Introduction

This service manual describes the service procedures for the MAGNA VF750C/CD.

This Model Specific Manual includes every service procedure that is of a specific nature to this particular model. Basic service procedures that are common to other Honda Motorcycle/Motor Scooter/ATVs are covered in the Common Service Manual. This Model Specific Service Manual should be used together with the Common Service Manual in order to provide complete service information on all aspects of this motorcycle.

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the standards set by the U.S.Environmental Protection Agency and the California Air Resources Board. Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 and 3 apply to the whole motorcycle.
Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections.
Sections 4 through 19 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 the first page of the section.

Most sections describe the service procedure through system illustration. Refer to the next page for details on how to use this manual.

If you are not familiar with this motorcycle, read Technical Feature in section 20.

If you don't know the source of the trouble, go to section 21 Troubleshooting.

HONDA MOTOR CO., LTD.
Service Publications Office

Contents

Date of Issue: June, 1994

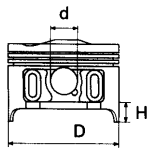
Unit: mm (in)

Clutch System

Item	Standard	Service Limit
Clutch lever free play	10–20 (0.4–0.8)	—
Clutch outer guide I.D.	24.995–25.012 (0.9841–0.9847)	25.08 (0.987)
Clutch spring free length	44.4 (1.75)	41.2 (1.62)
Clutch disc thickness A	2.92–3.08 (0.115–0.121)	2.5 (0.10)
B (Judder spring side)	2.92–3.08 (0.115–0.121)	2.5 (0.10)
Clutch palte warpage	—	—

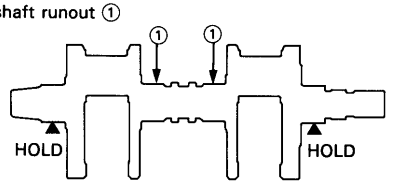
Cylinder/Piston

Cylinder I.D.	70.000–70.015 (2.755–2.756)	70.10 (2.759)
Cylinder out of round	—	0.10 (0.004)
Cylinder taper	—	0.10 (0.004)
Cylinder warpage	—	0.10 (0.004)
Piston mark direction	With "IN" mark facing to the intake side	—
Piston O.D. (D)	69.970–69.990 (2.755–2.756)	69.85 (2.750)
Piston O.D. measurement point (H)	10 (0.4)	—
Piston pin hole O.D. (d)	17.002–17.008 (0.6694–0.6695)	17.02 (0.670)
Cylinder-to-piston clearance	0.010–0.035 (0.0004–0.0014)	—
Piston pin O.D.	16.994–17.000 (0.6691–0.6693)	16.98 (0.669)
Piston-to-piston pin clearance	0.002–0.014 (0.0001–0.0005)	—
Connecting rod-to-piston clearance	0.016–0.040 (0.0006–0.0016)	—
Top ring-to-ring groove clearance	0.015–0.050 (0.0006–0.0019)	0.10 (0.04)
Second ring-to-ring groove clearance	0.015–0.045 (0.0006–0.0018)	0.10 (0.004)
Top ring end gap	0.20–0.35 (0.008–0.014)	0.5 (0.02)
Second ring end gap	0.35–0.50 (0.014–0.020)	0.7 (0.03)
Oil ring (side rail) end gap	0.20–0.80 (0.008–0.031)	1.00 (0.039)
Top ring mark	Install with the marked side up	—
Second ring mark	Install with the marked side up	—



Crankshaft

Connecting rod small end I.D.	17.016–17.043 (0.6699–0.6706)	17.04 (0.671)
Connecting rod big end side clerance	0.10–0.30 (0.004–0.012)	0.40 (0.016)
radial clearance	—	—
Crankshaft runout ①	—	0.05 (0.002)
Crankpin oil clearance	0.030–0.052 (0.0012–0.0020)	0.08 (0.003)
Connecting rod bearing selection	See page 11-9	—
Main journal oil clearance	0.019–0.037 (0.0007–0.0015)	0.05 (0.019)
Main journal bearing selection	See page 11-8	—



Engine

Location	Material	Remarks
Right crankcase cover rubber plate bolt threads Drive chain guard bolt threads Crankcase sealing bolt threads Oil pump driven sprocket bolt threads Cam chain tensioner slipper bolt threads Cam chain slipper bolt threads Mainshaft bearing set plate bolt threads Shift drum bearing set plate bolt threads Shift drum center bolt Starter clutch outer cover bolt Oil filter stud bolt threads Cylinder head sealing bolt threads	Locking agent	Clean and apply to the threads Apply area: 5.5—7.5 mm
Oil pressure switch threads Thermo sensor threads	Liquid sealant	
Lower crankcase bolt (9 mm) threads Cylinder head bolt (9 mm) threads and flange surface Camshaft holder bolt (6 mm) threads and flange surface Piston sliding surface pin hole ring Connecting rod bolt and nut threads Starter clutch bolt threads and seating surface Flywheel bolt threads and seating surface Oil filter threads Clutch disc lining surface Clutch center lock nut Each bearing	Engine oil	
Clutch lifter guide Timing hole cap threads Each oil seal lips Each O-ring	Multi-purpose grease	

