

January 31, 2014

Administrator for Safety Assurance  
National Highway Traffic Safety Administration  
120 New Jersey Avenue SE, Room W45-231  
Washington, DC 20590

Dear Administrator;

Subject: Freedom Motors Recall ENGF0216-3 for certain 2008-2010 Dodge Grand Caravans converted for wheelchair access by The Liberty Motor Company. The vehicles are recalled for rear axle cracking.

#### Summary

- Freedom Motors Inc. is conducting a voluntary safety recall for certain 2008 through 2010 Dodge Grand Caravans that were converted for wheelchair access by The Liberty Motor Company. The recall is to inspect rear axles for cracks and have all axles either repaired and modified to a more crack resistant design or replaced.
- This recall would affect 130 vehicles converted for wheelchair access for US customers.
- A fractured rear axle may lead to loss of vehicle control. There may be very little warning to the operator before a cracked rear axle ultimately breaks.
- Owners will be notified to take their vehicle to a Freedom Motors approved service shop to have the rear axle inspected for cracks and the owners notified of the condition. The owner will then be scheduled for axle repair or rework. In some cases, axles may be replaced with new or reconditioned axles. Freedom Motors will cover cost of the inspection, parts, and service work.

Freedom Motors Inc. is voluntarily taking this action to respond to any potential customer concerns. The detailed information required by the applicable portions of 49 CFR Part 573 – Defect and Non-Compliance Information Report is attached.

Sincerely,

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**49 CFR Part 573 – DEFECT INFORMATION REPORT**  
**LIBERTY MOTOR COMPANY WHEELCHAIR ACCESSIBLE 2008**  
**THROUGH 2010 DODGE GRAND CARAVANS**  
**REAR AXLE CRACKING**

Pursuant to Part 573 of Title 49 of the Code of Federal Regulations, Defect and Non-Compliance Reports, Freedom Motors Inc. of Canada submits the following information concerning a safety recall action that it is voluntarily initiating.

**573.6(c) (2) – Potential Affected Vehicles**

Vehicles potentially affected are certain 2008 through 2010 Dodge Grand Caravans that were converted for wheelchair access by The Liberty Motor Company of Oakville, Ontario Canada. These vehicles were converted for wheelchair access for customers located throughout the United States. The affected vehicles have a specific rear axle design manufactured for The Liberty Motor Company. The following paragraph includes a table listing all VIN numbers for the applicable vehicles.

**573.6(c) (3) – Estimated Population of Vehicles Potentially Affected**

The total population sold in the United States is 130 vehicles. The following table lists all VIN numbers for the vehicles that may be affected.

Item	Model	VIN	Item	Model	VIN
1	Grand Caravan	1D8HN44H88B171737	43	Grand Caravan	1D8HN44H98B156230
2	Grand Caravan	2D8HN44HX8R601592	44	Grand Caravan	1D8HN44H38B126446
3	Grand Caravan	2D8HN44H48R136484	45	Grand Caravan	1D8HN44H38B113633
4	Grand Caravan	2D8HN44H68R136485	46	Grand Caravan	2D8HN44H38R778937
5	Grand Caravan	2A8HR44HX8R761970	47	Grand Caravan	2D8HN44H58R676734
6	Grand Caravan	1D8HN44H58B161716	48	Grand Caravan	2D8HN44H38R676652
7	Grand Caravan	2A8HR44H58R748687	49	Grand Caravan	1D8HN44H08B151613
8	Grand Caravan	2D8HN44H58R658833	50	Grand Caravan	2D8HN54P28R706334
9	Grand Caravan	2D8HN44H98R122161	51	Grand Caravan	2D8HN44H08R741568
10	Grand Caravan	2D8HN44H38R122169	52	Grand Caravan	1D8HN44H78B163709
11	Grand Caravan	1D8HN44H58B119580	53	Grand Caravan	1D8HN44H48B151369
12	Grand Caravan	1D8HN44H98B157197	54	Grand Caravan	1D8HN44H18B132309
13	Grand Caravan	1D8HN44H78B119581	55	Grand Caravan	2D8HN44H98R704812
14	Grand Caravan	1D8HN44H58B157195	56	Grand Caravan	1D8HN44H78B100111
15	Grand Caravan	1D8HN44H78B157196	57	Grand Caravan	1D8HN44H08B131961
16	Grand Caravan	1D8HN44H08B157198	58	Grand Caravan	1D8HN44HX8B163736
17	Grand Caravan	1D8HN44H28B157199	59	Grand Caravan	1D8HN44H78B126563
18	Grand Caravan	2D8HN44H48R778946	60	Grand Caravan	2D8HN44H08R724141
19	Grand Caravan	1D8HN44H28B169899	61	Grand Caravan	1D8HN44H38B161505
20	Grand Caravan	1D8HN44H28B165349	62	Grand Caravan	2D8HN44H48R725728
21	Grand Caravan	1D8HN44H98B187641	63	Grand Caravan	1D8HN44H78B160342
22	Grand Caravan	1D8HN44H58B184932	64	Grand Caravan	2D8HN44H58R724104
23	Grand Caravan	2D8HN44H98R601583	65	Grand Caravan	1D8HN44H98B181242

