BMW Group

September 16, 2011

Frank Borris
Director, Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Ave., S.E.
Washington, DC 20590

Re: EA11-005

Dear Mr. Borris:

With this letter, BMW is responding to NHTSA's Information Request dated July 6, 2011 in the above captioned matter. As agreed with the agency, BMW would be responding to Questions 7 through 11 by September 16th. Accordingly, the materials contained herein are BMW's response to Questions 7 through 11 of the Information Request.

As requested, BMW has repeated each question verbatim and provided our response accordingly. Our detailed responses are contained in the attachments.

Because a portion of our response to Questions 7 through 11, specifically CD No. 2, is considered by BMW to be confidential, it is not being submitted to your office. Rather, as instructed, CD No. 2 is being submitted to the Office of Chief Counsel, along with information supporting our request for confidentiality. Some documents have not yet been able to be translated, but will be provided to the agency when completed.

We are attaching to this letter the non-confidential portion of our response, CD No. 1 (Rev. 1). CD No. 1 (Rev. 1), an update from our September 2nd response, includes files responsive to Questions 7 through 11, which are specifically contained in folders Q7 and Q8 on the CD.

Should you have any questions pertaining to the information enclosed with this letter, please contact me at (201) 571-5360, or Martin Rapaport of my staff at (201) 571-5208.

Sincerely,

Jan Urbahn
General Manager
Safety Engineering & Intelligent Transportation Systems

Attachment:

CD No. 1 (Rev. 1)

Cc:

K. Vincent, NHTSA, Office of Chief Counsel (Letter only)
S. Yon, NHTSA, Office of Defects Investigation (Letter only)

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

BMW Response
to
NHTSA EA11-005
(Questions 1 – 6)
2 Sep 2011

As requested by NHTSA in a discussion between the agency and BMW on July 13, 2011, BMW is providing this summary introduction.

As BMW explained on July 13th, its response to PE10-038 Question 1 (production data) did not contain a complete data set pertaining to Model Year 2004-05 subject vehicle production. BMW stated that in response to EA11-005 Question 1 (production data), it would provide a complete data set pertaining to Model Year 2004-05 subject vehicle production, along with Model Year 2002-03 subject vehicle production data (now a part of this Information Request).

BMW explained that in its response to PE10-038 Question 1 (production data), information pertaining to convertible models was not included. BMW interpreted the PE10-038 "subject vehicles" as not including convertibles. BMW stated that it would provide production data pertaining to convertible models in response to EA11-005 Question 1 (production data). BMW also stated that in response to other EA11-005 questions, information pertaining to convertible models would be included as applicable.

BMW stated that prior to submitting its response, it would perform an analysis in order to ensure that any VIN contained within a field data file (e.g., warranty claims, consumer complaints, field reports, etc.) was also contained within the vehicle production file.

Lastly, as requested by NHTSA, BMW would include in its response to EA11-005, data already provided in response to PE10-038.

1. **For MY 2002-2005, state, by model and model year, the number of subject vehicles BMW has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by BMW, state the following:**
   a. **Vehicle identification number (VIN);**
   b. **Make;**
   c. **Model;**
   d. **Model Year;**
   e. **Date of manufacture;**
   f. **Date warranty coverage commenced; and,**
   g. **The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).**

   Provide the table in Microsoft Access 2007, or a compatible format, entitled "PRODUCTION DATA."

   Response:

   The source of this information is our vehicle production database and is current as of 30 June 2011.

   The number of subject vehicles BMW has manufactured for sale or lease in the United States by Model and Model Year is contained in Table 1.

Model	Model Year	US Production
Cooper	2002	10,245
Cooper	2003	18,205
Cooper	2004	16,286
Cooper	2005	15,311
Cooper S	2002	7,032
Cooper S	2003	14,957
Cooper S	2004	14,958
Cooper S	2005	18,364
Cooper Convertible	2005	3,359
Cooper S Convertible	2005	10,541

Table 1.

Attachment "PRODUCTION-DATA" on CD No. 1 contains the requested information. In the attachment, there are 29 VINs which do not have a US state of sale; however, we are including them as they were produced for sale or lease in the United States.

2. For MY 2002-2005, state the number of each of the following, received by BMW, or of which BMW is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:

a. Consumer complaints, including those from fleet operators;
b. Field reports, including dealer field reports;
c. Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
d. Reports involving a fire, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
e. Property damage claims;
f. Third-party arbitration proceedings where BMW is or was a party to the arbitration; and,
g. Lawsuits, both pending and closed, in which BMW is or was a defendant or codefendant.

For subparts "a" through "e," state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items "c" through "g," provide a summary description of the alleged problem and causal and contributing factors and mfg's short name's [sic – BMW's] assessment of the problem, with a summary of the significant underlying facts and

evidence. For items "f" and "g," identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

Response:

The source of this information is our customer contact database, various field report databases, and certain legal databases, and is current as of 30 June 2011.

The number of reports, if any, by category, that may relate to allegations of loss of power steering assist is provided in Table 2. Table 2 also includes the number of reports, if any, in which an allegation, of the type noted in 2(c) and 2(d), is contained within the specific report in that category.

Search terms / key words for item 2(c) were: "crash" (and variations), "accident", "hit", "injury" (and variations), and "pain".

Search terms / key words for item 2(d) were: "fire", "flame", "burn", "smoke", "melt", "heat", and "spark".

Category	Number	Number Including Allegation of Crash	Number Including Allegation of Injury	Number Including Allegation of Fatality	Number Including Allegation of Fire
Consumer Complaints	768	7	0	0	16
Field Reports	23	17	5	0	3
Dealer Field Reports	12	0	0	0	0
Property Damage Claims	0	0	0	0	0
Third-Party Arbitration Proceedings*	1	0	0	0	0
Lawsuits*	7	0	0	0	1

Table 2.

*All but one of the third-party arbitration proceedings, and lawsuits, are "Lemon-Law" matters. The other is a Class Action lawsuit that was filed after PE10-038 commenced.

Attachment "LEGAL-SUMMARY-INFO" on CD No. 1 contains the requested information for items 2(f) and 2(g).

3. **Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information. Each response should be in an individual and separate column:**
   a. **BMW's file number or other identifier used;**
   b. **The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);**

c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
d. Vehicle's 17-character VIN;
e. Vehicle's make;
f. Vehicle's model;
g. Vehicle's model year;
h. Vehicle's mileage at time of incident;
i. Incident date;
j. Report or claim date;
k. Whether a crash is alleged;
l. Whether a fire is alleged;
m. Whether a loss of vehicle control is alleged;
n. Whether any of the subject components were allegedly replaced (Y/N);
o. If any were replaced, list the subject components (rack, fan, pump, etc.), or "n/a" if none were replaced;
p. Whether the vehicle was re-purchased by BMW;
q. If BMW re-purchased the vehicle, explain in detail the reason for the re-purchase, or "n/a" if not re-purchased;
r. Whether property damage is alleged;
s. Number of alleged injuries;
t. If an injury is alleged, explain the type of injury; and
u. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2007, or a compatible format, entitled "COMPLAINT DATA."

Response:

The source of this information is our customer contact database, various field report databases, and certain legal databases, and is current as of 30 June 2011.

Attachment "COMPLAINT-DATA-CC" on CD No. 1 contains the requested information for the consumer complaints that may relate to allegations of loss of power steering assist. As the subparts of Q3 were expanded from the PE to the EA, the consumer complaint data provided in response to the PE was updated. Therefore, the attachment contains separate tabs for Model Year 2002-03, Model Year 2005 Convertibles, Model Year 2004-05 updated data collected during the PE (tab "PE"), and Model Year 20004-05 data collected after the PE data collection end-date (tab "EA"). Item (i) "Incident Date" is not available. Within each tab, data is organized chronologically.

The consumer complaint codes and code descriptions utilized in the search are contained in Table 3.

Consumer Complaint Code	Code Description
3200	Steering Unit Components (SUC)
3201	SUC – Wheel Vibration/Balance
3211	SUC – Steering Box
3213	SUC – Steering Rack
3231	SUC – Steering Column
3233	SUC –Steering Wheel
3241	SUC –Hydraulics – Pump, Hose
GQ02	NHTSA Investigation – MINI Cooper Cooper S (2004-2005) Power Steering

Table 3.

Attachment "COMPLAINT DATA – FR" on CD No. 1 contains the requested information for the field reports that may relate to allegations of loss of power steering assist. As the subparts of Q3 were expanded from the PE to the EA, the field report data provided in response to the PE was updated. Therefore, the attachment contains separate tabs for the updated PE data (tab "PE"), and for the EA data (tab "EA"). Within each tab, data is organized alphabetically by file identifier. As noted in the attachment, there were seven (7) incidents (1 on the PE tab, 6 on the EA tab) where a field report was not received, as the vehicle was not able to be inspected. Nevertheless, BMW received information from the field, and therefore, is including that information as a "field report". Those incidents are identified on the tabs in the attachment. For those incidents, there is no field report copy to provide in response to Question 4.

Attachment "COMPLAINT DATA – DFR" on CD No. 1 contains the requested information for the dealer field reports that may relate to allegations of loss of power steering assist. Within each tab, data is organized alphabetically by file identifier. Item (i) "Incident Date" is not available.

The field report, and dealer field report code descriptions utilized in the search were as follows:

- Steering
- Power steering
- Steering locked/stiff/binds/pulls
- Steering/suspension/driveline, loss of control
- Alleged suspension defect caused crash
- Power steering cooling fan
- Front axle / front wheel control
- General vehicle electrics

Attachment "COMPLAINT DATA – LM" on CD No. 1 contains the requested information for the legal matters that may relate to allegations of loss of power steering assist. As the subparts of Q3 were expanded from the PE to the EA, the legal matter data provided in response to the PE was updated. Therefore, the attachment contains separate tabs for the updated PE data (tab "PE"), and for the EA data (tab "EA"). Item (i) "Incident Date" is not available. Within each tab, data is organized alphabetically by file identifier.

For item 3(p) and 3(q), no vehicle repurchase, if any, has occurred solely due to a matter that may relate to an allegation of loss of power steering assist. In other words, an allegation, if any, that may relate to loss of power steering assist, is not the sole reason for a vehicle repurchase.

4. **Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method BMW used for organizing the documents.**

Response:

The source of this information is our customer contact database, various field report databases, and certain legal databases, and is current as of 30 June 2011.

Attachment "CONSUMER-COMPLAINTS" on CD No. 1 contains copies of the consumer complaints that may relate to allegations of loss of power steering assist. For Model Year 2002-03, a separate file is provided and contains complaints for all codes listed in Table 3. For Model Year 2005 Convertibles, a separate file is provided and contains complaints for all codes listed in Table 3. For Model Year 2004-05, separate files are provided for the PE and EA data collection time period, and also according to the consumer complaint code listed in Table 3. Within each file, complaints are organized chronologically.

Attachment "FIELD-REPORTS" on CD No. 1 contains copies of the field reports that may relate to allegations of loss of power steering assist. Each field report is a separate file. As noted above in response to Question 3, there were also seven (7) incidents where a field report was not received, as the vehicle was not able to be inspected. Nevertheless, BMW received information from the field, and therefore, is including that information as a "field report". For those incidents, there is no field report copy in the attachment.

Attachment "DEALER-FIELD-REPORTS" on CD No. 1 contains copies of the dealer field reports that may relate to allegations of loss of power steering assist. Each dealer field report is a separate file.

Attachment "LEGAL-MATTERS" on CD No. 1 contains copies of the legal matters that may relate to allegations of loss of power steering assist. Each legal matter is a separate file. All but one of the legal matters is a "Lemon-Law" matter. One is a Class Action case that was filed after PE10-038 commenced. The Lemon Law cases do not comprise any instances of crashes, injuries, or fatalities. Lemon Law cases are based on a variety of vehicle complaints where it is alleged that the vehicle is out of service for more than 30 days within a specific "Lemon Law" period of time (depends upon the State) or that certain alleged defects cannot be repaired after a reasonable number of attempts. Power steering may be one of a number of alleged defects in the Complaint, but is not the focus of the

Complaint, or power steering may be part of a repair order related to the lawsuit or third party arbitration/mediation although not specifically stated in the Complaint filed.

5. **For MY 2002-2005, state, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by BMW to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; claims that were repaired under service action TSB/CSC SI M32 03 04; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.**

   Separately, for each such claim, state the following information (each response should be in an individual and separate column):

   a. **BMW's claim number;**
   b. **Claim description, (i.e. warranty, TSB, extended warranty, good will, etc);**
   c. **Vehicle owner or fleet name (and fleet contact person) and telephone number;**
   d. **Vehicle's 17-character VIN;**
   e. **Vehicle's make;**
   f. **Vehicle's model;**
   g. **Vehicle's model year;**
   h. **Repair date;**
   i. **Vehicle mileage at time of repair;**
   j. **Replacement part number(s);**
   k. **Part number description(s);**
   l. **Whether the power steering rack was replaced (Y/N);**
   m. **Whether the power steering pump was replaced (Y/N);**
   n. **Repairing dealer's or facility's name and telephone number;**
   o. **Repairing dealer's or facility's city;**
   p. **Repairing dealer's or facility's state;**
   q. **Labor operation number;**
   r. **Problem code;**
   s. **Whether a loss of vehicle control is alleged;**
   t. **Concern stated by customer; and,**
   u. **Comment, if any, by dealer/technician relating to claim and/or repair.**

   Provide this information in Microsoft Access 2007, or a compatible format, entitled "WARRANTY DATA."

   Response:

   The source of this information is our warranty claims database and is current as of 30 June 2011.

The number of paid warranty claims by Model and Model Year that may relate to allegations of loss of power steering assist is contained in Table 4.

Model	Model Year	Number of Warranty Claims
Cooper	2002	1,786
Cooper	2003	2,810
Cooper	2004	2,275
Cooper	2005	1,164
Cooper S	2002	1,540
Cooper S	2003	2,571
Cooper S	2004	2,004
Cooper S	2005	1,129
Cooper Convertible	2005	446
Cooper S Convertible	2005	328

Table 4.

Attachment "WARRANTY-DATA" on CD No. 1 contains the requested information. Separate tabs are provided for claims by problem code, claims by labor operation code, and claims by part number. The tab containing claims by problem code provides the total number of separate and unique claims. For a given claim, there could be more than one labor operation and/or more than one part number. Therefore, separate tabs are provided for those parameters so as to not duplicate the results on the problem code tab. The tabs have a common attribute which is item 5(a) – BMW claim number.

Information pertaining to labor operations, labor operation descriptions, problem codes, problem code descriptions, part numbers, and part number descriptions are contained in Attachment "WARRANTY-DATA" on CD No. 1. Separate tabs are provided for the labor operations/descriptions, problem codes/descriptions, and part numbers/descriptions.

6. **Describe in detail the search criteria used by BMW to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by BMW on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that BMW offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.**

Response:

The warranty claims search criteria was initially based upon the NHTSA definition of "subject component" and our corresponding warranty claims system comprehensive

problem code for that component, specifically the steering system. Using those parameters resulted in capturing all warranty claims information pertaining to the steering system in the subject vehicles.

The claims data was then reviewed in order to remove clearly unrelated / non-applicable claims, such as those pertaining to steering wheel cosmetics, loose trim pieces, etc.

Warranty claims were then sorted / grouped into categories based upon warranty claim problem code. Those claims were then reviewed using a text-based search involving the NHTSA definition of "alleged defect" with the intention of capturing claims that may relate to allegations of loss of power steering assist. As a result, warranty claims that may relate to allegations of loss of power steering assist were retained.

The warranty claim problem codes and code descriptions are contained in Table 5.

Warranty Claim Problem Code	Code Description
32410114XX	Vane/tandem pump/electric pump occasional malfunction
32410115XX	Vane/tandem pump/electric pump permanent malfunction
32130234XX	Steering gear stiff to move
32130214XX	Steering gear occasional malfunction
32130215XX	Steering gear permanent malfunction
32410199XX	Vane/tandem pump/electric pump Fault code stored in diagnosis fault code memory (no warning lamp)]
0032630100	SIB 320304
32419479XX	SIB 320104
32130248XX	Steering gear leaking
32410148XX	Vane/tandem pump/electric pump leaking

Table 5.

The "XX" at the end of the warranty claim problem code denotes an alpha-numeric set of characters specific to a regular warranty claim, a goodwill warranty claim, or an extended warranty claim. As requested in response to Question 5(b), the specific claim type is contained in Attachment "WARRANTY-DATA" on CD No. 1.

