The Acting Deputy Administrator signed the following document on November 6, 2009, and we are submitting it for publication in the Federal Register. While we have taken steps to ensure the accuracy of this Internet version of the document, it is not the official version. Please refer to the official version in a forthcoming Federal Register publication or on GPO's Web Site. You can access the Federal Register at: www.gpoaccess.gov/fr/index.html.

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

Docket No. NHTSA-2009-0175

RIN 2127-AK62

Federal Motor Vehicle Safety Standards; Air Brake Systems

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

ACTION: Final Rule; partial response to petitions for reconsideration.

SUMMARY: On July 27, 2009, NHTSA published a final rule that amended the Federal motor vehicle safety standard for air brake systems by requiring substantial improvements in stopping distance performance. In response, the agency received eight petitions for reconsideration. This document responds to those petitions by correcting errors in a table published in the final rule, removing a testing specification, and adjusting the compliance date for a small number of vehicles the agency had not fully accounted for in the final rule. This document provides a partial response to the submitted petitions for reconsideration.

DATES: This final rule is effective November 24, 2009.

Petitions for reconsideration: Petitions for reconsideration of this final rule must be received not later than [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Any petitions for reconsideration should refer to the docket number of this document and be submitted to: Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE, West Building, Ground Floor, Docket Room W12-140, Washington, DC 20590.

The petition will be placed in the docket. Anyone is able to search the electronic form of all documents received into any of our dockets by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78).

FOR FURTHER INFORMATION CONTACT:

For technical issues: Jeff Woods, Office of Crash Avoidance Standards (NVS–121), NHTSA, 1200 New Jersey Avenue, SE, West Building, Washington, DC 20590 (Telephone: (202) 366–0098) (Fax: (202) 366–7002).

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I. Background

On July 27, 2009, NHTSA published a final rule¹ in the **Federal Register** (74 FR 37122) amending Federal Motor Vehicle Safety Standard (FMVSS) No. 121, Air Brake Systems, to require improved stopping distance performance for heavy truck tractors. This rule reduced the maximum allowable stopping distance, from 60 mph, from 355 feet to 250 feet for the vast majority of heavy truck tractors. For a small minority of very heavy tractors, the maximum allowable stopping distance was reduced from 355 feet to 310 feet. Having come to the conclusion that modifications needed for "typical threeaxle tractors," to meet the improved requirements were relatively straightforward, NHTSA provided two years lead time for those vehicles to comply with the new requirements. These typical three-axle tractors comprise approximately 82 percent of the total fleet of heavy tractors. The agency concluded that other tractors, which are produced in far fewer numbers and may require additional work to ensure stability and control while braking, would require more lead time to meet the requirements. Due to extra time needed to design, test, and validate these vehicles, which included two-axle tractors and severe service tractors, the agency allowed four years lead time for these tractors to meet the improved stopping distance requirements.

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¹ Docket # NHTSA-2009-0083.

II. Petitions for Reconsideration and Agency Analysis

NHTSA received eight timely petitions for reconsideration in response to the final rule. Separate petitions were received from the Truck Manufacturers Association (TMA); the Heavy Duty Brake Manufacturers Council of the Heavy Duty Manufacturers Association (HDBMC); Bendix Spicer Foundation Brake LLC (Bendix), a joint venture between Bendix Commercial Vehicle Systems and Dana Corporation; and ArvinMeritor. The agency received four additional petitions supporting and incorporating the TMA petition by reference from Daimler Trucks North America (Daimler); Kenworth Truck Company (Kenworth); Peterbilt Motors Company (Peterbilt); and Navistar Truck Group (Navistar).

The petitions focused on four main issues, as well as identified some typographical errors in the final rule. The main issues included the stopping distance requirements for reduced speeds, the omission of four-axle tractors under 59,600 pounds gross vehicle weight rating (GVWR) from the listed requirements and the date at which the improved stopping distance requirements should apply to those tractors, the manner in which NHTSA characterized the typical three-axle tractor, and the fuel tank fill level testing specification. Additionally, the petitioners requested that NHTSA correct some typographical errors in the regulatory text.

