(v) The Highway Safety Act of 1966, *as amended,* 23 U.S.C. 402(b)(1)(D).

Issued at Washington, DC this 5th day of January 1995.

Federico Peña,

Secretary of Transportation.

[FR Doc. 95–753 Filed 1–11–95; 8:45 am]

BILLING CODE 4910–62–U

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. 93–54, Notice 2]

RIN 2127–AE54

Federal Motor Vehicle Safety Standards; Air Brake Systems; Long-Stroke Brake Chambers

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

ACTION: Final rule.

SUMMARY: Consistent with a recommendation by the National Transportation Safety Board and in response to a petition for rulemaking from the American Trucking Associations (ATA), this final rule amends the reservoir requirements in Standard No. 121, *Air Brake Systems,* for trucks, buses, and trailers equipped with air brakes. The agency believes that the amendments will improve the braking efficiency of such vehicles and reduce the number of brakes found to be out of adjustment during inspections. It will do this by removing a design restriction that tends to discourage the use of long-stroke brake chambers, a technology with potentially significant safety benefits.

DATES: *Effective Date:* The amendments become effective on February 13, 1995.

Petitions for Reconsideration: Any petitions for reconsideration of this rule must be received by NHTSA no later than February 13, 1995.

ADDRESSES: Petitions for reconsideration of this rule should refer to Docket 93–54; Notice 2 and should be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT: Mr. Richard Carter, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, D.C. 20590 (202–366–5274).

SUPPLEMENTARY INFORMATION:

I. Background

Standard No. 121, *Air Brake Systems,* specifies performance requirements applicable to vehicles equipped with air brakes. The Standard also requires air-braked vehicles to be equipped with various types of equipment, including an air compressor, reservoirs, and a pressure gauge. (See section S5.1) Standard No. 121 does not specify the length of stroke of brake chambers, but it establishes a ratio between the volume of the service reservoirs and the volume of the brake chambers. The reservoirs store energy, in the form of air at high pressure that is used to apply the vehicle's brakes. Without such reservoirs, the vehicle's air compressor could not maintain adequate brake system pressure during successive rapid brake applications. The effect of this ratio is that if the brake chamber stroke is lengthened, thereby increasing its volume, it may be necessary to enlarge the service reservoirs.

With respect to trucks and buses, Section S5.1.2.1 currently specifies that

> The combined volume of all service reservoirs and supply reservoirs shall be at least 12 times the combined volume of all service brake chambers at maximum travel of pistons or diaphragms. However, the reservoirs on the truck portion of an auto transporter need not meet this requirement.

Similarly, with respect to trailers, section S5.2.1.1 specifies

> The total volume of each service reservoir shall be at least eight times the combined volume of all service brake chambers serviced by that reservoir at the maximum travel of the pistons or diaphragms of those service brake chambers. However, the reservoirs on a heavy hauler trailer and on the trailer portion of an auto transporter need not meet the requirements specified in S5.2.1.1.

These provisions were intended to ensure that a vehicle's braking system has sufficient compressed air to provide adequate brake pressure after a number of brake applications.

Brake chambers with longer strokes are commonly known as ''long-stroke'' chambers, in reference to the longer piston or pushrod travel that they require. Reports [1] by NHTSA and the National Transportation Safety Board (NTSB) have indicated that long stroke chambers can help improve brake adjustment on heavy vehicles. However, the reports also note that the reservoir requirements in Standard No. 121 would necessitate much larger reservoirs when long-stroke chambers are used. Thus, while the current requirements do not prohibit long-stroke chambers, the requirements for reservoir size significantly discourage their use.

II. Petition

On March 17, 1992, the American Trucking Associations (ATA) petitioned the agency to amend the reservoir requirements in Standard No. 121 to facilitate the installation of long-stroke chambers. With respect to trucks, buses, and trailers equipped with long-stroke chambers, ATA recommended that the combined volume of all the reservoirs be based on the ''rated volume'' of the service brake chambers, rather than on the volume of the chambers at the maximum travel of the piston. The ''rated volume'' of each brake chamber would be determined pursuant to a table of specified values according to the area of the brake diaphragm and the length of the stroke. In other words, under ATA's recommended amendment, if a ''type 30'' brake chamber (with a diaphragm of approximately 30 square inches) had a full stroke of at least 2.50 inches, then the rated volume of the brake chamber would have to be at least 84 cubic inches. As a practical matter, the use of long stroke chambers should have a minimal effect on reservoir capacity. For other types of brake chambers not presented on the table, the rated volume would be the volume of the brake chamber at maximum travel of the brake pistons or pushrods.