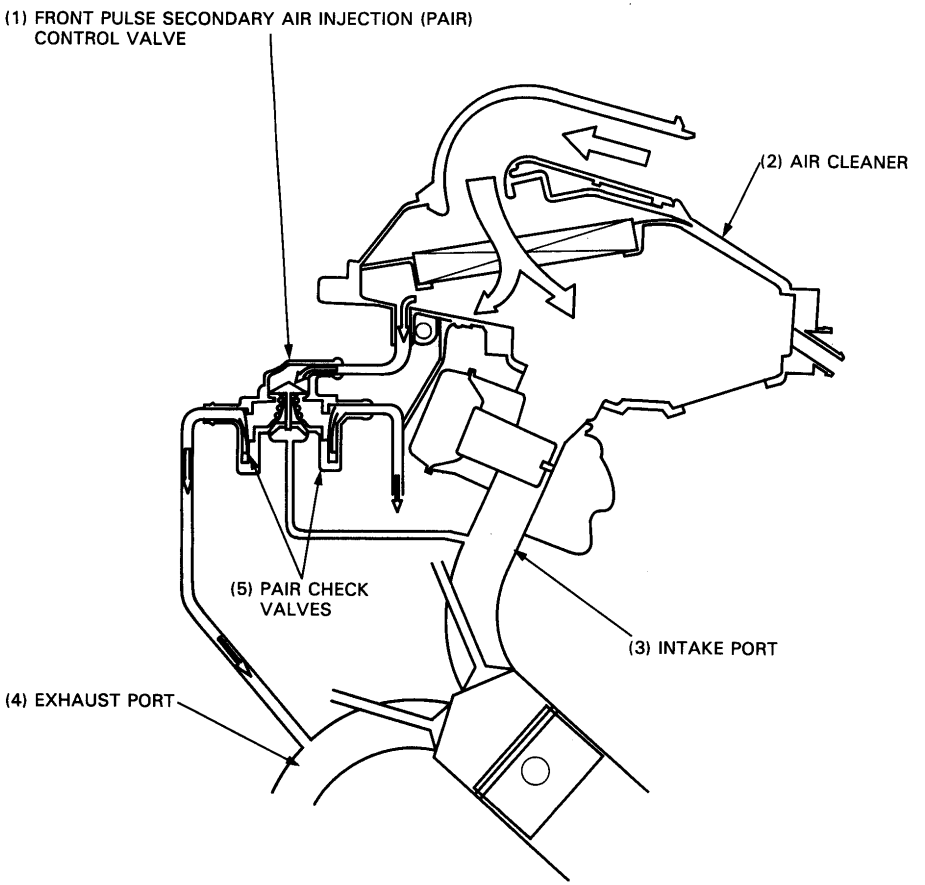
Exhaust Emission Control System (Pulse Secondary Air Injection System)

California type only

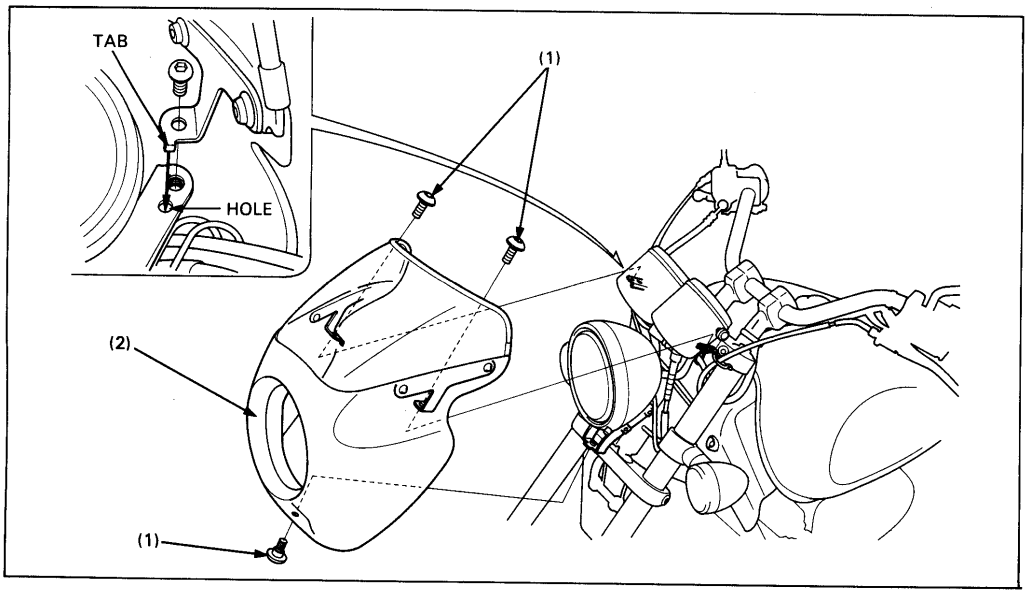
The exhaust emission control system consists of a pulse secondary air injection system which introduces filtered air into the exhaust gases in the exhaust port. Fresh air is drawn into the exhaust port whenever there is a negative pressure pulse in the exhaust system. This charge of fresh air promotes burning of the unburned exhaust gases and changes a considerable amount of hydrocarbons and carbon monoxide into relatively harmless carbon dioxide and water vapor.

This model has two pulse secondary air injection control valves with built-in check valves. The PAIR check valves prevent reverse air flow through the system. The pulse secondary air injection control valve reacts to high intake manifold vacuum and will cut off the supply of fresh air during engine deceleration, thereby preventing afterburn in the exhaust system.

No adjustments to the secondary air supply system should be made, although periodic inspection of the components is recommended.



Upper Fairing Removal/Installation (VF750CD)



CAUTION

- **Do not scratch and damage the windscreen.**

	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Upper fairing mounting bolt	3	
(2)	Upper fairing	1	At installation, align the tab of the upper fairing stay with the hole of the cable guige.

Locate the crimped pin ends of the master link from the outside of the chain and remove the link with the drive chain cutter.

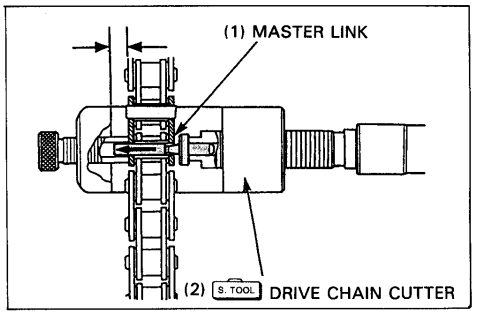
S. TOOL

Drive chain cutter — **07HMH—MR10102 or 07HMH—MR1010B (U.S.A. only)**

NOTE

- When using the special tool, follow the manufacture's operating instructions.

Remove the drive chain.



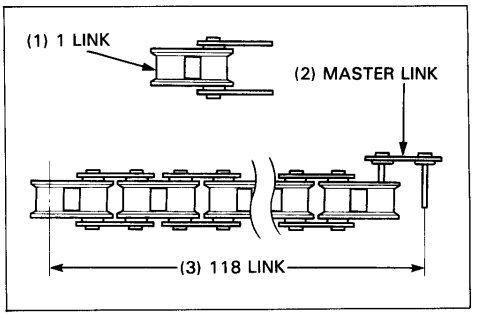
Remove the excess drive chain links from the new drive chain with the drive chain cutter.

NOTE

- Include the master link when you count the drive chain links.

