

**FORD:** 1998-2003 E SERIES  
1999-2003 SUPER DUTY F SERIES  
2000-2003 EXCURSION, F-650, F-750

This article supersedes TSB **03-21-50** to update the service procedure and illustration.

### **ISSUE**

Some 1998-2003 E-Series, 1999-2003 Super Duty, 2000-2003 Excursion, and 2000-2003 F650/750 vehicles equipped with a 7.3L Diesel engine may exhibit an oil leak at the high pressure oil pump outlet fittings and/or end plug (see Figure 1). The leak may appear to be a rear main crankshaft seal, oil pan gasket, or other engine oil leak due to the drain hole machined in the crankcase valley which allows any oil in the valley to run down the back of the engine.

### **ACTION**

High pressure oil pump leaks at the outlet fittings and/or end plug can be serviced without removing the pump assembly. Replace the O-rings on the fittings and the end plug using Kit 2C3Z-9G804-AA. All three (3) O-rings should be replaced. Apply liquid thread sealer (included in the kit) prior to reinstallation. Refer to the following Service Procedure for details.

### **SERVICE PROCEDURE**

#### **NOTE**

**BEFORE PERFORMING THE REPAIR PROCEDURE, MAKE SURE THAT THE CAUSE OF THE LEAK IS CLEARLY ESTABLISHED.**

#### **NOTE**

**FOR E-SERIES AND F650/750 VEHICLES, FOLLOW THE PROPER HIGH PRESSURE OIL PUMP ACCESS PROCEDURE IN THIS DOCUMENT FOR ACCESS TO THE HIGH PRESSURE OIL PUMP.**

#### **NOTE**

**FOR SUPER DUTY AND EXCURSION, PROCEED TO O-RING SEAL REPLACEMENT PROCEDURE.**

### **WARNING**

**DO NOT REMOVE OR ATTEMPT TO REPAIR A LEAK AT THE PLUG PICTURED IN LOWER LEFT CORNER OF FIGURE 1, OR DAMAGE TO THE PUMP WILL RESULT.**

### **1998-2003 E-SERIES HIGH PRESSURE OIL PUMP ACCESS PROCEDURE (DISASSEMBLY)**

1. Remove the Intake Air Resonator. For additional information, refer to Section 303-12 in the appropriate Workshop Manual.
2. Remove the exhaust back pressure sensor.
  - a. Disconnect the exhaust back pressure sensor electrical connector.
  - b. Remove the exhaust back pressure sensor.
3. Remove the high pressure oil pump reservoir. For additional information, refer to Section 303-04 in the appropriate Workshop Manual.

### **WARNING**

**SMOKING OR OPEN FLAME OF ANY TYPE MUST NOT BE PRESENT WHEN WORKING NEAR FUEL VAPOR.**

### **CAUTION**

**THE FUEL SYSTEM CONTAINS PRESSURIZED FUEL AFTER THE VEHICLE IS SHUT DOWN AND WILL MAINTAIN THIS PRESSURE FOR A LONG PERIOD OF TIME.**

4. Open the fuel/water separator drain valve to release fuel pressure. Completely drain the fuel filter/water separator assembly.
5. Disconnect the fuel supply and fuel return lines from the fuel filter/water separator.
6. Disconnect the two (2) cylinder head fuel supply lines from the fuel filter/water separator.

**NOTE:** The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

## Article No. 04-4-4 Cont'd.

7. Disconnect the fuel filter/water separator electrical connector.
8. Disconnect the fuel drain tube and cable and remove the fuel filter/water separator assembly.

### **2000-2003 F650/750 HIGH PRESSURE OIL PUMP ACCESS PROCEDURE (DISASSEMBLY)**

1. Position the coolant expansion tank out of the way.
2. Remove the retainer from the RH side of the coolant expansion tank support rod.
3. Remove the turbocharger inlet pipe.
4. Remove air cleaner assembly.
5. Remove the engine air cleaner support bracket.
6. Disconnect the engine oil temperature (EOT) sensor.

### **(ALL VEHICLES) HIGH PRESSURE OIL PUMP O-RING SEAL REPLACEMENT**

1. Prepare to collect engine oil from the back of the high-pressure oil pump in the valley area of the engine.
2. Remove end plug from port. Remove and discard O-ring.

