

6.0L—HARD START / LONG CRANK / NO START— LOW INJECTOR CONTROL PRESSURE (ICP)

TSB 08-9-9

FORD:
2005 Excursion

2005-2007 F-Super Duty
2005-2008 E-350

This article supersedes TSB 06-17-6 to update the Service Procedure and Service Labor Times.

ISSUE

Some 2005-2007 F-Super Duty, 2005-2008 E-Series and 2005 Excursion vehicles equipped with a 6.0L diesel engine may exhibit a hard start / long crank or no start condition due to low injection control pressure (ICP).

ACTION

Follow the Service Procedure steps to correct the condition.

NOTE

THE LOW PRESSURE OIL SYSTEM MUST BE WORKING PROPERLY IN ORDER FOR THE HIGH PRESSURE OIL SYSTEM TO BUILD ICP PRESSURE. THIS INCLUDES ADEQUATE BASE ENGINE OIL SUPPLY PRESSURE AND GOOD QUALITY PROPERLY MAINTAINED OIL. THIS MUST BE VALIDATED BEFORE CONTINUING WITH THIS TSB.

SERVICE PROCEDURE

1. Install the Integrated Diagnostic System (IDS) scan tool, check for ICP related diagnostic trouble codes (DTCs).
2. Check ICP voltage key on engine off (KOEO) for bias: If voltage is not between 0.15 V and 0.35 V refer to Powertrain Controls/Emissions Diagnosis (PC/ED), and do not continue with this TSB.
3. If the engine starts go to Step 5.
4. If the engine does not start, go to ICP PID Data Test procedure.
5. Drive the vehicle and monitor the engine oil temperature using IDS until the engine oil temperature (EOT) reaches 195 °F (91 °C).

6. If the vehicle is now a no start, hard start or long crank, go to ICP PID Data Test procedure.
 - a. If the vehicle starts and no DTCs are present, continue with normal PC/ED diagnostics.
 - b. If the vehicle starts normally and DTCs are present, and DTCs are not related to low ICP, this TSB does not apply and continue with normal diagnostics.
 - c. If the vehicle starts normally and has DTCs related to low ICP, proceed to ICP PID Data Test procedure.

ICP PID Data Test

NOTE

BATTERIES MUST BE FULLY CHARGED BEFORE PROCEEDING.

If oil is leaking from the ICP system or if air is trapped in the ICP system, the injection pressure regulator (IPR) valve may be commanded fully closed by the powertrain control module (PCM) while the starter is engaged in an attempt to exceed 500 psi (3.5 MPa).

1. Select the parameters indicated from the scan tool parameter list.
 - a. ICP Pressure + Voltage
 - b. IPR Duty Cycle
 - c. Engine Speed (RPM)
2. Crank engine and monitor ICP pressure.

Normal start response for Engine Speed, IPR Duty Cycle and ICP- Operation shown. (Figure 1)

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.

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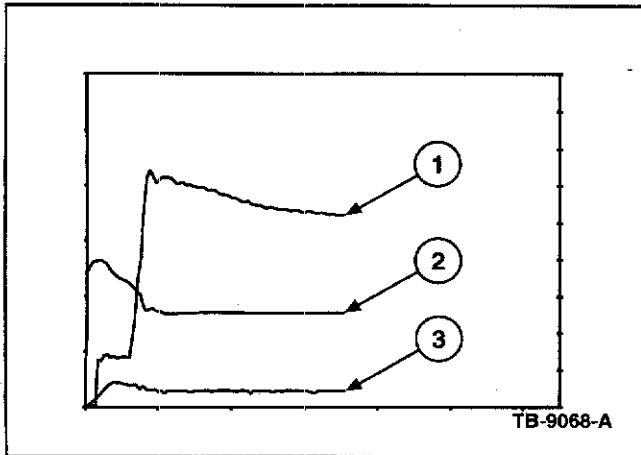


Figure 1 - Article 08-9-9

Item	Description	Number
1	Engine Speed	150 RPM
2	IPR Duty Cycle	45-85%
3	ICP (0.80 volts minimum)	ICP 500 psi (3.5MPa) minimum

- ICP pressure should reach 500 psi (3.5 MPa) within five (5) seconds of cranking engine.
 - Normal crank time is 3-5 seconds.
3. If ICP is within specification, this procedure does not apply and continue with normal PC/ED diagnosis.

Entrapped air pocket expected start response engine speed, IPR duty cycle and ICP system leak or improper repair shown. (Figure 2)

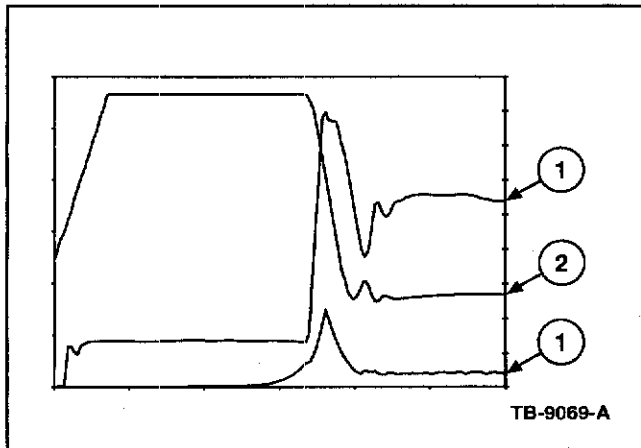


Figure 2 - Article 08-9-9

4. If the ICP is not within specification, go to Air Pressure Test (ICP) procedure.

NOTE

BEFORE PERFORMING THIS TEST, INSPECT THE O-RINGS OF THE TEST TOOLS. REPLACE IF WORN, CRACKED OR CUT.

