

Regulation Identification Number

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List of Subjects in 49 CFR Part 393

Highway safety, Motor carriers, Motor vehicle safety.

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Rodney E. Slater,

Federal Highway Administrator.

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National Highway Traffic Safety Administration**49 CFR Part 571**

[Docket No. 74-14; Notice 100]

RIN 2127-AG14

Federal Motor Vehicle Safety Standards; Occupant Crash Protection

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

ACTION: Notice of proposed rulemaking.

SUMMARY: This document proposes amendments to NHTSA's occupant crash protection standard and child restraint standard to reduce the adverse effects of air bags, especially those on children. Eventually, either through market forces or government regulation, NHTSA expects that smart passenger-side air bags will be installed in passenger cars and light trucks to mitigate these adverse effects. For purposes of this document, the agency considers smart air bags to include any system that automatically prevents an air bag from injuring the two groups of children that experience has shown to be at special risk from air bags: infants in rear-facing child seats, and children who are out-of-position (because they are unbelted or improperly belted) when the air bag deploys.

The agency is proposing that vehicles without smart passenger-side air bags would be required to have new, attention-getting warning labels and permitted to have a manual cutoff switch for the passenger-side air bag. By limiting the labeling requirement to vehicles without smart air bags, NHTSA hopes to encourage the introduction of

the next generation of air bags as soon as possible. NHTSA proposes to define smart air bags broadly to give manufacturers flexibility in making design choices. The agency is specifically requesting comments concerning whether it should require installation of smart air bags and, if so, on what date such a requirement should become effective. NHTSA is also requesting comments on whether it should, as an alternative, set a time limit on the provision permitting manual cutoff switches in order to assure the timely introduction of smart air bags.

NHTSA is also proposing to require rear-facing child seats to bear new, enhanced warning labels.

Finally, this document discusses the agency's research on other air bag issues, such as research on technology to reduce arm and other injuries to drivers.

DATES: Comments must be received by September 20, 1996.

ADDRESSES: Comments should refer to the docket and notice number of this notice and be submitted to: Docket Section, Room 5109, National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, DC 20590. (Docket Room hours are 9:30 a.m.—4 p.m., Monday through Friday.)

FOR FURTHER INFORMATION CONTACT: For non-legal issues: Stephen R. Kratzke, Office of Safety Performance Standards, NPS-31, National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, DC 20590. Mr. Kratzke can be reached by telephone at (202) 366-5203 or by fax at (202) 366-4329.

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I. Overview and Summary

While air bags are providing significant overall safety benefits, NHTSA is very concerned that current designs have adverse effects in some situations. Of particular concern, NHTSA has identified 21 relatively low speed crashes in which the deployment of the passenger-side air bag resulted in fatal injuries to a child. NHTSA believes that these children would not have died if there had been no air bag.

All of these deaths occurred under circumstances in which the child's upper body was very near the air bag when it deployed. The children sustained fatal head or neck injuries, as a result of the deploying air bag. Six of these deaths involved infants in rear-facing child seats, where the infant's head was located very near the instrument panel and the air bag. The 15 other children appear to have been unbelted or improperly belted (e.g., wearing only the lap belt with the shoulder belt behind them) at the time of the crash. During pre-impact braking, these children slid or leaned forward so that they were too close to the instrument panel and air bag at the time of deployment.

The most direct solution to the problem of child fatalities from air bags is for children to be properly belted and placed in the back seat. This necessitates increasing the percentage of children who are properly restrained by child safety seats and improving the current 67 percent rate of seat belt usage by a combination of methods, including the encouragement of State primary seat belt laws. The most direct technical solution to the problem of child fatalities from air bags is the

development and installation of smart passenger-side air bags that automatically protect children from the adverse effects that can occur from close proximity to a deploying bag. However, until these smart air bags can be incorporated in production vehicles, behavioral changes based on improved information and communication of potential hazards and simpler, manually operated technology appear to be the best means of addressing child fatalities from air bags.

To partially implement these tentative conclusions, NHTSA is proposing the following for passenger cars and light trucks whose passenger-side air bag lacks smart capability: (1) To require new, enhanced warning labels; and (2) to permit manual cutoff switches for the passenger-side air bags (to accommodate parents who need to place rear-facing child seats in the front seat). By limiting the labeling requirement to vehicles without smart air bags, NHTSA hopes to encourage the introduction of those air bags as soon as possible. For purposes of this notice, NHTSA considers smart passenger-side air bags to include ones designed so that they automatically avoid injuring the two groups of children shown by experience to be at special risk from air bags: infants in rear-facing child seats, and children who are out-of-position (because they are unbelted or improperly belted) when the air bag deploys.

The agency is also proposing to require vehicles and rear-facing child seats to bear new, enhanced warning labels. The proposed labels would warn that unbelted children and children in those child seats may be seriously injured or killed by the passenger-side air bag.

This notice discusses other issues relating to the introduction of smart passenger-side air bags. NHTSA is requesting comments on whether to assure the timely introduction of those air bags by requiring their installation, and if so, by what date. As an alternative, the agency is also requesting comments on whether it should specify an expiration date for the manual cutoff switch option in order to encourage smart passenger-side air bags.

Vehicle manufacturers and air bag suppliers are working on an array of systems that might qualify as smart air bags. These systems fall into two categories: (1) Ones which would prevent the air bag from deploying in situations where it might have an adverse effect, based, for example, on the weight, size and/or location of the occupant, and (2) ones designed so that they would deploy in a manner that does not create a risk of serious injury

to occupants very near the bag, e.g., deploying at a slower speed when an occupant is very near the air bag and/or deploying less aggressively as a result of being stowed with an improved fold pattern.

While previous comments from vehicle manufacturers suggest that ultimate product development and incorporation of most types of smart air bags in production vehicles is a number of years away, NHTSA is aware of one system that apparently would automatically protect children and that is in production now. This system uses a weight sensor that activates the air bag only if more than a specified amount of weight is present on the passenger seat. While this technology is currently being used to prevent the unnecessary and costly deployment of a passenger air bag when no passenger is present, commenters have suggested that the same technology could be used to prevent deployment of the air bag when either no passenger or only a child of less than a specified weight (e.g., 30 kilograms or 66 pounds) is present.

While it is possible for the agency to base a definition of smart air bags on an automatic system incorporating a weight sensor, NHTSA does not wish its definition to unnecessarily limit design choices. The agency wishes to give manufacturers and suppliers broad latitude in designing smart air bags and seeks comments suggesting objective, workable criteria that would be broadly inclusive of technologies capable of protecting children automatically. If possible, smart air bags should be defined to include any system that automatically prevents an air bag from injuring infants in rear-facing child seats, and unbelted or improperly belted children.

NHTSA recognizes that, were it to require smart passenger-side air bags, its leadtime decision would have to take into consideration the differing leadtimes for the various kinds of smart bags under development, and the fact that the longest leadtimes will be those for the more advanced smart bags potentially offering the greatest net benefits. The agency also recognizes the engineering challenge of incorporating new air bag design features in the entire passenger car and light truck fleet.

At the same time, given the growing toll of child fatalities, and the apparent near term availability of at least one smart bag design (i.e., the one using a weight sensor), NHTSA believes that it should take steps now to encourage the introduction of smart passenger-side air bags as soon as possible. The agency also believes that, as a practical matter, the longer the time needed to develop

and implement the most advanced smart bags, the greater the need would be to implement interim designs that would protect children automatically.

II. Existing Requirements for Air Bags

Under Chapter 301 of Title 49, U.S. Code ("Motor Vehicle Safety"), NHTSA is authorized to set Federal motor vehicle safety standards applicable to the manufacture and sale of new motor vehicles and new motor vehicle equipment. Standard No. 208, Occupant Crash Protection, one of the original Federal motor vehicle safety standards issued under this statute, has long required motor vehicle manufacturers to install safety belts in most vehicle types to protect occupants during a crash. More recently, the standard has required manufacturers to provide automatic protection for frontal crashes.

In establishing Standard No. 208's current automatic protection requirements for passenger cars in 1984, and later extending those requirements to light trucks, NHTSA expressly permitted a variety of methods of providing automatic protection, including automatic belts and air bags. However, the agency included a number of provisions to encourage manufacturers to install air bags. These included extra credit during the standard's phase-in period for vehicles using air bags and allowing vehicles with a driver air bag system to count, for a limited period of time, as a vehicle meeting the standard's automatic protection requirements.

Ultimately, however, consumer demand led to the installation of air bags throughout the new car fleet. By the beginning of this decade, manufacturers were developing plans to install air bags in all of their passenger cars and light trucks.

Congress included a provision in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) directing NHTSA to prescribe an amendment to Standard No. 208 to require, by the late 1990's, that all passenger cars and light trucks provide automatic protection by means of air bags. The Act required at least 95 percent of each manufacturer's passenger cars manufactured on or after September 1, 1996 and before September 1, 1997 to be equipped with an air bag and a manual lap/shoulder belt at both the driver's and right front passenger's seating positions. Every passenger car manufactured on or after September 1, 1997 must be so equipped. The same basic requirements are phased-in for light trucks one year

later.¹ The final rule implementing this provision of ISTEA was published in the Federal Register (58 FR 46551) on September 2, 1993. Essentially, ISTEA eliminated non-air bag means of providing automatic occupant protection because of Congress's belief that air bags provide the greatest level of such protection.

The vehicle manufacturers are far ahead of the ISTEA implementation schedule. Nearly every 1996 model year passenger car will be equipped with both driver- and passenger-side air bags as standard equipment, even though the statutory requirement for air bags has not yet taken effect. A large number of model year 1996 light trucks are also equipped with air bags.

Standard No. 208's automatic protection requirements, whether for air bags or (until the provisions of ISTEA take effect) for automatic belts, are performance requirements. The standard does not specify the design of an air bag. Instead, vehicles must meet specified injury criteria, including criteria for the head and chest, measured on test dummies, during a barrier crash test, at speeds up to 30 mph. These criteria must be met for air-bag equipped vehicles both when the dummies are belted and when they are unbelted. The latter test condition ensures that a vehicle provides "automatic protection," i.e., protection by means that require no action by vehicle occupants.

These requirements apply to the performance of the vehicle as a whole, and not to the air bag as a separate item of motor vehicle equipment. This approach permits vehicle manufacturers to "tune" the performance of the air bag to the crash pulse and other specific attributes of each of their vehicles and

leaves them free to select specific attributes for their air bags, such as dimensions, actuation time, and the like.

III. Agency Monitoring of Air Bag Effectiveness

NHTSA has been monitoring the real world performance of air bags, including any adverse effects, for more than a decade. NHTSA published an Evaluation Plan for front-seat occupant protection in January 1990 (55 FR 1586; January 17, 1990), which calls for periodic interim analyses of their effectiveness. A final evaluation of effectiveness will not be possible until after air bags have been standard equipment for some time on high production volume cars. An Interim Evaluation Report, including analyses of fatality and injury reductions, was published in June 1992. The agency also submitted Reports to Congress on this subject in November 1992 and February 1996.

In evaluating air bag effectiveness, it must be remembered that air bags are supplemental restraints. Therefore, the agency has long emphasized in information provided to the public that the presence of an air bag does not mean it is less important for occupants to use their safety belts. The safety belt, which provides protection in *all* kinds of crashes, is the primary means of occupant restraint. Air bags *only* work in frontal crashes.

The agency's studies of air bag effectiveness conclude that current air bags are approximately 30 percent effective in reducing fatalities in pure frontal crashes (12 o'clock impacts), and, looking at *all* impacts, air bags reduce fatalities by 10 percent. These fatality effectiveness estimates are with

safety belts "as used;" that is, they are a comparison of fatality rates in cars with and without air bags regardless of whether the safety belt was used.

Air bags reduce the likelihood of injury to an occupant's head, neck, face, chest, and abdomen, in frontal crashes, compared to the injuries received when only a lap/shoulder belt is used. Injuries to these parts of the body are much more likely to be life threatening. An air bag combined with a lap/shoulder belt reduces the injury risk to these parts of the body by 59 percent compared to 47 percent for manual lap/shoulder belts alone. These analyses also show that driver-side air bags can be associated with increased risk of arm injury. NHTSA is conducting additional analyses and research to further address these issues.

Almost all of the experience in evaluating air bag effectiveness has been based on driver-side air bags. The number of passenger-side air bags has been too small to conduct statistically significant evaluations of their life-saving benefits. As the dual air bag fleet continues to grow, such studies will become possible. Currently, only anecdotal information, located and developed by NHTSA's Special Crash Investigation program, is available on passenger-side air bags.

Although the safety benefits of air bags are documented, there are situations in which air bags can have adverse effects. As more vehicles have been equipped with air bags, these effects have become better known to researchers. The table below shows, in no particular order, the types of situations in which the agency has some information suggesting that there may be a risk of serious injury to vehicle occupants from the air bag.

Group affected	Seating position of primary risk	Probable cause of problem
Unrestrained Small Statured and/or Older People.	Driver Position	Proximity to Air Bag at Time of Deployment.
Infants in Rear-Facing Child Seats	Passenger Position	Proximity to Air Bag at Time of Deployment.
Children Unrestrained in Front Seat.	Passenger Position	Proximity to Air Bag at Time of Deployment.
Out-of-Position Occupants	Driver and Passenger Position	Proximity to Air Bag at Time of Deployment.
Persons with Disabilities	Driver Position	Proximity to Air Bag at Time of Deployment; Adaptive Equipment between Air Bag and Driver; Safety Features in Vehicle Must be Modified to Accommodate Adaptive Equipment.
Persons Experiencing Extremity Injuries.	Driver and Passenger Position	Unknown; Under Study.

As shown on this table, the risks of adverse effects from air bags primarily relate to occupants who are very near

the air bag at the time of deployment. As of June 1996, NHTSA's Special Crash Investigation program had identified 18

minor to moderate severity crashes where the deployment of the driver-side air bag resulted in fatal injuries to the

¹ At least 80 percent of each manufacturer's light trucks manufactured on or after September 1, 1997 and before September 1, 1998 must be equipped

with an air bag and a manual lap/shoulder belt. Every light truck manufactured on or after September 1, 1998 must be so equipped.

driver. Fourteen out of 18 of these drivers appear to have been unrestrained or out-of-position (slumped over the wheel) at the time of the crash. In addition, the National Accident Sampling System has identified five high speed crashes where the driver sustained fatal injuries attributable to the air bag. However, due to the high speed of the crash, fatal injuries might have occurred in the absence of the air bag.

As of June 1996, NHTSA's Special Crash Investigation program had identified 21 crashes in which the deployment of the passenger-side air bag resulted in fatal injuries to a child. Six of these deaths were to infants in rear-facing child seats. The 15 other children appear to have been unrestrained or improperly restrained (e.g., wearing only the lap belt with the shoulder belt behind them) at the time of the crash. All of these cases involved pre-impact braking. This combination of no, or improper, belt use and pre-impact braking resulted in the forward movement of the children such that they were close to the instrument panel and the air bag system at the time of the crash and the deployment of the air bag. Because of this proximity, the children appear to have sustained fatal head or neck injuries from the deploying passenger-side air bag.

IV. Actions by NHTSA to Improve Air Bag Safety

As noted above, looking at all crashes, air bags reduce fatalities by approximately 10 percent. This occurs because of their high effectiveness in purely frontal crashes, where they also reduce the likelihood of injury to an occupant's head, neck, face, chest, and abdomen.

