

# 6. ENGINE REMOVAL/INSTALLATION

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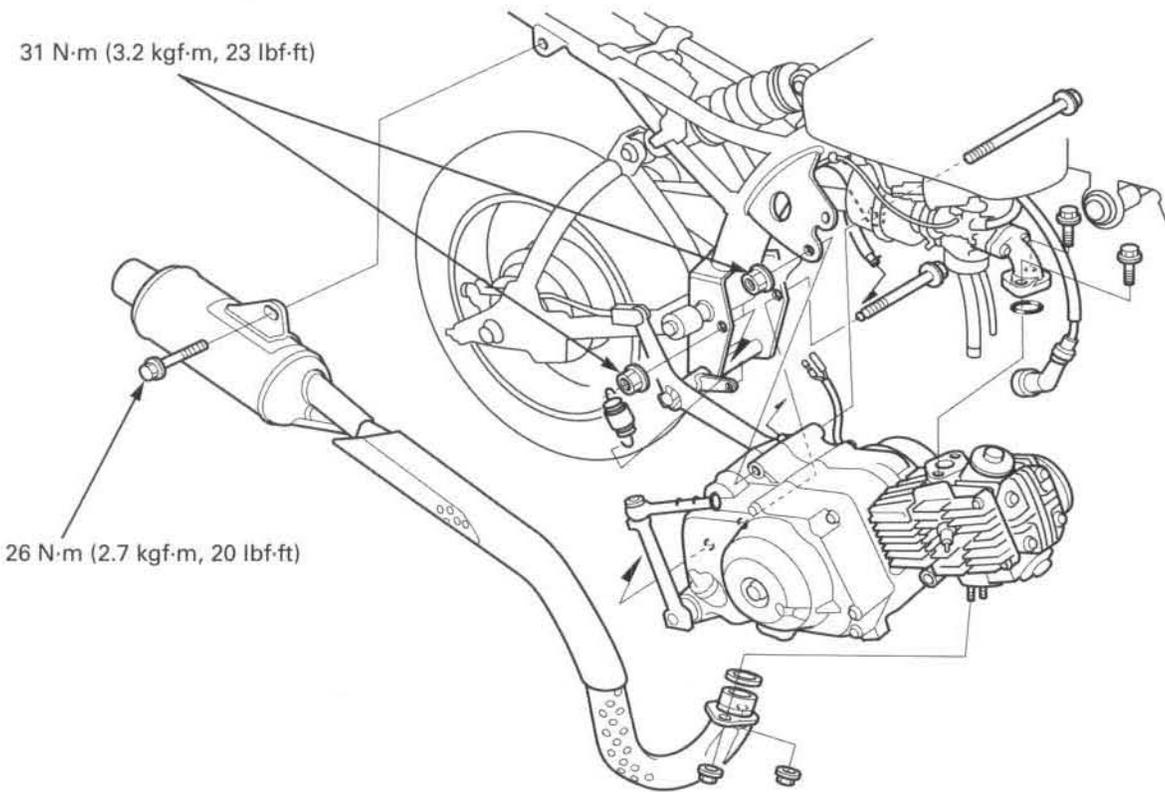
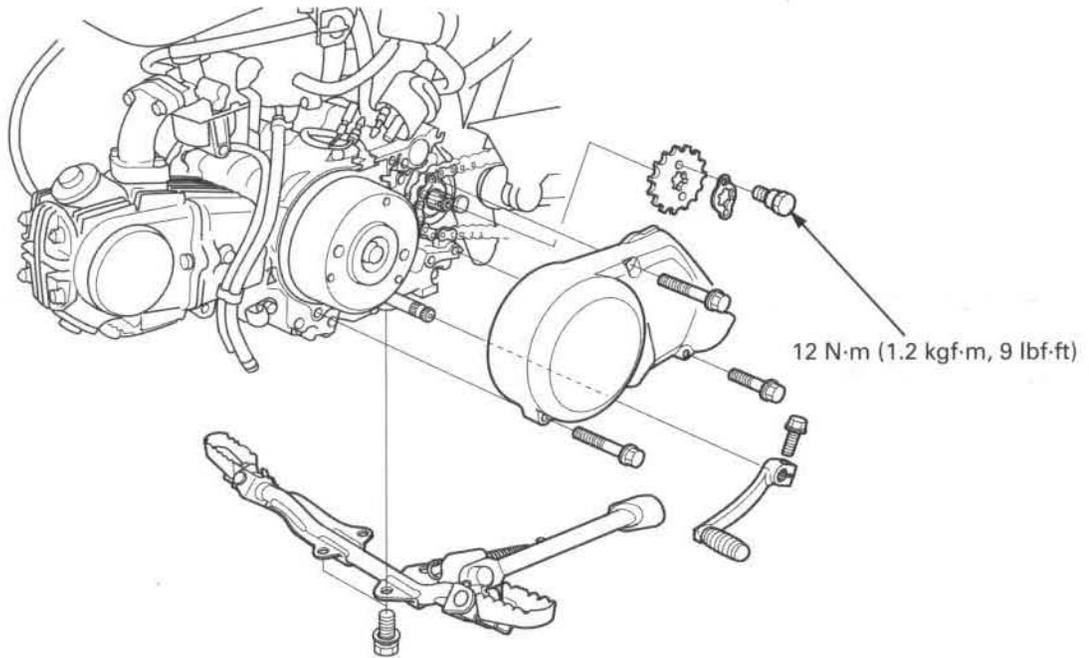
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COMPONENT LOCATION