Standard link: 118 link

Replacement chain: RK 50 MF0Z1
: DID 50 V4



S. TOOL

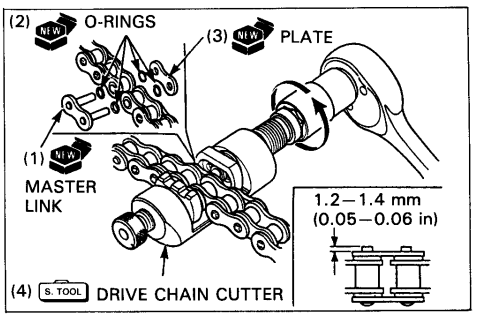
Drive chain cutter — **07HMH—MR10102 or 07HMH—MR1010B (U.S.A. only)**

Link plate holder — **07NMH—MW00110 or 07PMH—MZ20110**

CAUTION

- **Never reuse the old drive chain, master link, master link plate and O-rings.**

Install the new drive chain. Assemble the new master link, O-rings and plate.



CAUTION

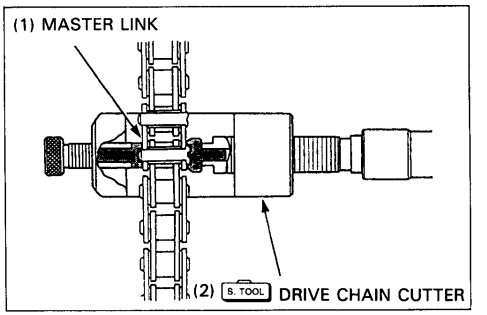
- **Insert the master link from the inside of the drive chain and install the plate with the identification mark facing the outside.**

Assemble and set the drive chain cutter.

Make sure that the master link pins are installed properly. Measuring the master link pin length projected from the plate.

Standard length: 1.2—1.4 mm (0.05—0.06 in)

Stake the master link pins.



⚠ WARNING

- **Gasoline is extremely flammable and is explosive under certain conditions.**

- Work in well ventilated area. Smoking or allow flames or sparks in the working area or where gasoline is stored can cause a fire or explostion.

NOTE

- Route the cables and tubes properly (page 1-20).

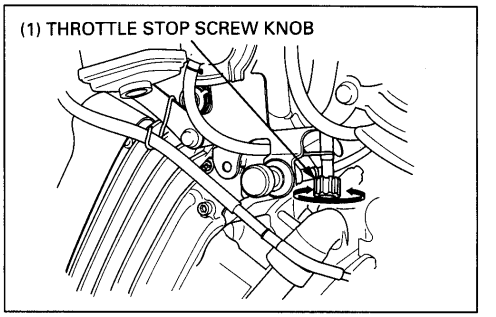
Requisite Service

- Air cleaner housing removal/installation (page 5-3)
- Carburetors draining

	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Choke cable	1	Remove the choke cable from the left middle cover stay.
(2)	Throttle stop screw	1	Remove the throttle stop cable from the left middle cover stay.
(3)	Sub-air cleaner case tube	1	
(4)	No. 5 vacuum tube (from the 3 way joint)	1	California type only
(5)	No. 11 vacuum tube (from the No. 1 carburetor)	1	California type only
(6)	No. 10 vacuum tube (from the 3way joint)	1	California type only
(7)	Left middle cover stay assembly	1	Disconnect the ignition switch connector.
(8)	Fuel tube	1	
(9)	No. 6 vacuum tube (from the AVCV)	1	California type only
(10)	Throttle cable	2	
(11)	Connecting tube band screw	4	Only loosen.
(12)	Carburetor assembly	1	

Start the engine.
Turn the throttle stop screw knob and adjust the idle speed.

Idle speed: 49 states type: 1,000 ± 100 rpm
California type: 1,100 ± 100 rpm
Canadian type: 1,000 ± 100 rpm

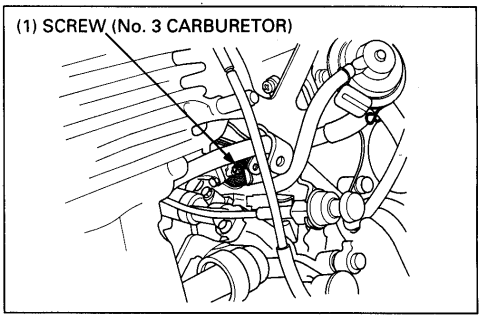


Check the each carburetor intake vacuum pressure is within 20 mm (0.8 in) Hg of the base carburetor.

NOTE

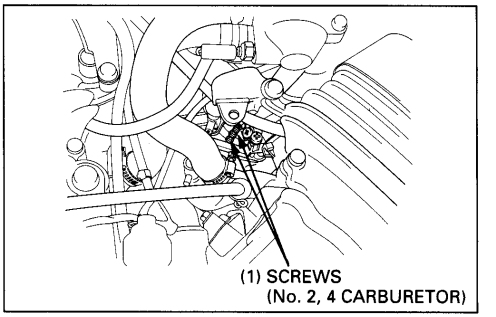
- The base carburetor is the No. 1 carburetor.

Synchronize to specification by turning the adjusting screws.

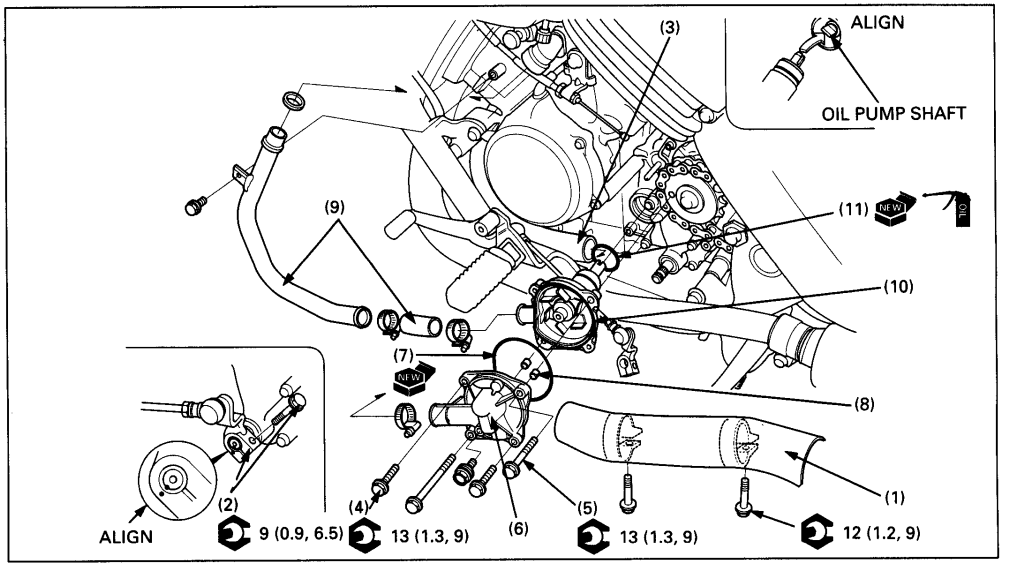


Recheck the idle speed and each cylinder intake vacuum pressure so it is within 20 mm (0.8 in) Hg of the base carburetor reading after snapping the throttle grip 3 – 4 times.

