

# DAIMLERCHRYSLER

July 1, 2005

Mr. Jeff Quandt  
Office of Defects Investigation, Director  
U.S. Department of Transportation  
400 Seventh Street, S.W.  
Washington, D.C. 20590

DaimlerChrysler Corporation  
Stephan J. Speth  
Director  
Vehicle Compliance & Safety Affairs

Dear Mr. Quandt:

Reference: NVS-213DSY; EA 04-025

This document contains DaimlerChrysler Corporation's ("DCC") response to the referenced inquiry regarding 2003-2005 model year Heavy Duty Ram Pickup Trucks equipped with automatic transmission and diesel engines. By providing the information contained herein, DCC is not waiving its claim to attorney work product and attorney-client privileged communications.

To put this issue in context, several observations are in order.

First, there is no design or manufacturing defect in these vehicles that causes them to be prone to unintended vehicle movement. After thorough inspections and evaluations of complaint vehicles and bench evaluation of the entire "Park" engagement system, DCC has found no evidence of a design or manufacturing defect, and NHTSA has not pointed to any such evidence, either.

Second, the safety risk presented by the incidents of unintended vehicle movement in these vehicles is universally caused by the same driver error: exiting the vehicle while the engine is still running, leaving the key in the ignition, failing to set the parking brake, and failing to set the shift lever properly in the "park" position. DCC is unaware of any vehicle design from any manufacturer that is not theoretically susceptible to unintended vehicle motion under these circumstances. NHTSA itself has previously noted the same thing: "...the agency has acknowledged in recent years that any vehicle can fail to hold or engage in park if the driver fails to shift fully into park or to follow appropriate precautions when leaving any vehicle." ODI Staff Report in P85-15, Center for Auto Safety Petition on Ford Transmissions, at page 29 (July 3, 1985)(citing NHTSA Administrator testimony before Congressional subcommittee).

Third, the transmission shift lever position is always displayed as "R" (Reverse) until the parking pawl is completely engaged in the Park position. Only then will the transmission shift lever indicator show "P" ("Park"). This visual cue accurately advises the driver of the transmission position. The vehicle will not move in reverse when the indicator shows that the transmission is in park. However, the vehicle is capable of reverse movement when it is engaged in the reverse transmission position, which is anytime that the PRNDL display in the cluster shows "R". This is the design intent of the reverse transmission position, and is not a defect.

Finally, because the incidents are caused by driver error and not by any defect in the vehicle's design or manufacture, the incident reports of unwanted vehicle movement are not "failures." They prove only that a vehicle left in an active transmission gear is capable of movement, just as if the vehicle were left in "D" (Drive) gear and the driver exited the vehicle with the engine running. These incidents are not "failures," and are not prima facie evidence of a safety-related defect in the vehicles. NHTSA has previously acknowledged this distinction in another case involving alleged unwanted vehicle movement when it defended the settlement of a safety defect investigation involving 23 million Ford vehicles against a challenge by the Center for Auto Safety and others. In that case, Lynn Bradford, then the Associate Administrator for Enforcement of NHTSA, supplied an affidavit to the court in support of NHTSA's defense of the settlement, in which he said:

"Most of the 23,000 reports of failures of Ford transmissions to engage or hold Park, cited by ODI in its Phase I and Final Reports as well as by plaintiffs, are, at present, unverified. This includes those reports referenced in plaintiffs' memorandum. For this reason, the number of reports of "failures" in this case is not directly comparable to the number of failures in WHEELS. In addition, as described more fully in paragraph 4, above, the reported incidents in the transmission case are not directly comparable to the reported incidents of physically broken parts found in other defect cases." Bradford Aff't at Paragraph 17. (Emphasis added.)

These observations make it necessary to take exception to the definition of the "alleged defect" that was included in the Information Request. That definition states:

***Alleged Defect:*** Inadvertent movement and/or rolling of the vehicle from a parked position, while powered and either attended or unattended, where drivers allege that the gearshift lever was placed in park and/or gear shift lever indicator was in Park, regardless of whether DaimlerChrysler has verified the allegation or not.

The problem with this definition is that it assumes that the incident vehicles were in "a parked position," when all evidence examined by DCC demonstrates that the incident vehicles were not in "a parked position." "Parked position" means that the parking pawl was engaged and the transmission shift lever indicator located in the instrument cluster shows "P". The incident vehicles were still in reverse gear, and the transmission shift lever indicator showed "R" in every case. Neither DCC nor NHTSA has been able to replicate an incident in which a vehicle was in "a parked position" and has been made able to move or roll.

