**DEPARTMENT OF TRANSPORTATION**

**National Highway Traffic Safety Administration**

**49 CFR Parts 571 and 595**

**[Docket No. NHTSA–97–3111]**

**RIN 2127—AG61**

## Air Bag On-Off Switches

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

**ACTION:** Final rule; denial of petition for reconsideration.

**SUMMARY:** This final rule seeks to preserve the benefits of air bags, while providing a means for reducing the risk of serious or fatal injury that current air bags pose to identifiable groups of people, e.g., people who cannot avoid sitting extremely close to air bags, people with certain medical conditions, and young children. The benefits are substantial; current air bags had saved about 2,620 drivers and passengers, as of November 1, 1997. However, those air bags had also caused the death of 87 people in low speed crashes, as of that same date. Most of those people were unbelted or improperly belted. Although vehicle manufacturers are beginning to replace current air bags with new air bags having some advanced attributes, i.e., attributes that will automatically avoid the risks created by current air bags, an interim solution is needed now for those groups of people at risk from current air bags in existing vehicles.

This final rule exempts motor vehicle dealers and repair businesses from the statutory prohibition against making federally-required safety equipment inoperative so that, beginning January 19, 1998, they may install retrofit manual on-off switches for air bags in vehicles owned by or used by persons whose requests for switches have been approved by the agency. While the administrative process necessary to provide prior approval is more complex than the process proposed by the agency in January 1997 for enabling vehicle owners to obtain switches, prior approval is warranted by several considerations. The requirement for prior approval of requests for switches emphasizes to vehicle owners the importance of taking the safety consequences of a decision to seek and use on-off switches very seriously. While some people need and will be benefited by on-off switches, the vast majority of people will not be. Further, checking the requests for switches is more appropriately performed by the agency than by the dealers and repair businesses who will install the switches. Finally, prior approval will enable the agency to monitor directly, from the very beginning, the implementation of the regulation and the effectiveness of its regulation and the associated educational materials in promoting informed decisionmaking about on-off switches.

Under the exemption, vehicle owners can request an on-off switch by filling out an agency request form and submitting the form to the agency. On the form, owners must certify that they have read an information brochure discussing air bag safety and risks. The brochure describes the steps that the vast majority of people can take to minimize the risk of serious injuries from air bags while preserving the benefits of air bags, without going to the expense of buying an on-off switch. The brochure was developed by the agency to enable owners to determine whether they are, or a user of their vehicle is, in one of the groups of people at risk of a serious air bag injury and to make a careful, informed decision about requesting an on-off switch. Owners must also certify that they or another user of their vehicle is a member of one or the risk groups. Since the risk groups for drivers are different from those for passengers, a separate certification must be made on an agency request form for each air bag to be equipped with an on-off switch.

If NHTSA approves a request, the agency will send the owner a letter authorizing the installation of one or more on-off switches in the owner's vehicle. The owner may give the authorization letter to any dealer or repair business, which may then install an on-off switch for the driver or passenger air bag or both, as approved by the agency. The on-off switch must meet certain criteria, such as being equipped with a telltale light to alert vehicle occupants when an air bag has been turned off. The dealer or repair business must then fill in information about itself and its installation in a form in the letter and return the form to the agency.

This final rule also denies a petition for reconsideration of the agency's January 1997 decision in a separate rulemaking not to extend the option for installing original equipment manufacturer on-off switches for passenger air bags to all new vehicles equipped with air bags. As a result of that decision, the option continues to apply only to those new vehicles lacking a rear seat capable of accommodating a rear-facing infant restraint.

**DATES:** *Effective Date:* Part 595 is effective December 18, 1997. The agency will begin processing air bag on-off switch requests on that same date. If a form is submitted before December 18, it will be given the same priority as a form submitted after that date. Accordingly, there will be no advantage to submitting forms early. Motor vehicle dealers and repair businesses may begin installing switches on January 19, 1998.

The amendments to Part 571 are effective January 19, 1998. Compliance with those requirements is optional before that date.

*Petitions:* Petitions for reconsideration must be received by January 5, 1998.

**ADDRESSES:** Petitions for reconsideration should refer to the docket number of this rule and be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** For information about air bags and related rulemaking: For additional information, call the NHTSA Hotline at 1–800–424–9393; in the D.C. area, call 202–366–0123. In addition, visit the NHTSA Web site at http://www.nhtsa.dot.gov/airbags/. Among the available materials are descriptions of the procedures for requesting authorization to obtain an on-off switch and a list of questions and answers about air bags and on-off switches. There are also crash videos showing what happens in a crash to a belted, short-statured dummy whose driver air bag is turned off.

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## I. Executive Summary of This Final Rule

### *A. Final Rule*

This final rule seeks to preserve the benefits of air bags, while providing a means for reducing the risks that some current air bag designs pose to discrete groups of people due to their extreme proximity to air bags. This final rule exempts motor vehicle dealers and repair businesses from the statutory prohibition against making federally-required safety equipment inoperative so that, beginning January 19, 1998, they may install, subject to certain conditions, retrofit manual on-off switches for the air bags of vehicle owners whose request is approved by NHTSA. To obtain approval, vehicle owners must submit a request form to NHTSA on which they have certified that they have read an agency information brochure about air bag benefits and risks and that they or a user of their vehicle is a member of one of the risk groups identified by the agency. The agency will begin processing and granting requests on December 18, 1997.

Air bags have saved the lives of about 2,620 drivers and passengers, primarily in moderate and high speed crashes, as of November 1, 1997. However, air bags have also caused fatal injuries, primarily in relatively low speed crashes, to a small but growing number of children, and on rare occasion to adults. These deaths were not random. They occurred when people were too close to their air bag when it began to inflate. The vast majority of these fatalities could have been avoided by preventive steps such as using seat belts, moving the front seats back as much as possible, and putting children in the back seat. Nevertheless, a relatively small number of people may still be at risk, even after taking these steps, because they will be more likely than the general population to be too close to their air bags. Although advanced air bags are the ultimate answer and manufacturers are beginning to install air bags with some advanced attributes, an interim solution is needed for those identifiable groups of persons for whom current air bags in existing vehicles may pose a risk of serious or fatal injury.[1]

Under the exemption, vehicle owners[2] may request a retrofit on-off switch, based on informed decisionmaking and their certification of their membership or the membership of another user of their vehicle in one of the risk groups identified by the agency. After reading the agency information brochure, owners can fill out and sign an agency request form and submit it to NHTSA. The information brochure, which provides guidance about which groups of people may be at risk from air bags and about appropriate use of on-off switches, is intended to inform consumers about which people are at risk from air bags and to promote informed decisionmaking by consumers about whether to request an on-off switch for those persons. To increase the likelihood that the decisions are, in fact, informed, owners requesting a retrofit on-off switch must certify on the request form that they have read the information brochure. To limit the availability of on-off switches to persons at risk of serious air bag injury, the owners must also certify that they or a user of their vehicle is a member of one or more of the risk groups described on the information brochure and listed on the request form. The particular risk group in which membership is claimed must be identified. Since the risk groups for driver air bags are different from those for passenger air bags, a separate certification must be made for each air bag to be equipped with an on-off switch.

To reinforce the importance of taking great care in accurately certifying risk group membership, the agency is requiring owners to submit their requests to the agency. The agency expects that owners will accurately and honestly make the necessary certifications and statements on their request forms, but reserves the right to investigate. The prior approval procedure will also enable the agency to monitor, from the very beginning, the volume of requests and patterns in switch requests and risk group certifications. The computerization of the process of preparing authorization letters will minimize the time needed by the agency to process and respond to the requests. The precise amount of time will depend in large measure on the volume of requests.

The agency strongly urges caution in obtaining and using on-off switches. As noted above, on-off switches are not

[1] An advanced air bag senses or responds to differences in crash severity, occupant size or the distance of the occupant from the air bag at the time of a crash. The advanced air bag adjusts its performance by suppressing deployment in circumstances in which fatalities might otherwise be caused by the air bag, but not by the force of the crash or by reducing the force of deployment in those circumstances.

[2] This final rule applies to leased as well as owned vehicles. See part VIII.G.8 of this preamble. For the sake of simplicity, however, most references in this preamble are to owners only. Those references should be deemed to include lessees as well as owners.

needed for the vast majority of people since they are not at risk. Most people can take steps that will eliminate or significantly reduce their risk without turning off their air bag and losing its protective value. If they take those steps, they will be safer than if they did not take those steps and simply turned off their air bag. The most important steps are using seat belts and other restraints and moving back from the air bag. More important, people who are not at risk will be less safe if they turn off their air bag.

This exemption is subject to certain conditions to promote the safe and careful use of on-off switches. For example, the on-off switches installed pursuant to this exemption must meet certain performance criteria, such as being operable by a key and being accompanied by a telltale to alert vehicle occupants whether the air bag is ''on'' or ''off.'' In addition, to provide a reminder about the proper use of on-off switches, vehicle dealers and repair businesses must give vehicle owners an owner's manual insert describing the operation of the on-off switch, listing the risk groups, stating that the on-off switch should be used to turn off an air bag for risk group members only, and stating the vehicle specific safety consequences of using the on-off switch for a person who is not in any risk group. Those consequences will include the effect of any energy managing features, e.g., load limiters, on seat belt performance.

In response to comments indicating that the definition of ''advanced air bag'' was too vague and that dealers could not reasonably ascertain whether a vehicle was equipped with such air bags, the agency has deferred adoption of that aspect of its proposal which would have prohibited installation of on-off switches for advanced air bags. NHTSA expects to adopt such a prohibition after it develops a more complete definition of ''advanced air bags'' that applies to driver as well as passenger air bags. This deferral should have no practical significance. Although the vehicle manufacturers are beginning to introduce air bags with advanced attributes, the agency does not expect the installation of significant numbers of advanced air bags before it is ready to establish a better definition.

The agency has selected January 19, 1998, as the beginning date for the installation of retrofit on-off switches under this rule. This date allows time for completion of the design, production and distribution of on-off switches and the training of installation personnel. It also allows time for the public education campaign of the agency and other interested parties (e.g., the Air Bag Safety Campaign (ABSC),[3] American Automobile Association (AAA), Centers for Disease Control and Prevention (CDC), Insurance Institute for Highway Safety (IIHS), motor vehicle dealers, and state motor vehicle departments) to effectively reach a substantial percentage of the public before the installation of on-off switches begins. Until on-off switches become available from the vehicle manufacturer for a given vehicle make and model, NHTSA will continue to exercise its prosecutorial discretion to grant requests for deactivating the air bags in that make and model. In view of the relative inflexibility and permanence of deactivation, the discretion will be exercised on a case-by-case basis in the same limited set of circumstances in which the requests are currently granted, e.g., in cases in which unusual medical conditions suggest that deactivation is appropriate, and in cases in which infants must be carried in the front seat of vehicles lacking a rear seat capable of accommodating a rear-facing infant seat.

*B. Comparison of NPRM and Final Rule*

The final rule being issued today follows, in several important respects, the agency's January 1997 proposal. Most important, the rule makes a means of turning off air bags available to vehicle owners. It simplifies the current process of obtaining a means of turning off air bags. Instead of having to compose an original request letter and type or write the letter out in longhand, as they must to obtain authorization from the agency for deactivation, vehicle owners will be able to fill out an agency request form. To promote informed decisionmaking, this rule requires owners to certify on the request form that they have read an air bag information brochure prepared by NHTSA so that owners can separate fact from fiction about who is really at risk and therefore may need an on-off switch.

However, the final rule differs from the proposal in several other important respects. First, the sole means authorized for turning off air bags is a retrofit on-off switch. Deactivation (i.e., modifying the air bag so that it will not deploy for anyone under any circumstance) is not allowed under the exemption. Although the agency recognized in January 1997 that retrofit on-off switches offered some advantages, the agency proposed deactivation because the apparent unavailability of retrofit on-off switches in the near term made them impracticable. When the deactivation proposal was issued, there were indications from the vehicle manufacturers that they would not be able to provide retrofit on-off switches for existing vehicles in a timely manner. Subsequent to the January 1997 proposal, a number of major vehicle manufacturers began reassessing the practicability of on-off switches and making statements to the agency and the media that they were able to provide retrofit on-off switches for existing vehicles, and for future vehicles. The change to on-off switches in this final rule will enhance safety because the on-off switches are a more focused, flexible means of turning off air bags. They enable consumers to leave air bags on for people who are not at risk and thus will benefit from their protection, and turn them off for people at risk.

Second, vehicle owners must certify that they are a member of one of several specified risk groups or that their vehicle will be driven or occupied by a person who is a member of such a group. The agency proposed to allow any person to choose to have his or her air bags deactivated, without having to demonstrate or state a particular safety need. Under the proposal, applicants would simply have had to fill out an agency form on which they indicated that they had received and read an information brochure explaining the safety consequences of having an air bag deactivated. For the final rule, the agency has devised a new form on which owners desiring an on-off switch for either a driver or passenger air bag not only must certify that they have read the brochure, but also that they or one of the users of their vehicle fall into an identifiable risk group for that air bag. Use of the revised form will help provide reasonable assurance that the exemption is implemented in a manner consistent with safety.

Third, the agency is requiring owners to submit their filled-out forms to the agency for approval. Together with the requirement for certification of risk group membership, the necessity for obtaining agency approval will help limit the installation and use of on-off switches to people who are at risk from air bags and give the agency information about the volume of requests and patterns in switch requests and risk group certifications.

[3] The ABSC represents all automobile manufacturers (domestic and importers), air bag suppliers, many motor vehicle insurance companies and the National Safety Council.

## II. Overview of Problem and the Agency's Remedial Actions

### *A. Introduction*

While air bags are providing significant overall safety benefits, NHTSA is concerned that current air bags have adverse effects on certain groups of people in limited situations. Of particular concern, NHTSA has identified 87 primarily low speed crashes in which the deployment of an air bag resulted in fatal injuries to an occupant, as of November 1, 1997.[4] NHTSA believes that none of these occupants would have died if they had not been seated in front of an air bag.

The primary factor linking these deaths is the proximity to air bags at the time of their deployment. All of these deaths occurred under circumstances in which the occupant's upper body was very near the air bag when it deployed.

There were two other factors common to many of the deaths. First, apart from 12 infants fatally injured while riding in rear-facing infant seats, most of the fatally injured people were not using any type of child seat or seat belt. This allowed the people to move forward more readily than properly restrained occupants in a frontal crash. Further, the air bags involved in those deaths were, like almost all current air bags, so-called ''one-size-fits-all'' air bags that have a single inflation level.[5] These air bags deploy with the same force in very low speed crashes as they do in higher speed crashes.

The most direct behavioral solution to the problem of child fatalities from air bags is for children to be properly belted and placed in the back seat whenever possible, while the most direct behavioral solution for the adult fatalities is to use seat belts and move the driver seat back as far as practicable. Implementing these solutions necessitates increasing the percentage of children who are seated in the back and properly restrained in child safety seats. It also necessitates improving the current 68 percent rate of seat belt usage by a combination of methods, including the enactment of State primary seat belt use laws.[6]

The most direct technical solution to the problem of fatalities from air bags is to require that motor vehicle manufacturers install advanced air bags that protect occupants from the adverse effects that can occur from being too close to a deploying air bag.

All of these solutions are being pursued by the agency. However, until advanced air bags can be developed and incorporated into production vehicles, behavioral changes based on improved information and communication about potential hazards and simple, manually operated technology are the best means of addressing fatalities from air bags, especially those involving children.

To partially implement these solutions, and preserve the benefits of air bags, while reducing the risk of injury to certain people, NHTSA issued two other final rules in the past year. One rule requires new passenger cars and light trucks whose passenger air bags are not advanced to bear new, enhanced warning labels. (61 FR 60206; November 27, 1996) The other final rule provides vehicle manufacturers with the temporary option of ensuring compliance by conducting a sled test using an unbelted dummy instead of conducting a vehicle-to-barrier crash test using an unbelted dummy. (62 FR 12960; March 19, 1997) The purpose of the option is primarily to enable vehicle manufacturers to expedite their efforts to lessen the force of air bags as they deploy.

On the behavioral side, the agency has initiated a national campaign to increase usage of seat belts through the enactment of primary seat belt use laws, more public education, and more effective enforcement of existing belt use and child safety seat use laws.

In conjunction with the National Aeronautical and Space Administration, as well as Transport Canada, and in cooperation with domestic and foreign vehicle manufacturers, restraint system suppliers and others through the Motor Vehicle Safety Research Advisory Committee (MVSRAC), NHTSA is undertaking data analysis and research to address remaining questions concerning the development and introduction of advanced air bags. As noted above, the Federal motor vehicle safety standards have permitted, but not required, the introduction of advanced air bags. NHTSA recognizes that, if it were to require advanced air bags, it would have to take into consideration the differing leadtimes for the various kinds of advanced bags under development, and the fact that the longest leadtimes will be those for the most advanced bags. The agency also recognizes the engineering challenge and potential costs associated with incorporating some of the advanced air bag design features into the entire passenger car and light truck fleet. A proposal to require the installation of advanced air bags is expected this winter.

### *B. Background*

1. Air Bags: Safety Issues

*a. Lives Saved and Lost.* Air bags have proven to be highly effective in reducing fatalities from frontal crashes, the most prevalent fatality and injury-causing type of crash. Frontal crashes cause 64 percent of all driver and right-front passenger fatalities.

NHTSA estimates that, between 1986 and November 1, 1997, air bags have saved about 2,620 drivers and passengers (2,287 drivers (87 percent) and 332 passengers (23 percent)).[7] Of the 2,620, 1,800 (69 percent) were unbelted and 700 (31 percent) were belted. These agency estimates are based on comparisons of the frequency of front seat occupant deaths in vehicles without air bags and in vehicles with air bags. Approximately half of those lives were saved in the last two years. These savings occurred primarily in moderate and high speed crashes. Pursuant to the mandate in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) for the installation of air bags in all passenger cars and light trucks, the number of air bags in vehicles on the road will increase each year. As a result, the annual number of lives saved by air bags will continue to increase each year. Based on current levels of effectiveness, air bags will save more than 3,000 lives each year in passenger cars and light trucks when all light vehicles on the road are equipped with dual air bags. This estimate is based on current seat

[4] The vast majority of the deaths appear to have occurred in crashed in which the vehicle was traveling at less than 15 miles per hour when the air bag deployed. Almost all occurred at vehicle speeds under 20 miles per hour. NHTSA notes that Federal safety standards do not specify a vehicle crash speed at which air bags must deploy.

[5] The Federal safety standards do not require a ''one-size-fits-all'' approach to designing air bags. They permit a wide variety of technologies that would enable air bags to deploy with less force in lower speed crashes or when occupants are out-of-position or suppress deployment altogether in appropriate circumstances.

[6] In States with ''secondary'' seat belt use laws, a motorist may be ticketed for failure to wear a seat belt only if there is a separate basis for stopping the motorist, such as the violation of a separate traffic law. This hampers enforcement of the law. In States with primary laws, a citation can be issued solely because of failure to wear seat belts.

[7] Studies published in the November 5, 1997 issue of the *Journal of the American Medical Association* by IIHS and by the Center for Risk Analysis at the Harvard School of Pulbic Health confirm the overall value of passenger air bags, whle urging action be taken quickly to address the loss of children's lives due to those air bags. IIHS found that passenger air bags were associated with a substantial reduction in crash deaths. The Center evaluated the cost-effectiveness of passenger air bags and concluded that they produce savings at costs comparable to many well-accepted medical and public health practices.

belt use rates (about 68 percent, according to State-reported surveys).

While air bags are saving large numbers of people in moderate and high speed crashes, they sometimes cause fatalities, especially to children, in lower speed crashes. As of November 1, 1997, NHTSA's Special Crash Investigation program had confirmed a total of 87 crashes in this country in which the deployment of an air bag resulted in fatal injuries. Forty-nine of those fatalities involved children. Three adult passengers have also been fatally injured. Thirty-five drivers are known to have been fatally injured.

In addition to the 87 confirmed air bag related deaths, there were 18 deaths under investigation, as of November 1, 1997, 1 involving a 1996 crash and 17 involving 1997 crashes. The single 1996 death still under investigation involved a driver. The 17 deaths in 1997 involved 1 infant, 11 children ranging in age from 1 to 11 years, and 5 drivers. Although the agency cannot predict how many of the deaths under investigation that will ultimately be categorized as confirmed air bag related deaths, the agency notes that roughly 80 percent of the deaths investigated to date have ultimately been confirmed.

The trends in the annual numbers of child and adult deaths differ significantly. The annual number of confirmed fatally-injured children increased significantly in 1993 through 1996 (1 in 1993, 5 in 1994, 8 in 1995 and 22 in 1996), while the number of confirmed fatally-injured drivers did not increase appreciably in the same period (4 in 1993, 7 in 1994, 4 in 1995, and 6 in 1996). As of November 1, 12 children and 6 drivers had been confirmed as having been fatally injured by air bags this year. However, as noted above, additional deaths are under investigation. The total number of confirmed deaths for this year will not be known until some time next year.

The number of vehicles with either driver air bags or both driver and passenger air bags increased steadily over the last four years. Since the fall of 1996, the number of vehicles with both driver and passenger air bags has been increasing at the rate of 1 million vehicles per month. The ratio of driver deaths to vehicles with driver air bags decreased significantly between 1993 and 1996. The ratio of child deaths to vehicles with passenger air bags also decreased, but not nearly so much.

*b. Causes of Air Bag Fatalities.* The one fact that is common to all who died is *not* their height, weight, sex, or age. Instead, it is the fact that they were too close to the air bag when it started to deploy. For some, this occurred because they were sitting too close to the air bag. More often this occurred because they were not restrained by seat belts or child safety seats and were thrown forward during pre-crash braking.

Air bags are designed to save lives and prevent injuries by cushioning occupants as they move forward in a front-end crash. They keep the occupants' head, neck, and chest from hitting the steering wheel or dashboard. To accomplish this, an air bag must move into place quickly. The force of a deploying air bag is greatest in the first 2–3 inches after the air bag bursts through its cover and begins to inflate. Those 2–3 inches are the ''risk zone.'' The force decreases as the air bag inflates further.

Occupants who are very close to or in contact with the cover of a stored air bag when the air bag begins to inflate can be hit with enough force to suffer serious injury or death. In contrast, occupants who are properly restrained and who sit 10 inches away from the air bag cover will contact the air bag only after it has completely or almost completely inflated. The air bag then will cushion and protect them from hitting hard surfaces in the vehicle and thus provide a significant safety benefit, particularly in moderate to serious crashes.

The confirmed fatalities involving children have a number of fairly consistent characteristics. First, all 12 infants were in rear-facing infant seats. Second, the vast majority of the older children were not using any type of restraint.[8] Third, almost all of the small number of older children who were using some type of restraint were improperly restrained or were leaning so far forward that benefits of being restrained were largely negated. For example, some were too small to be using just a vehicle lap and shoulder belt. Fourth, as noted above, the crashes occurred at relatively low speeds. If the passenger air bag had not deployed in those crashes, the children would probably not have been killed or seriously injured. Fifth, the infants and older children were very close to the dashboard when the air bag deployed. Properly installed rear-facing infant seats are always very close to the dashboard. For essentially all of the older children, the non-use or improper use of occupant restraints or the failure to use the restraints most appropriate to the child's weight and age, in conjunction with pre-impact braking, resulted in the forward movement of the children.[9] As a result, they were very close to the air bag when it deployed. Because of their proximity, the children sustained fatal head or neck injuries from the deploying passenger air bag.

As in the case of the children fatally injured by air bags, the key factor regarding the confirmed adult deaths has been their proximity to the air bag when it deployed. The most common reason for their proximity was failure to use seat belts. Only 11 of the 35 drivers were known to be properly restrained by lap and shoulder belts at the time of the crash. Moreover, of those eleven, two appeared to be out of position (blacked out, due to medical conditions, and slumped over the steering wheel) at the time of the crash. As in the case of children, the deaths of drivers have occurred primarily in low speed crashes.

The other cause of air bag fatalities is the design of current air bags. Air bag fatalities are not a problem inherent in the concept of air bags or in the agency's occupant restraint standard, Standard No. 208 (49 CFR 571.208). That standard has long permitted, but not required, a variety of design features that would reduce or eliminate the fatalities that have been occurring, e.g., higher deployment thresholds that will prevent deployment in low speed crashes,[10] different folding patterns and aspiration designs, dual stage inflators,[11] new air bag designs like the Autoliv ''Gentle Bag'' that deploys first radially and then toward the occupant, and advanced air bags that either adjust deployment force or suppress deployment altogether in appropriate circumstances. While some of these features are new or are still under development, others have been around for more than a decade. The agency identified a number of these features in conjunction with its 1984 decision concerning automatic occupant

[8] 29 (or 78%) of the 37 forward-facing children who were fatally injured by air bags were not using any type of belt or other restraint. This included 4 children who were sitting on the laps of other occupants. The remaining 8 children included some who were riding with their shoulder belts behind them and some who were wearing lap and shoulder belts but who also should have been in booster seats because of their small size and weight. Booster seat use could have improved shoulder belt fit and performance. These various factors and pre-crash braking allowed the children to get too close to the air bag when it began to inflate.

[9] For information on the restraint most appropriate for a particular child, see the table at the end of the information brochure in Appendix A in the regulatory text.

[10] Mercedes Benz offers passenger air bags whose deployment threshold is 12 mph if the passenger is unbelted and 18 mph if the passenger is belted.

[11] The air bags installed in approximately 10,000 GM cars in the 1970's were equipped with dual stage inflators. Today, Autoliv, a Swedish manufacturer of air bags, has a ''gas generator that inflates in two steps, giving the bag time to unfold and the vent holes to be freed before the second inflation starts. Should the bag then encounter an occupant, any excessive—gas indeed bag pressure—will exit through the vent holes.''

protection and noted that vehicle manufacturers could choose among those features to address the problems reported by those manufacturers concerning out-of-position occupants.

Although Standard No. 208 permits vehicle manufacturers to install air bags incorporating those advanced features, very few current air bags do so. Instead, vehicle manufacturers have thus far used designs that inflate with the same force under all circumstances. Although the vehicle manufacturers are now working to incorporate advanced features in their air bags, the introduction of air bags with those features is only just beginning. Introduction of significant numbers of advanced air bags may not begin for another several model years.

With the help of a recent amendment to Standard No. 208, vehicle manufacturers have been able to expedite the introduction of depowered air bags. While these new air bags will reduce, but not eliminate, the likelihood of air bag-caused deaths, they still deploy with the same force in all crashes, regardless of severity, and regardless of occupant weight or location. Many manufacturers have introduced substantial numbers of these less powerful air bags in the current model year (1998).

2. Air Bag Requirements

Today's air bag requirements evolved over a 25-year period. NHTSA issued its first public notice concerning air bags in the late 1960's. However, it was not until the fall of 1996 that manufacturers were first required to install air bags in any motor vehicles.[12]

When the requirements for automatic protection (i.e., protection by means that require no action by the occupant) were adopted in 1984 for passenger cars, they were expressed in broad performance terms that provided vehicle manufacturers with choices of a variety of methods of providing automatic protection, including automatic belts and air bags. Further, the requirements allowed broad flexibility in selecting the performance characteristics of air bags.

Later, those requirements were extended to light trucks. Ultimately, strong market demand led manufacturers to begin to install air bags in all of their passenger cars and light trucks.

In 1991, Congress included a provision in ISTEA directing NHTSA to amend Standard No. 208 to require that all passenger cars and light trucks provide automatic protection by means of air bags. ISTEA 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 and right front passenger 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.[13] The final rule implementing this provision of ISTEA was published in the **Federal Register** (58 FR 46551) on September 2, 1993.

Standard No. 208's automatic protection requirements, whether for air bags or (until the provisions of ISTEA fully 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. Until recently, these criteria had to be met for air bag-equipped vehicles in barrier crashes at speeds up to 30 mph, both with the dummies belted and with them unbelted.

However, on March 19, 1997, the agency published a final rule amending Standard No. 208 to temporarily provide the option of testing air bag performance with an unbelted dummy in a sled test incorporating a 125 millisecond standardized crash pulse instead of in a vehicle-to-barrier crash test. This amendment was made primarily to expedite manufacturer efforts to reduce the force of air bags as they deploy.

Standard No. 208's current automatic protection requirements, like those established 13 years ago in 1984, apply to the performance of the vehicle as a whole, and not to the air bag as a separate item of motor vehicle equipment. The broad vehicle performance requirements permit vehicle manufacturers to ''tune'' the performance of the air bag to the specific attributes of each of their vehicles.

