3304-6-01 Definitions.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in rules 3304-6-01 to 3304-6-15 of the Administrative Code, see the "Incorporation by Reference" section at the end of this rule.]

The following definitions apply to rules 3304-6-01 to 3304-6-15 of the Administrative Code.

(A) "Actuator" means a mechanical device used to cause movement.

(B) "ADED" means the association for driver rehabilitation specialists, formerly named the association of driver educators for the disabled.

(C) "Aftermarket" means components used to modify a motor vehicle after the vehicle is purchased from the OEM.

(D) "Alterer" means someone who takes a completed vehicle out of compliance from OEM and recertifies it for first retail sale.

(E) "Anchorage" means a method of providing a secure hold and most commonly refers to seat-belt assembly anchorages pursuant to federal motor vehicle safety standards ("FMVSS") 210.

(F) "Automotive adaptive device" means a piece of equipment designed to enable a person with a disability to operate an automotive vehicle.

(G) "Automotive adaptive equipment" means any device or mechanism which permits a person with a disability to gain or regain driving capability and use a vehicle safely and independently.

(H) "Backing Plate" means a reinforcement designed to relieve stress and strengthen a specific area of a modification.

(I) "Backup System" means a reserve or substitute source of energy in the event of a failure in the primary equipment.

(J) "Bezel" means the trim ring around a gauge or control.

(K) "Body Mount" means a device insulating and/or securing the vehicle floor from and to the motor vehicle frame. Body mounts are an integral component of a body on frame vehicle.

(L) "Booster" means an auxiliary device for increasing force, power, pressure or effectiveness.

(M) "Car Top Carrier" means an integrated wheelchair lift using a system of chains, cables or straps to fold, raise and lower a manual wheelchair to a storage compartment on the roof of a vehicle.

(N) "Certified," when referring to an individual, means an individual who has been trained in a specific skill or field and has been awarded a certificate in recognition of his/her demonstrated proficiency in that skill or field. "Certified," when referring to a product, means the written, signed

statement of a supplier attesting that a product meets a specified standard of construction, performance, method of processing, etc.

(O) "Certified Driver Rehabilitation Specialist" (CDRS) means an individual who has obtained the necessary knowledge base and experience in the field of driver rehabilitation to successfully acquire and maintain certification.

(P) "Certified Welder" means a person qualified to perform welds using welding methods in accordance with established recommended processes by the American welding society or the Canadian welding bureau.

(Q) "Control interface" means a component (such as a knob, level, tri-pin) that is used to actuate a control.

(R) "Converter" means a company that is engaged in the process of modifying minivans, to lower the originally manufactured floor of the vehicle.

(S) "Crashworthiness" means the degree to which the interior of a vehicle, devices installed in the passenger compartment, and the structure of the vehicle as a whole are designed to minimize injury to an occupant in the event of a crash.

(T) "Dash Panel" (previously known as firewall) means a partition separating the engine compartment from the passenger compartment in a vehicle.

(U) "Driver rehabilitation specialist" means a qualified individual who measures a person's ability to safely operate a vehicle, teaches that individual to operate the equipment, and prescribes the automotive adaptive equipment necessary to permit a person with a disability to drive safely and independently.

(V) "Electromagnetic Interference" (EMI) means the disruption of operation of an electronic device when it is in the vicinity of an electromagnetic field (EM field) in the radio frequency (RF) spectrum that is caused by another electronic device.

(W) "Engineering Practices" means terminology referring to the process of analyzing and/or evaluating proper technical procedures, and usually refers to an existing process or set of standards.

(X) "Final Stage Manufacturer" means a company which performs manufacturing operations on an incomplete vehicle such that it becomes a completed vehicle.

(Y) "Flat Floor" means a smooth stable surface, replacing or covering the OEM corrugated flooring.

(Z) "Gross Axle Weight Rating" (GAWR) means the value specified by the vehicle manufacturer as the maximum weight allowable when a single axle of a fully loaded vehicle (all occupants, all cargo, full fuel tank) is weighed.

(AA) "Gross Vehicle Weight Rating" (GVWR) means the value specified by the manufacturer as the maximum weight allowed when a fully loaded vehicle (all occupants, all cargo, full fuel tank) is weighed.

(BB) "H-Point" means the mechanically hinged hip point of a mannequin that simulates the actual pivot center of the human torso and thigh.

(CC) "Heat Shield" means an insulating shield installed between the exhaust system, catalytic converter, muffler and floor of the motor vehicle to minimize heat transfer to other components and into the vehicle's interior compartment.

(DD) "High tech van" means a category of vehicle modification currently consisting of three general control configurations: unilever driving systems

(joysticks), multi-axis remote steering wheel controls, and hydraulic/mechanical unilever driving systems.

(EE) "Horizontal Steering" means a replacement steering column that relocates the steering wheel to a horizontal plane to provide access for a driver in a wheelchair. The column is electrically powered up and down. It is not to be used in conjunction with an air bag.