This final rule addresses all issues except those relating to stopping distance requirements at reduced speeds. With regard to that issue, the agency is closely examining the petitions and working to formulate a comprehensive response. However, we are addressing the other issues in this document. The reason for this two-part approach is that, because the agency omitted to address lead time requirements for

tractors with four or more axles and a GVWR of 59,600 pounds or less, and given the way this final rule was drafted the amended regulation inadvertently requires these vehicles to comply with the upgraded stopping distance requirements on November 24, 2009. We recognize that this would not provide nearly enough time to design and validate compliant tractors, and as the agency intended to provide sufficient time to modify these vehicles in the final rule, a prompt amendment is needed to correct this omission. The specific issues of the petitions are addressed below.

A. Four-Axle Tractors with a GVWR less than or equal to 59,600 pounds

In the final rule, the agency omitted addressing a compliance date for tractors with four or more axles that have a GVWR of less than or equal to 59,600 pounds. Moreover, given the way the final rule was drafted, these tractors would inadvertently be required to comply with the requirements in Table II on November 24, 2009. Manufacturers were given either a two- or four-year lead time before all other tractors were required to meet the improved stopping distances in Table II. Specifically, typical three-axle tractors are required to comply with the upgraded requirements on August 1, 2011, while all other tractors are required to comply on August 1, 2013.

The issue of lead time for tractors with four or more axles less than or equal to 59,600 pounds GVWR was raised by a number of petitioners. TMA noted their omission, and requested that NHTSA amend the rule so that these tractors are required to comply with the improved stopping distances on August 1, 2013, which would provide four years lead time. HDBMC made an identical request. Bendix also noted the omission, although did not provide a recommended lead time.

It was not the agency's intention to omit tractors with four or more axles and a GVWR of 59,600 pounds or less from the optional requirements of Table IIa, and therefore require them to comply with the upgraded requirements in November 2009. Instead, the agency acknowledges that these tractors require lead time commensurate with other non-typical tractors for purposes of design, testing, and validation. Therefore, for the reasons discussed below, NHTSA is accepting the recommendation of TMA, HDBMC, and Bendix, and requiring compliance with the improved standards for tractors with four or more axles and a GVWR of less than or equal to 59,600 pounds by August 1, 2013, thereby giving four years of lead time.

In deciding to allow four years of lead time, instead of two years, the agency used the same rationale concerning appropriate lead time as that discussed in the final rule. In the rule, we allowed two years of lead time for typical three-axle tractors because we believed that the improvements needed to shorten the stopping distances to meet the new requirements were relatively straightforward, and that many of these tractors would already comply with the new standards. On the other hand, we allowed four years lead time for two-axle tractors and severe service tractors (defined as tractors with a GVWR of more than 59,600 pounds) for several reasons. First, for some tractors, we believed that meeting the improved stopping distances might require additional engineering to address concerns with stability and control issues. Second, we noted that unlike "typical" three-axle tractors, which comprise the overwhelming bulk of the tractor fleet, relatively less design work had been done on non-typical tractors, and that more time would be needed for design, testing, and validation of new tractor designs. Specifically, in the section of the final rule dealing with lead time, we stated:

[O]nly limited development work relevant to reduced stopping distance has been performed on [severe service tractors] vehicles to date. As several commenters indicated, additional lead time is needed for complete testing and validation of new brake systems for these vehicles to ensure that full compliance can be achieved, without compromising control, stability, and comfort elements important to end users.²

Much like severe service tractors, only limited development work relevant to reduced stopping distance has been performed on tractors with four or more axles and a GVWR of less than or equal to 59,600 pounds. The agency believes that this tractor configuration would be uncommon, because it has a relatively low GVWR and is equipped with four axles. By virtue of it having four axles, we consider that it is not a typical three-axle tractor and it should be afforded more lead time for design, testing, and validation to meet the new stopping distance requirements. Therefore, we believe that manufacturers of these tractors should be given until August 1, 2013 to meet the improved stopping distance requirements.