Air Pressure Test ICP

NOTE

THE AIR PRESSURE APPLIED FOR THIS TEST MUST BE 100 PSI (689 kPa). WHEN AIR PRESSURE IS APPLIED FOR THE FIRST TIME, IT MAY TAKE three (3) TO five (5) MINUTES BEFORE THE LEAK CAN BE HEARD. THIS ALLOWS THE AIR PRESSURE TO DISPLACE THE ENGINE OIL IN THE ICP SYSTEM. ONCE THE ENGINE OIL IS DISPLACED, AN AIR LEAK CAN BE HEARD ALMOST IMMEDIATELY AFTER APPLYING AIR PRESSURE.

CAUTION

DO NOT LEAVE THE IPR VALVE ENERGIZED LONGER THAN 120 SECONDS. THIS CAN DAMAGE THE IPR VALVE.

Econoline

1. Remove the engine cover, refer to Work Shop Manual (WSM), Section 501-05.
2. Remove M 12 plug from the top of the high-pressure oil pump. (Figure 3)

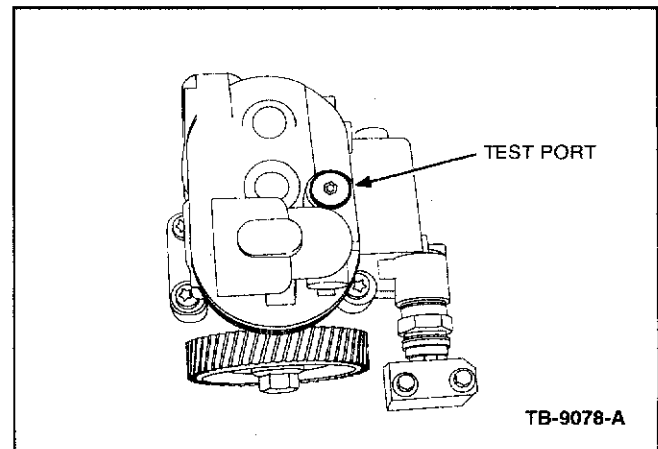


Figure 3 - Article 08-9-9

3. Install test adapter 303-765 in the top of the high-pressure oil pump. Attach shop air hose to the test adapter. (Figure 3)
4. Apply shop air at 100 psi (689 kPa) maximum to the high-pressure oil pump.
5. Using IDS command IPR open for two (2) minutes to clear the oil from the high pressure oil system. Slowly command the IPR closed and listen for an air noise change indicating that the IPR is moving.

6. Listen for an air leak. If a no start or hard start condition exists, an audible leak may be identified by using a stethoscope through the oil fill tube or left valve cover crankcase vent hole or by listening at the rear of the engine.
7. If the leak is isolated to the back of the engine, go to Replace Snap To Connect (STC) procedure.
8. If a leak is detected under a valve cover, perform the Under Valve Cover Air Leak Test procedure.
9. If no audible air leaks are detected, go to High Pressure Oil Pump Test procedure.

F- Super Duty And Excursion

1. Remove the ICP sensor from the right side valve cover. Refer to WSM, Section 303-04C. Install the ICP system test adaptor 303-765 in the threaded cavity where the ICP sensor was located. (Figure 4)

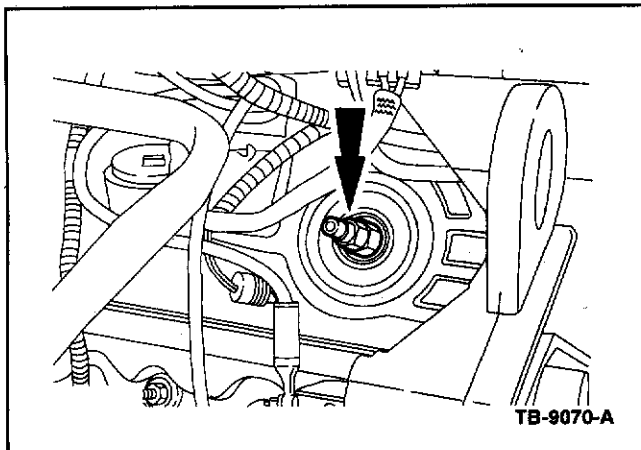


Figure 4 - Article 08-9-9

2. Remove the oil fill cap from the valve cover.

NOTE

A PIECE OF HOSE THAT WILL FIT DOWN INTO THE OIL FILL STAND TUBE MAY BE NEEDED TO AID IN DETECTING AIR LEAKS IN THE FOLLOWING TESTS.

