

Daimler Truck North America  
Tiffani Torgeson  
Manager  
Compliance and Regulatory Affairs

June 8, 2022

Administrator  
National Highway Traffic Safety Administration  
Attention: Recall Management Division  
1200 New Jersey Avenue S.E.  
Washington D.C. 20590

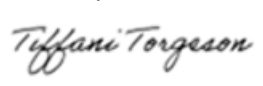
**Re: Petition for Exemption from Notification and Remedy Provisions of Motor Vehicle Safety Act  
Daimler Truck North America, LLC (Internal Campaign Number FL-931)**

Dear Deputy Administrator Cliff:

Pursuant to 49 U.S.C. § 30118(d) and 49 C.F.R. Part 556, enclosed please find a petition for inconsequential treatment submitted on behalf of Daimler Truck North America LLC (DTNA) related to Internal Campaign Number FL-931 related to the fittings that are used to plumb park brake airlines on FCCC EconicSD vehicle platform.

Please feel free to contact me with any questions.

Sincerely,

A handwritten signature in cursive script that reads "Tiffani Torgeson". The signature is written in dark ink and is positioned to the left of a vertical line.

Tiffani Torgeson  
Manager  
Compliance and Regulatory Affairs

Enclosures

## **Introduction**

DTNA hereby petitions for inconsequentiality on a noncompliance for a part that has been used for many years without incident both in the US and abroad because of its protection from tensile stresses. Here are details. DTNA carried over a European Econic vehicle (branded EconicSD in the US) with a fitting that has been used for many years without issues, believing that the fitting to be used in the US had been verified compliant with FMVSS 106. However, in a recent reanalysis of the fitting, DTNA became aware that the European fitting is not certified to FMVSS 106 S11.3.18 relating to tensile testing under boiling conditions and FMVSS 106 S11.3.19 relating to tensile strength under thermal conditioning. Notwithstanding that, these fittings are used only in locations protected from stresses and thermal/boiling conditions. Rather, the fittings are used as part of assemblies that contain stress relief, thereby protecting the fittings themselves from the stresses regulated in those two provisions of FMVSS 106, much like in a prior case where NHTSA granted a petition for inconsequentiality. In fact, after 9 years of use of these fittings in European market and 3 years of use in the United States and Canadian market, there has been no evidence of airline separations. Supposing for the sake of argument that there were the unlikely event of a tensile load combined with boiling water or thermal conditioning of the sort in FMVSS 106, the result would be that the parking brake would engage, bringing the vehicle to a halt. A roll-away would not happen.

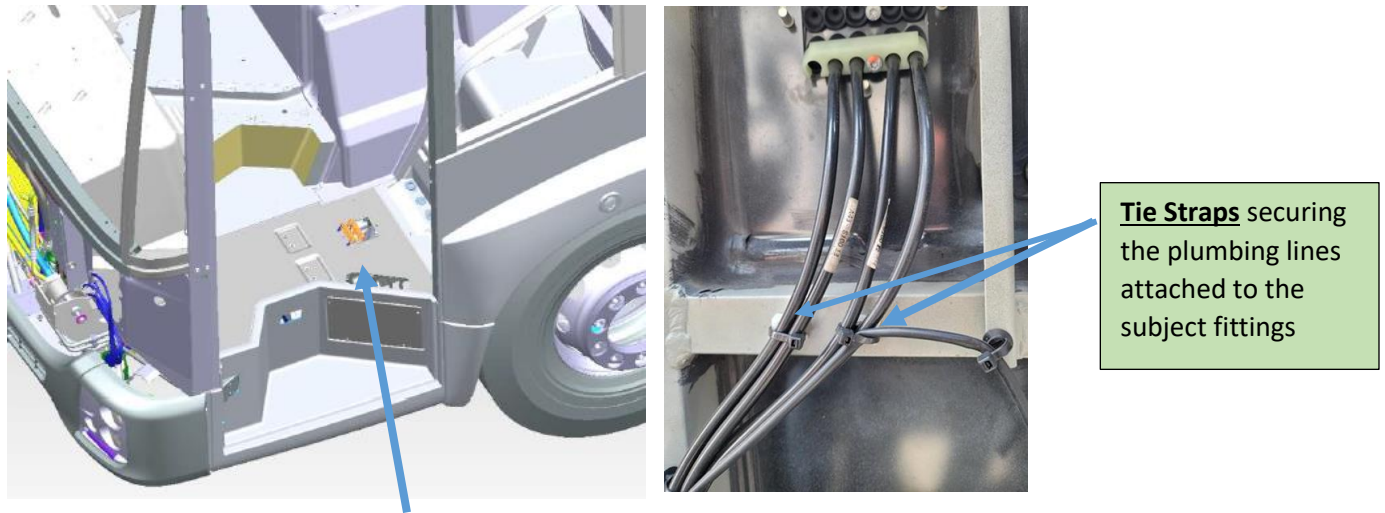
## **Nearly a Decade of Field Performance Without Issue Supports DTNA's Assertion That The Fitting is Protected Against Stresses**

