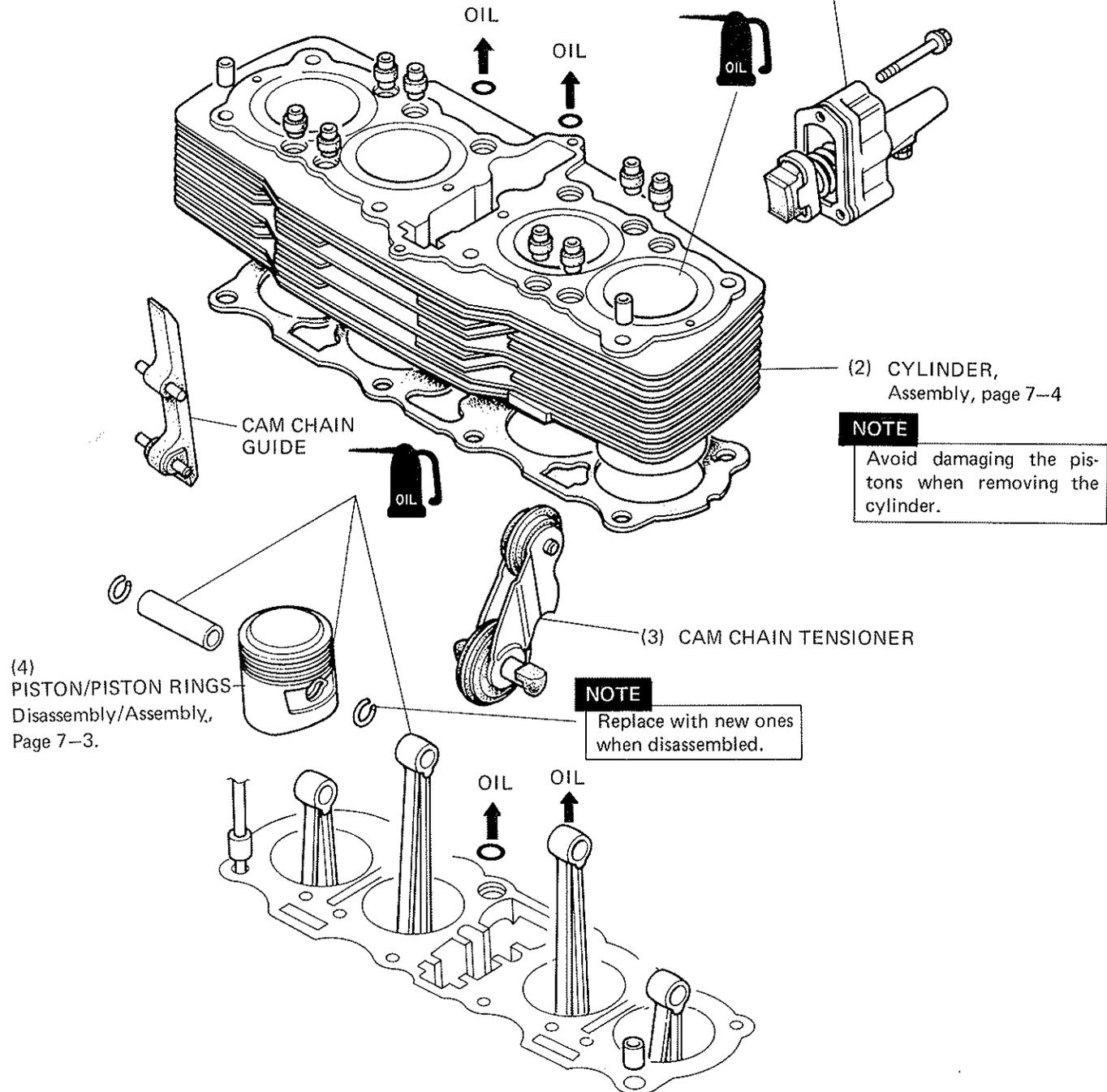
● DISASSEMBLY/ASSEMBLY

(1) Remove the cylinder head. Page 6-3.

CAM CHAIN HOLDER
Adjustment, Page 4-10.

NOTE

Depress the push rod and hold to facilitate assembly.



(2) CYLINDER,
Assembly, page 7-4

NOTE

Avoid damaging the pistons when removing the cylinder.

(3) CAM CHAIN TENSIONER

NOTE

Replace with new ones when disassembled.

(4)
PISTON/PISTON RINGS
Disassembly/Assembly,
Page 7-3.

After assembly, perform the following operations:

- Valve tappet clearance adjustment Page 4-7
- Cam chain tensioner adjustment Page 4-10

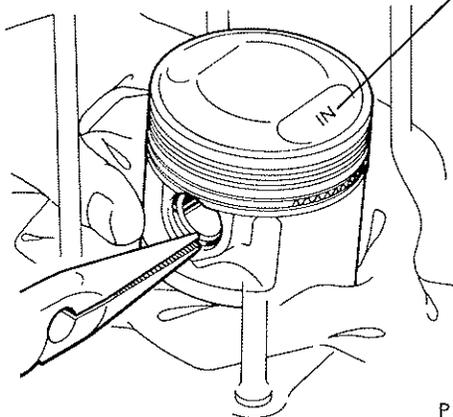


CYLINDER/PISTON

- PISTON/PISTON RINGS
- DISASSEMBLY

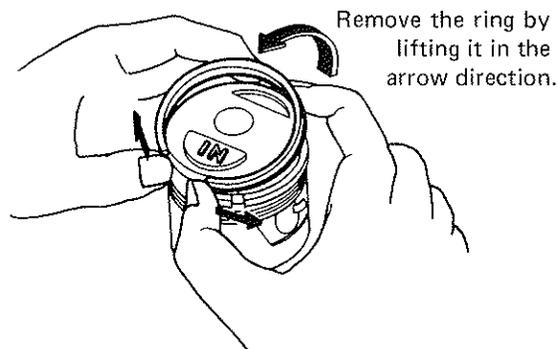
NOTE

Install the piston with the mark "IN" toward the rear.



P149537

Place a shop towel or rag to prevent the clips from falling into the crankcase.



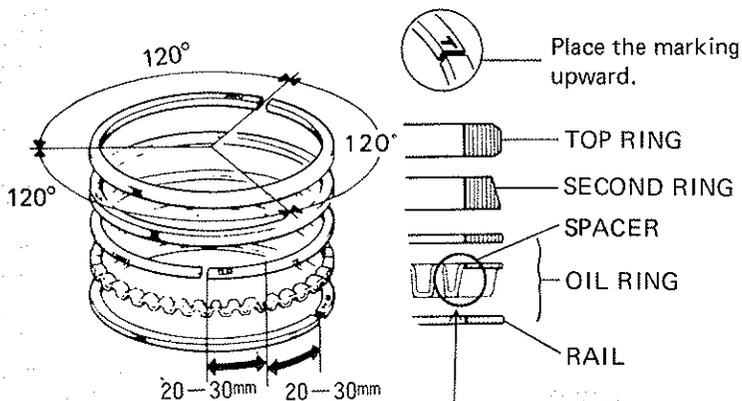
Remove the ring by lifting it in the arrow direction.

NOTE

Do not damage the piston.

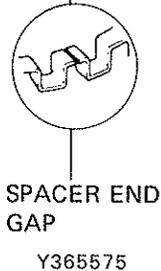
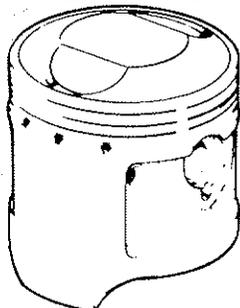
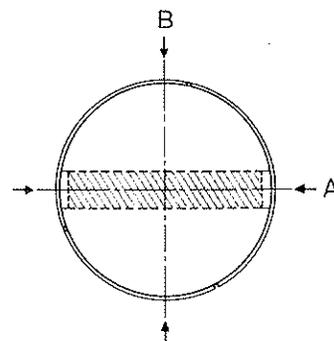
ASSEMBLY

Install the top and second rings with "T", "R" or "N" mark up.

**NOTE**

Avoid piston pin hole and thrust sides.

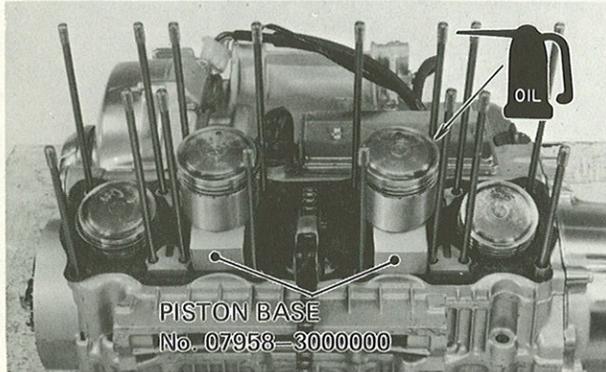
Install the spacer first, then install the rail.

**NOTE**

Check the ring fit in the ring groove by rotating the ring in the groove.



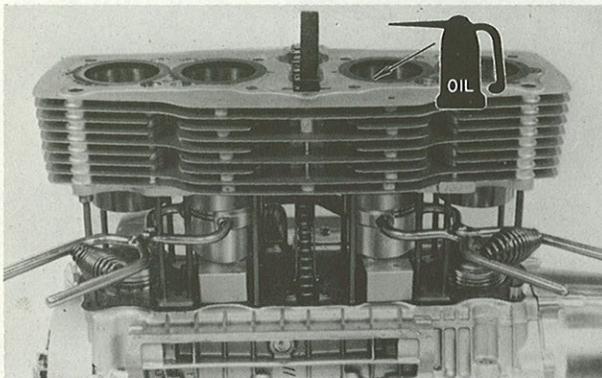
- CYLINDER
- ASSEMBLY



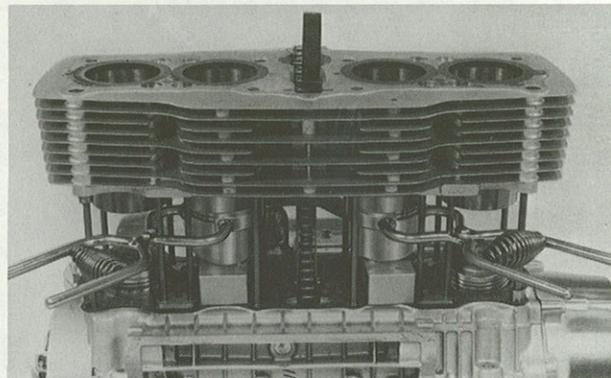
(1) Place the piston bases under the No. 2 and No. 3 pistons.



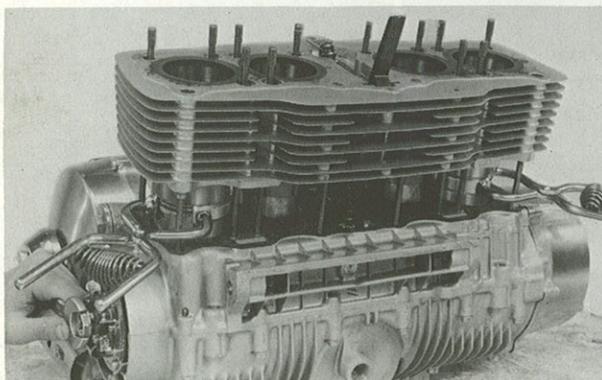
(2) Install the piston ring compressors on the No. 2 and No. 3 piston rings.



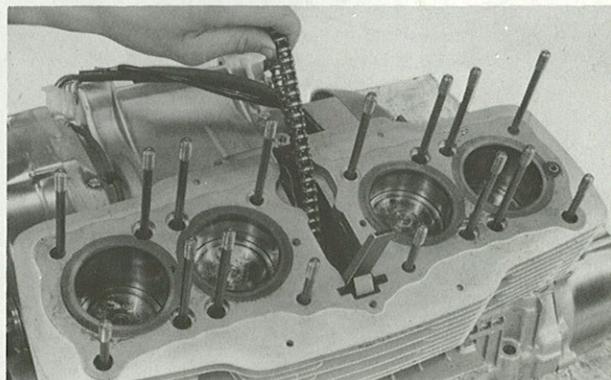
(3) Lower the cylinders over the pistons.



(4) When the pistons have entered the cylinders, remove the compressors.



(5) Insert the No. 1 and No. 4 pistons into the cylinders by rotating the crankshaft carefully. Do not allow the No. 2 and No. 3 piston rings to come out of the cylinders.

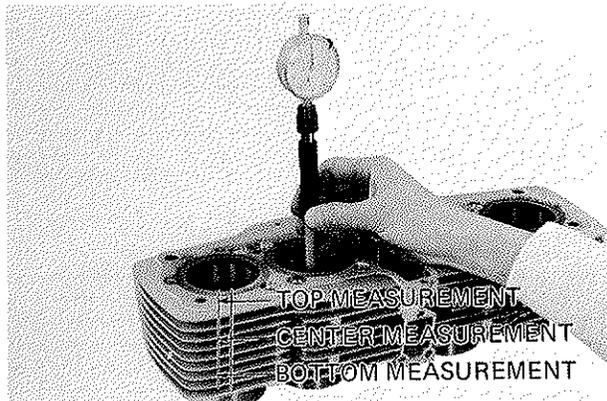


(6) Route the cam chain up through the hole in the cylinder block before the cylinder block rests on the crankcase.



● **INSPECTION**

● **CYLINDER**



CYLINDER BORE

61.01–61.02 mm (2.402–2.4024 in.)
Service Limit: 61.1 mm (2.4055 in.)

TAPER

0.007–0.012 mm (0.0003–0.0005 in.)
Service Limit: 0.05 mm (0.002 in.)

DIFFERENCE IN I.D. BETWEEN CYLINDERS

0.02 mm (0.0008 in.)
Service Limit: 0.1 mm (0.004 in.)

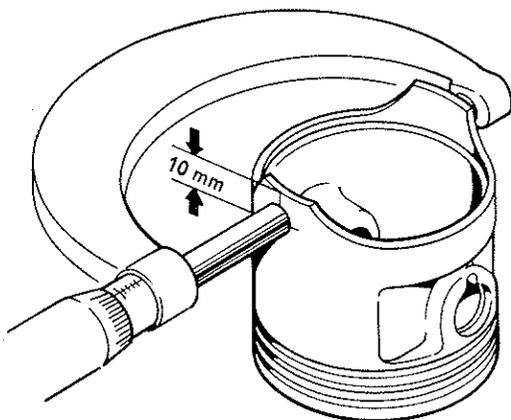
OUT-OF-ROUND

0.1 mm (0.004 in.)
Service Limit: 0.15 mm (0.0059 in.)

CYLINDER-TO-PISTON CLEARANCE

0.025–0.055 mm (0.001–0.0022 in.)

● **PISTON SKIRT O.D.**



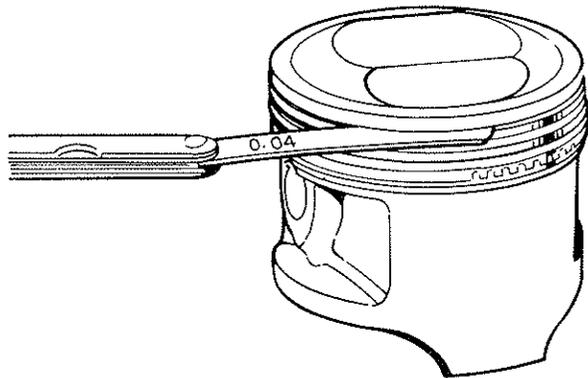
60.965–60.985 mm (2.4002–2.401 in.)
Service Limit: 60.85 mm (2.3957 in.)

NOTE

Four oversize pistons are available:
0.25, 0.50, 0.75 and 1.00 mm.



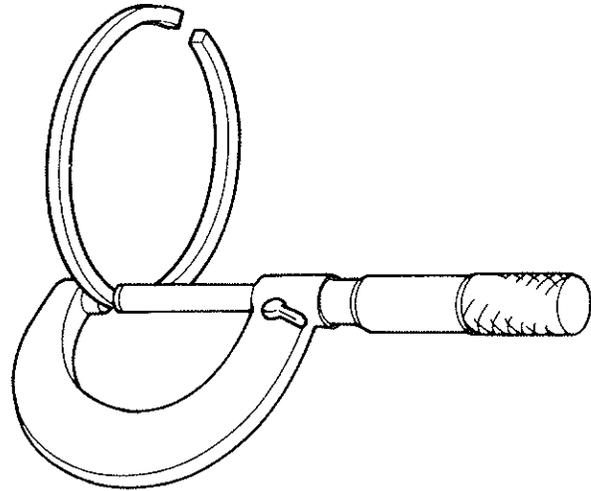
• PISTON RING SIDE CLEARANCE



I149564

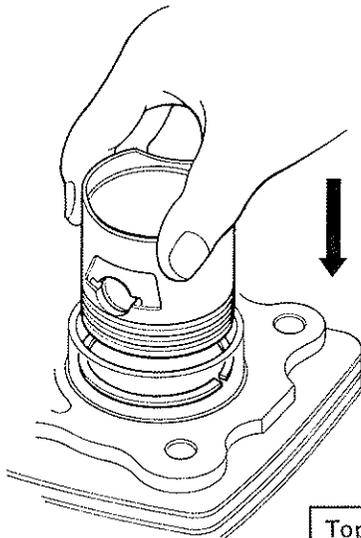
Top: 0.04–0.07 mm (0.0016–0.0028 in.)
 Service Limit: 0.18 mm (0.007 in.)
 2nd: 0.025–0.055 mm (0.001–0.0022 in.)
 Service Limit: 0.165 mm (0.0065 in.)

• PISTON RING THICKNESS

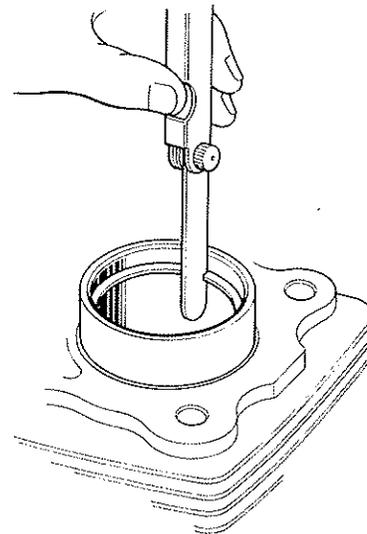


Top: 1.170–1.190 mm (0.0461–0.0469 in.)
 Service Limit: 1.120 mm (0.0441 in.)
 2nd: 1.165–1.180 mm (0.0459–0.0465 in.)
 Service Limit: 1.110 mm (0.0437 in.)

• PISTON RING END GAP



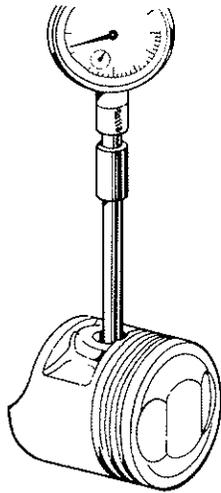
Top & 2nd: 0.2–0.4 mm (0.008–0.016 in.)
 Service Limit: 0.7 mm (0.028 in.)



Four oversize piston rings are available in increments of 0.25 mm from 0.25 mm to 1.00 mm.



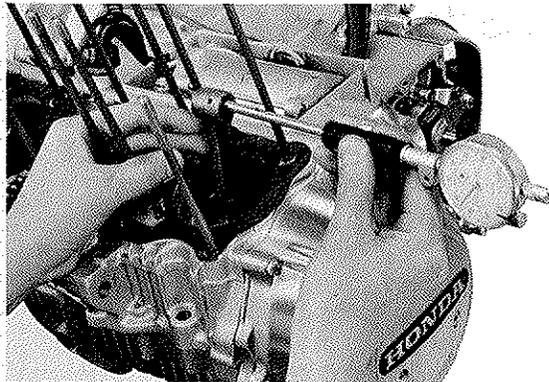
• PISTON PIN HOLE I.D.



15.000–15.008 mm (0.5906–0.5909 in.)
Service Limit: 15.08 mm (0.5937 in.)

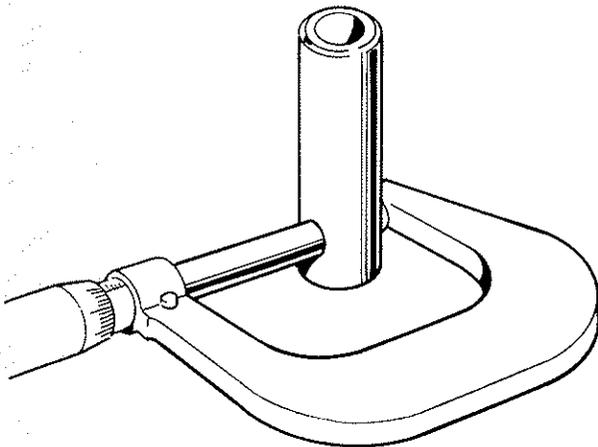
I149565

• CONNECTING ROD SMALL END I.D.



15.016–15.034 mm (0.5912–0.5919 in.)
Service Limit: 15.07 mm (0.5933 in.)

• PISTON PIN O.D.



14.99–15.00 mm (0.5902–0.5906 in.)
Service Limit: 14.96 mm (0.5890 in.)

I149568



CYLINDER/PISTON



8. TORQUE CONVERTER

SERVICE INFORMATION	8-1	INSPECTION	8-5
TROUBLESHOOTING	8-1	TESTING	8-7
DISASSEMBLY/ ASSEMBLY	8-2	● TRANSMISSION OIL PRESSURE TEST	8-7
● TORQUE CONVERTER	8-3	● STALL SPEED TEST	8-8
● STATOR	8-4		

● SERVICE INFORMATION SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
Stator hub O.D.	39.975-39.991 (1.5738-1.5744)	39.9 (1.571)
Stator hub I.D.	26.000-26.033 (1.0236-1.0249)	26.1 (1.028)
Stator side plate thickness	5.95-6.00 (0.2343-0.2362)	5.9 (0.232)
Torque converter bushing I.D.	13.000-13.018 (0.512-0.5125)	13.0 (0.512)
Thrust washer thickness 27 x 54 x 2	1.95-2.05 (0.0768-0.0807)	1.9 (0.075)
Thrust washer thickness 38 x 66 x 2	1.95-2.00 (0.0768-0.0787)	1.9 (0.075)
Bearing cap-to-shaft clearance	0.022-0.060 (0.0009-0.0024)	0.08 (0.003)

TORQUE VALUES

Torque converter turbine fixing bolts 1.2-1.6 kg-m (8.7-11.6 lbs-ft)

SPECIAL TOOLS

Shaft protector A. 07934-3930000
 Bearing driver 07945-3710101
 Converter puller 07934-5790100

● TROUBLESHOOTING

SYMPTOM

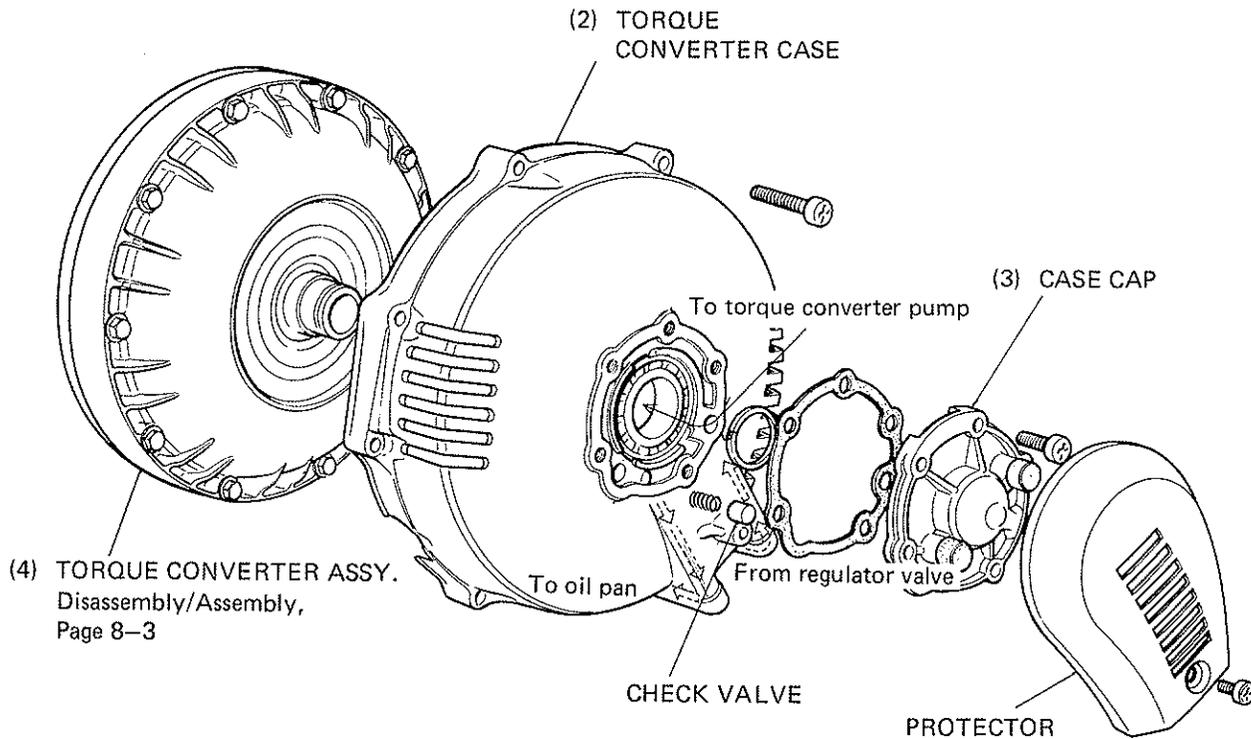
POSSIBLE CAUSE

Engine runs, but motorcycle will not start	-----	Turbine center boss loose
Stall speed too low	-----	Worn or slipping one-way clutch
Poor acceleration at high speed	-----	Burnt or seized one-way clutch
Poor acceleration at start in "L (or 1)" and "D (or 2)"	-----	Sticky check valve or weak check valve spring



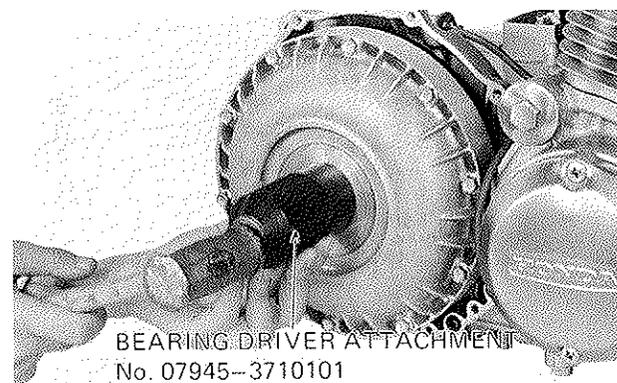
● DISASSEMBLY/ASSEMBLY

(1) Remove the foot peg and brake pedal.



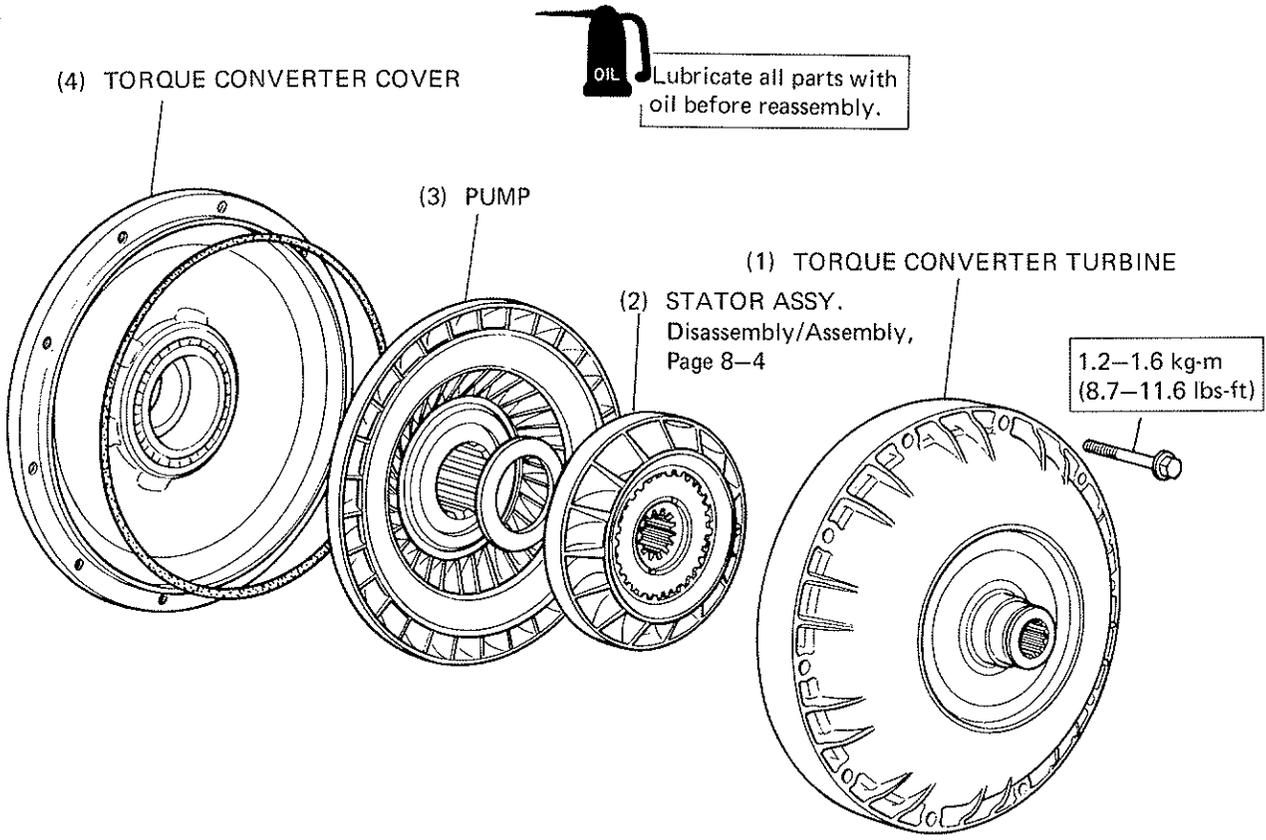
C393545

● TORQUE CONVERTER REMOVAL

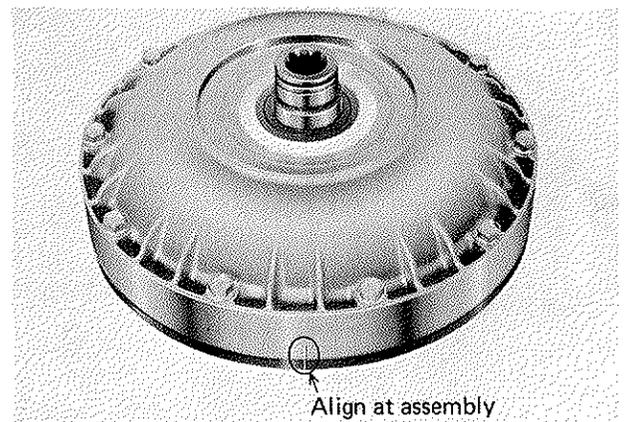
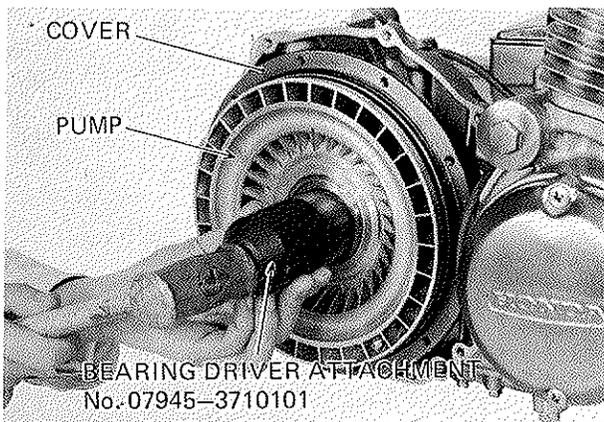




• TORQUE CONVERTER

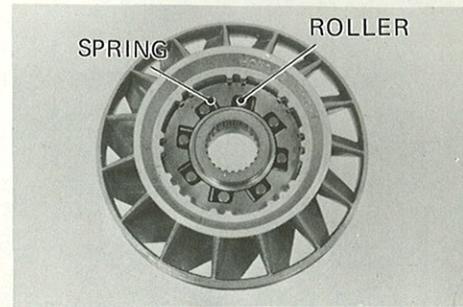
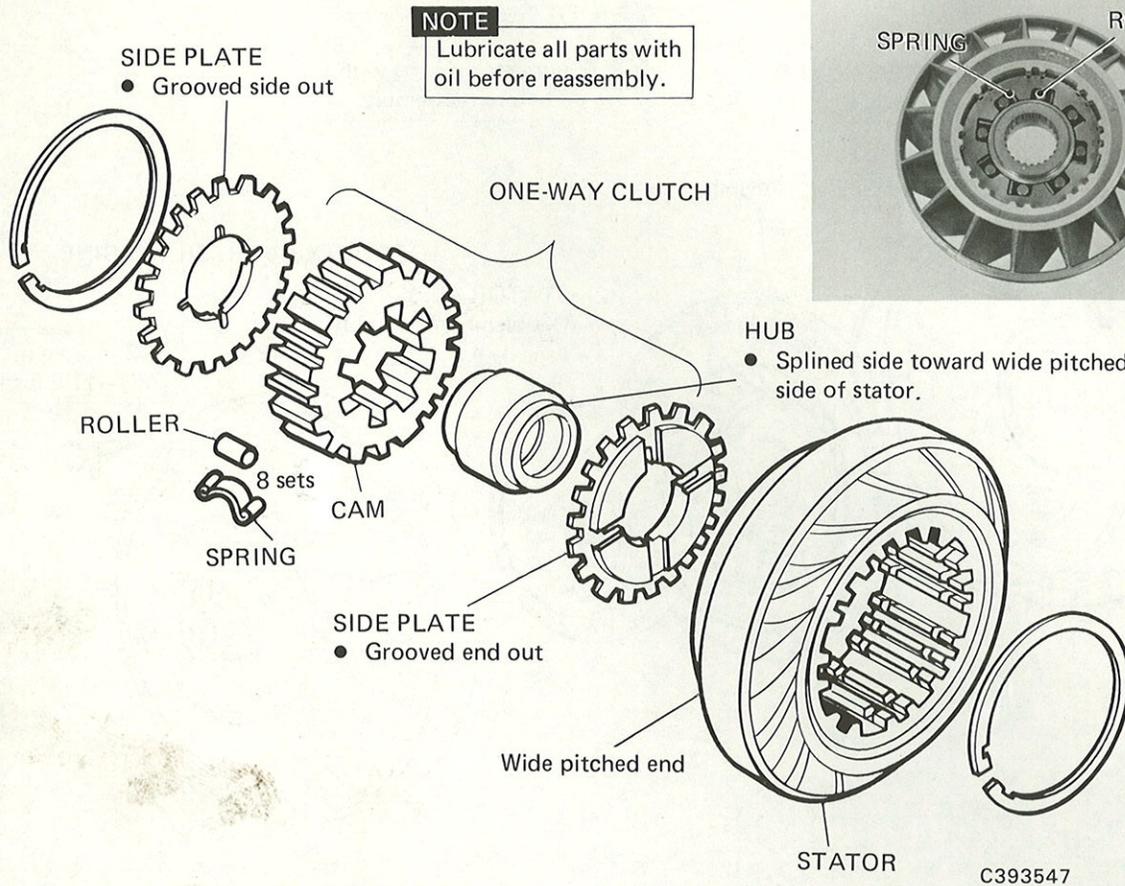


C393546

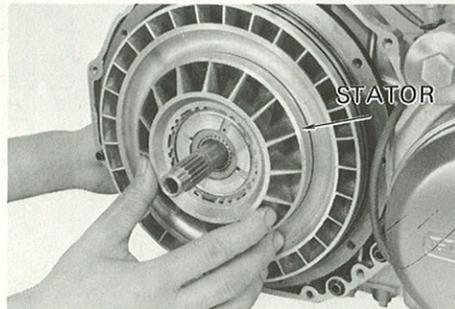




• STATOR



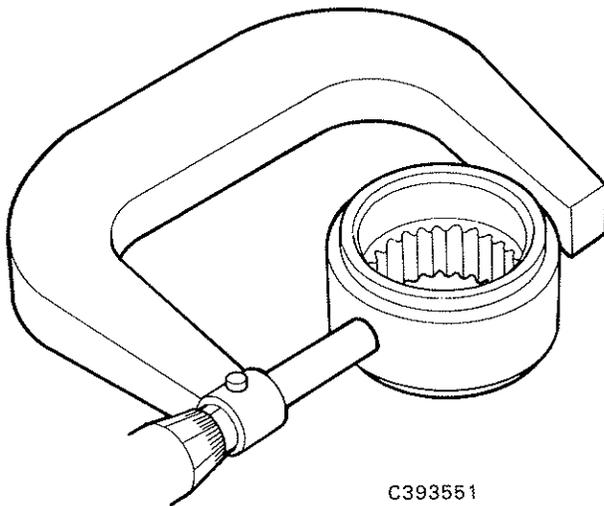
Insert the stator into the stator shaft and check the operation of the one-way clutch. The clutch should only turn in a counterclockwise direction.





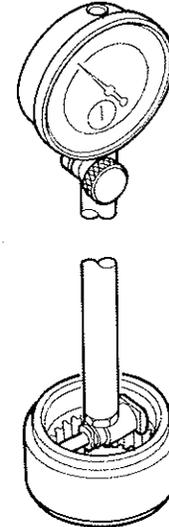
● **INSPECTION**

● **STATOR HUB O.D.**



39.975–39.991 mm (1.5738–1.5744 in.)
Service Limit: 39.9 mm (1.571 in.)

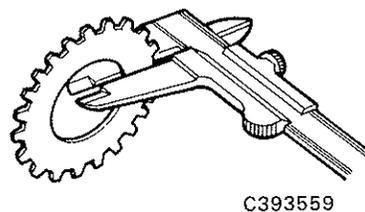
● **STATOR HUB I.D.**



26.000–26.033 mm (1.0236–1.0249 in.)
Service Limit: 26.1 mm (1.028 in.)

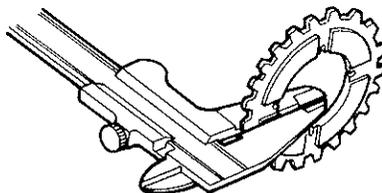
● **STATOR SIDE PLATE THICKNESS**

(A) 38 x 66 x 2 washer

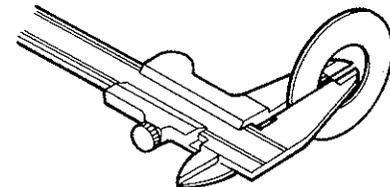


C393559

(B) 27 x 54 x 2 washer



C393541



C393550

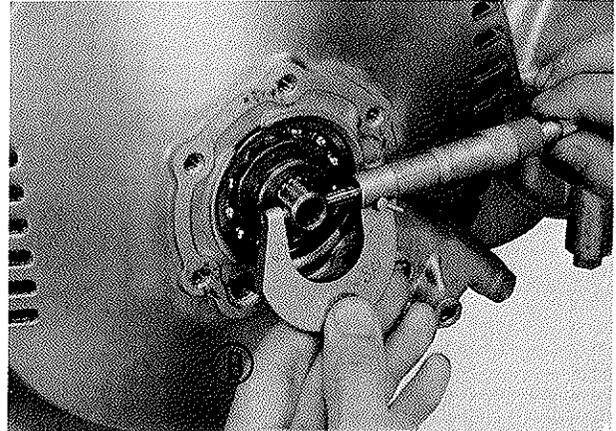
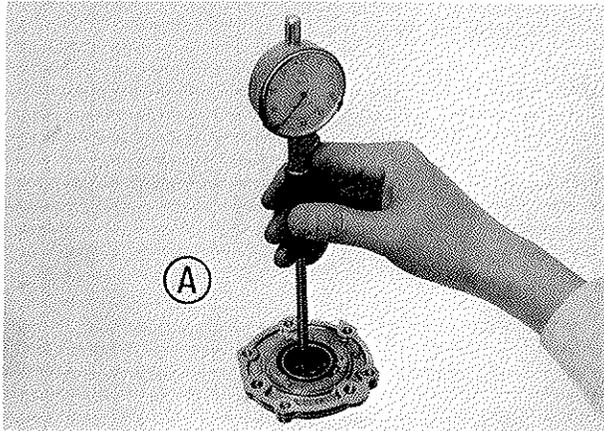
5.95–6.00 mm (0.2343–0.2362 in.)
Service Limit: 5.9 mm (0.232 in.)

38 x 66 x 2 washer · 27 x 54 x 2 washer

(A)	1.95–2.00 mm (0.0768–0.0787 in.) Service Limit: 1.9 mm (0.075 in.)
(B)	1.95–2.05 mm (0.0768–0.0807 in.) Service Limit: 1.9 mm (0.075 in.)



• BEARING CAP-TO-SHAFT CLEARANCE

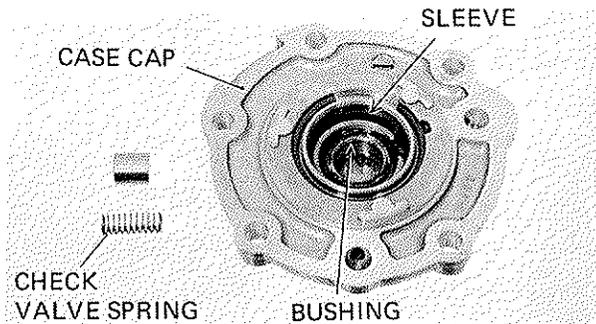


(A) - (B)

0.022-0.06 mm (0.0009-0.0024 in.)
Service Limit: 0.08 mm (0.003 in.)