Remove the vacuum gauge and adaptors.



Water Pump Removal/Installation

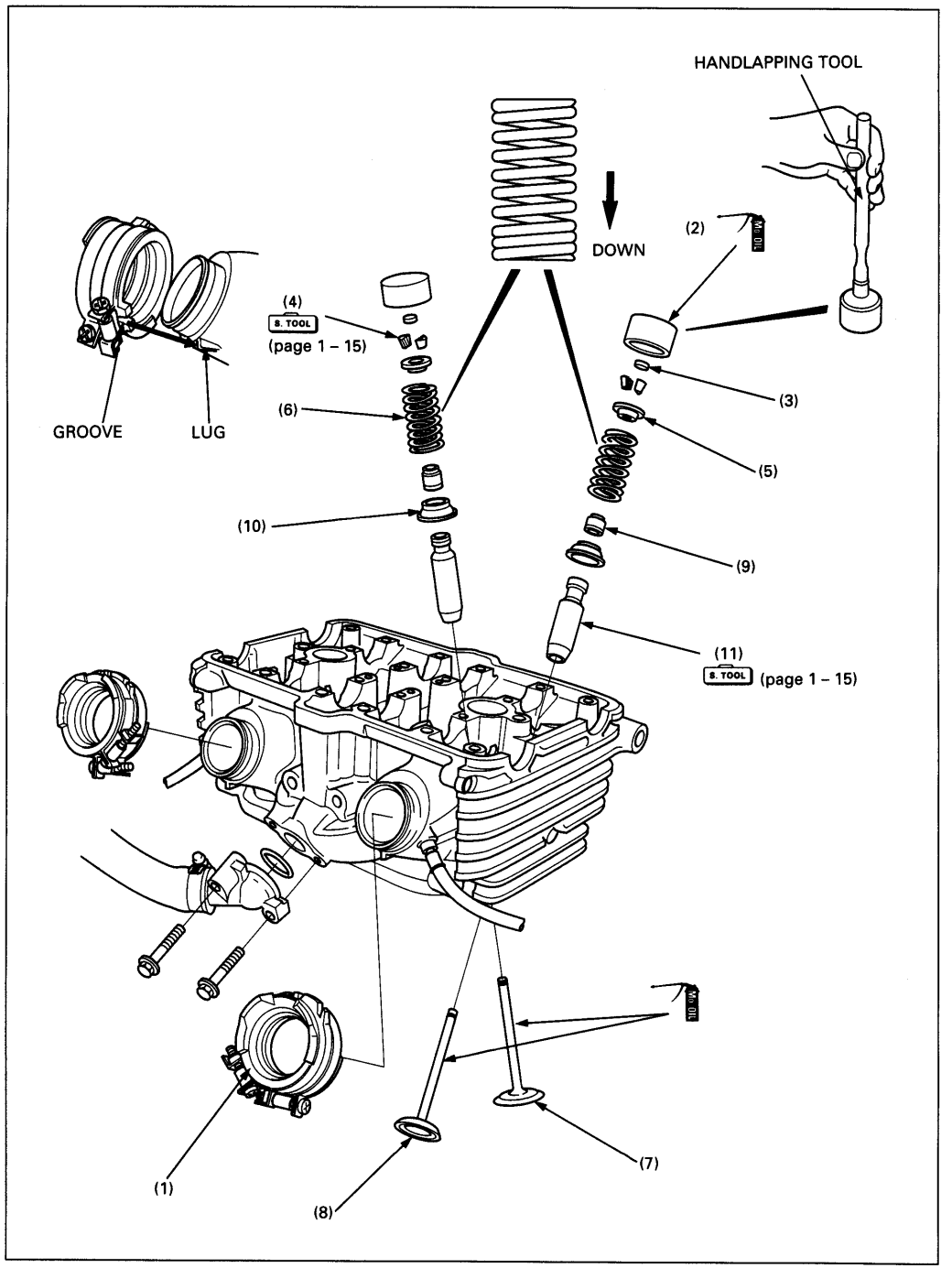


Requisite Service

- Coolant draining (page 6-3)
- Drive sprocket cover removal/installation (page 10-2)
- Coolant refill (Section 5 of the Common Service Manual)

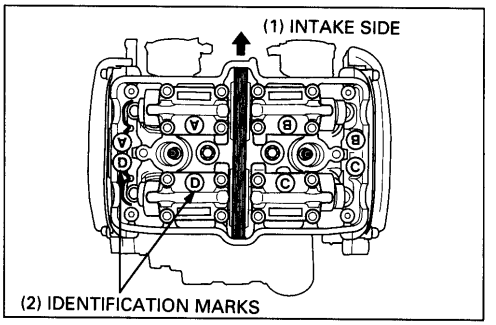
	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Exhaust pipe protector	1	
(2)	Gearshift link joint bolt/joint	1/1	
(3)	Radiator lower hose	1	Loosen the clamp screw and disconnect the hose.
(4)	Water pump cover bolt	2	
(5)	Water pump mounting bolt	2	
(6)	Water pump cover	1	
(7)	O-ring	1	
(8)	Dowel pin	2	
(9)	Pump-to-engine hose	1	Loosen the hose clamp screw and disconnect it.
(10)	Water pump body	1	At installation, align the cut-out of the water pump shaft with the oil pump shaft.
(11)	O-ring	1	At installation, apply the engine oil to the new O-ring.