3. Connect the shop air supply line to the ICP system test adaptor and apply 100 psi (689 kPa) of air pressure. (Figure 5)

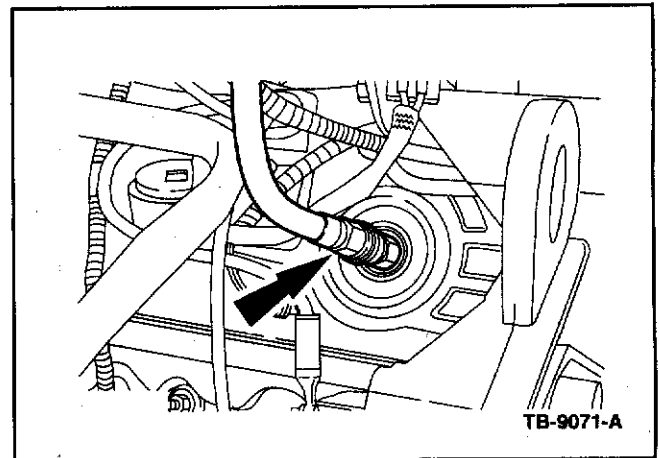


Figure 5 - Article 08-9-9

NOTE

AN AIR LEAK SHOULD BE HEARD AT THIS TIME. AIR SHOULD BE PASSING THROUGH THE IPR VALVE AND RETURNING TO THE CRANKCASE WHEN THE IPR VALVE IS NOT ENERGIZED.

4. Using IDS command IPR open for two (2) minutes to clear the oil from the high pressure oil system. Slowly command the IPR closed and listen for an air noise change indicating that the IPR is moving.
5. Listen for an air leak. If a no start or hard start condition exists, an audible leak may be identified by using a stethoscope through the oil fill tube or left valve cover crankcase vent hole or by listening at the rear of the engine.
6. If the leak is isolated to the back of the engine, proceed to replace STC procedure.
7. If a leak is detected under a valve cover, go to Under Valve Cover Air Leak Test procedure.
8. If no audible air leaks are detected, proceed to High Pressure Oil Pump Test procedure.

Replace STC

1. Remove the high-pressure oil pump per WSM, Section 303-04C.

NOTE

DO NOT REMOVE THE BRANCH TUBE ASSEMBLY, OR REAR COVER.

2. Mount the high pressure oil pump securely in a vise.

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NOTE

IF THE HIGH-PRESSURE OIL PUMP AND BRANCH TUBE ADAPTER HAS AN ASSEMBLY SUPPORT BRACKET, REMOVE AND DISCARD THE ASSEMBLY SUPPORT, AND ALL ATTACHING HARDWARE. THIS WILL NOT BE REUSED.

3. Remove (unthread) the existing branch tube adapter and STC or jam nut fitting from the high-pressure oil pump. Discard either type of branch tube adapters.
4. Remove the dowel pin. (Figure 6)

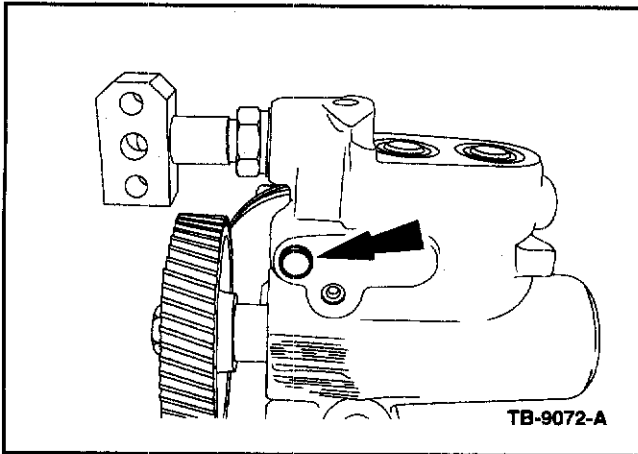


Figure 6 - Article 08-9-9

NOTE

IT IS NOT NECESSARY TO REPLACE THE HIGH PRESSURE PUMP WHEN REPLACING THE QUICK CONNECT FITTINGS.

CAUTION

TO PREVENT ENGINE DAMAGE, MATCH NEW O-RINGS WITH THE O-RINGS REMOVED. SEVERAL O-RINGS ARE SIMILAR IN SIZE, BUT WILL NOT SEAL IF USED IN THE WRONG LOCATION.

5. Prior to installing the new jam nut fitting, lubricate the entire jam nut fitting with clean engine oil, rotate the jam nut clockwise to the base of the branch tube adapter. The adapter is threaded to the jam nut. (Figure 7)

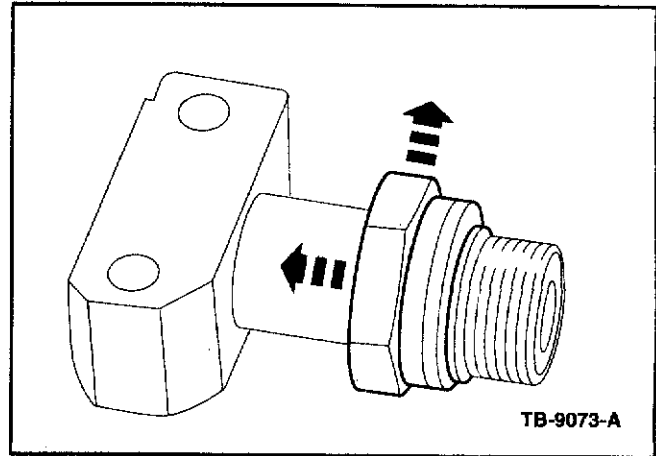


Figure 7 - Article 08-9-9

CAUTION

THE BRANCH TUBE ADAPTER MUST BE INSTALLED AT THE CORRECT DEPTH TO PREVENT HIGH-PRESSURE OIL LEAKS.

