



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

## ODI RESUME

**Investigation:** PE 20-009

**Date Opened:** 06/01/2020

**Investigator:** Sean Hays

**Approver:** Stephen Ridella

**Subject:** Momentary Increased Steering Effort

**Date Closed:** 06/03/2022

**Reviewer:** Sharon Yukevich

### MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** General Motors, LLC

**Products:** 2010-2012 Equinox, Terrain

**Population:** 617,166

**Problem Description:** When driven in a straight line for approximately 30 minutes or more, the vehicle steering can stick and cause a momentary minor increase in steering effort.

### FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	34	572	591**
<b>Crashes/Fires:</b>	0	0	0
<b>Injury Incidents:</b>	0	0	0
<b>Fatality Incidents:</b>	0	0	0
<b>Other*:</b>	0	14,896	14,429**

\*Description of Other: General Motors warranty claims

\*\* Total eliminates duplicates received by ODI and manufacturer.

### ACTION / SUMMARY INFORMATION

**Action:** Close Preliminary Evaluation PE20-009.

#### Summary:

On June 1, 2020, the Office of Defects Investigations (ODI) opened PE20-009 to investigate instances of a momentary increase in steering effort after the vehicle is driven in a straight line for a period of time due to an issue with the steering gear in model year (MY) 2010 through 2012 Chevrolet Equinox and GMC Terrain SUVs.

If the electric power steering system fails to operate as intended, the driver will experience momentary increased effort when attempting to turn the steering wheel from the straight-ahead position. For this condition to occur, the driver would need to have traveled in a straight line at a sustained high speed, without turning the steering wheel, for approximately 30 minutes or longer. The steering gear contains a servo unit that includes a worm gear with a worm and a worm wheel. General Motors (GM) stated that the primary root cause of the increased steering effort is the supplier's inconsistent application of grease in the interface between the worm and the worm wheel. The grease may have been applied in a location on the worm wheel that didn't interface with the worm, depriving the worm gear of proper lubrication.

On November 1, 2014, GM issued Special Coverage 14232 to address the power steering stick-slip issue in MY 2010-2014 Chevrolet Equinox and GMC Terrain; MY 2011-2014 Chevrolet Cruze and Volt; MY 2012-2014 Buick Verano; and MY 2013-2014 Chevrolet Malibu vehicles. GM notified consumers via mail.

The Special Coverage repair includes the replacement of the steering gear with an improved internal worm gear greasing process for MY 2010-2012 vehicles. For the MY 2013-2014 vehicles, the Special Coverage repair includes a reprogramming of the steering gear control module. The new software has an anti-stick feature which senses and

reduces the friction between the worm and worm wheel by oscillating the worm gear. GM stated that the difference in remedy is due to the inability of the MY 2010-2012 steering gear control module to accept the new software.

The remedy implemented in GM Special Coverage 14232 appears to be sufficient in addressing the safety-related concerns of this issue. Considering the low complaint and warranty rates of steering rack replacement as well as the field exposure time for the subject vehicles, the potential safety consequences of this issue are very low. To date, there have been no reported crashes, injuries, or fatalities related to this issue. ODI has not identified a safety defect or defect-related failure trend in the subject vehicles. In view of the Special Coverage, low rate of failure, and low potential hazard to drivers, this Preliminary Evaluation is closed. The agency reserves the right to take additional action if warranted by new circumstances.

Review the ODI reports cited above at [nhtsa.gov](http://nhtsa.gov) under the following identification numbers:

11424633,11421725,11229647,11101375,10919921,10689932,10671557,10664687,10663350,  
10593429,10592065,10585476,10585365,10576237,10575693,10532766,10490295,10434128,  
10417845,10412535,10403168,10395532,10395171,10391948,10384211,10375515,10366297,  
10360999,10360599,10345626,10319530,10305569,10304769,10299745