



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2025-0008; Notice 1]

Mack Trucks LLC, Receipt of Petition for Decision of Inconsequential Noncompliance

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Receipt of petition

SUMMARY: Mack Trucks, Inc., (Mack) has determined that certain model year (MY) 2017-2026 Mack Pinnacle (PI/PN) and MY 2017-2019 Mack CHU trucks do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 121, *Air Brake Systems*. Mack filed a noncompliance report dated December 20, 2024, and amended it on January 15, 2025. Mack petitioned NHTSA (the “Agency”) on January 15, 2025, for a decision that the subject noncompliance is inconsequential as it relates to motor vehicle safety. This document announces receipt of Mack’s petition.

DATES: Send comments on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Interested persons are invited to submit written data, views, and arguments on this petition. Comments must refer to the docket and notice number cited in the title of this notice and may be submitted by any of the following methods:

- Mail: Send comments by mail addressed to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590.
- Hand Delivery: Deliver comments by hand to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room

W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590. The Docket Section is open on weekdays from 10 am to 5 pm except for Federal Holidays.

- Electronically: Submit comments electronically by logging onto the Federal Docket Management System (FDMS) website at <https://www.regulations.gov/>. Follow the online instructions for submitting comments.
- Comments may also be faxed to (202) 493-2251.

Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that comments you have submitted by mail were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to https://www.regulations.gov, including any personal information provided.

All comments and supporting materials received before the close of business on the closing date indicated above will be filed in the docket and will be considered. All comments and supporting materials received after the closing date will also be filed and will be considered to the fullest extent possible.

When the petition is granted or denied, notice of the decision will also be published in the **Federal Register** pursuant to the authority indicated at the end of this notice.

All comments, background documentation, and supporting materials submitted to the docket may be viewed by anyone at the address and times given above. The documents may also be viewed on the Internet at https://www.regulations.gov by following the online instructions for accessing the dockets. The docket ID number for this petition is shown in the heading of this notice.

DOT's complete Privacy Act Statement is available for review in a Federal Register notice published on April 11, 2000 (65 FR 19477-78).

FOR FURTHER INFORMATION CONTACT: Ahmad Barnes, General Engineer, NHTSA, Office of Vehicle Safety Compliance, (202) 366-7236.

SUPPLEMENTARY INFORMATION:

I. Overview: Mack determined that certain MY 2017-2026 Mack Pinnacled (PI/PN) and MY 2017-2019 Mack CHU trucks do not fully comply with paragraph S5.1.2.1 of FMVSS No. 121, *Air Brake Systems* (49 CFR 571.121).

Mack filed a noncompliance report dated December 20, 2024, and amended the report on January 15, 2025, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. Mack petitioned NHTSA on January 15, 2025, for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential as it relates to motor vehicle safety, pursuant to 49 U.S.C. 30118(d) and 30120(h) and 49 CFR part 556, *Exemption for Inconsequential Defect or Noncompliance*.

This notice of receipt of Mack's petition is published under 49 U.S.C. 30118 and 30120 and does not represent any agency decision or another exercise of judgment concerning the merits of the petition.

II. Vehicles Involved: Mack reported that approximately 12,827 MY 2017-2026 Mack Pinnacled (PI/PN) and 2017-2019 Mack CHU Trucks manufactured between April 12, 2016, and December 19, 2024, do not meet the requirements of FMVSS No. 121.

III. Relevant FMVSS Requirements: Paragraph S5.1.2.1 of FMVSS No. 121 includes the requirements relevant to this petition. Paragraph S5.1.2.1 requires, in relevant part, that the combined volume of all service and supply reservoirs be at least 12 times the combined volume of all service brake chambers.

IV. Noncompliance: Mack determined that the subject vehicles have service reservoirs with a combined volume of less than twelve times the combined volume of all service brake chambers. Mack estimates that the air reservoir volume in the subject vehicles falls less than 1.5 percent

short of the required level of the nominal value of the air reservoirs as specified in table V of FMVSS 121 S5.1.2.1.

6x4 Vehicle (drum drum)				
	Steer Chamber Size	Drive Chamber Size	Total Air Volume (12x) (in ³)	Total Air Volume Liters
	24	30		
FMVSS121 Table 5 Vol (in³)	67	89	5880	96.4
			Actual Air Volume Packaged	95.3
			% Volume Shortage	1.1

V. Summary of Mack’s Petition: The following views and arguments presented in this section, “V. Summary of Mack’s Petition,” are the views and arguments provided by Mack. They have not been evaluated by the Agency and do not reflect the views of the Agency. Mack describes the subject noncompliance and contends that the noncompliance is inconsequential as it relates to motor vehicle safety.

Mack quotes NHTSA as stating that “an important issue to consider in determining inconsequentiality is the safety risk to individuals who experience the type of event against which the recall would otherwise protect.” (Daimler Trucks North America, Grant of Petition for Decision of Inconsequential Noncompliance, 87 FR 14325, March 14, 2022.)

