

# Part 573 Safety Recall Report

# 19E-008

**Manufacturer Name :** Aisin World Corp. of America

**Submission Date :** FEB 06, 2019

**NHTSA Recall No. :** 19E-008

**Manufacturer Recall No. :** NR



## Manufacturer Information :

## Population :

**Manufacturer Name :** Aisin World Corp. of America

**Number of potentially involved :** 24,265

**Address :** 15300 Centennial Drive

**Estimated percentage with defect :** 1 %

Northville MI 48168

**Company phone :** 812-534-8144

## Equipment Information :

**Brand / Trade 1 :** AISIN AW

**Model :** Transmission Control Module (TCM)

**Part No. :** PSPD189E1

**Size :** NR

**Function :** TCM

**Descriptive Information :** Certain TCMs supplied by AW to Mazda for installation as original equipment in Mazda MX5 vehicles that are the subject of a defect information report by Mazda (NHTSA No. 19V-XXX).

**Production Dates :** MAR 24, 2015 - DEC 15, 2018

**Brand / Trade 2 :** AISIN AW

**Model :** Transmission Control Module (TCM)

**Part No. :** PEFB189E1B

**Size :** NR

**Function :** TCM

**Descriptive Information :** Certain TCMs supplied by AW to Mazda for installation as original equipment in Mazda MX5 vehicles that are the subject of a defect information report by Mazda (NHTSA No. 19V-XXX).

**Production Dates :** MAR 24, 2015 - DEC 15, 2018

**Brand / Trade 3 :** AISIN AW

**Model :** Transmission Control Module (TCM)

**Part No. :** PAC6189E1A

**Size :** NR

**Function :** TCM

**Descriptive Information :** Certain TCMs supplied by AW to Mazda for installation as original equipment in Mazda MX5 vehicles that are the subject of a defect information report by Mazda (NHTSA No. 19V-XXX).

**Production Dates :** MAR 24, 2015 - DEC 15, 2018

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**Brand / Trade 4 :** AISIN AW

**Model :** Transmission Control Module (TCM)

**Part No. :** PEFB189E1A

**Size :** NR

**Function :** TCM

**Descriptive Information :** Certain TCMs supplied by AW to Mazda for installation as original equipment in Mazda MX5 vehicles that are the subject of a defect information report by Mazda (NHTSA No. 19V-XXX).

**Production Dates :** MAR 24, 2015 - DEC 15, 2018

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**Brand / Trade 5 :** AISIN AW

**Model :** Transmission Control Module (TCM)

**Part No. :** PEFB189E1C

**Size :** NR

**Function :** TCM

**Descriptive Information :** Certain TCMs supplied by AW to Mazda for installation as original equipment in Mazda MX5 vehicles that are the subject of a defect information report by Mazda (NHTSA No. 19V-XXX).

**Production Dates :** MAR 24, 2015 - DEC 15, 2018

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**Brand / Trade 6 :** AISIN AW

**Model :** Transmission Control Module (TCM)

**Part No. :** 50052911

**Size :** NR

**Function :** TCM

**Descriptive Information :** Certain TCMs supplied by AW to FCA for installation as original equipment in Fiat 124 Spider vehicles. To date, AW is not aware that FCA has made a safety defect determination with respect to these vehicles or submitted a defect information report, and AW is not aware of any reports of this condition being experienced in these vehicles.

**Production Dates :** FEB 03, 2016 - FEB 06, 2019

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**Brand / Trade 7 :** AISIN AW

**Model :** Transmission Control Module (TCM)

Part No. : PEFB189E1D

Size : NR

Function : TCM

Descriptive Information : Certain TCMs supplied by AW to Mazda for installation as original equipment in Mazda MX5 vehicles that are the subject of a defect information report by Mazda (NHTSA No. 19V-XXX).

Production Dates : MAR 24, 2015 - DEC 15, 2018

Brand / Trade 8 : AISIN AW

Model : Transmission Control Module (TCM)

Part No. : 50053305

Size : NR

Function : TCM

Descriptive Information : Certain TCMs supplied by AW to FCA for installation as original equipment in Fiat 124 Spider vehicles. To date, AW is not aware that FCA has made a safety defect determination with respect to these vehicles or submitted a defect information report, and AW is not aware of any reports of this condition being experienced in these vehicles.