NHTSA is extremely concerned, however, about deaths caused by air bags. Moreover, the agency recognizes that, if there is no change in occupant behavior or in the technology of air bags, injuries and fatalities such as those described in the preceding section will increase as the number of vehicles equipped with air bags increases.

For air bag-equipped vehicles already on the road or being produced in the near future, behavioral changes comprise the most realistic hope for improvement and would bring the most immediate benefit. The agency has taken a number of steps in the past to warn drivers of the potential adverse effects caused by air bags, and how those effects can be minimized or eliminated. Moreover, NHTSA is intensifying its efforts in these areas.

In December of 1991, NHTSA issued a Consumer Advisory warning owners

of rear-facing child seats not to use such a restraint in the front seat of a vehicle equipped with a passenger air bag. This warning was based on preliminary results of testing regarding this problem. At that time, no casualties to infants had occurred. Since that time, NHTSA has issued at least six additional News Releases on the subject.

In the September 1993 final rule implementing ISTEA's provisions concerning air bags, NHTSA required vehicles equipped with air bags to bear labels on the sun visors providing four specific cautions, including a statement not to install rearward-facing child seats in front passenger positions, and advising the occupant to see the owner's manual for further information and explanations. The sun visor label requirement became effective on September 1, 1994, and the owner's manual requirement became effective on March 1, 1994.

On February 16, 1994, NHTSA published in the Federal Register a final rule amending Standard No. 213, *Child Restraint Systems*, to require rear-facing child seats manufactured on or after August 15, 1994 to include a warning against using the restraint in any vehicle seating position equipped with an air bag. 59 FR 7643. The rule also requires the printed instructions for such restraints to include safety information about air bags.

In addition, on May 23, 1995, NHTSA published a final rule amending Standard No. 208 to allow manufacturers, beginning June 22, 1995, the option of installing a manual device that motorists could use to deactivate the front passenger-side air bag in vehicles in which rear-facing child seats can only fit in the front seat. 60 FR 27233. A more complete description of the various steps NHTSA took during the early 1990's to address the problem of the interaction between rear-facing child seats and air bags can be found in the notice of proposed rulemaking which preceded the May 1995 final rule. See 59 FR 51158, 51159, October 7, 1994.

On October 27, 1995, because of the incidence of several fatalities to improperly restrained children in air bag-equipped positions, NHTSA issued a strong warning in a press release, "SAFETY AGENCY ISSUES WARNING ON AIR BAG DANGER TO CHILDREN." It "warned that children who are not protected by a seat belt could be seriously injured or killed by an air bag, and in the strongest possible terms urged parents to insist that their children ride belted in the back seat whenever possible." This release repeated prior agency warnings of the

dangers of placing a rear-facing seat in front of an air bag, and *broadened* the previous warnings to apply to older children and even adults who may ride unrestrained. To ensure that infants and children ride safely, with or without a passenger-side air bag, this warning and advisory urges care givers to follow three "rules":

- Make sure *all* infants and children are properly restrained in child safety seats or lap and shoulder belts for every trip.
- The *back seat* is the safest place for children of any age.
- Infants riding in rear-facing child safety seats should *never* be placed in the front seat of a vehicle with a passenger-side air bag.

On November 9, 1995, NHTSA published a request for comments to inform the public about NHTSA's efforts to reduce the adverse effects of air bags, and to invite the public to share information and views with the agency. 60 FR 56554. The request for comments focused on possible technological changes to air bags to reduce their adverse effects, including possible regulatory changes, and is discussed more fully in the next section of this document.

Since publishing its October 1995 warning and November 1995 request for comments, NHTSA has intensified its efforts to educate the public about air bag performance and the campaign to properly restrain children. A large part of the agency's plan is to increase information to the affected public through the traffic safety community throughout the country. With this support, the agency will be able to extend the reach of its safety messages to a wider population.

A few of the agency's many activities include: an article in the Center for Disease Control's "Morbidity and Mortality Weekly Report" reached the public health community nationwide and attracted substantial press coverage. An article in the Food and Drug Administration's bulletin (circulation 1.2 million) reached all physicians. The American Academy of Pediatrics notified all pediatricians through its newsletter and also issued a special media alert. The International Association of Chiefs of Police and the National Sheriffs' Association informed all law enforcement agencies nationwide. The agency has also conducted a national press event for National Child Passenger Safety Awareness Week at the National Automobile Dealers Association (NADA) Convention in February 1996, featuring a display on air bags and child safety information.

To expand public education even further, a recent National Conference, "Safety Belts, Air Bags, & Passenger Safety: A Call to Action," was held in January 1996, in partnership with the National Safety Council to develop a plan to inform the public about the potential dangers of air bags to unrestrained and improperly restrained occupants. Of main concern was the need to immediately increase the proper use of safety restraints by children and adults.

NHTSA believes national safety belt use rates can be increased significantly beyond the current national average of 67 percent. The agency knows, for example, from its own research and demonstration efforts and the efforts of the insurance and automobile industries, that three ingredients are essential to increasing safety belt use: (1) strengthening current state safety belt use laws to allow for primary enforcement; (2) implementing periodic, highly visible enforcement programs in the states so that the public will know these laws are important and are being enforced; and (3) conducting public information and education programs to reinforce these efforts and alert the public to the dangers of riding unrestrained or improperly restrained.

On May 21, 1996, Secretary of Transportation Federico Peña announced the formation of a coalition of automobile manufacturers, air bag suppliers, insurance companies, safety organizations, and the Federal government to prevent injuries and fatalities which may be inadvertently caused by air bags, especially to children. Coalition members pledged almost \$10 million to pursue a three-point program:

- An extensive national effort to educate drivers, parents and care-givers about seat belt and child safety seat use in all motor vehicles, with special emphasis on those equipped with air bags.
- A campaign to convince states to pass "primary" seat belt use laws.
- Activities at state and local levels to increase enforcement of all seat belt and child seat use laws, such as increased public information and use of belt checkpoints.

V. November 1995 Request for Comments

As indicated in the preceding section, NHTSA published a request for comments in November 1995 concerning the need to reduce the adverse effects of air bags. The request for comments in particular sought information about possible technological changes to air bags to

reduce the adverse effects, including possible regulatory changes.

The request for comments noted the agency's belief that, for vehicles manufactured far enough in the future to incorporate significant design changes, there will be technological enhancements available that could minimize the adverse effects of air bags. NHTSA noted that the vehicle manufacturers and air bag suppliers are working on "smart bags," which could include advanced technologies for occupant sensing, phased deployment of air bags, and so forth. These technologies will be able to perform a number of functions, including preventing air bag deployment when they sense that an occupant is too close to the point of deployment, inflating the air bag at different speeds according to the severity of the crash, and preventing the passenger-side air bag from deploying when that seat is not occupied. NHTSA stated that, based on discussions with suppliers and vehicle manufacturers, it anticipates these types of smart bags will eventually be widely incorporated into production. The agency indicated that it will step up its monitoring of manufacturer efforts to develop and use smart bags, the technologies being explored, the practicability and reliability of smart bag systems, and the timetables for availability of smart bag systems.

NHTSA recognized that while it anticipates that these smart bag systems will substantially reduce adverse effects of air bags in the relatively near future, this still leaves the question of what can be done in addition to public education for the near future. NHTSA stated that manufacturers may be able to make adjustments to existing air bag system designs, and, further, that the agency may make temporary adjustments to its regulations if it is shown to be appropriate to enable manufacturers to reduce any adverse effects during this period.

In the notice, NHTSA noted that Ford has requested that the agency reduce Standard No. 208's unbelted test speed from 30 mph to 25 mph. According to Ford, this change would permit it to produce less aggressive air bags, thereby reducing air-bag induced injuries. The agency requested comments on a detailed technical assessment of the issues raised by Ford's request.

NHTSA also asked a number of specific questions in the following subject areas: field experience with air bags, crash sensing, air bag inflators, air bag designs, proximity considerations, near-term considerations, future plans, obstacles to near- and long-term plans,

and air bag issues related to persons with disabilities.

NHTSA stated that it hoped that its request for comments would help the agency obtain the information needed to make reasoned decisions about whether some regulatory changes are appropriate for the interim period, whether some relatively simple technological fixes are available to reduce adverse effects until smart bags become a reality, or whether other activities, such as consumer information, offer the best chance of effectively reducing these adverse effects.

VI. Summary of Comments

NHTSA received more than 50 comments, totaling over 1600 pages of text, from auto manufacturers, manufacturer organizations, suppliers of air bags and other automotive equipment, insurance companies, consumer groups, medical groups, research organizations, other government agencies, and private individuals. NHTSA has carefully analyzed the information provided in the comments, and its proposals are based on this analysis and agency research. In addition, the agency has held meetings with several vehicle manufacturers, air bag suppliers, consumer and insurance groups, and other associations. This section provides a summary of the most significant comments, focusing on those related to possible regulatory changes. For purposes of brevity, the summary cites representative comments.

A. Smart Bags

Commenters generally confirmed that vehicle manufacturers and air bag suppliers are developing smart air bags that would incorporate advanced technologies such as variable inflation rates, occupant seat sensors, proximity detection/sensing, dual or multi-stage inflators/sensors, dual or variable venting, and the like. However, it was not clear from the comments how quickly these various technologies will be introduced into production vehicles.

Ford, for example, stated that it expects these advanced air bag technologies to be incorporated gradually during the first half of the next decade as new vehicle programs are introduced. GM stated that many technologies for automatic occupant sensing systems are being investigated, but that no supplier has yet demonstrated a "production-ready" system. According to GM, once production-feasible systems are available, at least two years of further development to achieve reliability levels demanded by the public will be

required to integrate and validate in a vehicle.

Mercedes identified a possible short term solution for children. That company noted that it already uses a pressure sensitive mat in the passenger-side seat of some vehicles to deactivate the passenger-side air bag when the seat is unoccupied. Mercedes stated that if the recognition threshold for the system was increased to 66 pounds, the passenger air bag would not deploy for children up to this weight sitting in that seat or for rear-facing child seats with infants. That company stated that such a decision could not be made by a vehicle manufacturer alone, and would be possible only in compliance with a Federal regulation.

B. Tag Systems

Several commenters addressed the possibility of using rear-facing child seat detection "tag" systems. Such systems would deactivate the air bag when they detect a rear-facing child seat equipped with a special tag. Several suppliers are working on tag concepts, and Mercedes-Benz (Mercedes) and BMW expect to introduce such a feature in Europe for model year 1997. Toyota stated that standardization of tagging methods, as well as requirements for the same, would need to be mandated by the government or an appropriate institution. GM cited a number of issues surrounding the use of a tag system, including the need for special tagged rear-facing child seats, the use of untagged rear-facing child seats, retrofitting of existing rear-facing child seats with tags, potential for multiple tag technologies, and availability of tagged rear-facing child seats at low volume for used vehicles once tag systems are superseded.

C. Improvements to Labeling

Nine commenters expressly addressed labeling and other public information activities in their comments. These commenters included the National Automobile Dealers Association, the American Association of Motor Vehicle Administrators, the National Association of Pediatric Nurse Associates and Practitioners, the Shriners Hospital—Cincinnati Unit, the Automotive Occupant Restraints Council (which represents both manufacturers of air bags and manufacturers of safety belts), and several members of the public. All the commenters that addressed this subject suggested that the current labels should be studied to see if the safety information could be conveyed more effectively to the American public. As part of its comments, the National

Transportation Safety Board submitted its November 2, 1995 Safety Recommendation that NHTSA develop and implement a highly visible multimedia campaign to advise the public how to minimize the risks of air bag-induced injuries to children.

D. Manual Cutoff Switches

Commenters addressed a number of issues related to manual cutoff switches, including whether the current option for manual switches should be extended for a longer period of time, to more vehicles, and to air bags on the driver side.

Several commenters, including Ford, GM, Toyota, and air bag manufacturer TRW, stated that the agency should permit passenger-side manual cutoff switches for a longer period of time. GM also requested that the option for manual cutoff switches be extended to all vehicles. Subsequently, in a petition for rulemaking dated June 24, 1996, GM formally petitioned NHTSA to allow manual cutoff devices indefinitely.

Ford stated that it considers the manual cutoff switch to be an interim solution until technology can provide a better solution that is not as dependent on operator activation. That company stated that it would support an extension of the time period during which manual cutoff switches are permitted, but its goal is to adopt automatic passenger air bag deactivation along with other technological approaches to mitigate the injury risk from aggressive air bag inflation.

Some advocates of extending cutoff switches indicated that placing a rear-facing child seat in the front seat of a vehicle is sometimes necessary for medical reasons. For example, the parents of an infant with medical problems commented that those medical problems require them to be able to monitor the child and that cannot be done with the child in the back seat. The National Association of Pediatric Nurse Associates & Practitioners submitted a comment identifying a number of medical conditions for which infants would need to be monitored closely, which would require those children to be transported in the front seat.

Toyota stated that, assuming the consumer understood the existence and operation of a manual cutoff switch, and correctly used the switch only to disable the air bag when a rear-facing child seat is installed in the front passenger position, it believes that this is the most effective measure at the moment.

Several commenters expressed concerns about extending the option for manual cutoff switches. The Insurance

Institute for Highway Safety (IIHS) stated that it strongly opposes changing Standard No. 208 to allow the indiscriminate installation of manual switches in vehicles equipped with passenger air bags to address the problems of rear-facing child seats or unrestrained child passengers. According to IIHS, parents or guardians who allow their children to ride unrestrained in vehicles are the least likely group to use a switch correctly, and this clearly would not be an effective solution to the problem. IIHS stated that the agency should facilitate coordination among restraint and auto manufacturers to encourage the quick adoption of technologies that reliably detect rear-facing child seats in the front passenger seat and temporarily deactivate the passenger air bag, modifying Standard No. 208 as appropriate to encourage these technologies.

Advocates for Highway and Auto Safety (Advocates) stated that the major benefits of air bags can only be achieved when air bags are fully operational and are available to function as passive restraints during all hours of operation. For this reason, it strongly opposes any general application of an on/off switch for air bags.

Chrysler stated that even if the agency were to modify Standard No. 208 to permit the extended use of manual cutoff switches for air bags, it would be concerned with the potential for user error in setting, or remembering to set such switches.

E. Other Issues

Commenters addressed many other issues. These issues included possible regulatory changes to permit or facilitate less aggressive air bags, raising the threshold speed at which air bags deploy, special issues faced by persons with disabilities, and various possible changes to air bag and vehicle designs to reduce air bag aggressivity.

With respect to possible regulatory changes, several changes were discussed, but none represented a consensus position. A number of commenters, including many vehicle manufacturers (Chrysler, Ford, BMW, Volkswagen, Porsche, and Toyota), an air bag supplier (Autoliv Development AB), and IIHS, expressed support for Ford's recommendation to reduce the test speed for the unbelted test from 30 mph to 25 mph. These commenters stated that this change would allow an approximate 30% reduction in the kinetic energy required in the air bag system, and that lower kinetic energy in the air bag would lower the risk of air bag-induced injuries to vehicle occupants.

Other vehicle manufacturers had different views on the Ford recommendation. GM commented that it agreed with the theory of the Ford recommendation and said that it was "directionally correct." However, GM said that it has not been shown that a reduction in the unbelted test speed to 25 mph would allow manufacturers to reduce the kinetic energy in air bag systems enough to influence the actual frequency of air bag-induced injuries to vehicle occupants. Nissan went further, saying that it would not anticipate any major changes in air bag deployment specifications because of a reduction in the unbelted test speed from 30 to 25 mph. Nissan suggested that the unbelted test speed would have to be reduced to 20 mph to reduce the risk of air bag-induced injuries in the real world.