Warranty claims pertaining to the Service Information Bulletin that NHTSA included as a part of this Information Request (SIB 320304) were also captured. Also, warranty claims pertaining to Service Information Bulletin (SIB) 320104 were also captured. SIB 320104 is provided as an attachment in response to Question 7.

Information pertaining to labor operations, labor operation descriptions, problem codes, problem code descriptions, part numbers, and part number descriptions are contained in Attachment "WARRANTY-DATA" on CD No. 1. Separate tabs are provided for the labor operations/descriptions, problem codes/descriptions, and part numbers/descriptions.

The terms of the New Vehicle Limited Warranty coverage for the subject vehicles is 4 years / 50,000 miles and includes coverage for the subject component.

MINI offers a "Certified Pre-Owned" (CPO) program for the subject vehicles. The CPO program provides certain warranty coverage (subject to exclusions and limitations) on the vehicle when purchased (via the CPO program) by a second (and any subsequent) owner(s) for an additional 2 years / 50,000 miles (whichever occurs first), after our original New Vehicle Limited Warranty coverage period of 4 years / 50,000 miles expires. With the addition of this CPO coverage, the vehicle is covered (with certain limitations) up to a maximum of 6 years / 100,000 miles (whichever occurs first).

MINI offers several extended service contract options for the subject vehicles which are known as the MINI "Extended Motorer Protection" (EMP) program. While CPO coverage is only available in one term as noted above, we have four EMP terms available for vehicles still covered by our New Vehicle Limited Warranty: 5 years / 100,000 miles, 6 years / 100,000 miles, 7 years / 70,000 miles, or 7 years / 100,000 miles (whichever occur first). All of these terms "wrap" the factory 4 year / 50,000 mile warranty, and will expire at 5, 6, or 7 years from the original in-service date of the vehicle, or 70,000 or 100,000 total vehicular miles, whichever comes first.

On these enrollments, coverage begins on the date of enrollment, and the covered mileage period is calculated by adding the term mileage coverage to the mileage on the vehicle as of the date of enrollment. For all of our current EMP offerings, once in place, coverage can be transferred to a second (and any subsequent) owner(s) in private-party to private-party changes in ownership, but, it does not apply (becomes "inactive") if the vehicle is traded in to a dealer, broker, or wholesaler.

BMW Response
to
NHTSA EA11-005
16 Sep 2011
(Including Responses to Questions 7 – 11)

As requested by NHTSA in a discussion between the agency and BMW on July 13, 2011, BMW is providing this summary introduction.

As discussed on July 13th, BMW explained that its response to PE10-038 Question 1 (production data) did not contain a complete data set pertaining to Model Year 2004-05 subject vehicle production. BMW stated that in response to EA11-005 Question 1 (production data), it would provide a complete data set pertaining to Model Year 2004-05 subject vehicle production, along with Model Year 2002-03 subject vehicle production data (now a part of this Information Request).

BMW explained that in its response to PE10-038 Question 1 (production data), information pertaining to convertible models was not included. BMW explained that it interpreted the PE10-038 "subject vehicles" as not including convertibles. BMW stated that in response to EA11-005 Question 1 (production data), it would provide production data pertaining to convertible models. BMW also stated that in response to other EA11-005 questions, information pertaining to convertible models would be included as applicable.

BMW explained that prior to submitting its response, it would perform an analysis in order to ensure that any VIN contained within a field data file (e.g., warranty claims, consumer complaints, field reports, etc.) was also contained within the vehicle production file.

Lastly, as requested by NHTSA, BMW would include in its response to EA11-005, data already provided in response to PE10-038.

1. **For MY 2002-2005, state, by model and model year, the number of subject vehicles BMW has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by BMW, state the following:**

   a. **Vehicle identification number (VIN);**
   b. **Make;**
   c. **Model;**
   d. **Model Year;**
   e. **Date of manufacture;**
   f. **Date warranty coverage commenced; and,**
   g. **The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).**

   Provide the table in Microsoft Access 2007, or a compatible format, entitled "PRODUCTION DATA."

   Response:

   The source of this information is our vehicle production database and is current as of 30 June 2011.

   The number of subject vehicles BMW has manufactured for sale or lease in the United States by Model and Model Year is contained in Table 1.

Model	Model Year	US Production
Cooper	2002	10,245
Cooper	2003	18,205
Cooper	2004	16,286
Cooper	2005	15,311
Cooper S	2002	7,032
Cooper S	2003	14,957
Cooper S	2004	14,958
Cooper S	2005	18,364
Cooper Convertible	2005	3,359
Cooper S Convertible	2005	10,541

Table 1.

Attachment "PRODUCTION-DATA" on CD No. 1 contains the requested information. In the attachment, there are 29 VINs which do not have a US state of sale; however, we are including them as they were produced for sale or lease in the United States.

2. **For MY 2002-2005, state the number of each of the following, received by BMW, or of which BMW is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:**

   a. **Consumer complaints, including those from fleet operators;**
   b. **Field reports, including dealer field reports;**
   c. **Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;**
   d. **Reports involving a fire, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;**
   e. **Property damage claims;**
   f. **Third-party arbitration proceedings where BMW is or was a party to the arbitration; and,**
   g. **Lawsuits, both pending and closed, in which BMW is or was a defendant or codefendant.**

   For subparts "a" through "e," state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

   In addition, for items "c" through "g," provide a summary description of the alleged problem and causal and contributing factors and mfg's short name's [sic – BMW's] assessment of the problem, with a summary of the significant underlying facts and

evidence. For items "f" and "g," identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

Response:

The source of this information is our customer contact database, various field report databases, and certain legal databases, and is current as of 30 June 2011.

The number of reports, if any, by category, that may relate to allegations of loss of power steering assist is provided in Table 2. Table 2 also includes the number of reports, if any, in which an allegation, of the type noted in 2(c) and 2(d), is contained within the specific report in that category.

Search terms / key words for item 2(c) were: "crash" (and variations), "accident", "hit", "injury" (and variations), and "pain".

Search terms / key words for item 2(d) were: "fire", "flame", "burn", "smoke", "melt", "heat", and "spark".

Category	Number	Number Including Allegation of Crash	Number Including Allegation of Injury	Number Including Allegation of Fatality	Number Including Allegation of Fire
Consumer Complaints	768	7	0	0	16
Field Reports	23	17	5	0	3
Dealer Field Reports	12	0	0	0	0
Property Damage Claims	0	0	0	0	0
Third-Party Arbitration Proceedings*	1	0	0	0	0
Lawsuits*	7	0	0	0	1

Table 2.

*All but one of the third-party arbitration proceedings, and lawsuits, are "Lemon-Law" matters.

Attachment "LEGAL-SUMMARY-INFO" on CD No. 1 contains the requested information for items 2(f) and 2(g).

3. **Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information. Each response should be in an individual and separate column:**
   a. **BMW's file number or other identifier used;**
   b. **The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);**

c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
d. Vehicle's 17-character VIN;
e. Vehicle's make;
f. Vehicle's model;
g. Vehicle's model year;
h. Vehicle's mileage at time of incident;
i. Incident date;
j. Report or claim date;
k. Whether a crash is alleged;
l. Whether a fire is alleged;
m. Whether a loss of vehicle control is alleged;
n. Whether any of the subject components were allegedly replaced (Y/N);
o. If any were replaced, list the subject components (rack, fan, pump, etc.), or "n/a" if none were replaced;
p. Whether the vehicle was re-purchased by BMW;
q. If BMW re-purchased the vehicle, explain in detail the reason for the re-purchase, or "n/a" if not re-purchased;
r. Whether property damage is alleged;
s. Number of alleged injuries;
t. If an injury is alleged, explain the type of injury; and
u. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2007, or a compatible format, entitled "COMPLAINT DATA."

Response:

The source of this information is our customer contact database, various field report databases, and certain legal databases, and is current as of 30 June 2011.

Attachment "COMPLAINT-DATA-CC" on CD No. 1 contains the requested information for the consumer complaints that may relate to allegations of loss of power steering assist. As the subparts of Q3 were expanded from the PE to the EA, the consumer complaint data provided in response to the PE was updated. Therefore, the attachment contains separate tabs for Model Year 2002-03, Model Year 2005 Convertibles, Model Year 2004-05 updated data collected during the PE (tab "PE"), and Model Year 20004-05 data collected after the PE data collection end-date (tab "EA"). Item (i) "Incident Date" is not available. Within each tab, data is organized chronologically.

The consumer complaint codes and code descriptions utilized in the search are contained in Table 3.

Consumer Complaint Code	Code Description
3200	Steering Unit Components (SUC)
3201	SUC – Wheel Vibration/Balance
3211	SUC – Steering Box
3213	SUC – Steering Rack
3231	SUC – Steering Column
3233	SUC –Steering Wheel
3241	SUC –Hydraulics – Pump, Hose
GQ02	NHTSA Investigation – MINI Cooper Cooper S (2004-2005) Power Steering

Table 3.

Attachment "COMPLAINT DATA – FR" on CD No. 1 contains the requested information for the field reports that may relate to allegations of loss of power steering assist. . As the subparts of Q3 were expanded from the PE to the EA, the field report data provided in response to the PE was updated. Therefore, the attachment contains separate tabs for the updated PE data (tab "PE"), and for the EA data (tab "EA"). Within each tab, data is organized alphabetically by file identifier. As noted in the attachment, there were seven (7) incidents (1 on the PE tab, 6 on the EA tab) where a field report was not received, as the vehicle was not able to be inspected. Nevertheless, BMW received information from the field, and therefore, is including that information as a "field report". Those incidents are identified on the tabs in the attachment. For those incidents, there is no field report copy to provide in response to Question 4.

Attachment "COMPLAINT DATA – DFR" on CD No. 1 contains the requested information for the dealer field reports that may relate to allegations of loss of power steering assist. Within each tab, data is organized alphabetically by file identifier.

The field report, and dealer field report code descriptions utilized in the search were as follows:

- Steering
- Power steering
- Steering locked/stiff/binds/pulls
- Steering/suspension/driveline, loss of control
- Alleged suspension defect caused crash
- Power steering cooling fan
- Front axle / front wheel control
- General vehicle electrics

Attachment "COMPLAINT DATA – LM" on CD No. 1 contains the requested information for the legal matters that may relate to allegations of loss of power steering assist. As the subparts of Q3 were expanded from the PE to the EA, the legal matter data provided in response to the PE was updated. Therefore, the attachment contains separate tabs for the updated PE data (tab "PE"), and for the EA data (tab "EA"). Item (i) "Incident Date" is not available. Within each tab, data is organized alphabetically by file identifier.

For item 3(p) and 3(q), no vehicle repurchase, if any, has occurred solely due to a matter that may relate to an allegation of loss of power steering assist. In other words, an allegation, if any, that may relate to loss of power steering assist, is not the sole reason for a vehicle repurchase.

4. **Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method BMW used for organizing the documents.**

Response:

The source of this information is our customer contact database, various field report databases, and certain legal databases, and is current as of 30 June 2011.

Attachment "CONSUMER-COMPLAINTS" on CD No. 1 contains copies of the consumer complaints that may relate to allegations of loss of power steering assist. For Model Year 2002-03, a separate file is provided and contains complaints for all codes listed in Table 3. For Model Year 2005 Convertibles, a separate file is provided and contains complaints for all codes listed in Table 3. For Model Year 2004-05, separate files are provided for the PE and EA data collection time period, and also according to the consumer complaint code listed in Table 3. Within each file, complaints are organized chronologically.

Attachment "FIELD-REPORTS" on CD No. 1 contains copies of the field reports that may relate to allegations of loss of power steering assist. Each field report is a separate file. As noted above in response to Question 3, there were also seven (7) incidents where a field report was not received, as the vehicle was not able to be inspected. Nevertheless, BMW received information from the field, and therefore, is including that information as a "field report". For those incidents, there is no field report copy in the attachment.

Attachment "DEALER-FIELD-REPORTS" on CD No. 1 contains copies of the dealer field reports that may relate to allegations of loss of power steering assist. Each dealer field report is a separate file.

Attachment "LEGAL-MATTERS" on CD No. 1 contains copies of the legal matters that may relate to allegations of loss of power steering assist. Each legal matter is a separate file. All but one of the legal matters is a "Lemon-Law" matter. These cases do not comprise any instances of crashes, injuries, or fatalities. Lemon law cases are based on a variety of complaints where it is alleged that the vehicle is out of service for more than 30 days or that certain alleged defects cannot be repaired after a reasonable number of attempts. Power steering may be one of a number of alleged defects in the Complaint, but is not the focus of the Complaint, or power steering may be part of a repair order related to

the lawsuit or third party arbitration/mediation although not specifically stated in the Complaint filed.

5. **For MY 2002-2005, state, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by BMW to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; claims that were repaired under service action TSB/CSC SI M32 03 04; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.**

   Separately, for each such claim, state the following information (each response should be in an individual and separate column):

   a. BMW's claim number;
   b. Claim description, (i.e. warranty, TSB, extended warranty, good will, etc);
   c. Vehicle owner or fleet name (and fleet contact person) and telephone number;
   d. Vehicle's 17-character VIN;
   e. Vehicle's make;
   f. Vehicle's model;
   g. Vehicle's model year;
   h. Repair date;
   i. Vehicle mileage at time of repair;
   j. Replacement part number(s);
   k. Part number description(s);
   l. Whether the power steering rack was replaced (Y/N);
   m. Whether the power steering pump was replaced (Y/N);
   n. Repairing dealer's or facility's name and telephone number;
   o. Repairing dealer's or facility's city;
   p. Repairing dealer's or facility's state;
   q. Labor operation number;
   r. Problem code;
   s. Whether a loss of vehicle control is alleged;
   t. Concern stated by customer; and,
   u. Comment, if any, by dealer/technician relating to claim and/or repair.

   Provide this information in Microsoft Access 2007, or a compatible format, entitled "WARRANTY DATA."

   Response:

   The source of this information is our warranty claims database and is current as of 30 June 2011.

The number of paid warranty claims by Model and Model Year that may relate to allegations of loss of power steering assist is contained in Table 4.

Model	Model Year	Number of Warranty Claims
Cooper	2002	1,786
Cooper	2003	2,810
Cooper	2004	2,275
Cooper	2005	1,164
Cooper S	2002	1,540
Cooper S	2003	2,571
Cooper S	2004	2,004
Cooper S	2005	1,129
Cooper Convertible	2005	446
Cooper S Convertible	2005	328

Table 4.

Attachment "WARRANTY-DATA" on CD No. 1 contains the requested information. Separate tabs are provided for claims by problem code, claims by labor operation code, and claims by part number. The tab containing claims by problem code provides the total number of separate and unique claims. For a given claim, there could be more than one labor operation and/or more than one part number. Therefore, separate tabs are provided for those parameters so as to not duplicate the results on the problem code tab.

Information pertaining to labor operations, labor operation descriptions, problem codes, problem code descriptions, part numbers, and part number descriptions are contained in Attachment "WARRANTY-DATA" on CD No. 1. Separate tabs are provided for the labor operations/descriptions, problem codes/descriptions, and part numbers/descriptions.

6. **Describe in detail the search criteria used by BMW to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by BMW on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that BMW offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.**

Response:

The warranty claims search criteria was initially based upon the NHTSA definition of "subject component" and our corresponding warranty claims system comprehensive

problem code for that component, specifically the steering system. Using those parameters resulted in capturing all warranty claims information pertaining to the steering system in the subject vehicles.

The claims data was then reviewed in order to remove clearly unrelated / non-applicable claims, such as those pertaining to steering wheel cosmetics, loose trim pieces, etc.

Warranty claims were then sorted / grouped into categories based upon warranty claim problem code. Those claims were then reviewed using a text-based search involving the NHTSA definition of "alleged defect" with the intention of capturing claims that may relate to allegations of loss of power steering assist. As a result, warranty claims that may relate to allegations of loss of power steering assist were retained.

The warranty claim problem codes and code descriptions are contained in Table 5.

Warranty Claim Problem Code	Code Description
32410114XX	Vane/tandem pump/electric pump occasional malfunction
32410115XX	Vane/tandem pump/electric pump permanent malfunction
32130234XX	Steering gear stiff to move
32130214XX	Steering gear occasional malfunction
32130215XX	Steering gear permanent malfunction
32410199XX	Vane/tandem pump/electric pump Fault code stored in diagnosis fault code memory (no warning lamp)]
0032630100	SIB 320304
32419479XX	SIB 320104
32130248XX	Steering gear leaking
32410148XX	Vane/tandem pump/electric pump leaking

Table 5.

