

Part 573 Safety Recall Report

16E-065

Manufacturer Name : ZF North America, Inc.

Submission Date : JUL 22, 2016

NHTSA Recall No. : 16E-065

Manufacturer Recall No. : NR



Manufacturer Information :

Manufacturer Name : ZF North America, Inc.

Address : 15811 Centennial Drive

Northville MI 48167

Company phone : 734-416-6200

Population :

Number of potentially involved : 505,000

Estimated percentage with defect : 4 %

Equipment Information :

Brand / Trade 1 : ZF Electronic Systems

Model : Sensor Cluster

Part No. : NA 12

Size : n/a

Function : Transm. control

Descriptive Information : The sensor cluster is controlling the shift pattern and quality in the transmission together with the TCU.

Production Dates : MAY 01, 2013 - JUL 15, 2014

Description of Defect :

Description of the Defect : ZF Electronic Systems Pleasant Prairie LLC is filing the Defect Information Report in accordance with FCA US LLC having filed a Defect Information Report. Some vehicles equipped with a transmission called 9HP48 or 948TE, containing the suspect sensor clusters may experience an unexpected loss of motive power due to insufficient crimps in the transmission wire harness.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : The customer may experience an unexpected loss of motive power.

Description of the Cause : Terminal crimping issue identified with 26 way connector on the sensor cluster harness assembly. Star shaped connector was not properly crimped (oversized crimp height and width), which resulted in a high resistance condition triggering the DTC. A manual measurement process was used to monitor the crimp quality, which allowed for excess variation in the in-process crimp dimensional checks. The manual measurement system did not allow proper identification of the crimp cross section, which resulted in a failure to identify a

preventative maintenance issue, a mis-adjustment of the crimp setting, and inadequate wire compression.

Identification of Any Warning that can Occur : No warning

Supplier Identification :

Component Manufacturer

Name : KE Elektronik GmbH
Address : Im Klingenfeld 21
Kressberg Marktlustenau FOREIGN STATES 74594
Country : Germany

Chronology :

July 2014: Start 8D report process at supplier KE due to a single failure during transmission testing.
End 2015: information by FCA about an increased field failure rate

- Analyses and provocation tests
- Review Process at Supplier KE by FCA/ZF
- Development of the mitigation Software

Description of Remedy :

Description of Remedy Program : Software update that prevents transmission from shifting to neutral because of the faulty crimp or gives adequate warning prior to shifting to neutral.

How Remedy Component Differs from Recalled Component : Not applicable

Identify How/When Recall Condition was Corrected in Production :

- Process modified to not allow crimping machine to operate without a correct height and width measurement to the revised crimp specification.
- Changed manual micrometer measurement equipment to pneumatic device to limit operator variation.
- Increased cross sectional frequency to once every 2 hours per die. The cross section photos will be save for traceability purposes. Crimp cross sections will be included incoming certification document from KE to ZF electrical to ensure correct crimping condition prior to assembly into sensor clusters.
- Added SPC controls to crimp height and width as secondary validation of tool wear condition.

- Added Crimp Pull Force verification as additional crimp quality check.
- Crimp force monitoring add as 100% in process check of crimp quality
- Crimp specification modified from 1.41 ± 0.03 mm to 1.35 ± 0.05 mm to improve wire compression

Clean date in production of crimp July 2014.

Recall Schedule :

Description of Recall Schedule : To be developed in cooperation with the affected OEM's

Planned Dealer Notification Date : NR - NR

Planned Owner Notification Date : NR - NR

Purchaser Information :

The following manufacturers purchased this defective/noncompliant equipment for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name : NR

Address : NR

NR

Country : NR

Company Phone : NR

* NR - Not Reported