As shown below, DTNA performed a broad search to find any evidence of warranty or other claims related to tensile loads on the fittings at issue. In order to get the broadest possible search of issues, DTNA investigated claims related to all Daimler trucks using this type of fitting, not just the Econic-type vehicle that is the subject of the present petition but other vehicles using that fitting too; results in the table below show that the fittings have been used in several hundred thousand vehicles with no evidence of problems.

<b>Table No.1 – Daimler vehicles equipped with Arco park brake line fittings</b>				
<b>Model Years</b>	<b>Population</b>		<b>Claims</b>	
	<b><u>Europe</u></b>	<b><u>US-CAN</u></b>	<b><u>Europe</u></b>	<b><u>US-CAN</u></b>
2014	11,404	0	0	0
2015	44,011	0	0	0
2016	51,484	0	0	0
2017	52,864	0	0	0
2018	56,614	0	0	0
2019	47,385	1	0	0
2020	33,524	67	0	0
2021	45,343	38	0	0
2022	18,387	56	0	0
<b>Total</b>	<b>361,016</b>	<b>162*</b>	<b>0</b>	<b>0</b>

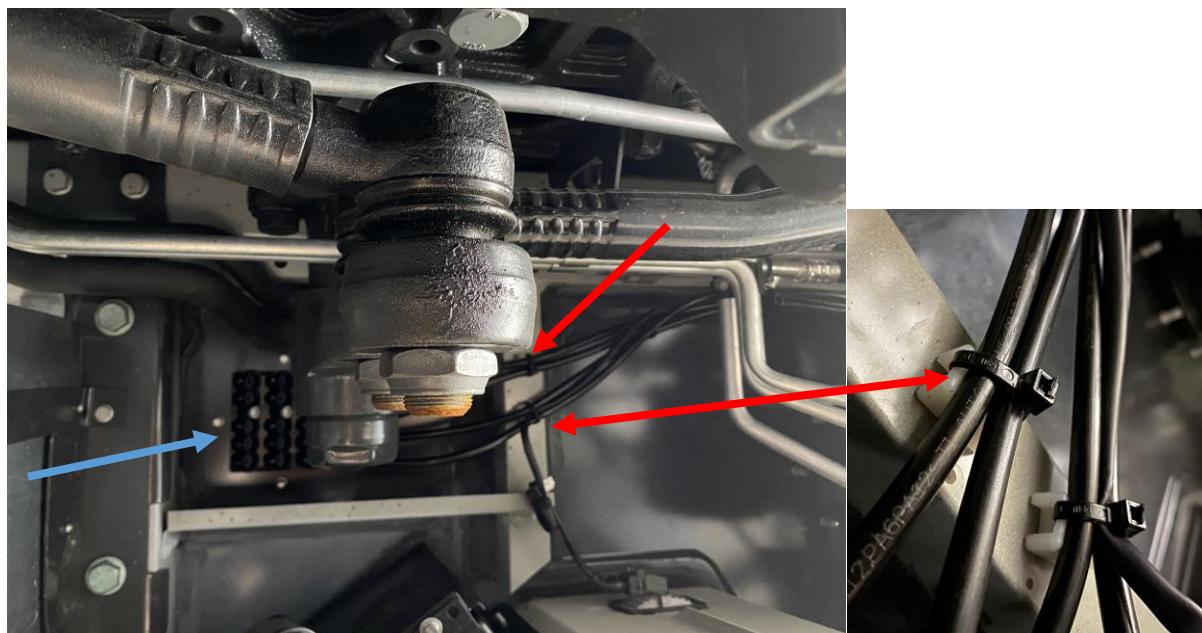
\*For clarity: 149 of the vehicles have US domicile; 13 have Canadian domicile.

These fittings are mounted with protections and stress relief, such that there are none of the tensile loads against which the FMVSS 106 provision was intended to protect. See pictures below.

