

Article No.
00-25-5

**SPARK KNOCK—SPARK KNOCK ON HEAVY
ACCELERATION—VEHICLES EQUIPPED WITH 3.0L
2-VALVE ENGINE**

FORD: 2000-2001 TAURUS
1999-2000 WINDSTAR

MERCURY: 2000-2001 SABLE

This article is being republished in its entirety to update the vehicles affected.

ISSUE

Some vehicles equipped with the 3.0L 2-valve engine may exhibit a spark knock condition on heavy acceleration with 87 octane gasoline. Hot weather and lower octane gasoline may contribute to the concern.

ACTION

If the spark knock condition is still present after performing normal diagnostics, check for potential lean contributors and perform Engine Octane Adjustment. Refer to the following Service Procedure for details.

SERVICE PROCEDURE

1. Verify spark knock condition and follow normal diagnostics found in the Powertrain Control/Emissions Diagnosis (PC/ED) Service Manual.
2. If spark knock condition is still present after normal diagnostics, perform the following steps.
3. Check all potential lean contributors including:
 - a. BARO reading (mass air flow sensor) is correct at 150Hz+ at sea level.
 - b. Verify correct fuel pressure.
 - c. Check for vacuum leaks at the brake booster, vacuum hoses/plumbing, vapor management valve, evaporative emission plumbing, and intake manifold gaskets.
 - d. Compare Long and Short Fuel Trims (LFT and SFT) to verify normal operation which is $\pm 5\%$.
4. Use a New Generation Star (NGS) Tester to perform an Engine Octane Adjustment using the following procedure:

- a. Using NGS Flash Card (4.2 level or higher) and Flash Cable, select "Service Bay Functions".
- b. Select "Powertrain Control Module".
- c. Select "EEC-V Configure".
- d. Press trigger to continue on emission compliance authorization screens.
- e. 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.
- f. Highlight Fuel Octane and press trigger, then rotate the dial to set the octane to 87 Octane and press trigger again.
- g. 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.**

- h. Exit out of Service Bay Functions.

OTHER APPLICABLE ARTICLES: NONE

SUPERSEDES: 00-22-3

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

OPERATION	DESCRIPTION	TIME
002505A	Perform Engine Octane Adjustment	0.6 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
12A650	42
OASIS CODES: 497000, 615000, 615500, 702100	

Index # 054395