



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

ODI RESUME

Investigation: EA 03-004
Prompted By: PE02-085
Date Opened: 04/10/2003
Principal Investigator: CHRIS LASH
Subject: WHEEL STUD FRACTURE

Manufacturer: FORD MOTOR COMPANY
Products: MY 1997-2000 WINDSTAR
Population: 1000000

Problem Description: THE WHEEL MOUNTING STUDS CAN BREAK RESULTING IN POTENTIAL WHEEL SEPARATION.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	42	81	123
Crashes/Fires:	2	9	11
Injury Incidents:	0	5	5
# Injuries:	0	5	5
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	1496	1496

*Description Of Other: WARRANTY AND UNIFIED DATABASE RECORDS.

Action: AN ENGINEERING ANALYSIS HAS BEEN OPENED.

Engineer:

Chris Lash

Div. Chief:

[Signature]

Office Dir.:

[Signature]

Date:

4-10-03

Date:

4/14/03

Date:

4/10/03

Summary: ANALYSIS OF ODI AND FORD DATA HAS IDENTIFIED 1619 INCIDENTS OF WHEEL STUD FRACTURE IN MY 1998 THROUGH 2000 FORD WINDSTAR VEHICLES, INCLUDING 69 WHEEL SEPARATIONS AND 11 CRASHES. FORD HAS NOT BEEN ABLE TO IDENTIFY ANY DESIGN OR MANUFACTURING DEFECTS IN ITS ANALYSIS OF THE PROBLEM. FORD MAINTAINS THAT THE FAILURES ARE CAUSED BY EITHER: (1) INADVERTENT OVERTORQUING OF LUG NUTS DURING REMOVAL OR INSTALLATION; OR (2) FATIGUE DUE TO INSUFFICIENT CLAMP LOAD BETWEEN THE WHEEL AND THE BRAKE ROTOR OR DRUM AND HUB ASSEMBLY. ACCORDING TO FORD, "CORROSION, DIRT, OR DAMAGE PRESENT ON THE ROAD WHEEL AT THE NUT INTERFACE" COULD CONTRIBUTE TO THE LATTER CONDITION.

ANALYSIS OF ODI COMPLAINT DATA INDICATES THAT THE SUBJECT VEHICLES EXPERIENCE WHEEL STUD FAILURES AT SIGNIFICANTLY HIGHER RATES THAN PEER MINIVANS. THIS INVESTIGATION HAS BEEN UPGRADED TO FURTHER ASSESS THE FREQUENCY, SCOPE, AND TREND OF THE ALLEGED DEFECT CONDITION IN MY 1997 THROUGH 2000 WINDSTAR MINIVANS.

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