B. Definition of Typical Three-Axle Tractors

TMA and ArvinMeritor raised a concern regarding the manner in which NHTSA defined "typical three-axle tractor" in the final rule. TMA stated that there was a slight, but substantive, discrepancy between how NHTSA defined this term in the preamble of the final rule, and how it defined it in the regulatory text of the standard. Because of this discrepancy, TMA and ArvinMeritor claim that NHTSA puts some tractors with severe service characteristics into the category of typical three-axle tractors, and thus only allows two years lead time to meet the improved standards, when it should actually allow manufacturers of those tractors four years of lead time. After carefully reviewing the

² 74 FR 37154.

TMA and ArvinMeritor petitions, NHTSA agrees and is revising the standard to reflect this, for the reasons described below.

In the final rule, NHTSA made the following statement regarding the definition of three-axle tractors:

NHTSA used the same definition for a "typical three-axle tractor" as TMA and HDBMC, which is a 6x4 configuration (three axles with six wheel positions; a non-driven steer axle and two rear drive axles) with a GVWR below 59,600 pounds, a steer axle with a GAWR equal or less than 14,600 pounds, and tandem drive axles rated equal or less than 45,000 pounds total capacity.³

This definition was important, because NHTSA treated typical three-axle tractors differently than other tractors, by providing manufacturers less lead time to meet the improved requirements for these tractors than other tractors. As we stated, "NHTSA is specifying differing compliance dates for typical three-axle tractors on the one hand, and two-axle and severe service tractors on the other." However, in the text of the regulation, NHTSA used a shorthand method of referring to these tractors that, TMA and ArvinMeritor point out, includes some tractors that should not be included. Specifically, the text of the regulation required that "three-axle tractors with a GVWR of 59,600 pounds or less" are required to comply with the improved requirements by August 1, 2011.

By using the overall GVWR of the tractor in the regulation, as opposed to specifying the gross axle weight rating (GAWR) of the specific axles, NHTSA incorporated some tractors into the category of "typical three-axle tractors" that should not have been included. For example, according to the definition in the preamble, a tractor with a steer axle with a GAWR of 18,000 pounds and combined drive axle

⁴ 74 FR 37154.

³ 74 FR 37131.

⁵ See paragraph S5 of 49 CFR 571.121.

GAWRs of 40,000 pounds would not be considered a typical three-axle tractor. We note that, for a tractor of this configuration, the high steer axle weight rating is consistent with severe service duty. However, because the vehicle would have a GVWR of 58,000 pounds, it would be considered a typical three-axle tractor using the "less than or equal to 59,600 pounds GVWR" classification in the regulation.

We believe that the definition of "typical three-axle tractors" should be limited to those tractors that meet the definition in the preamble of the final rule - that is - have a steer axle GAWR of 14,600 pounds or less and a combined drive axle GAWR of 45,000 pounds or less. NHTSA is aware that a small number of three-axle tractors, used in some specialty applications, have heavier steer axles. Much like other tractors produced in lower volumes, only limited development work has been done on these tractors.

Therefore, we believe that manufacturers of those tractors require additional lead time to design, test, and validate improved braking systems on these tractors. For this reason, we are modifying the category of vehicles subject to the two-year lead time to three-axle tractors with a front axle (steer axle) less than or equal to 14,600 pounds GAWR, and a combined GAWR for the rear two axles (drive axles) less than or equal to 45,000 pounds. This more precise classification will encompass the typical three-axle tractors NHTSA that NHTSA intended it to encompass, without unintentionally including a subset of non-typical tractors.