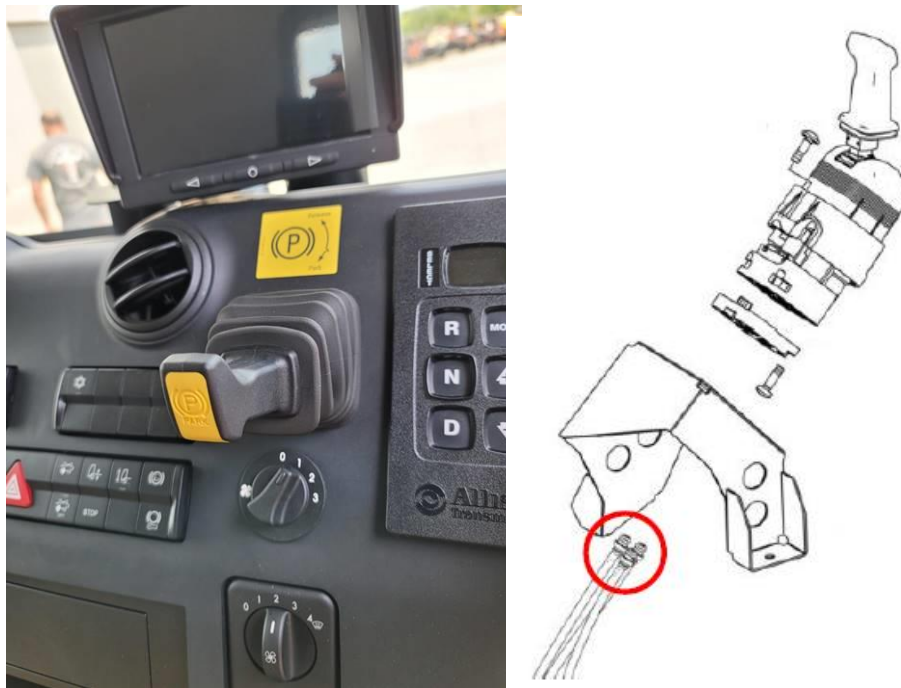


**Fig. 1** – Fittings location underneath the cab; protected with tie straps

As highlighted in **Fig.1**, the subject air fittings are secured underneath the cab body with additional restraints, which would absorb all the forces, if any, which potentially may act upon the plumbing lines and the fittings. Therefore, the design of the DTNA EonicSD vehicle protects against the harm that the relevant provisions of FMVSS 106 were meant to protect.



**Fig.2** (bottom-up view): The underbody location for the fitting, showing that the manifold where the fittings are located (blue arrow) are recessed into a cavity, with stress-relief tie-straps (red arrows), and with steering components blocking entry of debris. The tie straps are looped through the body of the vehicle and will absorb stress through the lifetime of the vehicle. With the fitting exposed only from the bottom, boiling water is not capable of entering. Moreover, the location is far away from any hot components and is exposed to atmospheric-temperature air.



**Fig. 3** – Fittings secured underneath the dash; no moving components

As highlighted in **Fig.3**, fittings are located underneath the dash, where they are protected under the instrument cluster. Because this location is on the inside portion of the truck, the fittings would not be subjected to any loads. In addition, this area is expected to be free from debris, boiling water, abnormally high temperatures, and so forth, such that the integrity of the fittings would not be affected. Lastly, data evidence is affirmative of the fact that the subject fittings have never failed. Consequently, DTNA petitions the agency pursuant to 49 CFR 556 for exemption from the notice and remedy provisions of the Safety Act on the grounds that the tensile strength test portion of non-compliance is inconsequential as it relates to motor vehicle safety for these particular vehicles.

As of today, DTNA is not aware about any scenarios which would cause the air fittings to separate from the connection points. The same brand and design of fittings have been used on Mercedes-Benz trucks that are sold in the European market for 9 years, and, at present, there has been no evidence of a defect that could possess risk to motor vehicle safety. Unlike (for example) in the situation of recall 21V-953, in which Mack Trucks recently recalled worn brake valves, the present situation involves no worn parts, nor any evidence of vehicles rolling away, nor any known or expected malfunction of any sort.

There are approximately 149 US-domicile EconicSD vehicles (“subject vehicles”) built from June 24, 2019 to March 9, 2022 at issue. DTNA has eliminated the usage of the FMVSS 106 uncertified air line fittings from production. Pursuant to 49 U.S.C. § 30118(d) and 49 C.F.R. § 573.6, DTNA submitted a Noncompliance Information Report related to this issue on May 12, 2022.<sup>1</sup> A copy of DTNA’s Noncompliance Information Report is attached.