• TORQUE CONVERTER CASE CAP/FLUID CHECK VALVE SPRING

Check the inside surface for scoring or excessive wear



• Check for weakness

• Check for wear or excessive bushing-to-cap clearance

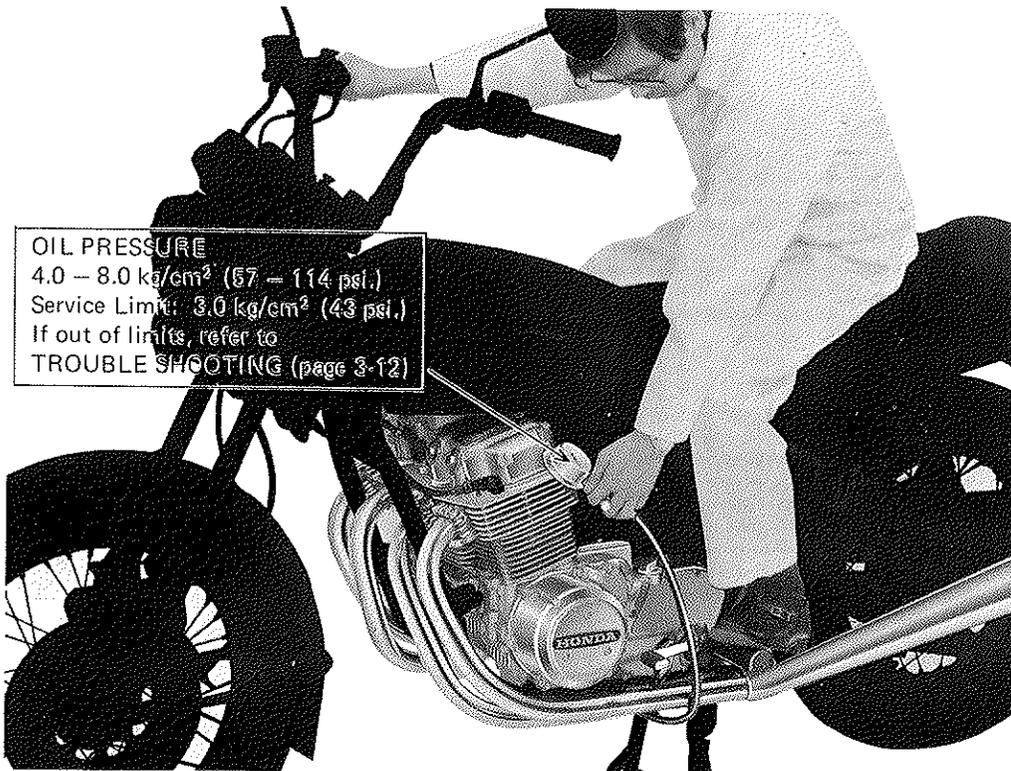


● TESTING

● TRANSMISSION OIL PRESSURE TEST

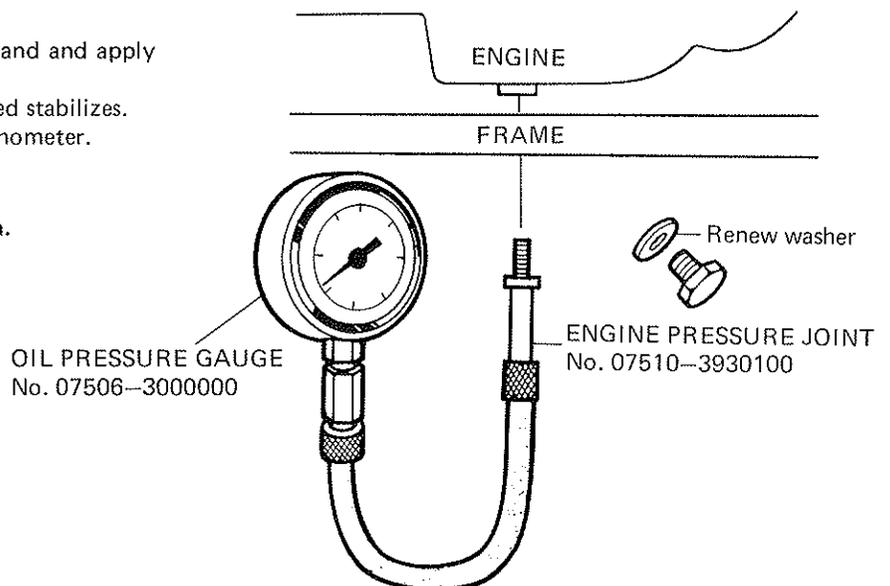
CAUTION

Do not rev up engine while testing to prevent gauge hose puncture.



OIL PRESSURE
4.0 – 8.0 kg/cm² (57 – 114 psi.)
Service Limit: 3.0 kg/cm² (43 psi.)
If out of limits, refer to
TROUBLE SHOOTING (page 3-12)

- (1) Place the motorcycle on its center stand and apply the parking brake.
- (2) Warm up the engine until the idle speed stabilizes.
- (3) Connect an oil pressure gauge and tachometer.
- (4) Start the engine.
- (5) Keep the engine speed at 1,500 rpm.
- (6) Check the oil pressure in "N" position.

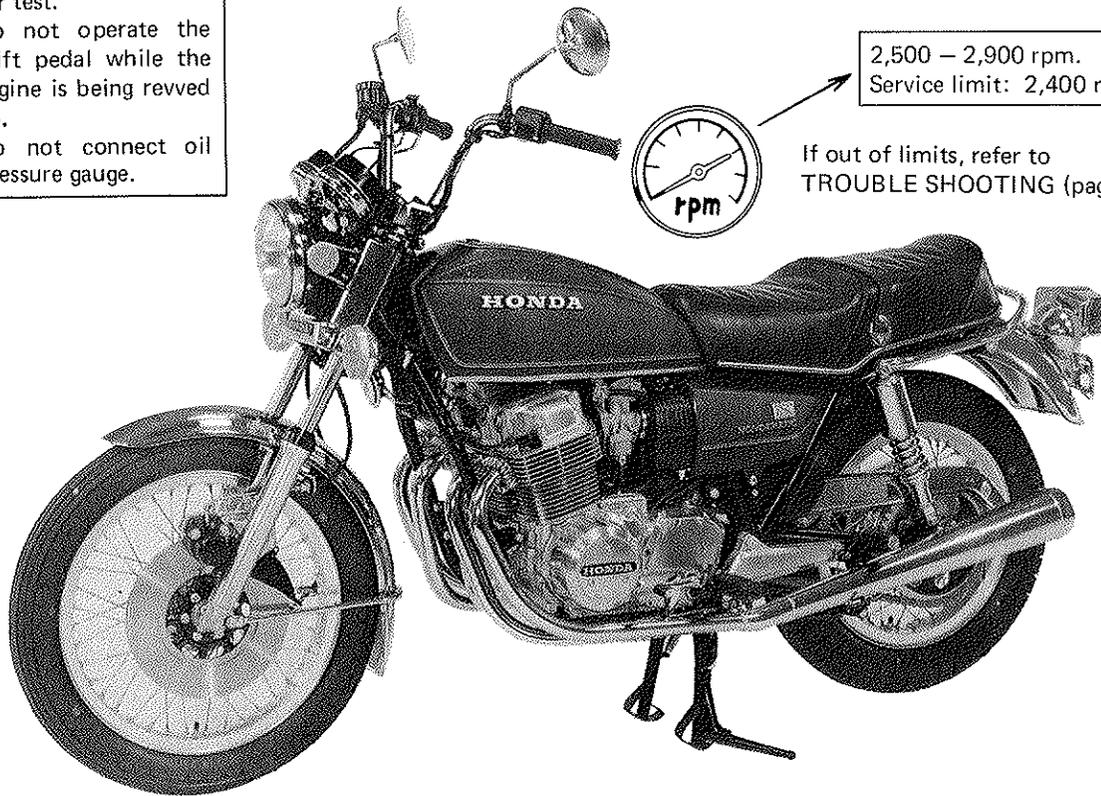




• STALL SPEED TEST

CAUTION

- Do not perform the stall speed test for more than 10 seconds per test.
- Do not operate the shift pedal while the engine is being revved up.
- Do not connect oil pressure gauge.



- (1) Place the motorcycle on its center stand and apply the parking brake.
- (2) Warm up the engine until the idle speed stabilizes.
- (3) Connect a tachometer.
- (4) Start the engine and shift into "LOW" range.
- (5) Hold the handlebars firmly and place your weight on the rear brake pedal.
- (6) Open the throttle fully and make sure that the engine speed is within the standard value.
- (7) Repeat the procedure in "DRIVE" range.
If out of service limits, refer to TROUBLESHOOTING (page 3-12)



9. OIL PUMP / REGULATOR VALVE

SERVICE INFORMATION	9-1	● OIL PUMP ASSEMBLY	9-3
TROUBLESHOOTING	9-1	● REGULATOR VALVE	9-4
LUBRICATION DIAGRAM	9-2	INSPECTION	9-5
DISASSEMBLY/ ASSEMBLY	9-3	ENGINE OIL PRESSURE TEST	9-6

● SERVICE INFORMATION

SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
OIL PUMP		
Oil pump body to rotor radial clearance	0.15-0.22 (0.0059-0.0087)	0.35 (0.0138)
Oil pump tip clearance	0.15 (0.0059) max.	0.20 (0.0079)
Oil pump body to rotor clearance	0.02-0.06 (0.0008-0.0024)	0.08 (0.0031)
Relief valve to body clearance	0.025-0.07 (0.001-0.0028)	0.1 (0.004)

TORQUE VALUE

Oil drain bolt 3.5-4.5 kg-m (25.3-32.5 lbs.-ft.)

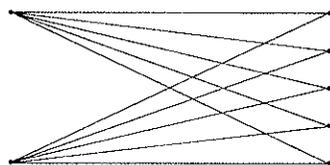
● TROUBLESHOOTING

SYMPTOM

POSSIBLE CAUSE

(Engine)

Engine overheats



Defective oil pump
Clogged oil passage
Clogged oil filter screen
Clogged oil strainer

Engine stops suddenly
(Engine seized)



Insufficient oil or use of improper oil

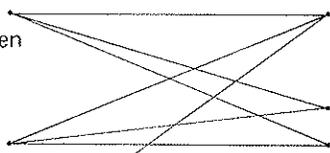
(Transmission)

Engine turns, but motorcycle will not start (in L and D)



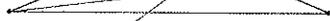
Defective oil pump (broken rotor pin or worn rotor)

Engine turns, but motorcycle will not start (in L and D) (starts slowly when throttle is opened)



Insufficient oil
Clogged oil strainer

Poor acceleration at start (in L and D) or high speed.



Defective regulator valve (stuck or broken spring)

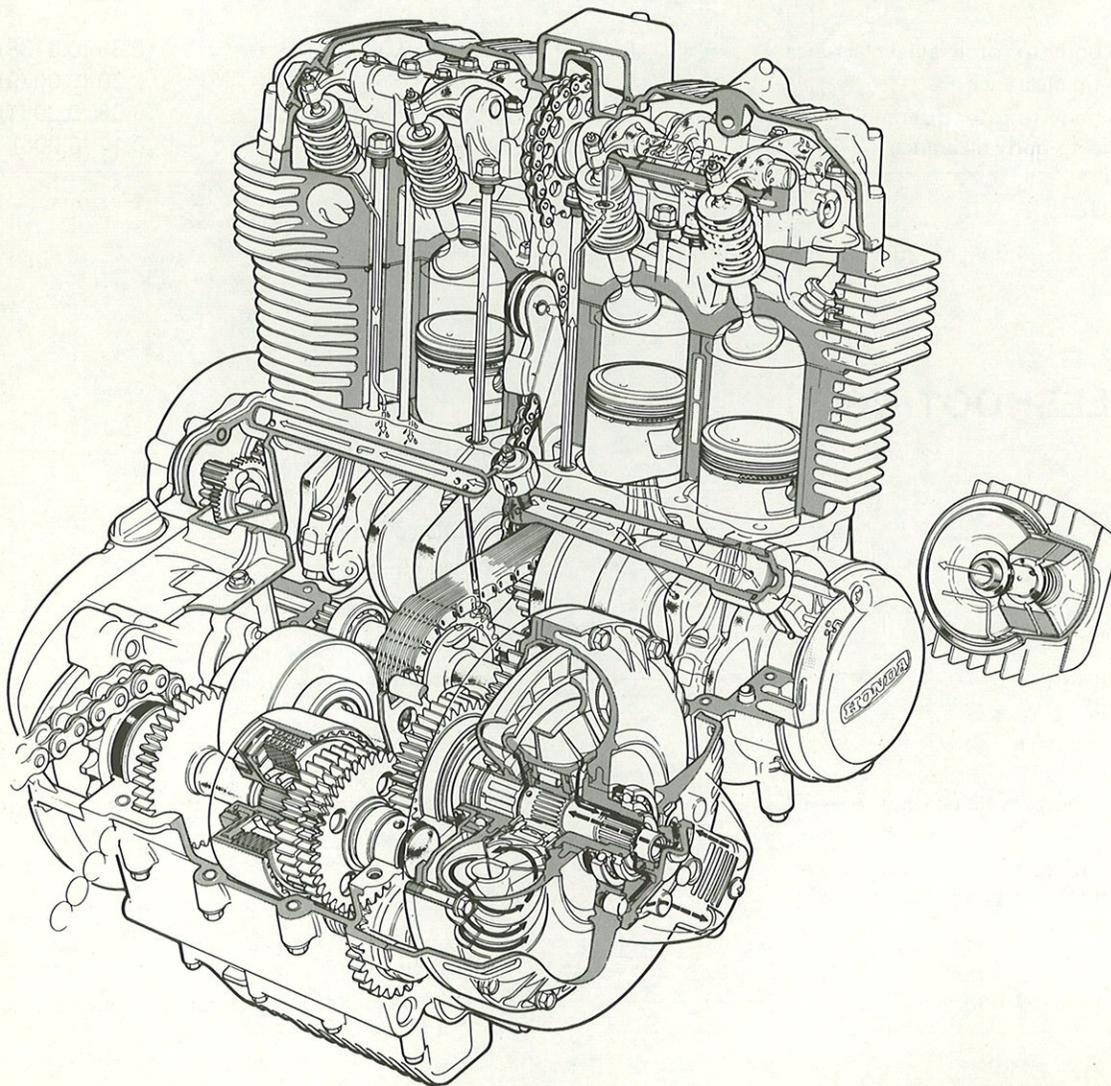
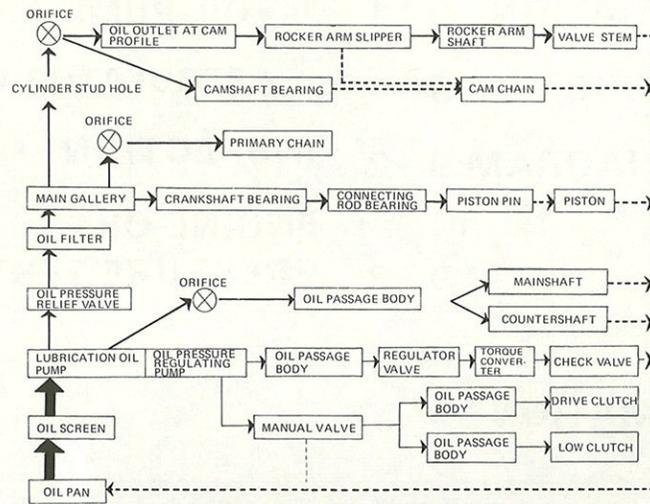
Engine revs up at quick start





OIL PUMP/REGULATOR VALVE

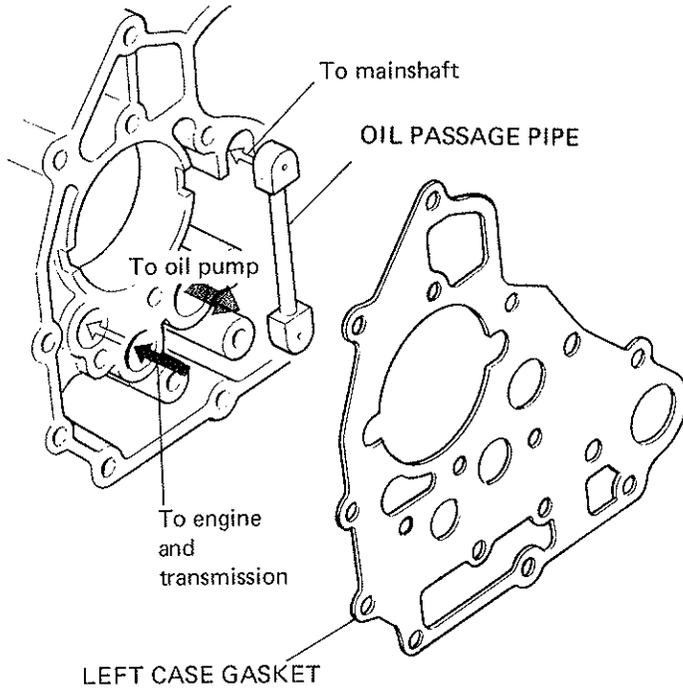
● **LUBRICATION DIAGRAM**



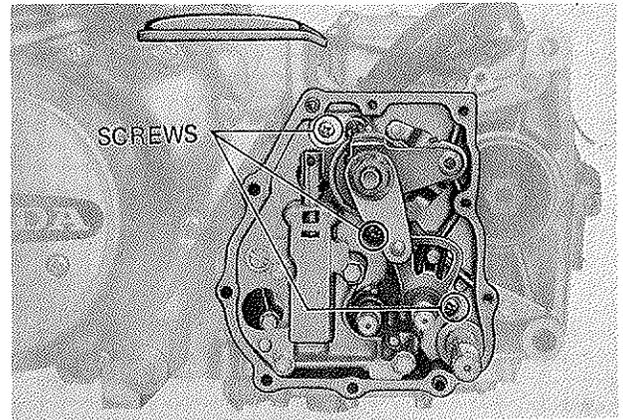


● **DISASSEMBLY/ASSEMBLY**

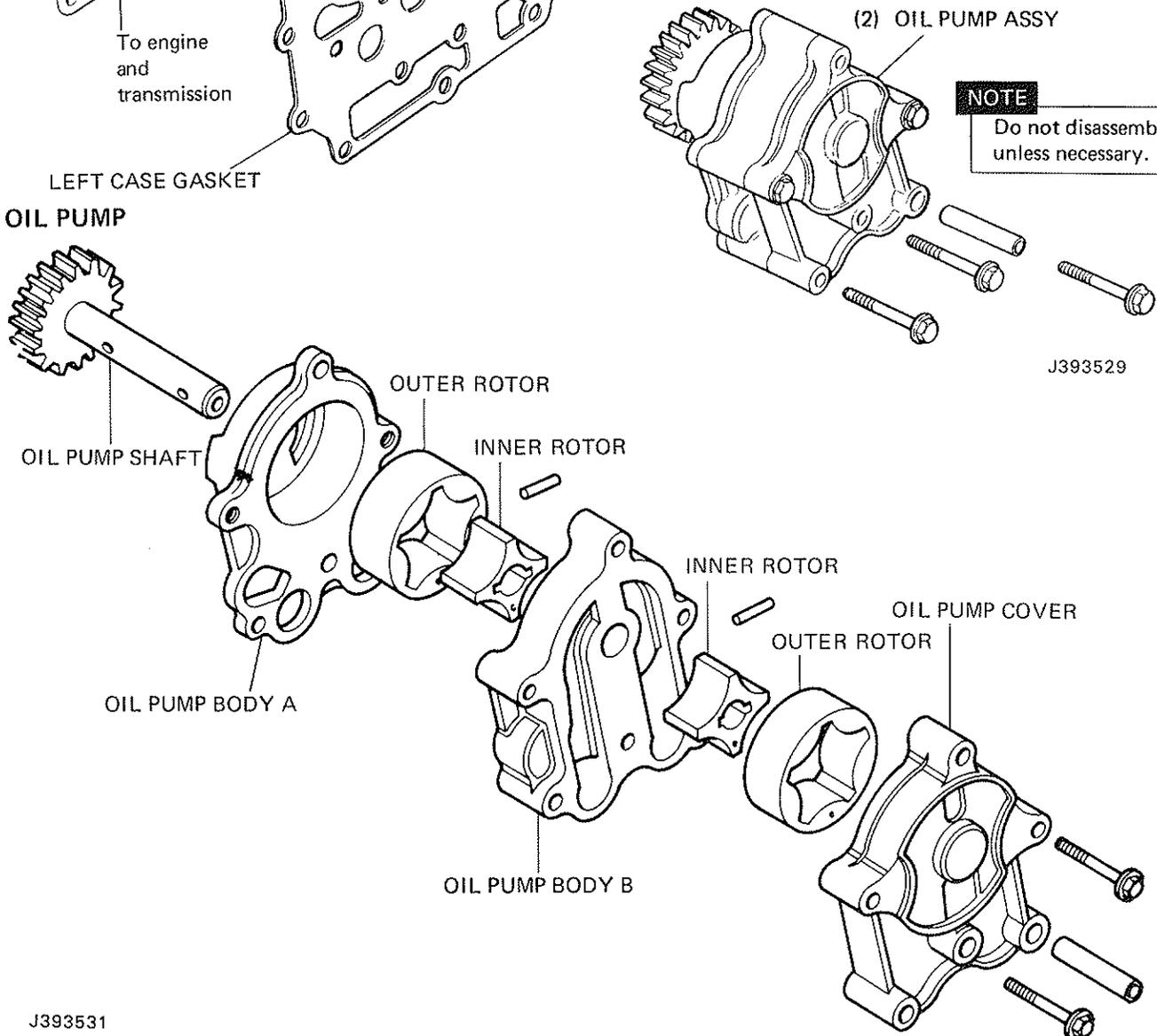
● **OIL PUMP ASSEMBLY**



(1) Remove the three screws attaching the left side case and remove the case assembly.



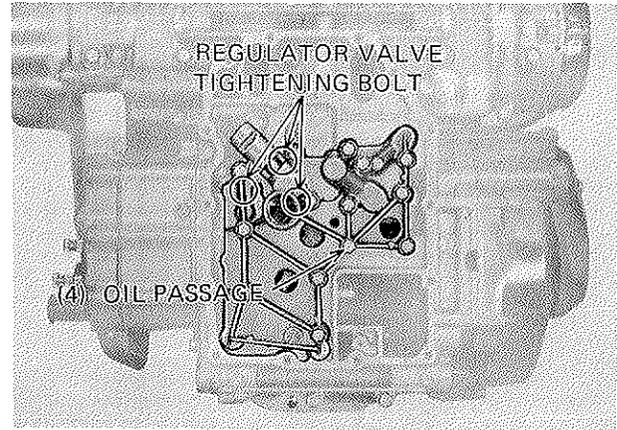
● **OIL PUMP**



J393531



• REGULATOR VALVE

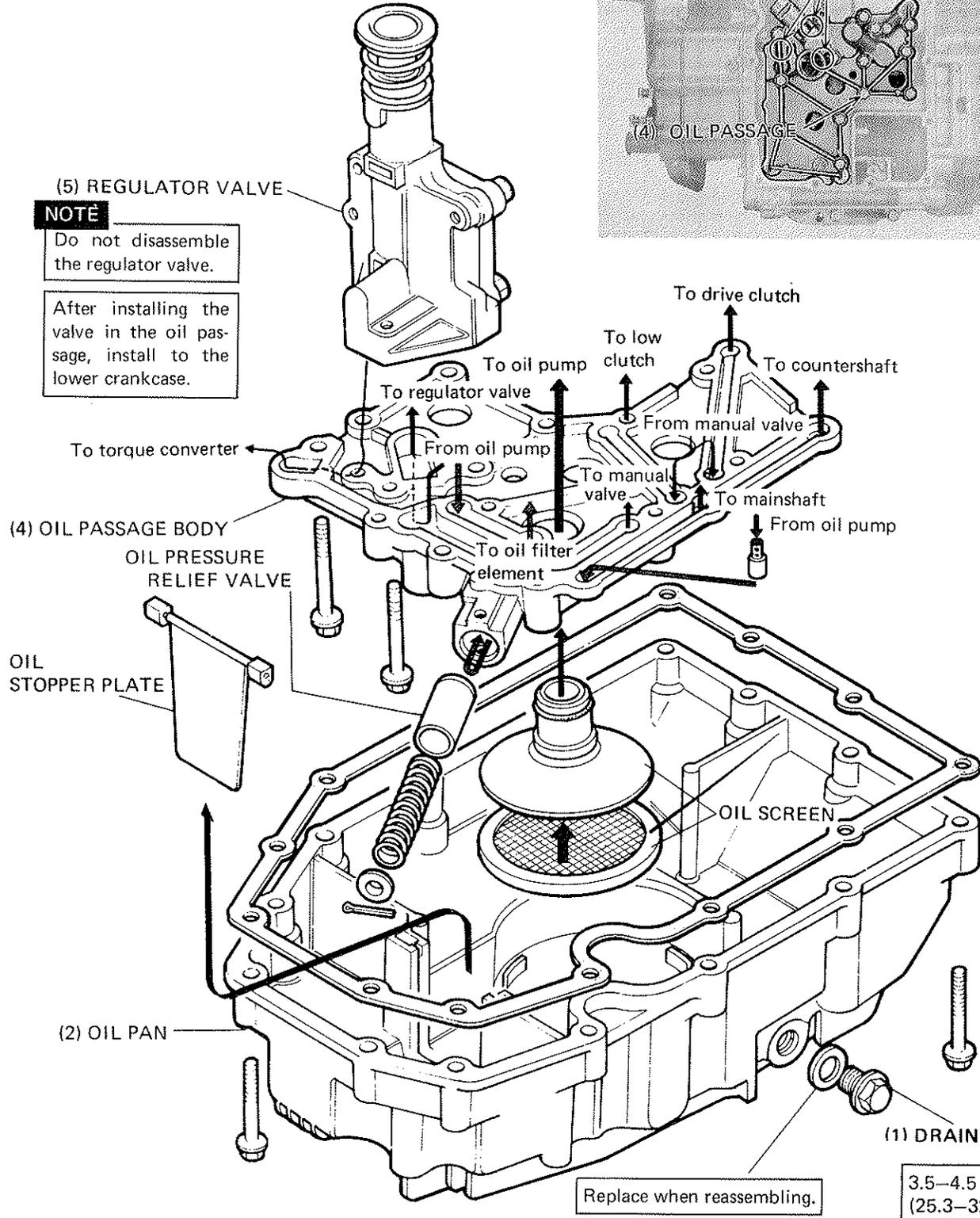


(5) REGULATOR VALVE

NOTE

Do not disassemble the regulator valve.

After installing the valve in the oil passage, install to the lower crankcase.

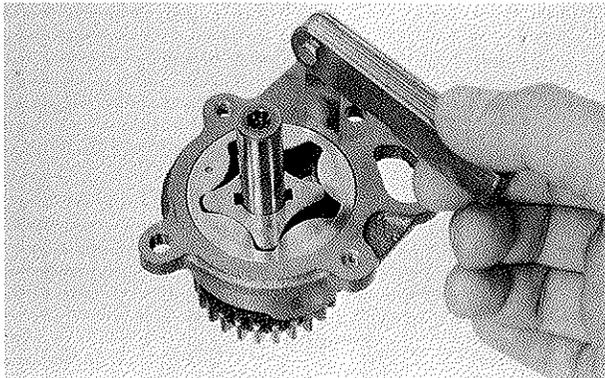


J393532



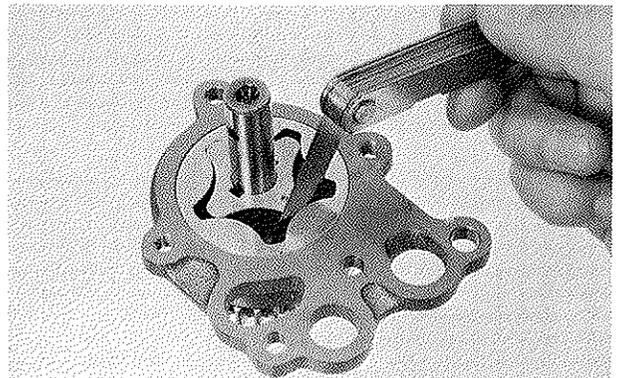
● **INSPECTION**

- OIL PUMP BODY-TO-ROTOR RADIAL CLEARANCE



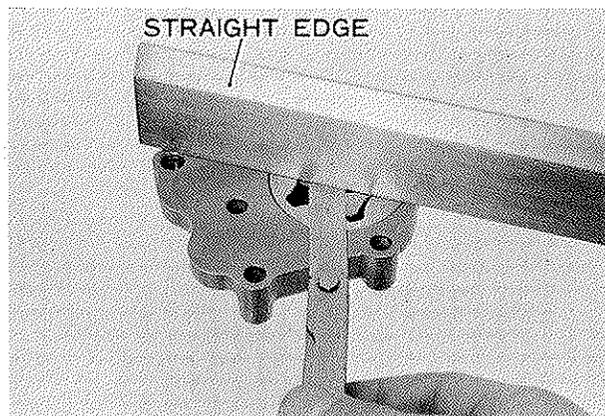
0.15–0.22 mm (0.0059–0.0087 in.)
Service Limit: 0.35 mm (0.0138 in.)

- OIL PUMP TIP CLEARANCE



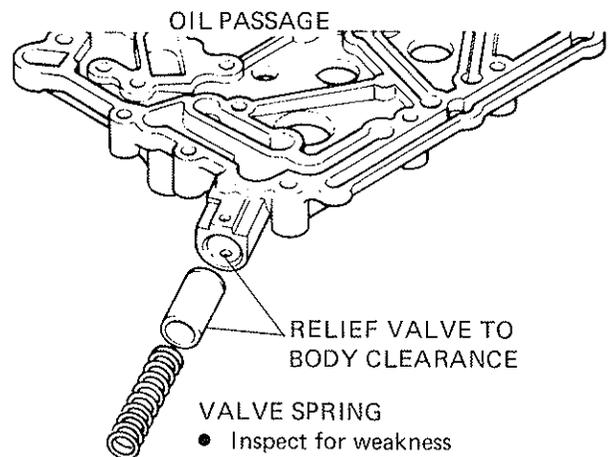
0.15 mm (0.0059 in.) max.
Service Limit: 0.20 mm (0.0079 in.)

- OIL PUMP BODY-TO-ROTOR CLEARANCE



0.02–0.06 mm (0.0008–0.0024 in.)
Service Limit: 0.08 mm (0.0031 in.)

- RELIEF VALVE-TO-BODY CLEARANCE

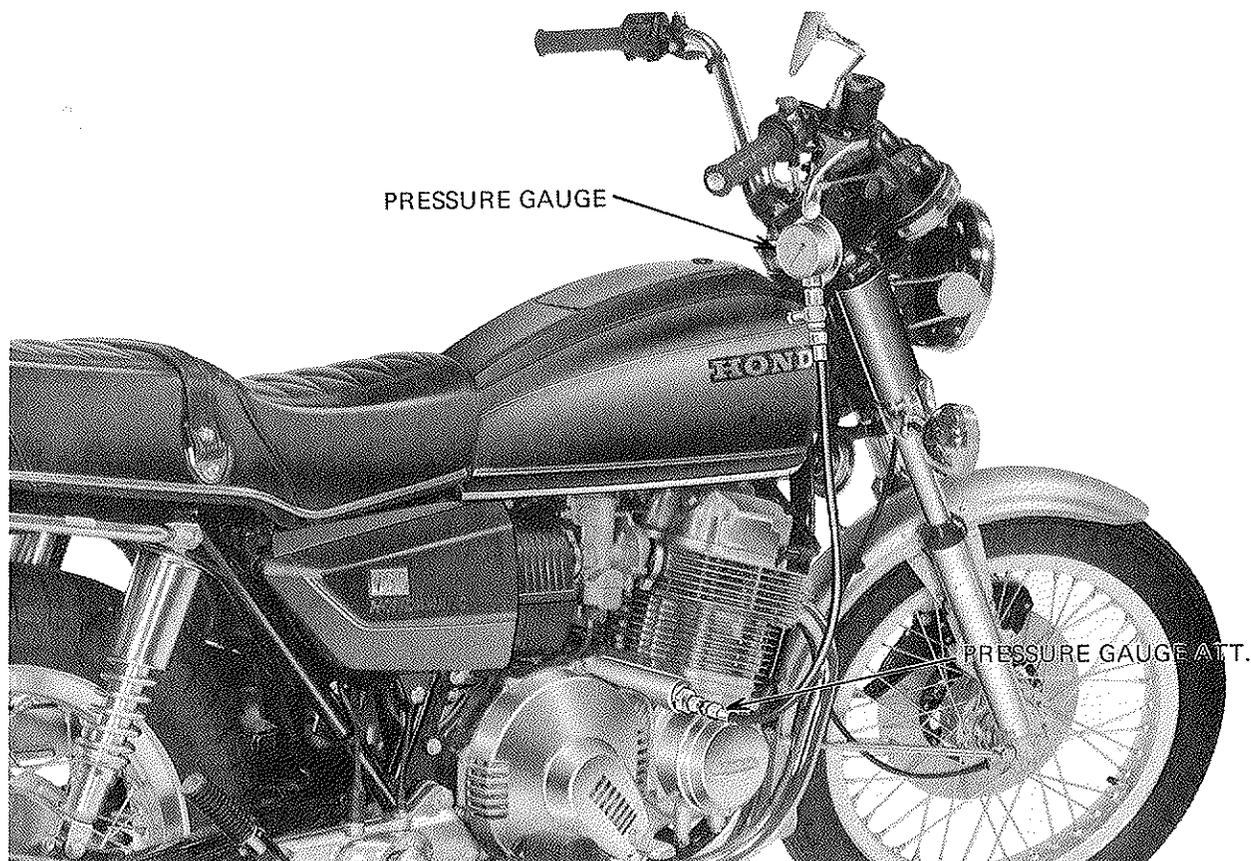


J393530

0.025–0.070 mm (0.001–0.0028 in.)
Service Limit: 0.1 mm (0.004 in.)

**● ENGINE OIL PRESSURE TEST**

OIL PRESSURE:
3.5–4.5 kg/cm² (50–64 psi.) at 3,000 rpm.



- (1) Place the motorcycle on its center stand and apply the parking brake.
- (2) Warm up the engine until the idle speed stabilizes.
- (3) Connect an oil pressure gauge and tachometer.
- (4) Start the engine.
- (5) Keep the engine speed at 3,000 rpm.
- (6) Check the oil pressure in "N" position.



HONDA
CB750A

10. VALVE SHIFT MECHANISM

SERVICE INFORMATION	10-1
TROUBLESHOOTING	10-1
DISASSEMBLY/ ASSEMBLY	10-2
INSPECTION	10-3

● SERVICE INFORMATION

SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
Manual valve to manual valve shaft clearance	0.015-0.045 (0.0006-0.0018)	0.1 (0.004)

TORQUE VALUES

Ratchet guide tightening nut 1.0-1.4 kg-m (7.2-10.1 lbs.-ft.)
Shift pivot bolt 2.3-2.7 kg-m (16.6-19.5 lbs.-ft.)

● TROUBLESHOOTING

SYMPTOM

Engine turns, but motorcycle will not start

Hard shifting

Shift pedal not returned

Transmission jumping out of gears

POSSIBLE CAUSE

Broken shift valve pin

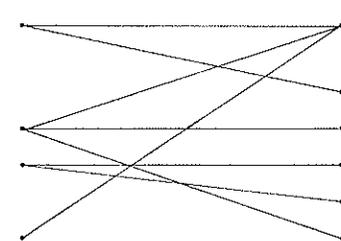
Worn ratchet guide

Defective clutch ("L" and "D")

Broken return spring

Shift spindle and case binding

Defective neutral return mechanism

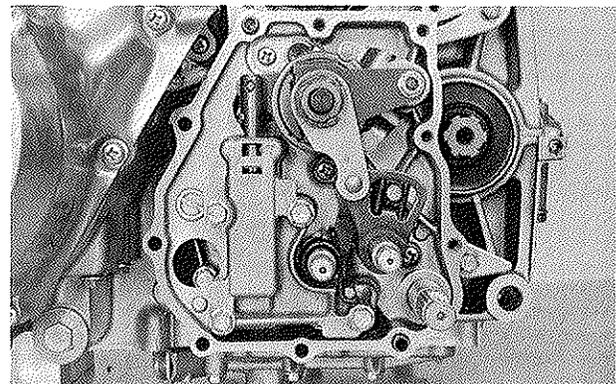
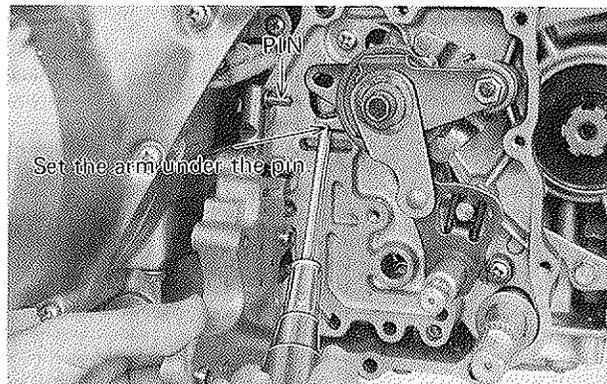
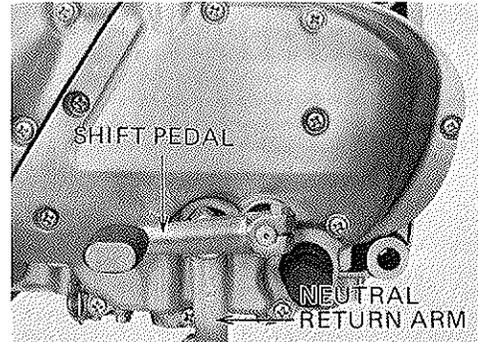
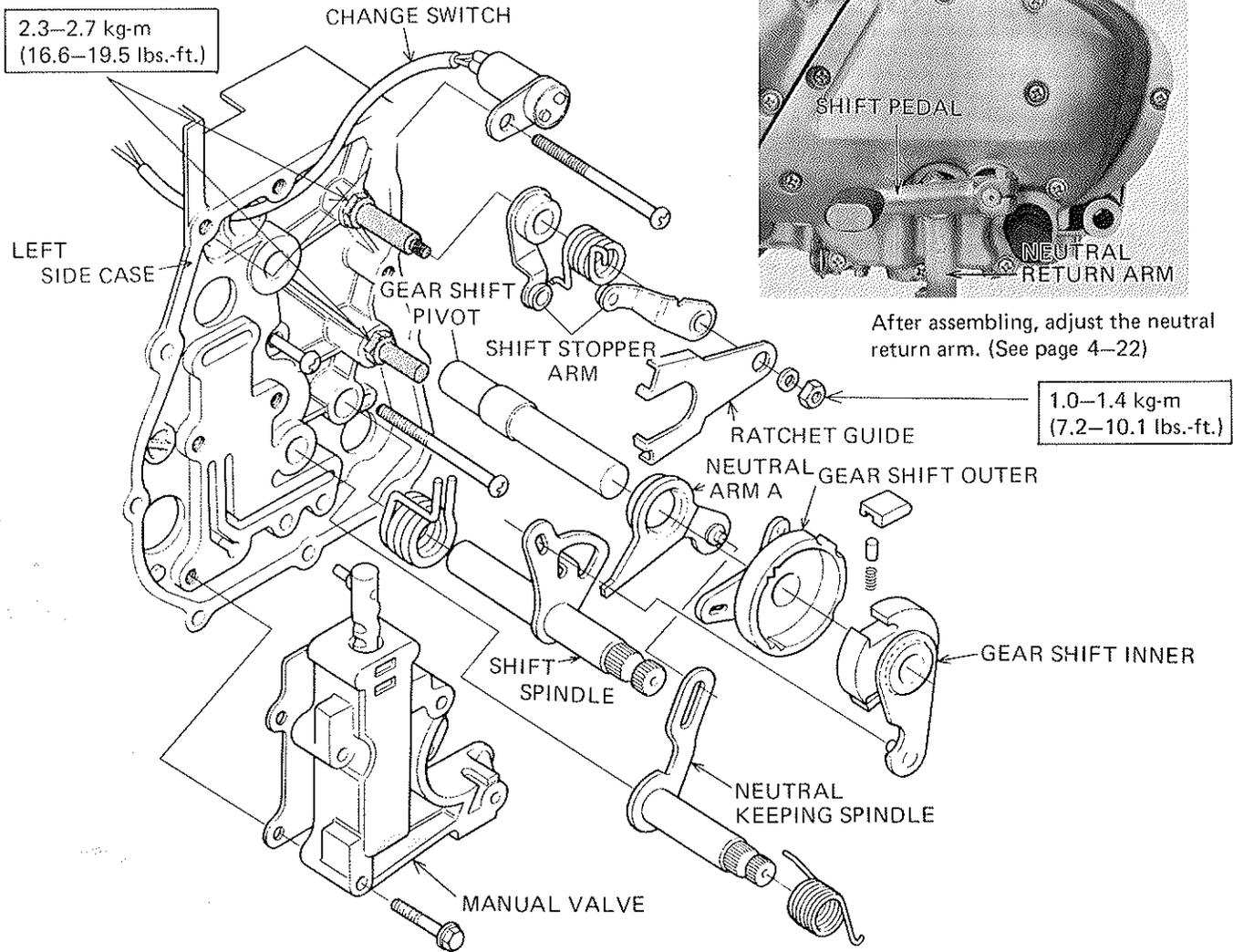




VALVE SHIFT MECHANISM

● DISASSEMBLY/ASSEMBLY

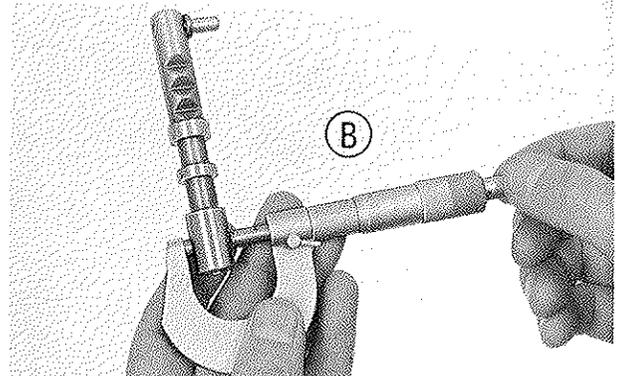
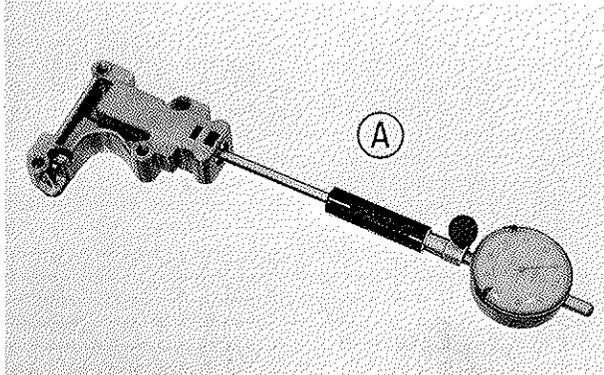
- (1) Remove the shift pedal, neutral return arm and cover.





● **INSPECTION**

● **MANUAL VALVE-TO-SHAFT CLEARANCE**



(A) - (B) Difference between (A) and (B)

0.015-0.045 mm (0.0006-0.0018 in.)
Service Limit: 0.10 mm (0.004 in.)

● **CHANGE SWITCH**

Change switch inspection page 14-14.



