some minivans opened when struck at the rear quarter panel. NHTSA believes that this happens when the door panel is displaced sideways, away from the plane of the door frame, forcing the latch to disengage. NHTSA believes, therefore, that in view of the loads to which back doors are subjected in some crashes, it is necessary to test back door latches and hinges in a third direction, orthogonal to the directions of loading to which side doors are normally subjected.

NHTSA declines to adopt the suggestion of IIHS that Load Test Three be applied to all doors. It is beyond the scope of the NPRM and this final rule to amend the requirements applicable to side doors, since this rulemaking action applies only to back doors. In any case, since side doors of production vehicles normally do not open in a vertical direction, NHTSA sees no need at this time to require side door latch and hinge tests in the direction of Load Test Three.

When proposing in the NPRM to apply Load Test Three to doors that open upward, it was NHTSA's belief that such doors were equipped with latch/striker assemblies only on the bottoms of the doors (see II.A.(1) of the NPRM, 59 FR 44694). NHTSA has learned, however, that the upwardswinging back doors of certain models of MPVs are equipped with latch/striker assemblies on the sides of the doors. Testing those latches in the direction of Load Test Three would be meaningless because in that test the load is applied in a direction in which such doors are not likely to open in a crash. This is the same reason Load Test Three does not apply to side doors. Accordingly, NHTSA has decided to apply Load Test Three to the hinges of back doors that swing upward to open, and to the latch/ striker assemblies of upward-swinging doors that are equipped with a single latch/striker assembly.

(4) Inertia Load Requirements

As previously noted (see section I(a) above), Standard No. 206 currently provides that side door latches shall not disengage when an inertia load of 30g is applied in the longitudinal and transverse directions. The NPRM proposed to require back doors to withstand an inertia load of 30g in any direction. Nine commenters addressed this issue, 7 of whom opposed and 2 supported the proposal.

Toyota and Nissan stated that the omni-directional inertia load requirement is unnecessary and impractical, and that the current requirements applicable to side doors are sufficient to simulate real world

crash experience. AAMA, Rockwell, and Volkswagen of America, Inc. (VW) stated that the omni-directional inertia load requirement is not practical and suggested instead that the load be applied in not more than 3 directions. Isuzu Motors Limited, Japan (Isuzu) argued that there is no need for an inertia load test for back doors. Mitsubishi Motors America, Inc (Mitsubishi) stated that the requirement, as proposed, would create repeatability problems. On the other hand, Advocates and IIHS supported the proposal, IIHS stating that the proposal is reasonable because inertia loads can occur in any direction in real world crashes.

NHTSA proposed the inertia load test requirement in the NPRM in the belief that in view of the many different orientations of back door latches and because real-world inertia forces are omni-directional, a large number of inertia load tests in various directions would be required to ensure adequate latch performance. However, in view of the manufacturers' comments that the requirement to test in any direction would be impractical and almost impossible to achieve, NHTSA is persuaded that, for practicability reasons, the number of inertia tests needs to be limited. Manufacturers argued that a requirement to test in any direction would require testing in theoretically infinite directions, which not only is not practical, but may not give sufficient emphasis on the worst case loading directions in real-world crashes. While it is difficult to predict inertial loading directions in real-world crashes, test requirements in the 3 principal directions would suffice to ensure that the latch would be unlikely to fail in many of the crash modes. In view of this, NHTSA concludes that 3 test load directions are adequate to ensure acceptable latch performance in the various loading conditions experienced in real world crashes. NHTSA has decided, therefore, to require inertia loads of 30g be applied to back door latch systems in the 3 directions specified in Load Tests One, Two, and Three.

(5) Abbreviated Requirements for Back Doors

As stated in the summary of current provisions in section (I(a)) above, Standard No. 206 specifies a set of full requirements for regular side doors and abbreviated requirements for cargo-type and sliding side doors. Ford Motor Company (Ford) and Isuzu argued that back doors and hatches are used primarily for cargo area access rather than for passenger access, therefore the abbreviated requirements applicable to hinged cargo-type and sliding side doors would likewise be appropriate for all back doors.

The agency has evaluated this suggestion and disagrees that only the abbreviated requirements should be applicable to all back doors. The agency's intent in this rulemaking action is to prevent the back door ejection of occupants by upgrading the latch/striker and hinge systems of back doors to reduce the incidence of unintended back door opening. NHTSA believes that this cannot be achieved by applying only the abbreviated requirements of Standard No. 206 to all back doors. Accordingly, the agency has decided that the primary latches of all back doors must meet the requirements of both the fully latched and the secondary latched positions. Auxiliary latches, if any, defined as a latch other than the primary latch of a multi-latch door system, need only meet the abbreviated requirements, that is, the requirements for the fully latched position (they need not have a secondary latch position or meet the strength requirements for the secondary latch).

On a related issue, AAMA commented that certain vehicle models are manufactured with more than one back door latch/striker set. AAMA suggested that, in that situation, it should be sufficient that one latch include both a fully latched and a secondary latched position while the others, designated as auxiliary latches, have a fully latched position only. NHTSA considers the AAMA suggestion to be reasonable because typically, the primary latch/striker assembly directly connects the left and the right segments of a double cargo type door system to each other while the auxiliary latches connect one segment of the door system to the roof and/or floor of the vehicle. In a crash, door openings would occur as a result of primary latch failure. Thus, even if the auxiliary latch(es) failed, the door segments could still be held together by the primary latch set because the loading on the different latches is in different directions. For that reason, simultaneous failure of the primary and auxiliary latches is highly unlikely, occurring only in very severe crashes. Accordingly, only the primary latch system in multiple-latch door systems is required to meet both the fully latched and the secondary latched position requirements of Standard No. 206. Auxiliary latches are required to meet the fully latched requirements only. They are not required to have a secondary latch position or meet the strength requirements for a secondary latch. "Primary" and "auxiliary" latches