The Standard's requirements also permit manufacturers to design seat belts and air bags to work together. Before air bags, seat belts had to do all the work of restraining an occupant and reducing the likelihood that the occupant will strike the interior of the vehicle in a frontal crash. Another consequence of not having air bags was that vehicle manufacturers had to use relatively rigid and unyielding seat belts that can concentrate a lot of force along a narrow portion of the belted occupant's body in a serious crash. This concentration of force created a risk of bone fractures and injury to underlying organs. The presence of an air bag increases the vehicle manufacturer's ability to protect belted occupants. Through using energy managing devices, such as load limiters, a manufacturer can design seat belts to give or release additional belt webbing before the belts can concentrate too much force on the belted occupant's body. When these new belts give, the deployed air bag is there to prevent the belted occupant from striking the vehicle interior.

Further, Standard No. 208 permits, but does not require, vehicle manufacturers to design their air bags to minimize the risk of serious injury to unbelted, out-of-position occupants, including children and small drivers. The standard gives the manufacturers significant freedom to select specific attributes to protect all occupants, including attributes such as the crash speeds at which the air bags deploy, the force with which they deploy, air bag tethering and venting to reduce inflation force when a deploying air bag encounters an occupant close to steering wheel or dashboard, the use of sensors to detect the presence of rear-facing child restraints or the presence of small children and prevent air bag inflation, the use of sensors to detect occupant position and prevent air bag inflation if appropriate, and the use of dual stage

[12] *Air bag firsts*—In view of the confusion evident in some public comments on this rulemaking and even now in some media accounts about when air bags were first required, and by whom, the agency has set forth a brief chronology below:

- 1972 *First year* in which vehicle manufacturers had the *option of installing air bags* in passenger cars as a mean of complying with Standard No. 208. Vehicle manufacturers also had the option of complying by means of installing manual lap and shoulder belts. GM installed driver and passenger air bags in approximately 10,000 passenger cars in the mid-1970's.
- 1986 *First year* in which vehicle manufacturers were *required to install some type of automatic protection* (either automatic belts or air bags) in passenger cars. This requirement was issued by Secretary Dole in 1984. At the time of issuance, the agency expressly noted the concerns expressed by vehicle manufacturers about out-of-position occupants. In response, NHTSA identified a variety of technological remedies whose use was permissible under the Standard. Between 1986 and 1996, vehicle manufacturers chose to comply with the automatic protection requirements by installing over 35 million driver air bags and over 18 million passenger air bags in passenger cars. Another 12 million driver air bags and almost 3 million passenger air bags were installed in light trucks in that same time period.
- 1996 *First year* in which vehicle manufacturers were *required to install air bags* in passenger cars. this requirement was mandated by the 1991 Intermodal Surface Transportation Efficiency Act.

[13] 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.

versus single stage inflators. Dual stage inflators enable air bags to deploy with lower force in low speed crashes, the type of crashes in which children and drivers have been fatally-injured, and with more force in higher speed crashes.

*C. Comprehensive Agency Plan to Address Air Bag Fatalities*

In late November 1996, NHTSA announced that it would be implementing a comprehensive plan of rulemaking and other actions (e.g., consumer education and encouragement of State seat belt use laws providing for primary enforcement of their requirements) addressing the adverse effects of air bags.[14] While there is a general consensus that the best approach to preserving the benefits of air bags while preventing air bag fatalities will ultimately be the introduction of advanced air bags, those air bags will not be widely available in the next several years. Accordingly, the agency has focused on rulemaking and other actions that will help reduce the adverse effects of air bags in existing vehicles as well as in vehicles produced during the next several model years. The actions which have been taken, or are being taken, include the following:

1. Interim Rulemaking Solutions

*a. Existing and Future Vehicles-in-Use.* This final rule exempts, under certain conditions, motor vehicle dealers and repair businesses from the ''make inoperative'' prohibition in 49 U.S.C. 30122 by allowing them, beginning January 19, 1998, to install retrofit manual on-off switches for air bags in vehicles owned by people whose request for a switch is approved by NHTSA. The purpose of the exemption is to preserve the benefits of air bags while reducing the risk that some people have of being seriously or fatally injured by current air bags. The exemption also allows consumers to have new vehicles retrofitted with on-off switches after the purchase of those vehicles. It does not, however, allow consumers to purchase new vehicles already equipped with on-off switches.

*b. New Vehicles.* On March 19, 1997, NHTSA published in the **Federal Register** (62 FR 12960) a final rule temporarily amending Standard No. 208 to facilitate efforts of vehicle manufacturers to depower their air bags quickly so that they inflate less aggressively. This change, coupled with the broad flexibility already provided by the standard's existing performance requirements, provided the vehicle manufacturers maximum flexibility to quickly reduce the adverse effects of current air bags.

On November 27, 1996, the agency published in the **Federal Register** (61 FR 60206) a final rule amending Standards No. 208 and No. 213 to require improved labeling on new vehicles and child restraints to better ensure that drivers and other occupants are aware of the dangers posed by passenger air bags to children, particularly to children in rear-facing infant restraints in vehicles with operational passenger air bags. The improved labels were required on new vehicles beginning February 25, 1997, and were required on child restraints beginning May 27, 1997.

On January 6, 1997, the agency published in the **Federal Register** (62 FR 798) a final rule extending until September 1, 2000, an existing provision in Standard No. 208 permitting vehicle manufacturers to offer manual on-off switches for the passenger air bag for new vehicles without rear seats or with rear seats that are too small to accommodate rear-facing infant restraints.

2. Longer-Term Rulemaking Solution

The longer term solution is advanced air bags. The agency has established a working group under the Crashworthiness Subcommittee of MVSRAC to work cooperatively with the vehicle manufacturers, restraint system suppliers and other organizations regarding advanced air bags. Activities include sharing data and information from research, development and testing of advanced air bags and providing test procedures that could be used in evaluating the advanced air bag technologies. While some of these technologies are complex, others are relatively simple and inexpensive. NHTSA plans to issue an NPRM to require a phasing-in of advanced air bags and to establish performance requirements for those air bags. While Standard No. 208 has provided vehicle manufacturers with the flexibility necessary to introduce advanced air bags, the Standard has not required them to take advantage of that flexibility. Among other things, the agency anticipates proposing tests using a 5th percentile female dummy[15] and advanced child dummies and specify appropriate injury criteria for those dummies, including neck injury criteria, as part of its rulemaking regarding advanced air bags.

3. Educational Efforts; Child Restraint and Seat Belt Use Laws

In addition to taking these actions, and conducting extensive public education efforts, the Department of Transportation announced this past spring a national strategy to increase seat belt and child seat use. Higher use rates would decrease air bag fatalities and the chance of adverse safety tradeoffs occurring as a result of turning off air bags. The plan to increase seat belt and child seat use has four elements: stronger public-private partnerships; stronger State seat belt and child seat use laws (e.g., laws providing for primary enforcement of seat belt use requirements); active, high-visibility enforcement of these laws; and effective public education. Substantial benefits could be obtained from achieving higher seat belt use rates. For example, if observed belt use increased from 68 percent to 90 percent, an estimated additional 5,536 lives would be saved annually over the estimated 9,529 lives currently being saved by seat belts. In addition, an estimated 132,670 injuries would be prevented annually. The economic savings from these incremental reductions in both fatalities and injuries would be $8.8 billion annually.

## III. Deactivation Proposal (January 1997)

On January 6, 1997, NHTSA published an NPRM (62 FR 831) to exempt motor vehicle dealers and repair businesses conditionally from the statutory ''make inoperative'' prohibition of 49 U.S.C. § 30122, so that they could deactivate either or both the driver and passenger air bags at the request of a vehicle owner. As noted above, this proposal was issued to help reduce the fatalities and injuries that current air bags are causing to persons who may be facing special risks from air bags.

The agency stated that, while it expected that advanced air bags will offer means for significantly reducing or eliminating the risk of adverse side effects from air bags, advanced air bags will not be widely available in the next several years. The agency said it believes that, in the interim, steps need to be taken to minimize the possibility that air bags will cause harm in existing vehicles and in new vehicles produced prior to the availability of advanced air bags. Just as depowering will provide a technological solution that will prevent a significant number of the air bag fatalities that might otherwise have

[14] For a discussion of the actions taken by NHTSA before November 1996 to address the adverse effects of air bags, see pp. 40787–88 of the agency's NPRM published August 6, 1996 (61 FR 40784).

[15] A 5th percentile female dummy has a standing height of 5 feet and a weight of 110 pounds.

occurred in new vehicles, so deactivation would provide a technological solution for persons facing special risks in existing vehicles. Although the agency recognized that retrofit on-off switches offered certain advantages, the agency proposed deactivation instead of installation of retrofit on-off switches based on information from the vehicle manufacturers indicating that they could not provide retrofit on-off switches for existing vehicles in a timely manner.

Noting that a depowered passenger air bag may not completely eliminate the risk to an infant in a rear-facing infant seat or to an unrestrained child who is near the dashboard as a result of pre-crash braking, the agency stated that deactivation of depowered passenger air bags would be permitted. However, since on-off switches and advanced air bags could be used to essentially eliminate the risks to children, deactivation of a passenger air bag would not be permitted under the proposal if that air bag were equipped with such an on-off switch or if the air bag were an advanced air bag.

NHTSA proposed to limit authorization to deactivate driver air bags to existing vehicles and vehicles lacking advanced driver air bags. The agency indicated that it might further restrict authorization to deactivate driver air bags by excluding vehicles with depowered driver air bags.

NHTSA noted that there were safety tradeoffs associated with air bag deactivation. The agency strongly recommended that air bag deactivation be undertaken only in instances in which the vehicle owner reasonably believes that the air bag poses a significant risk, based on the individual's particular circumstances. The agency indicated that there would be limited need for passenger air bag deactivation and even less need for driver air bag deactivation.

The mechanics of the proposed exemption from the make inoperative prohibition were based in large measure upon recommendations from BMW and Volvo in 1996 that the agency develop procedures similar to those being used in Europe for temporarily deactivating air bags. According to BMW,

> (I)n Europe, a BMW dealer is allowed to temporarily deactivate the passenger air bag for individuals who may have a special need or normally transport children after advising them of the benefits of air bags and approval forms are signed.

Given the administrative complexity and time that would be associated with reviewing individual applications, the agency proposed to allow any person to choose to deactivate, without having to demonstrate a particular safety need. However, applicants would have had to submit a written authorization to the dealer or repair business performing the deactivation and indicate that they had received and read an information brochure explaining the consequences of having an air bag deactivated.

NHTSA requested commenters to provide views regarding a number of specific issues, including—

- Should deactivation of air bags be allowed at the owner's option in all cases or should deactivation be limited to situations in which death or serious injury might reasonably be expected to occur?
- Would the administrative details involved in establishing and implementing limitations on eligibility overly complicate the availability of deactivation?
- If it becomes permissible to deactivate air bags, with the result that an air bag could be turned off permanently, should the agency permit lesser measures as well, such as an on-off switch?
- Should there be a requirement that deactivation be performed in a manner that facilitates reactivation?
- In the rulemaking regarding OEM on-off switches, the agency estimated that there would be more benefits than losses if the misuse rate were less than 7 percent. Since a seat with a deactivated air bag may sometimes be occupied by a person who would benefit from the air bag, is there a percentage of such occupancy that would result in the losses from deactivation outweighing the benefits?
- Should a vehicle lessee be allowed to seek deactivation?

## IV. Summary of Public Comments on Proposal

There were approximately 700 comments on the NPRM. About 600 of those were from members of the general public. The rest were from companies or trade associations representing vehicle manufacturers, dealers and repair businesses, fleet managers and owners, equipment manufacturers, consumer safety groups, insurance companies, physicians and health-related groups, former NHTSA administrators, and miscellaneous other organized groups. Because so many commenters took the same or similar positions on the issues, the commenters are not identified in this preamble unless there is some special significance to their identity. Instead, they are referred to simply as ''general public'' commenters and ''company and group'' commenters (even if some of the ''company and group'' comments are from individual companies).

The general public commenters supported, and the company and group commenters did not oppose, the agency's exempting dealers and repair businesses from the make inoperative prohibition so that air bags could be turned off. However, the commenters were divided on many of the details of how this should be accomplished and on the breadth of the exemption.

Almost all commenters supported deactivation as a means for turning off air bags. Most of the companies and groups also supported permitting retrofit on-off switches at least as an alternative to deactivation. GM, a dealer's group, a service group, and a number of safety groups went further, stating that on-off switches should be the only permitted way of turning off an air bag. About one in six of the general public commenters also stated that on-off switches should be installed in lieu of, or as a preferred means of, turning off air bags. IIHS, which supported deactivation, stated that it reluctantly supported on-off switches as well. Its reluctance arose in large part from the amount of apparent interest in on-off switches. Based on a January 1997 public opinion survey that it commissioned showing a strong public preference for on-off switches over deactivation, IIHS suggested that more people would choose to have on-off switches installed than would choose to have deactivations performed. A few commenters opposed on-off switches. BMW stated that on-off switches should not be allowed because their development will divert resources from development of advanced air bags, conflict with the decision not to require them on new vehicles, and introduce complexity for service and repair, compared with the ''simple reprogramming'' necessary for temporary deactivation of its air bags. Both BMW and IIHS expressed concern that allowing on-off switches would encourage placing children in front where the risk of serious injury is greater, with or without air bags. Most company and group commenters thought that on-off switch misuse would be a significant problem.

The issues which drew the most comments were ''who should be allowed to have their air bags deactivated, and under what procedure?'' [16] The general public

[16] In expressing their views on these issues, even those commenters who discussed on-off switches as a means that should be available under the

Continued

commenters almost universally favored allowing air bag deactivation for anyone who wants it, i.e., regardless of whether a person is actually in a risk group. Both the National Transportation Safety Board (NTSB) and IIHS also supported deactivation for any vehicle owners who want it, i.e., without requiring membership in a risk group. In addition, one equipment manufacturer, and three groups supported deactivation for owners who want it and based their support on personal liberty arguments. However, most of the other company and group commenters were opposed to deactivation for everyone who wants it.

The main argument given by the general public commenters for broad availability of deactivation was that there should be personal choice as to whether to turn one's air bag on or off. These commenters emphasized the danger that they believe air bags pose and many mentioned media reports that they had seen. They frequently noted that there were circumstances that they believed would tend to put them or their family members at risk. Generally, these circumstances included short stature, pregnancy, being elderly, needing to transport children, and certain medical conditions. Many stated that they wore their seat belts, and that they believed that the air bags were of marginal benefit.

IIHS said that it supported broad availability because of the apparent extent of public interest in turning off air bags for at least some vehicle occupants. The organization suggested that trying to limit the availability of deactivation would create an adverse public reaction. In support of this suggestion, IIHS cited its January 1997 survey indicating that 30 percent of their respondents would like an on-off switch for the driver air bag, and 67 percent would like one for the passenger air bag. Thirteen percent said they would like a permanent deactivation of the driver air bag, and 19 percent wanted permanent deactivation for the passenger air bag.

The main argument of the company and group commenters against relying on informed decisionmaking in allowing deactivation was that there would be widespread deactivation by frightened and misinformed consumers who were not actually at risk. Many company and group commenters expressed concern that the issues relating to air bag risks might be too complex for the general public to comprehend so that it would be difficult for the public to make informed decisions. Some commented that allowing deactivation for everyone would even encourage deactivations by implying that air bags were so dangerous that they generally should be disconnected. The great majority of company and group commenters favored a continuation of NHTSA's current practice of authorizing deactivations only in limited circumstances and solely on a case-by-case basis. In August 1997, a broad coalition of vehicle manufacturers, dealers, insurers, public interest groups, medical societies and others met first with the Office of Management and Budget (OMB) and later with NHTSA to urge that eligibility under the exemption be limited to persons in risk groups identified by the agency and that the agency approve each request for an on-off switch before a switch can be installed. The coalition re-iterated its concerns in a mid-October meeting with OMB.

Several individual vehicle manufacturers, and the industry associations representing all domestic and foreign vehicle manufacturers, said that NHTSA does not have the statutory authority to allow deactivation based on informed decisionmaking. General Motors (GM) argued that the proposal did not meet the three tests which it believes are implicit in the statute: (1) an exemption must be for a single individual, not classes of people; (2) an exemption for a specific individual must be based on the agency's judgment, not the individual's judgment; and (3) an exemption must be consistent with vehicle safety. These commenters noted that the agency emphasized in the NPRM that only in limited instances would deactivation be, on balance, in the best interests of a driver or passenger. They argued that the predicted widespread deactivations provided to anyone who wanted one would result in more people being killed and injured in situations in which the air bag might have saved them, thus resulting in a reduction of motor vehicle safety. Finally, Ford argued that the agency's desire for administrative simplicity does not overcome the necessity for complying with the statute.

The company and group commenters advanced a number of safety arguments against allowing deactivation based on informed decisionmaking. Some of them suggested that depowering air bags would obviate the need for a broad availability of deactivation. Several stated that occupant restraint systems are integrated. Seat belts designed to work with air bags may not work so well as conventional seat belts if the air bags are deactivated. In particular, it was stated that, depending on how it was performed, deactivating the air bag could also deactivate seat belt pretensioners that use the same crash sensors as the air bag. GM suggested that it is the safety conscious people who already buckle themselves and their children who will tend to deactivate their air bags in reaction to media reports of air bag deaths and injuries. Because people who wear belts are seldom harmed by air bags, GM concluded that, ironically, many or most who disconnect will be at increased risk. A majority of the company and group commenters stated that vehicles with deactivated air bags would be sold to other parties who might not know of the deactivation, or in the case of vehicles with retrofit on-off switches, might misuse the on-off switch.

The company and group commenters almost universally stated that deactivation was, given its permanency, appropriate only in rare circumstances. Most of these commenters did not identify those circumstances, but stated that NHTSA should determine the proper categories of persons who would be better off without the air bag, based on its expertise and data. To the extent that the circumstances were noted, they are discussed briefly below.

There was universal agreement that certain young children riding in the front need to be protected from the risk of serious injury from air bags. Nearly all commenters said that owners and lessees who have vehicles lacking a rear seat capable of accommodating a rear-facing infant restraint and who need to transport infants in such restraints should be able to have the passenger air bag deactivated. Some commenters suggested that air bags should be turned off for young children with medical conditions that need frequent monitoring by the driver. In contrast, the American Academy of Pediatrics stated that situations in which a child needs immediate attention are very rare, and that it was more dangerous to attend to them while driving. Another circumstance suggested by some commenters is the presence of too many children in a vehicle to place all of them in the back seat.

Other categories mentioned by some of the commenters include people of short stature, the elderly, and people with certain medical conditions or disabilities. These categories were also mentioned extensively in the general public comments. However, the company and group commenters tended

exemption for turning off air bags generally discussed the eligibility and procedural issues in terms of deactivation alone. NHTSA understands that the commenters generally intended those views regarding eligibility and procedure to apply equally to deactivation and on-off switches.

to minimize the risk to these categories of people. They generally did not include the elderly as a category, and some of them suggested that exemptions for medical reasons should be accompanied by a doctor's note. One safety group suggested NHTSA employ a licensed medical professional or panel to examine requests. One medical group suggested that NHTSA and a panel of medical professionals define qualifying medical conditions. While some commenters agreed that short people were in danger, they emphasized the difficulty of determining how short was too short.

More recent submissions and statements from the company and group commenters argue that the issue is not occupant height, but sitting distance from the air bag module. IIHS submitted a survey indicating that only 5 percent of female drivers (approximately 2.5 percent of all drivers) are accustomed to sitting within 10 inches of their air bag module. Of those 5 percent of female drivers, 66 percent normally sit 9–10 inches from their air bag, and an additional 17 percent normally sit 8–9 inches away. The remainder, accounting for less than 1 percent of female drivers, normally sit within 8 inches of their air bag.

IIHS also found that a high percentage of short-statured female drivers could adjust their driving position to achieve a 10-inch distance. This finding was based on 13 women, from 4 feet, 8 inches tall to 5 feet, 2 inches tall, who were asked to try to achieve that distance in a dozen vehicles of varying sizes. Ten of the women achieved 10 inches in all of the vehicles; the remaining 3 did so in all but a few of the vehicles. All drivers were able to achieve at least 9 inches in all vehicles.

Other reasons given for not allowing deactivation based on informed decisionmaking were assertions that NHTSA's current system of case-by-case determinations was believed to work well and only needed unspecified streamlining; that the few deactivation requests NHTSA received until recently proved that actual need was low; and that the authorization form would be ineffective, especially with respect to subsequent purchasers of vehicles with deactivated air bags, as a means of alleviating the liability concerns of the manufacturer, dealer, and repair business groups. In an August 1, 1997 letter, a broad coalition of company and group commenters argued that since the agency was reportedly answering all deactivation requests within 72 hours and had no backlog of unanswered requests, the agency should be able under the final rule to continue its current practice of reviewing and approving each deactivation request.

In addition to objecting generally to the proposal for deactivation based on informed decisionmaking, many of the company and group commenters expressed concerns about particular aspects of the proposed process for implementing the exemption from the make inoperative prohibition. The dealer and repair business groups, and generally also the vehicle manufacturers and safety groups, were opposed to the dealers having any role in the process of distributing information brochures or making any kind of decision in the process. They indicated that it would be difficult to reject the request of an owner who wanted deactivation or advice on whether to deactivate, yet the dealers did not have the expertise to advise owners on deactivation. Dealer and vehicle manufacturer groups also stated that the existing definition of ''advanced air bags'' was too vague and that a dealer could not be expected to determine whether a vehicle was equipped with one, and therefore ineligible for deactivation.

Some of the company and group commenters stated that NHTSA should require guidance from the vehicle manufacturers on how to perform deactivations. A dealers' group commented that if NHTSA did not require the vehicle manufacturers to provide procedures, dealers/repairers might perform improper repairs, and that deactivations should be done only by factory trained and certified deactivation technicians at a franchised dealership. Two manufacturers suggested that NHTSA require manufacturers to provide such procedures, and one suggested requiring deactivation kits. Ford commented that NHTSA should require deactivation to be done in accordance with ''manufacturer recommendations.''

A large majority of company and group commenters also stated that any recordkeeping under the exemption from the make inoperative prohibition should be done by NHTSA. Vehicle manufacturers uniformly stated that NHTSA should keep the records because the agency could provide a centralized information clearinghouse on air bag deactivations. Vehicle manufacturers also commented that since they have no role in authorizing or performing deactivations, or in enforcement, they should not have recordkeeping responsibilities. Multinational Business Services (MBS) stated that the agency should be the recordkeeper so that it could analyze trends among the requests for deactivation and make any appropriate policy adjustments. The insurance and safety groups suggested that NHTSA notify insurers of any deactivations, because permanent deactivation would eliminate the basis for the air-bag discount many insurance companies offer. GM suggested that recordkeeping would be totally unnecessary if on-off switches were installed.

Many of the company and group commenters opposed an immediate effective date. Jaguar suggested at least 60 days would be needed for label printing, software development, preparations of procedures for disconnect/reconnect, and training. Other manufacturers, who urged that retrofit on-off switches be allowed as an alternative to permanent deactivation, stated that additional time would be needed for development of on-off switches. Ford said that it would need 5–6 months to have a large supply of retrofit on-off switch kits in dealer inventory. In an August 29, 1997 meeting with NHTSA representatives, a broad coalition of company and group commenters urged that adequate leadtime be provided to give the government as well as many of the company and group commenters sufficient opportunity to communicate their safety messages about air bag safety and risks to the public.

Opinion about sunsetting (i.e., terminating) the exemption was divided. GM opposed sunsetting the exemption when ''smart air bag,'' i.e., advanced air bags, are introduced. The company said that until the term can be adequately defined, NHTSA should remove the term from the rule, along with any sunsetting associated with it. Advocates for Highway and Auto Safety commented that sunsetting the exemption was appropriate.

Some company and group commenters discussed the costs associated with deactivation. Some manufacturers merely stated that additional parts and extensive labor would be required for both deactivation and reactivation. Only Ford gave specific cost estimates. Ford estimates for parts and labor (but not including profit) ranged from $16 for a simple shorting bar removal, to $124 for an on-off switch. The NTSB commented that some manufacturers had indicated to it that the cost of on-off switches would be $300–400 per on-off switch. Some insurance groups indicated that insurers might eliminate the air bag discount, even with on-off switches, because they would be unable to identify deactivated vehicles. This would penalize those who do not disconnect.

IIHS submitted a July 1997 report in which that organization concluded the

results of 40 mph offset frontal crash tests demonstrate that turning off an air bag increases the risk that a belted driver will be seriously injured in a crash. Crash tests using dummies representing an average size male driver indicated that without an air bag, the safety belts alone would not have prevented a belted driver from suffering ''life-threatening'' head and neck injuries. Similarly, another July 1997 IIHS report concerning 35 mph barrier crash tests with 5th percentile female dummies indicated that short-statured women can obtain significant protection from an air bag even when the driver's seat is moved all the way forward. The tests indicated that without air bags to spread the crash forces over the entire head, the crash forces would instead be concentrated on a narrow portion of the middle or lower portions of the face where the bones are more fragile. IIHS noted that a study of 15 restrained drivers fatally injured in frontal crashes with head injuries of AIS 4 or greater, found that steering wheels were the sources of head injuries for 9 of these drivers, and that 13 drivers suffered their head injuries from loading to the facial bones.

Some company and group commenters noted that the adverse effect of turning off air bags would be greater for some vehicles equipped with seat belts specially designed to work with air bags. If the crash forces become too great, these new seat belts ''give'' or yield to avoid concentrating too much force on the chest. Some of these belt systems yield by allowing more belt webbing to spool out when a predetermined force level is reached. The inflated air bag prevents the occupant from moving too far forward after the seat belts give. Without the air bag, the new belts allow the occupant to move farther forward in moderate and high speed crashes.

Commenters addressed the conditions that should apply to deactivations. A wide variety of companies and groups commented that, whatever the method of deactivation, it should be done in a manner that facilitates reactivation. All commenters who addressed the question stated that the air bag readiness indicator should have to remain functional for the remaining air bag, even if one air bag were deactivated. The companies and groups also generally commented that if both air bags have on-off switches, the air bags should be individually controllable.

Nearly all company and group commenters emphasized the importance of the information brochure in promoting an informed decision by individual members of the public about deactivation. Many said improvements were needed in the information brochure. The most common assessment was that the brochure was too long and technical. Others commented that NHTSA should focus-group test the effectiveness of the brochure prior to distributing it. Several suggested that the information be provided in a video.

Many company and group commenters argued that the agency significantly underestimated the number of people who would seek deactivation under the proposal. Many commenters argued that the agency should consider public opinion surveys in making a new estimate. One commenter urged the agency to base its estimates on the IIHS' January 1997 survey. The most recent survey, an August 1997 survey from IIHS, indicated that 12 percent of vehicle owners were interested in obtaining an on-off switch for the driver's air bag and 16 percent for the passenger's air bag. Based on early 1997 surveys, that commenter contended that the proposal would have significant net adverse effects on safety. In an August 1, 1997 letter, the vehicle manufacturers argued that the net effects must be assessed in order to ensure that the exemption meets the statutory criterion of consistency with safety.

## V. NHTSA's Use of Prosecutorial Discretion to Provide Case-by-Case Authorization of Air Bag Deactivation

From October 1, 1996, through October 30, 1997, NHTSA received 11,838 written requests for air bag deactivation. The volume of these requests peaked in the spring, possibly in response to the extensive publicity surrounding the NTSB hearings in mid-March, then fell steadily until the last month. In April–May, the agency received approximately 400 letters per week. In August, the weekly volume fell to slightly less than 300 letters. By mid-September, the volume bottomed out at slightly above 100. During October, the volume rebounded, averaging slightly less than 200 letters per week. That increase followed the media's reporting of the agency's submission of a draft final rule to the Office of Management and Budget on October 2.

Since October 29, 1996, the NHTSA Hotline has received over 27,000 calls seeking information about air bags. Approximately 13,500 of them were from people interested in deactivating their air bags.

More than 60 percent of the written requests, approximately 7,100 out of 11,838, concerned short adults. The vast majority of the remaining 4,738 requests concerned adults (many of whom were short) with certain medical conditions. The rest concerned children. Of those remaining requests, approximately 4,200 were granted, and 500 denied, by the agency. Approximately 85 percent of the grants were for adult medical conditions. The remaining approximately 15 percent involved children, including both children with medical conditions and children riding in vehicles lacking a rear seat capable of accommodating a rear-facing infant seat.

In its grant letters to persons with medical conditions, the agency told owners that if their physicians concluded that the risks associated with their medical condition and the deployment of their driver air bag exceeded the risks to their safety from the air bag's not deploying, NHTSA would not regard deactivation of the air bag as grounds for an enforcement proceeding.[17] Similarly, NHTSA told vehicle owners whose vehicle lacked a back seat in which to carry an infant or who needed to monitor closely a child with a special medical condition [18] that the agency would not regard the deactivation of the passenger air bag by a dealer or repair business as grounds for an enforcement proceeding against the dealer or repair business. The agency urged that the air bag be reactivated when the circumstances necessitating its deactivation ceased to exist.