NHTSA also sought comment on another possible way of permitting or facilitating less aggressive air bag designs. This approach would raise the chest deceleration limits during unbelted testing from the current 60 g limit to 80 g's. NHTSA indicated that recent biomechanical data suggest that the human tolerance to acceleration for serious chest injury may be higher for air bags than for belts, because the air bag delivers a more broadly distributed, uniform loading to the chest than does a safety belt. BMW enthusiastically supported this concept but suggested the limit be raised to 75 g's. If this were done, BMW said it would attempt to recertify all of its vehicles with less aggressive air bags within one year.

Other commenters were less certain about this approach. GM said an 80 g limit would not appear likely to permit any appreciable reduction in inflator output, so GM doubted it would reduce significantly the potential for air bag-induced injuries. Ford said such a change might permit reductions in air bag aggressivity, but to a much less significant extent than the Ford recommendation. Chrysler stated that it could not comment on an 80 g limit because it had no data to analyze the effects of such a change.

In a presentation to the agency and supplemental comment submitted after the comment closing date, GM suggested an alternative regulatory change that it argued would be effective at reducing air bag-induced injuries. GM suggested keeping the unbelted testing speed at 30 mph, but adopting a crash pulse to better reflect the crash pulse in real world crashes and using a sled test for unbelted testing.

No manufacturer argued that downloading air bags would solve the adverse effects associated with children. GM provided the results of a depowered

air bag inflator study. Based on that study, GM concluded that depowered inflators are "directionally correct," but that deactivation is needed to meet injury assessment reference values for passengers who are at or near the instrument panel, particularly children due to lower injury tolerance.

Not all commenters believed that Standard No. 208 should be changed. Takata Corporation (Takata), an air bag manufacturer, argued that restraint system technology that has recently become available, combined with further improvements that are scheduled to be available within the next 24 months, will significantly reduce air bag injuries without the need for any changes to Standard No. 208. Takata stated that it is concerned that the process of developing improved technology to eliminate air bag injuries will be delayed if Standard No. 208 is changed in response to the present concerns.

Advocates opposed reducing Standard No. 208's unbelted test speed. That organization stated that there are several flaws in the Ford recommendation. According to Advocates, altering the inflation rate of air bags may only address a portion of the problem, may not make any difference at all, or may even create other safety concerns. Advocates also stated that the Ford recommendation is based entirely on static computer modeling that is limited to a single variable, air bag inflator rise rates, and that the recommendation is modeled on only an adult driver. Advocates stated that NHTSA should be reluctant to predicate major regulatory changes on anything less than clear and convincing evidence that a modification will improve safety.

NHTSA also asked for comments on increasing the minimum vehicle speed at which an air bag deploys, a change the agency said could be made relatively quickly. The agency believes that an increase in the deployment threshold would yield a decrease in the number of air bag deployments and, therefore, a decrease in the number of air bag-induced injuries.

The comments did not reflect any consensus on this approach either. Volkswagen commented that an increase in the deployment threshold would be feasible. GM, however, commented that until further analyses are completed, it is not apparent that raising the deployment threshold is necessarily directionally correct. GM stated that its general approach to crash sensing is the result of its goal to deploy air bags only when they are likely to reduce the potential for serious injuries,

and that major facial bone fractures are regarded as serious injuries and are typically the deciding factor in establishing the upper limit deployment threshold. Chrysler suggested that raising the deployment threshold might result in fewer deployments but more aggressive deployments when the air bag was triggered later in the crash event.

VII. Proposal

A. Summary

As discussed earlier in this notice, NHTSA is taking a number of different steps to address the adverse effects of air bags. The agency is initially emphasizing reducing the adverse effects associated with children.

The most direct solution to the problem of child fatalities from air bags is for children to be properly belted and placed in the back seat. This necessitates increasing the percentage of children who are properly restrained by child safety seats and improving the current 67 percent rate of seat belt usage by a combination of methods, including the encouragement of State primary seat belt laws. The most direct technical solution to the problem of child fatalities from air bags is the development and installation of "smart air bags" that protect children automatically from the adverse effects that can occur from close proximity to a deploying bag. However, until these smart air bags can be incorporated in production vehicles, behavioral changes based on improved labeling and simpler, manually operated technology appear to be the best means of addressing child fatalities from air bags.

Ultimately, NHTSA expects that smart passenger-side air bags will be installed in passenger cars and light trucks. In the meantime, vehicles without smart passenger-side air bags would be required to have new, attention-getting warning labels and permitted to have a manual cutoff switch for the passenger-side air bag. The labeling requirement would be limited to vehicles without smart air bags. NHTSA believes this limitation will encourage the introduction of those air bags as soon as possible. In addition, rear-facing child seats would be required to have new warning labels.

More specifically, NHTSA is proposing, for passenger cars and light trucks whose passenger-side air bag lacks smart capability, to (1) require new, enhanced warning labels; and (2) permit manual cutoff switches for the passenger-side air bags (to accommodate parents who need to place rear-facing child seats in the front seat). The agency

is also proposing to require rear-facing child seats to bear new, enhanced warning labels. The proposed vehicle and rear-facing child seat labels would warn that unbelted children and children in those child seats may be killed by the passenger-side air bag.

NHTSA is requesting comments on whether, and if so on what date, to require smart passenger-side air bags that automatically prevent the air bag from injuring the two groups of children that experience has shown to be at special risk from air bags: children in rear-facing child seats, and unbelted or improperly belted children.

Alternatively, the agency is also requesting comments on whether it should endeavor to encourage smart passenger-side air bags by specifying an expiration date for the manual cutoff switch option.

B. Defining Smart Air Bags

Since the presence of a smart passenger-side air bag would obviate the label requirement, and since NHTSA is seeking comments on whether to require smart passenger-side air bags, it is necessary to define smart bags, e.g., specify appropriate tests and performance requirements. For purposes of this rulemaking, NHTSA is seeking to define smart passenger-side air bags sufficiently broadly to include any system that automatically prevents an air bag from injuring the two groups of children that experience has shown to be at special risk from air bags: infants in rear-facing child seats, and unbelted or improperly belted children. At the same time, NHTSA would like to accomplish this goal without increasing the risks to those who would benefit from an air bag.

Vehicle manufacturers and air bag suppliers are working on a number of different systems which might qualify under appropriate criteria. These systems fall into two categories: (1) ones which would prevent the air bag from deploying in situations where it might have an adverse effect, based, for example, on the weight, size and/or location of the occupant, and (2) ones designed so that they would deploy in a manner that does not create a risk of serious injury to occupants very near the bag, e.g., deploying at a slower speed when an occupant is very near the air bag and/or deploying less aggressively as a result of being stowed in an improved fold pattern.

NHTSA is seeking comments whether the following categories of passenger air bags would be considered smart air bags:

(1) the passenger-side air bag system incorporates an automatic means (e.g., a

weight sensor) to ensure that the air bag does not deploy when a mass of 30 kg or less is present on the front passenger seat (thus ensuring that the air bag would not deploy when either of the two specially at-risk groups of children are present; i.e., when that seat is occupied by an infant in a rear-facing child seat or an unbelted child weighing less than 30 kg);

(2) the passenger-side air bag system incorporates other automatic means (e.g., an occupant size or proximity-to-dashboard sensor) to ensure that the air bag does not deploy when an infant in a rear-facing child seat or an unbelted or improperly belted child is present in the front passenger seat; and

(3) the passenger-side air bag designed to deploy when an infant in a rear-facing child seat or to an unbelted or improperly belted child is present, but does so in a way that is not dangerous to the child.

All of these categories are reflected in the proposed regulatory text as obviating the label requirements and the permissive manual cutoff switch option. However, specific language is only proposed for the first category. See proposed amendments to S4.5.5(a). NHTSA requests comments on the most appropriate means of expressing the second and third categories in a manner that permits objective identification of qualifying air bags. See proposed amendments to S4.5.5 (b) and (c). NHTSA also requests comments on appropriate test procedures for use in determining satisfaction of the criteria for each of the three categories of smart air bags.

In its response to the November 1995 request for comments, Mercedes-Benz indicated that it has a weight sensor in the passenger seat that automatically prevents deployment of the passenger-side air bag unless a specified mass is present in the seat. The purpose of this sensor as currently employed by Mercedes, which is set at 26 pounds, is to ensure that the air bag only deploys if the passenger seat is occupied. Mercedes suggested that a possible short term solution for addressing problems with children would be to raise the threshold for deployment to a higher level, such as 30 kilograms (66 pounds) or more. For vehicles that do not already have such a sensor, the cost of adding one would be about \$20 to \$35 per vehicle, depending on volume, according to Mercedes.

Since receiving Mercedes' comment suggesting use of a weight sensor as a possible short-term solution for children, NHTSA has obtained additional information about the sensor currently used by that company. The

agency has obtained information both from Mercedes and from the manufacturer of the sensor, IEE.

IEE calls its weight sensor a "passenger presence detection system." According to IEE, the product has been used by European auto manufacturers since 1994, and one million sensors are now in use. A representative of IEE indicated that the sensor (which resembles a mat) adapts easily to any seat form or contour, and is unaffected by user-placed seat covers or cushions. IEE added that while the sensor is currently designed to detect forces greater than 26 pounds, there would be no difficulty in designing it to detect a different weight, such as the 66 pound weight suggested by Mercedes. NHTSA is placing additional information provided by IEE in the docket.²

NHTSA notes that GM, in its June 24, 1996 petition concerning manual cutoff switches, stated that it is reviewing and evaluating a variety of automatic suppression technologies, including the one identified by Mercedes. GM stated that "this concept appears feasible." However, GM has not completed its analysis and is therefore "uncertain whether the technology can become a production capable, highly reliable, automatic suppression system."

NHTSA would construe a weight sensor as an automatic means of preventing air bag deployment, and a system incorporating such a sensor as a smart air bag. Further, NHTSA has tentatively concluded that Mercedes' suggestion of 30 kilograms as the threshold is appropriate. This threshold would deactivate the air bag when a child in a child restraint or other child weighing less than 66 pounds was positioned in the seat. This 30 kilogram threshold corresponds to the weight of a 50th percentile 10-year old and a 95th percentile 7-year-old. However, the threshold is far enough below the weight of a 5th percentile adult female (approximately 46 kilograms) to avoid inadvertently deactivating the air bag when a small adult is occupying the seat.

NHTSA asks the public for comments on this approach to deactivate the passenger-side air bag automatically in the presence of a child, and also on the proposed threshold of 30 kilograms for deactivation. The agency recognizes that

² NHTSA notes that IEE also provided information about a "child-seat presence and orientation detection system." This is a form of tag system. It works only with special child seats and should not be confused with the possibility of raising the weight threshold of the weight sensor to 66 or so pounds. The agency also notes that while it has information about the particular weight sensor manufactured by IEE, there may be other suppliers of weight sensor technology.

there are possible safety trade-offs with this approach, since the air bag would not deploy in the presence of some children who might benefit from the air bag. However, this concern must be weighed against the number of fatalities and serious injuries for children in rear-facing seats and unbelted children in the front seat. Quantitative data on these tradeoffs are specifically requested. The agency also requests comments on whether a warning light should be required to indicate when the air bag is off.

Commenters on the November 1995 notice and NHTSA anticipate a number of other approaches to this problem to emerge, some more technologically sophisticated than a seat sensor, that would also qualify as smart air bags.

Other approaches for automatically preventing the deployment of the passenger-side air bag in situations where deployment might injure children include size sensors and position sensors. NHTSA requests comments on these approaches as well, and how they might be reflected in an objective definition of smart air bag. The agency notes that there appear to be particular engineering challenges in designing a system that relies on position-sensing alone. This is because, in order to be effective in a pre-crash braking situation, the system would need to both sense a change in occupant position and deactivate the air bag in an extremely short period of time. NHTSA is particularly interested in comments on how such a system could be evaluated in a test procedure.

Still another approach for protecting children is the development of passenger-side air bags that deploy in such a manner that they do not create a risk of serious injury to occupants very near the air bag. These systems might deploy at a slower speed when the occupant is very near the air bag and/or deploy less aggressively as a result of being stowed with an improved fold pattern.

Some of these more sophisticated approaches could possibly be evaluated using the out-of-position tests established by the ISO. The ISO out-of-position tests involve a series of tests in which a test dummy is positioned up against the passenger-side air bag cover. However, the ISO tests do not include any recommended "pass/fail" level nor any dummy specifications.

Most of the manufacturers that responded to the November 1995 request for comments indicated that they use the ISO tests or some variation of those tests to assess how well they have reduced the risks to out-of-position occupants with current air bag designs.

To use the ISO tests as a starting point for a new regulatory requirement, NHTSA must develop appropriate criteria to assess performance in the tests. Among other things, NHTSA must determine appropriate tolerance levels for the injury criteria and decide whether additional injury criteria and/or additional dummy sizes are needed to assess this problem. At this time, the agency does not have enough information to propose any performance criteria. The agency has initiated a testing program described later in this notice that will help the agency answer this question. NHTSA is asking the public at this time to provide relevant child test dummy, positioning, and injury tolerance data which could be used to define a benign air bag. Alternatively, NHTSA asks for comments concerning other approaches to developing a definition of smart air bag that incorporates a wide range of technologies.

The more advanced approaches to automatic deactivation have advantages over the simple weight sensor, because they would presumably have fewer safety tradeoffs and potentially reduce adverse effects of air bags for occupants other than children, as well as for children.

Several commenters described a tag-system for deactivating the passenger-side air bag. For these tag systems, a circuit is present in the vehicle that is capable of deactivating the passenger-side air bag. The circuit is accessed either by a wire from the child restraint or by means of a sensor that picks up a signal (possibly magnetic) from the child restraint. When the circuit detects the presence of a child restraint, it deactivates the air bag. These systems, by themselves, would not be considered smart air bags, because they work only with child restraints that have a particular piece of equipment installed in them and there is no assurance that such devices would be used in these vehicles.

NHTSA also received a request for interpretation from Porsche describing a system that can deactivate the passenger-side air bag when a special rear-facing child seat is installed at the front passenger seat. This child seat has a special separate latch plate that can be engaged in a buckle under the passenger seat. When the buckle is so engaged, the passenger-side air bag would be deactivated. This system also would not be considered a smart bag, because it works only with a particular type of child seat and because it requires an affirmative action by the parent (fastening the latch plate to the buckle) to deactivate the air bag.

C. Possibility of Mandating Smart Passenger Air Bags and Timing of a Mandate.

A significant issue that NHTSA is considering in this rulemaking is whether to mandate smart passenger-side air bags, and the appropriate date on which the proposed requirement for a smart passenger-side air bag would replace the requirement for enhanced vehicle labeling (as well as the permissive provision for cutoff switches).

In evaluating these issues, the agency recognizes that leadtimes will differ for the various kinds of smart bags under development, and that the longest leadtimes will be those for the more advanced smart bags potentially offering the greatest net benefits. The agency also recognizes the engineering challenge of incorporating new air bag design features in the entire passenger car/light truck fleet.

At the same time, given the growing toll of child fatalities, and the apparent near-term availability of at least one smart bag design (i.e., the one using a weight sensor), NHTSA believes that it should take steps now to encourage the early introduction of smart air bags. The agency also believes that, as a practical matter, the longer the time needed to develop and implement the most advanced smart bags, the greater the need would be to implement interim designs that would automatically protect children.