The "XX" at the end of the warranty claim problem code denotes an alpha-numeric set of characters specific to a regular warranty claim, a goodwill warranty claim, or an extended warranty claim. As requested in response to Question 5(b), the specific claim type is contained in Attachment "WARRANTY-DATA" on CD No. 1.

Warranty claims pertaining to the Service Information Bulletin that NHTSA included as a part of this Information Request (SIB 320304) were also captured. Also, warranty claims pertaining to Service Information Bulletin (SIB) 320104 were also captured. SIB 320104 is provided as an attachment in response to Question 7.

Information pertaining to labor operations, labor operation descriptions, problem codes, problem code descriptions, part numbers, and part number descriptions are contained in Attachment "WARRANTY-DATA" on CD No. 1. Separate tabs are provided for the labor operations/descriptions, problem codes/descriptions, and part numbers/descriptions.

The terms of the New Vehicle Limited Warranty coverage for the subject vehicles is 4 years / 50,000 miles and includes coverage for the subject component.

MINI offers a "Certified Pre-Owned" (CPO) program for the subject vehicles. The CPO program provides certain warranty coverage (subject to exclusions and limitations) on the vehicle when purchased (via the CPO program) by a second (and any subsequent) owner(s) for an additional 2 years / 50,000 miles (whichever occurs first), after our original New Vehicle Limited Warranty coverage period of 4 years / 50,000 miles expires. With the addition of this CPO coverage, the vehicle is covered up to a maximum of 6 years / 100,000 miles (whichever occurs first).

MINI offers several extended service contract options for the subject vehicles which are known as the MINI "Extended Motorer Protection" (EMP) program. While CPO coverage is only available in one term as noted above, we have four EMP terms available for vehicles still covered by our New Vehicle Limited Warranty: 5 years / 100,000 miles, 6 years / 100,000 miles, 7 years / 70,000 miles, or 7 years / 100,000 miles (whichever occur first). All of these terms "wrap" the factory 4 year / 50,000 mile warranty, and will expire at 5, 6, or 7 years from the original in-service date of the vehicle, or 70,000 or 100,000 total vehicular miles, whichever comes first.

On these enrollments, coverage begins on the date of enrollment, and the covered mileage period is calculated by adding the term mileage coverage to the mileage on the vehicle as of the date of enrollment. For all of our current EMP offerings, once in place, coverage can be transferred to a second (and any subsequent) owner(s) in private-party to private-party changes in ownership, but, it does not apply (becomes "inactive") if the vehicle is traded in to a dealer, broker, or wholesaler.

7. **Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that BMW has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletins, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that BMW is planning to issue within the next 120 days. For each such action, provide a list of the BMW vehicles affected including make, model and model year.**

Response:

The source of this information is our technical service department and is current as of 30 June 2011.

BMW has issued two Service Information Bulletins (SIBs) that relate to, or may relate to, the issue that is the subject of this Information Request.

BMW has issued "SIB M32 01 04" and "SIB M32 03 04".

Both SIBs are contained in folder "Q7" on CD No. 1 (Rev.1).

8. **For MY 2002-2005, describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, BMW. For each such action, provide the following information:**

   a. **Action title or identifier;**
   b. **The actual or planned start date;**
   c. **The actual or expected end date;**
   d. **Brief summary of the subject and objective of the action;**
   e. **Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and,**
   f. **A brief summary of the findings and/or conclusions resulting from the action.**

   For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

   Response:

   The sources of, and the data/information collection dates pertaining to, this information is as noted in the attachments.

   Attachment "CONF-TA-1.pdf" in folder "Q8" on CD No. 2 provides a summary of the "actions" and provides the information requested in Questions 8(a) through 8(f).

   All of the other attachments contained in folder "Q8" on CD No. 2, and in folder "Q8" on CD No. 1 (Rev.1), and as discussed in Attachment "CONF-TA-1.pdf", consist of the pertinent test and analyses documentation, and account for the "actions" conducted.

9. **For MY 2002-2005, describe all modifications or changes made by, or planned to be made within the next 120 days by, or on behalf of, BMW in the design, integrated circuit component design, control software, material composition, manufacture, quality control, supply, or installation of the subject component, from the start of production to the date BMW receives this request, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information (each response should be in an individual and separate column):**

   a. **The date or approximate date on which the modification or change was incorporated into vehicle production;**
   b. **A detailed description of the modification or change;**
   c. **The reason(s) for the modification or change;**
   d. **The part number(s) (service and engineering) of the original component;**
   e. **The part number(s) (service and engineering) of the modified component;**
   f. **Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;**
   g. **When the modified component was made available as a service component; and,**
   h. **Whether the modified component can be interchanged with earlier production components.**

Response:

The source of this information is our various technical development departments and is current as of 30 June 2011.

Outlined below are the modifications to the power steering pump that were implemented in order to resolve the issue that is the subject of this Information Request.

Modification #1: EEPROM Redesign.

a. Available in vehicle production February 2005.
b. Engineering release EFW89S, replacement of EEPROM by ROM164 with small EEPROM (redesign – ECU (Electronic Control Unit)).
c. Permanant loss of power steering assist at vehicle ignition start.
d. 6769759 / 6769757
e. 6769759 / 6769961
f. Yes; withdrawn from production/service February 2005.
g. Available in service March 2005.
h. Parts are compatible.

Refer to the following attachments in sub-folder "MOD-1" in folder "Q9" on CD No. 2:

CONF-6769757 AI2.pdf
CONF-6769961 AI1.pdf
CONF-6769961 AI2.pdf
CONF-Lebenslauf PP 4_11_10.xls
CONF-Lebenslauf PP 4_11_10_EN.xls

Modification #2: MOSFET Production Process Optimization.

a. Available in vehicle production July 2005 to June 2006.
b. MOSFET production process optimization.
c. Permanent loss of power steering assist, or continuous running of power steering pump, caused by contamination in the steering control module.
d. 6769759 / 6769961
e. 6769963 / 6769961
f. Yes, withdrawn from production/service July 2005.
g. Available in service July 2005.
h. Parts are compatible.

Refer to the following attachment in sub-folder "MOD-2" in folder "Q9" on CD No. 2:

CONF-SQA warranty landscape_ZFLS_pump_20101026.pdf

Modification: Software Change for Power Steering Pump (V4.0 → V4.1).

a: January 21, 2002

b: Software change for power steering pump (V4.0 → V4.1)

c: Quicker start-up process of the power steering pump. Temperature controlled standby-speed software implementation. Optimization of temperature decrease function to achieve a step-by-step decrease of power steering assist, in case of high temperatures at the power steering pump to protect the Electronic Control Unit.

d: Service: 6760567
Engineering: 6760060 AI1

e: Service: 6760567
Engineering: 6760060 AI2

f: Yes, withdrawn from production/service Jan 2002.

g: Available in service Jan 2002.

h: Parts are compatible.

Refer to the following attachment in folder "Q9" on CD No. 2:

CONF-EFG02P.pdf

Modification: Production Release for the Power Steering Pump Fan (option 895).

a: January 21, 2002.

b: Production release for the power steering pump fan (option 895).

c: Prevent overheating of the power steering pump in cars with special options. This release was made for:
MINI Cooper LHD/RHD manual gear shift – with option 823 ("hot lands" – vehicles in markets that can experience high temperatures)
MINI Cooper LHD/RHD automatic (CVT) transmission (Continuously Variable Transmission) – all vehicles
MINI Cooper S LHD/RHD – all vehicles

d: Service: Not applicable (no previous part).
Engineering: Not applicable (no previous part).

e: Service: 6760126
Engineering: 6760126

f: Not applicable (no previous part).

g: Available in service Jan 2002.

h: Parts are compatible.

Refer to the following attachment in folder "Q9" on CD No. 2:

CONF-EFG02P.pdf

Modification: New Supplier for the EEPROM.

a: Available in vehicle production June 2002.

b: New supplier for the EEPROM; old supplier was "ST", new supplier was "Catalyst".

c: Discontinuation of the EEPROM.

d: Service: 6760567
Engineering: 6760060

e: Service: 6760567
Engineering: 6760060

f: Yes; withdrawn from production on June 11, 2002.

g: Available in service June 2002.

h: Parts are compatible.

Modification: Wiring Circuit Modification and Fan Activation

a: Available in vehicle production Dec 2002.

b: Modification of wiring circuit, with separated fuse protection of engine radiator auxiliary cooling fan and power steering pump fan. Modification of the power steering pump cooling fan activation.

c: Foreign object damage/blockage of the power steering pump fan, which was on the same circuit as the radiator auxiliary cooling fan, could cause the common fuse (F05 – 5 amperes) to blow. As a result, the radiator auxiliary cooling fan would stop, leading to a rise in the vehicle's coolant temperature.

d: Service: Fuse F05: 1386626
Engineering: Fuse F05: 1386626

e: Service: Fuse F05: 1386626
Fuse F41: 1386626
Engineering: Fuse F05: 1386626
Fuse F41: 1386626

f: Fuse F05 (5 ampere) was not changed and not taken out of production.

g: Fuse F41 (5 ampere) available in service since Dec 2002.

h: Yes.

Refer to the following attachments in folder "Q9"on CD No. 2:

CONF-Wiring_diagramm_R50_fan_till_Dec.2002.pdf
CONF-Wiring_diagramm_R50_fan_from_Dec.2002.pdf

Refer to the following attachment in folder "Q7" on CD No. 1 (Rev.1):

SIB-M320104.pdf

Modification: Pump Connector Specification Change

a: Running change in Feb 2002.

b: The pump connector specification change was from a terminal with solder to a terminal with a crimp connection and without solder.

c: Improve water tightness of the connection.

d: Engineering:
Pump connector terminal: Part No. 1436648 (Refer to drawing No. 1436647).

e: Service:
Service part No.: 7530354 and 7530357 (Refer to drawing No. 7530355 and 7530358).
This is for the power steering pump power supply wiring harness including the ground cable.
Engineering:
Pump connector terminal: Part No. 7505632 (Refer to drawing No. 1436647).

f: Yes; running change Feb 2002.

g: The power steering pump wiring harness (including the connector) were available as service parts as of March 2003.

h: Yes.

Refer to the following attachments in folder "Q9"on CD No. 2:

CONF-1436647 Receptacle.tif
CONF-7530355 MZ EHPAS Cable Service Part R50.tif
CONF-7530358 MZ EHPAS Cable Service Part R53.tif

Modification: Pump Wiring Harness Re-routing

a: Available in vehicle production Apr 2002.

b: Routing change of the power steering pump wiring harness.

c: Prevent chaffing on the starter motor heat-shield.

d: Engineering:
Power steering pump wiring harness routing: Part No. not applicable.

e: Service:
Service part No.: 7530354 and 7530357 (Refer to drawing No. 7530355 and 7530358). This is for the power steering pump power supply wiring harness including the ground cable.
Engineering:
Power steering pump wiring harness routing: Part No. not applicable.

f: Yes, in vehicle production Apr 2002.

g: The power steering pump wiring harness (including the power supply cable) were available as service parts as of March 2003.

h: Yes.

Refer to the following attachments in folder "Q9"on CD No. 2:

CONF-Routing of the EHPAS cable.pdf
CONF-7530355 MZ EHPAS Cable Service Part R50.tif
CONF-7530358 MZ EHPAS Cable Service Part R53.tif

Modification: Pump Ground Connection – Glue-lined Heat-shrink Sleeve Introduction

a: Running change as of July 15, 2002.

b: Introduction of a glue-lined heat-shrink sleeve to the pump's ground eyelet connection.

c: Prevention of water ingress to the power steering pump power supply.

d: Engineering:
Part No. 7515197, 7519612, 7519680 (Refer to drawing No. 7519681 and 7515198). Note – Drawings show battery positive cable and power steering pump power supply wiring harness (including the ground eyelet connection but without the glue-lined heat shrink sleeve).

e: Service:
Service part No.: 7530354 and 7530357 (Refer to drawing No. 7530355 and 7530358). This is for the power steering pump power supply wiring harness including the ground cable.

Engineering:
Part No. 7522484, 7525434 (Refer to drawing No. 7519614 and 7527120). Note – Drawings show battery positive cable and power steering pump power supply wiring harness (including the ground eyelet connection with the glue-lined heat-shrink sleeve).

f: Yes, running change as of July 15, 2002.

g: The power steering pump wiring harness (including the glue-lined heat-shrink sleeve) were available as service parts as of March 2003.

h: Yes.

Refer to the following attachments in folder "Q9"on CD No. 2:

CONF-7530355 MZ EHPAS Cable Service Part R50.tif
CONF-7530358 MZ EHPAS Cable Service Part R53.tif
CONF-7515198 Cable_old.tif
CONF-7519614 MZ Cable Pos Jumpstart-Starter.tif
CONF-7519681 Cable_old.tif
CONF-7527120 MZ Cable Pos new.tif

Modification: Pump Protection Grille Change

a: Running change as of July 1, 2003.

b: Change of the protection grade at the power steering pump cooling fan to "IP68" – Implementation of a protection grille.

c: Originally, the power steering pump cooling fan was developed with protection grade "IP64". Content of this regulation is a protection against dust and water spray. According to additional market requirements, e.g. protection against plastic bags or road debris, there was a change to protection grade "IP68". Therefore, a protection grille was added to the fan.

d:	Service:	cooling fan without grille:	6761038
	Engineering:	cooling fan without grille:	6761038
e:	Service:	cooling fan with grille:	6923037
		grille:	6766192
	Engineering:	cooling fan with grille:	6923037
		grille:	6766192

f: No, fan was not withdrawn from production; grille was added to the fan (fan received new part number).

g: Cooling fan with grille available in service October 2003.

h: Parts are compatible.

Refer to the following attachments in folder "Q9"on CD No. 2:

CONF-EEH89S.pdf
CONF-E1748S.pdf

10. For MY 2002-2005, state the number of each of the following that BMW has sold that may be used in the subject vehicles by component name, part number (both service and engineering/production), model and model year of the vehicle in which it is used and month/year of sale:

a. Subject component(s); and,
b. Any kits that have been released, or developed, by BMW for use in service repairs to the subject component/assembly.

For each component part number, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number). Also identify by make, model and model year, any other vehicles of which BMW is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

Response:

The source of this information is our BMW AG parts database and is current as of 30 July 2011.

We believe that parts sales data has limited analytical value regarding its use in assessing the performance of the subject components because this data does not contain information pertaining to the reason for the sale of a particular part. Therefore, it is not possible from parts sales information to determine the number of these parts that have been installed in the subject vehicles for the purpose of repairing a vehicle in which the alleged issue is occurring.

Parts sales are depicted as totals per calendar year, and are irrespective of vehicle model year. Parts sales by vehicle model year are not available in the parts database. Therefore, parts sales by model year, for the specific model years pertaining to the subject vehicles (i.e., MY02-05), are not available. Accordingly, the table depicts parts sold within a given Calendar Year for all Models and Model Years 2002 through 2006. The sales figures represent the number of parts distributed from BMW AG to BMW NA. For various reasons, dealers will return unused parts, so the actual number of parts replaced in vehicles will be less than the numbers depicted in the table. The specific information is depicted in Table 6 and Table 7 for the power steering pump, and the power steering pump cooling fan, respectively.

Power Steering Pump		
Calendar Year	**Part Number**	**Parts Sold**
2002	6760248	14
2002	6760567	139
2003	6760248	51
2003	6760567	781
2004	6760248	36
2004	6760567	755
2004	6769758	12
2005	6769758	47
2004	6769759	660
2005	6769759	670
2005	6769962	113
2006	6769962	196
2005	6769963	2,295
2006	6769963	3,729
2007	6769963	51
2006	6778424	17
2007	6778424	37
2007	6778425	4,632
2008	6778425	4,345
2009	6778425	3,618
2010	6778425	5,544
2011	6778425	2,163

Table 6.

Power Steering Pump Cooling Fan		
Calendar Year	**Part Number**	**Parts Sold**
2002	6761038	169
2003	6761038	602
2003	4026606	1,327
2004	4026606	1,509
2004	6768827	1,008
2005	6768827	4,525
2005	6774702	10
2006	6774702	1,780
2006	6777632	5,355
2007	6777632	1,457
2007	6781742	5,152
2008	6781742	7,386
2009	6781742	4,925
2010	6781742	5,285
2011	6781742	3,529

Table 7.