Cylinder Head Disassembly/Assembly



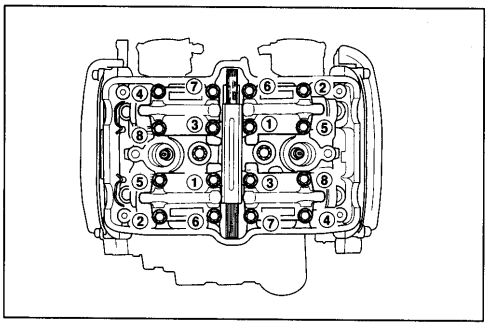
Install the camshaft holders in the correct positions, checking the indetification marks on the holders and cylinder head.

Install the cam chain guide.

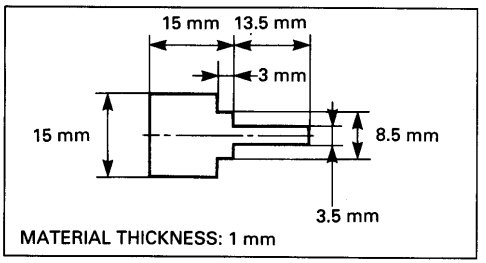


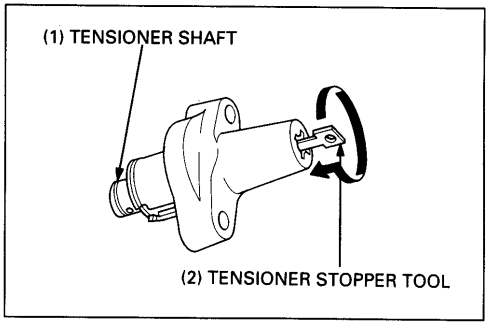
Torque the cam shaft holder bolts in the sequence as shown.

Torque: 12 N·m (1.2 kg-m, 9 ft-lb)



Turn the cam chain tensioner shaft completely in (clockwise) and secure it using the stopper tool.
This tool can easily be made from a thin (1 mm thickness) piece of steel.

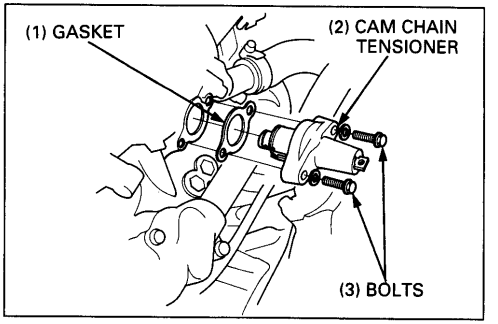




Install a new gasket and cam chain tensioner.

Torque the cam chain tensioner mounting bolts.

Torque: 12 N·m (1.2 kg-m, 9 ft-lb)



10. Gearshift Linkage

Service Information

- The gearshift linkage maintenance can be done with the engine in the frame.
- Never allow foreign materials to get into the engine.

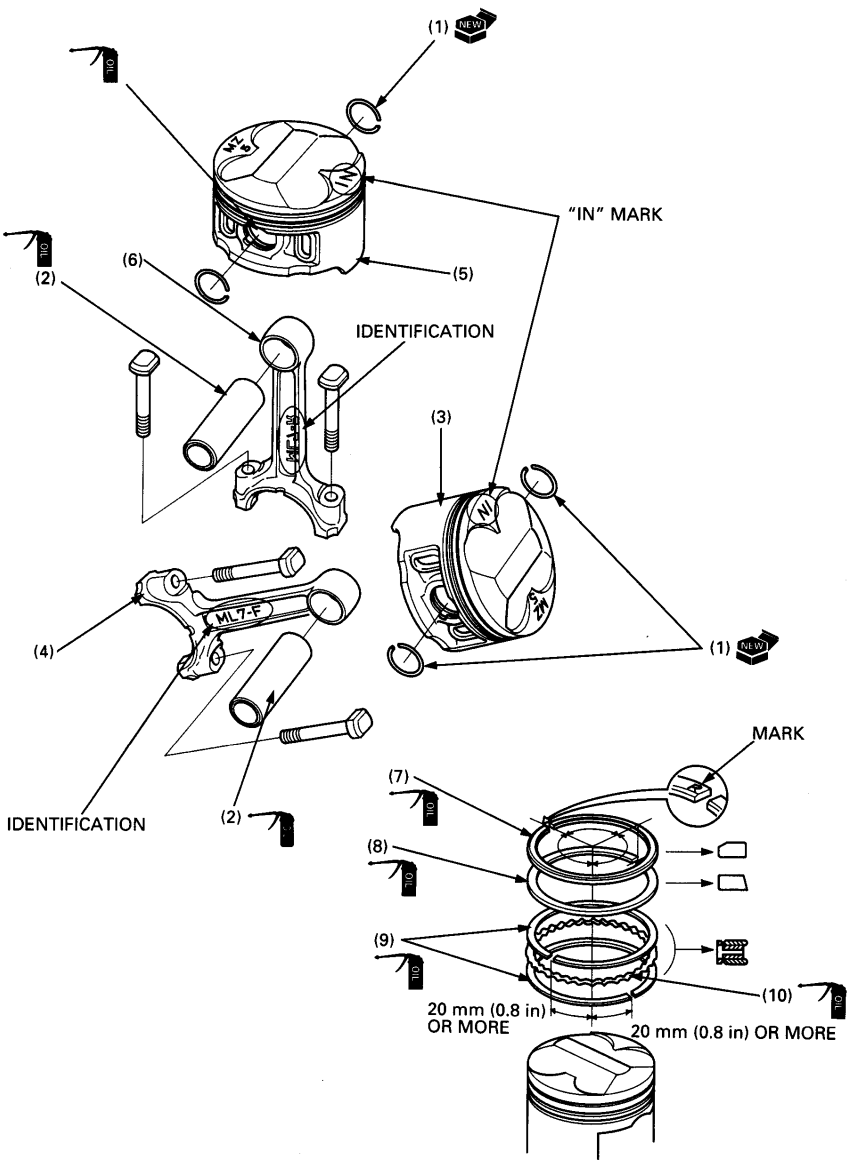
Troubleshooting

Hard To Shift
- Improper oil viscosity
- Incorrect clutch adjustment
- Bent shift forks
- Bent shift fork shaft
- Bent fork claw
- Loose stopper plate bolt
- Damaged stopper plate and pin
- Damaged gearshift spindle
- Damaged shift drum groove
- Damaged guide pin

Transmission Jumps Out Of Gear
- Worn shift drum stopper arm
- Worn gear engagement dogs or slots
- Weak or broken shift arm return spring
- Loose stopper plate bolt
- Damaged or bent shift fork

Gearshift Pedal Will Not Return
- Weak or broken gearshift spindle return spring
- Bent gearshift spindle

Piston Disassembly/Assembly



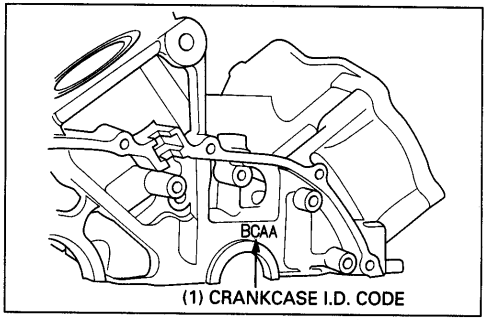
Crankshaft Bearing Replacement

Main Journal Bearing Selection

Record the crankcase I.D. code letters from the pad on the left side of the upper crankcase.