Second, the definition suggests no vehicular system or component that is allegedly defective. Since it has been proven that a subject vehicle properly placed in Park will not move inadvertently, and that the subject vehicles meet or exceed all applicable Federal standards, then the only remaining element that could be possibly related to this condition is the actions of the operator. While DCC can instruct owners how to properly operate their vehicles and can warn them of the consequences if they do not, its vehicles are not "defective" merely because some operators fail to heed this advice.

Particularly when NHTSA has engaged in substantial rulemaking efforts to address the twin problems of transmission shift lever errors and unwanted vehicle rollaway – including the PRNDL sequence defined by NHTSA in FMVSS 102 and the anti-rollaway provisions defined by NHTSA in FMVSS 114 – a vehicle which meets or exceeds these directly relevant federal standards cannot be deemed “defective” merely because the operator fails to take reasonable care when operating it and fails to take basic precautions against vehicle rollaway when exiting the vehicle.

For purposes of this response, therefore, DCC has interpreted the definition of “alleged defect” as if the phrase “from a parked position” were not included in the definition.

For all of the reasons discussed above, and discussed in more detail in the responses to the individual questions, NHTSA should close this investigation.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephan J. Speth". The signature is written in a cursive style and is positioned above the printed name.

Stephan J. Speth

Attachments and Enclosures (a/s)



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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 "e", provide a summary description of the alleged problem and causal and contributing factors and DCC's assessment of the problem, with a summary of the significant underlying facts and evidence. For items "d" and "e," 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.

- A2.** DaimlerChrysler Corporation ("DCC") has searched its Customer Assistance System for summarized records of customer communications, referred to as Customer Assistance Inquiry Records (CAIRs), that may be reasonably responsive to this inquiry. It should be noted that CAIRs stored in the Customer Assistance System are coded and categorized based upon the customer's stated reason for contacting the company, as understood by the individual receiving the contact, and do not necessarily reflect any technical analysis or the company's assessment of the reported assertion.

Following is a brief description of the methodology used to perform a search for CAIRs that could potentially relate to this investigation. First, DCC identified the keywords and categories within the CAIR system that could potentially relate to this investigation. Per discussion with Scott Yon, ODI investigator, it was agreed that DCC's submission would be responsive to allegations which specify incidents with the key in the Ignition and the engine running, as the DCC memo of May 1, 2005 defines. Specifically, DCC searched for all complaints relating to the following: Any complaint combining the terms "park", "reverse", or "gear", combined with any of the terms "roll", "slip", "into", "in to", "outof", "out of", "jump", "backward", or "backwards", in addition to any other transmission complaints. A word search was then conducted of complaints found within these categories. The word search also picks up associated words, such as "parked" and "parking." CAIRs relating to vehicles with manual transmissions were then eliminated. DCC read through the remaining complaints a number of times to identify consistently the CAIRs that might reasonably relate to this investigation. CAIRs provided with DCC's June 22, 2004 and May 13, 2005 responses are not provided in this submission.

- a. There are a total of 37 consumer complaints which may relate to this investigation. Of these complaints, all but 6 have been investigated by an independent third-party.

Following is a summary of the 37 responsive complaints:

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- Where possible, DCC investigates allegations of inadvertent vehicle motion at the time of the complaint. Detailed vehicle inspections were conducted with regard to 31 of the original 37 complaints. In 100% of the inspections, the shift mechanism functioned properly; the electronic gear indicator (PRNDL) specified the appropriate gear, the transmission park lock would hold the vehicle on an incline and the key interlock functioned properly to prevent key removal unless the vehicle was engaged in the "Park" position. In each of these investigations, the inspector was unable to recreate the customer allegation of inadvertent rollaway while in the "Park" position. Aside from several shift cable adjustments completed by dealers to alleviate individual customer's concerns, all vehicles inspected functioned properly and as designed.
- Of the 31 reports inspected by an independent third-party investigator, all vehicles inspected functioned properly and as designed.
- Several of the reports indicate the owner/driver had allegations of inadvertent rearward movement prior to the reported incident, and had not altered their behavior as a result.