The supplier information is as follows:

Power Steering Pump

ZF Lenksysteme GmbH
Richard-Bullinger-Straße 77
D-73527 Schwäbisch Gmünd
Norbert Schwarz / HQ
Tel.: 00-49-7171-31-2541

Power Steering Pump Cooling Fan

SPAL Automotive Srl
Via per Carpi n. 26/B
42015 Correggio (RE), Italy
Mr. Gubiotti
Tel.: 00-39-0522-731311

Other MINI models and model years that contain the subject component are as follows:

MINI Cooper / Cooper S – MY06
MINI Cooper Convertible / Cooper S Convertible – MY05-08

11. Produce BMW's assessment of the alleged defect in the subject vehicle, including:

a. The causal or contributory factor(s);
b. The failure mechanism(s);
c. The failure mode(s);
d. The risk to motor vehicle safety that it poses;
e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning; and,
f. The reports included with this inquiry.

Response:

Question 11(a)–(c):

As of the date of this response, we know of several different causal or contributory factors that could lead to a loss of power steering assist. As discussed and agreed with NHTSA, additional possible failure modes are currently being researched, and will be provided to NHTSA when completed.

A brief overview of the current known factors is as follows:

Permanent loss of power steering assist

- Due to a "checksum" error in the EEPROM electronics, this could prevent the power steering pump from functioning at the start of the driving cycle. The power steering pump would not switch on during the driving cycle.

- Due to certain problems in the MOSFET electronics, this could lead to a:
  - Continuous running of the power steering pump; including after switching off the engine.
  - Loss of power steering assist during the driving cycle; the pump would not switch on during the driving cycle, nor at the start of the next driving cycle.

- An interruption of the power supply could lead to a loss of power steering assist. The power steering pump would not switch on during the driving cycle and also would not switch on at the start of the driving cycle. This could occur as a result of water ingress to the pump's power supply cable leading to a failure of the pump.

Temporary loss of power steering assist

- If the power steering pump cooling fan stopped working, then power steering assistance will be reduced, eventually leading to a shut-down of the pump, as designed, in order to protect itself from overheating. Specifically, when internal pump temperatures reach 100°C, power steering assist starts to decrease; at 115°C, power steering assist stops. After cooling down, power steering assist would restart dependent upon the corresponding temperature level.

- An under-voltage condition in the vehicle (low battery) could result in degradation of power steering assist.

Question 11(d):

We believe the issue that is the subject of this information request does not represent an unreasonable risk to motor vehicle safety; rather, it is a quality / customer satisfaction issue for the reasons set forth below:

Driving Test Analyses Indicate Effect is Characterized as Not-Safety-Related

Driving scenarios involving typical driver operation in the subject vehicles were performed and assessed for a typical driver. Driving scenarios such as constant/continuous circular driving, accessing/entering a circular drive, close turns on country roads, long-drawn-out curves on highways, etc. were conducted. In all cases, it was determined that the vehicle was controllable if a loss of power steering assist occurred to a typical driver. This was documented in response to Question 8 on CD No. 2.

Steering Effort Without Power Assist Satisfies European Regulations

European regulations require that vehicles be subject to specific requirements under conditions in which there is a failure of the power assisted steering system. The steering effort required, when the vehicle is tested without power assisted steering, is far below the maximum steering effort permitted pursuant to the European type approval regulations. Therefore, even in a situation involving complete loss of power assisted steering, the operator may only experience a minor increase in effort in steering the vehicle. This was documented in response to Question 8 on CD No. 2.

Effect may be Immediately Noticeable / Effect may be Temporary

Depending upon the mode in which a loss of power steering assist could occur, in some cases, the effect may be noticeable immediately upon initiating the driving cycle, while in other cases, the effect may be temporary. In other words, not all effects in which a loss of power steering assist could occur are sudden/surprising or permanent. Upon initiating a driving cycle, although drivers may notice an increase in steering effort from a customer satisfaction perspective, the driver's ability to quickly steer, as a result of a loss of power steering assist in these modes, is not suddenly compromised.

Vehicle Not Repurchased Solely Due to Power Steering

As noted in response to Question 3, no vehicle repurchase, if any, has occurred solely due to a matter that may relate to an allegation of loss of power steering assist. In other words, an allegation, if any, that may relate to loss of power steering assist, is not the sole reason for a vehicle repurchase

Accordingly, we believe that the loss of power steering assist is not considered to pose an unreasonable risk to motor vehicle safety.

Question 11(e)

Various warnings would be available to the driver as follows:

In cases involving the EEPROM "checksum" error, the driver would experience a small increase in steering effort from the start of the driving cycle.

In cases involving the power steering pump cooling fan, the driver would experience a decrease in power steering assist over time during the driving cycle.

In cases involving the MOSFET (continuous running pump) issue, a low battery warning message may illuminate in the vehicle's instrument panel at engine start.

Question 11(f):

BMW is currently analyzing power steering pumps from some of the "VOQ cars" and will provide its analysis to NHTSA when complete.

BMW Response
to
NHTSA E11-005
2 Sep 2011

LEGAL SUMMARY INFO.

Legal matters submitted in response to PE10-038 (and also included herein)

Parties to the action: [redacted] / BMW of North America, LLC
Caption: [redacted] vs. BMW of North America
Court: Superior Court of NJ / Union County
Docket Number: UNN-L-3379-05
Complaint Date: October 17, 2005

Parties to the action: [redacted] / BMW of North America, LLC
Caption: [redacted] vs. BMW of North America
Court: Superior Court of NJ / Camden County
Docket Number: L-7348-05
Complaint Date: August 15, 2005

Parties to the action: [redacted] / erica, LLC
Caption: [redacted]
Circuit Court of Illinois / Cook County
Docket Number: 07M1214495
Complaint Date: December 4, 2007

Legal matters being submitted in response to EA11-005

Parties to the action: [redacted] / BMW of North America, LLC
Caption: [redacted] vs. BMW of North America
Court: Circuit Court of Florida / Dade County
Docket Number: 05-1423-CA-20
Complaint Date: January 21, 2005

Parties to the [redacted] [redacted] / BMW of North America, LLC
Caption: [redacted] vs. BMW of North America
Court: United States District Court / New Jersey
Docket Number: 2:10-CV-05259-SDW-MCA
Complaint Date: October 15, 2010

Parties to the action: [redacted] / BMW of North America, LLC
Caption: [redacted] vs. BMW of North America
Court: Superior Court of California / Los Angeles County
Docket Number: BC311368
Complaint Date: March 1, 2004

BMW Response
to
NHTSA E11-005
2 Sep 2011

LEGAL SUMMARY INFO.

Legal matters being submitted in response to EA11-005 – continued

Parties to the action:	[redacted] / BMW of North America, LLC
Caption:	[redacted] vs. BMW of North America, LLC
Court:	Florida New Motor Vehicle Arbitration Board
Docket Number:	2004-0942/MIA
Complaint Date:	October 26, 2004

Parties to the action:	[redacted] / BMW of North America, LLC
Caption:	[redacted]
	Court of Common Plea, PA.
Docket Number:	51076
Complaint Date:	Unknown

EA11-005

BMW

9-16-2011

Q7

This Service Information Bulletin supersedes S.I. M 32 01 04 **dated June 2004**.

NEW designates changes to this revision

SUBJECT
Power Steering Pump Cooling Fan Activation

MODEL
NEW Vehicles produced from the start of series production through December 2002.

R50 Cooper

R53 Cooper S

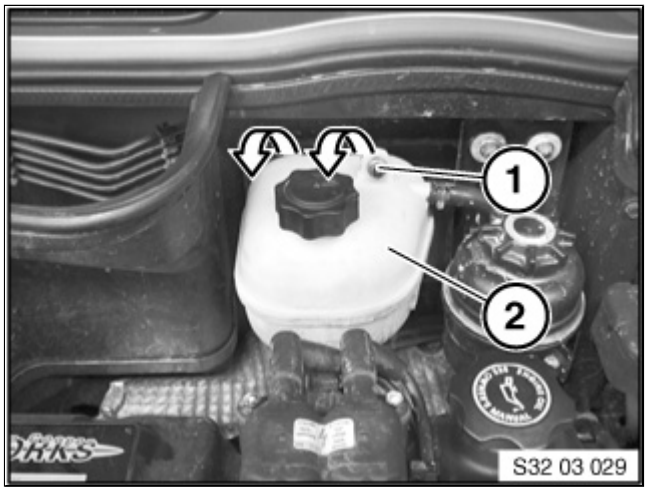
SITUATION
A customer may complain of engine overheats with coolant temperature gauge displayed in red. In rare situations, power steering assist may be reduced. This situation can occur under extreme conditions when the vehicle is operated for extended periods at high ambient temperatures.

CAUSE
Power steering pump cooling function has the same circuit protection with auxiliary engine cooling fan (fuse 05). Internal corrosion or external blockage of the power steering pump cooling fan may cause the fuse (F05) to blow, causing an inoperable auxiliary engine cooling fan.

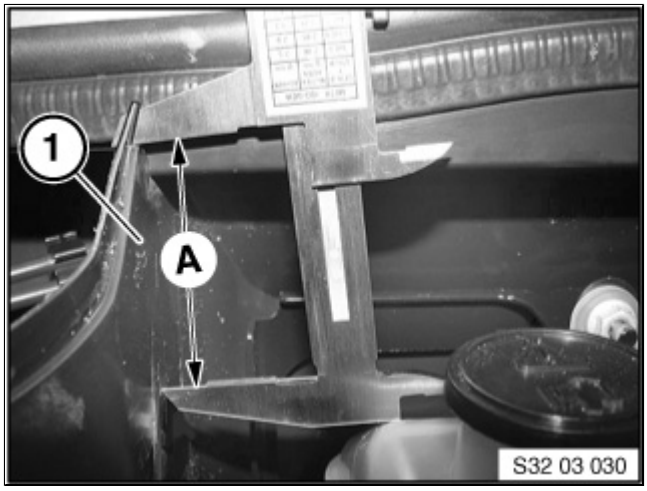
CORRECTION
In case of a customer complaint only, the wiring for the power steering cooling fan can be modified to separate it from the auxiliary engine cooling fan circuit protection.

PROCEDURE
Preliminary work:

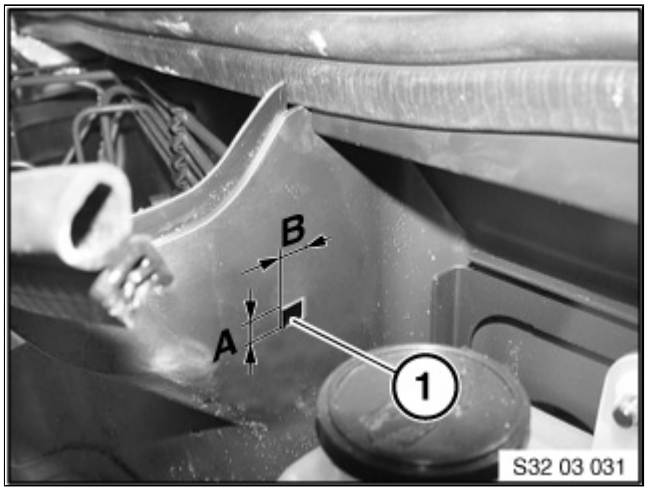
- Disconnect the negative battery cable.
- Pull off the rubber seals above the passenger's and driver's side air intake ducts.



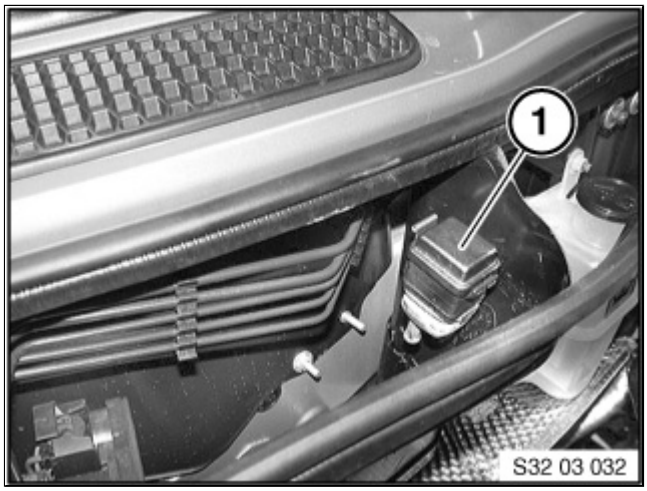
Retrofitting the relay carrier:
Loosen nut (1) and lift the coolant expansion tank (2) out of its bracket.



NEW On the outside of the passenger's side air intake duct (1) measure vertically down from the top edge of the cowl panel.
Fix and mark dimension A = 65 mm.

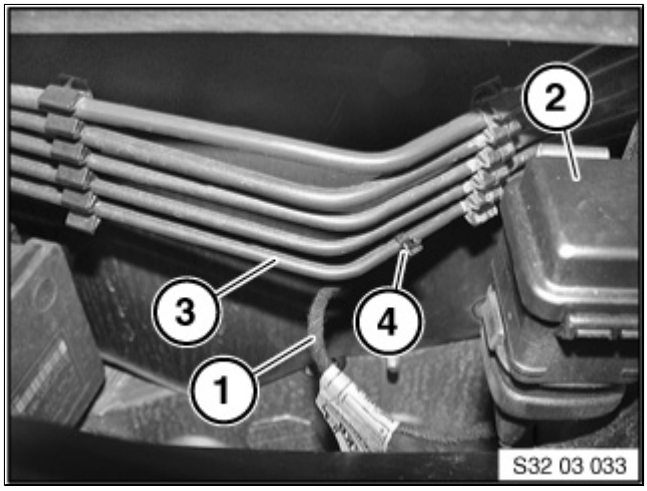


NEW Cut a rectangular hole (1) in the wall of the passenger side air intake duct at the point marked.
A = 8 mm / B = 10 mm
Note: Drill a hole using a 5 mm drill bit. Then use a square file to obtain proper dimensions.



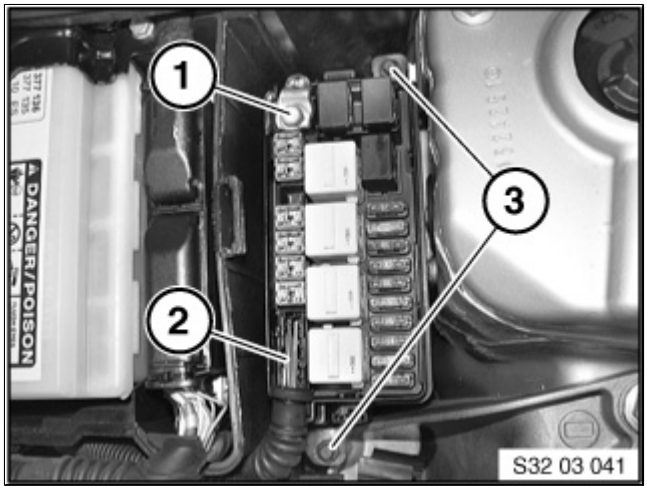
Secure the relay carrier (1) in the square hole on the inside of the shaft.

Secure connector cable (1) from relay carrier (2) with a cable strap (4) to the lowermost brake line (3).
Guide connector cable (1) from relay carrier (2) behind the trim on the bulkhead to the driver's side of the vehicle.

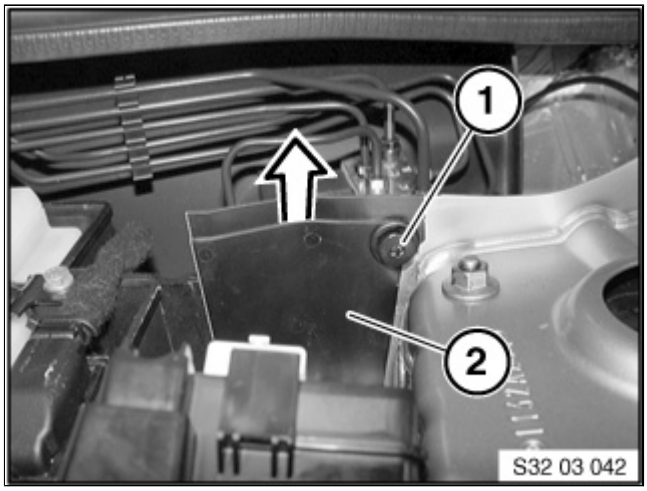


Note:
If necessary, use a wire coat hanger to help you guide the connecting cable.