Based on the current procedures for handling these requests, it is estimated that an average of about one hour is spent on each letter. This estimate covers time spent categorizing letters, making a decision whether to grant or deny, typing a response, keeping track of the letters in a data base, reviewing the response, having the response signed, mailing it, etc. Based on a weighted average of salaries of those involved, plus 15 percent overhead, and the costs of paper and postage, it is estimated that the cost to the agency of

[17] In the absence of any other source of expertise, such as the July 1997 National Conference on Medical Indications for Air Bag Disconnection, described below, the agency has relied in the past almost solely upon statements from the physicians of persons requesting disconnection of air bags. While many of the requests were granted based upon a physician's statement, some were granted notwithstanding the absence of a physician's statement. In those cases, the grant was based upon either the unique characteristics of the medical condition involved or the existence of physician's statements attached to earlier deactivation requests of other individuals with the same medical condition. As discussed below in part IX.A, the agency has changed its practices with respect to physicians' statements in response to the National Conference.

[18] The majority of medical conditions were related to apnea, although exemptions have also been granted for children in wheelchairs, and children with a tendency to spit up and choke.

responding to these requests is about $30 per request.

## VI. Focus Group Testing of Public Education Materials (June 1997)

To aid the agency in assessing the effectiveness of the materials it was developing to increase the public's understanding of air bags risks, and ways of reducing or eliminating those risks, NHTSA conducted nine focus groups in three cities to test consumer reaction to those materials. As noted above in the summary of public comments, a number of commenters urged that the agency take the time to enlist the help of focus groups.

Two focus groups were conducted in each of the following cities: Chicago, Illinois, on June 16, 1997, and Greenbelt, Maryland, and Sarasota, Florida, on June 18. Three more focus groups were conducted in Greenbelt on June 24 to look at educational materials concerning air bags. Since public concern about air bag safety has tended to be concentrated in three categories of vehicle owners, i.e., parents of young children, short-statured adults, and older adults, the focus group participants were evenly drawn from those categories. There were three parent focus groups, three short-statured adult focus groups, and three older adult focus groups. Each group had about 10 participants.

The knowledge and views of the various groups were fairly similar. While they had heard about some aspects of the air bag safety story, they did not know significant parts of it. They said that while they had heard or seen media reports about risks that air bags can pose for children, they had received little information about the reasons for those risks, the life-saving benefits of air bags and the methods of reducing risk for people of different ages. Early in each focus group session, and before examining any agency materials, some participants made remarks critical of the media for using what they called scare tactics and for focusing almost exclusively on the negative, eye-catching aspects of the air bag story. They said that media attention to air bag dangers for young children had created an atmosphere of fear and mistrust of air bags. They stated that many of their perceptions had been shaped by those media reports. They had many detailed questions about air bags, including air bag designs, deployment speed and force, severity and types of crashes in which they deployed, life-saving benefits, risk factors, types of injuries, and correct seating adjustments. They emphasized that public information and education would reduce misconceptions about air bags and the associated fear.

Among the very important safety messages that had not yet reached many of the focus group participants was that the recommendation for children to sit in the back seat applies to all children aged 12 and under, not just infants. In an attempt to get this message to vehicle owners last fall, the agency issued a final rule requiring labels in new vehicles expressly warning purchasers about air bag dangers for children aged 12 and under and recommending that children sit in the rear.[19] Further, the vehicle manufacturers' distributed copies of these labels to virtually all owners of existing vehicles with passenger air bags. Many participants were also unaware that proximity to the driver air bag at the time of deployment is the primary source of the risk to drivers of serious air bag-related injuries. They were pleased to be provided with a specific recommendation (10 inches) about the distance that drivers should sit from their air bags. Many participants said that they would attempt to change their driving position.

To determine how much air bag information the public really wants, the three June 24 focus groups were asked to compare a short brochure (essentially a 3-fold accordion brochure) and a long brochure (i.e., an earlier draft of the information brochure in Appendix A of the rule) concerning air bags and on-off switches. Each of the three groups unanimously endorsed the long brochure. These groups, consisting of an older adult group, a short-statured adult group and a parents group, stated that they wanted a lot of detailed, balanced information concerning air bags and air bag safety so that they could make up their own minds about seriousness and sources of the risks, and about their ability to avoid those risks. For example, they wanted to know why the upper limit on the group of children who should sit in back was stated in terms of age, instead of height or weight.

The educational value of the additional detailed information in the draft long brochure was demonstrated in a number of instances. For example, about 30–40 percent of the participants expressed surprise at learning that air bags differ in design and performance from vehicle model to vehicle model. They asked for more detailed information on how and why the air bags differed. An equal number were surprised to learn that air bags were vented and deflated in seconds after a crash. Before learning that, they thought that an air bag would remain inflated and could smother them or prevent their exiting from their vehicle after a crash. They expressed relief when they were informed that if they had to transport too many children to place them all in the rear seat, they could virtually eliminate any risk by placing a child (preferably the eldest) in the front seat, ensuring that the child properly used the seat belts and remained sitting upright against the back of the vehicle seat, and moving the seat all the way back.

## VII. Physicians' Conference on Medical Conditions That Warrant Turning Off an Air Bag (July 1997)

At the request of NHTSA, the Ronald Reagan Institute of Emergency Medicine at George Washington University conducted a National Conference on Medical Indications for Air Bag Disconnection on July 16–18, 1997. The purpose of the conference was to make recommendations on specific medical indications, i.e., conditions, that might warrant disconnecting an air bag. The conference consisted of a panel of representatives of 17 medical specialty societies or organizations. NHTSA selected the societies and organizations, in consultation with the University, based on the types of medical indications that vehicle owners were citing in their letters to NHTSA as possible justification for air bag disconnection. Each society and organization, in turn, selected a representative to attend the conference. Among the specialty areas and types of physicians represented were cardiology, ophthalmology, otolaryngology (ear, nose and throat), obstetrics and gynecology, physical and rehabilitative medicine, general surgeons, plastic and reconstructive surgery, orthopaedic surgery, neurological surgery, pediatrics, geriatrics, and emergency physicians. The American Medical Association was also represented.

The agency arranged for this conference for several reasons. First, informal agency conversations with emergency room physicians and surgeons familiar with the trauma caused by motor vehicle crashes had suggested to the agency that very few medical conditions warrant turning off an air bag. Second, several commenters on the January NPRM urged that the medical profession be enlisted to help identify those conditions. The American Academy of Pediatrics said that such

[19] As noted more fully in footnote 23 below, it is safer for children sit in the rear seat in all passenger vehicles, even if the vehicle does not have a passenger air bag. NHTSA recommends that all children aged 12 and under sit in the rear, regardless of whether there is a passenger air bag in the front seat.

professional guidance was needed to educate dealers, repair businesses and some parts of the medical community itself about the circumstances under which it is appropriate to turn off an air bag. Advocates for Highway and Auto Safety urged that a panel of medical experts be convened to examine each vehicle owner request to turn off an air bag based on medical reasons.

While the agency does not believe that it is necessary or desirable for a panel of medical experts to review each such request, the agency did agree that general authoritative advice is needed to answer the concerns of some vehicle owners about air bags and help guide their actions. Since individuals with particular medical conditions can be expected to consult their physician prior to deciding whether to have an on-off switch installed, the medical profession also needs some guidance on when deactivation would be indicated.

In preparation for the conference, the representatives reviewed the available medical and engineering literature about air bag technology and injury risk and prevention. At the conference, the 17 representatives were divided into subpanels. Based on their literature review and clinical experience, the subpanels addressed each medical indication with respect to seven factors: known data, unknown data, recommendation, level of confidence in the recommendation, rationale for the recommendation, specific concerns about the recommendation, and stakeholders. The entire panel then discussed the work of the subpanels and adopted final recommendations.

*General Panel Conclusions*

Air bags are effective lifesavers whose benefits exceed the risks for most of the medical conditions considered by the panel. A medical condition does *not* warrant turning off an air bag *unless* the condition makes it *impossible for a person to maintain an adequate distance* from the air bag. NHTSA believes that 10 inches is an adequate distance.

*Specific Recommendations*

Excerpts from the panel's specific recommendations follow, beginning with the recommendations regarding the medical indications most commonly cited by persons who have written to NHTSA requesting deactivation based on a medical indication. Unless specifically indicated, the recommendations relate to drivers.

*Medical Indications Not Warranting Disconnection of Air Bags*

*Medical Indications Most Commonly Cited by Vehicle Owners*

- Osteogenesis Imperfecta

The panel recommends air bag not be disconnected for persons with osteogenesis imperfecta.

While there is little population-based data in the crash experience of this group, it is anticipated that the injury risk to these persons is higher without an air bag and proper restraint than with an air bag.

- Osteoporosis/Arthritis

For persons with osteoporosis, arthritis, and other skeletal conditions, air bags should not be disconnected unless the person cannot sit back a safe distance from the air bag.

Persons with specific conditions, such as ankylosing spondylitis, may have a relatively stiff spine and thus may be unable to place themselves an acceptable distance from the steering wheel while driving. Other than in this specific circumstance, persons with osteoporosis and types of arthritis are generally benefitted by the presence of an air bag.

- Pacemakers

There is no evidence to support disconnecting airbags for occupants who have pacemakers, implantable defibrillators, or similar devices.

Pacemakers and similar hardware are specifically designed to withstand impact. The forces associated with air bag deployment are typically distributed throughout the chest and are not directed at one specific area. The impact suffered without an air bag may in fact be more severe and more localized than that with an air bag. Clinical experience does not demonstrate any significant concern about the effects of air bag deployment on this type of hardware when properly installed. As forces to the chest in areas directly contacted by seatbelts may exceed forces from air bags, it is important the belts be placed properly and not directly over these devices.

- Median Sternotomy

We recommend that persons who have undergone median sternotomy not disconnect air bags.

Uneven pressure on the chest can harm a patient with a recent median sternotomy because the external wound may be opened. An air bag does not cause this uneven force; seatbelts or striking an object like a dashboard can cause this uneven force.

- Chronic Obstructive Pulmonary Disease/Emphysema/Asthma

We recommend not to disconnect air bags for patients with these chronic lung diseases.

There is no risk of oxygen deprivation during air bag deployment because of the quick deflation of the device. There is some equivocal evidence to suggest that the chemical irritants produced may precipitate bronchospasm in persons with asthma. However, there is no evidence to suggest that this phenomenon is occurring with any greater frequency in the presence of air bags. There is no reason to suspect that persons with any type of chronic lung disease will be adversely affected by an air bag deployment sufficiently enough to justify disconnection of the device.

- Short Stature

We are not able to determine an absolute cut-off height and weight for disconnection of air bags.

Short stature is a common area of concern for the public in regard to air bag deployment. As proximity to the air bag is the major issue, the passenger-side air bag should not be disconnected for a passenger of short stature. Beyond just short stature, weight, arm length, and leg length also play important roles in driver positioning. We know that a disproportionate number of the deaths attributed to air bag deployment have occurred in persons of short stature. However, of the 150,000 estimated air bag deployments involving persons of short stature, only 14 are known to have been fatal.

*Some of the Less Commonly Cited Medical Indications*

- Eyeglasses

There is no reason to recommend disconnection of air bags for persons wearing eyeglasses.

There are a number of anecdotal cases of eye injuries after air bag deployment, both with and without eyeglasses. Eyeglasses may, in fact, be protective during air bag deployment. There is no obvious increased risk of injuries in the presence of eyeglasses; moreover, impact with the steering column or dashboard may be more dangerous to someone wearing eyeglasses than impact with an air bag. Persons who need eyeglasses should wear them to drive and should not have air bags disconnected solely because of the eyeglasses.

- Hyperacusis or Tinnitus

We recommend not to disconnect air bags for persons with hyperacusis or tinnitus.

(T)he phenomenon of hearing loss has not been noted to occur due to air bags. The specific conditions of hyperacusis and tinnitus are not associated with hearing loss and persons with these conditions would have no greater likelihood of hearing loss from air bag deployment than any other persons. Some persons with tinnitus report that noise triggers attacks of tinnitus; however, it is difficult to separate the noise of an air bag from the noise of a crash in many situations.

- Advanced Age

Advanced age by itself does not suggest the need for air bag disconnection.

It is known that older persons are at greater risk of injury in all types of crashes. The data suggests that air bags may be less effective in the older population although the cause of this finding is unclear. There is no evidence to suggest that advanced age by itself, in the absence of other potential risk factors examined here, warrants air bag disconnection.

With respect to passenger seat occupants in general, the conference participants said:

Under most circumstances, with the notable exception of infants in rear-facing infant seats, the person in the passenger position can be made safe from inadvertent injury by the use of proper restraint and placement of the seat in the most rear position. Certain vehicles with bench seats may complicate this issue and may need to be considered carefully on a case-by-case basis.

*Medical Indications Warranting Disconnection of Air Bag*

- Osteoporosis/arthritis

For persons with osteoporosis, arthritis, and other skeletal conditions, air bags should not be disconnected *unless the person cannot sit back a safe distance from the air bag.*[20] (Emphasis added.)

- Scoliosis

*If capable of being positioned properly*, persons with scoliosis should keep air bag connected in their vehicles.[21] (Emphasis added.)

This specific condition might make it impossible for a person to sit upright and away from the air bag. This very small portion of the population of persons with scoliosis might be candidates for disconnection. It must be remembered that a person sitting far forward in either the driver or passenger seat is also at increased risk of injury from other structures (steering column, dashboard) in front of them.

This specific condition might make it impossible for a person to sit upright and away from the air bag. This very small portion of the population of persons with scoliosis might be candidates for disconnection. It must be remembered that a person sitting far forward in either the driver or passenger seat is also at increased risk of injury from other structures (steering column, dashboard) in front of them.

- Wheelchairs

For persons in wheelchairs the decision to allow disconnection of the air bag should be handled on a case-by-case basis. Disconnection may be needed if installation of special equipment requires removal of the air bag. If wheelchair installation or steering column configuration does not necessitate air bag removal, we recommend not to disconnect air bags.

- Achondroplasia

In persons with achondroplasia we recommend allowing disconnection of driver-side air bag *only if the person is unable to sit back from the air bag.*

Persons with significantly congenitally shortened limbs may be required to sit very close to the steering wheel in order to operate a vehicle. In this situation, pedal-extenders will offer limited assistance as the arms are also affected. However, there is no reason to disconnect the passenger-side air bag for an occupant with achondroplasia. (Emphasis added.)

- Down syndrome and atlantoaxial instability

Disconnection of the passenger air bag is warranted *if a person with this specific condition cannot reliably sit properly aligned in the front seat,* such as in those with developmental delay.

Children and adults with severe developmental delay, including some with Down syndrome, may be incapable of consistently maintaining a position away from a passenger-side air bag. If these individuals cannot ride in a back seat, air bag disconnection may be warranted.

While there is no known data on this specific situation in relation to air bags, atlantoaxial instability is present in 20% of persons with Down syndrome. This instability creates the clear risk of atlantoaxial subluxation. Persons with this condition should clearly sit properly restrained in the back seat of a vehicle. In situations in which they must sit in the front seat, air bag disconnection may be warranted because of the risk of cervical injury, particularly if these individuals have developmental delay which prevents them from consistently maintaining proper positioning. (Emphasis added.)

- Monitoring of Infants and Children

The panel recognizes that there are a few specific medical conditions in which infants and young children must be in the front seat for monitoring by the adult driving. In such situations, the passenger side air bag may need to be disconnected.

Parents are frequently concerned that they will be unable to properly monitor their infants if the infants are in the back seat without an adult. The American Academy of Pediatrics has clearly recommended that infants without underlying medical conditions can safely ride alone in the back seat properly restrained in a rear-facing restraint. The data shows that in the absence of an air bag, the injury risk in the back seat is 30% less than the risk in the front seat. The panel recognizes that certain vehicles do not have back seats. In these vehicles the option of on-off switches is already available.

Monitoring of certain infants may require placement of the car seat in the front passenger seat when the only adult in the vehicle is the driver. These situations may warrant air bag disconnection or an on-off option. Parents should clearly recognize that distraction while driving significantly increases the risk of a crash. Ideally, if a child needs attendance in a vehicle, someone other than the driver should be available. It is anticipated that the American Academy of Pediatrics will make recommendations regarding which specific conditions warrant close monitoring while driving.

## VIII. Agency Decision To Issue Exemption Authorizing Installation of Retrofit On-Off Switches

### *A. Summary*

This final rule exempts, under certain conditions, motor vehicle dealers and repair businesses from the ''make inoperative'' prohibition in 49 U.S.C. 30122 by allowing them, beginning January 19, 1998, to install retrofit manual on-off switches for air bags in vehicles owned by people whose request for a switch is approved by NHTSA. The purpose of the exemption is to preserve the benefits of air bags while reducing the risk that some

[20] NHTSA believes that the safe distance for drivers with osteoporosis/arthritis is the same as that for persons without any medical indications, i.e., 10 inches between the center of the driver air bag cover and the center of the driver's breastbone.

[21] NHTSA defines *properly positioned* to mean positioned so that there is at least 10 inches between the center of the air bag cover and the center of the driver's breastbone.

people have of being seriously or fatally injured by current air bags.

Although the agency still believes that it is appropriate to exclude vehicles with advanced air bags from the exemption, it has not done so in this final rule. It is not necessary to do so yet since widespread introduction of advanced air bags is not expected during the next several years. This will give the agency time to develop an improved definition of ''advanced air bag'' and to address how dealers and repair businesses will be able to ascertain whether a particular vehicle has advanced air bags.

The agency has decided not only to authorize retrofit on-off switches, but to specify that they will be the only means authorized under the exemption for turning off an air bag.[22] The agency has made that choice because on-off switches are a more flexible and focused solution than deactivation to the risks which air bags may pose to certain people and thus are significantly more consistent with safety than deactivation. With retrofit on-off switches, air bags can be left on for the vast majority of the persons who will benefit from air bag protection and turned off for the relatively few persons at risk. By contrast, deactivation is essentially permanent and makes no distinction between vehicle users who are at risk from air bags and those who are not at risk from air bags and who will benefit substantially from them.

Under the exemption, vehicle owners can obtain a retrofit on-off switch from a dealer or repair business after filling out and submitting a request form to the agency and obtaining the agency's approval. The agency will begin processing and granting requests on December 18, 1997.

To promote the making of informed decisions about requesting and using on-off switches, consumers must certify on the form that they have read an agency information brochure providing guidance about the risks created by current air bags and describing the groups of people for whom it may be appropriate to obtain and use on-off switches to turn off air bags. The requirement for this certification is intended to help encourage persons considering on-off switches to focus on the factors that create risk from air bags and to reflect on whether they or their passengers are really at risk. Owners must also certify that they or another user of their vehicle is a member of one of the particular risk groups identified by the agency. Since the risk groups for drivers are different from those for passengers, a separate certification must be made for each air bag to be equipped with an on-off switch.

The agency strongly urges caution in obtaining and using on-off switches to turn off air bags. While on-off switches may be needed by a limited number of people in particular circumstances, they are not needed for the vast majority of people since they are not in a risk group. In fact, if people not at risk were to turn off their air bags, they would be less safe, not safer. Even those people in a risk group can take steps that will eliminate or significantly reduce any risk they might currently have without going to the extreme of turning off their air bag and losing its protective value. The easiest way of eliminating the risk for children is to place them in the back seat and buckle them up.[23] Those drivers who are at risk can eliminate that risk by using their seat belts and by moving the driver's seat rearward and/or tilting the back of the driver's seat so that there is 10 inches or almost 10 inches between the center of their breastbone and the center of the driver air bag. The primary risk of injury occurs 2–3 inches from the air bag cover because that is where the force of a deploying air bag is greatest.[24]

This exemption will be subject to certain conditions to promote the safe use of on-off switches. Each on-off switch must meet certain performance criteria similar to those applicable to the manual on-off switches that vehicle manufacturers may currently install for passenger air bags in new vehicles that do not have a rear seat capable of accommodating a rear-facing infant seat. One is that the on-off switch be operable by a key. Another is that there be a telltale light to indicate to vehicle occupants whether an air bag equipped with an on-off switch is on or off. As a reminder about the proper use of on-off switches, the agency is requiring that vehicle dealers and repair businesses give owners an owner's manual insert describing the operation of the on-off switch, listing the risk groups, stating that the on-off switch should be used to turn off an air bag for risk group members only, and stating the vehicle specific safety consequences of using the on-off switch for a person who is not in any risk group.[25] Those consequences

[22] As explained below, full deactivation will continue to be available in limited circumstances through the agency's exercise of its prosecutorial discretion.

[23] Contrary to some media reports, the back seat has always been much safer than the front seat. Sitting in the back seat significantly reduces the likelihood of fatal injury for children, even in vehicles without air bags. Further, sitting in the back seat helps restrained children just as much as it helps unrestrained children. To quantify the benefits of sitting in the back seat, NHTSA analyzed data from vehicle crashes in 1988–1994. *Very few* of the vehicles in those crashes had passenger air bags. The agency concluded that placing children in back reduced the risk of death in a crash by 27 percent. This conclusion applies to restrained as well as unrestrained children. The size of this reduction can be appreciated from considering the following example. The number of children killed each year while riding in the front seat of a vehicle is over 500. If those 500 children had instead been sitting in the back seat, 135 of those children would still be alive because the back seat is a much safer seating environment for reasons having nothing to do with air bags. A new study of IIHS reaches a similar conclusion about the benefits of sitting in the back seat. After examining data from essentially the same time period regarding more than 26,000 children riding in vehicles that were involved in fatal crashes and *lacked* passenger air bags, IIHS concluded that sitting in the back seat reduced the death rates by more than 27 percent, whether the children were restrained or not. The safest position of all was the center rear seat.

[24] NHTSA is recommending 10 inches as the minimum distance that drivers should keep between their breastbone and their air bags for several reasons. First, the agency believes that drivers who sit 10 inches away and buckle up will not be at risk of serious air bag injury. Drivers who can maintain that distance will be much safer if they keep their air bags on.

The 10-inch distance is a general guideline that includes a clear safety margin. IIHS recommended the same distance in its comments. The 10-inch distance ensures that vehicle occupants start far enough back so that, between the time that pre-crash braking begins and time that the air bag begins to inflate, the occupants will not have time to move forward and contact their air bag until it has completed or nearly completed its inflation. The 10-inch distance was calculated by allowing 2–3 inches for the size of the risk zone around the air bag cover, 5 inches for the distance that occupants may move forward while the air bags are fully inflating, and 2–3 more inches to give a margin of safety. The 5–inch rule of thumb commonly used in air bag described in the paper, ''How Airbags Work (Design, Deploying Criteria, Costs, Perspective)'' presented by David Breed at the October 19–20, 1992 Canadian Association of Road Safety Professional International Conference on Airbags and Seat Belts.

Second, the agency is focusing attention on the 10-inch distance because it wants drivers to strive to get back 10 inches. NHTSA believes that almost everyone can achieve at least 10 inches and get the extra margin of safety that comes from sitting that far back. See the July 1997 survey submitted by IIHS.

However, some drivers who cannot get back a full 10 inches will still be safer, on balance, if they are protected by their air bag. The nearer that these drivers can come to achieving the 10-inch distance, the lower their risk of being injured by the air bag and the higher their chance of being saved by the air bag. Since air bag performance differs among vehicle models, drivers may wish to consult their vehicle manufacturer for additional advice.

NHTSA considered an alternative suggestion by Ford in late August 1997 meeting with the agency that the 10-inch distance be measured from the air bag to the chin instead of the breastbone. The agency has decided to use the breastbone as the measuring point because of the greater safety margin provided.

[25] Vehicle manufacturers that install on-off switches in new vehicles lacking a rear seat capable of accommodating a rear-facing infant seat must, among other things, include in the owner's manual a statement of the safety consequences of using the on-off switch to turn off the passenger air bag for persons other than infants in such seats. See S4.5.4 and S4.5.4.4 of Standard No. 208. To comply with

would include the effect of any energy managing features, e.g., load limiters, on seat belt performance. NHTSA anticipates that the inserts would be obtained primarily from the vehicle manufacturers, although in some cases the inserts might be obtained from independent switch manufacturers.

As noted above, the agency is setting January 19, 1998 as the date on which dealers and repair business may begin to install switches. This date was selected to allow time for the design and production of on-off switches and the proper training of installation personnel. Until then, NHTSA will continue its current practice of using its prosecutorial discretion to grant requests for deactivation on a case-by-case basis in a limited set of circumstances, e.g., unusual medical conditions. Beginning on January 19, vehicle manufacturers and aftermarket parts manufacturer may make on-off switches available to vehicle owners who have an agency authorization letter. NHTSA expects that vehicle manufacturers will make on-off switches available for the majority of vehicle makes and models. The agency will continue to consider deactivation requests after January 19 only for vehicles for which retrofit on-off switches are not available from the vehicle manufacturer. If aftermarket parts manufacturers make on-off switches available for any of those vehicles after January 19, motor vehicle dealers and repair businesses may install such switches for owners who have an agency authorization letter.

*B. The Challenge and Overall Rationale*

1. Risk Versus Perception of Risk

While air bags have proven to be highly effective in reducing fatalities in frontal crashes, and have saved about 2,287 drivers and 332 passengers (as of November 1, 1997), they are also known to have killed 35 drivers, 49 children, and 3 adult passengers (as of November 1, 1997). As discussed above, all of these fatalities occurred because of extreme proximity to the air bag, and almost all could have been prevented by behavioral changes, such as not placing infants in rear-facing infant restraints in the front seat, placing all children in the back seat, moving front seats farther back, and ensuring that all occupants are properly restrained.

As a whole, media reports about air bag fatalities have contributed to the heightening of the public's concerns about air bags, and of their desire to deactivate their air bags. Those reports deserve credit for helping spread the word about the real risks associated with air bags for some people. Increased public knowledge about the risks has helped induce changes in behavior to reduce or even eliminate those risks, e.g., by putting children in the back seat of vehicles.

However, some behavioral effects of those accounts may not be positive. Some media accounts which initially served the public by drawing attention to an initially unknown or underappreciated risk may ultimately have had the unintended consequence of causing people to generalize and exaggerate those risks. Unfortunately, many members of the public have focused their attention on the possibility of being killed by an air bag, to the exclusion of other factors that may be more determinative of their overall safety. These factors include the very small magnitude of risk from the air bag, the ability of teenagers and adults to preserve the benefits of air bags and nearly eliminate any risk by behavioral actions such as wearing safety belts and moving front seats back, and the much greater risk, almost always faced by the same occupants in the absence of an air bag, of hitting their heads, necks or chests on the steering wheel or dashboard in a moderate or serious crash.

By focusing on only one of an interrelated set of risks which consumers face while traveling by motor vehicle, and thus magnifying that one risk out of proportion to those other risks, some media accounts may also have had the effect of obscuring those other risks. Those accounts may cause some people to so focus on that one risk to the exclusion of the other risks that they induce those people to take actions that increase, instead of decrease, their overall risk of injury in a motor vehicle. The potential exists for a significant number of people doing just that. As noted elsewhere in this notice, several public opinion surveys indicate that the extent of the public interest in turning off air bags exceeds the number of persons actually at risk from them. For many of the teenagers and adults among these people, concern about air bags apparently tends to overshadow a much greater risk faced by these same occupants, i.e., the risk that, in the absence of an air bag, they will strike their head, neck or chest on the steering wheel or dashboard in a moderate to severe crash. This risk exists even for properly belted occupants.

2. Which Groups Are Really at Risk?

As noted above, air bag-related deaths are not random. They tend to involve particular groups of people who share common behavioral or other characteristics. The relatively few people who share those characteristics will be safer overall if they turn off their air bags. Conversely, people who do not share those characteristics would be less safe overall if they did so.

The primary source of risk is contact with or close proximity to the air bag module at the initial instant of deployment. The deploying force is the greatest in the first 2–3 inches of deployment.

On the passenger side, it is primarily children who get too close to the air bag. Infants get too close by being placed in a rear-facing infant restraint. That positions the child's head so that it is very close to the dashboard where the air bag is stored. Older children, i.e., children age 1–12, get too close typically because they are allowed to ride completely unrestrained. During pre-crash braking, these unrestrained children slide forward and are up against or very near the dashboard when the air bag begins to deploy. A few children have gotten too close because although they were placed in lap and shoulder belts, they either removed their shoulder belt or leaned far forward.

On the driver side, the fatally-injured drivers are believed to be people who sat close to their steering wheels primarily out of habit, although some may have done it out of necessity. Some may have been drivers who were physically unable to maintain a 10-inch distance between their air bag cover and their breastbone because of the limits of their reach (arm and leg length) or because of fatigue or other physical factors. However, they were generally tall enough that all or almost all of them should have been able to get back 10 inches. While they may have been able to maintain that distance, perhaps they did not do so because they had grown accustomed to sitting close to their steering wheel as matter of a preference. A few of the drivers were slumped over their steering wheel at the time of deployment due to medical conditions.

