



HONDA

Z50R

HOW TO USE THIS MANUAL

Sections 1 through 3 apply to the whole motorcycle, while sections 4 through 14 describe parts of the motorcycle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on page 1 of that section.

Most sections start with an assembly or system illustration, service information and troubleshooting for the section.

The subsequent pages give detailed procedures for the section.

If you don't know what the trouble is, go to section 15, TROUBLESHOOTING.

This shop manual is based on the 1979 Z50R. Subsequent year models service procedures and data are given with addendums, beginning with section 16.

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1. GENERAL INFORMATION

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

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 the larger diameter or inner bolt first, and tighten to the specified torque diagonally in 2-3 steps, unless a particular sequence is specified.
5. Clean parts in non-flammable or high flash point solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
6. After reassembly, check all parts for proper installation and operation.
7. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the motorcycle.

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GENERAL INFORMATION

SPECIFICATIONS

Item		Metric	English	
Dimensions	Overall length	1,300 mm	51.2 in	
	Overall width	623 mm	24.6 in	
	Overall height	860 mm	33.9 in	
	Wheel base	895 mm	35.2 in	
	Seat height	590 mm	23.2 in	
	Foot peg height	220 mm	8.7 in	
	Ground clearance	140 mm	5.5 in	
	Dry weight	52 kg	115 lb	
Frame	Type	Backbone		
	Front suspension	Telescopic fork		
	Rear suspension	Swing arm		
	Front tire size	3.50-8-2PR		
	Rear tire size	3.50-8-2PR		
	Cold tire pressures	Front	1.0 kg/cm ²	14 psi
		Rear	1.0 kg/cm ²	14 psi
	Front brake	Internal expanding shoe		
	Rear brake	Internal expanding shoe		
	Fuel capacity	4.5 lit	1.19 US gal	
	Fuel reserve capacity	1.0 lit	0.26 US gal	
	Caster (Degrees from horizontal)	25°		
	Trail	42 mm	1.7 in	
	Front fork oil	Grease		
	Engine	Type	Air-cooled, 4 stroke OHC	
Cylinder arrangement		Single 80° inclined from vertical		
Bore and stroke		39.0 x 41.4 mm	1.535 x 1.630 in	
Displacement		49 cm ³	3.0 cu in	
Compression ratio		8.8 x 1		
Valve train		Chain driven overhead camshaft		
Oil capacity		0.8 lit	0.21 US gal	
Lubrication system		Forced and wet sump		
Cylinder head compression pressure		12.0 kg/cm ² -1,000 rpm	168 psi	
Intake valve		Opens	7° BTDC (at 1mm lift)	
		Closes	12° ABDC (at 1mm lift)	
Exhaust valve		Opens	22° BBDC (at 1mm lift)	
		Closes	2° ATDC (at 1mm lift)	
Valve clearance (cold)		IN	0.05 mm	0.002 in
		EX	0.05 mm	0.002 in
Idle speed	1500 ± 100 rpm			
Engine dry weight	17 kg	37.5 lb		



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GENERAL INFORMATION

	Item	Metric	English	
Carburetion	Carburetor type	Piston valve		
	Venturi diameter	11 mm	0.43 in	
	Setting number	PA03B A		
	Air screw opening	1-1/2		
	Float level	12.7 mm	0.50 in	
Drive train	Clutch	Wet multi-plate automatic (centrifugal)		
	Transmission	3-speed constant mesh		
	Primary reduction ratio	3,722		
	Gear ratio I	3,181		
	Gear ratio II	1,823		
	Gear ratio III	1,190		
	Gear ratio IV	-		
	Gear ratio V	-		
	Final reduction ratio	3.083,37/12		
Gear shift pattern	Left foot operated return system N-1-2-3			
Electrical	Ignition	Flywheel magneto		
	Alternator	Flywheel		
	Starting system	Kick start		
	Spark plug	U.S.A. type	NGK C6H	DENSO U20FS
		Canada type	NGK CR6HS	DENSO U20FSR-L
	Spark plug gap	0.6-0.7 mm		0.024-0.028 in

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GENERAL INFORMATION

TORQUE VALUES

ENGINE

Item	Q'ty	Thread dia (mm)	Torque kg-m (ft-lb)
Valve adjusting hole cap	2	30	1.0 ~ 1.4 (7 ~ 10)
Valve adjusting lock nut	2	5	0.7 ~ 1.1 (5 ~ 8)
Cylinder head cover nut	4	8	0.9 ~ 1.2 (7 ~ 9)
Cam sprocket bolt	3	5	0.8 ~ 1.2 (6 ~ 9)
Cylinder bolt	1	6	0.8 ~ 1.2 (6 ~ 9)
Left crankcase cover screw	3	6	0.7 ~ 1.1 (5 ~ 8)
Flywheel nut	1	10	3.0 ~ 3.8 (22 ~ 27)
Right crankcase cover screw	8	6	0.7 ~ 1.1 (5 ~ 8)
Clutch outer nut	1	14	3.5 ~ 4.5 (25 ~ 33)
Shift drum stopper bolt	1	6	0.9 ~ 1.4 (7 ~ 10)
Drain plug	1	12	2.0 ~ 3.0 (15 ~ 22)
Drive sprocket bolt	2	6	0.8 ~ 1.2 (6 ~ 9)

FRAME

Item	Q'ty	Thread dia (mm)	Torque kg-m (ft-lb)
Steering stem nut	1	24	6.0 ~ 8.0 (43 ~ 58)
Fork top bridge bolt	2	10	1.8 ~ 2.5 (13 ~ 18)
Front axle nut	1	12	3.5 ~ 5.0 (25 ~ 36)
Rear axle nut	1	12	3.5 ~ 5.0 (25 ~ 36)
Shock absorber nut	4	10	2.5 ~ 3.5 (18 ~ 25)
Swing arm pivot nut	1	10	2.5 ~ 3.5 (18 ~ 25)
Engine hanger bolt	2	8	2.0 ~ 2.5 (15 ~ 18)
Driven sprocket bolt	3	8	1.8 ~ 2.3 (13 ~ 17)

Torque specifications listed above are for the most important items. If a torque specification is not listed, follow the standards given below.

STANDARD TORQUES

Item	Torque kg-m (ft-lb)	Item	Torque kg-m (ft-lb)
5 mm bolt, nut	0.45 ~ 0.6 (3.3 ~ 4.3)	5 mm screw	0.35 ~ 0.5 (2.5 ~ 3.6)
6 mm bolt, nut	0.8 ~ 1.2 (6 ~ 9)	6 mm screw	0.7 ~ 1.1 (5 ~ 8)
8 mm bolt, nut	1.8 ~ 2.5 (13 ~ 18)	6 mm flange bolt, nut	1.0 ~ 1.4 (7 ~ 10)
10 mm bolt, nut	3.0 ~ 4.0 (22 ~ 29)	8 mm flange bolt, nut	2.4 ~ 3.0 (17 ~ 22)
12 mm bolt, nut	5.0 ~ 6.0 (36 ~ 43)	10 mm flange bolt, nut	3.0 ~ 4.0 (22 ~ 29)



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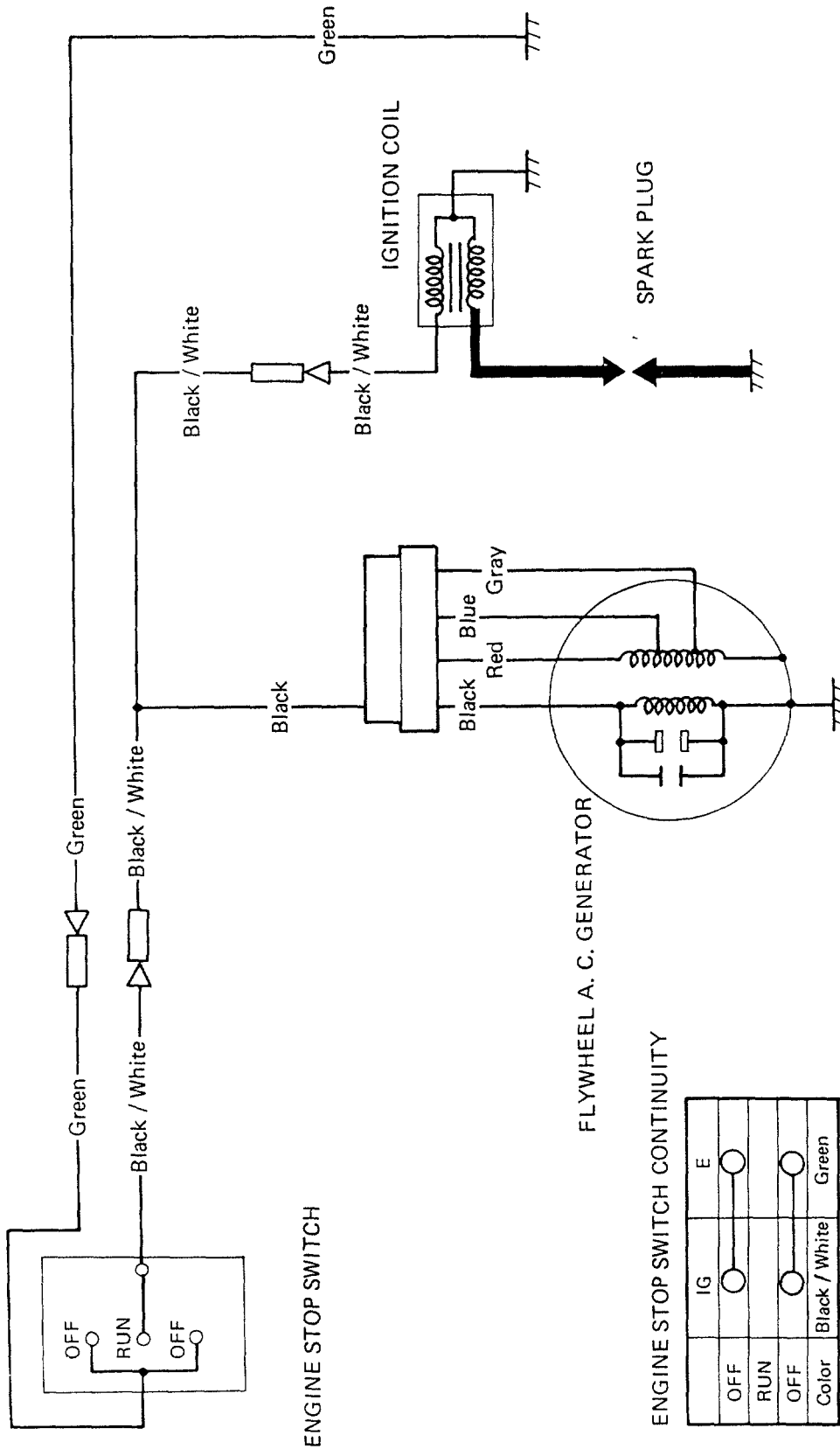
GENERAL INFORMATION

TOOLS

SPECIAL TOOLS		COMMON TOOLS	
Tool name	Tool No.	Tool name	Tool No.
Float level gauge	72401-0010000	←	
Pin spanner, 36 mm	07902-0010000	Pin spanner	07702-0010000
Valve adjusting socket wrench	07908-0010000	Tappet adjusting (B)	07708-0030400
		Tappet adjusting wrench 8 x 9	07708-0030100
Lock nut wrench, 14 mm	07716-0010100	←	
Flywheel holder	07925-0010001	Universal holder	07725-0010101
Flywheel puller	07933-0010000	Flywheel & Rotor puller	07733-0010000
Valve guide remover	07942-3290100	Valve guide remover (5.5 mm)	07742-0010100
Valve guide driver	07942-3290200	Valve guide driver (B)	07742-0020200
Bearing driver	07947-0450000	Bearing driver outer 32 x 35	07746-0010100
		Bearing driver pilot (12 mm)	07746-0040200
Driver handle	07949-2860000	Bearing driver handle (A)	07749-0010000
Valve spring compressor	07757-0010000	←	
Valve guide reamer 5.48 mm	07984-0980000	←	
Clutch outer holder	07923-0400000	Universal holder	07725-0010101
Shock absorber compressor	07959-3290001	←	
Ball race driver/remover	07944-1150001	←	



WIRING DIAGRAM



ENGINE STOP SWITCH

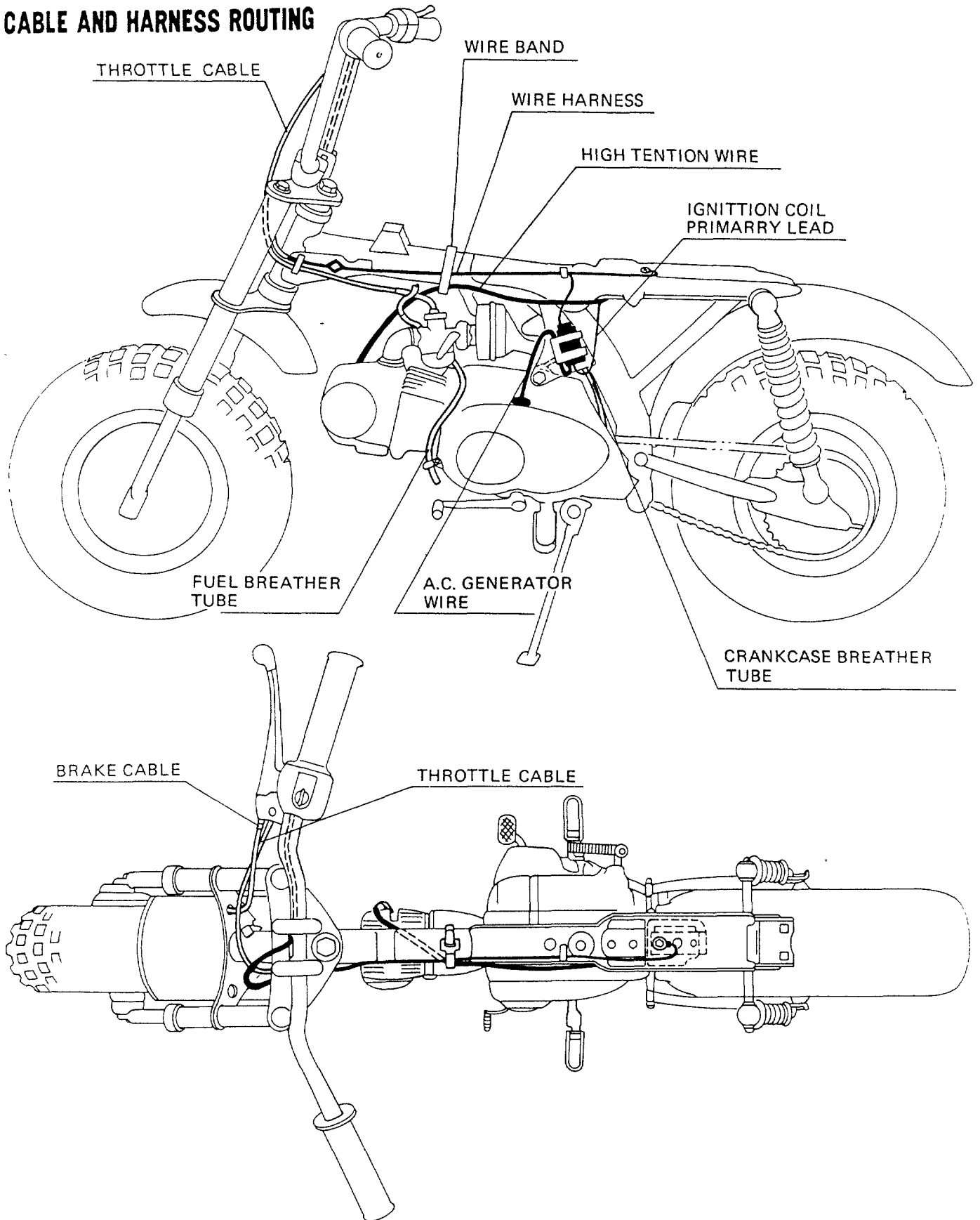
FLYWHEEL A. C. GENERATOR

ENGINE STOP SWITCH CONTINUITY

	IG	E
OFF	○	○
RUN	○	○
OFF	○	○
Color	Black / White	Green



CABLE AND HARNESS ROUTING





GENERAL INFORMATION

MAINTENANCE SCHEDULE

The maintenance intervals shown in the following schedule are based upon average riding conditions. Machines subjected to severe use, or ridden in unusually dusty areas, require more frequent servicing. Items marked * should be serviced by an authorized Honda dealer, unless the owner has proper tools and is mechanically qualified. Other maintenance items may be serviced by the owner.

CAUTION

To maintain the safety and reliability of your HONDA motorcycle, do not modify the motorcycle and use genuine HONDA parts or their equivalent when servicing or repairing. The use of other replacement parts which are not of equivalent quality may impair the operation of your motorcycle.

WARNING

To prevent personal injury, always make certain the engine is stopped and the motorcycle is supported securely on a level surface prior to performing any maintenance.

ITEM	FREQUENCY	*INITIAL		REFERENCE PAGE	
		EVERY 30 OPERATING DAYS	YEARLY		
Fuel Line			I	4-1	
Throttle Operation		I	I	3-4	
Carburetor Choke		I	I	-	
Air Cleaner			C	3-6	
Valve Clearance		I	I	3-3	
Clutch		I	I	3-5	
Contact Breaker Points/Ignition Timing		I	I	3-2	
Carburetor Idle Speed		I	I	3-5	
** Engine Oil		R		2-2	
Drive Chain		I, L	I, L	2-5	
Brake System		I	I	I	3-6
Tires		I	I	11-2, 12-2	
Nuts, Bolts, Fasteners		I	I	1-4	
Spark Arrester			C	3-8	
Steering Head Bearing			A	11-3	

* First week of operation

** Replace engine oil every 30 operating, days or 3 months, whichever comes first.

I Inspect, Clean, Adjust, Lubricate or Replace if necessary

C Clean R Replace A Adjust L Lubricate

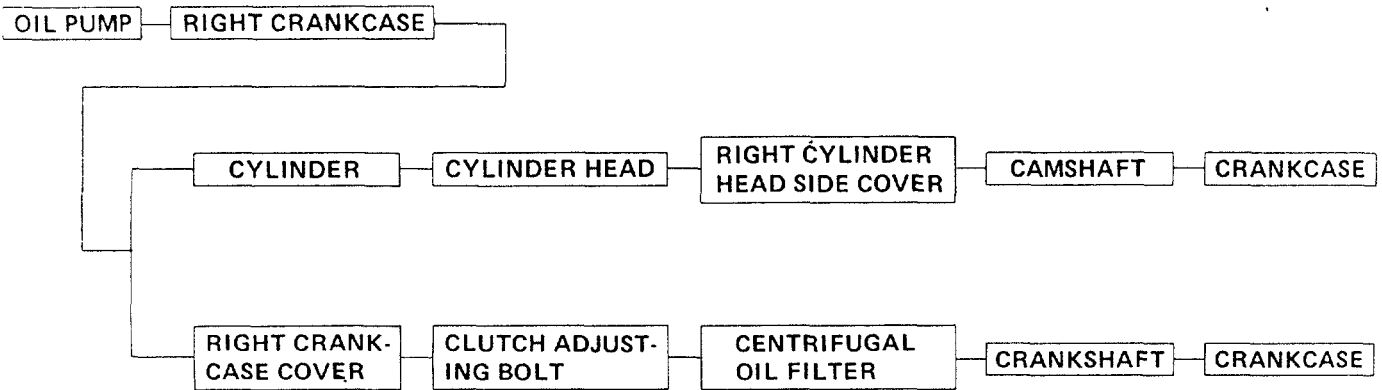
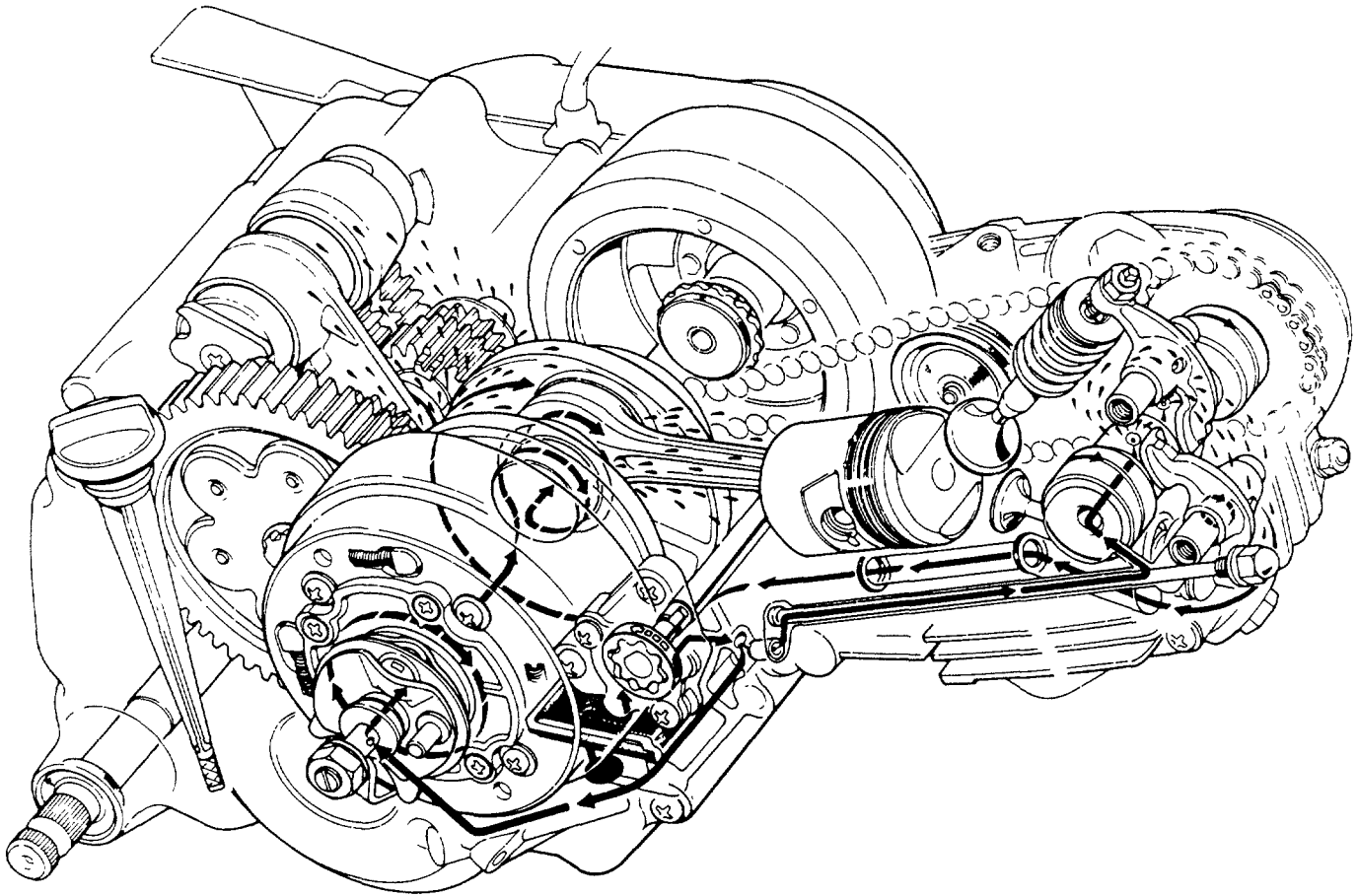


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LUBRICATION





2. LUBRICATION

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SERVICE INFORMATION

GENERAL INFORMATION

The oil pump can be disassembled with the engine in the frame.

SPECIFICATIONS

Forced and wet sump

0.8 lit (0.21 US qt)

HONDA 4-STROKE OIL or an equivalent

API service classification - SE

Viscosity:

General, all temperatures

SAE 10W-40

Alternate

Above 15°C (60°F)	SAE 30
-10° - +15°C (15°-60°F)	SAE 20 or 20W
Above -10°C (15°F)	SAE 20W-50
Below 0°C (32°F)	SAE 10W

	STANDARD		SERVICE LIMIT	
Outer rotor-to-body clearance	0.10-0.15 mm	(0.004-0.006 in)	0.20 mm	(0.008 in)
Tip clearance	0.15 mm	(0.006 in)	0.20 mm	(0.008 in)
Rotor-to-cover clearance	0.02-0.07 mm	(0.001-0.003 in)	0.12 mm	(0.005 in)

TROUBLESHOOTING

Oil level too low

- 1 Normal oil consumption
- 2 External oil leaks
- 3 Worn piston rings

Low oil pressure

- 1 Plugged oil screen
- 2 Main oil pump worn

High oil pressure

- 1 Plugged oil screen, gallery, or oil control orifice
- 2 Incorrect oil being used

No oil pressure

- 1 Oil level too low
- 2 Oil pump shaft pin sheared or missing



LUBRICATION

ENGINE OIL LEVEL

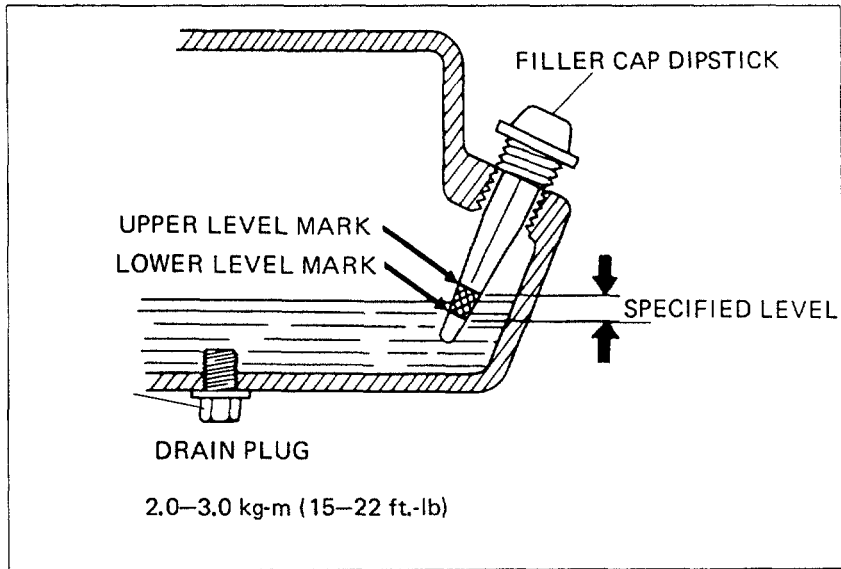
Stop the engine and hold the motorcycle upright.

Check the oil level with the filler cap/dipstick after 2–3 minutes.

If the level is below the lower level mark on the dipstick, fill to the upper level mark.

NOTE

Do not screw in the cap when making this check



ENGINE OIL CHANGE

NOTE

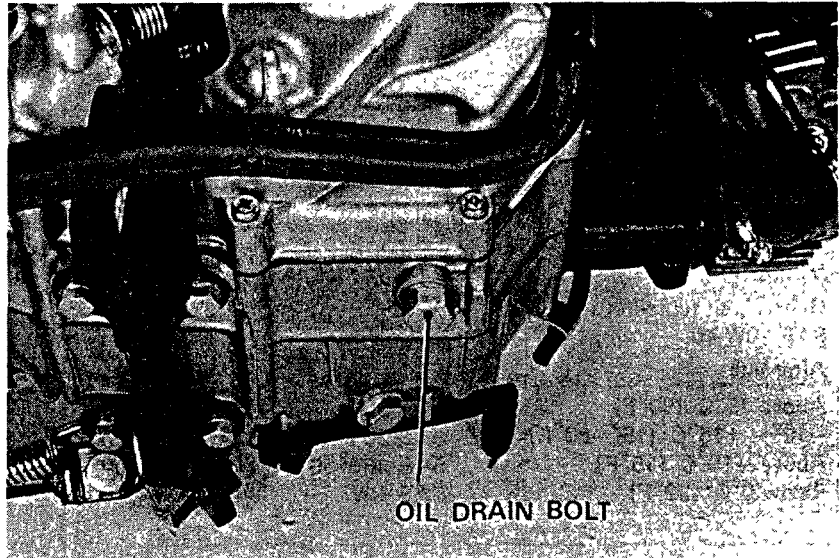
Drain the oil with the engine warm.

Remove the oil filler cap dipstick and drain plug, and drain the oil.

Install the drain plug.
Fill the crankcase with the recommended oil.

Check the oil level with the filler cap/dipstick after 2–3 minutes.

Install the oil filler cap.



ENGINE OIL FILTER AND SCREEN

Drain the engine oil.

Remove the foot pegs and kick starter arm.

Remove the right crankcase cover.

Remove the clutch outer cover.

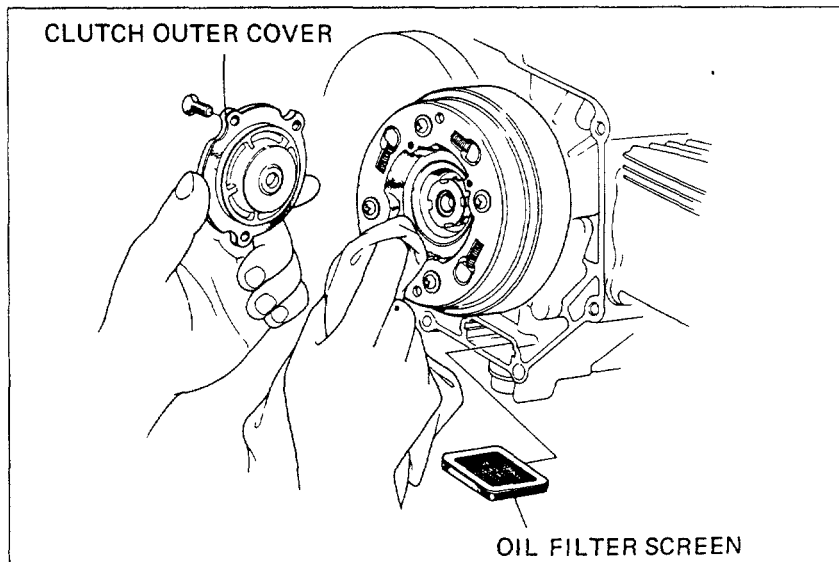
CENTRIFUGAL FILTER CLEANING

Clean the clutch outer cover and the inside of the clutch outer using a clean, lint-free cloth.

NOTE

Do not allow dust and dirt to enter the crankshaft oil passage.

Do not use compressed air.



OIL FILTER SCREEN CLEANING

Remove the oil filter screen from the crankcase.

Clean the filter screen.



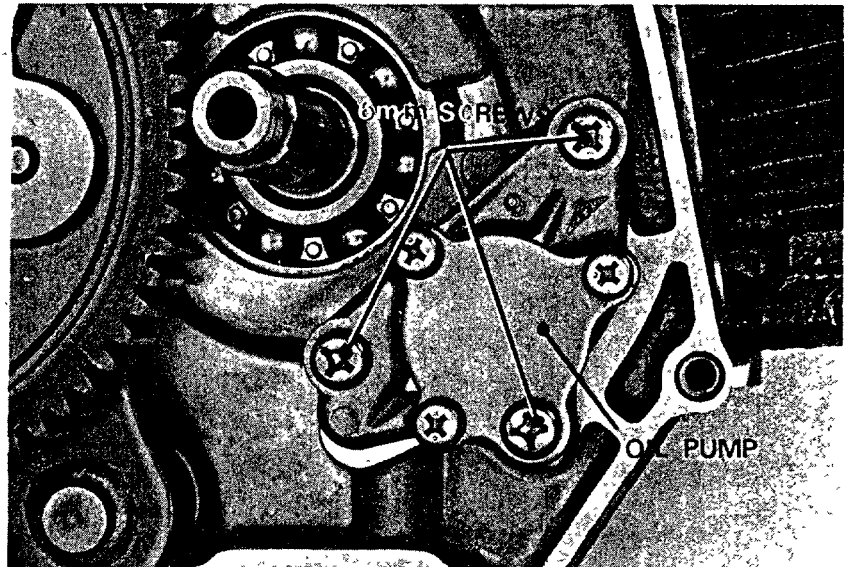
OIL PUMP REMOVAL /DISASSEMBLY

Drain the engine oil.
Remove the kick starter pedal and foot pegs.
Remove the right crankcase cover.

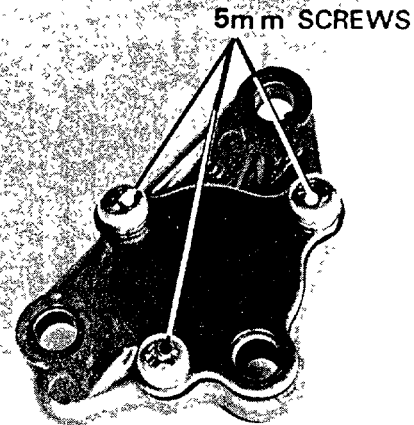
Pull out the clutch lever, lifter, ball retainer and clutch cam.

Remove the clutch outer cover and clutch assembly

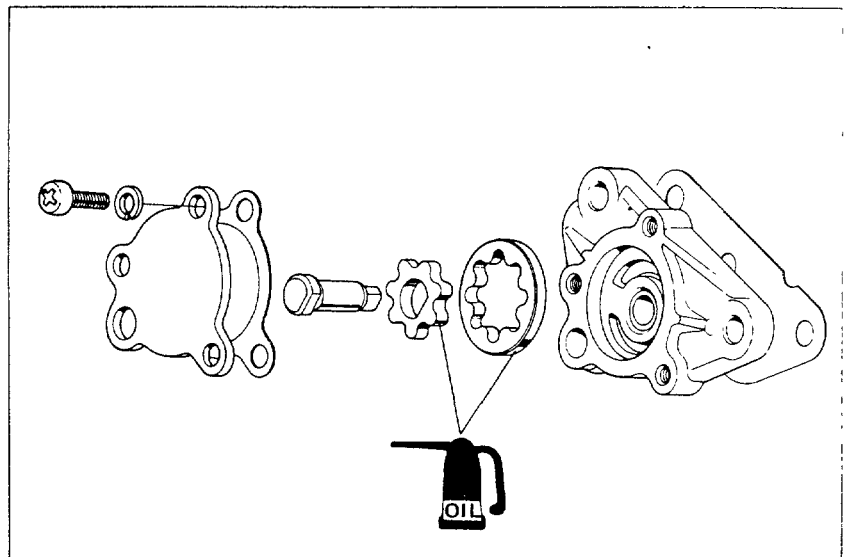
Remove the three oil pump mounting screws and oil pump.



Remove the three cover screws and remove the oil pump cover.



Pull out the pump shaft and remove the inner and outer rotors from the pump body.



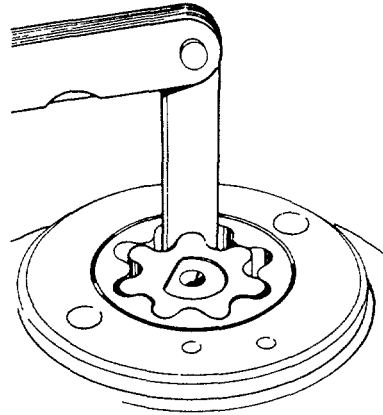


LUBRICATION

OIL PUMP INSPECTION

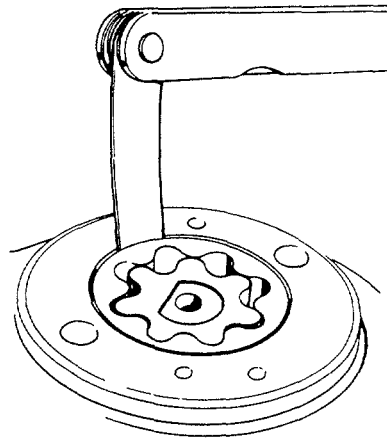
Check the inner and outer rotors.
Replace as a set if damaged or scratched.
Measure the pump tip clearance

SERVICE LIMIT
0.2mm (0.008 in)



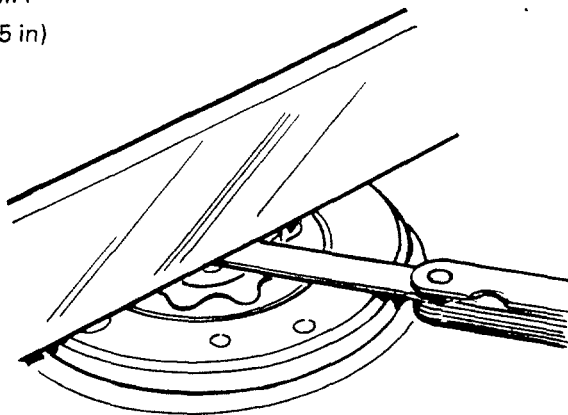
Measure the pump body clearance.

SERVICE LIMIT
0.2mm (0.008 in)



Measure the pump side clearance.

SERVICE LIMIT
0.12mm (0.005 in)





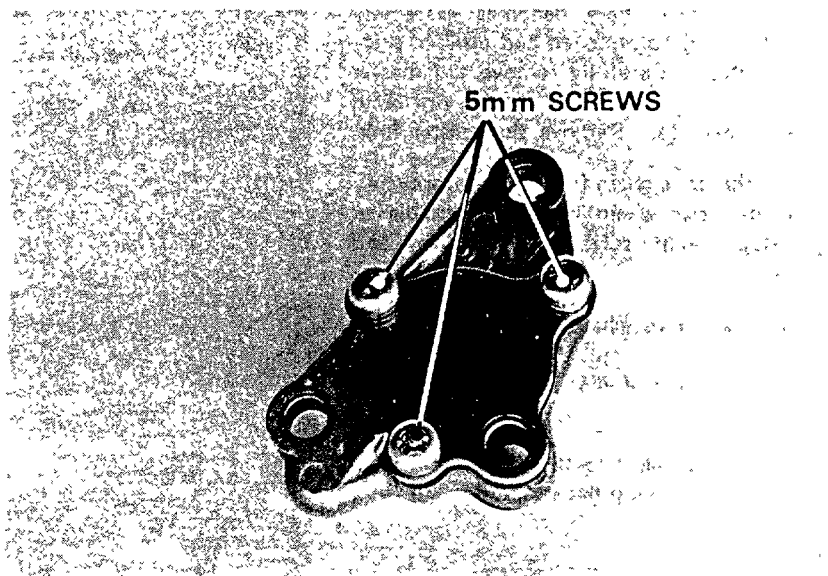
OIL PUMP / ASSEMBLY INSTALLATION

Install the outer and inner rotors into the pump body.
Install the pump shaft.

Install a new cover gasket. Secure the gasket and cover with the three screws.

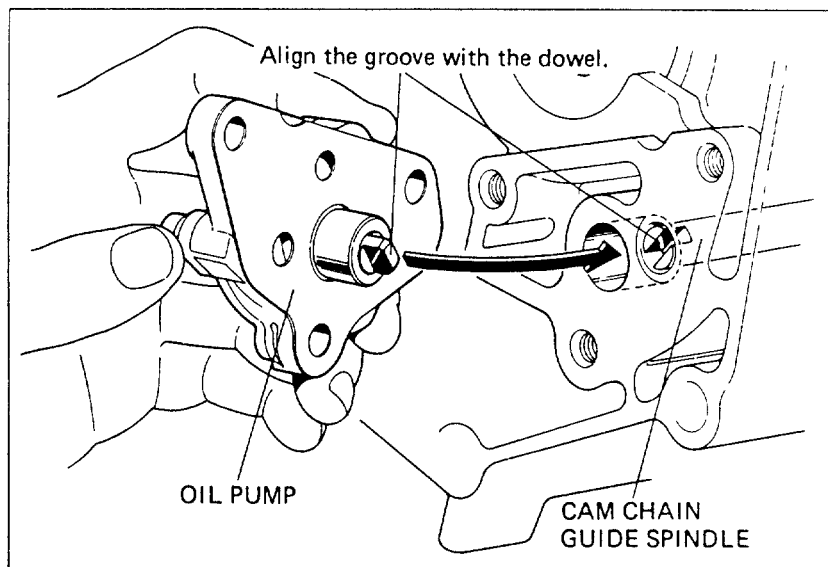
NOTE

Make sure that the pump rotates freely.