For R50 Cooper:

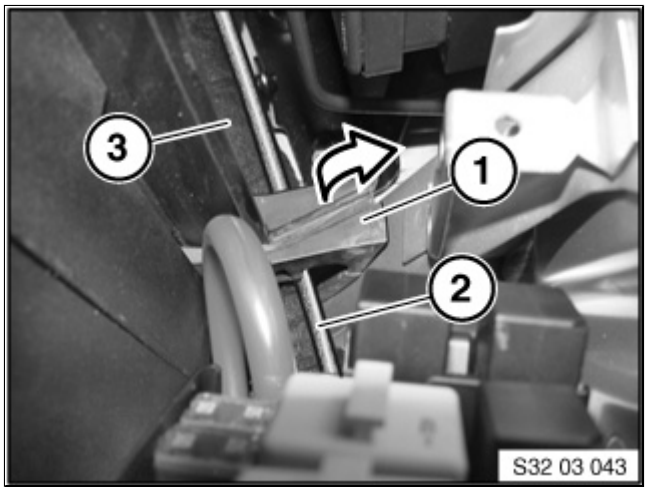


Remove the covers of the battery housing and power distributor.
Unscrew bolt (1) on the battery positive cable.
Release and separate connector (2).
Unscrew bolts (3) and tilt the power distributor approximately 90° toward the bulkhead.

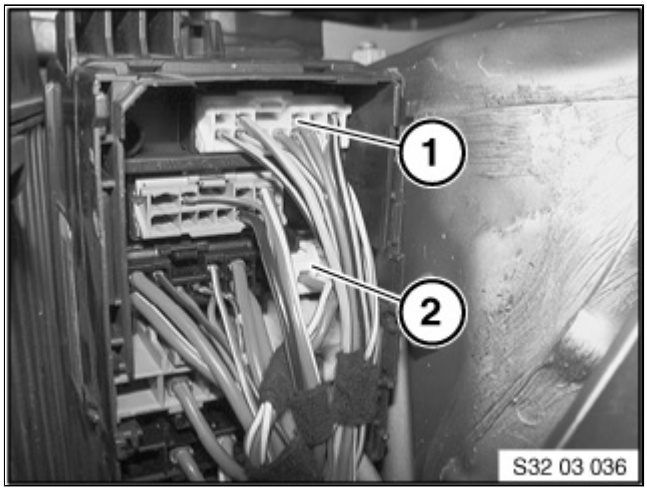


Unscrew bolt (1).
Pull trim panel (2) up and out.
Note on installation:
Make sure the trim panel (2) is correctly routed at the side.

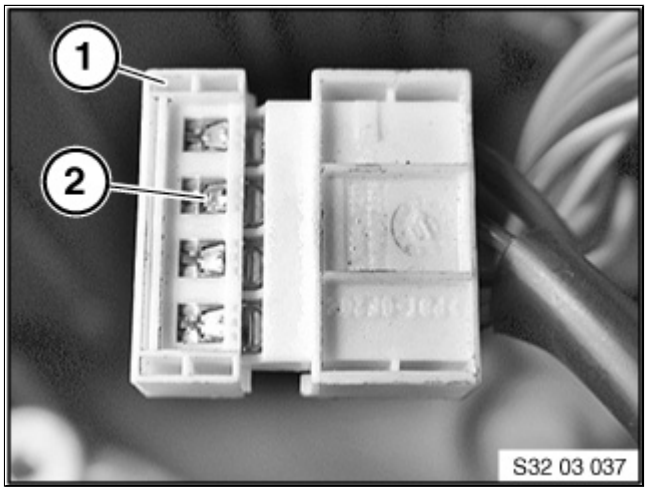
Lift the upper section of the rubber bushing (1).
Route connecting cable (2) parallel over



the body wiring harness (3) and close the rubber bushing (1) again.

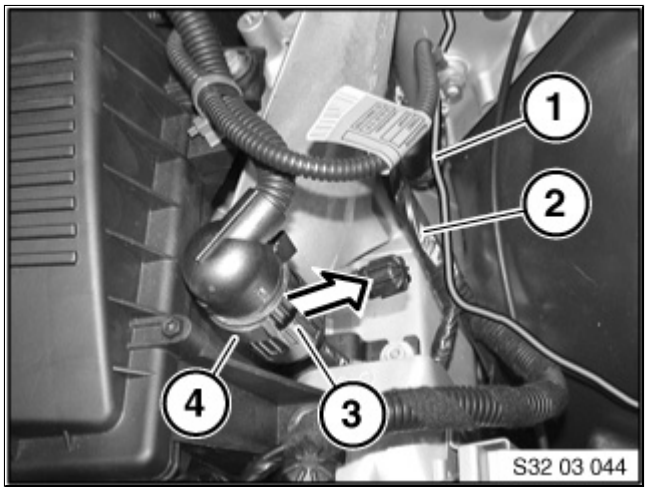


For better accessibility, it may be necessary to release connector (1), separate it and place it to one side. Release and separate connector (2).

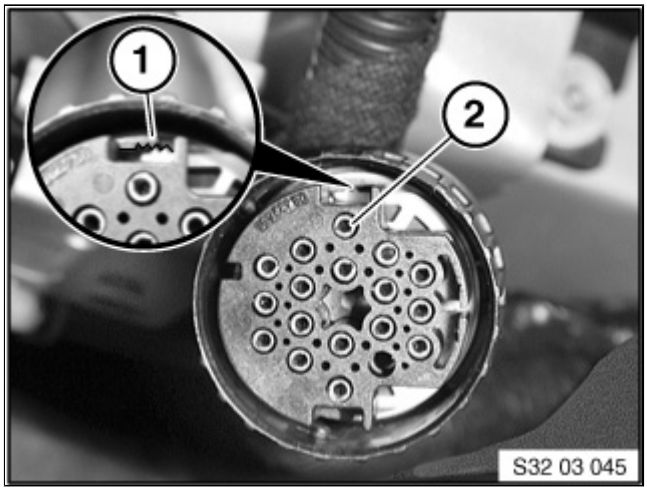


Open the secondary lock on the 4-pin white connector (1).
Insert the MQS contact (MQS = Micro Quadrolock System) on the connecting cable into chamber 2 until it locks.
Close the secondary lock on the connector again.

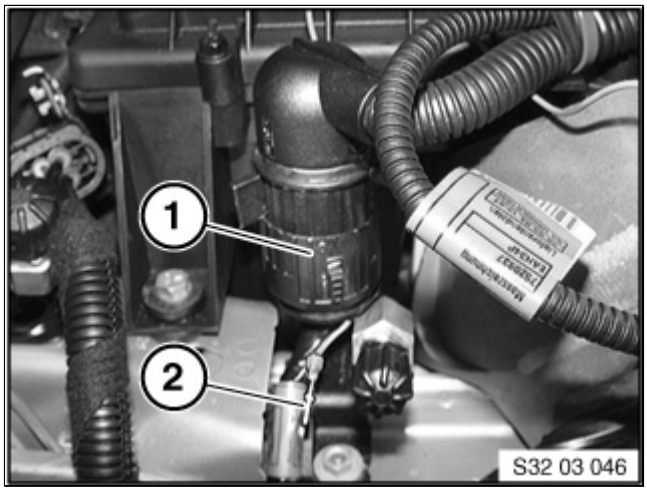
Guide the connecting cable (1) under the power distributor on the body wiring harness (2) and forward to the connector (3).
Note:
Body wiring harness (2) is routed between the transmission carrier and the



suspension strut dome.
Pull off and separate connector (3) from bracket (4).



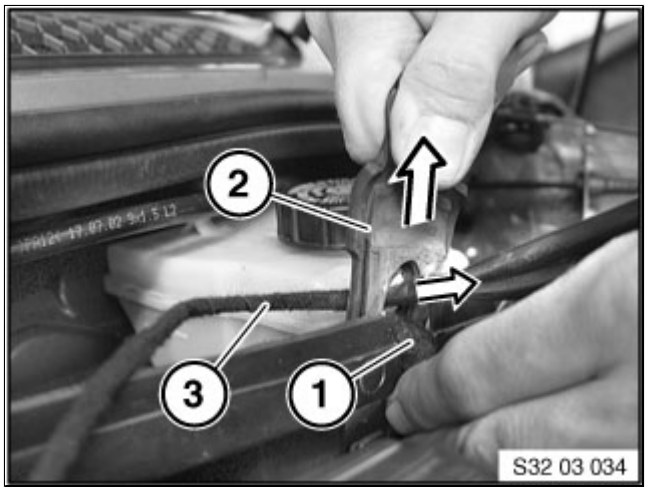
Open the secondary lock on the 18-pin socket housing as far as the first detent (1).
Press the female pin contact (system D1.5) out of pin location 11 with special tool 61 1 131.
Press the female pin contact on the connecting cable into pin location 11 until it locks.
Close the secondary lock again.



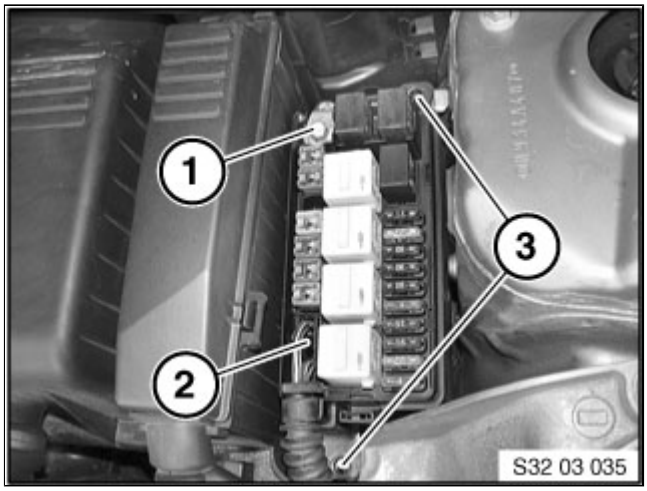
After reassembling connector (1), separate the exposed pin contact (2) from the body wiring harness and insulate the cable end.
Reassemble the vehicle.

For R53 Cooper S:

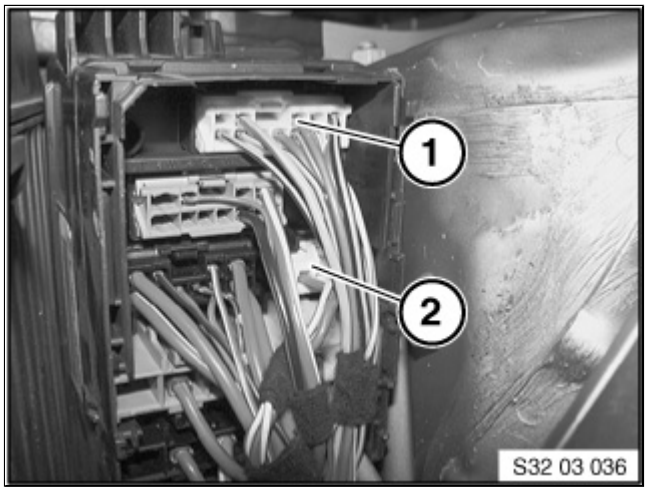
Hold wiring harness (1) to the control module.
Pull rubber bushing (2) up until the aperture forms an oval.



Pull connecting cable (3) through and guide it down behind the control module box.

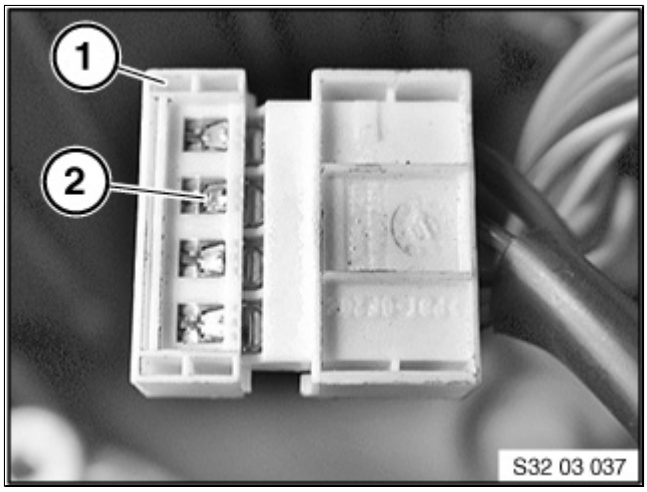


Open the power distributor.
Unscrew bolt (1) and disconnect the battery positive cable.
Release and separate connector (2).
Unscrew bolt (3) and turn the power distributor through 90° towards the bulkhead.

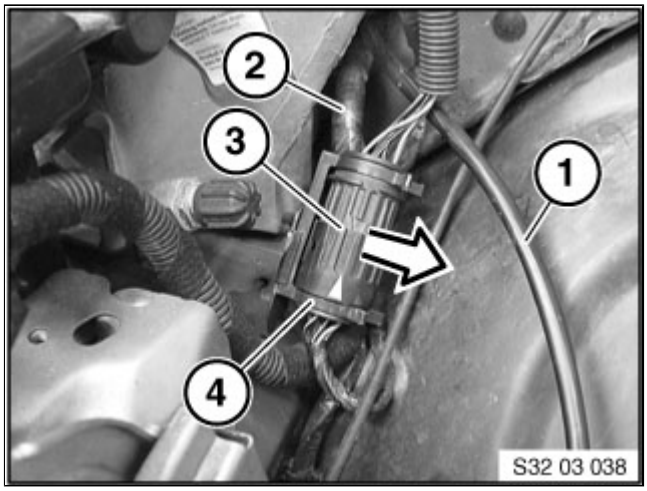


For better accessibility, it may be necessary to release connector (1), separate it and place it to one side.
Unlock and separate the white, 4-pin plug connector (2).

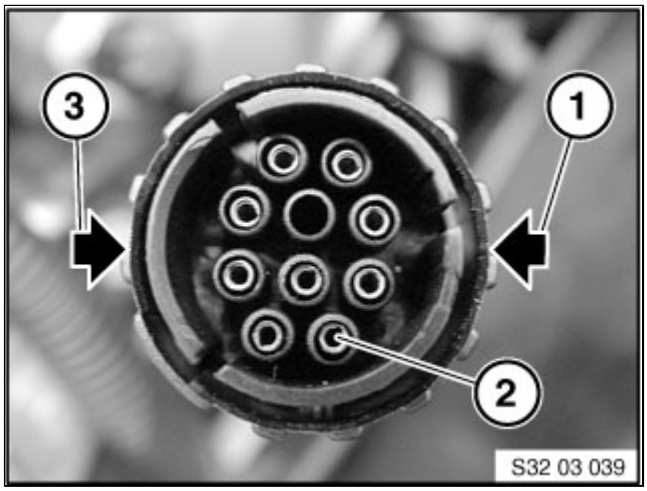
Open the secondary lock on the 4-pin white connector (1).
Insert the MQS contact (MQS = Micro Quadrolock System) on the connecting cable into chamber 2 until it locks.
Close the secondary lock on the



connector again.

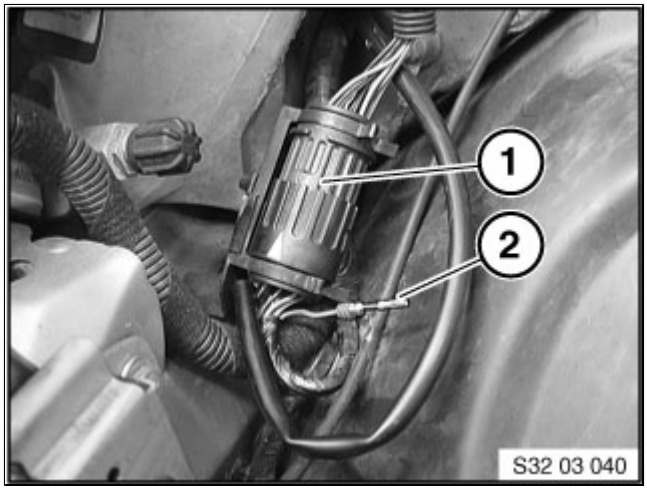


Guide the connecting cable (1) under the power distributor on the body wiring harness (2) and forwards to connector (3).
Note:
Body wiring harness (2) is routed between the transmission carrier and the suspension strut dome.
Pull off and separate connector (3) from bracket (4).



Open the secondary lock on the 10-pin socket housing.
Press the female pin contact (system D1.5) out of chamber 10 with special tool 61 1 131.
Press the female pin contact on the connecting cable into chamber 10 until it locks.
Close the secondary lock again.

After reassembling connector (1), separate the exposed annular contact (2) from the body wiring harness and insulate the cable end.
Reassemble the vehicle.



PARTS INFORMATION

Part Number	Description	Quantity
61 11 6 945 303	EHPAS current supply wiring harness	1

WARRANTY INFORMATION

Covered under the terms of the MINI New Vehicle Limited Warranty.

