

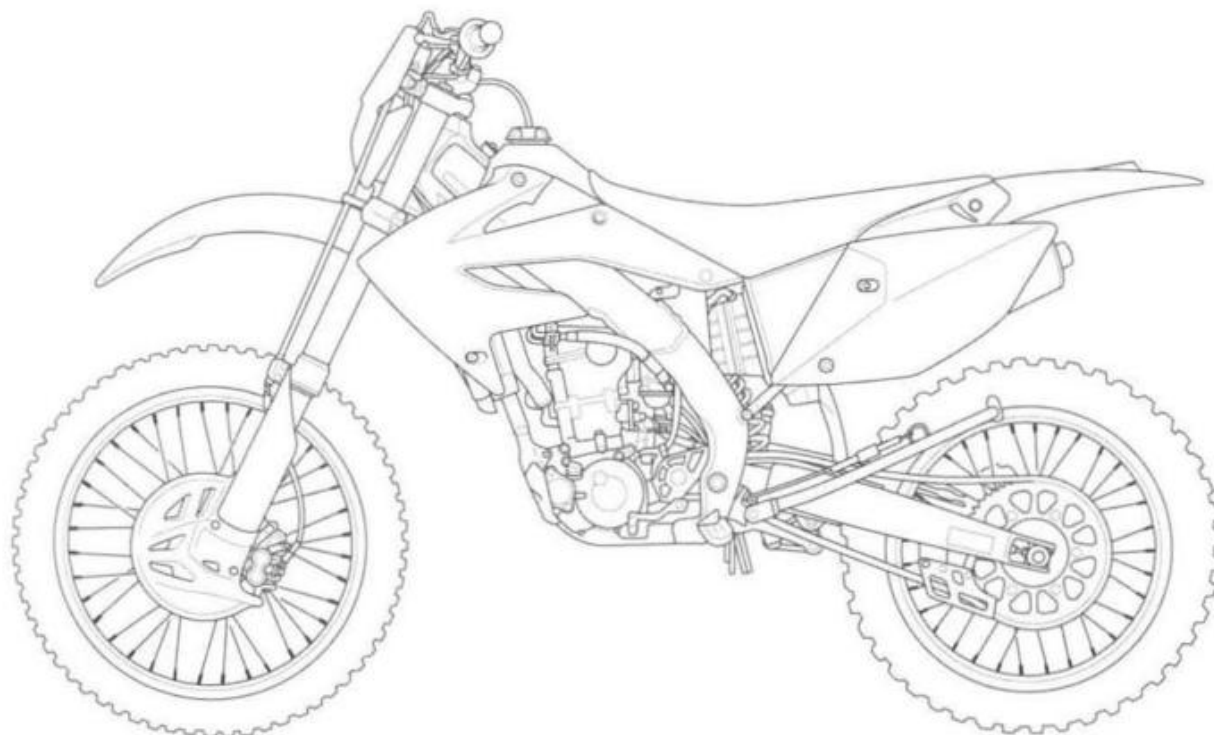
## GENERAL INFORMATION

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### SERVICE RULES

1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that do not meet Honda's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing the motorcycle. Metric bolts, nuts and screws are not interchangeable with English fastener.
4. Install new gaskets, O-rings, cotter pins, and lock plates when reassembling.
5. When tightening bolts or nuts, begin with the larger diameter or inner bolt first. Then tighten to the specified torque diagonally in incremental steps unless a particular sequence is specified.
6. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After reassembly, check all parts for proper installation and operation.
8. Route all electrical wires as shown in the Cable and Harness Routing (page 1-23).

### MODEL IDENTIFICATION



## GENERAL INFORMATION

### FRONT WHEEL/SUSPENSION/STEERING SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Cold tire pressure			98 kPa (1.0 kgf/cm <sup>2</sup> , 14 psi)	-
Axle runout			-	0.20 (0.008)
Wheel rim runout	Radial		-	2.0 (0.08)
	Axial		-	2.0 (0.08)
Wheel hub-to-rim distance			28.0 ± 1.0 (1.10 ± 0.04)	-
Fork	Spring free length	'04, '05	495 (19.5)	488 (19.2)
		After '05	500 (19.7)	493 (19.4)
	Tube runout		-	0.20 (0.008)
	Recommended fork oil		Pro-Honda HP Fork Oil 5W or equivalent	-
	Fluid capacity	Fork tube	'04, '05	345 cm <sup>3</sup> (11.7 US oz, 12.1 Imp oz)
'06			340 cm <sup>3</sup> (11.5 US oz, 12.0 Imp oz)	-
After '06			348 cm <sup>3</sup> (11.8 US oz, 12.2 Imp oz)	-
	Fork damper		192 cm <sup>3</sup> (6.5 US oz, 6.8 Imp oz)	-
Compression damping adjuster standard position			7 clicks out from full in	-
Rebound damping adjuster standard position	'04, '05		10 clicks out from full in	-
	'06		13 clicks out from full in	-
	After '06		14 clicks out from full in	-

### REAR WHEEL/SUSPENSION SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Cold tire pressure			98 kPa (1.0 kgf/cm <sup>2</sup> , 14 psi)	-
Axle runout			-	0.20 (0.008)
Wheel rim runout	Radial		-	2.0 (0.08)
	Axial		-	2.0 (0.08)
Wheel hub-to-rim distance			45.5 ± 1.00 (1.79 ± 0.039)	-
Drive chain slack			25 - 35 (1.0 - 1.4)	60 (2.4)
Drive chain size/link	DID		520MXV - 116	-
Drive chain slider thickness			-	5.0 (0.2)
Drive chain roller I.D.	'04, '05	Upper	-	29 (1.1)
		Lower	-	39 (1.5)
	After '05	Upper	-	29 (1.1)
		Lower	-	31 (1.2)
Shock absorber	Damper gas pressure		981 kPa (10.0 kg/cm <sup>2</sup> , 142 psi)	-
	Damper compressed gas		Nitrogen gas	-
	Damper rod compressed force at 9 mm compressed		20.0 - 24.0 kgf (44.1 - 52.9 lbf)	-
	Spring installed length (standard)	'04, '05	254.4 (10.02)	-
After '05		256.6 (10.10)	-	
High speed compression damping adjuster standard position	'04, '05		1-7/12 - 2-1/12 turns out from full in	-
	After '05		1-3/4 - 2-1/4 turns out from full in	-
Low speed compression damping adjuster standard position			12 clicks out from full in	-
Rebound damping adjuster standard position	'04, '05		13 - 16 clicks out from full in	-
	'06		12 - 15 clicks out from full in	-
	After '06		10 - 13 clicks out from full in	-

## EMISSION CONTROL SYSTEMS

'04 – '06:

The California Air Resources Board (CARB) require manufacturers to certify that their motorcycles comply with applicable exhaust emissions standards during their useful life, when operated and maintained according to the instructions provided, and that motorcycles built after January 1, 1983 comply with applicable noise emission standards for one year or 6,000 km (3,730 miles) after the time of sale to the ultimate purchaser, when operated and maintained according to the instructions provided. Compliance with the terms of the Distributor's Limited Warranty for Honda Motorcycle Emission Control Systems is necessary in order to keep the emissions system warranty in effect.

