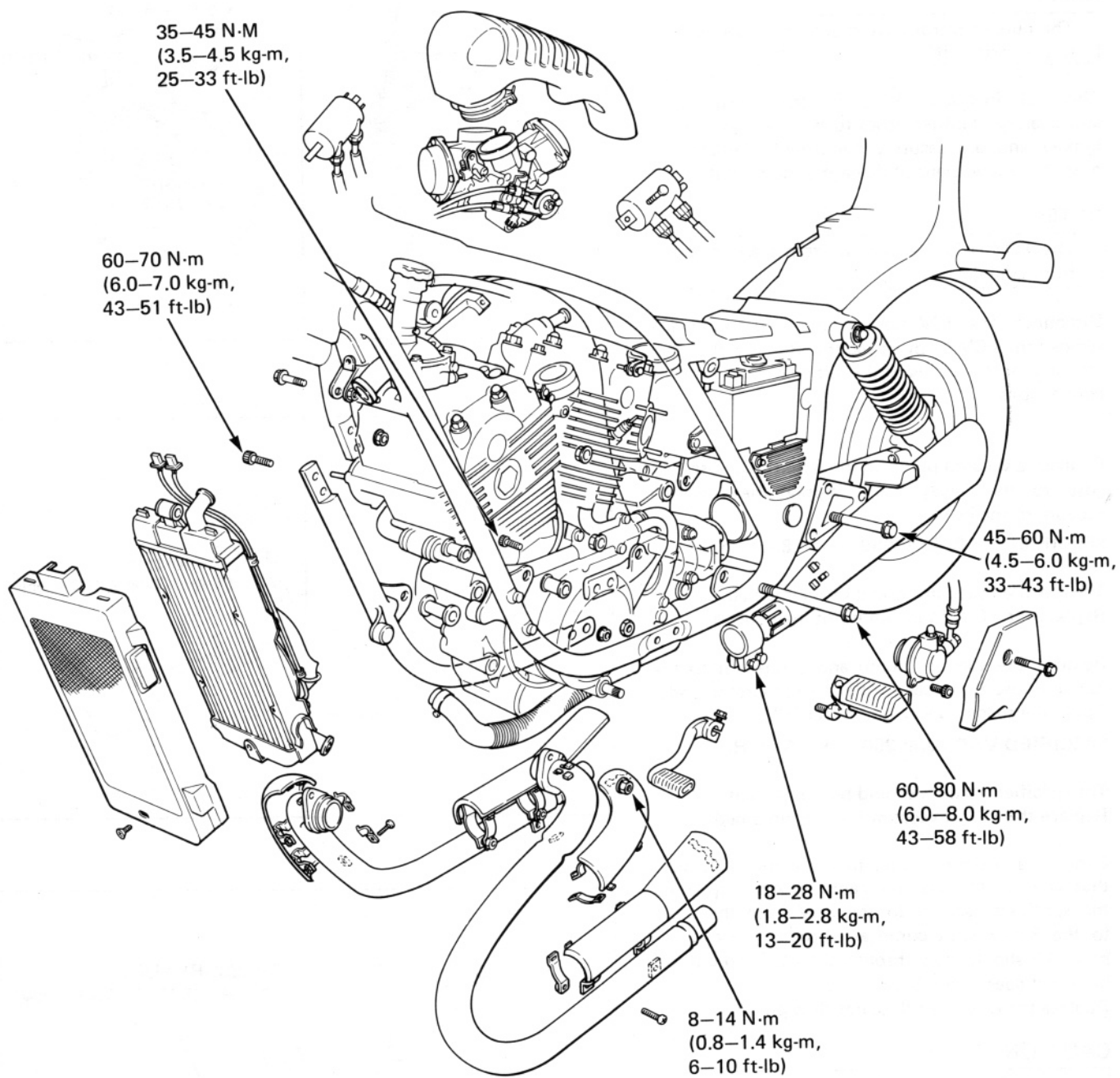


ENGINE REMOVAL/INSTALLATION



5. ENGINE REMOVAL/INSTALLATION

SERVICE INFORMATION	5-1
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SERVICE INFORMATION

5

GENERAL

- A floor jack or other adjustable support is required to support and maneuver the engine.
- The following parts or components can be serviced with the engine installed in the frame:
 - Clutch
 - Gearshift linkage
 - Oil pump and oil filter
 - Alternator
 - Starter motor
 - Carburetors