NOTE

- The letters (A, B or C) on the upper crankcase are the codes for the main journal I.D.s. from the left to right.

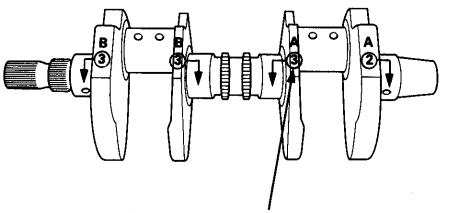


(1) CRANKCASE I.D. CODE

Record the corresponding main journal O.D. code numbers from the crank weight.

NOTE

- The numbers (1, 2 or 3) on the crank weight are the codes for the main journal O.D.s.



(1) MAIN JOURNAL O.D. CODE

Cross-reference the case and journal codes to determine the replacement bearing color codes.

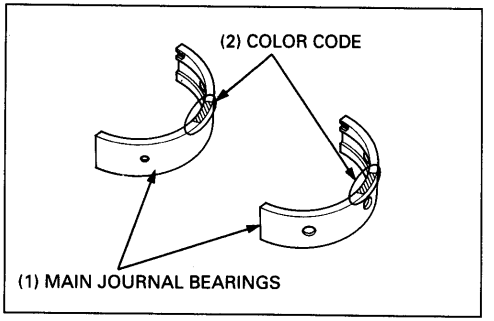
Main Journal Bearing Selection Table:

Unit: mm (in)

Crankcase I.D. code / Main journal O.D. code		A	B	C
		37.000 – 37.005 (1.4567 – 1.4569)	37.006 – 37.011 (1.4569 – 1.4572)	37.012 – 37.018 (1.4572 – 1.4574)
1	34.007 – 34.013 (1.3389 – 1.3391)	Yellow	Green	Brown
2	34.001 – 34.006 (1.3386 – 1.3388)	Green	Brown	Black
3	33.995 – 34.000 (1.3368 – 1.3385)	Brown	Black	Blue

Bearing thickness:

Blue: Thick
Black: ↑
Brown:
Green: ↓
Yellow: Thin



CAUTION

- **Support the removed caliper so that it does not hang from the brake hose. Do not twist the brake hose.**

NOTE

- If the fork legs will be disassembled, temporarily tighten the bottom bridge pinch bolt to loosen the fork cap.

Requisite Service

- Front wheel removal/installation (page 12-4)
- Upper fairing removal/installation (VF750CD: page 2-8)

	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Front fender bolt	4	
(2)	Front fender collar	1	
(3)	Front fender	1	
(4)	Brake hose clamp	1	
(5)	Caliper bracket bolt	2	
(6)	Caliper assembly	1	
(7)	Front turn signal bolt/collar	2/2	
(8)	Front turn signal assembly	2	
(9)	Fork pinch bolt (upper)	2	Only loosen the bolts.
(10)	Fork pinch bolt (lower)	2	• Only loosen the bolts. • If the fork leg will be disassembled, temporarily tighten the bottom pinch bolt to loosen the fork cap.
(11)	Fork assembly	2	At installation, align the tops of fork tubes with the upper surface of the top bridge.

⚠ WARNING

- **Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use an air hose or dry brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner or alternate method approved by OSHA designed to minimize the hazard caused by airborne asbestos fibers.**
- **A contaminated brake drum or shoe reduces stopping power. Discard contaminated shoe and clean a contaminated drum with a high quality brake degreasing agent.**

NOTE

- When servicing the rear wheel, support the motorcycle using a safety stand or hoist.
- Adjust the drive chain free play after installing the wheel.
- Apply thin layer of grease to the rear axle surface.

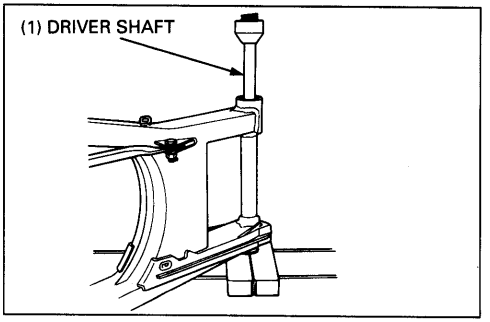
	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Brake adjusting nut	1	
(2)	Brake rod	1	
(3)	Spring	1	
(4)	Brake rod joint piece	1	
(5)	Drive chain adjusting nut	2	Loosen the adjusting nut fully.
(6)	Cotter pin	1	
(7)	Nut	1	
(8)	Washer	1	
(9)	Rubber cushion	1	
(10)	Brake stopper arm pivot bolt	1	
(11)	Brake stopper arm	1	
(12)	Rear axle nut/washer	1/1	
(13)	Drive chain adjuster	1	
(14)	Drive chain	1	Move the rear wheel forward and remove the drive chain from the driven sprocket.
(15)	Rear axle	1	
(16)	Rear wheel assembly	1	
(17)	Right side collar	1	
(18)	Left side collar	1	
(19)	Brake panel assembly	1	Disassembly (page 14-7).

Swingarm Pivot Bearing Replacement

Press the right pivot bearing (ball bearing) out of swingarm.