After '06:

The U.S. Environmental Protection Agency (EPA), and the California Air Resources Board (CARB) require that off-road motorcycle comply with applicable exhaust emissions standards during its useful life, when operated and maintained according to the instruction provided.

### SOURCE OF EMISSIONS

The combustion process produces carbon monoxide, oxides of nitrogen and hydrocarbons. Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but is toxic.

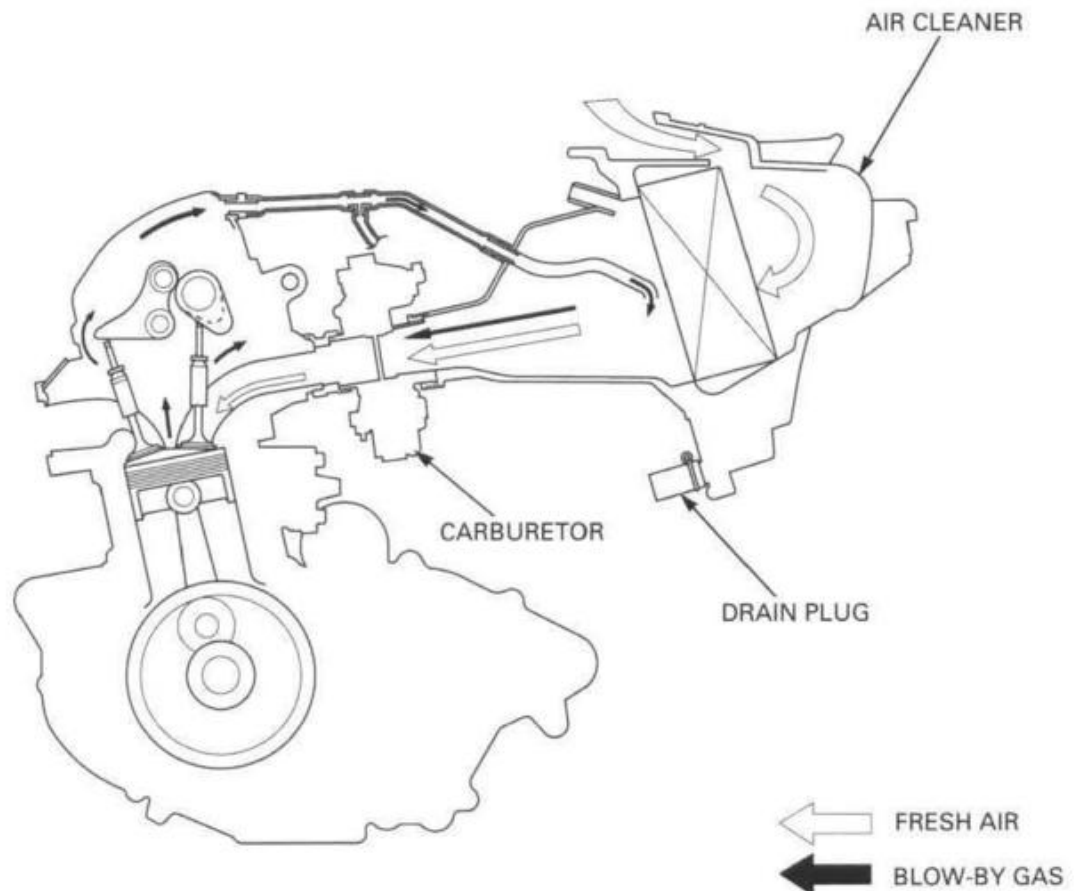
Honda Motor Co., Ltd. utilizes various systems to reduce carbon monoxide, oxides of nitrogen, and hydrocarbon.

### EXHAUST EMISSION CONTROL SYSTEM (After '06)

The exhaust emission control system includes a secondary air injection system and lean carburetor settings, no adjustments should be made except for high altitude setting and idle speed adjustment with the throttle stop screw. The exhaust emission control system is separate from the crankcase emission control system.

### CRANKCASE EMISSION CONTROL SYSTEM

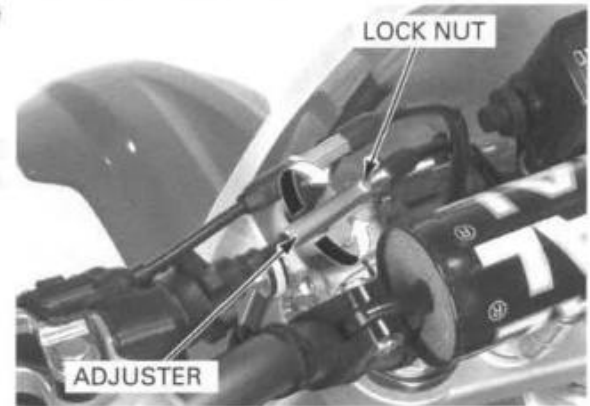
The engine is equipped with a closed crankcase system to prevent discharging crankcase emissions into the atmosphere. Blow-by gas is returned to the combustion chamber through the air cleaner and carburetor.



Major adjustments can be made with the in-line cable adjuster located behind the number plate.

Loosen the lock nut and turn the adjuster.  
Tighten the lock nut.

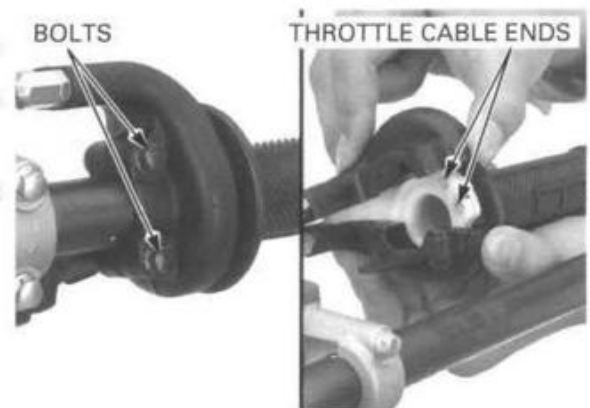
If proper free play cannot be obtained using both procedures or the clutch slips during the test ride, disassemble and inspect the clutch (page 10-9).



## CONTROL CABLES

Remove the dust cover and throttle housing bolts. Turn the handlebar to the right fully and remove the throttle housing from the handlebar. Disconnect the throttle cable end from the throttle pipe.