Mack cites the original rule published in 1971, in which NHTSA stated that the purpose of FMVSS No. 121 was to specify the requirements for the safe performance of air brake systems under normal and emergency conditions. (36 FR 3817, Feb. 27, 1971.) Mack also refers to the Notice of Proposed Rulemaking that preceded the FMVSS No. 121 final rule which explained that the proposed requirement for separate supply and service reservoirs to have a capacity that is 16 times the combined volume of all brake chambers was intended to protect the brake system against the consequence of malfunction. In the final rule, the reservoir capacity requirement was reduced to 12 times the combined brake chamber capacity due to comments that were received and reevaluation by the Administrator. (36 FR 3818, Feb. 27, 1971). Mack believes that the FMVSS No. 121 air reserve requirements are “intended to assure that the trucks have an adequate air reserve to enable them to stop safely, even in the event of a malfunction.”

Mack lists three reasons why the subject vehicles meet the intended purpose of the safety standard:

1. Mack states that the subject vehicles have a greater air reserve, and therefore more energy to stop the truck, than required by FMVSS No. 121. Mack asserts that the amount of energy from the air pressure reservoir that is necessary to stop a vehicle is based more on air pressure than the volume of the reservoir itself. Therefore, Mack contends that the subject vehicles successfully compensate for any possible shortfall in stopping distance by having a slightly smaller reservoir with a higher air pressure. Mack uses a data table of test results comparing the actuation timing of the air brakes of the noncompliant trucks with a reservoir pressure of 100 psi with a compliant truck with the same reservoir pressure. According to their data, there is a “nearly identical” difference between the actuation timing (and by extension stopping distance) of compliant and noncompliant trucks. Mack then shows that the actuation timing of a reservoir with 110 psi (which is used in all configurations of their trucks) gives the vehicles a “superior” stopping distance to compliant vehicles. Mack states that all testing protocols conform with a technical paper released by NHTSA entitled “Tests To Evaluate Reservoir Volume Requirements For Standard And Long Stroke Chambers, VRTC-82-0255 (January 1996).”
2. Mack states that “(t)he subject trucks compensate for the risk of malfunctions related to reservoir capacity at least as well as compliant trucks.” Mack names three potential causes of malfunction that they believe were meant to be addressed by the required reservoir capacity requirements and gives reasons why the noncompliant trucks do not have a higher risk of those malfunctions.

The first is the risk of air governor cut-in pressure malfunction. Mack states that any increase in stopping distance caused by risk of failure of the air governors on the

noncompliant subject trucks will be more than negated by the above-mentioned higher air pressure in the reservoirs.

The second is the risk of reduction of available air volume caused by water accumulating in the vehicle's pneumatic system. Mack recognizes that twelve to one reservoir-to-service-brake volume ratio required by FMVSS No. 121 lowers the risk of water accumulation. However, they claim to have reduced the risk of water accumulation in noncompliant trucks by instead installing air dryers as standard equipment in the entire subject vehicle population. This leads to an even greater reduction of water and humidity accumulation in the subject noncompliant vehicle population than compliant vehicles without air dryers. Mack additionally mentions that the greater air reserve will compensate for the reduction of available air volume caused by water accumulation even without the air dryers.

The third risk is the potential for air leakage to reduce the amount of energy needed for braking. As established, the subject vehicles have a greater air reserve than required in FMVSS No. 121 and as a result, would better tolerate an air leak. The subject noncompliant vehicles have a compressor fill rate (compliant with FMVSS 121, S5.1.1) that Mack says would "compensate for non-readily detectable air leaks."

3. Mack states that it has not received, nor found any complaints or field reports related to this noncompliance. While Mack acknowledges that a lack of complaints is not usually considered relevant to NHTSA's decision on inconsequential noncompliance, it notes that the absence of complaints of increased vehicle stopping distance supports their assertion that the noncompliant vehicles do not pose any increased risk to public safety.

Mack reiterates that for the above reasons, the subject noncompliant trucks do not have any increase in stopping distance, even in the event of a malfunction or emergency, and therefore meet the purpose of the safety standard although not technically conforming to it.

Mack concludes by stating its belief that the subject noncompliance is inconsequential as it relates to motor vehicle safety and its petition to be exempted from providing notification of the noncompliance, as required by 49 U.S.C. 30118, and a remedy for the noncompliance, as required by 49 U.S.C. 30120, should be granted.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections 30118 and 30120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, any decision on this petition only applies to the subject vehicles that Mack no longer controlled at the time it determined that the noncompliance existed. However, any decision on this petition does not relieve vehicles distributors and dealers of the prohibitions on the sale, offer for sale, or introduction or delivery for introduction into interstate commerce of the noncompliant vehicles under their control after Mack notified them that the subject noncompliance existed.

(Authority: 49 U.S.C. 30118, 30120; delegations of authority at 49 CFR 1.95 and 501.8)

Otto G. Matheke III,

Director, Office of Vehicle Safety Compliance.

[FR Doc. 2025-04950 Filed: 3/21/2025 8:45 am; Publication Date: 3/24/2025]