OIL PUMP INSTALLATION

Install the oil pump with the gasket under it by aligning the rotor shaft with the groove of the cam chain guide spindle.



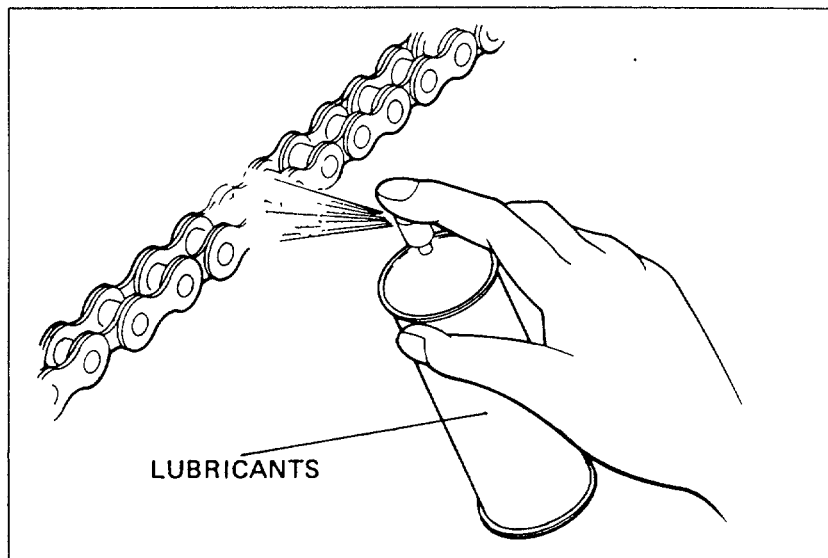
DRIVE CHAIN

NOTE

Commercial aerosol type drive chain lubricants are recommended.

Normally, drive chain lubrication is performed at the time of chain adjustment.

Saturate each chain link joints so that the lubricant penetrates between the link plates, pins, bushings and rollers.





LUBRICATION

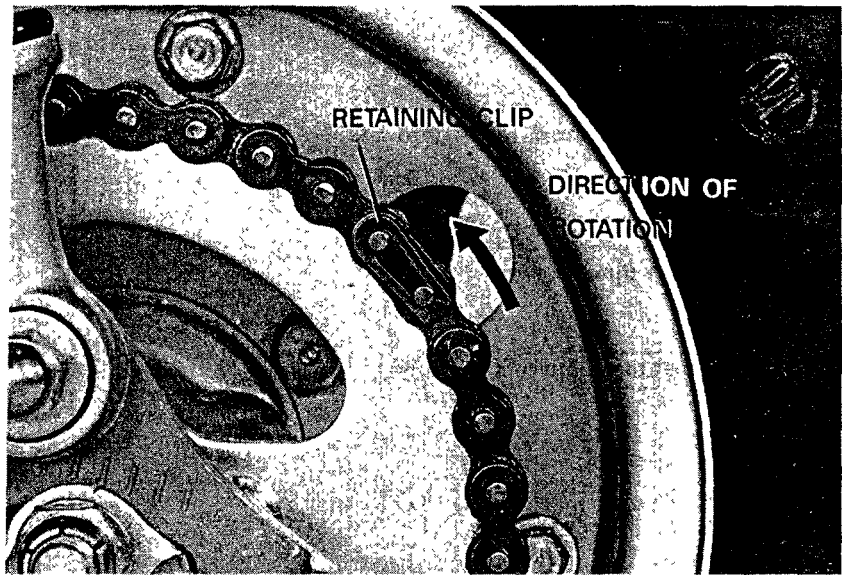
When the drive chain becomes extremely dirty, it should be removed and cleaned prior to lubrication. Carefully remove the master link retaining clip with a plier. Do not bend or twist the clip. Remove the master link.

Remove the drive chain from the motorcycle. Clean the drive chain in non-flammable or high flash point solvent and brush, and allow to dry.

Inspect the drive chain for possible wear or damage.

Replace any chain that is excessively worn or damaged.

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



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.

Lubricate the drive chain.

Install the drive chain.

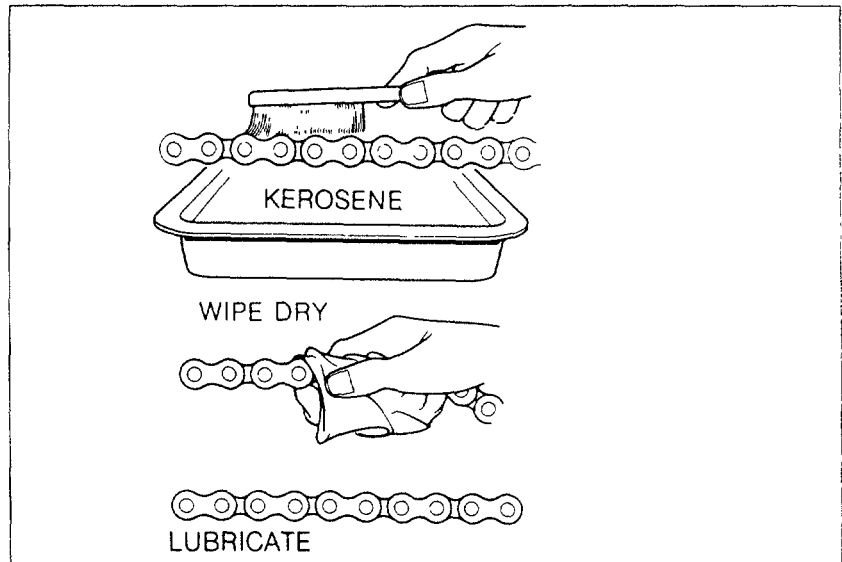
For ease of assembly, hold the chain ends against adjacent rear sprocket teeth while inserting the master link.

Install the master link retaining clip so that the closed end of the clip will face the direction of forward wheel rotation.

Adjust the drive chain free play (Page 3-8).

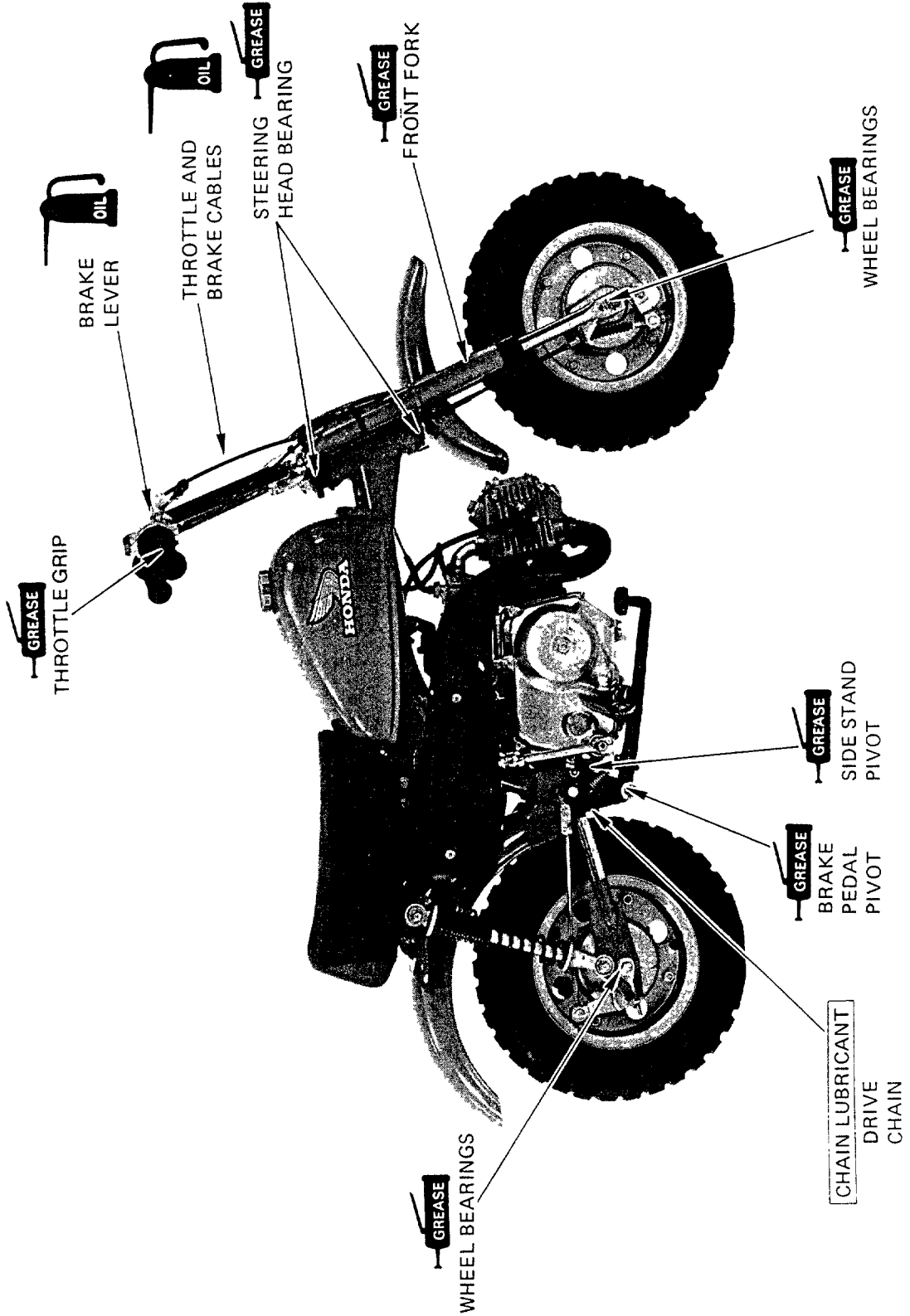
FREE PLAY: 15-25 mm (5/8-1 in)

Check brake pedal free play and adjust, if necessary.





LUBRICATION POINTS





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SERVICE INFORMATION

SPECIFICATIONS

Spark plug gap		0.6-0.7 mm (0.024-0.028 in)
Spark plug type	USA type	NGK: C6H ND: U20FS
	Canada type	NGK: CR6HS ND: U20FSR-L
Valve clearance	IN	0.05 mm (0.002 in)
	EX	0.05 mm (0.002 in)
Contact breaker point gap		0.3-0.4 mm (0.012-0.016 in)
Throttle free play		2-6 mm (1/8-1/4 in)
Idle speed		1,500 ± 100 rpm
Drive chain free play		15-25 mm (5/8-1 in)
Front brake free play		10-20 mm (3/8-3/4 in)
Rear brake free play		10-20 mm (3/8-3/4 in)

Tire pressure:		
Cold tire pressure kg/cm ² (psi)	Front	1.0 (14)
	Rear	1.0 (14)
Tire size	Front	3.50-8-2PR
	Rear	3.50-8-2PR

TORQUE VALUES

Valve adjusting hole cap	1.0-1.4 kg-m (7-10 ft-lb)
Valve adjusting screw lock nut	0.7-1.1 kg-m (5-8 ft-lb)
Oil drain plug	2.0-2.5 kg-m (15-18 ft-lb)
Rear axle nut	3.5-5.0 kg-m (25-36 ft-lb)



INSPECTION & ADJUSTMENT

SPARK PLUG

Disconnect the spark plug cap and remove the spark plug

Visually inspect the spark plug electrodes for wear
The center electrode should have square edges and the side electrode should not be eroded.

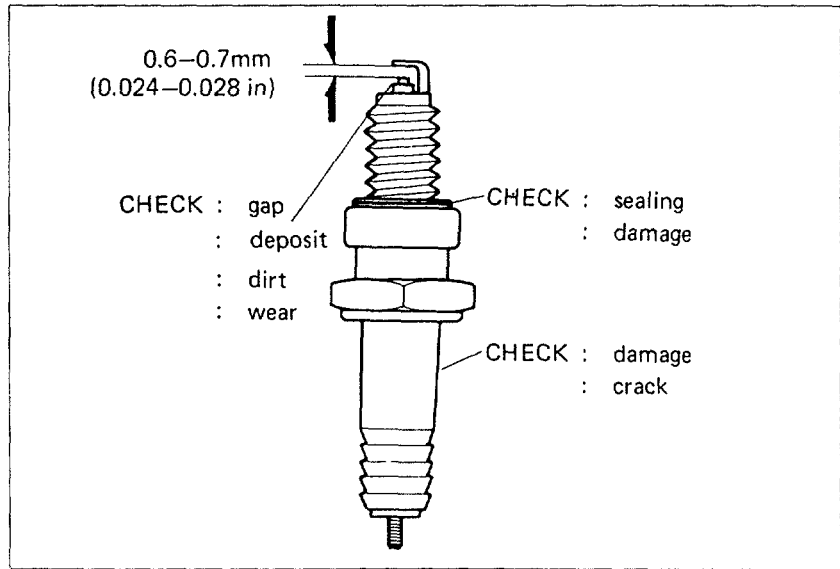
Discard the spark plug if there is apparent wear or if the insulator is cracked or chipped.

Measure the gap with a wire-type feeler gauge. Adjust the spark plug gap by carefully bending the side electrode.

RECOMMENDED SPARK PLUG:

	U.S.A Type	Canada Type
NGK	C6H	CR6HS
ND	U20FS	U20FSR-L

Install the spark plug, tighten it by hand, then with a spark plug wrench.
Connect the spark plug cap.



CONTACT BREAKER POINT/ IGNITION TIMING

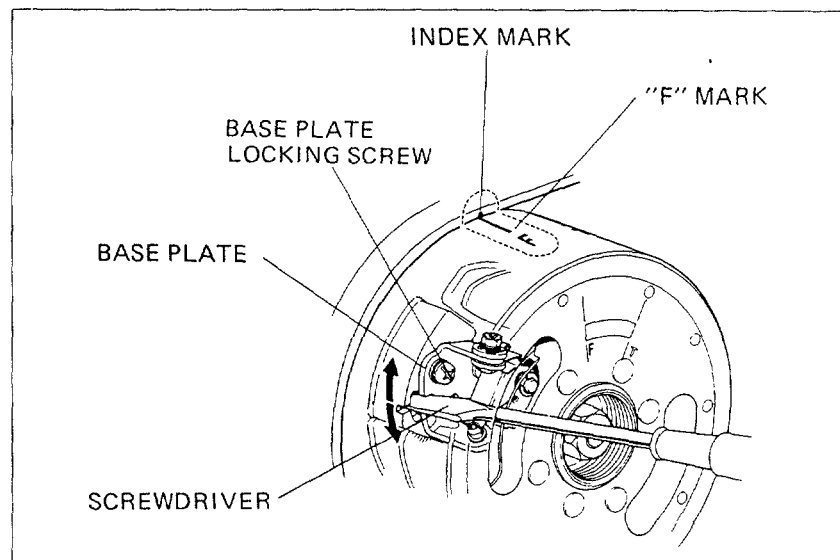
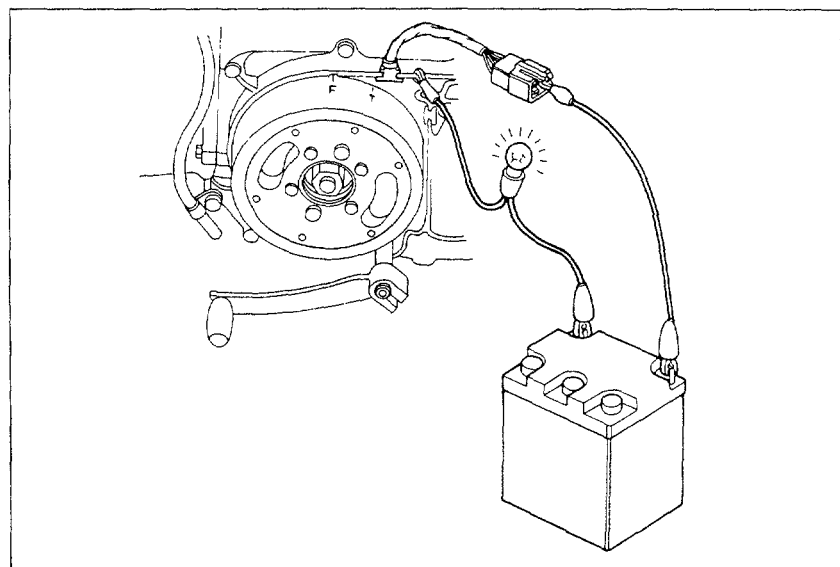
IGNITION TIMING

Remove the left crankcase cover.
Inspect the contact point surfaces. If they are level but grayish in color or are slightly pitted, file or sand them lightly. If they have a noticeable transfer of metal from one surface to the other, have evidence of heavy arcing, or are worn at an angle, the point set should be replaced.

Adjust as follows:

Disconnect the A. C. generator wires.
Connect a continuity light to the black lead and to a battery positive terminal.
Connect the battery negative terminal to a convenient frame ground.

Rotate the flywheel counterclockwise and align the "F" mark with the crankcase index mark. The timing is correct if the light becomes dim when both marks align.





If the ignition timing is incorrect, loosen the contact breaker locking screw and adjust the breaker point gap. Increasing point gap will advance ignition timing. Decreasing the gap will retard ignition timing. Tighten the locking screw and recheck the timing.

NOTE

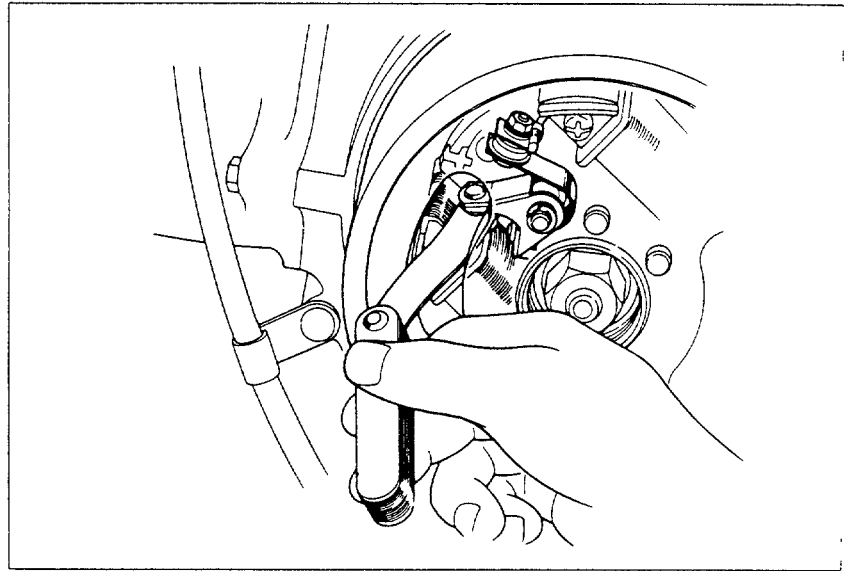
Replace the contact breaker points if the timing cannot be correctly adjusted while maintaining a minimum point gap of 0.3–0.4 mm (0.12–0.16 in).

Connect the A-C generator wires and install the left crankcase cover.

Use a stroboscopic timing light to determine accurate ignition timing.

NOTE

The "F" mark should align with the index mark at idle speed (1,500 rpm).



VALVE CLEARANCE

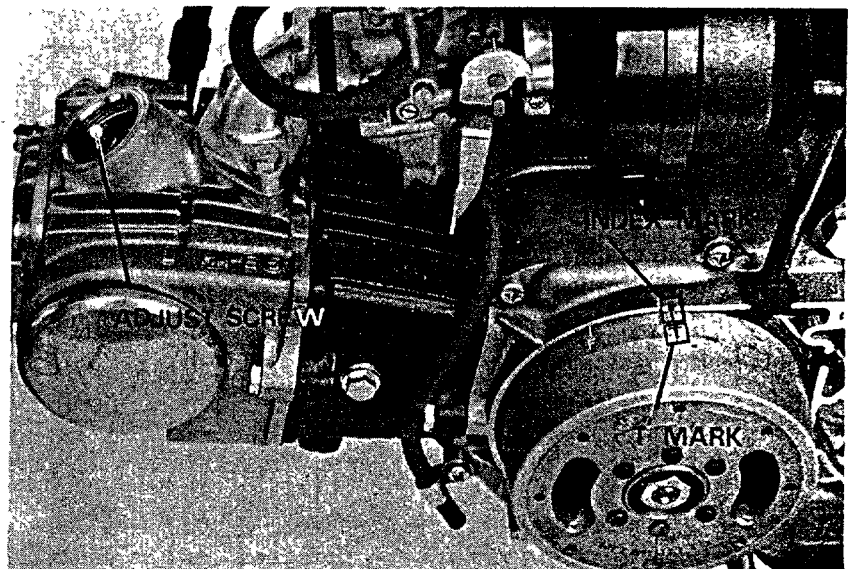
NOTE

Inspect and adjust the valve clearance while the engine is cold (Below 35°C, 95°F).

Remove the left crankcase cover and valve adjusting caps.

Rotate the flywheel counterclockwise and align the rotor "T" mark and crankcase index mark.

Before checking, make sure that the piston is at TDC (Top Dead Center) on the compression stroke. (The rockers should be loose).

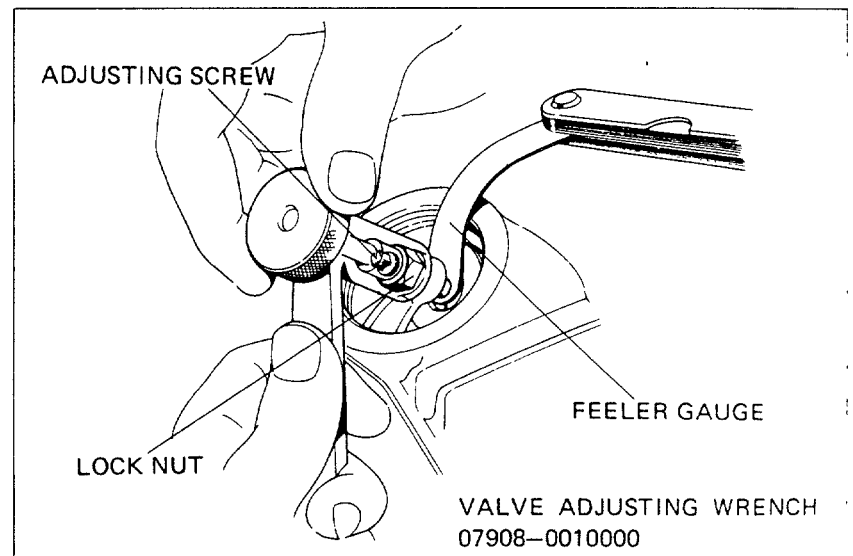


Check the intake and exhaust valve clearances by inserting a feeler gauge between the adjusting screw and the valve stem.

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

Tighten the lock nut and recheck the clearance.

SERVICE LIMIT: 0.05 mm (0.002 in)
(IN/EX)



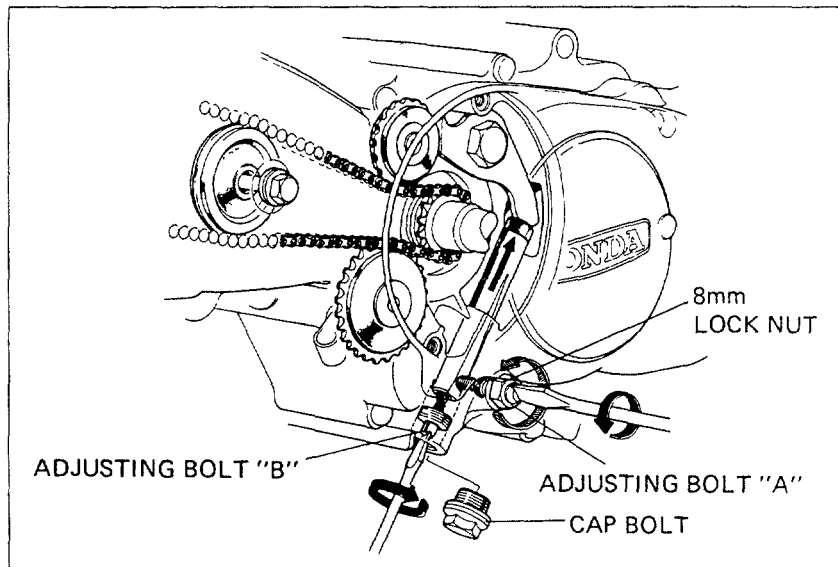
CAM CHAIN TENSION

Start the engine and allow it to idle.

Loosen the 8 mm lock nut and adjusting bolt A one half turn.

If the cam chain is still noisy, remove the cap bolt.

With adjusting bolt A still loosened, carefully screw in adjusting bolt B until the noise stops.

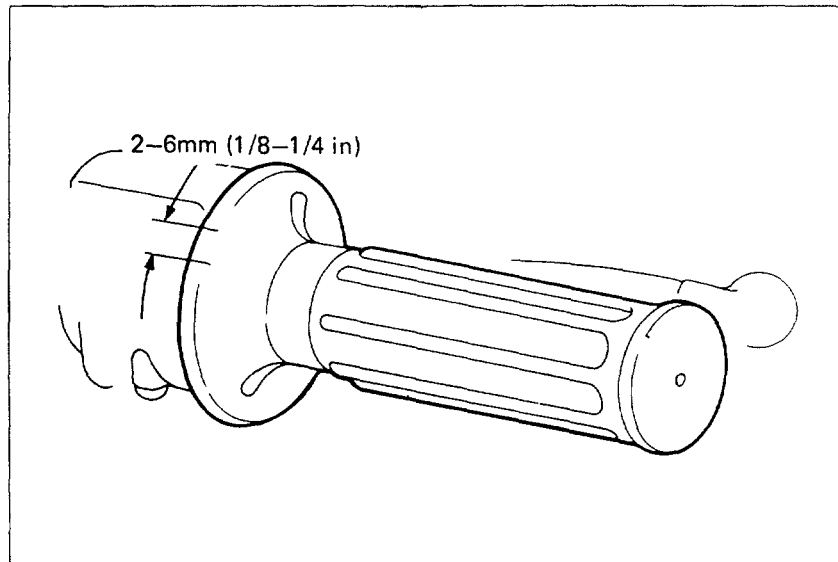


THROTTLE OPERATION

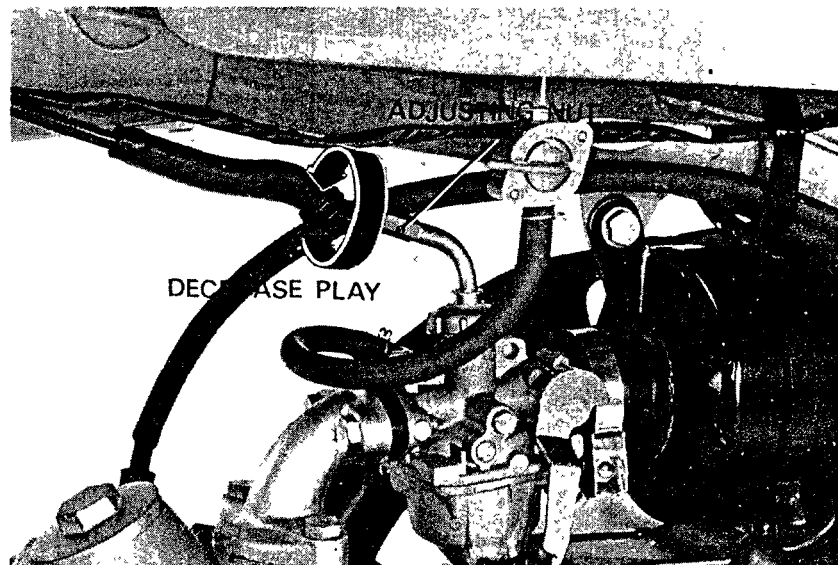
Make sure that there is no deterioration, damage or kinks in the throttle cable, and that the throttle grip free play is 2–6 mm (1/8–1/4 in) at the outer edge of the throttle grip flange.

Check for smooth throttle grip rotation from fully open to automatic full closing in all steering positions.

Adjust or replace, if necessary.



To adjust, turn the adjuster in either direction.





CARBURETOR IDLE MIXTURE

NOTE

The carburetor idle mixture adjustment should be made after the engine has obtained operating temperature, and with the transmission in neutral.

Turn the throttle stop screw to obtain the lowest stable idle rpm.

Turn the air screw clockwise until you hear the engine miss or decrease in speed, then counterclockwise until the engine misses or decreases in speed. Center the air screw exactly between these two extremes, at the point which produces the highest idle rpm. (Usually 1-1/2 turns out from the fully closed position).

NOTE

Turning the air screw in produces a rich fuel mixture. Turning the air screw out produces a lean fuel mixture. If the idle speed increases during mixture adjustment, readjust the throttle stop screw to reduce rpm.

Adjust the idle speed to the specified rpm.

CARBURETOR IDLE SPEED

Turn the throttle stop screw to obtain the specified idle speed.

IDLE SPEED: 1,500 ± 100 rpm

CLUTCH

Loosen the lock nut and turn the adjusting screw one full turn clockwise.

Turn the screw counterclockwise until resistance is felt.

Then turn the adjusting screw 1/8 to 1/4 turns clockwise.

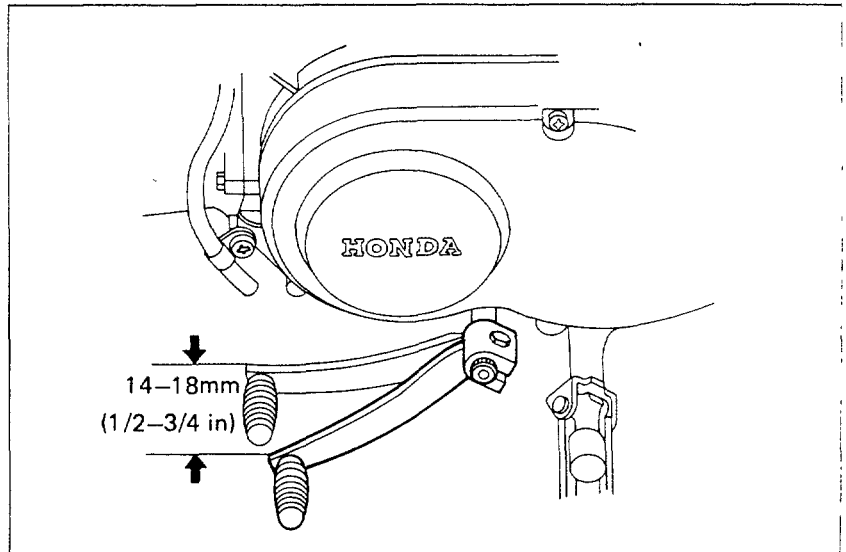
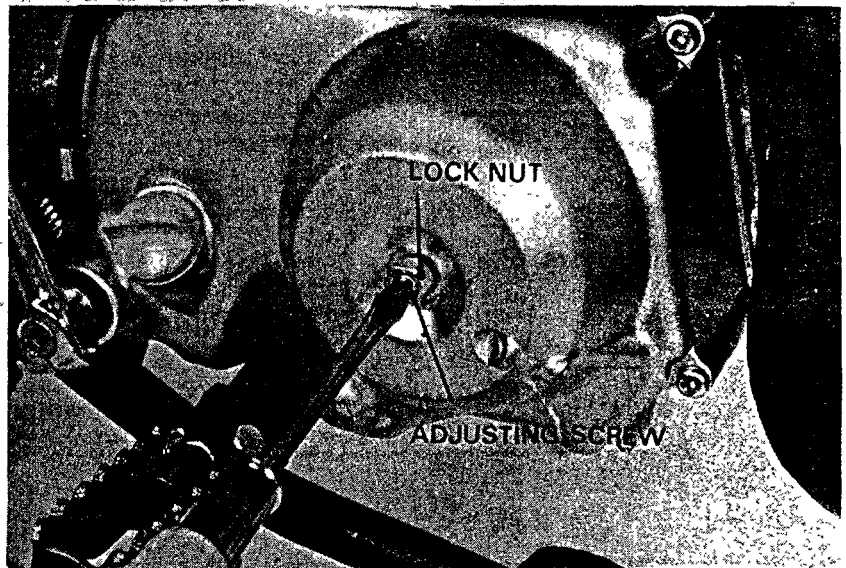
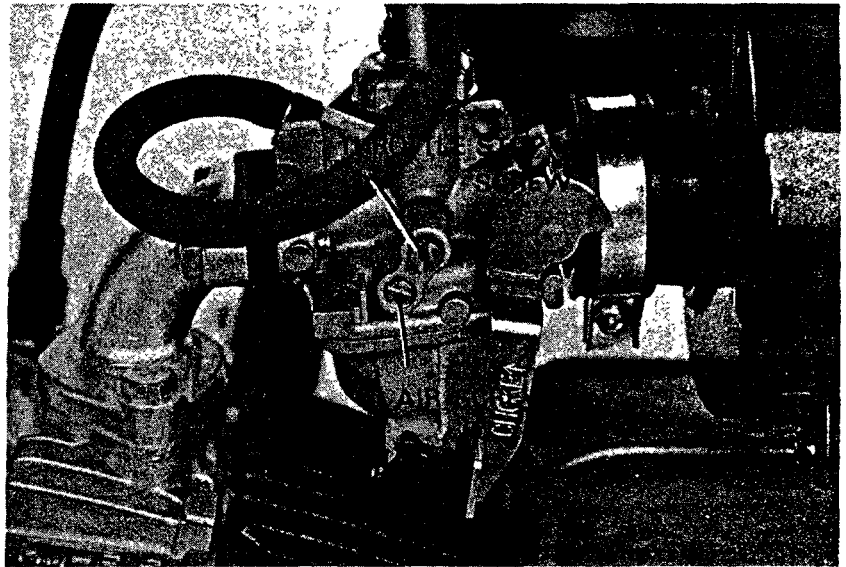
Tighten the lock nut.

NOTE

- Hold the adjusting screw while tightening the lock nut.
- After adjusting the clutch, check its operation.

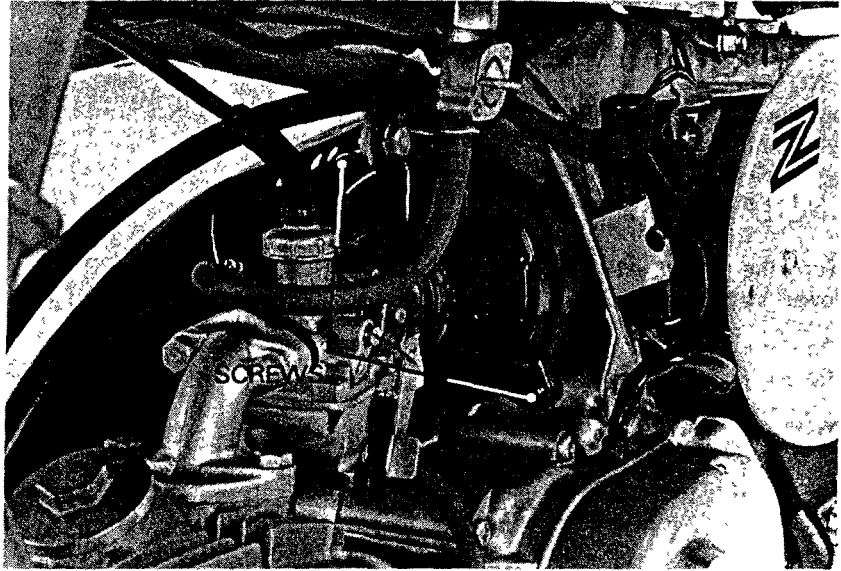
CLUTCH DISENGAGEMENT

The clutch should be disengaged when the gearshift pedal is depressed 14–18 mm (1/2–3/4 in) measured at the pedal end.



AIR CLEANER

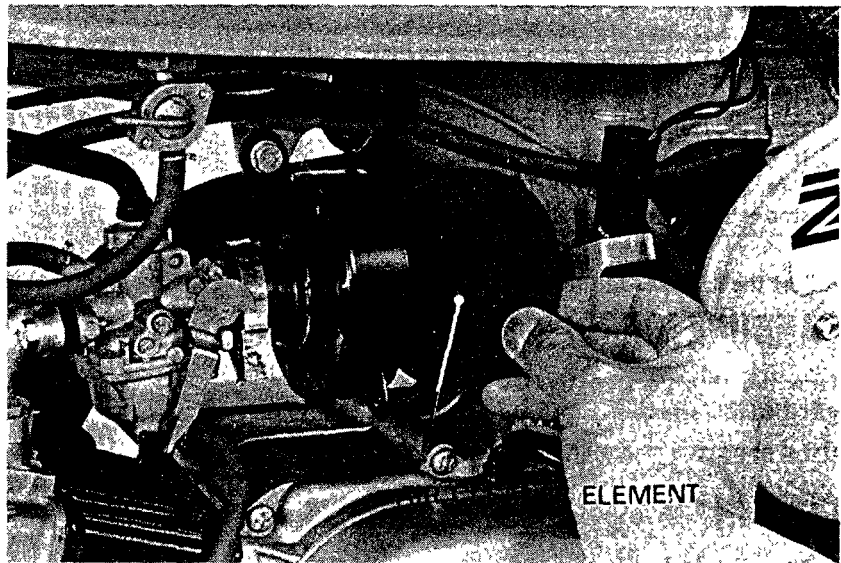
Remove the two screws and the air cleaner cover.



Remove the air cleaner element.
Wash the element in non-flammable or high flash point solvent and allow it to dry thoroughly.

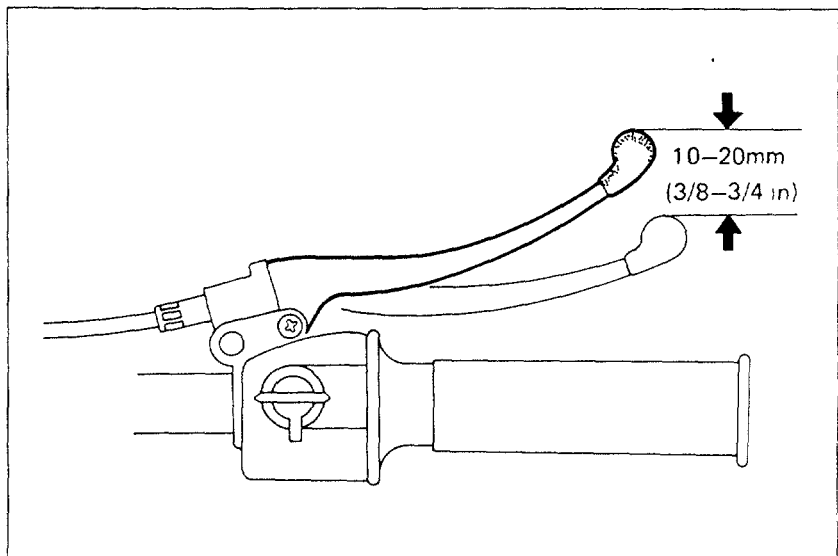
Soak the element in clean gear oil (SAE 80-90).
Squeeze out the excess oil.