Remove the clutch cable and adjuster. Disconnect the clutch cable upper end and the hot start cable upper end from the levers.

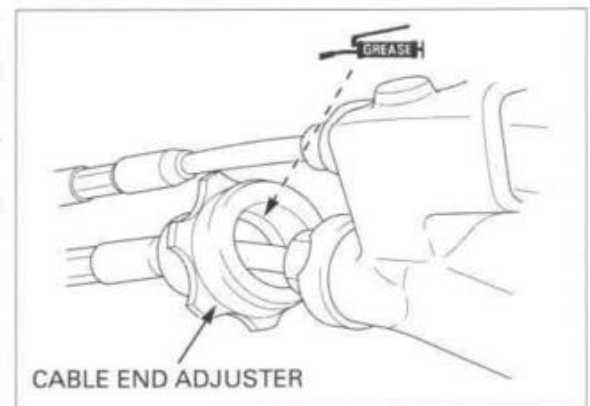


*It is not necessary to lubricate the entire cable.*

Thoroughly lubricate the cable ends with a commercially available cable lubricant. Apply grease to the clutch cable end adjuster inside surface and install it onto the clutch lower holder.

If the clutch lever, hot start lever and throttle operation is not smooth, replace the cable.

Be sure the throttle returns freely from fully open to fully closed automatically, in all steering positions.



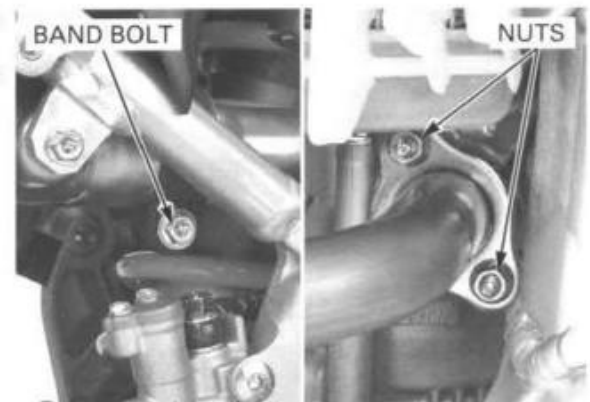
## EXHAUST PIPE/MUFFLER

### EXHAUST SYSTEM INSPECTION

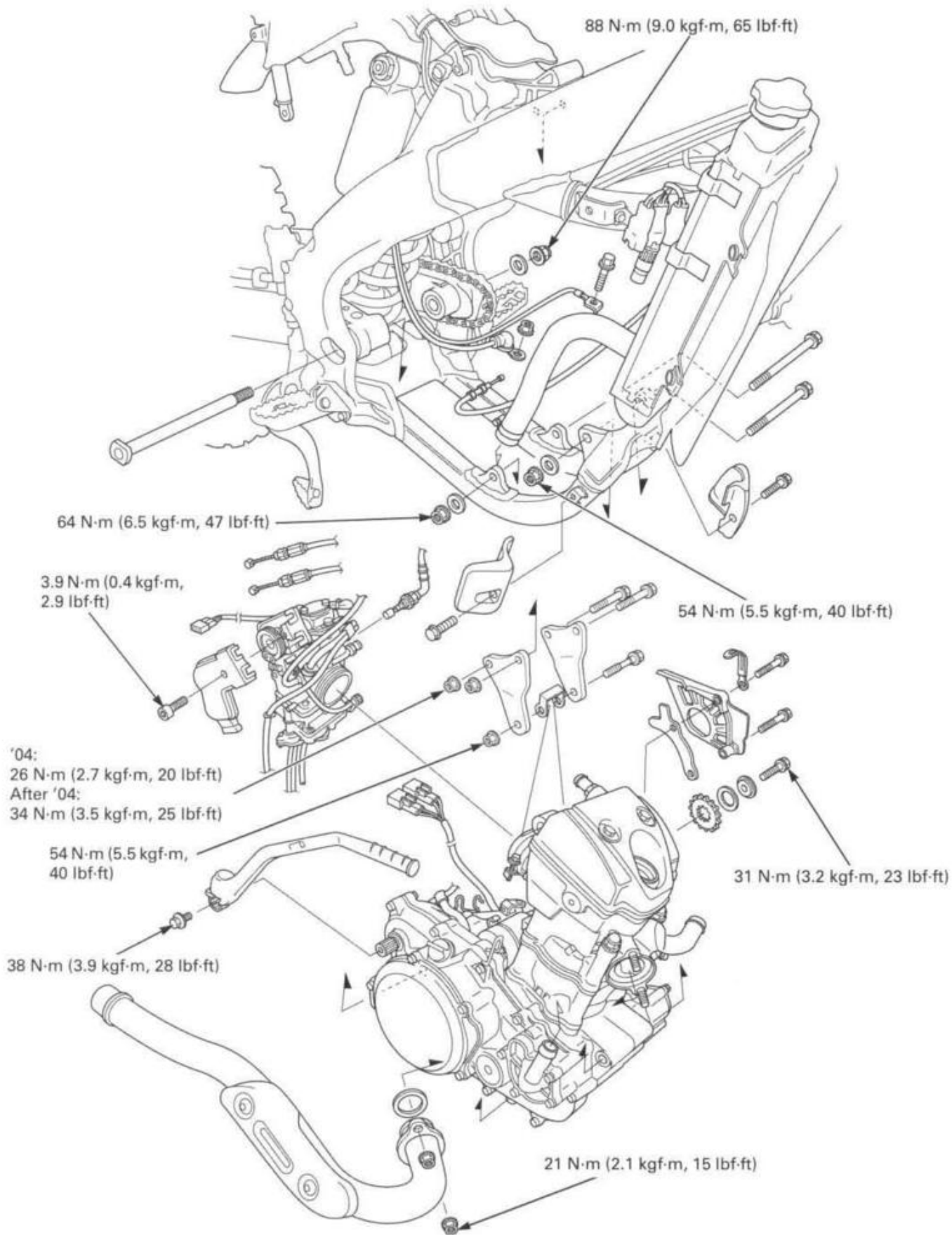
Check the joint band bolt and joint nut for looseness and exhaust gas leaks. Tighten each bolt and nut of the exhaust system to the specified torque.