A second source of potential risk is a very limited number of medical conditions. Apart from the medical conditions which caused several drivers to lose consciousness and slump over their steering wheels, none of the air bag

that requirement, manufacturers must state that the air bag will not inflate in a crash and that the occupant therefore will not have the extra protection of the air bag. To conform S4.5.4.4 to this final rule, NHTSA has amended that provision in this final rule so that the provision requires the listing the same risk groups listed in the information brochure and requires a statement of the vehicle specific safety consequences of using the on-off switch for persons not listed in those groups.

fatalities confirmed to date has been attributed to the existence of a pre-existing medical condition that made the fatally-injured person more susceptible than the average person to injury from an air bag.[26] To provide vehicle owners and their physicians with guidance concerning which medical conditions warrant turning off an air bag, NHTSA arranged for the convening of representatives of the medical community in July 1997. The results of their deliberations are discussed above. Briefly, it appears that, in a very small number of cases in which a medical condition prevents a person from getting back 10 inches, a medical condition might, in combination with an air bag, present enough of a risk to warrant turning off either a driver or passenger air bag.

3. Agency Actions to Minimize Risks

In the longer term, the problems associated with air bags will be addressed and largely eliminated by changes in technology, initially by depowering and making various incremental improvements to air bags, and ultimately by installing advanced air bags. Standard No. 208 has provided all the flexibility necessary to enable vehicle manufacturers to develop and introduce those air bags, but thus far has not required their introduction. However, the challenge now facing NHTSA and the public is how to preserve the life-saving benefits of current air bags, while addressing the needs of the relatively small number of persons facing risks from these air bags as well as the fears being experienced by a much larger number of persons.

In meeting this challenge, NHTSA believes that it is essential to consider safety benefits in both the shorter term and longer term. The agency recognizes that, given the small number of fatalities associated with air bags as compared to the number of lives saved, the short-run safety benefits of air bags would be best preserved by minimizing the situations in which air bags are turned off, i.e., limiting the situations to the relatively rare ones where a person is actually better off with his or her air bag turned off.

However, the agency believes that great care must be taken with respect to *how* this is accomplished, to avoid a potentially much greater loss of safety benefits in the longer run. As the agency discussed in the depowering final rule, the continued availability of any safety device as standard equipment, whether provided voluntarily by manufacturers or pursuant to a regulation, is ultimately dependent on public acceptability. The agency believes that air bags which fatally injure occupants, particularly children in low speed crashes, place the concept of air bags at risk despite their overall net safety benefits. Thus, the agency believes it must take great care in how it responds to requests for turning off air bags, lest its actions have the unintended effect of reducing the public acceptability of air bags and their potential as a life-saving device.

Mindful of these considerations, the agency is taking the following actions:

1. In light of changed circumstances which make retrofit on-off switches a much more readily available option, NHTSA is specifying that they will be the only means authorized under the exemption for turning off an air bag. This will ensure that any air bag which is turned off for an occupant at risk can be readily turned on again for occupants who are not at risk. (In very limited cases, deactivation will continue to be available through the agency's exercise of its prosecutorial discretion.)

2. NHTSA has taken a balanced approach in establishing the process for determining which vehicle owners may have a dealer or repair business install an on-off switch. The agency is not going to insist that facts establishing the need for turning off an air bag be documented by the vehicle owner. Instead, the agency is requiring owners who wish to obtain on-off switches to certify, by marking a box on a request form developed by the agency, that they have read an agency information brochure providing guidance about the risks created by current air bags and discussing the circumstances in which it may be appropriate to use on-off switches. Owners must also certify that they or a user of their vehicle belongs to one of the risk groups identified by the agency. NHTSA is also requiring that vehicle owners submit their completed request forms to the agency for approval. This requirement will help reinforce the need for care and accuracy by owners in certifying risk group membership. The requirement will also enable the agency to monitor, from the very beginning, the patterns in switch requests and risk group certifications.

The agency has identified four risk groups. Based on the agency's assessment of risk, persons in the first two groups have a high enough risk that they would *definitely* be better off if an on-off switch is used to turn off their air bag:

- *Infants in rear-facing infant seats.*

A rear-facing infant seat must *never* be placed in the front seat unless the air bag is turned off. If a vehicle owner *must* transport an infant in the front seat, the owner is eligible for an on-off switch for the passenger air bag. The owner should get an on-off switch and turn off the air bag when the infant rides in front.

**Note:** NHTSA emphasizes that air bag-related risks for infants can be completely avoided by placing them in the back seat. The back seat has always been a much safer place for children than the front seat, even before there were any passenger air bags.

- *Drivers or passengers with unusual medical or physical conditions.*

These are people who have been advised by a physician that an air bag poses a special risk to them because of their condition. However, they should not turn off their air bag unless their physician also has advised them that this risk is greater than what may happen if they do turn off their air bag. Without an air bag, and even if belted, such persons could hit their head, neck or chest on the steering wheel in a crash. Medical conditions will not pose special risks unless the conditions make it impossible to sit 10 inches from the air bag. Only a few conditions have that effect. See the above discussion of the national conference of physicians.

Persons in the two other groups of people may be better off using an air bag on-off switch.

- *Children ages 1 to 12.*

Children in this age group can be transported safely in the front seat *if* they are properly belted, they do not lean forward, *and* their seat is moved all the way back. Almost all fatally injured children in this age range were *completely unrestrained*. But children, even when properly restrained, sometimes sit or lean far forward. The simple act of leaning forward to see out of the window or to change the radio station can place even a belted child in danger. They may also slip out of their shoulder belts, putting themselves at risk. If a vehicle owner *must* transport a child in the front seat, the owner is eligible for an on-off switch for the passenger air bag.[27] Since air bag performance differs from vehicle model to vehicle model, the vehicle owner may

[26] Two of the fatally-injured drivers were diabetics. While diabetes did not by itself make those persons more prone to injury, it did cause them to black out and slump over their steering wheel prior to the fatal crash.

[27] In its August 1997 survey concerning public interest in turning off air bags, IIHS asked the 137 respondents who owned dual air bag vehicles and said they carried children in the front seat why they carried children in that location. Approximately 20 percent of the respondents gave answers indicating that they carried children in the front seat out of necessity, e.g., ''no room in back seat,'' ''big family,'' ''car pool,'' and ''no rear seats in vehicle.'' Over half of the remaining 80 percent of the respondents said either ''child wants to ride in front seat,'' or ''driver wants child in front seat.''

wish to consult the vehicle manufacturer for additional advice.

**Note:** The air bag related risks for these children can be avoided completely by placing them in the back seat.

• *Drivers who cannot get back 10 inches.*

Ideally, drivers should sit with at least 10 inches between the center of their breastbone and the cover of their air bag. Since the risk zone at the time of deployment is the first 2–3 inches from the air bag cover, sitting back 10 inches provides a clear margin of safety. By using their seat belts and sitting at that distance, drivers will eliminate the risk of serious air bag injury, and thus any need for an on-off switch.

Very few drivers are unable to achieve and maintain the 10-inch distance. The vast majority of drivers already sit that far or farther from their air bag.[28] The vast majority of those drivers who do not now sit that far back can change their position and achieve that distance. (See the information brochure for advice about changing position.)[29] Drivers unable to get back 10 inches, even after following that advice, should consult their dealer or vehicle manufacturer for additional advice or for information regarding vehicle modifications to help them to move back.

Drivers who cannot get back 10 inches, despite all efforts, may wish to consider an on-off switch. However, the nearer they can come to getting back that distance, the less likely the air bag will injure them and the less need there will be to get an on-off switch. If drivers can get back almost 10 inches, the air bag is unlikely to seriously injure them in a crash and they probably do not need an on-off switch. These drivers, plus those who cannot get back almost 10 inches, may wish to consult the vehicle manufacturer for additional advice since air bag performance differs among the various vehicle models.

3. Finally, the agency plans, in conjunction with other organizations, a public education information campaign to put air bag risks and benefits into proper perspective, to encourage those persons at special risk from current air bags to take steps to reduce those risks without losing the protection of their air bags, and to promote the enactment and effective enforcement of State laws concerning the use of seat belts and child restraints.

*C. Changes in Circumstances Since the NPRM Make Retrofit On-Off Switches Preferable to Deactivation*

In the January 1997 deactivation proposal, the agency compared the merits of deactivation to those of on-off switches in a companion notice, i.e., a January 1997 final rule extending the duration of the option allowing on-off switches for passenger air bags in certain new vehicles. NHTSA concluded in the preamble to the on-off switch final rule that it was better from a safety standpoint to selectively deactivate the air bags after the vehicles had been produced, in response to specific consumer requests, than to authorize installation of on-off switches as standard equipment in those vehicles when they were produced. NHTSA placed great weight in that discussion on the long leadtime that vehicle manufacturers had previously said would be needed to integrate standard equipment on-off switches into new vehicles and on concerns expressed by the vehicle manufacturers that the integration efforts would disrupt the development of advanced air bags. In response to an August 1996 NPRM, the vehicle manufacturers had indicated that development and installation of standard equipment on-off switches for makes and models not already equipped with them would take at least one year. As a practical matter, given the time estimates from the vehicle manufacturers regarding on-off switch availability, deactivation was the only readily available means for turning off air bags in existing vehicles. Accordingly, in issuing the NPRM, the agency proposed to allow deactivation. Nevertheless, it expressly requested comment regarding on-off switches. A wide variety of commenters responded to that request.

The facts underlying the agency's comparison of the relative merits of deactivation and on-off switches changed dramatically after issuance of the deactivation NPRM. Not long after the issuance of the January 1997 NPRM, a number of major vehicle manufacturers began announcing that retrofit on-off switches could be made available at reasonable cost and in anywhere from 2 to 6 months.

These announcements fundamentally changed the agency's assessment of the relative merits of on-off switches and deactivation. As a result of the new information from the vehicle manufacturers, on-off switches were elevated from a theoretically available alternative to an alternative that is actually available within a relatively short time. The new information also indicated that retrofit on-off switches could be made available without disrupting the development of advanced air bags.

*D. Specifying That Retrofit On-Off Switches Are the Only Means Authorized Under the Exemption for Turning Off Air Bags Is Reasonable and Consistent With Safety*

The ready availability of on-off switches and their safety advantage over deactivation make authorizing deactivation both unnecessary and undesirable. The primary source of that safety advantage is the flexibility of on-off switches.[30] With an on-off switch, an air bag's operational status can be changed at the flip of a switch. The flexibility of on-off switches gives them considerably greater potential than deactivation for promoting overall safety. On-off switches allow air bags to be turned off and on as needed, according to whether an air bag creates risks for particular occupants.

In addition to making it possible to accommodate the different risks faced by different people, on-off switches can likewise accommodate the changing needs, knowledge and attitudes of people. For example, a child will be at increasingly less risk as he or she grows older. In addition, a person whose attention is focused now on the perceived risk of an air bag fatality if he or she does not turn the air bag off may later recognize that there is a much greater risk of serious injury or death if he or she does not leave the air bag on. Finally, subsequent owners of existing vehicles may have no need to turn off their air bags. The ability of on-off switches to allow vehicle owners to respond to these changes will have important implications for the percentage of occasions on which air bags are able to deploy when needed.

NHTSA recognizes that the opinion survey conducted by IIHS in January indicates that there is apparently significant public interest in on-off switches. The agency is aware also of

[28] Drivers who think that they are currently sitting closer than 10 inches should get a ruler and measure the distance. Research shows that many drivers underestimate the distance between them and their air bags. When they actually measure the distance, they often find that it is 10 or more inches.

[29] Drivers may underestimate their ability to change their driving position to achieve the 10-inch distance. A recent IIHS survey indicates that only 5 percent of female drivers (approximately 2.5 percent of all drivers) normally now sit less than 10 inches away from their air bag module. Another recent IIHS survey shows that most short-statured female drivers (10 out of 13 women ranging in height from 4 feet 8 inches to 5 feet 2 inches) could adjust their driving position to achieve that 10 inch distance in all 12 test vehicles used by IIHS. The remaining three drivers could achieve 10 inches in almost all of the vehicles.

[30] An additional safety advantage of on-off switches will be that they, together with the ''Air Bag Off'' telltale, will provide a permanent means of ensuring that people will not ride in a vehicle without knowing that an air bag has been turned off.

IIHS' suggestion that its January 1997 survey indicates that if the agency specifies on-off switches as the means for turning off air bags, more people may get on-off switches than would have had their air bags deactivated.

However, there are several reasons for believing that the January 1997 survey substantially overstates the number of people who will obtain on-off switches under this final rule. First, and foremost, the agency's decisions to require agency approval of each request and to limit eligibility for on-off switches to those vehicle owners who can certify membership in a particular risk group will significantly and appropriately limit the availability of on-off switches to persons with a real safety need for them. Further, the agency does not believe that a respondent's expressed interest in on-off switches in that January 1997 telephone public opinion survey will necessarily translate into a decision in January 1998 or thereafter to go to a dealer or repair business and pay to obtain an on-off switch. In addition, a consumer's decision to acquire and even to use the on-off switch does not mean that the consumer will continue to use the switch. The survey methods and results reflect not only the underlying safety problem, but also the atmosphere in which the survey was taken. That atmosphere was colored heavily by those media accounts that focused on an important, but limited, portion of the full story about air bags. Some of that same narrow focus can be seen in the survey.[31]

NHTSA recognizes that a new survey by IIHS cures some of the shortcomings of its January 1997 survey.[32] The new survey, conducted in August 1997, informed respondents about the cost of deactivation and on-off switches, the benefits of air bags and the steps that can be taken to minimize or even eliminate air bag risks for the vast majority of people. While the new survey suggests that many people are interested in on-off switches, it also shows that providing people with even minimal facts regarding these matters substantially reduced the extent of that interest. Before the respondents were provided with such information, 27 percent of the respondents indicated that they wanted on-off switches for driver air bags and 26 percent wanted them for passenger air bags. After receiving the information, these percentages fell to 12 percent and 16 percent, respectively. As noted below, the agency believes that a sustained, comprehensive public education campaign would reduce the level of interest in obtaining on-off switches even further.

Since the percentage of respondents to both IIHS surveys who expressed general interest in turning off their air bags far exceeds the percentage of the population at any significant risk, it is evident that the risks of air bag fatalities are significantly overestimated by many people. It is equally apparent that the misperception of risk regarding air bag-related fatalities is leading some consumers to insufficiently appreciate the risks of turning off an air bag. The agency expects that the requirement that owners certify that they have read the information brochure as well as the public education campaign will lead to a more balanced view of the risks associated with current air bag designs, and that the requirement for agency approval and for owner certification of risk group membership will appropriately limit the requesting of on-off switches.

The misperception of the risks in everyday life, whether related to air bags or other problems, arises from a variety of factors. An article published in *Smithsonian,* the magazine of the Smithsonian Institution, addressed some of the factors that make assessing and comparing risks difficult for scientists and engineers, and even harder for the average person without access to all available information and analytical methods:

> In a landmark test in 1980, a group of psychologists asked a representative sampling of the populace to rank 30 activities and technologies by risk; then they compared the results with rankings assigned by a panel of risk-assessment experts. In places, the two groups agreed, such as on the risk of motor vehicles, placed number one by the experts and number two by the public. But on others, there were large discrepancies: the public rated nuclear power as their number one risk, whereas the experts ranked it as a lowly number 20. Experts ranked x-rays as number 7, while the man-in-the-street saw them as a number 22. What, the risk-communication scientists next asked, was influencing the public's perception of risk?
>
> For starters, they found that the public responds differently to voluntary and involuntary risks. You and I are willing to tolerate far greater risks when it is our own doing, such as smoking cigarettes or climbing mountains. But if the risk is something we can't control, such as pesticides on food or radiation from a nuclear power plant, we protest, even if the threat is minimal.
>
> Second, we tend to overestimate the probability of splashy and dreadful deaths and underestimate common but far more deadly risks. . . .
>
> Yet another factor about how we rank risks revolves around whether or not the risk is perceived as ''natural. * * *''[33]

As the author also noted, our problem in making everyday decisions about the risks we face is more difficult than simply assessing a single risk correctly.

We're also realizing that the trade-offs are not always so clear. Reducing risk in one area

[31] There are other reasons for discounting the results of this early 1997 IIHS survey as a basis for predicting how many people will obtain on-off switches. In asking the respondents whether they wanted on-off switches, the surveyors did not ask whether the respondents were aware of a number of key factors that might heavily influence the extent of their desire for an on-off switch. Further, the surveyors did not take the alternative approach of informing the respondents of these factors and then asking them whether learning any or all of this information influenced their desire for an on-off switch. Based on the factors that affect how the public perceives risk (see footnote 35), three undiscussed factors in particular seem key: (1) most people would be making significant safety tradeoffs if they turned off their air bags; (2) most people could control and virtually eliminate the risk of serious air bag injuries by changing their driving and riding habits instead of physically changing their vehicle; and (3) the cost of an on-off switch is not insubstantial. A survey by the Harvard School of Public Health's Center for Risk Analysis in late February and early March had similar shortcomings. The absence of these factors from these surveys in part simply reflects the fact that there was less of a consensus in early 1997 about the air bag-related risks and the most appropriate measures for reducing them. Nevertheless, their absence is a concern since the survey results themselves may not only measure (or at least attempt to measure) existing public attitudes regarding air bags and on-off switches, but also potentially affect future public attitudes regarding those matters.

NHTSA expects that when media reports and the agency's information brochure make the public more aware of the safety tradeoffs and available means of controlling and reducing risk, the level of public interest in obtaining on-off switches will fall. Interest is expected to fall further in response to the public education campaign to be conducted the agency and other organizations about air bags.

[32] The difference between the new IIHS survey and the January IIHS survey regarding the level of general interest in on-off switches for passenger air bags appears to demonstrate the influence which media accounts of recent air bag fatalities can have on survey results. The January survey, which was taken when media accounts of a particular child fatality were relatively fresh in the public mind, indicated that 67 percent of the respondents were generally interested in an on-off switch for passenger air bags. The August survey was not closely preceded by similar accounts. Its figure for general interest in passenger air bag on-off switches was 26 percent.

[33] John F. Ross, *Risk: Where Do Real Dangers Lie?* Smithsonian, November 1995, at 42. See also Marcia Angell, *Overdosing on Health Risks,* New York Times, May 4, 1997, Magazine Section, which, in part, notes that the media are not the only players that affect public risk perception; Michael Ryan, *What Is Really Risky?* Parade Magazine, June 15, 1997, which discusses a recent Harvard study concerning differences between the risk perceptions of scientists and the general public; and Matthew Wald, *Freewheeling Freedom; Appalled by Risk Except in the Car,* New York Times, June 14, 1997, section 4, Week in Review. For a related account of the difficulty in obtaining comparative information on risks and tradeoffs, see David Shaw's three-part series, *Living Scared. Why Do the Media Make Life Seem So Risky?* in the Los Angeles Times, September 11–13, 1994.

may very well increase the risk in another.* * *[34]

The actions being announced by NHTSA in this final rule will have the effect, directly or indirectly, of giving the public a sense of control over the risks associated with current air bags, and restoring objectivity to the public's perception of those risks. As a result, whatever the extent of the public's initial inclination to acquire and use on-off switches, these actions will thereby reduce that inclination. The air bag deaths are not random. Further, the risk of death is highly influenced by behavior. Through informing the public about how the vast majority of people can eliminate or substantially minimize any risk through behavioral changes and how the rest can eliminate the risk through the use of an on-off switch, the agency will give the public a significantly increased sense of control over the risk of air bag fatalities. Through these same means, the agency will inform the public about the steps that they can take to reduce, and thus control, this risk without turning off air bags.

Together, these actions will put air bag risks into proper perspective, enable those truly at risk to reduce or eliminate their risk, and calm the fears of others. As the public comes to appreciate more fully just how limited and controllable the risks are, interest in obtaining and using on-off switches to turn off air bags is expected to decline. Likewise, any inappropriate use of on-off switches will be reduced to a minimum. As noted above, the August 1997 IIHS survey demonstrates that giving the public even the barest facts reduces the level of interest in on-off switches. NHTSA believes that a sustained public education campaign which includes comprehensive reading materials, explanatory graphics and video clips will reduce the level of interest even further.

NHTSA notes also that some company and group commenters argued that on-off switches would be misused. They were particularly concerned that air bags would be turned off for people who are not at risk of serious air bag injuries and who would benefit from air bag protection. The agency recognizes that misuse is a possibility. However, the agency does not have any information indicating that there is a misuse problem associated with the 1.3 million vehicles equipped with an original equipment manufacturer (OEM) on-off switch for the passenger air bag. Further, the agency believes that any problem of misuse will be small, particularly given the requirements for agency approval and for vehicle owners to certify the reading of the information brochure and risk group membership. The public education campaign will also help minimize that problem. Because of these factors, the people who submit request forms for on-off switches will be aware of the dangers of misusing on-off switches by leaving them off when the vehicle is being used by people who are not at risk of being seriously injured by an air bag.[35]

Further, any small possibility of misuse will be more than offset by the fact that the use of an on-off switch instead of deactivation to turn off air bags will make it much more likely that air bags will be on for those people who will benefit from them. Compared to retrofit on-off switches, deactivation is an inflexible, overly broad, and essentially permanent method of turning off air bags. With deactivation, the consequence is universal, i.e., ''off for one, off for all.'' Deactivation does turn off an air bag for those who are at risk and need the air bag to be off, and thereby can prevent air bag fatalities. However, it accomplishes this only at the price of sacrificing protection for those who could benefit from that protection. The net effect of widespread deactivation would likely be even greater loss of life. Further, another likely consequence of deactivation is permanency, i.e., ''once off, forever off.'' In most instances, a consumer is unable, on his or her own, to change the operational status of a deactivated air bag to suit the needs of occupants on a particular trip. Likewise, a consumer cannot go to a dealer or repair business each time that the operational status of an air bag needs to be adjusted to meet the needs of the occupants on a particular trip. Given the time and expense involved, relatively few of the vehicle owners who have their bags deactivated are expected to make a return trip to the dealer or repair business to have them reactivated when needs or attitudes change, or when the vehicle is sold.

*E. Case-by-Case Agency Authorizations of Retrofit On-Off Switch Installation, Based on Vehicle Owner Certification of Risk Group Membership and on Informed Consumer Decisionmaking, Is Reasonable and Consistent with Safety*

As noted above, this rulemaking is being conducted under section 30122(c)(1) of Title 49, U.S.C., which provides that the Secretary of Transportation may prescribe regulations ''to exempt a person from * * * [the make inoperative prohibition] * * * if the Secretary decides the exemption is consistent with motor vehicle safety and section 30101 of this title.'' Section 30101 sets forth the purpose and policy of Chapter 301, ''Motor Vehicle Safety,'' of Title 49. The section states that, among other things, ''(t)he purpose of this chapter is to reduce traffic accidents and deaths and injuries resulting from traffic accidents.'' This final rule will promote safety by reducing the fatalities caused by current air bags, particularly in existing vehicles, and promoting the long run acceptability of the concept of air bags.

This final rule will achieve these safety goals by authorizing persons at risk to obtain retrofit on-off switches, based on a combination of informed decisionmaking, owner certification of risk group membership, and agency approval of each request. To promote informed decisionmaking, the agency will, in conjunction with other organizations (ABSC, AAA, NSC, and IIHS), conduct a public education campaign explaining that most people are not at risk and that even among people at risk, not all people need obtain and use on-off switches to turn off their air bags. The agency will discuss who is at risk from air bags, who is not at risk, and why. It will advise consumers of a series of easy steps that will reduce this risk to a point that obtaining an on-off switch is unnecessary for all but a relatively small number of people. Only if those steps are insufficient should motorists consider seeking an on-off switch. These messages will be reinforced and echoed in an agency information brochure. Further, the request form provides a place where each vehicle owner desiring an on-off switch must certify that he or she has read the information brochure.

To obtain a switch that turns a driver air bag on and off, vehicle owners must also certify on the request form that the owner or a driver of their vehicle is a member of a particular driver risk group. Similarly, to obtain an on-off switch for a passenger air bag, vehicle owners must certify on the request form that they or a passenger of their vehicle is a member of a particular passenger risk group. If an owner wants on-off switches for both air bags, the owner must make separate certifications on the same request form, one for the driver air bag and another for the passenger air bag.

[34] Ibid.

[35] The requirement for a telltale light that indicates if the air bab is not operational will also eliminate the possibility that occupants will unknowingly ride without the protection of an air bag.

NHTSA believes that requiring owners to certify that they have read the information brochure and that they or a user of their vehicle is a member of a risk group and requiring that each request be approved by the agency is justified by the current climate of heightened, and exaggerated, concern about air bag fatalities. These requirements will help limit the availability of on-off switches to persons with a genuine safety need for them. Having to make the certifications will help induce consumers to read the information brochure, separate fact from fiction, and avoid trading one safety risk for another, larger safety risk. The necessity of obtaining agency approval will induce an even greater level of care and caution in requesting an on-off switch. As the public education campaign moves forward, media coverage expands to cover the safety benefits, risks and tradeoffs associated with air bags more broadly, public and private efforts result in increased seat belt use rates, and air bags with advanced attributes start to appear in new vehicles, the public will increasingly appreciate the low risk of air bag fatalities and the steps they can take, short of turning their air bags off, to reduce that risk. The requirement for vehicle owners to certify that they have read the information brochure and fill out the request form will also help ensure that any decision to seek and use on-off switches is a thoughtful, responsible one.

Allowing vehicle owners to obtain on-off switches, based on risk group certification and on informed decisionmaking, and subject to agency approval, will enhance safety because it will speed the reduction of serious and fatal injuries related to air bag deployment. It will also enhance the public acceptance of air bags. Public acceptance of motor vehicle safety technology is not only a relevant consideration in assessing the practicability of a Federal motor vehicle safety standard,[36] but also it is vital to the long run success of any vehicle safety program and to the effectiveness of all types of safety equipment.

Making retrofit on-off switches available will promote public acceptance of air bags by providing those people at risk with a means of eliminating their risk. NHTSA anticipates members of the public will, with their concerns thus allayed, be increasingly receptive to the public education campaign concerning air bag safety and seat belt use. The agency anticipates that the public will also increasingly come to appreciate the limited nature of the risk, the factors that create that risk, the limited number of people affected by those factors, and the ways in which those people can reduce and even eliminate the risks without sacrificing the benefits of air bag protection. The public will come to appreciate also that turning off air bags will make the vast majority of people less safe, not more safe. As a result, the demand for retrofit on-off switches, and the inclination to use them to turn off air bags, will decrease.

Making retrofit on-off switches available will also have other salutary effects that are consistent with motor vehicle safety and section 30101. As noted elsewhere, the agency is mindful of the surveys by IIHS and others showing that the percentage of respondents interested in deactivation or on-off switches exceeds the percentage of the general population that is at risk. Availability of on-off switches will minimize the likelihood that consumers, potentially including consumers not actually at risk, will obtain unauthorized deactivations with the negative consequences discussed above. It will also lessen the possibility of owners attempting to deactivate their air bags on their own. While owners are not prohibited by Federal law from removing or disabling safety features and equipment installed pursuant to NHTSA's safety standards, attempts by inexperienced people to deactivate air bags or install on-off switches could result in serious injuries to those people. Further, whether performed by commercial entities or the owners themselves, these illicit deactivations would not only be inflexible and essentially permanent, but they could also be invisible to current users and future owners, since they might not be accompanied by any labeling or recordkeeping.

NHTSA recognizes that the final rule will not allow installation of on-off switches for people who are concerned about their air bags, but who are not at risk and thus cannot certify that they are, or a user of their vehicle is, in a risk group. It would not be consistent with safety for the agency to authorize these people to obtain on-off switches and to turn off their air bags, since their doing so would make them significantly less safe. However, action is needed to address the concerns of these people. The agency is seeking to alleviate their concerns by providing the public with information about who really is at risk, and why. The information brochure and public education campaign are the key elements of that effort.

Before deciding to limit the availability of on-off switches to members of risk groups and to allow installation of on-off switches only after prior approval by the agency of each request for switches, the agency considered a spectrum of possible approaches, listed below in decreasing degree of administrative complexity: (1) full documentation by the vehicle owner of the facts establishing membership in a particular risk group specified by the agency and case-by-case agency review of the owner's request and documentation before the agency authorizes installation of an on-off switch, (2) case-by-case agency approval of the owner's request (unaccompanied by documentation of the underlying facts) to confirm that he or she has properly certified membership in a particular risk group specified by the agency before it authorizes installation of an on-off switch, (3) presentation by owner to a dealer or repair business of his or her certification of having read the information brochure and of membership in a particular risk group specified by the agency, plus post-installation submission by the dealers and repair businesses of the certification to agency, (4) presentation by owner to a dealer or repair business of his or her certification of having read the agency information brochure and retention of the certification document by dealer or repair business of certification, and (5) presentation by owner to dealer or repair business of his or her simple request. The second approach was suggested in a comment by GM,[37] the fourth was proposed by the agency in January, and the fifth was suggested in a comment by the Competitive Enterprise Institute (CEI).