SPECIFICATIONS

Engine dry weight	78 kg (172 lb)
Oil capacity	3.5 liters (3.7 U.S. qt)

TORQUE VALUES

Engine hanger bolts		20-30 N·m (2.0-3.0 kg-m, 14-22 ft-lb)
- 8 mm bolt		45-60 N·m (4.5-6.0 kg-m, 33-43 ft-lb)
- 10 mm bolt		60-80 N·m (6.0-8.0 kg-m, 43-58 ft-lb)
- 12 mm bolt		70-80 N·m (7.0-8.0 kg-m, 51-58 ft-lb)
Sub-frame bolts	(Upper)	35-45 N·m (3.5-4.5 kg-m, 25-33 ft-lb)
	(Lower)	8-14 N·m (0.8-1.4 kg-m, 6-10 ft-lb)
Exhaust pipe joint nut		18-28 N·m (1.8-2.8 kg-m, 13-20 ft-lb)
Exhaust pipe clamp bolt		

ENGINE REMOVAL/INSTALLATION

ENGINE REMOVAL

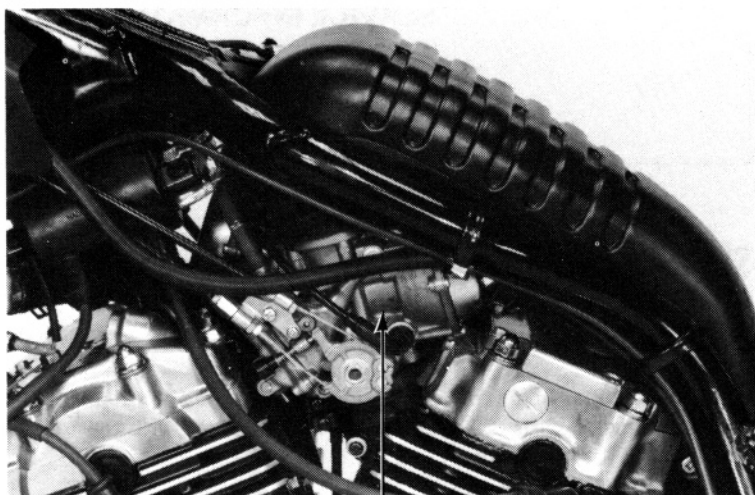
Place the motorcycle on its center stand.

Remove the seat and fuel tank.

Remove the left and right frame side covers.

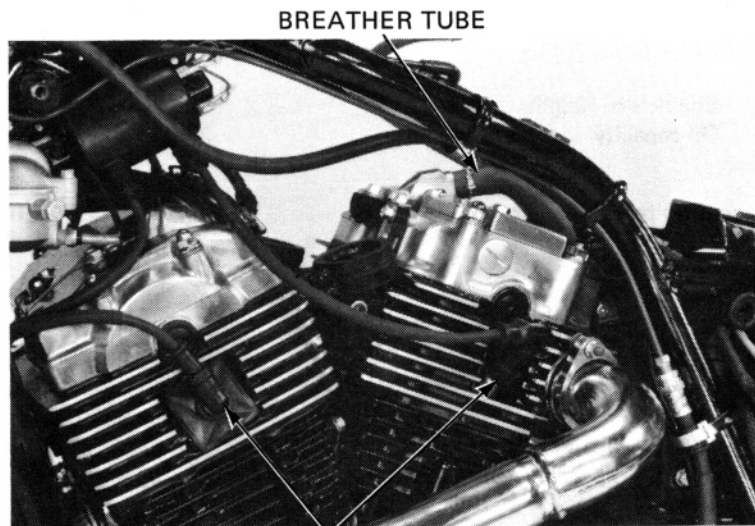
Drain the engine oil (page 2-3) and the coolant (page 6-3).

Remove the carburetors (page 4-3).