#### TORQUE:

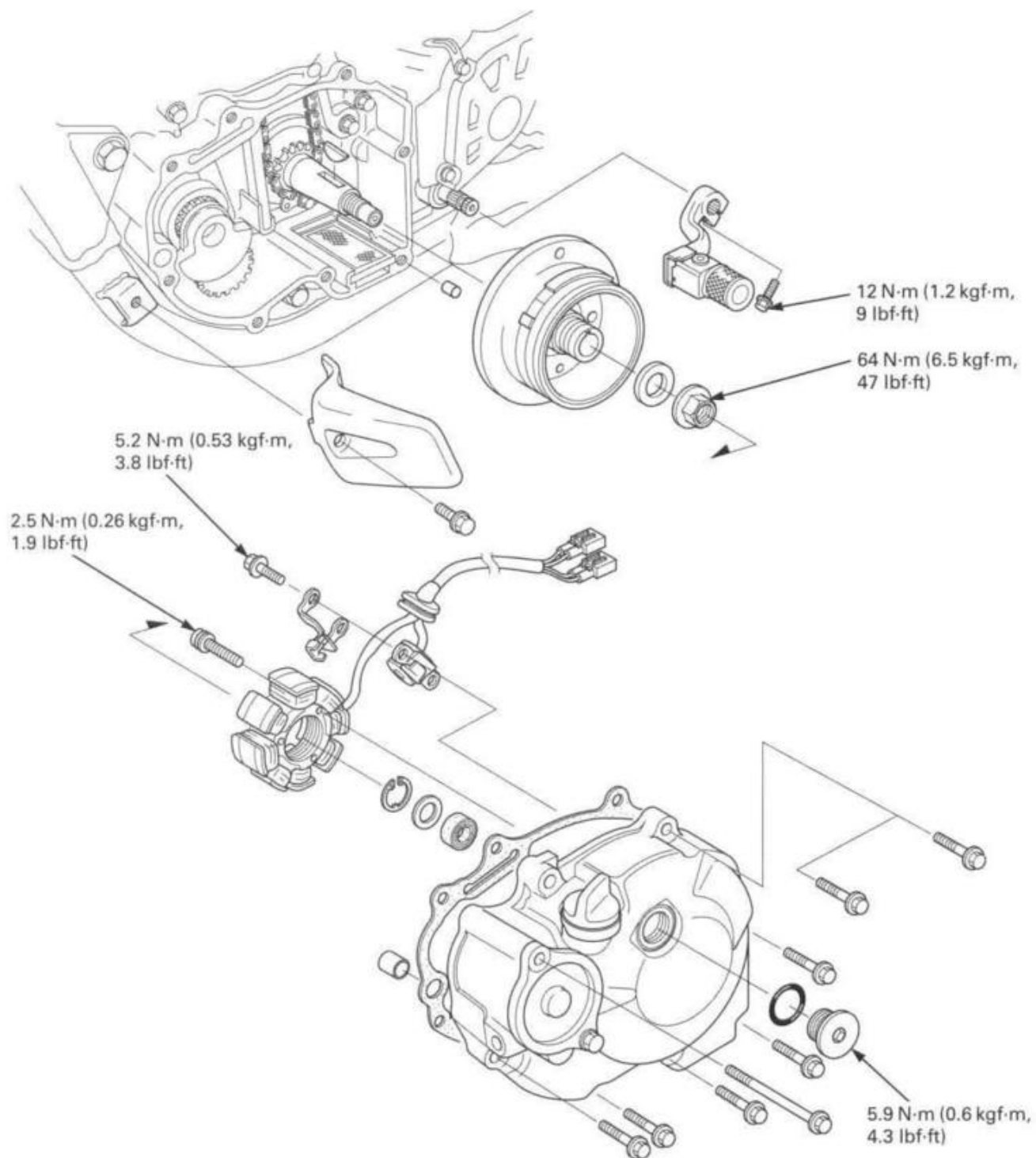
- Exhaust pipe joint nut:  
21 N·m (2.1 kgf·m, 15 lbf·ft)
- Muffler joint band bolt:  
21 N·m (2.1 kgf·m, 15 lbf·ft)



COMPONENT LOCATION



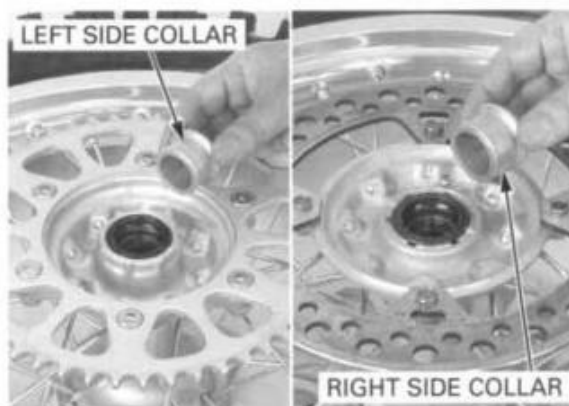
COMPONENT LOCATION



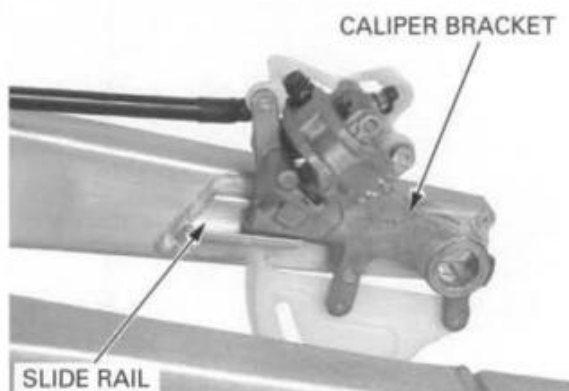
## REAR WHEEL/SUSPENSION

### INSTALLATION

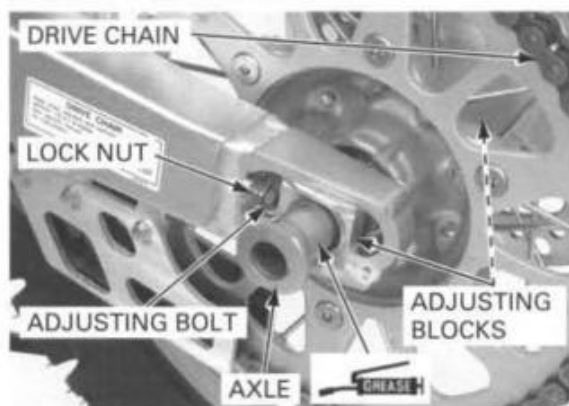
Install the right and left side collars.



Install the rear brake caliper bracket onto the slide rail of the swingarm.



Place the rear wheel into the swingarm.  
Install the drive chain over the driven sprocket.  
Apply a thin coat of grease to the axle.  
Install the adjusting block and axle from the left side.