### **Description of the Noncompliance**

The fittings used in the air brake system for the subject vehicles, were not certified to meet two particular tensile strength requirements per FMVSS 106 standard.

One sample fitting, which as is used for park brake airline plumbing was tested as per the requirements mentioned within FMVSS 106 S12.20, for which the tubing assembly (fittings attached to the plastic air brake tube) was required to withstand a pull of 75 pounds. The tubing was found to be separated from the end fitting at 96% of the requirement (72 pounds). As a technical matter, this result caused the fitting to fail the acceptance criteria stated within the scope of FMVSS 106 S11.3.19; Thermal Conditioning and tensile strength. However, 72 pounds is extremely close to 75 pounds and based on the results of thorough engineering evaluation and case study, DTNA strongly believes that in real world scenario neither of the fittings are subjected to thermal conditioning or boiling temperature nor to tensile loads anywhere near 75 pounds. For the first location, because the instrument cluster is contained within the front dash of the truck, it is free from debris or moving parts. For the second location, because the plumbing lines are secured in an assembly to the cab body with tie straps, such that even if thermal conditioning happens, based on engineering judgement, the secondary restraints would absorb all the loading, in case if there is any. Because the fitting is able to accommodate loading so close to the regulatory requirement, and because the fitting is designed with such tensile loading protection that it is unlikely to experience anywhere near that tensile loading, DTNA believes the minor variance is inconsequential.

Separately, a fitting sample was tested as per the requirements mentioned within FMVSS 106 S12.19 criteria, for which the tubing assembly (fittings attached to the plastic air brake tube) was required to withstand a pull of 75 pounds. This test was run four times for the same sample tubing configuration and it failed to pass the tensile pull strength requirements during all four attempts demonstrating the capability of withstanding approximately 50% of the regulatory requirement. These results caused the fitting to fail the acceptance criteria stated within the scope of FMVSS 106 S11.3.18; Boiling water conditioning and tensile strength. Similarly, DTNA strongly believes that because of the location of the fittings and other restraint systems built into the assembly, the fittings will not be subjected to boiling water and tensile forces anywhere near 50% of the required 75 pounds, such that the fitting-assembly's performance in this test is more than sufficient. For the foregoing reasons, DTNA asserts that, despite

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1 On April 29 2022, DTNA was notified by Mercedes-Benz Service Engineering group that during their work on making the airline fittings available for aftersales services, it was identified that one type of fitting used on DTNA's US-sold Econic may not have been certified to meet two particular tensile strength test requirements per FMVSS 106 standard. DTNA promptly began an investigation of the potential noncompliance and any evidence of occurrences due to it. May 5, 2022, DTNA determined that a non-compliance existed and decided to file a Part 573 non-compliance information report and petition for exemption from the notice and remedy provisions of the Safety Act for this issue. As of today, DTNA is not aware about any incidences, which would cause the air fittings to separate from the connection point. Same brand and design of fittings have been used on Mercedes-Benz trucks that are sold in the European market for 9 years, and as of current, there has not been evidence of a noncompliance in this particular aspect of FMVSS 106 on this particular vehicle could pose a risk to motor vehicle safety. No warranty claims, field reports, or other notifications of any sort have been received for this issue either in the US or Europe.

the technical noncompliance, the subject vehicles do not create an enhanced safety risk so that the FMVSS 106 tensile strength test certification is inconsequential as it relates to motor vehicle safety.

### **Analysis of the Engineering Demonstrates No Occurrence of Tensile Loads**

The air fittings that are responsible to plumb park brake airlines are used in two separate locations within the truck. For the first location, the airlines along with fittings are secured underneath the front dash, in a way that prevents their being subjected to significant, if any, forces. For the second location, the plumbed park brake lines that are connected to the air fittings are secured by secondary restraints underneath the cab body. The secondary restraints would absorb forces and would not let the fittings be subjected to loads. Therefore, DTNA believes that this non-compliance is inconsequential as it relates to motor vehicle safety, as the occurrence has been null, and is expected to be null on the basis of above mentioned reasons.