6. Install the branch tube adapter into the high-pressure oil pump by threading it five (5) complete turns to set proper depth and set proper orientation. Do not tighten the jam nut at this time. (Figure 8)

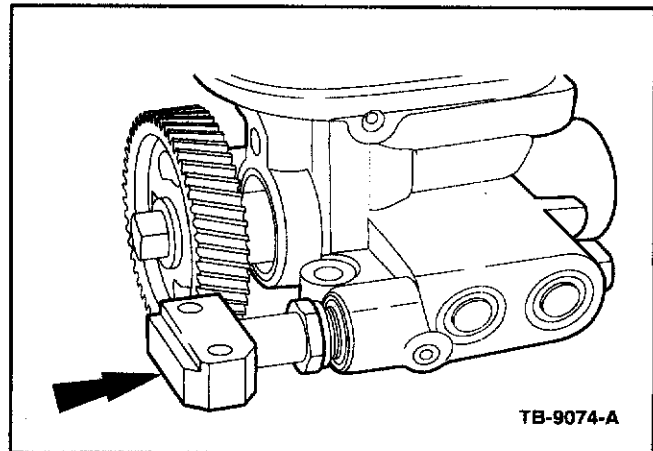


Figure 8 - Article 08-9-9

CAUTION

TO PREVENT ENGINE DAMAGE, BRANCH TUBE ADAPTER OIL OUTLET HOLE MUST FACE DOWN.

7. Install holding tool using the supplied plastic bolts and wing nuts. (Figures 9 and 10)

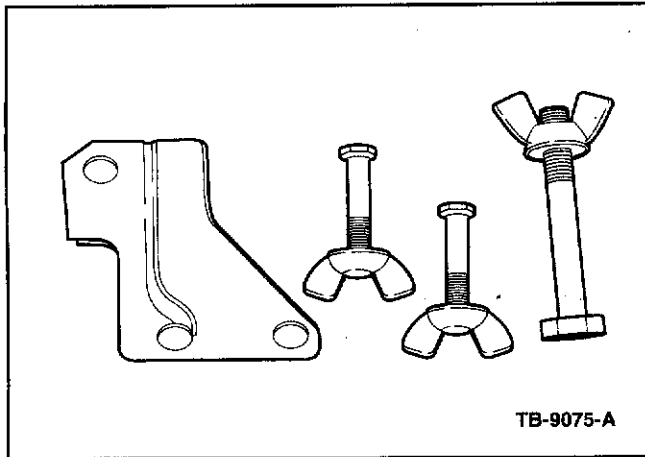


Figure 9 - Article 08-9-9

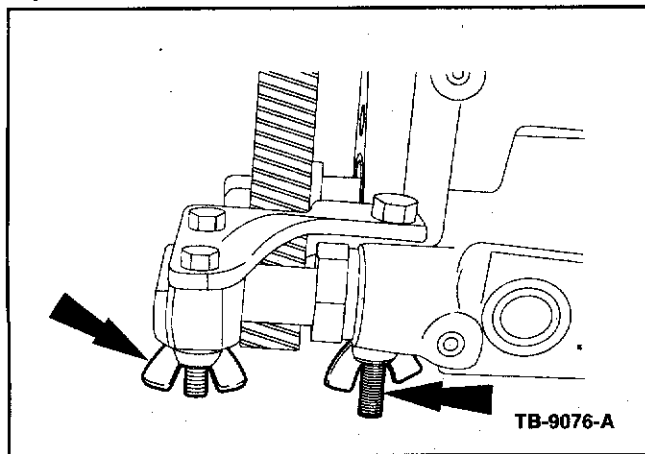


Figure 10 - Article 08-9-9

8. With plastic holding tool securely fastened, torque jam nut to 49 lb-ft (66 N•m) with a 15/16" crow foot open end wrench and torque wrench. (Figure 10)

NOTE

TORQUE SPECIFICATION FOR STEP 8 IS CALCULATED FOR THE USE OF A CROW FOOT OPEN END WRENCH.

9. Remove and discard holding tool, plastic bolts and wing nuts.
10. Install the new dowel pin provided in kit.
11. Lubricate and install a new O-ring in the branch tube inlet recess and in the high-pressure oil pump inlet recess.

CAUTION

TO PREVENT ENGINE DAMAGE THE OIL SUPPLY HOLE IN THE BRANCH TUBE ADAPTER MUST FACE THE BRANCH TUBE ASSEMBLY.

12. Install the high-pressure oil pump with branch tube adapter already installed. Use new bolts supplied in kit. Finger tighten the three (3) M 8x45 bolts securing the high-pressure oil pump to the crankcase and the two (2) M 6x30 bolts holding the branch tube adapter to the branch tube.