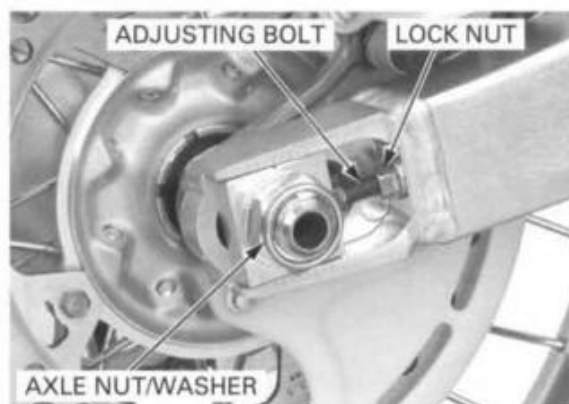


Install the adjusting block, washer and axle nut.  
Adjust the drive chain slack (page 3-21).  
Tighten the axle nut to the specified torque.

**TORQUE: 127 N·m (13.0 kgf·m, 94 lbf·ft)**

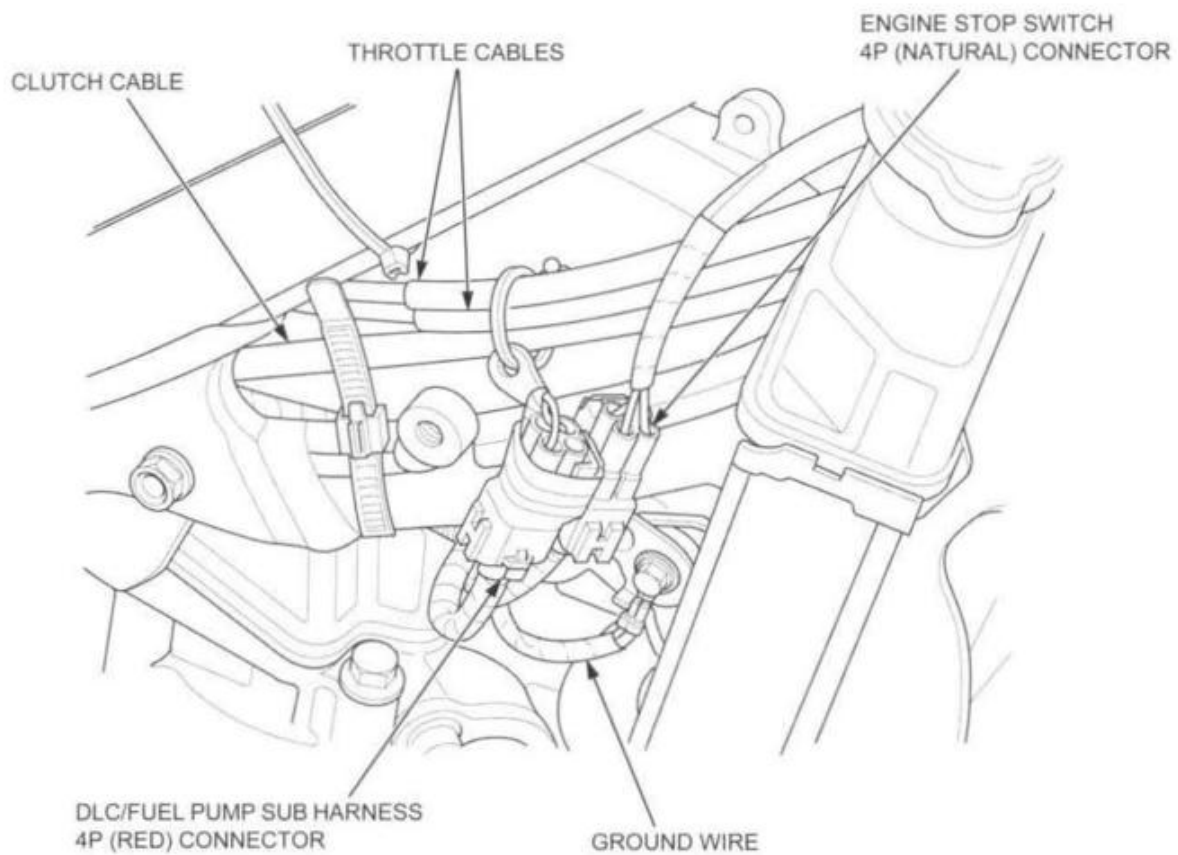
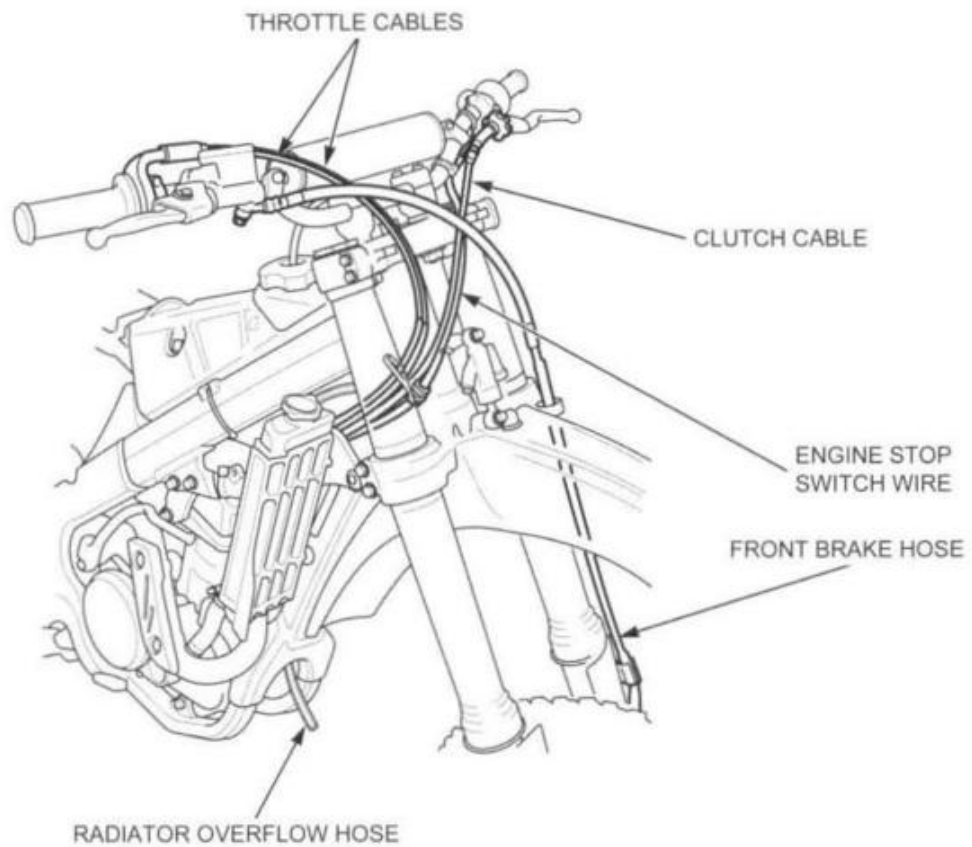
Snug the adjusting bolts against the chain adjusters and tighten the lock nuts to the specified torque.