Category Description	CAIR	SI - CAIR	Field Reports	Claims / Lawsuits	Total
Responsive reports	10	27	1 <sup>1</sup>	15 <sup>1</sup>	N/A
Unique VINs	10	27	0	0	37
Total Reports	37				

1) Field Report and Claims are identified in customer complaint data, and therefore are not counted as unique VINs

- There were 10 consumer complaints responsive to this inquiry.
- There was one field report relevant to this investigation apart from the 27 non-privileged reports identified in response to 2c and the 15 privileged reports, for which summaries are provided in response to 3m.
- The 37 reports include 28 incidents where a vehicle crash was alleged. There are 4 reports alleging personal injury and 0 reports alleging fatality. None of the information available to DCC relative to these reports indicates any manufacturing or design issue with the subject components in the subject vehicles.
- 16 of these reports claim property damage.

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- f. There are no third party arbitration proceedings. There are 15 legal claims and lawsuits that may be responsive to this inquiry. It is DCC's opinion at this time that these claims and lawsuits are unrelated to any manufacturing or design issue with the subject components in the subject vehicles. A summary of these claims and lawsuits is provided in Enclosure 4.
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:
- a. DCC'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 VIN;
  - e. Vehicle's make, model and model year (only if the VIN is unavailable);
  - f. Vehicle's mileage at time of incident;
  - g. Incident date;
  - h. Report or claim date;
  - i. Whether a crash is alleged;
  - j. Whether property damage is alleged;
  - k. Number of alleged injuries, if any;
  - l. Number of alleged fatalities, if any; and
  - m. Summary description (Request No. 2, items "c" through "e" only).

Provide this information in Microsoft Access 2003, or a compatible format, titled "COMPLAINT DATA." See Enclosure 1, 'EA04025Attachments-IR2', for a pre-formatted table which provides further details regarding the format of this submission.

- A3. The detailed response that lists the customer complaints and field reports, from Question No. 2, as requested in items a. through l. is provided in Enclosure 2 as a Microsoft Access 2000 table, titled "REQUEST NUMBER TWO DATA."
4. Produce copies of all documents related to each of items "c" through "e" within the scope of Request No. 2. Organize the documents separately by category (i.e., crash/injury/fatality reports, property damage claims, etc.) and describe the method DCC used for any further organization of the documents.
- A4. Copies of all documents within the scope of Question No. 2 are provided in Enclosure 4 - CUSTOMER COMPLAINTS, FIELD REPORTS, LEGAL CLAIMS and LAWSUITS.
- Q5. The subject vehicle inner manual lever contains a flat area in the transition radius between the PARK and REVERSE detent positions which differs significantly from the functionally equivalent component(s) used in another model DCC transmission and those of contemporary peer transmissions (from other manufacturers) that ODI

has reviewed (see examples in Appendix A of the equivalent components which have a peaked/small radius design lacking a flat area). Discuss the historical, engineering and technical aspects of why the subject vehicle inner manual lever design has this characteristic.

- A5. The position on the inner manual lever between the Park and Reverse detent positions in the subject vehicle transmissions is in fact a radius and is not flat. This radius is denoted on the drawings previously provided to NHTSA. While it is true that some versions of the Dodge Ram use a different strategy for selecting the desired gear in the transmission, this strategy in no way suggests that one is better than the other. They are simply different strategies for accomplishing the same goal. In addition, the design of the inner manual valve lever on the subject vehicles does not differ significantly from the functionally equivalent components used in many other DCC transmissions, including several versions of the Dodge Ram pickup which are virtually identical in operation, nor does it differ significantly from many peer transmissions. In fact, NHTSA's own investigative data in the Ford C8-02 study (June 1980, pgs. 36-37) identifies several other transmissions that have much larger transition areas between Park and Reverse. NHTSA stated at the time that the increased distance between Park and Reverse (linear and/or angular) on the General Motors and Chrysler designs was directionally correct in ensuring that operators were fully aware of the transition between the detents. The report further suggests that this increased travel is a benefit in such that it may reduce the occurrence of mis-shifting by the operator.

DCC has successfully used this gear selection design virtually unchanged on millions of vehicles since the mid 1960s, including during the time of the Ford C8-02 study. DCC finds it difficult to believe that NHTSA's conclusion about the Chrysler Park apply system at the time of the Ford investigation is no longer valid, and that this very factor could now possibly be contributing to a safety defect in the vehicle.