In support of its petition, ATA argued that manufacturers would have to incur unnecessary costs associated with increasing the size of the reservoirs if standard brake chambers were replaced with long-stroke chambers. Along with these additional costs, some vehicle configurations would have to be redesigned due to lack of adequate locations with sufficient space to accommodate large reservoirs. The lack of space is especially significant with short wheel base single unit trucks equipped with extensive accessories (e.g., power-take-off units (PTOs), tail gate lifts, refrigeration units, larger brakes) which compete for undercarriage space.

III. Notice of Proposed Rulemaking

On August 2, 1993, NHTSA proposed amending Standard No. 121's reservoir requirements for trucks, buses, and trailers to facilitate the introduction of long-stroke brake chambers. (58 FR 41078). Specifically, the agency proposed that the method for calculating air reservoir requirements would be based on the ''rated volume''

---

[1] *Automatic Slack Adjusters for Heavy Vehicle Brake Systems,* February 1991, DOT HS 724, and the National Transportation Safety Board *Heavy Vehicle Airbrake Performance,* 1992, PB92–917003/NTSB/SS–92/01

of the brake chambers rather than on the volume of the brake chambers at the maximum travel of the brake pistons or push rods. The agency tentatively agreed with the petitioner that the proposed amendments would make it easier for vehicle manufacturers to install long-stroke brake chambers on air-braked vehicles, because extremely large reservoirs would no longer be required. The agency stated that it believed that long-stroke chambers would help improve the braking efficiency of vehicles, significantly increase the reserve stroke, reduce the number of brakes found to be out of adjustment during inspections, and reduce the incidence of dragging brakes. NHTSA referenced the Safety Board report, which concluded that ''* * * combining a properly installed and maintained automatic slack adjuster with a long-stroke chamber could reduce the percentage of brakes at or past the limit of adjustment from the 26 percent figure for the manual slack adjusters on a regular stroke chamber to the 4 percent figure for the automatic adjusters installed on a long-stroke chamber.''

In the NPRM, NHTSA explained its tentative determination that there would be no safety problem with the amended reservoir requirements. The agency cited tests conducted at NHTSA's Vehicle Research and Test Center (VRTC) that indicated that there is sufficient reserve volume to stop an air-braked vehicle even under worst-case conditions (i.e., the engine was stalled so the compressor was not adding replacement air to the system, the vehicle was equipped with long-stroke brake chambers and antilock brake systems (ABS), and the vehicle was stopped on a very low friction surface). The VRTC tests further indicated that while multiple combination vehicles would experience an additional 10 psi drop in air pressure because of the compressor's need to fill a greater volume when the vehicle is equipped with long-stroke chambers, there would still be adequate air pressure to safely stop a triple trailer combination vehicle with ABS on a wet Jennite surface. The rapid cycling produced by the ABS under this condition places severe demands on reservoir capacity and is therefore a good measure of the reserve pressure available from reservoirs meeting the revised volumes proposed in the NPRM. Notwithstanding its tentative findings, NHTSA requested comment about any potential safety problems that might result from amending the reservoir requirements to facilitate the introduction of long-stroke brake chambers.

IV. Comments to the NPRM

NHTSA received 15 comments in response to the NPRM. Commenters included vehicle manufacturers, brake manufacturers, truck equipment suppliers, ATA, the Heavy Duty Brake Manufacturers Council (HDBMC) and Advocates for Highway and Auto Safety (Advocates).

Commenters addressed both the need for the proposal and recommended various modifications to the proposed regulations.