Production Dates : FEB 03, 2016 - FEB 06, 2019

Brand / Trade 9 : AISIN AW

Model : Transmission Control Module (TCM)

Part No. : 50054938

Size : NR

Function : TCM

Descriptive Information : Certain TCMs supplied by AW to FCA for installation as original equipment in Fiat 124 Spider vehicles. To date, AW is not aware that FCA has made a safety defect determination with respect to these vehicles or submitted a defect information report, and AW is not aware of any reports of this condition being experienced in these vehicles.

Production Dates : FEB 03, 2016 - FEB 06, 2019

## Description of Defect :

Description of the Defect : Vehicles with automatic transmissions using this TCM with a changed shift range detection system on vehicles manufactured since 2016MY may experience electrical noise in the range signal (such as “Neutral” and “Parking”), which may be detected by the TCM unit while driving in “D” range (including in “Manual” mode). In the Mazda vehicles, this electrical noise’s interaction with the control logic of the clutch control software may result in the vehicle downshifting unexpectedly and an abrupt deceleration of the drive wheels. This report is filed in accordance with 49 CFR 573.3(f) because AW supplies a similar TCM to FCA, but to date, AW is not aware of any reports of this condition manifesting itself in the FCA vehicles.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : Each affected OEM should evaluate the potential safety risk in its vehicles. An unexpected and abrupt deceleration could potentially increase the risk of an accident under certain conditions.

Description of the Cause : The control logic in the TCM’s internal software does not appropriately account for the electrical noise.

Identification of Any Warning that can Occur : None.

## Supplier Identification :

### Component Manufacturer

Name : NR

Address : NR

NR

Country : NR

## Chronology :

September 2016: AW received a Field Quality Information Report (FQIR) from Mazda reporting a downshifting issue.

November 2016: AW investigated the inhibitor switch and found no failure.

August 1, 2018: AW received a second FQIR from Mazda and commenced an investigation into the issue.

August – December 2018: AW investigated the inhibitor switch, automatic transmission, and Onboard Data Recorder (ODR) data. Analysis of the ODR indicated that a driveline shock occurred along with deceleration of the vehicle, when noise of the range signal was detected while driving in “D” range. Mazda requested to

perform a re-creation test by simulator for the TCM. AW replicated the same phenomenon reflected in the ODR data by utilizing a TCM simulator. No failure was found in the inhibitor switch and automatic transmission. AW continued data analysis of the automatic transmission control program. AW reviewed the automatic transmission control program and the internal logic of the TCM and began developing changes to its internal logic.

December 15, 2018: AW began production of TCMs with software modification into the mass production line for Mazda.

January 31, 2019: Mazda informed AW that it had determined this issue presented a safety-related defect in its vehicles.

January 31, 2019: AW's Regulatory Safety Committee reviewed the information from Mazda and determined that, because AW supplies this TCM to more than one OEM (Mazda and FCA), it would report the issue to NHTSA in accordance with 49 CFR 573.3(f).

AW is aware of two complaints from Mazda and zero complaints from FCA relating to the affected equipment. AW is not aware of any accidents or injuries related to this issue.

## Description of Remedy :

Description of Remedy Program : The remedy program(s) will be determined by the affected vehicle manufacturer(s).

How Remedy Component Differs from Recalled Component : AW updated the TCM's internal logic to account for the electrical noise as a running change.

Identify How/When Recall Condition was Corrected in Production : The scope covers the TCM from start of production through the changes to the TCM's internal logic (Mazda: running change in Mazda part implemented at AW December 15, 2018; FCA: running change in FCA part to be implemented at AW on or about February 8, 2019).

## Recall Schedule :

Description of Recall Schedule : Any recall will be handled by 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 : FCA Group Purchasing s.r.l

Address : Agnelli 200

Torino 00 10135

Country : IT

Company Phone : 011 003 1111

Name : Mazda Motor Corporation

Address : 3-1, Shинchi, Fuchu-cho

Aki-gun Hiroshima 00 730-8670

Country : JP

Company Phone : 82 282 1111

\* NR - Not Reported