NOTE

NOTICE BRANCH TUBE ADAPTER TO BRANCH TUBE HOLE MISALIGNMENT IN MOST CASES THERE IS ENOUGH CLEARANCE IN THE BRANCH TUBE ASSEMBLY AND HIGH-PRESSURE OIL PUMP ASSEMBLY FOR PROPER HOLE ALIGNMENT. IF UNABLE TO ALIGN HOLES THE BRANCH TUBE ASSEMBLY WILL HAVE TO BE REPLACED. (FIGURE 11)

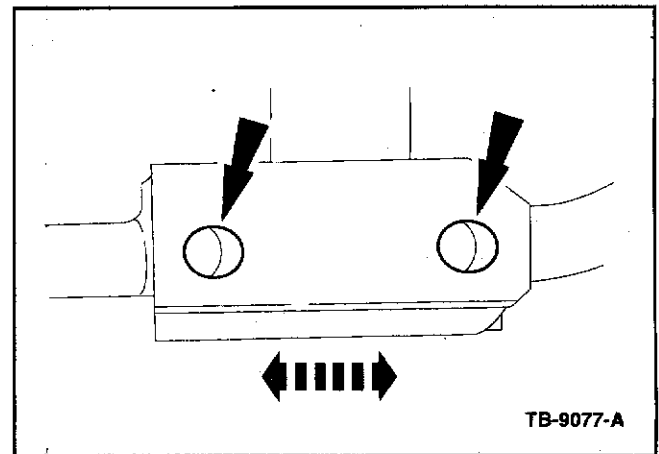


Figure 11 - Article 08-9-9

13. Tighten three (3) M 8x45 bolts securing the high-pressure oil pump to the crankcase to 23 lb-ft (31 N•m).
14. Tighten two (2) M 6x30 bolts that hold the branch tube adapter jam nut to branch tube to 97 lb-in (11 N•m). Pressure test to verify repair and got to Air Pressure Testing (Pump) - After STC Replacement to verify no other leaks are present.

Air Pressure Testing (Pump) - After STC Replacement

1. Remove the ICP adapter 303-765 from the ICP port, reinstall the ICP sensor, Tighten to 9 lb-ft (12 N•m) if it was removed.
2. Install IPR valve.

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NOTE

BEFORE PERFORMING TEST PLACE THE TURBOCHARGER OIL FEED TUBE INTO A SUITABLE CONTAINER TO CATCH THE ENGINE OIL.

3. Disconnect the fuel injector control module (FICM) relay.
4. Crank the engine to prime the oil system.
5. Repeat Air Pressure Test (ICP).
 - a. If no leaks are found, reconnect the FICM relay, check engine oil level, and refill as required. Return to customer.
 - b. If leaks are found, proceed to Step 6.
6. Remove and discard M 12 plug from the top of the high-pressure oil pump. (Figure 3)
7. Install ICP system test adaptor 303-765 in the top of the high-pressure oil pump. Attach shop air hose to the test adaptor. (Figure 5)
8. Apply shop air at 100 psi (689 kPa) maximum to the high-pressure oil pump.
9. Using IDS command IPR closed.
10. Listen for air leak.
11. If no leak is found, remove the test adapter and install the new M 12 plug provided in service kit. Tighten M 12 plug to 26 lb-ft (36 N•m). Reassemble the vehicle, check engine oil level, and refill as required. Return to customer.
12. If a leak is identified in the branch tube, use the Branch Tube Replacement Procedure for F-Super Duty and Excursion. Econoline refer to WSM, Section 303-01C.
13. If a leak is identified under the valve covers, remove the test adapter and install the new M 12 plug provided in service kit. Tighten M 12 plug to 26 lb-ft (36 N•m) and go to Under Valve Cover Leak Test procedure.

High Pressure Oil Pump Test - No Audible Air Leak

1. Remove the left and right hand valve covers. Refer to WSM, Section 303-01.
2. Remove both upper crankcase to head tubes (stand pipes).

3. Install the fuel rail block off tool 303-1163/2, into the rear of the left high pressure oil rail where the upper stand pipe was removed.
4. Remove the ICP sensor.
5. Install the ICP sensor into the block off tool 303-1163/1 into the rear of the right high pressure oil rail where the upper stand pipe was removed.
6. Install jumper harness 418-D003 (D94T-50-A) to the existing ICP sensor connector. If the jumper harness is unavailable, proceed to Alternate High Pressure Oil Pump Output Test procedure.
7. Disconnect the FICM relay.
8. Crank the engine while monitoring the ICP PID, Pressure should reach a peak of a minimum 1500 psi (10.5 MPa).
9. If low or no pressure is achieved, replace the IPR valve and re-test.
10. If a peak of a minimum of 1500 psi (10.5 MPa) is not reached, replace the high pressure pump. (If the IPR has not been replaced in a previous repair).
11. If pressure is OK, proceed to Under Valve Cover Leak Test procedure.

Alternate High Pressure Oil Pump Output Test - If Jumper Harness 418-D003 (D94T-50-A) Unavailable

NOTE

BEFORE PERFORMING THIS TEST, INSPECT THE O-RINGS OF THE TEST TOOLS. REPLACE IF WORN, CRACKED OR CUT.

1. Remove the left and right hand valve covers. Refer to WSM, Section 303-01.
2. Remove the left upper crankcase to head tube (stand pipe) and install the oil rail block off tool 303-1163/2 into the rear of the left high pressure oil rail.
3. Install the ICP sensor and connect.
4. Disconnect the FICM relay.
5. Crank the engine while monitoring ICP PID. Pressure should reach a peak of a minimum of 1500 psi (10.5 MPa).
6. If low or no pressure is achieved, replace the IPR valve and re-test.