CARBURETORS

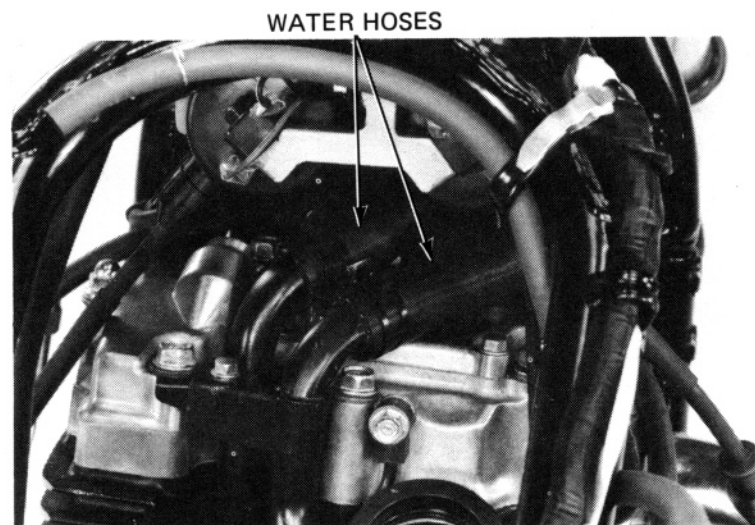
Disconnect the spark plug caps and the crankcase breather tube at the cylinder head cover.



BREATHER TUBE

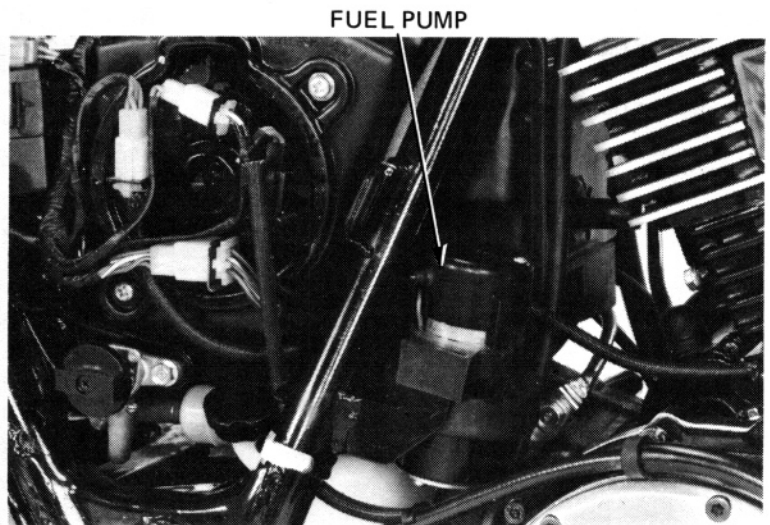
SPARK PLUG CAPS

Disconnect the water hoses at the cylinder head.

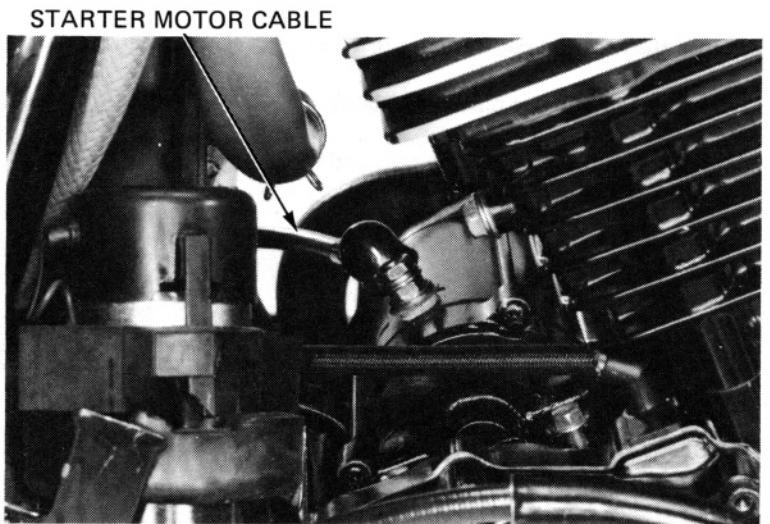


WATER HOSES

Remove the fuel pump from the bracket with the fuel lines connected.