S. TOOL

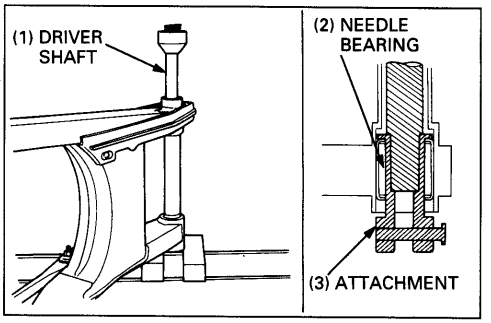
Driver Shaft	**07946 – MJ00100 or 07949 – 3710001 (U.S.A. only)**



Set the needle bearing remover onto the left pivot bearing (needle bearing) as shown.

S. TOOL

Needle bearing remover attachment	
	07GMD – KT70200
Driver Shaft	**07946 – MJ00100**
or (U.S.A. only):	
Bearing remover	**M967X – 038 – XXXX**
Driver	**07949 – 3710001**
Pilot, 15 mm	**07746 – 0040300**
Attachment, 30 mm	**07746 – 0030300**



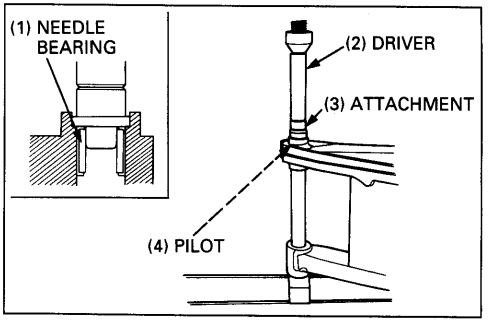
Press the needle bearing into the swingarm with the marked side facing out.

NOTE

- The bearing surface should be flush with the pivot inside surface as shown.

S. TOOL

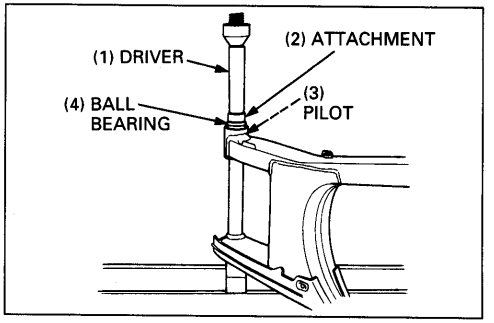
Driver	**07749 – 0010000**
Attachment, 28 x 30 mm	**07946 – 1870100**
Pilot, 22 mm	**07746 – 0041000**



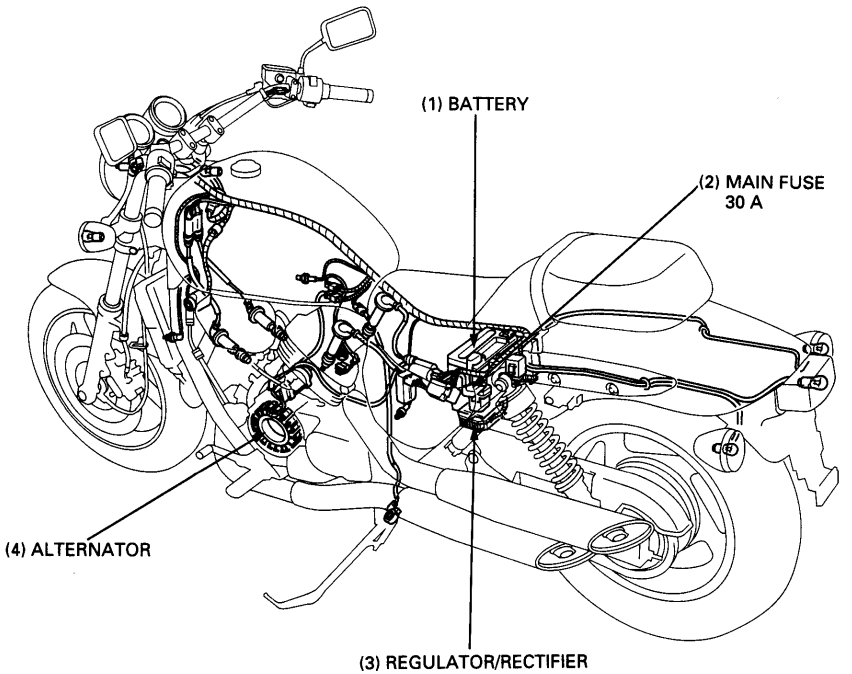
Press the ball bearing in until it bottoms in the swingarm.

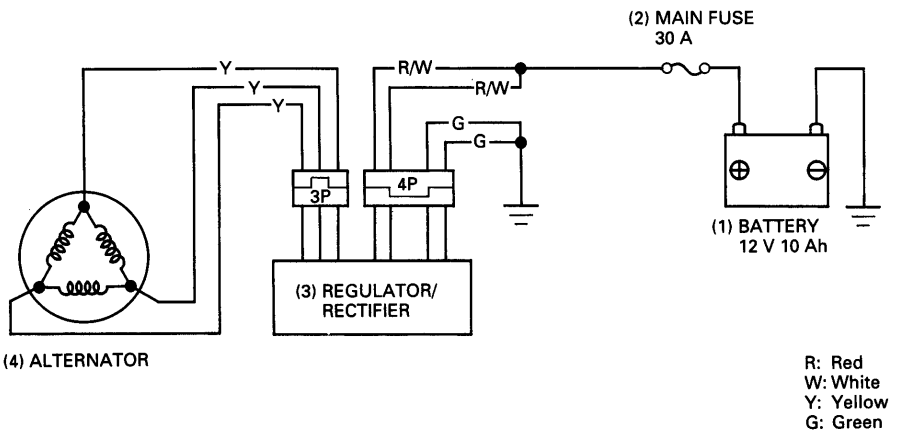
S. TOOL

Driver	**07749 – 0010000**
Attachment, 32 x 35 mm	**07746 – 0010100**
Pilot, 15 mm	**07746 – 0040300**