7. If a peak of a minimum of 1500 psi (10.5 MPa) is not reached, replace the high pressure pump. (If the IPR has not been replaced in a previous repair).
8. If pressure is OK, go to Under Valve Cover Leak Test procedure.

Under Valve Cover Leak Test (Air Leak Detected)

NOTE

BEFORE PERFORMING THIS TEST, INSPECT THE O-RINGS OF THE TEST TOOLS. REPLACE IF WORN, CRACKED OR CUT.

1. If not removed previously, remove the left and right hand valve covers. Refer to WSM, Section 303-01.
2. Remove the ICP sensor from the right side high pressure oil rail and install the ICP system test adaptor 303-765 in the threaded cavity where the ICP sensor was located.
3. Apply 100 psi (689 KPa) regulated shop air pressure.
4. Key on, engine off. Using the scan tool, command the IPR valve closed by increasing the IPR duty cycle.
5. Listen for air leaks around the fuel injectors, D-rings and fuel rail plugs at both high pressure oil rails. If leaks are found repair as necessary.

Branch Tube Replacement For F-Super Duty And Excursion Vehicles Only

1. Remove the transmission, see the appropriate model year WSM, Section 307-01.

NOTE

LEAVE THE FLYWHEEL ON, IT WILL MAKE IT EASIER TO TURN THE ENGINE OVER TO TOP DEAD CENTER (TDC), THE TRANSMISSION FLUID DOES NOT NEED TO BE DRAINED.

2. Set engine at TDC (both cylinder number 1 rocker arms should be loose) (See rocker arm removal procedure in the appropriate online WSM, Section 303-01C).
3. Remove the right and left side high-pressure oil rails.
4. Remove and inspect both high-pressure standpipes for D-ring wear, or stand pipe damage. If damaged replace stand pipe(s).

5. Remove the port plugs and inspect for damage, if damaged replace the port plugs. Refer to (Figure 12)
6. Remove fuel injectors from cylinders 6, 7 and 8. (WSM, Section 303-04C, use Ford Special Service Tool Number 303-1115)
7. Inspect all injectors for D-ring and/or snap-ring damage at the injector to high pressure oil rail plug location.
8. Plug oil drain holes in cylinder head prior to removing the rocker arms. Remove intake and exhaust rocker arms from cylinders number 7 and number 8 then remove the push rods (See WSM, Section 303-01C, use Ford special service tool number 303-1170. The rocker arm plastic retaining clips may break upon removal. Make sure all the pieces are removed from the head).
9. Rotate engine one (1) full revolution, see WSM, Section 303-01C rocker arm removal procedure.
10. Remove exhaust rocker arm from cylinder number 6 and push rod (leave tool in place).
11. Remove the rear cover following WSM, Section 303-01C. Cut the sealant at the rear cover "T" joints for the bedplate gaskets and high-pressure pump cover gasket before fully removing.

NOTE

USE A LONG PUTTY KNIFE OR RAZOR BLADE TO SEPARATE THE BED PLATE GASKETS TO PREVENT DAMAGE. DO NOT STRETCH THE BEDPLATE GASKETS OR THE BEDPLATE WILL HAVE TO BE REMOVED.

12. Loosen the two (2) 8 mm bolts that hold the branch tube adapter to the branch tube. (Use open end / box end wrench thin)
13. Insert a 10" long 1/4" locking extension with a T27 locking Torx bit through cylinder number 6 exhaust push rod hole. Use a magnet through the standpipe hole in the head to remove the bolt (the extension will be on a slight angle, have someone under the vehicle watch from the rear cover area to guide the socket on the bolt head of the branch tube hold down).

CAUTION

IF THE TORX BIT IS DROPPED IT WILL BE NECESSARY TO REMOVE THE CYLINDER HEAD TO RETRIEVE IT.

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14. Insert a 10" long 1/4" locking extension with a T27 locking Torx bit through cylinder number 7 exhaust push rod hole and loosen the hold down bolt. Use a magnet through the standpipe hole to remove bolt. (The extension will be on a slight angle, have someone under the vehicle watch from the rear cover area to guide the socket on the bolt head of the branch tube hold down).

NOTE

THE BOLT HEAD IS NOT VISIBLE ON THIS SIDE.

CAUTION

IF THE TORX BIT IS DROPPED IT WILL BE NECESSARY TO REMOVE THE CYLINDER HEAD TO RETRIEVE IT.

15. Remove the branch tube from the engine and replace high-pressure branch tube.
16. Pack the branch tube bolt holes with grease and install retaining bolts in the branch tube flush with the bottom.
17. If the high pressure pump was removed it needs to be installed at this point. Torque the mounting bolts to 26 lb-ft (35 N•m).
18. Install the two (2) 8 mm bolts into the branch tube adapter.
19. Install a new high-pressure oil branch tube into the block. Start the two (2) 8 mm bolts from the discharge tube into the branch tube. Have someone under vehicle guide and start the hold down bolts through cylinder 7 and cylinder 6 push rod holes. While tightening the branch tube hold down bolts maintain positive outward pressure on the branch tube. Torque the retaining bolts to 10 lb-ft (14 N•m).
20. Tighten the two (2) 8 mm discharge tube bolts. Torque to 11 lb-ft (15 N•m).
21. Clean the rear engine cover. Install a new gasket. Add Motorcraft® Ultra Silicone Sealant to the bedplate and the high pressure pump covers joints. Install the rear engine cover. Torque to 18 lb-ft (24 N•m).
22. Install a new rear main seal using Ford Special Service Tool Number 303-770.
23. Install rear main seal dust cover
24. Install the flywheel.