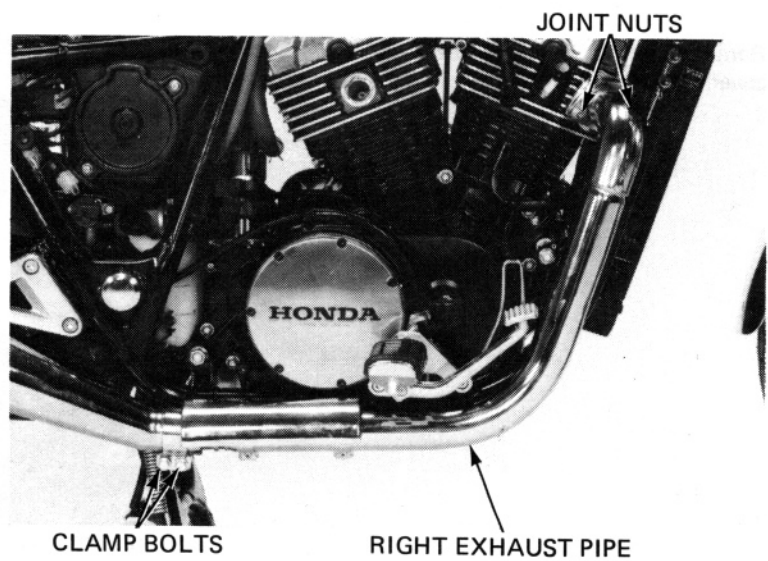


Disconnect the starter motor cable at the starter motor.



Loosen the right exhaust pipe clamp bolts.

Remove the right exhaust pipe joint nuts and remove the right exhaust pipe.

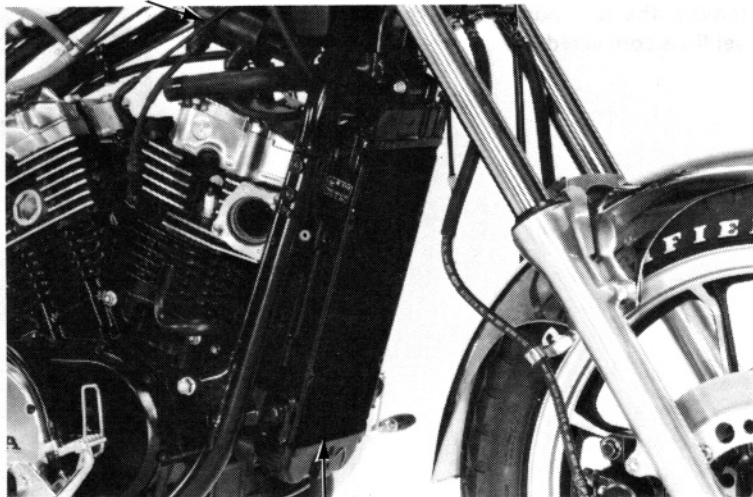


ENGINE REMOVAL/INSTALLATION

Remove the radiator (page 6-6).

Remove the right ignition coil.

RIGHT IGNITION COIL



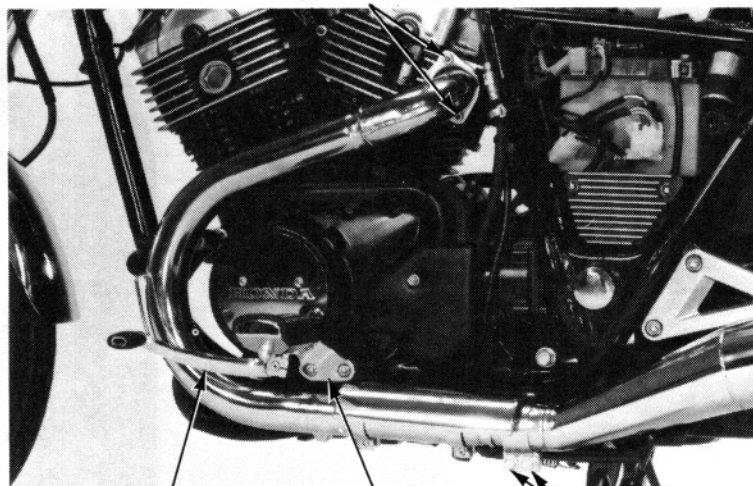
RADIATOR

Remove the left foot peg and gearshift pedal.