NHTSA also notes that use of a weight sensor with a threshold of 66 pounds as an automatic means of preventing air bag deployment is allowed now under Standard No. 208. Mercedes indicated, however, that without a Federal requirement, it would not raise the weight threshold on its system for deactivating the air bag because of product liability concerns.

In order to assist in deciding whether to require smart passenger-side air bags and, if so, when, NHTSA requests comments on the following questions:

1. What are the costs, benefits, and leadtime of installing smart passenger-side air bags? Please address this question separately for weight sensors and other technologies.

2. To what extent will today's proposal result in the early introduction of the various types of smart air bags? NHTSA plans to use this information to, among other things, develop better estimates of the benefits and costs of this rulemaking action.

3. How would vehicle manufacturer plans differ if smart passenger air bags were required on a date certain? In answering this question, please address

dates of September 1, 1998, September 1, 1999, and September 1, 2000; the number and types of smart passenger bags that would be installed and when; and the extent to which manual cutoff switches would be installed for vehicles without smart passenger bags.

4. Taking account of the answer to question 3, how would different dates for requiring smart passenger air bags affect overall benefits and costs?

5. Are product liability concerns discouraging early introduction of smart air bags that could result in net benefits to children? If so, how would regulatory action by NHTSA affect this situation?

6. Taking account of the considerations discussed above, and any other considerations that commenters regard as relevant, please address whether the agency should mandate smart passenger air bags.

7. If NHTSA were to mandate smart passenger air bags, what is the appropriate date they should be required?

D. New Warning Label Requirements for Vehicles Which Lack Smart Passenger-side Air Bags

NHTSA's current vehicle labeling requirements for vehicles with air bags require the following information, coupled with the signal phrase "CAUTION, TO AVOID SERIOUS INJURY.," to be labeled on the sun visors:

For maximum safety protection in all types of crashes, you must always wear your safety belt.

Do not install rearward-facing child restraints in any front passenger seat position.

Do not sit or lean unnecessarily close to the air bag.

Do not place any objects over the air bag or between the air bag and yourself.

See the owner's manual for further information and explanations.

The standard allows the word "WARNING" to be used in lieu of "CAUTION." In addition, the owner's manual must include appropriate additional information in each of these areas.

In establishing this requirement in September 1993, NHTSA believed the air bag warning label required on new vehicles would be effective. The agency was satisfied that the required label identifies the four most important factors to reduce the possibility of adverse side effects from air bags. Experience since that time confirms that these four factors are the most important things occupants should do to minimize the risk of adverse effects from air bags.

The agency also believed that the required sun visor label conveyed the

information to vehicle occupants clearly and with the proper sense of its importance. And there is evidence to suggest that NHTSA's current labeling requirements are effectively reaching significant numbers of people. For instance, in response to the November 1995 request for comments, the Insurance Institute for Highway Safety (IIHS) presented a survey which reported that 74 percent of respondents knew that it was unsafe to install a rear-facing child seat at a seating position equipped with an air bag. More than half of these respondents indicated that they had learned this information either from the vehicle owner's manual or from the labels on the vehicle sun visor or the child restraint.

Unfortunately, the experience with unrestrained or improperly restrained children and with children in rear-facing child seats suggests that the current air bag warning label is not reaching enough consumers. Given this, NHTSA wanted to explore whether improvements to the current label could make it even more effective.

In order to improve the current label, NHTSA used focus groups to test the effectiveness of several new label designs and locations. The agency specifically looked at three particular types of labels that could supplement and/or improve the current label design. The first was a label with a picture and words that would go on the side of the dash panel covered by the passenger-side front door when the door is closed or on the door itself. With the door open to install a rear-facing child seat, this location should be very visible. The International Organization for Standardization (ISO), a group that proposes voluntary standards, has proposed the installation of a warning label at this location. NHTSA is proposing that such a label be *in addition* to the current sun visor label.

The second type of label examined by the agency was a highly visible label in the middle of the dash panel that would warn that the safest place for all children was the back seat and that all children must be restrained. NHTSA's preliminary consideration of such location is that this would attract more attention than the current sun visor label and therefore be more likely to alter people's behavior regarding children in the front seat. This label would also be in addition to the sun visor label.

The third type of label examined by the agency was a label in the current location on the sun visor, but with enhanced colors and graphics to attract attention and make the message more effective.

Based on the results of the focus groups, NHTSA is proposing to modify the existing labeling requirements. The agency began its investigation of improved labeling with two basic premises. First, there is no label that has been or can be designed so that every person will act in accordance with the warnings or instructions on the label. Given this, NHTSA does not believe that any label will by itself eliminate adverse effects of air bags for children.

Instead, NHTSA used focus groups with the aim of designing a label which would improve substantially the likelihood that people will read the label and understand its message. Once people have received the information, the agency has to depend on them to take the appropriate actions based upon the label information.

Second, the literature on labeling makes it clear that there is no single perfect label that a safety agency such as NHTSA could propose or should seek. In other words, choosing a design for a warning label is not a multiple choice test in which there is one "correct" answer and all the other choices are "wrong." Because the identification of the "best" label by a subject is an expression of personal preference, some members of the public would react best to one label design and other members would react best to different label designs. Accordingly, any pursuit of the single "best" label would necessarily be quixotic.

Again, this is why NHTSA has used the focus groups to get guidance about peoples' reactions to different label designs. The agency can now use this information to propose labels that could be significantly more effective than the labels currently on vehicles and on child seats.

The contractor's final report on the focus group study has been placed in the docket for this rulemaking. What follows is a brief overview of the study. NHTSA's focus group study was conducted in three cities in three different regions of the country. Focus groups were conducted in Baltimore, MD on March 26, 1996, in Atlanta, GA on March 27, 1996, and in Denver, CO on March 28, 1996. All participants had at least one child under 13, made several trips per week with one or more children in the car, drove at least 7,500 miles per year, were 25-45 years of age, had no connection with the automotive industry or with market research, and had not participated in a focus group in the preceding six months.

The main part of the study involved six focus groups, each with nine people and lasting about two hours. The composition of the groups reflected the

population as a whole in terms of gender, ethnic background, and level of education. The participants reported driving a wide variety of vehicles, including passenger cars, vans, trucks, and sport utility vehicles. Of the 54 people in the groups, 18 said they had a passenger-side air bag.

Before starting the discussions with the focus groups, a secondary study was conducted. Each participant was taken one by one to a car with a rear-facing child seat installed in the front passenger seat. The participants were asked to place an infant-sized doll into the child seat, secure the buckle, and then remove the doll from the child seat. Prototype warning labels were placed on the side of the child seat and on the right end of the dashboard in the area that is covered when the door is closed. These labels included the colors red and yellow, a graphic showing a rear-facing child seat in front of a deploying air bag with a red international "NO" slash, and the heading "Danger to Life!" in red letters. The label on the child seat was 100 millimeters long and 65 millimeters high (roughly 4 and 2½ inches, respectively). The label on the car dash was slightly larger, at 140 millimeters long and 65 millimeters high (roughly 5½ and ½ inches, respectively). After the participants had put the doll into and removed the doll from the rear-facing child seat, they were given a brief questionnaire asking if they had noticed and could describe the two new labels.

After they had responded to that questionnaire, the participants returned inside for a discussion. The first half-hour was spent discussing current actions and beliefs regarding children riding in cars, use of seat belts, air bags, and awareness of any warning labels currently in vehicles. Most of the remaining time was devoted to evaluating three different sets of prototype labels, with a total of 36 labels evaluated by these focus groups.

The results from the focus groups were striking. A total of 66 people participated in the exercise of installing a doll in a rear-facing child seat to learn if the participants noticed new, brightly colored warning labels on the side of the dash in the vehicle and on the side of the child seat. These 66 people included the 54 who were in the group discussions and another 12 who were invited to ensure that nine people would be in each focus group. None of these 66 people noticed the new label on the side of the dash. Two of the 66 claimed to have seen the new label on the child seat, but one did not know the color or shape of the new label on the child seat.

With respect to warning labels, the focus groups generally offered the following suggestions:

- Use colors in the label, especially red and yellow, with black and white, because these offer high contrast, attract attention, make a message easy to read, and connote danger or warning.
- Use the international "prohibited" symbol (a red circle with a diagonal slash) to attract attention, to convey a warning to people who may not read English well or at all, and to reinforce the message for others.
- Include an illustration that shows as clearly as possible that an inflating air bag can injure a child.
- Include either the word "WARNING" or "DANGER" in large, colorful capital letters.
- Make the text as short and simple as possible.
- State clearly and explicitly the actions that people should take or avoid.
- Provide a reason for the actions (e.g., "Unbelted children may be killed or injured by passenger-side air bag").

As a basic matter, the focus group members identified a conflict between label effectiveness and product aesthetics. Group participants stated that they generally ignored the labels in their own vehicles and on their own child seats. Thus, it is not surprising that group participants felt no label would be read unless it is very conspicuous—with bright colors (even "day-glo"), a large size, and a prominent location. On the other hand, most group participants agreed that any label conspicuous enough to be noticed consistently would be something of an eyesore, and that people would not want it in their cars. In addition, the groups felt that warning needs to be conveyed only once (when either the vehicle or child seat is first delivered to the person) and that daily reminders from a label are unnecessary. As one woman said, "Once I know my child seat has to go in the back, that's where I'll put it. You don't have to tell me again."

Based on these results and other information discussed above, NHTSA is proposing a new label for child seats and two new labels for air-bag equipped vehicles which lack smart passenger-side air bags, together with a revision of the sun visor labels currently required in these vehicles. However, the agency is especially interested in comments concerning other focus group, survey or other data relevant to location, format, color, size and number of labels, or other factors that may affect labeling effectiveness. For color copies of labels, please contact Stephen R. Kratzke. (Mr. Kratzke's address and phone number are

provided near the beginning of this document.)

The proposals are as follows:

1. *Child Seat Labels.* NHTSA currently requires a warning to be labeled on each child restraint that can be used in a rear-facing position. Specifically, S5.5.2(k)(ii) of Standard No. 213, *Child restraint Systems* (49 CFR 571.213) requires:

Either of the following statements, as appropriate, on a red, orange, or yellow contrasting background, and placed on the restraint so that it is on the side of the restraint designed to be adjacent to the front passenger door of a vehicle and is visible to a person installing the rear-facing child restraint system in the front passenger seat:

WARNING: WHEN YOUR BABY'S SIZE REQUIRES THAT THIS RESTRAINT BE USED SO THAT YOUR BABY FACES THE REAR OF THE VEHICLE, PLACE THE RESTRAINT IN A VEHICLE SEAT THAT DOES NOT HAVE AN AIR BAG, or

WARNING: PLACE THIS RESTRAINT IN A VEHICLE SEAT THAT DOES NOT HAVE AN AIR BAG.

NHTSA notes that this location on the side of the child restraint is where a prototype label with yellow and red colors and a visual with a red slash through it was tested on the focus groups. As mentioned above, only two of 66 claimed to have seen this label, and one of those two could not identify the color of the label. Based on these findings, NHTSA believes an enhanced warning label in a more prominent location is needed to better alert the people responsible for placing children in a vehicle.

Accordingly, NHTSA is proposing to move and enhance the warning label currently required on child restraint systems. The current warning label on the side of the child restraint would no longer be required. Instead, a new permanent label would be affixed to each child restraint system that can be used in a rear-facing position in the area where a child's head would rest. The agency is proposing that the new label be at least the size tested in the focus groups for vehicle labels—that is, at least 140 mm long and 65 mm high. This new label would have a yellow background for the text portion. On that yellow background would first appear a heading in red that said "DANGER!" Under that heading, the text would appear in black as:

DO NOT place rear-facing child seat on a vehicle seat with air bag.

DEATH or SERIOUS INJURY can occur.

Opposite the text, this warning label would have a pictogram showing an inflating air bag striking a rear-facing child seat, with a red slash through that.

NHTSA acknowledges that a permanent warning label on the child seat cushion in the vicinity of the child's head will require changes to the manufacturing process and increase costs. However, the agency does not believe that the aesthetic concerns the focus group participants expressed about conspicuous labels in a vehicle apply equally to child seats. In addition, this warning would likely be effective because it would be targeted specifically to the people whose dependents are at greatest risk (persons transporting an infant) and an audience that would be very receptive to this warning. Further, any cost burdens will be reduced by eliminating the current requirement for the warning label on the side of these child seats.

The proposed enhanced labels for child seats would be required on all new child restraints that can be used in a rear-facing position. This broad coverage is necessary because, to the best of the agency's knowledge, there are no current vehicles with passenger-side air bags in which a rear-facing car seat can safely be installed at the right front passenger seat.

2. Label on Passenger-Side End of Vehicle Dash or Door Panel. NHTSA currently has no requirements for any safety labels in these locations. However, NHTSA has been participating in the efforts of the International Organization for Standardization (ISO) to try to develop a voluntary international standard for a vehicle label warning not to place a rear-facing child seat in a vehicle seat with an air bag. The current proposals feature a visual showing a rear-facing child seat positioned in front of an air bag, with a red slash through the visual. The proposed location is on the passenger-side end of the dash, which is visible only when the passenger door is opened. An alternative location is on the door panel in a location that is also visible only when the door is opened. Based partly on this effort by ISO, a proposal for such a label in such locations was submitted as a draft supplement to Regulation 94 of the Economic Commission for Europe in September 1995. Further, NHTSA is aware of labels warning about air bag hazards to rear-facing child seats on the passenger-side end of the dash or on the door on current Lexus, Mercedes, Saab, and Volvo vehicles. The agency has also been told that Nissan plans to begin labeling their vehicles in this area to warn against using rear-facing child seats in front of air bags.

NHTSA notes that this location on the side of the dash is where a prototype label with yellow and red colors and a

visual with a red slash through it was tested on the focus groups. As mentioned above, none of the 66 people participating claimed to have seen this label. Based on this finding, NHTSA would not propose a warning label in this location as the *only* vehicle warning label. In fact, NHTSA considered not requiring a warning label in this location.

Nevertheless, NHTSA is proposing to require a label in this area, for vehicles which lack smart passenger-side air bags. Even though none of the 66 people in NHTSA's focus groups study noticed the label in this area, the design of the test may have contributed to this result. As noted before, in the focus group exercise, the child restraint was already installed in the car when the participants were asked to secure an infant-sized doll in the child restraint. NHTSA suspects that, if the participants instead were asked to take a child restraint, install it in the vehicle, and then secure the infant-sized doll in the child restraint, some participants would have noticed the label in the process of placing the child restraint in the vehicle. In addition, this area is where an international voluntary standards group and the Economic Commission for Europe are proposing to place a label. Furthermore, several vehicle manufacturers have or will soon be voluntarily placing a label in this area.

However, the agency believes it is appropriate to use its focus group results to proceed on the assumption that a warning label in this area is not so conspicuous that it should be a primary means of alerting the public to this problem. Accordingly, NHTSA has structured its proposal so that the label in this location is intended to remind and reinforce the message people have already gotten from other sources. To this end, NHTSA is proposing that this label be nearly identical to the label proposed for child seats. It would be a permanent label with the same minimum dimensions (140 mm X 65 mm), the same yellow and red colors, and the same content, including the visual with the red slash through it. As regards the location, NHTSA is proposing to permit this label to be installed either on the passenger-side end of the dash or on the door panel. NHTSA's focus groups provide no basis for proposing to prefer one of these locations over the other. NHTSA asks for public comment on whether this label should be required, especially given the other labels and the focus group findings about labels in this location.