VALVE SHIFT MECHANISM





SERVICE INFORMATION	11-1
TROUBLESHOOTING	11-1
DISASSEMBLY/ ASSEMBLY	11-2
● CRANKCASE	11-2
● TRANSMISSION	11-3
● LOW/DRIVE CLUTCHES	11-4
INSPECTION	11-6

● **SERVICE INFORMATION**
SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
L/D clutch initial clearance	0.5-0.8 (0.020-0.031)	—
Clutch return spring free length	39.7 (1.56)	36.0 (1.42)
Clutch disc thickness	1.95-2.05 (0.0768-0.0807)	1.9 (0.075)
Clutch plate thickness	1.95-2.05 (0.0768-0.0807)	1.9 (0.075)
Clutch end plate thickness (1)	1.8 (0.071)	1.6 (0.063)
(2)	2.1 (0.083)	1.9 (0.075)
(3)	2.4 (0.094)	2.2 (0.087)
(4)	2.7 (0.106)	2.5 (0.098)
(No mark)	3.0 (0.118)	2.8 (0.110)
(6)	3.3 (0.130)	3.1 (0.122)

TORQUE VALUES

Crankcase bolt (8 mm) 2.0-2.5 kg-m (14.5-18.1 lbs.-ft.)
Crankcase bolt (6 mm) 1.0-1.4 kg-m (7.2-10.1 lbs.-ft.)

SPECIAL TOOL

CLUTCH SPRING COMPRESSOR 07960-6120000

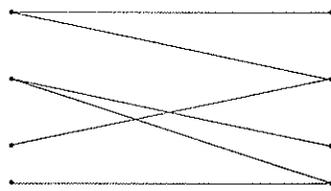
● **TROUBLESHOOTING**

SYMPTOM

Motorcycle will not start in "L"
(start in "D")
Motorcycle will not start in "D"
(start in "L")
Poor acceleration at start in "L"
Poor acceleration at start in "D"

POSSIBLE CAUSE

Damaged "L" gears
Defective "L" clutch
Damaged "D" gears
Defective "D" clutch

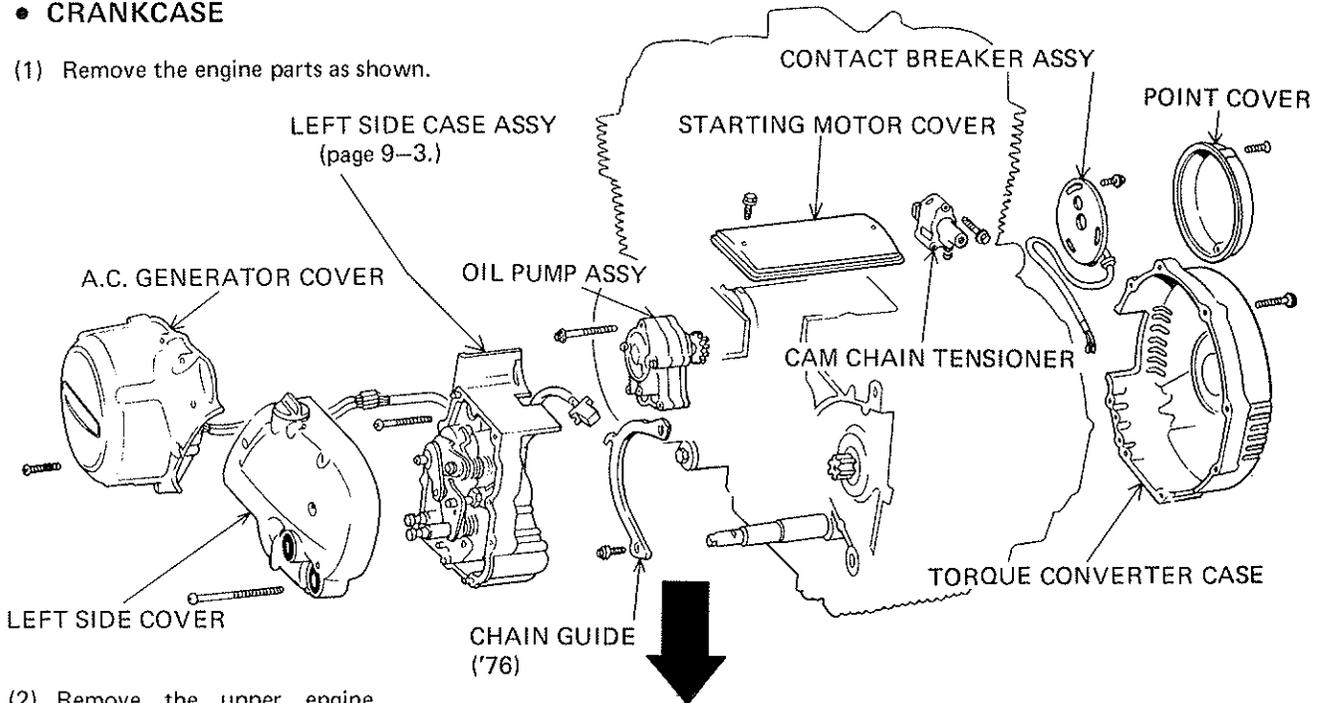




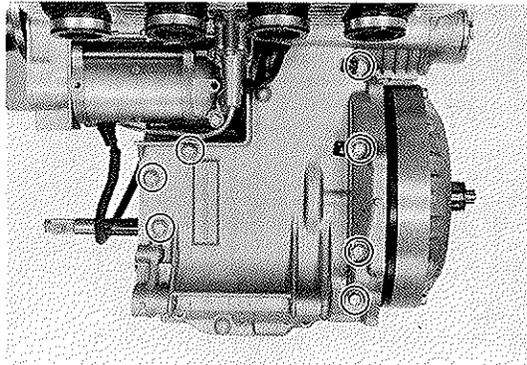
● **DISASSEMBLY/ASSEMBLY**

● **CRANKCASE**

(1) Remove the engine parts as shown.



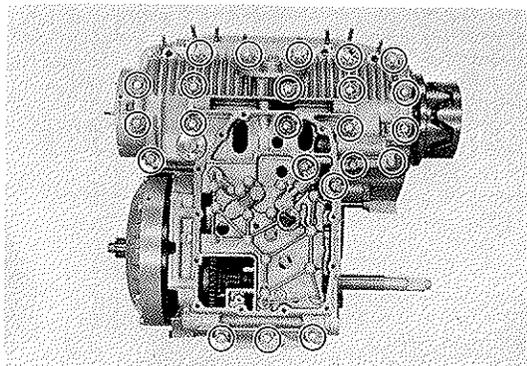
(2) Remove the upper engine bolts as shown.



(3) Remove the lower engine bolts as shown.

NOTE

During reassembly, apply a coat of liquid sealant. Evenly coat the lower case surface.



TIGHTENING TORQUE

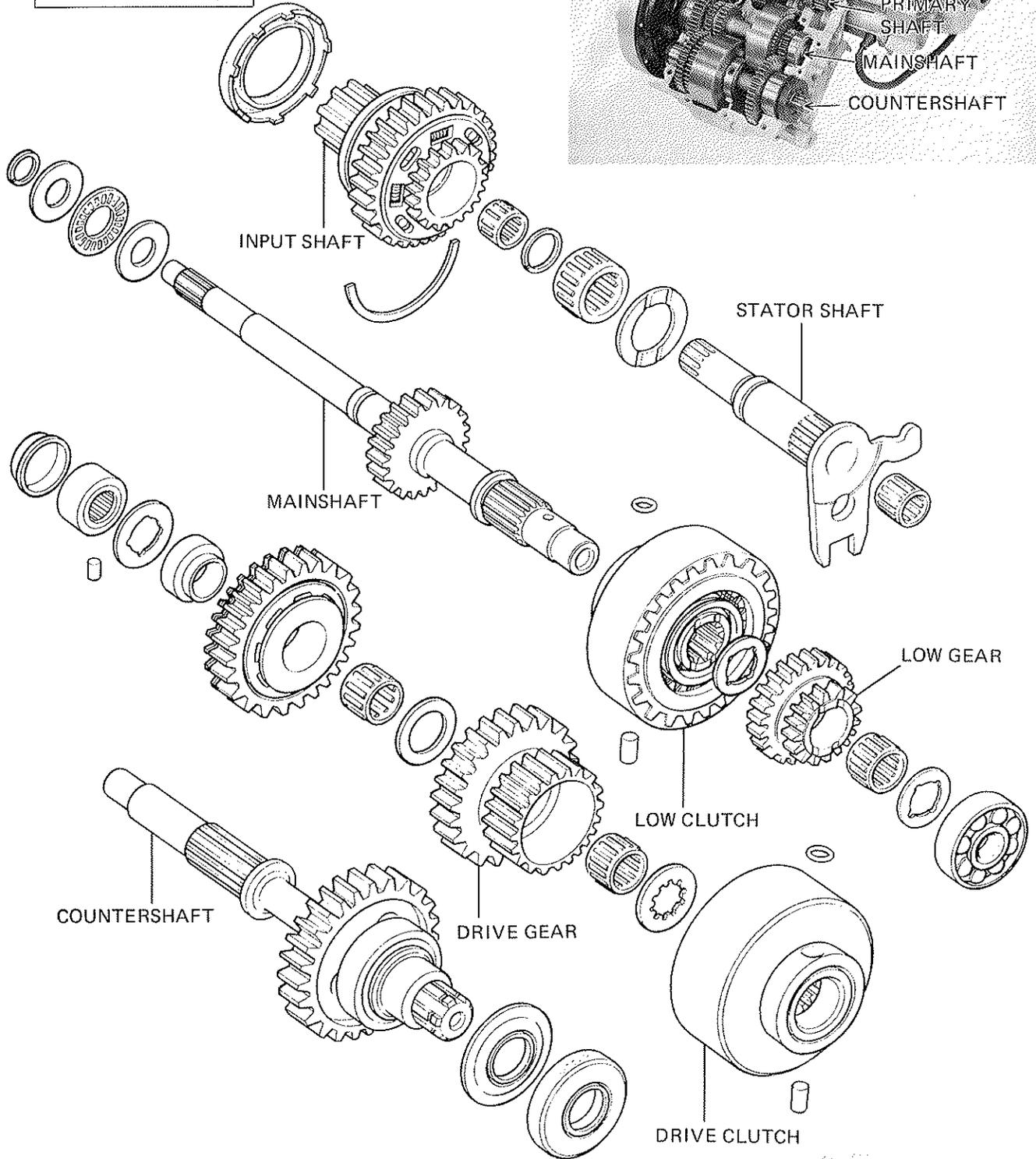
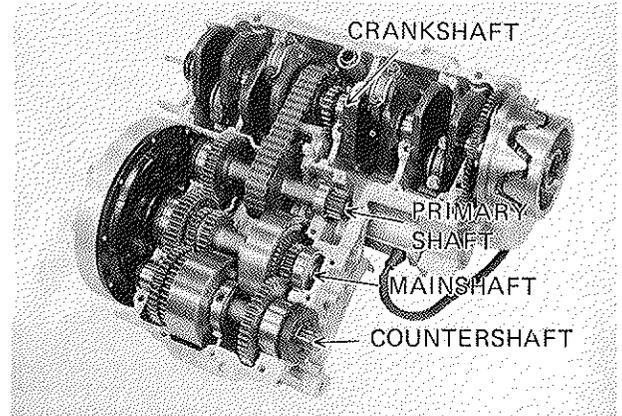
8 mm:	2.0–2.5 kg-m (14.5–18.1 lbs.-ft.)
6 mm:	1.0–1.4 kg-m (7.2–10.1 lbs.-ft.)



• TRANSMISSION



Lubricate all parts with oil before reassembly.



11 CLUTCH REMOVAL SEQUENCE

TRANSMISSION/CLUTCH

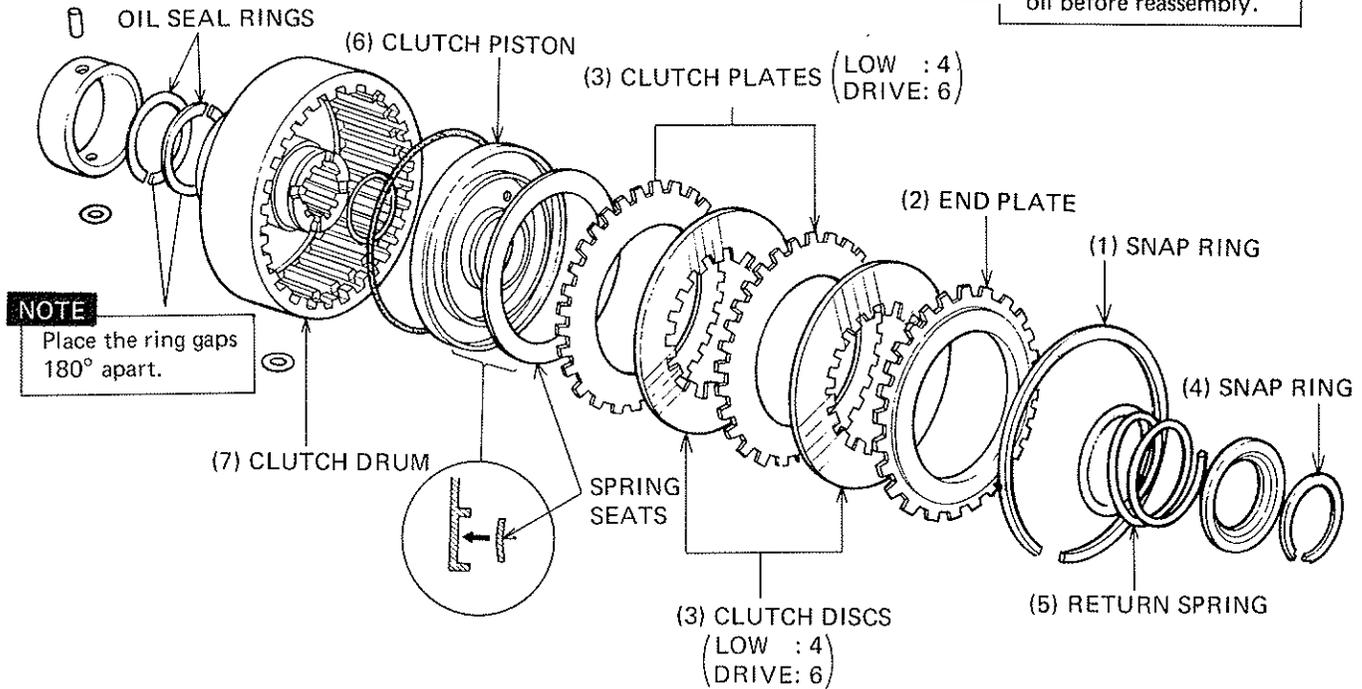
HONDA
CB750A



• LOW/DRIVE CLUTCHES



Lubricate all parts with oil before reassembly.



• REMOVE CLUTCH PISTON

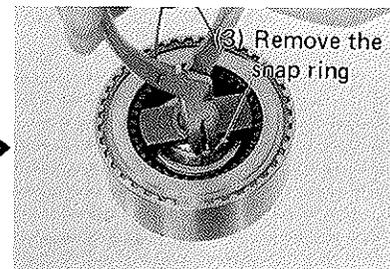
(1) Install the tool.



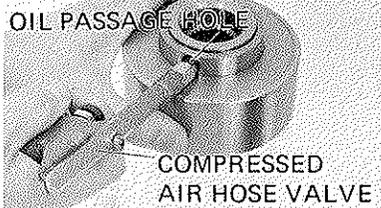
(2) Compress the clutch return spring



(3) Remove the snap ring



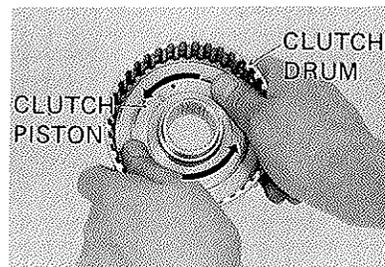
(4) Remove the clutch piston as shown.



• INSTALL CLUTCH PISTON

NOTE

Lubricate O-ring thoroughly prior to installing clutch piston.



Apply pressure and rotate to ensure proper seating



TRANSMISSION/CLUTCH

● **CLUTCH DISC PLATE ASSEMBLY**

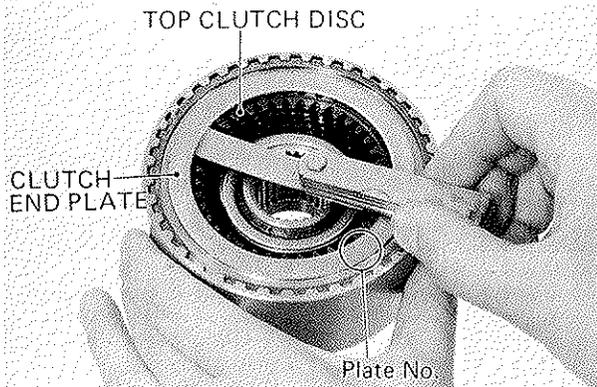
Measure clearance between the clutch end plate and top clutch disc.

NOTE

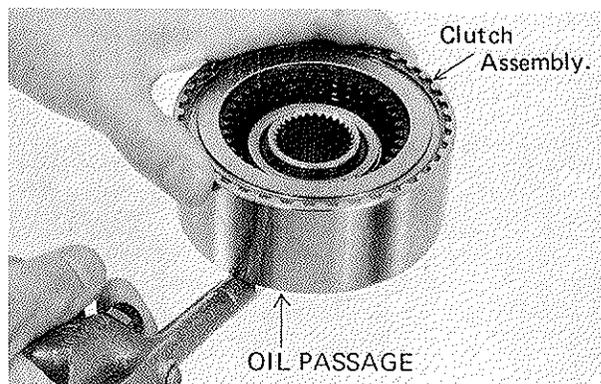
Take care not to damage the friction disc when measuring the clutch end clearance.

Service Limit: 0.5–0.8 mm (0.020–0.031 in.)

If not within service limit, select a new clutch end plate from the following table.



Part No.	Plate No.	Thickness
22551-612-000	1	1.8 mm (0.071 in.)
22552-612-000	2	2.1 mm (0.083 in.)
22553-612-000	3	2.4 mm (0.094 in.)
22554-612-000	4	2.7 mm (0.106 in.)
22555-612-000	no mark.	3.0 mm (0.118 in.)
22556-612-000	6	3.3 mm (0.130 in.)



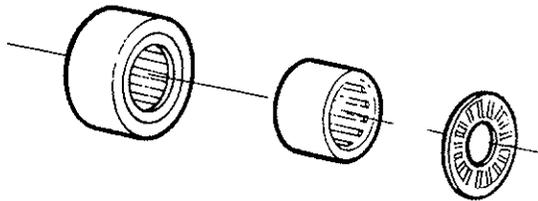
Check the clutch engagement by directing air pressure to an oil passage in the clutch drum hub. Remove the air pressure and check that the clutch is released.



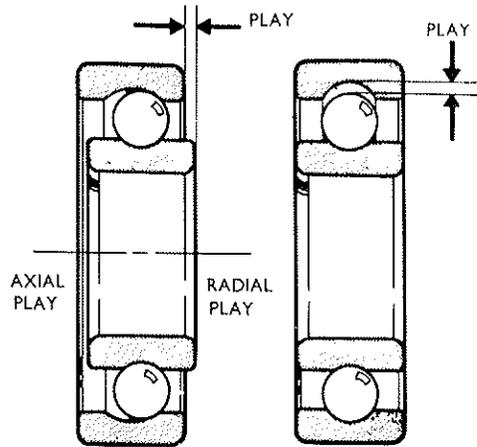
● **INSPECTION**

● **NEEDLE BEARING**

Inspect for galling, damaged rollers, and freedom of movement.

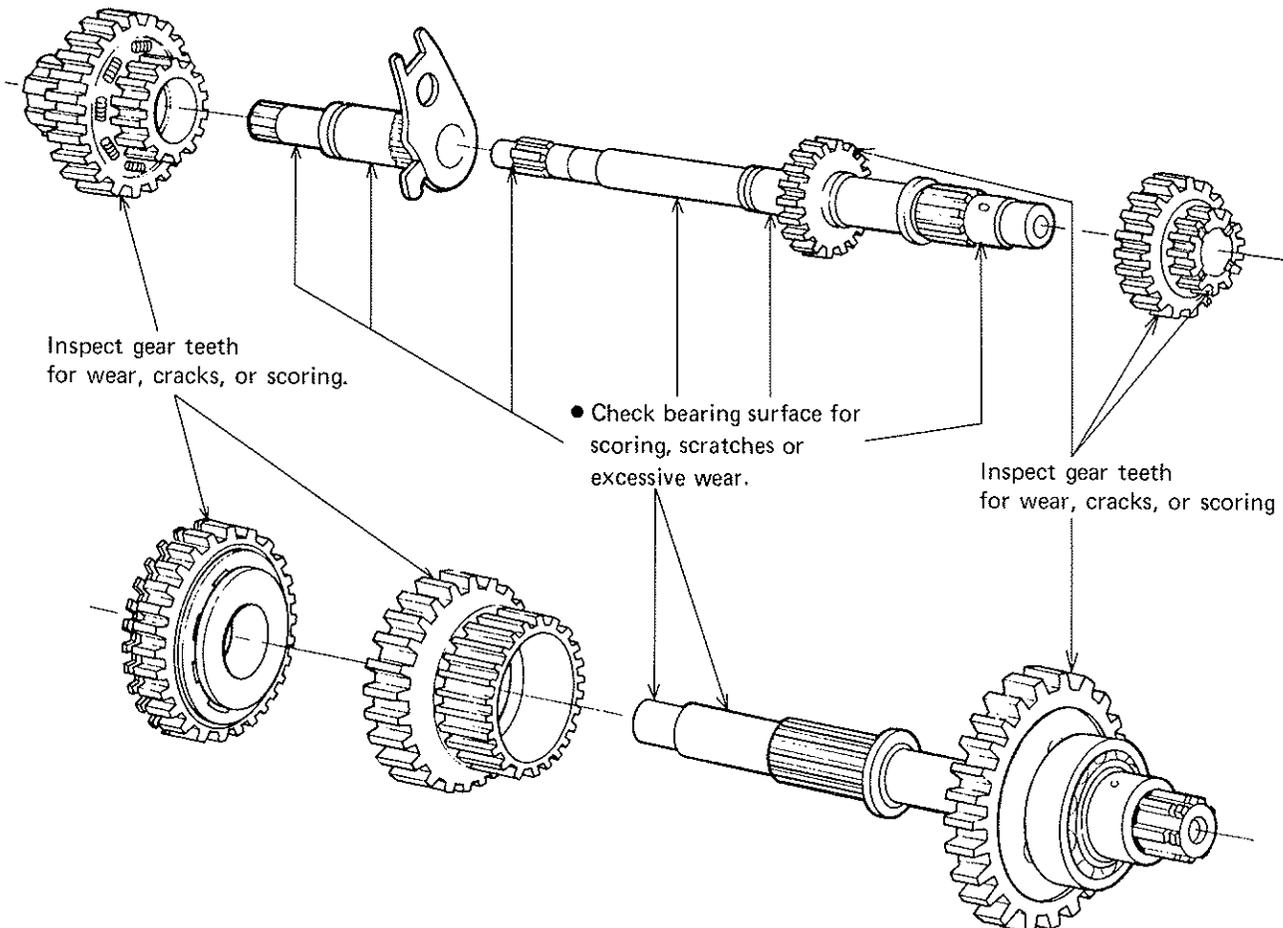


● **BALL BEARING**



Replace if excessively worn.

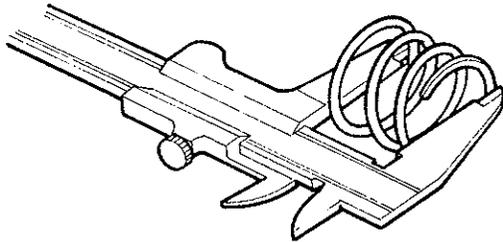
● **MAINSHAFT/GEARS/STATOR SHAFT/
INPUT SHAFT/COUNTERSHAFT**



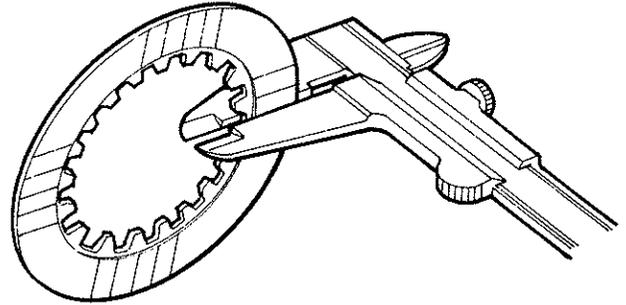


• CLUTCH RETURN SPRING FREE LENGTH

• CLUTCH DISC THICKNESS



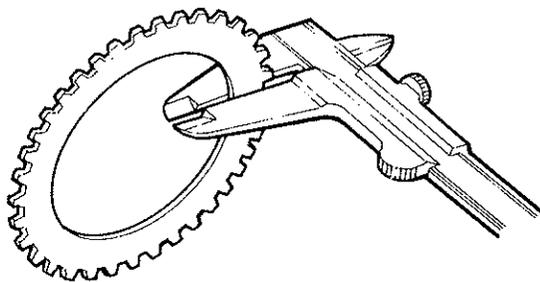
39.7 mm (1.56 in.)
Service Limit: 36.0 mm (1.42 in.)



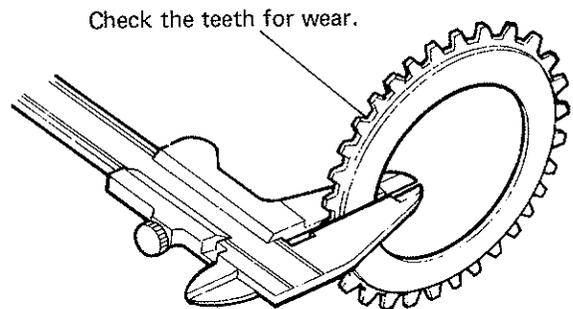
1.95–2.05 mm (0.0768–0.0807 in.)
Service Limit: 1.9 mm (0.075 in.)

• CLUTCH PLATE THICKNESS

• CLUTCH END PLATE THICKNESS



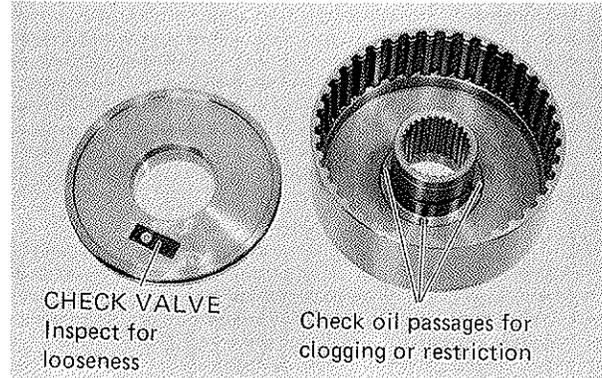
1.95–2.05 mm (0.0768–0.0807 in.)
Service Limit: 1.9 mm (0.075 in.)



Part No.	Thickness	Service Limit
1	1.8 mm (0.071 in.)	1.6 mm (0.063 in.)
2	2.1 mm (0.083 in.)	1.9 mm (0.075 in.)
3	2.4 mm (0.094 in.)	2.2 mm (0.087 in.)
4	2.7 mm (0.106 in.)	2.5 mm (0.098 in.)
no mark	3.0 mm (0.118 in.)	2.8 mm (0.110 in.)
6	3.3 mm (0.130 in.)	3.1 mm (0.122 in.)

**TRANSMISSION/CLUTCH**

- CLUTCH AND RELATED PARTS



CHECK VALVE
Inspect for
looseness

Check oil passages for
clogging or restriction



SERVICE INFORMATION	12-1	● MAIN BEARING	12-5
TROUBLESHOOTING	12-1	● PRIMARY SHAFT	12-6
DISASSEMBLY/ASSEMBLY		● PRIMARY KICK	12-6
● CONNECTING ROD BEARING	12-4 12-5	INSPECTION	12-7

● **SERVICE INFORMATION**

SELECTION OF BEARING AND INSPECTION OF OIL CLEARANCE

1. Always check the oil clearance after installing a new bearing.
2. Use a chamois or lint-free cloth to clean the bearings.
3. When installing a bearing, align the tab with the groove in the crankcase.
4. Tighten the bearing cap in the correct sequence and to the correct torque.
5. Do not file or sand the crankshaft journals and crankpins.
6. When installing the bearings, apply clean engine oil or molybdenum disulfide base grease.
7. After installing the connecting rods and crankcase, check that the crankshaft rotates freely.
8. After assembling, check the engine idle speed.

SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
Crankshaft runout	0.03 (0.0012)	0.05 (0.002)
Crankshaft journal out of round	0.005 (0.0002)	0.010 (0.0004)
Crankshaft journal taper	0.005 (0.0002)	0.010 (0.0004)
Crankshaft journal oil clearance	0.02-0.04 (0.0008-0.0016)	0.08 (0.0031)
Crankshaft journal O.D.	35.99-36.00 (1.4169-1.4173)	35.94 (1.415)
Crankpin O.D.	35.99-36.00 (1.4169-1.4173)	35.94 (1.415)
Connecting rod small end oil clearance	0.02-0.04 (0.0008-0.0016)	0.08 (0.0031)
Connecting rod side clearance	0.15-0.30 (0.0059-0.0118)	0.40 (0.0157)

TORQUE VALUES

- Connecting rod nut 1.8-2.2 kg-m (13.0-15.9 lbs.-ft.)
A.C. generator rotor bolt 10.0-12.0 kg-m (72.3-86.81 lbs.-ft.)

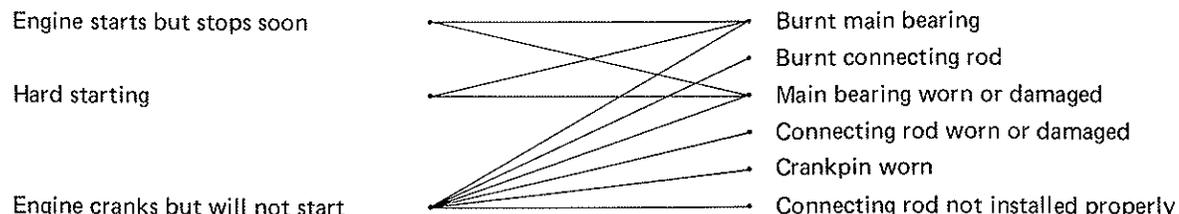
SPECIAL TOOLS

- BEARING DRIVER 07947-6340000

● **TROUBLESHOOTING**

SYMPTOM

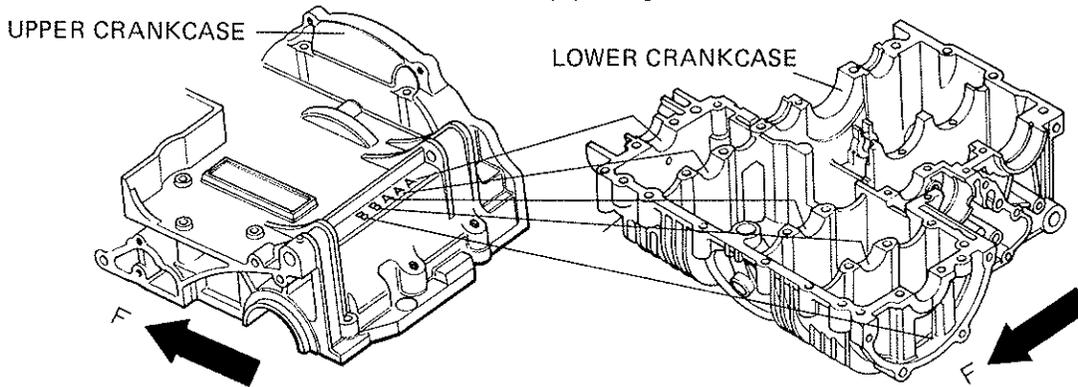
POSSIBLE CAUSE





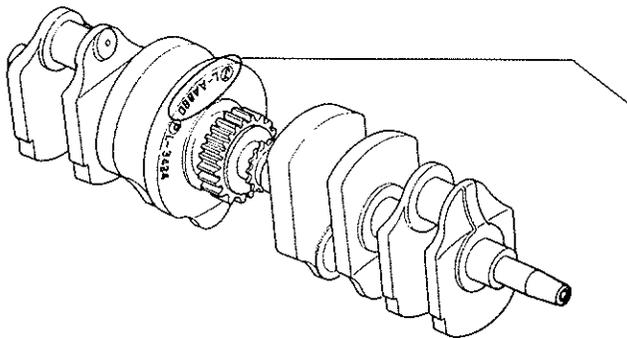
• MAIN BEARING SIZE NUMBER LOCATION

The crankcase main bearing size numbers are punched on the rear side of the upper crankcase.
A,B,C are given from the left side of the crankcase.

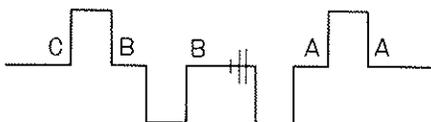


• CRANKPIN SIZE MARK LOCATION

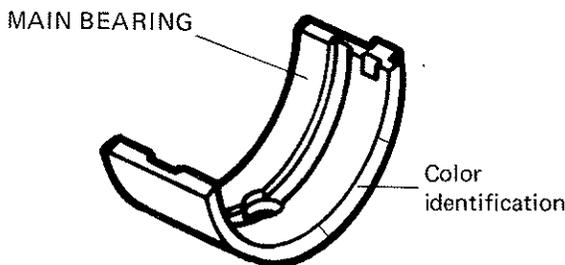
The crankpin size marks are stamped on the side of the crankshaft weight which faces the drive sprocket.



- (J) → Shows the crankshaft journals.
- L. → Means that the marks A, B... C are given from the left side of crankshaft.
- A. → Shows the size of the crankshaft journal located at the extreme left side.
- A. → Shows the size of the second crankshaft journal from the left side.
- B. → Shows the size of the third crankshaft journal from the left side.
- B. → Shows the size of the fourth crankshaft journal from the left side.
- C. → Shows the size of the crankshaft journal located at the extreme right side.



Contact breaker side Alternator side



- When replacing, select the correct size according to the chart below.

For Assembly of main bearing, refer to page 12-5.

Selection table of crankshaft bearing

(Oil clearance 20~46μ)

Crankshaft Journal allowance 36φ		A	B	C
		0 ~ -0.005	-0.005 ~ -0.010	-0.010 ~ -0.015
Crankcase allowance 39φ	+0.024	B (BROWN)	B (BROWN)	A (BLACK)
	+0.016	C (GREEN)	C (GREEN)	B (BROWN)
	+0.008	D (YELLOW)	D (YELLOW)	C (GREEN)
	0			

NOTE

When assembling, use the main bearing having the same mark.

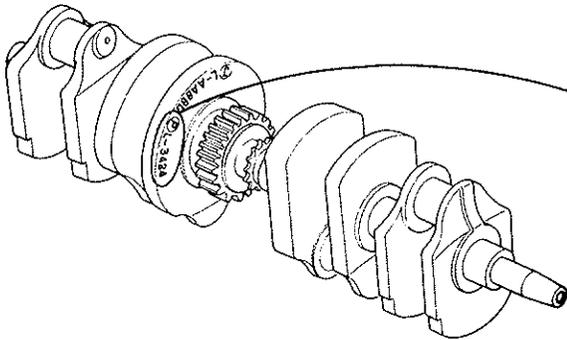


HONDA CB750A

CRANKSHAFT/CONNECTING ROD/ PRIMARY SHAFT/KICK STARTER

CONNECTING ROD BEARING 12

• CRANKPIN INDEX MARK LOCATION



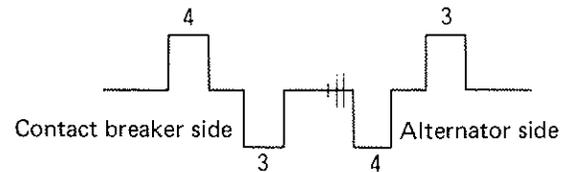
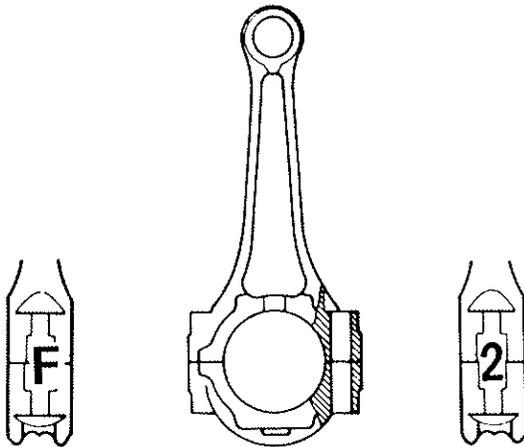
The crankpin index marks are stamped on the left side of the crankshaft weight and is located in the same position as the crankshaft journal size marks.

(P): Shows the crankpin

L: Means that the marks 3.4 - - - 4 are given from the left side of crankshaft.

3434: Shows the sizes of the crankpins from the left side.

• WEIGHT IDENTIFICATION OF CONNECTING RODS



- When replacing, select the same mark of the connecting rod and the proper metal according to the charts given below.
For assembly of connecting rod bearing, refer to page 12-5.

Selection table of connecting rod bearing

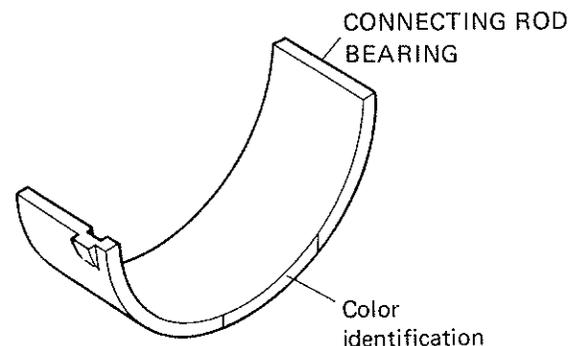
(Oil clearance 20~46μ)

Crank pin allowance 36φ		Connecting rod allowance 39φ		
		3	4	5
		0 ~ -0.005	-0.005 ~ -0.010	-0.010 ~ -0.015
3	+0.024 +0.016	B (BROWN)	B (BROWN)	A (BLACK)
2	+0.016 +0.008	C (GREEN)	C (GREEN)	B (BROWN)
1	+0.008 0	D (YELLOW)	D (YELLOW)	C (GREEN)

- If connecting rod replacement is necessary, determine and record each connecting rod weight mark. Then, select the connecting rod bearings having the same weight mark.

Weight I.D. mark

MARK	PARTS NO.
D	13204-300-000
F	13206-300-000
J	13208-300-000



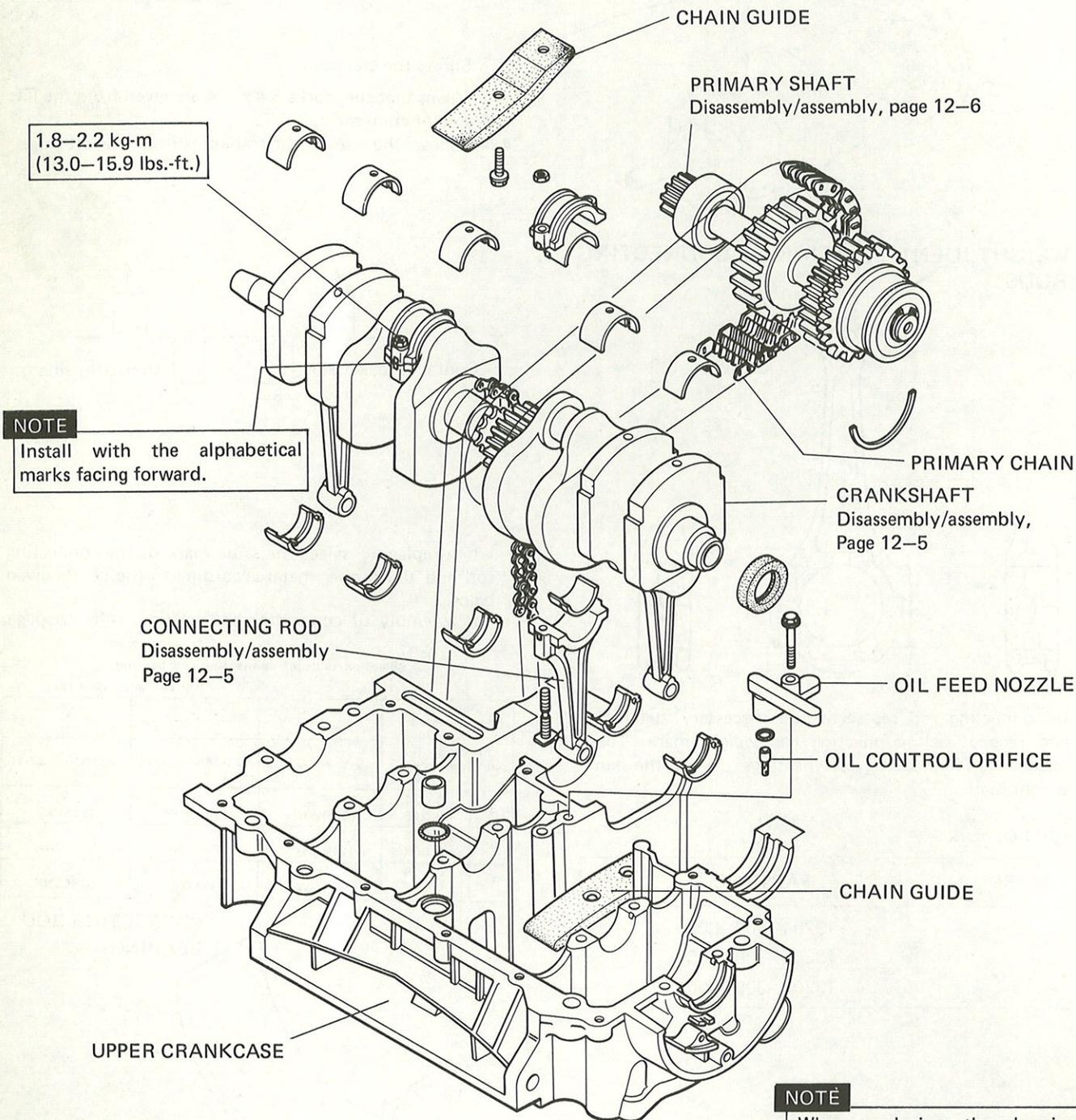
NOTE

When assembling, use the connecting rod bearing having the same mark.



● **DISASSEMBLY/ASSEMBLY**

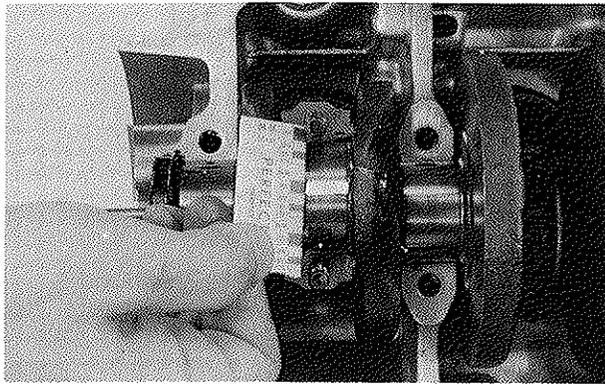
- (1) Remove the lower crankcase.
- (2) Remove the cylinder and the pistons.
- (3) Remove the A.C. generator.