**TORQUE: 27 N·m (2.8 kgf·m, 20 lbf·ft)**



## GENERAL INFORMATION

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## PRESSURE RELIEF VALVE

### REMOVAL/INSPECTION

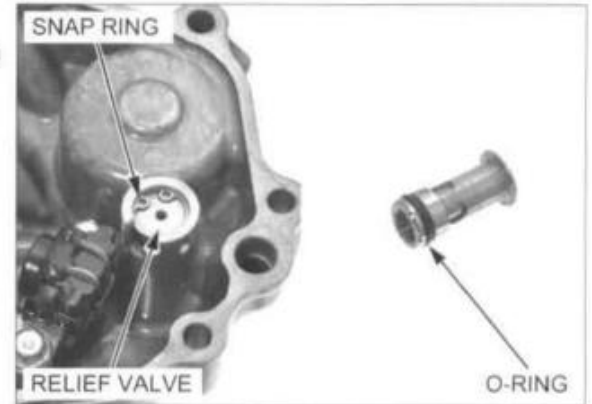
Remove the left crankcase cover (page 11-4).

Remove the snap ring and pressure relief valve from the left crankcase cover.

Remove the O-ring.

Check the pressure relief valve for damage or clogs.

Replace the pressure relief valve if necessary.



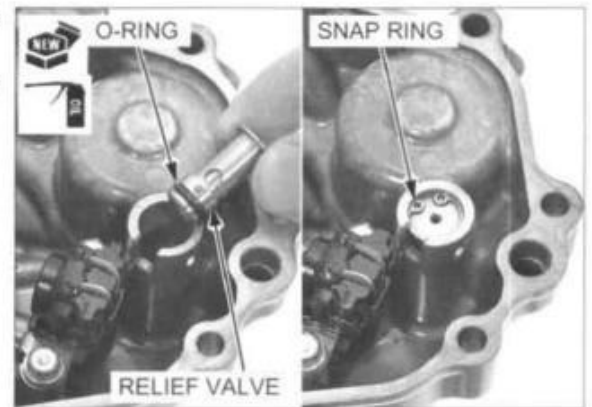
### INSTALLATION

Apply engine oil to a new O-ring, and install it to the pressure relief valve.

Install the pressure relief valve into the left crankcase cover.

Install the snap ring securely.

Install the left crankcase cover (page 11-8).



## OIL PUMP

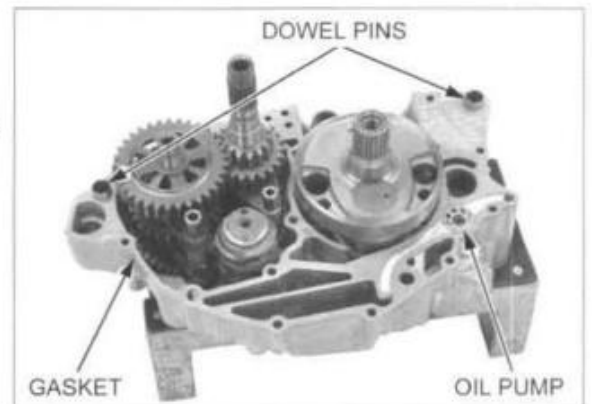
### DISASSEMBLY

Remove the engine from the frame (page 7-4).

Separate the crankcase halves (page 12-13).

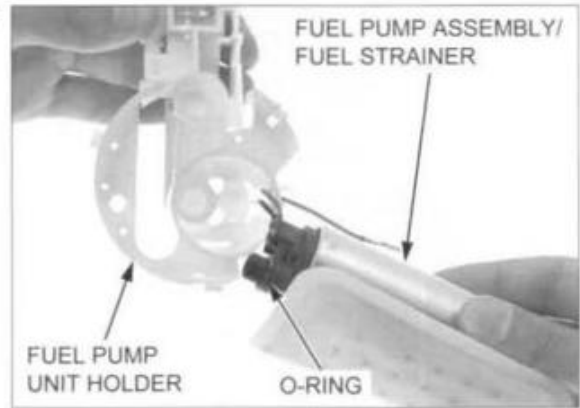
Remove the dowel pins and gasket.

Remove the oil pump inner/outer rotors and oil pump shaft from the left crankcase.



## FUEL SYSTEM (PGM-FI)

Remove the fuel pump assembly with the fuel strainer and O-ring from the fuel pump assembly.



Check the fuel strainer for clog, damage or deterioration and replace if necessary.

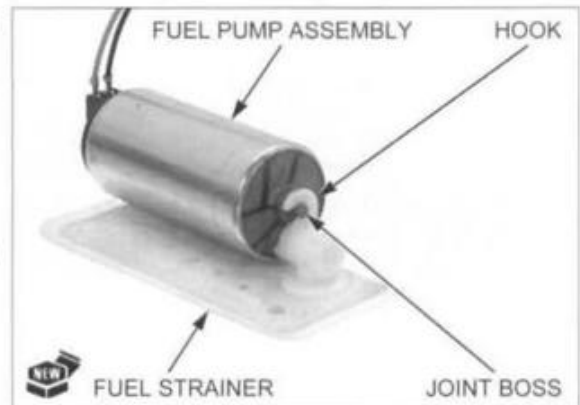
Remove the fuel strainer from the fuel pump assembly.

### ASSEMBLY (After '10)

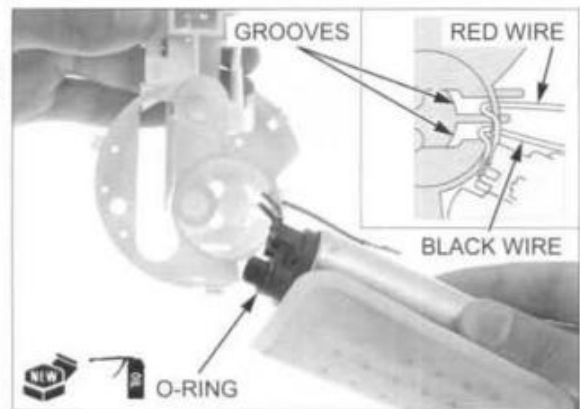
*Do not blow into the fuel pump.*

Clean the fuel pump joint area with compressed air.

Install a new fuel strainer onto the fuel pump assembly aligning its hook with the joint boss completely.