### **There is NHTSA Precedent is to Grant this Inconsequentiality Petition Where the Vehicle Application and Real-World Conditions Preclude for the Possibility of Brake Hose Detachment**

The facts and analysis in the agency's interpretation letter to Coupled Products, Inc. supports the view that this noncompliance does not pose a safety risk due to the real world application. See published document by Ronald L. Medford, June 14, 2005. The scope of the published document – "Docket No. NHTSA 2004-19991 Notice 2, 05-12115" was in regards to the context of tensile strength requirements per FMVSS 106 S5.3.4, which requires the brake hose assemblies to withstand a pull of 325 pounds without the separation of the hose from its end fittings and FMVSS 106 S5.3.6 water absorption and tensile strength, which requires that the hydraulic brake hose assembly, after immersion in water for 70 hours, shall withstand a pull of 325 pounds without separation of the hose from its fitting.

As per document no. 05-12115 "Coupled Products, Inc. (Coupled Products) had determined that certain hydraulic brake hose assemblies that it produced do not comply with S5.3.4 and S5.3.6 of 49 CFR 571.106, Federal Motor Vehicle Safety Standard (FMVSS) No. 106, "Brake hoses." Pursuant to 49 U.S.C. 30118(d) and 30120(h), Coupled Products has petitioned for a determination that this noncompliance is inconsequential to motor vehicle safety and has filed an appropriate report pursuant to 49 CFR Part 573, "Defect and Noncompliance Reports."

Coupled Products stated that the noncompliance is inconsequential to motor vehicle safety and that no corrective action was warranted. The petitioner stated the following:

[T]he hose assemblies in these applications are located above significant pieces of vehicle hardware including the driveshaft, differential case, and fuel tank (hardware). This configuration is such that a linear, end-to-end "straight pull" on the hose assembly, as that contained in the FMVSS No. 106 tensile strength test procedure, is not a real-life scenario. Rather than a "straight pull," it is more likely (albeit remote) that the free length of the hose itself could be entangled or caught on a piece of road debris or other obstruction, resulting in a "side pull" on the assembly. This scenario itself is remote because the underlying hardware shields the hose assembly. Therefore, if debris were to become entangled in the hose assembly, it would first have to bypass the hardware. If that were to occur, the impact would need to be so great as to make the concern of braking potential irrelevant.

In response to the petition, NHTSA stated the following:

NHTSA agreed with Coupled Products that the noncompliance is inconsequential to motor vehicle safety. As the petitioner indicates, the configuration for the specific application of these brake hoses is such that a linear, end-to-end straight pull on the hose assembly is unlikely to occur.

Similarly, because in the EconicSD configuration, the air fittings that are responsible for the plumbing of park brake airlines are restrained within assemblies under the cab body and protected under the dash. Both the locations on the EconicSD, are free of moving components and therefore, there are no forces acting upon the fittings.

This scenario is similar to the scope mentioned within *Docket No. NHTSA 2004-19991 Notice 2, 05-12115*, where NHTSA agrees with Coupled Products that the noncompliance is inconsequential to motor vehicle safety. As the petitioner indicates, the configuration for the specific application of these brake hoses is such that a linear, end-to-end straight pull on the hose assembly is unlikely to occur. Likewise, DTNA also believes that this non-compliance is inconsequential as it relates to motor vehicle safety. Additionally, despite 3 years of usage in the United States and the Canadian market, and 9 years of usage in the European market, there is no data evidence (refer to above mentioned **Table no.1**) that highlights fitting failures under loads.

### **Conclusion**

In conclusion, DTNA asserts that the fittings that are used to plumb park brake airlines are not subjected to loads in both the locations. Rather, the fittings are used as part of assemblies that contain stress relief, thereby protecting the fittings themselves from the stresses regulated in those two provisions of FMVSS 106. Secondly but importantly, the occurrence of the defect has been null, and is expected to be null on the basis of above mentioned reasons. Therefore, DTNA requests the agency grant this petition and relieve DTNA of its notification and remedy obligations under 49 U.S.C. §§ 30119, 30120 and 49 C.F.R Part 577. DTNA believes that the data, showing no issues, and the technical explanation, providing explanation why there are no stresses, should suffice to explain to NHTSA that the location and tie-strap protected configurations make the portions of FMVSS unnecessary. However, if it would help to explain to NHTSA staff how the EconicSD is protected from the tensile loads and thermal/boiling issues envisioned in FMVSS 106, then DTNA would gladly bring a vehicle to NHTSA's facilities for a demonstration.