Only a few current vehicles offer a manual cutoff switch for the passenger

air bag. For those vehicles that do not offer a cutoff switch, the label on the passenger-side end of dash or door panel would be identical to the label proposed for child seats. However, if the vehicle had a manual cutoff switch for the passenger air bag, the label would be modified to read "Danger! Do not place rear-facing child seat on front seat with air bag UNLESS the air bag is off." This language is similar to the existing language for sun visor warnings for vehicles that have manual cutoff switches, and should accurately inform care givers.

3. Label on Sun Visor. As discussed above, NHTSA currently requires for all air-bag equipped vehicles a warning to be placed on sun visors above each seating position equipped with an air bag. In addition, NHTSA requires an "air bag alert label" if the sun visor warning label is not visible when the sun visor is in its stowed position. The air bag alert label can either be on the air bag cover or on the side of the sun visor visible when the visor is in the stowed position. To the best of the agency's knowledge, to date, all manufacturers have placed the alert label on the visible side of the sun visor. S4.5.1(c) of Standard No. 208 provides that this alert label on the visor must read, "Air bag. See other side." No minimum size dimensions are specified for the alert label.

The NHTSA focus groups were specifically asked if they were aware of any warning labels about air bags in their personal vehicles. A few participants said they had seen some kind of label or sticker in their vehicles but could not recall what the label said. Only one person said she had noticed several labels, had read them, and could remember the topics of the labels. Based on these results, NHTSA believes an enhanced warning label on sun visors may be needed to better alert the public.

Accordingly, NHTSA is proposing to enhance the warning label currently required on sun visors, for vehicles which lack smart passenger-side air bags. The current warning labels on sun visors would no longer be required. In their place, enhanced alert labels and warning labels would be required. Manufacturers would continue to be permitted to provide a warning label only, if that label is visible when the sun visor is in its stowed position.

For the alert labels, NHTSA is proposing to require that a new permanent label be affixed to the side of the visor that is visible when the visor is in its stowed position. This label would be required on that side of the visor above every seating position equipped with an air bag. This new

label would have a black background. On the left side of the alert label would be the same visual proposed for the child seat and dash/door label showing a rear-facing child seat in front of a deploying air bag with a red slash across the picture. On the right side of the alert label would be yellow letters reading "AIR BAG WARNING." Underneath that warning, in much smaller yellow letters, would appear text reading "FLIP VISOR OVER."

The agency is proposing that the new alert label be at least the size tested in the focus groups for vehicle labels—that is, at least 140 mm long and 65 mm high. NHTSA recognizes that this size alert label may be larger than needed to attract attention. Accordingly, NHTSA specifically asks for comments on an alert label that is 75 percent, 50 percent, and 25 percent of the proposed size. A 75 percent label would be approximately 4 1/8 inches long and 1 7/8 inches high. A 50 percent label would be approximately 2 3/4 inches long and 1 1/4 inches high. A 25 percent label would be approximately 1 1/2 inches long and 3/4 inches high. There is a tradeoff between the use of color and the size of the label. Commenters should be sure to view the colored label when commenting with respect to size.

NHTSA recognizes that the proposed alert label would be much larger and more conspicuous than any labels currently in vehicles. The agency is sensitive to the aesthetic concerns expressed by the focus group participants about warning labels detracting from the appearance of their vehicle. However, NHTSA does not believe the proposed label would be an eyesore. In the focus groups, 50 of the 54 participants preferred an alert label such as the proposed one. Moreover, to the extent this label is not more conspicuous than the existing alert labels, it would not serve its intended function of improving the effectiveness of the sun visor labels.

For the warning label to be permanently affixed on the other side of the visor than the alert label (unless the manufacturer chooses to place the warning label on the side of the visor that is visible when the visor is in its stowed position), NHTSA is again proposing a minimum size of 140 mm X 65 mm. In the lower left corner of this label there would be a white visual on a black background. The visual would be a representation of a belted occupant in front of a deploying air bag. The background for the rest of the label would be yellow. In red across the top of the label would appear a triangle with an exclamation mark inside it followed by the word "WARNING" in large type.

In smaller red type beneath that heading, the phrase "Severe injury or death can occur" would appear. Beneath that, in black type, would appear the phrase "Air bags need room to inflate." Beneath that, four bullets in black type would read:

- Never put a rear-facing child seat in the front
- Unbelted children can be killed by the air bag
- Don't sit close to the air bag
- Always use seat belts

Aside from using colors and visuals to improve the existing sun visor warning, these four proposed bullets in the warning differ from the five bullets on the current warning label. Two of the five current bullets are deleted. One current bullet says, "Do not place any objects over the air bag or between the air bag and yourself." The focus groups strongly suggest that this current warning is too long. In addition, the new admonition that "Air bags need room to inflate" together with the new visual will convey the same message the current bullet seeks to convey. The other current bullet deleted in this proposal is "See the owner's manual for further information and explanations." Some of the focus group participants disliked this advice, indicating they want the label to tell them what they need to know about these matters. There was also some feeling that people already knew to consult the owner's manual to get more information on a vehicle problem.

This proposed label adds a proposed bullet saying that unbelted children can be killed by the air bag. NHTSA acknowledges that this bullet may be redundant of the point in red at the top of the label that severe injury or death can occur and the bullet at the bottom of the label advising to "Always use seat belts." However, NHTSA has tentatively concluded that it is worth specifically highlighting the hazards to unbelted children, given the available information suggesting that unbelted children as a group are particularly at risk and given that the agency places special weight on its responsibility to protect children.

As was the case for the proposed label on the passenger-side end of the dash or door panel, the sun visor warning label would be slightly different for vehicles that offer a manual cutoff switch for the passenger air bag. For vehicles with a manual cutoff switch, the first bullet on the label for the stowed side of the sun visor would be modified to read "Never put a rear-facing child seat in the front UNLESS the air bag is off."

This notice proposes to carry forward the current prohibition against sun

visors showing any other information about air bags or the need to wear seat belts, except for air bag maintenance information and the utility vehicle label required by NHTSA's consumer information regulations. The agency notes, however, that Volkswagen has recently stated in a request for interpretation that it would be in the interest of safety to include references to side air bags on the sun visor label of vehicles equipped with these devices. The agency requests comments on whether particular statements should be permitted or required for vehicles with new kinds of air bags, such as air bags for side impact protection and, if so, what statements.³

4. Label in the Middle of the Dash Panel. NHTSA believes that the proposed changes to the sun visor labels will enhance the effectiveness of those labels by making them more noticeable. However, the agency has an obligation to do all it can with labels to help address the adverse effects of air bags in the near term. The focus groups generally reported that a label (though not necessarily a permanent one) needs a very prominent location in a vehicle to attract attention and be read. The middle of the dash panel is a location that is visible to both the driver and the passengers. It is also a location both drivers and passengers tend to look at since the radio and temperature controls are generally in this area. As such, this may be the location in the vehicle where a label would be most likely to be noticed and read.

On the other hand, NHTSA also must be sensitive to the findings from the focus groups that the public would not want a conspicuous day-glo label permanently in their vehicles. NHTSA believes it has fashioned a proposal that takes account both of the need to alert people to adverse effects of air bags for unbelted children and the public's desire that labels not become an eyesore. NHTSA is proposing that a very visible label be placed in the middle of the dash of all new vehicles equipped with air bags, if they lack smart passenger-side air bags. However, this label may be a removable label that must be on new vehicles when they are delivered to consumers but may then be

³ NHTSA asks commenters to address whether and what cautionary statements are needed concerning these new devices, whether such statements can be effectively communicated by simple additions to the sun visor label without diluting the impact of cautionary statements about air bags providing frontal impact protection, and whether generic statements could be developed that would be accurate for all air bag designs currently under development. The agency also desires information on what specific dangers side air bags may pose to infants or other occupants.

removed by consumers after they have had a chance to read it. The agency believes this conspicuous positioning of the label position will get the message out effectively to the American public as they buy new vehicles. This conspicuous label should also highlight the importance of the permanent but less conspicuous labels in the vehicle regarding air bags when the purchaser sees those labels.

The removable label NHTSA is proposing would have the same minimum dimensions as all the other labels proposed in this notice (140 mm X 65 mm). The top half of this label would have a yellow background with the phrase "Make sure all children wear seat belts" in red type. The bottom half of this label would have a white background. In black type, the bottom half of this label would say, "Unbelted children and children in rear-facing child seats may be KILLED or INJURED by passenger-side air bag."

To make the label as effective as possible, the signal word "WARNING" would be placed at the beginning of the label to highlight the importance of the message. NHTSA believes that a strong signal word is important in this case as a means of first attracting attention to the serious nature of the message.

The agency specifically invites public comments on the four types of enhanced labels proposed above. Commenters are urged to offer all the data of which they are aware to support their opinions about the relative merits of the proposed labels compared to potential alternative labeling schemes. Commenters are also requested to provide information that would help in assessing the effectiveness of labels in changing behavior in the intended ways.

5. Possible Sun Visor Label Requirement for Vehicles With Smart Passenger Air Bags.

All of the new vehicle labeling requirements would be limited to vehicles which lack smart passenger-side air bags, to encourage the early introduction of these improved air bags. NHTSA is interested in comments on whether any sun visor labeling requirements should be applied to vehicles with smart air bags. The agency notes that the enhanced sun visor warning label would include information that would be important even for vehicles with improved air bags, such as the warning to always use seat belts. Therefore, it could be argued that some kind of warning label and alert label for these vehicles should be required. The agency therefore requests comments on what, if any, labeling requirements should be established for

such vehicles, with respect to content, size, color and format.

6. *Leadtime and Costs.* NHTSA is proposing to require the new or enhanced vehicle labels for vehicles manufactured on or after a date 60 days after publication of the final rule. The agency is also proposing that enhanced labels be affixed to all child restraints that can be used in a rear-facing position and manufactured on or after a date 180 days after publication of the final rule. This longer lead time for child seat manufacturers is an acknowledgment that these manufacturers will have to change their manufacturing process to include some means of permanently labeling the padding or cushion, something they do not do presently to the best of the agency's knowledge. However, public comment is invited on whether a shorter effective date for child seat manufacturers would be practicable and what the cost implications of a shorter lead time would be.

The agency recognizes that the proposal would provide a very short leadtime for the vehicle manufacturers. However, a longer delay in making some effort to enhance warning the vehicle occupants runs the risk of further tragic and avoidable child fatalities. NHTSA is also concerned that the absence of a reminder to supplement the ongoing public education efforts would make those efforts less effective. Accordingly, NHTSA proposes to find for good cause that this change in labeling requirements should take effect sooner than six months after publication of a final rule. In light of the same considerations, the agency is providing a slightly abbreviated comment period of 45 days.

Even with this short leadtime, NHTSA estimates that the cost of each vehicle label would be between 7 and 12 cents. The combined cost of the two new labels would therefore be between 14 and 24 cents. Adding in the cost of the enhanced and larger sun visor label (about one cent), the increased cost per vehicle would be between 15 and 25 cents. The cost of an enhanced label for child restraints is dependent upon the type of material to which the label must permanently adhere and the method chosen to achieve the permanent adhesion. Incremental costs are estimated to range from \$0.05 to \$1.00 per child restraint. The public is invited to comment on these cost estimates. If any commenter suggests different estimates be used, the commenter should provide data to support its views.

E. Manual Cutoff Switch Option for Vehicles Which Lack Smart Passenger-side Air Bags

As discussed above, until smart passenger-side air bags can be incorporated into vehicles, the proposed improvements to the existing air bag warning labeling requirement would better ensure that drivers and other occupants are aware of the dangers posed by air bags to unbelted children and children in rear-facing child seats located in the front seat. Adult occupants would ideally respond to the label by placing a child in the back seat and properly restraining the child, or at the very least, by ensuring that older children in the front seat are properly restrained.

For rear-facing child seats, however, proper installation in a front seat does not address the problem, because a rear-facing child seat should never be placed in a seating position with an air bag. However, some vehicles do not have back seats, or have back seats which are not large enough to accommodate a rear-facing child seat.

To address this dilemma, on May 23, 1995, NHTSA published a final rule which allowed manufacturers the option of installing a manual device that motorists could use to deactivate the front passenger-side air bag in vehicles manufactured on or after June 22, 1995, in which rear-facing child seats can be used in the front seat only. In addition to the limit on the types of vehicles which were permitted to have the manual cutoff device, the final rule included a number of conditions that had to be satisfied. The manual cutoff device had to deactivate the air bag by means of an ignition key and require manual reactivation of the air bag once deactivated. The manufacturer had to also install a warning light separate from the air bag readiness indicator, which would indicate that the air bag was turned off. The light would have to be visible to both the driver and passenger. The manufacturer had to include information on the manual cutoff device in the owner's manual. Finally, the option was only available for passenger cars manufactured before September 1, 1997, and light trucks manufactured before September 1, 1998.

As the agency now proposes requirements to initially encourage, and possibly require, smart passenger-side air bags, it believes it would be appropriate, in the meantime, to permit manual cutoff switches for any vehicle which lacks smart passenger air bags. In the very short term, such devices can accommodate parents who need to place rear facing child seats in the front seat.

Thus, the agency is proposing that the option for manual cutoff switches be extended both in time and to all vehicles with passenger air bags that lack smart capability.

NHTSA cited two reasons for its decision to allow the installation of manual cutoff devices for only a limited period of time. First, several commenters that were developing automatic cutoff devices indicated that the devices would soon be available. Second, vehicle manufacturers were considering more sophisticated devices which would deactivate the air bag in a number of appropriate situations, not just when a rear-facing child seat is present. The agency did not wish to issue a regulation which could have the unintended effect of delaying introduction of these more sophisticated and effective devices.

Given the fatalities which have occurred to infants in rear-facing child seats and to unbelted children in the front seat, as well as the incentives that should be created by today's encouragement of smart passenger-side air bags, manufacturers have a strong incentive to provide smart passenger-side air bags as quickly as possible. NHTSA notes that the option to use manual cutoff devices is a limited means of addressing child fatalities from air bags, and believes that it would not significantly reduce the overall incentive to develop a more comprehensive solution.

Since weight sensors are apparently already available and in production (albeit with a lower threshold weight), however, the agency requests comments on whether and how the availability of such devices should affect its decision on extending the manual cutoff switch option. NHTSA requests specific comments on how weight sensors compare with manual cutoff switches with respect to costs, benefits, safety tradeoffs, and leadtime, and how the agency should factor in the availability of weight sensors in its decision concerning manual cutoff switches.

NHTSA is also considering the availability of other possible alternatives to manual cutoff switches. It does appear that tag system technology is production-ready, as evidenced by the plans of Mercedes and BMW to use this technology in Europe in 1997. As indicated by GM, however, there are a number of significant issues surrounding the use of a tag system. These include a need to educate parents, need for special tagged infant seats, consequences of using untagged infant seats, availability of tagged seats, retrofitting of existing infant seats with tags, potential for multiple tag

technologies, and availability of tagged infant seats at low volume for used vehicles, once tag systems are superseded.

NHTSA believes that the issues surrounding tagging are particularly significant given manufacturer efforts to develop advanced automatic systems addressing a wide scope of problems. While the agency wishes to encourage the industry to pursue all possible solutions to the problems of adverse effects of air bags, it is not clear that tagging can be effectively implemented, on an industry-wide basis, as a short-term interim solution until a more comprehensive solution is developed. The agency specifically requests comments on this issue.