## SERVICE INFORMATION

### GENERAL

- During engine removal and installation, support the motorcycle securely using a hoist or equivalent.
- Support the engine using a jack or other adjustable support to ease of engine hanger bolts removal.
- The following components can be serviced with the engine installed in the frame.
  - Alternator/cam chain tensioner (page 10-3)
  - Clutch (page 9-6)
  - Cylinder/piston (page 8-3)
  - Cylinder head/valves (page 7-3)
  - Gearshift linkage (page 9-16)
  - Oil pump (page 4-4)
- The crankshaft, transmission and kickstarter require engine removal for service (page 11-3).

### SPECIFICATIONS

ITEM	SPECIFICATIONS
Engine dry weight	17.2 kg (37.9 lbs)
Engine oil capacity at disassembly	0.8 liter (0.8 US qt, 0.7 Imp qt)

### TORQUE VALUES

Drive sprocket fixing plate bolt	12 N·m (1.2 kgf·m, 9 lbf·ft)
Engine hanger nut	31 N·m (3.2 kgf·m, 23 lbf·ft)
Muffler mounting bolt	26 N·m (2.7 kgf·m, 20 lbf·ft)

### ENGINE REMOVAL

Drain the engine oil (page 3-11).

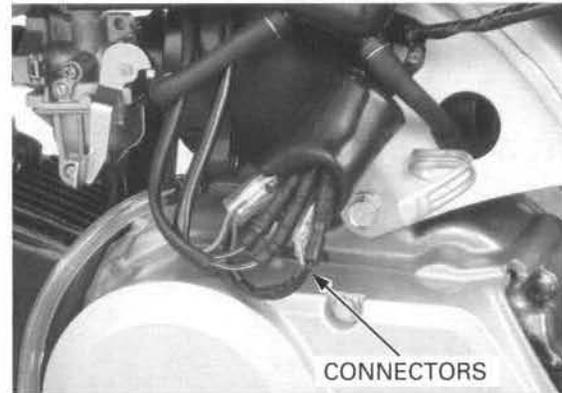
Remove the following:

- Exhaust system (page 2-5)
- Left crankcase cover (page 10-4)

Disconnect the spark plug cap from the spark plug.



Disconnect the ignition pulse generator and alternator connectors.



Disconnect the crankcase breather hose from the crankcase.

Remove the following from the clamp:

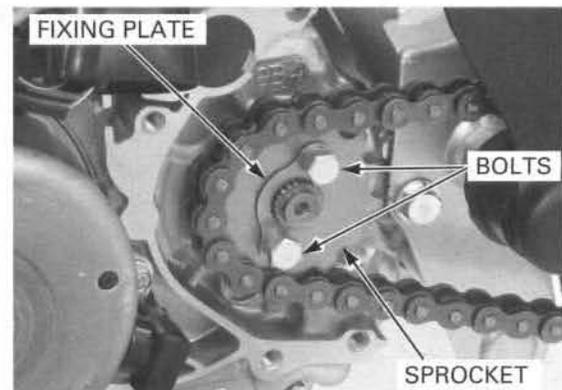
- Carburetor drain hose
- Crankcase breather hose



