

DAIMLERCHRYSLER

May 13, 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-213SY; 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. By providing the information contained herein, DCC is not waiving its claim to attorney work product and attorney-client privileged communications.

Based on thorough inspections and evaluations of complaint vehicles and bench evaluation of the entire "Park" engagement system, DCC has found no evidence to suggest a defect in the subject vehicle population. DCC believes that the universal causal or contributory factor of unintended vehicle movement in the subject vehicles is the driver's decision to exit the vehicle with the engine running and without trying to remove the key (which ensures the vehicle is in park) or setting the parking brake. DCC is unaware of any vehicle design from any manufacturer that is not theoretically susceptible to unintended vehicle motion under these circumstances.

Indeed, the Agency has acknowledged the interaction between the driver and the vehicle is the critical factor in events like those at issue here, and that such events do not involve any "defect" in the vehicle itself:

Proper and complete shifting of the automatic transmission into Park is an oft-repeated, but critical task associated with safe motor vehicle operation. All automatic transmissions with mechanical park lock engagement can be improperly or incompletely shifted to that position. Because it was recognized that proper driver input is necessary to engage the park lock system, the lack of this input was considered to represent a potential contributing factor in incidents upon which this investigation was based.

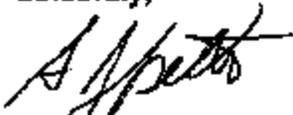
This very possibility has led almost every state to pass laws aimed at encouraging driver behavior that, combined with cues designed into vehicles, eliminates the potential for the kind of inadvertent motion at issue. Thirty-eight states have passed laws requiring drivers to turn the engine off before exiting the vehicle. Twenty-eight states require that the key be removed before the driver exits the vehicle. And 42 states require that the parking brake be engaged before the driver exits the vehicle. Significantly, consistent with NHTSA regulations, every vehicle is designed with a key interlock system that will not allow the driver to remove the key unless the vehicle is in the "Park" position.

DCC investigates allegations of inadvertent movement at the time of complaint. All of the information provided from these inspections has shown that in each of these cases the vehicle operated as designed. In all cases, it was verified that: (i) the shift mechanism functioned properly; (ii) the transmission park lock would hold the vehicle on an incline and (iii) the key could not be removed unless the shifter was in gated "Park". In addition, DCC has repurchased two (2) of the subject complaint vehicles for analysis. Both of these vehicles operate as designed. These vehicles were also reviewed by NHTSA's ODI and VRTC staff during visits to our offices. In addition, DCC in cooperation with NHTSA, has recently inspected the 2 vehicles in which a fatality has been reported. DCC's inspector found that both of these vehicles operated normally as designed.

Inadvertent motion can be avoided by responding to any of the clear and present cues designed into the vehicle to ensure that the vehicle is properly placed in the "Park" position. These include: the end of travel slam of the gear shift lever; the forward movement and tactile feedback of the gear shift lever as the "Park" gate is achieved; and the visual electronic gear indicator (PRNDL) located in the cluster in plain view to the operator. In addition, the subject vehicles are designed with an intentional bias so that the electronic gear indicator (PRNDL) will continue to display "R" during rotation from Reverse to Park and the park pawl will engage the output shaft preventing the vehicle from moving prior to the shift lever reaching gated "Park". Moreover, the reverse lights will remain illuminated as long as the gear indicator displays "R". There are no identifiable factors present in the subject vehicles that could prevent the operator from safely and positively placing the vehicle in gated park. Only when the present and unambiguous cues that the vehicle has been properly placed in "Park" are ignored is there any potential risk to motor vehicle safety.

In summary, based on the thorough analysis contained within this response, DCC has found no evidence to suggest a defect in the subject vehicle population.

Sincerely,



Stephan J. Speth

Attachments and Enclosures (a/s)

1. State, by model and model year, the number of *subject and peer vehicles* DCX has manufactured for sale or lease in the United States. Separately, for each *subject and peer vehicle* manufactured to date by DCX, state the following:
 - a. Vehicle identification number (VIN);
 - b. Transmission model number;
 - c. Transmission shift location (floor or steering column);
 - d. PRNDL indicator type/design (e.g., 'E' for electronic, 'M' for mechanical, etc.);
 - 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 this information in a Microsoft Access 2003 (or compatible) file titled "PRODUCTION DATA." See the enclosed CD ROM, "EA04-025 Enclosures", for a pre-formatted table which provides further details regarding the format of this submission.

- A1. The chart below lists the production volumes for 2003-2005 model year Dodge Ram 2500 and 3500 vehicles manufactured for sale or lease in the United States through April 1, 2005 equipped with automatic transmissions. Additionally, production volumes for 1999-2002 model year Dodge Ram 2500 and 3500 vehicles and 2000-2005 model year Dodge Ram 1500 vehicles equipped with automatic transmissions and manufactured for sale or lease in the United States through April 1, 2005 are provided.

Per verbal agreement from Scott Yon, NHTSA ODI Investigator, the definition of peer vehicles was revised so that information regarding model year 1999-2004 Jeep Grand Cherokee Sport Utility Vehicles were not included with the response to this inquiry. As DCC had noted previously, the model year 1999-2004 Jeep Grand Cherokee vehicles use a floor mounted shifter, are not considered peer vehicles to the subject vehicles, and have already been investigated as part of EA01-017. A copy of the email sent to Scott Yon verifying NHTSA's concurrence is provided in Enclosure 1.

