

II. Harmonization with Other Standards

Harmonization of manufacturing standards across national and international borders is immensely important to both industry and consumers who wish to freely provide and access products from other countries. In Europe, the European Common Market (EC) uses the CEN standards to enforce harmonization. The International Standards Organization (ISO) operates on a world-wide scope and accepts participants from any country that wishes to be a participating or observing member. CEN, in general, accepts ISO standards as the foundation for any EC standards. In North America, there is not an official mechanism to facilitate harmonization between countries. Therefore active participation in ISO by North American industry is the most logical vehicle to facilitate harmonization of standards between countries and access to world-wide markets.

Regarding wheelchair transportation safety, standards development must be based on the recognition that wheelchair occupant safety is a systems problem. That is the scope of the solution, and therefore the standards, most ultimately include the wheelchair, the wheelchair securement device, the occupant restraint, and the vehicle. In addition to the work in the USA on RP-SAE J2249, parallel efforts have taken place in Canada (Z605) and are currently underway in the International Standards Organization (ISO) in documents 10542, parts 1-5. In Australia, a standard for wheelchair tiedowns and occupant restraints has been in existence in Australia since 1987 (AS-2942). The initial version of the Australian standard served as a launching point for the SAE standard, which then provided input to both the Canadian and ISO versions of this standard. Although AS-2942 was updated in 1994, it continues to use significantly different impact test methods to those in SAE J2249, CSA Z605, and ISO 10542.

Similarly, parallel efforts have been initiated on wheelchairs and transport vehicles. ANSI/RESNA WC/19, *Wheelchairs for Use in Motor Vehicles*, specifies design and performance requirements for wheelchairs designed for occupancy in a motor vehicle when secured by a four-point strap-type tiedown in a forward-facing orientation. It is scheduled for implementation in mid 1999. In Canada, the comparable standard, Z604, was completed in February, 1996 but is now being upgraded for improved compatibility with ANSI/RESNA WC/19. Similarly, ISO 7176/19, *Wheelchairs -Wheeled Mobility Devices for Use in Motor Vehicles*, is scheduled for completion in the spring of 2000. Diligent efforts to achieve harmonization with these other efforts have been made by the U.S. teams. Although differences remain, harmonization has been achieved for the critical dynamic test requirements in each case, in that, like the standards for wheelchair tiedowns and occupant restraints systems, all standards require wheelchairs to be tested under 48-kph, 20-G impact condition.

For vehicles, a parallel effort has taken place but unfortunately harmonization has not occurred as the timing of development and the

people involved are largely different. In the USA, in addition to federal motor vehicle safety standards (FMVSSs), which govern the safety requirements for all OEM motor vehicles, including school buses, the American with Disabilities Act (ADA) specifies requirements for wheelchair access, on-board wheelchair station space, and wheelchair securement and occupant restraint for public transit vehicles. For modified private vehicles, such as personally-licensed vans, other SAE Task Groups within the ADSC are actively developing recommended practices for vehicle modifications, including hand controls, ramps and lifts, and structural modifications. In Canada, D-409 governs the safety design of small transport vehicles, such as school buses and paratransit vehicles. In ISO, TC-XXX, WG-4 is developing a similar standard for small transit vehicles. In general, however, and unfortunately, there is little harmonization between the requirements of these vehicle standards, and the requirements for WTORS as specified in SAE J2249, CSA Z605, and ISO 10542.

Appendix A of this document contains a listing of these interrelated standards and their current development status. Since all of the documents are reviewed and revised approximately every five year, it is important to obtain the most current version before attempting to conform to any of contained requirements. As each of these standards is updated, it is also hoped that improvements in harmonization between them will be achieved.