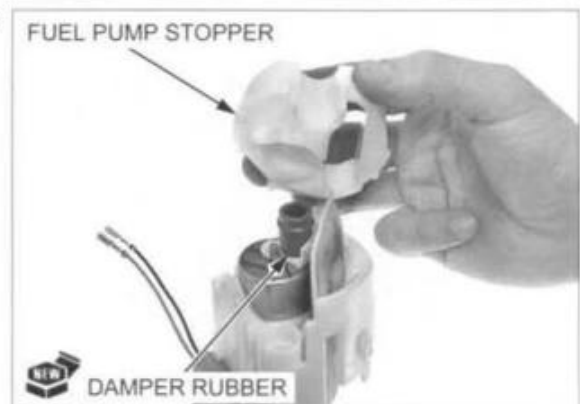


Apply small amount of engine oil to a new O-ring. Install the O-ring to the fuel pump assembly. Install the fuel pump assembly into the fuel pump unit holder while routing the fuel pump wires through the holder grooves as shown.



Install a damper joint rubber to the fuel strainer as shown.

Install the fuel pump stopper.



## CYLINDER HEAD/VALVES

*To prevent loss of tension, do not compress the valve springs more than necessary.*

Install the valve cotters using the special tools as shown.

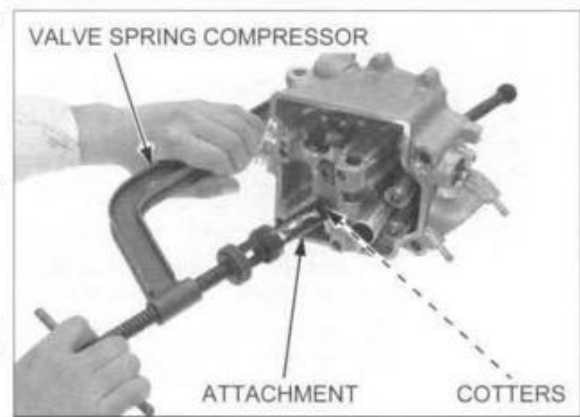
- Grease the cotters to ease installation.

### TOOLS:

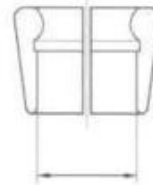
Valve spring compressor 07757-0010000  
Valve spring compressor attachment 070ME-MCW0100 or 070ME-MCWA100 (U.S.A. only)

### NOTE:

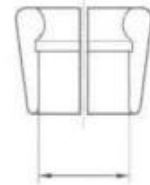
Do not confuse the intake and exhaust valve cotters. The inside radius of intake valve cotter is larger than that of the exhaust valve cotter.



INTAKE COTTER:

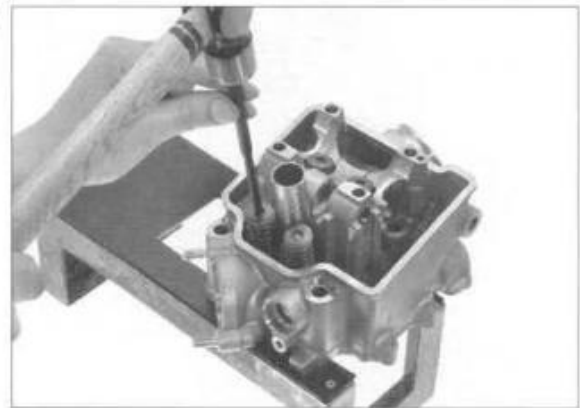


EXHAUST COTTER:

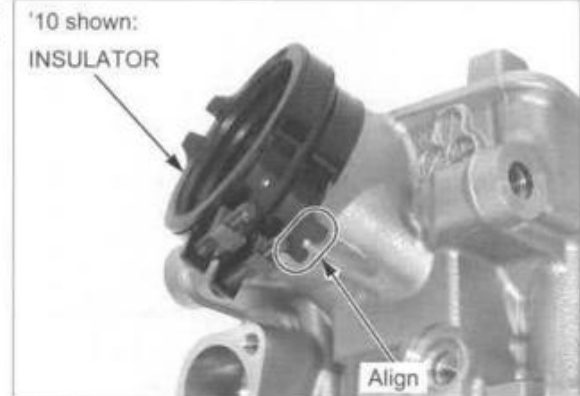


*Support the cylinder head so the valve heads do not contact anything that could damage them.*

Tap the valve stems with a hammer and shaft as shown to seat the cotters firmly.



Install the insulator to the cylinder head by aligning the groove of the insulator with the tab of the cylinder head.



## PRIMARY DRIVE GEAR/BALANCER DRIVE GEAR

### REMOVAL

*This service can be performed with the engine installed in the frame.*

Remove the following:

- Right crankcase cover (page 10-5)
- Clutch (page 10-7)

Temporarily install the clutch outer guide, needle bearing and clutch outer to the mainshaft.

Insert the gear holder between the primary drive and driven gears.

#### TOOL:

**Gear holder, M2.5**

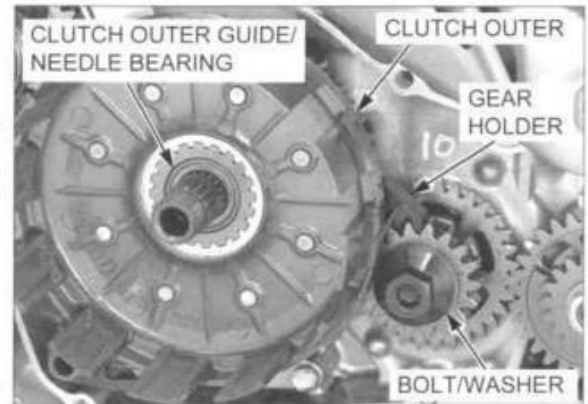
**07724-0010100 or  
07724-001A100  
(U.S.A. only)**

Remove the primary drive gear bolt and washer, then remove the gear holder.

Remove the clutch outer, needle bearing and clutch outer guide.

Remove the primary drive gear and balancer drive gear.

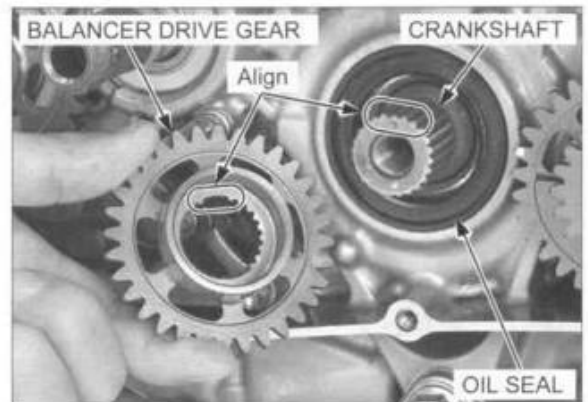
Check the primary drive gear and balancer drive gear for wear or damage.



### INSTALLATION

Check the oil seal for wear or damage, replace it if necessary (page 12-10).

Install the balancer drive gear while aligning its wide cut-out in the splines with the punch mark on the crankshaft.



**FORK DAMPER INSTALLATION**

Tighten the fork center bolt lock nut fully, and measure the length between the fork center bolt lock nut end and piston rod end as shown.