Loosen the rear axle nut and drive chain adjusters to loosen the drive chain (page 3-13)

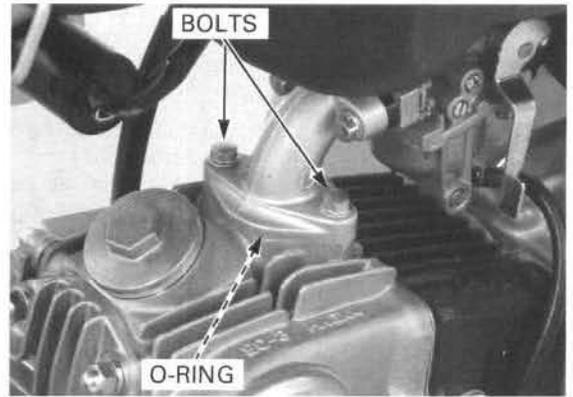
Remove the following:

- Fixing plate bolts
- Fixing plate
- Drive sprocket

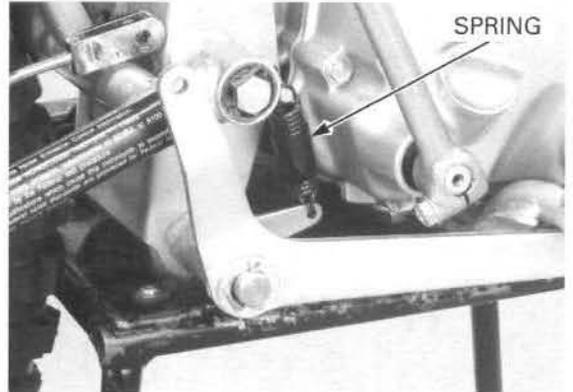


Remove the following:

- Intake manifold bolts
- O-ring

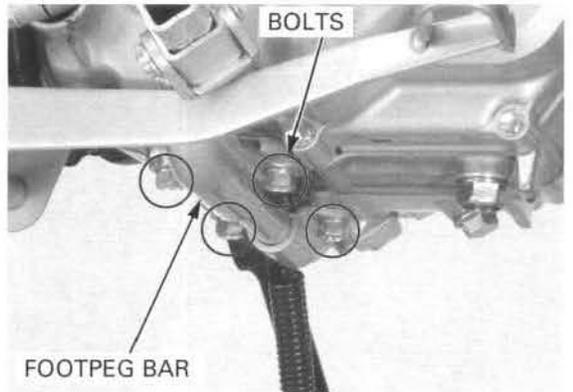


- Brake pedal return spring



*Support the motorcycle securely.*

- Four bolts and footpeg bar

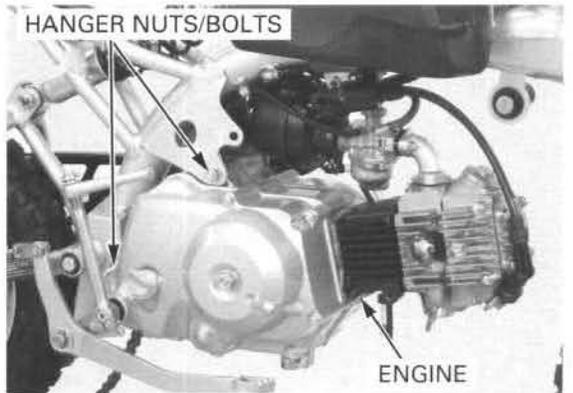


Remove the engine hanger nuts.

Place a floor jack or other adjustable support under the engine.

*During engine assembly removal, hold the engine securely and be careful not to damage the frame and engine.*

Remove the hanger bolts and the engine from the frame.



## ENGINE REMOVAL/INSTALLATION

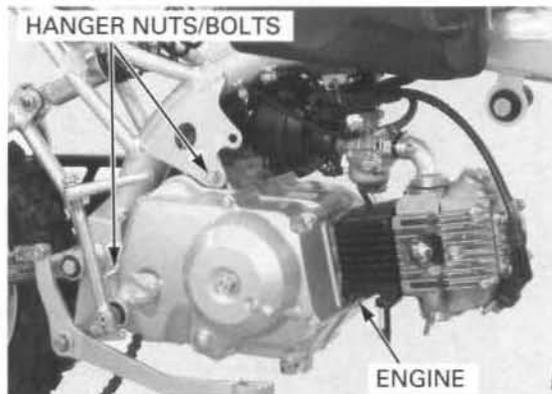
### ENGINE INSTALLATION

Install the engine onto the frame in the reverse order of removal.

