



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2025-0005; Notice 1]

PACCAR, Inc., Receipt of Petition for Decision of Inconsequential Noncompliance

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

ACTION: Receipt of petition.

SUMMARY: PACCAR, Inc. (PACCAR) has determined that certain model year (MY) 2022-2025 Peterbilt and Kenworth trucks do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 121, *Air Brake Systems*. PACCAR filed a noncompliance report dated December 17, 2024, and amended the report on January 14, 2025. PACCAR petitioned NHTSA (the “Agency”) on January 9, 2025, for a decision that the subject noncompliance is inconsequential as it relates to motor vehicle safety. This document announces receipt of PACCAR’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: PACCAR determined that certain MY 2022-2025 Peterbilt and Kenworth trucks do not fully comply with paragraph S5.3.4.1 of FMVSS No. 121, *Air Brake Systems* (49 CFR 571.121).

PACCAR filed a noncompliance report dated December 17, 2024, and amended the report on January 14, 2025, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. PACCAR petitioned NHTSA on January 9, 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 PACCAR'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: Approximately 13,767 of the following vehicles, manufactured between July 16, 2021 and August 16, 2024, were reported by the manufacturer:

- MY 2022-2025 Peterbilt 579
- MY 2025 Peterbilt 537
- MY 2025 Peterbilt 548
- MY 2025 Kenworth T880
- MY 2025 Kenworth T480
- MY 2022-2025 Kenworth T680
- MY 2025 Kenworth T380

III. Rule Requirements: Paragraph S5.3.4.1 of FMVSS No. 121 includes the requirements relevant to this petition. Paragraph S5.3.4.1(a) of FMVSS No. 121 provides that the air pressure in each of the service brake chambers of a truck must drop from 95 to 5 psi in 0.55 seconds or less upon the first movement of the service brake control. Paragraph S5.3.4.1(b) of FMVSS No. 121 requires that for trucks designed to tow vehicles equipped with air brakes, the pressure in a 50-cubic-inch test reservoir (connected to the control line output coupling) must drop to 5 psi within 0.75 seconds or less after the first movement of the service brake control.

IV. Noncompliance: PACCAR explains that the subject vehicles may exceed the intended service brake release timing, and therefore do not comply with paragraphs S5.3.4.1 of FMVSS No. 121. Specifically, the subject vehicles exceed the brake release timing requirement by 0.07-0.25 seconds.

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

PACCAR explains that tests performed by its engineers in June of 2024 found that while battery electric vehicle (BEV) trucks met the maximum brake release timing requirements in paragraph S5.3.4.1 of FMVSS No. 121, internal combustion engine (ICE) vehicles failed to meet the timing requirements. PACCAR notes that while the BEV and ICE vehicles share a "similar air routing structure" and similar interacting driver assist systems (such as Hill Start, Adaptive Cruise Control, and Stop & Auto-Go), ICE vehicles have a differing valve placement. In September of 2024, PACCAR contracted Link Commercial Vehicle Testing (Link) to conduct further compliance testing of the air brakes on a model T680 Kenworth truck. Link tested the air brakes on the T680 Kenworth truck both with and without a check valve (meant to prevent air backflow) installed. The tests conducted by Link found that the air brakes performed within

FMVSS No. 121 standards with the check valve installed or with the ABS system active while the trucks are in operation. The same tests found that vehicles without the control valve or an active ABS system exceeded the brake release timing requirements because of air backflow from the Hill Start Aid valve assembly back into the Stop & Auto-Go control line.

PACCAR prefaces its arguments by quoting sections of the Federal Registry on the nature and purpose of FMVSS No. 121. PACCAR quotes NHTSA as saying that FMVSS No. 121 is “a set of requirements to govern the braking behavior of a vehicle during application of the service brakes” (...) “(p)incipal among these are stopping performance requirements that include a minimum stopping distance requirement for trucks and buses and lateral stability and wheel lockup requirements for all vehicles.” The brake release time requirements are to assure that air brake systems “can meet the [standard’s] stopping distance requirements without lockup.”¹

PACCAR then quoted a research report regarding pneumatic brake release timing in heavy duty vehicles released by NHTSA in 1985:

Pneumatic release timing, defined as the time required for the pressure in the brake chambers to fall from 95 psi to 5 psi after the driver releases the brake control, also effects air brake system performance. If the driver in attempting to stop a vehicle, locks the wheels causing the vehicle to begin to skid immediate release of the brakes is necessary if the driver is to regain control. Therefore, release timing should also be as fast as possible. (*R. Radlinski & S. Williams, NHTSA Heavy Duty Vehicle Brake Research Program Report No. 5 – Pneumatic Timing, Report No. DOT HS 806 897 (NHTSA Dec. 1985)*)

PACCAR argues that the subject vehicles meet the purposes of FMVSS No. 121 as described in NHTSA’s own statements in the Federal Register and the above-mentioned research report by

¹ FMVSS No. 121 Final Rule, 36 FR 3817 (Feb. 27, 1971)

“minimizing stopping distance, avoiding lockup, and maintaining vehicle stability” although they do not conform with the brake release times as required in FMVSS No. 121.

PACCAR states that the longer braking time does not adversely affect braking performance, and thereby meets the purpose of the regulations, for the following reasons:

1. PACCAR believes that the vehicle’s stopping distance is not negatively impacted by the vehicle’s inability to meet the brake timing requirements. PACCAR explains that the test vehicle was able to meet the stopping distance requirements of FMVSS No. 121 S5.3.1 with or without the control valve installed.
2. PACCAR contends that the vehicle’s inability to meet brake timing requirements does not create an increased risk of vehicle lockup. Link tested the vehicle’s ABS performance according to the stability and control test specified in FMVSS No. 121, paragraph S5.3.6, both with and without the control valve, and found the performance to meet requirements under either condition.
3. PACCAR argues that longer brake timing in the vehicle without a control valve was not found to impact vehicle stability control because the vehicle is equipped with an electronic stability control system (ESC). With an ESC system, the brake air pressure is released from the ABS modulator in the “delivery air circuit,” thus circumventing the need for a “control air circuit” that contains the check valve. Therefore, PACCAR states that the vehicle is still in compliance with FMVSS No. 136 with or without the check valve.
4. PACCAR states that NHTSA’s Pneumatic Timing Report mentions that the risk of dangerous destabilization in tractor trucks hauling trailers can be mitigated by ensuring that the trailer release timing is equal to or slower than the tractor release timing. PACCAR states that the noncompliant vehicles (with or without a check valve) achieve this desired timing between tractor brakes and trailer brakes by ensuring that the tractor brake timing will be faster than the brakes on the trailer.

In the test published by Link, it was found that the tractor release time is 0.70 seconds, whereas the release timing for the 50-in reservoir (and by extension the trailer's brakes) is slower at 1 second. Regardless of whether or not the trailer is equipped with ABS, PACCAR states, the ESC system will correct any instability caused by noncompliant release times.

PACCAR reiterates that the purpose of the regulation is met, even if the vehicles not equipped with a check valve do not comply with the exact brake release timing requirements in the regulation. PACCAR states that there is no decrease in stopping distance, increased risk of wheel lock-up, or increase in vehicle instability.

PACCAR 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 PACCAR no longer controlled at the time it determined that the noncompliance existed. However, any decision on this petition does not relieve vehicle 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 PACCAR 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.

