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September 19, 2012

Ms. Nancy Lewis  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue SE, Room W45-306  
Washington, DC 20590

Dear Ms. Lewis:

Subject: Supplement - Ford Motor Company (Ford) Recall No. 12S38 – Certain 2013 model year F-53 Motorhome Stripped Chassis Vehicles with Unapproved Steering Gear Adapter Plate Fasteners

An updated Part 573.6 (c) (6) – Chronology of Events, required by 49 CFR Part 573 – Defect and Non-Compliance Information Report is attached.

Also, for the agency's information, as of this date 100% of the suspect vehicles have been repaired.

Sincerely,

A handwritten signature in black ink that reads "S. M. Kenner".

Steven M. Kenner

Attachment



## 49 CFR Part 573 – DEFECT INFORMATION REPORT SUPPLEMENT

### 12S38 – CERTAIN 2013 MODEL YEAR F-53 MOTORHOME STRIPPED CHASSIS VEHICLES WITH UNAPPROVED STEERING GEAR ADAPTER PLATE FASTENERS

Pursuant to Part 573 of Title 49 of the Code of Federal Regulations, Defect and Non-Compliance Reports, Ford Motor Company submits the following supplemental information concerning a safety recall action that it has voluntarily initiated.

#### 573.6 (c) (6) – Chronology of Events

On July 13, 2012, the Detroit Chassis Plant (DCP) experienced five fractures of steering gear adapter plate retention fasteners during assembly. These fasteners affix the steering gear mounting plate to the body frame. Plant and engineering investigation showed that an unapproved nut had been substituted for the released nut on July 10, 2012. The appropriate released nut was reintroduced into production on July 13, 2012.

On July 13, 2012, DCP issued a quality hold to ensure containment of vehicles, and on July 16, 2012, DCP issued a Stop Ship.

On July 17, 2012, engineering initiated a study to review physical characteristics of the fasteners, including surface finish. Fastener engineering also initiated an audit of motorhome chassis vehicles on-site at DCP.

On July 19, 2012, fastener engineering advised the physical characteristics of the nuts met specifications, however there was a difference in the surface finishes between the released nuts and the unapproved nuts. Fastener engineering also initiated torque-to-angle yield and ultimate strength tests on the fasteners, and initiated a study to review torque specifications to assess the effect of fastener torque on clamp load for the two different surface finishes.

On July 26, 2012, engineering presented this issue to the Critical Concern Review Group (CCRG) and advised that when tightened to the design torque, the unapproved nut may create clamp load forces high enough to cause permanent deformation and yielding of the bolts under some combinations of variables. Engineering was directed to perform the following analyses:

- Determine if the assembly torque data for the affected vehicles had been recorded, to help determine the potential for a damaged bolt.
- Assess the effect of bolt deformation on the performance of the vehicle.
- Investigate the reason why only some of the bolts that used the unapproved nut resulted in fractured bolts.
- Initiate a repair procedure and confirm released fastener torques.

On July 31, 2012, engineering stated that bolt deformation can negatively affect bolt clamp performance, but they were not able to provide an assessment of the effect on performance of the vehicle. Engineering advised the most appropriate assessment methodology would include a long term durability test. Engineering also advised they had developed, and were piloting, a repair procedure.

On August 2, 2012, engineering advised that their investigation had shown it was not possible to recover electronic torque data from the DC torque recording system. Engineering advised that all the bolts that fractured had the assembly torque applied to the nut (and not the bolt head). Engineering confirmed the initial draft of the repair procedure had been completed.

On August 7, 2012, a Technical Review was conducted to assess the engineering investigation and appropriateness of the repair procedure.

On August 13, 2012, Ford contacted the motorhome body builders and requested that the affected vehicles be held while Ford completed the assessment of the unapproved fasteners for this application.

Although the effect of the change in torque-angle characteristic had not been fully evaluated, in the interest of quickly containing the affected vehicles at the final stage manufacturers, on August 16, 2012, Ford's Field Review Committee held a special review and approved a field action.

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