Defect Code	**32 41 94 79 00**	
Labor Operation:	00 54 225	Main Work
Labor Allowance:	R50: 14 FRU	
	R53: 13 FRU	
Labor Operation:	+ 00 54 887	Associated Work
Labor Allowance:	12 FRU	

Note: The following explanations will spell out the correct use of the work times.

Main Work:	Use this labor operation number when the only repair performed is the listed warranty repair. OR
+Associated Work:	Use this labor operation number when other repairs or services are performed along with the listed warranty repair. Under no circumstances should both labor operation numbers be claimed. Attempts to claim both times will result in an unnecessary delay in claim processing and payment.

This Service Information bulletin supersedes S.I. M32 03 04 **dated December 2004.**

PERFORM THE PROCEDURE OUTLINED IN THIS SERVICE INFORMATION ON ALL AFFECTED VEHICLES THE NEXT TIME THEY ARE IN THE SHOP FOR MAINTENANCE OR REPAIRS.

NEW designates changes to this revision

SUBJECT

Service Action: Correct the Wiring for the Power Steering Fan Relay

MODEL

R50 (Cooper) and R53 (Cooper S) equipped with Park Distance Control (option 508)

SITUATION

Due to an improperly fitted electrical connection, the cooling fan for the power steering pump may not operate. This in conjunction with certain conditions, high ambient temperatures combined with aggressive driving conditions, could activate the thermal cutout feature causing the electro hydraulic power steering pump to switch off. If this were to occur, the steering system would revert to manual steering without power assist.

NEW A revised copy of the customer notification letter is attached.

AFFECTED VEHICLES

This Service Action involves Cooper and Cooper S vehicles which were produced from 11 June 2004 through 26 August 2004.

In order to determine if a specific vehicle is affected by this Service Action, it will be necessary to utilize the "Service Menu" of the DCS (Dealer Communication System). Based on the response of the system, either proceed with the corrective action or take no further action.

The Chassis Number Ranges listed below are **only** for informational purposes and are not to be considered as the only deciding factor.

Model	Chassis Number Range
Cooper (manual transmission)	TC56205 – TC57140
Cooper (automatic transmission)	TJ63398 – TJ64685
Cooper S	TD90410 – TD92471

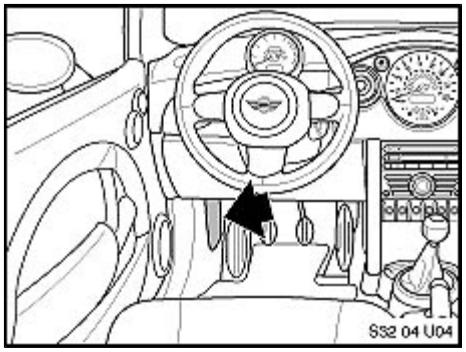
CORRECTION

The pin contacts of the relay connector must be repositioned in order to assure proper operation of the power steering cooling fan.

PROCEDURE

The relay for the power steering cooling fan is located above the fuse box in the driver's foot-well area.

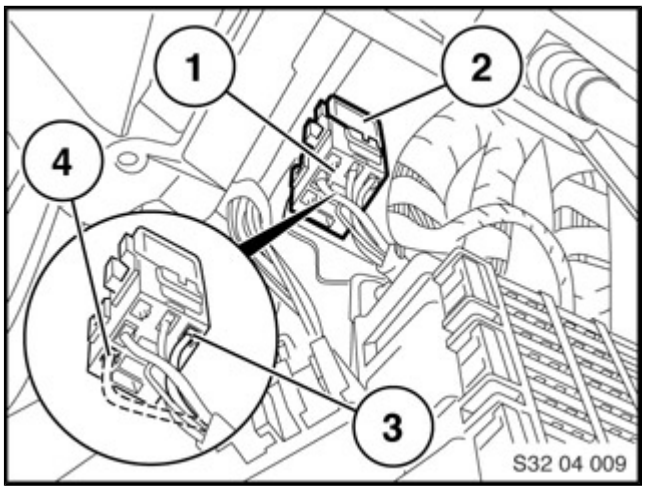
1. Remove the left front sill trim strip, see Repair Instructions RA 51 47 000 "Remove and



refit/replace the sill trim strip inside on the front left or right".

2. Remove the relay (2).

3. Disconnect the relay base (1) from its mounting.



4. Disassemble the relay base by removing the upper white portion of the housing.

5. Use special tool 61 1 136 to remove the green/violet wire with connector from pin location 1 (4) of the relay housing.

6. Insert the green/violet wire with connector into location 9 (3) of the relay housing.

7. Reinstall the upper white portion of the relay housing.

8. Reinstall the relay and clip the relay base into its mounting position above the fuse box.

Carry out a functional check of the cooling fan with the GT-1 as follows.

9. Connect the diagnostic head of the GT-1 and switch on the ignition.

10. Select "Diagnosis" and automatically identify the vehicle.

11. At the "Diagnostic Vehicle identification" screen, select the right arrow.

12. The "Diagnostic Fault symptom selection" screen will be displayed. Select the "Function selection" button from the lower left corner of the screen.

13. At the "Diagnosis Operation and component selection" screen, select "Complete vehicle/ Drive/ Engine and transmission control/ Engine cooling/ Electric cooling fan two stage". Then select the "Test Plan" button at the bottom center of the screen.

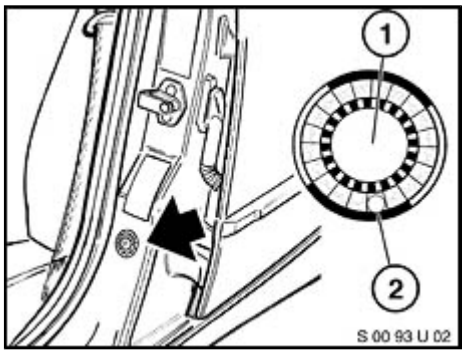
14. Follow the Test Plan for activation of the cooling fan.

15. After confirming proper cooling fan operation, refit the removed components.

PARTS INFORMATION

Part Number	Description	Quantity
07 13 1 490 474	Bolt	4
61 13 0 148 794	Cable strap	2
07 13 1 503 417	Clip	1

LABEL INSTRUCTIONS



This Service Action has been assigned code number **17.** After the vehicle has been checked, and corrected if necessary, obtain a label (SD 20-013) and:

a. emboss your MINI dealer warranty number in the middle of the label (1);

b. punch out code number **17** (2) printed on the label and,

c. affix the label to the **B** pillar as shown.

If the vehicle already has a label from a previous Service Action/Recall Campaign, affix the new label next to the old one. Do not affix one label on top of another one because a number from an underlying label could appear in the punched-out hole of the new label.

WARRANTY INFORMATION

Reimbursement for this Service Action will be via Campaign Entry.

Defect Code	**00 32 63 01 00**	
Work Package #1:	Correct the wiring for the auxiliary fan relay, NEW prior to customer delivery	
Labor Operation:	00 55 NEW 719	
Labor Allowance:	NEW 8 FRU	
Parts Allowance:		Qty
07 13 1 490 474	Bolt	4
61 13 0 148 794	Cable strap	2
07 13 1 503 417	Clip	1
Work Package #2:	Correct the wiring for the auxiliary fan relay, NEW after customer delivery	
Labor Operation:	00 55 NEW 145	
Labor Allowance:	NEW 9 FRU	
Parts Allowance:		Qty
07 13 1 490 474	Bolt	4
61 13 0 148 794	Cable strap	2

07 13 1 503 417	Clip	1

MINI RE-FUELING COSTS

MINI a Division of BMW of North America, LLC, will provide reimbursement to have the gas tank topped off once, as required, for each vehicle affected by this recall.

Defect Code	**85 99 00 33 NA**	**Refuel MINI affected by Service Action (Customer vehicles only)**
Sublet:	Actual cost to top off fuel tank	
Sublet code:	4	

Please attach the fuel purchase receipt to the repair order to document cost.

VALET COSTS

MINI a Division of BMW of North America, LLC, will provide reimbursement for vehicle valet services (pick up & delivery) for each vehicle affected by this Recall Campaign. Attach the appropriate receipt to the repair order.

Defect Code	**99 99 77 77 NA**	**Valet Service for MINI Cooper and Cooper S**
Sublet:	$25.00	
Sublet code:	4	

RENTAL VEHICLES

Dealers participating in the MINI Dealer Administered Customer Assistance Program may self-authorize claims for reimbursement of rental costs from independent rental agencies in certain situations. For more details refer to SI M01 06 03.

ATTACHMENTS

view PDF attachment **M320304Letter**.

MINI

December, 2004

Vehicle Identification Number: XXXXXXXXXXXXXXXXX
0032630100
Mr. Ian M. Driver
123 Dream Street
Utopia, KS 98765
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Dear Mr. Driver,

Our record shows that you are the owner of the above listed MINI vehicle.

MINI is committed to delivering the ultimate in product satisfaction to you, our customer. Our interest in your vehicle doesn't stop with the sale, it continues throughout the vehicle's warranty period and beyond.

MINI has become aware of a potential problem relating to the connection for the power steering cooling fan. Under certain conditions, such as high ambient temperature combined with aggressive driving conditions, the power steering pump could switch off to prevent overheating. If this were to occur, the effort required to steer the vehicle would suddenly increase.

Therefore, you should contact your Authorized MINI Dealer at your earliest convenience to schedule an appointment to have the connection corrected. The actual repair will take approximately forty-five minutes to perform. Additional time may be required depending on the MINI Dealer scheduling and processing.

Should you have any questions about this matter, please contact your Authorized MINI Dealer.

Please be assured that we at MINI are totally committed to the highest standard of product excellence and owner experience. We are determined to maintain a level of service that exceeds your expectation. Should you need additional assistance, please call us toll free at 1-866-ASK MINI.

Thank you for cooperation in this matter.

Sincerely,

MINI, a DIVISION OF BMW OF NORTH AMERICA, LLC

Company
BMW of North America, LLC

BMW Group Company

Mailing address
PO Box 1227
Westwood, NJ
07675-1227

EA11-005

BMW

9-16-2011

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Acknowledgement and Disclaimer:
The following consolidated text of the Directive) was edited by DaimlerChrysler AG.
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Only European Union legislation published in paper editions of the Official Journal of the European Communities is deemed authentic.

COUNCIL DIRECTIVE

of 8 June 1970

on the approximation of the laws of the Member States relating to the steering equipment for motor vehicles and their trailers

(70/311/EEC)

(as last amended by 1999/7/EC)

Directive and Amendments			
70/311/EEC	of 08.06.1970	OJ No. L133	of 18.06.1970
		OJ No. L196	of 03.09.1970
		OJ No. L73	of 27.03.1972
92/62/EEC	of 02.07.1992	OJ No. L199	of 18.07.1992
1999/7/EC	of 26.01.1999	OJ No. L40	of 13.02.1999

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COUNCIL DIRECTIVE

of 8 June 1970

on the approximation of the laws of the Member States relating to the steering equipment for motor vehicles and their trailers

(70/311/EEC)

(as last amended by 1999/7/EC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament [(1)];

Having regard to the Opinion of the Economic and Social Committee [(2)];

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate, *inter alia*, to their steering equipment;

Whereas those requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules, in order, in particular, to allow the EEC type approval procedure which was the subject of the Council Directive [(3)] of 6 February 1970 on the approximation of the laws of the Member States relating to the type approval of motor vehicles and their trailers to be applied in respect of each type of vehicle;

HAS ADOPTED THIS DIRECTIVE:

Article 1

For the purpose of this Directive, "vehicle" means any vehicle as defined in Article 2 of Directive 70/156/EEC.

Article 2

No Member State may refuse to grant EEC type approval or national type approval of a vehicle on grounds relating to its steering equipment if this equipment satisfies the requirements set out in the Annexes.

Article 2a

No Member State may refuse or prohibit the sale or registration, entry into service or use of a vehicle on grounds relating to its steering equipment if this equipment satisfies the requirements set out in the Annexes.

[(1)] OJ N° C , 18.12.1969, p. 7.
[(2)] OJ N° C 10, 27.1.1970, p. 18.
[(3)] OJ N° L 42, 23.2.1970, p. 1.

Article 3

The amendments necessary for adjusting the requirements of the Annexes so as to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of the Council Directive of 6 February 1970 on the type approval of motor vehicles and their trailers.

Article 4

1. Member States shall put into force the provisions containing the requirements needed in order to comply with this Directive within eighteen months of its notification and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the text of the main provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 5

This Directive is addressed to the Member States.

Done at Brussels, 8 June 1970.

For the Council

The President

P. HARMEL

TRANSITIONAL PROVISIONS OF COMMISSION DIRECTIVE 1999/7/EC

Article 2

1. With effect from 1 January 1999, Member States may not on grounds relating to the steering equipment:

- refuse, in respect of a type of vehicle, to grant EC type-approval or national type-approval, or

- prohibit the sale, registration, entry into service of vehicles

if the vehicles comply with the requirements of Directive 70/311/EEC as amended by this Directive.

2. With effect from 1 October 2000, Member States:

- shall no longer grant EC type-approval, and

- may refuse to grant national type-approval

for a new type of vehicle on grounds relating to the steering equipment if the requirements of Directive 70/311/EEC as amended by this Directive are not fulfilled.

3. With effect from 1 October 2001, Member States may refuse the registration, sale or entry into service of new vehicles of category M_2, M_3, N_2, or N_3 equipped with auxiliary steering equipment which does not comply with the provisions of Directive 70/311/EEC as amended by this Directive.

Article 3

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 June 1999 at the latest. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field governed by this Directive.

Article 4

This Directive shall enter into force on the third day following its publication in the Official Journal of the European Communities.

Article 5

This Directive is addressed to the Member States.

LIST OF ANNEXES

ANNEX I

SCOPE, DEFINITIONS, APPLICATION FOR EC TYPE-APPROVAL, GRANTING OF EC TYPE-APPROVAL CONSTRUCTION PROVISIONS, TEST PROVISIONS, MODIFICATIONS OF THE TYPE AND AMENDMENTS TO APPROVALS, CONFORMITY OF PRODUCTION

0. SCOPE

0.1. This Directive applies to the steering equipment of vehicles of categories M, N and O as defined in Annex IIA to Directive 70/156/EEC.

0.2. It does not cover steering equipment with a purely pneumatic, purely electric or purely hydraulic transmission except:

0.2.1. auxiliary steering equipment (ASE) with a purely electric or a purely hydraulic transmission for vehicles of categories M and N;

0.2.2. steering equipment with a purely hydraulic transmission for vehicles of category O.

1. DEFINITIONS

For the purposes of this Directive:

1.1. *Approval of a vehicle* means the approval of a vehicle type with regard to its steering equipment;

1.2. *Vehicle type* means a category of vehicle which does not differ with respect to the manufacturer's designation of the vehicle type and/or variations which can affect its steering;

1.3. *Steering equipment* means all the equipment the purpose of which is to determine the direction of movement of the vehicle.

The steering equipment consists of:

- the steering control,
- the steering transmission,
- the steered wheels,
- the energy supply, if any;

1.3.1. *Steering control* means the part of the steering equipment which controls its operation, it may be operated with or without direct intervention of the driver. For steering equipment in which the steering forces are provided solely or partly by the muscular effort of the driver the steering control includes all parts up to the point where the steering effort is transformed by mechanical, hydraulic or electrical means;

1.3.2. *Steering transmission* includes all parts of the steering equipment which are the means of transmitting the steering forces between the steering control and the steered wheels; it includes all parts down from the point where the steering control effort is transformed by mechanical, hydraulic or electrical means;

1.3.3. *Steered wheels* means the wheels the alignment of which may be altered directly or indirectly in relation to the longitudinal axis the vehicle in order to determine the direction of movement of the vehicle. (The steered wheels include the axis around which they are rotated in order to determine the direction of movement of the vehicle);

1.3.4. *Energy supply* includes those parts of the steering equipment which provide it with energy, control the energy and where appropriate, process and store it. It also includes any storage reservoirs for the operating medium and the return lines, but not the vehicle's engine (except for the purposes of item 4.1.3) or its drive to the energy source;

1.3.4.1. *Energy source* means that pan of the energy supply which provides the energy in the required form e.g. hydraulic pump, air compressor;

1.3.4.2. *Energy reservoir* means that part of the energy supply in which the energy provided by the energy source is stored;

1.3.4.3. *Storage reservoir* means that part of the energy supply in which the operating medium is stored at or near to the atmospheric pressure.

