

document. The remaining issues will be addressed in a subsequent document.

III. Summary of Response to Petitions for Reconsideration

As noted above, today's rule addresses only those issues raised in the petitions for reconsideration that are likely to have an important, immediate impact on vehicle manufacturers or that correct inadvertent changes that were made to the regulatory text in the December 2001 final rule.

Two significant issues are resolved by this document. First, we address the time duration for collecting injury criteria data during the tests to determine whether a low risk deployment air bag system complies with the standard. We have decided to grant the petitioners' request that the period for the three-year-old and six-year-old low risk deployment tests end at 100 ms after the air bag first starts to deploy instead of 125 ms after the final stage of the air bag starts to deploy. The longer time duration for low risk deployment tests specified in the December 2001 final rule will continue to apply to the driver position low risk deployment tests and to the infant low risk deployment tests.

The second major issue involves the labeling requirements associated with all advanced air bag requirements. We have made changes to the current label, depicted in Figure 8 of the standard, and have decided to reinstate our prohibition against placing additional information regarding air bags on the sun visor. The current label will be allowed for vehicles certified to the advanced air bag requirements before September 1, 2003, although vehicle manufacturers may choose to use the new label, which is depicted in Figure 11, on those vehicles under the existing provision allowing early compliance. Notwithstanding the prohibition, we have also established a procedure under which a manufacturer may request permission to add design-specific information to the sun visor label with the Agency's approval. Today's rule also corrects an error in the regulatory text that suggested the new advanced air bag labels are only required for vehicles certified to the automatic suppression options.

Finally, the rule makes a correction to the chin-on-module low risk deployment test position, corrects a couple of errors related to the telltale requirement for vehicles certified to the automatic suppression requirements, and makes a few minor, non-substantive changes.

IV. Time Duration for Low Risk Deployment Tests

We adopted a specific period of time for meeting the injury criteria in the May 2000 final rule. In that rule, we required that all injury criteria be met for the first 300 ms of the test, a time period that we believed would encompass any air bag-related risk of injury. Several petitioners for reconsideration of that rule argued against adopting a 300 ms period for the low risk deployment tests.

While rejecting the recommendation made by the Alliance that injury criteria be met for 300 ms or until the dummy is no longer in contact with the air bag, whichever occurs first, as inherently non-objective, we did modify the test duration for the low risk deployment tests in the December 2001 final rule.

As discussed in that rule, the test duration for low risk deployment tests should accurately reflect the propensity of the deploying air bag to harm an occupant while it is deploying. Thus, we adopted a time duration for the low risk deployment test of 125 ms from the initiation of deployment of the final air bag stage that will fire in a 0–26 km/h (16 mph) crash. We believed this time frame would adequately measure air bag-related injuries without reflecting injuries due to secondary vehicle interior impacts (referred to below as "secondary impacts") that are unrelated to air bag deployment. We noted that we intend to monitor our test data to determine whether the specified time period is, in fact, sufficient to include all air bag-related injuries, leaving open the possibility of increasing the time duration if needed. We also noted that the 300 ms time duration remains in full effect for all barrier tests.

In October 2001, the Alliance petitioned NHTSA to limit the time period to 100 ms from the initial deployment of the air bag. Alternatively, it suggested developing an algorithm that would determine when the forces imposed on the dummy by the air bag no longer significantly influences the movement of the dummy. In a supplemental submission, dated April 29, 2002, the Alliance dropped its support of this alternative approach.

The Alliance argued that both the original 300 ms time frame and the new 125 ms after the initiation of the final stage of air bag deployment effectively prevent vehicle manufacturers from certifying compliance with the advanced air bag requirements using low risk deployment technologies. It stated that both time periods capture non-representative secondary impacts with vehicle interior components

(primarily the seat back on the passenger side). It argued that these interior vehicle impacts are artifacts of the test, which is static, and are not representative of what happens in real world crashes. It provided sled test data simulating a dynamic crash test compared to a low risk deployment test, suggesting that the interactions of test dummies with the vehicle's interior components during dynamic tests are not significant.

The Alliance also claimed that the final stage of most multi-stage air bag systems that is not deployed in a crash to provide occupant protection is only deployed to expel the remaining air bag propellant, not to provide any additional protection for the affected occupant. It stated that this final "dispensing" stage would generally expense approximately 100 to 300 ms after the initial deployment of the air bag, a time delay which, it argued, is sufficiently late to prevent any risk of air bag-related injury. In addressing the agency's concerns with the injury potential of a secondary impact, the Alliance noted that it did not believe NHTSA's reliance on reports of secondary impacts in existing special crash investigation (SCI) cases was warranted since those cases involved air bags that would not meet the low risk deployment criteria. Accordingly, it did not believe the SCI cases were indicative of future air bag performance. Finally, the Alliance stated that a time duration of 125 ms from the initial deployment of the air bag was too long to eliminate injuries attributable solely to secondary impacts.

Toyota, Mitsubishi, DaimlerChrysler, Honda, Volkswagen, and Porsche all supported the Alliance request to end the period during which data are collected for compliance purposes at 100 ms after the initial deployment of the air bag. DaimlerChrysler also suggested that the seat back be adjusted to its fully reclined position (or the seat be removed) to avoid any possibility of a secondary impact.¹ Honda suggested an alternative requirement under which the collection of data for compliance purposes would cease 10 ms after the dummy head no longer interacted with the air bag. It maintained that the maximum injury values, other than those related to secondary impacts, generally occurred during dummy head interaction with the air bag or very shortly (*i.e.*, within 10 ms) thereafter,

¹ In October 2001, DaimlerChrysler submitted a petition for rulemaking asking, in part, that the time duration for data collection be less than 100 ms after initiation of air bag deployment. However, in its petition for reconsideration, it supported the proposal set forth by the Alliance.