Vehicle Volume	294,583

Vehicle Volume	326,289

Vehicle Volume	1,406,197

The detailed response that lists the United States market production data as requested in Items a. through g. for the subject and comparison vehicles is provided in Enclosure 1 as a Microsoft Access 2000 table, titled "PRODUCTION DATA."

2. State the number of each of the following, received by DCX, or of which DCX is otherwise aware, which relate to, or may relate to, the alleged defect in the *subject and peer 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 the alleged defect in a *subject or peer vehicle*, property damage claims, consumer complaints, or field reports;
 - d. Property damage claims; and
 - e. Third-party arbitration proceedings where DCX is or was a party to the arbitration; and lawsuits, both pending and closed, in which DCX 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 "e", provide a summary description of the alleged problem and causal and contributing factors and DCX'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 response to PE 04-039 are not provided in this submission.

a. From the subject population of over 294,000 vehicles, there are a total of 132 consumer complaints which may relate to this investigation. Of these complaints, all but 20 have been Investigated by an independent third-party.

Following is a summary of the 132 responsive complaints:

- Where possible, DCC investigates allegations of inadvertent vehicle motion at the time of the complaint. Detailed vehicle inspections were conducted with regard to 112 of the original 132 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 112 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.

Subject Vehicle Population: 294,583

Category Description	CAIR	SI – CAIR	Field Reports	Claims / Lawsuits	VOQs	Total
Responsive reports	78	54	0	58 ¹	40 ¹	N/A
Unique VINs	78	54	0	0	0	132
Total Reports	132					

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

- b. There were 78 consumer complaints responsive to this inquiry.
- c. There were no field reports relevant to this investigation apart from the 54 non-privileged reports identified in response to 2c and the 58 privileged reports, for which summaries are provided in response to 3m.
- d. The 132 reports include 128 incidents where a vehicle crash was alleged. There are 9 reports alleging personal injury and 2 reports alleging fatality, although the reports alleging fatality were provided to NHTSA and DCC following NHTSA's upgrade of the investigation from a Preliminary Evaluation to an Engineering Analysis. They are included in the counts, however. 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.

One of the reports alleging fatality was provided to DCC prior to submission of DCC's response to PE 04-039, and the information provided to DCC at that time (and to this point) do not indicate any manufacturing or design issue associated with the vehicle. DCC believes that this report was provided to NHTSA following media coverage of this investigation. According to the police investigation report, the decedent was discovered in a field lying partially beneath the left front tire of the subject vehicle. The vehicle was found running with the gear shift lever in the Reverse position and the parking brake was not set. There were no witnesses to the event. Representatives of DCC inspected this vehicle on May 12, 2005 and the inspection revealed no design or manufacturing issue associated with the vehicle.

The second report alleging fatality was provided to DCC over one year after the alleged incident occurred. The inspection of this vehicle by representatives from DCC did not indicate any manufacturing or design issue with the subject components in the subject vehicle. According to the police investigation report, the owner pulled his vehicle into a parking lot, allegedly shifted the vehicle into the Park position and exited the vehicle with the engine running. The owner then

observed his vehicle moving backwards and called to his wife, a front seat passenger, to "hit the brakes." The owner next remembered seeing his wife, the decedent, lying on the ground with the vehicle stopped near her. The owner's wife sustained fatal injuries. There were no witnesses to the event. The owner was reported telling a bystander at the scene that owner "had trouble putting it in park and it would stay in reverse. That is what happened this time." Representatives of DCC inspected this vehicle on May 10, 2005 and inspection revealed no design or manufacturing issue associated with the vehicle.

- e. 65 of these reports claim property damage.
 - f. There are no third party arbitration proceedings. There are 58 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. DCX'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 the enclosed CD ROM, "EA04-025 Enclosures", 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 DCX 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.
5. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by DCX to date that relate to, or may relate to, the alleged defect in the *subject and peer vehicles*: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin, customer satisfaction campaign, or safety related recall. Separately, for each such claim, state the following information:
- a. DCX's claim number;
 - b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
 - c. VIN;
 - d. Repair date;
 - e. Vehicle mileage at time of repair;
 - f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
 - g. Labor operation number;
 - h. Problem code;
 - i. Replacement part number(s) and description(s);
 - j. Concern stated by customer; and
 - k. Comment, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2003, or a compatible format, titled "WARRANTY DATA." See the enclosed CD ROM, "EA04-025 Enclosures", for a pre-formatted table which provides further details regarding the format of this submission.

- A5. There are 13 applicable labor operation codes that apply to the subject components for the subject vehicles. The claims by vehicle count for the 2003-2005 model year Dodge Ram 2500 and 3500 pickup trucks are shown in the chart below:

Ram 2500/3500	1,865	1,148	127	3,158
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The total number of warranty claims can be broken down by failure codes in order to make estimates about the number of warranty claims potentially related to the alleged complaints. The failure code breakdown for the above vehicle

population is shown in the chart below and represents a grand total of 3158 claims:

08805601	332
08805701	354
19208301	176
21708052	6
21708150	31
21751231	281
21751401	27
21751631	13
21752631	20
21752733	1900
21753031	12
21754031	5
21754131	1

It should be noted that a multitude of conditions not related to this inquiry may result in replacement of the various subject components.

