

IN-VEHICLE SERVICE (Continued)

13. Fill and bleed cooling system.
14. Connect battery ground cable.
15. Start engine and check for coolant, oil and exhaust leaks.

LH Exhaust Manifold

Front

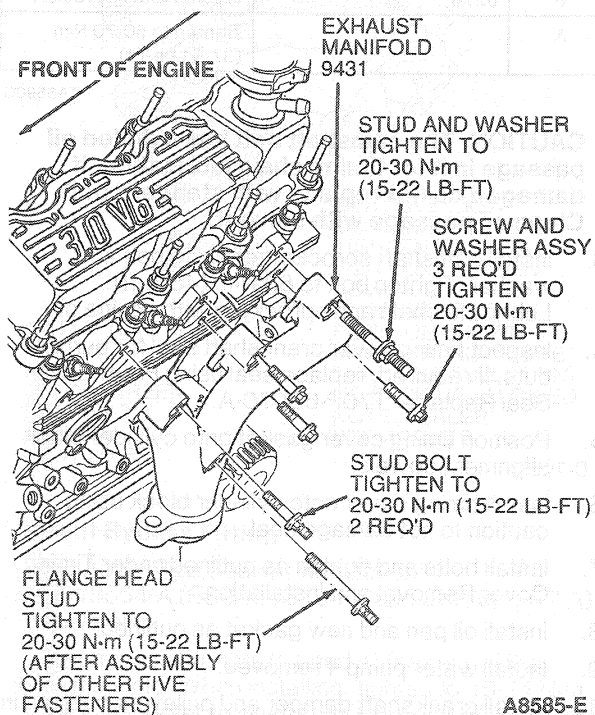
Removal

1. Disconnect battery ground cable and set aside.
2. Remove oil level indicator tube support bracket retaining nut.
3. Remove electrical harness connected to dipstick support bracket and remove dipstick and tube.
4. Remove manifold to exhaust pipe retaining nuts.
5. Remove exhaust manifold retaining bolts and exhaust manifold.

Installation

NOTE: Lightly oil all bolt and stud bolt threads before installation.

1. Clean mating surfaces on the exhaust manifold, cylinder head and exhaust pipe.
2. Position exhaust manifold on the cylinder head and install manifold retaining bolts. Tighten to 20-30 N·m (15-22 lb-ft).



3. Connect exhaust pipe to the exhaust manifold. Tighten the retaining nuts to 34-47 N·m (25-34 lb-ft).
4. Install oil level indicator tube support bracket and position electrical harness. Tighten nut to 15-20 N·m (11-15 lb-ft).
5. Connect battery ground cable.
6. Start engine and check for exhaust leaks.

RH Exhaust Manifold

Rear

Removal

1. Disconnect battery ground cable and set aside.
2. Disconnect PFE or DPF hose(s) from EGR valve to exhaust manifold tube.
3. Remove EGR valve to exhaust manifold tube from exhaust manifold. Use a backup wrench on the lower adapter.
4. Remove coolant bypass tube.
5. Remove manifold-to-exhaust pipe retaining nuts.
6. Remove exhaust manifold retaining bolts. Remove exhaust manifold.

Installation

NOTE: Lightly oil all bolt and stud bolt threads before installation.

1. Clean mating surfaces on the exhaust manifold, cylinder head and exhaust pipe.
2. If replacing exhaust manifold, remove the EGR valve to exhaust manifold tube and install it on the new exhaust manifold.