Reinstall the element and the cover.



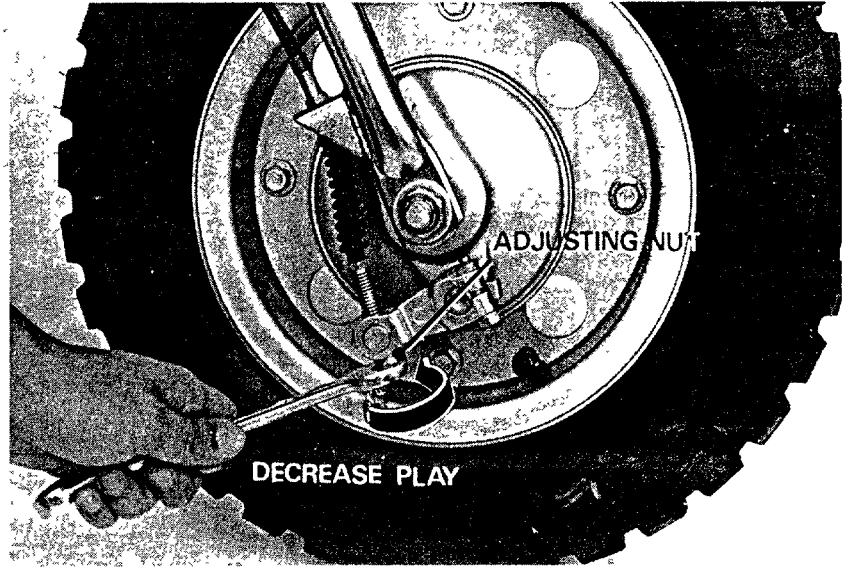
FRONT BRAKE

Measure the front brake lever free play.
FREE PLAY: 10-20 mm (3/8-3/4 in)



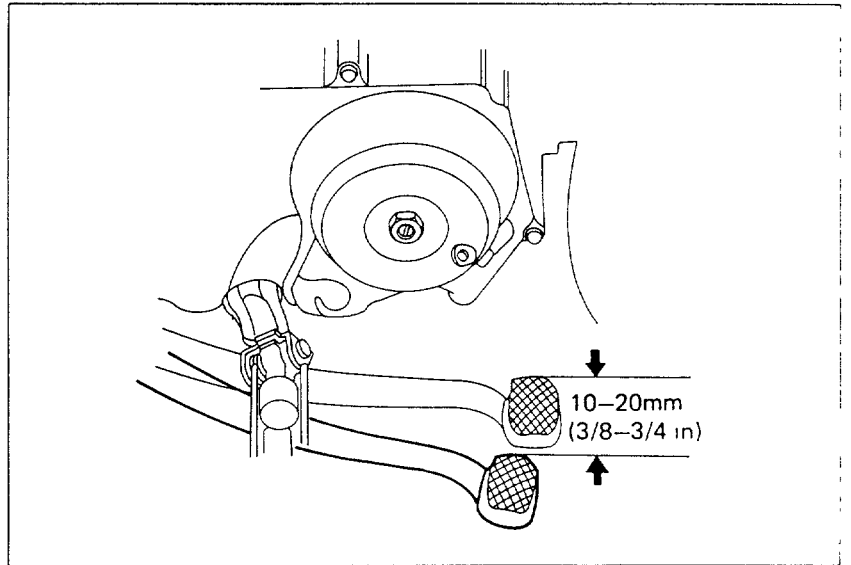


Adjust by turning the front brake adjusting nut.

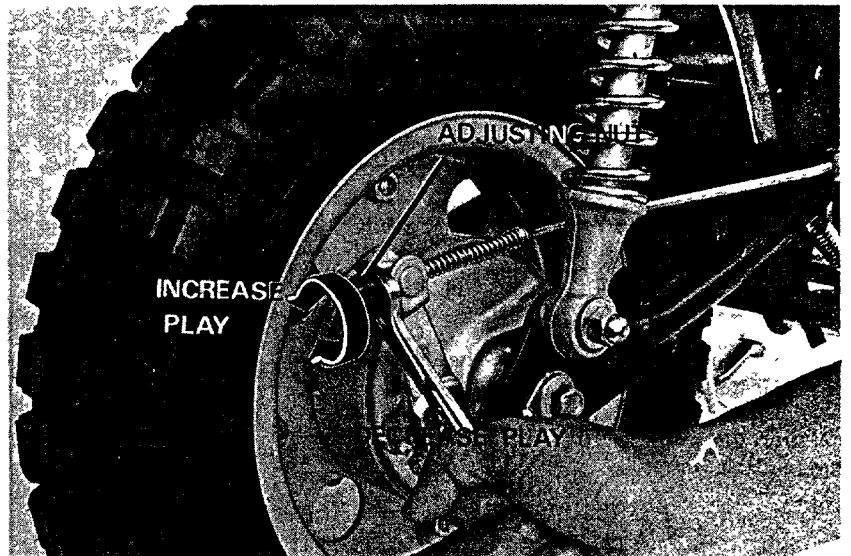


REAR BRAKE

Measure the rear brake pedal free play.
FREE PLAY: 10–20 mm (3/8–3/4 in)



Adjust by turning the rear brake adjusting nut.



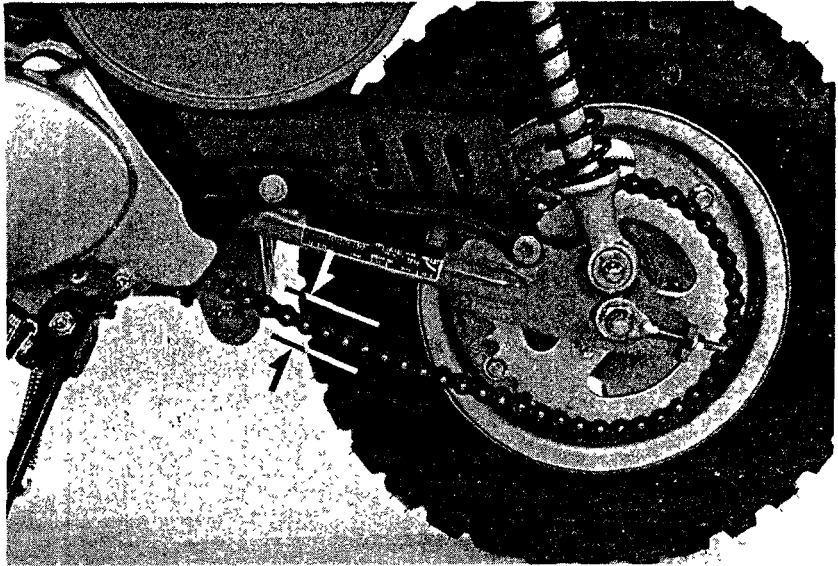


DRIVE CHAIN

Place the motorcycle on a support block and shift the transmission into neutral.

Check the drive chain free play.

FREE PLAY: 15–25 mm (5/8–1 in)



To adjust, loosen the axle nut.

Turn both adjusting nuts an equal number of turns until the correct free play is obtained.

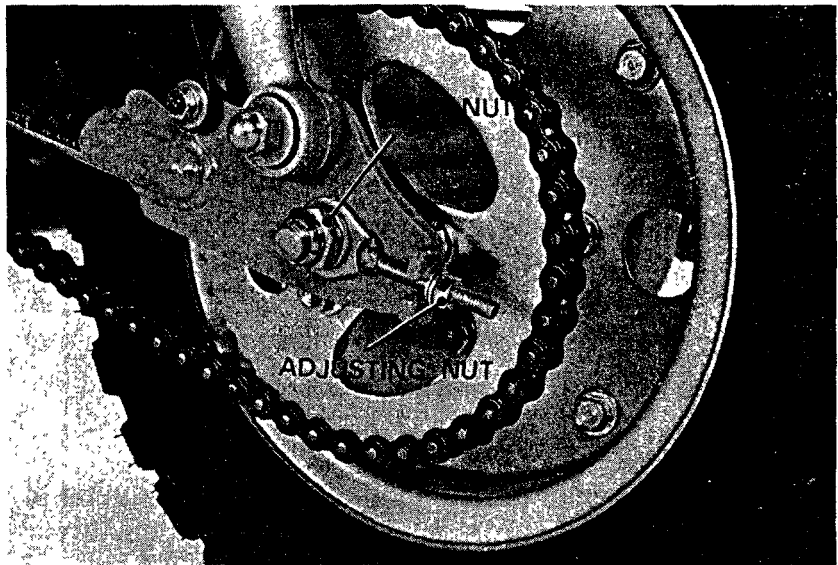
NOTE

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

Tighten the axle nut.

TORQUE: 3.5–5.0 kg-m (25–36 ft-lb)

Tighten the adjusting nuts after the axle nut has been tightened.



SPARK ARRESTER

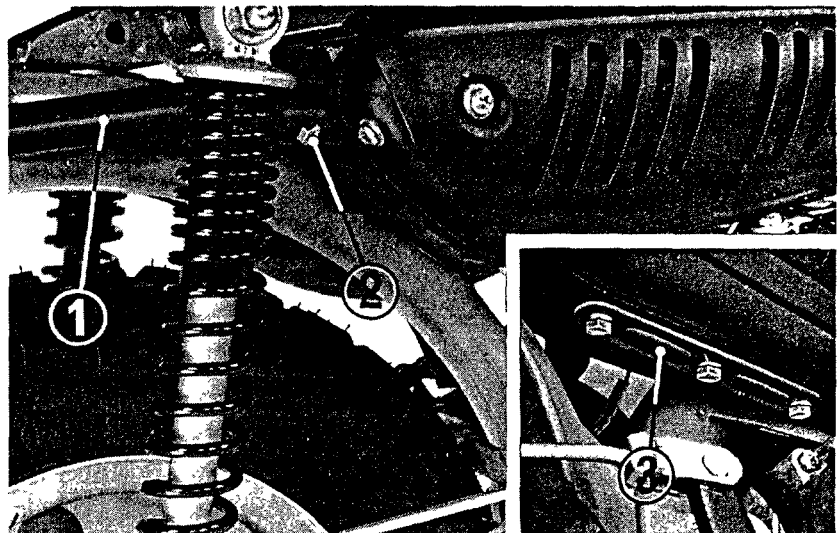
Remove the diffuser pipe by removing the securing bolt.

Remove the clean-out port lid by removing the three securing bolts.

Start the engine and rev several times while momentarily creating exhaust system back pressure by blocking the end of the exhaust pipe with a rag.

After cleaning the carbon from the exhaust pipe, reinstall the clean-out port lid.

Remove the carbon from the diffuser pipe and reinstall.



(1) DIFFUSER PIPE (2) SECURING BOLT (3) CLEAN-OUT PORT LID



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FUEL SYSTEM

Turn the fuel valve OFF.
Drain fuel from the carburetor by loosening the drain screw.

RUBBER CAP

NOTE

Before installation, check for deterioration.

AIR CLEANER

Fuel Line

Check for deterioration, cracking or other faults.
Replace if necessary.

O-RING
NOTE

Replaced used O-rings.

THROTTLE VALVE

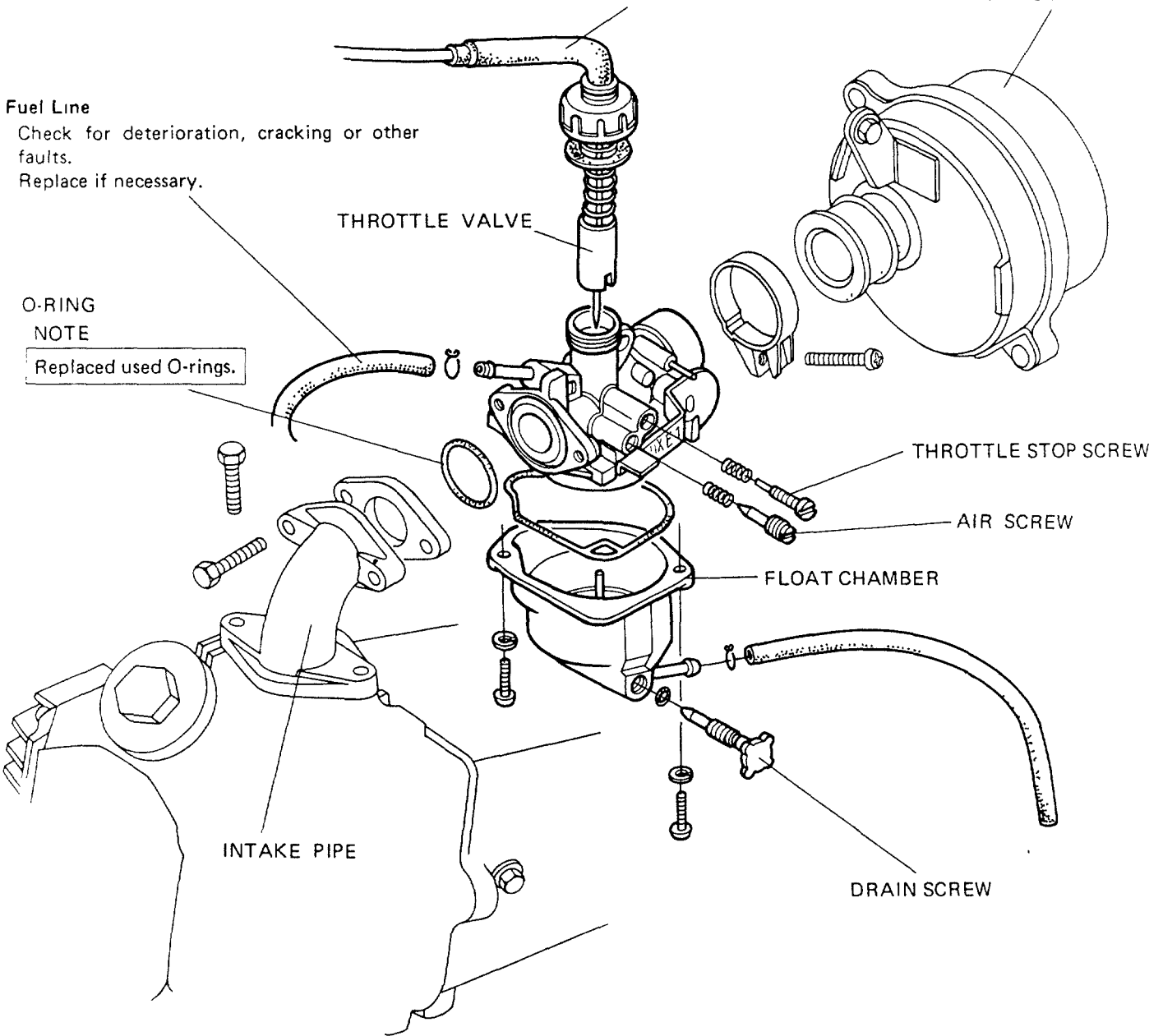
THROTTLE STOP SCREW

AIR SCREW

FLOAT CHAMBER

INTAKE PIPE

DRAIN SCREW



Clean carburetor jets and body with non-flammable or high flash point solvent before installation.



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4. FUEL SYSTEM

SERVICE INFORMATION

4-1

TROUBLESHOOTING

4-1

CARBURETOR ASSEMBLY/DISASSEMBLY

4-2

FLOAT LEVEL

4-2

SERVICE INFORMATION

GENERAL INFORMATION

WARNING

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

When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones on reassembly. The float bowls have drain plugs that can be loosened to drain residual gasoline.

SPECIFICATIONS

Fuel	Any gasoline with 91 RON or higher
Fuel tank capacity	4.5 lit (1.19 US gal, 0.99 Imp gal)
Carburetor type	Piston valve
Venturi dia	11mm (0.43 in)
Setting mark	PA03B A
Main jet	# 60
Float level	12.7 mm (0.50 in)
Idle speed	1,500 ± 100 rpm

SPECIAL TOOL

Float Level Gauge

72401-0010000

TROUBLESHOOTING

Engine cranks but won't start

- 1 No fuel in tank
- 2 No fuel to cylinder
- 3 Too much fuel to cylinder
- 4 No spark at plug (ignition malfunction)
- 5 Air cleaner dirty

Engine idles rough, stalls, or runs poorly

- 1 Idle speed incorrect
- 2 Ignition malfunction
- 3 Low compression
- 4 Rich mixture
- 5 Lean mixture
- 6 Air cleaner dirty
- 7 Manifold air leak
- 8 Fuel contaminated

Lean mixture

- 1 Carburetor fuel jets clogged
- 2 Vacuum piston 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 faulty
- 3 Float level too high
- 4 Carburetor air jets clogged



FUEL SYSTEM

CARBURETOR ASSEMBLY/ DISASSEMBLY

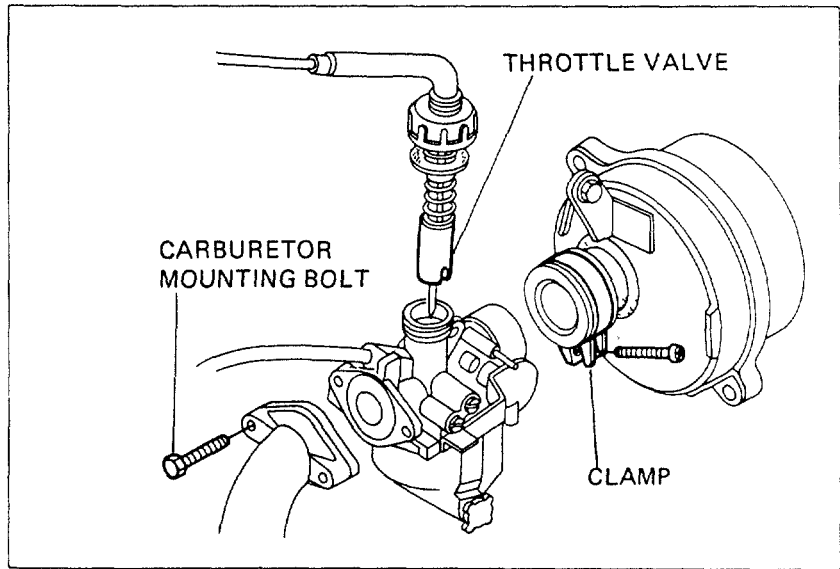
REMOVAL

Turn the fuel valve OFF and disconnect the fuel line from the carburetor.

Unscrew the two carburetor mounting bolts to remove the carburetor.

Loosen the air cleaner tube connecting clamp and separate the carburetor from the air cleaner assembly.

Remove the cap and disconnect the throttle cable from the carburetor.

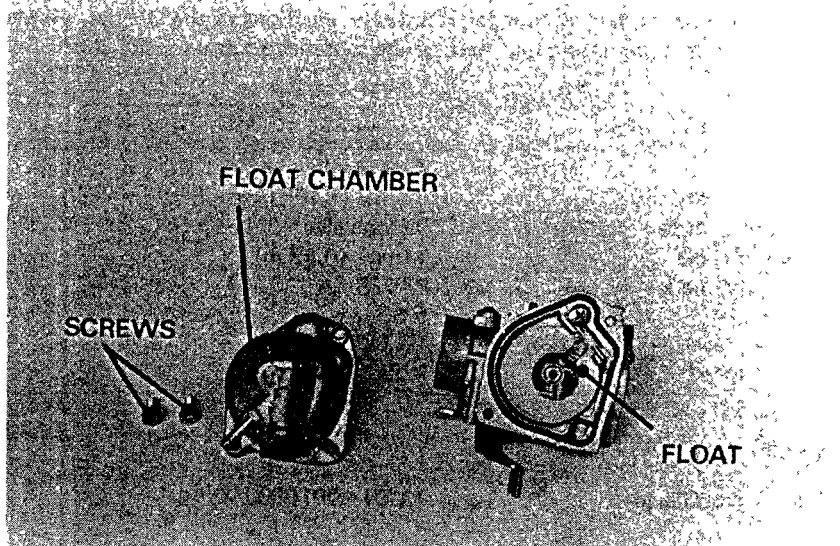


FLOAL LEVEL

Remove the float chamber by loosening the two screws.

NOTE

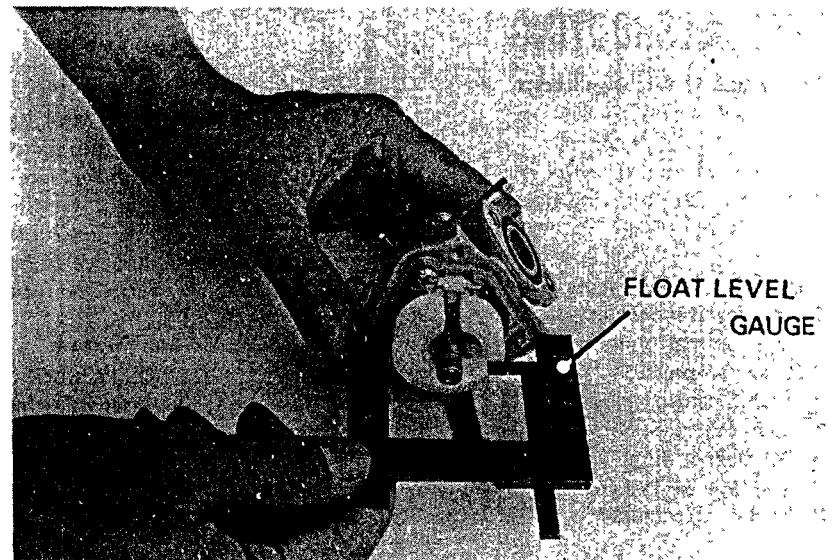
Drain fuel by loosening the drain cock before performing this maintenance.



Measure the float level with the float level gauge

FLOAT LEVEL: 12.7 mm(0.50 in)

Replace the float if the service limit is exceeded



FLOAT LEVEL GAUGE:
72401-0010000



SERVICE INFORMATION	5-1
ENGINE REMOVAL	5-2
ENGINE INSTALLATION	5-3

SERVICE INFORMATION

GENERAL INFORMATION

The engine must be removed to service the following parts:

- Crankshaft
- Crankweights
- Kick starter
- Connecting rod
- Transmission

SPECIFICATION

Engine weight 17 kg (37.5 lb), dry

TORQUE VALUES

Engine hanger 8 mm flange bolt 2.0-2.5 kg-m (15-18 ft-lb)

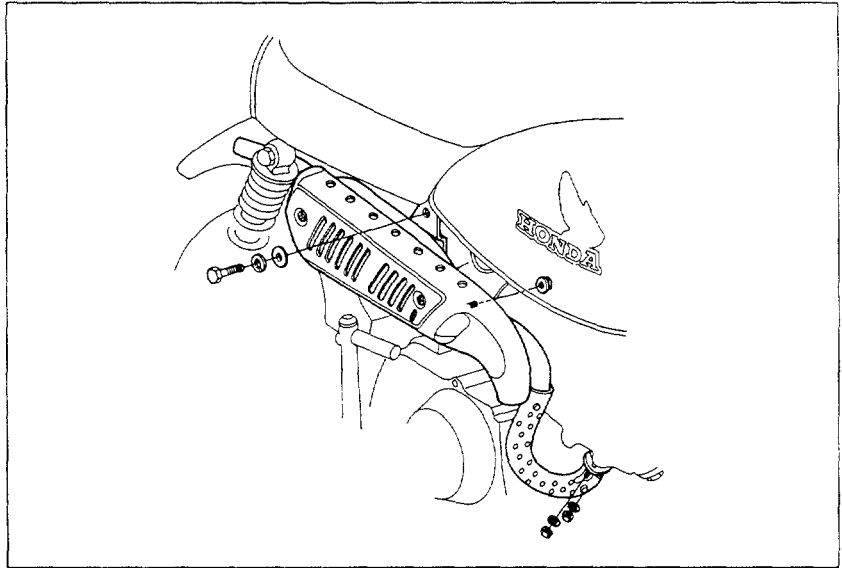




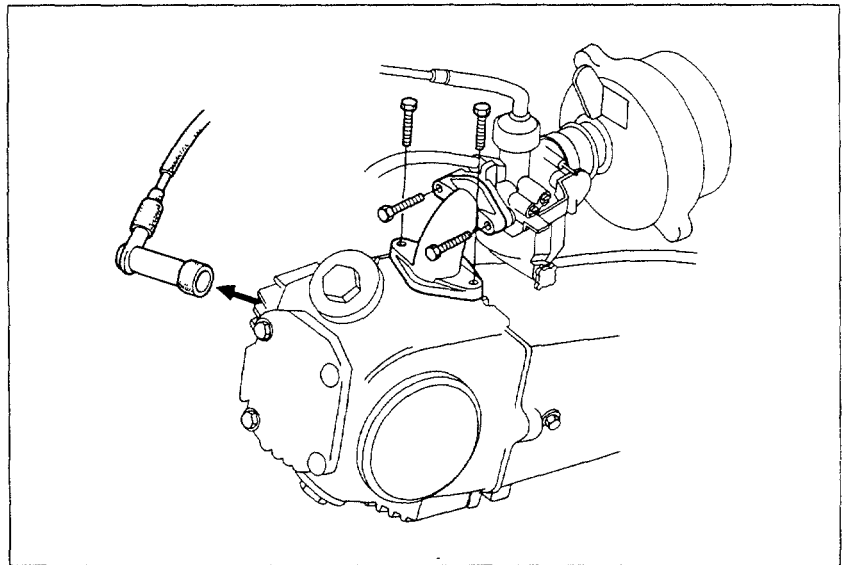
ENGINE REMOVAL & INSTALLATION

ENGINE REMOVAL

Drain the engine oil.
Remove the exhaust pipe nuts and hanger bolts
Loosen the muffler assembly.

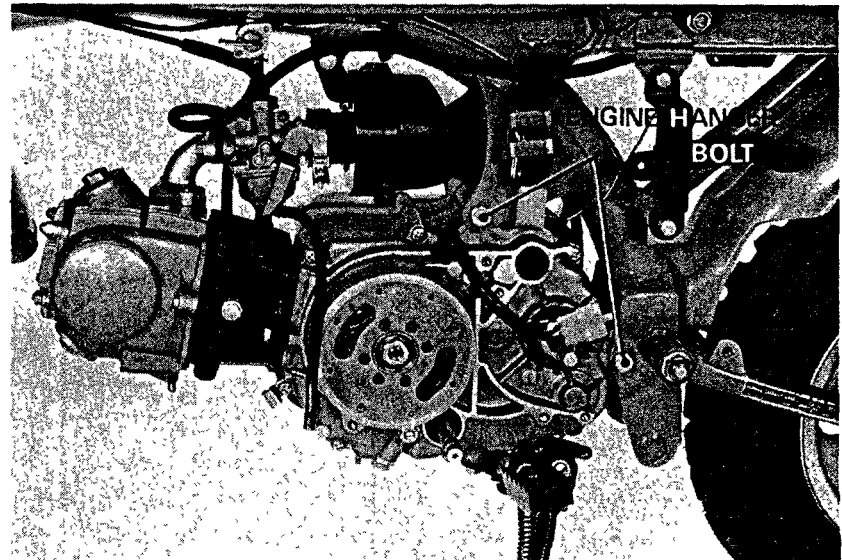


Remove the intake manifold bolts and manifold.
Disconnect the spark plug cap and A. C. generator wires.



Remove the gearshift pedal.
Remove the left crankcase cover mounting screws and remove the cover.

Unfasten the drive chain master link and remove the chain.
Remove the two engine hanger bolts and remove the engine from the frame.



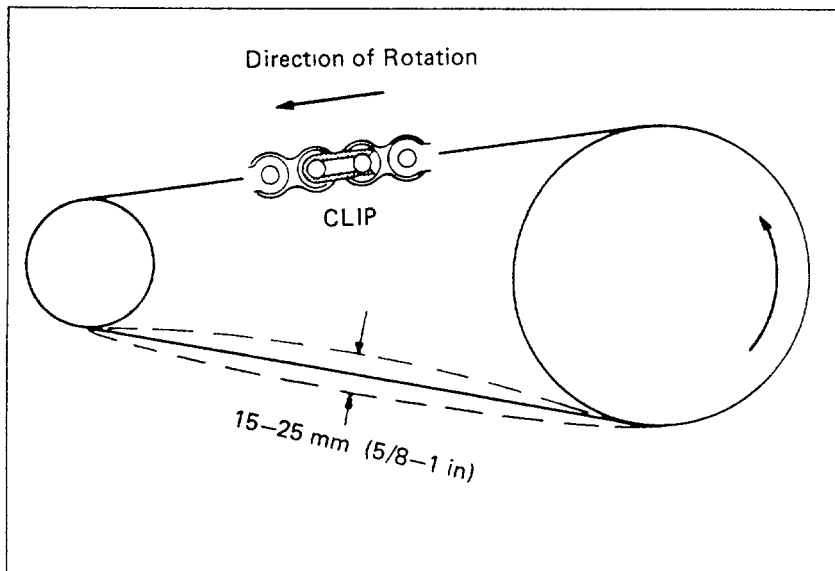


ENGINE INSTALLATION

The installation sequence is essentially the reverse of removal.

NOTE

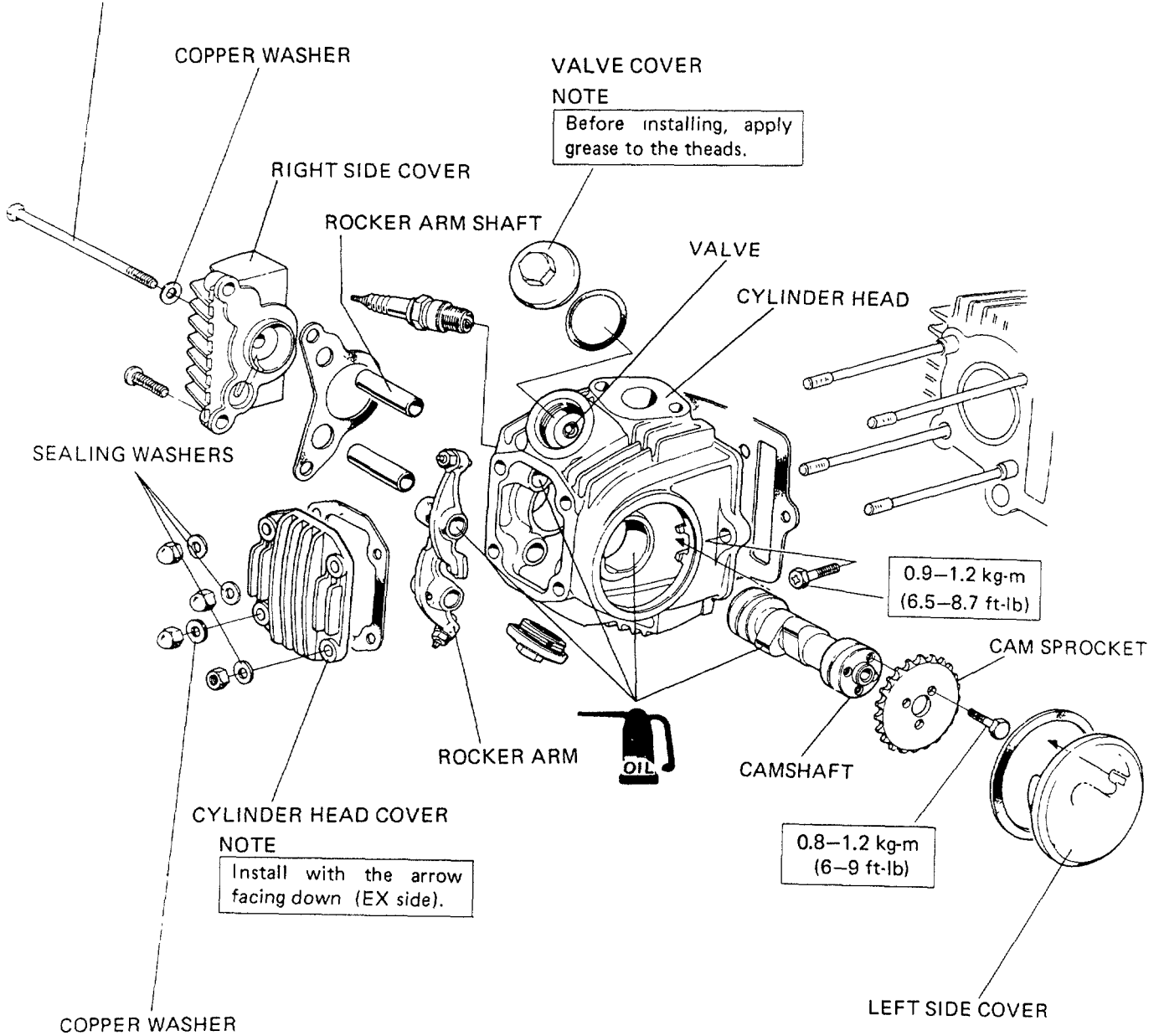
When installing the drive chain master link, make sure that the open end of the clip faces opposite the direction of normal chain rotation.



CYLINDER HEAD/CAMSHAFT

6mm BOLT

Loosen this bolt slightly and lightly tap on its head to facilitate removal of the left side cover.





SERVICE INFORMATION	6-1
TROUBLESHOOTING	6-1
ROCKER ARM & ROCKER ARM SHAFT REMOVAL	6-2
CAMSHAFT REMOVAL	6-2
VALVE DISASSEMBLY	6-3
TENSIONER PUSH ROD	6-4

SERVICE INFORMATION

SPECIAL TOOLS

Valve Guide Remover/Installer	07942-3290100
Valve Guide Reamer (IN/EX)	07984-0980000
Valve Spring Compressor	07757-0010000
Valve Guide Driver	07942-3290200

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Camshaft lobe height		26.07 mm (1.026 in)	25.59 mm (1.011 in)
Cylinder head warpage		—	0.05 mm (0.002 in)
Valve seat width		1.0-1.3 mm (0.04-0.05 in)	2.0 mm (0.08 in)
Valve stem O. D.	IN	5.455-5.465 mm (0.2148-0.2152 in)	5.40 mm (0.213 in)
	EX	5.430-5.445 mm (0.2138-0.2144 in)	5.40 mm (0.213 in)
Valve guide I. D.	IN/EX	5.475-5.485 mm (0.2165-0.2159 in)	5.50 mm (0.217 in)
Valve spring Free length	Inner	22.7 mm (0.89 in)	23.9 mm (0.94 in)
	Outer	24.9 mm (0.98 in)	26.9 mm (1.06 in)
Valve clearance	IN/EX	0.05 mm (0.002 in)	—

TROUBLESHOOTING

Engine top-end problems can usually be diagnosed by a compression test. Noise problems can usually be traced to the top-end of an engine with a sounding rod or stethoscope.

Low compression or uneven compression

- 1 Valves
 - Incorrect valve adjustment
 - Burned or bent valve
 - Incorrect valve timing
 - Broken valve spring
- 2 Cylinder head
 - Leaking or damaged head gasket
 - Warped or cracked cylinder head
- 3 Cylinder and piston (Refer to Section 7)

Compression too high

- 1 Excessive carbon build-up on piston or combustion chamber

Excessive noise

- 1 Incorrect valve adjustment
- 2 Sticking valve or broken valve spring
- 3 Damaged or worn rocker arm or cam
- 4 Loose or worn cam chain
- 5 Worn or damaged cam chain tensioner
- 6 Loose balancer chain
- 7 Worn cam sprocket teeth

Cam chain noise

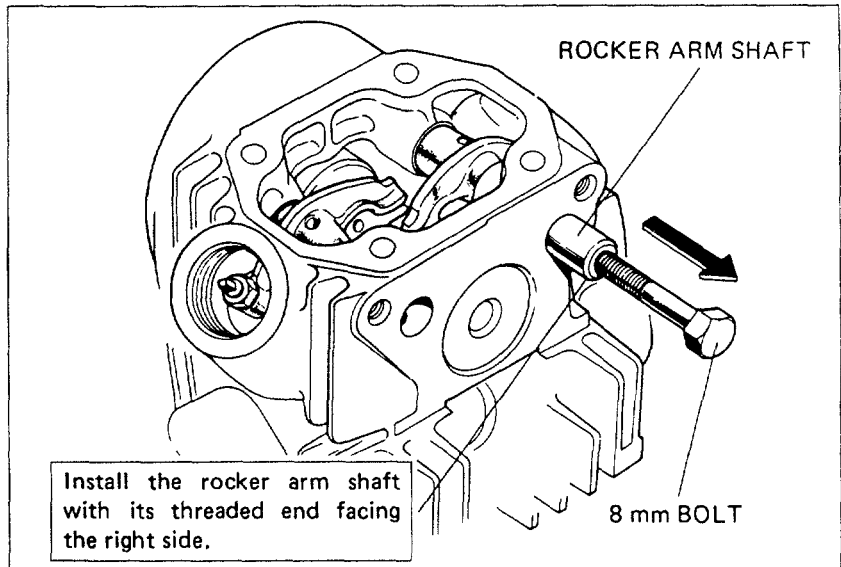
- 1 Excessive free play
- 2 Guide roller worn



CYLINDER HEAD/CAMSHAFT

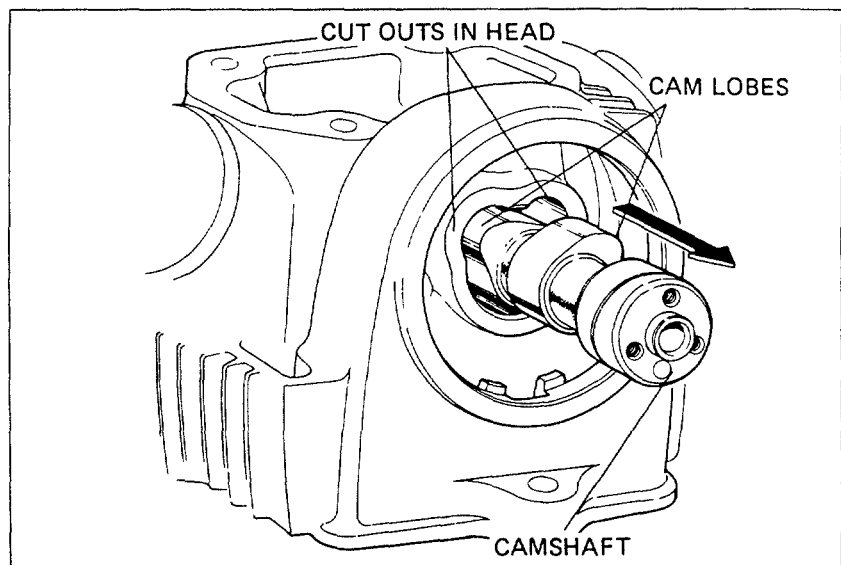
ROCKER ARM AND ROCKER ARM SHAFT REMOVAL

Remove the rocker arm shaft by screwing in an 8 mm bolt and pulling out.