1.4. Steering parameters

1.4.1. *Steering control effort* means the force applied to the steering control in order to steer the vehicle;

1.4.2. *Steering time* means the period of time from the beginning of the movement of the steering control to the moment at which the steered wheels have reached a specific steering angle;

1.4.3. *Steering angle* means the angle between the projection of a longitudinal axis of the vehicle and the line of intersection of the wheelplane (being the central plane of the tyre, normal to the spin axis of the wheel) and the road surface;

1.4.4. *Steering forces* mean all the forces operating in the steering transmission;

1.4.5. *Mean steering ratio* means the ratio of the angular displacement of the steering control to the mean of the swept steering angle of the steered wheels for a full lock-to-lock turn;

1.4.6. *Turning circle* means the circle within which are located the projections onto the ground plane of all the points of the vehicle, excluding the external mirrors and the front direction indicators, when the vehicle is driven in a circle;

1.4.7. *Nominal radius of steering control* means in the case of a steering wheel the shortest dimension from its centre of rotation to the outer edge of the rim. In the case of any other form of control, it means the distance between its centre of rotation and the point at which the steering effort is applied. If more than one such point is provided the one requiring the greatest effort shall be used.

1.5. Types of steering equipment

Depending on the way the steering forces are produced, the following types of steering equipment are distinguished:

1.5.1. For motor vehicles

1.5.1.1. *Manual steering equipment* in which the steering forces result solely from the muscular effort of the driver;

1.5.1.2. *Power assisted steering equipment* in which the steering forces result from both the muscular effort of the driver and the energy supply (supplies);

1.5.1.2.1. Steering equipment in which the steering forces result solely from one or more energy supplies when the equipment is intact, but in which the steering forces can be provided by the muscular effort of the driver alone if there is a fault in the steering (integrated power systems), is also considered to be power assisted steering equipment;

1.5.1.3. *Full-power steering equipment* in which the steering forces are provided solely by one or more energy supplies;

1.5.1.4. *Self-tracking equipment* is a system designed to create a change of steering angle on one or more wheels only when acted upon by forces and/or moments applied to the tyre to road contact.

1.5.2. For trailers

1.5.2.1. *Self-tracking equipment*

see item 1.5.1.4 above.

1.5.2.2. *Articulated steering equipment* in which the steering forces are produced by a change in direction of the towing vehicle and in which the movement of the steered trailer wheels is firmly linked to the relative angle between the longitudinal axis of the towing vehicle and that of the trailer;

1.5.2.3. *Self-steering equipment* in which the steering forces are produced by a change in direction of the towing vehicle and in which the movement of the steered trailer wheels is firmly linked to the relative angle between the longitudinal axis of the trailer frame or a load replacing it and the longitudinal axis of the sub-frame to which the axle(s) is (are) attached.

1.5.3. Depending on the arrangement of the steered wheels, the following types of steering equipment are distinguished:

1.5.3.1. *Front-wheel steering equipment* in which only the wheels of the front axle(s) are steered. This includes all wheels which are steered in the same direction;

1.5.3.2. *Rear-wheel steering equipment* in which only the wheels of the rear axle(s) are steered. This includes all wheels which are steered in the same direction;

1.5.3.3. *Multi-wheel steering equipment* in which the wheels of one or more of each of the front and the rear axle(s) are steered;

1.5.3.3.1. *All-wheel steering equipment* in which all the wheels are steered;

1.5.3.3.2. *Buckle steering equipment* in which *the* movement of chassis parts relative to each other is directly produced by the steering forces.

1.5.3.4. *Auxiliary steering equipment (ASE)* in which the wheels of axle(s) of vehicles of categories M and N are steered in addition to the wheels providing principal steering input not purely electric, hydraulic or pneumatic, in the same direction or in the opposite direction to the wheels providing principal steering input, and/or the steering angle of the front, centre and/or the rear wheels may be adjusted relative to vehicle behaviour.

1.6. Types of steering transmission

Depending on the way the steering forces are transmitted, the following types of steering transmission are distinguished:

1.6.1. *Purely mechanical steering transmission* means a steering transmission in which the steering forces are transmitted entirely by mechanical means;

1.6.2. *Purely hydraulic steering transmission* means a steering transmission in which the steering forces, somewhere in the transmission, are transmitted only by hydraulic means;

1.6.3. *Purely electric steering transmission* means a steering transmission in which the steering forces, somewhere in the transmission, are transmitted only through electric means;

1.6.4. *Hybrid steering transmission* means a transmission in which part of the steering forces are transmitted through one and the other part through another of the above-mentioned means;

1.6.4.1. *Hybrid mechanical steering transmission* means a steering transmission where a part of the steering forces is transmitted by purely mechanical means and the other parts either by:

1.6.4.1.1. hydraulic or mechanical/hydraulic

or

1.6.4.1.2. electric or mechanical/electric

or

1.6.4.1.3. pneumatic or mechanical/pneumatic means.

In either case, where the mechanical part of the transmission is designed only to give position feedback and is too weak to transmit the total sum of the steering forces, this system shall be considered to be purely hydraulic, respectively purely electric, or purely pneumatic steering transmission;

1.6.4.2. *Other hybrid steering transmission* means any other combination of the above-mentioned steering transmissions.

2. APPLICATION FOR EEC TYPE-APPROVAL

2.1. The application for EC type-approval pursuant to Article 3(4) of Directive 70/156/EEC of a vehicle type with regard to its steering equipment shall be submitted by the manufacturer.

2.2. A model for the information document is given in Appendix 1.

2.3. A vehicle representative of the vehicle type to be approved shall be submitted to the technical service responsible for conducting approval tests.

3. GRANTING OF EC TYPE-APPROVAL OF A VEHICLE TYPE

3.1. If the relevant requirements are satisfied, EC type-approval pursuant to Article 4(3) and, if applicable, 4(4) of Directive 70/156/EEC shall be granted.

3.2. A model for the EC type-approval certificate is given in Appendix 2.

3.3. A type-approval number in accordance with Annex VII to Directive 70/156/EEC shall be assigned to each type of vehicle approved. The same Member State shall not assign the same number to another type of vehicle

4. CONSTRUCTION PROVISIONS

4.1. General provisions

4.1.1. The steering equipment shall ensure easy and safe handling of the vehicle up to its maximum design speed or, in the case of a trailer, up to its technically permitted maximum speed. There must be a tendency to with centre when tested in accordance with item 5. The vehicle shall meet the requirements of item 5.2 in the case of motor vehicles and of item 5.3 in the case of trailers.

If a vehicle is fitted with ASE, it shall also meet the requirements of Annex III. Trailers equipped with purely hydraulic steering transmissions shall also comply with Annex IV.

4.1.1.1. It must be possible to travel along a straight section of the road without unusual steering correction by the driver and without unusual vibration in the steering system at a maximum engine speed of the vehicle.

4.1.1.2. There must be travel synchronization between the steering control and the steered wheels, except for the wheels steered by ASE.

4.1.1.3. There must be time synchronization between the steering control and the steered wheels except for the wheels steered by ASE.

4.1.2. The steering equipment shall be designed, constructed and fitted in such a way that it is capable of withstanding the stresses arising during normal operation of the vehicle, or combination of vehicles. The maximum steering angle shall not be limited by any part of steering transmission unless specifically designed for this purpose.

4.1.2.1. Unless otherwise specified, it will be assumed that for the purposes of this Directive, not more than one failure can occur in the steering equipment at any one time and two axles on one bogie shall be considered as one axle.

4.1.3. Should the engine stop or a part of the steering equipment fail, with the exception of those parts listed in item 4.1.4**,** the steering equipment shall always meet the requirements of item 5.2.6 in the case of motor vehicles and of item 5.3 in the case of trailers.

4.1.4. For the purposes of this Directive the steered wheels, the steering control and all mechanical parts of the steering transmission shall not be regarded as liable to breakage if they are amply dimensioned, are readily accessible for maintenance, and exhibit safety features at least equal to those prescribed for other essential components (such as the braking system) of the vehicle. Where the failure of any such part would be likely to result in loss of control of the vehicle, that part must be made of metal or of a material with equivalent characteristics and must not be subject to significant distortion in normal operation of the steering system.

4.1.5. Any failure in transmission other than purely mechanical shall clearly be brought to the attention of the vehicle driver; in the case of a motor vehicle, an increase in steering effort is considered to be a warning signal; in the case of a trailer, a mechanical indicator is permitted. When a failure occurs, a change in the average steering ratio is permissible if the steering effort given in item 5.2.6 below is not exceeded.

4.2. Special provisions

4.2.1. Steering control

4.2.1.1. If the steering control is directly handled by the driver,

4.2.1.1.1. it must be manageable;

4.2.1.1.2. the direction of operation of the steering control must correspond to the intended change in direction of the vehicle;

4.2.1.1.3. except for ASE, there must be a continuous and monotonic relation between the steering control angle and the steering angle.

4.2.2. Steering transmission

4.2.2.1. Adjustment devices for steering geometry must be such that after adjustment a positive connection can be established between the adjustable components by appropriate locking devices.

4.2.2.2. Steering transmission which can be disconnected to cover different configurations of a vehicle (e.g. on extendible trailers), must have locking devices which ensure positive relocation of components; where locking is automatic, there must be an additional safety lock which is operated manually.

4.2.3. Steered wheels

4.2.3.1. The steered wheels shall not be solely the rear wheels. This requirement does not apply to semi-trailers.

4.2.3.2. Trailers (with the exception of semi-trailers) which have more than one axle with steered wheels and semi-trailers which have at least one axle with steered wheels must fulfil the conditions given in item 5.3 below. However, for trailers with self-tracking equipment a test under item 5.3 is not necessary if the axle load ratio between the unsteered and the self-tracking axles equals or exceeds 1,6 under all loading conditions.

4.2.4. Energy supply

4.2.4.1. The same energy source may be used to supply the steering equipment and the braking device. However, in the case of a failure of either the energy supply or a failure in one of the two systems the following conditions must be fulfilled:

4.2.4.1.1. The steering equipment shall meet the requirements of item 5.2.6.

4.2.4.1.2. If an energy source failure occurs, the braking performance shall not drop below the prescribed service brake performance, as given in Annex II [(1)], on the first brake application.

[(1)] The requirements set out in Annex II may also be checked during approval tests according to Directive 71/320/EEC.

4.2.4.1.3. If an energy supply failure occurs, the braking performance must comply with the prescriptions of Annex III [(1)].

4.2.4.1.4. If the fluid in the storage reservoir drops to a level liable to cause an increase in steering or braking effort an acoustic or optical warning must be given to the driver. This warning may be combined with a device provided to warn of brake failure; the satisfactory condition of the signal must be easily verifiable by the driver.

4.2.4.2. The same energy source may be used to supply the steering equipment and systems other than the braking device if, when the fluid level in the storage reservoir drops to a level liable to cause an increase in steering effort, an acoustic or optical warning is given to the driver; the satisfactory condition of the signal must be easily verifiable by the driver.

4.2.4.3. The warning devices must be directly and permanently connected to the circuit. When the engine is running under normal operating conditions and there are no faults in the steering equipment, the alarm device must give no signal except during the time required for charging the energy reservoir(s) after start-up of the engine.

5. TEST PROVISIONS

5.1. General provisions

5.1.1. The test shall be conducted on a level surface affording good adhesion.

5.1.2. During the test(s), the vehicle shall be loaded to its technically permissible maximum mass and its maximum technically permissible load on the steered axle(s). In the case of axles fitted with ASE, this test shall be repeated with the vehicle loaded to its technically permissible maximum mass and the axle equipped with ASE loaded to its maximum permissible load.

5.1.3. Before the test begins, the tyre pressures shall be as prescribed by the manufacturer for the load specified in item 5.1.2 when the vehicle is stationary.

5.2. Provisions for motor vehicles

5.2.1. It must be possible to leave a curve with a radius of 50 m at a tangent without unusual vibration in the steering equipment at the following speed:

- category M_1 vehicles: 50 km/h,
- categories M_2, M_3, N_1, N_2 and N_3 vehicles: 40 km/h

or the maximum design speed if this is below the speeds given above.

5.2.2. The requirements of items 4.1.1.1, 4.1.1.2 and 5.2.1 shall also be satisfied with a failure in the steering equipment.

5.2.3. When the vehicle is driven in a circle with its steered wheels at approximately half lock and at a constant speed of at least 10 km/h, the turning circle must remain the same or become larger if the steering control is released.

5.2.4. During the measurement of the control effort, forces with a duration of less than 0,2 seconds shall not be taken into account.

5.2.5. The measurement of steering efforts on motor vehicles with intact steering equipment

5.2.5.1. The vehicle shall be driven from straight ahead into a spiral at a speed of 10 km/h. The steering effort shall be measured at the nominal radius of the steering control until the position of the steering control corresponds to turning radius given in the table below for the particular category of vehicle with intact steering. One steering movement shall be made to the right and one to the left.

5.2.5.2. The maximum permitted steering time and the maximum permitted steering control effort with intact steering equipment are given in the table below for each category of vehicle.

5.2.6. The measurement of steering efforts on motor vehicles with a failure in the steering equipment

5.2.6.1. The test described in item 5.2.5 shall be repeated with a failure in the steering equipment. The steering effort shall be measured until the position of the steering control corresponds to the turning radius given in the table below for the particular category of vehicle with a failure in the steering equipment.

5.2.6.2. The maximum permitted steering time and the maximum permitted steering control effort with a failure in the steering equipment are given in the table below for each category of vehicle.

Steering control effort requirements

Vehicle category	Intact			With a failure		
	Maximum effort(daN)	Time(s)	Turning radius (m)	Maximum effort (daN)	Time (s)	Turning radius(m)
M_1	15	4	12	30	4	20
M_2	15	4	12	30	4	20
M_3	20	4	12 (1)	45	6	20
N_1	20	4	12	30	4	20
N_2	25	4	12	40	4	20
N_3	20	4	12 (1)	45 (2)	6	20

(1) Or full lock if 12 is not attainable.
(2) 50 for rigid vehicles with two or more steered axles excluding self-tracking equipment

5.3. Provisions for trailers

5.3.1. The trailer must travel without excessive deviation or unusual vibration in its steering equipment when the towing vehicle is travelling in a straight line on a flat and horizontal road at a speed of 80 km/h or the technically permissible maximum speed indicated by the trailer manufacturer if this is less than 80 km/h.

5.3.2. With the towing vehicle and trailer having adopted a steady state turn so that the front outside edge of the towing vehicle is turning alongside a circle of radius 25 m in accordance with item 1.4.6, at a constant speed of 5 km/h, the circle described by the rearmost outer edge of the trailer shall be measured. This manoeuvre shall be repeated under the same conditions but a speed of 25 km/h ± 1 km/h. During these manoeuvres, the rearmost outer edge of the trailer travelling at a speed of 25 km/h ± 1 km/h shall not move outside the circle described at a constant speed of 5 km/h by more then 0,7 m.

5.3.3. No part of the trailer must move more than 0,5 m beyond the tangent to a circle with a radius of 25 m when towed by a vehicle leaving the circular path described in item 5.3.2 along the tangent and travelling at a speed of 25 km/h. This requirement must be met from the point the tangent meets the circle to a point 40 m along the tangent. After that point, the trailer must fulfil the condition specified in item 5.3.1.

5.3.4. The tests described in items 5.3.2 and 5.3.3 shall be conducted with one steering movement to the left and one to the right.

6. MODIFICATIONS OF THE TYPE AND AMENDMENTS TO APPROVALS

6.1. In the case of modifications of the type approved pursuant to this Directive, the provisions of Article 5 of Directive 70/156/EEC shall apply.

7. CONFORMITY OF PRODUCTION

7.1. Measures to ensure the conformity of production shall be taken in accordance with the provisions laid down in Article 10 of Directive 70/156/EEC.

Appendix 1

INFORMATION DOCUMENT No. ...(*)

pursuant to Annex I to Council Directive 70/156/EEC relating to EC type-approval of a vehicle with respect to the steering equipment

(Directive 70/311/EEC, as last amended by Directive ... / ... /EC)

The following information, if applicable, must be supplied in triplicate and include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or folder of A4 format. Photographs, if any, must show sufficient detail.

If the systems, components or separate technical units have electronic controls, information concerning their performance must be supplied.

