

- **DRIVEABILITY—SPARK KNOCK ON ACCELERATION—3.0L 2V/FFV ENGINE ONLY**
- **TRANSAXLE—AX4N/AX4S—HARSH TRANSMISSION ENGAGEMENT—3.0L 2V/FFV ENGINE ONLY**

**Article No.  
02-24-3**

**FORD:** 2000-2001 TAURUS  
1999-2000 WINDSTAR

**MERCURY:** 2000-2001 SABLE

Article **00-25-5** is being republished in its entirety to update the Service Procedure.

### **ISSUE**

Some vehicles equipped with the 3.0L 2V or 3.0L FFV engine may exhibit spark knock during light accelerator tip in or heavy acceleration. 2001 2V and FFV Taurus/Sable vehicles may also exhibit a harsh Park to Drive engagement. This may be caused by the calibration of the Powertrain Control Module (PCM).

### **ACTION**

Verify condition. Check for potential lean contributors, reprogram the Powertrain Control Module (PCM), and/or perform Octane Adjust. Refer to the following Service Procedure for details.

### **SERVICE PROCEDURE**

Windstar vehicles: DO NOT perform PCM reprogram. Check for potential lean contributors and/or perform Octane Adjust only. Refer to the following Octane Adjust Procedure for details.

If the spark knock condition, (2000/2001 Taurus/Sable), or transmission harsh engagement, (2001 Taurus/Sable) is still present after performing normal diagnostics, check for potential lean contributors and reprogram the PCM.

On a very small percentage of Taurus/Sable vehicles, it is still possible spark knock may be present after PCM reprogramming. If spark knock can be verified after PCM reprogramming, proceed with the following Octane Adjust Procedure.

### **Octane Adjust Procedure**

#### **Use the New Generation Star (NGS) Tester to perform an Engine Octane Adjustment using the following procedure:**

1. Using NGS Service Card (11.0 level or higher) and Flash Cable, select "Service Bay Functions".
2. Select "PCM (Powertrain Control Module)".
3. Select "Module Configuration".
4. Select EEC V or PTEC Vehicle - by TSB.
5. Press trigger to continue on emission compliance authorization screens.
6. Highlight the Octane Adjust column and press trigger, then rotate the dial to change the ignition timing from "No Retard" to "Retard". Press trigger again.
7. Highlight Fuel Octane and press trigger, then rotate the dial to set the octane to 87 Octane and press trigger again.
8. Press the Start button. You should receive a message saying that the change has been successful.

### **NOTE**

**FAILURE TO PRESS THE START BUTTON WILL RESULT IN CHANGES IN OCTANE ADJUSTMENT NOT BEING ACCEPTED.**

9. Exit out of Service Bay Functions.

**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.

# Article No. 02-24-3 Cont'd.

PCM CALIBRATION INFORMATION							
Application	Old Part Number (-12A650-)	Old Tear Tag	New Part Number (-12A650-)	New Tear Tag	Old Calibration	New Calibration	NGS/WDS Qualifier
3.0L 2V AX4S	YF1F-JD	SMH3, SMH4, VDW0	YU7Z-AJB	VDW1	0DD12S0A07	0DD12S0A10	WDS B21.5 Release or Later
3.0L 2V AX4S	YU7A-ACB	QCV1, CPV0	YU7Z-AFB	CPV1	0DD13S0A05	0DD13S0A05	WDS B21.5 Release or Later
3.0L 2V AX4N	YF1F-KD	TJH3, TJH4, GTW0, GTW1	YU7Z-AKC	GTW2	0DD12N0A07	0DD12N0A10	WDS B21.5 Release or Later
3.0L 2V AX4N	YF1F-ZB	SZK0, SZK1, ZST0, ZST1	YU7Z-AGC	ZST2	0DD13N0A00	0DD13N0A05	WDS B21.5 Release or Later
3.0L 2V AX4N California/Green State	YF1F-LD	VMM3, VMM4, VMM5, ZDF0, ZDF1	YU7Z-AHC	ZDF2	0DD12N0B00	0DD12N0B11	WDS B21.5 Release or Later
3.0L 2V AX4N California/Green State	YF1F-AAB	JJD1, YOP0, YOP1	YU7Z-ALC	YOP2	0DD13N0500	0DD13N0505	WDS B21.5 Release or Later
3.0L 2V AX4S FFV	YF1F-BE	RMH4, GWA0, GWA1	YU7Z-AMC	GWA2	0DD1SD0505	0DD1SD0508	WDS B21.5 Release or Later
3.0L 2V AX4N FFV	YF1F-AGB	GGC0, GGC1, HES0, HES1, HES2	YU7Z-AND	HES3	0DD1ND0500	0DD1ND0505	WDS B21.5 Release or Later
3.0L 2V AX4S 2001	1F1F-FE	VMC4	1U7Z-EUA	UZS0	1DD12S0510	1DD12S0510	WDS B21.5 Release or Later
3.0L 2V AX4N 2001	1F1F-EE	TYD4	1U7Z-FFA	FZH0	1DD12N0510	1DD12N0510	WDS B21.5 Release or Later
3.0L 2V AX4S FFV 2001	1F1F-ZG	PKK6	1U7Z-EJA	JCK0	1DD1FS0512	1DD1FS0512	WDS B21.5 Release or Later
3.0L 2V AX4N FFV 2001	1F1F-DF	LUA5	1U7Z-ETA	TTW0	1DD1FN0512	1DD1FN0512	WDS B21.5 Release or Later
3.0L 2V AX4N GCC 2001	1F1F-ND	PWF3	1U7Z-FBA	BYE0	1DD12N0G10	1DD12N0G10	WDS B21.5 Release or Later

## Article No. 02-24-3 Cont'd.

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.

<b>AUTHORIZED MODIFICATIONS</b>	
<b>THE FOLLOWING MODIFICATIONS HAVE BEEN MADE:</b>	
<i>Reprogrammed Powertrain Control Module</i>	
<i>(PCM) Per TSB 02-24-3</i>	
<b>THESE MODIFICATIONS HAVE BEEN APPROVED, AS APPROPRIATE, BY EPA AND CARB.</b>	
<b>DEALER NUMBER:</b>	<b>DATE:</b>
<b>CHANGE AUTHORITY:</b>	
<small>FPS 8262 9/78    FORD MOTOR COMPANY    PRINTED IN U.S.A.</small>	

**OTHER APPLICABLE ARTICLES:** NONE

**SUPERSEDES:** 00-25-5

**WARRANTY STATUS:** Eligible Under The  
Provisions Of Bumper To

Bumper Warranty Coverage  
And Emissions Warranty  
Coverage

OPERATION	DESCRIPTION	TIME
022403A	Check For Lean Contributors And Reprogram Powertrain Control Module 2000-2001 Taurus/Sable	0.7 Hr.
022403B	Check For Lean Contributors And Reprogram Powertrain Control Module Then Perform Octane Adjust Procedure 2000-2001 Taurus/Sable	0.8 Hr.
022403C	Perform Octane Adjust Procedure Only 1999-2000 Windstar	0.6 Hr.

### DEALER CODING

BASIC PART NO.	CONDITION CODE
12A650	42
<b>OASIS CODES:</b> 497000, 503000, 504000, 615000, 615500, 615600	