In developing the fourth approach, i.e., its January 1997 proposal, the agency indicated that it had considered the relative merits of two alternatives: continuing case-by-case agency approval of individual requests from persons seeking authorization to turn off

[36] *Pacific Legal Foundation* v. Department of Transportation, 593 F.2d 1338, 1345 (D.C. Cir. 1979).

[37] GM suggested that the agency select and describe the most frequent circumstances warranting an on-off switch and develop a " * * * form letter that owners could complete (i.e., checking the appropriate one of the circumstances specified on the form), sign and submit to NHTSA." As to "* * * requests that do not fit under one of the defined circumstances * * *," owners could still submit them"* * * to NHTSA in non-form letters that detail the reasons for the request." GM apparently contemplated that the agency would quickly examine the form letters and concentrate on the non-form requests. GM described the agency's review function as follows: "The agency could *process requests made with the form letter in an expedited manner,* and focus attention principally on the non-form requests." (Emphasis added.)

their air bags based on a demonstrated safety need, or providing an information brochure informing vehicle owners about the factors that create risk and who is at risk, requiring owners to certify that they had read the brochure, and then letting them make their own decision. Given the complexity and time-consuming nature of the process then being used by the agency for processing deactivation requests, the agency proposed the latter alternative, which would have allowed any person to choose to deactivate, without having to demonstrate or claim a particular safety need, and without having to obtain the agency's approval. However, under the proposal, applicants would have had to submit a written authorization to the dealer or repair business performing the deactivation and certify that they had read an agency information brochure explaining the consequences of having an air bag deactivated.

Nevertheless, NHTSA requested views regarding the feasibility and advisability of limiting eligibility for deactivation to persons in specified risk groups. Specifically, the agency asked—

- Should deactivation of air bags be allowed at the owner's option in all cases or should deactivation be limited to situations in which death or serious injury might reasonably be expected to occur?
- Would the administrative details involved in establishing and implementing limitations on eligibility overly complicate the availability of deactivation?

The agency has decided that it is necessary to go beyond the fourth and even the third approaches and adopt provisions that give greater assurance that on-off switches are installed only when it is consistent with the interests of safety to do so. The complexities associated with such additional provisions are outweighed by other factors. Prior approval of requests for switches will encourage greater attention to the importance of on-off switches being requested and used only for people whose safety would be enhanced by turning off their air bag. As was noted by many of the group and company commenters, consistency with safety is the basic requirement of the statutory provision permitting the agency to issue exemptions from the make inoperative prohibition. Safety is also NHTSA's primary focus and responsibility under Chapter 301. Prior approval will also enable the agency to monitor directly, from the very beginning, the implementation of the regulation and the effectiveness of its regulation and the associated educational materials in promoting informed decisionmaking about air bag on-off switches.[38]

The final rule supplements the provision regarding informed decisionmaking by requiring that vehicle owners desiring on-off switches certify that the owner or a user of their vehicle is a member of a particular safety risk group. The necessity of certifying membership in a particular risk group will induce greater care on the part of vehicle owners who are considering authorizing the installation of an on-off switch. NHTSA notes, as it did in its proposal, that people not in a risk group would be less safe, not more safe, if they turned off their air bags. The further necessity for obtaining agency approval for an owner's request will induce vehicle owners to exercise even greater caution and to consider even more carefully whether they are at risk and, if so, whether they should request a switch.

A secondary reason for the decision to require agency approval of owner requests for on-off switches is the belief that the task of reviewing the owner request forms is more properly performed by NHTSA instead of the dealers and repair businesses. This belief became decisive with the addition of the provision for risk group certification. Determining eligibility for exemptions from statutory requirements and prohibitions is traditionally and most suitably a governmental function.

NHTSA recognizes that the decision to require prior agency approval of each request will add increased cost and administrative complexity to the process of obtaining on-off switches and is accordingly taking steps to streamline the approval process. The form has been designed to allow for a speedy review. To minimize any disruption of normal agency activities, the agency will contract out for the performance of the review process. The agency will ensure that word and data processing technologies are used to establish efficient processes for reviewing the on-off switch request forms and recording data from them.[39]

NHTSA also rejected the first approach which was more administratively complex and cumbersome than the final rule in that it would have required each vehicle owner to document the facts underlying his or her claim of risk group membership. NHTSA believes that a requirement for documenting risk group membership would be unduly burdensome and impracticable for vehicle owners. For example, documenting the necessity for carrying children in the front seat would be time consuming and difficult, if not impossible. Would a vehicle owner whose family has too many young children to place all of them in the back seat have to submit the birth certificates of each child? Would a parent who car pools children to soccer games have to submit affidavits from the parents of the other children? And would a driver unable to maintain the proper distance from his or her steering wheel have to submit photographs showing the driver holding a ruler? Finally, the delays under such an approach might create unsafe conditions, either by inducing people to seek illegal deactivations or by simply extending the time that people must drive their vehicles without means for eliminating the risks for people in risk groups.

NHTSA also rejected the fifth approach, suggested by CEI, which

[38] The agency's decision to require that vehicle owners be initially authorized by the agency to obtain a on-off switch moots the arguments by some commenters, most notably GM and the Association of International Automobile Manufacturers, that the agency can exempt individuals on a case-by-case basis, but lacks authority to exempt classes of people. To reach this conclusion, those commenters attributed unwarranted significance to the use of the singular ''person'' in the statutory exemption provision. Since the exemption authority runs to dealers and repair businesses, not to consumers, these commenters apparently contemplated that the agency issue a separate exemption to each dealer or repair business and perhaps even issue a separate exemption for each owner who desires a retrofit cutoff switch.

There is no reason to believe that Congress intended to limit exemptions to ones granted to specific individuals. In the agency's view, the exemption provision can reasonably be read to permit an exemption based on classes of people. The singular includes the plural, absent contrary statutory language or purpose. Section 30122 neither contains any language nor has any purpose that would preclude reading ''person'' in the plural. NHTSA notes that similar use of the singular in 15 U.S.C. 1402(e), the statutory predecessor to 49 U.S.C. 30118(a) regarding the making of a defect and noncompliance determination concerning a motor vehicle or replacement equipment, has repeatedly been judicially interpreted to permit NHTSA to make determinations regarding classes of vehicles or equipment. Section 30118(a) was enacted in the same public law, Pub. L. No. 93–492, that contained the make inoperative prohibition.

[39] NHTSA notes that some proponents of prior agency approval of on-off switch requests credted the introduction of streamlined practices and increased use of information technologies with being the key factors leading to substantial decreases this year in the agency's average processing time of air bag deactivation requests. Those parties further suggested that use of the same information technologies will enable the agency to process on-off switch requests with equal speed. While the introduction of those practices and technologies increased the efficiency of the agency's processing of the deactivation requests, by far the most important factor was the steady and substantive decline in the number of deactivation requests. The volume fell from a high of 400 requests per week in April and May to 100 requests per week in September.

would let people obtain an on-off switch without even requiring that they first read the agency information brochure so that they could make a fully informed decision. CEI also suggested that air bags should be optional instead of required equipment. This suggestion is premised primarily on the shortcomings of current air bag designs. Making air bags optional is inconsistent with safety. It is also inconsistent with the ISTEA, which mandates air bags. Further, the rationale underlying CEI's suggestion is akin to the rationale unsuccessfully used by this agency in the early 1980's to rescind the automatic restraint requirements adopted in the mid 1970's. The agency rescinded those requirements because the vehicle manufacturers chose to comply with them by means (detachable automatic seat belts) that were potentially ineffective and might not have produced significant safety benefits, instead of by more effective means (either nondetachable automatic seat belts or air bags) that were available to the vehicle manufacturers. The U. S. Supreme Court unanimously concluded that the appropriate regulatory response of the agency under the Vehicle Safety Act to ineffective or undesirable design choices under the automatic restraint requirements should not be simply to rescind those requirements, but first to consider the alternative of amending the requirements to preclude those choices. *Motor Vehicle Mfrs. Assn.* v. *State Farm Mut. Auto. Ins. Co.,* 403 U.S. 29 (1983). Similarly, the judgment that current air bag designs do not provide an optimal level of safety is not a sufficient reason to undercut or negate the Congressional mandate for air bags. Instead, the appropriate short term response is to allow the installation of on-off switches so that air bags can be readily turned off for people who are actually at risk from current air bags, as well as to require new labeling and expedite the depowering of air bags. Ultimately, the solution is to ensure that the manufacturers introduce advanced air bag designs.

*F. Continued Use of Prosecutorial Discretion for Case-by-Case Authorizations of Air Bag Deactivation Until Retrofit On-Off Switches Become Available*

Between now and January 19, 1998, the date on which on-off switch installation may begin, NHTSA will continue its current practice of using its prosecutorial discretion to grant requests for deactivating the air bags in all vehicle makes and models. This will be done on a case-by-case basis in a limited set of circumstances, e.g., those in which certain medical conditions suggest that deactivation is appropriate. The agency will continue to limit the circumstances because of the inflexible and relatively permanent nature of deactivation.

After January 19, NHTSA will cease granting deactivation requests for those vehicle makes and models for which the vehicle manufacturer makes on-off switches available.[40] NHTSA expects that most vehicle manufacturers will promptly make on-off switches available for most vehicle makes and models.[41] Vehicle owners can consult with dealers about the availability of such switches. As on-off switches become available from a vehicle manufacturer for a specific make and model, NHTSA will cease granting deactivation requests for that make and model. Owners of the make and model can then fill out request forms and send them to NHTSA for approval. If on-off switches are available both from the vehicle manufacturer and from an independent aftermarket manufacturer, a vehicle owner who obtains an authorization letter from the agency for a switch can choose to have the on-off switch installed by either a dealer or a repair business.

Owners of vehicle makes and models for which the vehicle manufacturer has not made available an on-off switch may have several options after January 19, 1998. They can write to NHTSA for authorization to deactivate their air bags. The agency will continue to grant such requests indefinitely under the same criteria that the agency is currently using in making such grants. Owners can also consult with a repair business to determine if an aftermarket parts manufacturer has made an on-off switch available for the owner's particular make/model. If such an on-off switch is available, these consumers could fill out a request form, send it to the agency, and ask it for authorization to have an on-off switch installed.

Since the agency will continue to authorize deactivation at least until January 19, and since some vehicle owners may have been delaying submitting a request for deactivation in anticipation of the issuance of this rule with an immediate effective date, NHTSA is providing below an updated explanation of its procedure and criteria for reviewing and granting deactivation requests. This will help vehicle owners understand the limited circumstances in which NHTSA will be authorizing deactivations. Those circumstances have been modified to reflect the issuance of the physicians' report on medical conditions. The explanation will also inform the public about the nature of the information that NHTSA needs from vehicle owners to make appropriate decisions about the deactivation requests.

*G. Other Issues*

1. Request Form

NHTSA is requiring owners who want an on-off switch to submit a filled out request form and obtain agency approval before they can have an on-off switch installed. Most commenters who addressed the issue supported the use of a request form. As revised in this final rule, the form serves three major purposes.

First, the request form provides the agency, and the dealer or repair business, with a measure of assurance that the person requesting the on-off switch is the person with authority to authorize the installation of a switch. The dealer or repair business may, in addition, require further proof of ownership or authority. However, the necessity of submitting a signed request form on which the signer of the form must claim, subject to 18 U.S.C. 1001, ownership of the vehicle to be modified should help forestall installation requests by persons other than the owner of a vehicle.

Second, as noted above, the form reinforces the value of the information brochure by requiring the owner to certify that the owner has read the brochure and that the owner or a user of the vehicle is a member of a risk group listed on the brochure. In response to the concern expressed by several commenters that, partly because of the complexity of the subject matter involved, owners would not read the proposed information brochure, NHTSA has changed the brochure to make it more customer-friendly.

Third, the request form is intended to make the owner understand that he or she is responsible for the consequences of the decision to install, and later to

[40] However, if on-off switches become available for a vehicle make and model from an independent aftermarket manufacturer, but not the vehicle manufacturer, the agency will continue to authorize deactivation for that make and model. While the agency believes that on-off switches are superior to deactivation from a safety standpoint, it will continue to authorize deactivation in this limited circumstance in view of the agency's greater difficulty in tracking the availability of on-off switches from aftermarket manufacturers and the lace of a mechanism for testing the performance of an on-off switch as installed in a particular vehicle.

[41] The agency is aware that the incidence of air bag facilities is not the same for all manufacturers and that some manufacturers have indicated that they may not make on-off switches available. NHTSA notes that its exemption authority under section 30122 does not permit it to require manufacturers to make these on-off switches available.

use, the on-off switch. To that end, the form includes statements that the owner is aware of the safety risks and consequences of turning off an air bag.

The agency will begin processing of request forms on December 18, 1997. If a form is submitted before that date, it will be given the same priority as a form submitted after that date. Accordingly, there will be no advantage to submitting forms early.

2. Dealer and Repair Business Liability

To address the anticipated concerns of motor vehicle dealers, repair businesses and others regarding liability issues associated with turning off air bags, the agency proposed making the decision of vehicle owners to obtain on-off switches dependent upon informed decisionmaking, acknowledgment of the adverse safety consequences of turning air bags and execution of a limited standardized waiver in the proposed authorization form. The waiver would have stated that the owner's act of authorizing a deactivation would waive any claim or cause of action that the owner might have against the dealer or repair business by virtue of the fact that the air bag had been deactivated. A number of commenters questioned the efficacy of any such waiver, asserting that it would not apply to other possible vehicle occupants, such as family members or friends of the owner or to future owners and their family members and friends. Several vehicle manufacturers expressed concern that the waiver did not extend to actions and claims involving vehicle manufacturers. One commenter stated that only legislation could provide effective relief from liability risks.

NHTSA believes that the liability risks have been essentially eliminated and that those risks should not interfere with the implementation of this exemption. First, under this final rule, dealers and repair businesses will play no role in determining whether vehicle owners qualify for the installation of on-off switches. Those parties will have no involvement in the process until the vehicle owners contact them with agency authorization letters in hand.

Second, in recognition of the dealers' and repair businesses' concerns, NHTSA has switched from an authorization form to a request form and included a statement alerting vehicle owners that dealers and repair businesses may condition their agreement to install an on-off switch upon the owner's signing of a liability waiver. Owners desiring an on-off switch must acknowledge that possibility by marking the box next to that statement. This will facilitate the efforts of dealers and repair businesses to obtain waivers from owners.

Upon reviewing its proposal and the public comments, the agency decided not to include a standardized waiver in the request form. NHTSA agrees that the proposed waiver would not have covered all possible litigants. Further, the agency is concerned about state-to-state variations in the law regarding the precise language that is sufficient to waive a claim even by the vehicle owner. Those variations could undermine the value of any standardized waiver. Moreover, NHTSA is concerned that adoption of a standardized waiver might give some dealers and repair businesses false assurances of protection from liability in all states and in all cases. Finally, NHTSA believes that, to the extent dealers want vehicle owners to sign a waiver before they will install an on-off switch, this is an issue between them and vehicle owners. By taking this position regarding waivers, the agency believes that dealers and repair businesses will be in a better position to craft individualized waivers that reflect the law of the State in which they operate.

The agency's decision not to include a waiver moots the requests of some commenters to expand the proposed waiver to cover claims against vehicle manufacturers, distributors and employers who operate fleets. This final rule places no limitation on efforts by those parties to seek waivers from vehicle owners. Vehicle manufacturers can work together with their dealers to develop a waiver that covers both. Further, no implication should be drawn from this decision that the general concept of seeking of such waivers is in any way inappropriate. To the contrary, it reflects NHTSA's belief that any waiver is more appropriately a decision between the vehicle owner and the dealer or repair business. Dealers and repair businesses may condition their installation of on-off switches upon the making of waivers by vehicle owners. Employers that provide fleet vehicles to their employees may write their own waivers and condition any installation of on-off switches on the employees' signing those waivers.

Third, NHTSA believes that the various provisions included in the final rule regarding informed decisionmaking and risk group membership have the additional effect of significantly reducing the liability concerns of the dealers and repair businesses.

Fourth, the agency's decision to restrict the means of turning off air bags under the exemption adopted in this final rule to on-off switches substantially increases the likelihood that air bags will be turned on and protect those persons not in a risk group. One concern with allowing deactivation as proposed in the NPRM was that a deactivated air bag would not deploy in situations in which deployment would save lives. This concern was particularly great with respect to the friends and family of vehicle owners and the subsequent purchasers of vehicles with deactivated air bags. The presence of on-off switches in the clearly marked ''off'' position and/or the illumination of their indicator lights will be readily obvious to all front seat occupants, largely eliminating the concern about uninformed vehicle occupants and owners. In addition, the provisions requiring that owners read a government information brochure warning about the dangers of turning off air bags and that the owners expressly acknowledge those dangers should have the effect of reducing liability concerns.

There are additional reasons why the agency's decision to specify on-off switches will reduce any potential liability of manufacturers, dealers, and repair businesses. Under the deactivation proposal in the NPRM, it would have been the dealer or repair business itself that turned off the air bag. Subsequent purchasers might not know that an air bag has been turned off. In contrast, with on-off switches, no air bag will be turned off except by the hand of the owner or another user of the owner's vehicle. The last critical action or inaction that determines whether a vehicle's air bags will deploy in a crash is that of an occupant of that vehicle who has chosen whether the air bags are on or off. This is just as much true if the vehicle is owned by a subsequent purchaser as if it is still owned by the person who authorized the installation of the on-off switch.

The agency has not added a statement, requested by the National Association of Independent Insurers, that the obtaining or using of on-off switches may affect insurance premiums, or that it is the owner's responsibility to report the installation of an on-off switch to the insurance carrier. NHTSA wishes to maintain a strict safety orientation to the request form, and keep the paperwork to a minimum. Further, these are matters between insurers and their customers. An insurer can require its customers to notify it of on-off switch installation or attach whatever conditions it deems appropriate to continuing coverage of vehicles with on-off switches.

3. Information Brochure

In response to the commenters and the focus groups, the agency has revised the information brochure to make it much more informative. The focus groups requested not only detailed information about who was at risk and why, but also basic background information about how air bags work. That information is needed to address persistent misconceptions about some aspects of how air bags operate. The revised brochure—

- explains how air bags work,
- explains how air bags save many lives and prevent many injuries,
- describes the groups of people who have been killed by air bags,
- identifies the single factor that is common to all air bag deaths,
- makes clear why certain groups of people are at risk,
- gives practical advice to consumers on how to reduce their individual risk and that of the users of their vehicle without modifying their vehicles, and
- as printed by the agency, includes simple graphics showing the steps that drivers at risk can take to reduce those risks.

NHTSA agrees with IIHS and other commenters that the proposed information brochure was too technical, and has completely rewritten it to make it more consumer-friendly.[42] The data tables on historical fatalities and injuries in the proposed information brochure have been replaced by a practical, succinct, question and answer format. This makes it much more likely that the brochure will be read, and understood, in its entirety.

The agency recognizes that no single information brochure will fully meet everyone's needs and that some consumers will prefer more information. However, the agency disagrees that not being able to tailor the information brochure to individual needs means that the brochure will not contribute to informed decisionmaking by consumers. The brochure contains basic information, geared to the average person. Persons wishing more information can visit NHTSA's Internet Web site or call the agency's toll-free Hotline.

NHTSA will distribute the information brochure widely. In addition, on its Internet Web site, the agency is providing the public with an opportunity to view video clips of crash tests showing the difference in the amount of protection that test dummies receive when using both seat belts and air bags and when using seat belts alone. The clips show that when the air bag is turned off and does not deploy in a moderate to severe crash, the head of a dummy representing a short female driver strikes the steering wheel hard enough to cause fatal injuries. The opportunity to view these video clips is prominently noted on the information brochure. The agency believes that this multi-media approach will effectively inform consumers about the importance of air bag protection and about the limited circumstances in which turning off an air bag should be considered. However, although the video is a useful educational tool, the agency is not conditioning eligibility for an on-off switch upon viewing a video presentation of the information in the brochure, as suggested by one commenter.

The agency disagrees with Chrysler's argument that basing advice to drivers on distance from the steering wheel is not meaningful. While Chrysler is correct that differences in air bag systems and steering wheel inclinations will affect the appropriate distances, NHTSA believes that giving general advice is useful and effective, and that no other measure is better (height being only a rough proxy for distance). Moreover, the vehicle manufacturers have not provided information to the agency on which it could base distance recommendations that are individually tailored to each vehicle make and model. By focusing on the ability of the vast majority of drivers, particularly short ones, to move a sufficient distance away from the steering wheel, this general guidance will help drivers identify ways they can reduce and even eliminate their risk. NHTSA anticipates that the vehicle manufacturers will supplement this general guidance as appropriate to fit the circumstances and air bag performance of their individual makes and models of vehicles.

4. Dealer and Repair Business Responsibilities Regarding the Request Form and Information Brochure

Many dealer and repair business commenters objected to the agency's proposal to require them to receive authorization forms from vehicle owners and to check the forms. Under this final rule, dealers and repair businesses will not have these responsibilities. They will be performed instead by the agency.

Many dealer and repair business commenters also objected to the agency's proposal to require them to distribute the request form and the information brochure. NHTSA is not requiring that they do so. The information brochures and request forms will be available to anyone who visits NHTSA's Internet Web site or uses U.S. Government Printing Office (GPO) Access.[43] The public can also call the agency's Hotline and arrange to have copies faxed or mailed to them. NHTSA will also send copies to dealers and repair businesses and to State Departments of Motor Vehicles. In addition, other organizations, such as the American Automobile Association, will assist in distributing these documents.

5. Insert for Vehicle Owner's Manual

NHTSA has decided not to adopt its proposal that dealers and repair businesses be required to provide vehicle owners with a copy of the information brochure as an insert for the vehicle owner's manual. A requirement that the dealer or repair business provide the entire brochure seems unnecessary given that the owner must certify that he or she has read the brochure prior to signing the request form.

However, as a reminder about the proper use of on-off switches, the agency is requiring that vehicle owners be given an owner's manual insert describing the operation of the on-off switch, listing the risk groups, stating that the on-off switch should be used to turn off an air bag for risk group members only, and stating the vehicle specific safety consequences of using the on-off switch for a person who is not in any risk group. Those consequences will include the effect of any energy managing features, e.g., load limiters, on seat belt performance. (See the discussion of safety belts with energy managing features in part II.B.2 above.)

6. Recordkeeping

In the deactivation proposal, the agency proposed to require that dealers and repair businesses send filled-out authorization forms to the appropriate vehicle manufacturer and that vehicle manufacturers be required to retain those forms for five years. The primary purpose of these proposals was to ensure that subsequent owners had a way of learning whether their air bags had been deactivated. The agency realized that the deactivated status of an

[42] NHTSA notes, however, the focus groups expressed a clear desire for extensive and detailed information about air bag safety and on-off switches to increase their understanding and aid their decisionmaking. Accordingly, the agency has not shortened the information brochure as urged by some commenters. It has, however, attempted to provide that information in a simple, readily understandable form. As printed by the agency, the information brochure will be supplemented with various graphics.

[43] GPO Access is a service of the U.S. Government Printing Office and is available directly as a subscription, or free through participating Federal Depository Libraries.

air bag is not readily apparent from a visual examination of a vehicle interior and that the labels proposed by the agency could fall off, deteriorate over time or be removed.

NHTSA has concluded that recordkeeping by the vehicle manufacturers is not necessary to accomplish the primary goal of ensuring that the public is aware of the operational status of air bags that have been turned off by means of on-off switches. On-off switches and their warning lights are relatively conspicuous and more permanent than labels. Thus, keeping records for the benefit of other vehicle occupants and subsequent owners is unnecessary, and indeed, not so effective as these visible cues.

Instead, NHTSA is requiring that, when a dealer or repair business receives an agency authorization letter from a vehicle owner and installs a switch, the dealer or repair business must fill in the form provided in the letter for reporting information about the dealer or repair business and about the installation. See Appendix C. The form must then be returned to NHTSA. This requirement will facilitate agency efforts to ensure that the exemption from the make inoperative prohibition is being implemented in accordance with the conditions set forth in this final rule. It will also aid the agency in monitoring the volume of requests and the geographic and other patterns of switch requests and installations. To ensure that the forms are returned to the agency in a timely fashion, NHTSA is requiring that each form be mailed within seven days of the installation of an on-off switch by the dealer or repair business.

With respect to its continued exercise of prosecutorial discretion to authorize deactivation, NHTSA will keep records regarding the vehicles for which it has allowed deactivations and for which it is able to obtain sufficient information. NHTSA will be sending labels to all owners for whom it has authorized deactivation, and will enclose a request for information on whether a deactivation was performed, whether it was a driver or passenger air bag deactivation (or both), and the vehicle identification number (VIN). This will enable NHTSA to keep records on vehicles for which the agency has approved air bag deactivation. The VINs of those vehicles, but no other identifying information, will be made available on NHTSA's Internet Web site, or by phone to aid subsequent purchasers in identifying vehicles with deactivated air bags.

7. Labels

The agency proposed labeling for the same reason it proposed recordkeeping, i.e., the difficulty of determining by visual inspection whether an air bag has been deactivated. Since the agency has decided to specify retrofit on-off switches instead of deactivation as the means for turning off air bags, a labeling requirement is unnecessary. To be eligible for the exemption, the dealer or motor vehicle repair business must install a retrofit on-off switch meeting certain requirements, including a requirement for a telltale light that illuminates to indicate when the air bag is off and a requirement that the device be operable only by means of a key. The ''on'' or ''off'' position of the on-off switch and/or illumination or non-illumination of the telltale light will be readily apparent to other occupants and future owners and inform them of the on or off status of the air bags.

NHTSA intends to distribute warning labels to people who receive deactivation letters before retrofit on-off switches become available and for vehicles for which on-off switches do not become available. The agency will also distribute those labels to persons who have already received such a letter from the agency. The agency expects that those labels will be available in the near future.

8. Lessees

A leasing association and a fleet managers association commented that the proposal did not address how to handle special issues concerning deactivations of air bags in leased vehicles. These associations emphasized the contractual distinctions between commercial (corporate fleets) and consumer (individual) lease arrangements, the difficulty that a repair business would have in determining whether the person presenting the leased vehicle for modification has authority to have the air bag deactivated, and the many different use scenarios and occupants of fleet vehicles. One association stated that the corporate employer in charge of the operation of fleet vehicles, whether as an owner or lessee, should be the sole party with authority to request deactivation. It also stated that a fleet maintenance facility should be considered a ''repair facility.''[44]

NHTSA appreciates the complexity of the issue, and that it may be difficult for a dealer or repair business to determine whether the person presenting a leased vehicle has authority to request an on-off switch. This is, in part, why the agency did not make a specific proposal, but instead raised the issue of lessees and asked how issues relating to them should be addressed.

Under this final rule, the exemption from the make inoperative prohibition applies to leased vehicles as well as owned vehicles. The request form has been changed accordingly.

9. Definition of Repair Business

The agency has become aware that some businesses are holding themselves out as being willing and able to deactivate a vehicle's air bags. This is permissible so long as the owner of the vehicle has a letter from NHTSA authorizing the deactivation of the air bags. However, some businesses have suggested that they will deactivate air bags even for people who do not have such a letter from NHTSA, on the theory that they are ''air bag technicians'' (or perhaps mere ''agents'' of the owners) and not motor vehicle repair businesses.

The relevant part of 49 U.S.C. 30122(b) states that a ''manufacturer, distributor, dealer, or motor vehicle repair business may not knowingly make inoperative any part of a device or element of design installed on or in a motor vehicle or motor vehicle equipment in compliance with an applicable motor vehicle safety standard. * * *'' Air bags are items of safety equipment installed in compliance with applicable motor vehicle safety standard No. 208, and deactivating them, by definition, makes them inoperative.

The term *motor vehicle repair business* is defined in 49 U.S.C. 30122(a) as ''a person holding itself out to the public to repair for compensation a motor vehicle or motor vehicle equipment.'' Especially in light of the broadly inclusive list of commercial entities in the statutory provision, NHTSA interprets this term as including the activities of mechanics, technicians, or any other individuals or commercial entities that knowingly make modifications to or perform work on safety equipment for a fee, if those modifications cause the vehicle no longer to comply with applicable Federal motor vehicle safety standards.

[44] NHTSA assumes that, in many cases, fleet maintenance facilities are owned by the same business that owns the fleet itself. Since vehicle owners are not subject to the make inoperative prohibition, and thus can modify their vehicles as they wish, subject to state and local law, the common ownership of the facilities and the fleet means that the fleet owners can have their maintenance facilities install on-off switches or even deactivate their air bags without NHTSA authorization. If the facilities are not operated by the owners of the fleet, then they are considered to be repair businesses, for purposes of 49 U.S.C. 30122(a).

The agency believes that Congress was drawing a distinction in the make inoperative prohibition between commercial entities that might work on a vehicle and a vehicle owner, or an owner's friend or relative who might work on a vehicle without compensation.