# Part 573 Safety Recall Report

## 22V-329

**Manufacturer Name :** Daimler Trucks North America, LLC

**Submission Date :** MAY 12, 2022

**NHTSA Recall No. :** 22V-329

**Manufacturer Recall No. :** FL-931



### Manufacturer Information :

**Manufacturer Name :** Daimler Trucks North America, LLC

**Address :** 4747 N. Channel Avenue  
Portland OR 97217-3849

**Company phone :** 800-745-8000

### Population :

**Number of potentially involved :** 149

**Estimated percentage with defect :** 100 %

### Vehicle Information :

**Vehicle 1 :** 2022-2023 Freightliner (FCCC) EconicSD

**Vehicle Type :**

**Body Style :**

**Power Train :** NR

**Descriptive Information :** EconicSD vehicles with certain fittings used in the air brake system failed to pass two tensile strength test requirements mentioned as per FMVSS no.106 S11.3.17 and S11.3.18.

**Production Dates :** JUN 24, 2019 - MAR 09, 2022

**VIN Range 1 : Begin :** NR

**End :** NR

☐ Not sequential

### Description of Noncompliance :

**Description of the Noncompliance :** FMVSS 106 S11.3.17 and S11.3.18 requires the air fittings to pass the tensile strength test.

**FMVSS 1 :** NR

**FMVSS 2 :** NR

**Description of the Safety Risk :** DTNA carried over from our European version of the Econic vehicle a fitting that has been used for many years without issue, believing that the fitting to be used in the US had been verified compliant with FMVSS 106. However, in a recent reanalysis of the fitting, DTNA became aware that the European fitting is not certified to a particular part of FMVSS 106 relating to tensile testing, including under boiling conditions. Nonetheless, despite years of use of these fittings there has been no evidence of issues because the fittings, as used in the Econic vehicle, are not under tensile loads. Consequently, DTNA intends to petition the agency pursuant to 49 CFR 556 for exemption from the notice and remedy provisions of the Safety Act on the grounds that the tensile strength test portion of non-compliance is inconsequential as it relates to motor vehicle safety for these particular vehicles. As of today, DTNA is not aware about any incidences, which would cause the



air fittings to separate from the connection point. Same brand and design of fittings have been used on Mercedes-Benz trucks that are sold in the European market for more than 7 years, and as of current, there have not been evidences of a defect that could possess risk to motor vehicle safety. The air fittings that are responsible for the park brake plumbing air lines are used in two separate locations within the truck. For the first location, the plumbing air lines and the fittings are secured underneath the front dash, in a way that prevents their being subjected to significant, if any, external forces. For the second location, the park brake plumbing lines that are connected to the air fittings are secured by secondary restraints underneath the cab body. The secondary restraints would absorb external forces and would not let the fittings be subjected to loads. Therefore, DTNA believes that this non-compliance is inconsequential as it relates to motor vehicle safety, as the occurrence has been null.

Description of the Cause : NR

Identification of Any Warning that can Occur : NR

## Involved Components :

Component Name 1 : Air Fittings

Component Description : Park Brake Plumbing

Component Part Number : A 000 990 40 78 and A 000 990 43 78

## Supplier Identification :

### Component Manufacturer

Name : NR

Address : NR

NR

Country : NR

## Chronology :

On April 29 2022, DTNA was notified by Mercedes-Benz Service Engineering group that during their work on making the airline fittings available for aftersales services, it was identified that one type of fitting used on DTNA's US-sold Econic may not have been certified to meet two particular tensile strength test requirements per FMVSS 106 standard. DTNA promptly began an investigation of the potential noncompliance and any

evidence of occurrences due to it. May 5, 2022, DTNA determined that a non-compliance existed and decided to file a Part 573 non-compliance information report and petition for exemption from the notice and remedy provisions of the Safety Act for this issue. As of today, DTNA is not aware about any incidences, which would cause the air fittings to separate from the connection point. Same brand and design of fittings have been used on Mercedes-Benz trucks that are sold in the European market for more than 7 years, and as of current, there has not been evidence of a noncompliance in this particular aspect of FMVSS 106 on this particular vehicle could pose a risk to motor vehicle safety.

No warranty claims, field reports, or other notifications of any sort have been received for this issue either in the US or Europe.

Description of Remedy :

Description of Remedy Program :	DTNA intends to petition the agency pursuant to 49 CFR 556 for exemption from the notice and remedy provisions of the safety act on the grounds this non-compliance is nonconsequential as it relates to motor vehicle safety.
How Remedy Component Differs from Recalled Component :	NR
Identify How/When Recall Condition was Corrected in Production :	NR

Recall Schedule :

Description of Recall Schedule :	NR
Planned Dealer Notification Date :	NR - NR
Planned Owner Notification Date :	NR - NR

\* NR - Not Reported