

# Part 573 Safety Recall Report

# 17V-559

**Manufacturer Name :** Gillig LLC**Submission Date :** SEP 08, 2017**NHTSA Recall No. :** 17V-559**Manufacturer Recall No. :** NR**Manufacturer Information :**

Manufacturer Name : Gillig LLC

Address : 25800 Clawiter

Hayward CA 94545

Company phone : 1-800-735-1500

**Population :**

Number of potentially involved : 108

Estimated percentage with defect : 100 %

**Vehicle Information :**

Vehicle 1 : 2013-2016 GILLIG LOW FLOOR

Vehicle Type : BUSES, MEDIUM &amp; HEAVY VEHICLES

Body Style : ALL

Power Train : HYBRID ELECTRIC

Descriptive Information : Gillig LLC is recalling certain MY 2013 to 2016 hybrid and all-electric Low Floor buses with electro-hydraulic power steering assist.

Production Dates : OCT 15, 2013 - DEC 21, 2016

VIN Range 1 : Begin : 15GGB3014D1183950 End : 15GGD3016G1185603  Not sequential**Description of Defect :**

Description of the Defect : Certain hybrid and all-electric Low Floor buses are equipped with a steering system that uses a high-voltage electric motor and hydraulic pump assembly to provide power steering assist. The shaft coupling between the motor and pump may fail and result in a loss of power steering assist (Gillig Part No. 05-71881-001 & 05-71881-002). The affected motor-pump assemblies were also sold as aftermarket equipment or provided under warranty to customers.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : If power steering assist is lost, manual steering functionality is retained but would require higher steering effort, particularly at lower speeds, increasing the risk of a crash.

Description of the Cause : The output shaft of the electric motor has a pressed-on coupler that connects it to the input shaft of the hydraulic power steering pump. The internal spline of the motor shaft coupler has a lower hardness than the corresponding spline on the shaft to the pump. When combined with environmental contamination from insufficient sealing, the softer spline in the coupling may strip-out, causing a loss of rotation of the pump and result in a loss of hydraulic power

steering assist.

The recall population includes all vehicles equipped with this first generation motor-pump assembly, as well as the aftermarket sales and warranty units. The supplier made a corrective action to the design on 1/16/2017 that eliminated the design defect in all subsequent units.

Identification of Any Warning that can Occur : Noise, fluid leakage, and rattling from the power steering system motor-pump assembly, possibly increased steering effort.

## Supplier Identification :

### Component Manufacturer

Name : Eaton Corporation  
Address : 14615 Lone Oak Road  
Eden Prairie MINNESOTA 55344  
Country : United States

## Chronology :

- 06/16/2016 First complaint of loss of power steering assist during operation for the Eaton-Baldor power steering motor-pump assembly. Field unit returned to Eaton for inspection.
- 09/19/2016 Second complaint of loss of power steering assist. Field unit returned to Eaton for inspection.
- 01/16/2017 Eaton initiated corrective manufacturing actions to implement a new gasket between the pump and motor and change to a harder coupler between the two units.
- 01/23/2017 Results of Eaton's preliminary analysis sent to Gillig.
- 03/08/2017 Eaton Hydraulics LLC sends a formal letter notifying Gillig that they've detected a corrosion and shaft ceasing issue with the pump & motor assembly and detailing the anticipated effectiveness of the corrective design actions made on 1/16/2017.
- 04/21/2017 An additional complaint received for "hard steering" related to the original pump-motor design.
- 06/05/2017 Gillig review of warranty claim data identifies a possible trend related to the original Eaton-Baldor motor-pump design. Gillig begins monitoring and assessment of affected vehicle population, part sales, and warranty parts.
- 06/29/2017 Gillig notifies Eaton that a review of warranty claims has determined that a total of three buses have experienced a partial or full loss of power steering assist during service.
- 07/12/2017 Gillig collects all failed parts from the field and ships them to Eaton for root cause analysis. Subsequent root cause analysis confirms a corrosion and shaft ceasing issue during service.
- 09/01/2017 Gillig determines that the affected assemblies have a defect related to motor vehicle safety.
- 09/08/2017 Gillig files Part 573 defect information report.

**Description of Remedy :**

Description of Remedy Program : All affected motor-pump assemblies will be replaced with new units or rebuilt at an authorized service center at no cost to the customer.

How Remedy Component Differs from Recalled Component : The recalled component is the "PUMP, POWER STEERING, EATON, ELECTRIC, 230V AC" part, which is a high-voltage electric motor and hydraulic pump assembly that provides power steering assist. The affected Gillig part numbers are 05-71881-000, 05-71881-001, 05-71881-002.

On 1/16/2017 the supplier made manufacturing changes to the motor-pump assemblies. The changes included a new pad gasket between motor and pump to prevent environmental contamination and a different shaft coupling with a higher hardness value. Units manufactured after that date have no reported issues.

Identify How/When Recall Condition was Corrected in Production : No assemblies in the recall population were used in vehicle production before 10/15/2013 or after 12/21/2016. No sales of aftermarket parts or warranty parts from the recalled population were shipped to customers before 01/27/2014 or after 04/27/2017.

**Recall Schedule :**

Description of Recall Schedule : Recall notices will be sent as soon as NHTSA approves the draft letter.

Planned Dealer Notification Date : OCT 06, 2017 - OCT 20, 2017

Planned Owner Notification Date : OCT 06, 2017 - OCT 20, 2017

\* NR - Not Reported