Another possible near-term alternative includes the Porsche system. However, the Porsche system requires special child seats and thus raises many of the same compatibility issues as tagging. Also, even with a special child seat, special buckling action is required.

The agency requests comments on whether any other alternatives to manual cutoff switches are currently available.

NHTSA also requests comments on whether it should endeavor to further encourage smart passenger-side air bags by specifying an expiration date for the manual cutoff switch option and, if so, what date. Commenters are asked to provide a rationale for their position on this question, and to discuss whether particular end dates would be so early as to possibly discourage manufacturers from offering manual cutoff switches, or so late as to possibly discourage early introduction of smart passenger-side air bags.

In proposing to permit manual cutoff switches for any vehicles that lack smart passenger-side air bags, NHTSA notes that, in its earlier decision not to allow all vehicles to be equipped with a manual cutoff device, the agency stated:

NHTSA does not believe it should allow all vehicles to have a manual cutoff device to accommodate parental preference for placement in the front seat. If any child seat can be placed in a rear seat, that is the safest position. 60 FR 27233, 27234.

While the latter statement is true, the first statement deserves potential reconsideration in retrospect. NHTSA has tentatively concluded that there are reasons to permit manual cutoff switches for the passenger side of vehicles with rear seats large enough to accommodate rear facing child seats.

First, commenters to the November 1995 request for comments provided information showing the agency that placing a rear-facing child seat in the

front seat of a vehicle is sometimes a matter of medical necessity and not always "to accommodate parental preference." For example, the parents of an infant with medical problems commented that those medical problems require them to be able to monitor the child and that cannot be done with the child in the back seat. The National Association of Pediatric Nurse Associates & Practitioners submitted a comment identifying a number of medical conditions for which infants would need to be monitored closely, indicating a need for those children to be transported in the front seat. That organization stated that approximately two percent of all children (which translates into about 400,000 children under the age of 5 and close to 100,000 under the age of one) have some type of medical condition or disability which requires some type of nonmedical assistive technology. Also, about 0.1 percent (or about 20,000 children under the age of five and 5,000 infants) require medical technology assistance such as respirators, surveillance devices, or nutritive assistance devices. Also, some medical problems may be of a transitory nature, but they may require short-term monitoring of the infant. It is obviously not possible for these children, or the vehicles in which they would be transported, to be identified in advance.

Also, the National Center for Health Statistics reports that approximately 10% of the 4 million births in 1993 were premature. A number of these children and other children may have medical conditions that require monitoring. However, because these are a small percentage of the total births, an alternative to permitting manual cutoff switches might be to permit air bags to be deactivated in these situations, i.e., the agency could issue an exemption from the general statutory requirement in 49 U.S.C. § 30122 that prohibits manufacturers, distributors, dealers and repair businesses from "making inoperative" required safety equipment. However, even assuming the agency issued such an exemption, owners and/or dealers might not be aware of the exemption process, or owners might not go to the trouble of having an air bag deactivated, and thus risk injury to the child. It would be much easier to operate a manual cutoff switch. Also, if owners did have the air bag deactivated, the bag would not be available for any occupants, depriving them of the added protection an air bag offers, while a manual cutoff switch would allow the selective deactivation of the air bag when appropriate. In addition, there is the possibility that the owner would not

have the air bag reactivated once the child grew out of a rear-facing child seat. For these reasons, the manual cutoff switch appears to be a better option to accommodate the needs of infants who require monitoring for medical reasons.

A second argument for permitting manual cutoff switches is that the instinctual desire of some parents to keep their infants near them under their close and watchful eye may be sufficiently strong that it is difficult to convince them of the safety need to place the children in the rear seat. This is a particular concern given the inherent limitations of any public education campaign or label. NHTSA recently conducted six focus groups (two in Lubbock, Texas and four in Cleveland, Ohio) on public information campaigns relating to air bags. Many parents of children under the age of one year indicated that they travel with the child rear-facing in the front seat. Most indicated that they are reluctant to place an infant rear-facing in the rear seat, where they cannot see the child and will not be able to reach the child quickly in the event of an emergency.

NHTSA is thus concerned that some parents may decide to place a rear-facing child seat in the front seat where the infant can be closely monitored, even in the presence of an air bag and warning labels. While the agency does not wish to encourage parents to place children in the front seat, a cutoff switch would enable these parents to eliminate the risk from the air bag.

The agency notes that many commenters to the November 1995 request for comments expressed concern about the potential for misuse of a manual cutoff switch. A switch could be misused either by a driver or other vehicle occupant deactivating the air bag when a rear facing child seat is not present, or because a driver simply forgets to reactivate the air bag after using such a restraint. In either such instance, properly restrained occupants, who are not at risk from the air bag, or unrestrained adults in higher speed crashes would not be afforded the protection of the air bag.

As discussed in the Preliminary Regulatory Evaluation (PRE) for this rulemaking, NHTSA has assessed possible benefit trade-offs associated with a manual cutoff switch for the right front passenger, intended to be used for rear-facing child restraints. It appears that there will be more benefits to allowing a cutoff switch than losses under reasonable assumptions of possible misuse of the cutoff switch. (See the PRE for a more detailed discussion.) The agency's educational

efforts will focus on preventing such misuse and the agency also notes that the requirement for an extra warning light would reduce the possibility of drivers forgetting to reactivate the air bag after using a rear-facing child restraint in the front seat. Currently, a yellow warning light displays the message "AIR BAG OFF" whenever the right front passenger air bag is deactivated using the cutoff switch.

Based on discussions with Ford, the vehicle manufacturer with the largest number of manual cutoff switches,⁴ NHTSA is not aware of any misuse problems with these devices. Nevertheless, NHTSA specifically requests comments on whether there are any quantitative data or other information concerning the likelihood of manual cutoff switches being misused. The agency is particularly interested in information that is derived from the real-world experience with the vehicles which have been produced with manual cutoff switches.

NHTSA requests comments on the various factors discussed above, and any other factors commenters consider relevant to permitting the option of manual cutoff switches for passenger-side air bags.

VIII. Future Agency Considerations

As discussed above, NHTSA believes serious adverse effects of air bags can be effectively addressed in the medium and long term by means of changes to the designs of air bags and other related vehicle components. Some design changes were discussed in the preceding sections of this notice. This section discusses other possible design changes, ongoing agency efforts to evaluate the effects of such changes, and possible future agency regulatory actions.

Through conducting its own research and working with the motor vehicle industry, NHTSA is looking for design solutions that will be reasonable in cost and effective in reducing the identified adverse side effects of air bags without creating new safety problems. To minimize further injuries and loss of life, the agency is seeking solutions having as short leadtime requirements as possible. It may be that solutions meeting these criteria are currently permitted by the standard. There is already considerable flexibility under the standard to make design changes in

air bags. Nevertheless, it may be that the agency would have to amend the standard to permit the implementation of those solutions. If it is necessary to amend the standard, the agency's desire would be to amend it in a way that minimizes the adverse side effects while preserving the protection afforded by air bags.

At this point, the agency does not have enough detailed research concerning trade-offs to determine which design solutions will be most effective. Before the agency can make the necessary determinations, it will need additional data and have to make a variety of assessments and analyses. The agency will examine the alternatives that are or will be reasonably available at reasonable cost. It will also assess safety trade-offs associated with each of those alternatives. This will include assessing how each alternative would affect the safety of occupants of different weights and sizes. There is a possibility that some design changes may benefit some groups more than others. There is even a possibility that although some changes may benefit some groups, they will not benefit, or even may harm, other groups. Finally, the agency will compare the alternatives in terms of their relative safety effects and costs.

The agency's search for effective solutions is complicated by a number of factors. First, NHTSA is sensitive to the possibility that to the extent that the agency mandates solutions, its intervention could affect the pace and direction of industry efforts to find effective solutions. Second, the sheer complexity of air bag technology and crash dynamics and the range of different circumstances associated with the adverse effects of air bags make it virtually impossible to find a single solution to the challenge of providing the best possible protection for the wide range of vehicle occupants. Third, the state of the art in air bag technology and in design choices regarding air bags is rapidly changing. Fourth, there is no clear emerging industry consensus to aid the agency in identifying which design changes will effectively address the adverse effects while preserving the safety benefits of air bags.

The agency has initiated a research testing and analysis program to address these problems. The program is being coordinated and conducted at the Vehicle Research and Test Center, the agency's in-house laboratory in Ohio. The program's objectives are to:

- Assess the performance of air bag systems in current production vehicles in particular crash conditions, including the effects on out-of-position children.

⁴To date, NHTSA knows of only three models utilizing cutoff switches—the model year 1996 Ford Ranger pickup, the model year 1997 Ford F150 pickup, which was introduced in February 1996, and the LE and SE versions of the model year 1996 Mazda B-series pickup trucks, which are equipped with an optional passenger side air bag.

- Assess the level of improvement possible in out-of-position performance from changes to existing air bag components, including downloaded air bags, as well as newly developed pre-production systems.

- Provide visibility for air bag-related technology, thus promoting the rapid adoption of newer technologies that will help solve the out-of-position occupant injury problem.

The immediate focus of the program is on the passenger-side out-of-position problem as related to children. Several vehicle models have been selected based upon field accident investigations and air bag design characteristics. Both domestic and foreign vehicles are included in the selection. The test conditions include four different child positions similar to those recommended by ISO, and represent worst case occurrences. These tests will provide "baseline" performance of air bag systems when a child is an out-of-position occupant.

NHTSA is inviting vehicle manufacturers and air bag and component suppliers to provide state-of-the-art air bag systems. Systems that show significant improvements over baseline performance for out-of-position children will also be tested with adult-sized dummies in full-scale crash conditions required in Federal standards.

The test program will also address other aspects of air bag safety following the out-of-position child study. These include out-of-position driver tests, vehicle crash sensor testing, and testing of advanced air bag systems. The out-of-position driver testing will focus on small-sized female occupants who are sometimes injured due to the close proximity to the steering-wheel air bag system. Testing will continue into fiscal year 1997.

While it is not part of the agency's current test program, NHTSA also continues to be interested in whether increasing the minimum vehicle speed at which an air bag deploys, and possibly having different deployment thresholds for the unbelted and belted conditions, may be an effective way to reduce air bag-induced injuries.

As the agency's test program continues, and as it receives relevant information from other sources, NHTSA will continue to assess whether other regulatory action is appropriate, including possible action to permit or facilitate downloading, and including possible action to address the vehicle speed at which air bags deploy. The agency invites interested persons to submit relevant information. NHTSA is particularly interested in additional

information and analyses which address possible safety trade-offs, and information concerning the possible availability of design features that could make such trade-offs unnecessary. The agency expects to publish a Federal Register notice in the next few months announcing a public meeting on these technical subjects, reporting on its research to date, and laying out the issues to be addressed in the meeting.

Finally, the agency is continuing to evaluate the special problems faced by persons with disabilities. People with disabilities may have problems with air bags in addition to those that result primarily from their proximity to the air bag at the time of deployment. Persons with disabilities may also face unique problems due to the special adaptive equipment they need to drive, or vehicle modifications needed to accommodate the disability. The installation of certain adaptive equipment may require removal of the air bag, reduce the effectiveness of air bags by interfering with their deployment, or cause injury to a driver because of movement of the device during deployment. In September 1994, the agency issued a consumer advisory cautioning drivers with disabilities not to use steering control devices mounted on a bar installed across the steering wheel hub (a "spanner bar") of vehicles with driver-side air bags.

NHTSA currently lacks sufficient data to decide if air bags will pose unique problems for people with disabilities because of the interaction with the special adaptive equipment. Thus, the agency does not believe it is appropriate, at this time, to propose special requirements for air bags in vehicles adapted for people with disabilities. Nor does the agency have enough information to make recommendations. The agency has started a sled testing program to investigate the potential for injury from steering control devices used by people with disabilities and the possible interaction of these devices with deploying air bags. This testing is scheduled to be completed by September 1996. The agency will then analyze the test results and take appropriate actions.

IX. Rulemaking Analyses and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

NHTSA has considered the impact of this rulemaking action under Executive Order 12866 and the Department of Transportation's regulatory policies and procedures. This rulemaking document was reviewed by the Office of

Management and Budget under E.O. 12866, "Regulatory Planning and Review." This action has been determined to be "significant" under the Department of Transportation's regulatory policies and procedures. The action is considered significant because of the degree of public interest in this subject. This action is also potentially economically significant under E.O. 12866. Should NHTSA decide to require smart air bags in the final rule, the final action would be economically significant and/or major, in which case additional public comment may be necessary.

As discussed earlier in this notice, NHTSA estimates that the costs of the new or enhanced labels that would be required by the proposed rule at between 15 and 25 cents per vehicle. The enhanced labels for child restraints would add between \$0.05 and \$1.00 per child restraint.

The costs of automatic cutoff devices, or other automatic systems to prevent injuries from bags, varies considerably, although the agency does not have accurate estimates of these costs. A weight sensor may cost \$20 or more; a smart air bag system incorporating other technologies may add \$50 or more in incremental cost; an air bag that utilizes different fold patterns and inflators may add very little incremental cost to the current air bag systems. These are all rough estimates. Comments are requested on the costs of various systems.

NHTSA estimates the cost of a manual cutoff device at a little over five dollars. Such a device would be optional, not required.

A full discussion of costs and benefits can be found in the agency's preliminary regulatory evaluation for this rulemaking action, which is being placed in the docket.

B. Regulatory Flexibility Act

NHTSA has considered the effects of this proposed rulemaking action under the Regulatory Flexibility Act. I hereby certify that it would not have a significant economic impact on a substantial number of small entities.

The proposal primarily affects motor vehicle manufacturers and child restraint manufacturers. Almost all motor vehicle manufacturers would not qualify as small businesses. The agency knows of eight manufacturers of child restraints, two of which NHTSA considers to be small businesses. However, since the agency is only proposing a minor labeling change for child restraints, the proposed requirements would not have any significant economic impact.

C. National Environmental Policy Act

NHTSA has analyzed this proposal for the purposes of the National Environmental Policy Act and determined that a final rule adopting this proposal would not have any significant impact on the quality of the human environment.

D. Executive Order 12612 (Federalism)

The agency has analyzed this proposal in accordance with the principles and criteria set forth in Executive Order 12612. NHTSA has determined that this proposal does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

E. Civil Justice Reform

This proposed rule would 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.

X. Comments

Interested persons are invited to submit comments on this proposal. It is requested but not required that 10 copies be submitted.

All comments must not exceed 15 pages in length (49 CFR 553.21). Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary arguments in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including the purportedly confidential business information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the NHTSA Docket Section. A request for confidentiality should be accompanied by a cover letter setting forth the information specified in

the agency's confidential business information regulation. 49 CFR Part 512.

All comments received by NHTSA before the close of business on the comment closing date indicated above for the proposal will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Comments received too late for consideration in regard to the final rule will be considered as suggestions for further rulemaking action. Comments on the proposal will be available for inspection in the docket. The NHTSA will continue to file relevant information as it becomes available in the docket after the closing date, and recommends that interested persons continue to examine the docket for new material.

Those persons desiring to be notified upon receipt of their comments in the rules docket should enclose a self-addressed, stamped postcard in the envelope with their comments. Upon receiving the comments, the docket supervisor will return the postcard by mail.