Midland-Grau, Rockwell, Allied Signal, HDBMC, Freightliner, International Transquip Industries (ITI), MGM Brakes, Ford, and ATA generally believed that the proposal to facilitate the use of long stroke brake chambers is in the interest of safety. In contrast, while WhiteGMC/Volvo, Haldex, Eaton, and Advocates, agreed that long stroke brake chambers could enhance safety, they opposed the agency's specific proposal which they believed would reduce the stringency of the reservoir requirements and thus result in detriment to safety.

V. Agency Determination

A. Overview

After reviewing the comments in light of the available information, NHTSA has decided to amend Standard No. 121's reservoir requirements for trucks, buses, and trailers to facilitate the introduction of long-stroke brake chambers. Specifically, under today's amendments, the method for calculating air reservoir requirements is now based on either the ''rated volume'' of the brake chambers or the volume of the brake chambers at the maximum travel of the brake pistons or push rods, whichever is less. As a result of these amendments, it will be easier for vehicle manufacturers to install long-stroke brake chambers on air-braked vehicles, because extremely large reservoirs will no longer be required to meet the reservoir requirements. The agency has determined that long-stroke chambers will help improve the braking efficiency of vehicles, increase the reserve stroke, reduce the number of brakes found to be out of adjustment during inspections, and reduce the incidence of dragging brakes.

NHTSA has decided to modify the proposed Table V ''Brake Chamber Rated Volumes'' by specifying upper limits to the stroke lengths for which rated volumes may be used. As explained below, the agency has determined that specifying an upper limit is necessary to preclude manufacturers from extending stroke lengths beyond the point at which adequate air pressure reserves are available to bring a vehicle to a complete stop. Accordingly, the amendment would not affect extremely long stroke chambers, the use of which could adversely affect air reservoir capacity. Specifically, Table V has been modified such that a vehicle manufacturer can use the ''rated volume'' rather than the actual brake chamber volume, when determining minimum reservoir volume, only when the maximum strokes for long stroke chambers are no more than 20 percent longer than the nominal stroke for standard stroke chambers. In addition, the rated volumes have been increased to reflect the largest volumes of standard stroke air brake chambers that are available.

B. Safety Consequences

In the NPRM, NHTSA considered the safety implications of amending the reservoir requirements to facilitate the installation of long-stroke brake chambers. The agency had tentatively determined that relaxing the current reservoir volume requirements would not result in any safety problems. Notwithstanding its tentative findings, the agency requested comment about potential safety problems that might result from decreasing the stringency of the reservoir requirements.

Midland-Grau, Rockwell, Allied Signal, HDBMC, Freightliner, ITI, MGM Brakes, Ford, and ATA generally believed that the proposal to facilitate the use of long stroke brake chambers would have no corresponding safety problems. HDBMC stated that long stroke brake chambers will provide a significant improvement in maintaining a more reliable level of automatic brake adjustment. Freightliner stated that long stroke chambers will improve highway safety by providing additional reserve stroke at force levels that will maintain brake performances under extreme operating conditions. ATA stated that the use of long stroke brake chambers will decrease the number of vehicles with defective brakes and provide for more effective brakes, especially when they are hot. Rockwell stated that the current regulations unnecessarily impede the adoption of long stroke chambers and the potential benefits they offer. It further stated that long stroke chambers would keep the useful stroke of a vehicle's slack adjuster within the acceptable stroke limits, reduce the number of out-of adjustment vehicles, and the number of incidents of dragging brakes.

In contrast, WhiteGMC/Volvo, Haldex, Eaton, and Advocates believed that the proposal would be detrimental to safety, primarily because the proposed amendments would make the reservoir requirements less stringent. WhiteGMC/Volvo stated that the proposal promotes less reservoir volume and extended application times. Advocates had ''misgivings about the regulatory approach'' in the NPRM which it believed would significantly reduce the total operating reserve volume of the brake reservoirs, thereby allowing manufacturers to install undersized brake reservoirs. Haldex stated that the proposal was ill advised and premature because it would result in a decrease in the reserve air volume. Instead, it favored issuance of a ''performance based standard.'' Eaton was concerned that the proposal was a ''quick fix'' that would degrade heavy truck brake system performance.

