

- **DRIVEABILITY—RUNS ROUGH AND/OR LOW POWER—6.0L DIESEL ENGINE ONLY**
- **ENGINE—FUEL IN OIL—6.0L DIESEL—INJECTOR DIAGNOSTICS**

**Article No.
04-9-3**

FORD: 2003-2004 EXCURSION, F SUPER DUTY
2004 ECONOLINE

This article supersedes TSB **03-14-6** to update the vehicle lines, model years and service procedure.

ISSUE

Some vehicles equipped with the 6.0L diesel engine may exhibit engine oil diluted with fuel (OIL LEVEL MAY APPEAR OVER FULL), runs rough and/or a low power condition.

ACTION

Refer to the following Service Procedure.

SERVICE PROCEDURE

1. Remove and clean dipstick. Reinsert into dipstick tube only until dipstick handle reaches top of dipstick tube (Figure 1). Remove the dipstick and inspect indicator area.

NOTE

FIGURE 1 DEMONSTRATES DIPSTICK POSITIONING FOR OVER-FULL CHECK. KEEP DIPSTICK HANDLE OFFSET OF CENTER TO PREVENT IT FROM FULLY SEATING.

- a. If oil level is below the MAX mark, oil is not overfull. Verify latest calibration and go to PCED diagnosis for runs rough, and/or low power condition. Do not continue with this TSB.

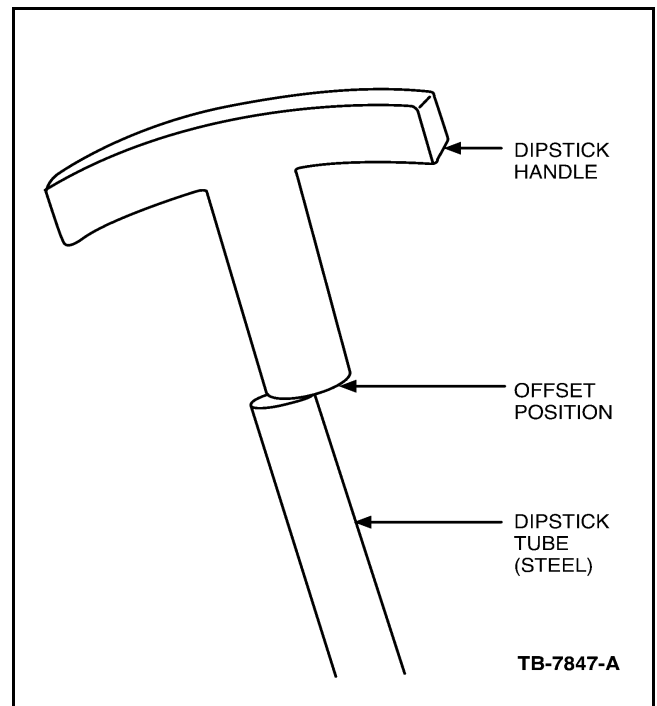


Figure 1 - Article 04-9-3

- b. If oil is above MAX mark (Figure 2), remove the oil pan drain plug and drain oil (including oil filter housing). LEAVE THE PLUG OUT DO NOT ADD ANY OIL AT THIS TIME. Proceed to Step 2.

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.

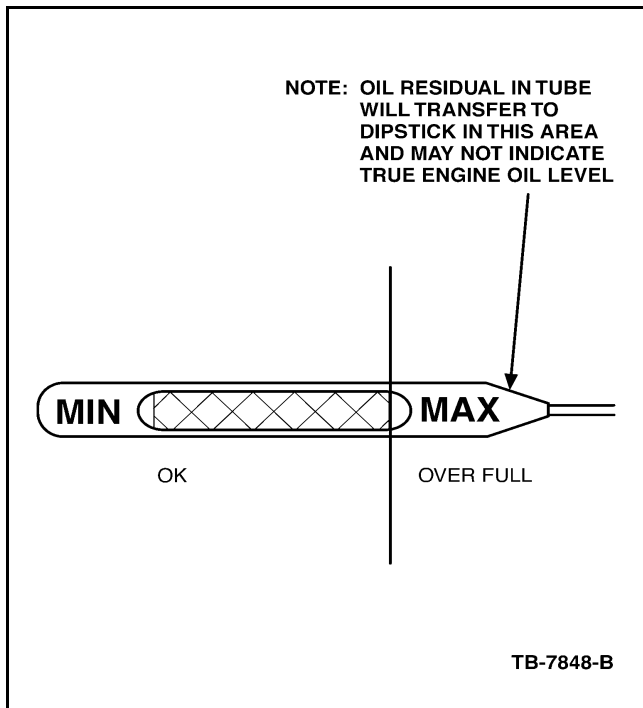


Figure 2 - Article 04-9-3

2. Inspect turbocharger per section 303-04D of Workshop Manual to verify that the turbocharger was not damaged by oil dilution.