Item	Model	VIN
24	Grand Caravan	1D8HN44H48B110644
25	Grand Caravan	2D8HN44H08R814213
26	Grand Caravan	1D8HN44H98B184934
27	Grand Caravan	2A8HR54P58R820257
28	Grand Caravan	2D8HN44H88R677540
29	Grand Caravan	1D8HN44H38B184931
30	Grand Caravan	1D8HN44H98B102507
31	Grand Caravan	1D8HN44H18B129975
32	Grand Caravan	1D8HN44H18B115025
33	Grand Caravan	2D8HN44H18R634027
34	Grand Caravan	1D8HN44H68B100259
35	Grand Caravan	1D8HN44H28B136191
36	Grand Caravan	2D8HN44H78R778939
37	Grand Caravan	2D8HN44H78R663614
38	Grand Caravan	1D8HN44H88B168935
39	Grand Caravan	2D8HN44HX8R720467
40	Grand Caravan	1D8HN44H28B192082
41	Grand Caravan	1D8HN44H88B192085
42	Grand Caravan	2D8HN44H68R704802

Item	Model	VIN
66	Grand Caravan	2D8HN44H28R741748
67	Grand Caravan	2D8HN44E19R603688
68	Grand Caravan	2D8HN44H88R797922
69	Grand Caravan	1D8HN44H78B127552
70	Grand Caravan	1D8HN44H08B180822
71	Grand Caravan	2D8HN44H38R797861
72	Grand Caravan	1D8HN44H78B191476
73	Grand Caravan	1D8HN44H58B171811
74	Grand Caravan	1D8HN44H88B171379
75	Grand Caravan	1D8HN44H38B151296
76	Grand Caravan	2D8HN44H88R763687
77	Grand Caravan	2D8HN44H08R797476
78	Grand Caravan	2D8HN44H98R797962
79	Grand Caravan	1D8HN44H18B192705
80	Grand Caravan	1D8HN44HX8B191780
81	Grand Caravan	1D8HN44H78B193728
82	Grand Caravan	1D8HN44H78B181272
83	Grand Caravan	1D8HN44H08B181372
84	Grand Caravan	1D8HN44H08B194252

Item	Model	VIN
85	Grand Caravan	2D8HN44H48R692018
86	Grand Caravan	2D8HN44HX8R763707
87	Grand Caravan	1D8HN44HX8B171495
88	Grand Caravan	2D8HN44HX8R797419
89	Grand Caravan	1D8HN44H08B171490
90	Grand Caravan	2D8HN44H98R801900
91	Grand Caravan	1D8HN44HX8B114133
92	Grand Caravan	1D8HN44H48B127217
93	Grand Caravan	1D8HN44H88B145204
94	Grand Caravan	2D8HN54X19R660447
95	Grand Caravan	2D8HN44H48R601538
96	Grand Caravan	2D8HN44H28R677470
97	Grand Caravan	1D8HN44H98B137371
98	Grand Caravan	1D8HN44H68B194451
99	Grand Caravan	2D8HN44H98R676381
100	Grand Caravan	1D8HN44H88B145784
101	Grand Caravan	1D8HN44HX8B145558
102	Grand Caravan	2A8HR44E19R502811
103	Grand Caravan	2A8HR44E69R547758
104	Grand Caravan	2A8HR44E19R516112
105	Grand Caravan	2V8HW34129R559353
106	Grand Caravan	1D8HN44E69B509241
107	Grand Caravan	1D8HN44E79B502069

Item	Model	VIN
108	Grand Caravan	2D4RN4DEXAR107685
109	Grand Caravan	2A8HR44EX9R561324
110	Grand Caravan	2D4RN4DE7AR144368
111	Grand Caravan	2D4RN4DE0AR219766
112	Grand Caravan	2D4RN5D15AR140788
113	Grand Caravan	2D8HN44H68R122165
114	Grand Caravan	2D8HN44H18R122185
115	Grand Caravan	2D8HN44H58R122156
116	Grand Caravan	1D8HN44H98B119579
117	Grand Caravan	1D8HN44H78B119578
118	Grand Caravan	1D8HN44H58B119577
119	Grand Caravan	2D8HN44H58R601614
120	Grand Caravan	2D8HN44HX8R601608
121	Grand Caravan	1D8HN44E29B517952
122	Grand Caravan	1D8HN44E49B517953
123	Grand Caravan	1D8HN44E49B517954
124	Grand Caravan	1D8HN44E89B517955
125	Grand Caravan	2D8HN44H08R122162
126	Grand Caravan	2D8HN44E79R687094
127	Grand Caravan	2A8HR44E29R547417
128	Grand Caravan	2D8HN44H48R633731
129	Grand Caravan	2D8HN44H58R603007
130	Grand Caravan	2A8HR44H18R102983