The detailed response that lists the warranty claims as requested in Items a. through k. is provided in Enclosure 5 as a Microsoft Access 2000 table, titled "WARRANTY DATA".

6. Describe in detail the search criteria used by DCX 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 model and model year, the terms of the new vehicle warranty coverage offered by DCX on the *subject and peer vehicles* (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered).
- A6. DaimlerChrysler has provided the requested warranty information in Enclosure 6. The labor operations and failure codes are provided in the following chart. All warranty claims were provided for vehicles serviced through April 1, 2005. The components specified in the warranty information have been identified as those that have an integral function in the automatic transmission shift mechanism. The subject vehicles (heavy duty 2003-2005 Ram) and the two reference vehicle populations (light duty 2000-2005 Ram and heavy duty 1999-2002 Ram) have been provided separately. The warranty coverage for the transmission shift components is the basic 7 year/70,000 mile policy for the 2003-2005 Dodge Ram pickup trucks and 3 year/36,000 mile for the 1999-2002 Dodge Ram pickup trucks. There was no extended warranty coverage option related specifically to the subject components. Owners may have purchased additional warranty

coverage through third-party providers not affiliated with DCC; this warranty data is not available to DCC and is not included in this response.

Applicable Model Years														LOP	Description	Failure Codes
1999		2000		2001		2002		2003		2004		2005				
LD	HD	LD	HD	LD	HD	LD	HD	LD	HD	LD	HD	LD	HD			
-	-	-	-	X	X	X	X	X	X	X	X	X	X	08805601	Trans. Range Switch (PRNDL)	ML, SE, 14, 18, 48, 51, 71, 83
-	X	X	X	X	X	X	X	X	X	X	X	X	X	08805701	Neutral Starter Switch	ML, SE, 18, 48, 71
-	X	X	X	X	X	X	X	X	X	X	X	X	X	19208301	Steering Column Assy	G8, SE, TM, 06, 07, 11, 3R, 51, 64
-	X	X	X	X	X	X	X	X	X	X	X	X	X	21708052	Parking Lock Sprag	11, 68
-	X	X	X	X	X	X	X	X	X	X	X	X	X	21708150	Rod Parking Lock Sprag Control	SE, 0X, 06, 11
-	-	X	X	X	X	X	X	X	X	X	X	X	X	21751231	Gearshift Lever	SE, 07, 11, 37, 50, 51
-	X	X	X	X	X	X	X	X	X	X	X	X	X	21751401	Indicator Gear Select (PRNDL)	SE, 07, 11, 50, 61
-	X	X	X	X	X	X	X	X	X	X	X	X	X	21751631	Gearshift Linkage Grommet	SE, 11, 51
-	X	X	X	X	X	X	X	X	X	X	X	X	X	21752631	Gearshift Control Rod	SE, 06, 11, 51
-	-	-	-	-	-	X	-	X	X	X	X	X	X	21752733	Gearshift Control Cable	ML, SE, 06, 07, 50, 51
-	X	X	X	X	X	X	X	X	X	X	X	X	X	21753031	Manual Control Lever	SE, 06, 10, 74
-	X	X	X	X	X	-	X	X	X	-	-	-	-	21754031	Gearshift Control Torque Shaft	SE, 06, 07, 11, 37
-	X	X	X	X	X	-	X	X	X	-	-	-	-	21754131	Gearshift Control Torque Shaft Bushing	SE, 07, 11, 37

Failure Codes	Failure Code Description
G8	shifter assembly defect
SE	shortage part
TM	tilt mechanism defect
ML	check engine/service engine soon
3R	high/low operating effort
0X	wrong part
06	bent
07	binds, sticks, or seized
11	broken or cracked
14	burned or burned out
18	circuit open
37	excessive wear
48	grounded or shorted
50	Improper adjustment
51	Improperly installed
64	misaligned or mismatched
68	noisy
71	oil leak
74	bolts-tight, loose, missing
83	connection loose

DCC's assessment of the warranty information concludes that there is no indication of any field warranty issue that may contribute to the improper operation of the automatic transmission shift system.

7. For each of the *subject vehicles* identified in items "c" through "e" of Request No. 2, state the total count for all of the following categories of claims, collectively, that have been paid by DCX to date, for all claims involving the vehicles identified (regardless of the nature of the claim, the vehicle system involved, and whether or not the claim relates to the alleged defect): warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin, customer satisfaction campaign, or safety related recall. Separately, for each such claim, state the following information:
- a. DCX's claim number;
 - b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
 - c. VIN;
 - d. Repair date;
 - e. Mileage at time of repair;
 - f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
 - g. Labor operation number and description;
 - h. Problem code and description;
 - i. Replacement part number and description;
 - j. Customer concern; and
 - k. Technician comment.

Provide this information in Microsoft Access 2003, or a compatible format, entitled "DCX INCIDENT VEHICLE WARRANTY DATA." See the enclosed CD ROM, "EA04-025 Enclosures", for a pre-formatted table which provides further details regarding the format of this submission.