NOTE

NEW FLYWHEEL BOLTS REQUIRED.

25. Install the starter.
26. Install push rod and rocker arm in cylinder number 6.
27. Rotate engine 1 full revolution
28. Install push rods and rocker arms in cylinders number 7 and number 8.
29. Install the upper and lower crankcase to head tubes (stand pipes), replace if damaged.
30. Install fuel injectors.
31. Install high-pressure oil rails, per WSM, Section 303-04C.
32. Install the valve covers.
33. Install the (FICM).
34. Install the air filter housing.
35. Install coolant overflow tank.
36. Install right side charge air cooler (CAC) tube. (Hot Side)
37. Install the transmission, see the appropriate model year WSM, Section 307-01.
38. Check engine oil level and refill as required. Return to customer.

PART NUMBER	PART NAME
4C3Z-9B246-C	ICP Fitting Kit
5C3Z-9J332-C	Branch Tube
3C3Z-6379-BA	Flywheel Bolt (Automatic Transmission-10 per repair required)
3C3Z-6379-CA	Flywheel Bolt (Manual-10 per repair required)
TA-29	Motorcraft® Ultra Silicone Sealant

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage
IMPORTANT: Warranty coverage limits/policies are not altered by a TSB. Warranty coverage limits are determined by the identified causal part.

TSB 08-9-9 (Continued)

OPERATION	DESCRIPTION	TIME		DESCRIPTION	TIME
080909A	2005-2007 Super Duty, 2005 Excursion, 6.0L: Check DTCs and Monitor ICP Voltage, Perform ICP PID Data Test, Perform Air Pressure Check at ICP Port Time Includes Road Test to Operating Temperature, This Labor Operation Can Be Claimed With Any Of The Labor Operations In This TSB (Do Not Use With Any Labor Operations Outside Of This TSB)	0.8 Hr.	080909B	2005-2008 Econoline 6.0L: Replace STC, Includes Time To Remove and Install High Pressure Pump, Perform Air Pressure Test At Test At Test Port Of High Pressure Oil Pump This Labor Operation Must Be Claimed With Operation A, Can Be Claimed With C, D, E And F If Necessary (Do Not Use With Any Labor Operations Outside Of This TSB)	4.5 Hrs.
080909A	2005-2008 Econoline 6.0L: Check DTCs, Monitor ICP Voltage, Perform ICP PID Data Test, Remove Engine Cover and Perform Air Pressure Test at High Pressure Pump, Time Includes Road Test to Operating Temperature This Labor Operation Can Be Claimed With Any Of The Labor Operations In This TSB (Do Not Use With Any Labor Operations Outside Of This TSB)	1.0 Hr.	080909C	2005-2007 Super Duty, 2005 Excursion, 6.0L 4X4 Automatic Transmission: Replace Branch Tube, Inspect All Injectors, Port Plug D-rings, Standpipe and Replace as Required, This Labor Operation Must Be Claimed With Operation A And B (Do Not Use With Any Labor Operations Outside Of This TSB)	10.8 Hrs.
080909B	2005-2007 Super Duty, 2005 Excursion, 6.0L: Replace STC, Includes Time To Remove and Install High Pressure Pump, Perform Air Pressure Test At ICP Port And, Air Pressure Test At Test Port Of High Pressure Oil Pump, This Labor Operation Must Be Claimed With Operation A, Can Be Claimed With C, D, E And F If Necessary (Do Not Use With Any Labor Operations Outside Of This TSB)	4.9 Hrs.	080909C	2005-2007 Super Duty, 2005 Excursion, 6.0L 4X2 Automatic Transmission: Replace Branch Tube, Inspect All Injectors, Port Plug D-rings, Standpipe, Replace as Required This Labor Operation Must Be Claimed With Operation A And B (Do Not Use With Any Labor Operations Outside Of This TSB)	10.0 Hrs.
			080909C	2005-2007 Super Duty, 6.0L 4X4 Manual Transmission: Replace Branch Tube, Inspect All Injectors, Port Plug D-rings, Standpipe, Replace as Required, This Labor Operation Must Be Claimed With Operation A And B (Do Not Use With Any Labor Operations Outside Of This TSB)	10.4 Hrs.