CAMSHAFT REMOVAL

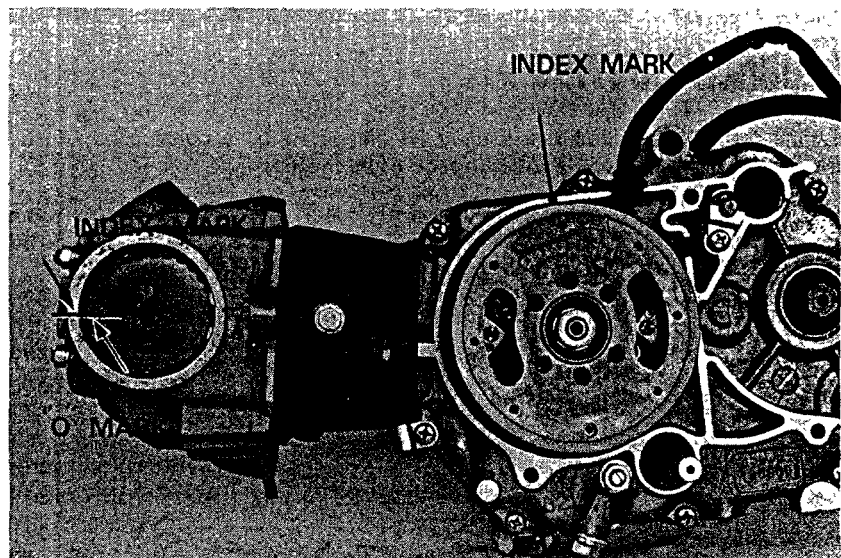
Remove the camshaft by aligning the cam lobes with the cutouts in the cylinder head.



VALVE TIMING

Align the "T" mark on the flywheel with the index mark.

Align the camshaft sprocket index mark with the cutout in the cylinder head.





VALVE DISASSEMBLY

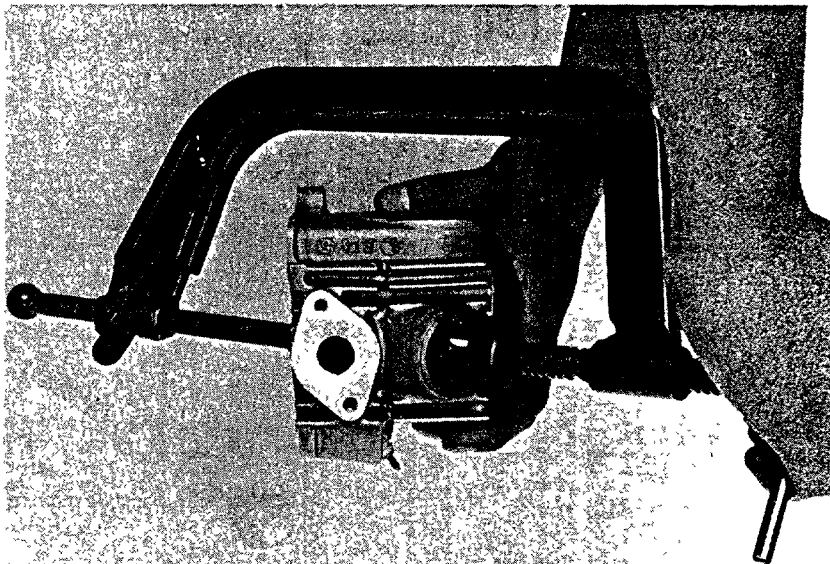
TOOL

VALVE SPRING COMPRESSOR

07757-0010000

CAUTION

To prevent loss of tension, do not compress the valve spring more than necessary to remove or to install the valve cotters.



Remove the valve and inspect the face.

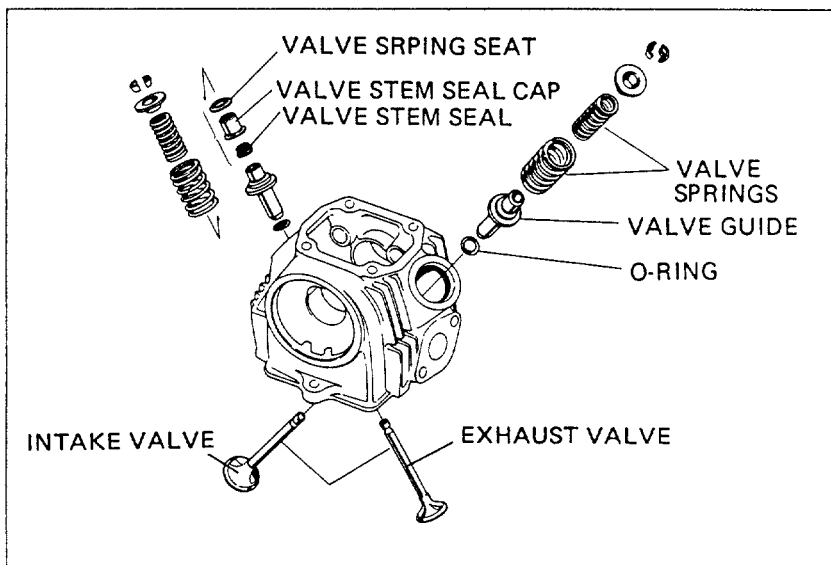
If the seat is too wide, too narrow, or has low spots, the seat must be ground.

NOTE

After installing, check that these cotters are seated properly.

NOTE

Valve stem seal and cap are used only on the exhaust side



NOTE

Follow the valve refacer manufacturer's operating instructions.

PILOT BAR "A"

07783-0010100

GRINDING STONE

I N : 07783-0050100

EX : 07783-0050100



I N : 07783-0030200

EX : 07783-0030100



I N : 07783-0040200

EX : 07783-0040100

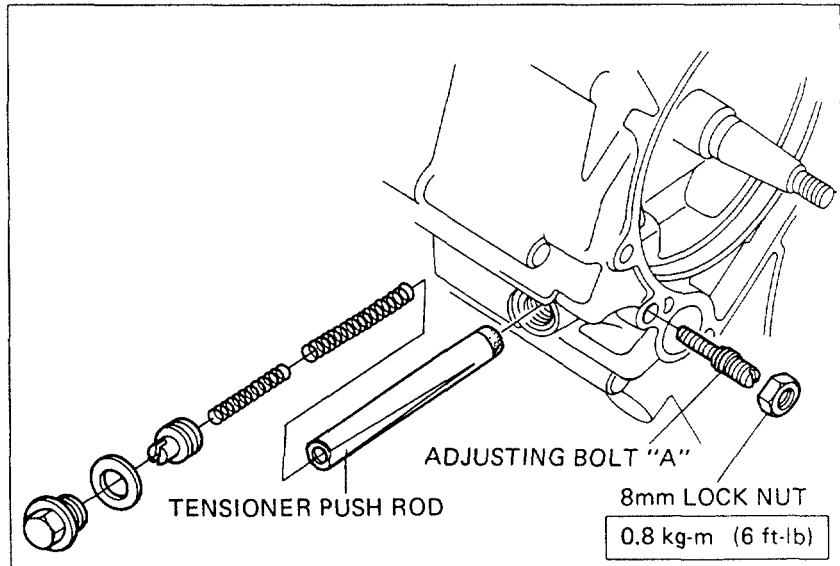




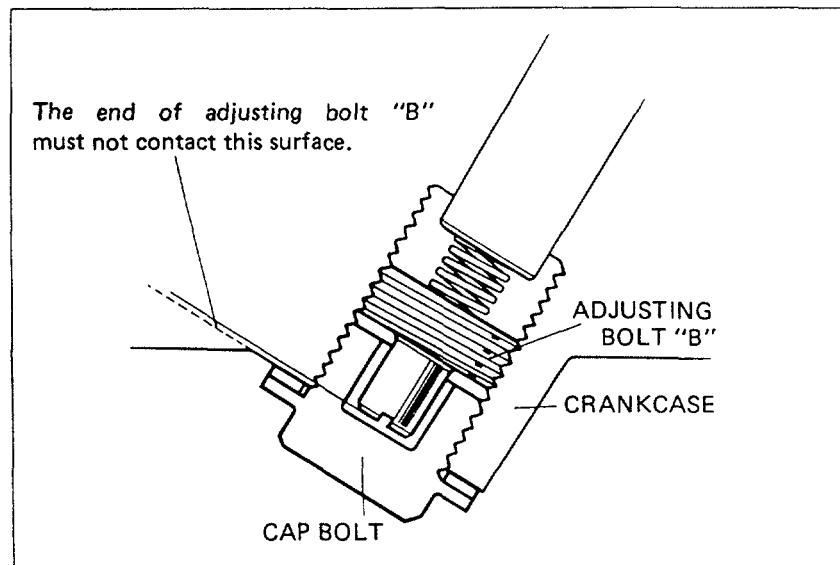
CYLINDER HEAD/CAMSHAFT

TENSIONER PUSH ROD

Install the push rod with the taper facing bolt "A".



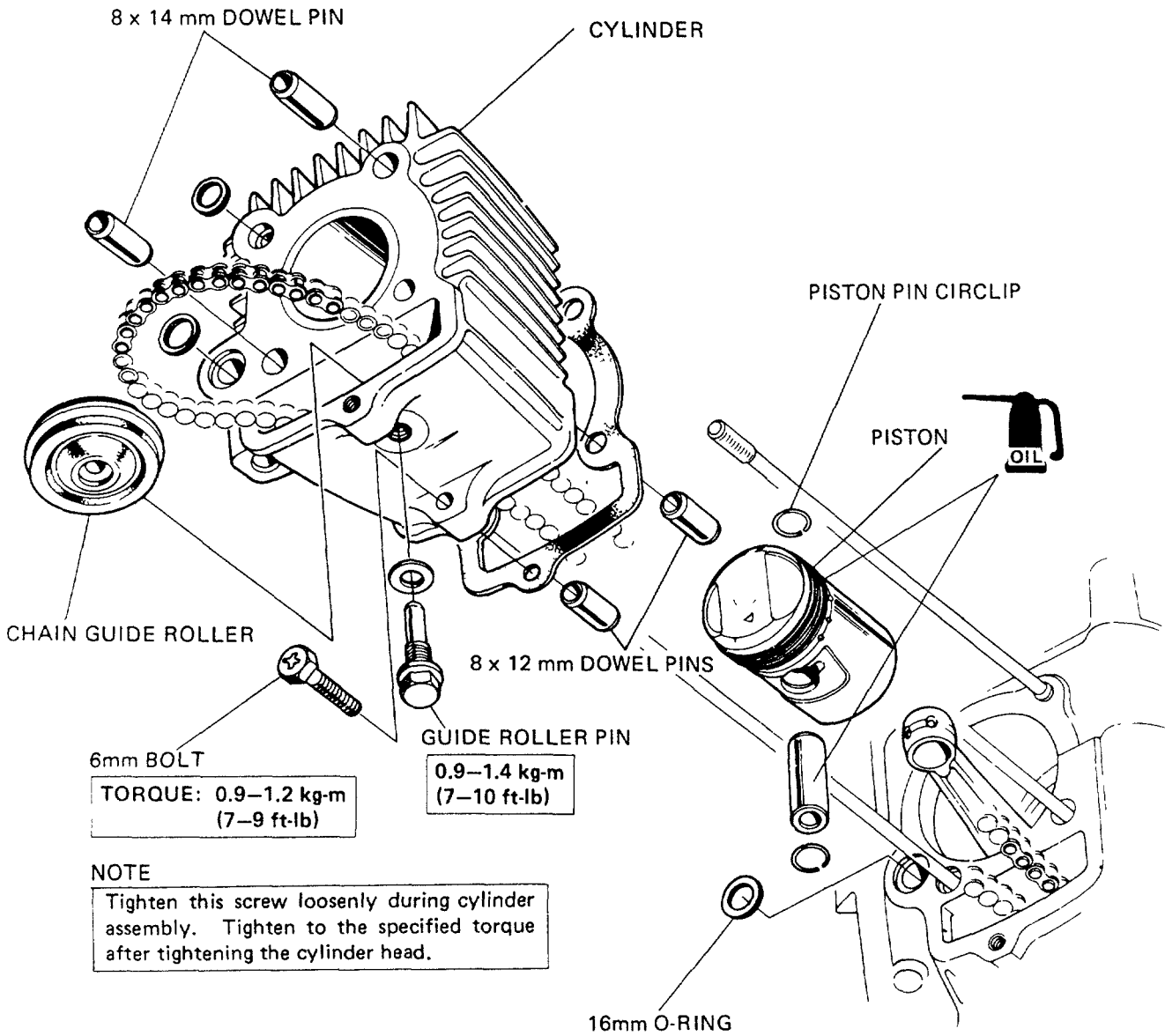
TENSIONER ADJUSTING BOLT B





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M E M O

CYLINDER/PISTON

NOTE

Tighten this screw loosely during cylinder assembly. Tighten to the specified torque after tightening the cylinder head.



SERVICE INFORMATION	7-1	PISTON RING REMOVAL	7-2
TROUBLESHOOTING	7-1	PISTON RING INSTALLATION	7-2
PISTON REMOVAL	7-2	CYLINDER INSTALLATION	7-3
		CAM CHAIN GUIDE ASSEMBLY	7-3

SERVICE INFORMATION

SPECIFICATIONS

			STANDARD		SERVICE LIMIT	
Cylinder	I. D.		39.005–39.015 mm	(1.5356–1.5360 in)	39.05 mm	(1.537 in)
Piston	O.D. at skirt		39.980–39.000 mm	(1.5346–1.5354 in)	38.90 mm	(1.532 in)
Piston pin bore			13.002–13.008 mm	(0.5119–0.5121 in)	13.10 mm	(0.516 in)
Piston ring	Width	Top	1.70–1.90 mm	(0.067–0.075 in)	1.60 mm	(0.063 in)
		Second	1.70–1.90 mm	(0.067–0.075 in)	1.60 mm	(0.063 in)
Piston ring	End gap	Top	0.10–0.30 mm	(0.004–0.012 in)	0.50 mm	(0.020 in)
		Second	0.10–0.30 mm	(0.004–0.012 in)	0.50 mm	(0.020 in)
Piston ring-to-groove clearance		Top	0.010–0.045 mm	(0.0004–0.0018 in)	0.12 mm	(0.005 in)
		Second	0.010–0.045 mm	(0.0004–0.0018 in)	0.12 mm	(0.005 in)
Piston pin	O. D.		12.994–13.000 mm	(0.5116–0.5118 in)	12.98 mm	(0.511 in)

TROUBLESHOOTING

Compression too low or unstable

- 1 Worn cylinder or piston

Excessive smoke

- 1 Worn cylinder or piston
- 2 Improper installatio of piston rings
- 3 Scored or scratched piston or cylinder wall

Overheating

- 1 Excessive carbon build-up on piston or combustion chamber wall

Knocking or abnormal noise

- 1 Worn piston and cylinder
- 2 Excessive carbon build-up

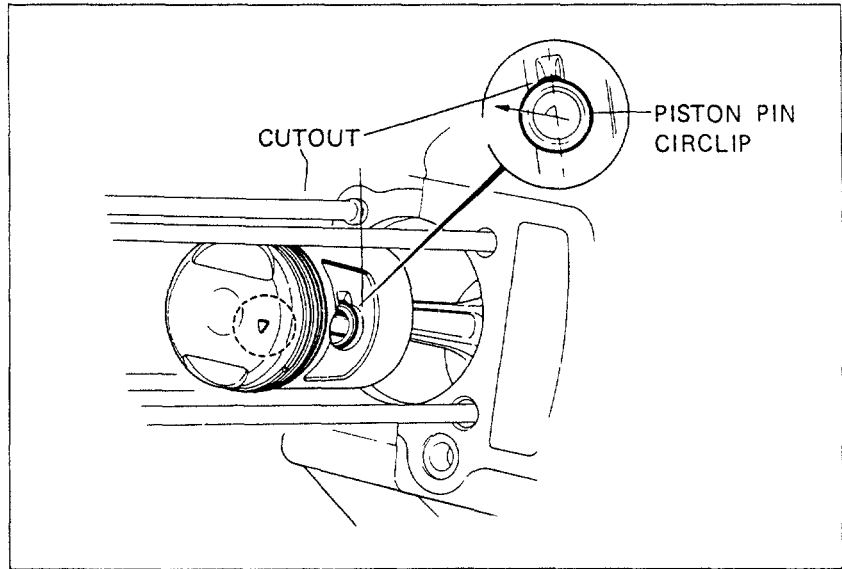


PISTON REMOVAL

NOTE

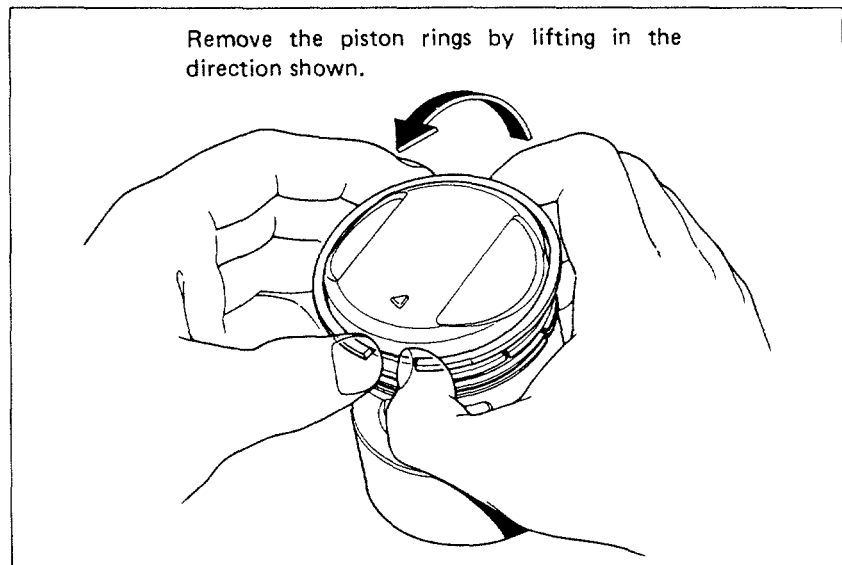
Install the circlip so that its end gap and the cutout are not aligned.

Install the piston with the marking "▽" facing the exhaust side.



PISTON RING REMOVAL

Remove the piston rings by lifting in the direction shown.



PISTON RING INSTALLATION

Clean the ring grooves and oil holes thoroughly.

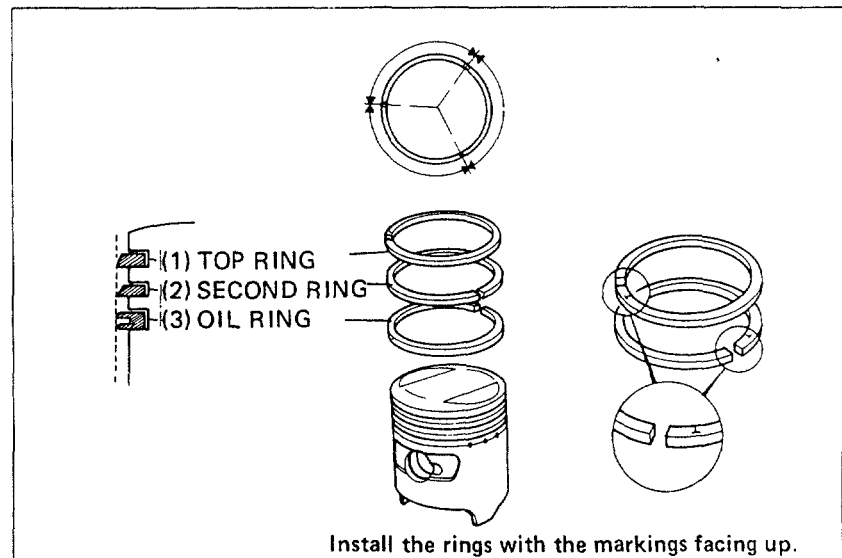
NOTE

After installation, the rings should be free to rotate in the ring grooves.

NOTE

Do not interchange rings.

Space the ring end gaps 120° apart, avoiding the piston pin and thrust sides.



Install the rings with the markings facing up.



CYLINDER INSTALLATION

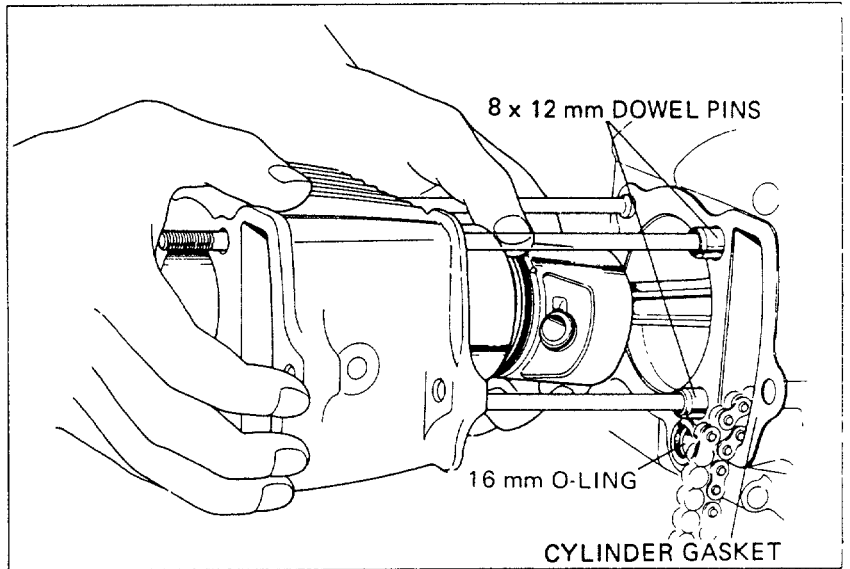
Apply a thin coating of oil to the piston rings and cylinder wall, and compress the piston rings so they will enter the cylinder.

NOTE

When the cylinder is halfway over the piston, route the cam chain through the hole in the cylinder.

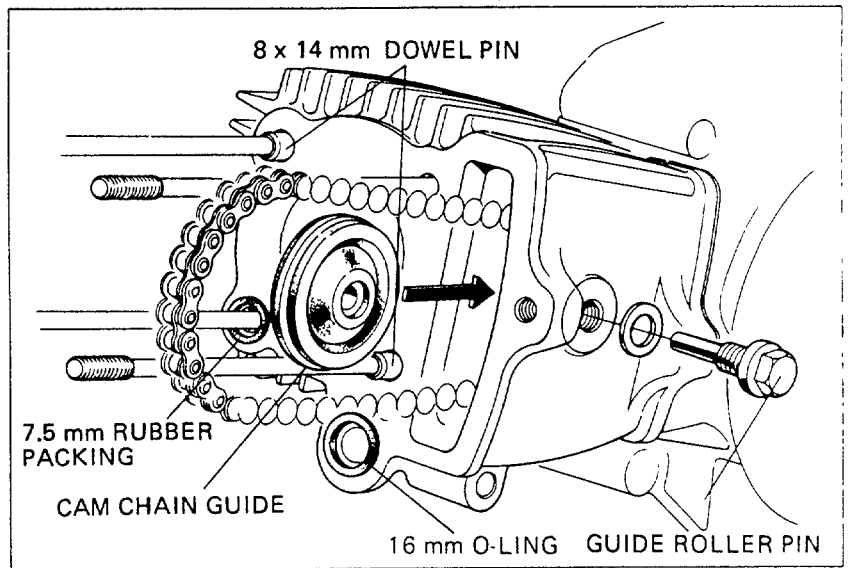
NOTE

Do not allow the 16 mm O-ring to become mispositioned.



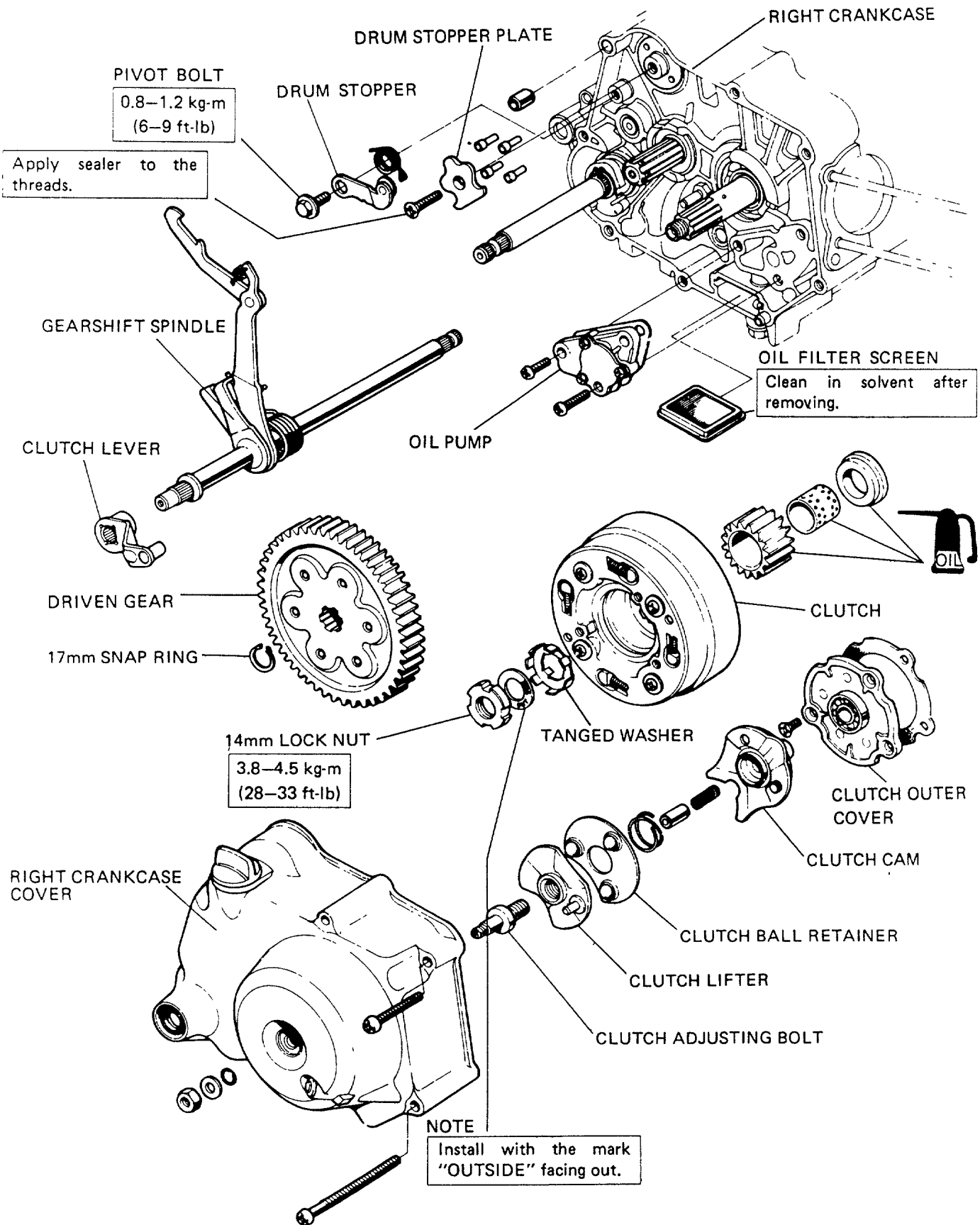
CAM CHAIN GUIDE ASSEMBLY

Tighten the guide roller pin after installing the guide.





CLUTCH/GEARSHIFT SPINDLE





SERVICE INFORMATION	8-1
TROUBLESHOOTING	8-1
CLUTCH REMOVAL	8-2
CLUTCH DISASSEMBLY	8-2
CLUTCH INSPECTION	8-3
GEARSHIFT SPINDLE ASSEMBLY	8-3

SERVICE INFORMATION

GENERAL INFORMATION

This section covers clutch removal and installation.
Service can be accomplished with the engine in the frame.

SPECIAL TOOLS

14mm Lock Nut Wrench	07716-0010100
Clutch Outer Holder	07923-0400000

SPECIFICATIONS

	STANDARD	SERVICE LIMIT
Clutch spring free length	21.1 mm (0.83 in)	19.4 mm (0.76 in)
Clutch disc thickness	3.45 mm (0.136 in)	3.15 mm (0.124 in)

TROUBLESHOOTING

Faulty clutch operation can usually be corrected by proper adjustment.

Clutch slips when accelerating

- 1 No free play
- 2 Discs worn
- 3 Springs weak

Clutch will not disengage

- 1 Plate warped

Clutch drags when disengaged

- 1 Lifter mechanism damaged



CLUTCH/GEARSHIFT SPINDLE

CLUTCH REMOVAL

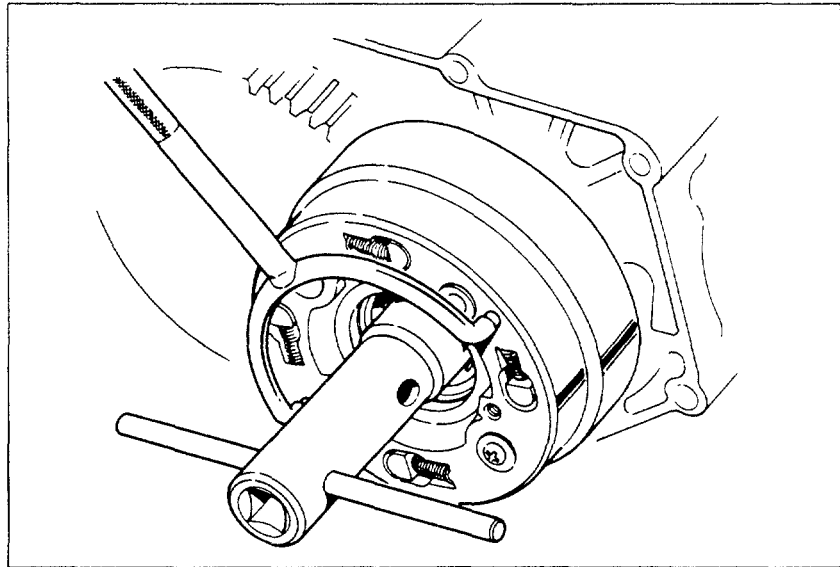
- TOOLS:**
 CLUTCH OUTER HOLDER
 07923-0400000
 14mm LOCK NUT WRENCH
 07716-0010100

Straighten the lock washer tab holding the nut.

NOTE

Do not re-use the lock washer when assembling.

Remove the lock nut.



CLUTCH DISASSEMBLY

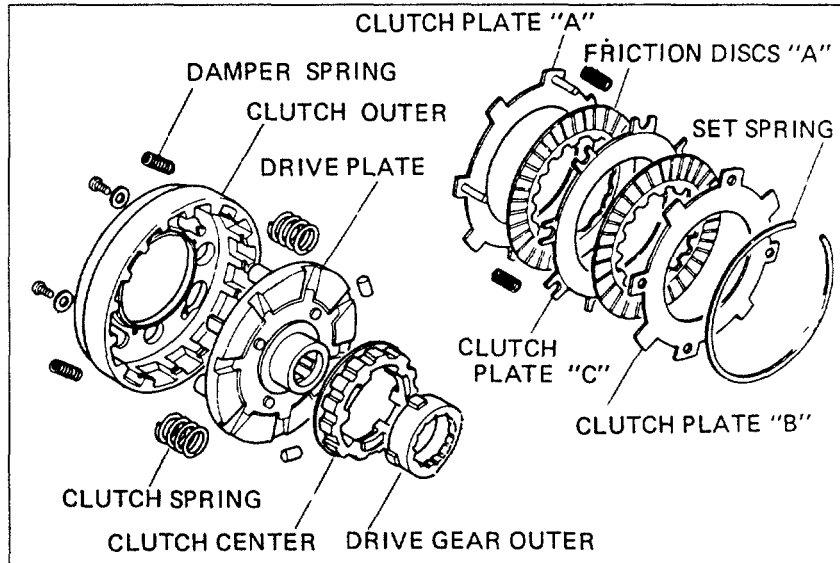
CLUTCH FRICTION DISC DIS-ASSEMBLY/ASSEMBLY

Replace the clutch discs if they show signs of scoring or discoloration.

Measure the disc thickness.

SERVICE LIMITS:

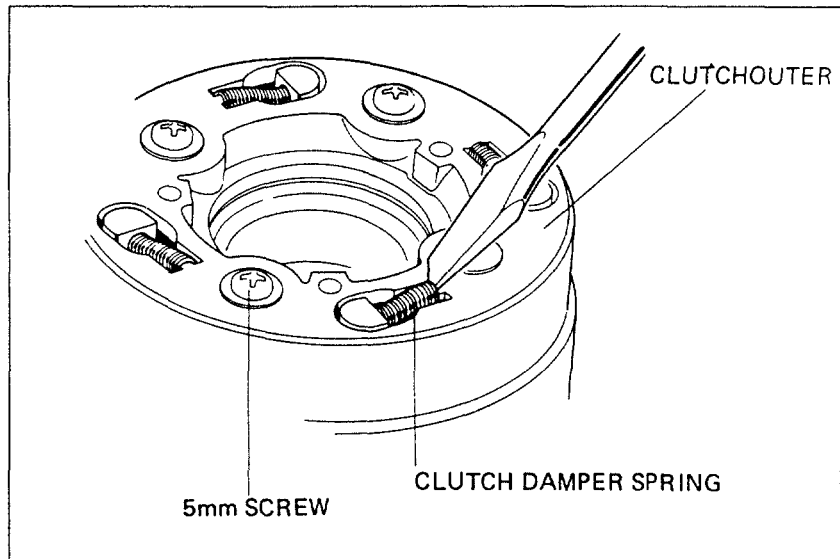
Disc : 3.15 mm (0.124 in)



CLUTCH OUTER DISASSEMBLY/ASSEMBLY

NOTE

Tighten the screws in a criss-cross pattern in 2-3 steps.

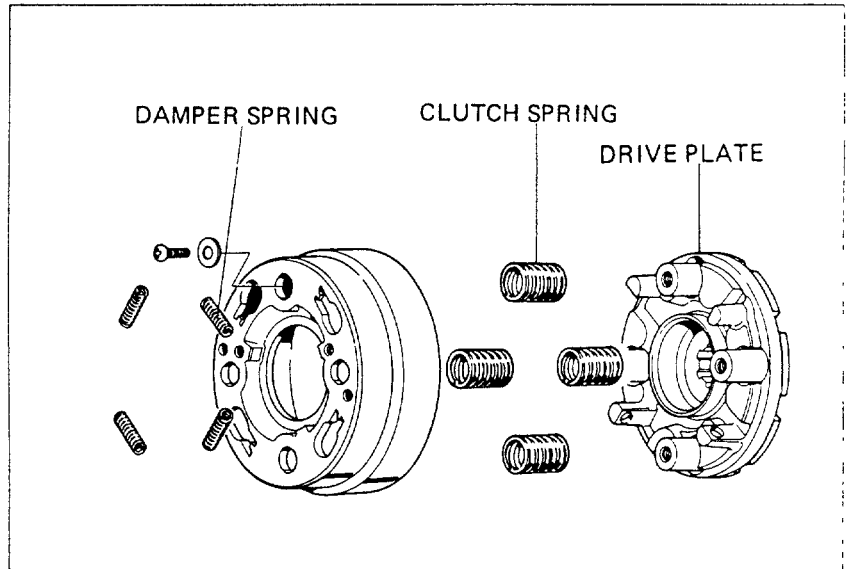




CLUTCH INSPECTION

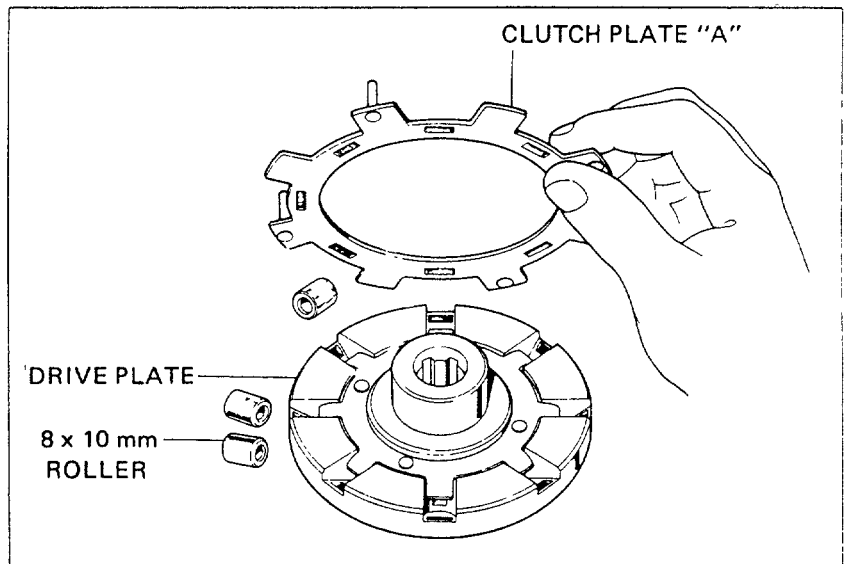
Check the clutch spring free length.

SERVICE LIMIT : 19.4 mm (0.76 in)



CLUTCH PLATE A, DRIVE PLATE AND 8 x 10 mm ROLLER INSPECTION

Check the rollers and plates for excessive wear. Replace if necessary.

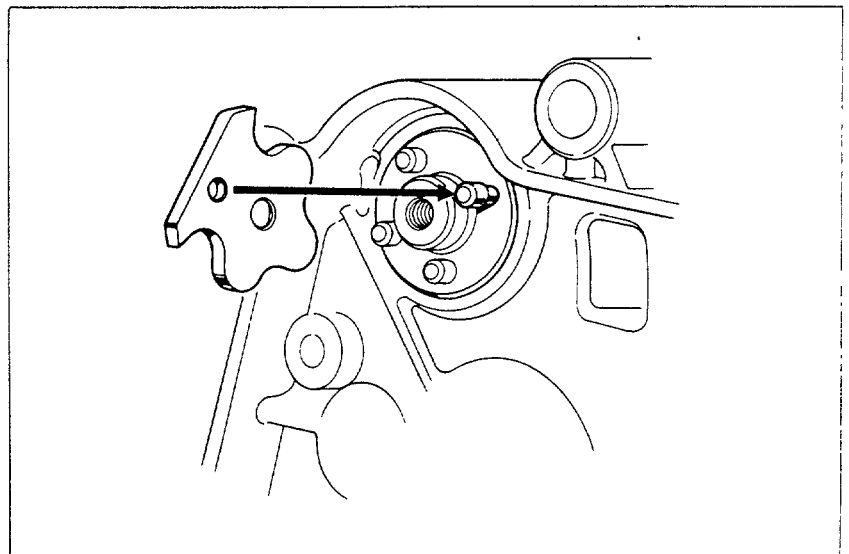


GEARSIFT SPINDLE ASSEMBLY

DRUM STOPPER PLATE INSTALLATION

NOTE

Install the stopper plate aligning the hole with the stepped dowel.