The legislative history of the Motor Vehicle and Schoolbus Safety Amendments of 1974, which added the ''make inoperative'' prohibition, supports this broad interpretation. The Conference Report states that it ''is intended to ensure that safety equipment continues to benefit motorists for the life of the vehicle. The protection of subsequent . . . purchasers of a vehicle is thereby assured.'' H.R. Rep. No. 93–1452, 93rd Cong., 2d Sess. 39 (1974). It would subvert the purposes of Congress in enacting this prohibition to read the statutory term ''repair'' literally and allow a business to perform, for compensation, the very acts which the prohibition was intended to prohibit. Deactivating an air bag makes its benefits unavailable to subsequent purchasers.

NHTSA is aware that there is a court decision that addressed the definition of ''repair business.'' A United States District Court concluded that businesses installing window tint film were not repair businesses because ''the plain meaning of the term ''repair business'' will prevail. * * * The plain meaning of the word 'repair' is to restore to sound condition something that has been damaged or broken . . . they are not in the business of restoring or replacing motor vehicle equipment.'' *United States* v. *Blue Skies Projects, Inc.,* 785 F. Supp. 957, 961 (M.D. Fla. 1991).

NHTSA believes this case was not correctly decided. The court did not recognize and give sufficient effect to Congress's intent, expressed in legislative history, that federally-required safety equipment should continue to ensure safe performance of vehicles over their lifetime. Further, it is evident from the inclusion of repair businesses among the listed entities subject to the prohibition that some repair businesses sometimes do things other than restoring components and systems to sound condition. This implies a broader definition of ''repair'' than the one offered by the court.

Accordingly, NHTSA interprets the term ''motor vehicle repair business'' to include mechanics, technicians, or any other individuals or commercial entities that, for compensation, add, remove, replace or make modifications to motor vehicles and motor vehicle equipment, including safety equipment such as air bags, regardless of whether the vehicle or component was previously ''broken'' or needed to be ''repaired.'' The description that a business applies to itself is not controlling; it is the business' commercial relationship with the public and the nature of the operations it performs on motor vehicles that is determinative. Any business currently deactivating air bags for customers who have not received authorization from NHTSA is violating the law and subject to enforcement action by the agency.

10. Effective Date

NHTSA proposed an immediate effective date in the January 1997 NPRM. As noted in the summary of comments, the vehicle manufacturers indicated that an immediate effective date would not be sufficient even for deactivation, for which minimal parts, if any, are needed. NHTSA recognizes that special parts are needed for on-off switches, and that their production requires additional time. The industry has indicated that the time necessary to produce retrofit on-off switches in large enough quantity to meet all of the anticipated demand is 4 to 6 months.

This period was calculated from March 1997, not from the actual date of a final rule. In anticipation of retrofit on-off switches being allowed as an alternative, vehicle manufacturers began developing them in March. At an NTSB hearing regarding air bag safety on March 17–19, 1997, two manufacturers stated that the time needed to develop switches was dependent on the volume needed. Smaller volumes would take less time. Although NHTSA has no information indicating that anyone other than vehicle manufacturers plans to produce on-off switches, it notes that independent aftermarket producers would not be precluded from doing so. Their implementation time might be different from that estimated by the vehicle manufacturers.

NHTSA has decided to make the exemption effective on December 18, 1997 and to set January 19, 1998, as the date on which switch installation may begin. NHTSA finds good cause for making the exemption effective less than 30 days after the publication of the final rule. Making the exemption effective on December 18 is necessary to enable the agency to begin processing requests at an early enough date that owners can have their agency authorization letters in hand by January 19. In this way, persons at risk can begin obtaining switches on that date or as soon thereafter as switches become available for the make and model of their vehicle.

A delayed date for the beginning of switch installation will promote the orderly implementation of the exemption. Based on the calls to NHTSA from consumers regarding deactivation, it appears likely that most owners who obtain agency authorization for switches will go to dealerships to obtain their switches. The date of January 19, 1998, will allow the manufacturers time to complete design of on-off switches, start production, and begin delivery to their dealers before consumers start expecting their requests to be filled. It will also allow them to develop procedures for installing on-off switches, and conduct necessary training for dealer service technicians. The date will also give the agency and many of the company and group commenters the time required to educate the public about air bag benefits and risks before the on-off switches become available.

Although the selection of January 19 provides less time than the manufacturers suggested in early 1997 would be needed to satisfy all anticipated requests for on-off switches, NHTSA believes that this date provides sufficient time for the manufacturers to begin to make retrofit on-off switches available for installation. The agency reiterates that the 4 to 6 month estimate by the vehicle manufacturers was made with reference to March of this year, not the date of the issuance of this rule. Further, a number of vehicle manufacturers are already producing on-off switches in anticipation of this final rule. In addition, on-off switches from aftermarket manufacturers might be available to satisfy any unmet orders for on-off switches.

11. Sunset Date or Event

The NPRM proposed that deactivation of advanced air bags would not be permitted under the exemption. NHTSA also stated that it would consider not allowing deactivation of driver air bags that had been depowered. GM and other manufacturers stated that NHTSA had not adequately defined ''smart'' (i.e., advanced) air bags, and that it was therefore inappropriate to sunset the availability of deactivation once advanced air bags were introduced. A safety group stated that a sunset was appropriate because on-off switches would not be necessary after advanced air bags were available.

Although NHTSA continues to believe, based on safety considerations, that it should prohibit dealers and repair businesses from retrofitting advanced air bag vehicles with on-off switches, there is no immediate need to do so. Widespread installation of

advanced air bags is not expected to begin for another several years. Further, NHTSA notes that the existing definition of ''advanced'' air bag does not include driver air bags and needs updating. NHTSA will address these issues in the proposal on advanced air bag rulemaking scheduled to be issued this winter and will include a proposed sunset date for retrofit on-off switches.

As to permitting on-off switches for depowered air bags, NHTSA anticipates that those air bags will pose less of a risk of serious air bag injuries than current air bags. However, the agency will wait and accumulate data on depowered air bags before making a final decision on this issue. The agency may revisit this issue in a future rulemaking if data indicate that on-off switches are not appropriate in vehicles with depowered air bags. For the present, the exemption will apply to vehicles with depowered air bags.

12. On-Off Switches for New Vehicles

Many public commenters on the January 1997 deactivation proposal favored extending the existing option for installing on-off switches in certain new vehicles to all new vehicles. However, the company and group commenters were overwhelmingly opposed to the idea. NHTSA considered this idea and then rejected it in its January 6, 1997 final rule regarding on-off switches for passenger air bags in new vehicles with no rear seat or an inadequate rear seat for rear-facing infant seats (62 FR 798). The major reasons for this decision were (1) assertions of the vehicle manufacturers (at that time) that OEM on-off switches for new vehicles could not be developed quickly, (2) the possibility that extending the option to all new vehicles might result in on-off switches' being installed as standard equipment instead of being installed upon special request by those at risk, (3) the possibility that universal installation of on-off switches in new vehicles might do more harm than good (4) the lower cost of deactivation, and the fact that the cost would be borne primarily by those who actually at risk and therefore in need of deactivation, and (5) the possibility that the effort to develop on-off switches and integrate them into the design of new vehicles might necessitate a diversion of manufacturer engineering resources from development of advanced air bags.

While the extension of the option for OEM on-off switches for new vehicles to all air bag vehicles is outside the scope of this rulemaking, that same issue was raised in a pending petition from the National Motorists Association for reconsideration of the January final rule. NHTSA remains concerned that extending the option to all new vehicles might result in on-off switches' being installed as standard equipment in all new vehicles, thus resulting in many more vehicles being equipped with on-off switches than will occur under this final rule. The agency has concluded that such widespread installation of on-off switches without regard to whether individual consumers are actually at risk would not be in the best interests of safety. The agency also remains concerned that integrating on-off switches into new vehicles, which would entail redesigning dashboards, will require more resources than retrofitting on-off switches and thus could divert resources from the development of advanced air bags. For these reasons, NHTSA denies this petition for reconsideration.

13. Conforming Changes to Occupant Crash Protection Standard

This final rule amends Standard No. 208 so that the Standard refers to ''on-off switches'' instead of ''cutoff switches.'' It also amends the Standard to revise the owner's manual insert for passenger air bag on-off switches installed in new vehicles. Instead of stating that use of the switch should be limited to instances in which the right front passenger seating position is occupied by an infant in a rear-facing infant seat, the insert will say that use should be limited to persons in one of the passenger risk groups identified in the request for in Appendix B of Part 595.

## IX. Implementation of Agency Decision

### *A. Limited Continued Use of Prosecutorial Discretion to Authorize Deactivation: Procedures and Requirements*

Between now and January 19, 1998, the date on which switch installation may begin, NHTSA will continue its current practice of granting requests for deactivating the air bags in all vehicle makes and models. This will be done on a case-by-case basis. The agency will grant those requests only if they are based on the justifications that are currently being accepted under existing agency practice, as modified to reflect changed circumstances such as the issuance of the report on medical conditions warranting turning off an air bag. Continuing to limit deactivation to requests based on these justifications is appropriate, given the inflexibility and relative permanency of deactivation.

NHTSA will grant deactivation requests after January 19, 1998, only for those vehicle makes and models for which the vehicle manufacturer does not make on-off switches available. NHTSA expects that vehicle manufacturers will make on-off switches available for most vehicle makes and models. For those specific makes and models for which on-off switches are available on January 19, the agency will cease granting deactivation requests as of that date. Likewise, as on-off switches become available from the vehicle manufacturer for a specific make and model after that date, NHTSA will cease granting deactivation requests for that make and model. Owners of that make and model can fill out an on-off switch request form and send it to the agency for approval. If an on-off switch is also manufactured by an aftermarket manufacturer, a consumer may wish to request that a dealer or repair business install it. For vehicle makes and models for which the vehicle manufacturer does not make available an on-off switch, the agency will continue to grant deactivation requests, even if an aftermarket parts manufacturer makes an on-off switch available for those vehicles.

As noted above, this section describes the procedures and practices that the agency will follow in response to changed circumstances such as the issuance of a report by the National Conference on Medical Indications for Air Bag Disconnection. Those procedures and practices differ from the ones previously followed regarding requests based on medical conditions since that report does not recommend deactivation for many of the medical conditions for which deactivation requests have been granted in the past. In addition, this section describes the legal effect of an agency letter authorizing deactivation and describes the conditions which motor vehicle dealers and repair businesses must meet in deactivating an air bag pursuant to such a letter.

Summary

If the owner of an air bag-equipped vehicle wishes to obtain the agency's authorization to have an air bag deactivated, based on one of the justifications described below, the consumer may write to NHTSA stating the consumer's justification and requesting authorization for deactivation. If the agency determines that the justification meets the criteria for granting requests, it sends the consumer a letter authorizing a dealer or repair business to deactivate the consumer's air bag. The consumer presents the letter to a dealer or repair business. Since the letter authorizes, but cannot require, the dealer or repair

business to perform a deactivation, the dealer or repair business then decides whether to deactivate the air bag(s), as authorized in NHTSA's letter. If the dealer or repair business decides to do so, it must meet certain conditions in deactivating the air bag.

**Vehicle Owners**

*Air Bag Deactivation: Who is Eligible, and how is Authorization Obtained?*

1. NHTSA[45] will authorize deactivation based upon the following justifications:

- A rear-facing infant restraint must be placed in front seat of a vehicle because there is no back seat in the vehicle or the back seat is too small for the child restraint (passenger air bag only).
- A child age 12 or under must ride in the front seat because the child has a medical condition that requires frequent monitoring in the front seat.
- The owner, or a driver or passenger of the owner's vehicle, has a medical condition that, in combination with an air bag, poses a special risk to the person with the condition, and
- That risk outweighs the increased risk that the person's head, neck or chest will violently strike the steering wheel or dashboard during a crash if the air bag is turned off (driver and/or passenger air bag, as appropriate).
- Drivers who are extremely short-statured (i.e., 4 feet, 6 inches or less) (driver air bag only).[46]

2. An owner who wants deactivation for any of the above reasons should describe the reason in a letter and send it to: National Highway Traffic Safety Administration, Attention: Air Bag Deactivation Requests, 400 7th St. S.W., Washington, D.C. 20590. Deactivation is not available for other reasons. The request can also be faxed to (202) 366–3443.

The request must contain the following:

- Name and address of the vehicle owner.
- The justification for the request. (See the list of accepted justifications above.) The letter should be as specific as possible about the justification and state whether the request applies to the driver or passenger air bag, or both.
- A description of the facts creating the need for deactivation.
- Each request based on a medical condition *must* be accompanied by a statement from a physician, *if* the condition is *not* one for which the National Conference recommended deactivation.[47] The physician's statement must not only identify the particular condition of the patient, but also state the physician's judgment—

a. That the condition causes air bags to pose a special risk to the person, *and*

b. That the condition makes the potential harm to the person from contacting an air bag in a crash greater than the potential harm from turning off the air bag and allowing the person's head, neck or chest to hit the steering wheel, dashboard or windshield. (Hitting the vehicle interior is likely in a moderate to severe crash, even if the person is using seat belts.)[48]

If the request concerns a child that must ride in the front seat to enable the driver to monitor the child's medical condition, the supporting physician's statement must identify the condition and state that frequent monitoring by the driver is necessary. NHTSA notes that the American Academy of Pediatrics has stated that medical conditions requiring such monitoring are very rare. According to the final report of the National Conference on Medical Indications for Air Bag Disconnection: ''It is anticipated that the American Academy of Pediatrics will make recommendations regarding which specific conditions warrant close monitoring while driving'' (passenger air bag only).

3. The agency will respond in writing, enclosing a copy of the information brochure in Appendix A of Part 595, labels to be attached to the vehicle interior for alerting vehicle users about the deactivated air bags, and a form to be filled out and mailed back to the agency regarding the deactivation. NHTSA will answer the deactivation requests as quickly as possible. It screens the incoming requests for requests involving rear-facing child restraints (because of the higher risk associated with those requests) and processes those requests first. Depending on the volume of requests being received by the agency, the processing usually occurs within several days. All other requests are handled in the order in which they are received. These requests currently take a couple days longer to answer.

The central reason for convening the National Conference on Medical Indications for Air Bag Disconnection was that the belief that the public and many physicians might benefit from guidance by physicians having expertise relating to automotive crash-induced trauma. The agency will attempt to ensure that due consideration is given the National Conference's report. If the agency receives a deactivation request accompanied by a physician's statement based on one of the medical conditions for which the National Conference did *not* recommend deactivation, the agency will defer to the requestor's physician and send a letter to the requestor granting his or her request. However, the agency will also enclose the report

[45] The reference to owners is intended to include lessees as well.

[46] As noted above in IV, Summary of Comments on Proposal, IIHS conducted a study in which it found the almost all women in a group of women ranging in height from 4 feet 8 inches to 5 feet to 2 inches were able to get about 10 inches from their driver air bag in all test vehicles and all of the women could achieve that distance in almost all of those vehicles.

[47] The physicians at the National Conference did *not* recommend turning off air bags for pacemakers, supplemental oxygen, eyeglasses, median sternotomy, angina, chronic obstructive pulmonary disease, emphysema, asthma, breast reconstruction, mastectomy, scoliosis (if the person is capable of being positioned properly), previously back or neck surgery, previous facial reconstructive surgery or facial injury, hyperacusis, tinnitus, advanced age, osteogenesis imperfecta, osteoporosis and arthritis (if the person can sit back at a safe distance from the air bag), previous opthalmologic surgery, Down syndrome and atlantoaxial instability (*if* the person can reliably sit properly aligned in the front seat), or pregnancy. However, the physicians did recommend turning off an air bag if a safe sitting distance or position cannot be maintained by a driver because of scoliosis or achondroplasia or by a passenger because of scoliosis or Down syndrome and atlantoaxial instability. The physicians also noted that a passenger air bag might have to be turned off if an infant or child has a medical condition and must ride in front so that he or she can be monitored. This report is summarized more fully earlier in this notice. To obtain a complete copy of the detailed recommendations by the panel, call the NHTSA Hotline (1–800–424–9393) or download if from the NHTSA Web site.

[48] Physicians considering whether a person's medical condition makes it desirable for that person to turn off his or her air bag should consider the report of the National Conference and the following three points and guidance.

- Most medical conditions present no greater risk of air bag injury for a person with one of those conditions than the risk faced by the general public.
- The risks of air bag injury are generally less and almost never greater than the risks of injury from striking the steering wheel or dashboard.
- The types of injury sustained by persons who strike the steering wheel or dashboard are far more serious (except in extremely rare circumstances that occur only a few times a year) than the types of injury sustained as a result of contacting deploying air bags. Injuries from striking the steering wheel or dashboard typically include brain trauma and severe facial injuries. The facial injuries can be very disfiguring and may require multiple, complicated surgical procedures.

As noted above in the description of the report of the National Conference, very few medical conditions will cause an air bag to create a special risk. The few conditions that do create such a risk do so by making it necessary for persons with one of those conditions to sit less than 10 inches from an air bag. This is true for both low speed crashes and higher speed crashes. This guidance is based on the following facts:

1. The force of a deploying air bag decreases as the air bag moves away from the steering wheel or dashboard, and

2. An air bag spreads out the forces that a person experiences during a crash, reduces the crash forces that seat belts transmit to particular areas of the body, and decreases the risk that the person's head, neck or chest (even those of a belted person) will strike the steering wheel or dashboard.

and urge that the requestor discuss it with his or her physician before having any modifications made to the requestor's air bags. NHTSA will also send a copy of the letter and report directly to the physician to ensure that he or she is made aware of the report's contents.

4. If a request has been granted, the recipient should call his or her dealer or a repair business and ask if it will disconnect the air bag. If the dealer or repair business says that it will, the recipient should ask further whether it is necessary to bring proof of owner status to the dealer or repair business.

5. Some dealers and repair businesses have a policy of not disconnecting air bags. NHTSA has no authority to require them to do so—that is the dealer's or business' decision. The owner may have to shop around to find a qualified automotive mechanic or technician who will disconnect the air bag.

6. If there is a motor vehicle insurance premium discount based on the presence of air bags in a vehicle, the premiums may increase slightly if the air bag(s) is(are) disconnected.

7. Seat belts should always be worn, whether a person's air bag is operational or deactivated. If a person's air bag is deactivated, seat belts are the only available means of restraint to reduce the likelihood that the person will hit the vehicle interior in a crash. Thus, it will be more important than ever to be properly restrained at all times.

8. NHTSA strongly urges owners to have their air bag reactivated if the condition that caused the deactivation ceases to exist, or if they sell the vehicle. If they do not reactivate the air bag upon sale, they should inform the new owner that the air bag has been deactivated.

9. If the agency denies a request, it will give the reason for the denial. The reason may be that there was not enough explanatory or supporting information submitted for NHTSA to approve the request. In that event, the request may be resubmitted with the necessary information. If a request was denied because the owner does not provide an accepted justification, the owner must wait for retrofit on-off switches to become available for his or her make/model of vehicle in order to turn off the air bag(s). If the owner or a user of his or her vehicle is a member of a risk group, the owner may request an on-off switch once one becomes available.

**Motor Vehicle Dealers and Repair Businesses**

*Steps Which Must Be Taken if an Air Bag is Deactivated Pursuant to an Agency Authorization Letter*

1. If a person requests deactivation of an air bag, the dealer or repair business should determine that the person is the owner of the vehicle and that the person possesses a letter from the agency authorizing that person to have that air bag deactivated. Owner status can normally be checked by looking at the vehicle title or registration. (NOTE: A dealer or repair business is prohibited by statute from deactivating a vehicle's air bag unless the owner has an authorization letter from the agency.)

2. The agency letter will indicate which air bag(s) may be deactivated. If the letter authorizes deactivation of the driver air bag, the passenger air bag may not be deactivated, and vice versa.

3. NHTSA recommends that the dealer or repair business consult with the vehicle's manufacturer regarding a deactivation procedure if there are any doubts about how to deactivate an air bag.

4. An air bag must be deactivated in a manner such that:

- It will not deploy in a crash; and
- Reactivation is facilitated, if possible. This means, for example, leaving the air bag module in the vehicle.

5. These steps may be supplemented in any manner, such as by keeping a copy of the agency grant letter. Some dealers and repair businesses are requiring owners to permit them to apply warning labels to the vehicle or sign waivers of liability.

*B. Providing Retrofit On-Off Switches Under the Exemption: Procedures and Requirements*

Consumers can request the installation of an on-off switch by completely filling out the request form in Appendix B of Part 595 and sending it to NHTSA for approval. The agency will begin processing request forms on December 18. If a form is submitted before that date, it will be given the same priority as a form submitted after that date. Accordingly, there will be no advantage to submitting forms early.

When the agency approves a request, it will send an authorization letter to the vehicle owner. Motor vehicle dealers and repair business may begin installing switches on January 19, 1998. If a dealer or repair business installs an on-off switch, it must comply with the conditions set forth in Part 595. Those conditions include obtaining the owner's authorization letter which includes a form to be filled in by the dealer or repair business and mailed back to NHTSA.

**Vehicle Owners**

*Air Bag On-Off Switches: Who is Eligible, and How is Authorization Requested?*

1. Ask a dealer or vehicle repair business if a retrofit on-off switch is available. As noted above, NHTSA will grant deactivation requests after January 19, 1998 for only those vehicle makes and models for which the vehicle manufacturer does not make on-off switches available. As on-off switches become available from the vehicle manufacturer for a specific make and model, NHTSA will cease granting deactivation requests for that make and model. If an owner of such a make and model writes to NHTSA requesting authorization to have an air bag deactivated, NHTSA will deny the request and notify the person that a retrofit on-off switch is available. Eligible owners of the make and model may fill out a request form and send it to the agency for approval. If the agency approves the request and sends an authorization letter to the owner, the owner may then give the letter to a dealer or repair business, and ask it to install the vehicle manufacturer's on-off switch. If an on-off switch is also manufactured by an aftermarket manufacturer, a consumer may wish to request that a dealer or repair business install it.

For vehicle makes and models for which the vehicle manufacturer does not make available an on-off switch, the agency will continue to consider deactivation requests, even if an aftermarket parts manufacturer makes an on-off switch available for those vehicles. If an aftermarket parts manufacturer does make an on-off switch, the eligible owner of such a vehicle has the choice of requesting the agency to authorize deactivation or submitting an on-off switch request form to the agency for approval. If the agency approves the request for a switch, the owner can then give the agency authorization letter to a dealer or repair business, and ask it to install the aftermarket on-off switch.

2. Determine if the vehicle owner or a user of the owner's vehicle meets the criteria in one of the risk groups and if obtaining a retrofit on-off switch is appropriate. The information brochure in Appendix A of Part 595 will help the owner make this decision. The owner will have to certify on the request form that he or she has read the information brochure and that he or she or a user of

the owner's vehicle is a member of one of the risk groups listed on the form. Separate certifications, one for a risk group related to the driver air bag and another for a risk group related to the passenger air bag, must be made on the form if the owner wants an on-off switch or switches for both the driver and passenger air bags.

3. Completely fill out the request form in Appendix B of Part 595. The agency cannot approve a request for an on-off switch unless the form is completely filled out and signed and dated by the owner.

4. Send the completed form to NHTSA.

5. Upon reviewing the owner's form and approving it, NHTSA will send an authorization letter to the owner.

6. Call your dealer or repair business and ask about the installation of a switch and the associated costs.

7. Give your authorization letter to a dealer or repair businesses willing to install the switch and request the installation of an on-off switch.

8. Use the retrofit on-off switch appropriately. The on-off switch should only be used if the person occupying the seating position is a member of one of the risk groups listed in the information brochure in Appendix A of Part 595. At all other times, the air bag should be on.

**Motor Vehicle Dealers and Repair Businesses**

*Steps Which Must Be Taken if an Air Bag On-Off Switch is Installed Pursuant to the Exemption From the Make Inoperative Prohibition*

1. Make sure the vehicle owner presents an authorization letter from NHTSA. The dealer or repair business may also require the owner to fill out a form devised by the dealer or repair business. That form may include a waiver of liability.

2. Install a retrofit on-off switch for each air bag covered by the agency's authorization.

3. Ensure that each on-off switch meets all of the following performance requirements—

a. Be activated solely by a key.

b. Cause the air bag to remain turned off until manually turned back on using a key and the on-off switch.

c. Be accompanied by a telltale light in the vehicle interior. The telltale must indicate when an air bag has been turned off and be visible to an occupant of the driver's seat, in the case of a light for the driver air bag, and to all front seat occupants, in the case of a light for the passenger air bag.

d. Not affect the ability of the required air bag readiness indicator to monitor an air bag that is not turned off. The indicator must show whether the air bag is functioning properly.

e. If a single on-off switch is installed to control both the driver's and passenger's air bag, the on-off switch must be capable of turning off one air bag without turning off the other. For a single on-off switch controlling both air bags, the telltale light must indicate which air bag is off.

4. Provide the owner with an insert for the vehicle owner's manual describing the operation of the on-off switch, listing the risk groups on the request form, stating that the on-off switch should only be used to turn off an air bag for a member of one of those risk groups, and stating the vehicle specific consequences for using it for persons who are not members of any of those risk groups. Those consequences must include the effect of any energy managing features, e.g., load limiters, on seat belt performance. NHTSA anticipates that the inserts can be obtained primarily from the vehicle manufacturers, although in some cases, they might be available from independent on-off switch manufacturers.

5. Fill in information about your dealership or repair business and about the installation on the form included in the authorization letter and return the form by mail to NHTSA within seven days of your installation of an on-off switch pursuant to that letter.

*C. Steps to Promote Informed Decisionmaking by Consumers About Retrofit On-Off Switches*

1. Information Brochure

To limit the obtaining and use of retrofit on-off switches to persons who may be at risk from serious air bag injury, the agency is issuing guidance to aid consumers in determining if they or a user of their vehicle is in a risk group and in making informed decisions about requesting and using retrofit on-off switches. This guidance is contained in the information brochure in Appendix A of Part 595. In response to public comments about the information brochure in the deactivation NPRM, the brochure has been rewritten in a question and answer format to be more user friendly. The brochure will be distributed widely and made available on the Internet. The electronic version of the information brochure on NHTSA's Web site will supplemented by video clips showing what happens to a belted dummy in a crash test when the driver air bag is turned off.

The information brochure explains which consumers may be at any risk from air bags, and which are not. The brochure identifies the factors that create risk and tells consumers how to reduce that risk. For those who may be at risk, it stresses how infrequently people, particularly drivers and adult passengers, are fatally injured by air bags.

The information brochure also emphasizes that on-off switches should not be used to turn off air bags for the people not at risk. They represent the vast majority of vehicle occupants. Their use of on-off switches to turn off air bags will not make them safer in low speed crashes, but will make them less safe in moderate and high speed crashes.

2. Insert for Vehicle Owner's Manual

To remind vehicle owners and users about the proper use of on-off switches, the agency is requiring that dealer or repair businesses which install switches give vehicle owners an owner's manual insert describing the operation of the on-off switch, listing the risk groups, stating that the on-off switch should be used to turn off an air bag for risk group members only, and stating the vehicle specific safety consequences of using the on-off switch for a person who is not in any risk group. Those consequences would include the effect of any energy managing features, e.g., load limiters, on seat belt performance.

3. Physicians' Guidance Regarding Medical Conditions Warranting Turning Off an Air Bag

As noted above, a national conference of physicians, convened by George Washington University at the request of NHTSA, has examined the medical conditions that have been cited by vehicle owners as the basis for requesting deactivation of air bags. The conference participants recently issued a report containing their assessment of each of those conditions as a justification for deactivation. The agency expects that publicizing the report will reduce some of the confusion and misapprehension about which medical conditions really justify air bag deactivation. NHTSA has briefly summarized the report in the information brochure and is placing it on the agency's Web site.

4. Campaign to Increase Use of Child Restraints and Seat Belts

NHTSA is also undertaking a campaign in conjunction with safety groups, vehicle manufacturers and state and local authorities to promote increased use of all types of occupants restraints. NHTSA is urging motorists to use child restraints and seat belts and

place children in the back seat, whenever possible, as well as spreading the word about the benefits of air bags for most people. Proper use of the restraint(s) most appropriate to the weight and age of each child fatally injured to date by air bags would have saved all or almost all of them. While increasing numbers of parents are placing their children in the back seat or ensuring that they are properly secured in the front seat, much consumer education work remains to be done.

Disturbingly, most of the fatally-injured children were allowed to ride in the front without any type of restraint whatsoever. And, as of July 15, 1997, five out of the last seven fatally injured children aged 1 to 12 were simply ''held in place'' on the lap of a front seat passenger. There were no similar fatalities before December 1996. It is not known whether the sudden appearance of fatalities under these particular circumstances is mere chance or a response to the publicity given child air bag fatalities last fall. It is known that the combined effects of the risk of an air bag to an unrestrained child, and the weight that an adult places on a child during a frontal crash can make the decision to attempt to hold a child in place a fatal one. Children should ride fully restrained, and in the back seat whenever possible.