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080909C	2005-2007 Super Duty, 6.0L 4X2 Manual Transmission: Replace Branch Tube, Inspect All Injectors, Port Plug D-rings, Standpipe, Replace as Required, This Labor Operation Must Be Claimed With Operation A And B (Do Not Use With Any Labor Operations Outside Of This TSB)	8.9 Hrs.	080909E	2005-2007 Super Duty, 2005 Excursion, 6.0L: Perform High Pressure Pump Test, Includes Time to Remove Valve Covers, Replace IPR if Below Specification And, Retest, This Labor Operation Must Be Claimed With Operation A, Can Be Claimed With Operation B Or F If Necessary (Do Not Use With Any Labor Operations Outside Of This TSB)	3.4 Hrs.
080909C	2005-2008 Econoline 6.0L: Replace Branch Tube, Inspect All Injectors, Port Plug D-rings, Standpipe And Replace as Required, This Labor Operation Must Be Claimed With Operation A And B (Do Not Use With Any Labor Operations Outside Of This TSB)	18.0 Hrs.	080909E	2005-2008 Econoline 6.0L: Perform High Pressure Pump Test. Includes Time to Remove Valve Covers, Replace IPR if Below Specification And, Retest. This Labor Operation Must Be Claimed With Operation A, Can Be Claimed With Operation B Or F If Necessary (Do Not Use With Any Labor Operations Outside Of This TSB)	6.4 Hrs.
080909D	2005-2007 Super Duty, 2005 Excursion, 6.0L: Remove Valve Covers and Perform Under Valve Cover Leak Test, Includes Time to Remove and Inspect, High Pressure Oil Rail, D-Rings, Standpipe, Injectors, And Replace as Required, This Labor Operation Must Be Claimed With Operation A (Do Not Use With Any Labor Operations Outside Of This TSB)	4.2 Hrs.	080909F	2005-2007 Super Duty, 2005 Excursion, 6.0L: Perform Under Valve Cover Leak Test with Valve Covers Previously Removed. Includes Time to Remove and Inspect, High Pressure Oil Rail, D-Rings, Standpipe, Injectors And Replace as Required. This Labor Operation Must Be Claimed With Operation A And E (Do Not Use With Any Labor Operations Outside Of This TSB)	1.7 Hrs.
080909D	2005-2008 Econoline 6.0L: Remove Valve Covers and Perform Under Valve Cover Leak Test. Includes Time to Remove and Inspect, High Pressure Oil Rail, D-Rings, Standpipe, Injectors, And Replace as Required. This Labor Operation Must Be Claimed With Operation A (Do Not Use With Any Labor Operations Outside Of This TSB)	7.8 Hrs.			

080909F 2005-2008 Econoline 6.0L: 2.7 Hrs.
Perform Under Valve
Cover Leak Test with
Valve Covers Previously
Removed, Includes Time
to Remove and Inspect,
High Pressure Oil Rail,
D-Rings, Standpipe,
Injectors, And Replace as
Required. This Labor
Operation Must Be
Claimed With Operation A
And E (Do Not Use With
Any Labor Operations
Outside Of This TSB

DEALER CODING

BASIC PART NO.
9B246

CONDITION
CODE
42

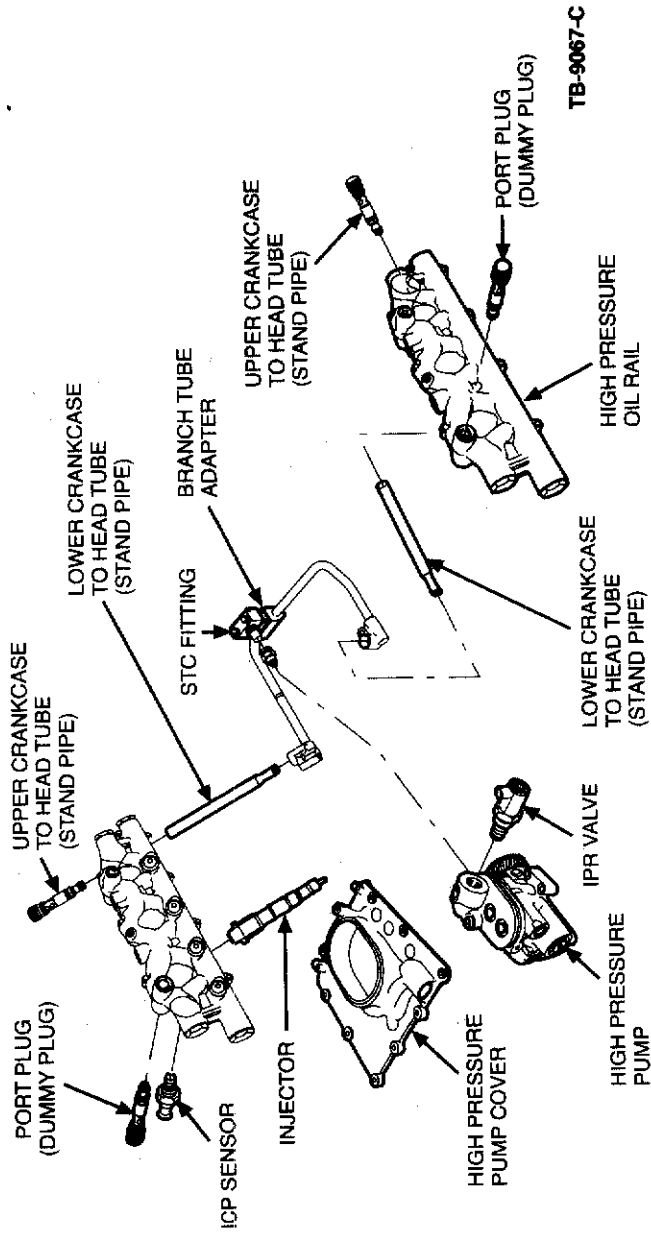


Figure 12 - Article 08-9-9