

**RECEIVED**

By Recall Management Division at 12:33 pm, Aug 01, 2013

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED, AND EMAIL**

July 26, 2013  
 Ms. Nancy Lewis  
 Associate Administrator for Enforcement  
 National Highway Traffic Safety Administration  
 1200 New Jersey Ave., S.E.  
 Washington, DC 20590

**Re: Recall Campaign – 13V-044  
 Power Supply System  
 2007-2012 BMW 1-Series, 3-Series, Z4  
 Amendment**

Dear Ms. Lewis:

This is an amendment to our February 7, 2013 report, and is being 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 are amending our February 7, 2013 report. Sections 2, 3, 6, and 8 are amended to add the following information in **bold** pertaining to additional vehicle production.

1. Manufacturer: Bayerische Motoren Werke AG (BMW AG)

Designated Agent:  
 (pending)

Samuel Campbell, III  
 Department Head, Safety Engineering and ITS  
 BMW of North America, LLC  
 200 Chestnut Ridge Rd. (Bldg. 150)  
 Woodcliff Lake, NJ 07677

**Company**  
 BMW of North America, LLC

BMW Group Company

**Mailing address**  
 PO Box 1227  
 Westwood, NJ  
 07675-1227

**Office address**  
 300 Chestnut Ridge Road  
 Woodcliff Lake, NJ  
 07677-7731

**Telephone**  
 (201) 307-4000

**Fax**  
 (201) 571-5479

**Website**  
 bmwusa.com

2. Make:

BMW

Model Year / Model

Inclusive Dates of Manufacture

2008-12 / 1-Series Coupe  
 2008-12 / 1-Series Convertible  
 2007-11 / 3-Series Sedan  
 2007-11 / 3-Series Sports Wagon  
 2007-11 / 3-Series Coupe  
 2007-11 / 3-Series Convertible  
 2009-11 / Z4

Dec. 2007 – **Sep.** 2011  
 Dec. 2007 – **Sep.** 2011  
 Mar. 2007 – Oct. 2011  
 Mar. 2007 – Jun. 2011  
 Mar. 2007 – Jul. 2011  
 Mar. 2007 – **Oct.** 2011  
 Mar. 2009 – Jun. 2011

3. The number of vehicles affected is now **approximately 516,791 as follows:**

Model

Approximate Number Affected

	<u>Original</u>	<b>Amended</b>
1-Series Coupe	23,255	<b>24,639</b>
1-Series Convertible	20,790	<b>21,730</b>
3-Series Sedan	297,000	<b>301,595</b>



3-Series Sports Wagon	7,310	<b>7,331</b>
3-Series Coupe	76,330	<b>79,320</b>
3-Series Convertible	68,935	<b>72,146</b>
Z4	10,020	<b>10,030</b>

4. The percentage of vehicles estimated to contain the condition is less than 1%.
5. This recall involves the vehicle power supply system. On affected vehicles, the battery is located in the trunk of the vehicle. Power is transferred, via the positive battery cable, from the battery in the vehicle's trunk to the fuse box which is located between the glove compartment and the dash panel inside the vehicle.

The connector at the end of the positive battery cable and the corresponding terminal on the fuse box are both coated with tin. Due to relative movements between the positive battery cable and the fuse box, and in combination with very high current flow, the tin-coated connectors may be susceptible to fretting over time. As a result, depending upon the extent of the degradation of the connectors, variations in the electrical resistance at this connection could occur. With high current flow, increased heat on the connectors could be present and lead to further wear of the connectors.

Excessive wear of the connectors could eventually lead to a break in the electrical connection and create a non-starting condition in the vehicle. Also, a strong variation in the contact resistance could lead to a momentary flickering of the display in the instrument cluster or to a momentary (less than one second) engine shut down. In an extreme case, the electrical system may be completely interrupted during vehicle operation resulting in engine stalling and a loss of various vehicle systems that could increase the risk of a crash.

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

Mr. Mike Fawaz  
Vice President Global Engineering Electrical and Electronics  
Business Division: EPMS  
LEAR Corporation  
21557 Telegraph Road  
PLZ :48033 MI Southfield  
USA  
Tel.:+12484471422  
E-Mail: [MFawaz@lear.com](mailto:MFawaz@lear.com)

Country of Origin: Germany

6. BMW initially became aware of this matter in July 2010 as a result of two (2) field cases from the US market involving the failure of the electrical system on a 3-Series vehicle when a customer experienced a "no-start" condition after it was parked. In October and December 2010, additional cases were received from the field pertaining to a "no-start" condition.

Initial analyses were conducted and pointed to a degradation of the tin-coated connection between the positive battery cable and the fuse box. In March and May 2011, several more field cases were received, again pertaining to vehicles experiencing a no-start condition after it was parked.

After further analyses, and due to the additional field occurrences, the positive battery cable connector, and the corresponding fuse box connector were modified to include silver- (instead of tin-) coating as a quality improvement in July 2011 vehicle production. In addition, a Service Information Bulletin (SIB) was issued in July 2011 to address the "no start" issues in the field.

