

(R) Vehicle and Control Modifications for Drivers with Physical Disabilities Terminology

1. **Scope**—The terms included in this SAE Information Report have been collected during the development of SAE documents related to standards for the adaptation of vehicles for use by persons with physical disabilities. It includes only those terms that are pertinent to the adaptive devices discipline, leaving to other authorities more common automotive engineering terms. Where several terms have a common meaning in the practice, the Terminology Task Force has attempted to select the most appropriate term.

The Terminology Task Force recognizes that there will be a need to expand and update current terminology as advances in the industry occur, and as related standards documents are completed. Accordingly, they will continue to develop and maintain this document to reflect those changes.

- 1.1 **Purpose**—The purpose of this document is to define those terms which apply to adaptive devices utilized in vehicles by persons with physical disabilities in order to facilitate and encourage:
- Utilization of consistent and understandable terminology in the preparation of related standards documents, and;
 - Communication between individuals from diverse backgrounds involved in this field.

2. **References**

- 2.1 **Applicable Publications**—The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

- 2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J140a—Seat Belt Hardware Test Procedure
SAE J384—Motor Vehicle Seat Belt Anchorages—Test Procedure
SAE J1138—Design Criteria—Driver Hand Controls Location for Passenger Cars, Multipurpose Passenger Vehicles, and Trucks, (10 000 GVW and Under)
SAE J1903—Automotive Adaptive Driver Controls, Manual
TSB 002—Preparation of SAE Technical Reports

- 2.1.2 OTHER PUBLICATIONS

Australian Standard AS 2942: 1987

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3. Definitions

- 3.1 Accessory Controls**—Secondary Controls is preferred term.
- 3.2 Access Path**—The minimum unobstructed area between horizontal and vertical structures through which a person must pass while entering or exiting a vehicle.
- 3.3 Accumulator Tank**—See Vacuum Tank.
- 3.4 Actuator**—A transducer whose output is a force or torque and which usually involves motion. (SAE J1213.)
- 3.5 Adaptive Driving Equipment**—A piece of equipment designed to enable a person with a physical disability to operate a motor vehicle.
- 3.6 ADED**—Designation for Association of Driver Rehabilitation Specialists.
- 3.7 Aftermarket**—Neither included nor available as a component, structure, or system on the OEM vehicle. (SAE J1725.)
- 3.8 Anchorage**—An assembly of hardware and fittings by which loads are transferred directly from the wheelchair tie-down to the vehicle or from the occupant restraint to the vehicle, wheelchair, wheelchair tie-down, or vehicle seat base. (SAE J2249.)
- 3.9 Anchor Point**—An area on a vehicle, wheelchair, wheelchair tie-down, or vehicle seat base to which an anchorage is attached. (SAE J2249.)
- 3.10 ANSI**—An abbreviation for American National Standards Institute.
- 3.11 Anthropometric Test Device (ATD)**—An articulated analog of the human body used to simulate a motor-vehicle occupant in a crash environment. (SAE J2249.)
- 3.12 ASTM**—An abbreviation for American Society of Testing and Materials.
- 3.13 Automatic Tie-Down**—A wheelchair securement device whose engagement is initiated and completed as a result of the wheelchair rolling into the proper position. (SAE J2249.)
- 3.14 Automatic Lockdown**—Preferred term is Automatic Tie-Down.
- 3.15 Automatic-Locking Retractor**—A retractor incorporating adjustment by means of a positive self-locking mechanism which is capable, when locked, of withstanding restraint forces. (SAE J1834.)
- 3.16 Automotive Adaptive Device**—Preferred term is Adaptive Driving Equipment.
- 3.17 AWS**—An abbreviation for American Welding Society.
- 3.18 Back Restraint**—A device or system intended to limit rearward movement of the occupant by providing support to the back of the torso. (SAE J2249.)
- 3.19 Backup**—Any device which duplicates or otherwise fulfills the function of another if the latter fails or becomes inoperable.
- 3.20 Backup Actuator**—A motor, bellows, or other similar device which provides functional redundancy to the primary or principal actuator in the event of primary actuator failure.

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- 3.21 Backup Logic**—An electrical, electronic, or mechanical device which provides functional redundancy to the primary or principal actuator in the event of primary actuator failure.
- 3.22 Backup Power**—A battery, pneumatic tank and/or pump, or hydraulic accumulator and/or pump which provides functional redundancy to the primary power that operates the powered gas/brake control system.
- 3.23 Belt**—A length of energy-absorbing webbing material used as a part of an occupant restraint. (SAE J2294.)
- 3.24 Booster**—Any device for increasing power or output.
- 3.25 Brake Pedal Reserve**—The distance measured from the under surface of the pedal to the floorboard along a line normal to the plane of the brake pedal when the brake pedal has been depressed to the point of lockup or activation of the anti-lock brake system.
- 3.26 Brake System**—A combination of one or more brakes and the related means of operation and control. (SAE J656.)
- 3.27 Captive**—Permanently connected to an assembly. (SAE J2249.)
- 3.28 Car Top Carrier**—An integrated wheelchair lifting and storage system for a lateral folding wheelchair that is usually mounted on the roof of a vehicle.
- 3.29 Certified Welder**—A welder who has been certified to the appropriate AWS standards related to vehicle modification. (SAE J1725.)
- 3.30 Common Hand Tools**—Hand-held devices, available for purchase in consumer stores, that are used to perform common mechanic and electrical repairs. (SAE J1903.)
- 3.31 Crush Zone**—In the event of a collision, that portion of a vehicle body designed for transforming kinetic energy into deformation work for the purpose of reducing deceleration and deformation of the vehicle interior. (SAE J1725.)
- 3.32 Deep Dish Steering Wheel**—A steering wheel where the rim of the wheel is closer to the driver than the original steering wheel. (SAE J2249.)
- 3.33 Diaphragm**—A flexible disc or membrane which deflects under pneumatic or hydraulic pressure and in do so, imparts linear motion to a centrally located rod or other form of mechanical actuator, as in an air or brake carburetor.
- 3.34 Docking-Type Tie-down**—A wheelchair securement device whose engagement is initiated as a result of the wheelchair rolling into the proper position. (SAE J2249.)
- 3.35 Driver's Console**—A panel on which controls are located for convenient operation by an individual with limited upper extremity capability. (SAE J2094.)
- 3.36 Driver's Compartment**—The space inside the vehicle occupied by the driver and containing all primary and secondary controls. (SAE J1903.)
- 3.37 Driving Pan**—See Floor Modifications.
- 3.38 Electromagnetic Interference (EMI)**—A condition in which sources of electromagnetic activity interfere with the function of equipment, subsystems, and systems. Also the condition in which such equipment, subsystems, and systems interfere with or produce unwanted electromagnetic activity, or in which different sources of electromagnetic activity interact with one another with consequent degradation of performance.