C. Fuel Tank Loading Specification

In the final rule, NHTSA added a provision to FMVSS No. 121 specifying the level of fuel in the fuel tank is 100 percent of rated capacity at the beginning of testing, and that the level is not less than 75 percent of rated capacity during any part of the brake

testing. We stated that we believed that specifying this will reduce test variability. In its petition, TMA requested that NHTSA rescind the fuel tank loading specification, both for substantive and procedural reasons. First, TMA raised a procedural objection, arguing that NHTSA did not provide adequate notice in the notice of proposed rulemaking (NPRM) that it was considering adding a fuel tank fill specification. Second, TMA argued that because tractors are configured with a wide range of fuel storage options, specifying the level of fuel carried by the vehicle as a proportion of the tank(s) may not reduce test variability. Third, TMA stated that the fuel specification may result in test complications in certain circumstances, such that a tractor with a front axle that is already close to its rated load capacity in the bobtail condition can have the front axle weight rating exceeded when the additional weight of a roll bar and test equipment is combined with full fuel tanks.

NHTSA has considered TMA's petition on this issue, and has decided to remove the fuel tank fill specification from the text of the regulation. This decision is based on the procedural question of notice alone. Having re-examined the NPRM, we agree that the NPRM did not propose a specification for filling the fuel tanks.

In these circumstances, we believe it is appropriate to briefly address a number of the applicable test conditions as they currently exist, and will continue to exist after the fuel tank specification is removed. FMVSS No. 121 specifies vehicle weight conditions for its test requirements, and, in conducting a compliance test, NHTSA follows those conditions as it does other test conditions included in the standard.

FMVSS No. 121 specifies various requirements that vehicles must meet in loaded and lightly loaded conditions, including stopping distance requirements. S5.3.1 refers to

Table I. Table I, Stopping Sequence, of FMVSS No. 121 provides that certain tests (including stopping distance tests) are conducted with the vehicle at its gross vehicle weight rating (GVWR), and certain tests are conducted with the vehicle at lightly loaded vehicle weight (LLVW).

As to the loaded tests, GVWR is a term that is defined at 49 CFR § 571.3. We also note that the standard specifies various other conditions related to weight for the loaded tests.

Lightly loaded vehicle weight is determined by adding specified additional weight to a vehicle's unloaded vehicle weight.⁶ The term unloaded vehicle weight is defined at 49 CFR § 571.3, and means the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle, but without cargo, occupants, or accessories that are ordinarily removed from the vehicle when they are not in use. It thus includes the weight of full fuel tanks.

For the stopping distance tests in a lightly loaded weight condition, up to 500 pounds weight (including driver and instrumentation) is added to the vehicle's unloaded vehicle weight. At the manufacturer's option, an additional amount of weight that is not more than 1000 pounds may be added for a roll bar structure. See S5.3.1.1 (b) and (c). We note that while different terminology is used in some cases in these paragraphs with respect to a vehicle's unloaded weight, in a short hand fashion, the meaning is the same. Thus, "unloaded weight" in the latter portions of paragraphs (b) and (c) of S5.3.1.1 of FMVSS No. 121 has the same meaning as "unloaded vehicle weight," and the reference to "tractor only configuration" at the beginning of (b) has the same meaning as "unloaded vehicle weight."

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⁶ See S4 of 49 CFR § 571.105.

TMA raised a concern about the possible situation of the combined weight of full fuel tanks, driver and instrumentation, and a roll bar resulting in a vehicle's front axle rating being exceeded. TMA has not demonstrated that there is a problem. The regulation has been in place for years, and we have not encountered any problems. Roll bars are a manufacturer option that manufacturers are not required to select, and manufacturers can design their vehicles in ways to avoid this possible problem.

Moreover, as we have explained on a number of occasions, manufacturers are not required to test their products in the manner specified in the relevant safety standard, or even to test the product at all, as their basis for certifying that the product complies with all applicable standards. A manufacturer may choose any valid means of evaluating its products to determine whether the vehicle or equipment will comply with the safety standards when tested by the agency according to the procedures specified in the standard and to provide a basis for its certification of compliance. Thus, a truck tractor manufacturer may certify that a vehicle will comply with the lightly loaded option in S5.3.1.1(b) of FMVSS No. 121 that does not include the weight of a roll bar without testing in that specific manner.