- A7. DCC has provided the requested warranty information for the subject vehicles identified in Request number 2 in Enclosure 7.
8. For each VIN identified in the file titled "VOQ VINs.xls" included on the enclosed CD ROM (total of 33 VINs), state the total count for each of the following categories of claims, collectively, that have been paid by DCX to date, for all claims involving the vehicles identified (regardless of the nature of the claim, the vehicle system involved, and whether or not the claim relates to the alleged defect): warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin, customer satisfaction campaign, or safety related recall. Separately, for each such claim, state the following information:
- a. DCX's claim number;
 - b. Vehicle owner or fleet name (and fleet contact person) and telephone number;

- c. VIN;
- d. Repair date;
- e. Mileage at time of repair;
- f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- g. Labor operation number and description;
- h. Problem code and description;
- i. Replacement part number and description;
- j. Customer concern; and
- k. Technician comment.

Provide this information in Microsoft Access 2003, or a compatible format, entitled "ODI INCIDENT VEHICLE WARRANTY DATA." See the enclosed CD ROM, "EA04-025 Enclosures", for a pre-formatted table which provides further details regarding the format of this submission.

- A8. DCC has provided the requested warranty information for the subject vehicles identified by NHTSA ODI in Enclosure 8.
9. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the *subject and peer vehicles*, that DCX 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 DCX is planning to issue within the next 120 days.
- A9. There have been no service, warranty, or other documents issued by DCC which may be responsive to this request for both subject and peer vehicles. DCC is not aware of plans to publish any relevant communication within the next 120 days.
10. Referring to paragraph 5 of DCX's June 22, 2004 response to Request No. 10 of ODI's PE04-039 IR letter, provide the following additional information with respect to the assembly plant automatic and manual verifications of transmission/transmission shift system interaction on the *subject and peer* (if applicable) *vehicles*:
 - a. A description of the procedure and any equipment or devices used (include model, model year and engine/transmission type if pertinent);
 - b. The pass/fail criteria;
 - c. The procedures for the containment and rectification of vehicles that fail; and
 - d. For each *subject vehicle* that registered a failure from the inspection, provide:
 - i) VIN;
 - ii) Reason for failing; and
 - iii) Rectification applied.

- A10.** The subject vehicles are equipped with a column-mounted shift lever and mechanism that is linked to the outer manual lever on the transmission via a shift cable, which is equipped with a solenoid brake-shift interlock. The rotation of the outer manual lever is transferred to the inner manual lever through a shaft.

The only system adjustment possible is with the shift cable. The electronic gear indicator (PRNDL) shows the exact location of the transmission gear position and is independent of the cable adjustment. Further, the adjustment of the shift cable is bounded by the operation of the neutral-start switch function and the key interlock function. Any adjustment beyond finite tuning will result in an inability to remove the key when the vehicle is in gated "Park", an inability to start the vehicle, or an inability to achieve the low gear range of the transmission.

After assembly in the vehicle, the interaction of the transmission and shifter system is subject to a full 100% verification in the plant, which is then repeated for a second full 100% verification in the plant. This series of tests, conducted first automatically and then additionally manually, validates that all the systems function properly in each new vehicle. This test series necessarily includes a check of the integrity of the shift system, in which the operator shifts from "Park" to low gear and back to "Park" and records any difficulties with shifting. This verifies alignment of the interior shift column with the transmission shift lever. This series of tests effectively evaluate the shift mechanism, since it includes a validation of the gear position indication switch and key interlock systems, and also ensures proper operation of the key interlock system to prevent key removal except when the vehicle is properly and completely engaged in the "Park" position. This double inspection is conducted on every vehicle.

Service work instruction sheets which detail the procedures and equipment used DaimlerChrysler's Saltillo, Mexico Assembly plant are provided in Enclosure 10-confidential (CD-Rom) to Ms. Jacqueline Glassman, Office of the Chief Counsel, under separate cover with a request for confidential treatment of information.

There were no repairs performed on "complaint" vehicles recorded at the assembly plant which may suggest a relationship to the alleged defect. Further, DCC through its investigation of such allegations from the field has found no evidence to substantiate any of these claims. In fact, as described in A2, 100% of the vehicles inspected for such allegation have been found to function normally as designed.

- 11. 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, DCX. 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 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.

- A11.** As NHTSA is well aware, the best method for ensuring the proper engagement of "Park" is to shut off the vehicle and remove the key. However, the subject vehicles also contain a number of other substantial cues to ensure the proper placement of the gear lever which in turn ensures the achievement of gated "Park", including the end of travel slam, forward movement and tactile feedback of the gear shift lever as the latched "Park" gate is achieved; and the visual electronic gear indicator (PRNDL) located in the cluster in plain view to the operator. Each of these cues informs the driver that the vehicle is either in park or in reverse. In addition, the subject vehicles are designed with an intentional bias so that the electronic gear indicator (PRNDL) will continue to display "R" during rotation from "Reverse" to "Park" and the park pawl will engage the output shaft and prevent the vehicle from moving prior to the shift lever reaching gated "Park". Moreover, the reverse lights will remain illuminated as long as the gear indicator displays "R".

DCC's thorough investigation of reports from owners and drivers has identified no situations in which the vehicle has misled to operator to believe the vehicle's transmission is in the "Park" position. In fact, several reports provided to DCC, in addition to several VOQs indicate multiple allegations of alleged inadvertent rearward movement for the same operator and vehicle. Although there are already a number of cues present to ensure that the operator has the ability to operate the vehicle in a safe manner on a daily basis, DCC is nonetheless concerned about these reports. As a result, DCC has developed and is providing a sample executable file which demonstrates the concept of a warning system that could be designed and implemented to provide an additional cue if the driver of the vehicle fails to achieve gated "Park", leaves the engine running, and attempts to exit the vehicle.