0. GENERAL

0.1. Make (trade name of manufacturer): .....

0.2. Type: .....

0.3. Means of identification of type, if marked on the vehicle (b): .....

0.3.1. Location of that marking: .....

0.4. Category of vehicle (c): .....

0.5. Name and address of manufacturer: .....

0.8. Address(es) of assembly plant(s): .....

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

1.1. Photographs and/or drawings of a representative vehicle: .....

1.3. Number of axles and wheels: .....

1.3.1. Number and position of axles with double wheels: .....

1.3.2. Number and position of steered axles: .....

1.3.3. Powered axles (number, position, interconnection): .....

1.8. Hand of drive: left/right (1)

2. MASSES AND DIMENSIONS (e) (in kg and mm)
(Refer to drawing where applicable)

2.1. Wheel base(s) (fully loaded) (f): .....

(*) The item numbers and footnotes used in this Information Document correspond to those set out in Annex I to Directive 70/156/EEC. Items not relevant for the purpose of this Directive are omitted.

2.3.1. Track of each steered axle [(i)]: .....

2.4. Range of vehicle dimensions (overall)

2.4.1. For chassis without bodywork:

2.4.1.1. Length [(j)]: .....

2.4.1.2. Width [(k)]: .....

2.4.1.4. Front overhang [(m)]: .....

2.4.1.5. Rear overhang [(n)]: .....

2.4.2. For chassis with bodywork:

2.4.2.1. Length [(j)]: .....

2.4.2.2. Width [(k)]: .....

2.4.2.4. Front overhang [(m)]: .....

2.4.2.5. Rear overhang [(n)]: .....

2.8. Technically permissible maximum laden mass stated by the manufacturer [(y)] (maximum and minimum): .....

2.9. Technically permissible maximum load/mass on each axle: .....

6. SUSPENSION

6.6. Tyres and wheels

6.6.1. Tyre/wheel combination(s) (for tyres indicate size designation, minimum load-capacity index, minimum speed category symbol; for wheels indicate rim size(s) and off-set(s)): .....

6.6.1.1. Axle 1: .....

6.6.1.2. Axle 2: .....

etc.

6.6.3. Tyre pressure(s) as recommended by the vehicle manufacturer: ..... kPa

7. STEERING

7.1. Schematic diagram of steered axle(s) showing steering geometry: .....

7.2. Transmission and control

7.2.1. Type of steering transmission (specify for front and rear, if applicable): .....

7.2.2. Linkage to wheels (including other than mechanical means; specify for front and rear, if applicable): .....
.....

7.2.3. Method of assistance, if any: .....

7.2.3.1. Method and diagram of operation, make(s) and type(s): .....

7.2.4. Diagram of the steering equipment as a whole, showing the position on the vehicle of the various devices influencing its steering behaviour: .....

7.2.5. Schematic diagram(s) of the steering control(s): .....

7.3. Maximum steering angle of the wheels

7.3.1. to the right: ..... °
Number of turns of the steering wheel (or equivalent data): .....

7.3.2. to the left: ..... °
Number of turns of the steering wheel (or equivalent data): .....

Appendix 2

MODEL

(maximum format: A4 (210 × 297 mm)

EC TYPE-APPROVAL CERTIFICATE

Stamp of Administration

Communication concerning the:

- type-approval [1]
- extension of type-approval [1]
- refusal of type-approval [1]
- withdrawal of type-approval [1]

of a type of a vehicle/component/separate technical unit [1] with regard to Directive 70/311/EEC, as last amended by Directive ... / ... /EC.

Type-approval number: .....

Reason for extension: .....

SECTION I

0.1 Make (trade name of manufacturer): .....

0.2. Type: .....

0.3 Means of identification of type if marked on the vehicle/component/separate technical unit [1] [2]: .....

0.3.1. Location of that marking: .....

0.4. Category of vehicle [1] [3]: .....

0.5 Name and address of manufacturer: .....

0.7. In the case of components and separate technical units, location and method of the affixing of the EC approval mark: .....

0.8. Address(es) of assembly plant(s) : .....

[1] Delete where not applicable.
[2] If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this type-approval certificate such characters shall be represented in the documentation by the symbol: ? (e.g. ABC??123??).
[3] As defined in Annex IIA to Directive 70/156/EEC.

SECTION II

1. Additional information (where applicable): See Addendum

2. Technical service responsible for carrying out the tests: .....
.....

3. Date of test report: .....

4. Number of test report: .....

5. Remarks (if any): See Addendum

6. Place: .....

7. Date: .....

8. Signature: .....

9. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

Addendum to EC type-approval certificate No. ...

concerning the type approval of a vehicle with regard to Directive 70/311/EEC
as last amended by Directive ... / ... /EC

1. Additional information:

   Type of steering: .....

   Steering control: .....

   Steering transmission: .....

   Steered wheels .....

   Energy source: .....

   Braking performance: .....

   Statement of the type-approval number granted in accordance with Directive 71/320/EEC, if available: .....

   and /or information concerning the state of the vehicle during tests: .....

   laden/unladen [(1)]

2. Remarks:
   (e.g. valid for both left-hand and right-hand drive vehicles)

[(1)] Delete as appropriate.

ANNEX II

BRAKING PERFORMANCE FOR VEHICLES USING THE SAME ENERGY SOURCE TO SUPPLY STEERING EQUIPMENT AND BRAKING DEVICE

1. If an energy source failure occurs, service braking performance on the first brake application shall achieve the values given in the table below.

Category	V (km/h)	m/s^2	Force (daN)
M_1	80	5.8	50
M_2 and M_3	60	5.0	70
N_1	80	5.0	70
N_2 and N_3	60	5.0	70

2. After any failure in the steering equipment, or the energy supply, it shall be possible after eight full stroke actuations of the service brake control, to achieve at the ninth application, at least the performance prescribed for the secondary (emergency) braking system (see table below).

   In the case where secondary performance requiring the use of stored energy is achieved by a separate control, it shall still be possible after eight full stroke actuations of the service brake control to achieve at the ninth application, the residual performance (see table below).

Secondary and residual efficiency

Category	V (km/h)	Secondary braking (m/s^2)	Residual braking (m/s^2)
M_1	80	2.9	1.7
M_2	60	2.5	1.5
M_3	60	2.5	1.5
N_1	70	2.2	1.3
N_2	50	2.2	1.3
N_3	40	2.2	1.3

ANNEX III

ADDITIONAL PROVISIONS FOR VEHICLES EQUIPPED WITH ASE

1. GENERAL PROVISIONS

This Annex does not require vehicles to be fitted with ASE. However, if vehicles are fitted with such a device, they shall comply with the provisions of this Annex.

2. SPECIFIC PROVISION

2.1. Transmission

2.1.1. *Mechanical steering transmissions*

Item 4.1.4 of Annex I to this Directive applies.

2.1.2. *Hydraulic steering transmissions*

The hydraulic steering transmission must be protected from exceeding the maximum permitted service pressure T.

2.1.3. *Electric steering transmissions*

The electric steering transmission must be protected from excess energy supply.

2.1.4. *Combination of steering transmissions*

A combination of mechanical, hydraulic and electric transmissions shall comply with the requirements specified in items 2.1.1, 2.1.2 and 2.1.3 above.

2.2. Testing requirements for failure

2.2.1. Malfunction or failure of any pan of the ASE (except for parts not considered to be susceptible to breakdown as specified in item 4.1.4 of Annex I to this Directive) shall not result in sudden significant change in vehicle behaviour and the requirements of items 5.2.1 to 5.2.4 and 5.2.6 of Annex I to this Directive shall still be met. Furthermore, it must be possible to control the vehicle without abnormal steering correction. This shall be verified by the following tests:

2.2.1.1. Circular test

The vehicle shall be driven into a test circle with a radius ‘R’ (m) and a speed ‘V’ (km/h) corresponding to its category and the values given in the table below:

Vehicle category	R [(1)]	V [(2)(3)]
M_1, N_1	100	80
M_2, N_2	50	50
M_3,N_3	50	45

[(1)] If the ASE is in a mechanically locked position at this specfied speed, the test speed will be modified to correspond to the maximum speed where the system is functioning. Maximum speed means the speed when ASE becomes locked, minus 5 km/h.

(2) If the dimensional characteristics of the vehicle imply an overturning risk, the manufacturer shall provide to the technical service behaviour simulation data demonstrating a lower maximum safe speed for conducting the test. Then the technical service will choose this test speed.

(3) If, due to the configuration of the test site, the values of the radii cannot be observed, the tests may be carried out on tracks with other radii (maximum deviation ± 25%), provided that the speed is varied to obtain the transverse acceleration resulting from the radius and speed indicated in the table for the particular category of vehicle.

The failure shall be introduced when the specified speed has been reached. The test shall include driving in a clockwise direction and in a counter-clockwise direction.

2.2.1.2. Transient test

Until uniform test procedures have been agreed, the vehicle manufacturer shall provide the technical services with their test procedures and results for transient behaviour of the vehicle in the case of a failure.

2.3. Warning signals in case of failure

2.3.1. Except for parts of ASE not considered susceptible to breakdown as specified in item 4.1.4 of Annex I of this Directive, the following failure of ASE shall be clearly brought to the attention of the driver:

2.3.1.1. A general cut-off of the ASE electrical or hydraulic control;

2.3.1.2. Failure of the ASE energy supply;

2.3.1.3. A break in the external wiring of the electrical control if fitted.

2.4. Electromagnetic interference

2.4.1. The operation of the ASE must not be adversely affected by electromagnetic fields. Until uniform test procedures have been agreed, the vehicle manufacturer shall provide the technical services with their test procedures and results.

ANNEX IV

PROVISIONS FOR TRAILERS HAVING PURELY HYDRAULIC STEERING TRANSMISSIONS

1. If vehicles are fitted with purely hydraulic steering transmissions, they shall comply with the provisions of this Annex**.**

2. SPECIFIC PROVISIONS

2.1. Performance of hydraulic lines and hose assemblies

2.1.1. The hydraulic lines of purely hydraulic transmissions must be capable of withstanding a pressure of at least four times the maximum normal service pressure T specified by the manufacturer. Hose assemblies shall comply with the following ISO Standards: 1402 (1984), 6605 (1986) and 7751 (1983).

2.2. In systems dependent on an energy supply

2.2.1. The energy supply must be protected from excess pressure by a pressure limiting valve which operates at the pressure T.

2.3. Protection of steering transmission

2.3.1. The steering transmission must be protected from excess pressure by a pressure limiting valve which operates between 1,5T and 2,2T.

2.4. Tractor/trailer alignment

2.4.1. With the tractor of a tractor/trailer combination travelling in a straight line, the trailer must remain in alignment with the tractor;

2.4.2. In order to maintain steering alignment in accordance with item 2.4.1 above, trailers shall be provided with a means of readjustment which may be either automatic or manual.

2.5. Steerability with a failure in the steering transmission

2.5.1. The steerability of vehicles with purely hydraulic steering transmissions shall be maintained with a failure in any part of the transmission. Vehicles shall be tested in this (failed) condition and satisfy the requirements of item 5.3 of Annex I to this Directive. In particular the 5 km/h and 25 km/h tests specified at item 5.3.2 shall be conducted with the steering transmission in the intact and failed conditions respectively.

2.6. Electromagnetic interference

2.6.1. The operation of steering equipment must not be adversely affected by electromagnetic fields. Until uniform test procedures have been agreed, the vehicle manufacturer shall provide the technical services with his test procedures and results.

Technical Report

No. 351-0565-00-FBTP

Test according to the EEC directive relating to

Steering Systems

No.: 70/311/EWG vom 08.06.1970

Including all amendments up to

No.: 1999/7/EWG of 01/26/1999

I. Technical description

0.1. Make: MINI

0.2. Type: R50

0.3. Means of identification of type, if marked on the vehicle: N/A

0.4. Category of vehicle: M1

0.5. Name and address of the manufacturer: Bayerische Motoren Werke AG, D-80788 Munich

II. Test Protocol

1. Test Conditions

1.1. Technical data of test vehicle

Typ: R50

VIN: SPL2611R50PL22559

Test weight of vehicle: 1544 kg

Axle loads

Front: 874 kg

Rear: 740 kg

Tires

Size: 205/45 ZR17 88W (front and rear)

Tire pressure: front 2,1 bar, rear 2,1 bar

Rim: 7J x 17, ET 50

1.2. Measuring devices: measuring steering wheel 375 mm Ø with DMS measuring amplifier, X-Y-recorder

1.3. Other test conditions

Testing ground: skid pad, asphalt

Weather: dry, 25°C

2. Test Results

2.1. Steering control efforts/-times are:

mit power assist / steering wheel motion leftward: 24 N / 3,0 s

mit power assist / steering wheel motion rightward: 28 N / 3,9 s

without power assist / steering wheel motion leftward: 51 N / 2,1 s

without power assist / steering wheel motion rightward: 69 N / 1,9 s

2.2. Circular course driving according to 5.2.1. Annex I: fulfilled
2.3. Circular course driving according to 5.2.3. Annex I: fulfilled
2.4. Failure in the steering system according to
5.2.2. Annex I: the requirements in
Annex I, 4.1.1.1.,
4.1.1.2. and 5.2.1.
Are fulfilled.
2.5. Further test results: the test result cover all track widths and energy supplies mentioned in the information document.
3. Test date: 08/17/2000

III. Attachments

1. Information document No. R50 dated 08/17/2000

IV. Statement of Conformity

The information document mentioned above and the vehicle type described therein are in compliance with the applicable legislation mentioned above.

The report includes pages 1 to 3.

Jürgen Aigner
Garching, 08/29/2000

TÜV AUTOMOTIVE GMBH
Unternehmensgruppe
TÜV Süddeutschland

Daimlerstraße 11
D-85748 Garching

Telefon 0 89 / 329 50 - 653
Telefax 0 89 / 329 50 - 650

TÜV
AUTOMOTIVE

TECHNISCHER BERICHT

Nr. 351-0565-00-FBTP

Prüfung gemäß Richtlinie des Rates der Europäischen Gemeinschaften zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über

Lenkanlagen von Kraftfahrzeugen und Kraftfahrzeuganhängern

Nr.: 70/311/EWG vom 08.06.1970

einschließlich aller Änderungen bis

Nr.: 1999/7/EWG vom 26.01.1999

I. Technische Angaben

0.1.	Fabrikmarke (Firmenbezeichnung):	MINI
0.2.	Typ:	R50
0.3.	Merkmale zur Typidentifizierung, sofern am Fahrzeug vorhanden:	--
0.4.	Klasse des Fahrzeugs:	M1
0.5.	Name und Anschrift des Herstellers:	Bayerische Motoren Werke AG D-80788 München

II. Prüfprotokoll

1. Prüfbedingungen

1.1. Technische Daten des Prüffahrzeuges

Typ:		R50
VIN:		SPL2611R50PL22559
Prüfgewicht des Fahrzeugs:		1544 kg
Achslasten		
	vorne:	874 kg
	hinten:	740 kg
Bereifung		
	Größenbezeichnung:	205/45 ZR17 88W (v.u.h.)
	Reifenfülldruck:	vorne 2,1 bar, hinten 2,1 bar
Felge:		7J x 17, ET 50

1.2. Meßgeräte:

Meßlenkrad 375 mm Ø mit DMS-Meßverstärker, X-Y-Schreiber

1.3. Sonstige Prüfbedingungen

Prüfstrecke:	Kreisplatte, Asphalt
Witterung:	trocken, 25°C

2. Prüfergebnisse

2.1. Die Betätigungskräfte/-zeiten betragen:

mit Hilfskraft / Lenkeinschlag links:	24 N / 3,0 s
mit Hilfskraft / Lenkeinschlag rechts:	28 N / 3,9 s
ohne Hilfskraft / Lenkeinschlag links:	51 N / 2,1 s
ohne Hilfskraft / Lenkeinschlag rechts:	69 N / 1,9 s

2.2.	Kreisfahrt gemäß 5.2.1. Anhang I:	erfüllt
2.3.	Kreisfahrt gemäß 5.2.3. Anhang I:	erfüllt
2.4.	Störung in der Lenkanlage gemäß 5.2.2. Anhang I:	Die Anforderungen in Anhang I, 4.1.1.1., 4.1.1.2. und 5.2.1. werden erfüllt.
2.5.	Weitere Prüfergebnisse:	Die Prüfergebnisse umfassen alle im Teil-Beschreibungsbogen genannten Spurweiten und Energieversorgungen.
3.	Datum der Prüfung:	17.08.2000

III. Anlagen

1.	Teil-Beschreibungsbogen Nr. R50 und Anlagen	vom 17.08.2000

IV. Schlußbescheinigung

Der oben angegebene Teil-Beschreibungsbogen und der darin beschriebene Fahrzeugtyp entspricht der genannten Prüfgrundlage.

Der Bericht umfaßt die Seiten 1 bis 3.

Jürgen Aigner

Garching, 29.08.2000