3. Add ONE (1) ounce of ultra violet (UV) oil dye (compatible with diesel engines) to fuel filter housing.

NOTE

STEPS 4-6 WILL NEED TO BE REPEATED FOR LEFT BANK.

4. Block the fuel line to the left head at the secondary fuel filter housing.
 - a. Remove the left bank fuel line from the connection point at the secondary fuel filter housing.
 - b. Remove the brass adaptor screwed into the filter housing.
 - c. Remove the fuel pressure test port plug from the front of the secondary fuel filter housing.
 - d. Install the plug in the left bank outlet port.
 - e. Install fuel pressure adaptor (#303-765) and fuel pressure gage at test port (used to confirm constant pressure).

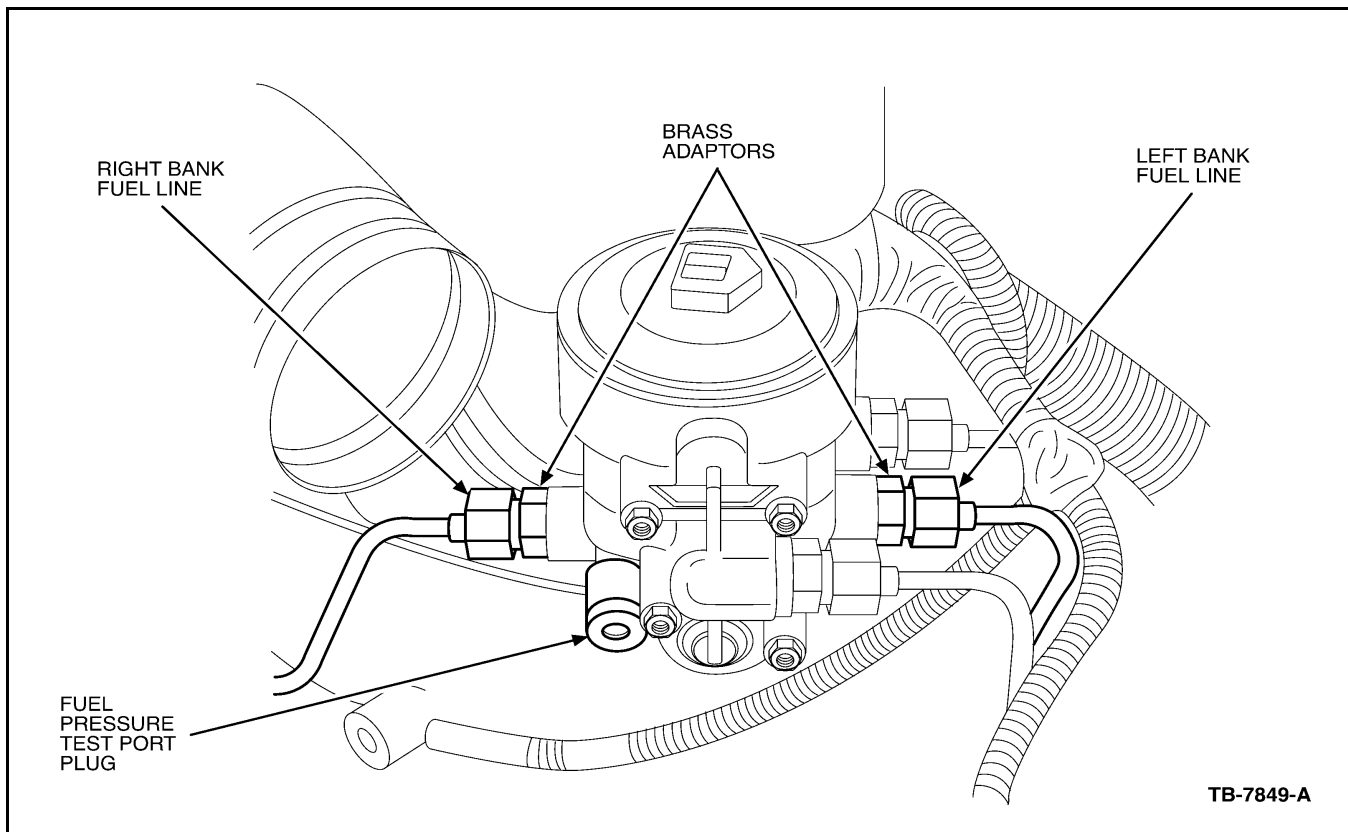


Figure 3 - Article 04-9-3

5. Turn on fuel pump using WDS "Active Commands".

NOTE

DTCS MAY BE SET IN THE PCM BY USING ACTIVE COMMANDS. DO NOT ATTEMPT TO DIAGNOSE DTCS SET DURING ACTIVE COMMANDS.