This sample executable file is provided in Enclosure 11-confidential (CD-Rom) to Ms. Jacqueline Glassman, Office of the Chief Counsel, under separate cover with a request for confidential treatment of information.

DCC anticipates having a working prototype available on a vehicle for review no sooner than mid-June, 2005.

12. Identify the five largest fleets in the United States known to DCX that use the *subject vehicles*. Separately, identify the five largest fleets in the following states or district that utilize the *subject vehicles*: District of Columbia, Maryland, Virginia, and Ohio. For each fleet identified, state the fleet name, point of contact name and telephone number, and the approximate number of *subject vehicles* sold to that fleet by model and model year.

A12. Enclosure 12 contains a summary chart of the five largest fleets and the respective numbers of vehicles sold that utilize the subject vehicles within the United States, in addition to the region encompassed by Washington DC, Maryland, Virginia, and Ohio.

The specific fleet name and address, in addition to point of contact name and telephone number is being summarized as requested and will be submitted to Ms. Jacqueline Glassman, Office of the Chief Counsel, under separate cover with a request for confidential treatment of information.

13. Identify and provide copies of all communications between DCX and any insurance companies relating to the alleged defect in the *subject vehicles*.

A13. DCC is unclear what the Agency is requesting in this question. To the extent any of the lawsuits or claims involve insurance subrogation, the identity of the insurance company is noted in the summary report of the lawsuit or claim. The available documents initiating the insurance subrogation lawsuit or claim are being provided in connection with DCC's response to Question No. 4. To the extent the Agency is requesting copies of communications between DCC and its insurers relating to potential liability and/or actual or potential litigation matters, including those related to the alleged defect, DCC regards such communications as being protected from disclosure by the attorney work product and attorney-client privileges.

14. Provide copies of the field inspection procedure(s) and data sheet(s) used by a third party investigator(s) hired by DCX to examine *subject and peer vehicles* in response to a complaint related to the alleged defect and provide the name of the individual hired to perform the examination. Additionally, provide copies of any other reports, documents, images, or videos generated for the use by, or the training of, a third party investigator. If any of this material is subject to privilege, then provide a detailed privilege log.

A14. The available non-privileged third-party inspection reports (Preliminary Vehicle Inspection Report - "PVIR") that are responsive to Question Nos. 2 and 4 were principally authored by Engineering Analysis Associates (EAA) and are being provided in connection with DCC's response to Question No. 4. The PVIR forms used by EAA describe the field inspection procedures relating to the alleged defect, the data collected by the field investigator and the identity of the field investigator. Without waiving its claim to privilege, DCC has also noted the

occurrences of field inspections in certain lawsuit and legal claim summaries being provided in response Question No. 3, subpart m. If no accompanying inspection report was provided, it is because DCC regards the inspection report as being protected from disclosure by the attorney work product and attorney-client privileges as noted in the summaries. DCC also regards its communications with third-party investigators, including any third party investigator training materials, relating to actual or potential litigation matters as being protected from disclosure by the attorney work product and attorney-client privileges.

A sample inspection form is provided in Enclosure 14.

15. Identify, describe, and provide copies of all engineering standards, design guidelines, design policies, informal reviews, and specifications that relate in any way to the potential for, or possibility of, the vehicle operator achieving a shift position between reverse and park in the gear selector assemblies of the *subject and peer vehicles*.

A15. 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. The engineering basis for, and design philosophy behind the design of DCC's automatic transmissions was (1) to ensure that the inner manual 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 circumstance 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. Additionally, the subject vehicles are equipped with a visual electronic gear indicator (PRNDL) located in the cluster in plain view to the operator.

DCC strongly believes that there are no design or manufacturing factors that contribute to the potential for an operator who is attempting to shift into the "Park" gear position to fail to fully engage the gated "Park" position. Failure to engage gated "Park" is a human-machine interface issue caused by an operator not extending the shifter through to the end of travel as well as ignoring the cues present (tactile, audible, visual) when gated "Park" is achieved. In addition, the subject vehicles are designed with an intentional bias so that the electronic gear indicator (PRNDL) will continue to display "R" during rotation from "Reverse" to "Park" and the park pawl will engage the output shaft and prevent the vehicle from moving prior to the shift lever reaching gated "Park". Moreover, the reverse lights will remain illuminated as long as the gear indicator displays "R".

DCC can envision no reason for an operator to leave the transmission anywhere other than in the gated "Park" position if that is the intent.

16. State by model, model year and engine/transmission configuration the service and engineering part numbers of the transmission MDL for the *subject and peer vehicles*.

Provide an engineering drawing and exemplar sample of each unique MDL component identified.

A16.