**STANDARD: 11 – 13 mm (0.43 – 0.51 in)**

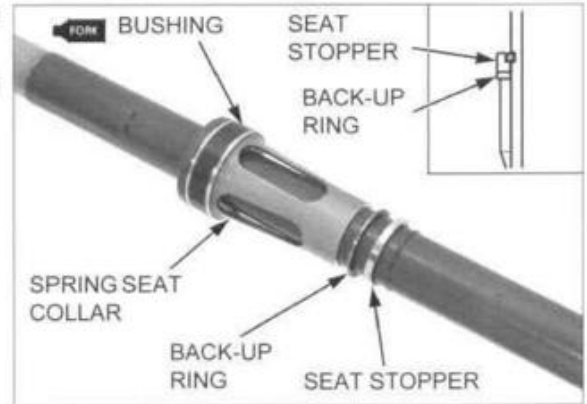
Wipe off any oil completely from the fork damper.



Apply recommended fork oil (page 13-26) to the bushing.

*Install the back-up ring with its black coated side facing the seat stopper.*

Install the seat stopper, back-up ring and spring seat collar to the fork damper in the shown direction.



Blow out the oil off completely from the fork spring.

Install the fork spring into the fork assembly. Apply recommended fork oil (page 13-26) to a new O-ring, and install it to the fork damper. Temporarily install the fork damper assembly into the fork assembly.



*Do not over-tighten the vise on the axle holder.*

Set the axle holder of the fork slider in a vise with a piece of wood or soft jaws to avoid damage.

Push the fork damper out from the slider until the fork center bolt lock nut is fully exposed, and install the piston base or mechanic's stopper tool between the axle holder and fork center bolt lock nut.

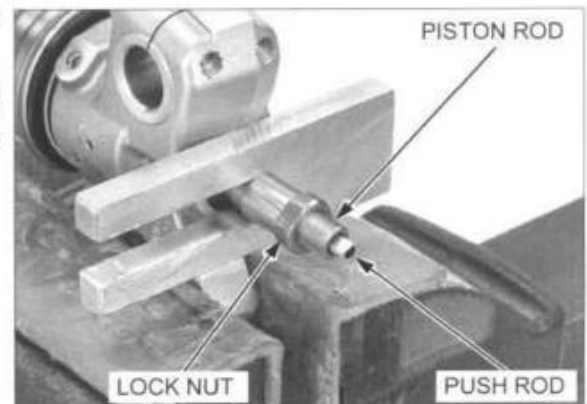
**TOOL:**

**Piston base**  
**Fork rod stopper**

**07958-2500001 or**  
**07AMB-KZ3A100**  
**(U.S.A. only)**

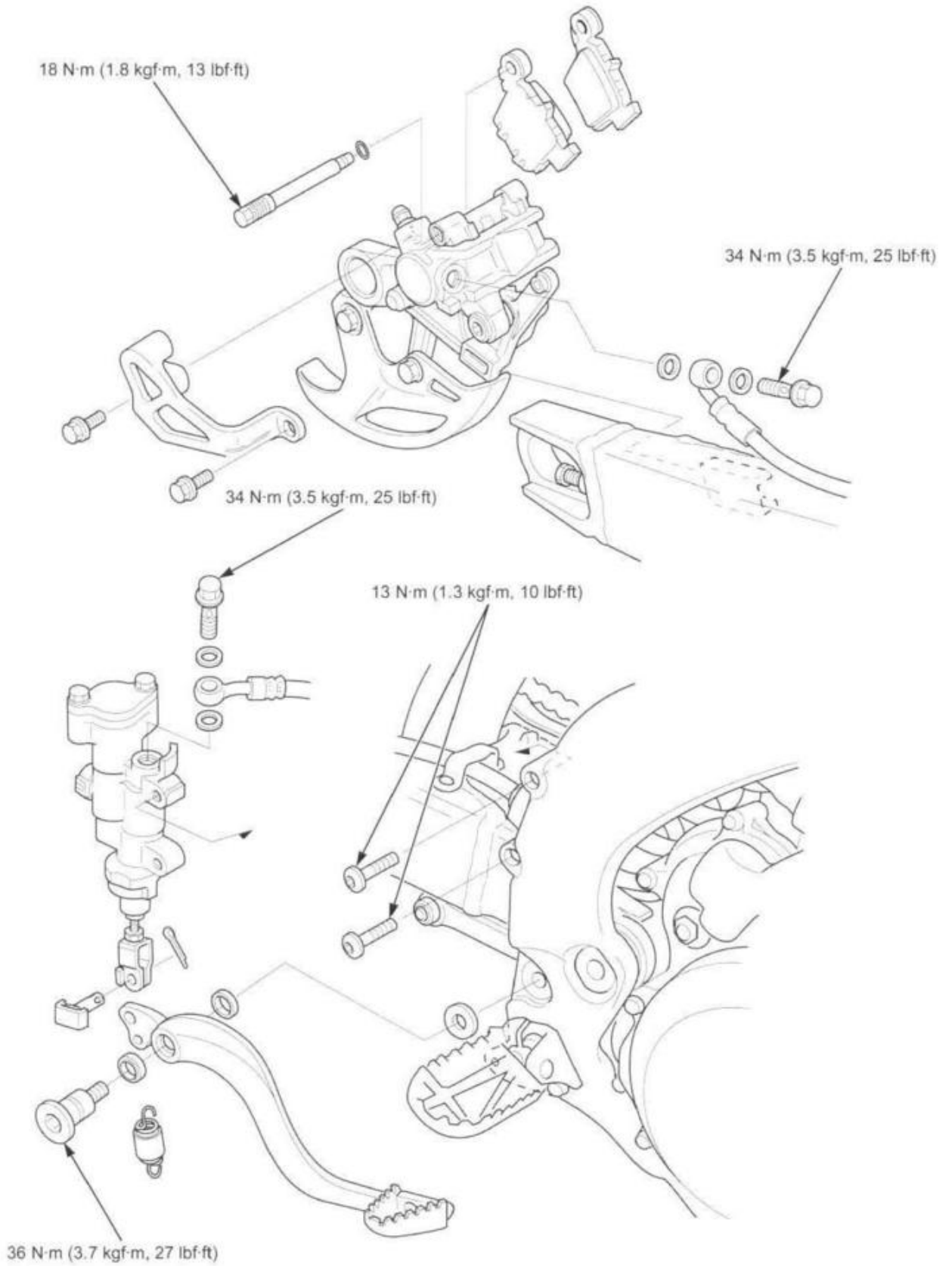
*Check the push rod installation by turning the push rod right and left.*

Install the push rod into the piston rod until it stops.



REAR:

\*10 shown:



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