Federal Motor Vehicle Safety Standard 102 (Transmission Shift Lever Sequence) requires that the "Reverse" and "Park" positions be adjacent to each other and operated by a single lever. There is no empirical data to confirm that the profile that NHTSA has identified is causally related to any incident or complaint on the subject vehicles. Whenever the shift lever is placed between the full detent positions (between "P" and "R") where the transmission can engage Reverse, the electronic PRNDL indicator always shows Reverse ("R"). The engineering basis for, and design philosophy behind, the design of DaimlerChrysler's 47/48RE transmission was (1) to ensure that the inner manual valve lever included a "Park" detent position adjacent to the "Reverse" position for compliance purposes, (2) to ensure that the park mechanism could be activated reliably under reasonably foreseeable circumstances and tolerance conditions, (3) to give a tactile feel or feedback to the operator corresponding to each gear position, and (4) to positively locate the internal transmission controls in a precise location for each gear position.

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**Q6. Indicate whether DCC has performed any analysis, studies, investigations or evaluations (collectively, "actions") of, or otherwise considered, design changes of any shift system component which would prevent or inhibit the vehicle operator from achieving an incomplete shift, including any that would result in the following:**

- a. **Modification of the inner manual lever (e.g. the flat area in the transition radius between the PARK and REVERSE detent positions) in a manner which would produce a mechanical (detent) force capable of diverting the shift system to one gated gear position or the other;**
- b. **Modification of the shifter (e.g., the land between the shift PARK and REVERSE gates, see Appendix A) in a manner which would produce a mechanical detent force capable of diverting the shift system to one gated gear position or the other;**
- c. **For each of the foregoing please provide DCC's evaluation of the following;**
  - i) **The technical feasibility and costs of any such changes;**
  - ii) **The impact of such changes on operator behavior and/or the operators ability to achieve an incomplete shift;**
  - iii) **The impact of any such changes on compliance with any industry or Federal Motor Vehicle Safety Standards.**

**A6. DCC's investigation into complaints of inadvertent vehicle movement on the subject vehicles has shown absolutely no issues with the park apply system. In fact, DCC's design of the park apply system in the subject vehicles shows substantial due care against incomplete shifting in that it is intentionally biased to not show "P" in the cluster electronic PRNDL display until the vehicle is securely placed in Park, even though park pawl engagement may be achieved earlier in the rotation of the gearshift lever. Therefore DCC has not considered any design changes to the inner manual lever to prevent incomplete shifting because none are necessary. DCC's extensive validation and durability testing, in addition to the substantial instructions and warnings provided in the owner's manual indicate that the PRNDL strategy and ignition key removal strategy, which are compliant with FMVSS 102 and FMVSS 114 respectively, ensure that a vehicle operator is appropriately advised in the rare case where an incomplete shift may have occurred.**

**Any change considered to either the gate plate or inner manual lever would necessitate the re-evaluation, re-testing and re-validation of the entire shift system, transmission and vehicle integration to determine the effect on shift feel, function, and operator cues that are critical for safe operation of the vehicle. To some extent new compromises to the operation of the shift system would have to be made without assurance or evidence that such changes would reduce the likelihood of the operator making a shift error by leaving the lever in indicated reverse. DCC believes that undertaking such risk is unwarranted based on the facts established in this investigation.**

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a) DCC has not considered or performed any "actions" relative to modification of the inner manual valve lever in the subject vehicles with respect to a mechanical detent device, because no such change is necessary.

b) DCC has not considered or performed any "actions" relative to modification of the land between the Park and Reverse gates on the shifter in the subject vehicles with respect to a mechanical detent device, because no such change is necessary. In addition, the stepped gearshift lever gates in the subject vehicles are designed in accordance with SAE J915, which is the accepted industry best practice.

c) For the reasons stated in A6 a) and A6 b), DCC has not considered any changes to the Park apply system in the subject vehicles.

i) No changes have been considered, therefore no cost or feasibility analysis is available.

ii) Since no changes have been considered, the impact of such theoretical suggestions is unknown.

iii) The Park apply design in the subject vehicles, which has been used virtually unchanged since the mid-1960s and is present in millions of DCC vehicles is fully compliant with FMVSS requirements and industry standards.

As NHTSA is aware, complaints of shifting errors similar to the allegation defined in this investigation can be found for all makes and models of vehicles since the advent of the automatic transmission and the PRNDL gear sequence definition set forth in FMVSS 102. DCC believes due to vast differences in human behavior, including an apparent unwillingness by some to operate the vehicle as instructed, that the only way to significantly mitigate the occurrence of such complaints would be for NHTSA to readdress the PRNDL sequence specified in FMVSS 102. This would obviously require significant study, but one suggestion would be to move Neutral adjacent to Park, creating the sequence PNRDL. Such a sequence would largely eliminate such incidences of operator error.