Model	Model year	Engine/transmission Configuration	Service Part number MDL	Engineering Part number MDL		
Subject Vehicle Dodge Ram 2500/3500	2003	Diesel47RE	04617441AB	04617441AB		
		Diesel48RE	04617441AB	32854143AA		
		5.7L/54SRFE	Kt 05073004AB	4799706 (1)		
	2004	V1047RE	04617434AB	04617434AB		
		V1048RE	32834146AA	32834146AA		
		Diesel48RE	04617441AB	32854143AA		
	2005	5.7L/54SRFE	Kt 05073004AB	4799706 (1)		
		Peer Vehicle Dodge Ram 2500/3500	1999	Diesel47RE	4617439	4617434 (2)
				5.9L/46RE	4617439	4617438 (2)
V1047RE	4617439			4617434 (2)		
2000	Diesel47RE	4617439	4617441 (2)			
		5.9L/46RE	4617439	4617438		
		V1047RE	4617439	4617434		
2001	Diesel47RE	4617439	4617441			
		5.9L/46RE	4617439	4617438		
		V1047RE	4617439	4617434		
2002	Diesel47RE	4617439	4617441			
		5.9L/46RE	4617439	4617438		
		V1047RE	4617439	4617434 (2)		
Dodge Ram 1500	2000	V642RE	4617439	4617437 (2)		
			5.2L/46RE	4617439	4617438	
			5.9L/46RE	4617439	4617438	
	2001	V642RE	4617439	4617437		
			5.2L/46RE	4617439	4617438	
			5.9L/46RE	4617439	4617438	
	2002	4.7L/54SRFE	Kt 05073004AB	4799706 (1)		
			5.9L/46RE	4617439	4617438	
			3.7L/54SRFE	Kt 05073004AB	4799706 (1)	
	2003	4.7L/54SRFE	Kt 05073004AB	4799706 (1)		
			5.9L/46RE	4617439	4617438	
			5.7L/54SRFE	Kt 05073004AB	4799706 (1)	
	2004	3.7L/54SRFE	Kt 05073004AB	4799706 (1)		
			4.7L/54SRFE	Kt 05073004AB	4799706 (1)	
			5.7L/54SRFE	Kt 05073004AB	4799706 (1)	
2005	5.7L/54SRFE	Kt 05073004AB	4799706 (1)			
		4.7L/54SRFE	Kt 05073004AB	4799706 (1)		
		5.7L/54SRFE	Kt 05073004AB	4799706 (1)		

(1) Kt 05073004AB includes 04799654AC which includes 04799706
 (2) 4617434, 438, 441, 457 differ only by insulator color

Engineering drawings of the relevant components in addition to exemplar samples will be provided to NHTSA under separate cover.

17. Describe in detail the design and operation of the mechanical transmission shift system (including the contour of the "rooster comb" of the MDL) for each unique system used in the following model years of Dodge Ram 2500/3500: 2001, 2002, 2003, 2004, and 2005. For each model year and engine/transmission configuration, identify all design and production changes that might affect the ergonomics of the driver-transmission shift interface, or the operation of the shift system.

A17. The subject vehicles are equipped with a column-mounted shift lever and mechanism that is linked to the outer manual lever on the transmission via a shift cable, which is equipped with a solenoid brake-shift interlock. The rotation of the outer manual lever is transferred to the inner manual lever through a shaft.

The shifter incorporates a stepped gate, is designed in accord with and certified to the requirements of FMVSS 102, and follows the industry recommended practices set forth in SAE J915. The stepped gate provides tactile feedback of the desired transmission gear position because the shift lever must be raised in a direction parallel to the axis of the steering column in order to engage gear positions. Neutral and drive positions are on the same plane; the shift lever must be raised to obtain either the reverse (in a counter clockwise direction) or lower forward gears (in a clockwise direction). In shifting from "Reverse" to "Park", a further rise of the shift lever is required, and park is a latched position.

These vehicles are equipped with an electronic gear position indicator (PRNDL) that is actuated by a switch that follows the cammed surface of the rigid inner manual lever, which accurately and precisely indicates the position of the inner manual lever (i.e., the transmission gear position) at all times. The gear selection mechanism within the transmission (i.e., the hydraulic manual valve) is controlled by the rotation of the inner manual lever. The precise location of the inner manual lever for each gear position is defined by the interaction of the detents on the inner manual lever with a spring-loaded ball follower. The rotation of the inner manual lever also actuates the park apply rod so that in the park position, the park pawl mechanically locks the transmission output shaft, preventing it from turning.

A chart detailing all modifications or changes made by or on behalf of DCC in the manufacture, design, or material composition of the subject components as requested was provided in Enclosure 9 of DCC's June 22, 2004 response to PE 04-039.

The shifting system in the peer vehicles identified in this question (2001-2002 MY 2500/3500 Dodge Ram) has a similarly designed column shifter and operates identically to the subject vehicles except that the shifter is linked to the outer manual lever by a rod linkage as opposed to a cable. The peer vehicles also have a mechanical PRNDL versus the electronic PRNDL system in the subject vehicles. The seating package and reach dimensions are similar for both the subject and peer vehicles as well.

DCC has not identified any production manufacturing or design changes that might affect the ergonomics of the driver-transmission shift interface or the operation of the shift system. DCC's analysis, which is further validated by the data provided for the peer vehicles, clearly indicates that there is no correlation between complaint rate and ergonomics of the transmission shift system. Some subject vehicles in addition to each group of peer vehicles responsive to this request use the same components and assemblies relating to the shift system and transmission, yet exhibit complaint rates which are virtually non-existent. The difference in complaint rate among the subject vehicles and between the subject and peer vehicles, combined with the high rate of multiple complaints for some vehicles further confirms that shifting a column shifter into the "Park" position appears to be an operator specific learned behavior which results from habits developed driving similar vehicles. DCC's inspection results have shown that 100% of the vehicles inspected for such allegations have been found to function as designed, and also are compliant with FMVSS 102.

