

- **MALFUNCTION INDICATOR LAMP (MIL)—MIL LAMP ILLUMINATED—DIAGNOSTIC TROUBLE CODES (DTCS) P0300 THROUGH P0306—COMPREHENSIVE DIAGNOSTIC PROCEDURES—3.8L ENGINE**
- **LAMP—MALFUNCTION INDICATOR LAMP (MIL) ILLUMINATED—DIAGNOSTIC TROUBLE CODES (DTCS) P0300 THROUGH P0306—COMPREHENSIVE DIAGNOSTIC PROCEDURES—3.8L ENGINE**

**Article No.
98-25-5**

FORD: 1996-1998 WINDSTAR

This TSB article is being republished in its entirety to update the Calibrations, and add a symptom to the Issue.

CALIBRATION

6-62J-R00, 6-62J-R10, 6-62J-R11, 6-62S-R00, 6-62S-R10, 6-62S-R11, 8-62J-R11, 8-62J-R12, 8-62J-R17, 8-62J-R18, 8-62J-R21, 8-62K-R11, 8-62K-R12, 8-62K-R17, 8-62K-R18, 8-62K-R21, 8-62P-R05, 8-62P-R17, 8-62P-R18, 8-62Q-R05, 8-62Q-R17, 8-62Q-R18, 8-62S-R11, 8-62T-R11

WARNING

THIS MODIFICATION IS AUTHORIZED ONLY FOR THE LISTED ENGINE(S). PERFORMING THIS MODIFICATION ON OTHER ENGINE CALIBRATIONS IS UNAUTHORIZED AND COULD CREATE LIABILITY UNDER APPLICABLE FEDERAL OR LOCAL LAWS.

ISSUE

The Malfunction Indicator Lamp (MIL) may illuminate and Diagnostic Trouble Codes (DTCs) P0300 through P0306 may be stored in memory. This may be caused by any of the following conditions:

- Fouled, cracked or incorrectly gapped spark plugs
- Low compression
- Vacuum leak
- Faulty injector
- Powertrain Control Module (PCM) calibration
- Plugged EGR orifice(s) in each primary port of the lower intake manifold

ACTION

Refer to the following Diagnostic Information to determine the cause of the MIL illumination.

DIAGNOSTIC INFORMATION

1. Reprogram the PCM with the latest calibration.
2. The following text highlights the most commonly found items which could result in MIL illumination. These items should be checked if prior PCM reprogramming did not resolve the concern:
 - Verify that a misfire is occurring. It is possible that certain engine conditions may have to be duplicated for the misfire to be evident. Drive vehicle under different speeds, loads, and engine temperatures. Use the Freeze Frame data to get an idea of when the misfire occurred.
 - Perform Service Bay Diagnostic System (SBDS) Power Balance Test. Try to duplicate the misfire based on the captured Freeze Frame data. Duplicate Engine Coolant Temperature (ECT), rpm, and load. Run a power balance at an rpm similar to when misfire occurred. Try to duplicate the misfire by changing engine loads, accelerating, decelerating, and cruising.

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- Perform SBDS Spark Duration Test. All boxes should be about the same size. Millisecond duration should not be too high or too low. Check for fuel or coolant fouled, cracked, or incorrectly gapped spark plugs. Swap spark plug to another cylinder to see if miss will follow. Check the resistance of the spark plug wires. Check the resistance of the secondary coil windings, especially if companion cylinders show a concern.
 - Perform Injector Flow Test. All injectors should flow within 5% of each other. Swap injector to another cylinder to determine if miss will follow. Replace faulty injectors. Do an Injector Leakdown Test for at least 30 minutes. Residual fuel pressure should not drop more than 17 kPa (2.5 psi).
 - Perform Relative Compression Test after duplicating the miss; immediately shut down the engine and perform this test. Verify compression with a manual gauge and perform Cylinder Leakage Test to determine location of concern.
 - Check for vacuum leaks around the intake manifold. Check plenum gasket as it may be rolled. Plug evaporator line to Vapor Management Valve (VMV) from the intake manifold. Try to duplicate the miss. Check for a mechanically stuck open VMV. Disconnect the Exhaust Gas Recirculation (EGR) valve. Try to duplicate the miss.
3. If all procedures have been completed, and the misfire concern has not been resolved, the following Steps 3a-3c are to be completed.
- a. Remove the upper intake manifold and check the EGR orifices that are pressed into each primary port of the lower intake manifold. If any EGR orifice is missing, replace the lower intake manifold with a new Lower Intake Manifold (for correct part usage refer to the Parts Block at end of this TSB article). If any of the orifices are plugged with soot, clean and unplug them with a pick and solvent. Refer to the appropriate Windstar Service/Workshop Manual for servicing the upper and lower intake manifolds.

NOTE

BE SURE TO ORDER NEW INTAKE MANIFOLD RUNNER CONTROL (IMRC) BUSHINGS (F5RZ-9F955-AB) AS THEY WILL BREAK UPON REMOVAL.

- b. Run two (2) cans of Carburetor Tune Up Cleaner (D9AZ-19579-BA, or equivalent meeting Ford specification ESR-M14P9-A), through the engine following contents instructions carefully.
- c. Change engine oil and engine oil filter before retesting for misfire.

Obtain an Authorized Modifications Decal (FPS 8262 - obtainable through DOES II, 25/pkg) and list the date, dealer number, and summary of modifications performed. Select a prominent place adjacent to the Vehicle Emission Control Information Decal suitable for installing the Authorized Modifications Decal. Clean the area, install the decal, and cover it with a clear plastic decal shield.

	AUTHORIZED MODIFICATIONS
THE FOLLOWING MODIFICATIONS HAVE BEEN MADE:	
<i>Reprogrammed Powertrain Control Module (PCM) per TSB 98-25-5.</i>	
THESE MODIFICATIONS HAVE BEEN APPROVED, AS APPROPRIATE, BY EPA AND CARB.	
DEALER NUMBER:	DATE:
CHANGE AUTHORITY:	
FPS 8262 9/78 FORD MOTOR COMPANY PRINTED IN U.S.A.	

PART NUMBER	PART NAME
F88Z-9424-AA	Lower Intake Manifold (1997-98)
F88Z-9433-AA	Gasket Kit (Use With F88Z-9424-AA Lower Intake Manifold)
F68Z-9424-B	Lower Intake Manifold (1996)
F68Z-9433-A	Gasket Kit (Use With F68Z-9424-B Lower Intake Manifold)
F5RZ-9F955-AB	Intake Manifold Runner Control (IMRC) Bushing
D9AZ-19579-BA	Carburetor Tune Up Cleaner

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OTHER APPLICABLE ARTICLES: 97-8-6

SUPERSEDES: 98-21-2

WARRANTY STATUS: Eligible Under The Provisions Of Bumper To Bumper Warranty Coverage And Emissions Warranty Coverage

982505CB Replace Lower Intake 3.2 Hrs.
 Manifold (Includes Time To
 Remove Upper And
 Inspect Lower)

DEALER CODING

OPERATION	DESCRIPTION	TIME
982505A	Reprogram Powertrain Control Module (PCM)	0.6 Hr.
982505CA	Remove Upper Intake Manifold And Inspect Lower Intake Manifold	1.3 Hrs.

BASIC PART NO.
RECALEM

CONDITION CODE
42

OASIS CODES: 206000, 608000, 608400, 608500, 609000, 609400, 609500, 609600, 610500, 610600, 698298, 703000, 703300