NOTE
When replacing the bearing, select the correct bearing so that the I.D. mark of the crankshaft corresponds to the connecting rod.



• **CONNECTING ROD BEARING ASSEMBLY**



NOTE

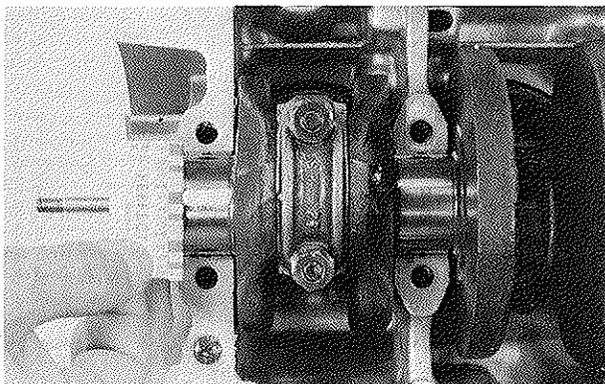
Do not rotate the crankshaft during the inspection and tighten connecting rod cap, to the specific torque.

- (1) Remove the caps and bearings.
- (2) Lay a strip of plastigage lengthwise on the crankpin.
- (3) Install the cap and tighten the cap nuts to 1.8–2.2 kg-m (13.0–15.9 lbs-ft.)
- (4) Remove the cap and measure the amount of widest flattening with the scale printed on the gauge bag.

Bearing Clearance	Standard 0.02–0.04 mm (0.0008–0.0016 in.)
	Service Limit 0.08 mm (0.0031 in.)

* If the bearing clearance is beyond the tolerance, check the connecting rod and crankpin for wear. If they are not worn, replace the bearings with the undersize bearing and recheck the clearance.

• **MAIN BEARING ASSEMBLY**



NOTE

Do not rotate the crankshaft during the inspection and tighten each nut in X pattern to the specific torque.

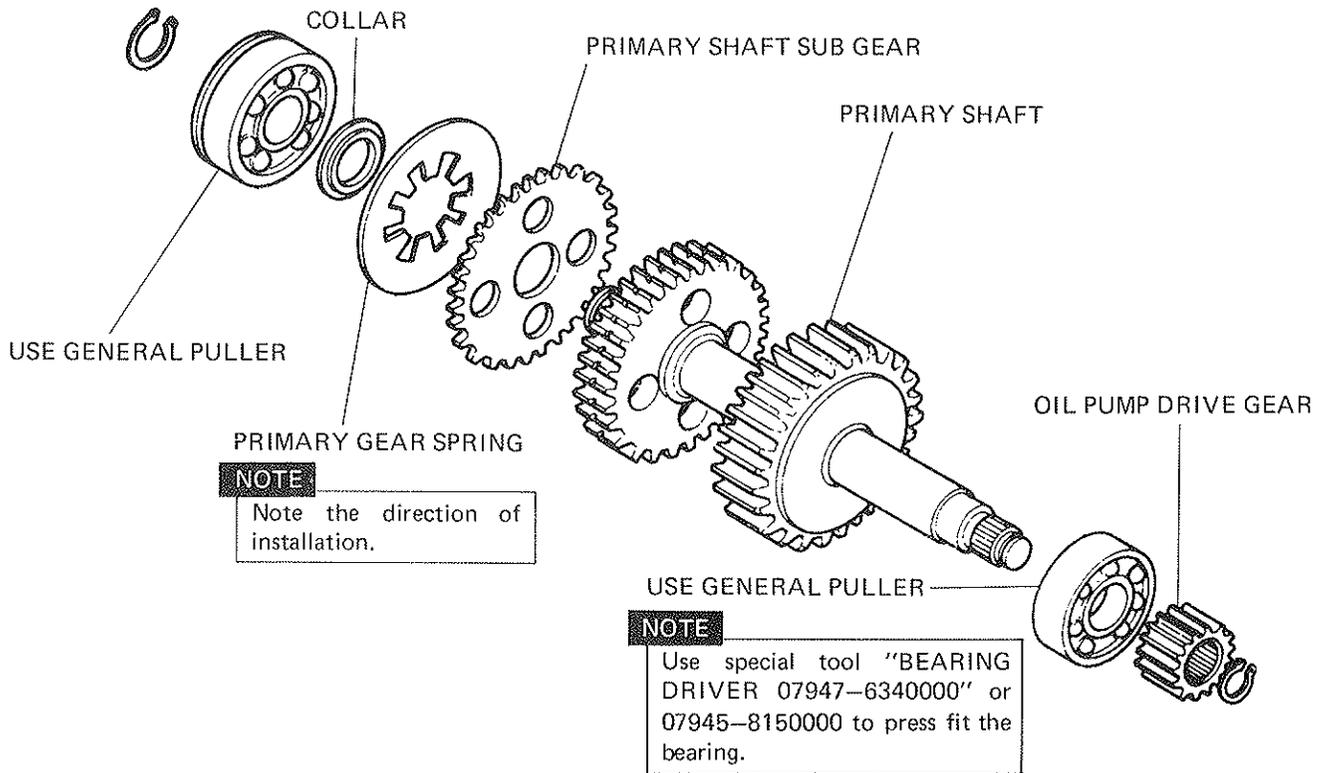
- (1) Remove the caps and bearings.
- (2) Lay a strip of plastigage lengthwise on the crankshaft journal. Install crankshaft.
- (3) Install the lower crankcase. Install the crankcase bolts, tightening to 2.3–2.5 kg-m (16.6–18.1 lbs-ft.).
- (4) Remove the lower crankcase and measure the amount of widest flattening with the scale printed on the gauge bag.

Bearing Clearance	Standard 0.02–0.04 mm (0.0008–0.0016 in.)
	Service Limit 0.08 mm (0.0031 in.)

* If the bearing clearance is beyond tolerance, check the crankcase and journal for wear. If they are not worn, replace the bearings with the undersize bearings and recheck the clearance.

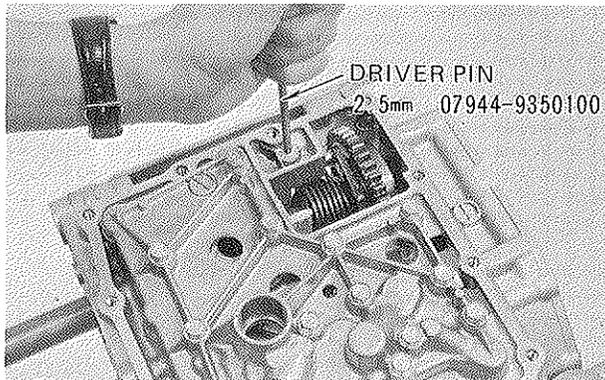


• PRIMARY SHAFT

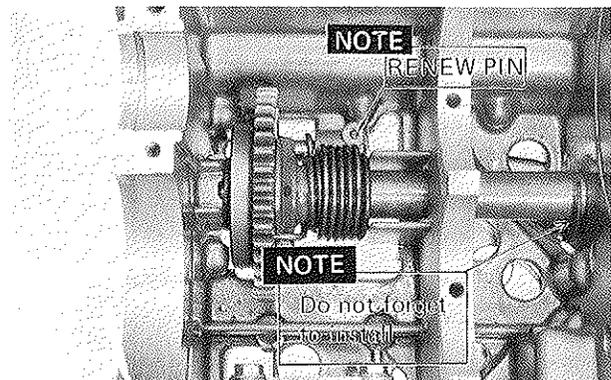


• PRIMARY KICK

• DISASSEMBLY



• ASSEMBLY





HONDA

CB750A

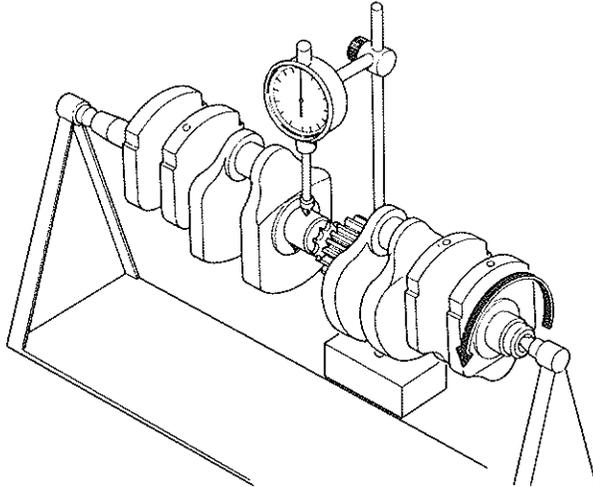
**CRANKSHAFT/CONNECTING ROD/
PRIMARY SHAFT/KICK STARTER**

INSPECTION

12

● **INSPECTION**

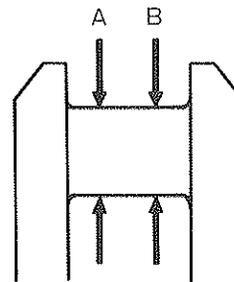
● **CRANKSHAFT RUNOUT**



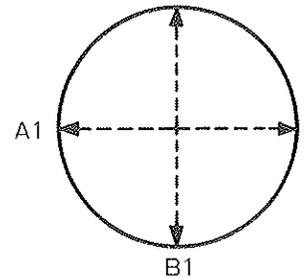
CRANKSHAFT RUNOUT

0.03 mm (0.0012 in.)
Service Limit: 0.05 mm (0.002 in.)

TAPER



OUT OF ROUND



CRANKSHAFT JOURNAL/CRANKPIN O.D.

35.99–36.00 mm (1.4169–1.4173 in.)
Service Limit : 35.94 mm (1.415 in.)

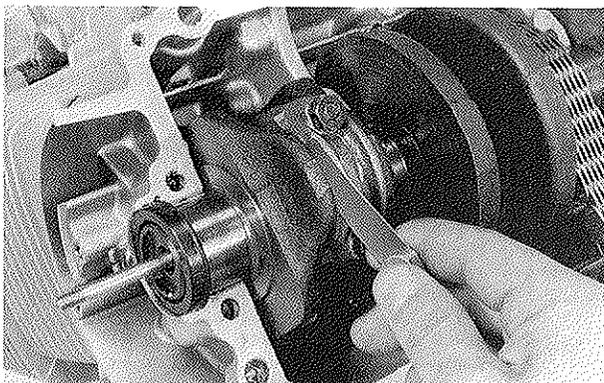
CRANKSHAFT JOURNAL TAPER

0.005 mm (0.0002 in.)
Service Limit: 0.010 mm (0.0004 in.)

CRANKSHAFT JOURNAL OUT OF ROUND

0.005 mm (0.0002 in.)
Service Limit: 0.010 mm (0.0004 in.)

● **CONNECTING ROD SIDE CLEARANCE**



0.15–0.30 mm (0.0059–0.0118 in.)
Service Limit: 0.40 mm (0.0157 in.)

Replace with a new one, if it is out of limit.

CRANKSHAFT/CONNECTING ROD/
PRIMARY SHAFT/KICK STARTER

HONDA
CB750A





13. CARBURETOR

SERVICE INFORMATION	13—1	● FLOAT HEIGHT	13—5
TROUBLESHOOTING	13—1	● ACCELERATOR PUMP	13—6
DISASSEMBLY/ ASSEMBLY	13—2	● IDLE MIXTURE	13—7
ADJUSTMENT	13—5	● ALTITUDE ADJUSTMENT	13—7
		INSPECTION	13—8

● SERVICE INFORMATION

CARBURETOR SETTING CHART

Item	Setting No.	'76 model	'77 model	'78 model
		PD44A	PD44B	PD43A
Standard main jet No.		102	108	←
Standard slow jet No.		38	←	←
Standard air jet No.		150	200	200
Standard slow air jet No.		150	←	←
Standard jet needle setting		3rd notch	←	—
Pilot screw opening		1 1/4 turn	1 turn	1 1/8 turn
Float height		14.5 mm (0.571 in.)	12.5 mm (0.492 in.)	←
Idle speed		950 ± 100 rpm/N	←	←

● TROUBLESHOOTING

● Engine Cranks But Won't Start

1. No fuel in tank
2. No fuel getting to cylinders
3. Too much fuel getting to cylinders
4. No spark at plugs — (ignition malfunction)
5. Air cleaner clogged

● Engine Idles Roughly, Stalls, or Runs Poorly

1. Idle speed incorrect
2. Ignition malfunction
3. Low compression
4. Rich mixture
5. Lean mixture
6. Air cleaner clogged
7. Air leaking into manifold
8. Fuel contaminated
9. Carburetors not synchronized

● Lean Mixture

1. Carburetor fuel jets clogged
2. Throttle valve stuck closed
3. Fuel cap vent blocked
4. Fuel filter clogged
5. Fuel line kinked or restricted
6. Float valve faulty
7. Float level too low

● Rich Mixture

1. Choke stuck closed
2. Float valve defective
3. Float level too high
4. Carburetor air jets clogged



CARBURETOR

● **DISASSEMBLY/ASSEMBLY**

WARNING

Gasoline is flammable.
Keep spark and open flame away from carburetor during disassembly/assembly.

(1) Remove the carburetor assembly.

NOTE

Replace with a new one, when disassembled.

(10) No. 4 CARBURETOR

THROTTLE LINE

(4) REAR STAY

(11) No. 3 CARBURETOR

(6) TOP/LINK ARM

CHOKE LINK

(3) THROTTLE
OPENER

(2) THROTTLE
RETURN
SPRING

(8) No. 1
CARBURETOR

NOTE
Never disassemble.

SOLENOID
VALVE

(9) No. 2 CARBURETOR

(7) CHOKE VALVE
PLATE

NOTE

Clean carburetor body, jets and all parts with compressed air before assembling.

(5) STAY PLATE

Perform the following inspections and adjustment after assembly:

- Choke and throttle valve operation check Page 4-10, 13
- Throttle grip free play adjustment Page 4-10
- Carburetor synchronization Page 4-14



CARBURETOR

• CARBURETOR

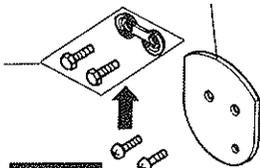
- 1 Remove the choke valve and the setting screw of the link arm.
 - 2 Remove the stay plate after removing the return spring.
- Replace the choke valve set screws with bolts and lock washers.
 - Check the operation of the choke valve after assembling. Raise the tab of the lock washer.

CHOKE VALVE

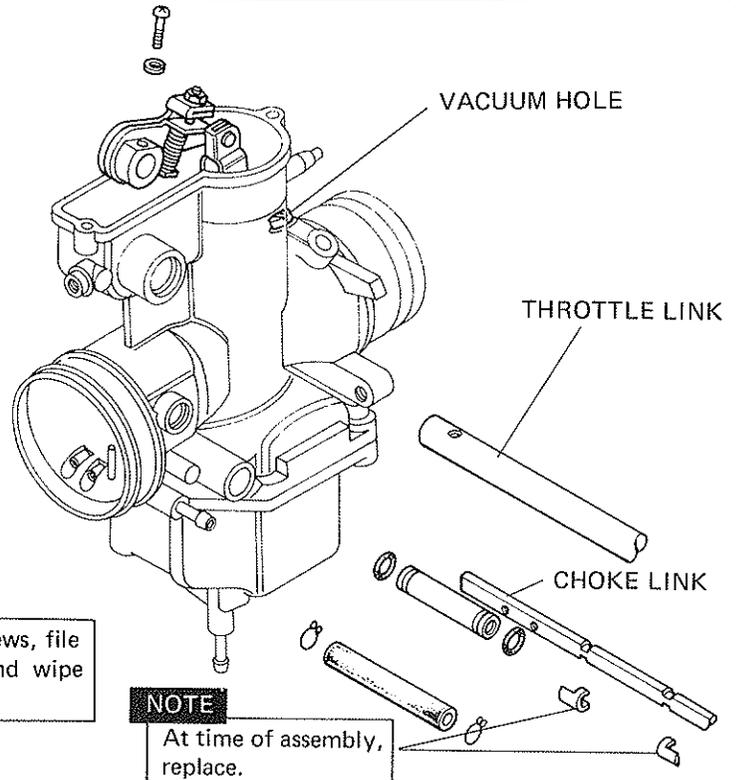
NOTE

Note the installation direction.

Replace the bolt and washer when disassembled.

**NOTE**

Before loosening the screws, file off the staked areas and wipe clean.

**NOTE**

At time of assembly, replace.

K410-599

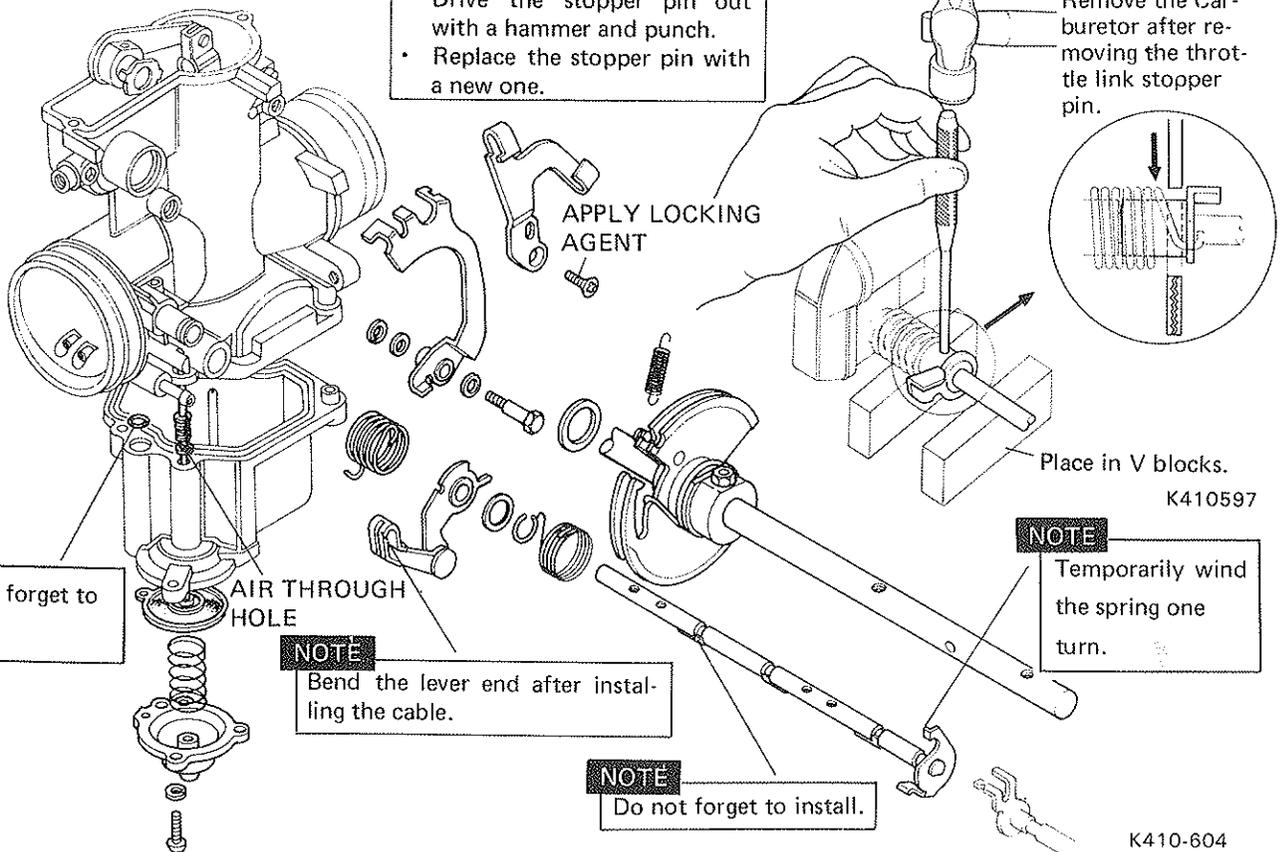
• No. 2 CARBURETOR INSTALLATION

NOTE

- Drive the stopper pin out with a hammer and punch.
- Replace the stopper pin with a new one.

• No. 3 CARBURETOR REMOVAL

Remove the Carburetor after removing the throttle link stopper pin.

**NOTE**

Do not forget to install.

AIR THROUGH HOLE

NOTE

Bend the lever end after installing the cable.

NOTE

Do not forget to install.

NOTE

Temporarily wind the spring one turn.

Place in V blocks.

K410597

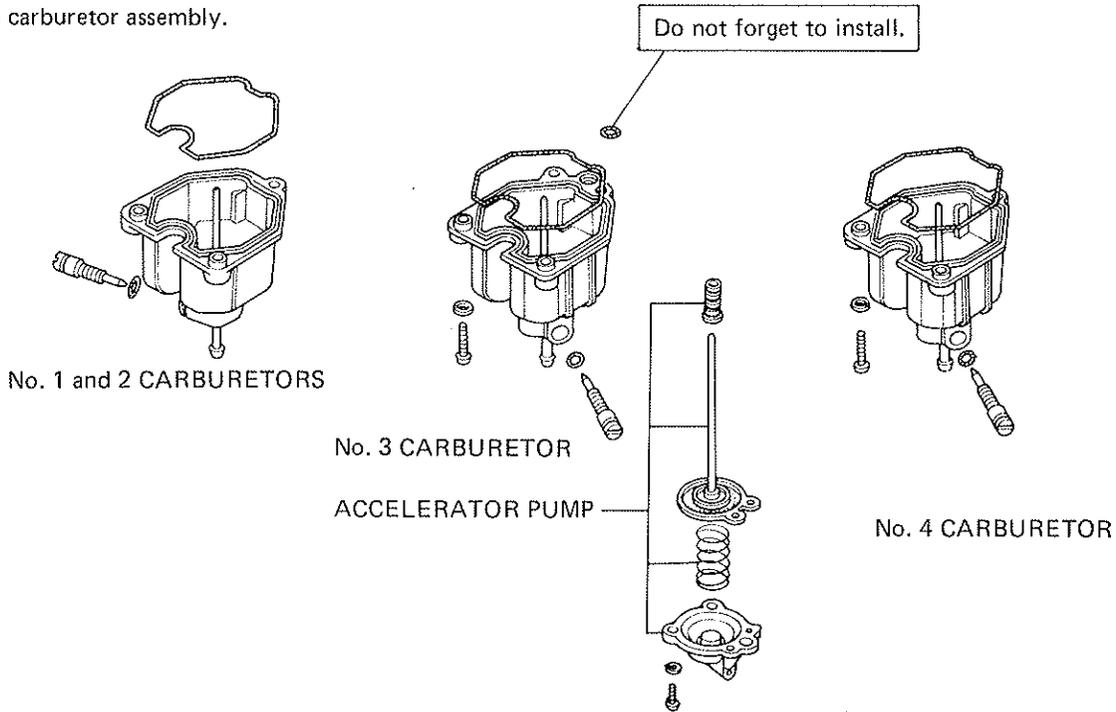
K410-604



CARBURETOR

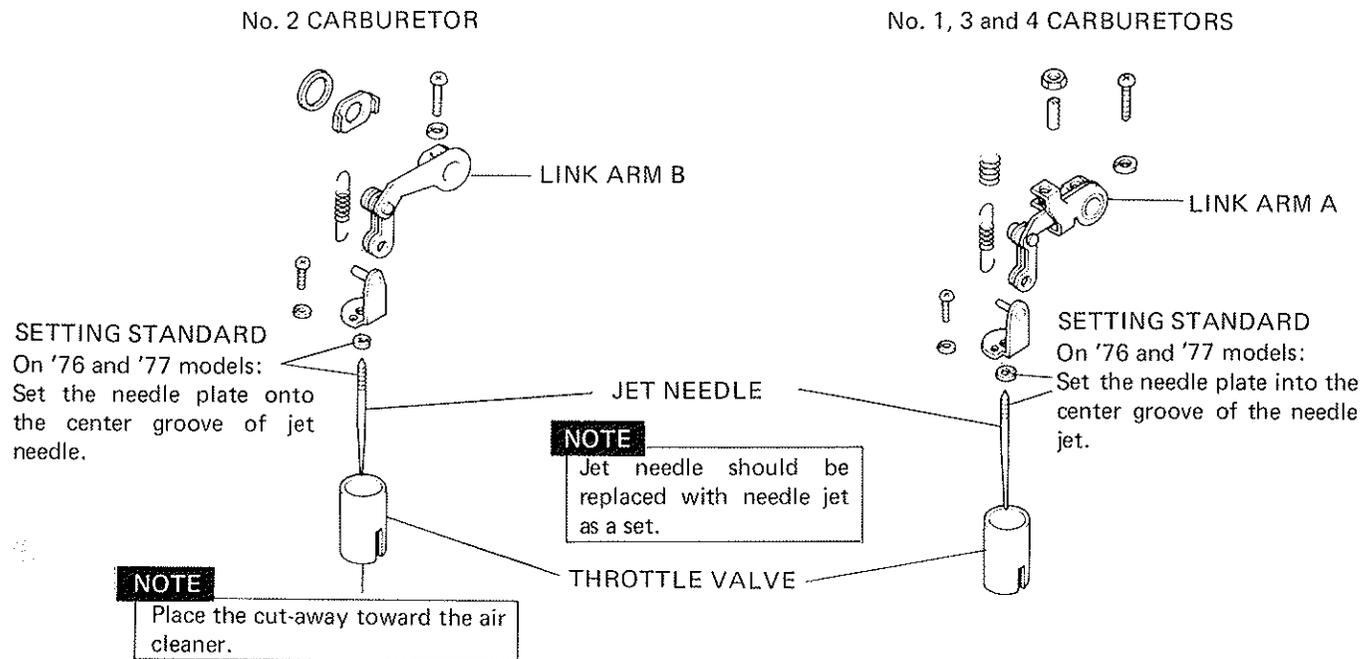
• **FLOAT CHAMBER**

Remove the carburetor assembly.



• **THROTTLE VALVE**

Remove the carburetor assembly.

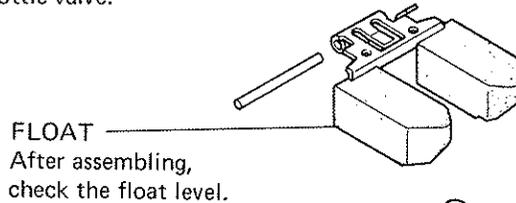




CARBURETOR

• **FLOAT, FLOAT VALVE AND JETS**

- (1) Remove the carburetor.
- (2) Remove the float chamber.
- (3) Remove the throttle valve.



NEEDLE JET

NOTE

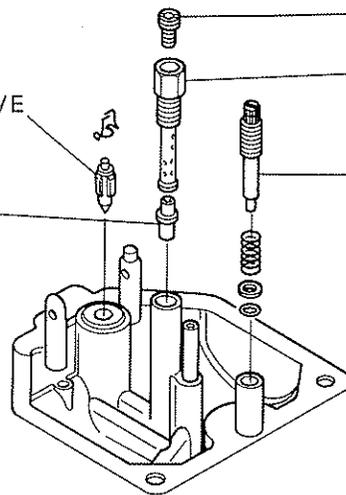
- Remove the needle jet holder.
- Push the needle jet out from the throttle valve side.
- Needle jet and jet needle should be replaced as a set.

FLOAT VALVE

MAIN JET

NEEDLE JET HOLDER

PILOT SCREW



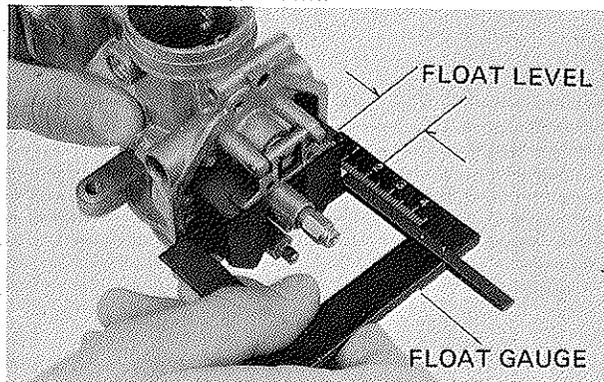
NOTE

- Do not damage the jet during assembly.
- If jets are clogged, clean with compressed air. Wash other parts in solvent before installing.

• **ADJUSTMENT**

• **FLOAT LEVEL INSPECTION AND ADJUSTMENT**

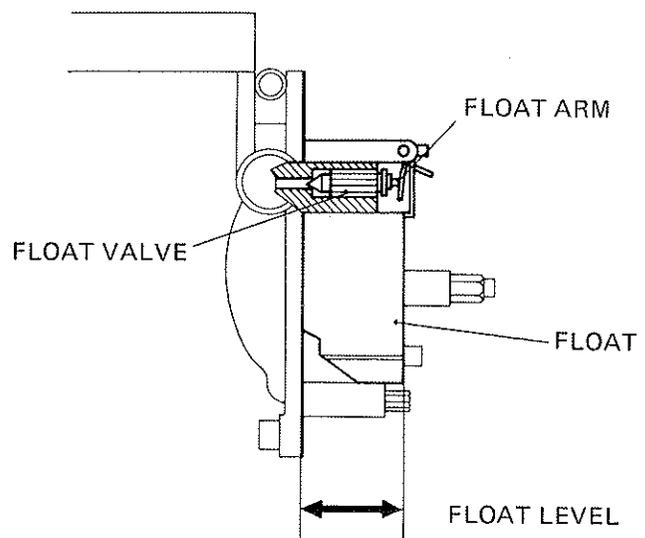
Place the carburetor as shown.



FLOAT LEVEL

'76 model	14.5 mm (0.571 in.)
'77 and '78 models	12.5 mm (0.492 in.)

If out of specification, adjust the float level by bending the float arm.



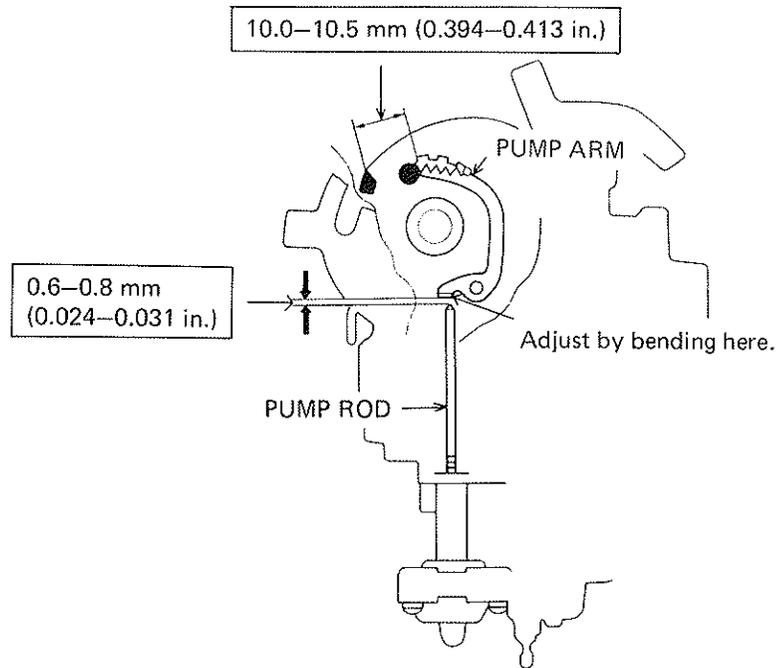


- ACCELERATOR PUMP

**PUMP ROD-TO-PUMP
 ARM CLEARANCE**

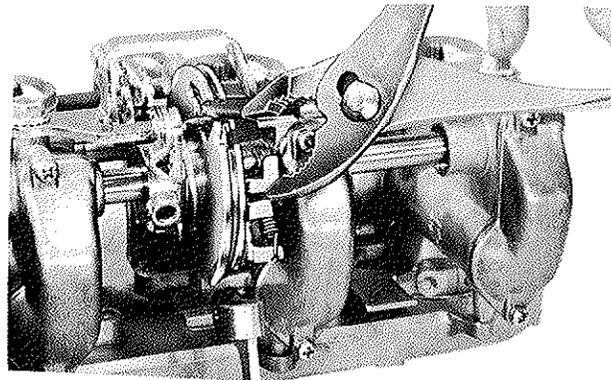
- (1) Remove the carburetor.
- (2) Close the throttle valve.
- (3) Measure the clearance.

- (4) To adjust, bend the pump arm tongue.


**PUMP ARM-TO-CARBURETOR
 STAY CLEARANCE**

- (1) Remove the carburetor.
- (2) Close the throttle valve.
- (3) Measure the clearance.

- (4) To adjust, bend the pump arm.





● **PILOT SCREW INITIAL SETTING**

Turn the pilot screw clockwise with a screwdriver until it seats lightly, and back it out to specified opening turns.

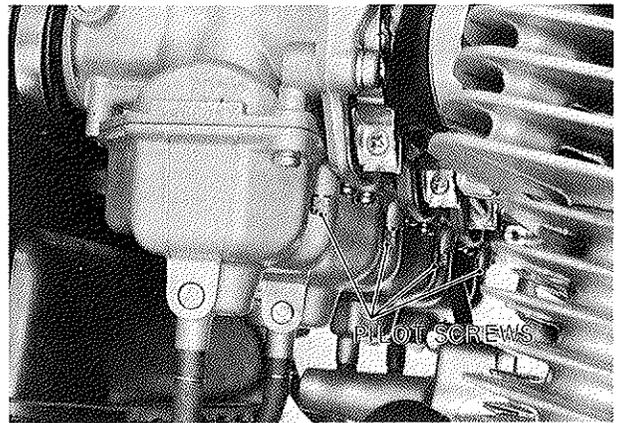
SPECIFIED OPENING:

- '76 MODEL—1-1/4 TURNS OUT
- '77 MODEL—1 TURN OUT
- '78 MODEL—1-1/8 TURNS OUT

This is a preliminary setting prior to final Pilot Screw Adjustment.

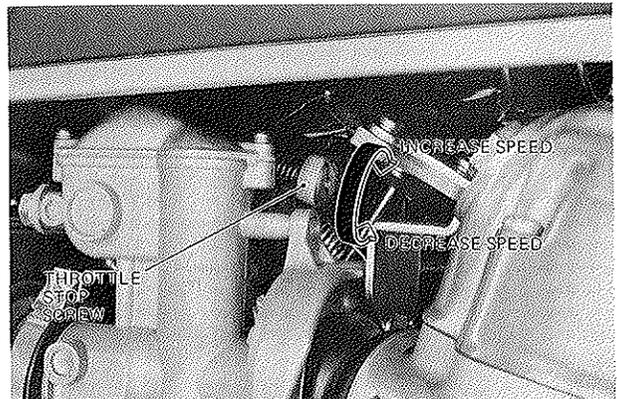
CAUTION

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.



● **PILOT SCREW ADJUSTMENT**

- (1) Place the motorcycle on its center stand and set the parking brake.
- (2) Warm up the engine to operating temperature. Stop-and-go driving for approx. 10 minutes should be sufficient.
- (3) Connect a tachometer.
- (4) Adjust the idle speed with the throttle stop screw.
IDLE SPEED: 950 ± 100 rpm (IN NEUTRAL)
- (5) Turn the No. 2 carburetor pilot screw in or out to obtain the highest engine speed.
- (6) Readjust the idle speed with the throttle stop screw.
- (7) Perform steps (5) and (6) to remaining carburetors.

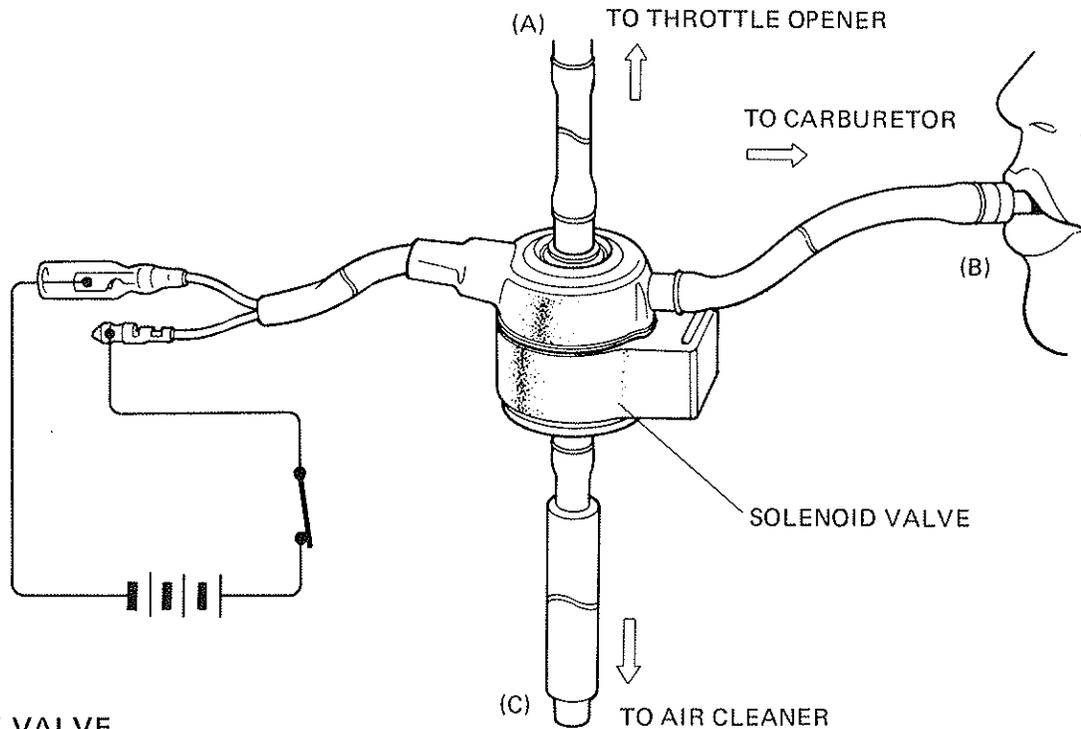




● **INSPECTION**

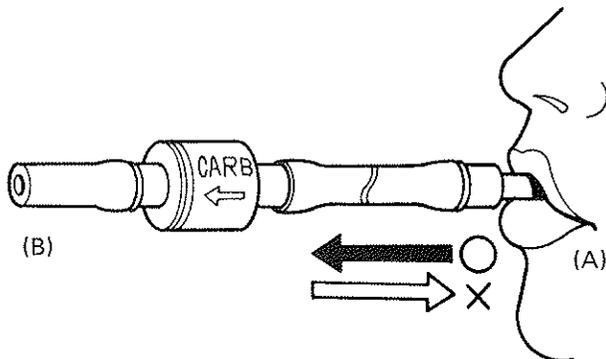
● **SOLENOID VALVE INSPECTION**

Check the operation of the solenoid. The solenoid is normal if there is air flow from (A) to (C), or there is no air flow from (C) to (B), when it is energized. No air should flow from (A) to (B), or air should flow from (B) to (C) when the solenoid is de-energized.



● **CHECK VALVE**

Air should flow from (A) to (B).
No air should flow from (B) to (A).





TROUBLESHOOTING	14-1	● BATTERY SERVICE	14-8
IGNITION SYSTEM	14-3	STARTING SYSTEM	14-9
● IGNITION SYSTEM DIAGRAM	14-3	● STARTING SYSTEM DIAGRAM	14-9
● INSPECTION	14-3	● DISASSEMBLY/ ASSEMBLY	14-10
CHARGING SYSTEM	14-5	● STARTER MOTOR DISASSEMBLY	14-11
● CHARGING SYSTEM DIAGRAM	14-5	● INSPECTION	14-12
● CHARGING TEST	14-5	ALL OTHER ELECTRICAL PARTS INSPECTION	14-15
● INSPECTION	14-6		

● TROUBLESHOOTING

(IGNITION SYSTEM)

Engine Cranks but Will Not Start:

- Engine stop switch OFF
- No spark at plugs
- Defective contact breaker
- A.C. generator faulty

No Spark at Plugs:

- Engine stop switch OFF
- Poorly connected, broken or shorted wires
- Defective ignition switch
- Defective ignition coil
- Defective condenser
- Defective A.C. generator
- Defective contact breaker

Engine Starts but Runs Poorly:

- Ignition primary circuit
 - Defective ignition coil
 - Loose or bare wire
 - Intermittent short-circuit in a switch
- Secondary circuit
 - Defective plug
 - Defective high tension cord
- Ignition timing
 - Defective contact breaker
 - Defective condenser

**(CHARGING SYSTEM)**

No Power — Key Turned On:

- Dead battery
 - Battery not charged
 - Battery electrolyte low
 - Battery run down
 - Charging system failure
- Disconnected battery cable
- Main fuse burned out
- Defective ignition switch

Low Power — Key Turned On:

- Weak battery
 - Low battery electrolyte level
 - Battery run down
 - Charging system failure
- Loose battery connection

Low Power — Engine Running:

- Battery undercharged
 - Low battery electrolyte level
 - One or more dead cells
- Charging system failure

(STARTING SYSTEM)

Starter Motor Will Not Turn:

- Dead battery
- Defective ignition switch
- Defective starter switch
- Defective neutral switch
- Defective starter magnetic switch
- Loose or disconnected wire or cable
- Defective clutch switch

Starter Motor Turns Engine Slowly:

- Low battery
- Excessive resistance in circuit

Intermittent Power:

- Loose battery connection
- Loose charging system connection
- Loose starting system connection
- Loose connection or short circuit in ignition system
- Loose connection or short circuit in lighting system

Charging System Failure:

- Loose, broken, or shorted wire or connection
- Defective voltage regulator
- Defective silicon rectifier
- Defective A.C. generator

Starter Motor Turns, But Engine Does Not Turn:

- Defective starter clutch
- Defective starter motor gears
- Defective starter motor or idle gear

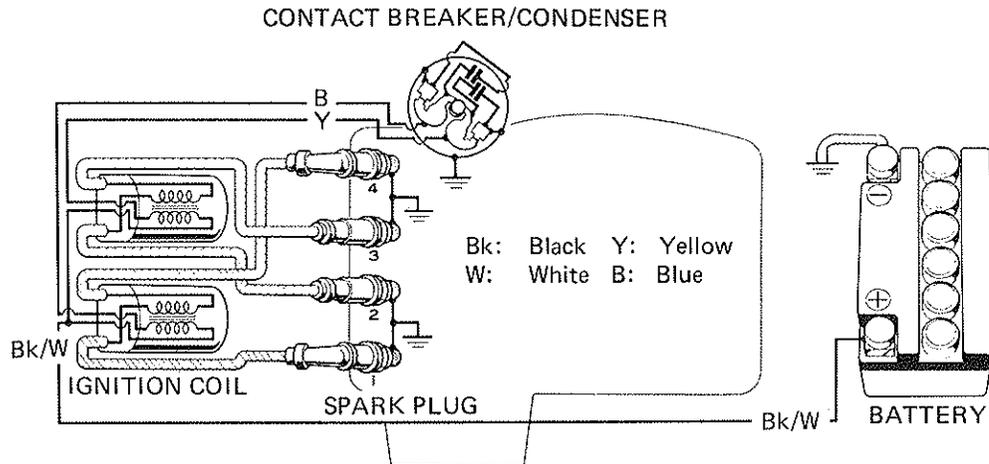
Starter Motor and Engine Turn, But Engine Does Not Start:

- Defective ignition system
- Engine problems



● **IGNITION SYSTEM**

● **IGNITION SYSTEM DIAGRAM**

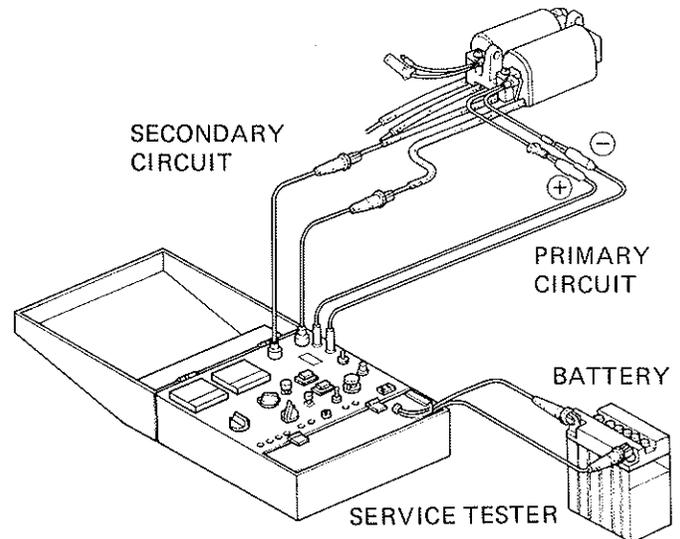
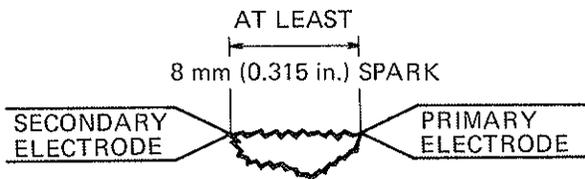


Q393525

● **INSPECTION**

● **IGNITION COIL INSPECTION**

- **TESTING WITH SERVICE TESTER – 3-POINT SPARK TEST**
The coil is satisfactory if sparks jump across a gap greater than 8 mm.
- Perform this test by placing the coil on an insulated surface.
- Keep the alligator clips at least 50 mm (2 in.) away from each other.
- Follow the instructions furnished with the tester.

