

PART 573 Defect and Noncompliance Report

July 1, 2014

RECEIVED

By Recall Management Division at 11:11 am, Jul 02, 2014

On July 1, 2014, LiquidSpring LLC decided that a defect which relates to motor vehicle safety exists in items of motor vehicle equipment listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

Manufacturer Corporate Name: LiquidSpring LLC

Equipment Brand or Trademark: CLASS (Compressible Liquid Adaptive Suspension System)

Corporate Official Contact Information: Dean Bartolone

President

Phone: 765-474-7816 ext. 101

Fax: 765-474-7826

Email: dbartolone@liquidspring.com

The affected equipment was installed by various multistage vehicle manufacturers, their dealers, and aftermarket installation facilities.

Manufacturer's Campaign Number: TBD - Same as NHTSA Recall assigned number

Signed:



Dean F. Bartolone - President

PART 573 Defect and Noncompliance Report

Identification of the Recalled Items of Equipment

The item of equipment subject to the recall is a fluid volume mount bracket of the suspension system. The following suspension models and manufacture dates are the affected population.

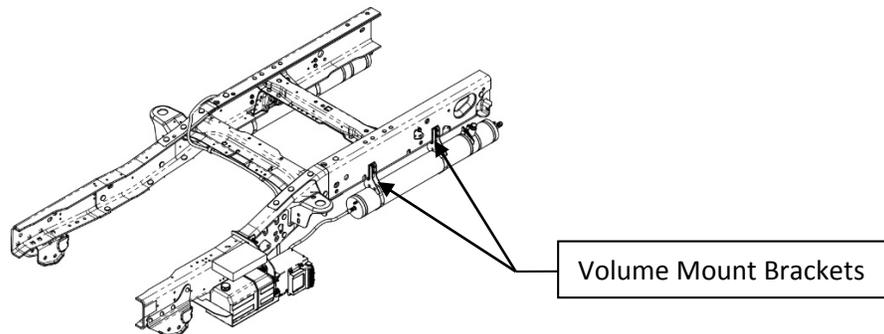
Affected Suspension Models:

- DS96F-A, M, MC (Ford E450 Chassis)
- DS120F-A, A10 (Ford F450 Chassis)
- DS137F-A, A10 (Ford F550 Chassis - 18K GVW)
- DS147F-B2 (Ford F550 Chassis – 19.5K GVW)
- DS96GM-AR, AR12, AM, MR (Chevy G3500/4500 Chassis)

Affected Manufacture Dates:

September 13, 2012 through May 6, 2014

The volume mount bracket affixes a fluid volume to the chassis frame. There are 2 fluid volume mount brackets per fluid volume and 2 fluid volumes per suspension system. Therefore, each suspension system has 4 fluid volume mount brackets affected by the recall. See illustration below for typical fluid volume mount brackets on one side of the chassis.



Total Population of Suspension Systems Affected by Recall: 235

This population represents all of the affected suspension models manufactured within the affected manufacture dates that were equipped with the fluid volume mount brackets with the defect.

% of Population Estimated with Defect: 100%

PART 573 Defect and Noncompliance Report

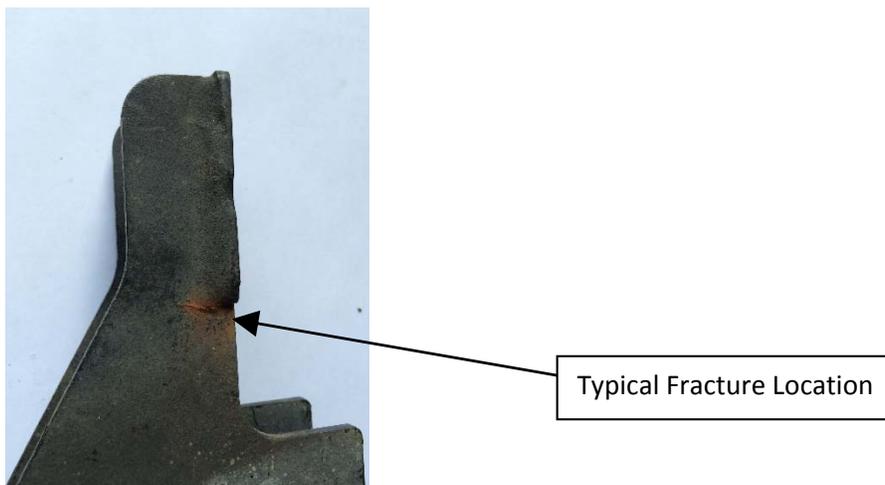
Description of the Defect

Description of the Defect: The fluid volume mount bracket can develop a complete fracture such that the bracket separates from the chassis frame and is unable to provide support for the fluid volume at the bracket location.