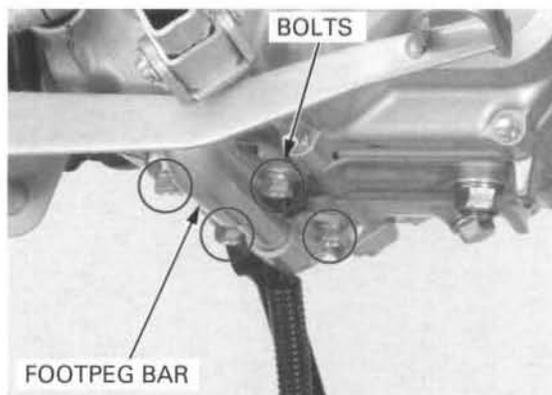
- Note the installation of the hanger bolts. All bolts are installed from left side.
- The jack height must be continually adjusted to relieve stress from the hanger bolts.

Tighten the hanger nuts to the specified torque.

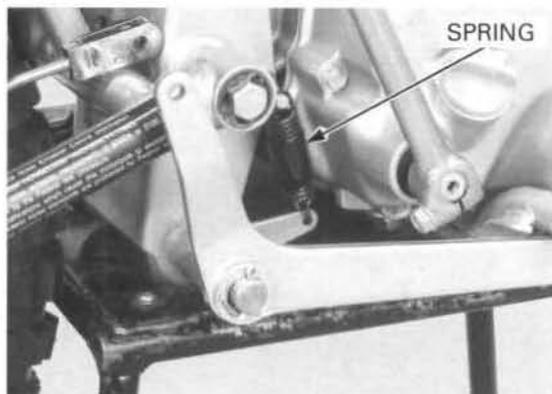
**TORQUE: 31 N·m (3.2 kgf·m, 23 lbf·ft)**



Install the four bolts and footpeg bar.



Install the brake pedal return spring.



Replace the intake manifold O-ring with a new one.  
Install and tighten the intake manifold bolts.

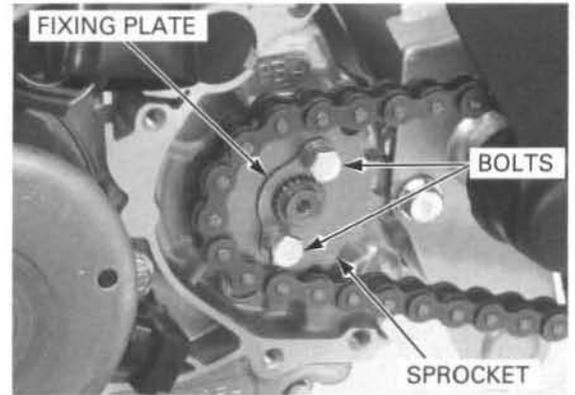


Install the following.

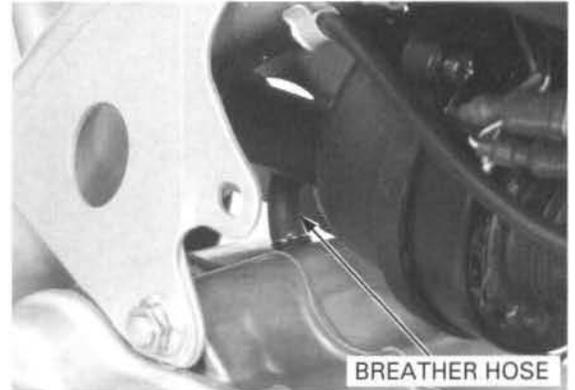
- Drive sprocket
- Fixing plate
- Fixing plate bolts

**TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)**

Adjust the drive chain slack (page 3-13).



Connect the crankcase breather hose to the crankcase.



Connect the ignition pulse generator and alternator connectors.



Connect the spark plug cap to the spark plug.  
Install the following.

- Exhaust system (page 2-5)
- Left crankcase cover (page 10-8)

Fill the recommended engine oil (page 3-11).