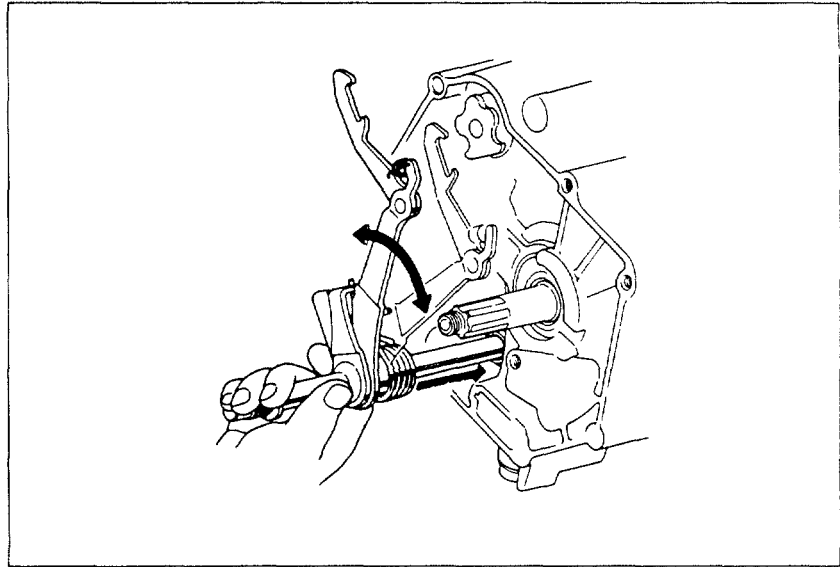


CLUTCH/GEARSHIFT SPINDLE

GEARSHIFT SPINDLE
INSTALLATION

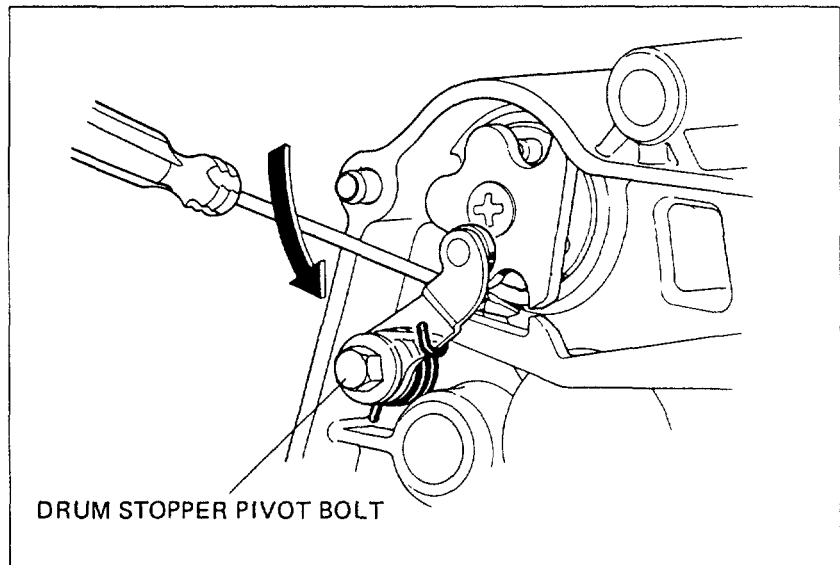
NOTE

Do not rotate the spindle as the lip of
the oil seal may be scored or scratched.



DRUM STOPPER INSTALLATION

Install the drum stopper loosely.
Position the stopper onto the drum as shown.
Tighten the stopper pivot bolt securely.



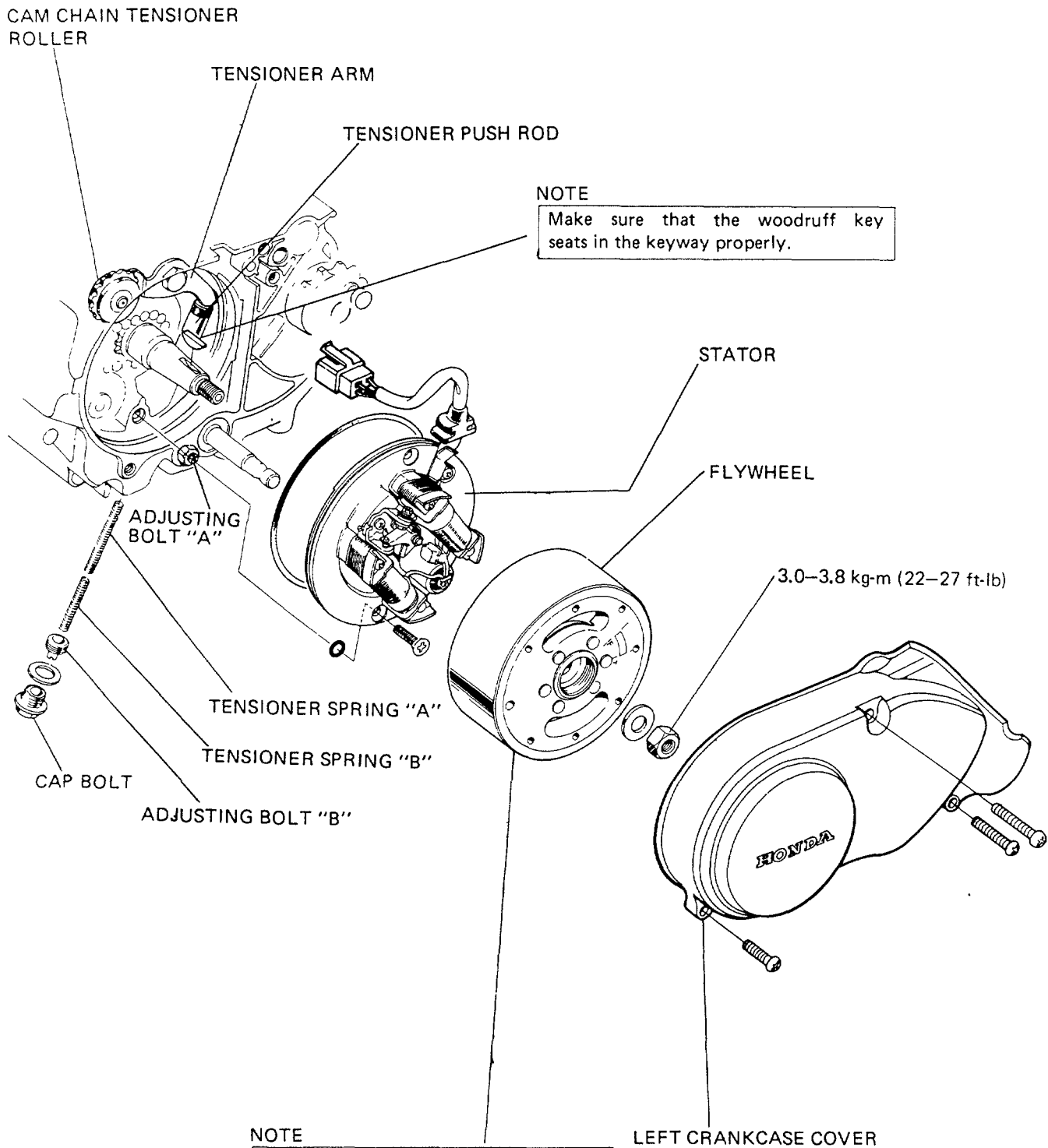


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A.C. GENERATOR



NOTE
Make sure that no metal objects are attracted by the magnets inside the flywheel. Do not hammer.



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9. A.C.GENERATOR

SERVICE INFORMATION	9-1
TROUBLE SHOOTING	9-1
A. C. GENERATOR REMOVAL/DISASSEMBLY	9-2
CONTACT BREAKER POINT INSPECTION	9-2

SERVICE INFORMATION

GENERAL INFORMATION

This section covers A. C. generator removal and installation.
Service can be accomplished with the engine in the frame.

SPECIAL TOOLS

Flywheel Holder	07925-0010001
Flywheel Puller	07933-0010000

TROUBLESHOOTING

Wear or no spark

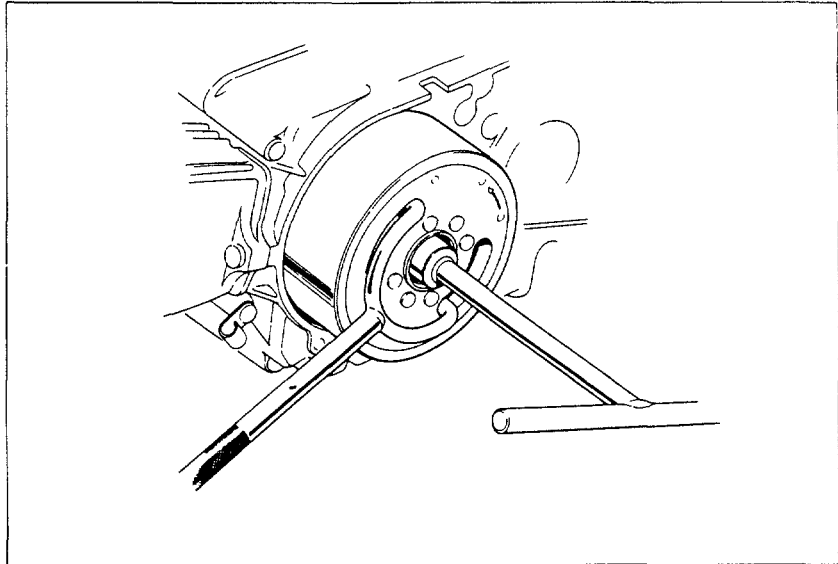
- 1 Fouled contact breaker points
- 2 Improper breaker point gap
- 3 Faulty condenser



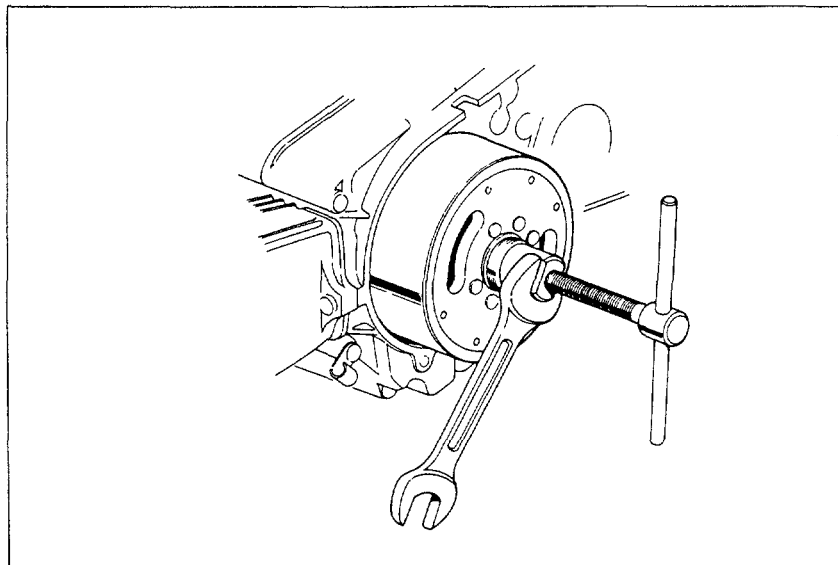
A.C. GENERATOR

**A.C. GENERATOR
REMOVAL/DISASSEMBLY**

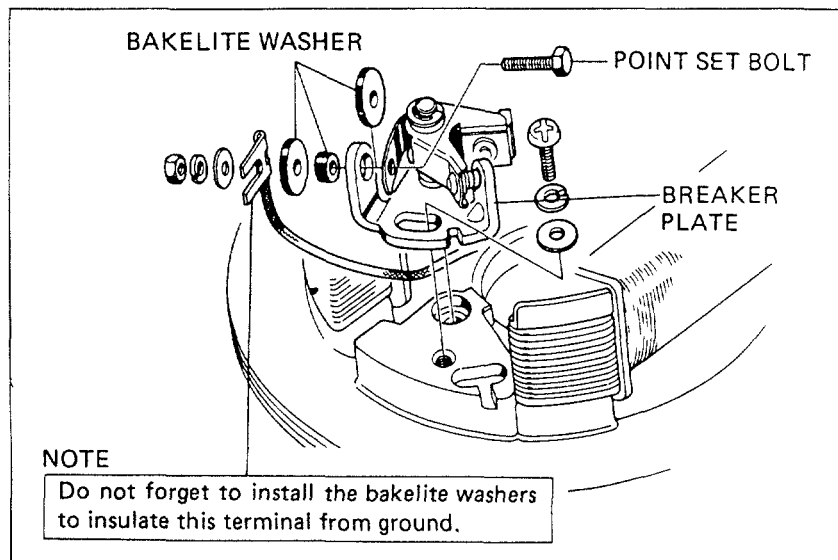
10 mm NUT REMOVAL
TOOL
FLYWHEEL HOLDER
07925-0010001



FLYWHEEL REMOVAL
TOOL
FLYWHEEL PULLER
07933-0010000



**CONTACT BREAKER POINT
INSPECTION**





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A.C. GENERATOR

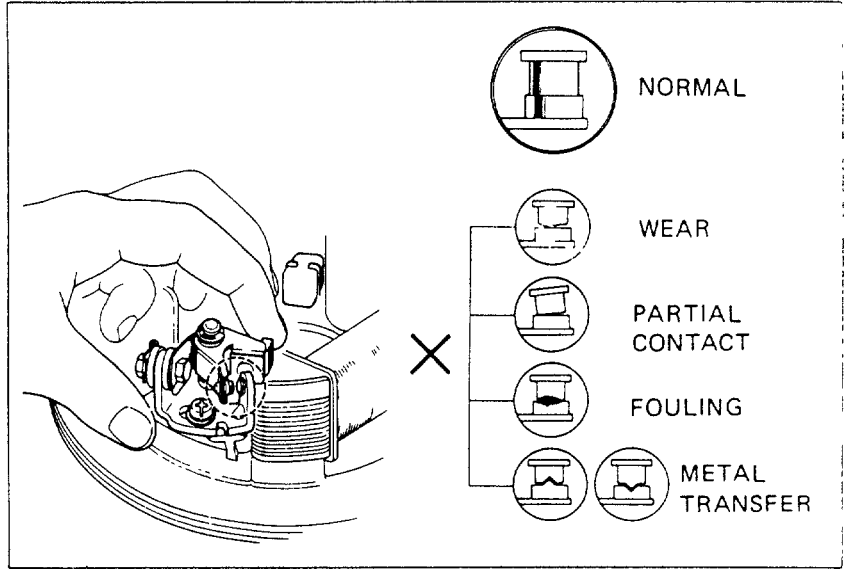
If the oil felt is dry, apply one or two drops of clean engine oil.

NOTE

Clean the point surface with a point file.
Replace the points if there is excessive metal transfer.

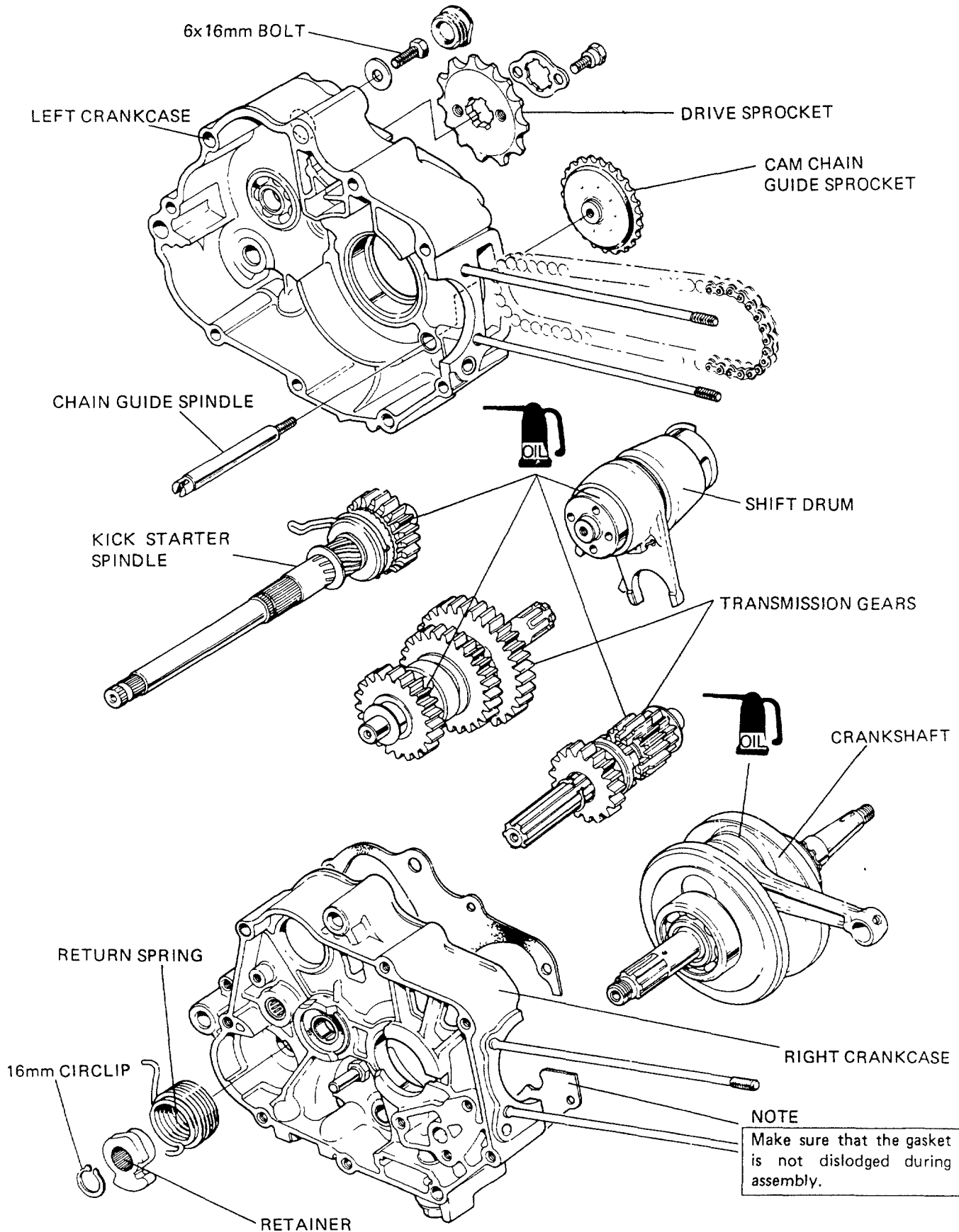
POINT GAP STANDARD:

0.3–0.4 mm (0.012–0.016 in)





TRANSMISSION/CRANKSHAFT





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

SERVICE INFORMATION

GENERAL INFORMATION

For internal transmission and crankshaft repairs, the crankcase must be separated.

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Crankshaft runout		—————	0.05 mm (0.002 in)
Connecting rod side clearance		0.10–0.35 mm (0.004–0.014 in)	0.8 mm (0.03 in)
Connecting rod radial clearance		0–0.012 mm (0–0.005 in)	0.05 mm (0.002 in)
Crankshaft ball bearing play	Axial	—————	0.10 mm (0.004 in)
	Radial	—————	0.05 mm (0.002 in)
Gear to shaft clearance		—————	0.10 mm (0.004 in)
Shift fork I. D.		34.00–34.025 mm (1.3390–1.3396 in)	34.065 mm (1.3411 in)
Shift fork pawl thickness	Left	4.86–4.94 mm (0.1919–0.195 in)	4.60 mm (0.181 in)
	Right	5.86–5.94 mm (0.231–0.234 in)	5.60 mm (0.221 in)
Shift drum O. D.		33.950–33.975 mm (1.3366–1.3376 in)	33.930 mm (1.3358 in)
Shift drum groove width		6.10–6.20 mm (0.240–0.244 in)	6.30 mm (0.248 in)

TROUBLESHOOTING

Excessive noise

- 1 Crankshaft
 - Excessive crankshaft journal bearing play
 - Excessive crankpin bearing play

Hard to shift into gear

- 1 Improper clutch adjustment
- 2 Shift forks bent
- 3 Shift spindle bent
- 4 Shift drum stopper bent
- 5 Shift drum cam grooves bent

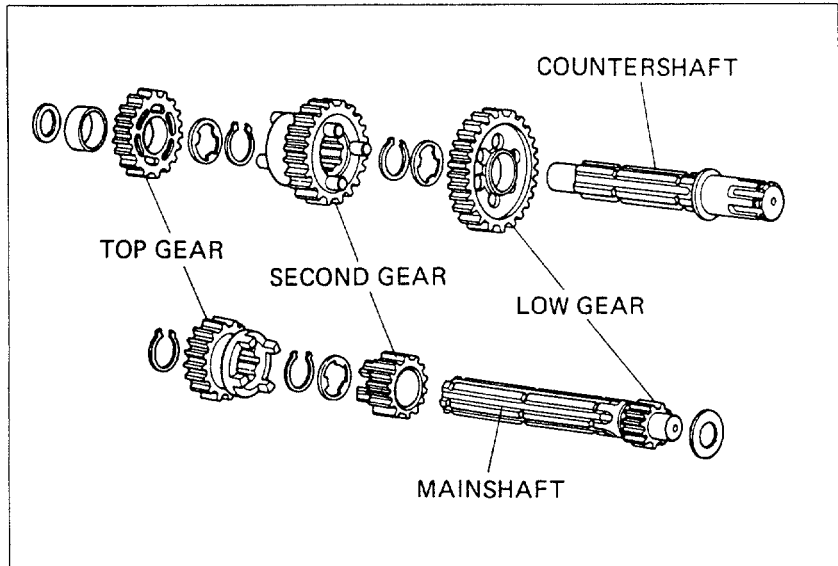
Transmission jumps out of gear

- 1 Gear dogs worn
- 2 Shift shaft bent
- 3 Shift drum stopper broken
- 4 Shift forks bent

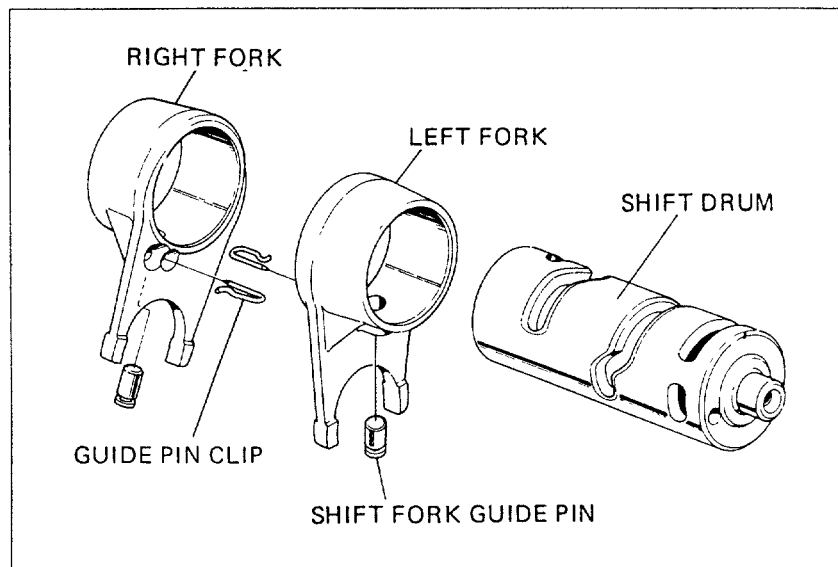


DISASSEMBLY

TRANSMISSION GEARS



SHIFT DRUM



ASSEMBLY

TRANSMISSION GEARS/SHIFT DRUM

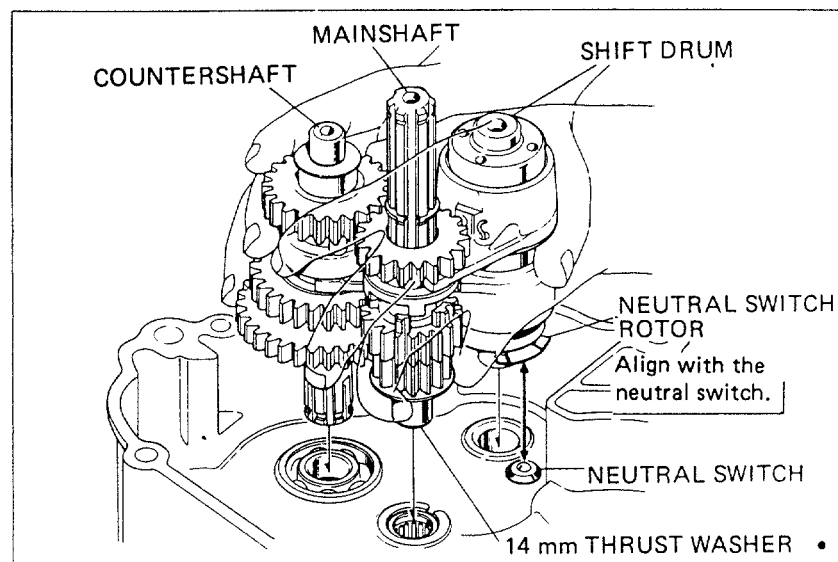
Install the drum and transmission in the L-crankcase as an assembly.

NOTE

After assembly, rotate the mainshaft to make sure that the gears rotate freely.

NOTE

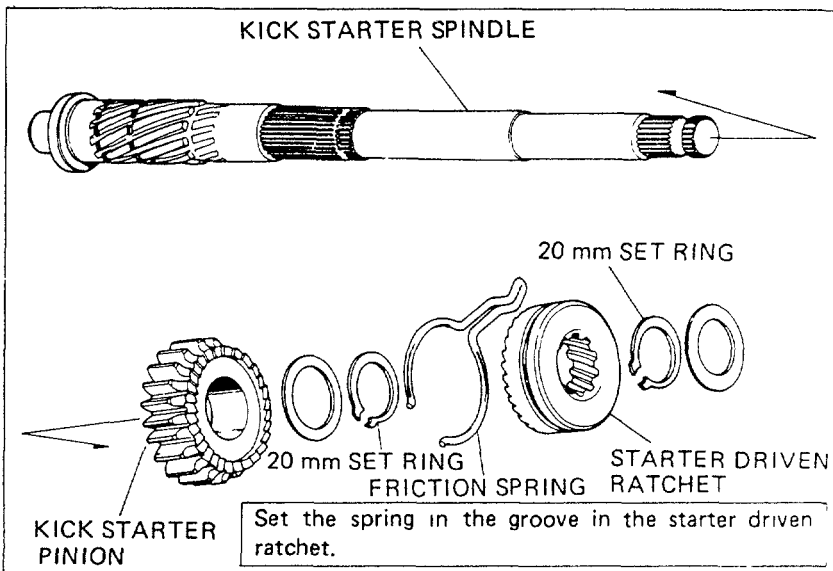
Install the washer while holding it to prevent it from becoming displaced





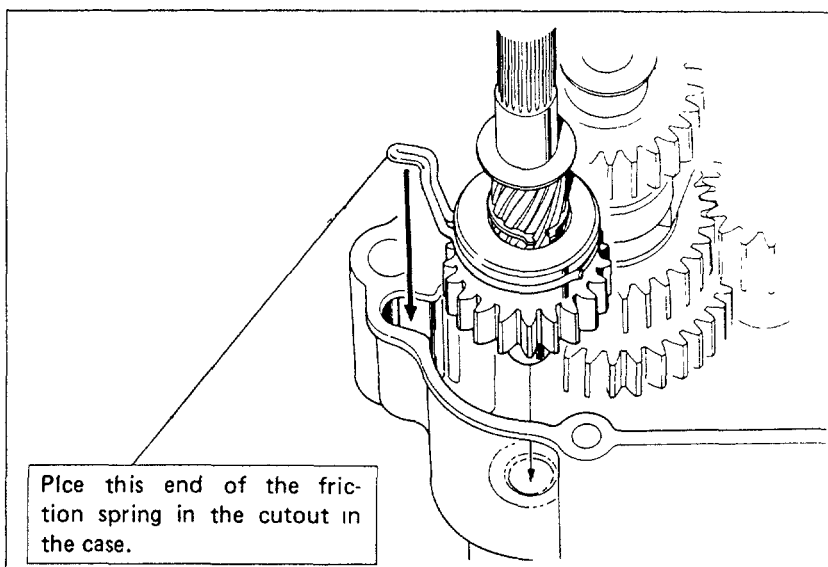
KICK STARTER DISASSEMBLY/ASSEMBLY

Disassemble the kick starter.
Check the driven ratchet, pinion, and spindle
for excessive wear.



KICK STARTER ASSEMBLY

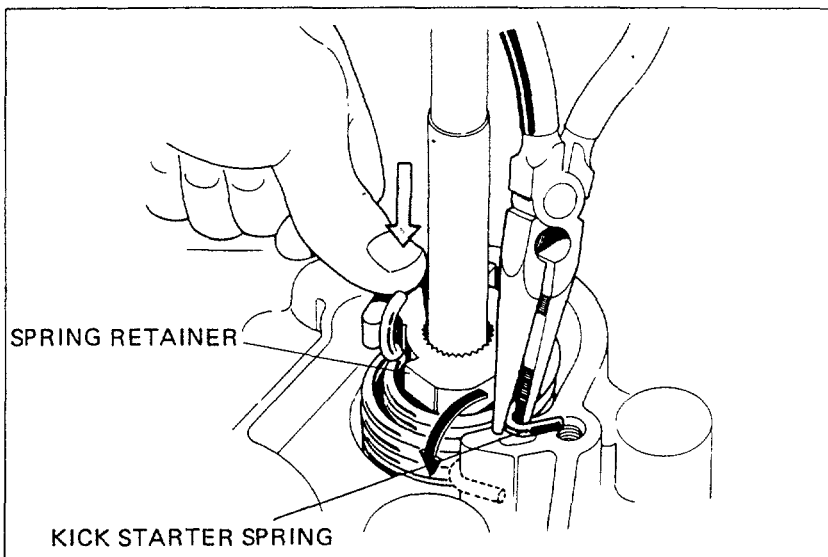
Assemble the kick starter spindle.
Install the spindle assembly and pinion gear.
Hook the end of the friction spring over the
case abutment.



SPRING RETAINER INSTALLATION

After assembling the crankcase, install the
spring retainer and spring on the spindle.

Hook the end of the spring on the crankcase
abutment while holding the spring retainer
as shown.





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M E M O



SERVICE INFORMATION	11-1
TROUBLESHOOTING	11-1
FRONT WHEEL / FRONT BRAKE	11-2
HANDLEBARS	11-2
STEERING STEM	11-3
FRONT FORKS	11-3

SERVICE INFORMATION

SPECIAL TOOLS

36 mm Pin Spanner	07902-0010000
Bearing Driver	07947-0450000
Ball Race Driver/Remover	07944-1150001
Driver Handle	07949-2860000

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Axle shaft runout		—	0.20 mm (0.008 in)
Front wheel rim runout		—	0.5 mm (0.02 in)
Front wheel bearing free play	Radial	—	0.05 mm (0.002 in)
	Axial	—	0.10 mm (0.004 in)
Brake lining thickness		4.0 mm (0.16 in)	2.0 mm (0.08 in)
Brake drum I. D.		110 mm (4.33 in)	111 mm (4.37 in)

TROUBLESHOOTING

Hard steering

- 1 Steering stem nut too tight
- 1 Faulty steering stem nut
- 3 Damaged steering stem ball race and/or cone race
- 4 Insufficient tire pressure

Front wheel wobble

- 1 Distorted rim
- 2 Worn front wheel bearing
- 3 Faulty tire
- 4 Axle not tightened properly

Steers to one side or does not track straight

- 1 Unevenly adjusted right and left shock absorbers
- 2 Bent front forks
- 3 Bent front axle; wheel installed incorrectly

Soft suspension

- 1 Weak fork springs

Front suspension noise

- 1 Shock absorber case binding
- 2 Loose front shocks or springs



**FRONT WHEEL/BRAKE/
SUSPENSION**

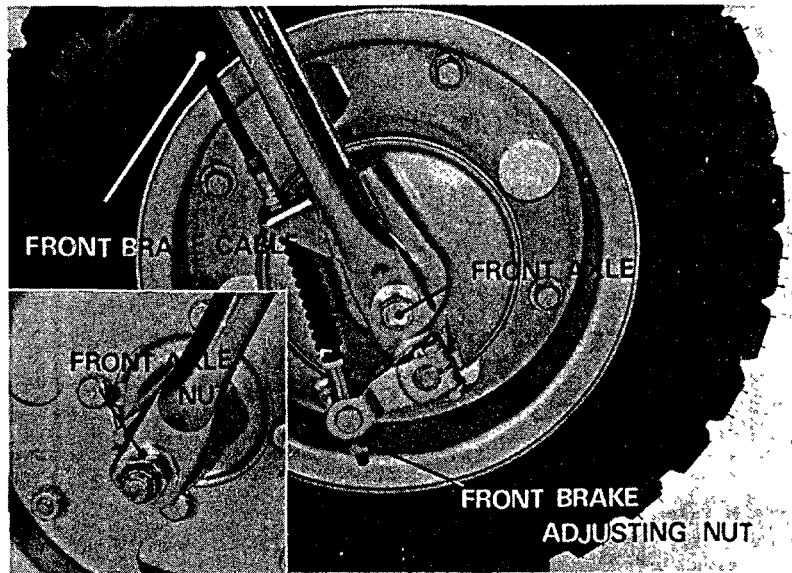
FRONT WHEEL / FRONT BRAKE

DISASSEMBLY AND ASSEMBLY

Raise the front wheel off the ground by placing a block or safety stand under the engine.

Remove the front brake cable.

Remove the front axle nut, pull out the front axle, and remove the front wheel.

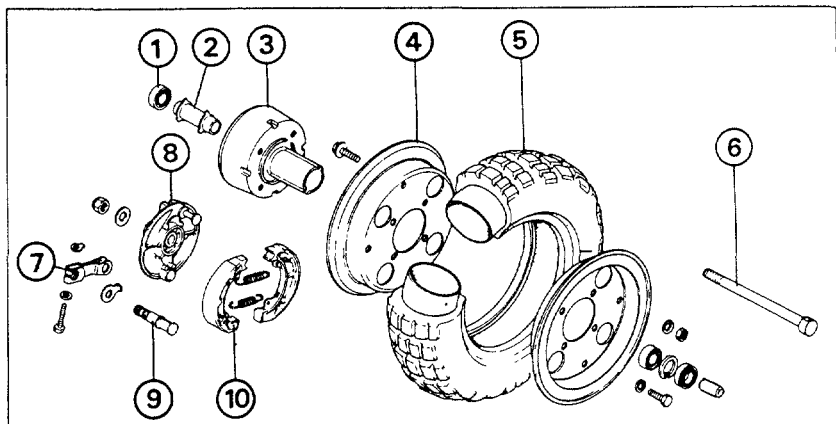


Remove the brake arm, cam, and shoe springs and remove the brake shoes from the brake panel.

Remove the oil seal and remove the ball bearings and distance collar.

Remove the tire valve

Remove the 8 mm bolts and remove the front wheel hub



- | | |
|---------------------|-----------------------|
| (1) WHEEL BEARING | (6) AXLE |
| (2) DISTANCE COLLAR | (7) FRONT BRAKE ARM |
| (3) FRONT WHEEL HUB | (8) FRONT BRAKE PANEL |
| (4) RIGHT WHEEL RIM | (9) BRAKE CAM |
| (5) TIRE | (10) BRAKE SHOES |

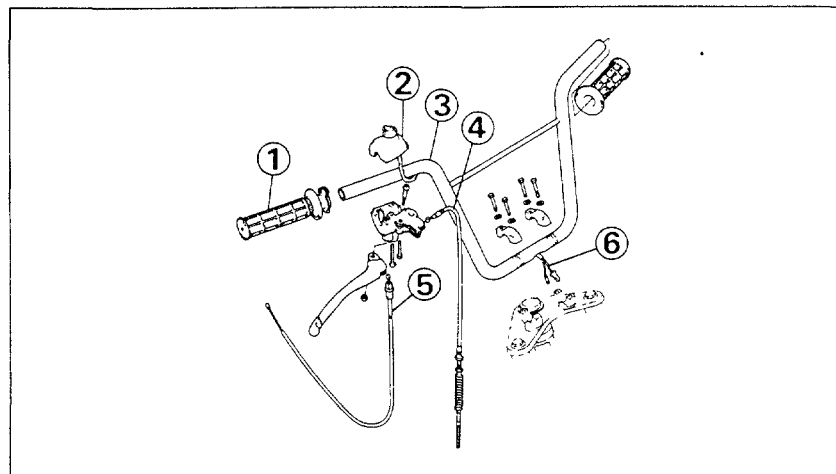
HANDLEBARS

DISASSEMBLY AND ASSEMBLY

Disconnect the brake cable, upper end.
Disconnect the engine stop switch,

Disconnect the throttle cable. Remove the throttle grip and engine stop switch assembly.

Remove the handlebar upper holders and handlebars to remove the fork top bridge.



- | | |
|------------------------|-----------------------------|
| (1) THROTTLE GRIP PIPE | (4) BRAKE CABLE |
| (2) ENGINE STOP SWITCH | (5) THROTTLE CABLE |
| (3) HANDLEBAR | (6) ENGINE STOP SWITCH WIRE |



STEERING STEM

DISASSEMBLY/ASSEMBLY

Remove the front wheel and front brake cable.

Remove the front fork bolt and circlips.

Pull out the front fork tube assemblies.

Remove the handlebars.

Remove the fork top bridge from the steering stem

Remove the steering head top thread and steering top cone race. Pull out the steering stem and the ball bearings.

Remove the steering top and bottom races.

INSPECTION

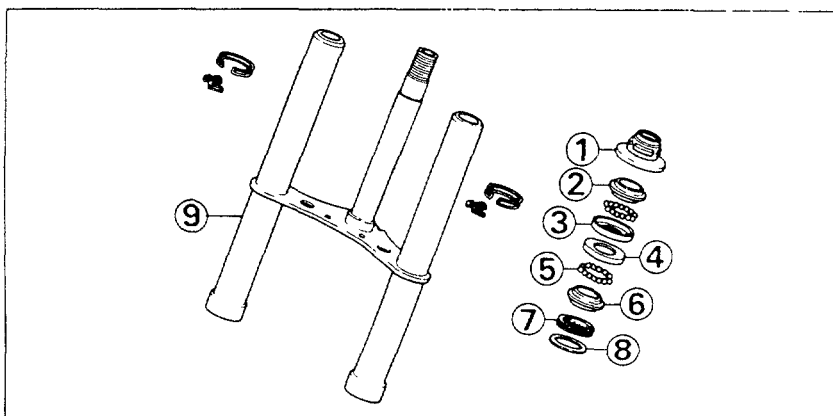
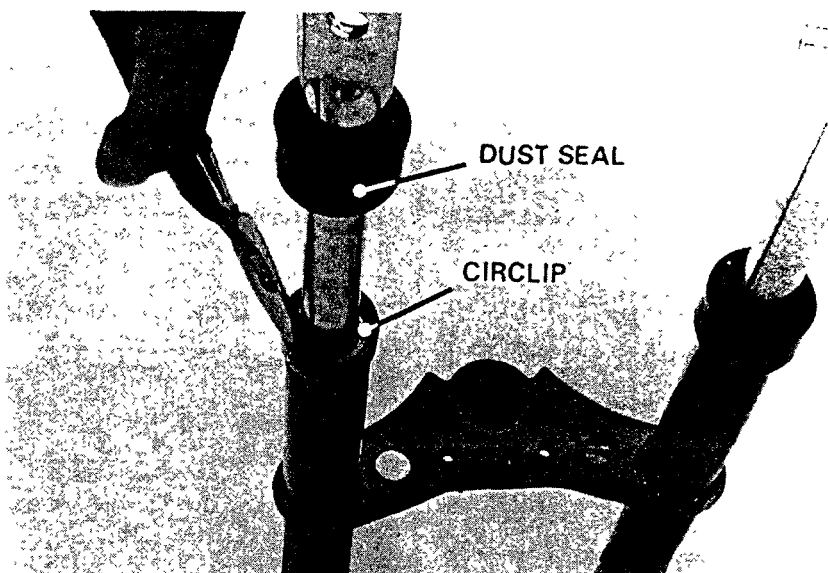
Check the contact surfaces of the steering top and bottom races and the top ball race for scores, scratches or wear.