Cause of the Defect: The cause of the defect is material fatigue in a portion of the fluid volume mount bracket due to application load conditions. More severe duty service conditions increase the likelihood of fracture initiation and propagation.

Consequence(s) of the Defect: The consequence of the defect can be a complete fracture in the fluid volume mount bracket such that the fluid volume becomes unsupported by the bracket at the fractured bracket location and the hose connection at that end of volume becomes the fluid volume supports means. The hose connection(s) will likely support the volume for at least a short period of time until detection, however, they are not intended as the primary support means for the fluid volume. If undetected for a long period of time or ignored after detection, the hose connection(s) could fail resulting in the fluid volume contacting the ground.

Potential Warnings of the Defect: The fracture(s) in the fluid volume mount bracket can be detected in early initiation and propagation stages prior to complete fracture of the bracket. See below.



PART 573 Defect and Noncompliance Report

Chronology in Determining the Defect

1st Reported Instance – April 9, 2014

In the case of the 1st reported instance, the customer described one “leg” of one bracket fractured. The customer performed a temporary weld repair of the fractured leg and was supplied a replacement fluid volume mount bracket to be installed at the next service interval. All the other remaining fluid volume mount brackets on the vehicle were inspected and no evidence of fracture initiation was detected. The fractured fluid volume mount bracket was not returned for analysis because the temporary weld repair destroyed the fracture area rendering analysis useless.

2nd Reported Instance – April 18, 2014

In the case of the 2nd reported instance, the customer reported complete fracture of a fluid volume mount bracket which was detected during routine vehicle inspection prior to it being put in service. Customer temporarily re-secured the fluid volume to the chassis frame and the vehicle was driven to a repair facility. Replacement brackets were sent to the repair facility that replaced all fluid volume mount brackets on the vehicle. All the vehicle brackets were returned for analysis.

Analysis of Returned Brackets – April 28, 2014

The fluid volume mount brackets of the 2nd reported instance were reviewed and it was determined that the fracture was occurring at a particular location on the bracket and exhibited evidence of material fatigue.

Review of Bracket Design – May 1, 2014

The fluid volume mount bracket design was re-reviewed based on the analysis of returned brackets. The review of the design indicated that under severe duty load conditions in combination with the manufacturing method of the bracket, the bracket could develop a fatigue fracture at the location found in the returned brackets.

Additional Field Review – June 23, 2014

In the case of additional field review, the fluid volume mount brackets on a different vehicle from the same customer in the 2nd reported instance were inspected and one bracket was found to have a fracture initiated on one “leg” of the bracket in the same location as the other brackets. All brackets on this vehicle were replaced with re-designed fluid volume mount brackets.

PART 573 Defect and Noncompliance Report

Remedy for the Defect

On-Going Production

The production remedy for the fluid volume mount bracket defect is implementation of a re-designed bracket that will not experience a fracture due to severe duty load conditions. The re-designed fluid volume mount bracket was implemented in production on all affected models manufactured on or after May 14, 2014. The re-designed bracket is readily distinguished from the original bracket.

Field Replacement

The production re-designed fluid volume mount bracket is backward compatible with and a direct replacement for the original bracket. The company has covered the replacement expenses of the original fluid volume mount bracket in both the 1st and 2nd instances as well as the additional field review instance under warranty. Only the additional field review instance had the fluid volume mount brackets replaced with the re-designed version, therefore, the 1st and 2nd instances will require replacement of the fluid volume mount brackets.

The company plans to cover all expenses related to replacement of the original fluid volume mount brackets with the re-designed version.

Schedule for Field Replacement

- Send Manufacturer/Dealer letter to all customers of affected (sold) units to solicit dealer/end user contact information – July 7, 2014
- Follow-up contact with all customers to ensure dealer/end user contact information is made available – July 14, 2014
- Mail formal Safety Recall Notice to all dealer/end users - July 21, 2014
- Follow-up contact with dealers/end users regarding inspection of vehicles and scheduling replacement of brackets – July 28, 2014
- Assist dealers/end users with making arrangements with repair facility to have brackets replaced – As they occur