System Location





16. Ignition System

Service Information

⚠ WARNING

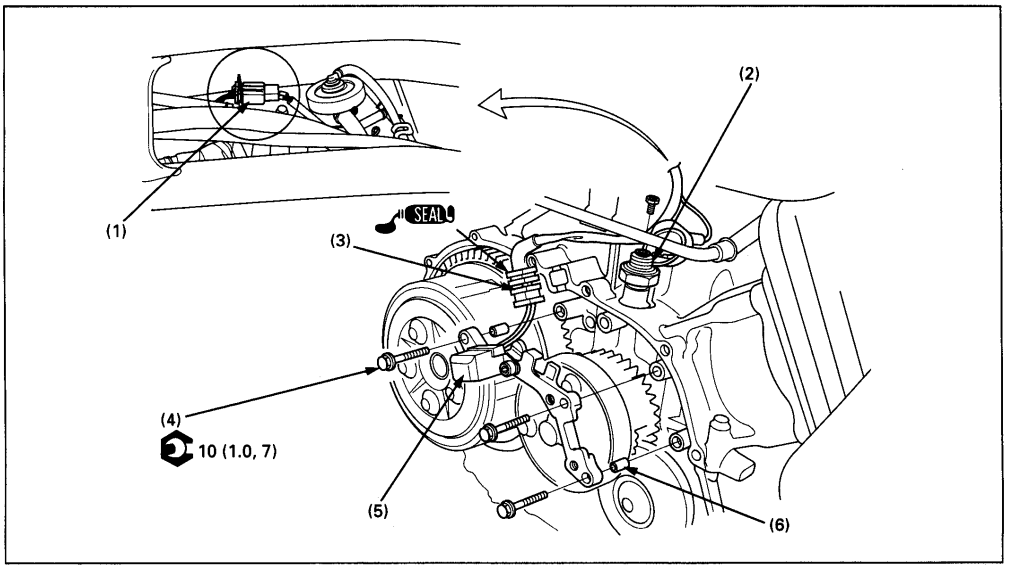
- **If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in an enclosed area.**
- **The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.**

CAUTION

- **Some electrical components may be damaged if terminals or connectors are connected or disconnected while the ignition switch is ON and current is present.**

- When checking the ignition system, always follow the steps in the troubleshooting flow chart (page 16-3).
- The Ignition control module (ICM) may be damaged if dropped. Also, if the connector is disconnected when current is present, the excessive voltage may damage the unit. Always turn off the ignition switch before servicing.
- Ignition timing cannot be adjusted since the Ignition control module (ICM) is non-adjustable. If ignition timing is incorrect, check the system components and replace any faulty parts.
- A faulty ignition system is often related to poorly connected or corroded connectors. Check those connections before proceeding.
- Use spark plugs of the correct heat range. Using spark plugs with an incorrect heat range can damage the engine. Refer to Section 2 of the Common Service Manual.
- For neutral switch inspection, refer to Section 25 of the Common Service Manual. For switch location, see page 16-2 of this manual (System Location).
- For side stand switch, engine stop switch and ignition switch inspection, check for continuity chart of the Wiring Diagram, page 19-1. Disconnect the ignition and engine stop switch connectors in the front side cover (page 2-3), side stand switch connector under the fuel tank and check it.

Ignition Pulse Generator Removal/Installation



Requisite Service

- Right crankcase cover removal/installation (page 9-2)
- Fuel tank removal/installation (page 2-2)

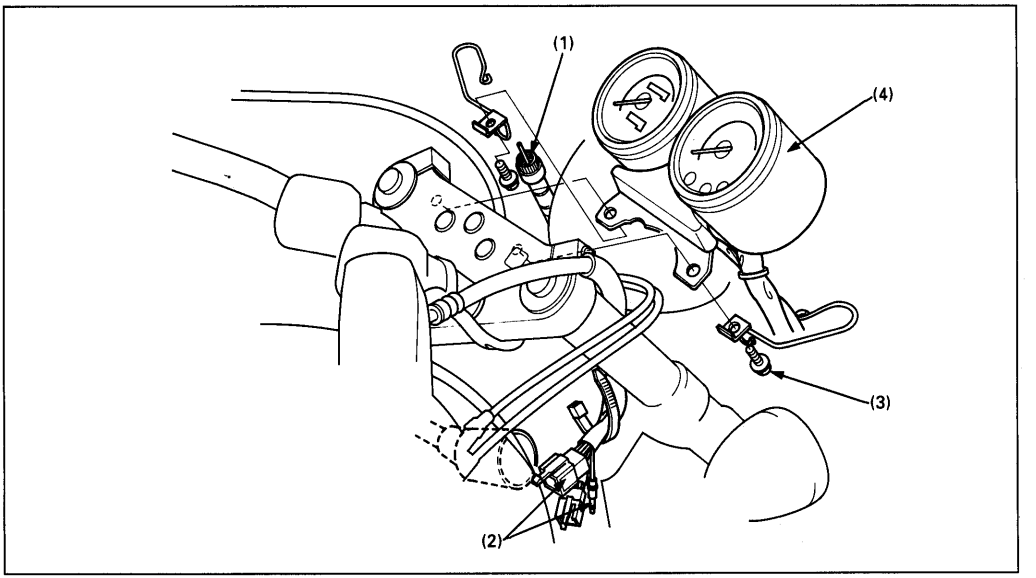
	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Ignition pulse generator connector	1	
(2)	Oil pressure switch terminal	1	
(3)	Ignition pulse generator wire grommet	1	At installation, apply sealant to the wire grommet, and install the into the rotor cover groove securely.
(4)	Ignition pulse generator mounting bolt	3	
(5)	Ignition pulse generator assembly	1	Route the ignition pulse generator wire as shown.
(6)	Dowel pin	2	

Requisite Service

- Starter motor removal/installation (page 17-7).

	Procedure	Q'ty	Remarks
	Disassembly Order		Assembly is in the reverse order of disassembly.
(1)	Case bolt	3	
(2)	Front cover	1	Align the index marks on the front cover and case.
(3)	Lock washer	1	
(4)	O-ring	1	
(5)	Motor case	1	Align the index marks on the rear cover and case.
(6)	Insulated washer	1	
(7)	Washer	1	
(8)	Armature	1	
(9)	Brush terminal holding nut	2	
(10)	Washer	1	
(11)	Insulated washer	3	
(12)	O-ring	1	
(13)	Brush holder assembly	1	Align the holder tab with the rear cover groove.
(14)	Brush and terminal	1	
(15)	O-ring	1	
(16)	Rear cover	1	

Combination Meter Removal/Installation



NOTE

- Route the wires and cables properly (page 1-20).

Requisite Service

- Front side cover removal/installation (page 2-3)
- Upper fairing removal/installation (VF750CD: page 2-8)

	Procedure	Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Speedometer cable	1	
(2)	Combination meter connector	3	
(3)	Combination meter mounting bolt/guide	2/2	
(4)	Combination meter assembly	1	Disassembly/Assembly (page 18-8)