



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

# ODI RESUME

Investigation: EA 02-023  
 Prompted By: PE02-044  
 Date Opened: 09/09/2002      Date Closed: 02/19/2003  
 Principal Investigator: CHRIS SANTUCCI  
 Subject: FRONT SUSP COLLAPSE/WHEEL SEPARATION

Manufacturer: FORD MOTOR COMPANY  
 Products: MY 2000-02 FORD FOCUS  
 Population: 747540

Problem Description: FRONT SUSPENSION ALLEGEDLY COLLAPSES OR EXPERIENCES WHEEL SEPARATION WHILE DRIVING.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	21	8	28
Crashes/Fires:	16	1	16
Injury Incidents:	2	0	2
# Injuries:	2	0	2
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	4	0	4

\*Description of Other: ROLLOVER

Action: THE ENGINEERING ANALYSIS HAS BEEN CLOSED. RECALL NO. 02V-289.

Engineer: CE. Santos      Div Chf: [Signature]      Ofc Dir: [Signature]  
 Date: 2/19/03      Date: 2/19/03      Date: 2/19/03

Summary: SEE ATTACHED REPORT.

*[Handwritten initials]*

**SUMMARY REPORT**

On November 4, 2002 Ford submitted a defect information report to ODI regarding a lower control arm defect condition in certain Ford Focus vehicles (NHTSA Recall No. 02V-289). The vehicles included in Ford's action are the approximately 446,589 MY 2000 and 2001 Ford Focus models produced between March 5, 1999 and May 31, 2001 at the Wayne, Michigan assembly plant and between May 21, 1999 and January 11, 2000 at the Hermosillo, Mexico assembly plant. According to Ford, these vehicles were built prior to a process change made in the assembly of the front suspension to control the torque and eliminate cross threading of the pinch bolt that secures the lower control arm ball joint to the steering knuckle. Improper assembly of the pinch bolt will result in an insufficient clamp load on the ball joint stud, which can cause the ball joint to separate from the steering knuckle or cause the ball joint stud to fracture. Owners of the affected vehicles will be instructed to take their vehicles to a Ford or Lincoln-Mercury dealer to have the torque of the steering knuckle pinch bolt verified and tightened as necessary and at Ford's expense. According to Ford, this action will resolve concerns with front suspension failure in the subject vehicles.

This engineering analysis was opened based on 37 complaints of general front suspension failure. These complaints included incidents related to the lower control arm ball joint condition addressed by Ford's recall and other failure modes such as coil spring fracture, separation of the steering knuckle from the strut assembly, and control arm failures caused by impact damage. Twenty-one of these 37 complaints are related to failure of the lower control arm assembly. In six of these 21 complaints, lower control arm ball joint failure was verified as the specific mode of failure, all of which resulted in crashes. In another six, separation of the lower control arm front bushing was verified as the specific mode of failure. Analysis of some of the control arms with this failure found that the parts failed in overload, a condition caused by impact damage. The remaining nine failures could not be classified because the failed parts were no longer available.

The table below summarizes the scope of the recall by Ford and the related warranty claims.

Assembly Plant	Production		Lower Ball Joint Warranty				
	Total Produced*	Recalled Vehicles		Warranty Claims		Warranty Rate/100K	
		Volumes*	% of Total	Recall	Post-Recall	Recall	Post-Recall
Hermosillo	132,650	10,935	8%	3	5	27.4	4.1
Wayne	638,901	434,457	68%	52	0	12.0	0.0
Total	771,553	445,392	58%	55	5	12.3	1.5

\*Volumes based on Ford response dated July 3<sup>rd</sup>, 2002

Based on the evidence available at this time, this investigation has not identified a defect trend associated with any of the other failure modes not addressed by Ford's safety recall. ODI will continue to monitor MY 2000-2002 Ford Focus vehicles for complaints of catastrophic front suspension failure and investigate further if warranted.