Loosen the left exhaust pipe clamp bolts.

Remove the exhaust pipe joint nuts and remove the left exhaust pipe.

JOINT NUTS



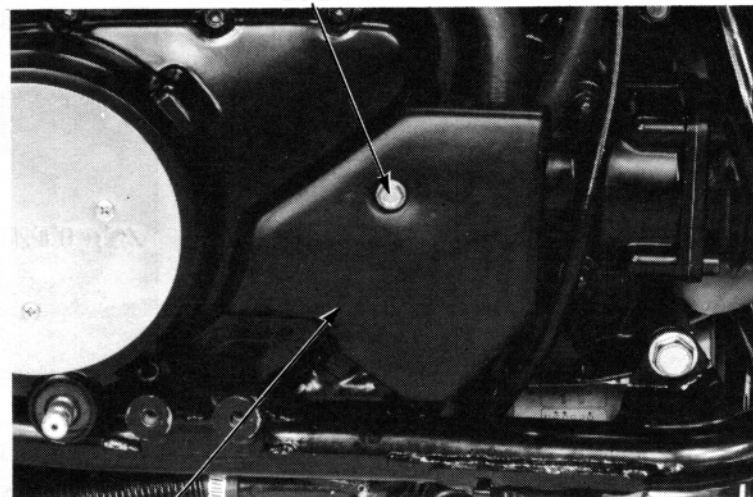
GEARSHIFT PEDAL

LEFT FOOT PEG

CLAMP BOLTS

Remove the bolt attaching the clutch slave cylinder cover and cover.

BOLT

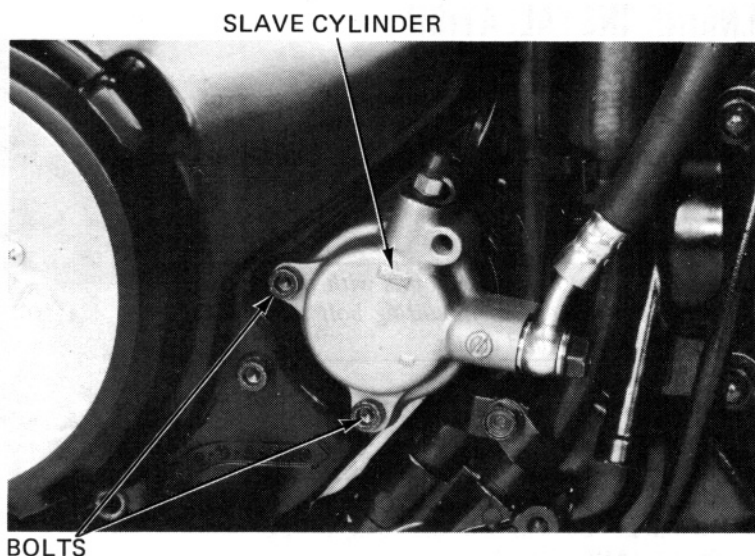


SLAVE CYLINDER COVER

Remove the slave cylinder mounting bolts and slave cylinder with the clutch hose connected.

NOTE:

Do not operate the clutch lever after removing the clutch slave cylinder. To do so will cause difficulty in installing the slave cylinder.