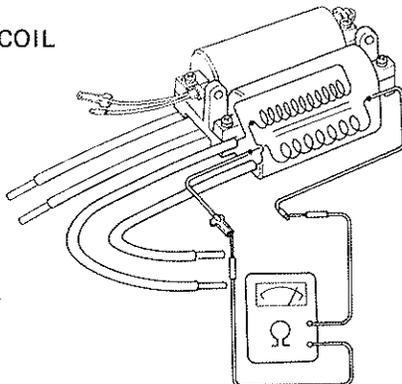


I410884

CONTINUITY TEST

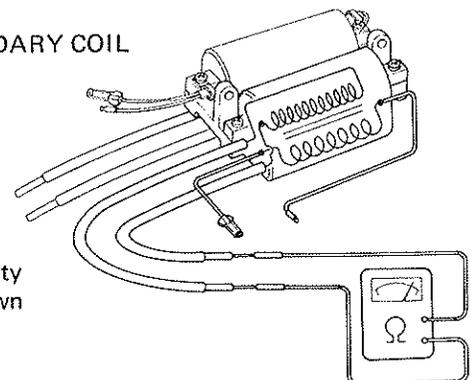
- Remove the spark plug cap before making a continuity test.
- There should be continuity between coils.

PRIMARY COIL



I410882

SECONDARY COIL



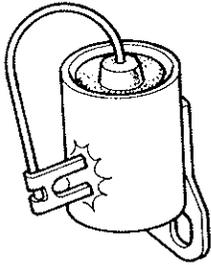
I410886

There should be continuity with the connection shown in the figure.

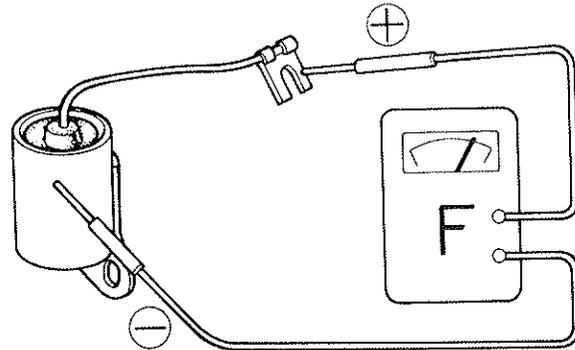


- CONDENSER CAPACITY CHECK

Use a radio tester to check. Before making a check, short out the stored energy by attaching the center lead (+) to the case.



I410881

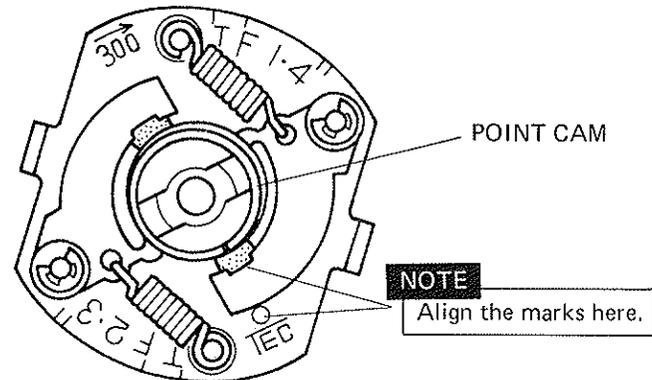


Condenser capacity	0.22–0.26 μ F
--------------------	-------------------

I410879

- SPARK ADVANCER

- If the advancer does not operate smoothly, apply oil to the sliding surface of the advancer.



Z410630

- SPARK ADVANCER INSPECTION -DYNAMIC TEST

NOTE

Before performing this test, check and adjust the ignition timing. Refer to page 4–8.

With the engine running over 2,500 rpm, check that the index mark is within the full advance marks. If the index mark is out of the full advance marks, check the operation of the spark advancer. Repair or replace as required.

- SPARK PLUG

- For inspection and adjustment - - - - page 4–6.

- CONTACT BREAKER

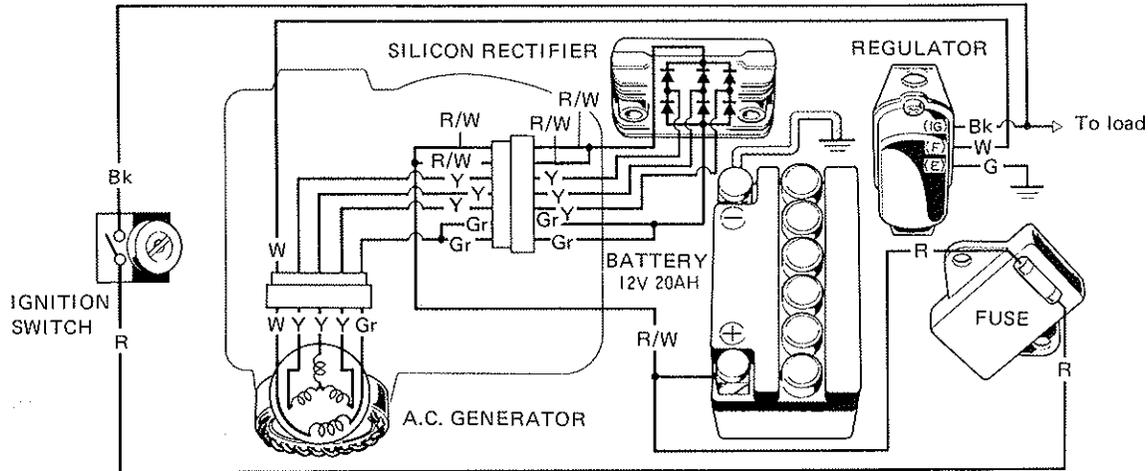
- For inspection and adjustment - - - - page 4–7.





● **CHARGING SYSTEM**

● **CHARGING SYSTEM DIAGRAM**



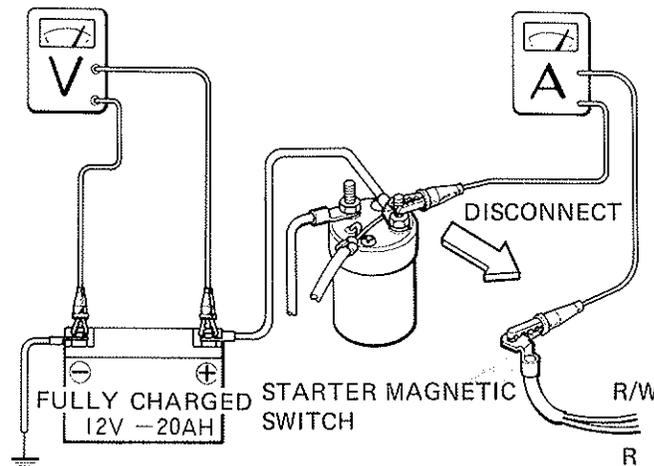
Q393526

● **CHARGING TEST**

Perform the following tests after warming up the engine:

- Check the specific gravity of battery electrolyte. Specific Gravity (fully charged): 1.260–1.280 at 20° (68°F)
- Connect a voltmeter and an ammeter as shown; set the dimmer switch to HIGH.
- Install a tachometer.

Make the connections as shown and raise the engine speed gradually in order to permit the needle of each meter to swing gently.



I410904

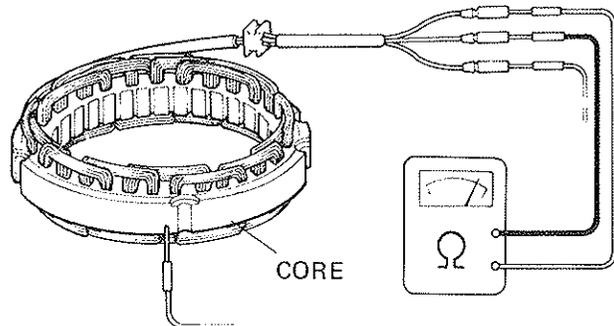
Charging rpm	3,000 rpm		8,000 rpm	
	Charging current	Battery terminal voltage	Charging current	Battery terminal voltage
1,450 rpm	8.7A max.	14.5V	13.2A max.	14.5V

- Run the engine and note the exact voltage indicated on the voltmeter. Readings in excess of specifications indicate that the generator and battery should be inspected individually.



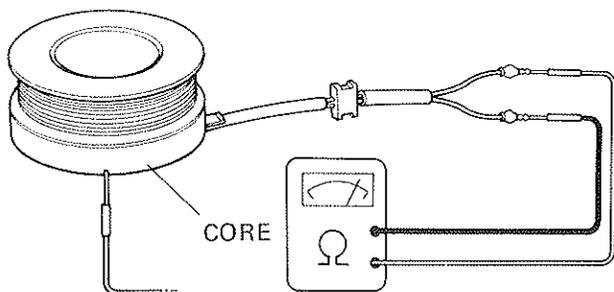
ELECTRICAL

- INSPECTION
- STATOR COIL



I410876

- FIELD COIL



I410883

NOTE

Perform this test on an insulated surface or non-conductive material.

CONTINUITY TEST:

- There should be continuity between the three lead wires.

INSULATION TEST:

- There should be no continuity between each wire and the stator core.

NOTE

Perform this test on an insulated surface or non-conductive material.

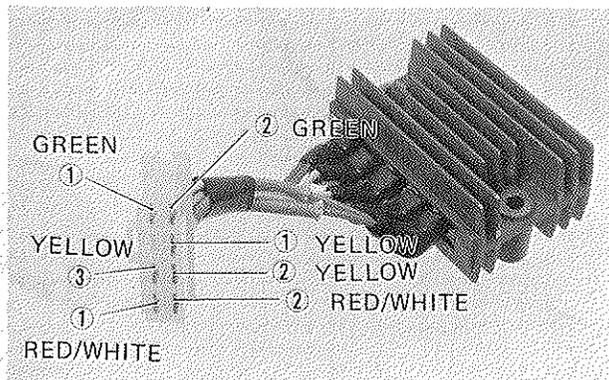
CONTINUITY TEST:

- There should be continuity between the two lead wires.
- The coil is open if there is no continuity.

INSULATION TEST:

- No continuity should exist between the field core and each of the terminals.
- The coil is short circuited if there is continuity.

SILICON RECTIFIER

**NOTE**

- Use an ohm meter.
- Do not apply high voltages as this will ruin the diodes.

Replace the rectifier if any one of the following tests proves unsatisfactory.

Continuity should exist between:

Green (1) and Green (2) leads

Red/White (1) and Red/White (2) leads:

Continuity should exist in only one direction between:

One of the Green leads (1) and (2) and one of the Yellow leads (1), (2) and (3).

One of the Red/White leads (1) and (2) and one of the Yellow leads (1), (2) and (3).

NOTE

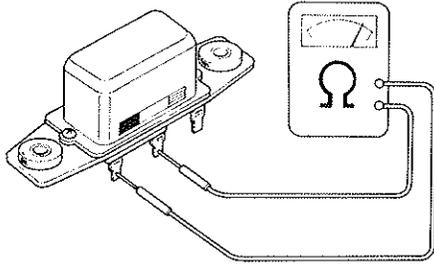
Some resistance will be indicated if there is continuity.



● **VOLTAGE REGULATOR**

The regulator controls the output of the A.C. generator to prevent damaging high voltage and high current from being attained within the system.

INSPECTION: AT TIME OF DISASSEMBLY

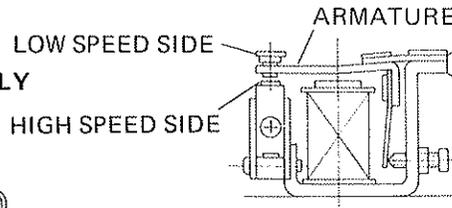


I410880

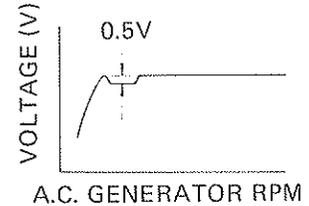
- (1) There should be continuity between "F" terminal (white) and "I" terminal (black).

INSPECTION AND ADJUSTMENT: AT TIME OF ASSEMBLY

- (1) Perform the charging test. If the battery is not charged fully, proceed to the steps (2) and (5).
- (3) Adjust the core gap.



D410577

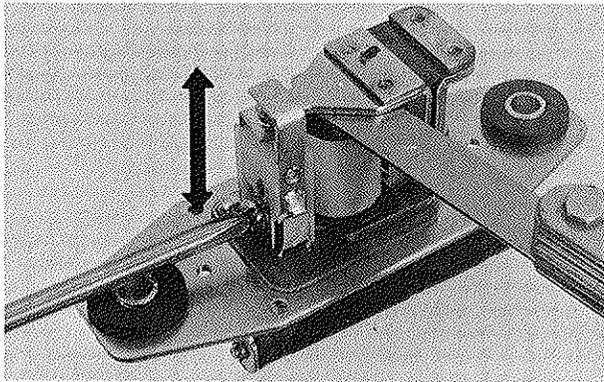


I410885

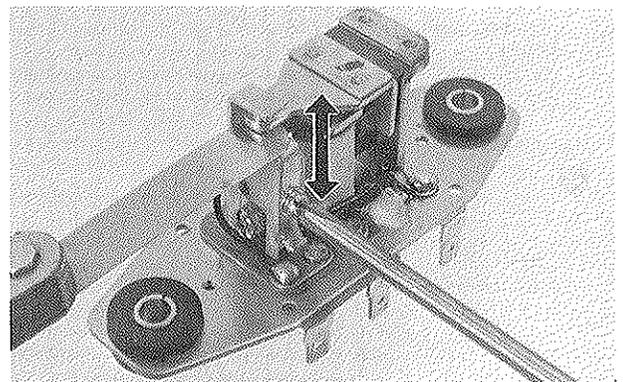
- (2) Perform charging test. The regulator is normal if the charging voltage is 14.5 V when the engine is running at 3,000 rpm or higher.

Charging voltage may vary about 0.5V when the armature is pulled down from LOW to HIGH side, but this is normal.

- (2) Check the points for fouling or pitting, and clean or polish if necessary.
- (4) Adjust the point gap.

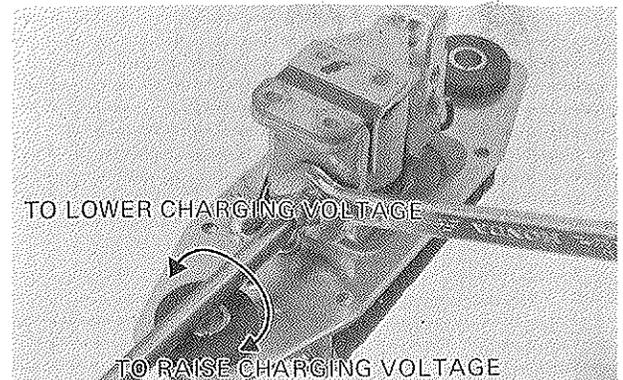


STANDARD	0.6–1.0 mm (0.024–0.040 in.)
----------	------------------------------



STANDARD	0.3–0.4 mm (0.012–0.016 in.)
----------	------------------------------

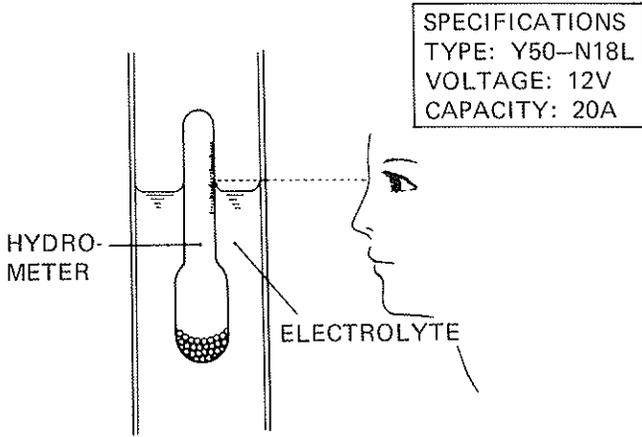
- (5) Charging voltage:
The regulator is normal if the charging voltage is 14.5 V when the engine is running at 3,000 rpm or higher.





• BATTERY SERVICE

SPECIFIC GRAVITY AND TEMPERATURE



- Specific gravity changes 0.007 for every 10°C (18°F) of electrolyte temperature.

NOTE

Replace the battery if sulfation is evident. Replace the battery if pastes have settled to the bottom in each cell.

CHARGING BATTERY

Hooking-up instruction	Connect the positive (+) terminal of charger to the positive (+) terminal of the battery. Connect the negative (-) terminal of charger to the negative (-) terminal of the battery.
Charging current	2.0A
State of charge of battery	Continue charging until S.G. (Specific Gravity) of the battery electrolyte is 1.260 to 1.280 (20°C/68°F).
Charging time	About 3 hours if S.G. is lower than 1.220 (20°C/68°F)

WARNING

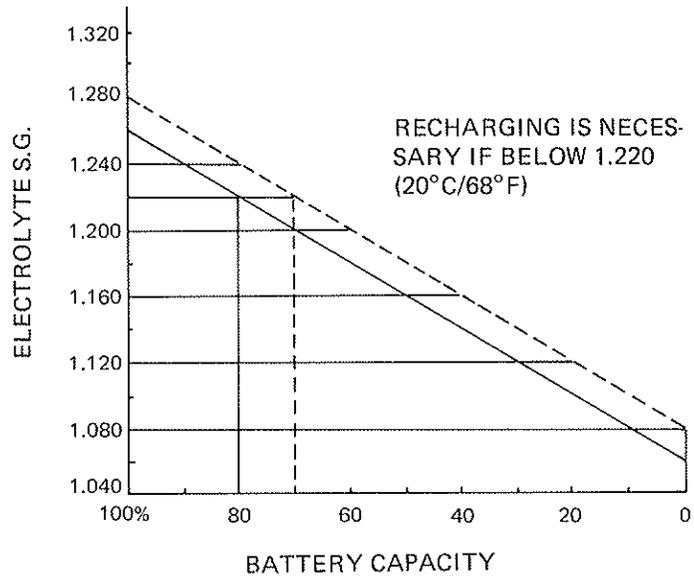
- Remove the caps when charging.
- Do not bring an open flame near the battery as explosive hydrogen gas is formed during charging.
- Avoid "QUICK CHARGING."
- Do not continue charging when the electrolyte temperature exceeds 45°C.

After charging, wash the battery with water and coat the terminals with grease.

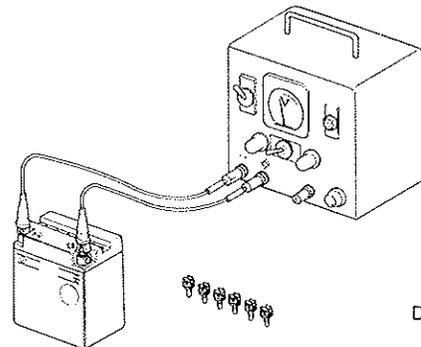
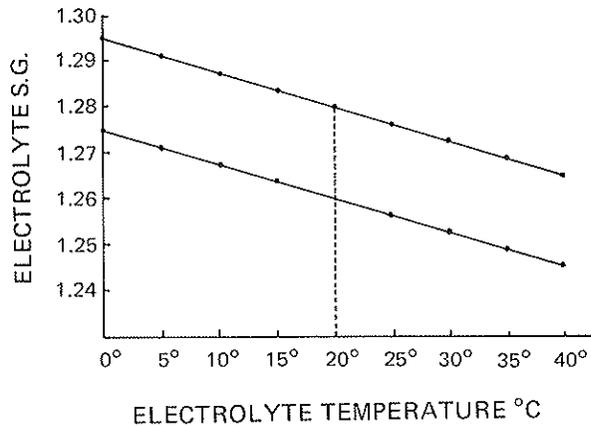
SPECIFIC GRAVITY (FULLY CHARGED): 1.260–1.280 at 20°C (68°F)

The battery should be recharged if the specific gravity falls below 1.220 at 20°C (68°F).

• S.G. AND CAPACITY



• ELECTROLYTE TEMPERATURE VS SPECIFIC GRAVITY



D410577



● **STARTING SYSTEM**

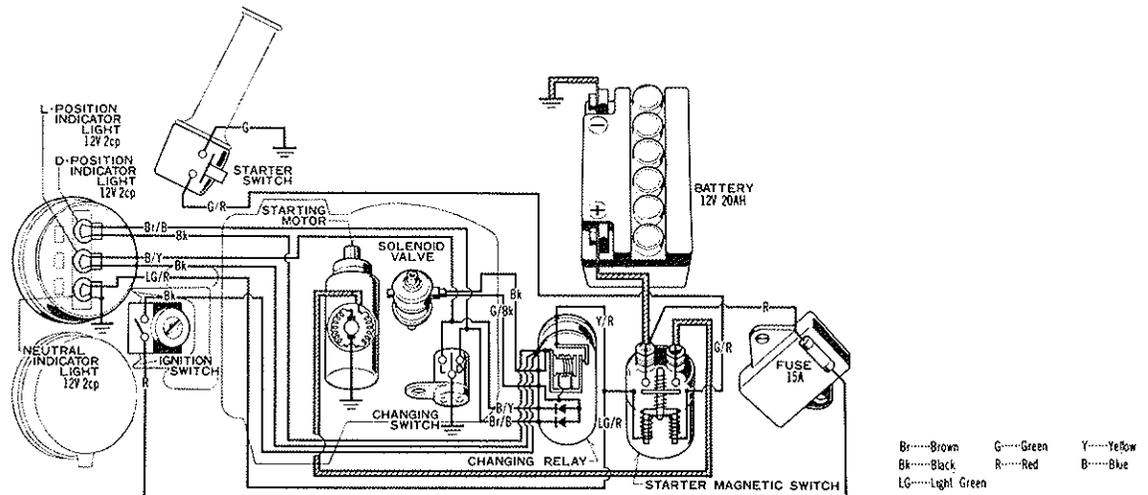
Specifications

Rated voltage : 12V
 Rated output : 0.6KW
 Rated operating time: 30 sec. (continuous)

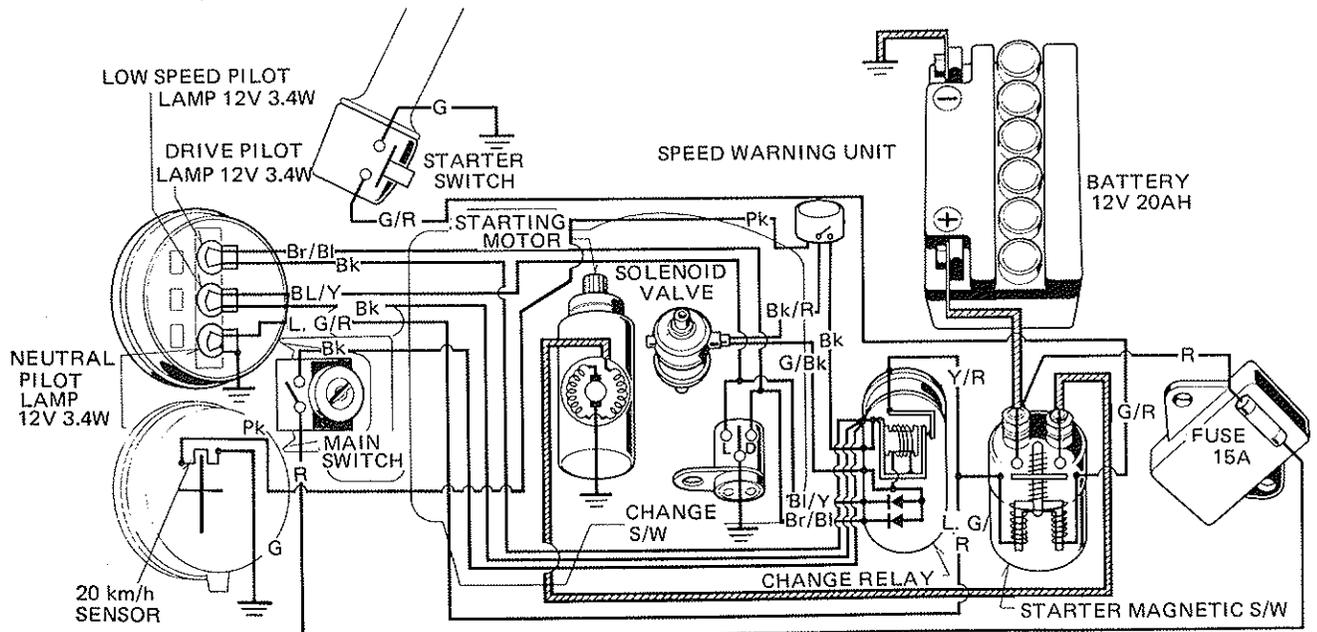
	On-load	No-load	When locked
Voltage (V)	11	8.5	5
Amperage (A)	35	120	280
Torque (kg-m) (lb.-ft.)	—	0.12 (0.795)	0.32 (1.880)
Speed (rpm)	11,000—22,000	3,200	—

● **STARTING SYSTEM DIAGRAM**

('76 model)



('77 and '78 models)

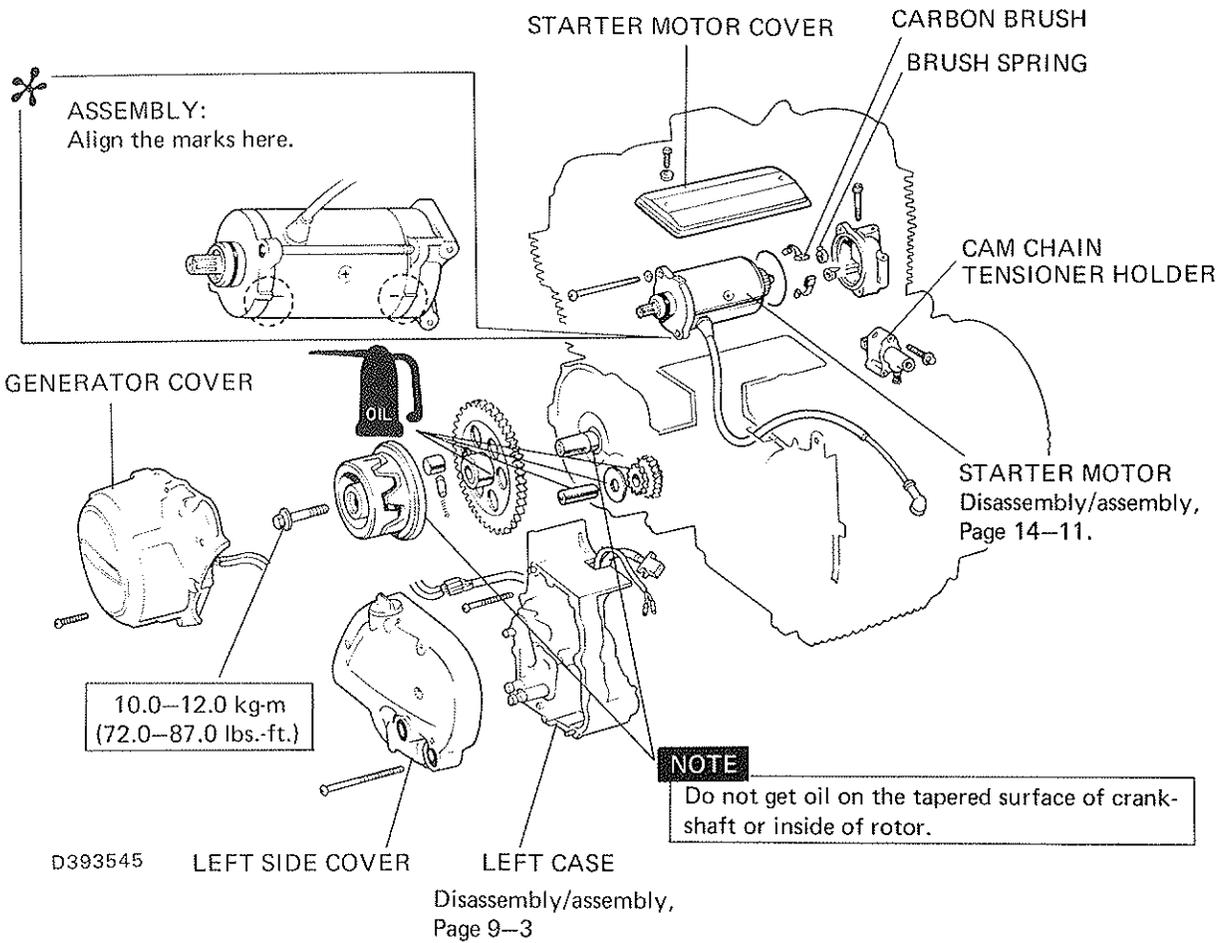


SAFETY CIRCUIT

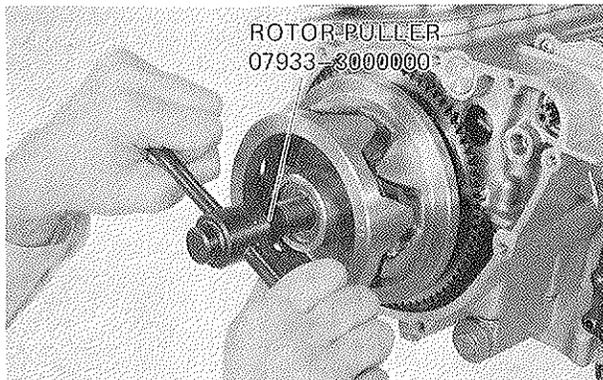
The change switch prevents the starter from being turned when the transmission is in gear even if the starter switch is turned on.



• DISASSEMBLY/ASSEMBLY



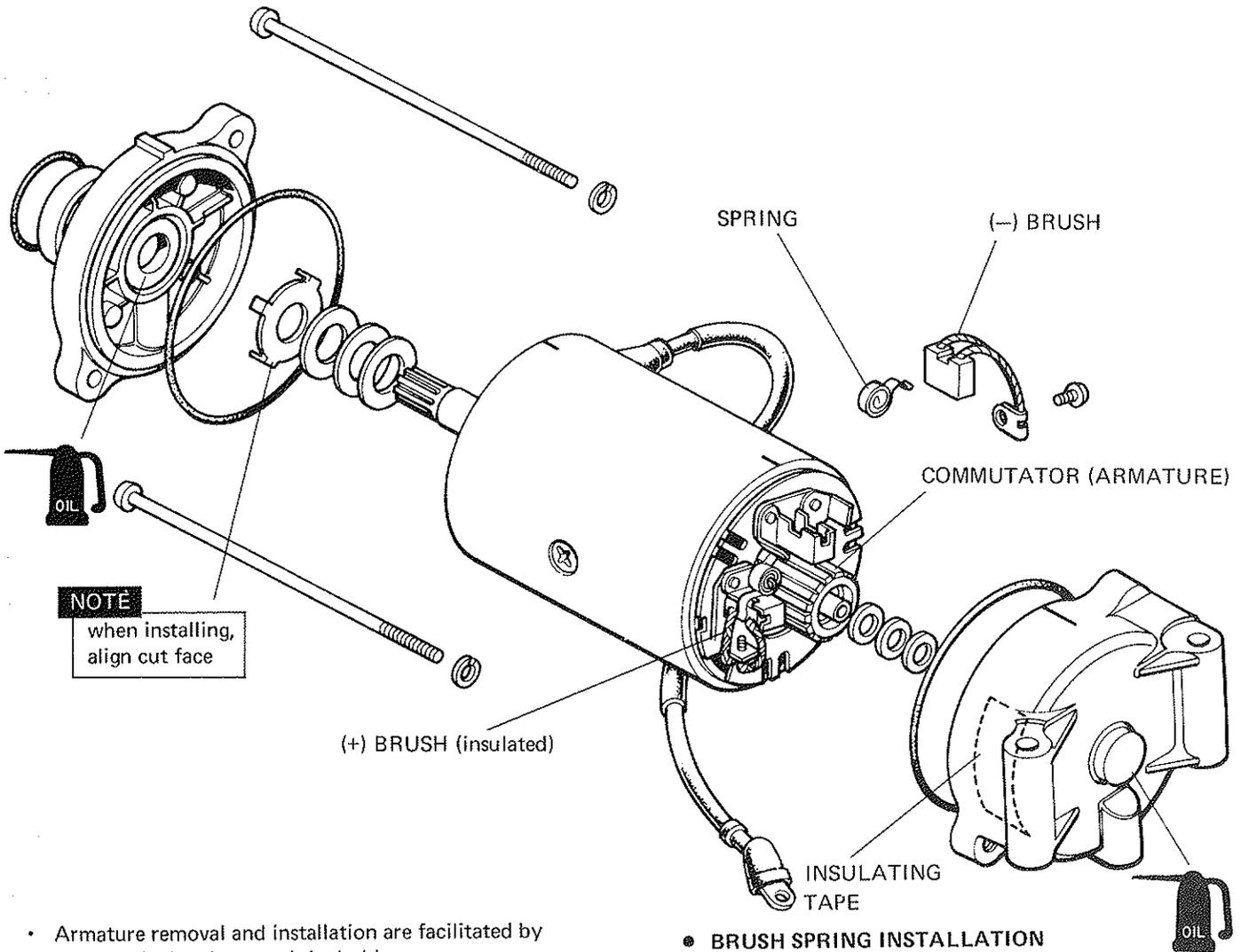
• ROTOR DISASSEMBLY



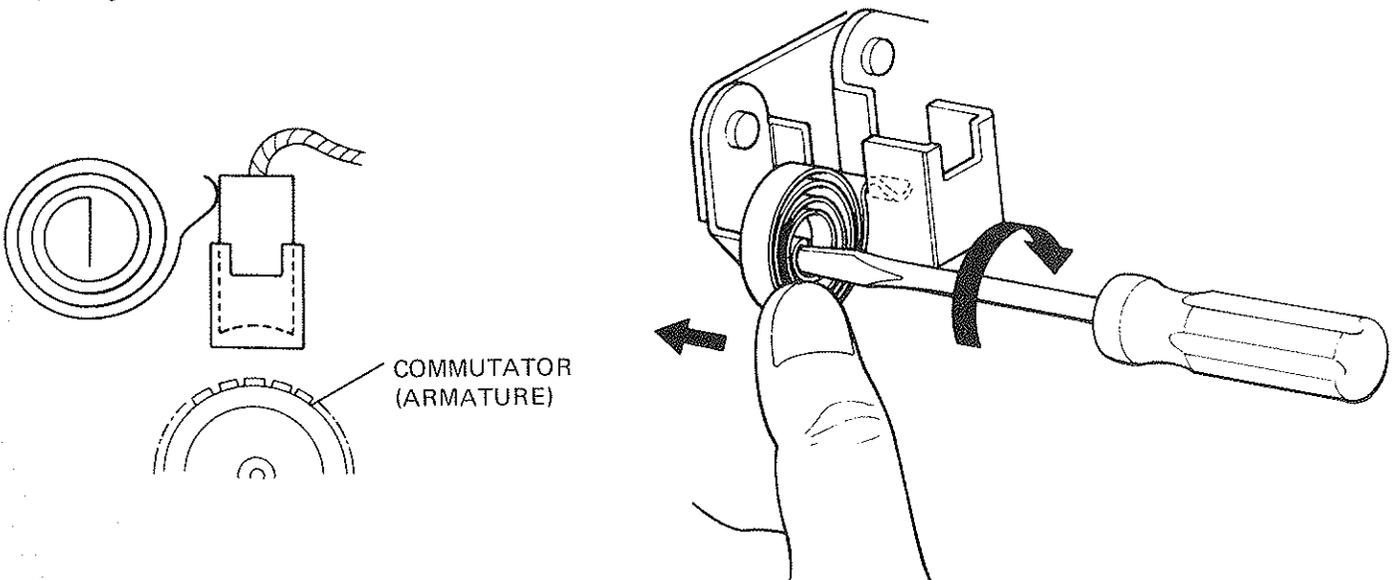
Before assembling, clean the crankshaft taper and inside surface of the rotor.



• STARTER MOTOR DISASSEMBLY



- Armature removal and installation are facilitated by pushing the brush toward the holders.



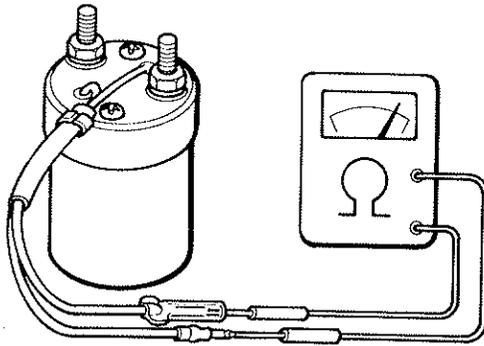


• **INSPECTION**

• **STARTER MAGNETIC SWITCH**

CONTINUITY TEST:

There should be continuity between two lead wires.

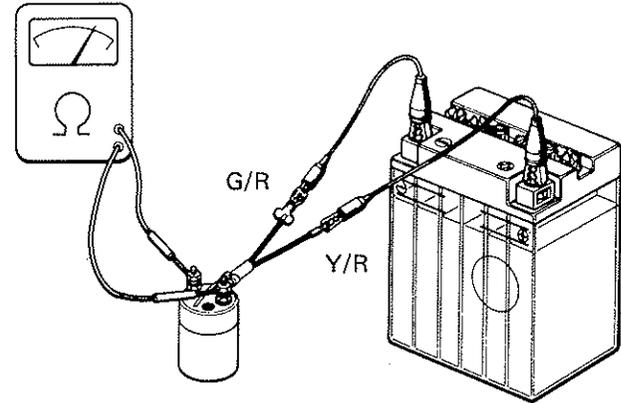


(Shows 3Ω)

I410873

SWITCH TEST:

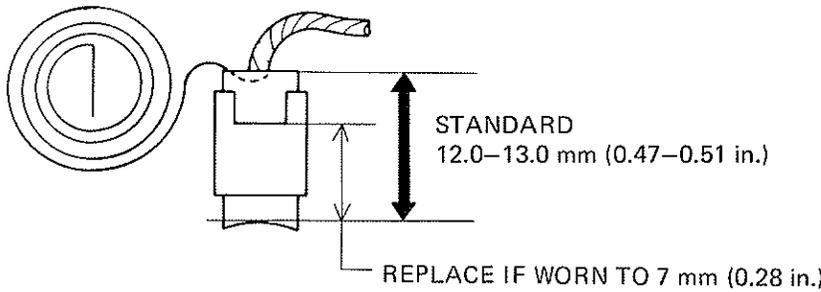
The switch is satisfactory when there is continuity between the switch lead wires.



• No continuity indicates an open circuit in the stator coil.

• **CARBON BRUSH/SPRING**

CARBON BRUSH



• **BRUSH LENGTH**

STANDARD	SERVICE LIMIT
12-13 mm (0.47-0.51 in.)	7.0 mm (0.28 in.)

• **SPRING TENSION**

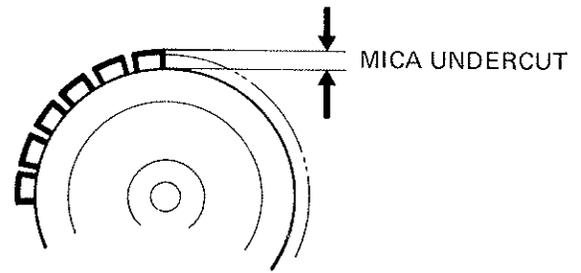
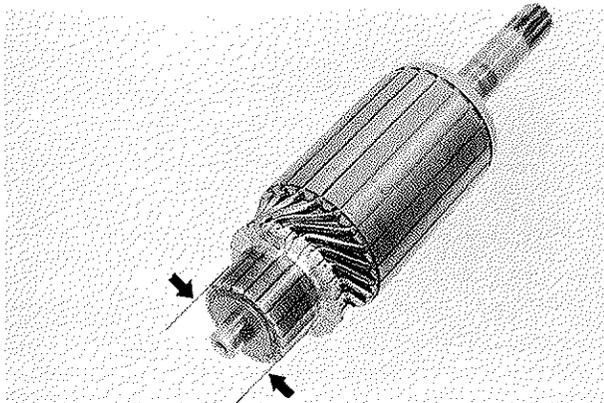
STANDARD	SERVICE LIMIT
560-680 g (19.7-24.0 oz)	400 g (14.0 oz)



• COMMUTATOR CLEANING

- Clean the commutator surface of dirt and metal particles and polish with an emery cloth (#500-600), if necessary. Blow with compressed air after cleaning.

• COMMUTATOR O.D.