#### **NOTE**

**OIL WILL CONTINUE TO FLOW OUT OF PORT. USE A RAG OR SUITABLE CONTAINER TO COLLECT OIL.**

3. Remove both high-pressure oil hoses at both fittings on the pump using Rotunda Essential Tool 303-625 (Quick Disconnect Tool).
4. Remove both discharge fittings from the pump. Remove and discard the O-rings.
5. Remove spring and check assemblies with needle nose pliers.
6. Clean fittings and ports with a commercially available brake cleaning product.

#### **NOTE**

**BE SURE BOTH PORTS IN THE PUMP HOUSING ARE CLEAN AND DRY.**

7. Install spring and check valve assemblies.
8. Install O-rings on both fittings.

9. Apply Loctite 680 Sealant to only the first three threads on both discharge fittings.
10. Install both discharge fittings to the pump housing and torque to 34 N•m (25 lb-ft).
11. Install both high-pressure hoses.
12. Clean end plug port with a commercially available brake cleaning product. Be sure plug is clean and dry.
13. Install new O-ring on end plug.
14. Apply Loctite 680 to the first three (3) threads of end plug.

#### **NOTE**

**WIPE OIL FROM PORT IMMEDIATELY BEFORE INSTALLATION OF THE PLUG. PRESENCE OF OIL WILL NOT ALLOW LOCTITE TO SEAL.**

15. Install end plug into pump housing and torque to 34 N•m (25 lb-ft).

### **1998-2003 E-SERIES (REASSEMBLY)**

#### **WARNING**

**CLEAN ALL FUEL RESIDUE FROM THE ENGINE COMPARTMENT. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND/OR DAMAGE TO THE VEHICLE.**

1. Position the fuel filter/water separator in the vehicle and connect the fuel drain tube and cable.
2. Connect the fuel filter/water separator electrical connector.
3. Connect the two (2) cylinder head fuel supply lines to the fuel filter/water separator.
4. Connect the fuel supply and fuel return lines to the fuel filter/water separator.
5. Install the high pressure oil pump reservoir. For additional information, refer to Section 303-04 in the appropriate Workshop Manual.
6. Install the exhaust back pressure sensor.
7. Connect the exhaust back pressure sensor electrical connector.
8. Install the Intake Air Resonator. For additional information, refer to Section 303-12 in the appropriate Workshop Manual.
9. Start engine and check for leaks. Check and correct oil level.

## Article No. 04-4-4 Cont'd.

### 2000-2003 F650/750 (REASSEMBLY)

1. Connect the engine oil temperature (EOT) sensor.
2. Install the engine air cleaner support bracket. Torque the air cleaner to engine mounting nuts to 28 N•m (21 lb-ft).
3. Install air cleaner housing assembly. Torque the air cleaner housing mounting bolts to 12 N•m (9 lb-ft).
4. Install the turbocharger inlet pipe.
5. Install the retainer to the RH side of the coolant expansion tank support rod. Torque nut and bolt to 133 N•m (98 lb-ft).
6. Return the coolant expansion tank to its proper position.
  - a. Torque the coolant expansion tank mounting bolts to 7 N•m (62 lb-in).
  - b. Torque the coolant expansion tank mounting nuts to 11 N•m (97 lb-in).
7. Start engine and check for leaks. Check and correct oil level.

### FINAL CHECK (ALL VEHICLES)

1. Start engine and check for oil leaks. Check and correct the engine oil level.

| LABOR OPERATIONS CLAIMING CHART |   |                      |          |
|---------------------------------|---|----------------------|----------|
| Operation                       | Labor Description   | Vehicle              | Time     |
| 040404A                         | Replace O-Rings On The High-Pressure Oil Pump Discharge Fittings And Plug | 1999-2003 Super Duty | 0.8 Hr.  |
|                                 |   | 2000-2003 Excursion  | 0.8 Hr.  |
|                                 |   | 1998-2003 E-Series   | 2.8 Hrs. |
|                                 |   | 2000-2003 F650-750   | 1.9 Hrs. |

| PART NUMBER   | PART NAME            |
|---------------|----------------------|
| 2C3Z-9G804-AA | High Pressure O-Ring |