After reviewing testing conducted at VRTC, the comments, and other available information, NHTSA has determined that the amendments to Standard No. 121's reservoir requirements will ensure the safe braking of air-braked vehicles, since it will not adversely affect their reservoir capacity. Specifically, testing conducted at VRTC indicate that today's amendments to Standard No. 121 will not cause a significant reduction in a brake system's maintaining adequate pressure even under adverse conditions, affect its application and release times, or contribute to a vehicle's propensity to jackknife.

With respect to a brake system's air reserves, VRTC and SAE testing indicate that long stroke chambers perform safely, even if the volume of the reservoirs are not increased to reflect the increased volume of the long stroke chambers. In general, long stroke chambers use no more air than standard length brake chambers, if they are properly adjusted. This testing information has been placed in the public docket under ''Reservoir Pressure Drop With ABS Cycling'' and ''SAE J1911 Tractor and Trailer Tests.'' Similarly, long stroke chambers in SAE J1911 tests show the same air consumption as a conventional brake chamber, when properly adjusted.

The only time a long stroke chamber will consume more air is when the automatic adjuster is not functioning correctly and the stroke is at the outer limit of adjustment. To protect against such situations, the agency has decided to specify an upper limit for the maximum stroke of brake chambers for which a vehicle manufacturer can use the ''rated volume'' in determining the minimum reservoir volumes. The agency has specified that the upper limit be 20 percent above the nominal stroke for a normal stroke brake chamber. For instance, Type 9 brakes will be allowed to have a stroke length of between 1.75 and 2.10 inches. The agency has rejected the upper limits recommended by Midland-Grau which in some cases would have increased the stroke length up to 40 percent. The agency believes that using ''rated volumes'' for such long stroke chambers might undermine the reservoir requirements.

With respect to brake application times, NHTSA has determined that long stroke brake chambers typically do not significantly affect brake apply and release times. The effect of brake adjustment level on timing is discussed in ''NHTSA Heavy-Duty Vehicle Brake Research Program Report No. 5: Pneumatic Timing.'' DOT HS 806 897, December 1985. The one exception is in the highly unusual situation in which all the automatic brake adjusters on a vehicle fail and at the same time all of the units operate at the outer limit of adjustment or beyond. Even under this highly unlikely condition, the apply time would only increase by approximately 0.040 second and the release time by 0.024 second. Moreover, standard stroke chambers would be ineffectual in this situation. This equates to about three additional feet of stopping distance on the apply time and two additional feet on the release time.[2] Any such increases can be minimized, since vehicle manufacturers can change the apply and release times by modifying the valving to adjust or remove air flow restrictions. Similarly, the vehicle manufacturers could remove air flow restrictions to the glad hand and pass the signal faster to the trailer.

With respect to jackknifes, NHTSA disagrees with Eaton's claim that equipping vehicles with long stroke chambers would increase the likelihood of jackknifes. Jackknifes are caused by wheel lockup due to hard brake applications on wet roads or when vehicles are empty or lightly loaded. The presence or absence of long stroke chambers will not affect the underlying foundation brakes. Specifically, VRTC studies[3] show that stroke lengths do not affect brake timing. The agency further notes that long stroke chambers improve brake adjustment and the resulting brake balance between tractors and trailers, thereby improving a combination vehicle's directional stability and control and decreasing the likelihood of jackknifing.

C. Changes to Proposed Regulatory Text

Several commenters recommended that the proposed wording of Table V and S5.1.2.1 and S5.2.1.2 be modified to provide greater flexibility to manufacturers. For instance, ATA requested that the words ''on CAM Brakes'' be deleted from the title in Table V so that it reads—''Brake Chamber Rated Volumes.'' ATA also requested that the words ''brake chamber'' be changed to ''brake actuator'' and that ''actuator'' be inserted into Table V to clarify that the ''type'' is a brake actuator classification and not a brake classification. Similarly, ITI recommended that S5.1.2.1 and S5.2.1.2 be revised to permit brake chambers that were not of the sizes specifically listed in Table V. Allied recommended that the wording ''maximum travel of pistons or push rod'' be replaced with ''full stroke of push rods.'' It also recommended ''defining chamber type as being the nominal effective area of a piston or diaphragm.''