In addition, NHTSA is seeking to increase the rate of seat belt use from the current 68 percent to 90 percent by 2005 by promoting the enactment of primary seat belt use laws and high-visibility enforcement of use laws. Such an increase could save an estimated additional 5,000 lives each year. Since most persons fatally injured by air bags have been unbelted, this increase would also provide an additional way of preventing air bag fatalities. This provides an additional reason why on-off switches should only be used when a person in one of the identified risk groups is in the seat.

## X. Net Safety Effects and Costs of On-Off Switches

### *A. Effect of Turning Off Air Bags on the Performance of Some Seat Belts*

A number of industry commenters stated that deactivating air bags could result in substandard performance of the seat belts. Senator John McCain also sent NHTSA a letter requesting that the agency investigate this possibility.

A good general introduction to this issue appeared in an article on March 31 in the Kansas City Star:

> The seat belts on some newer cars were designed to work with their air bags, automakers say. Alone, they will not protect a person in a serious crash as well as an older-style belt.
>
> The newer belts allow a person to travel forward a few more inches than older belts, and when used in conjunction with air bags have some advantages, experts say. If the air bag is removed, however, the person faces a greater risk of head or chest injuries from hitting the steering wheel or dashboard.
>
> In minor or moderately severe crashes, the redesign of the belt won't make a difference, auto and safety officials say. But in severe crashes, a person is more likely to travel forward far enough to hit the dashboard or steering wheel, sustaining head and chest injuries, they say.
>
> When used with an air bag as designed, the newer belt has some definite advantages over the traditional one
>
> Because it is looser, it is less likely to break a rib or collarbone in a severe crash. * * * That is particularly of concern for elderly people.
>
> In older cars without air bags, the work of restraining an occupant falls solely on the belt * * *
>
> The newer belt can * * * give way a little bit so that the air bag takes up some of the force of the crash and spreads it out over a broader section of your body * * * The result: fewer belt injuries.

Seat belts are required to meet minimum performance requirements in Standard No. 209, ''Seat belt assemblies,'' and seat belt anchorages in vehicles are required to meet minimum performance requirements in Standard No. 210, ''Seat belt anchorages.'' However, dynamically tested belts (automatic belts or manual belts with air bags) do not have to meet the requirement of Standard No. 209 that places a maximum of 30 percent on the amount of permitted webbing elongation. In addition, the anchorages for dynamically tested belts do not have to meet the anchorage location requirements of Standard No. 210. These requirements are not necessary for belts which are dynamically-tested, because the dynamic test ensures that the system works to protect the occupant from the type of injuries these requirements are designed to prevent. The elongation requirements also do not apply to belts that are equipped with ''load limiters'' and that are installed at a seating position with an air bag. A load limiter is a component of a seat belt system used to limit the levels of forces transferred to an occupant restrained by the belt during a crash. In very severe crashes, the forces in the seat belt system may rise above levels considered safe. If a belt system has a load limiter, parts in the system deform so that the belt forces transferred to the occupant do not rise above a predetermined maximum level. There are different designs of load limiters, ranging from simple folds stitched into the seat belt webbing that are designed to tear under a certain load, to more complex mechanical systems, some of which play out a small amount of additional webbing at incremental increases in load levels. The exclusion from the elongation requirements does not unnecessarily prevent manufacturers from using a design for these devices that operates by affecting the length of the webbing.

The exclusion from the elongation requirement is not likely to significantly affect the safety of the belt system. Although manufacturers may have designed belt systems in some air bag equipped vehicles with more ''give'' than those in non-air bag equipped vehicles, a 1991 NHTSA study showed that webbing in vehicles with air bags far exceeded Standard No. 209's requirements despite the exclusion from the elongation requirement. The study showed that maximum elongation, when tested according to the requirements of Standard No. 209, was 15 percent or less, or about half the permitted amount of elongation. NHTSA updated this study and again found that the maximum elongation was 15 percent or less.

Some manufacturers have, appropriately, been using the flexibility in Standard No. 209 to optimize their belt systems to work with air bags. Additional webbing elongation and load limiters would not normally be a problem in an air bag equipped vehicle, because the air bag would limit occupant excursion. This additional ''give'' in the seat belts is normally beneficial because it prevents the belt from causing injuries. However, some load limiters, those releasing a relatively large amount of additional webbing, could result in additional deaths and injuries if the air bags are turned off. Unfortunately, if the air bag cannot function because it has been turned off, the ''give'' in these seat belts would increase the chance that occupants would hit their heads and upper bodies more easily on the steering wheel, the A-pillar, the windshield, or other hard parts of the vehicle interior, and suffer serious injury. In some cases, the only way to solve this problem might be by replacing the entire belt assembly.

Another type of safety device that could be affected by turning off the air bags is a seat belt pretensioner. These devices retract the seat belt webbing to remove slack almost instantly in a crash, thus enhancing the effectiveness of the seat belts by reducing the distance that the occupant might otherwise travel forward. Pretensioners are not powerful enough to pull the occupant back into

the vehicle seat; they merely remove slack. Some seat belt pretensioners are triggered by the same sensor that actuates the air bag, and may be wired into the same circuit as the air bag. Therefore, unless on-off switches are designed correctly, turning off the air bag may also disable the seat belt pretensioners. Pretensioners are not required by NHTSA standards, but are an improvement added at the manufacturer's option. NHTSA is not aware of any belt systems with pretensioners that allow more slack to be introduced than is allowed by systems without pretensioners. However, the system is likely to be more effective if the pretensioner is not disconnected as a result of the installation and use of an on-off switch. To NHTSA's knowledge, all air bags in vehicles with pretensioners can be turned off without disabling the pretensioners.

The exclusion of air bag equipped vehicles from the requirements in Standard No. 210 may have also been used by manufacturers to optimize their seat belt anchorage locations for seat belts used in conjunction with air bags. The agency cannot quantify or even estimate the extent to which vehicle manufacturers have availed themselves of this opportunity. NHTSA's anchorage location requirements are intended to reduce the likelihood that occupants would ''submarine,'' i.e., slide forward under the lap belt. Submarining would cause the seat belt loads to be transferred to an occupant up on the soft tissue of the abdomen instead of down on the pelvic bones, thereby increasing the likelihood of abdominal injury. The static test in Standard No. 210 is intended as a substitute for a dynamic test where the interaction between the occupant and the lap belt can be observed. Since manual belts used with air bags do not have to meet Standard No. 210's anchorage location requirements, manufacturers may have located the anchorage locations to optimize the interaction between the belt and the air bag in controlling the forward motion of the occupant. With the air bag turned off, the system as a whole will not operate as designed, and the chance of abdominal injuries could be increased.

A minority of vehicles have load limiters or seat belt pretensioners. Using information provided by manufacturers on the design of 1997 model year vehicles and sales numbers of 1996 vehicles, NHTSA estimates that vehicles with pretensioners will comprise only 5 percent of 1997 vehicle sales. Using the same information, NHTSA estimates that vehicles with load limiters comprise about 22 percent of 1997 model year sales. Very few models have both load limiters and pretensioners. Since the number of vehicles with these features has been increasing in recent years, the actual percentage of models with these features in the entire on-road vehicle fleet is lower than the percentage in 1997 model vehicles. Nonetheless, NHTSA expects vehicle manufacturers, dealers and repair businesses will take appropriate steps to inform consumers whether their vehicle is equipped with one of these devices and to advise them whether any modifications to the vehicle belt system should be made. The agency's information brochure advises vehicle owners to ask the manufacturer of their vehicle about this issue.

NHTSA agrees with the industry commenters that turning off the air bag could result in a seat belt system with less than optimal performance. Modern vehicle restraint systems are highly complex and integrated, with the seat belt and air bag components often designed to work together. The seat belt systems may not be designed to work alone. Taking out one component of the integrated system could result in reductions in performance. Because many of the features identified by NHTSA are designed to operate only when high loads are placed on the belt system, the presence of these features will be of no consequence in low severity crashes in which the air bag has been turned off, especially when a small/light weight person is using the belt. However, those features will be consequential in a more severe crash. In such a crash, the belts will not provide their full benefits for a vehicle occupant if that person's air bag is turned off.

*B. Net Safety Effects and Costs*

People not in any of the four risk groups specified in this final rule will be worse off if they turn off their air bag. These people include the vast majority of teenagers and adults, including older drivers. By turning off their air bags, they will increase their chance of death or serious injury in moderate to serious crashes. Even belted occupants and the vast majority of short occupants will increase their risk of serious or fatal head, neck or chest injury if they turn off their air bags.

The net safety effects of retrofit on-off switch use will depend in part upon what proportion of the switch users are people at risk. Among persons in risk groups, the net safety effect of use of the on-off switch will depend on the whether that group is, on balance, benefited or harmed by air bags. For a group, like infants, which has had members fatally injured, but not saved, by air bags, use of the on-off switch to turn off passenger air bags will produce a net positive safety effect for the group. However, for other groups, use of the on-off switch to turn off driver air bags could have a net negative safety effect for the group.

Survey data provided by commenters suggest that many more people want on-off switches than could possibly benefit from them. As suggested above, the agency believes that this is because people tend to hear more about, and be more reactive to, the small number of fatalities from air bags than the large number of lives saved by air bags. The January 1997 survey provided by IIHS suggested that 30 percent of respondents were generally interested in on-off switches for the driver air bag, and 67 percent in on-off switches for the passenger air bag. Several commenters suggested that widespread availability of on-off switches would raise the possibility of what they termed ''misuse,'' i.e., use of on-off switches by persons who are not at risk and who are clearly better off with their air bag left on. If this were to occur, it could result in a negative effect on safety. However, to the extent that the reported interest in on-off switches simply reflected a desire to make it possible to turn off an air bag should a person at risk ever be carried, then the likelihood of use by persons not at risk would be smaller.

As previously noted, the more recent IIHS survey, conducted in August, indicates that the general interest in on-off switches for passenger air bags has declined considerably since January. According to the new survey, 26 percent of respondents expressed a general interest in passenger air bag switches. General interest in driver air bag on-off switches was essentially unchanged, with 27 percent of respondents expressing an interest in those switches. The new survey also showed that interest in on-off switches declined after the respondents were informed about matters such as air bag benefits, steps for reducing risk and the cost of switches. The figure for passenger air bags dropped from 26 percent to 16 percent and the figure for driver air bags dropped from 27 percent to 12 percent.

To minimize the possibility of adverse safety consequences, persons who wish to apply for retrofit on-off switches must certify that they have read a NHTSA information brochure that explains the benefits and risks related to air bags to ensure that they make informed decisions both with respect to obtaining, and then using, an on-off switch. The brochure identifies which groups may be at risk, and which are not. More

important, persons interested in on-off switches must certify that they or a user of the seating position in question meets the criteria for one of the relevant risk groups. Limiting eligibility for on-off switches to vehicle owners who are able to certify risk group membership should minimize the possibility that persons not in a risk group will have an opportunity to use a on-off switch to turn off their air bag and reduce the possibility that the switch will be used improperly. Finally, owners must submit their request to the agency for approval.

Given the large numbers of lives currently being saved by air bags and the very small chance of a fatality due to an air bag, and notwithstanding the limitation on eligibility for a on-off switch, NHTSA recognizes the possibility that authorizing the installation of retrofit on-off switches could result in a net loss of life. The agency has analyzed these adverse effects in its Final Regulatory Evaluation (see summary below). NHTSA notes that to the extent such a loss occurs, it would be the unfortunate result of several readily avoidable events: the incorrect certification of risk group membership, the use of on-off switches by persons who are not members of risk groups, and the failure to use seat belts and/or child restraints properly and to take other readily available precautionary measures.

NHTSA is issuing this final rule, notwithstanding its potential to reduce the number of lives saved by air bags, because the agency believes that it must consider both the short-run and long-run implications of this rulemaking on safety. Ultimately, the continued availability and use of any safety device, whether provided voluntarily by manufacturers or pursuant to a regulation, is dependent on public acceptability. The agency believes that air bags which fatally injure occupants, particularly children in low speed crashes, weaken the acceptability of air bags, despite their overall net safety benefits. Accordingly, to help ensure that air bags remain acceptable to the public and ultimately achieve their full potential in the future (as advanced air bags are developed and introduced), the agency believes it is reasonable and appropriate to give persons in risk groups the opportunity to obtain and use an on-off switch, upon the making of the requisite certifications on the agency request form and obtaining agency approval for each request.

The potential savings and savings foregone are described in the executive summary of the Final Regulatory Evaluation (FRE). The following discussion is based on that summary.[49]

The Final Regulatory Evaluation analyzes the potential impact of allowing motor vehicle dealers and repair businesses to install air bag on-off switches in vehicles. This option is being considered in response to concerns that current air bags may injure or kill some occupants in low speed crashes.

Data indicate that only a small portion of vehicle occupants are actually at risk of fatal harm from air bags, and that these occupants tend to fall into well-defined groups. Because both the actual risk and the public's perception of this risk are quite different for drivers and passengers, this analysis addresses each occupant position separately.

On-off switches will not be necessary after advanced air bags become available. Vehicle manufacturers are expected to install some kind of advanced air bags throughout their fleet by the year 2002. An analysis was therefore performed of the impacts that might occur during the 1998–2001 period, when an average of 45 percent of the on-road vehicle fleet will have driver air bags, and 32 percent will have passenger air bags. Safety impacts will continue to occur over the remaining life of these pre-2002 model year fleets, but at a declining rate as more vehicles are retired from the fleet without being replaced by on-off-switch-equipped vehicles. For the purposes of isolating and analyzing the impacts of this rulemaking, it is assumed that there is no change in air bag design, i.e., the potential impact of depowering or other design changes are not included. It is also assumed that there is no change in driver/passenger behavior, belt use, child restraint use, or the percent of children sitting in the front seat. Since the agency has significant education and labeling efforts underway, and the manufacturers are constantly improving air bags, the population which could be positively affected by retrofit on-off switches is actually smaller than that assumed for the purpose of this analysis. The results of this analysis are as follows:

Drivers

If on-off switches are installed and used by all drivers actually at risk, the switches could prevent 45 fatalities during the 1998–2001 period, an average of 11 each year. For every one percent of those not in a risk group who always use on-off switches to turn off the driver air bag, the number of drivers saved by air bags would be reduced by 42 for that period, an average of 11 drivers each year. Nonfatal injuries impact a broad range of occupants for which particular risk groups cannot be properly identified.[50] For each one percent of drivers always use on-off switches to turn off the driver air bag, a net increase of 490 moderate to critical injuries would occur during 1998–2001 (123 annually).[51]

Passengers

Passenger impacts vary dramatically by age group. If on-off switches are always used for all child passengers (ages 0–12), they could prevent 177 deaths over the 1998–2001 period, an average of 44 deaths annually. The vast majority of these benefits would come from infants and from children 1–12 years old who ride completely unbelted, remove their shoulder belt, lean forward or otherwise place themselves at risk. The net impact of on-off switches on nonfatal injuries is uncertain, but the agency believes that on-off switches would provide a net benefit to children.

The agency cannot identify the teenage and adult at-risk group, with the exception of a minimal number of medical cases. The agency advises all those passengers above 12 years of age to leave air bags on. For every one percent of teenage and adult passengers who always utilize on-off switches to turn off their air bag, 9 additional fatalities and 93 additional moderate to critical injuries would occur, an average of 2 more fatalities and 23 more injuries annually.

Costs

NHTSA estimates that an on-off switch for one seating position would cost between $38 and $63 and that the cost for an on-off switch to control both the driver and right front passenger air bags would cost between $51 and $76 (1996 dollars) to install on aftermarket vehicles. These costs would be voluntary and incurred at the initiative of the vehicle owner. Ford was the only commenter on costs. Ford estimated the cost of installing an aftermarket on-off switch that controls both the driver and

[49] The agency notes that IIHS and BMW raised the possibility in their comments that use of on-off switches could lead to increased occupancy of the front seat, especially by children, and thus to increased injuries and fatalities. The extent to which this phenomenon might occur, if at all, is speculative and therefore not quantifiable.

[50] Some nonfatal injuries are unrelated to the factors (sitting distance from air bag and medical conditions) which define the driver risk groups. For example, since all drivers must hold the steering wheel, they are all subject to arm injuries without regard to those factors.

[51] This potential increase applies to all drivers, not just those in a risk group.

right front passenger air bag to be $95 to $124.

NHTSA notes that one commenter, MBS, submitted an analysis suggesting that a final rule would result in a large annual number of additional deaths by the year 2000. After reviewing MBS' analysis, the agency concludes that it rests on a number of incorrect assumptions about key matters and consequently cannot reliably assess the impacts of this final rule. First, MBS' analysis assumes the final rule would authorize deactivation, which is permanent and eliminates air bag protection for all vehicle users, instead of on-off switches. As noted above, on-off switches make it possible to leave air bags on except when a person at risk is riding in the vehicle. Second, MBS' analysis assumes that anyone may have their air bag turned off, based on informed decisionmaking alone. In fact, the final rule is based on informed decisionmaking, certification of risk group membership, and agency approval of each request. As a result, the final rule will reduce inappropriate requests for on-off switches, i.e., those requests based on reasons other than safety risk. Third, MBS' analysis relies on highly speculative assumptions about the percentage of respondents to telephone surveys (the January IIHS survey and a later survey by Ford) who will actually go to their dealers or repair business and purchase an on-off switch. Given the shortcomings of those early surveys, which are detailed above, they do not provide a reliable basis for estimating the level of interest in on-off switches. Although the more recent (August) survey by IIHS avoided those shortcomings and demonstrated the potential for education to reduce interest in on-off switches, that survey too does not provide a basis for reliably estimating the number of people who will obtain on-off switches under this final rule. Even though the new survey introduced key information about cost and safety, it did so only to the very limited extent that it was reasonable and practicable to do so in the context of a brief survey. Only the barest of facts were given to the respondents. Further, since IIHS was conducting an opinion survey, not a public education campaign, its efforts to educate respondents about who is at risk from air bags was very cursory. The public education campaign planned by the agency and other interested parties will provide the public with a much fuller description of the facts and present those facts in the context of persuasive explanatory discussions and graphics. Third, instead of using data representing the passenger vehicle fleet in 2000, MBS incorrectly used NHTSA data representing a later fleet fully equipped with driver and passenger air bags. By contrast, only 47 percent of the vehicles in the 2000 fleet will have driver air bags and 35 percent will have passenger air bags. The effect of this error was to magnify greatly MBS's estimate of the effects of a final rule.

## XI. Rulemaking Analyses and Notices

### *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 (OMB) under E.O. 12866, ''Regulatory Planning and Review.'' This rule is not economically significant under E.O. 12866. However, the action has been determined to be ''significant'' under the Department of Transportation's regulatory policies and procedures because of the degree of public interest in this subject. This rule is not a major rule under Chapter 8 of Title 5, U.S. Code.

Further, the agency does not believe that the annual net economic impacts of the actions taken under this rule will exceed $100 million per year. This final rule does not require a motor vehicle manufacturer, dealer or repair business to take any action or bear any costs except in instances in which a dealer or repair business agrees to install an on-off switch for an air bag. For consumers, the purchasing and installation of on-off switches is permissive, not prescriptive. Accordingly, universal use of on-off switches by risk group members is unlikely. As noted below, the agency estimates that the percentage of vehicle owners who will ultimately choose to seek and use on-off switches is relatively low. Further, while NHTSA has specified four risk groups and made them eligible for on-off switches, the agency is affirmatively recommending only that two of the four specified risk groups obtain on-off switches. As a result, the agency does not believe this rule will yield benefits whose value exceeds $100 million in any one year.

When an eligible consumer obtains the agency's authorization for the installation of a retrofit on-off switch and a dealer or repair business agrees to install the switch, there will be costs associated with that action. The agency estimates that installation of an on-off switch would typically require less than one hour of shop time, at the average national labor rate of up to $50 per hour. NHTSA estimates the cost of providing an on-off switch for the passenger air bag is $38 to $63 and the cost of providing an on-off switch for both driver and passenger air bag is $51 to $76. Ford estimated the cost of installing an aftermarket on-off switch that controls both the driver and passenger air bag to be $95 to $124.

At this time, any estimate of the number of vehicle owners who will actually fill out request forms, obtain agency authorization and pay for retrofit on-off switches is necessarily subject to substantial uncertainty. The agency's experience with requests for deactivation suggests a figure that is much lower than the estimates offered by some commenters based on public opinion surveys. The agency believes that actual experience provides a sounder basis for making an estimate. Based on the volume of deactivation requests,[52] the greater public interest in on-off switches than in deactivation, the burst of publicity likely to surround the issuance of the final rule, and the time needed for the public education campaign to take full effect, NHTSA estimates that at least 100,000 request forms will be submitted to the agency in the first year after the issuance of this final rule, and that the annual average for the three-year period including that year and the next two years will be at least 80,000.

Because of the public interest in air bags, the publicity that will surround the issuance of this final rule, and the continuing public education campaign, NHTSA expects that many more people will read the information brochure than will fill out request forms and seek authorization for on-off switches. The agency has no directly relevant experience upon which to base an estimate. However, NHTSA estimates that the number of persons who read the brochure will be at least 1,000,000 over the three year period following the issuance of this final rule. Thus, the annual average will be at least 330,000 people.

In view of the preceding analysis, there are no mandatory costs associated with this rule. A final regulatory evaluation for this notice has been placed in the docket.

[52] The agency is using the volume of requests from the peak period during 1997, i.e., April and May. The volume averaged about 400 letters per week during that period. By contrast, the volume in late August-early September was slightly less than 300 per week. In mid-September, the average was even lower, just over 100. However, in October, the weekly average increased to nearly 200.

Regulatory Flexibility Act

NHTSA has considered the effects of this rulemaking action under the Regulatory Flexibility Act. Most dealerships and repair businesses are considered small entities, and a substantial number of these businesses may perform on-off switch installations pursuant to this rule, and would presumably profit from these installations. However, the economic impact on any given business will not be significant. For every 100,000 vehicle owners who voluntarily decide to seek authorization to have an on-off switch installed and who obtain that authorization, the average new vehicle dealer will install about 4.4 on-off switches before the introduction of advanced air bags solves the problem. NHTSA estimates the cost of providing a single on-off switch that operates both driver and passenger air bag is $51 to $76. Ford estimated that cost as $95 to $124. Based on a range from $51 to $124, the average dealer will receive, for each 100,000 on-off switches installed nationwide, additional revenues of between $224 and $545, before subtracting the cost of materials, labor, and overhead. This does not represent a significant amount of money for these businesses.

To the extent that consumers take their vehicles to the much larger number of used car dealers and smaller repair businesses for on-off switch installations, the economic impact would be diluted on a per-business basis. A small number of businesses may specialize in on-off installation, and this rule would have a large impact on them. However, NHTSA has noted a reluctance, on the part of the people receiving letters of authorization to deactivate their air bags, to take their vehicles to businesses other than dealerships. Assuming that this lack of ''demand'' for the independent businesses extends to on-off switch installation, and given the general liability concerns even on the part of the dealerships, the agency does not believe that a substantial number of businesses will specialize in on-off switch installation.

Because the economic impact, per average business, is so small, I hereby certify that it will not have a significant economic impact on a substantial number of small entities. NHTSA notes again that the requirements will not impose any mandatory economic impact on any entities, small or otherwise.

The Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of more than $100 million annually. This rule does not meet the definition of a Federal mandate, because it is completely permissive. In addition, annual expenditures will not exceed the $100 million threshold.

Executive Order 12612 (Federalism)

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

Civil Justice Reform

This final rule has no retroactive effect. NHTSA is not aware of any State law that would be preempted by this final rule. This final rule does not repeal any existing Federal law or regulation. It modifies existing law only to the extent that it replaces an agency procedure under which vehicle owners had to obtain authorization to have their air bags deactivated with a new procedure under which owners may seek authorization to have on-off switches installed. This new procedure involves reading an information brochure about air bag safety and submitting to NHTSA a signed and dated request form on which the owner certifies that he or she has read the brochure and that he or she, or a user of his or her vehicle, is a member of a risk group defined by the agency. If the agency approves the request, it sends an authorization letter to the vehicle owner. This final rule does not require submission of a petition for reconsideration or the initiation of other administrative proceedings before a party may file suit in court.

Paperwork Reduction Act

Several of the conditions placed by this final rule on the exemption from the make inoperative prohibition are considered to be information collection requirements as that term is defined by the Office of Management and Budget (OMB) in 5 CFR part 1320. Specifically, this rule conditions the exemption for motor vehicle dealers and repair businesses upon vehicle owners filling out and submitting a request form to the agency, obtaining an authorization letter from the agency and then presenting the letter to a dealer or repair business. The exemption is also conditioned upon the dealer or repair business filling in information about itself and the installation in the form provided for that purpose in the authorization letter and then returning the form to NHTSA. The information collection requirements for part 593 have been approved by OMB, pursuant to the requirements of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

**List of Subjects**

*49 CFR Part 571*

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

*49 CFR Part 595*

Imports, Motor vehicle safety, Motor vehicles.

In consideration of the foregoing, NHTSA amends chapter V of title 49 of the Code of Federal Regulations as follows:

## PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS

1. The authority citation for Part 571 of Title 49 continues to read as follows:

**Authority:** 49 U.S.C. 322, 30111, 30115, 30117, and 30166; delegation of authority at 49 CFR 1.50.

2. Section 571.208 is amended by revising S4.5.2, 4.5.4 and 4.5.4.4 to read as follows:

### § 571.208 Standard No. 208, Occupant crash protection.

* * * * *

S4.5.2 Readiness indicator. An occupant protection system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. The indicator shall monitor its own readiness and shall be clearly visible from the driver's designated seating position. If the vehicle is equipped with a single readiness indicator for both a driver and passenger air bag, and if the vehicle is equipped with an on-off switch permitted by S4.5.4 of this standard, the readiness indicator shall monitor the readiness of the driver air bag when the passenger air bag has been deactivated by means of the on-off switch, and shall not illuminate solely because the passenger air bag has been deactivated by the manual on-off switch. A list of the elements of the system being monitored by the indicator shall be included with the information furnished in accordance with S4.5.1 but need not be included on the label.

* * * * *

S4.5.4 Passenger Air Bag Manual On-Off Switch. Passenger cars, trucks,

buses, and multipurpose passenger vehicles manufactured before September 1, 2000 may be equipped with a device that deactivates the air bag installed at the right front passenger position in the vehicle, if all the conditions in S4.5.4.1 through 4.5.4.4 are satisfied.

* * * * *

S4.5.4.4 The vehicle owner's manual shall provide, in a readily understandable format:

(a) Complete instructions on the operation of the on-off switch;

(b) A statement that the on-off switch should only be used when a member of a passenger risk group identified in the request form in Appendix B to part 595 of this chapter is occupying the right front passenger seating position; and,

(c) A warning about the safety consequences of using the on-off switch at other times.

3. Part 595 is added to read as follows:

## PART 595—RETROFIT ON-OFF SWITCHES FOR AIR BAGS

Sec.
595.1 Scope.
595.2 Purpose.
595.3 Applicability.
595.4 Definitions.
595.5 Requirements.
Appendix A to Part 595—Information Brochure.
Appendix B to Part 595—Request Form.
Appendix C to Part 595—Installation Of Air Bag On-off Switches.

**Authority:** 49 U.S.C. 322, 30111, 30115, 30117, 30122 and 30166; delegation of authority at 49 CFR 1.50.

### § 595.1 Scope.

This part establishes conditions under which retrofit on-off switches may be installed.

### § 595.2 Purpose.

The purpose of this part is to provide an exemption from the ''make inoperative'' provision of 49 U.S.C. 30122 and authorize motor vehicle dealers and motor vehicle repair businesses to install retrofit on-off switches for air bags.

### § 595.3 Applicability.

This part applies to dealers and motor vehicle repair businesses.

### § 595.4 Definitions.

The term *dealer,* defined in 49 U.S.C. 30102(a), is used in accordance with its statutory meaning.

The term *motor vehicle repair business* is defined in 49 U.S.C. 30122(a) as ''a person holding itself out to the public to repair for compensation a motor vehicle or motor vehicle equipment.'' This term includes businesses that receive compensation for servicing vehicles without malfunctioning or broken parts or systems by adding or removing features or components to or from those vehicles or otherwise customizing those vehicles.

### § 595.5 Requirements.

(a) Beginning January 19, 1998, a dealer or motor vehicle repair business may modify a motor vehicle by installing an on-off switch that allows an occupant of the vehicle to turn off an air bag in that vehicle, subject to the conditions in paragraphs (b)(1) through (5) of this section:

(b)(1) The dealer or motor vehicle repair business receives from the owner or lessee of the motor vehicle a letter from the National Highway Traffic Safety Administration that authorizes the installation of an on-off switch in that vehicle for that air bag and includes a form to be filled in by the dealer or motor vehicle repair business with information identifying itself and describing the installation it makes.