TOOLS

PIN SPANNER WRENCH: 07902-0010000

BALL RACE DRIVER/REMOVER:

07944-1150001



- | | |
|-------------------------|----------------------|
| (1) STEERING TOP THREAD | (6) BOTTOM CONE RACE |
| (2) TOP CONE RACE | (7) DUST SEAL |
| (3) TOP RACE | (8) DUST SEAL WASHER |
| (4) BOTTOM RACE | (9) STEERING STEM |
| (5) NO.6 BALL BEARING | |

FRONT FORKS

DISASSEMBLY

Remove the fork tube assembly.

Pull out the spring pin and disassemble each fork tube.

INSPECTION

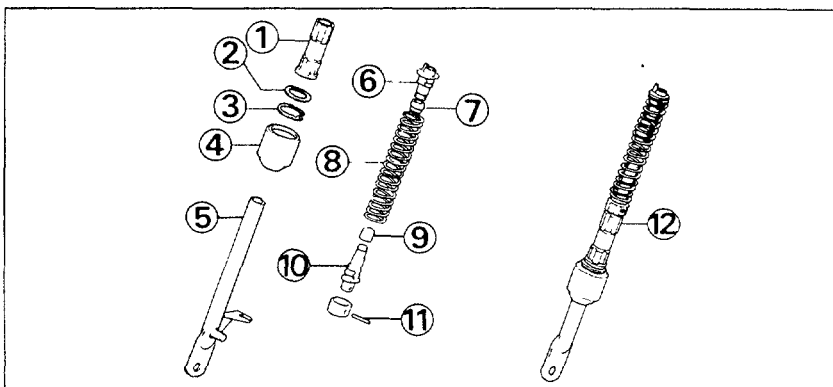
Check the spring stops for scores, scratches or breakage.

ASSEMBLY

Assembly is essentially the reverse of disassembly.

NOTE

The spring pin must be flush with the end of the piston.



- | | |
|------------------------|-------------------------|
| (1) FORK TUBE GUIDE | (7) DAMPER |
| (2) THRUST WASHER | (8) SPRING |
| (3) CIRCLIP | (9) LOWER DAMPER |
| (4) DUST SEAL | (10) LOWER SPRING GUIDE |
| (5) FRONT FORK SLIDER | (11) SPRING PIN |
| (6) UPPER SPRING GUIDE | (12) FRONT FORK ASSY |



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M E M O



SERVICE INFORMATION	12-1
TROUBLESHOOTING	12-1
REAR WHEEL/BRAKE	12-2
SWING ARM	12-2
SHOCK ABSORBERS	12-3

SERVICE INFORMATION

SPECIAL TOOLS

Bearing Driver	07947-0450000
Shock Absorber Compressor	07959-3290001
Driver Handle	07949-2860000

SPECIFICATIONS

	STANDARD	SERVICE LIMIT
Axle shaft runout	—	0.20 mm (0.008 in)
Rear wheel rim runout	—	0.5 mm (0.02 in)
Rear wheel bearing free play	Radial Axial	0.05 mm (0.002 in) 0.05 mm (0.002 in)
Brake lining thickness	4.0 mm (0.16 in)	2.0 mm (0.08 in)
Brake drum I.D.	110 mm (4.33 in)	111 mm (4.37 in)

TROUBLESHOOTING

Rear wheel wobble

- 1 Bent rim
- 2 Worn rear wheel bearing
- 3 Axle nut tightened improperly

Rear suspension noise

- 1 Slider binding
- 2 Loose shocks or springs

Soft suspension

- 1 Weak shock absorber spring
- 2 Worn hub dampers



REAR WHEEL/BRAKE

DISASSEMBLY

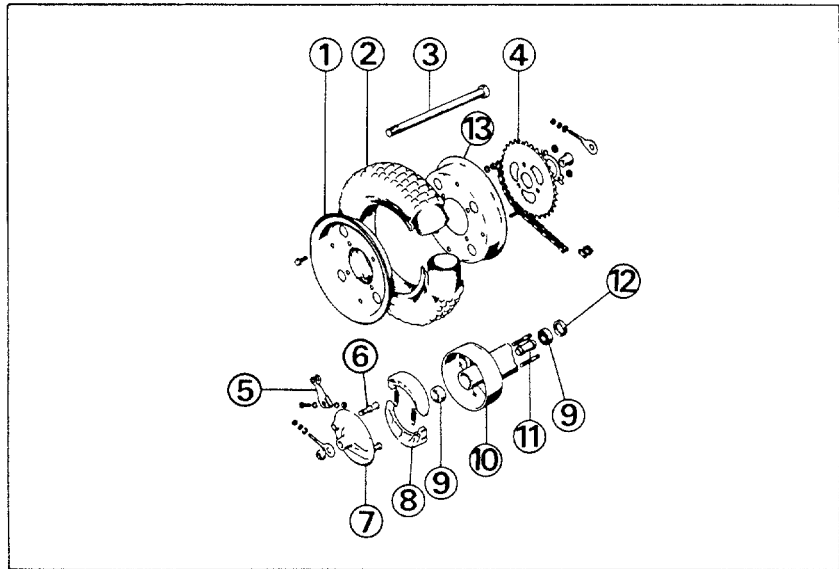
- Loosen the axle nut and drive chain adjusting nuts.
- Disconnect the rear brake rod and drive chain master link.
- Remove the axle nut and pull out the axle.
- Remove the wheel.
- Remove the brake panel assembly.
- Remove the three 8 mm nuts and driven sprocket.
- Pull out the oil seal, bearing and distance collar.
- Remove the 8 mm bolts and hub from the wheel
- Remove the tire valve.
- Remove the wheel hub bolts and separate the rim and tire

ASSEMBLY

Assembly is essentially the reverse of disassembly.

NOTE

When installing the drive chain master link clip, make sure that the open end of the clip faces opposite the direction of normal chain rotation.

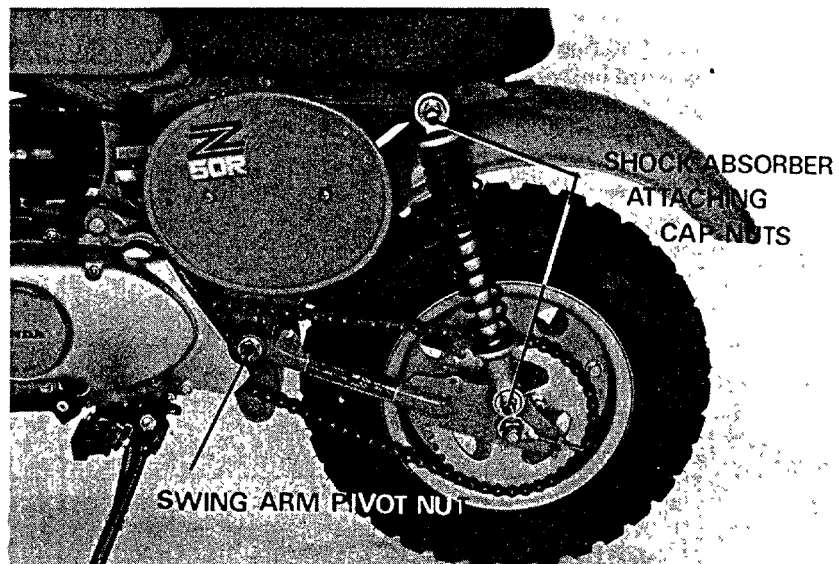


- | | |
|---------------------|----------------------|
| (1) RIGHT WHEEL RIM | (7) REAR BRAKE PANEL |
| (2) TIRE | (8) BRAKE SHOE |
| (3) AXLE | (9) BALL BEARING |
| (4) DRIVEN SPROCKET | (10) REAR WHEEL HUB |
| (5) REAR BRAKE ARM | (11) DISTANCE COLLAR |
| (6) REAR BRAKE CAM | (12) OIL SEAL |
| | (13) LEFT WHEEL RIM |

SWING ARM

DISASSEMBLY

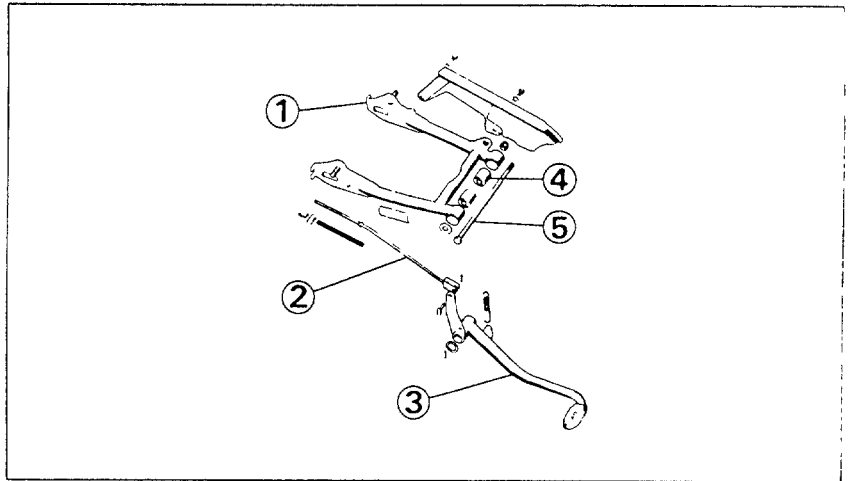
- Remove the rear wheel.
- Remove the shock absorber cap nuts and shock absorber assemblies.





Pull out the cotter pin and disassemble the brake pedal and brake rod.

Remove the pivot bolt nut and remove the swing arm.



- | | |
|----------------------|--------------------------|
| (1) SWING ARM | (4) PIVOT RUBBER BUSHING |
| (2) REAR BRAKE ROD | (5) SWING ARM PIVOT BOLT |
| (3) REAR BRAKE PEDAL | |

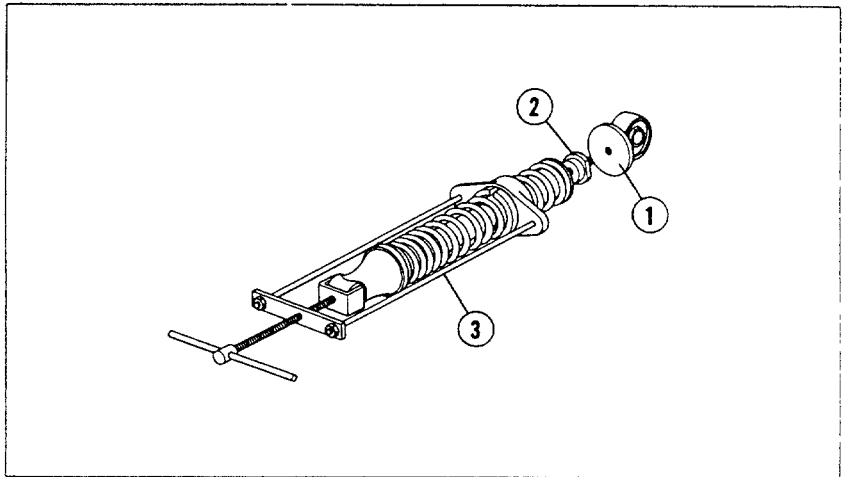
SHOCK ABSORBERS

DISASSEMBLY

Using the special tool, loosen the locking nut, remove the upper holder and disassemble each shock.

TOOLS

SHOCK ABSORBER COMPRESSOR:
07959-3290001



- | |
|---------------------------------|
| (1) SHOCK ABSORBER UPPER HOLDER |
| (2) LOCKING NUT |
| (3) SHOCK ABSORBER COMPRESSOR |

ASSEMBLY

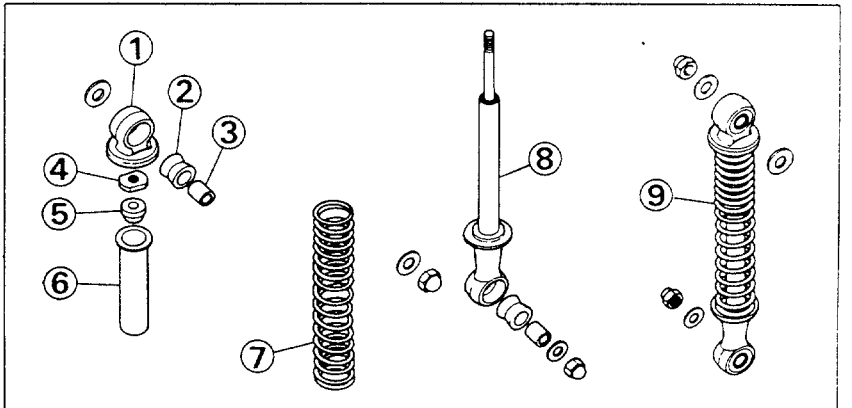
Assembly is essentially the reverse of disassembly.

NOTE

- Install the spring with the tightly wound coils up.
- Apply a locking agent to the upper holder.

Install the shock absorbers and secure with the cap nuts.

Install the rear wheel.



- | | |
|--------------------|-------------------------|
| (1) UPPER HOLDER | (6) SPRING GUIDE |
| (2) RUBBER BUSHING | (7) SPRING |
| (3) COLLAR | (8) DAMPER |
| (4) UPPER LOCK NUT | (9) SHOCK ABSORBER ASSY |
| (5) DAMPER | |



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13. SEAT & FUEL TANK

SEAT AND FUEL TANK

13-2

13



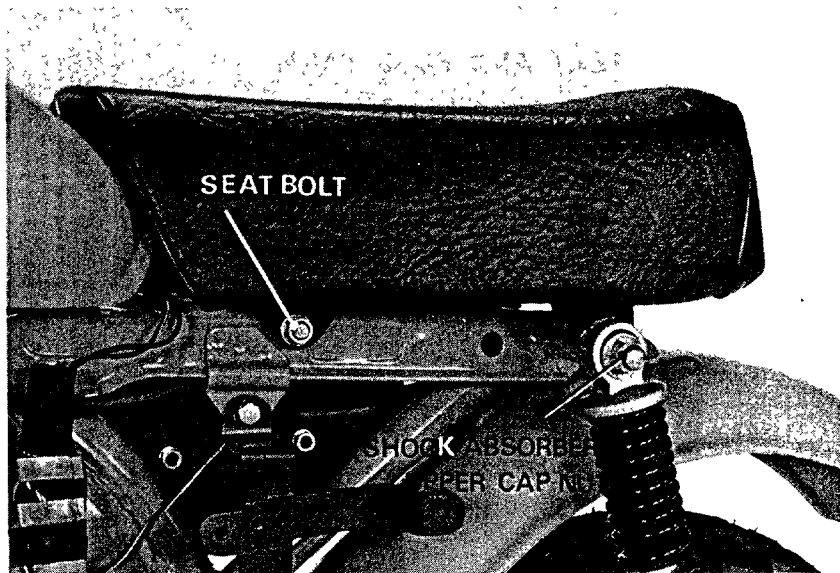
SEAT AND FUEL TANK

SEAT AND FUEL TANK

DISASSEMBLY

Remove the seat bolt and nut and loosen the shock absorber upper cap nuts.
Remove the seat.

Turn the fuel valve OFF and disconnect the fuel line.
Remove the fuel tank mounting bolt and fuel tank.

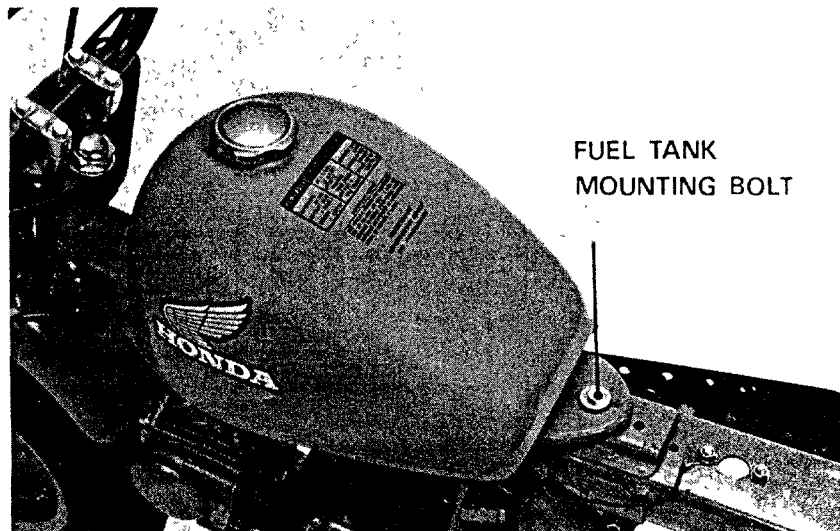


INSPECTION

Check the fuel tank for leakage. Also check the fuel tank cap breather hole for clogging, the fuel valve and strainer cap gaskets for deterioration or damage, and the fuel line for deterioration or breakage.

NOTE

Flush the tank with gasoline.





14. IGNITION SYSTEM

SERVICE INFORMATION	14-1
TROUBLESHOOTING	14-1
IGNITION COIL	14-2
CONDENSER	14-2

SERVICE INFORMATION

GENERAL INFORMATION

Be sure to connect each wire properly.
Ensure that the contact breaker points are clean and in good condition.

SPECIFICATION

Spark plug	USA model	NGK: C6HS DENSO: U20FS
	Canada model	NGK: CR6HS DENSO: U20FSR-L
	Plug gap	0.6-0.7 mm (0.024-0.028 in)
Ignition coil spark gap	6 mm (0.24 in) min	
Condenser capacity	0.27-0.33 μ F	
Contact breaker point gap	0.3-0.4 mm (0.012-0.016 in)	

TROUBLESHOOTING

Engine will not start

- 1 Engine stop switch OFF
- 2 No spark at plug
- 3 Improper ignition timing

No spark at plugs

- 1 Engine stop switch OFF
- 2 Points not opening
- 3 Points burned, wet fouled or dirty
- 4 No primary current to points and coils
 - Loose or broken wire
 - Faulty engine stop switch
- 5 Plug fouled
- 6 Faulty plug wire
- 7 Coil weak or inoperative
- 8 Faulty condenser

Engine starts but runs poorly

- 1 Ignition primary circuit
 - Points dirty or fouled
 - Incorrect point gap
 - Faulty coil
 - Faulty condenser
 - Loose wire connection
 - Intermittent short-circuit in switch
- 2 Ignition secondary circuit
 - Plug fouled or worn
 - Faulty plug wires
- 3 Ignition timing
 - Improper ignition timing

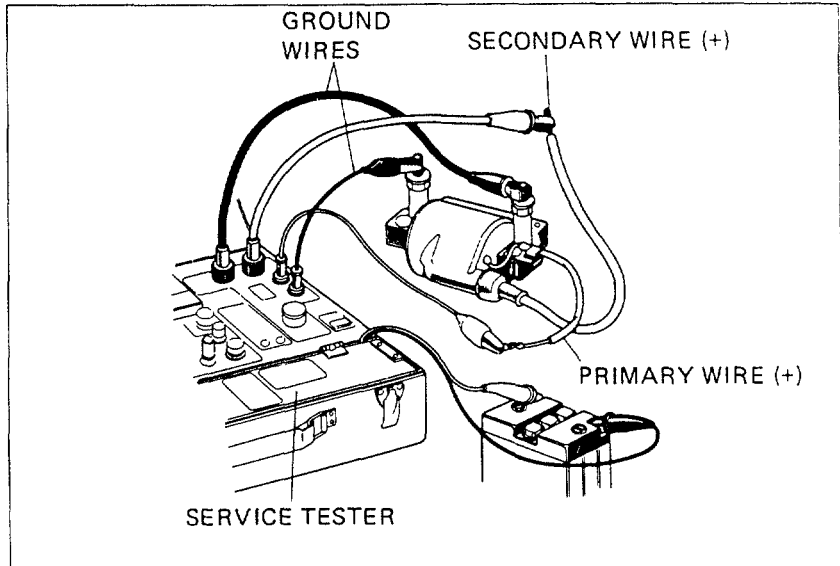


IGNITION SYSTEM

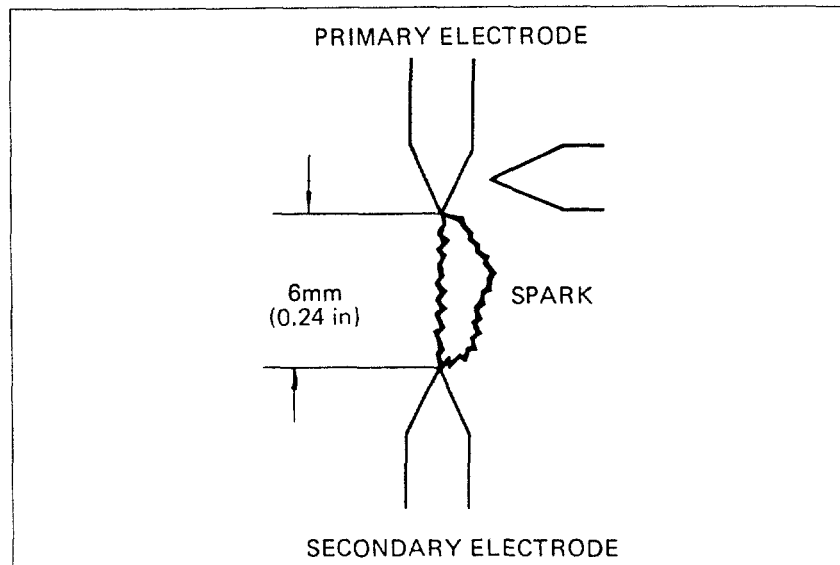
IGNITION COIL

SPARK GAP TEST

Test the coil output as per the tester manufacturer's instructions.



The coil is satisfactory if sparks jumps across the gap specified.

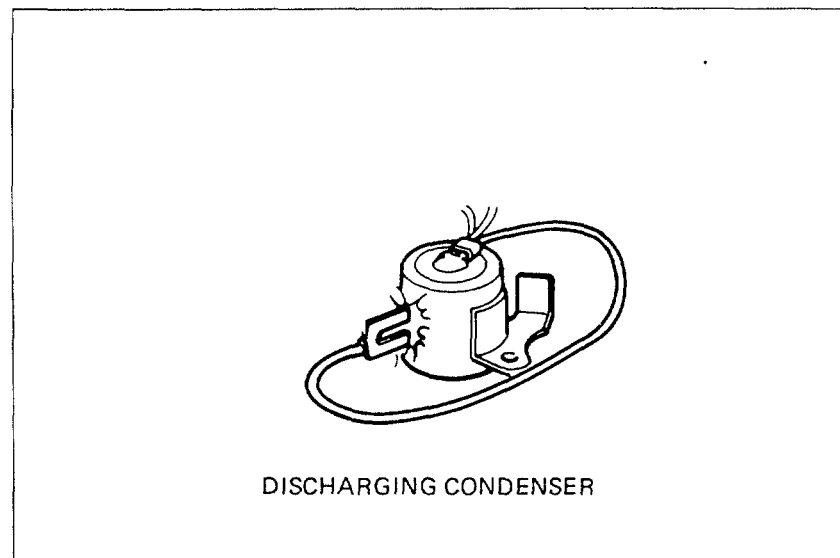


CONDENSER

CONDENSER CAPACITY

NOTE

The condenser must be discharged before testing the capacity.





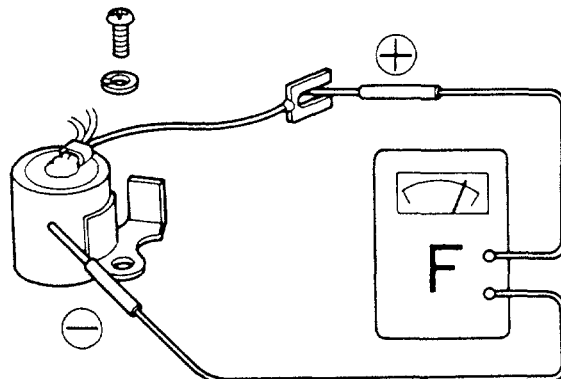
HONDA Z50R

IGNITION SYSTEM

Measure the condenser capacity.

If it is out of the specified limit, replace the condenser

CAPACITY: 0.27–0.33 μ F

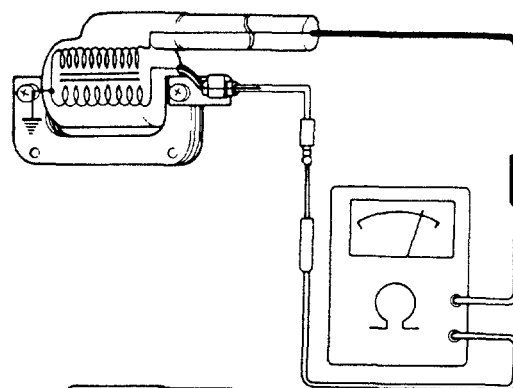


COIL CONTINUITY TEST

Remove the spark plug cap by turning it counterclockwise

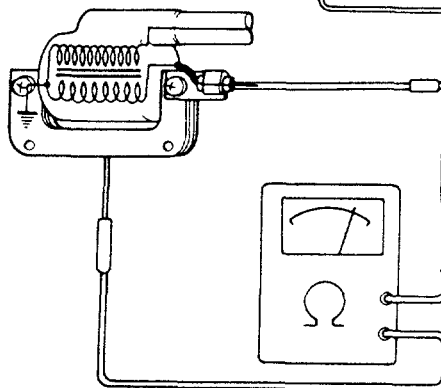
Check the coil for continuity as shown.

CONTINUITY: Good
NO CONTINUITY: Replace



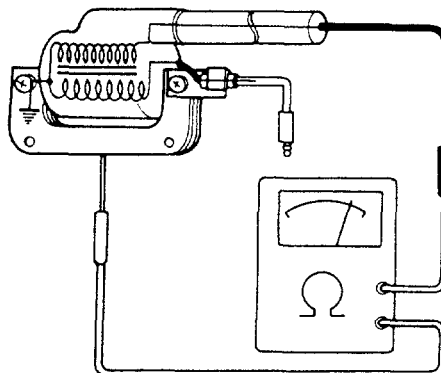
Check the primary coil for continuity as shown.

CONTINUITY: Good
NO CONTINUITY: Replace



Check the secondary coil for continuity as shown

CONTINUITY: Good
NO CONTINUITY: Replace





HONDA
Z50R

M E M O



HONDA
Z50R

15. TROUBLESHOOTING

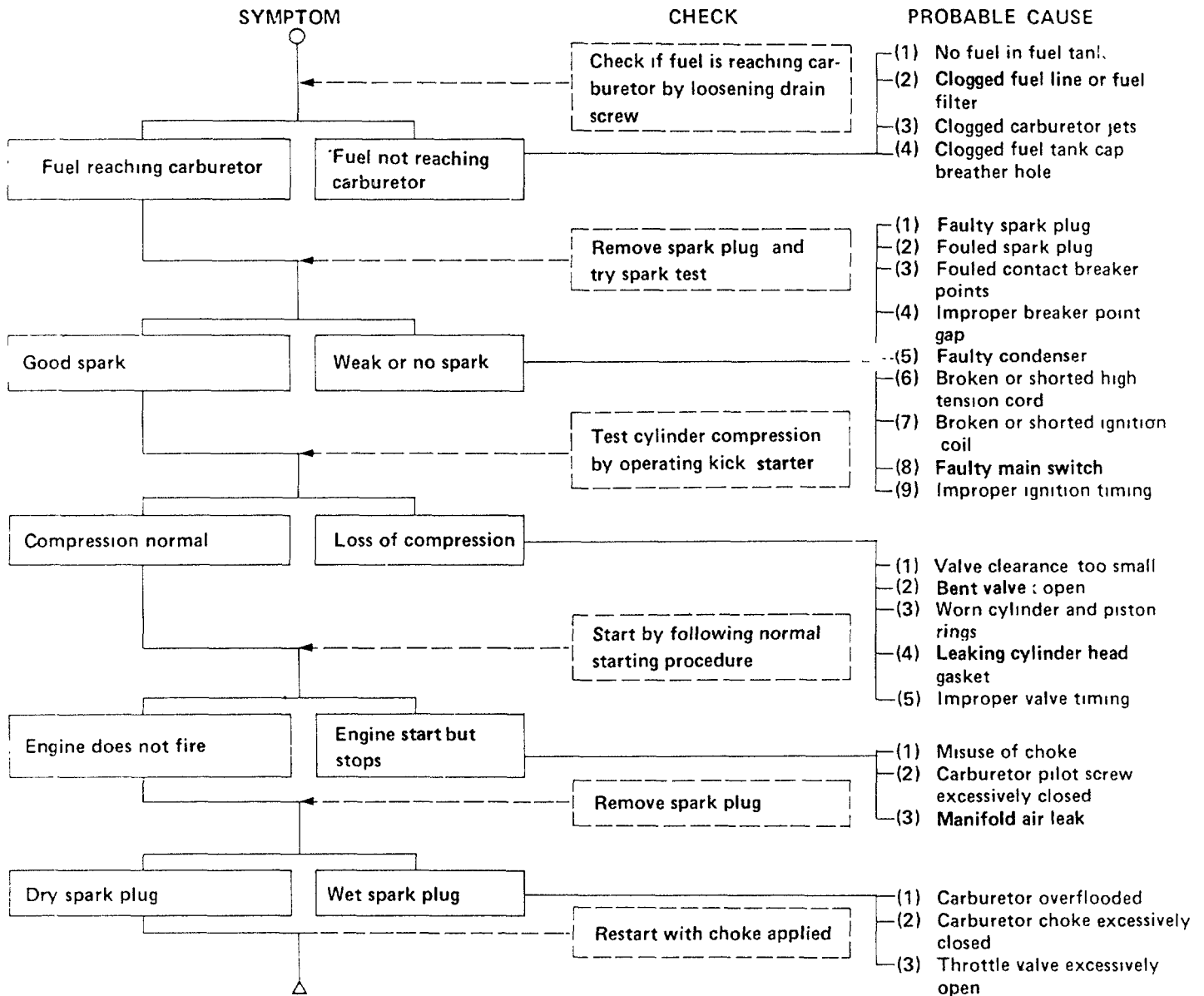
ENGINE DOES NOT START OR IS HARD TO START	15-2
ENGINE LACKS POWER	15-2
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ENGINE LACKS HIGH SPEED PERFORMANCE	15-5
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IMPROPER FRONT/REAR SUSPENSION	15-8