NHTSA has modified certain provisions in the regulatory text pursuant to the comments. For instance, it has modified the title to Table V to state ''Brake Chamber Rated Volumes'' instead of ''Brake Chamber Rated Volumes on Cam Brakes.'' The agency agrees with the commenters that including the reference to cam brakes was unnecessarily narrow and might imply exclusion for use of other brake types such as air disc, wedge, and air-over-hydraulic. NHTSA has also incorporated Allied Signal's request for the regulation to indicate that chamber type is the nominal effective area of a piston or diaphragm, by adding this information to the top of column one in Table V.

NHTSA decided not to modify other provisions in the regulatory text, notwithstanding recommendations by commenters to the NPRM. For instance, the agency decided not to adopt ATA's request to change the phrase ''brake chamber'' to ''brake actuator.''

There are numerous references to brake chamber throughout Standard No. 121, which are well understood by the technical personnel who rely on the requirements. ''Brake actuator'' may explain what an air-brake chamber does (i.e., that it actuates the brakes when it fills with air); however, it adds nothing to what is already understood. Similarly, the agency decided not to adopt Allied Signal's request to eliminate the term ''piston.'' While the

[2] NHTSA's Heavy-Duty Vehicle Research Program Report No. 5: Pneumatic Timing. DOT HS 806 897, December 1985.

[3] Id.

commenter apparently believed that the use of the additional word ''piston'' added nothing because every system has a push rod, the agency nevertheless has decided to include this term to clarify that the necessary measurements of stroke length can be measured at the piston or the push rod. Accordingly, the regulatory text retains this word.

D. Future Rulemaking

NHTSA notes that it is considering rulemaking consistent with the draft SAE Recommended Practice J1609X, *Air Reservoir Capacity Performance Guide—Commercial Vehicles.* The purpose of such a rulemaking would be to establish a performance requirement addressing the minimum air storage capacity for air-braked vehicles. If the agency determined that such a performance requirement were appropriate, it would issue a proposal in the **Federal Register** on which the public could comment. A considerable amount of testing needs to be completed before a viable set of performance requirements are established.

E. Miscellaneous Issues

Commenters raised a number of issues that were not mentioned in the NPRM. These include testing trucks on downhill grades, the consistency of the amendment to the agency's statutory mandate, marking requirements, and the rule's effective date.

With respect to testing truck descents on downhill grades, NHTSA disagrees with comments by Advocates and Haldex that the air reservoir requirements should be based on such testing and that such testing represents worst-case situations. Braking on ice, snow, and rain covered roads with low coefficient of friction surfaces is more severe than mountain grade braking. The air pressure remaining after a complete antilock cycling stop on ice or wet Jennite is substantially less than that remaining in the air brake system at the bottom of a long mountain grade. Moreover, VRTC studies clearly show that there is sufficient air remaining in the air brake system, after stopping on low coefficient of friction surfaces or mountain grades using either snubbing or steady pressure. Similarly, testing performed by the University of Michigan Transportation Research Institute (UMTRI) shows sufficient air supply reserves on long down hill grades to make a 60 psi full braking stop at the bottom of the grade.[4] Advocates appears to misunderstand how downhill braking affects an air brake system's reservoirs. Consumption and apply and release times, which are important concerns for long stroke chambers, are not important concerns with downhill braking. The major consideration in downhill braking is overheated brakes and brake fade caused by brakes that are not in adjustment, since improperly adjusted brakes must be applied for longer periods of time. As a result, the vehicle will have either no brakes or very limited braking. The use of long stroke brake chambers together with automatic adjusters will reduce the incidence of out-of-adjustment, and thus not degrade the performance on downhill braking.

Advocates stated that the petitioner's ''rated volume'' approach to establish the air reservoir volumes is equivalent to the European type approval approach for establishing compliance. Accordingly, it believed that the proposal was inconsistent with the National Traffic and Motor Vehicle Safety Act (now codified as chapter 301 of Title 49, United States Code). NHTSA believes that Advocates has misinterpreted both the proposal and the law. Unlike European type approval, the proposal is not for a single manufacturer's product. Rather, it regulates *all* manufacturers' brake chambers of a specific type. Accordingly, today's requirements are consistent with the law.