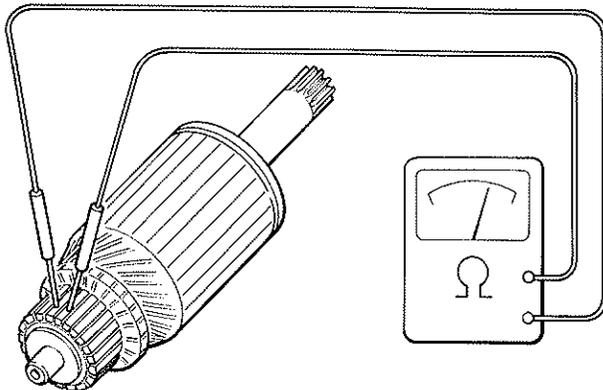
1410874

STANDARD	SERVICE LIMIT
28.0 mm (1.10 in.)	27.0 mm (1.06 in.)

STANDARD	SERVICE LIMIT
0.5-0.8 mm (0.020-0.031 in.)	0.2 mm (0.008 in.)

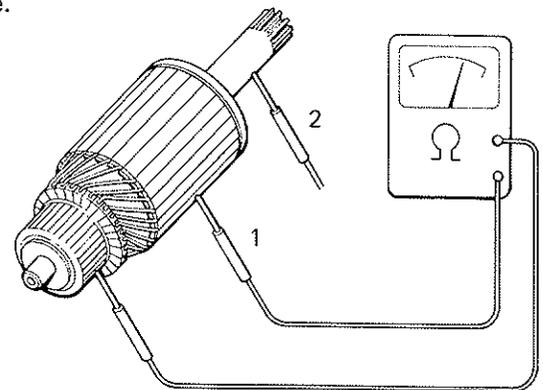
• ARMATURE COIL CONTINUITY TEST

There should be continuity between any two segments.



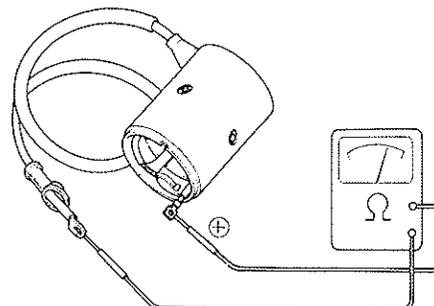
• ARMATURE COIL INSULATION TEST

There should be no continuity between commutator and core.



• STATOR COIL CONTINUITY TEST

There should be continuity between starter cord and positive (+) terminal.

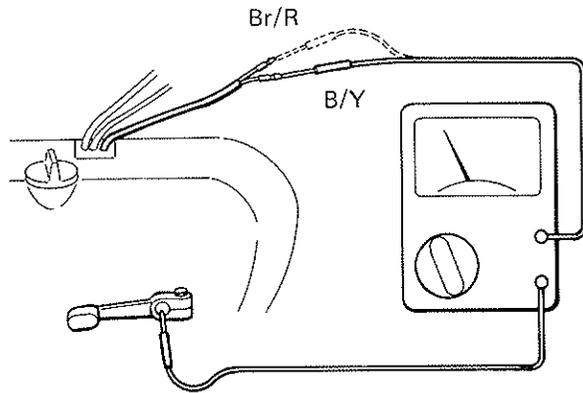


• STATOR COIL INSULATION TEST

There should be no continuity between starter cord and body.



• CHANGE SWITCH INSPECTION



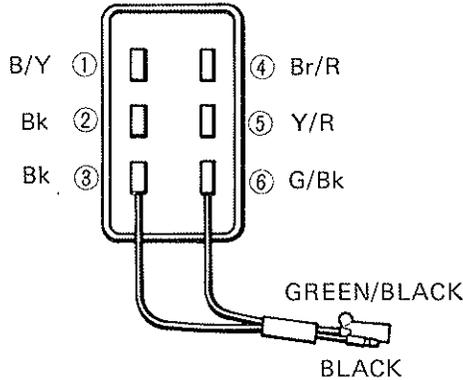
CONTINUITY TEST: "D" or "2" POSITION

There should be continuity between brown/red wire and ground.

INSULATION TEST: "L" or "1" POSITION

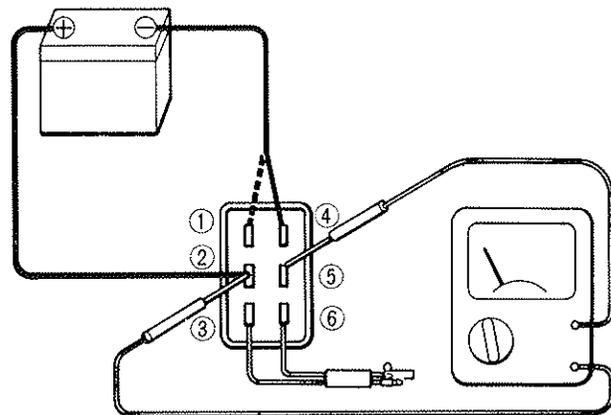
There should be no continuity between blue/yellow wire and ground.

• CHANGE RELAY INSPECTION



CONTINUITY TEST

- BETWEEN TERMINAL (2) and TERMINAL (5): Continuity should exist. If there is no continuity, this indicates that the relay points are poorly contacted.
- BETWEEN TERMINAL (2) and TERMINAL (6): Continuity should exist. If there is no continuity, the relay coil is open.
- BETWEEN TERMINAL (2) and TERMINAL (1), and TERMINAL (2) and TERMINAL (4): Continuity should exist in only one direction



BETWEEN TERMINAL (2) and TERMINAL (5): There should be no continuity.

WARNING

Make sure of proper battery polarity when making connection, as shown.

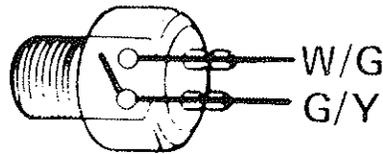


ELECTRICAL

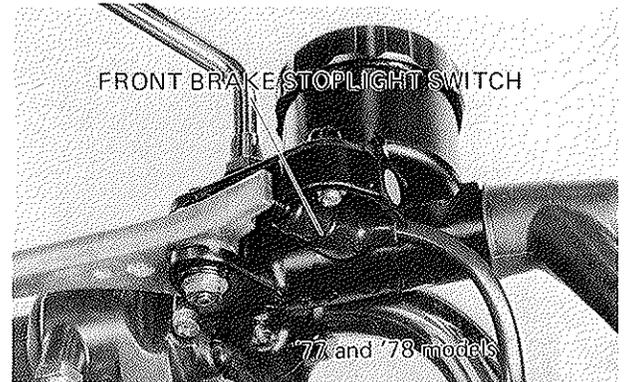
● **ALL OTHER ELECTRICAL PARTS INSPECTION**

● **FRONT BRAKE STOPLIGHT SWITCH**

Check the front brake stoplight switch for continuity with the front brake applied.



'76 model

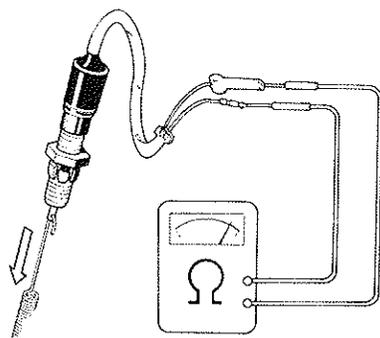


NOTE

Bleed the front brake system when the front brake stoplight switch is replaced. ('76 model)

● **REAR BRAKE STOPLIGHT SWITCH**

Check the rear brake stoplight switch for continuity with the rear brake applied.



Adjust the rear brake stoplight switch after the rear brake pedal free play has been adjusted.

- Turn the adjusting nut so that the rear brake stoplight comes on just before the brake takes hold.

● **PARKING BRAKE SWITCH**



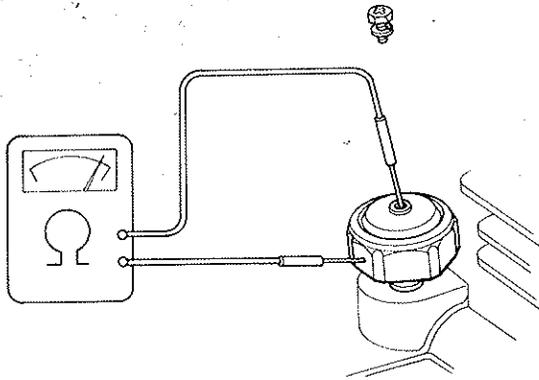
The switch is normal if there is continuity between the green/yellow (yellow banded) and green/yellow (red banded) wires with the brake applied. There should be continuity between the green and white/green wires when the brake is released.



ELECTRICAL

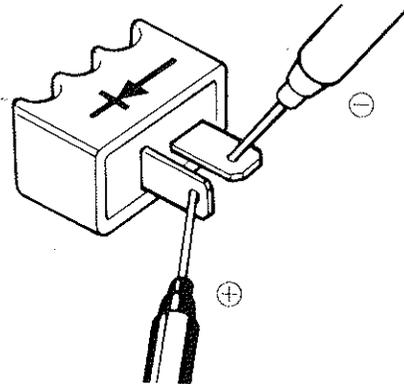
• OIL PRESSURE WARNING SWITCH

• SILICON RECTIFIER (PARKING BRAKE SWITCH)



I410878

Check for continuity with the engine running. The switch is normal if there exists no continuity. If there is continuity, check the switch and oil circuits.



The rectifier is correct if there is continuity only in the arrow direction. Replace the rectifier if there is continuity in reverse direction.

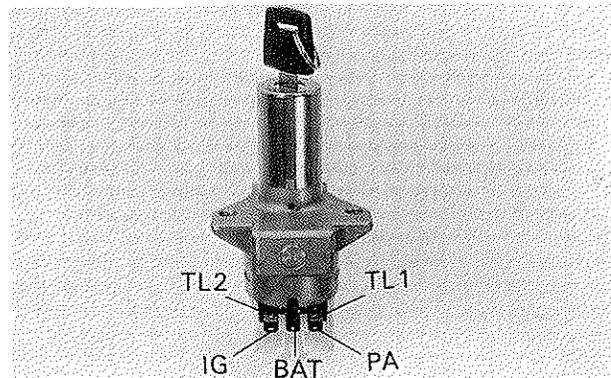
• HORN

Check for continuity between the horn cord terminals or check to make sure the horn will sound when it is connected to a fully charged 12V battery.

• IGNITION SWITCH

There should be continuity between circuits "o - o".

	BAT	IG	TL1	TL2	PA
LOCK					
OFF					
RUN	○ — ○	○ — ○	○ — ○	○ — ○	
PA	○ — ○				○ — ○
Color	Red	Black	Black/White	Black	Black





ELECTRICAL

• **HANDLEBAR SWITCHES**

There should be continuity between circuits "o-o".

ENGINE STOP · STARTER SWITCHES

('76 Model)

	KB	KW		IG	HL	ST	E
OFF			FREE	○	○		
RUN	○	○					
OFF			PUSH			○	○
Color	Black	Black/White	Color	Black	Black/Red	Green/Red	Green

STARTER · ENGINE STOP SWITCH

('77 and '78 Models)

	IG	KW		IG	HL1	ST	E
OFF			FREE	○	○		
RUN	○	○					
OFF			PUSH			○	○
Color	Black	Black/White	Color	Black	Black/Red	Green/Red	Green

TURN SIGNAL · HORN · DIMMER SWITCHES

('76 Model)

	W	B	L	R		TL1	PL	PR	HO
L2	○	○	○			○		○	
L1	○		○			○		○	
N						○	○	○	
R1	○			○		○	○		
R2	○	○		○		○	○		
Color	Green	Brown/Blue Yellow tube	Orange	Light Blue		Black/White	Orange/White	Light Blue/White	Light Green

	HL	Hi	Lo
Hi	○	○	
(N)	○	○	○
Lo	○		○
Color	Black/Yellow	Blue	White

NOTE

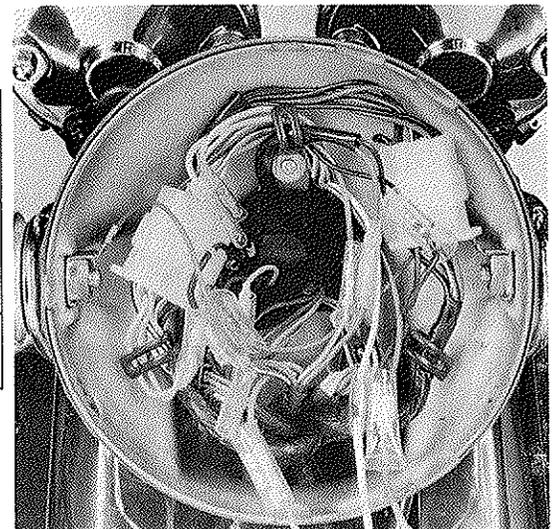
Handlebar switch wires, couplers and connectors are connected and clamped behind the headlight case.

TURN SIGNAL · HORN · DIMMER SWITCHES

('77 and '78 Models)

	W	B	L	R		TL1	PL	PR	HO
L2	○	○	○			○		○	
L1	○		○			○		○	
N						○	○	○	
R1	○			○		○	○		
R2	○	○		○		○	○		
Color	Green	Brown/Blue	Orange	Light Blue		Black/White	Orange/White	Light Blue/White	Light Green

	HL2	Hi	Lo
Hi	○	○	
(N)	○	○	○
Lo	○		○
Color	Black/Yellow	Blue	White







HONDA
CB750A

15. FRONT WHEEL/ SUSPENSION/BRAKE/ STEERING SYSTEM

SERVICE INFORMATION	15-1	● FRONT DISC BRAKE	15-8
TROUBLESHOOTING	15-2	● STEERING STEM	15-10
DISASSEMBLY/ ASSEMBLY	15-3	● BALL RACE	15-11
● FRONT WHEEL	15-5	● HANDLEBAR	15-12
● WHEEL BEARING	15-6	INSPECTION	15-13
● FRONT SUSPENSION	15-7	FRONT FORK OIL	15-16
		BRAKE CALIPER ADJUSTMENT	15-16

● SERVICE INFORMATION

SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
Wheel axle runout	0-0.050 (0.002)	0.2 (0.008)
Wheel rim runout	Axial 0-1.0 (0-0.039) Radial 0-1.0 (0-0.039)	2.0 (0.08) 2.0 (0.08)
Front brake disc face runout	0-0.15 (0-0.006)	0.3 (0.012)
Front brake disc thickness	7.0 (0.276)	6.0 (0.236)
Front brake master cylinder I.D.	14.000-14.043 (0.5512-0.5529)	14.055 (0.5533)
Front brake master cylinder piston O.D.	13.957-13.984 (0.5495-0.5506)	13.945 (0.5490)
Front brake caliper cylinder I.D.	42.85-42.90 (1.6870-1.6889)	42.915 (1.6896)
Front brake caliper cylinder piston O.D.	42.82 (1.6858)	42.805 (1.6852)
Front fork tube O.D.	34.925-34.950 (1.375-1.376)	34.900 (1.374)
Front fork slider I.D.	35.065-35.104 (1.381-1.382)	35.250 (1.388)
Front fork spring free length	504.3 (19.85)	495 (19.5)

TORQUE VALUES

Listed below are the special fastener torque limits. These fasteners except the standard parts should be tightened to the torques shown below:

Disc plate fixing nuts	2.7-3.3 kg-m (19.5-23.9 lbs.-ft.)
Wheel spokes	0.3-0.4 kg-m (2.2-2.9 lbs.-ft.)
Front axle nut	5.5-6.5 kg-m (39.8-47.0 lbs.-ft.)
Front caliper set bolts	3.0-4.0 kg-m (21.7-28.9 lbs.-ft.)
Bleeder valve	0.7-0.9 kg-m (5.1-6.5 lbs.-ft.)
Front axle holder nuts	1.8-2.5 kg-m (13.0-18.1 lbs.-ft.)
Steering stem nut	8.0-12.0 kg-m (57.9-86.8 lbs.-ft.)
Front fork top bridge nuts (7 mm)	0.9-1.3 kg-m (6.5-9.4 lbs.-ft.)
Front fork bottom bridge nuts	3.0-4.0 kg-m (21.7-28.9 lbs.-ft.)
Handlebar upper holder bolts	1.8-2.5 kg-m (13.0-18.1 lbs.-ft.)

**SPECIAL TOOLS**

Front bearing retainer wrench	07910-3230101
Bearing driver attachment	07945-3330100
Driver handle	07949-6110000
Snap ring pliers	07914-3230001
Fork seal driver	07947-3290000
Ball race driver	07946-3710400
48 mm Pin spanner	07902-2000000
6 mm hollow set wrench	07917-3230000

● TROUBLESHOOTING**SYMPTOM****POSSIBLE CAUSE**

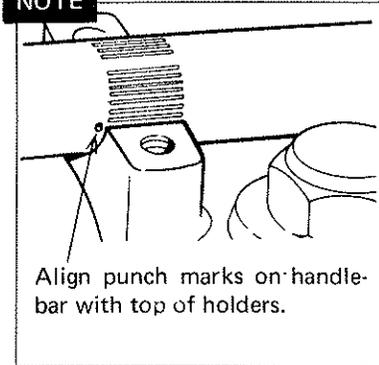
Hard Steering	
Steers to One Side or Does Not Track Straight	
Front Wheel Wobbling	
Soft Suspension	
Hard Suspension	
Front Suspension Noise	
Poor Brake Performance	
Brakes Chatter or Squeal	



DISASSEMBLY/ASSEMBLY

('76 Model)

NOTE



Align punch marks on handlebar with top of holders.

1.8–2.5 kg-m
(13.0–18.1 lbs.-ft.)

NOTE

Tighten the forward bolts first.

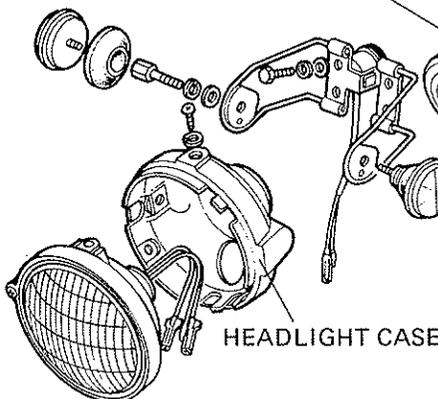
NOTE

Do not depress the brake lever when the wheel is off the motorcycle.

(4) STEERING STEM
Assembly/Disassembly,
Page 15–10.

0.9–1.3 kg-m
(6.5–9.4 lbs.-ft.)

3.0–4.0 kg-m
(21.7–28.9 lbs.-ft.)



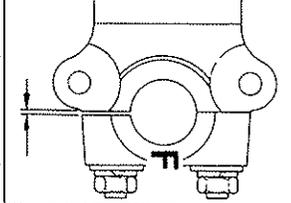
HEADLIGHT CASE

(2) FRONT FENDER

(1) FRONT WHEEL
Assembly/Disassembly,
Page 15–5.

NOTE

Install the axle holders with the "F" mark forward and tighten the forward holder nuts first.



BRAKE CALIPER
Assembly/Disassembly,
Page 15–8.
Adjustment, Page 15–16.

FRONT FORKS
Assembly/Disassembly,
Page 15–7.

1.8–2.5 kg-m
(13.0–18.1 lbs.-ft.)

After assembling, make sure that each cable and wiring is free from binding or twisting when turning the handlebar full right and left.



('77 and '78 Models)

(COMSTAR WHEEL
for '78 model)
Assembly/Disassembly,
Page 15-5.

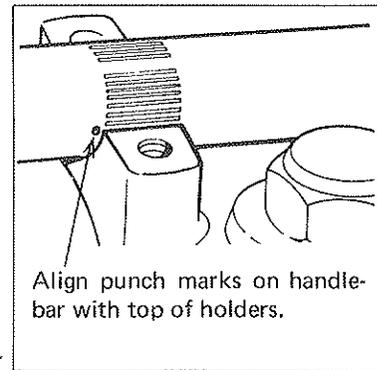
NOTE

Do not depress the brake lever
when the wheel is off the motor-
cycle.

1.8-2.5 kg-m
(13.0-18.1 lbs.-ft.)

NOTE

Tighten the for-
ward bolts first.



Align punch marks on handle-
bar with top of holders.

HANDLEBAR
Disassembly/assembly,
Page 15-12

0.9-1.3 kg-m
(6.5-9.4 lbs.-ft.)

3.0-4.0 kg-m
(21.7-28.9 lbs.-ft.)

(4) STEERING STEM
Assembly/Disassembly,
Page 15-10.

HEADLIGHT
CASE

(2) FRONT FENDER

(1) FRONT WHEEL
Assembly/Disassembly,
Page 15-5.

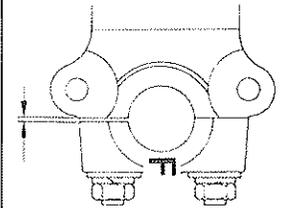
BRAKE CALIPER
Assembly/Disassembly,
Page 15-9.
Adjustment,
Page 15-16.

(3) FRONT FORK
Assembly/Disassembly,
Page 15-7.

NOTE

Install the axle holders
with the "F" mark for-
ward and tighten the for-
ward holder nuts first.

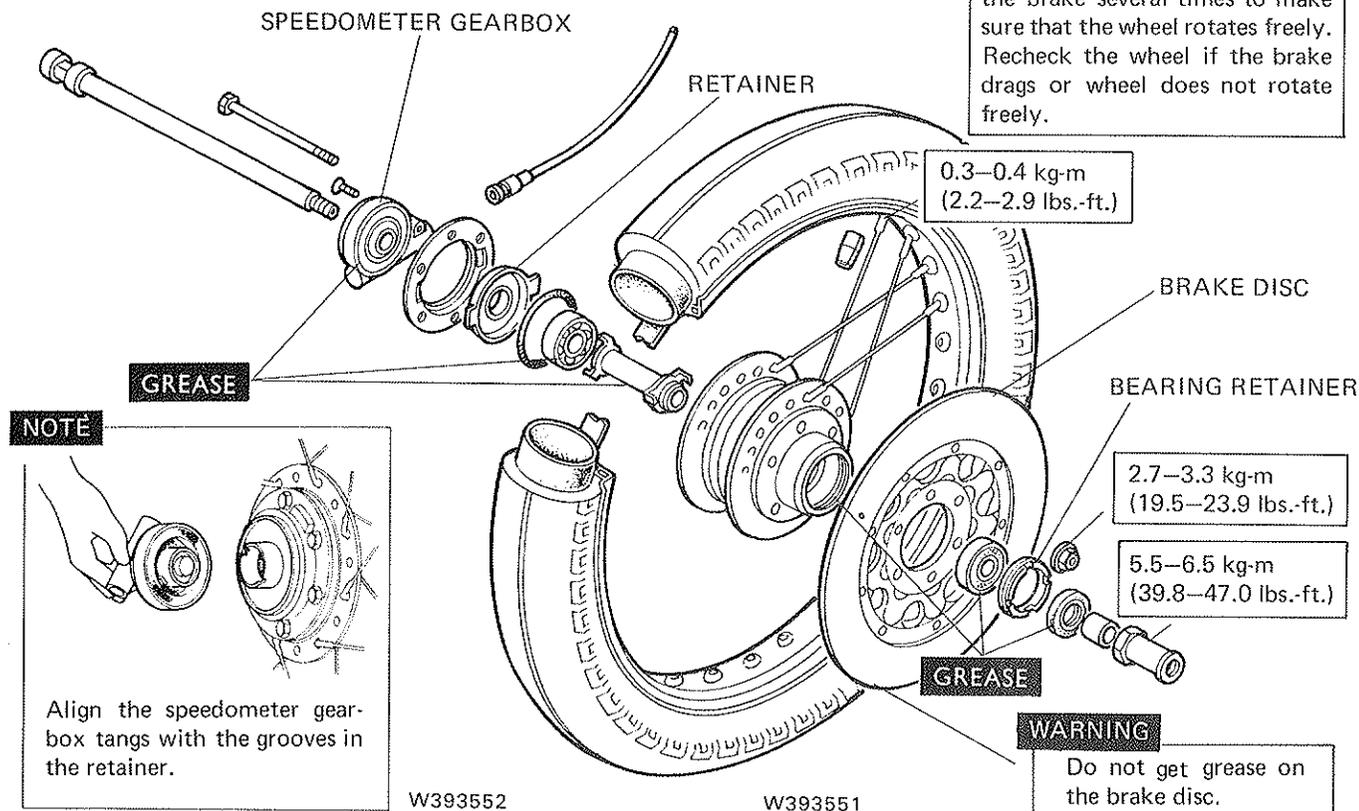
1.8-2.5 kg-m
(13.0-18.1 lbs.-ft.)



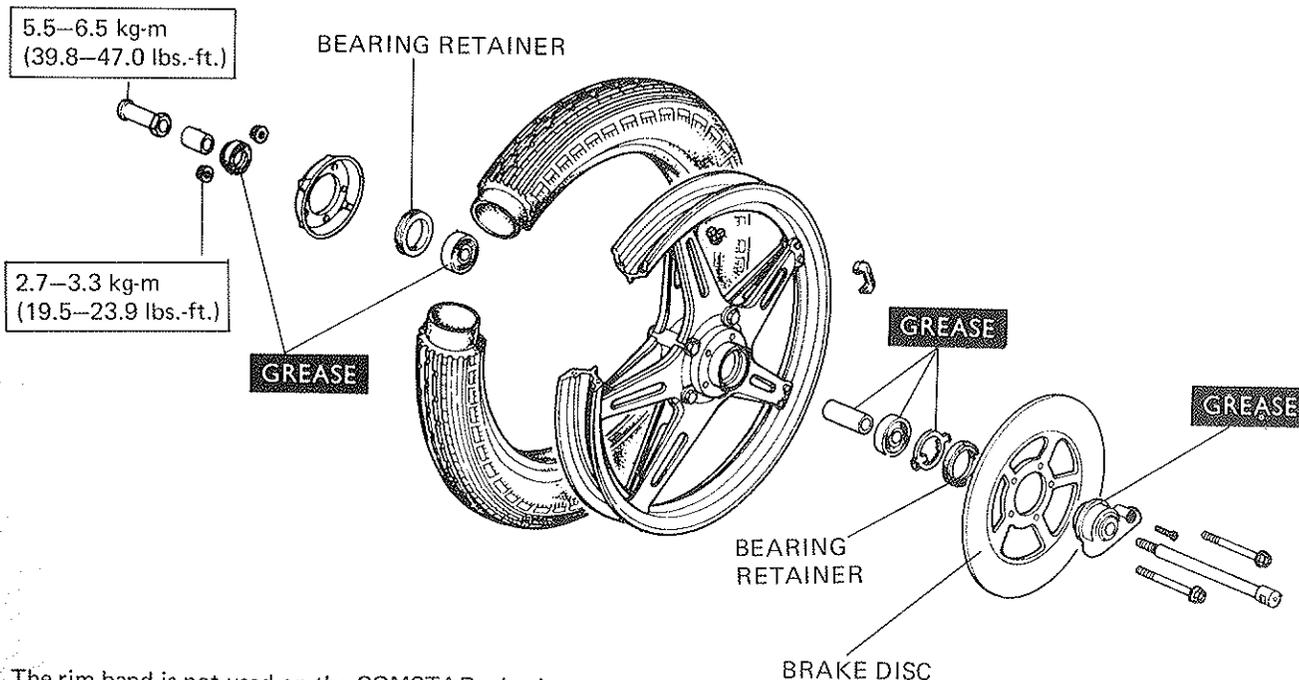
* After assembling, check that each cable and wiring is free from binding or twisting when turning the handlebar full right and left.



● **FRONT WHEEL**
('76 and '77 Models)

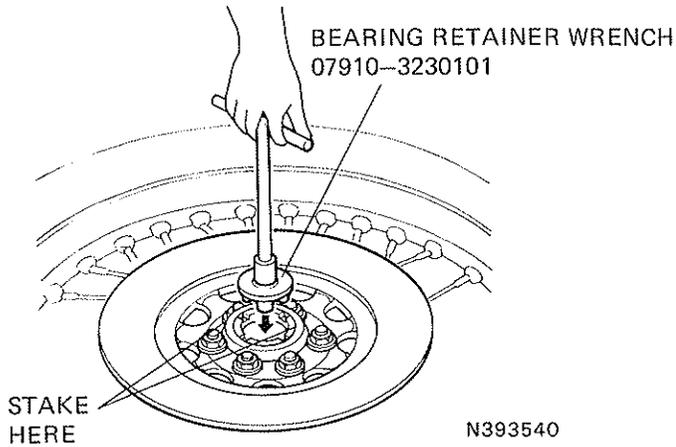


('78 Model)

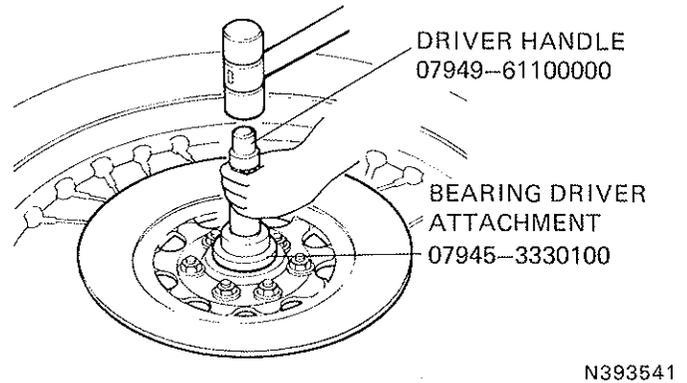




• WHEEL BEARING



- Inspect the retainer and replace if cross threaded.
- After installing, stake at two places as shown.



- Drive the bearing squarely with the sealed end outward.
- Install the left bearing and retainer first, then install the collar and right bearing.
- Take care not to allow the distance collar to tilt.

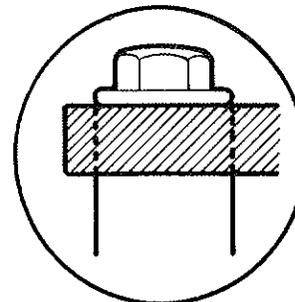


FRONT SUSPENSION

* Use only ATF (Automatic Transmission Fluid).

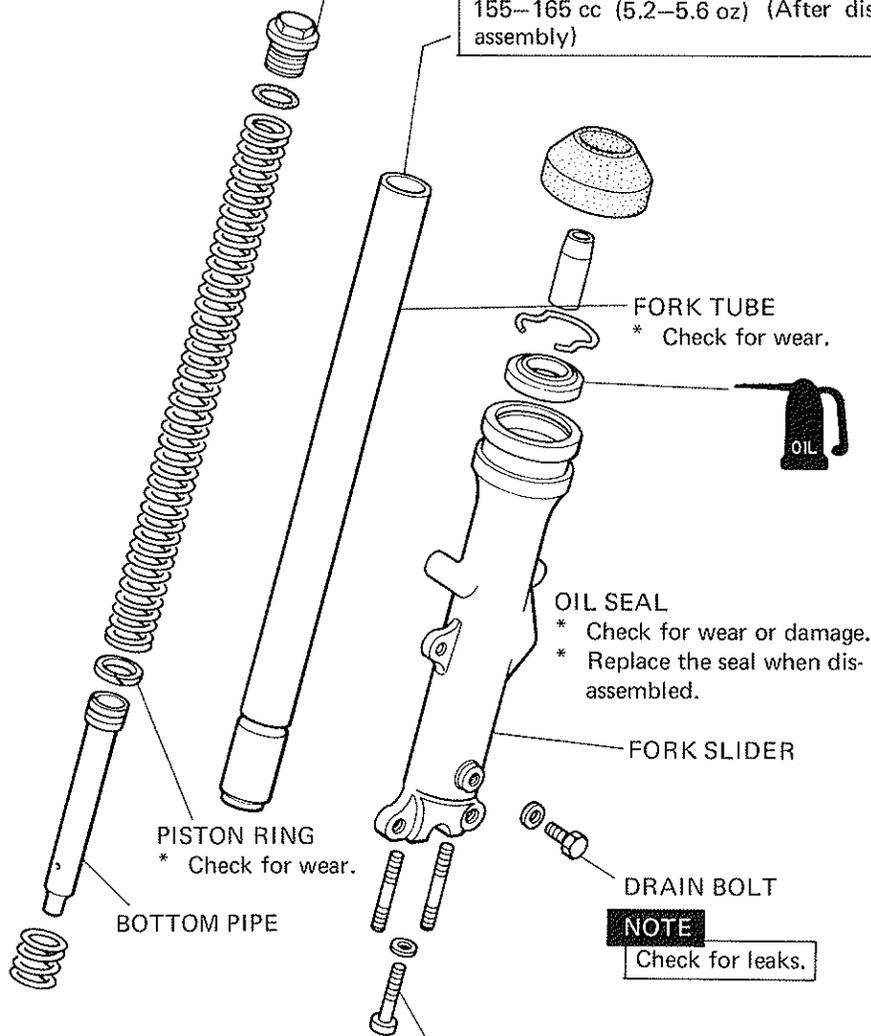
145-155 cc (4.9-5.2 oz) (After draining)
155-165 cc (5.2-5.6 oz) (After disassembly)

Loosen the bolt before disassembling the fork.



S410615

Install the front fork assembly with the chamfered edge on the fork tube flush with the top of the fork top bridge.



FORK TUBE
* Check for wear.

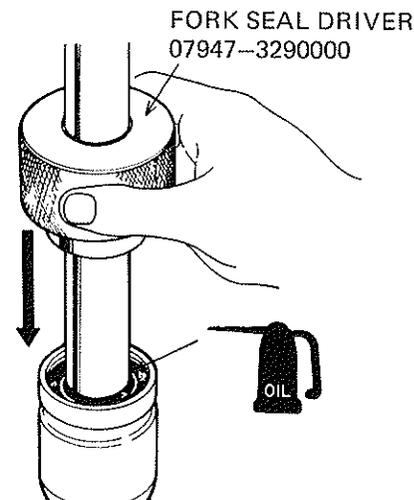
OIL SEAL
* Check for wear or damage.
* Replace the seal when disassembled.

FORK SLIDER

DRAIN BOLT
NOTE
Check for leaks.

PISTON RING
* Check for wear.

BOTTOM PIPE



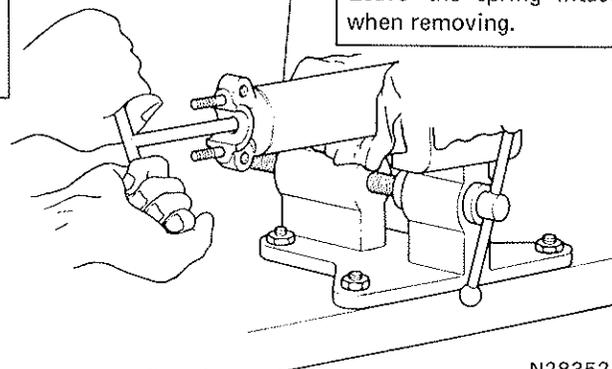
FORK SEAL DRIVER
07947-3290000

NOTE
After assembling, clean the fork tube.

NOTE
Apply liquid sealant to the threads and under side of the socket bolt.

6 mm HOLLOW SET WRENCH
07917-3230000

NOTE
Leave the spring intact when removing.



* After assembling, check the fork for smooth operation and oil leaks past the oil seal.

N283524



• FRONT DISC BRAKE – ('76 Model)

CAUTION

- Avoid spilling fluid on painted surfaces or plastic parts.

Fill the reservoir with DOT 3 brake fluid to UPPER level.

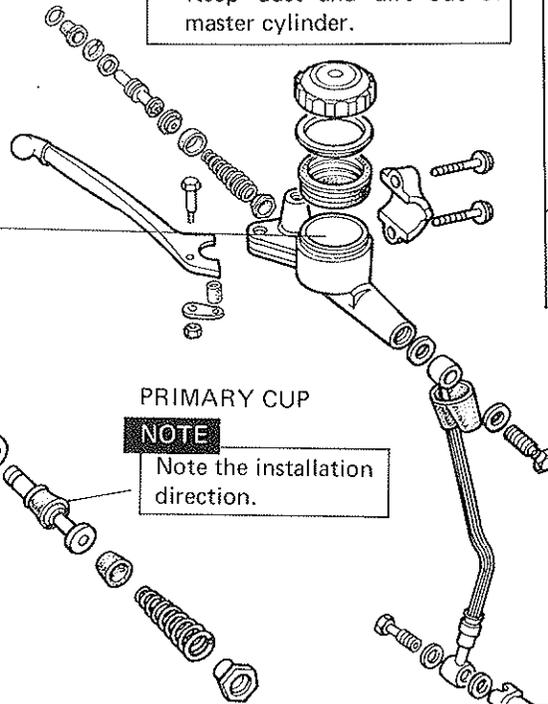
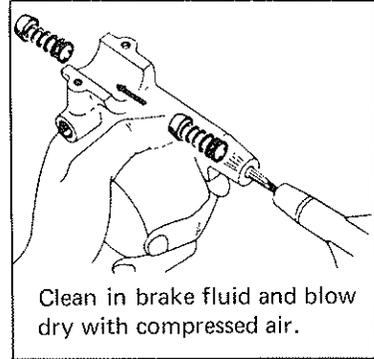
NOTE

- Install the holder with the punch mark down. Tighten the upper bolt first.
- Install the master cylinder so that it is horizontal when the handlebar is turned full left.

WARNING

- Keep dust and dirt out of master cylinder.

Remove the piston cups and valve by blowing air.



PRIMARY CUP

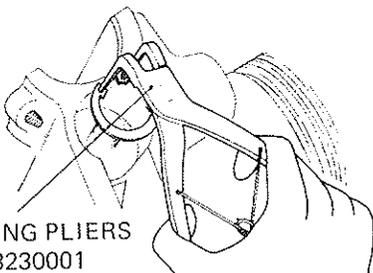
NOTE

- Note the installation direction.

NOTE

- When the system is disconnected or when the lever feels spongy, bleed the system. See Page 4-18.

- Avoid damaging the cup.
- Before installing, wipe oil off the cylinder.



SNAP RING PLIERS
07914-3230001

Apply silicon grease to the back.

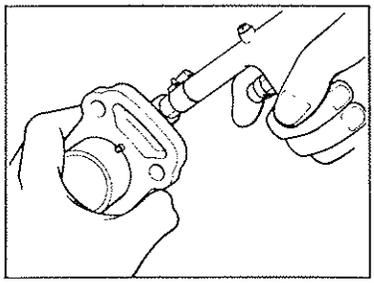
FRONT BRAKE STOPLIGHT SWITCH

BRAKE HOSE

Insert the brake hose in the fender hook.

0.7-0.9 kg-m
(5.1-6.5 lbs.-ft.)

Remove the piston using compressed air.



WARNING

- Do not get oil or grease on the brake pads.

GREASE
SILICON GREASE

- Adjust the brake caliper after installation. See Page 15-16.

B393531



FRONT DISC BRAKE – ('77 and '78 Models)

WARNING

- Keep dust and dirt out of master cylinder.

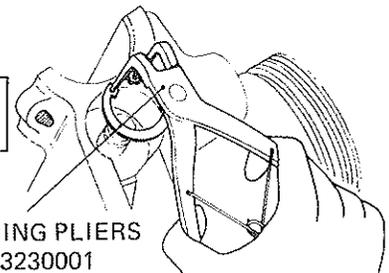
CAUTION

- Avoid spilling fluid on painted surfaces or plastic parts.

NOTE

- When the system is disconnected or when the lever feels spongy, bleed the system. See Page 4–18.

- Avoid damaging the cup.
- Before installing, wipe off oil from the cylinder.

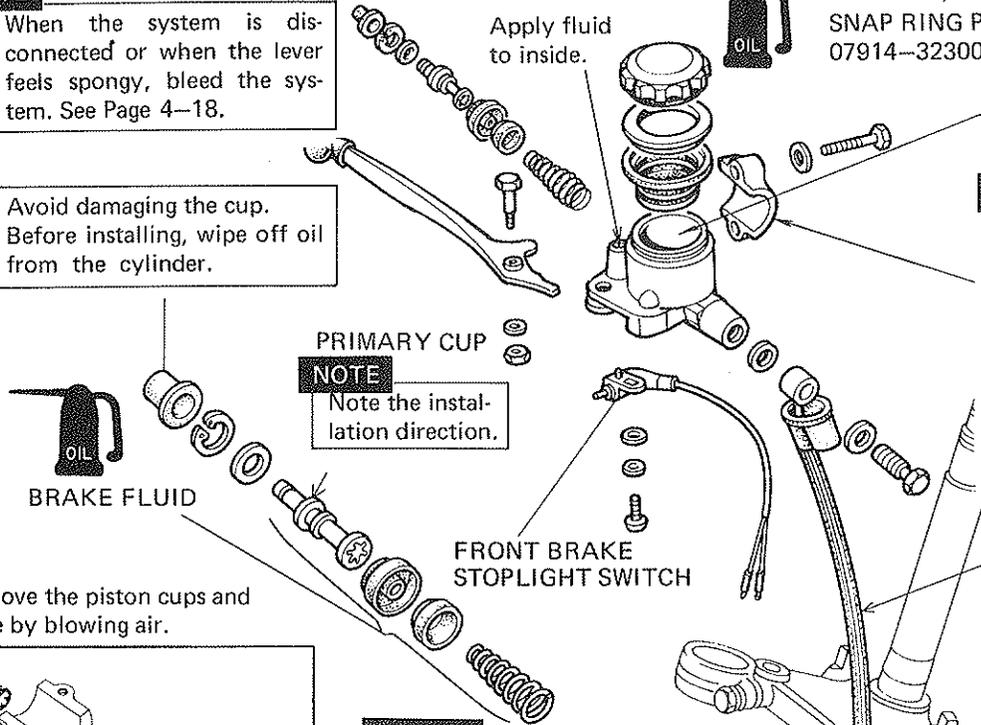


SNAP RING PLIERS
07914–323001

Fill the reservoir with DOT 3 brake fluid up to UPPER level.

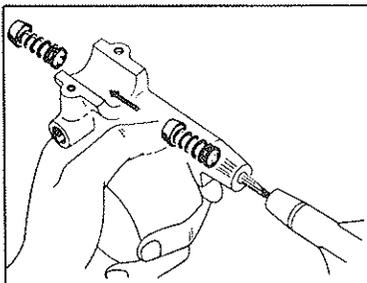
NOTE

- Install the holder with the punch mark down. Tighten the upper bolt first.
- Install the master cylinder so that it is horizontal when the handlebar is turned full left.



NOTE
Note the installation direction.

Remove the piston cups and valve by blowing air.



Clean in brake fluid and blow dry with compressed air.

GREASE

SILICON GREASE

Apply silicon grease to the back.

Insert the brake hose in the fender hook.

WARNING

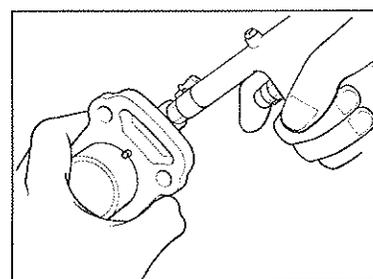
- Do not get oil or grease on the brake pads.

