U.S. Department of Transportation
National Highway Traffic Safety Administration

Memorandum

Subject: **TEST REQUEST:** Rear tire puncture due to coil spring fracture.

Date: JUN 19 2006

From: Kathleen C. DeMeter, Director
Office of Defects Investigation

Reply to Attn. of: NVS-210
EA06-002

To: Michael Monk, Director
Vehicle Research and Test Center

This memorandum requests the Vehicle Research and Test Center (VRTC) to conduct testing as described below.

BACKGROUND: The Office of Defects Investigation is currently investigating (under EA06-002) certain model year 2000 – 2001 Ford Taurus and Mercury Sable sedans. The vehicles were previously recalled to address a problem with front coil spring fracture that could result in tire puncture. Complainants are alleging that the rear coil springs are fracturing in the same vehicles. In some cases complainants are alleging that the fractured coil springs are puncturing the adjacent tire causing rapid air loss.

OBJECTIVE: The objective of the testing is to assess the risk of tire puncture from a rear coil spring fracture, including the following:

1) Conduct a survey of consumers in Ohio area to utilize vehicles to inspect for cracked springs and to utilize for front versus rear spring fracture assessment.

2) Conduct high-speed photography to assess impact of debris spray field on the coil springs (alternatively, or in conjunction with the high-speed photography, vehicles may be tested on sand or gravel road surface with springs and other parts of interested coated with colored chalk).

3) Assess the differences of rear suspension coil spring fracture and front suspension coil spring fracture in tire-to-spring interaction.

4) Assess the time from coil spring fracture / tire contact to tire air loss.

5) Assess high stress regions of spring by conducting strain gauge measurements.

TEST EQUIPMENT AND PROCEDURE: The test equipment and the procedure can be determined after further discussion between ODI and VRTC.

TEST VEHICLE(S): VRTC should obtain appropriate vehicles to conduct the testing.

ADDITIONAL INFORMATION: The investigator is Derek Rinehardt (Phone: 202 366-3642) who is available to discuss the details of the testing with your engineer.

FINAL REPORT: It is requested that the test work and draft report be completed to a schedule to be determined in discussion with ODI.

cc:
Mr. Jeffrey Quandt, NVS-213

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