6. Visually inspect oil pan drain hole for fuel dye using ultra-violet (black) light.
 - a. If no dye is observed within a ten (10) minute period proceed to checking opposite bank fuel components. If both sides do not leak after ten (10) minutes, change oil and filter and continue with normal diagnosis for overfilled crankcase condition. Do not proceed with this TSB.
 - b. If fuel dye is observed, turn off fuel pump, suspect a fuel leak on that bank (or banks), and continue performing TSB.
7. Remove appropriate valve cover(s).
8. Check for loose injector end clamp hold-down bolts by verifying proper torque per Workshop Manual Section 303-04D.
 - a. If all are within specification, proceed to Step 9.
 - b. If loose injector(s) end clamp bolt(s) are found perform the following, then proceed to Step 9:
 - (1) Remove loose injector(s).
 - (2) Inspect the injector body, injector body O-rings, and copper combustion seal at the injector tip for damage.
 - (3) Replace damaged components as necessary.

CAUTION

REMOVAL AND/OR INSTALLATION OF AN INJECTOR SHOULD ONLY BE PERFORMED WITH HAND TOOLS. USE OF AIR/POWER TOOLS WILL DAMAGE INJECTOR O-RINGS.

9. Turn fuel pump on. Use ultra-violet light to inspect fuel system components in head(s) for leakage. Repair as necessary.

NOTE

VISUALLY INSPECT FOR A STEADY FLOW OR AN EVIDENT DYE TRAIL OR PUDDLE WITH A PATH LEADING TO THE OIL DRAIN-BACKS (FIGURE 4). TRACE AMOUNTS OF DYE AT FUEL INJECTOR WEEP-HOLE AREAS ARE NORMAL.

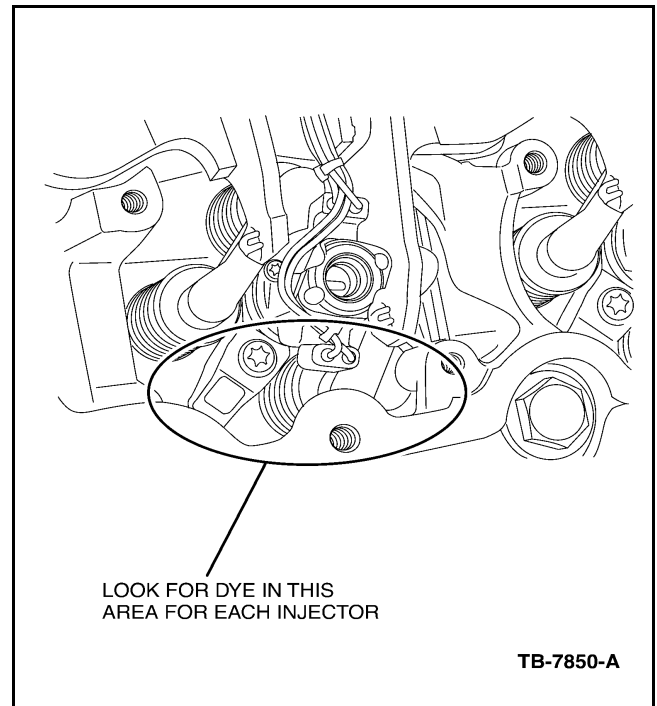


Figure 4 - Article 04-9-3

10. Following any repair, clean the top of the head with brake cleaner and dry thoroughly, especially on the down-side of the injectors. Turn the fuel pump on and retest fuel components for leaks.
11. Check the Charge Air Cooler (CAC) for fuel and/or oil. Clean the CAC and dry with shop air thoroughly before reinstalling.
12. Reinstall oil pan drain plug, refill with new engine oil and install new oil filter.
13. Road test twenty (20) miles.
14. Change engine oil and oil filter again.
 - a. Once the oil is drained, run the fuel pump with WDS.
 - b. Final Repair Verification - Watch for fuel at the drain (ten (10) min/max.) Return to Step 2 if any fuel is observed.
15. Clear DTCs set during Output State Control of fuel pump or other actuators.

Article No. 04-9-3 Cont'd.

PART NUMBER	PART NAME
3C3Z-9E527-AE	Injector 2003
4C3Z-9E527-AA	Injector 2004
3C3Z-9229-AA	O-Ring Kit

WARRANTY STATUS: Eligible Under Provisions Of
New Vehicle Limited
Warranty Coverage And
Emissions Warranty
Coverage

OTHER APPLICABLE ARTICLES: NONE