Rockwell and HDBMC recommended that the agency require the identification of long stroke chambers through marking requirements. Notwithstanding this request, NHTSA notes that the agency cannot include a marking requirement in this final rule that it did not propose in the NPRM. Nevertheless, the agency will monitor the progress made by the Federal Highway Administration which is working with the SAE, Commercial Vehicle Safety Alliance, and brake equipment manufacturers to establish an acceptable marking system that can easily be identified under the difficult visual conditions on the underside of air braked vehicles. If NHTSA determines that Federal marking requirements are needed, then it would propose marking requirements in a future rulemaking.

The same problem with inadequate notice is relevant to Midland-Grau's recommendation to raise the minimum governor cut-in pressure to 100 psi. The agency may consider such a requirement in a separate rulemaking, depending on tests to be conducted at VRTC.

In response to requests by Freightliner and ATA for NHTSA to make the final rule effective upon publication, the agency notes that the Administrative Procedure Act generally requires a leadtime of at least 30 days, unless the agency finds ''good cause'' to issue the rule sooner. Since, NHTSA typically makes a finding of good cause only in emergency situations, the agency cannot accommodate this request. The final rule will take effect 30 days after its publication in the **Federal Register**.

Rulemaking Analyses and Notices

Executive Order 12866 (Federal Regulation) and DOT Regulatory Policies and Procedures

NHTSA has considered the impact of this rulemaking action under E.O. 12866, ''Regulatory Planning and Review'' and the Department of Transportation's regulatory policies and procedures. This rulemaking document was not reviewed under E.O. 12866. This action has been determined to be not ''significant'' under the Department of Transportation's regulatory policies and procedures. A full regulatory evaluation is not required because the rule will not impose any special requirements on manufacturers. Instead, the rule will facilitate the introduction of a new brake design by removing a design restriction. Therefore, the agency believes that this rulemaking will not result in significant additional costs or cost savings.

Regulatory Flexibility Act

In accordance with the Regulatory Flexibility Act, NHTSA has evaluated the effects of this action on small entities. Based upon this evaluation, I certify that the amendments will not have a significant economic impact on a substantial number of small entities. Vehicle and brake manufacturers typically do not qualify as small entities. As discussed above, the agency's assessment is that this amendment will have no cost impact to the industry. For these reasons, vehicle manufacturers, small businesses, small organizations, and small governmental units which purchase motor vehicles will not be affected by the requirements. Accordingly, no regulatory flexibility analysis has been prepared.

Executive Order 12612 (Federalism)

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that the rule will not have sufficient

[4] ''The Influence of Braking Strategy on Brake Temperatures in Mountain Descents,'' March 1992, Federal Highway Administration Report DTFH61–89–C–00106. Report available through the National Technical Information Service. NTIS accession number PB 93–137032.

Federalism implications to warrant preparation of a Federalism Assessment. No State laws will be affected.

National Environmental Policy Act

Finally, the agency has considered the environmental implications of this final rule in accordance with the National Environmental Policy Act of 1969 and determined that the rule will not significantly affect the human environment.

F. Civil Justice Reform

This final rule does not have any retroactive effect. Under 49 U.S.C. 30103, whenever a Federal motor vehicle safety standard is in effect, a State may not adopt or maintain a safety standard applicable to the same aspect of performance which is not identical to the Federal standard, except to the extent that the State requirement imposes a higher level of performance and applies only to vehicles procured for the State's use. 49 U.S.C. 30161 sets forth a procedure for judicial review of final rules establishing, amending or revoking Federal motor vehicle safety standards. That section does not require submission of a petition for reconsideration or other administrative proceedings before parties may file suit in court.

List of Subjects in 49 CFR Part 571

Imports, Motor vehicle safety, Motor vehicles, Rubber and rubber products, Tires.

In consideration of the foregoing, 49 CFR part 571 is amended to read 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, and 30166; delegation of authority at 49 CFR 1.50.

2. Section 571.121 is amended by revising S5.1.2.1 and S5.2.1.1 to read as follows:

§ 571.121 Standard No. 121; Air brake systems.