List of Subjects in 49 CFR Part 571

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

In consideration of the foregoing, it is proposed that 49 CFR Part 571 be amended as follows:

PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS

1. The authority citation for part 571 would continue 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 571.208 would be amended by removing S4.5.4.1, redesignating S4.5.1(e) as S4.5.1(f) and S4.5.4.2 through S4.5.4.4 as S4.5.4.1 through S4.5.4.3, revising S4.1.5.1(b), S4.5.1(b) through (d), and S4.5.4, and by adding a new S4.5.1(e) and S4.5.5, to read as follows:

§ 571.208 Standard No. 208, Occupant crash protection.

* * * * *

S4.1.5.1 Front/angular automatic protection system.

* * * * *

(b) For the purposes of sections S4.1.5 through S4.1.5.3 and S4.2.6 through S4.2.6.2 of this standard, an *inflatable restraint system* means an air bag that is activated in a crash.

* * * * *

S4.5.1 Labeling and owner's manual information.

* * * * *

(b) *Labels on sun visor above seating positions equipped with an inflatable restraint system.* Except as provided in S4.5.1(e) of this standard, each vehicle manufactured on or after (the date 60 days after publication of the final rule would be inserted) shall have labels permanently affixed to both sides of the sun visor over each front outboard seating position that is equipped with an inflatable restraint system. The label on the side of the visor visible when the visor is in the stowed position and the label on the side of the visor visible when the visor is in the extended position shall conform in size, content, color, and format to the appropriate sun visor label shown in Figures 6a, 6b and 6c of this standard. No additional information about air bags or the need to wear seat belts shall appear on sun visors, except for air bag maintenance information provided pursuant to S4.5.1(a) of this standard or the utility vehicle label provided pursuant to 49 CFR 575.105(c)(1).

(c) *Label on Passenger-Side End of Dash or on Passenger-Side Door.* Except as provided in S4.5.1(e) of this standard, each vehicle manufactured on or after (the date 60 days after publication of the final rule would be inserted) that is equipped with an inflatable restraint system for the passenger position shall have a label permanently affixed to the passenger-side end of the vehicle dash or the passenger-side door. The label shall be positioned so that it is plainly visible and easily readable when the passenger-side door is fully opened. This label shall conform in size, content, color, and format to the appropriate passenger-side dash/door label shown in Figures 7a and 7b of this standard.

(d) *Label in the middle of the dash.* Except as provided in S4.5.1(e) of this standard, each vehicle manufactured on or after (the date 60 days after publication of the final rule would be) that is equipped with an inflatable restraint system for the passenger position shall have a label affixed to the middle of the dash. This label shall be positioned so that it is conspicuous and easily readable for a seated occupant in any front designated seating position. This label shall conform in size, content, color, and format to the middle of the dash label shown in Figure 8 of this standard.

(e) (1) The labels specified in S4.5.1(b), (c) and (d) of this standard are not required for vehicles that have a smart passenger air bag meeting the

criteria specified in S4.5.5 of this standard.

(2) A manufacturer may, at its option, place the label specified in S4.5.1(b) of this standard for the side of the visor visible when the visor is in the extended position, on the side of the visor visible when the visor is in the stowed position. If the manufacturer selects this option, it need not provide a label on the side of the visor visible when the visor is in the extended position.

* * * * *

S4.5.4 *Passenger Air Bag Manual Cutoff Device.* Passenger cars, trucks, buses, and multipurpose passenger vehicles which do not have smart passenger air bags (as defined in S4.5.5 of this standard) may be equipped with a device that deactivates the air bag installed at the right front passenger position in the vehicle, if all of the

conditions in S4.5.4.1 through S4.5.4.3 of this standard are satisfied.

* * * * *

S4.5.5 *Smart Passenger Air Bags.* For purposes of this standard, a smart passenger air bag is a passenger air bag which:

(a) Provides an automatic means to ensure that the air bag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard passenger seat;

(b) Provides an automatic means to ensure that the air bag does not deploy when [In the final rule, the agency would include specific, broadly-inclusive language that allows objective identification of other deactivation technologies (e.g., sensors of occupant size or proximity-to-dashboard) that would automatically prevent an air bag from injuring the two groups of children that experience has shown to be at

special risk from air bags: infants in rear-facing child seats, and unbelted or improperly belted children]; or

(c) Deploys in a manner that [In the final rule, the agency would include specific, broadly-inclusive language that allows objective identification of technologies that would automatically prevent an air bag from injuring the two groups of children that experience has shown to be at special risk from air bags: infants in rear-facing child seats, and unbelted or improperly belted children].

* * * * *

3. Section 571.208 would be amended by adding a new heading preceeding the figures and new figures 6a, 6b, 6c, 7a, 7b, and 8 at the end of the section as follows:

Figures to § 571.208

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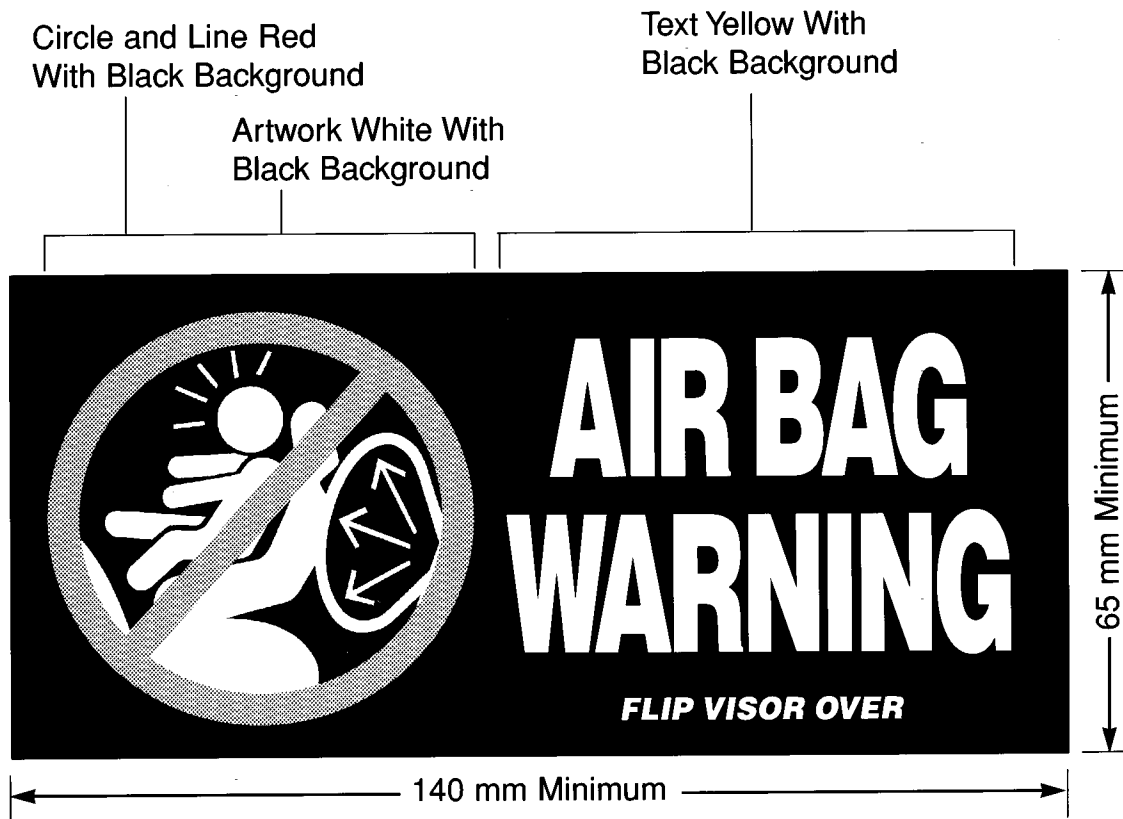


Figure 6a. Sun Visor Label Visible When Visor is Stowed.

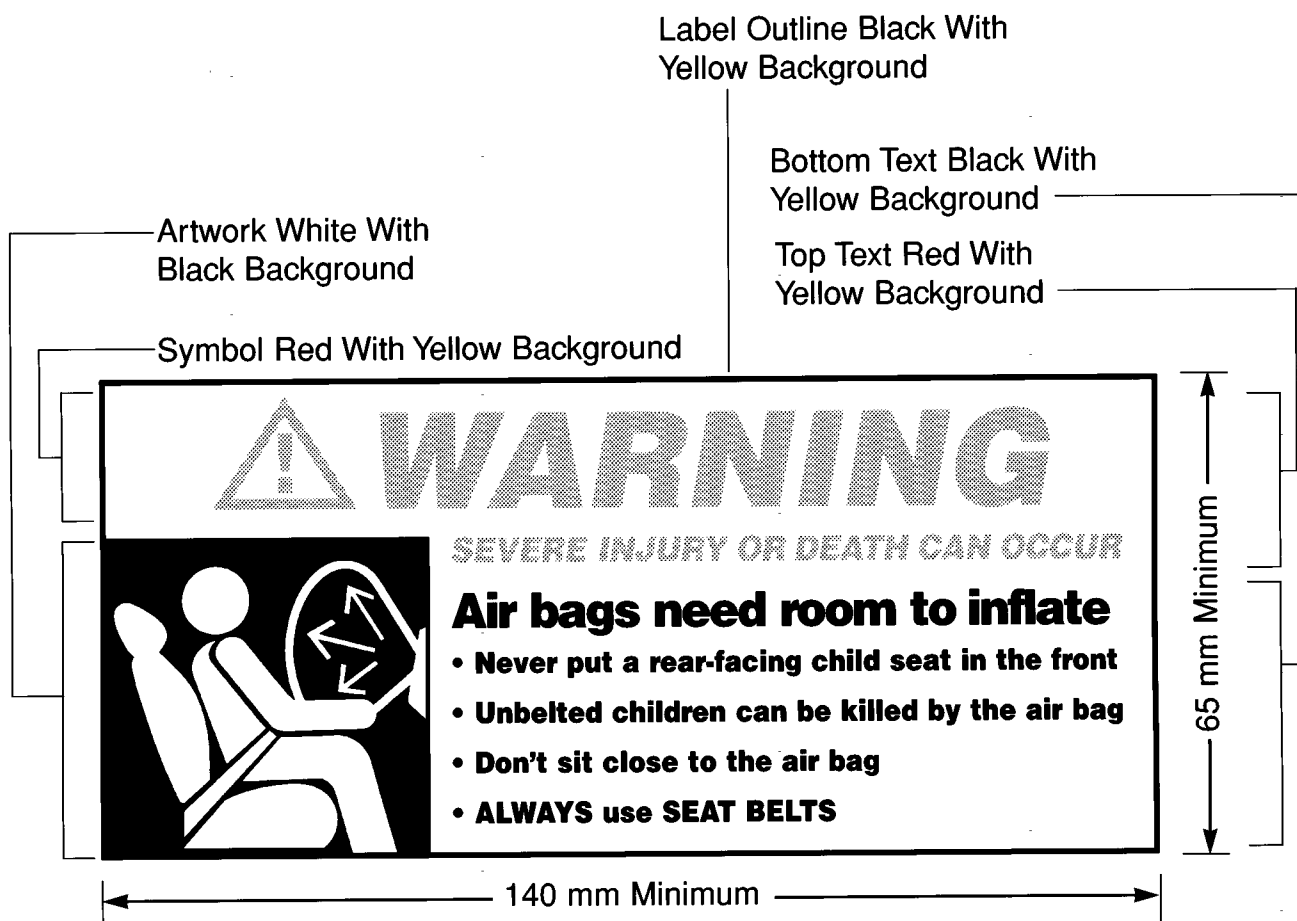


Figure 6b. Sun Visor Label Visible When Visor Is Extended
(if vehicle does not have an air bag cut off switch).

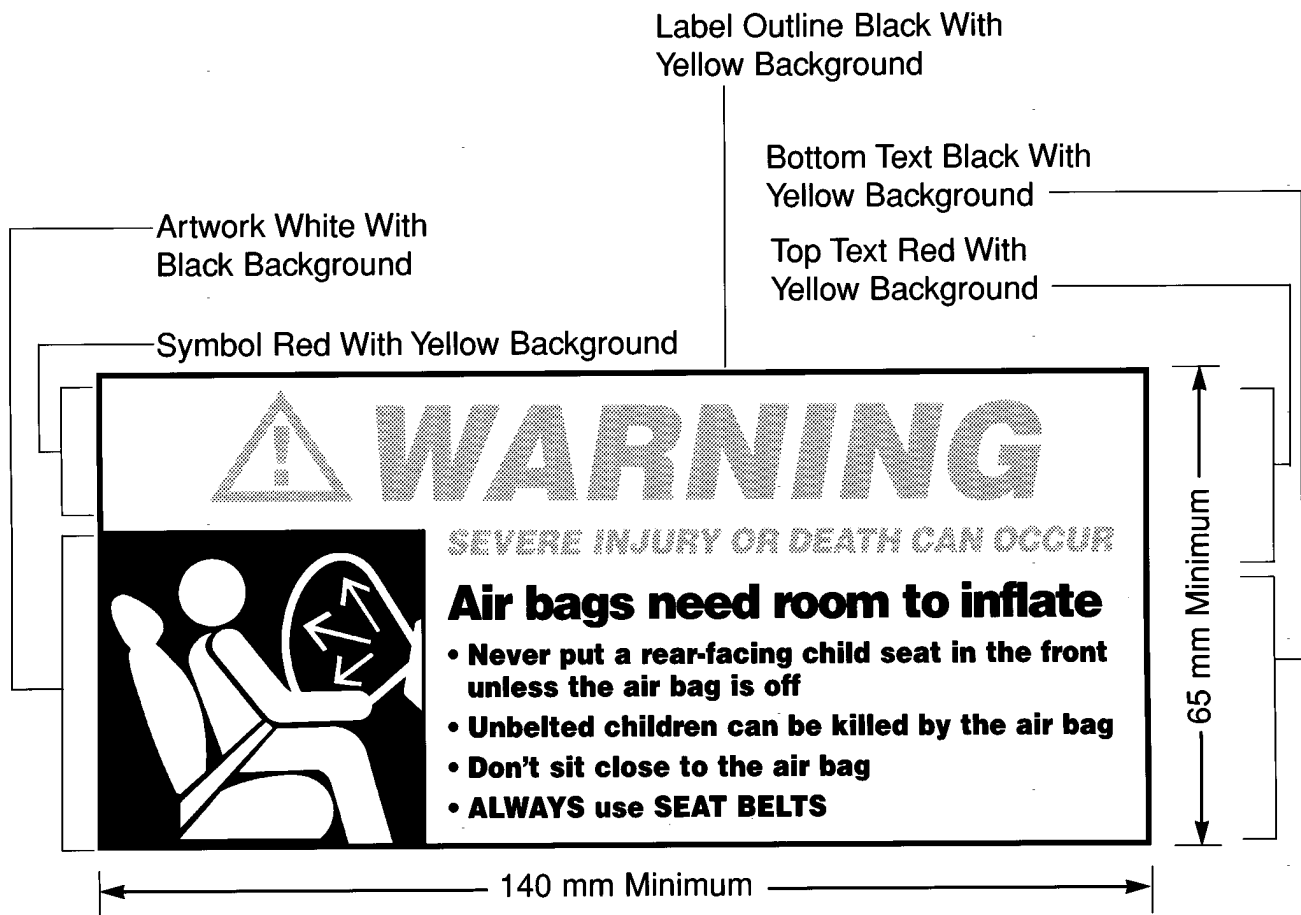


Figure 6c. Sun Visor Label Visible When Visor Is Extended (if vehicle has an air bag cut off switch).