GREASE

SILICON GREASE

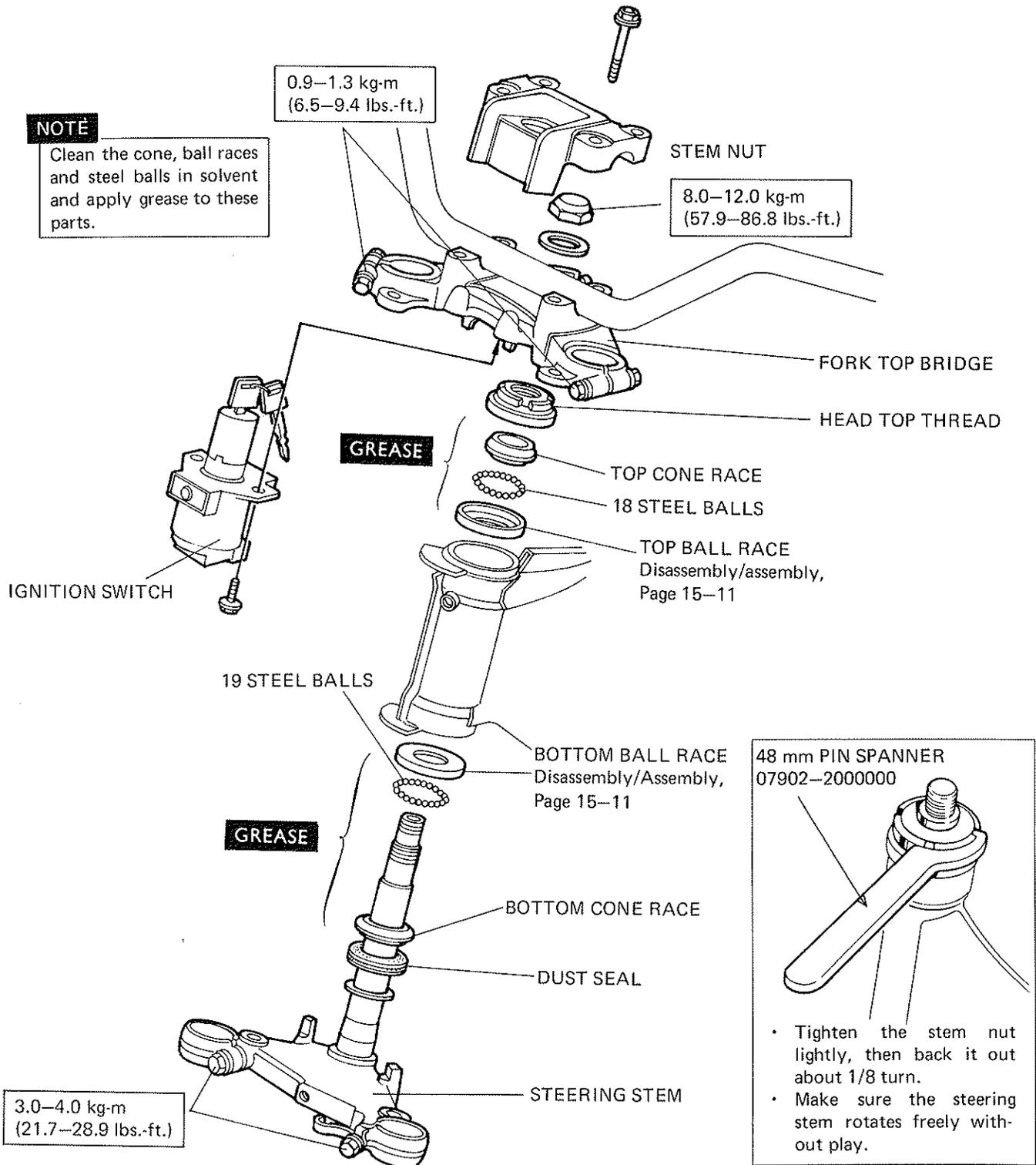
0.7–0.9 kg-m
(5.1–6.5 lbs.-ft.)

Remove the piston using compressed air.



- Adjust the brake caliper after installation. See Page 15–16.

• STEERING STEM

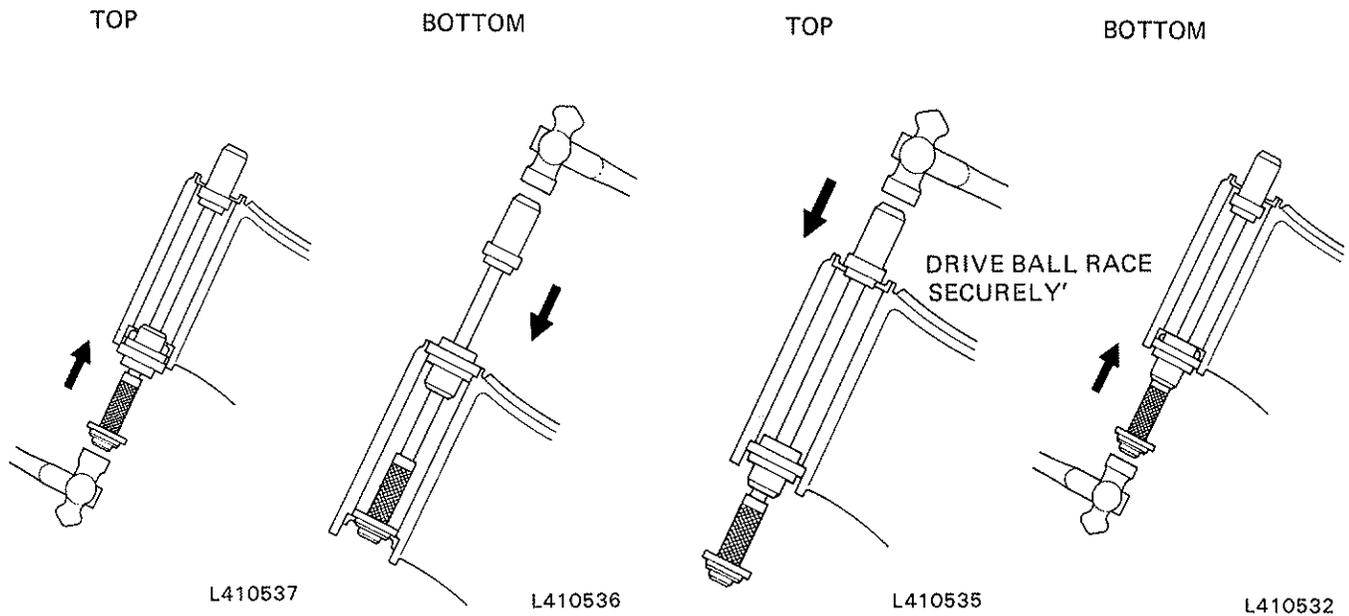




• **BALL RACE**

TOP/BOTTOM BALL RACE DISASSEMBLY

TOP/BOTTOM BALL RACE ASSEMBLY



BALL RACE DRIVER
07946-3710400



• HANDLEBAR

PULL WIRE THROUGH
WIRE LOOM ('76 Model only)

NOTE

Attach a wire to the ends of the switch loom and pull it through the handlebar. Use this wire to pull the new switch wiring through the handlebar.

NOTE

Align the end of the switch housing with the punch mark on the handlebar.

GREASE

Install the holder so that the cable relief is facing down.

THROTTLE CABLE (CLOSE)

THROTTLE CABLE (OPEN)

After installing, make sure that the cable is not binding.

NOTE

Tighten the forward screw first.

R410548

NOTE

• After tightening the bolt, check that the lever moves freely. Secure with the lock nut.

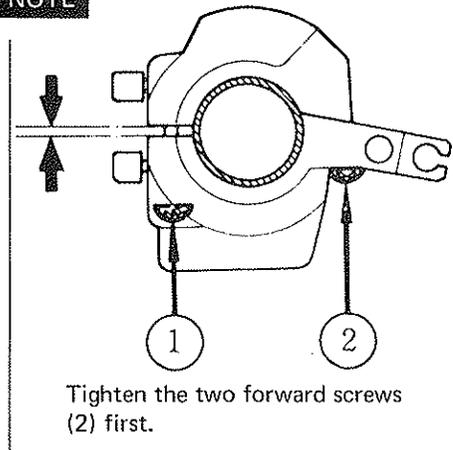
NOTE

Align the punch mark on the handlebar with the end of the switch housing.

CLUTCH SWITCH

WIRE BAND ('77 and '78 models only)

NOTE

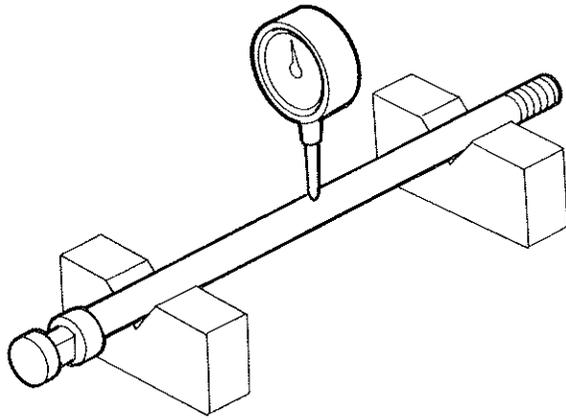


R410547



● **INSPECTION**

● **FRONT WHEEL AXLE RUNOUT**

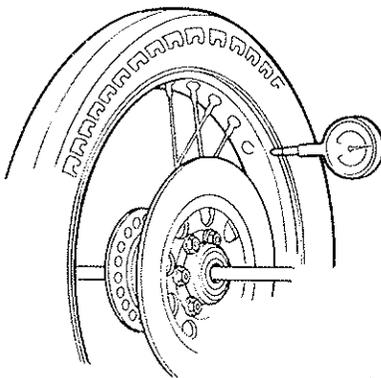


I393630

Use 1/2 of T.I.R. (Total indicator reading).

Standard	0–0.05 mm (0–0.002 in.)
Service Limit	0.2 mm (0.008 in.)

● **FRONT WHEEL RUNOUT**



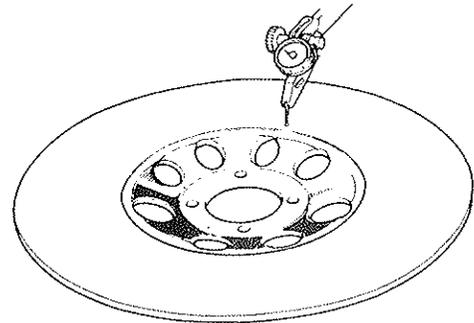
I393632

• Check the rim for distortion, damage or other defects.

(The COMSTAR wheel cannot be repaired.)

	Standard	Service Limit
Axial	0–1.0 mm (0.039 in.)	2.0 mm (0.08 in.)
Radial	0–1.0 mm (0.039 in.)	2.0 mm (0.08 in.)

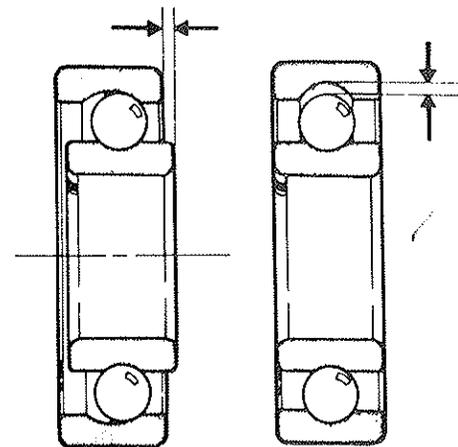
● **FRONT BRAKE DISC WARPAGE**



Hold the disc on a surface plate, set a dial indicator against the contact surface. Rotate the disc.

Disc runout	0–0.15 mm (0–0.006 in.)
Service Limit	0.3 mm (0.012 in.)
Disc thickness	7.0 mm (0.276 in.)
Service Limit	6.0 mm (0.236 in.)

● **WHEEL BEARING PLAY**



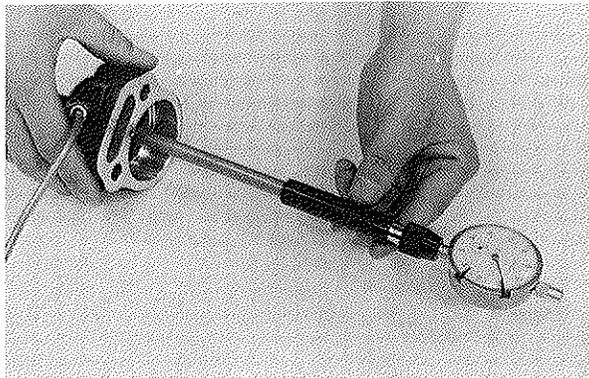
(REPLACE)

(REPLACE)

- Replace the bearing if there is excessive play.
- Replace the bearing if noisy when spinning the outer race by hand.

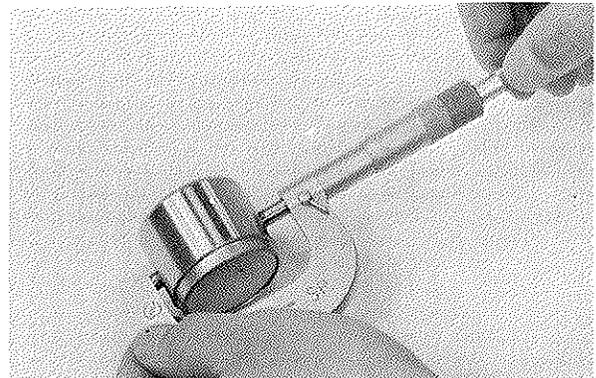


• CALIPER CYLINDER I.D.



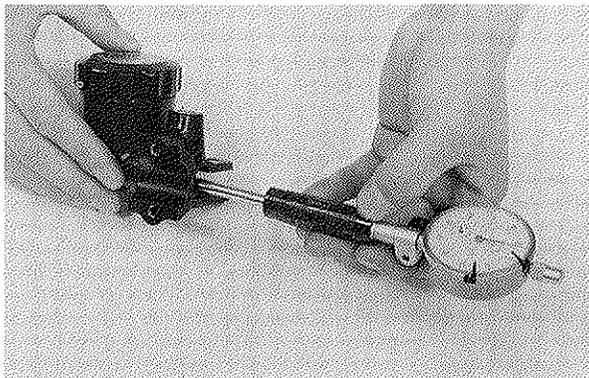
Standard	42.85–42.90 mm (1.6870–1.6889 in.)
Service Limit	42.915 mm (1.6896 in.)

• CALIPER PISTON O.D.



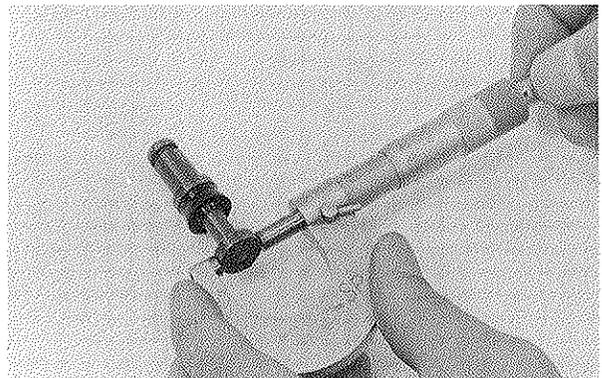
Standard	42.82 mm (1.6858 in.)
Service Limit	42.805 mm (1.6852 in.)

• MASTER CYLINDER I.D.



Standard	14.000–14.043 mm (0.5512–0.5529 in.)
Service Limit	14.055 mm (0.5533 in.)

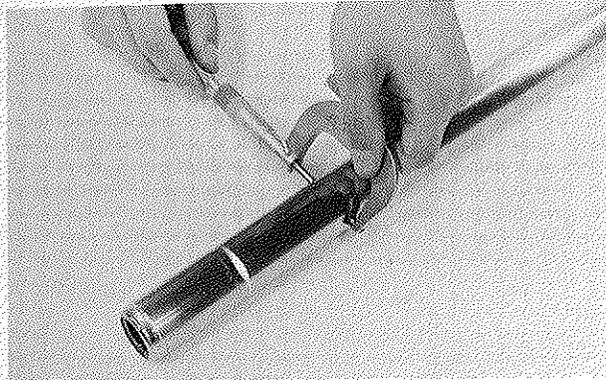
• MASTER CYLINDER PISTON O.D.



Standard	13.957–13.984 mm (0.5495–0.5506 in.)
Service Limit	13.945 mm (0.5490 in.)



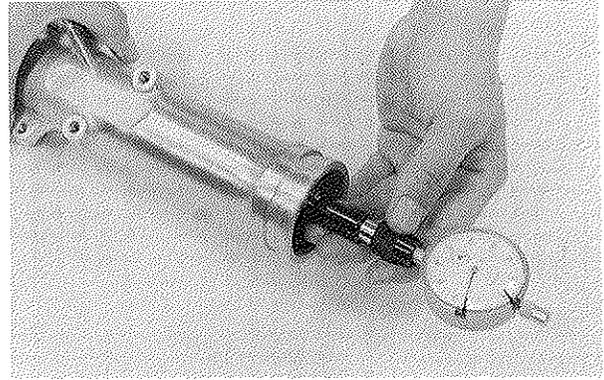
• **FRONT FORK TUBE O.D.**



Replace the oil seals as a set if there are scores or scratches on the sliding surfaces.

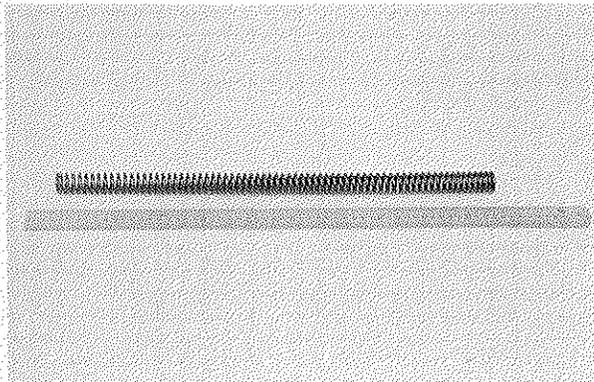
Standard	34.925–34.950 mm (1.375–1.376 in.)
Service Limit	34.900 mm (1.374 in.)

• **FRONT FORK SLIDER I.D.**



Standard	35.065–35.104 mm (1.381–1.382 in.)
Service Limit	35.250 mm (1.388 in.)

• **FRONT FORK SPRING FREE LENGTH**



Standard	504.3 mm (19.85 in.)
Service Limit	495 mm (19.5 in.)

15 FRONT FORK OIL CALIPER ADJUSTMENT

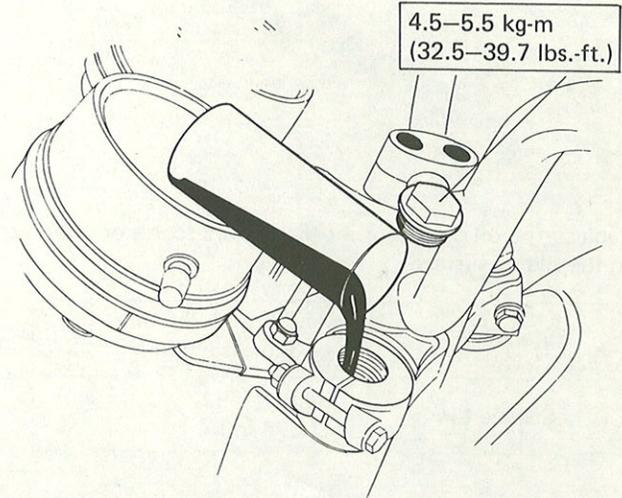
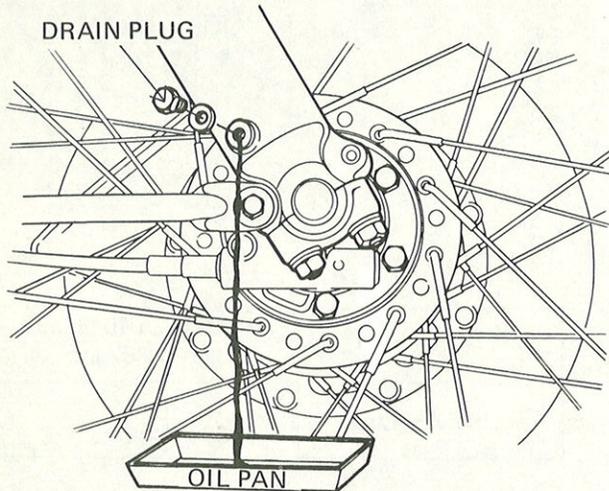
FRONT WHEEL/SUSPENSION/ BRAKE/STEERING SYSTEM

HONDA CB750A



● FRONT FORK OIL

- (1) Remove the drain plug.
- (2) Drain oil by pumping the forks while the plug is out.
- (3) Reinstall the plug securely after draining.



- (4) Place the motorcycle on its center stand.
- (5) Remove the front fork filler bolt.
- (6) Pour premium quality ATF into the fork leg.
- (7) Securely tighten the front fork filler bolt.

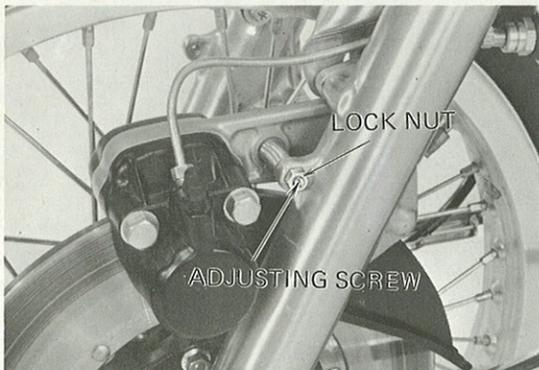
ATF (Automatic Transmission Fluid)

155-165 cc (5.2-5.6 oz)	145-155 cc (4.9-5.2 oz)
To fill after disassembly	To fill after draining

● BRAKE CALIPER ADJUSTMENT

NOTE

Whenever the brake pads are replaced, the brake caliper must be adjusted.



- (1) Raise the front wheel off the ground.
- (2) Loosen the lock nut.
- (3) Turn the screw out until it stops lightly and then turn it in 1/2 turn.
- (4) Tighten the lock nut.



HONDA
CB750A

16. REAR WHEEL/ SUSPENSION/SWING ARM

SERVICE INFORMATION	16-1	● REAR WHEEL BEARING	16-6
TROUBLESHOOTING	16-2	● SWING ARM	16-7
DISASSEMBLY/ ASSEMBLY	16-3	● REAR SHOCK ABSORBER	16-8
● REAR WHEEL/ REAR BRAKE	16-4	● PARKING BRAKE	16-9
		INSPECTION	16-11

● SERVICE INFORMATION

SPECIFICATIONS

Unit: mm (in.)

Item	Standard	Service Limit
Wheel axle runout	0-0.05 (0.002)	0.2 (0.008)
Rear wheel rim runout (Axial)	0-1.0 (0-0.039)	2.0 (0.08)
(Radial)	0-1.0 (0-0.039)	2.0 (0.08)
Rear brake lining thickness	5.0 (0.20)	2.0 (0.08)
Rear brake drum I.D.	180 (7.087)	181 (7.126)
Swing arm pivot bushing I.D.	21.500-21.552 (0.8465-0.8485)	21.7 (0.854)
Swing arm center collar O.D.	21.427-21.460 (0.8436-0.8449)	21.3 (0.839)
Rear shock absorber spring free length	232.7 (9.16)	220 (8.66)

TORQUE VALUES

Listed below are the special fastener torque limits. These fasteners except the standard parts should be tightened to the torques shown below:

Rear wheel axle nut	8-10 kg-m (57.9-72.3 lbs.-ft.)
Final driven sprocket fixing nut	5.5-6.5 kg-m (39.8-47.0 lbs.-ft.)
Wheel spokes	0.3-0.4 kg-m (2.2-2.9 lbs.-ft.)
Swing arm pivot bolt	5.5-7.0 kg-m (39.8-50.6 lbs.-ft.)
Rear shock absorber	3.0-4.0 kg-m (21.7-28.9 lbs.-ft.)

SPECIAL TOOLS

Rear wheel bearing retainer wrench	07910-3930000
Rear wheel bearing retainer wrench	07910-2830000
Bearing driver attachment (6304)	07946-3710200
Bearing driver attachment (6305)	07946-3600000
Driver handle	07949-6110000
Shock absorber compressor	07959-3290000



● TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE
Wheel Wobbles	<ul style="list-style-type: none"> Distorted rim Loose wheel bearing Bent or loose spokes Defective tire Loose axle Improperly adjusted chain adjuster Worn swing arm pivot bushing
Steers to One Side or Does Not Track Straight	<ul style="list-style-type: none"> Bent swing arm
Poor Brake Performance	<ul style="list-style-type: none"> Improper adjustment Worn brake shoes and drum Fouled brake linings Worn brake cam Improper engagement between brake arm and shaft serrations
Soft Suspension	<ul style="list-style-type: none"> Weak spring Shock absorbers improperly adjusted
Hard Suspension	<ul style="list-style-type: none"> Defective damper Shock absorber case binding
Suspension Noise	<ul style="list-style-type: none"> Loose fasteners Defective stopper rubber
Parking Brake Not Applied	<ul style="list-style-type: none"> Broken or elongated parking brake cable Defective ratchet ball and/or spring; lack of lubrication
Parking Brake Not Released	<ul style="list-style-type: none"> Worn ratchet case pawl Excessive play in linkage Ratchet lever rotating face damaged or lack of lubrication
Parking Brake Warning Lamp Not On	<ul style="list-style-type: none"> Blown bulb Defective parking brake switch Improper switch wiring (Page 2-16)
Parking Warning Buzzer Not Sounding	<ul style="list-style-type: none"> Defective diode



DISASSEMBLY/ASSEMBLY

('77 Model)

(1) REAR WHEEL
Assembly/Disassembly,
Page 16-4.
COMSTAR WHEEL
('78)
Assembly/Disassembly,
Page 16-5

(2) REAR SHOCK
ABSORBER
Assembly/Disassembly,
Page 16-8.

(3) SWING ARM
Assembly/Disassembly,
Page 16-7.

3.0-4.0 kg-m
(21.7-28.9 lbs.-ft.)

8.0-10.0 kg-m
(57.9-72.3 lbs.-ft.)

(4) PARKING BRAKE
Disassembly/Assembly,
Page 16-9, 16-10.

BRAKE PEDAL
Align the punch marks on
the pedal and pedal shaft.

GREASE

('76 Model)

5.5-7.0 kg-m
(39.8-50.6 lbs.-ft.)

* After assembling, inspect the following items and adjust if necessary:

- Rear brake adjustment Page 4-19, 20
- Drive chain tension adjustment Page 4-16
- Stoplight switch adjustment Page 4-21

16 DISASSEMBLY/ ASSEMBLY

REAR WHEEL/ SUSPENSION/SWING ARM

HONDA
CB750A



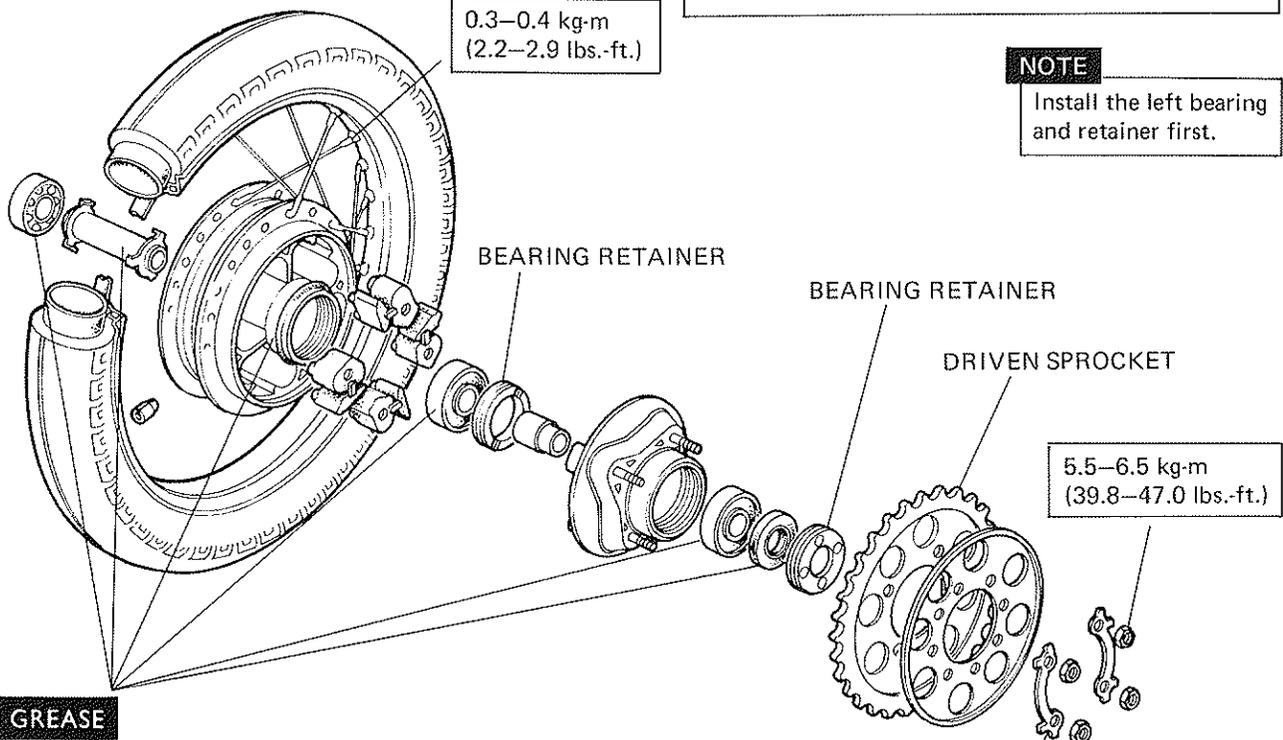
• REAR WHEEL/REAR BRAKE ('76 and '77 Models)

WARNING

Do not get grease on the brake lining or drum.

NOTE

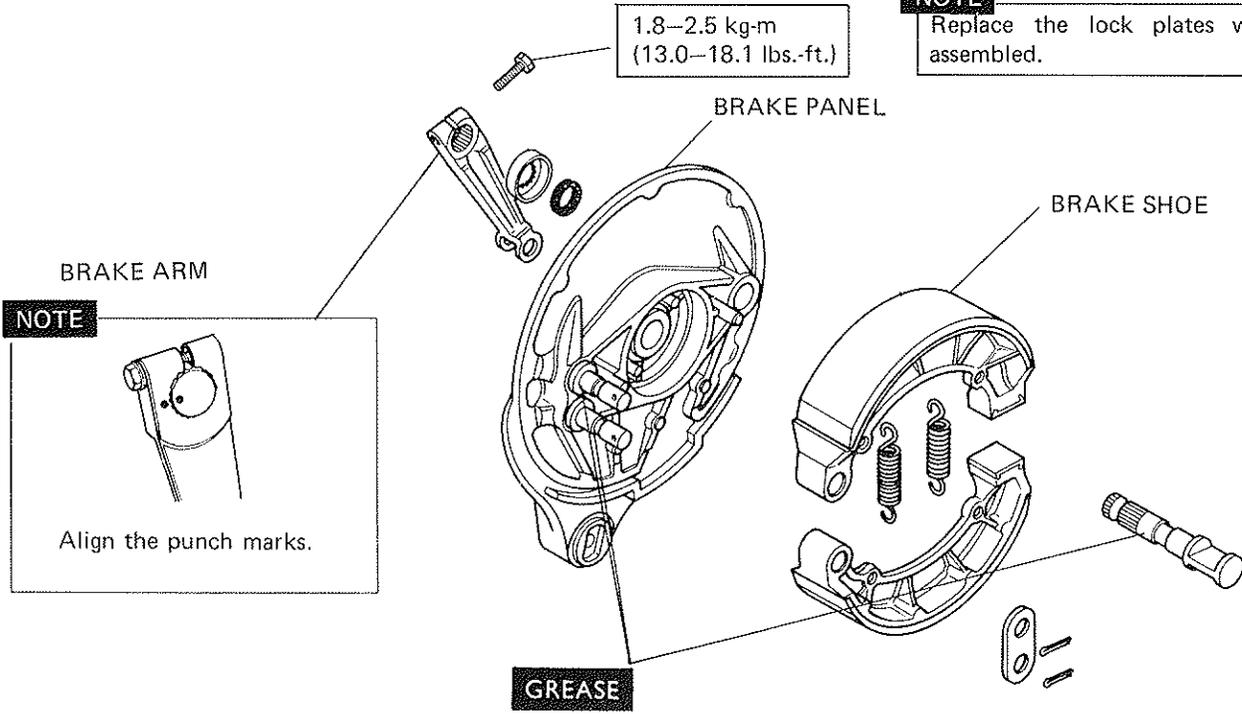
Install the left bearing and retainer first.



NOTE

Replace the lock plates when disassembled.

1.8-2.5 kg-m
(13.0-18.1 lbs.-ft.)





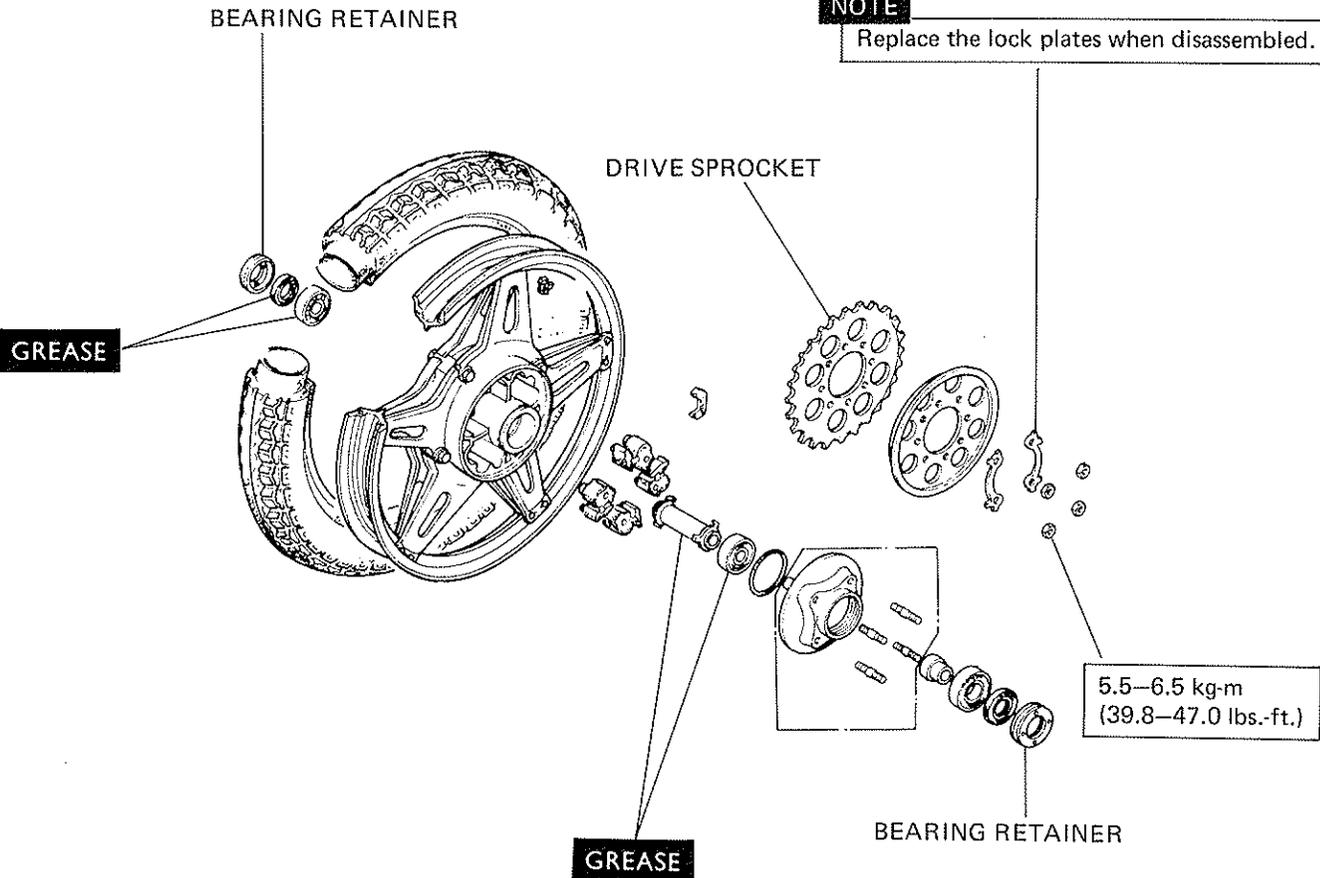
• REAR WHEEL ('78 Model)

NOTE

Install the right bearing and retainer first.

WARNING

Do not get grease or oil on the brake shoes or drum.



NOTE

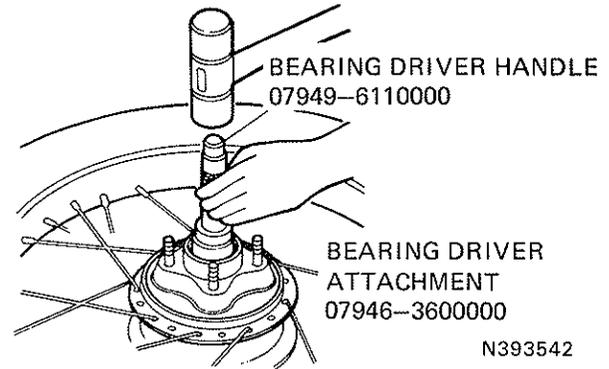
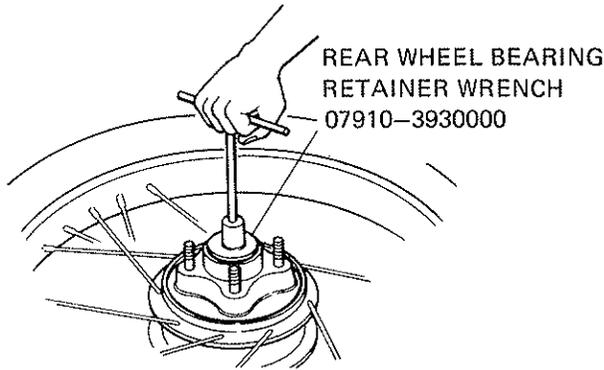
A rim band is not used for the COMSTAR Wheel.



- REAR WHEEL BEARING
- FINAL DRIVEN FLANGE

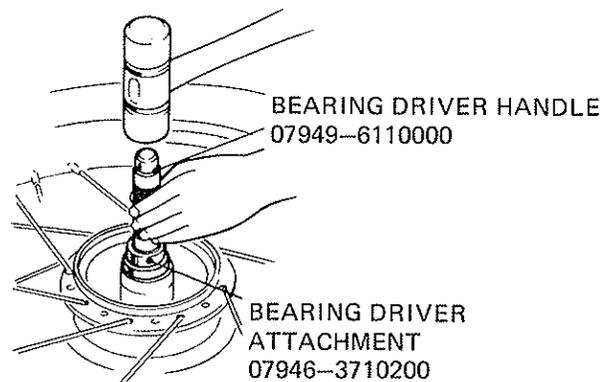
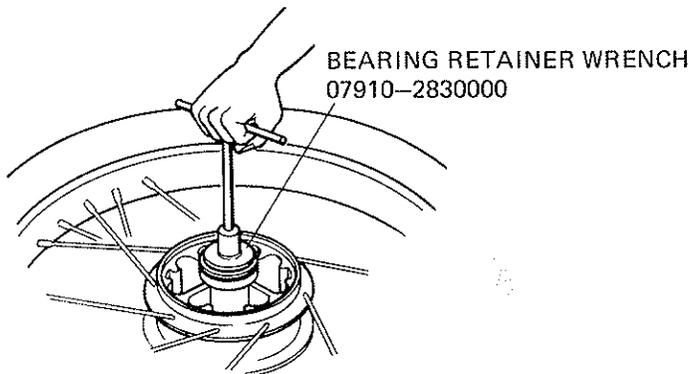
NOTE

Install the bearing with the sealed side outward and drive it squarely.



- Inspect the retainer and replace if cross threaded.
- After installing a new retainer, stake at two places.

• REAR WHEEL HUB



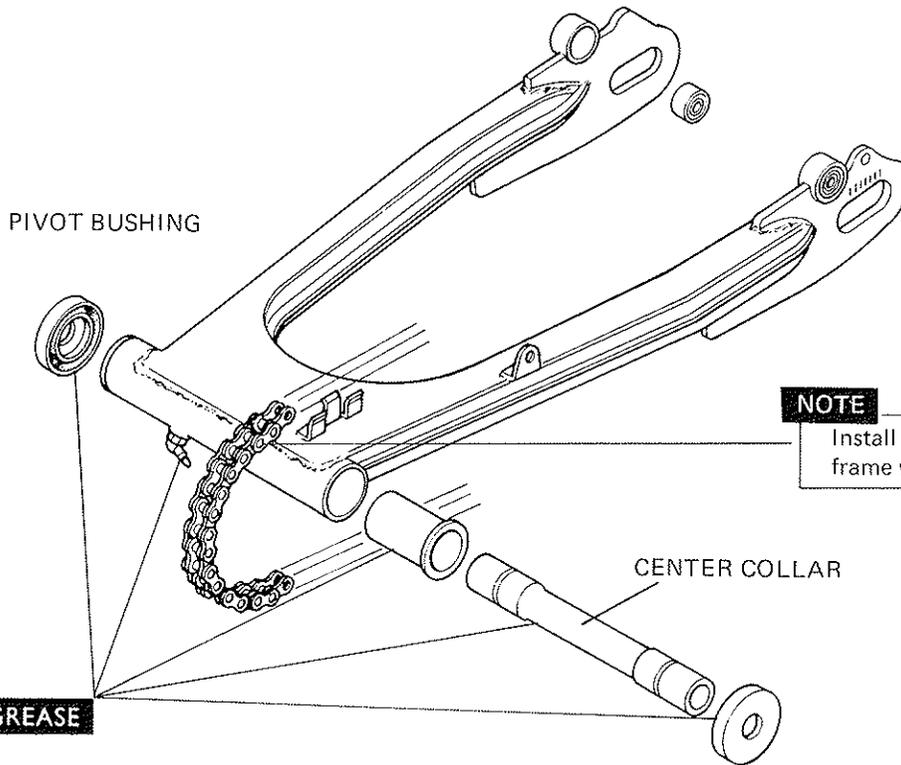
- Inspect the retainer and replace if cross threaded.
- After installing a new retainer, stake at two places.

Install the bearing on the retainer side and retainer first, then install the distance collar and right bearing.

- Install the bearing with the sealed end facing outward and drive it squarely.
- Do not tilt the distance collar during operation.