15

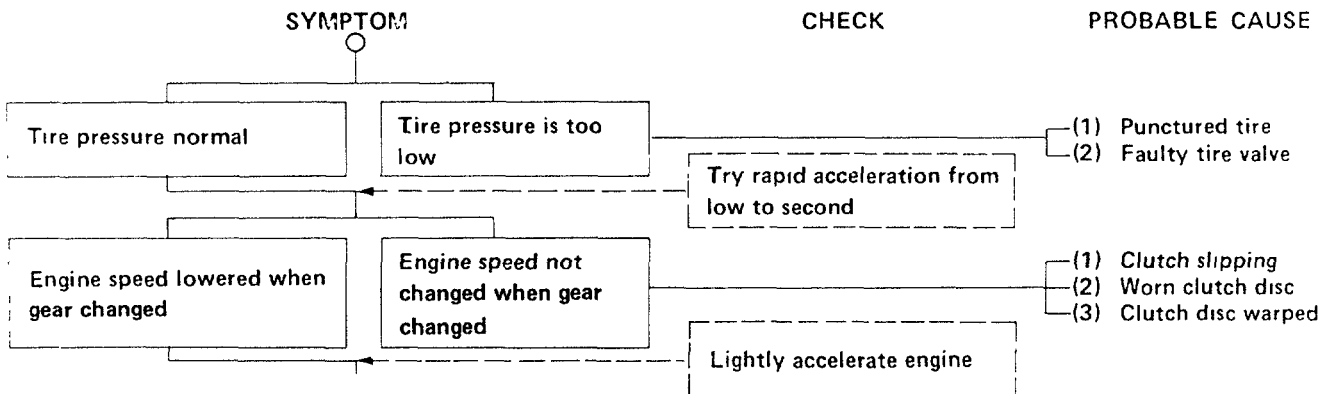


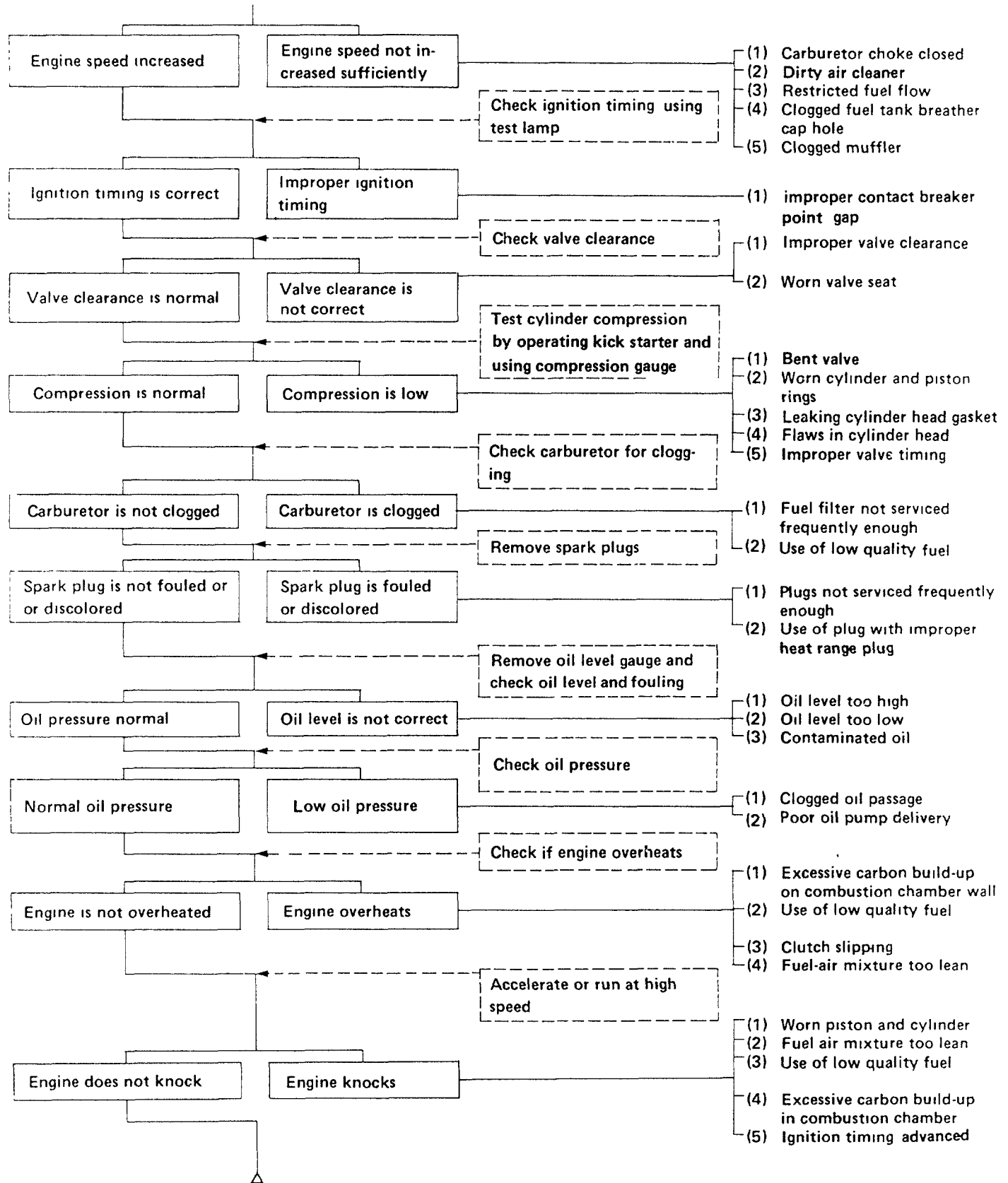
TROUBLE SHOOTING

• **ENGINE DOES NOT START OR IS HARD TO START**



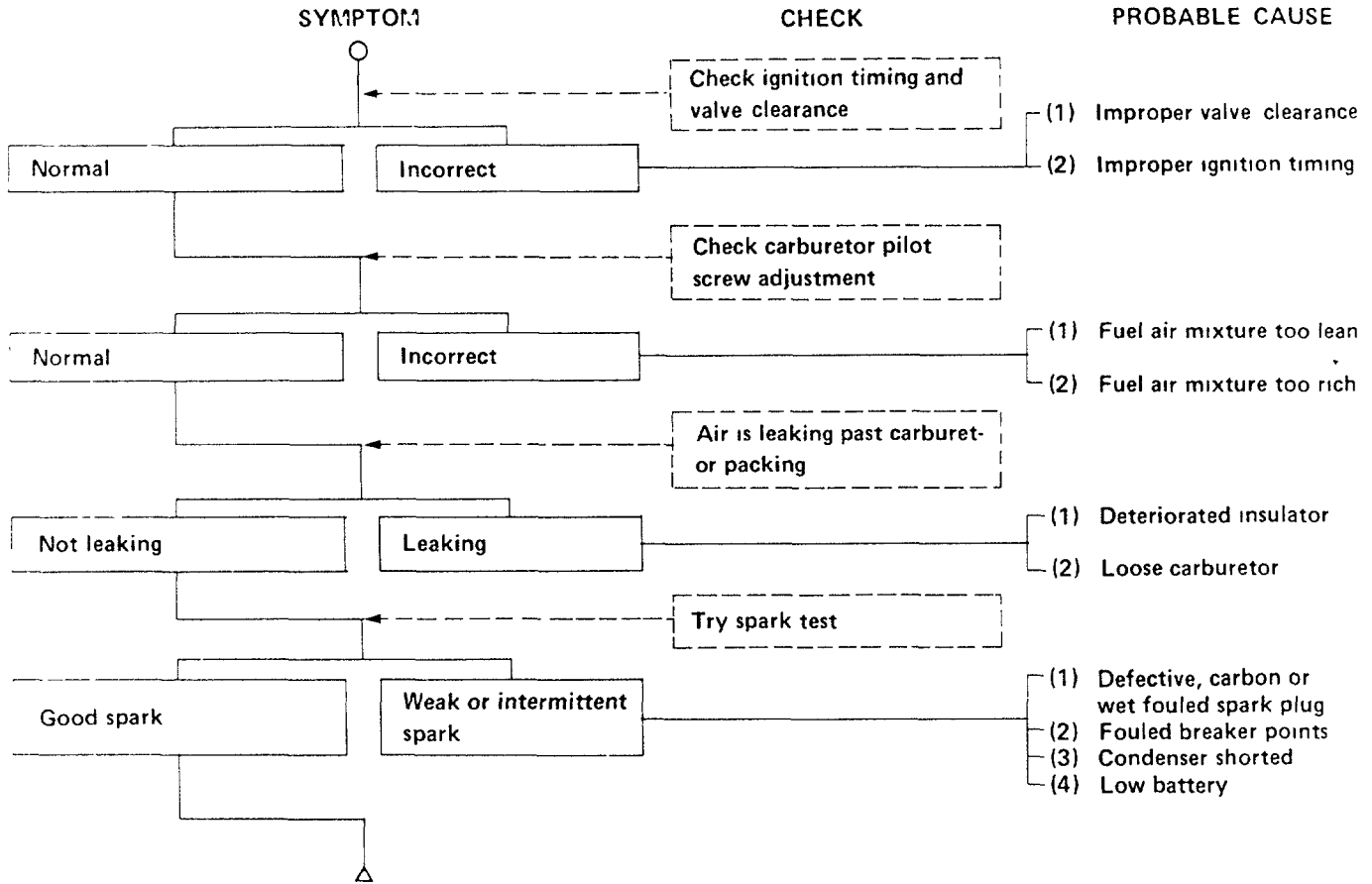
• **ENGINE LACKS POWER**





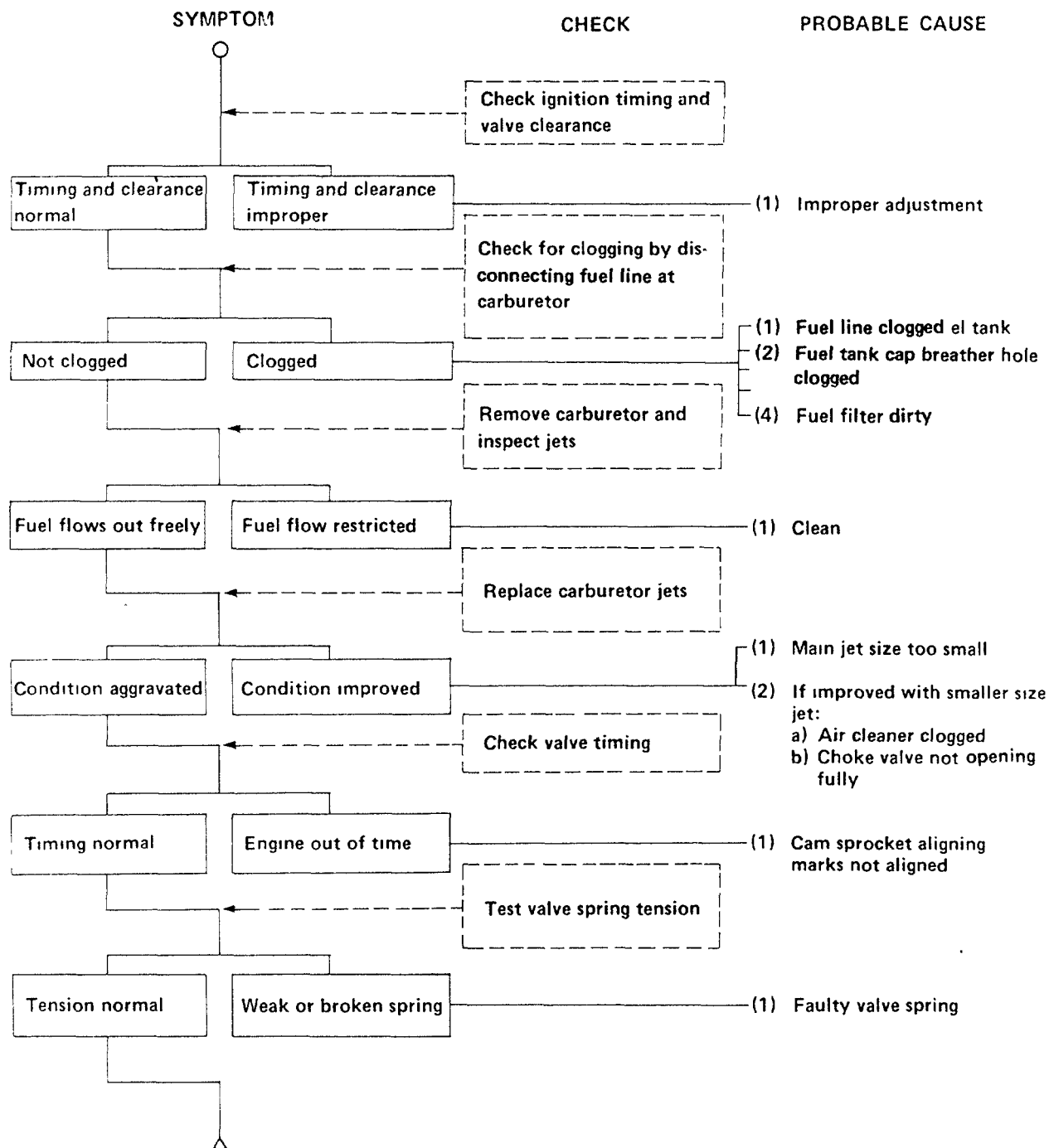


• **POOR PERFORMANCE AT LOW AND IDLE SPEEDS**





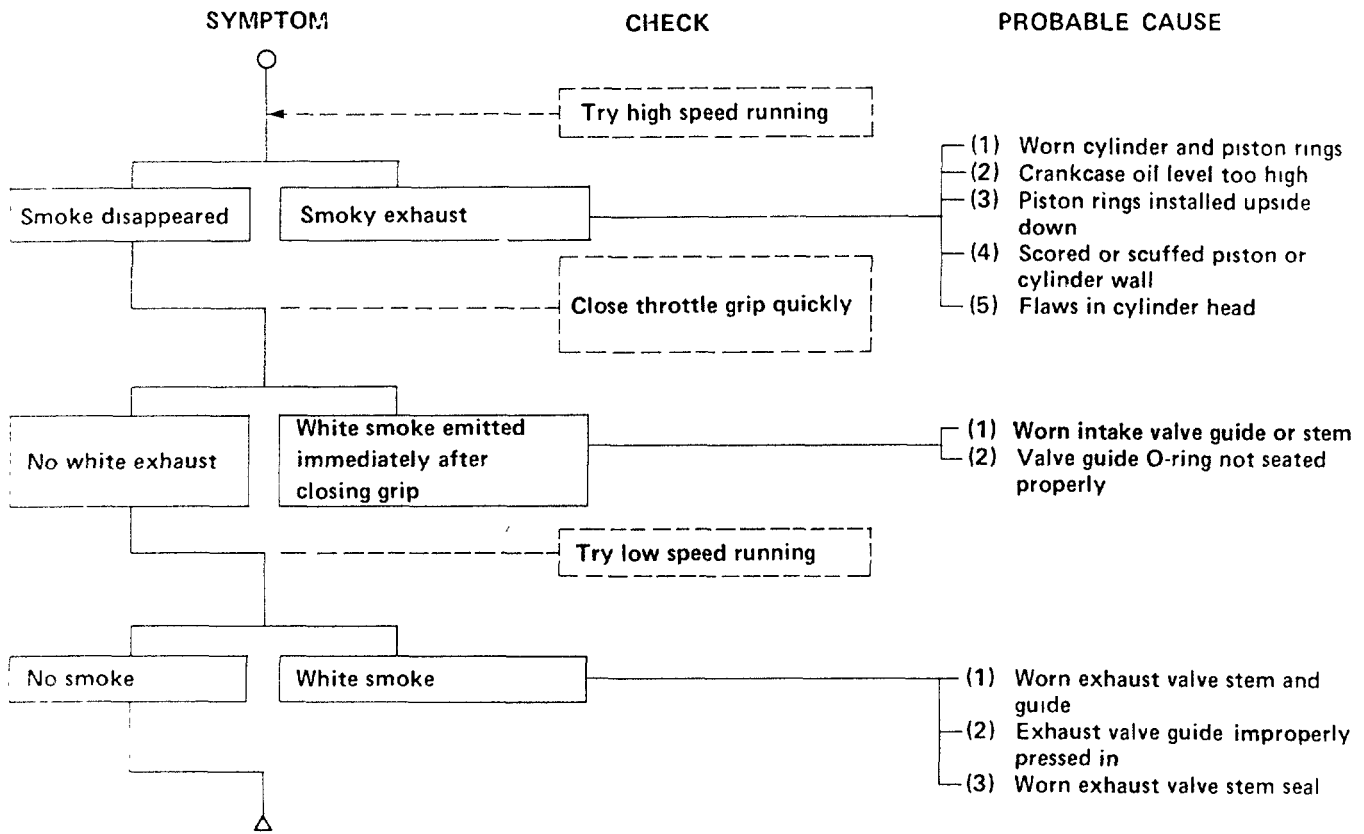
• **ENGINE LACKS HIGH SPEED PERFORMANCE**



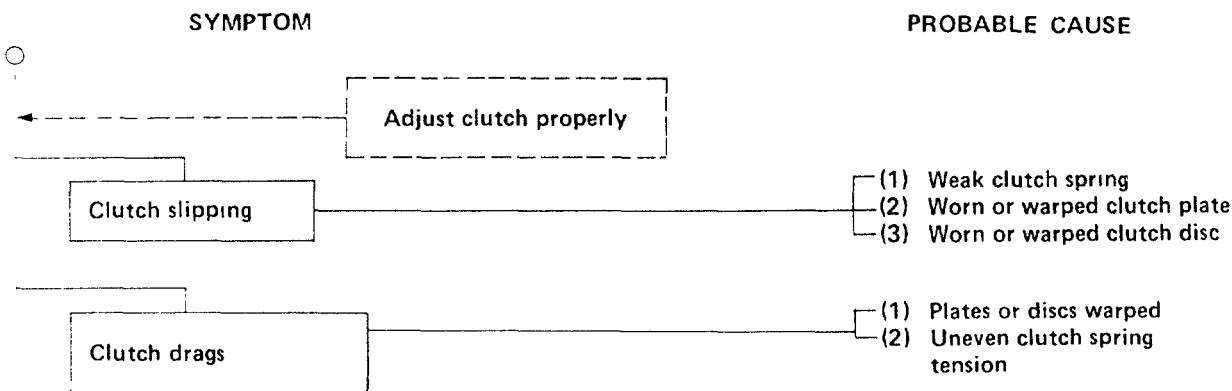


TROUBLE SHOOTING

• **SMOKY EXHAUST**

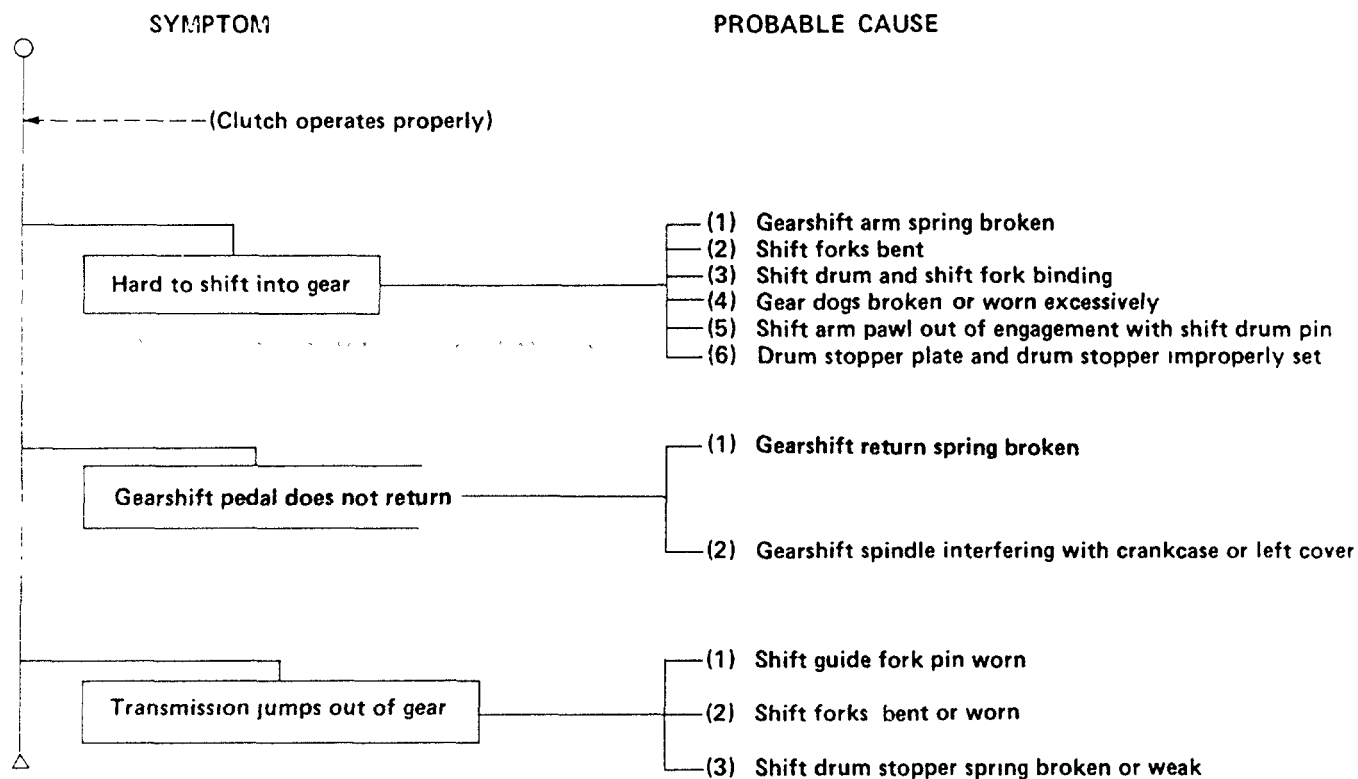


• **FAULTY CLUTCH OPERATION**

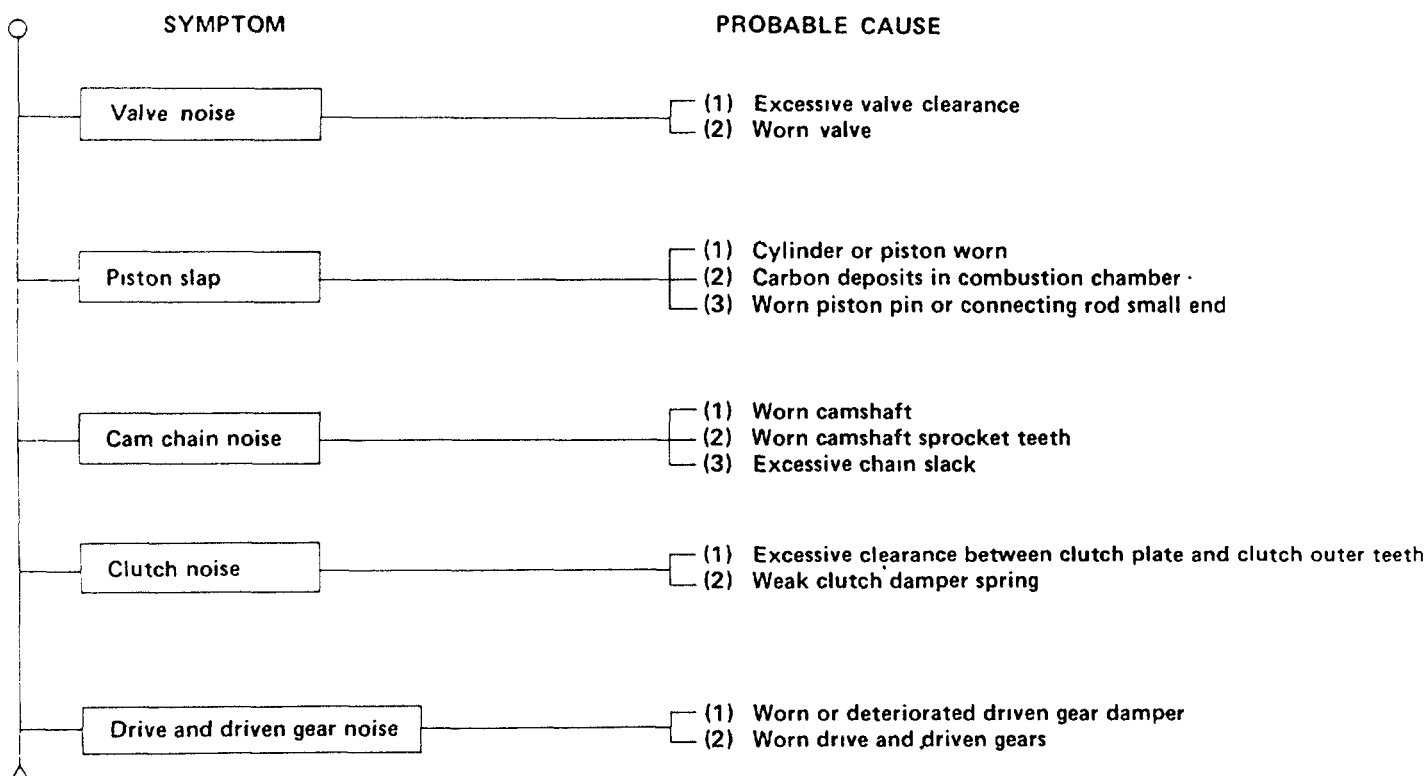




• **FAULTY TRANSMISSION OPERATION**



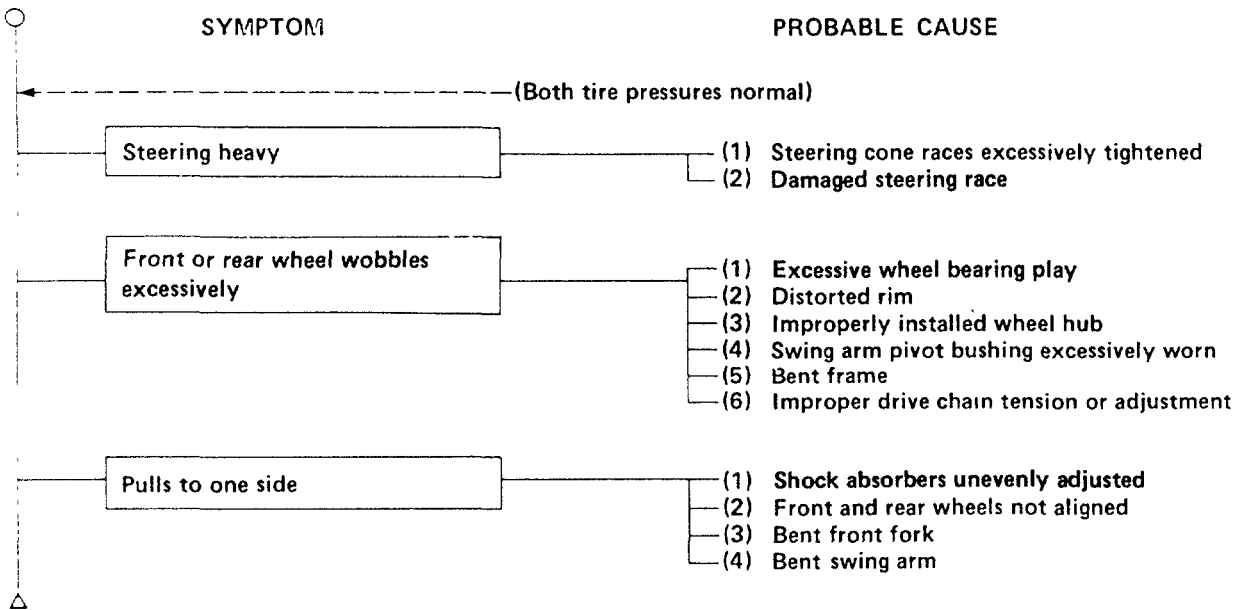
• **ENGINE NOISE**



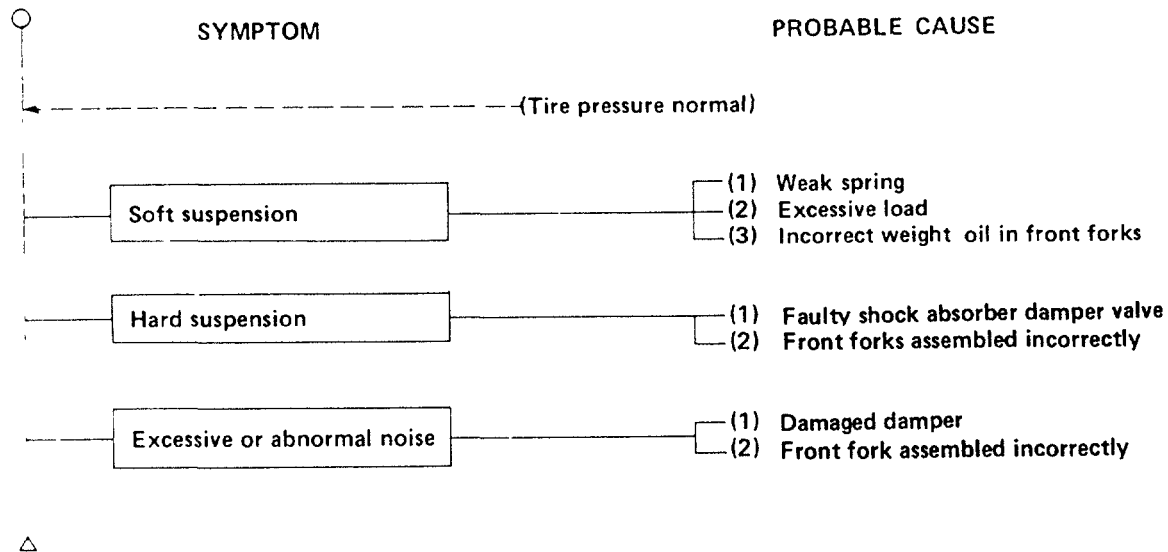


TROUBLE SHOOTING

• **STEERS TO ONE SIDE OR DOES NOT TRACK STRAIGHT**



• **IMPROPER FRONT/REAR SUSPENSION**





HONDA
Z50R

16.'80-'81 ADDENDUM

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INTRODUCTION

This Honda Shop Manual Addendum contains information for the '80 and '81 Z50R. Refer to the base Shop Manual for service procedures and data not included in this addendum.

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SPECIFICATIONS

	Item	Metric	English	
Dimensions	Overall length	1,300 mm	51.2 in	
	Overall width	605 mm	23.8 in	
	Overall height	810 mm	31.9 in	
	Wheel base	895 mm	35.2 in	
	Seat height	575 mm	22.6 in	
	Foot peg height	220 mm	8.7 in	
	Ground clearance	140 mm	5.5 in	
		Dry weight	49.5 kg	109.1 lb
Frame	Type	Backbone		
	Front suspension	Telescopic fork		
	Rear suspension	Swing arm		
	Front tire size	3.50-8-2PR		
	Rear tire size	3.50-8-2PR		
	Cold tire pressures	Front	1.0 kg/cm ²	14 psi
		Rear	1.0 kg/cm ²	14 psi
	Front brake	Internal expanding shoe		
	Rear brake	Internal expanding shoe		
	Fuel capacity	5.0 lit	1.3 US gal	
	Fuel reserve capacity	0.7 lit	0.18 US gal.	
	Caster (Degrees from horizontal)	25°		
	Trail	42 mm	1.7 in	
	Front fork oil	Grease		
Engine	Type	Air-cooled, 4 stroke OHC		
	Cylinder arrangement	Single 80° inclined from vertical		
	Bore and stroke	39.0 x 41.4 mm	1.535 x 1.630 in	
	Displacement	49 cm ²	3.0 cu in	
	Compression ratio	8.8		
	Valve train	Chain driven overhead camshaft		
	Oil capacity	0.8 lit	0.85 US qt	
	Lubrication system	Forced and wet sump		
	Cylinder head compression pressure	12.0 kg/cm ² -1,000 rpm	168 psi	
	Intake valve	Opens	7° BTDC (at 1mm lift)	
		Closes	12° ABDC (at 1mm lift)	
	Exhaust valve	Opens	22° BBDC (at 1mm lift)	
		Closes	2° ATDC (at 1mm lift)	
	Valve clearance (cold)	IN	0.05 mm	0.002 in
		EX	0.05 mm	0.002 in
	Idle speed	1500 ± 100 rpm		
		Engine dry weight	17 kg	37.5 lb



HONDA

Z50R

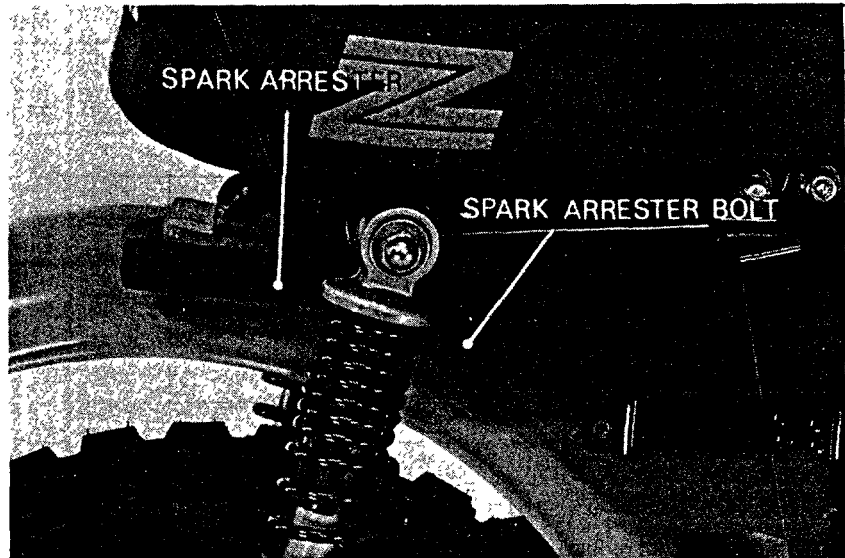
'80-'81 ADDENDUM

	Item	Metric	English	
Carburetion	Carburetor type	Piston valve		
	Venturi diameter	11 mm	0.43 in	
	Identification number	PA03C		
	Air screw opening	1-1/2		
	Float level	12.7±1 mm	0.50±0.04 in	
Drive train	Clutch	Wet multi-plate automatic (centrifugal)		
	Transmission	3-speed constant mesh		
	Primary reduction ratio	3.722		
	Gear ratio I	3.181		
	Gear ratio II	1.823		
	Gear ratio III	1.190		
	Final reduction ratio	3.083 (37/12)		
	Gear shift pattern	Left foot operated return system N-1-2-3		
Electrical	Ignition	A.C. magneto		
	Generator	Flywheel		
	Starting system	Kick start		
	Spark plug	U.S.A. type	NGK C6H	ND U20FS
		Canada type	NGK CR6HS	ND U20FSR-L
Spark plug gap	0.6-0.7 mm		0.024-0.028 in	



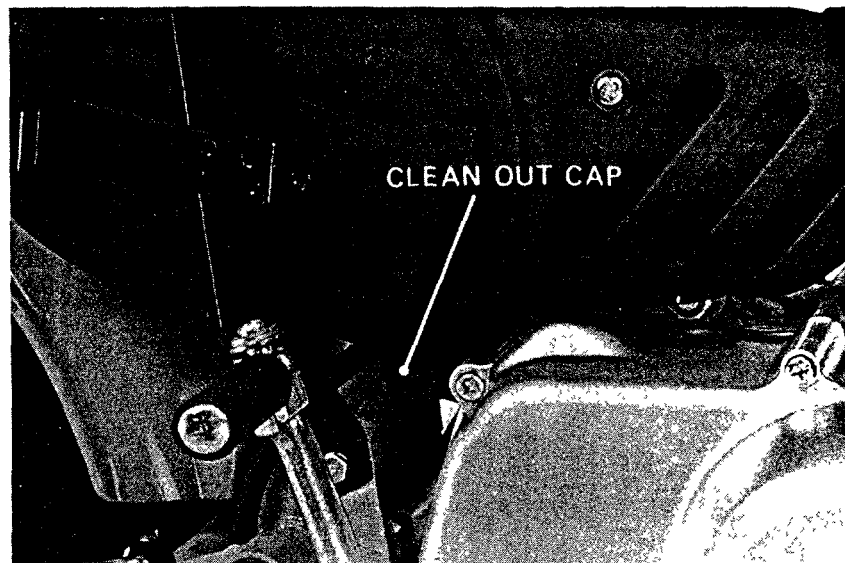
SPARK ARRESTER

Remove the right number plate. Remove the spark arrester from the exhaust pipe.



Remove the clean out cap. Start the engine and rev it about ten times while blocking the exhaust pipe with a shop towel.

Reinstall the clean out cap. Clean the spark arrester and reinstall it and the number plate.

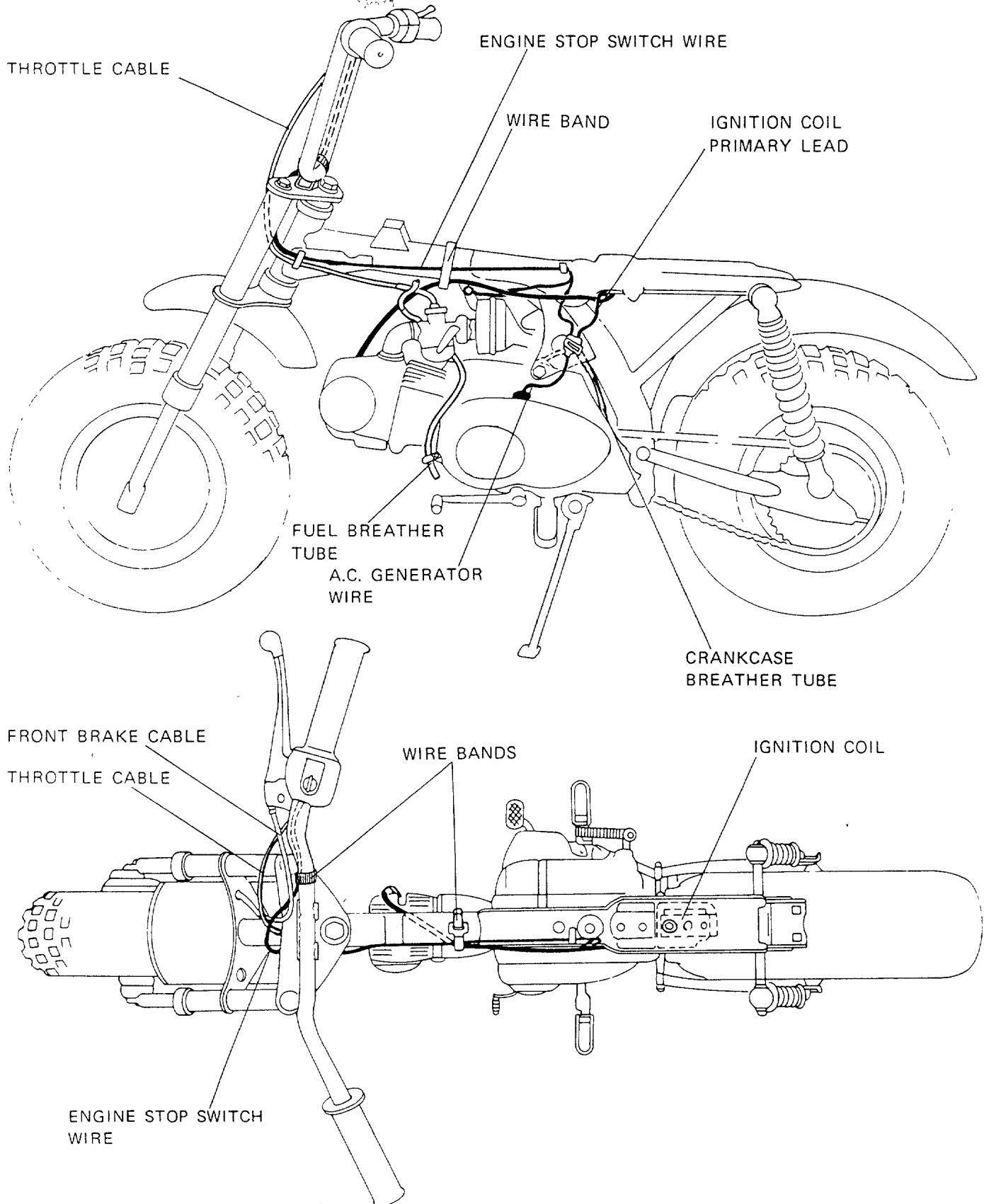


WARNING

- * Do not perform this operation immediately after the engine has been run because the exhaust system becomes very hot.
- * Because of the increased fire hazard ensure that there are no combustible materials in the area when purging the spark arrester.
- * Wear eye protection
- * Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.



CABLE AND WIRE HARNESS ROUTING





MAINTENANCE SCHEDULE

The maintenance intervals shown in the following schedule are based upon average riding conditions. Machines subjected to severe use, or ridden in unusually dusty areas, require more frequent servicing. Items marked * should be serviced by an authorized Honda dealer, unless the owner has proper tools and is mechanically qualified.

WARNING

To prevent personal injury, always make certain the engine is stopped and the motorcycle is supported securely on a level surface prior to performing any maintenance.

I: Inspect and Clean, Adjust, Lubricate or Replace if necessary
C: Clean R: Replace A: Adjust L: Lubricate

NOTE		INITIAL SERVICE PERIOD	REGULAR SERVICE PERIOD
(1) Replace every 30 operating days or every 3 months, whichever comes first.		(First week of operation.)	(Every 30 operating days.)
(2) Service more frequently when riding in dusty areas.			
ENGINE OIL	NOTE (1) (2)	R	R
* CONTACT BREAKER POINTS		I	I
* IGNITION TIMING		I	I
* VALVE CLEARANCE		I	I
SPARK PLUG			I
* CARBURETOR		I	I
AIR CLEANER ELEMENT	NOTE (2)		C
THROTTLE OPERATION		I	I
FUEL LINE			I (EVERY YEAR)
* FUEL FILTER SCREEN			C: (EVERY YEAR)
DRIVE CHAIN		I	I
* CLUTCH		I	I
SPARK ARRESTER			C
BRAKE CONTROL LINKAGE		I	I
* BRAKE SHOES			I: (EVERY YEAR)
* STEERING HEAD BEARING			A: (EVERY YEAR)
TIRES		I	I
ALL NUTS, BOLTS, FASTENERS		I	I



FUEL SYSTEM

CARBURETOR SPECIFICATIONS

WARNING

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

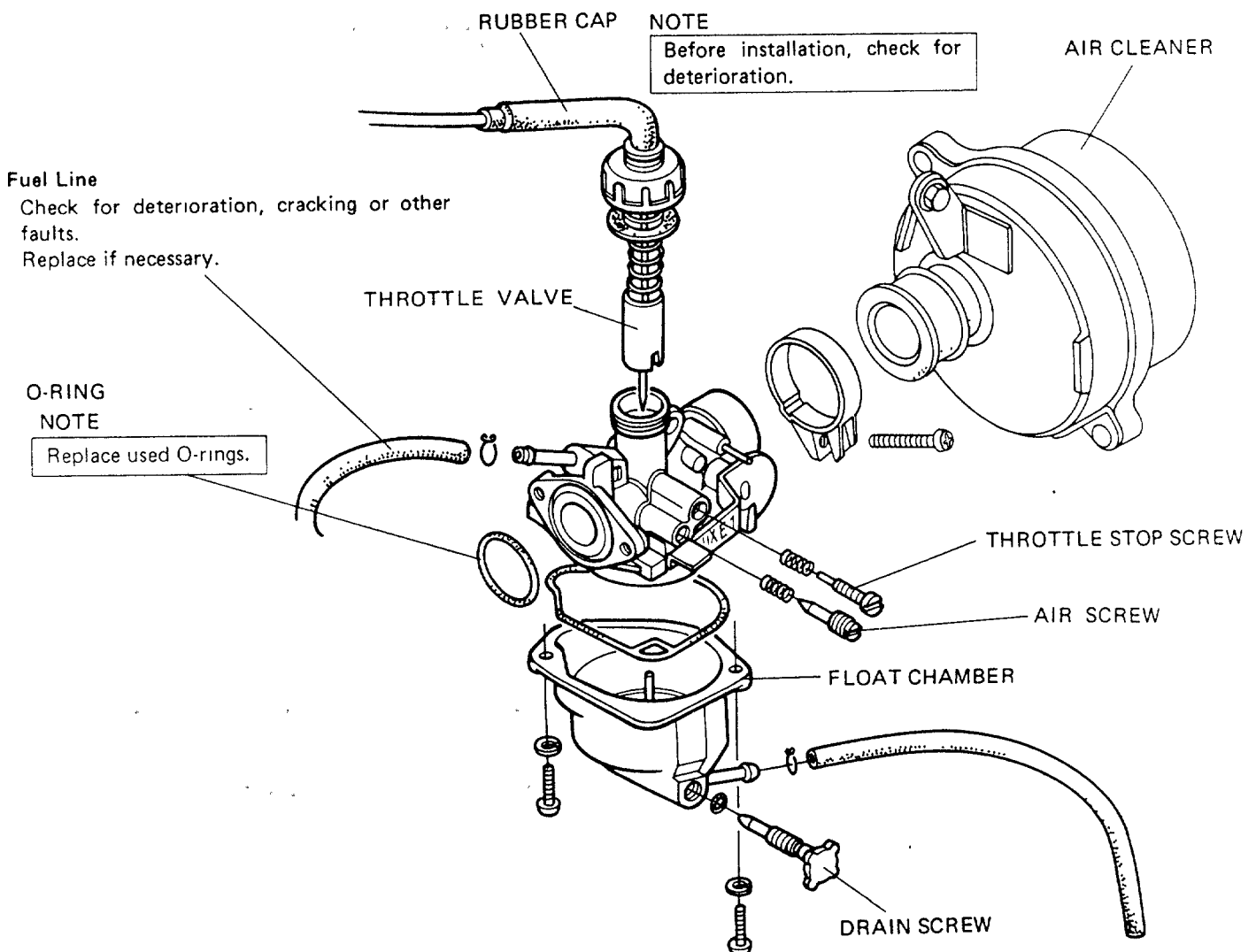
	Standard setting
Identification No.	PA03C
Main jet	#58
Jet needle setting	2nd (from top)
Air screw opening	1-1/2 turns out
Float level	12.7 ±1 mm
Idle speed	1,500 rpm

DISASSEMBLY AND ASSEMBLY

For details, refer to the base Z50R Shop Manual.