## **573.6(c) (4) – Estimated Percentage of Affected Vehicles with the Defect Condition**

Unknown

## **573.6(c) (5) – Description of the Defect**

There is a risk that the combined effects of corrosion and torsional stress due to driving with high cargo loads over uneven road, can lead to cracks that can lead to fracture of the rear axle. Some manufacturing inconsistencies have led some axles to be more susceptible to these effects.

### ***Warnings that occur or precede the failure***

Of the failures that have occurred to date, the axles have cracked on the bottom housings first which have led to one or both rear wheels to pitch sideways to a negative camber such that the tire contacts the adjacent frame structure in the wheel well. The driver becomes aware of the failure due to the resulting noise and vehicle handling effects. Should the driver continue to drive in this condition further secondary metal failure would occur leading to the axle breaking apart, which could cause more difficulty controlling the car.

### ***Causes***

So far, we have only seen this type of axle failure with customers that operate the vehicles as accessible taxi cabs. As taxi operator customers accumulate mileage much more quickly than customers that use the vehicles for personal use. We also suspect that many of the taxi operating customers often carry high occupancy loads that come close to or exceed the rear axle GAWR. In addition, 90 percent of the failures occurred in the northern US and Canada where salt is used on the roads during winter months. Therefore, the life of the axle before failure is dependant on mileage, axle load, and corrosive environment.

In addition to operating and environmental factors, there is a possibility that variation in manufacturing quality may have reduced safety factors and left some of the axles more susceptible to failure.

## **573.6(c) (6) – Chronology of Events**

The Liberty Motor Company had a life time warranty policy for first owners of accessible vehicles and as such would be kept informed of in-service vehicle condition based on the frequency of warranty repairs. Ownership of The Liberty Motor Company was transferred to Freedom Motors Inc. in August 2010. Freedom Motors started to conduct warranty repairs on damaged axles starting in January 2011. Freedom Motors has analysed failures on an ongoing basis. Failures were analysed through physical analysis of damaged axles concurrent with stress analysis of a computer model of the axle design. Focusing on primary failure areas, computer modelling was used to develop design modifications to reduce stress concentrations under dynamic conditions and so eliminate likelihood of failure on modified axles.

On January 30, 2014, it was decided to conduct a voluntary recall to inspect all axles in service and repair or modify all axles to the new design configuration. The recall would be conducted in all regions of the US and Canada.

### **573.6(c) (8) – Service Program**

Owners of all vehicles with the affected axle design would be notified and instructed to take their vehicles to a Freedom Motors appointed service shop in their local area. The service shop would be provided with Service Bulletin SB-101 which gives instructions for inspecting and recording the condition of the axle and vehicle mileage. Vehicles with no signs of rear axle cracking will be returned to the owner. The owners would be notified when to bring their vehicle back for axle modification or replacement at a later date, when the parts become available. Owners of cracked axles will be advised to not drive their vehicle until their axle can be replaced or modified. Freedom Motors will provide a remedy as soon as possible and will cover all costs of inspection and repair. Where weld qualified repair shops are available, Freedom motors will have axles modified in the owners general area using service bulletin SB-102. Where weld qualified service shops are not available, the axles will be replaced according to service bulletin SB-100.

Freedom Motors does not have an active dealer network in the United States and so will contact all owners and process all repairs through our Canadian office. Freedom Motors will begin actively researching owner contact information through state motor vehicle records once given NHTSA authority to do so. Notifications will be mailed immediately as owner addresses are retrieved.

### **573.6(c) (10) – Press statement and Dealer/Owner Letters**

Freedom Motors will provide public comments upon inquiry. As Freedom Motors did not use a typical automotive dealer network, no dealer letter will be distributed. A sample of the owner letter is submitted with this report.

### **573.6(c) (11) – Recall Number**

Freedom Motors files this recall under number ENGF0216-3.

### **573.13(c) (2) – Recall Number**

The ending date for reimbursement eligibility for cost of remedies paid for by vehicle owners per Freedom Motors reimbursement plan 10 days after the recall letters are mailed.