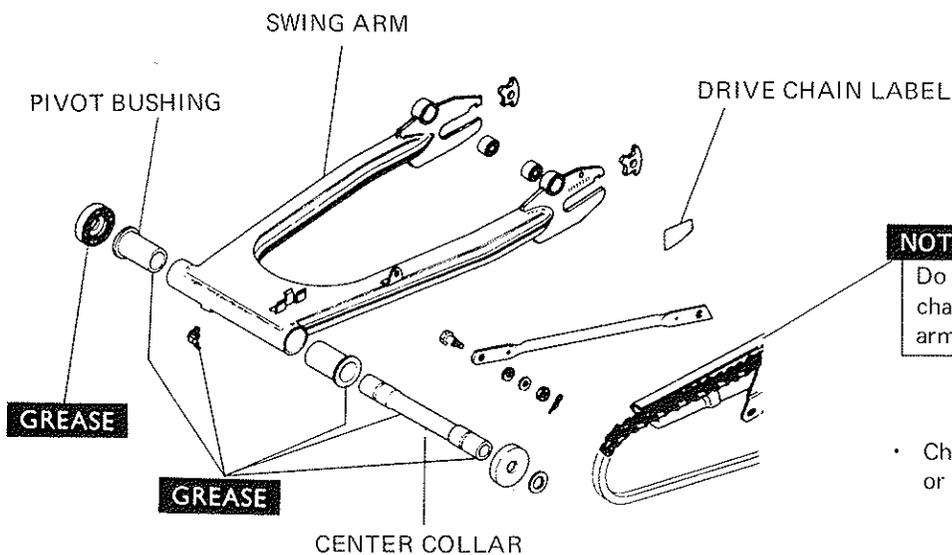
• SWING ARM
('76 Model)



S393577

- Check the swing arm for bending or cracks.

('77 and '78 Models)



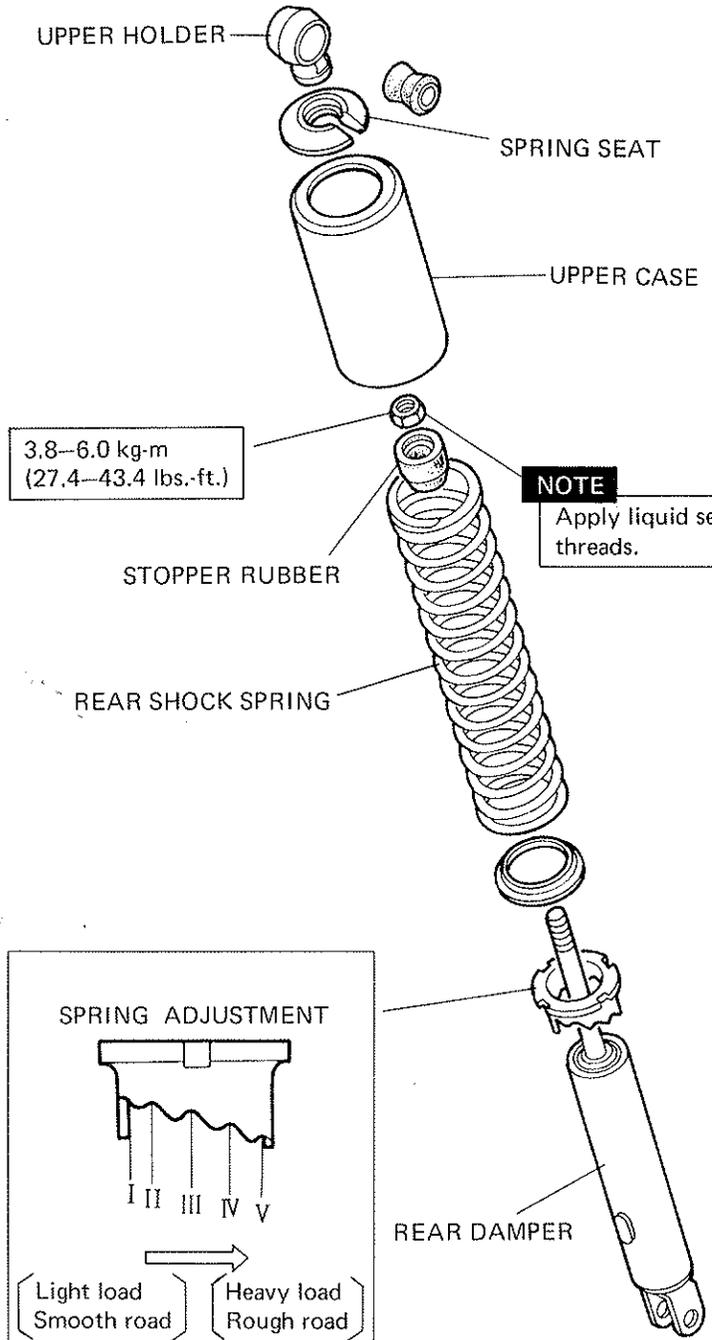
NOTE
Do not forget to install the drive chain when installing the swing arm on the frame.

- Check the swing arm for bending or cracks.

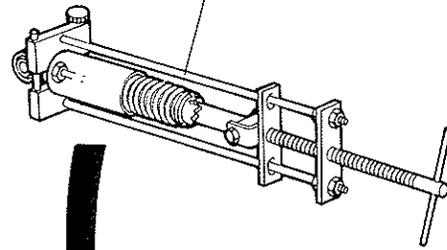


• REAR SHOCK ABSORBER

(1) Set the rear shock absorber in the tool as shown and remove the lock nut.

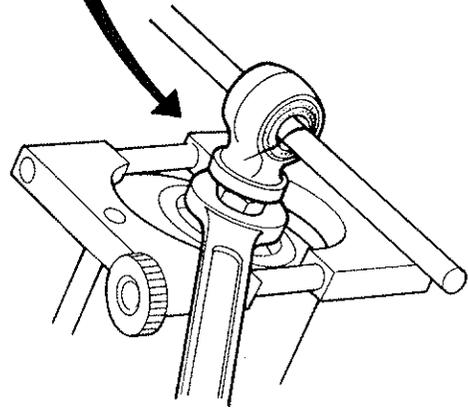


SHOCK ABSORBER COMPRESSOR
07959-3290000



S393575

NOTE
Apply liquid sealer to the threads.



S393576

After assembling, make sure that the spring seat is installed properly.

SPRING ADJUSTMENT

Light load Smooth road Heavy load Rough road

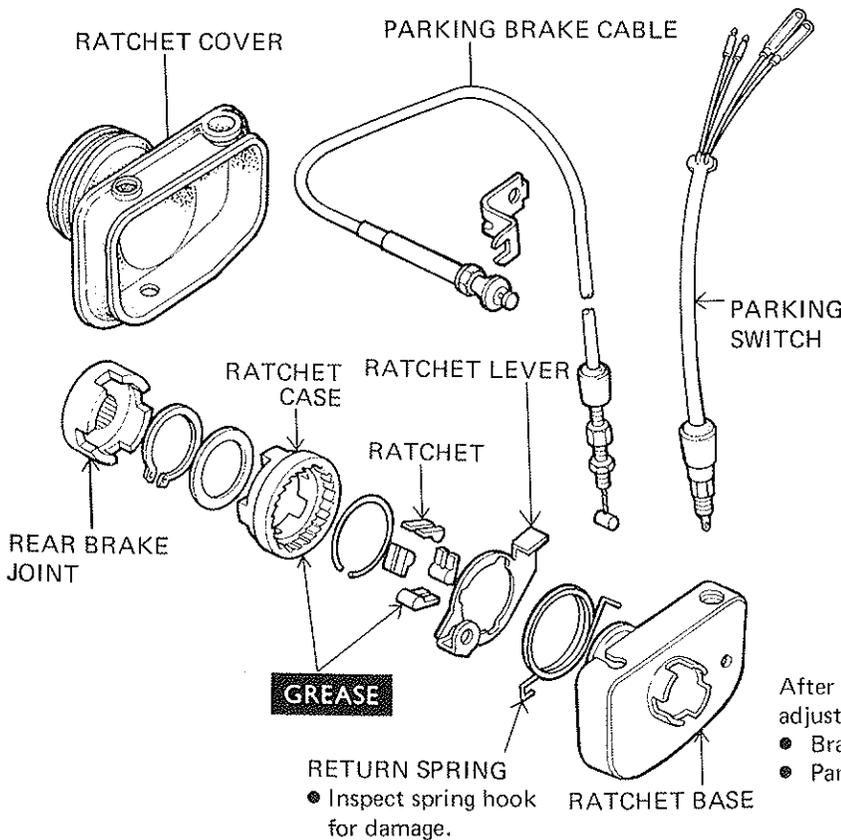
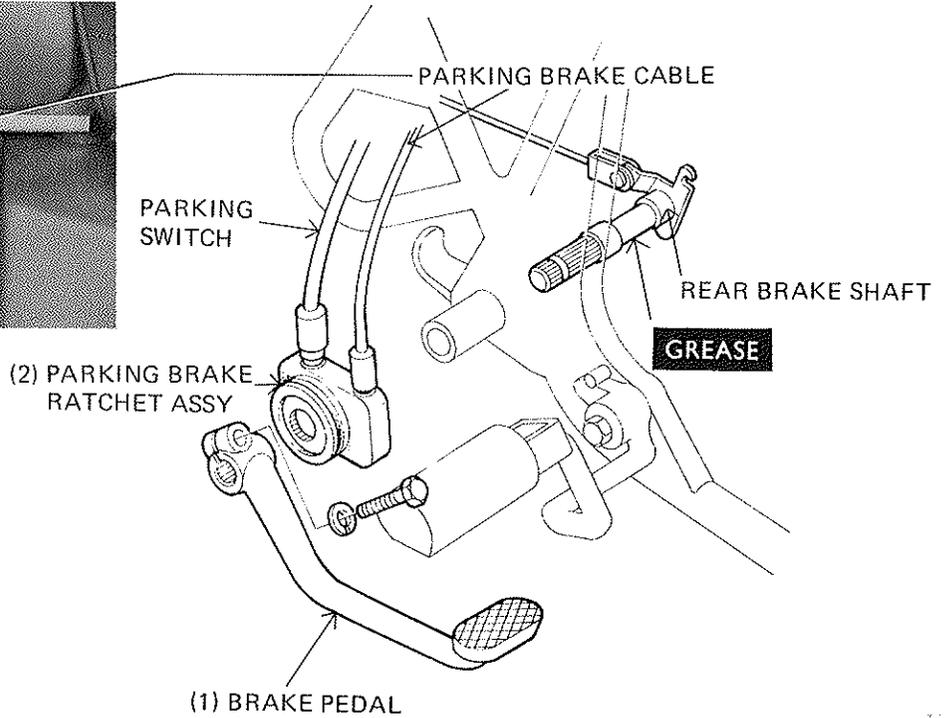
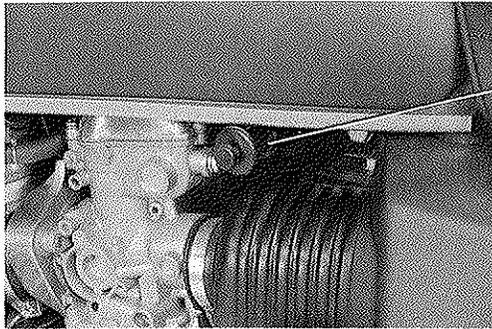
There are five positions. The standard position is "I".

WARNING
Set to the same number position on both sides.

S393574



● **PARKING BRAKE SYSTEM ('76 Model)**



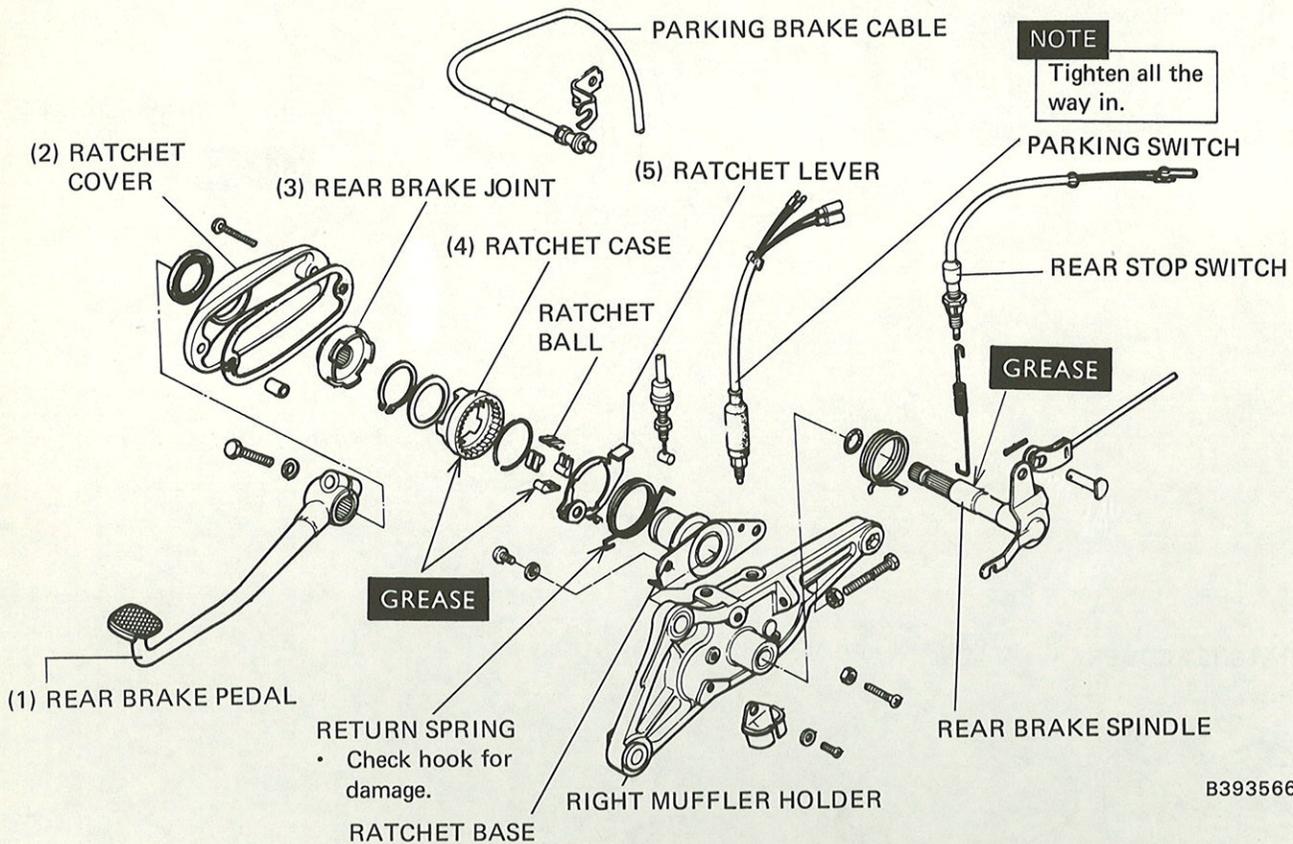
After assembling, inspect the following items and adjust if necessary.

- Brake pedal free play 20–30 mm (0.8–1.2 in.)
- Parking brake cable free play 2 mm (0.08 in.)

(Page 4–20)



● PARKING BRAKE SYSTEM ('77 and '78 Models)



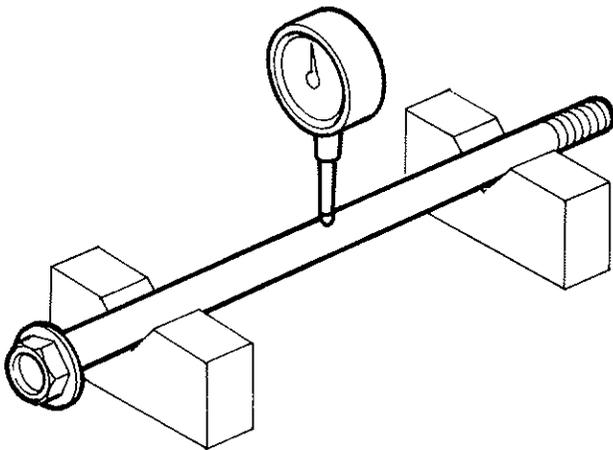
After assembling, inspect the following items and adjust if necessary.

- Brake pedal free play 20–30 mm (0.8–1.2 in.)
- Parking brake cable free play 2 mm (0.08 in.)



● **INSPECTION**

● **REAR AXLE RUNOUT**

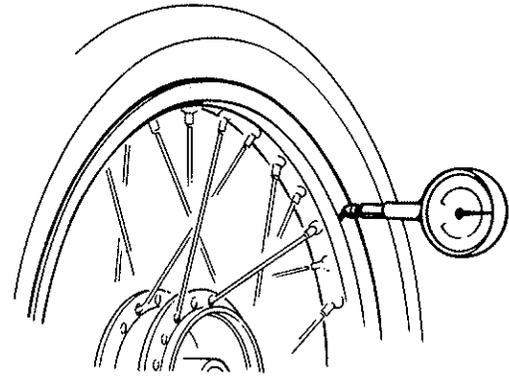


I393631

Use 1/2 of T.I.R. (Total indicator reading).

Standard	0–0.05 mm (0–0.002 in.)
Service Limit	0.2 mm (0.008 in.)

● **REAR WHEEL RIM RUNOUT**

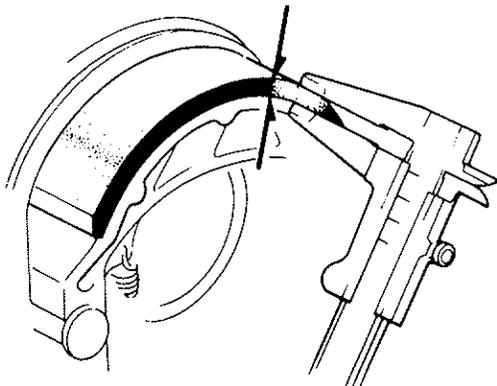


W149542

Check the rim for distortion on the flange or any other defects.

Standard	0–1.0 mm (0–0.039 in.)
Service Limit	2.0 mm (0.08 in.)

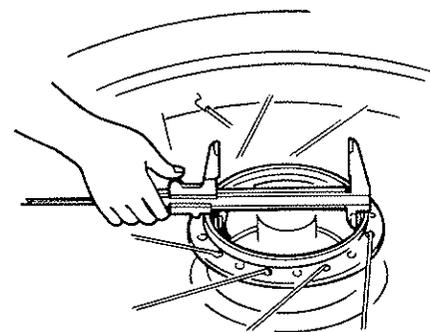
● **REAR BRAKE LINING THICKNESS**



B149521

Standard	5.0 mm (0.20 in.)
Service Limit	2.0 mm (0.08 in.)

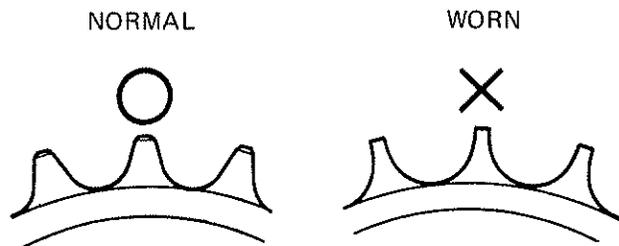
● **REAR BRAKE DRUM I.D.**



Standard	180 mm (7.087 in.)
Service Limit	181 mm (7.126 in.)



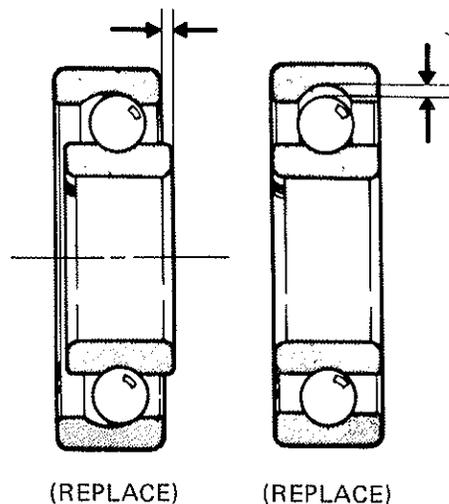
• FINAL DRIVEN SPROCKET WEAR



W149549

Also check the drive chain and drive sprocket for wear.

• WHEEL BEARING PLAY

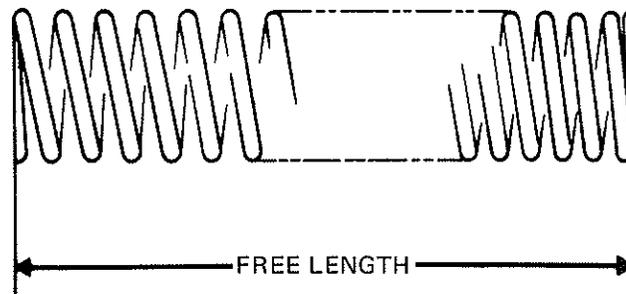


- Replace the bearing if there is excessive play.
- Replace the bearing if it is noisy when spinning the outer race by hand.

• SWING ARM PIVOT BOLT-TO-PIVOT BUSHING CLEARANCE

Pivot bushing I.D.	21.500–21.552 mm (0.8465–0.8485 in.)	21.7 mm (0.854 in.)
Center collar O.D.	21.427–21.460 mm (0.8436–0.8449 in.)	21.3 mm (0.839 in.)

• REAR SHOCK ABSORBER SPRING FREE LENGTH



Standard	232.7 mm (9.16 in.)
Service Limit	220 mm (8.66 in.)



FUEL TANK

• ASSEMBLY/DISASSEMBLY

WARNING

- Keep away from open flame or lighted cigarette.
- Store gasoline in a safe place.

FUEL TANK SENDING UNIT
Disassembly/Assembly,
Page 17-2.

FILLER CAP

- Inspect for clogged vent holes

NOTE

Make sure that the cables and wires are not pinched between the fuel tank and frame.

NOTE

Before disassembling, drain fuel from the fuel tank thoroughly. After assembling, fill the tank with fuel and check for leaks.

FUEL TANK SENDING UNIT CORDS

NOTE

Do not forget to install.

FUEL FILTER SCREEN

NOTE

Wash in solvent and air dry.

FUEL TANK OVERFLOW TUBES

NOTE

Do not forget to install.

NOTE

Make sure that the O-ring is installed properly at assembly.

- Check for damage.

CAUTION

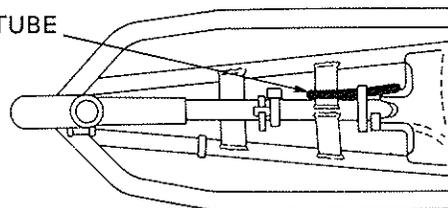
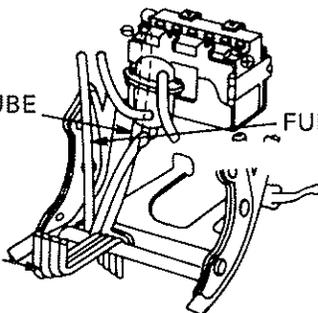
When installing route the breather and overflow tube, as shown. Do not bend or kink the tube.

BATTERY

BREATHER TUBE

FUEL TANK OVERFLOW TUBE

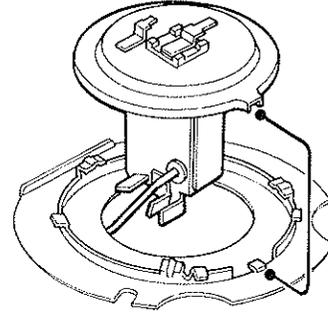
CARBURETOR
OVERFLOW TUBE





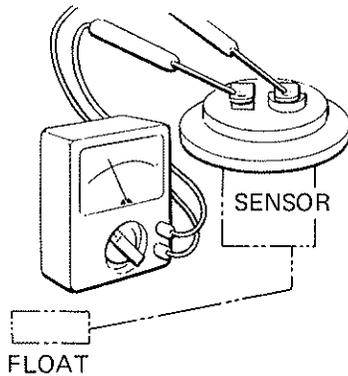
• FUEL TANK SENDING UNIT REMOVAL

50 mm LOCK NUT WRENCH
07920-6710001



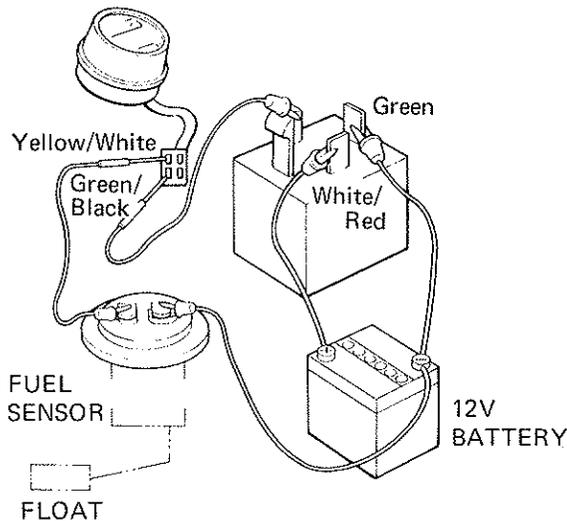
Align the sensor slot with the tank tab.

• FUEL TANK SENDING UNIT INSPECTION
• CONTINUITY TEST



CAPACITY:
FULL : 6-10 Ω
EMPTY: 75-80 Ω

• FUEL GAUGE OPERATION CHECK



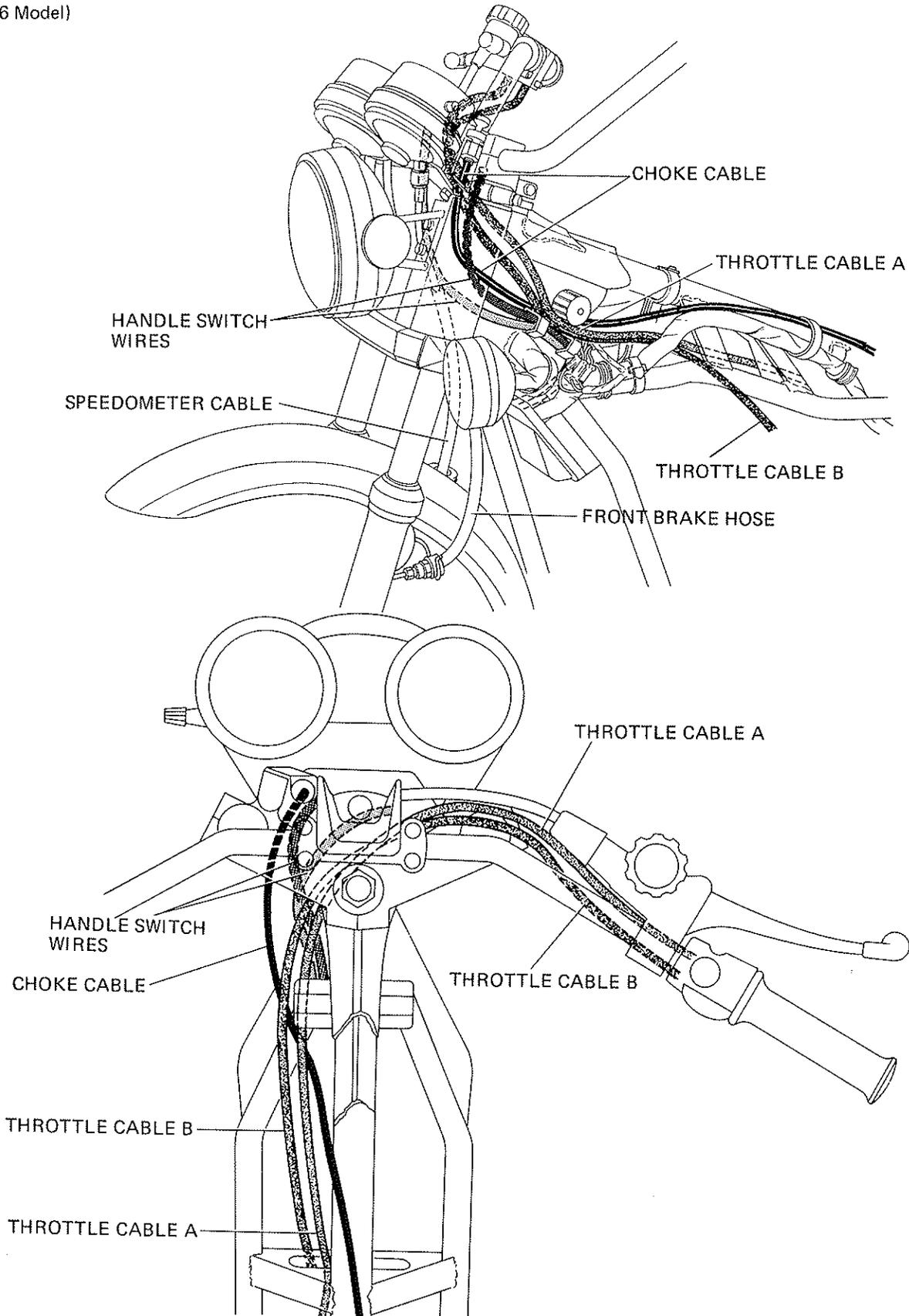
FLOAT AT LOWER LIMIT: Gauge should register "E".
FLOAT AT UPPER LIMIT : Gauge should register "F"

CAUTION

The fuel gauge is rated at 7V. Do not connect the gauge directly to a 12V battery.



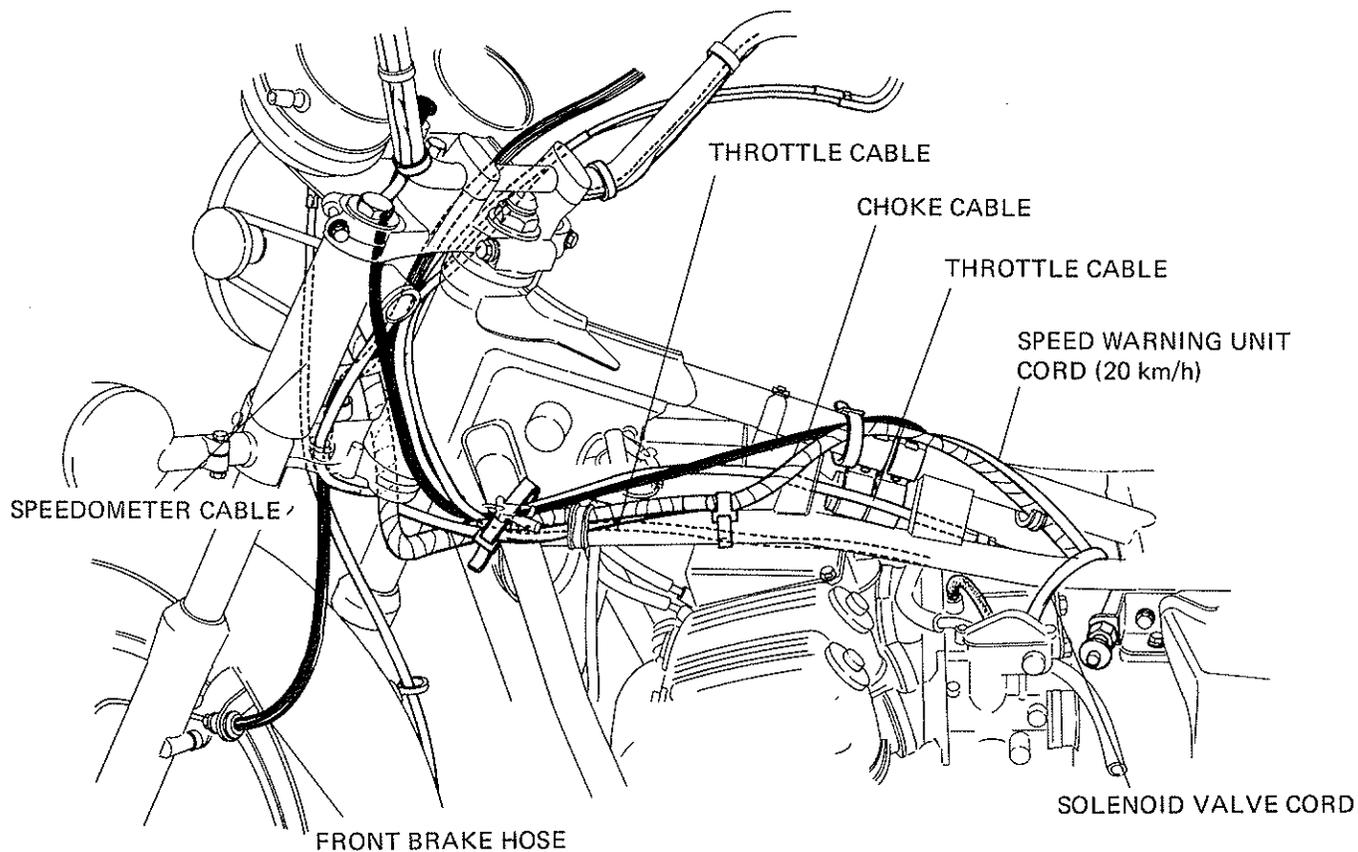
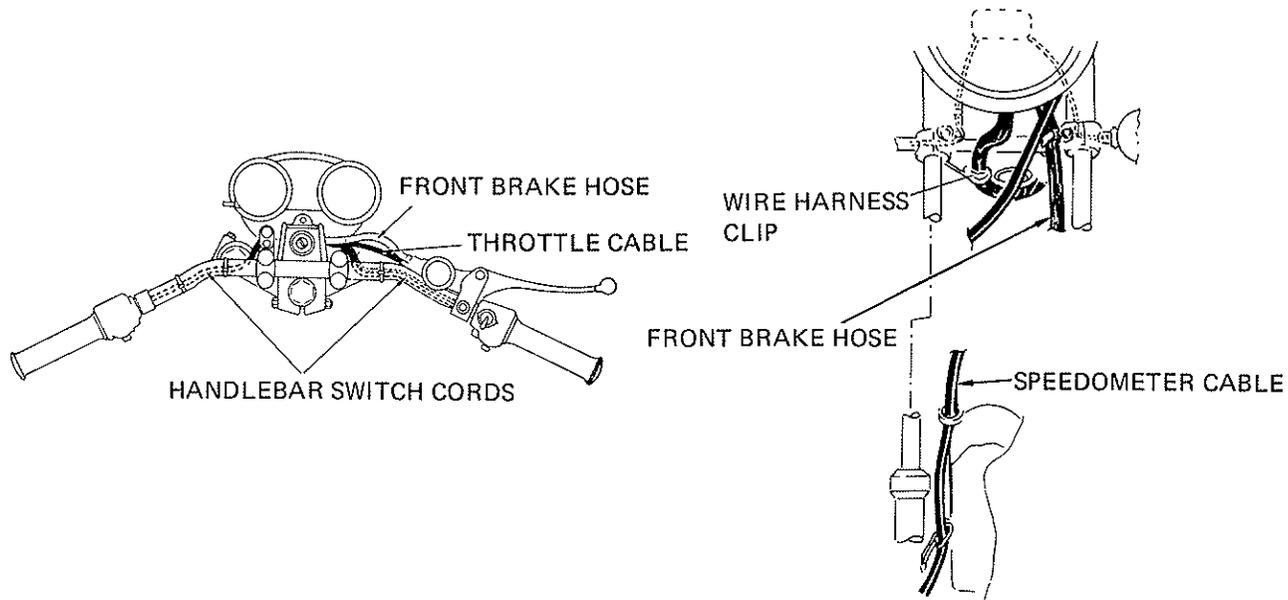
('76 Model)





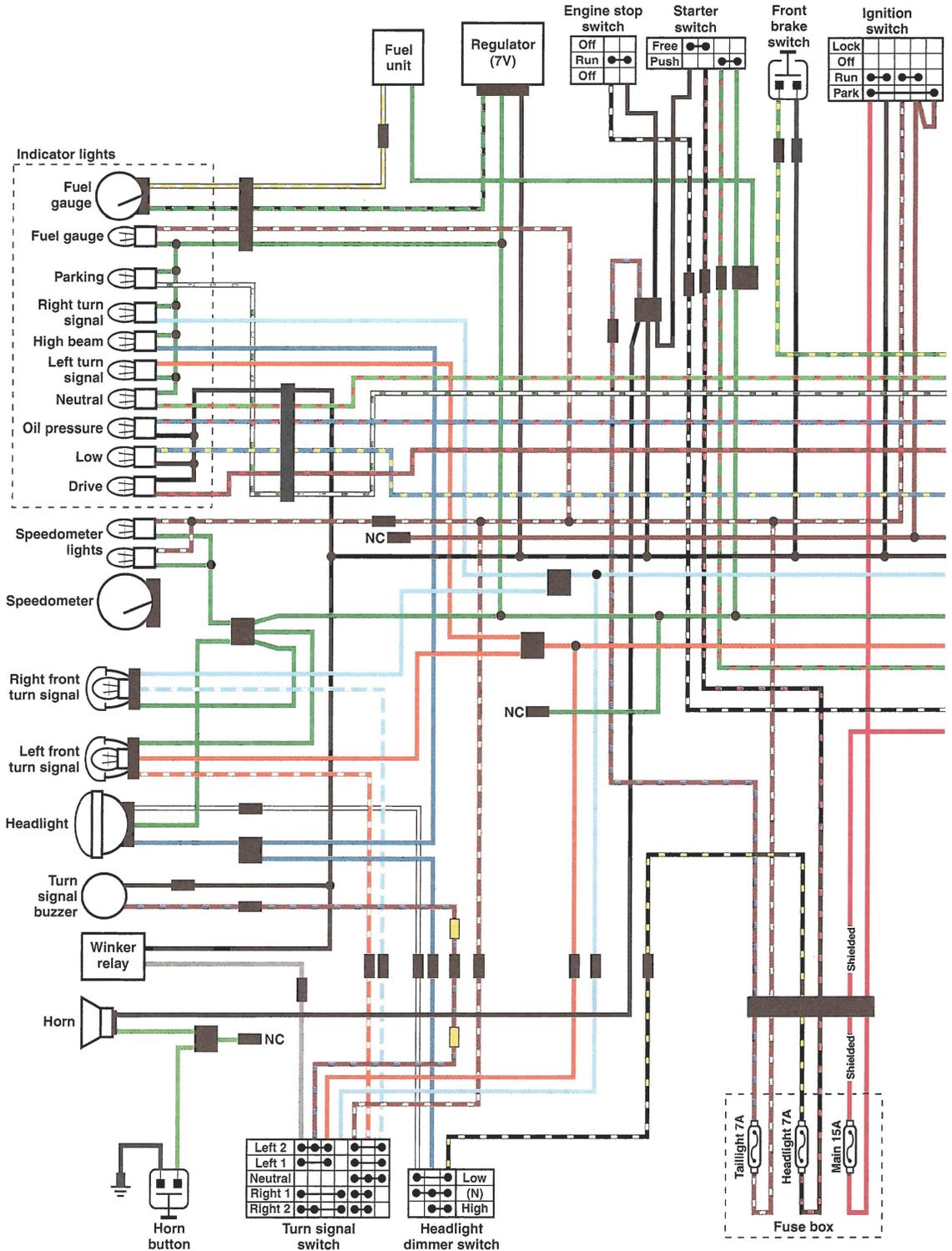
WIRING

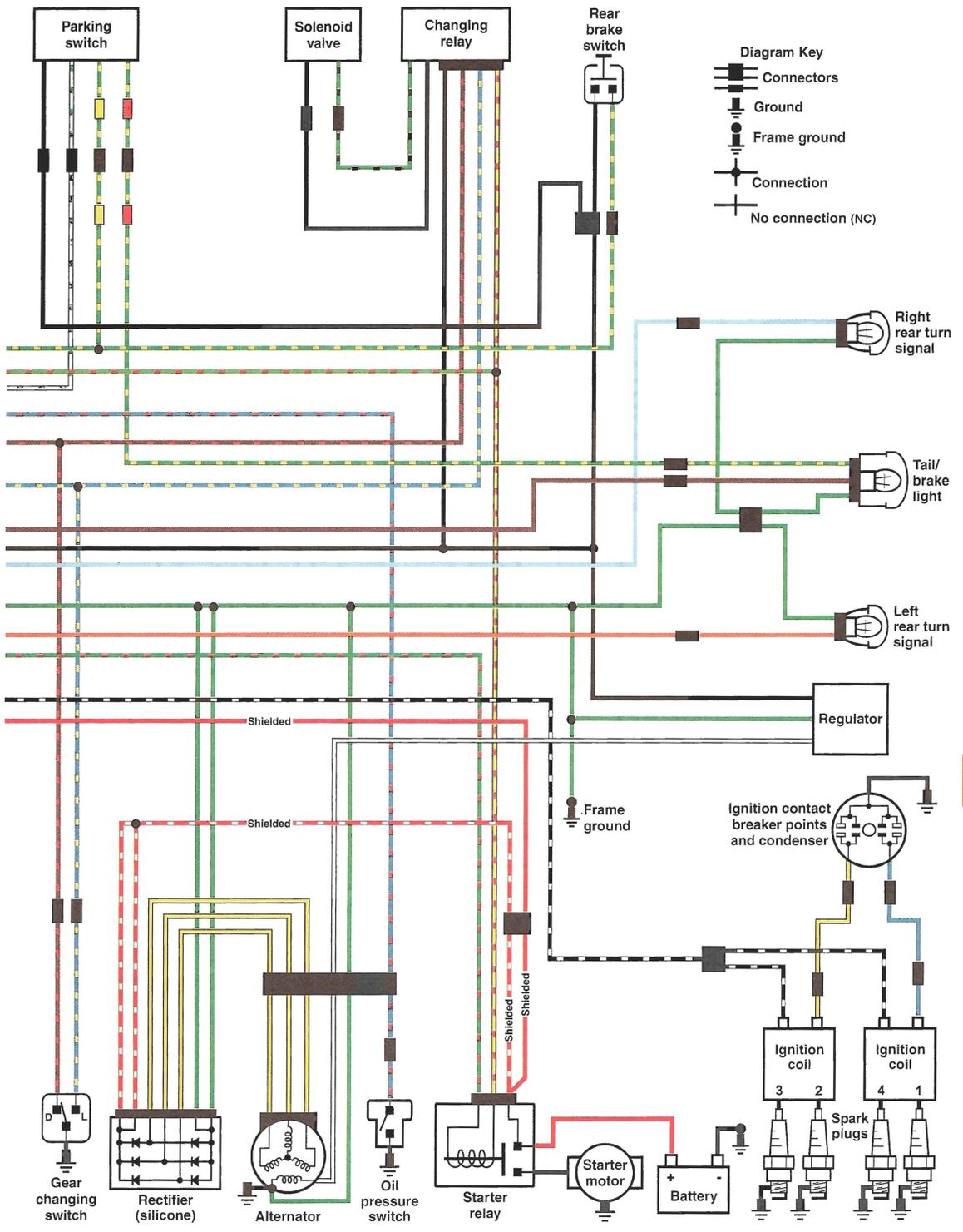
('77 and '78 Model)





CB750A (1976)





CB750A (1977-1978)