DCC has identified no design and/or production changes that might affect the ergonomics of the driver-transmission shift interface, or the operation of the shift system in the subject or peer vehicles. Nor has DCC identified any factors that may explain any ergonomic differences between the subject or peer vehicles.

18. Identify by model, model year and engine/transmission configuration the PRNDL identification system included in the *subject vehicles*. Describe in detail the design and operation of each unique PRNDL indication system included in the *subject vehicles*, including the components that comprise the system, the location of each component relative to the complete system, the components function/purpose and the DCX assigned part or component number. Separately, describe each unique PRNDL system installed in the *peer vehicles* and describe any differences between the *peer and subject vehicle* PRNDL indication systems. Provide any diagrams, schematics, or drawings that explain and depict each PRNDL indication system in the *subject vehicles*.

A18. A description of the design and operation of each unique PRNDL operation system is provided in Enclosure 18.

The video provided with Confidential Enclosure 10 in DCC's June 22, 2004 response to PE 04-039 additionally shows operation of the system for the subject vehicles.

19. Provide a park-to-reverse and reverse-to-park shift sequence chart (similar to that provided in DCX's June 22, 2004 letter in response to Request No. 8) identifying the status of significant shift system components for each unique *peer vehicle* transmission and shift linkage design configuration. Base the chart on MDL shaft rotational displacement. State whether the chart was based on data from in situ shift system components (installed in vehicles) or bench mounted components. The chart should identify the status of the PRNDL readout, engagement/disengagement of the park and

reverse gates/detents, park pawl position and state (disengaged, ratchet, engaged), and the energizing/de-energizing of any transmission hydraulic circuits.

- A19.** DCC's Transmission Engineering Laboratory is performing the requested evaluations, and DCC will provide complete results to NHTSA under separate cover when completed. The target timeframe for completion of this study is late June, 2005.
- 20.** Provide a chart showing transmission output shaft torque versus engine rpm curve for reverse transmission gear for each engine/transmission configuration manufactured in the *subject vehicles*. The chart should include the torque exerted on the output shaft for engine speeds from the lowest (design intent) idle speed up to 1500 RPMs.
- A20.** DCC does not record the type of requested information during the normal course of vehicle/transmission design and development, and therefore does not have the information available for the subject vehicles. DCC's assessment is that the transmission output shaft torque is not a relevant factor affecting overall vehicle performance, and in no way can or would prevent a driver from safely placing the transmission properly into the "Park" position before turning off the vehicle ignition and setting the parking brake.
- 21.** For the *subject vehicle* engine/transmission configurations, provide copies of any existing documents or test results which show transmission output shaft torque and hydraulic pressurization/depressurization of the rear servo as a function of time and shifter position in the critical area between park and reverse detents where a delayed rear servo pressurization might occur while park pawl engagement is insufficient to overcome the resultant output shaft torque. If no such data exists, ODI requests DCX consider conducting testing to obtain it.
- A21.** DCC does not record the type of requested information during the normal course of vehicle/transmission design and development, and therefore does not have the information available for the subject vehicles. DCC's assessment is that the pressurization of the rear servo when the transmission is placed in the undefined position between the Park and Reverse detents is not a relevant factor affecting overall vehicle performance, and in no way can or would prevent a driver from safely placing the transmission properly into the Park position before turning off the vehicle ignition and setting the parking brake. DCC has no current plans to obtain such information, but is willing to further explore with NHTSA why they believe this may be relevant to the alleged defect.
- 22.** Discuss in detail any potential causes of vehicle to vehicle variance in the information reported in DCX's response to Requests 20 and 21 (if any) above, and or to Request 8 of DCX's June 22, 2004 response in PE04-039 (P to R, R to P shift sequence timing), including the effects of component tolerance, manufacturing variability, wear/aging, use/abuse, assembly/service adjustment, environment/external, and any other factors DCX is aware of.

A22. DCC's analysis indicates that there is no variance present in the subject vehicle system relating to Park to Reverse or Reverse to Park shift sequence timing or function. The only component in the system which may allow for variability is the shift cable. The electronic gear indicator (PRNDL) shows the exact location of the transmission gear position and is independent of the cable adjustment. Further, the adjustment of the shift cable is bounded by the operation of the neutral-start switch function and the key interlock function. Any adjustment beyond finite tuning will result in an inability to remove the key when the vehicle is in gated "Park", an inability to start the vehicle, or an inability to achieve the low gear range of the transmission. Further, none of the complaint vehicles inspected have had any identifiable abnormality, and have operated as designed.

DCC is aware of no factors which could prevent a driver from safely placing the transmission properly into the Park position before turning off the vehicle ignition and setting the parking brake.

23. Furnish DCX's assessment of the alleged defect in the *subject vehicles*, including:

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The risk to motor vehicle safety that it poses;
- d. A discussion of possible or potential countermeasures DCX has identified or considered which may reduce or eliminate the occurrence of the alleged defect;
- 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; and
- f. The VOQ reports included with this inquiry.

