



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 12-007
Date Opened: 03/21/2012
Investigator: Ric Willard **Reviewer:** Bruce York-B
Approver: Frank Borris
Subject: MCI Driveshaft Safety Loop Failures

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: MOTOR COACH INDUSTRIES, INC
Products: 1992-2012 MCI D Series Buses with Steerable Tag Axle
Population: 4,000 (Estimated)
Problem Description: In the event of driveshaft failure, the separated drive shaft is not adequately contained an may result in a loss of vehicle control.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	1	TBD	TBD
Crashes/Fires:	2	TBD	TBD
Injury Incidents:	2	TBD	TBD
Number of Injuries:	50	TBD	TBD
Fatality Incidents:	1	TBD	TBD
Number of Fatalities:	2	TBD	TBD
Other*:	0	TBD	TBD

*Description of Other:

ACTION / SUMMARY INFORMATION

Action: A Preliminary Evaluation has been opened.

Summary:

Representatives from a large bus fleet operator have alleged that they have experienced several driveshaft failures on MCI D Series buses beginning in March 2010. The failed driveshafts were not contained by the safety loops for the driveshaft. They assert that in two instances the driveshaft failures resulted in loss of control of the bus and in multiple injuries and fatalities.

The vehicles have a steerable tag axle that is used to increase the GVWR while reducing the turning radius and minimizing tire scrub that would normally occur with a tandem rear axle configuration. In these buses, the transmission couples to the driveshaft which then passes through a guardian structure integral with the tag axle and a forward safety loop before it couples to the drive axle. The driveshafts in these models with certain engine/transmission combinations may not be encapsulated by a safety loop (or guardian structure of the tag axle) at the transmission end.

Testing done by the fleet operator suggests that in the event of a driveshaft/transmission coupling failure the shorter driveshafts could escape the tag axle pass-through guardian structure and disable the steering lock of the tag axle and potentially damage other safety systems such as brake lines. Additional vehicle dynamic testing suggests that an unlocked passive steerable tag axle could cause a loss of vehicle control given sufficient speed and other conditions.

ODI has reviewed the material supplied by the fleet operator and believes that additional information is required to determine if a safety related defect exists.

ODI is opening this investigation in order to gather information to assess whether the subject vehicles contain a safety related defect.