

Part 573 Safety Recall Report

20E-086

Manufacturer Name : Aries Industries Inc.

Submission Date : APR 22, 2021

NHTSA Recall No. : 20E-086

Manufacturer Recall No. : NR



Manufacturer Information :

Manufacturer Name : Aries Industries Inc.

Address : 550 Elizabeth Street
Waukesha WI 53186

Company phone : 262-446-5620

Population :

Number of potentially involved : 138

Estimated percentage with defect : 100 %

Equipment Information :

Brand / Trade 1 : Aries
 Model : Tow Hitch
 Part No. : Hitch
 Size : NR
 Function : NR

Descriptive Information : After internal investigation and third-party testing, the recall involves Aries' manufactured equipment, tow hitch, that were installed on the rear frame rails of the Ford E450 and F550 trucks from 2011 to 2020. These particular tow hitches were not designed to tow the rated weight rating of the various trucks and trailers.

Aries then identified the total number of tow hitches manufactured and sold and the customer/distributor to which each vehicle containing a tow hitch was sold. The recall population is therefore comprised of 41 vehicles and up to 141 vehicles that Aries has determined may have a defective tow hitch installed.

Mfr	Model	Involved Qty
Ford	F450	7
	F550	34
Sub-total		41

Potentially involved:

Ford	F650	12	
	F750		1
	E450		20
	tbd		1
Frghliner	M2	10	
	tbd		2
Chevy	tbd	2	
GMC	4500	12	
	5500		2
	Savana		1
Hino	258LP	1	
Isuzu	5500XD		6
	tbd		3
Nissan	tbd		1
Kenworth	T3		2
	T370		2
Peterbilt	335		2
	337		1
Navistar	430017		
	Terrast		1
TBD	tbd		1

Potential Max Total 141

Description of Defect :

Description of the Defect : The recall involves Aries' manufactured equipment (tow hitch) that was installed on the rear frame rails of the Ford E450 and F550 trucks. The tow hitches were not designed to tow the rated weight rating of the trucks and trailers.

In particular, Aries tow hitches were installed on a variety of trucks and trailers (as identified in this report) with Class 3 and Class 4 tow weight ratings. Subsequent testing, which concluded on November 9, 2020, confirmed that the E450 & F550 tow hitches could safely tow 4,200 lbs.- which does not satisfy Class 3 or Class 4 minimum requirements. A similar hitch design for the E450 and F550 was used on a variety of manufacturers' trucks. Due to the design constraints it created a failure mode with lateral momentum during movement/turning under load.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : Thus far, there have been no reported accidents or incidents involving the defective tow hitches. However, the tow hitch plates could bend or break, or cracked welds could occur resulting in the equipment being towed being difficult to control or potentially separating from the towing vehicle.

Description of the Cause : The Ford E450 and F550 tow hitches were not designed properly to tow the rated weight rating of the various trucks and trailers on which they were installed. Due to the design constraints it created a failure mode with lateral momentum during movement/turning under load.

Identification of Any Warning that can Occur : Visual inspection may show cracking welds or bent plates or unusual noises may occur from the hitch plates stressing when under load.

Involved Components :

Component Name : NR

Component Description : NR

Component Part Number : NR

Supplier Identification :**Component Manufacturer**

Name : NR

Address : NR

NR

Country : NR

Chronology :

In mid-October, Aries was designing a new hitch for one of its customers and decided to run the hitch through SolidWorks Finite Element Analysis (FEA) software to see if it was structurally compliant to the Class 4 requirement, which is 14,000 lbs. Aries then decided to audit some of its other hitches as it was determined that an FEA was never previously performed on any of Aries' hitches.

On October 6, 2020, Aries ran a FEA on the Ford F550 and E450. The results of that FEA indicated that the F550 and E450 may not meet the tow weight rating specifications for which they were sold. On October 22, 2020, Aries engaged a third party, Advanced Design Concepts, to corroborate Aries' findings on both the F550 & E450 hitches. On November 9, 2020, Advanced Design Concepts provided Aries with its test results, which determined that the E450 & F550 hitch designs did not meet the Class 3 & 4 requirements as sold. A similar hitch design for the E450 and F550 was used on a variety of manufacturers' trucks. Aries has not had any reported issues, injuries, fatalities, warranty claims or accidents regarding the tow hitches at the time of this report.

Description of Remedy :

- Description of Remedy Program :
1. With this submission, Aries will initiate a recall program under which purchasers of the defective tow hitches can have additional reinforcement plates welded to the hitch. For hitches on some vehicles, Aries has designed new tow hitches, each of which has been confirmed to satisfy Class 3 & 4 minimum standards. Aries will install, or pay for the installation of, these reinforcement plates or new hitches at no cost to the purchaser.
 2. Aries will conduct testing on all manufacturers' vehicles to determine which other manufacturers' vehicles of the 141 potentially involved require repair or replacement.
 3. Aries will contact impacted customers via letter, informing them of the defect, recall, and their remedies, including that they can either (1) have Aries perform the update; (2) perform the update themselves; or (3) have a local repair shop perform the update.
 4. If Aries performs the update, Aries Customer Service will coordinate bringing the truck to Aries for repair and then transport back.
 5. If a customer wants to repair themselves or have a local repair shop do the repair, Aries will send complete instructions/drawings and a complete parts kit to the customer. Aries will require that the customer sign an approval form that the work has been performed according to the Aries work instructions. Information documented will be company name, contact, title, signature, date work performed, etc. Aries will reimburse the customer for reasonable charges incurred for the installation.
 6. If the customer has already incurred repair bills for the tow hitch that have been caused by the tow hitch design, Aries will reimburse the customer for those repairs so long as the charges are reasonable.
 7. If the customer does not use the hitch for towing and does not want the hitch replaced, Aries will send a rating plate that the customer is to weld to the hitch in a conspicuous place. Documentation will be required as described above.

How Remedy Component Differs from Recalled Component : For certain truck models, Aries will weld additional reinforcing plates to the tow hitches. On other truck models, Aries will replace the tow hitch completely with a tow hitch designed and tested (see above) to the rated truck load rating. In both cases, the modified or new tow hitch will look larger or "beefier" and meet the minimum standards for which it was sold.

Identify How/When Recall Condition was Corrected in Production : Aries ceased manufacturing all defective tow hitches once its internal testing identified a potential concern. Aries then redesigned all tow hitches, the adequacy of which has been confirmed by internal testing and Advanced Design Concepts. Aries is now only manufacturing and installing the newly-designed tow hitches.

Recall Schedule :

- Description of Recall Schedule :
1. Mail notification letter to all impacted customers: January 5, 2021.
 2. Calls to all customers regarding recall: February 8, 2021.

Planned Dealer Notification Date : JAN 05, 2021 - JAN 05, 2021

Planned Owner Notification Date : JAN 05, 2021 - JAN 05, 2021

Purchaser Information :

The following manufacturers purchased this defective/noncompliant equipment for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name : NR

Address : NR

NR

Country : NR

Company Phone : NR

* NR - Not Reported