A23. DCC believes that the universal "causal or contributory factor" of unintended vehicle movement in the subject vehicles is the operator's decision to exit the vehicle with the engine running and without trying to remove the key (which ensures the vehicle is in "Park") or setting the parking brake. DCC is unaware of any vehicle design from any manufacturer that is not theoretically susceptible to unintended vehicle motion under these circumstances. Other, and perhaps more significant, "causal or contributory factors" are the failure of the driver to respond to the numerous cues that are provided by the vehicle about proper transmission shift lever position, including the end of travel slam; the forward movement and tactile feedback of the gear shift lever as the "Park" gate is achieved; and the visual electronic gear indicator (PRNDL) located in the cluster in plain view to the operator. Based on thorough inspections and evaluations of complaint vehicles and bench evaluation of the entire "Park" engagement system, DCC has found no evidence to suggest a defect in the subject vehicle population. DCC believes that the reported incidents involve the interaction between the operator and the vehicle as a critical factor in the event, and do not involve any issue with the vehicle itself. In fact, the Agency's regulations historically and currently recognize the potential for shift error. No vehicle system can fully eliminate this

potential. To help respond to these inevitable errors, the Agency has instituted a common PRNDL sequence, as well as mandating the key interlock system to ensure that drivers must place the transmission gear selector lever in park before removing their keys. In addition, the subject vehicles are designed with an intentional bias so that the electronic gear indicator (PRNDL) will continue to display "R" during rotation from "Reverse" to "Park" and the park pawl will engage the output shaft and prevent the vehicle from moving prior to the shift lever reaching gated "Park". Moreover, the reverse lights will remain illuminated as long as the gear indicator displays "R".

- A23b.** DCC does not consider reports of inadvertent vehicle movement in the subject vehicles to exhibit a "failure mechanism" as that term is ordinarily used by NHTSA in the Vehicle Safety Act context, because the vehicle has not "failed" to operate as intended by its design.
- A23c.** If the transmission shift lever is fully engaged in the "Park" position, which means that the shifter is in the park gate and the park pawl is engaged in the transmission, there is no risk to motor vehicle safety, because the vehicle will not move inadvertently under these circumstances. When the operator takes the additional precautions of shutting off the engine, removing the key and engaging the parking brake before exiting the vehicle, motor vehicle safety is further assured. Only when the present and unambiguous cues that the vehicle has been properly placed in "Park" are ignored is there any potential risk to motor vehicle safety.
- A23d.** As NHTSA is well aware, the best method for ensuring the proper engagement of "Park" is to shut off the vehicle and remove the key. However, the subject vehicles also contain a number of other substantial cues to ensure the proper placement of the gear lever which in turn ensures the achievement of gated "Park", including the end of travel slam, forward movement and tactile feedback of the gear shift lever as the latched "Park" gate is achieved; and the visual electronic gear indicator (PRNDL) located in the cluster in plain view to the operator. Each of these cues informs the driver that the vehicle is either in park or in reverse. In addition, the subject vehicles are designed with an intentional bias so that the electronic gear indicator (PRNDL) will continue to display "R" during rotation from "Reverse" to "Park" and the park pawl will engage the output shaft and prevent the vehicle from moving prior to the shift lever reaching gated "Park". Moreover, the reverse lights will remain illuminated as long as the gear indicator displays "R".

DCC's thorough investigation of reports from owners and drivers has identified no situations in which the vehicle has misled to operator to believe the vehicle's transmission is in the "Park" position. In fact, several reports provided to DCC, in addition to several VOGs indicate multiple allegations of alleged inadvertent rearward movement for the same operator and vehicle. Although there are already a number of cues present to ensure that the operator has the ability to

operate the vehicle in a safe manner on a daily basis, DCC is nonetheless concerned about these reports. As a result, DCC has developed and is providing a sample executable file which demonstrates the concept of a warning system that could be designed and implemented to provide an additional cue if the driver of the vehicle fails to achieve gated "Park", leaves the engine running, and attempts to exit the vehicle. DCC will have a working prototype of this system available on a vehicle for review by approximately the middle of June, 2005.

- A23e.** DCC has not identified any vehicle or component malfunction related to the alleged defect, and therefore cannot comment on any associated warning.

Relative to the alleged inadvertent vehicle movement, the owner's manuals for the subject vehicles provide clear and concise instructions to ensure the vehicle is properly placed in "Park" and contain explicit warnings of what may occur if these instructions are ignored. In addition, the electronic gear indicator (PRNDL) indicator will always display the correct gear, informing the operator of the state of the transmission. Further if the vehicle is left in reverse, the reverse lamps will be illuminated.

Excerpts from the Owner's Manual were included in Enclosure 12 of DCC's June 22, 2004 response to PE 04-039 which provide DCC's recommendations relating to avoiding prolonged engine idling and the warning associated with potentially using the "Park" position as a substitute for applying the vehicle parking brake.

- A23f.** All of the VOQ's provided to DCC by NHTSA are duplicative of DCC reports received, and provide no new information.

DCC believes that the reports contained within this response are random and isolated events that describe the unfortunate behavior of a few operators of the subject vehicles. There is nothing within the contained reports to suggest any defect whatsoever within the subject vehicles. These vehicles meet or exceed all federal standards and industry practices related to transmission control design, and employ multiple, clear and precise cues to ensure the operator that the vehicle has been safely placed in "Park". In addition, operators can further ensure their safety by turning the vehicle off, setting the park brake and removing the key before attempting to exit the vehicle, which if done, would have eliminated all of these incidences. The overwhelming majority of owners operate these vehicles safely every day.