(2) The dealer or motor vehicle repair business installs the on-off switch in accordance with the instructions of the manufacturer of the switch.

(3) The on-off switch meets all of the conditions specified in paragraph (a)(4)(i) and (ii) of this section.

(i) The on-off switch is operable solely by a key. The on-off switch shall be separate from the ignition switch for the vehicle, so that the driver must take some action other than inserting the ignition key or turning the ignition key in the ignition switch to turn off the air bag. Once turned off, the air bag shall remain off until it is turned back on by means of the device. If a single on-off switch is installed for both air bags, the on-off switch shall allow each air bag to be turned off without turning off the other air bag. The readiness indicator required by S4.5.2 of § 571.208 of this chapter shall continue to monitor the readiness of the air bags even when one or both air bags has been turned off.

(ii) A telltale light in the interior of the vehicle shall be illuminated whenever the driver or passenger air bag is turned off by means of the on-off switch. The telltale for a driver air bag shall be clearly visible to an occupant of the driver's seating position. The telltale for a passenger air bag shall be clearly visible to occupants of all front seating positions. The telltale for an air bag:

(A) Shall be yellow;

(B) Shall have the identifying words ''DRIVER AIR BAG OFF'' or ''PASSENGER AIR BAG OFF,'' as appropriate, on the telltale or within 25 millimeters of the telltale;

(C) Shall remain illuminated for the entire time that the air bag is ''off;''

(D) Shall not be illuminated at any time when the air bag is ''on;'' and,

(E) Shall not be combined with the readiness indicator required by S4.5.2 of § 571.208 of this chapter.

(4) The dealer or motor vehicle repair business provides the owner or lessee with an insert for the vehicle owner's manual that—

(i) Describes the operation of the on-off switch,

(ii) Lists the risk groups on the request form set forth in Appendix B of this Part,

(iii) States that an on-off switch should only be used to turn off an air bag for a member of one of those risk groups, and

(iv) States the safety consequences for using the on-off switch to turn off an air bag for persons who are not members of any of those risk groups. The description of those consequences includes information, specific to the make, model and model year of the owner's or lessee's vehicle, about any seat belt energy managing features, e.g., load limiters, that will affect seat belt performance when the air bag is turned off.

(5) In the form included in the agency authorization letter specified in paragraph (b)(1) of this section, the dealer or motor vehicle repair business fills in information describing itself and the on-off switch installation(s) it makes in the motor vehicle. The dealer or motor vehicle repair business then sends the form to the address below within 7 working days after the completion of the described installations: National Highway Traffic Safety Administration, Attention: Air Bag Switch Request Forms, 400 Seventh Street, S.W., Washington, D.C. 20590–1000.

BILLING CODE 4910–59–P

APPENDIX A TO PART 595--INFORMATION BROCHURE

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

# AIR BAGS AND ON-OFF SWITCHES INFORMATION FOR AN INFORMED DECISION

## Keeping the Benefits for the Many and Reducing the Risks for the Few

## INTRODUCTION

Air bags are proven, effective safety devices. From their introduction in the late 1980's through November 1, 1997, air bags saved about 2,620 people. The number of people saved increases each year as air bags become more common on America's roads.

However, the number of lives saved is not the whole story. Air bags are particularly effective in preventing life-threatening and debilitating head and chest injuries. A study of real-world crashes conducted by the National Highway Traffic Safety Administration (NHTSA) found that the combination of seat belts and air bags is 75 percent effective in preventing serious head injuries and 66 percent effective in preventing serious chest injuries. That means 75 of every 100 people who would have suffered a serious head injury in a crash, and 66 out of 100 people who would have suffered chest injuries, were spared that fate because they wore seat belts and had air bags.

For some people, these life saving and injury-preventing benefits come at the cost of a less severe injury caused by the air bag itself. Most air bag injuries are minor cuts, bruises, or abrasions and are far less serious than the skull fractures and brain injuries that air bags prevent. However, 87 people have been killed by air bags as of November 1, 1997. These deaths are tragic, but rare events -- there have been about 1,800,000 air bag deployments as of that same date.

**The one fact that is common to all who died is NOT their height, weight, sex, or age. Rather, it is the fact that they were too close to the air bag when it started to deploy.** For some, this occurred because they were sitting too close to the air bag. More often this occurred because they were not restrained by seat belts or child safety seats and were thrown forward during pre-crash braking.

The vast majority of people can avoid being too close and can minimize the risk of serious air bag injury by making simple changes in behavior. Shorter drivers can adjust their seating position. Front seat adult passengers can sit a safe distance from their air bag. Infants and children 12 and under should sit in the back seat. And everyone can buckle up. The limited number of people who may not be able to make these changes may benefit from having the opportunity to turn off their air bags when necessary.

Beginning January 19, 1998, consumers can choose to have an on-off switch installed for the air bags in their vehicle if they are, or a user of their vehicle is, in a risk group listed below. The following information provides the facts you need about air bags so you can make the appropriate decision for you and anyone else who is in a risk group.

**What is an on-off switch?**

An on-off switch allows an air bag to be turned on and off. The on-off switch can be installed for the driver, passenger, or both. To limit misuse, a key must be used to operate the on-off switch. When the air bag is turned off, a light comes on. There is a message on or near the light saying "DRIVER AIR BAG OFF" or "PASSENGER AIR BAG OFF." The air bag will remain off until the key is used to turn it back on.

**What steps can you take to reduce air bag risk without buying an on-off switch?**

- **Always place an infant in a rear-facing infant seat in the back seat.**
- **Always transport children 1 to 12 years old in the back seat and use appropriate child restraints.**
- **Always buckle your seat belt.**
- **Keep 10 inches between the center of the air bag cover and your breastbone.**

The vast majority of people don't need an on-off switch. Almost everyone over age 12 is much safer with air bags than without them. This includes short people, tall people, older people, pregnant women -- in fact, all people, male or female, who buckle their seat belts and who can sit far enough back from their air bag. Ideally, you should sit with at least 10 inches between the center of your breastbone and the cover of your air bag. The nearer you can come to achieving the 10-inch distance, the lower your risk of being injured by the air bag and the higher your chance of being saved by the air bag. If you can get back almost 10 inches, the air bag will still help you in a crash.

**Who should consider installing an on-off switch?**

- People who <u>must</u> transport infants riding in rear-facing infant seats in the front passenger seat.

- People who <u>must</u> transport children ages 1 to 12 in the front passenger seat.

- Drivers who can<u>not</u> change their customary driving position and keep 10 inches between the center of the steering wheel and the center of their breastbone.

- People whose doctors say that, due to their medical condition, the air bag poses a special risk that <u>outweighs</u> the risk of hitting their head, neck or chest in a crash if the air bag is turned off.

If you cannot certify that you are, or any user of your vehicle is, in one of these groups, you are not eligible for an on-off switch. Turning off your air bag will not benefit you or the other users of your vehicle. Instead, it will increase the risk that you and the other users will suffer a head, neck or chest injury by violently striking the steering wheel or dashboard in a moderate to severe

crash.

## WHY SOME PEOPLE ARE AT RISK

**How do air bag deaths occur?**
Air bags are designed to save lives and prevent injuries by cushioning occupants as they move forward in a front-end crash. By providing a cushion, an air bag keeps the occupant's head, neck, and chest from hitting the steering wheel or dashboard. To perform well, an air bag must deploy quickly. The force is greatest in the first 2-3 inches after the air bag bursts through its cover and begins to inflate. Those 2-3 inches are the "risk zone." The force decreases as the air bag inflates farther.

Occupants who are very close to or on top of the air bag when it begins to inflate can be hit with enough force to suffer serious injury or death. However, occupants who are properly restrained and sit 10 inches away from the air bag cover will contact the air bag only after it has completely or almost completely inflated. The air bag then will cushion and protect them from hitting the hard surfaces in the vehicle.

**Do both children and adults face risk?**
Yes, both children and adults face the risk of air bag injury or death if they are positioned too close to the air bag or fail to use proper restraints. As of November 1, 1997, NHTSA has confirmed that 49 young children have died, all on the passenger side. 38 adults have died -- 35 drivers and 3 passengers.

**What were the specific circumstances of the children's deaths?**
Almost all of the 49 children who died were improperly restrained or positioned. 12 were infants under age 1 who were riding in rear-facing infant seats in front of the passenger air bag. When placed in the front seat, a rear-facing infant seat places an infant's head within a very few inches of the passenger air bag. In this position, an infant is almost certain to be injured if the air bag deploys. Rear-facing infant seats must ALWAYS be placed in the back seat.

The other 37 children ranged in age from 1 to 9 years; most were 7 or under. 29 of them were totally unrestrained. This includes 4 children who were sitting on the laps of other occupants. The remaining 8 children included some who were riding with their shoulder belts behind them and some who were wearing lap and shoulder belts but who also should have been in booster seats because of their small size and weight. Booster seat use could have improved shoulder belt fit and performance. These various factors allowed the 37 children to get too close to the air bag when it began to inflate.

**What were the specific circumstances of the adults' deaths?**
Most of the adults who were killed by air bags were not properly restrained. 18 of the 35 drivers, and 2 of the 3 passengers, were totally unbelted. 2 of the drivers who were belted had medical conditions which caused them to slump over the steering wheel immediately before the crash. A few of the drivers did not use their seat belts correctly and the others are believed to have been sitting too close to the steering wheel.

## SEE FOR YOURSELF

Visit the NHTSA Web site at **http://www.nhtsa.dot.gov** and click on the icon "AIR BAGS - Information about air bags." A video shows crash tests of properly belted dummies whose air bags are turned off. A properly belted short female dummy without an air bag is shown slamming her head hard enough to bend the steering wheel and suffer fatal injuries. For more information, call the NHTSA Hotline at 1-800-424-9393.

## REDUCING THE RISK

**What is the safest way to ride in front of an air bag?**
First, move the seat back and buckle up -- every time, every trip. The lap belt needs to fit over your hips, not your abdomen, and the shoulder belt should lie on your chest and over your shoulder. Remove any slack from the belt. In a crash, seat belts stretch and slow down your movement toward the steering wheel or dashboard. Moving back and properly using seat belts give the air bag a chance to inflate before you move forward in a crash far enough to contact the air bag.

**How do I best protect children?**
Never place a rear-facing infant seat in the front seat if the air bag is turned on. Always secure a rear-facing seat in the back seat. Children age 12 and under should ride in the back seat. While almost all of the children killed by an air bag were 7 years old or younger, a few older children have been killed. Accordingly, age 12 is recommended to provide a margin of safety.

There are instances when children must sit in the front because the vehicle has no rear seat, there are too many children for all to ride in back, or a child has a medical condition that requires monitoring. If children must sit in the front seat, they should use the seat belts and/or child restraint appropriate for their weight or size (see the table at the end of this brochure) and sit against the back of the vehicle seat. The vehicle seat should be moved as far back from the air bag as practical. Make sure the child's shoulder belt stays on. If adult seat belts do not fit properly, use a booster seat. Also, children must never ride on the laps of others.

**What should teenagers and adults do to be safest on the passenger side?**
Always wear seat belts. This reduces the distance that they can move forward during a crash. Move the seat toward the rear. The distance between a passenger's chest and the dashboard where the air bag is stored is usually more than 10 inches, even with the passenger seat all the way forward. But more distance is safer.

**How do I stay safe when I'm driving?**
Since the risk zone for driver air bags is the first 2-3 inches of inflation, placing yourself 10 inches from your driver air bag provides you with a clear margin of safety. This distance is measured from the center of the steering wheel to your breastbone. If you now sit less than 10 inches away, you can change your driving position in several ways:

- Move your seat to the rear as far as you can while still reaching the pedals comfortably.

- Slightly recline the back of the seat. Although vehicle designs vary, many drivers can achieve the 10-inch distance, even with the driver seat all the way forward, simply by reclining the back of the seat somewhat. If reclining the back of your seat makes it hard to see the road, raise yourself by using a firm, non-slippery cushion, or raise the seat if your vehicle has that feature.
- If your steering wheel is adjustable, tilt it downward. This points the air bag toward your chest instead of your head and neck.

[In its published version, the brochure will be 10 inches tall and will indicate that it should be placed between your breastbone and the center of the air bag cover to check your distance.]

**Will following these safety tips guarantee that I will be safe in a crash?**
There is no guarantee of safety in a crash, with or without an air bag. However, most of the people killed by air bags would not have been seriously injured if they had followed these safety tips.

**Are air bags the reason the back seat is the safest place for children?**
No. The back seat has always been safer, even before there were air bags. NHTSA conducted a study of children who died in crashes in the front and back seats of vehicles, very few of which had passenger air bags. The study concluded that placing children in the back reduces the risk of death in a crash by 27 percent, whether or not a child is restrained.

## THE ON-OFF SWITCH DECISION

**Vehicle owners and lessees can obtain an on-off switch for one or both of their air bags only if they can certify that they are, or a user of their vehicle is, in one of the four risk groups listed below:**

**Two risk groups have a high enough risk that they would definitely be better off with an on-off switch:**

- **Infants in rear-facing infant seats**. A rear-facing infant seat must never be placed in the front seat unless the air bag is turned off.
- **Drivers or passengers with unusual medical conditions.** These are people who have been advised by a physician that an air bag poses a special risk to them because of their condition. However, they should not turn off their air bag unless their physician also has advised them that this risk is greater than what may happen if they do turn off their air bag. Without an air bag, even belted occupants could hit their head, neck or chest in a crash.

  A national conference of physicians considered all medical conditions commonly cited as possible justifications for turning off air bags. The physicians did not recommend turning off air bags for persons with pacemakers, supplemental oxygen, eyeglasses, median sternotomy, angina, chronic obstructive pulmonary disease, emphysema, asthma, breast reconstruction, mastectomy, scoliosis (if the person can be positioned properly), previous back or neck surgery, previous facial reconstructive surgery or facial injury, hyperacusis, tinnitus, advanced age,

osteogenesis imperfecta, osteoporosis & arthritis (if the person can sit at a safe distance from the air bag), previous ophthalmologic surgery, Down syndrome and atlantoaxial instability (if the person can reliably sit properly aligned), or pregnancy. The physicians recommended turning off an air bag if a safe sitting distance or position cannot be maintained by a driver because of scoliosis or achondroplasia or by a passenger because of scoliosis or Down syndrome and atlantoaxial instability. The physicians also noted that a passenger air bag might have to be turned off if an infant or child has a medical condition and must ride in front so that he or she can be monitored. To obtain a copy of the recommendations, call the NHTSA Hotline or see the NHTSA Web site.

**Two other risk groups may be better off with an air bag on-off switch:**

- **Children ages 1 to 12.** Children in this age group can be transported safely in the front seat if they are properly belted, they do not lean forward, and their seat is moved all the way back. The vast majority of all fatally injured children in this age range were completely unrestrained. But children sometimes sit or lean far forward and may slip out of their shoulder belts, putting themselves at risk. The simple act of leaning far forward to change the radio station can momentarily place even a belted child in danger. If a vehicle owner must transport a child in the front seat, the owner is eligible for an on-off switch for the passenger air bag. Since air bag performance differs from vehicle model to vehicle model, the vehicle owner may wish to consult the vehicle manufacturer for additional advice.

CAUTION: If you allow children to ride in the front seat while unrestrained or improperly restrained, and especially if you sit with a child on your lap, **you are putting them at serious risk, with or without an air bag**. Turning off the air bag is not the safe answer. It would eliminate air bag risk but not the likelihood that in a crash an unrestrained child would fly through the air and strike the dashboard or windshield, or be crushed by your body.

- **Drivers who cannot get back 10 inches**. Very few drivers are unable to sit so that their breastbone is 10 inches away from their air bag. If, despite your best efforts, you cannot maintain a distance of 10 inches, you may wish to **consult your dealer or vehicle manufacturer for advice or modifications to help you move back.**

  Since the risk zone is the first 2-3 inches from the air bag cover, sitting back 10 inches provides a clear margin of safety. While getting back at least 10 inches is desirable, if you can get back almost 10 inches, the air bag is unlikely to seriously injure you in a crash and you probably don't need an on-off switch. If you cannot get back almost 10 inches from the air bag cover, you may wish to consider an on-off switch. Since air bag performance differs among vehicle models, you may wish to consult your vehicle manufacturer for additional advice.

**What if you are, or a user of your vehicle is, not in one of the listed risk groups?**
You are not at risk and do not need an on-off switch. This includes short people, tall people, older people, pregnant women -- in fact, all people, male or female over age 12, who buckle their seat belts and who can sit with 10 inches from the center of their breastbone to where the air bag is stored. You will have the full benefit of your air bag and will minimize the risk of violently striking the steering wheel and dashboard in a moderate to severe crash.

**How do I get an on-off switch?**
If you are eligible, you must fill out a NHTSA request form. Forms are available at state motor vehicle offices and may be available at automobile dealers and repair shops. You may also get one by calling the NHTSA Hotline or visiting the NHTSA Web site. On the form, you must indicate which air bags you want equipped with an on-off switch, certify that you have read this information brochure, certify that you are, or a user of your vehicle is, a member of a risk group listed above, and identify the group. Then send this form to NHTSA. Upon approval of your request, the agency will send you a letter authorizing an automobile dealer or repair shop to install an on-off switch in your vehicle.

**Should a pregnant woman get an on-off switch?**
No, not unless she is a member of a risk group. Pregnant women should follow the same advice as other adults: buckle up and stay back from the air bag. The lap belt should be positioned low on the abdomen, below the fetus, with the shoulder belt worn normally. Pull any slack out of the belt. Just as for everyone else, the greatest danger to a pregnant woman comes from slamming her head, neck or chest on the steering wheel in a crash. When crashes occur, the fetus can be injured by striking the lower rim of the steering wheel or from crash forces concentrated in the area where a seat belt crosses the mother's abdomen. By helping to restrain the upper chest, the seat belt will keep a pregnant woman as far as possible from the steering wheel. The air bag will spread out the crash forces that would otherwise be concentrated by the seat belt.

## ON-OFF SWITCH PRECAUTIONS

**If I turn off my air bag for someone at risk, what precautions should I take for others?**
Since the air bag will not automatically turn itself back on after you turn it off with an on-off switch, you must remember to turn it on when someone who is not at risk is sitting in that seat. Every on-off switch has a light to remind you when the air bag is turned off.

**If I turn off my air bag, will my seat belts provide enough protection?**
Air bags increase the protection you can get from seat belts alone. If the air bag is turned off, you lose this extra protection.

In some newer vehicles, turning off your air bag may have additional consequences. These vehicles have seat belts that were specially designed to work together with air bags. If the crash forces become too great, these new seat belts "give" or yield to avoid concentrating too much force on your chest. The air bag prevents you from moving too far forward after the seat belts

give. Without the air bag to cushion this forward movement, the chance of the occupant hitting the vehicle interior is increased.

Ask your vehicle manufacturer whether your seat belts were specially designed to work with an air bag. If they were, your dealer or repair shop will provide you information about the effects that turning off your air bag will have on the performance of the belts. Ask your dealer or repair shop to show you this information before you decide whether to have an on-off switch installed.

## HOW AIR BAGS WORK

Air bags are designed to keep your head, neck, and chest from slamming into the dash, steering wheel or windshield in a front-end crash. They are not designed to inflate in rear-end or rollover crashes or in most side crashes. Generally, air bags are designed to deploy in crashes that are equivalent to a vehicle crashing into a solid wall at 8-14 mph. Air bags most often deploy when a vehicle collides with another vehicle or with a solid object like a tree.

Air bags inflate when a sensor detects a front-end crash. The sensor sends an electric signal to start a chemical reaction that inflates the air bag with harmless nitrogen gas. All this happens faster than the blink of an eye. Air bags have vents, so they deflate immediately after cushioning you. They cannot smother you and they don't restrict your movement. The "smoke" you may have seen in a vehicle after an air bag demonstration is the nontoxic starch or talc that is used to lubricate the air bag.

**Are all air bags the same?**
No. Air bags differ in design and performance. There are differences in the crash speeds that trigger air bag deployment, the speed and force of deployment, the size and shape of air bags, and the manner in which they unfold and inflate. That is why you should contact your vehicle manufacturer if you want specific information about the air bags in your particular car or truck.

## FUTURE AIR BAGS

**Do I need an on-off switch if I buy a vehicle with depowered air bags?**
Many manufacturers are installing depowered air bags beginning with their model year 1998 vehicles. They are called "depowered" because they deploy with less force than current air bags. They will reduce the risk of air bag-related injuries. However, even with depowered air bags, rear-facing child seats still should never be placed in the front seat and children are still safest in the back seat. Contact your vehicle manufacturer for further information.

**Will on-off switches be necessary in the future?**
Manufacturers are actively developing so-called "smart" or "advanced" air bags that may be able to tailor deployment based on crash severity, occupant size and position, or seat belt use. These bags should eliminate the risks produced by current air bag designs. It is likely that vehicle manufacturers will introduce some form of advanced air bags over the next few years.

# WHAT RESTRAINT IS RIGHT FOR YOUR CHILD?

| **Weight or size of your child** | **Proper type of restraint** (Put your child in back seat, if possible) |
|---|---|
| Children less than 20 pounds,* or less than 1 year | Rear-facing infant seat (*secured to the vehicle by the seat belts*) |
| Children from about 20 to 40 pounds* and at least 1 year | Forward-facing child seat (*secured to the vehicle by the seat belts*) |
| Children more than 40 pounds* | Booster seat, plus both portions of a lap/shoulder belt (*except only the lap portion is used with some booster seats equipped with front shield*) |
| Children who meet both criteria below:<br>(1) Their sitting height is high enough so that they can, without the aid of a booster seat: wear the shoulder belt comfortably across their shoulder, and secure the lap belt across their pelvis, and<br>(2) Their legs are long enough to bend over the front of the seat when their backs are against the vehicle seat back | Both portions of a lap/shoulder belt |

* To determine whether a particular restraint is appropriate for your child, see restraint manufacturer's recommendations concerning the weight of children who may safely use the restraint.

APPENDIX B TO PART 595--REQUEST FORM

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

OMB No. 2127-0588
Expiration Date: 11/30/00

# REQUEST FOR AIR BAG ON-OFF SWITCH

**Vehicle Owner or Lessee Instructions**:
Read the National Highway Traffic Safety Administration (NHTSA) information brochure, "Air Bags & On-Off Switches, Information for an Informed Decision." If you want authorization for an on-off switch for your driver air bag, passenger air bag, or both, fill out Parts A, B, E and F completely, fill out Parts C and D as appropriate, and send this form to:

National Highway Traffic Safety Administration
Attention: Air Bag Switch Request Forms
400 Seventh Street, S. W.
Washington, D.C. 20590-1000

- Please print.
- Please note: Incomplete forms will be returned to the owner or lessee.
- If you need a copy of the brochure or have any questions about how to fill out this form, call the NHTSA Hotline at 1-800-424-9393.

**Part A. Name and address**

(First) (Middle In.) (Last)

| Residence: Street address | City | State | Zip Code |
|---|---|---|---|
| | | | |

**Part B. I own or lease the following vehicle:** (Owners of multiple vehicles should consult the additional instructions at the end of this form.)

| Make | Model |
|---|---|
| Model year | Vehicle Identification Number (located on driver's side of dashboard near windshield and on certification label on driver's door frame) |
| | |

| **Part C. Switch for Driver Air Bag.**<br>**I request authorization for the installation of an on-off switch for the driver air bag in my vehicle. I certify that I or another driver of my vehicle meets the criteria for the risk group checked below.**<br>**(At least one box must be checked.)** | |
|---|---|
| ☐ | **Medical condition.** The driver has a medical condition which, according to his or her physician:<br>• causes the driver air bag to pose a special risk for the driver; and<br>• makes the potential harm from the driver air bag in a crash greater than the potential harm from turning off the air bag and allowing the driver, even if belted, to hit the steering wheel or windshield in a crash. |
| ☐ | **Distance from driver air bag.** Despite taking all reasonable steps to move back from the driver air bag, the driver is not able to maintain a 10-inch distance from the center of his or her breastbone to the center of the driver air bag cover. |

| **Part D. Switch for Passenger Air Bag.**<br>**I request authorization for the installation of an on-off switch for the passenger air bag in my vehicle. I certify that I or another passenger of my vehicle meets the criteria for the risk group checked below.**<br>**(At least one box must be checked.)** | |
|---|---|
| ☐ | **Infant.** An infant (less than 1 year old) must ride in the front seat because:<br>• my vehicle has no rear seat;<br>• my vehicle has a rear seat too small to accommodate a rear-facing infant seat; or<br>• the infant has a medical condition which, according to the infant's physician, makes it necessary for the infant to ride in the front seat so that the driver can constantly monitor the child's condition. |
| ☐ | **Child age 1 to 12.** A child age 1 to 12 must ride in the front seat because:<br>• my vehicle has no rear seat;<br>• although children ages 1 to 12 ride in the rear seat(s) whenever possible, children ages 1 to 12 sometimes must ride in the front because no space is available in the rear seat(s) of my vehicle; or<br>• the child has a medical condition which, according to the child's physician, makes it necessary for the child to ride in the front seat so that the driver can constantly monitor the child's condition. |
| ☐ | **Medical condition.** A passenger has a medical condition which, according to his or her physician:<br>• causes the passenger air bag to pose a special risk for the passenger; and<br>• makes the potential harm from the passenger air bag in a crash greater than the potential harm from turning off the air bag and allowing the passenger, even if belted, to hit the dashboard or windshield in a crash. |

| **Part E. I make this request based on following certification and understandings:** | |
|---|---|
| **(Check each box below after reading carefully.)** | |
| ☐ | **Information brochure.** I certify that I have read the NHTSA information brochure, "Air Bags & On-Off Switches, Information for an Informed Decision." I understand that air bags should be turned off only for people at risk and turned back on for people not at risk. |
| ☐ | **Loss of air bag protection.** I understand that turning off an air bag may have serious safety consequences. When an air bag is off, even belted occupants may hit their head, neck or chest on the steering wheel, dashboard or windshield in a moderate to serious crash. That possibility may be increased in some newer vehicles with seat belts that are specially designed to work with the air bag. Those belts, which are designed to reduce the concentration of crash forces on any single part of the body, typically allow the occupant to move farther forward in a crash than older belts. Without the air bag to cushion this forward movement, the chance of the occupant hitting the vehicle interior is increased. |
| ☐ | **Waiver.** I understand that motor vehicle dealers and repair businesses may require me to sign a waiver of liability before they install an on-off switch. |

| **Part F. Certification.**<br>**I certify to the U. S. Department of Transportation that the information, certifications and understandings given or indicated by me on this form are truthful, correct and complete to the best of my knowledge and belief. I recognize that the statements I have made on this form concern a matter within the jurisdiction of a department of the United States and that making a false, fictitious or fraudulent statement may render me subject to criminal prosecution under Title 18, United States Code, Section 1001.** | |
|---|---|
| Date | Signature of owner/lessee |

**Additional instructions and information for vehicle owners and lessees**: An owner or lessee of multiple vehicles (e.g., a fleet owner) who wants an on-off switch for the same air bag (e.g., just the passenger air bag) in more than one vehicle and for the same reason does not need to submit a separate form for each vehicle. Instead, the owner or lessee may list the make, model, model year, and vehicle identification number for each of those vehicles and attach the list to a copy of this form. Each page of the list must be signed and dated by the owner or lessee. A list may also be attached to a single copy of this form if the owner or lessee wishes to request authorization for on-off switches for both air bags in multiple vehicles.

Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. That number appears above.

APPENDIX C TO PART 595--INSTALLATION OF AIR BAG ON-OFF SWITCHES

| **INSTALLATION OF AIR BAG ON-OFF SWITCHES** | OMB No. 2127-0588<br>Expiration Date: 11/30/00 |
|---|---|

(The form and instructions below will be included in agency letters sent to vehicle owners or lessees authorizing the installation of air bag on-off switches. Each letter will identify the owner or lessee and the vehicle for which installation is authorized.)

| **The vehicle dealer or repair business identified below made the following installations of on-off switch(es) for the air bags in the motor vehicle identified above:** | | |
|---|---|---|
| Name of motor vehicle dealer or repair business | | |
| Street address | | |
| City | State | Zip Code |
| **On-off switch(es) were installed for the air bag(s) checked on this form:** | **driver air bag** ☐ | **passenger air bag** ☐ |
| Date of installation | Signature of authorized representative of dealer or repair business | |

**Instructions for vehicle dealers and repair businesses**: Within 7 days of your installation of an on-off switch in the vehicle identified above, you must complete this form and mail it to: National Highway Traffic Safety Administration, Attention: Air Bag Switch Installation Forms, 400 Seventh St., S. W., Washington, D.C. 20590-1000.

Note: An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. That number appears above.

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[Signature page for Docket No. NHTSA–97–3111 (final rule)]

**Ricardo Martinez,**

*Administrator.*

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