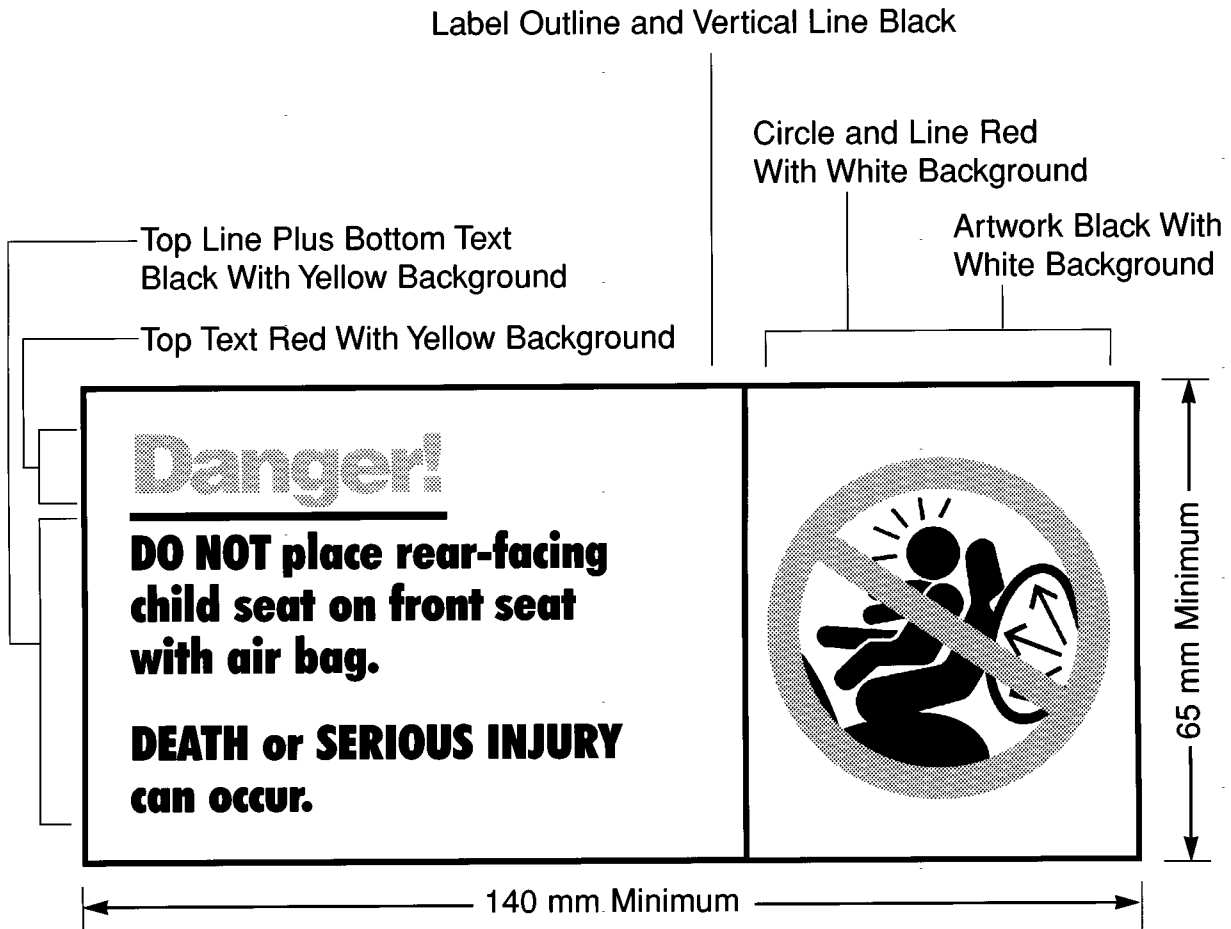


Figure 7a. Label on Passenger Side End of Dash or on Passenger Side Door (if vehicle does not have an air bag cut off switch).

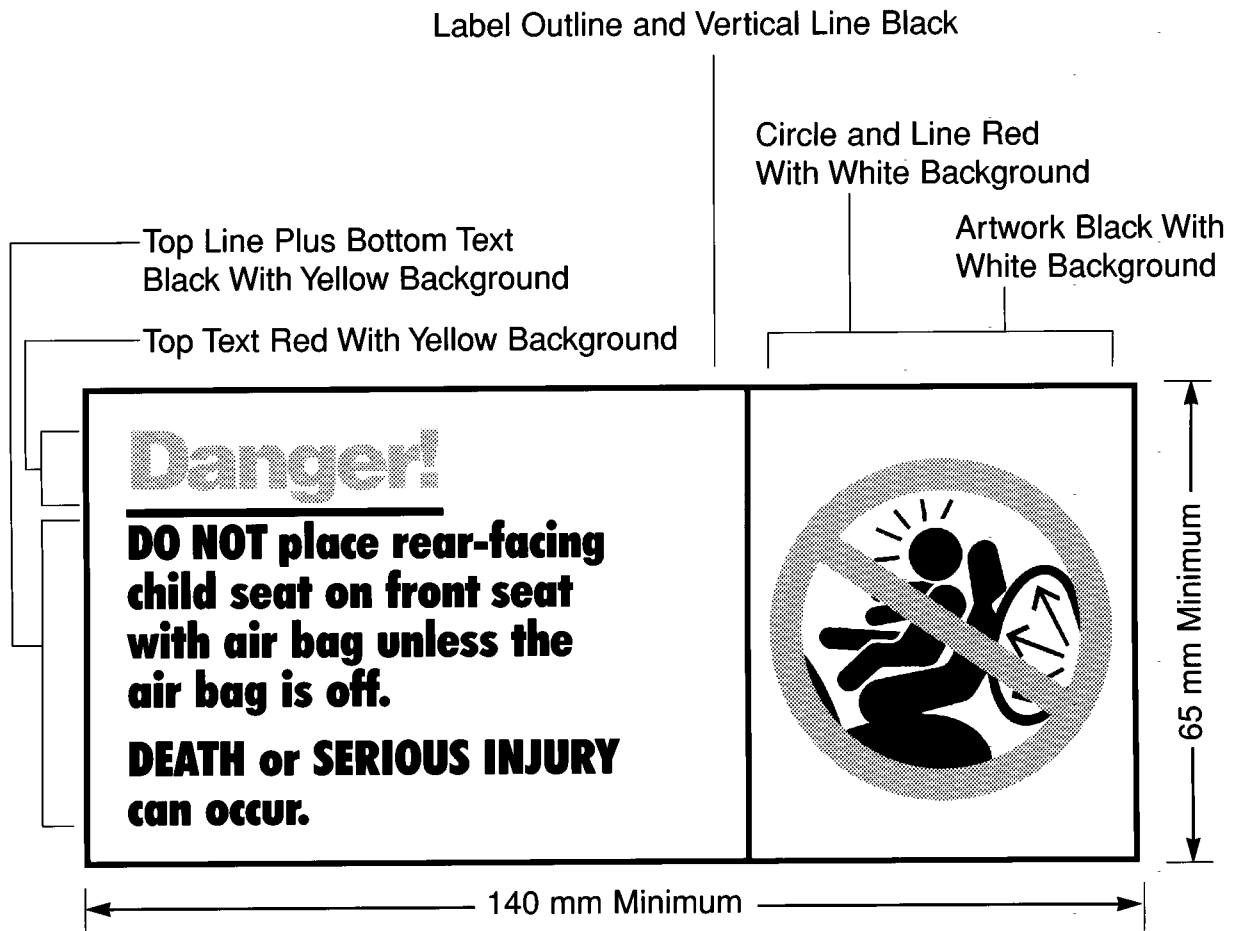


Figure 7b. Label on Passenger Side End of Dash or on Passenger Side Door (if vehicle has an air bag cut off switch).

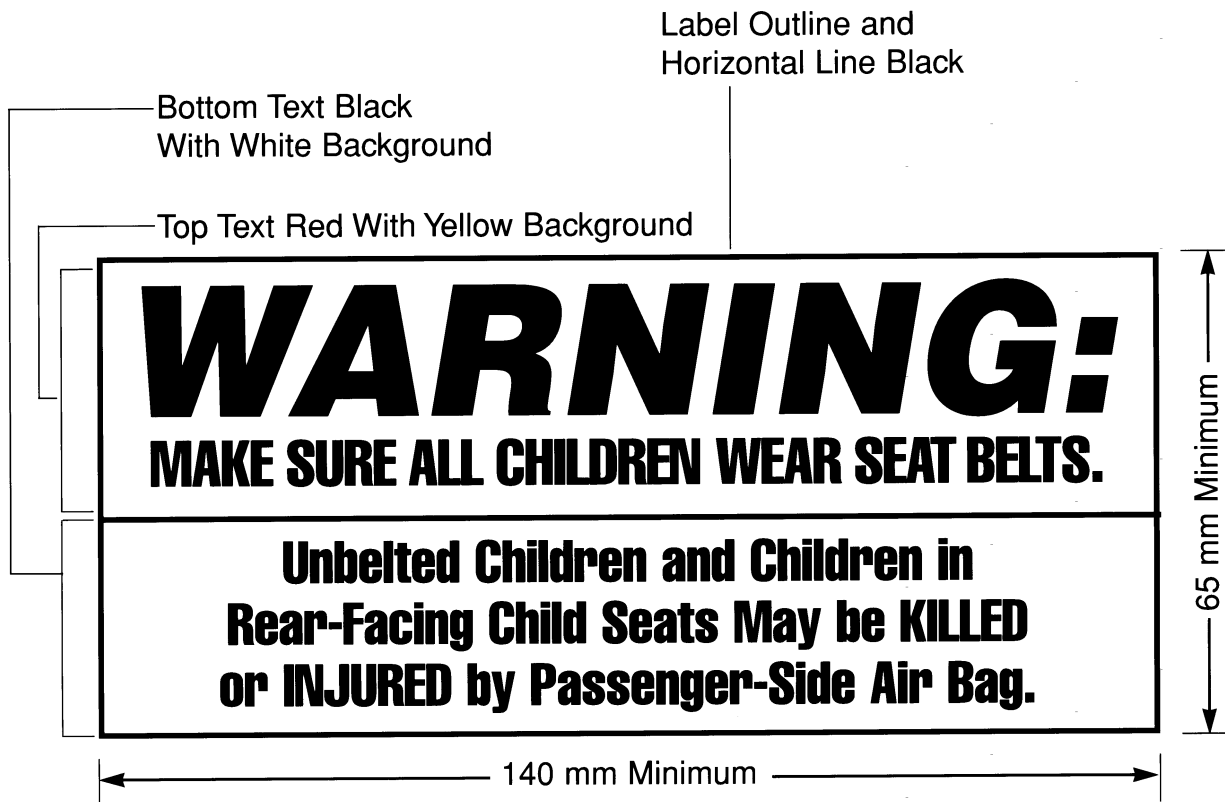


Figure 8. Warning Label in Middle of Dash.

4. Section 571.213 would be amended by adding S5.5.2(k)(4) to read as follows:

§ 571.213 Standard No. 213, Child restraint systems.

* * * * *

S5.5.2 * * *

(k) * * *

(4) In the case of each child restraint system that can be used in a rear-facing position and is manufactured on or after (the date 180 days after publication of the final rule would be inserted), instead of the warning specified in S5.5.2(k)(1)(ii) or S5.5.2(k)(2)(ii) of this standard, a label that conforms in size, content, color, and format to Figure 10

of this standard shall be permanently affixed to the outer surface of the cushion or padding in the area where a child's head would rest, so that the label is plainly visible and easily readable.

* * * * *

5. Section 571.213 would be amended by adding new figure 10 at the end of the section as follows:

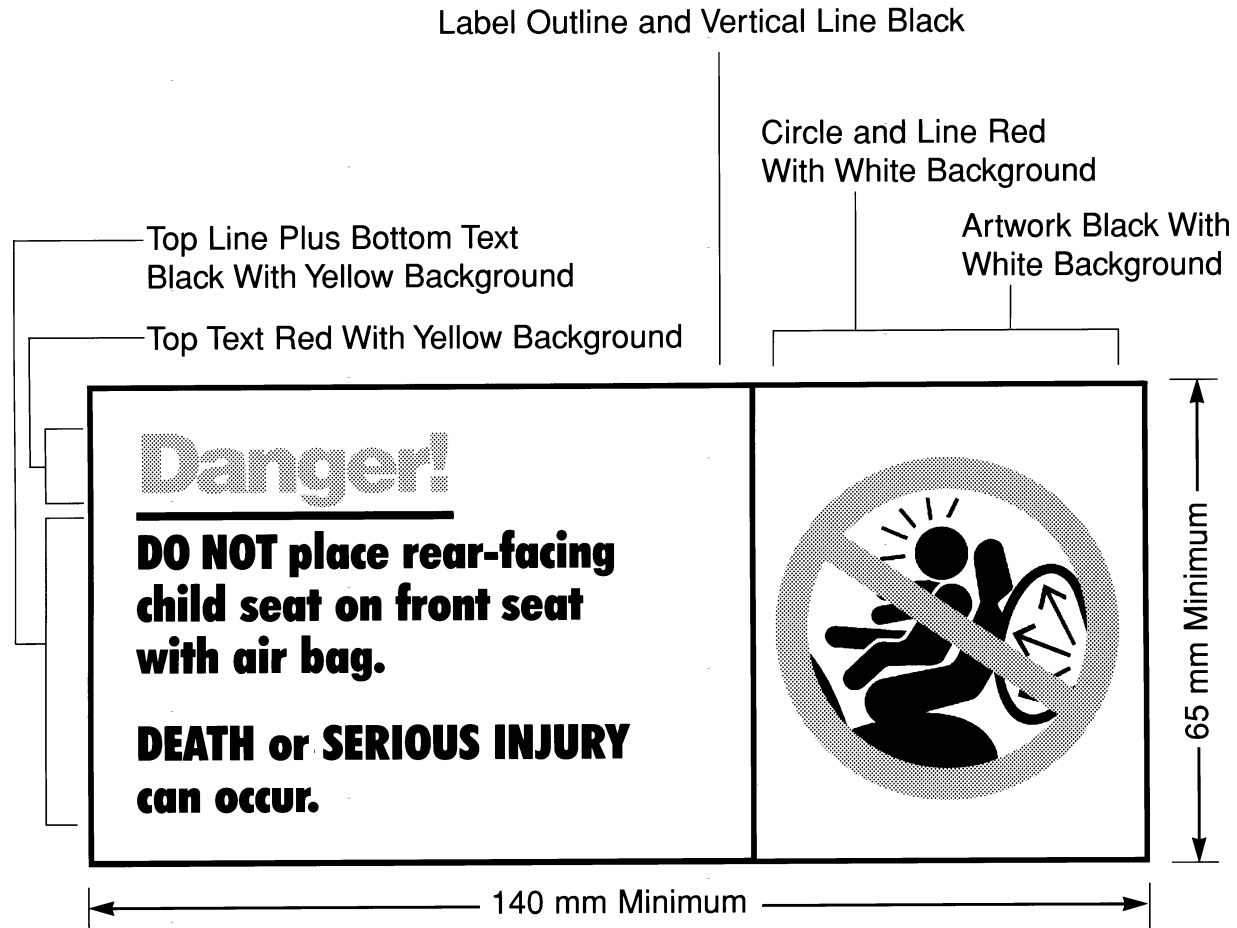


Figure 10. Label on Rear Facing Child Seat.

Issued on July 31, 1996.

Barry Felrice,
Associate Administrator for Safety
Performance Standards.

[FR Doc. 96-19923 Filed 8-1-96; 1:48 pm]

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