

**BMW Group**12V-302  
(3 Pages)**VIA CERTIFIED MAIL RRR, AND EMAIL**

June 28, 2012

Ms. Nancy Lummen Lewis  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
1200 New Jersey Ave., S.E.  
Washington, DC 20590

**Re: Recall Campaign**  
**Electric Power Steering (EPS) Assist Control Module**  
**2011 BMW 1-Series ActiveE**  
**2012 BMW Z4**

Dear Ms. Lewis:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act of 1966 and 49 CFR Part 573.

Pursuant to Section 573.6(c), we submit the following information.

1. **Manufacturer:** Bayerische Motoren Werke AG (BMW)  
**Designated Agent:** Thomas C. Baloga  
Vice President, Engineering-US  
BMW of North America, LLC  
200 Chestnut Ridge Rd. (Bldg. 150)  
Woodcliff Lake, NJ 07677
2. **Make:** BMW  
**Model Year / Model:** 2011 / BMW 1-Series ActiveE  
2012 / BMW Z4
- Inclusive Dates of Manufacture:** Nov. 22, 2011 – Dec. 15, 2011
3. The number of vehicles affected is 162.
4. The percentage of vehicles estimated to actually contain the condition is 100%.
5. The recall involves the Electric Power Steering (EPS) assist control module. On the control module's circuit board, the ceramic material of a capacitor was manufactured incorrectly. As a result, the capacitor's isolation resistance is out of specification. This can cause variations in the electric current. Variations in the electric current can result in a sudden loss of power steering assist.

If a loss of power steering assist occurred, the driver would be alerted by the illumination of a warning symbol in the instrument cluster and also by the activation of an audible warning. At the next vehicle (ignition) start, the EPS unit could function properly (the warning symbol in the instrument cluster would not appear,

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BMW of North America, LLC  
BMW Group Company

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the audible warning would not be activated). However, the condition may occur again.

If there were a loss of power steering assist, manual steering capability would be retained, although greater steering effort would be required.

The name, business address, telephone number, and contact person of the supplier, and country of origin of the component, is:

Volker Girrulat  
Senior Manager Warranty  
ZF Lenksysteme GmbH  
Richard-Bullinger- Strasse 77  
73527 Schwäbisch Gmünd, Germany  
Telefon / Phone +49 7171 31-4521  
Telefax / Fax +49 7171 31-6-4521

Country of Origin – Germany

6. BMW became aware of this matter during the week of February 13<sup>th</sup> when we obtained the first report pertaining to loss of power steering assist from a non-US market. Several additional reports were received later in February.

On February 27<sup>th</sup>, based upon the receipt of four non-US market reports in February, BMW AG Engineering was informed by the Warranty Support group. At that time, information from the EPS supplier was requested. Analyses of parts returned from the field were ordered. Field monitoring continued.

As of mid-March, increasing numbers of reports pertaining to loss of power steering assist were received from the field worldwide.

Extensive analyses were conducted by BMW AG Engineering, the EPS assist system supplier (ZF), the EPS assist control module supplier (Bosch), and the sub-supplier of the capacitor (Vishay). Various analyses were conducted in order to determine if a systematic fault pattern existed. BMW AG Engineering conducted analyses pertaining to vehicle operation characteristics. Engineering also reviewed in-service vehicle data.

Two incidents from the US were reported on May 14 and May 22, 2012.

On May 25, 2012, the EPS assist control module supplier informed BMW AG Engineering that a capacitor, which is part of the EPS assist control module's circuit board, was manufactured out of specification by a sub-supplier. Based upon supplier manufacturing records, the specific capacitor production lot was also able to be identified with the corresponding EPS assist control module production lot.

On June 4, 2012, the EPS assist supplier provided a failure probability assessment to BMW AG Engineering. However, it did not contain sufficient details in order for BMW to make an accurate assessment of EPS assist control module failure.

From June 5<sup>th</sup> to June 21<sup>st</sup>, BMW AG Engineering performed further analysis in order to examine possible additional failure characteristics, and to determine an accurate probability for an occurrence in the field. Production and manufacturing records were also examined in order to determine the number, and production range of potentially affected vehicles.

The additional analyses performed by BMW AG Engineering led to the conclusion that an affected vehicle would experience loss of power steering assist. A review of vehicle production records and EPS assist control module manufacturing records, resulted in the ability to identify the affected EPS assist control module production lot with the corresponding affected vehicle production.

On June 21, 2012, BMW decided to conduct a voluntary recall.

BMW is not aware of any accidents or injuries related to this issue.

7. Not applicable.
8. BMW will conduct a recall campaign to remedy the affected vehicles. The steering gear, which includes the EPS assist control module, will be replaced.

BMW expects to begin dealer notification in June and expects to complete dealer notification in July 2012. BMW expects to begin and complete owner notification in July 2012.

9. Not applicable.
10. A copy of the Service Bulletin will be submitted when available. A draft copy of the owner notification will be submitted when available.
11. Not applicable.

Sincerely,

BMW OF NORTH AMERICA, LLC

A handwritten signature in black ink, appearing to read "David Cordero", with a stylized flourish at the end.

David Cordero  
Safety Integrity and Recall Manager