D. Typographical Corrections

All petitioners pointed out two typographical errors that appeared in the regulatory text of the final rule. First, it was pointed out that two-axle tractors were mistakenly omitted from the "notes" portion of Table II. All petitioners stated that two-axle tractors should be added to the note for column three. Second, all petitioners pointed out that note three, which at one point reads "Four of more axles," should read "Four or more axles." NHTSA is changing the tables in the regulatory text to reflect the changes

discussed in this response to petitions for reconsideration, and will correct these errors in that process.

E. Stopping Distances at Reduced Test Speeds

TMA, HDBMC, and Bendix raised concerns with the new stopping distance requirements for tractors that would be subjected to brake testing from initial speeds below 60 mph. Requirements in FMVSS No. 121 provide that if the speed attainable by a tractor in a distance of two miles is less than 60 mph, the vehicle shall stop from a speed in Table II that is four to eight mph less than the speed attainable in two miles. In the final rule, the agency discussed its derivation of the stopping distances for reduced test speeds associated with the new 250-foot, 60 mph stopping distance requirement in Table II.

Several petitioners raised questions regarding the agency's method of calculating the required stopping distance at reduced speeds. HDBMC stated that the new stopping distances had not been validated by testing at reduced speeds, and stated that limited initial testing by HDBMC members showed that tractors were close to meeting, or did not meet, the 20 mph, 30-foot stopping distance with a ten-percent margin of compliance. HDBMC stated that additional testing is planned and that it will share this data with the agency when it is available. TMA and Bendix similarly stated that further testing needs to be completed to verify the calculations used to determine the stopping distances, and TMA requested that the agency withdraw the reduced speed stopping distances until it obtains more test data supporting the new requirements.

The agency concludes that it will need more time to complete an analysis of this issue and therefore we are not addressing it in this document, but we will do so in a subsequent response to petitions for reconsideration.

III. Rulemaking Analyses and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

This action partially responds to petitions for reconsideration regarding the July 27, 2009 final rule amending FMVSS No. 121. It was not reviewed by the Office of Management and Budget under E.O. 12866. The agency has considered the impact of this action under the Department of Transportation's regulatory policies and procedures (44 FR 11034; February 26, 1979), and has determined that it is not "significant" under them.

This final rule, partial response to petitions for reconsideration corrects a table, adjusts the compliance date for a small number of truck tractors not fully accounted for in the final rule, and removes a testing specification. Today's action will not cause any additional expenses for vehicle manufacturers, and will reduce some costs by allowing longer compliance time for a small number of truck tractors, thereby allowing a more reasonable schedule for improved brake design and validation. Due to the relatively small number of tractors affected and the fact that this is merely a change in the compliance dates, the action will not have any significant safety impacts.

B. Privacy Act

Anyone is able to search the electronic form of all documents received into any of our dockets by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may

review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78) or you may visit http://docketsinfo.dot.gov/.

C. Other Rulemaking Analyses and Notices

In the July 27 final rule, the agency discussed relevant requirements related to the Regulatory Flexibility Act, the National Environmental Policy Act, Executive Order 13132 (Federalism), the Unfunded Mandates Reform Act, Civil Justice Reform, the National Technology Transfer and Advancement Act, the Paperwork Reduction Act, and Executive Order 13045 (Protection of Children from Environmental Health and Safety Risks). As today's rule merely makes minor changes in the lead time and test conditions, it will not have any effect on the agency's analyses in those areas.

List of Subjects in 49 CFR Part 571

Motor vehicle safety, Reporting and recordkeeping requirements, Tires.