* * * * *

S5.1.2.1 The combined volume of all service reservoirs and supply reservoirs shall be at least 12 times the combined volume of all service brake chambers. For each brake chamber type having a full stroke at least as great as the first number in Column 1 of Table V, but no more than the second number in Column 1 of Table V, the volume of each brake chamber for purposes of calculating the required combined service and supply reservoir volume shall be either that specified in Column 2 of Table V or the actual volume of the brake chamber at maximum travel of the brake piston or pushrod, whichever is lower. The volume of a brake chamber not listed in Table V is the volume of the brake chamber at maximum travel of the brake piston or pushrod. The reservoirs of the truck portion of an auto transporter need not meet this requirement for reservoir volume.

* * * * *

S5.2.1.1 The total volume of each service reservoir shall be at least eight times the combined volume of all service brake chambers serviced by that reservoir. For each brake chamber type having a full stroke at least as great as the first number in Column 1 of Table V, but no more than the second number in column 1, the volume of each brake chamber for purposes of calculating the required total service reservoir volume shall be either that number specified in Column 2 of Table V or the actual volume of the brake chamber at maximum travel of the brake piston or pushrod, whichever is lower. The volume of a brake chamber not listed in Table V is the volume of the brake chamber at maximum travel of the brake piston or pushrod. The reservoirs on a heavy hauler trailer and the trailer portion of an auto transporter need not meet this requirement for reservoir volume.

* * * * *

§ 571.121 [Amended]

3. Section 571.121 is amended to include the following table to be placed after Figure 3.

TABLE V.—BRAKE CHAMBER RATED VOLUMES

Brake chamber type (nominal area of piston or diaphragm in square inches)	Column 1, full stroke (inches)	Column 2, rated volume (cubic inches)
Type 9	1.75/2.10	25
Type 12	1.75/2.10	30
Type 14	2.25/2.70	40
Type 16	2.25/2.70	50
Type 18	2.25/2.70	55
Type 20	2.25/2.70	60
Type 24	2.25/2.70	70
Type 30	2.50/3.20	95
Type 36	3.00/3.60	135

Issued on January 5, 1995.

Ricardo Martinez,

Administrator.

[FR Doc. 95–752 Filed 1–11–95; 8:45 am]

BILLING CODE 4910–59–P

49 CFR Part 572

[Docket No. 95–01, Notice 1]

RIN 2127–AF48

Anthropomorphic Test Dummy; Six-Year Old Dummy

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

ACTION: Final rule; technical amendment.

SUMMARY: This document makes a minor correction to the thorax assembly and test procedure in NHTSA's regulation for the six-year-old child dummy. This document corrects inconsistencies between the figure in the regulation that illustrates the test set-up for calibrating the dummy's thorax and the regulatory text that describes the calibration test procedure. This action removes potential sources of concern and confusion for manufacturers and users of the dummy about whether a particular six-year-old child dummy meets the specifications of NHTSA's regulation for the dummy (part 572, subpart I).

EFFECTIVE DATE: The changes made in this rule are effective January 12, 1995.

FOR FURTHER INFORMATION CONTACT: Mr. Stan Backaitis, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, DC 20590. Telephone: (202) 366–4912.

SUPPLEMENTARY INFORMATION: On November 14, 1991, NHTSA published a rule that added specifications for a 6-year-old child test dummy to NHTSA's set of regulations for ''Anthropomorphic Test Dummies'' (49 CFR part 572). The agency explained in the rule that the 6-year-old child dummy would be used to test child restraint systems for older children. The dummy is instrumented with accelerometers for measuring accelerations in the head and thorax during dynamic testing. The rule adopted performance criteria as calibration checks to assure the repeatability and reproducibility of the dummy's dynamic performance. These specifications for the dummy are set forth in subpart I of 49 CFR part 572.

In February 1994, First Technology Safety Systems, Inc. (First Technology), a manufacturer of test dummies, informed the agency that figure 41 in subpart I appears to have two errors. Figure 41 illustrates the test set-up for calibrating the dummy's thorax (figure 41, ''thorax impact test set-up''). Both errors are due to inconsistencies between figure 41 and the regulatory