BOLTS

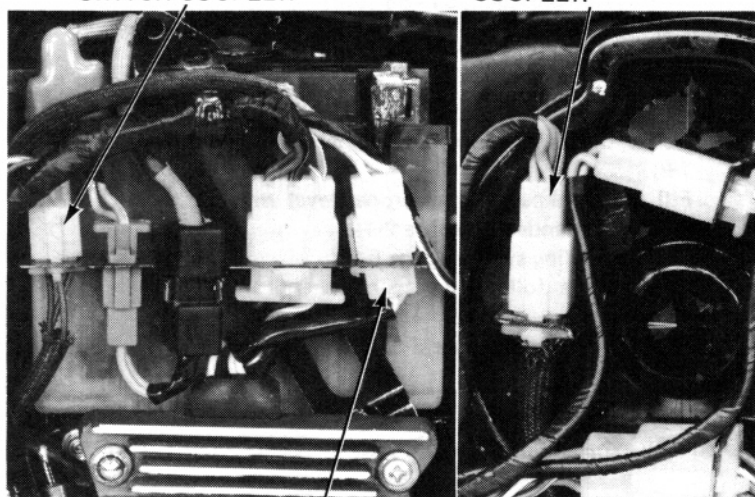
OIL PRESSURE/NEUTRAL/O.D. SWITCH COUPLER

PULSE GENERATOR COUPLER

Disconnect the oil pressure, neutral and O.D. switch wire coupler.

Disconnect the alternator wire coupler.

Disconnect the pulse generator wire coupler.



ALTERNATOR COUPLER

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

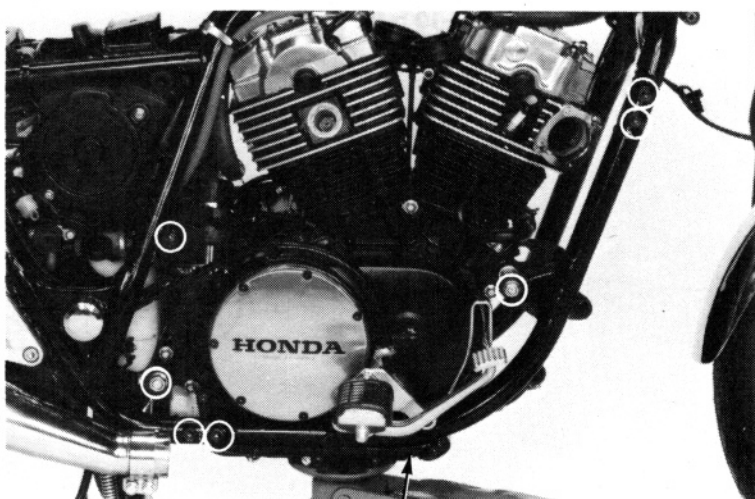
NOTE:

The jack height must be continuously adjusted so that the mounting bolts can be removed, and so stress is relieved from other bolts until they are removed.

Remove the right subframe.

Remove the engine mounting bolts.

Remove the engine from the right side while disconnecting the drive shaft universal joint from the engine.



SUB-FRAME

ENGINE INSTALLATION

Engine installation is essentially the reverse of removal.

Use a floor jack or other adjustable support to carefully maneuver the engine into place.

CAUTION:

Carefully align mounting points with the jack to prevent damage to mounting bolt threads and wire harness and cables.

Tighten the all fasteners to the specified torque:

ENGINE MOUNT BOLTS:

12 mm 60–80 N·m (6.0–8.0 kg-m, 43–58 ft-lb)

10 mm 45–60 N·m (4.5–6.0 kg-m, 33–42 ft-lb)

8 mm 20–30 N·m (2.0–3.0 kg-m, 14–22 ft-lb)

SUB-FRAME BOLTS:

Upper 70–80 N·m

(7.0–8.0 kg-m, 51–58 ft-lb)

Lower 35–45 N·m

(3.5–4.5 kg-m, 25–33 ft-lb)

NOTE:

- Route the wires and cables properly (page 1-9).
- Fill the crankcase to the proper level with the recommended oil (page 2-1).
- Fill the cooling system (page 6-3).
- Perform the following inspection and adjustments:
 - Throttle operation (page 3-5).
 - Clutch (page 3-5).

Install the exhaust system:

Install new exhaust pipe joint gaskets.

Install the exhaust pipes and tighten the joint nuts and clamp bolts.

TORQUE: JOINT NUTS: 8–14 N·m (0.8–1.4 kg-m, 6–10 ft-lb)

CLAMP BOLTS: 18–28 N·m (1.8–2.8 kg-m, 13–20 ft-lb)