IV. Regulatory Text

In consideration of the foregoing, NHTSA is amending 49 CFR Part 571 as follows:

PART 571 FEDERAL MOTOR VEHICLE SAFETY STANDARDS

- 1. The authority citation for Part 571 continues to read as follows:
- **Authority**: 49 U.S.C. 322, 30111, 30115, 30117, 30166; delegation of authority at 49 CFR 1.50.
- 2. Section 571.121 is amended by revising S5, removing S6.1.18, and revising Tables II and IIa to read as follows:

§ 571.121 Standard No. 121; Air brake systems.

* * * * *

S5. Requirements. Each vehicle shall meet the following requirements under the conditions specified in S6. However, at the option of the manufacturer, the following vehicles may meet the stopping distance requirements specified in Table IIa instead of Table II: three-axle tractors with a front axle that has a GAWR of 14,600 pounds or less, and with two rear axles that have a combined GAWR of 45,000 pounds or less, that are manufactured before August 1, 2011; and all other tractors that are manufactured before August 1, 2013.

* * * * *

TABLE II - STOPPING DISTANCE IN FEET

Vehicle speed in	Service brake					Emergency		
miles per hour						brake		
	PFC	PFC	PFC	PFC	PFC	PFC	PFC	PFC
	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
20	32	35	30	35	38	28	83	85
25	49	54	45	54	59	43	123	131
30	70	78	65	78	84	61	170	186
35	96	106	89	106	114	84	225	250
40	125	138	114	138	149	108	288	325
45	158	175	144	175	189	136	358	409
50	195	216	176	216	233	166	435	504
55	236	261	212	261	281	199	520	608
60	280	310	250	310	335	235	613	720

Note:

- (1) Loaded and Unloaded Buses
- (2) Loaded Single-Unit Trucks
- (3) Loaded Tractors with Two Axles; or with Three Axles and a GVWR of 70,000 lbs. or less; or with Four or More Axles and a GVWR of 85,000 lbs. or less. Tested with an Unbraked Control Trailer.
- (4) Loaded Tractors with Three Axles and a GVWR greater than 70,000 lbs.; or with Four or More Axles and a GVWR greater than 85,000 lbs. Tested with an Unbraked Control Trailer.
- (5) Unloaded Single-Unit Trucks
- (6) Unloaded Tractors (Bobtail)
- (7) All Vehicles except Tractors, Loaded and Unloaded
- (8) Unloaded Tractors

Table IIa—STOPPING DISTANCE IN FEET: OPTIONAL REQUIREMENTS FOR: 1) THREE-AXLE TRACTORS WITH A FRONT AXLE THAT HAS A GAWR OF 14,600 POUNDS OR LESS, AND WITH TWO REAR AXLES THAT HAVE A COMBINED GAWR OF 45,000 POUNDS OR LESS, MANUFACTURED BEFORE AUGUST 1, 2011; AND 2) ALL OTHER TRACTORS MANUFACTURED BEFORE AUGUST 1, 2013

Vehicle speed in miles per hour		Service	brake	Emergency brake		
	PFC	PFC	PFC	PFC	PFC	PFC
	0.9	0.9	0.9	0.9	0.9	0.9
	(1)	(2)	(3)	(4)	(5)	(6)
20	32	35	38	40	83	85
25	49	54	59	62	123	131
30	70	78	84	89	170	186
35	96	106	114	121	225	250
40	125	138	149	158	288	325
45	158	175	189	200	358	409
50	195	216	233	247	435	504
55	236	261	281	299	520	608
60	280	310	335	355	613	720

Note: (1) Loaded and unloaded buses; (2) Loaded single unit trucks; (3) Unloaded truck tractors and single unit trucks; (4) Loaded truck tractors tested with an unbraked control trailer; (5) All vehicles except truck tractors; (6) Unloaded truck tractors.

* * * * * *

Issued:	November 6, 2009	
		Ronald L. Medford Acting Deputy Administrator

Billing Code 4910-59-P

[Signature page for Final Rule, Partial Response to Petitions for Reconsideration of Reduced Stopping Distance Requirements for Truck Tractors]