**OTHER APPLICABLE ARTICLES:** NONE

**SUPERSEDES:** 03-21-50

**WARRANTY STATUS:** Eligible Under Provisions Of New Vehicle Limited Warranty Coverage (And Emissions Warranty Coverage For 1998-2000 Model Years Only)

### DEALER CODING

BASIC PART NO.  
9A543

CONDITION  
CODE  
D8

**Article No. 04-4-4 Cont'd.**

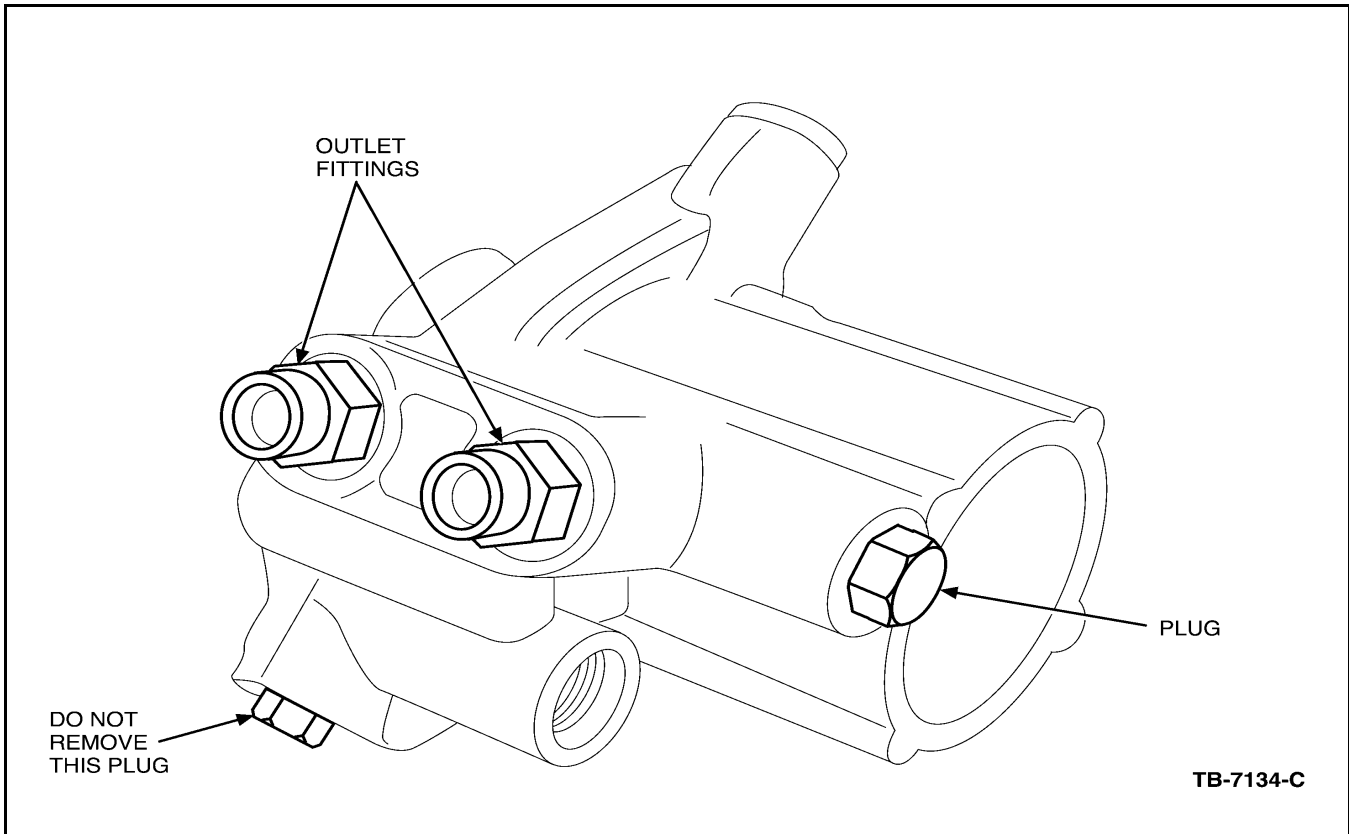


Figure 1 - Article 04-4-4