BMW continued to receive cases and occasional warranty claims from the field pertaining to the "no-start" condition, but were handled through the SIB.

### **Transport Canada Investigation**

On March 5, 2012, Transport Canada submitted to BMW Canada one (1) public complaint alleging a loss of electrical power resulting in an engine stall, and asked several questions about the issue and the Service Information Bulletin.

On April 23<sup>rd</sup>, 2012, BMW Canada submitted its response to the March 5<sup>th</sup> Transport Canada information request. At that time, BMW Canada was aware of one (1) dealer field report. BMW Canada had not received any reports of any accidents or injuries related to the power supply system.

On May 31, 2012, Transport Canada opened a Level III investigation ("3280-11-24"), and on June 5<sup>th</sup>, sent BMW Canada an additional Information Request letter on this topic. Included with this, were copies of three public complaints logged by Transport Canada that alleged a loss of electrical power resulting in an engine stall that included the same complaint Transport Canada sent to BMW Canada on March 5<sup>th</sup>. In addition, one of these public complaints alleged a minor collision.

On July 16, 2012, BMW Canada submitted its response to the June 5<sup>th</sup> Information Request from Transport Canada. Included with the response were copies of one (1) dealer field report (the same report referenced in the April 23<sup>rd</sup> response to Transport Canada), and one (1) warranty claim, that each alleged a loss of electrical power resulting in an engine stall.

BMW AG established a problem solution team in order to intensively investigate and analyze this matter and informed Transport Canada. The team had initiated all necessary steps to analyze whether a systematic fault pattern existed, and to determine possible failure modes, and a root cause. Since these intense investigations required additional time, BMW expected to have initial confirmed findings/results during the 4<sup>th</sup> quarter of 2012, and be able to assess possible consequences of the failure mode(s) at that time.

Between March and December 2012 the problem solution team investigated the production data of the supplier and sub-suppliers, analyzed field data, checked differences in vehicle configurations, investigated returned parts from the field, and initiated vehicle tests.

On December 14, 2012, BMW Canada submitted a letter to Transport Canada, further to the July 16<sup>th</sup> response letter, to provide an update on its analyses. Initial results indicated that driving tests with vehicles equipped with similar replacement parts from customer's vehicles had not, at that time, confirmed the failure mode "engine stall/loss of propulsion while driving" despite aggravated test conditions.

On December 18, 2012, the additional accelerated endurance road testing on BMW's proving ground, and multi-axle shaker tests with a special prepared section

of a car body, were initiated. The road testing was performed using damaged field parts in a two-shift operation and was completed on January 25, 2013.

By the use of damaged parts, a significant temperature stress in the contact area was measurable. The reoccurrence of the failure of the pre-damaged customer parts occurred at the parked vehicle as expected (no access to the vehicle the next morning). Repeated re-activation of the contact resulted in momentary engine shut-downs (cut-offs) and finally to a complete failure of the electrical system.

Production and manufacturing records were examined in order to determine the number, and production range, of potentially affected vehicles.

On January 31, 2013, BMW decided to conduct a voluntary recall.

BMW has received one report of an alleged accident (provided by Transport Canada), but has not received any reports of injuries related to this issue.

**By May 15, 2013, BMW noticed an additional six cases of vehicles exhibiting electrical disruption, by monitoring its internal service data. Based upon vehicle manufacturing date, it was thought that these vehicles did not contain the original battery cable connector with tin contacts, and were therefore not susceptible to this issue. BMW contacted the supplier to initiate an investigation.**

**On June 11, 2013, the supplier provided information, suggesting that the six additional vehicles contained the original battery cable connector with tin contacts and they were outside the production range of the original recalled vehicles. The supplier also confirmed that additional battery cables had been produced containing tin contacts. On June 13th, an internal BMW lab report confirmed that the contacts were tin plated.**

**Between June 13<sup>th</sup> and July 17<sup>th</sup>, BMW and the supplier conducted a thorough search of supplier production information and vehicle manufacturing records in order to determine the allocation of the additional battery cable connectors with tin contacts to corresponding vehicles.**

**A review of this information resulted in the determination of the number and production range of additional potentially affected vehicles.**

**On July 18, 2013, BMW decided to recall the additional vehicles.**

7. Not applicable.
8. BMW will conduct a recall campaign to remedy the affected vehicles. The positive battery cable connector will be replaced by an improved version, and also secured to the fuse box using a vibration-safe method.

BMW will begin dealer notification in February and expects to complete dealer notification in March. BMW expects to begin and complete owner notification in March.

**For the additional vehicles, BMW expects to begin and complete owner notification in August.**

9. Not applicable.

10. A copy of the Service Bulletin will be submitted when available. A draft copy of the owner notification letter will be submitted when available.

11. Not applicable.

Sincerely,

BMW of North America, LLC

A handwritten signature in blue ink, appearing to read "Sam Campbell", with a large flourish at the end. Below the signature, the word "for" is written in a smaller, cursive script.

Sam Campbell  
Department Head  
Safety Engineering and Intelligent Transportation Systems