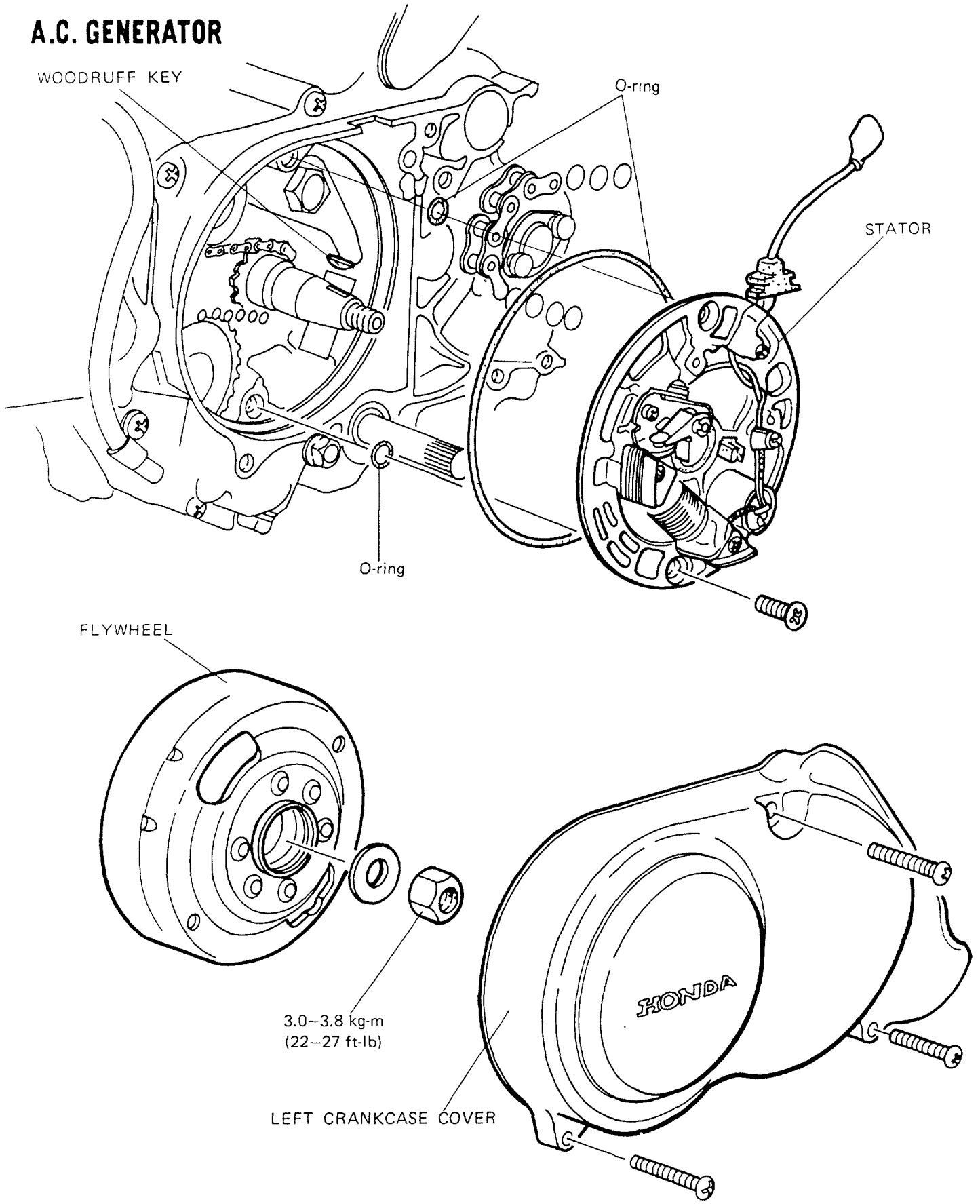
NOTE

When disassembling fuel system parts, note the location of the O-rings.
The float chamber has a drain plug that can be loosened to drain residual gasoline.





A.C. GENERATOR





WHEEL / BRAKE
SPECIFICATIONS

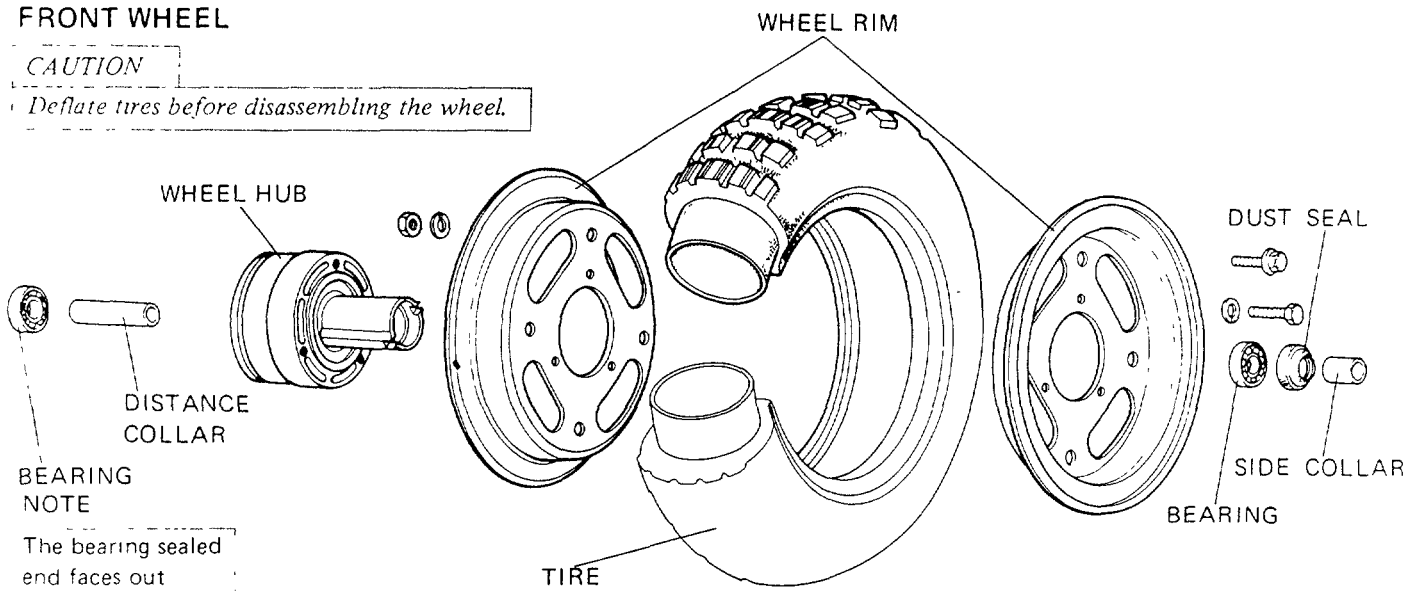
Item	STANDARD	SERVICE LIMIT
Brake lining thickness (front/rear)	3.5 mm (0.4 in)	2.0 mm (0.08 in)
Brake drum I.D (front/rear)	80.0 mm (3.15 in)	81.0 mm (3 19 in)

Front and rear axle nut torque ('81 model): 4.5-5.5kg-m(33-40ft-1b)

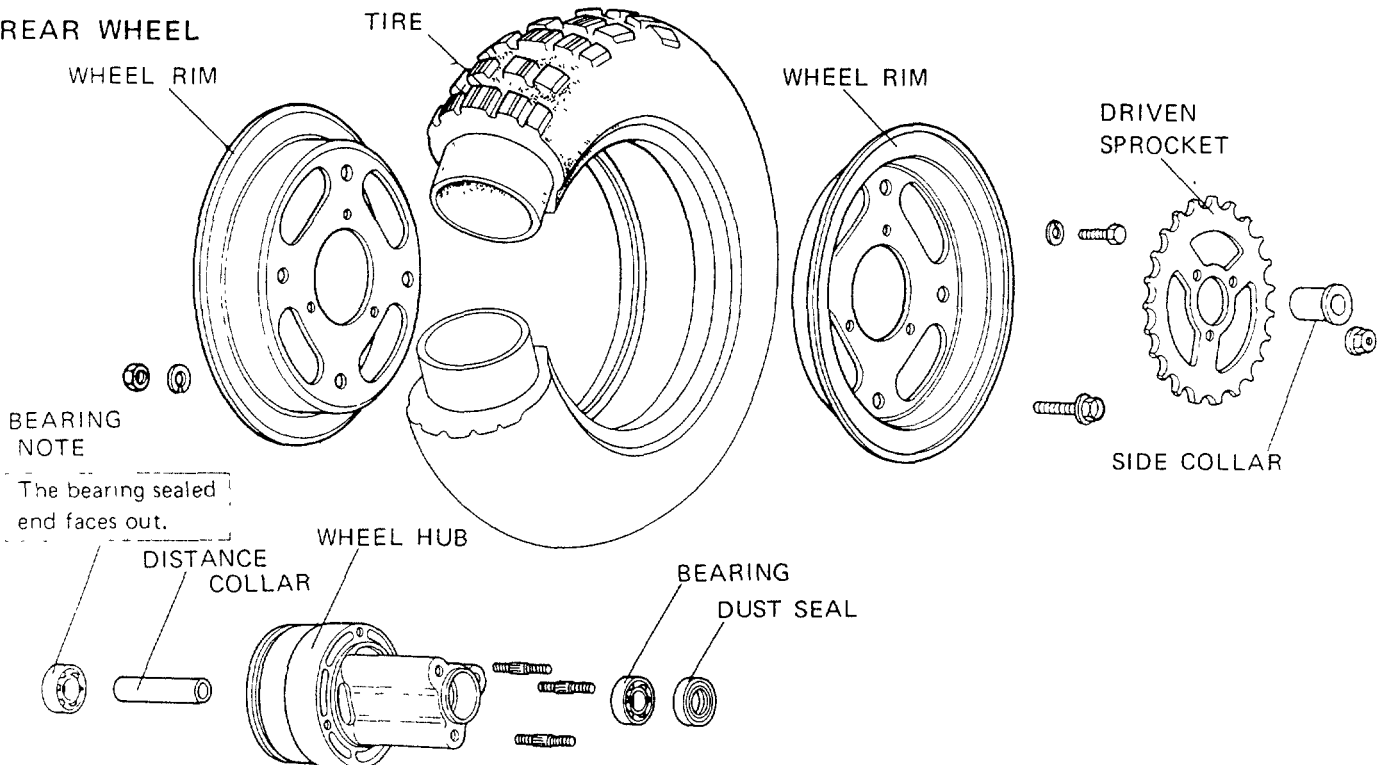
FRONT WHEEL

CAUTION

Deflate tires before disassembling the wheel.



REAR WHEEL





BRAKE LINING INSPECTION

Remove the wheel. Remove the brake panel from the wheel hub.

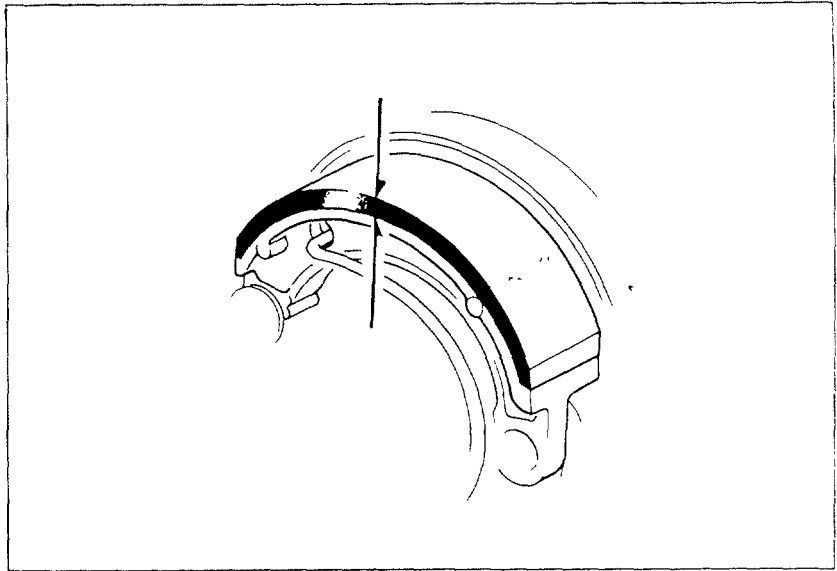
Measure the brake lining thickness.

SERVICE LIMIT. 2.0 mm (0.08 in)

Replace the brake shoes if necessary.

WARNING

Keep grease off the inside of the wheel hub and brake lining surfaces.

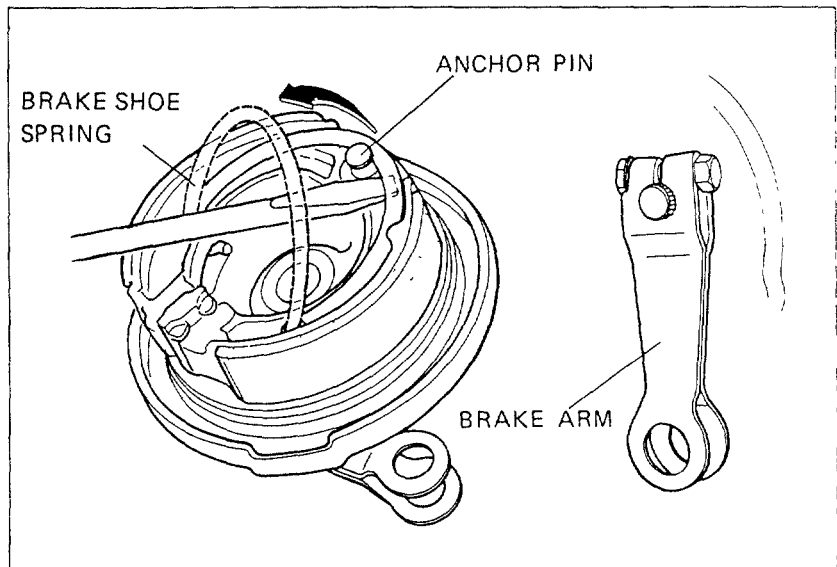


BRAKE SHOE REPLACEMENT

Remove the shoe spring from the anchor pin.
Remove the brake shoes from the brake panel.

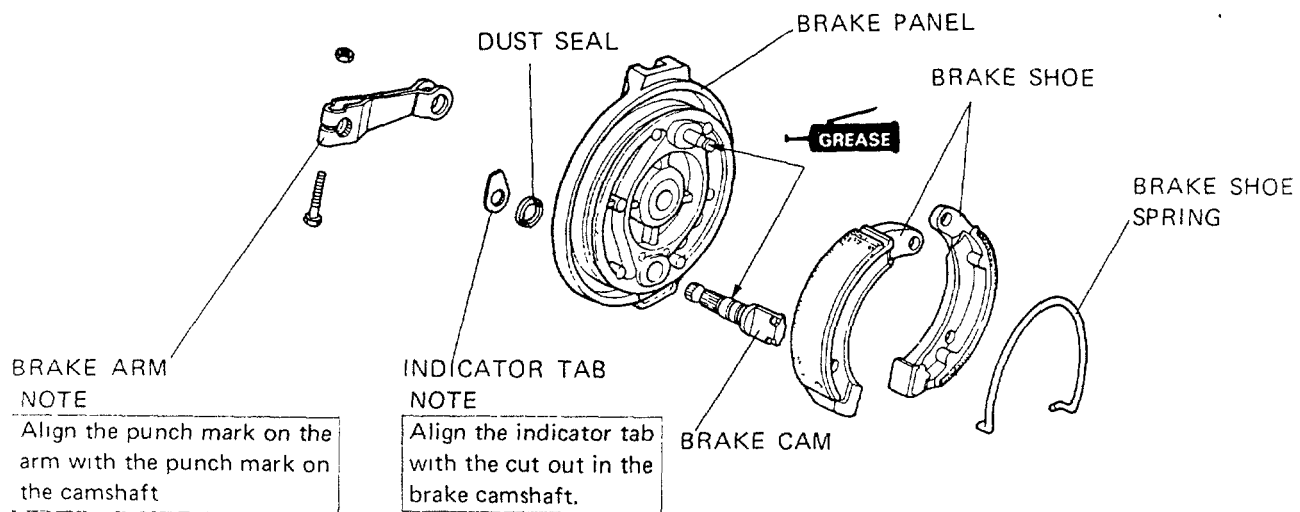
Remove the brake arm. Remove the brake cam and indicator tab.

Apply grease to the brake cam and brake shoe anchor pin.



BRAKE PANEL ASSEMBLY

Assemble the brake shoes in the reverse order of removal



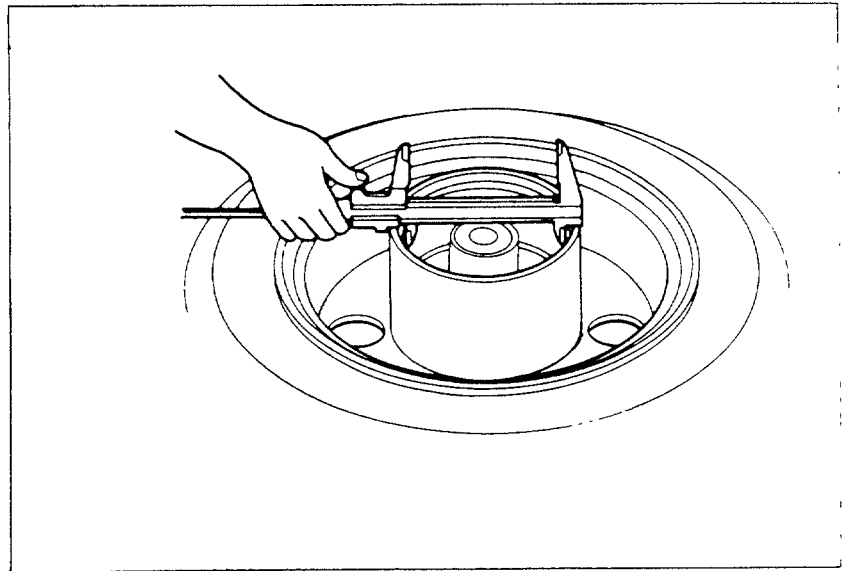


BRAKE DRUM I.D.

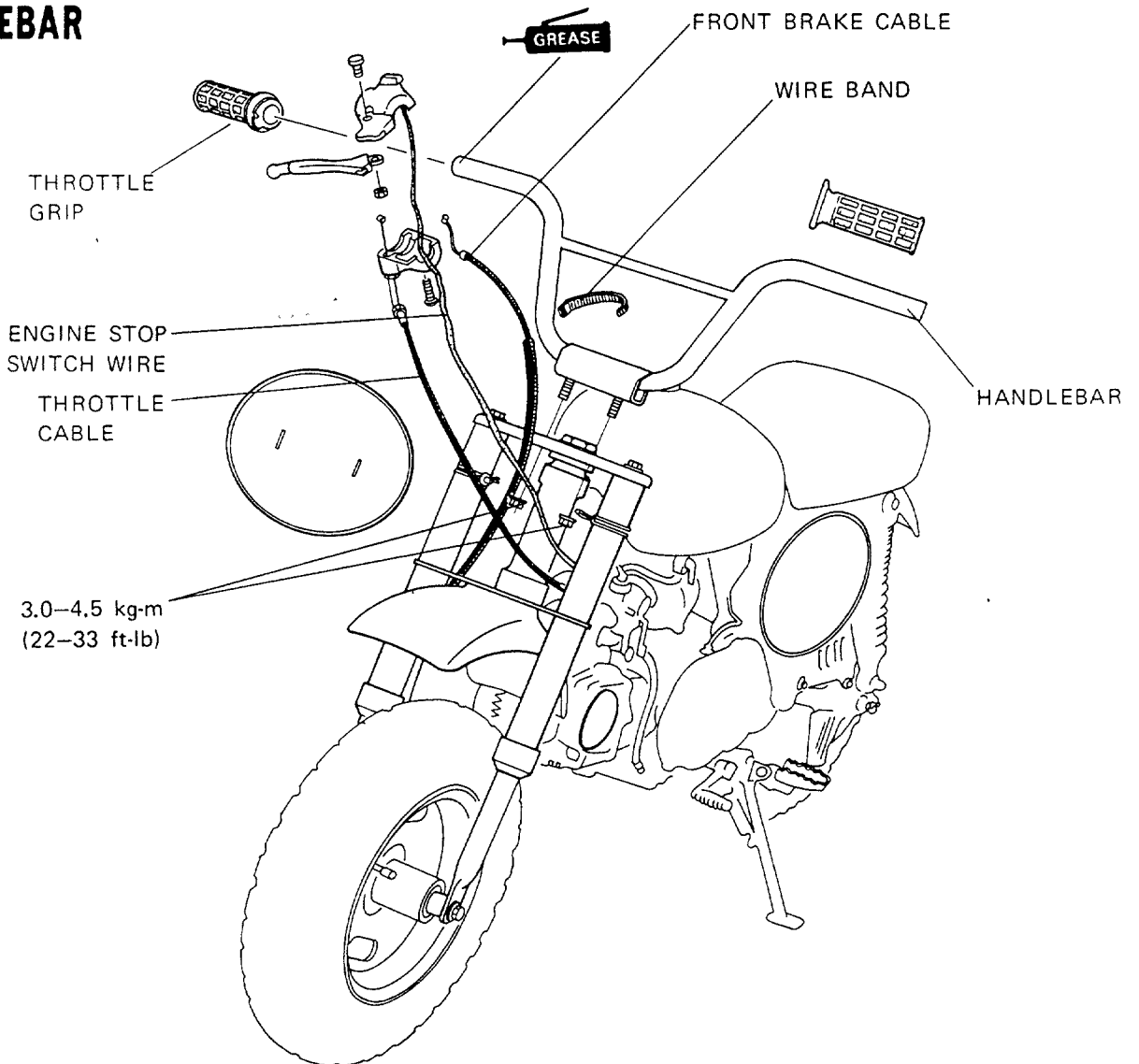
Clean the inside of brake drum using a clean cloth.

Measure the brake drum I.D.

FRONT and REAR
SERVICE LIMIT: 81.0 mm (3.19 in)

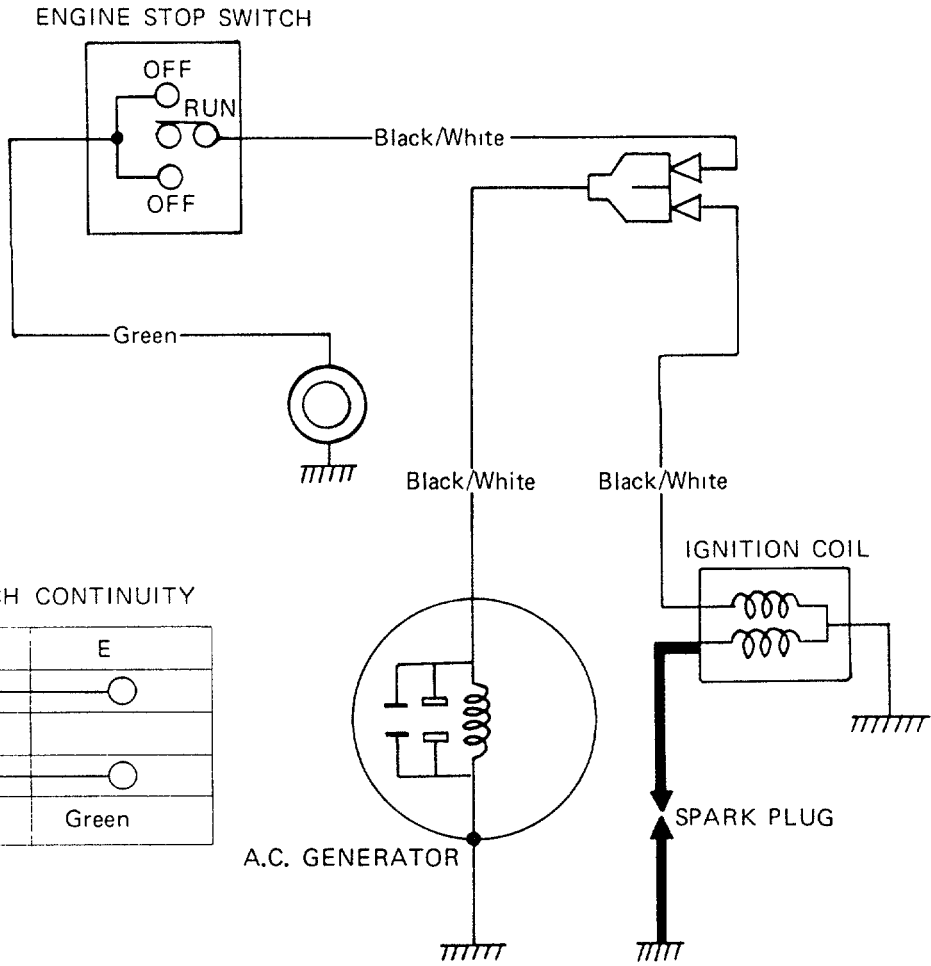


HANDLEBAR





WIRING DIAGRAM



ENGINE STOP SWITCH CONTINUITY

	IG	E
OFF		
RUN		
Color	Black/White	Green

A.C. GENERATOR

SPARK PLUG



INTRODUCTION

This addendum contains only new information for the 1982 Z50R. Refer to the base shop manual for service procedures and data not included here.

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- IV. CYLINDER HEAD/VALVES..... 17-5

I. SPECIFICATIONS

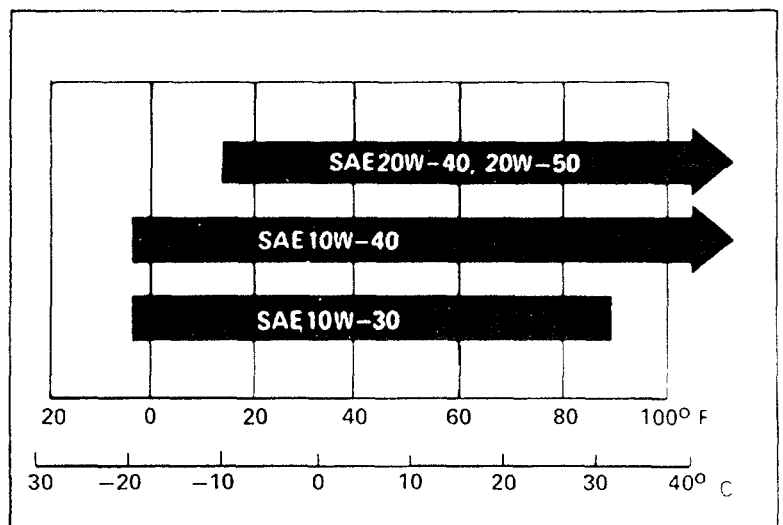
	ITEM	
ENGINE	Compression ratio	9.5:1
CARBURETION	Carb. identification no.	PA03D
DRIVE CHAIN	Final reduction ratio	2.846 (37/13)
ELECTRICAL	Spark plug	NGK CR6HS ND U20FSR-U

II. LUBRICATION

SPECIFICATIONS

Use HONDA 4-STROKE OIL or equivalent.
API SERVICE CLASSIFICATION SE or SF
VISCOSITY SAE10W-40

Other viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range

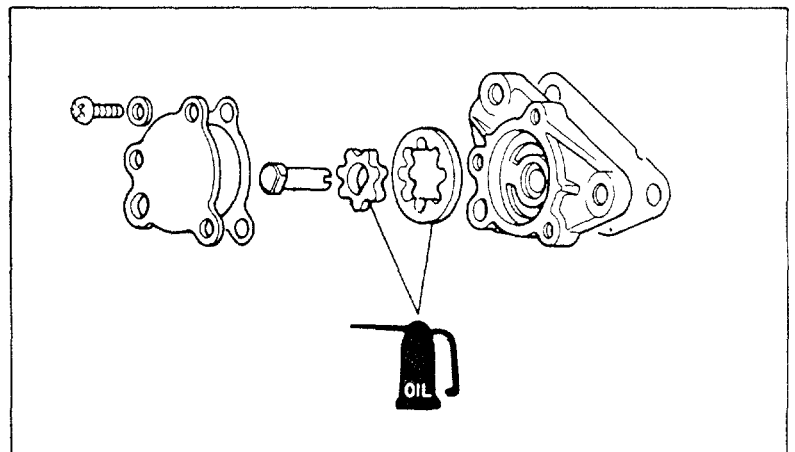


OIL PUMP ASSEMBLY

Align the flat on the shaft with the flat on the inner rotor. After assembling, check that the shaft rotates freely without binding.

INSTALLATION

With the gasket in place, install the oil pump by aligning the rotor shaft groove with the tang on the cam chain guide spindle.





III. FUEL SYSTEM

CARBURETOR SPECIFICATIONS

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

	Standard setting
Identification No.	PA03D
Main jet	# 58
Jet needle setting	2nd (from top)
Initial air screw opening	1 1/2 turns out
Float level	12.7 ± 1 mm
Idle speed	1,500 rpm

AIR SCREW REMOVAL/ INSTALLATION

Turn the air screw in and carefully count the number of turns before it seats lightly. Make a note of this to use as a reference when reinstalling the screw

CAUTION: Damage to the air screw and seat will occur if the air screw is tightened against the seat.

Inspect the air screw for wear and replace if necessary. Then reinstall the screw and return it to its original position as noted during removal

Perform the air screw adjustment if a new screw is installed

ADJUSTMENT

NOTE The air screw is factory pre-set and no adjustment is necessary unless the air screw is replaced

Turn the air screw clockwise until it seats lightly and back it out to the specification given. This is an initial setting prior to the final adjustment

INITIAL OPENING: 1 1/2 turns out

CAUTION: Damage to the air screw and seat will occur if the air screw is tightened against the seat.

Warm the engine up to operating temperature. Stop and go riding for 10 minutes is sufficient.

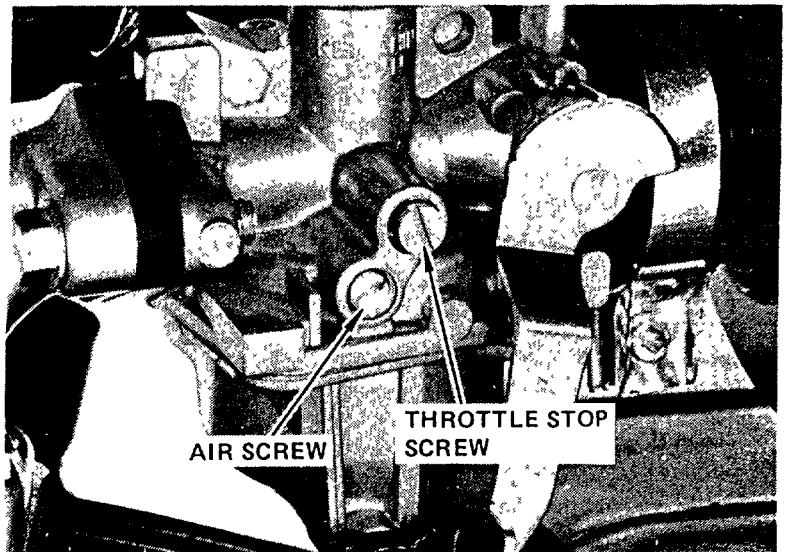
Connect a tachometer

Adjust the idle speed with the throttle stop screw

IDLE SPEED: 1,500 ± 100 rpm

Turn the air screw in or out to obtain the highest engine speed.

Readjust the idle speed to 1,500 ± 100 rpm, using the throttle stop screw.





HIGH ALTITUDE ADJUSTMENT

For sustained high altitude operation (above 2,000 m/6,500 ft) install a # 55 main jet, reset the jet needle clip, and readjust idle speed

Remove the carburetor from the engine and remove the float chamber

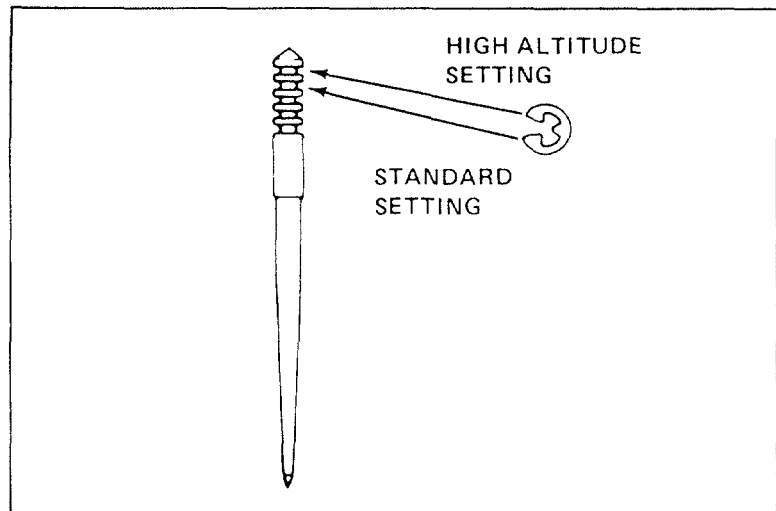
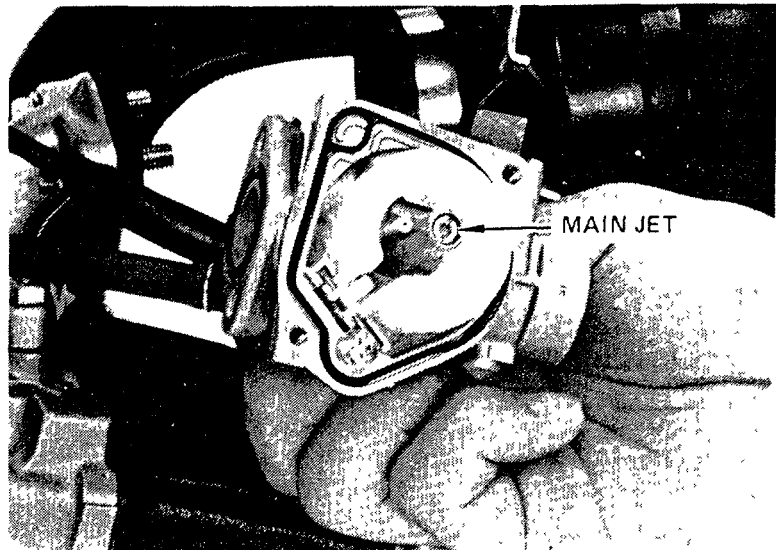
Replace the standard main jet with the # 55 high altitude main jet

Move the jet needle clip to the first groove on the needle

Assemble and install the carburetor

Adjust idle speed to $1,500 \pm 100$ rpm, using the throttle stop screw

CAUTION: Sustained operation at altitudes lower than 1,500 m (5,000 ft) with the high altitude main jet installed may cause engine overheating and damage. For sustained operation below 1,500 m (5,000 ft), reinstall the standard main jet (# 58), reset the jet needle clip, and readjust the idle speed.



	Standard 2,000 m (6,500 ft) max	High altitude 1,500 m (5,000 ft) min
Main jet	# 58	# 55
Jet needle clip	2nd (from top)	1st (from top)
Idle speed	$1,500 \pm 100$ rpm	
Air screw opening	Factory pre-set	

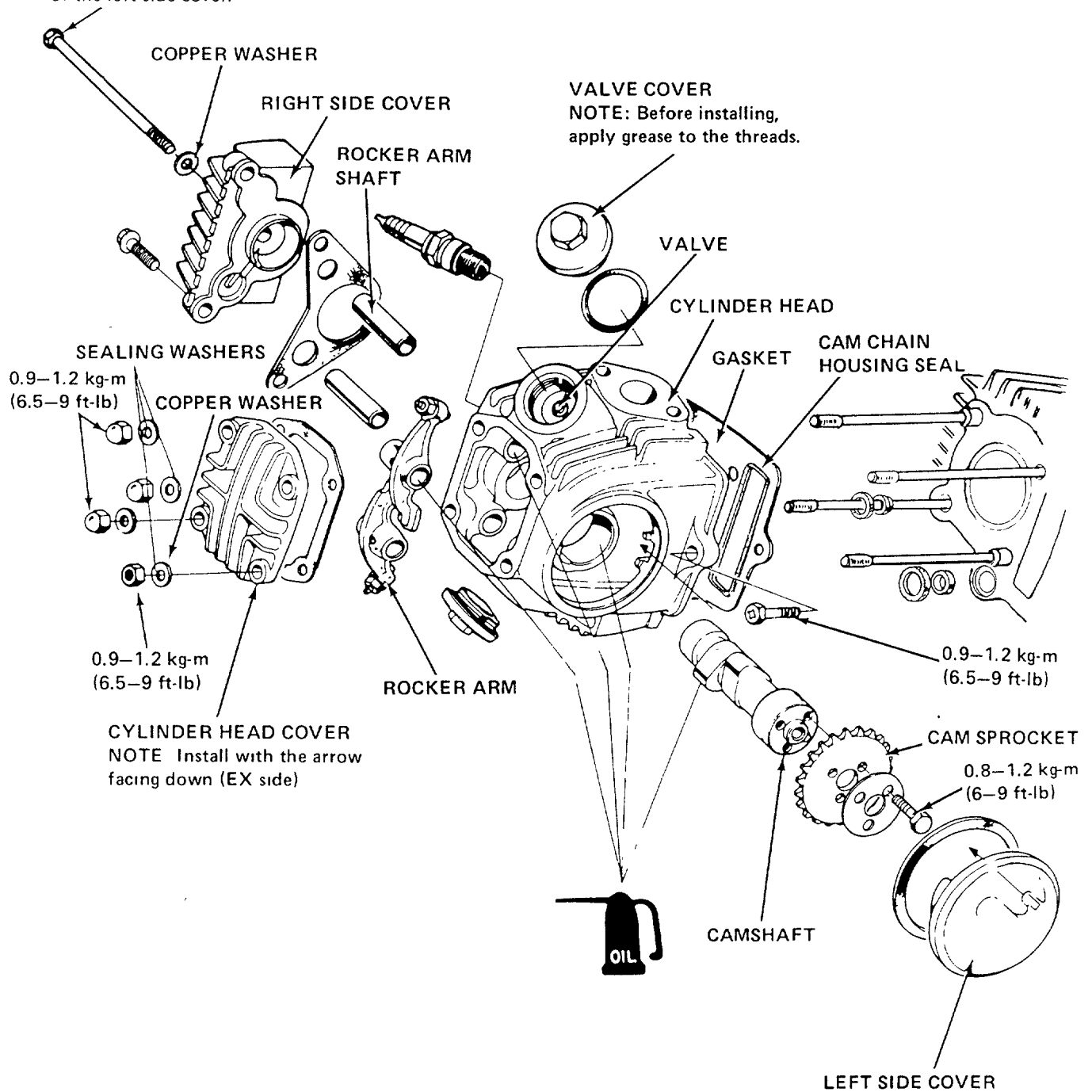


IV. CYLINDER HEAD/VALVES

DISASSEMBLY AND ASSEMBLY

6 mm BOLT

Loosen this bolt slightly and lightly tap on its head to facilitate removal of the left side cover.



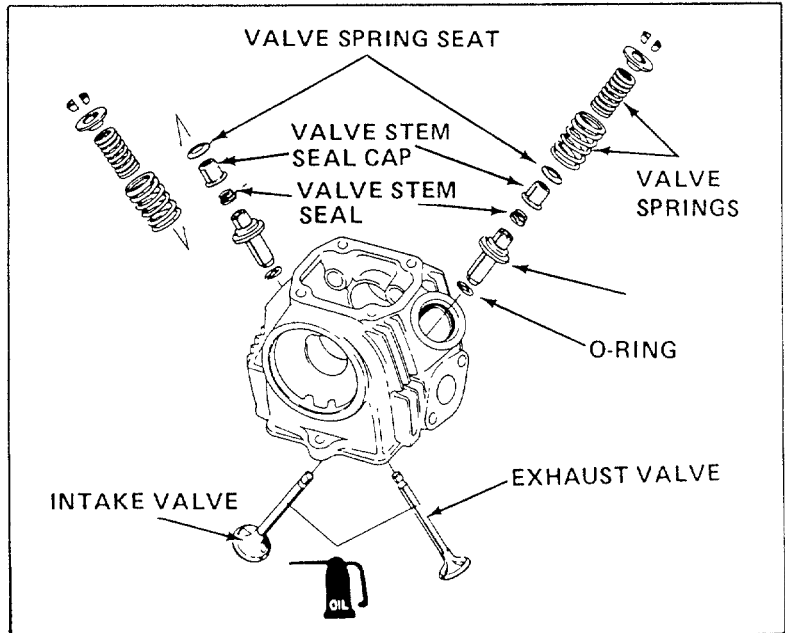
SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Camshaft lobe height	IN	27.945 mm (1.100 in)	27.55 mm (1.085 in)
	EX	26.076 mm (1.026 in)	25.69 mm (1.011 in)
Valve spring free length	inner	25.1 mm (0.988 in)	23.9 mm (0.940 in)
	outer	28.1 mm (1.106 in)	26.9 mm (1.059 in)

VALVE DISASSEMBLY

Remove the valve and inspect the face. If the seat is too wide, too narrow, or has low spots, the seat must be ground.

NOTE After installing, check that the cotters are seated properly.



NOTE Follow the valve refacer manufacturer's operating instructions.

PILOT BAR "A"
07781-0010100