(FF) "Hydraulic" means operated by the resistance offered or the pressure transmitted when a quantity of fluid (oil or water) is forced through a comparatively small orifice or through a tube.

(GG) "Incomplete Vehicle Manufacturer" means a person who manufactures an incomplete vehicle by assembling components, none of which taken separately constitutes a complete vehicle, pursuant to national mobility equipment dealer association guidelines (NMEDA).

(HH) "Inflatable restraint system" means a system consisting primarily of sensor(s), diagnostics, inflator(s), and module(s) which inflates a bag in certain vehicle crashes to assist in preventing the occupant(s) from impacting the interior frontal portion of the vehicle.

(II) "Integrated circuit" means a tiny complex of electronic components and their connections that is produced in or on a single slice of material such as silicon.

(JJ) "Kneeling System" means a feature commonly found on lowered-floor minivans that allows a lower floor-to-ground height, thus decreasing the angle of a ramp entry system.

(KK) "Left foot accelerator" means a device installed in a motor vehicle to the left of the brake pedal that allows the operation of the accelerator pedal by the left foot of the driver.

(LL) "Lift Platform" means the area where the wheelchair is parked while raised and lowered during the operation of the lift.

(MM) "Low-effort Braking" means a modification that reduces the braking force to seven to eleven foot-pounds.

(NN) "Low-effort steering system" means a steering system modification wherein the effort to steer the vehicle is reduced.

(OO) "Magnetic Switch" means a switch that is activated with a magnet.

(PP) "Manual Release" means a pin, lever, handle or other device to allow for a hand or foot operated release in the event of a power failure.

(QQ) "Maximum Reduced Effort Steering" (previously known as zero effort steering) means the minimum effort needed to rotate a steering wheel based upon a specific vehicle chassis.

(RR) "Minimal Effort Braking" means a modification that reduces the braking force below seven foot-pounds.

(SS) "Original equipment manufacturer" (OEM) means the original automotive manufacturer producing the vehicle such as Ford, General Motors, DaimlerChrysler, etc.

(TT) "Parallel system" refers to adaptive driving modifications and means a system that controls a function without interference from the OEM control. As an example, a set of manual hand controls is installed parallel so that the driver with a disability can use the hand operated control, but the gas and

brake pedals are still active and available for use by a driver who is not disabled.

(UU) "Passenger Lowered Floor" means the lowering of a motor vehicle floor extending from the passenger compartment to the front of the rear wheel wells, excluding the driver's compartment.

(VV) "Pedal Extensions" means devices mounted to the brake pedal and/or accelerator pedal for use by a short stature driver.

(WW) "Pedal Guard" means a device installed in a motor vehicle to prevent access to the accelerator pedal and/or brake pedal.

(XX) "Platform Lift" means a wheelchair lift having sufficient area to accommodate an occupied wheelchair in a vertical position; this includes vertical platform lifts, rotary lifts and under vehicle lifts (UVL).

(YY) "Pneumatic" means using the power of compressed or evacuated air or other gas to actuate or accomplish some function.

(ZZ) "Powered seat base" sometimes referred to as a transfer seat base, means an electrically powered base mounted between the floor of the vehicle and the OEM or aftermarket seat. This seat base may be moved in combinations of needed directions that includes a four way (up, down, fore and aft), six way (up, down, fore, aft, swivel left and swivel right), and eight way (up, down, fore, aft, swivel left, swivel right, tilt forward and tilt back).

(AAA) "Powered Gas/Brake Control System" means a device that uses power from an energy source of the vehicle to supplement the force and motions made by the driver to control acceleration, velocity and braking of a vehicle.

(BBB) "Powered Gearshift Selector" means a servo control that uses a switching device to activate the gear selection.

(CCC) "Powered Parking Brake" means an actuation device to set and release the OEM parking brake electrically.

(DDD) "Powered Pedals" means OEM pedals that have a power actuator to move the pedals closer to or further from the driver.

(EEE) "Primary controls" means the fundamental controls of the vehicle (i.e., acceleration, braking and steering).

(FFF) "Processor" means any device which performs logical operations on information or input or otherwise operates on data, that is, essentially a dedicated purpose computer.

(GGG) "Proof Load" means the weight of a stationary load for the purpose of testing.

(HHH) "Push/Pull Hand Controls" means a device to operate the accelerator and brake pedals by hand using a push down and forward toward the floor to brake and a pull to accelerate.

(III) "Push/Right Angle Pull Hand Controls" means a device to operate the accelerator and brake pedals by hand using a push forward toward the floor to brake and a pull down toward the lap to accelerate.

(JJJ) "Push/Twist Hand Controls" means a device to operate the accelerator and brake pedals by hand using a push down and forward towards the floor to brake and a twist of the handle (much like a motorcycle) to accelerate.

(KKK) "Quick Release" means a method to remove or disengage without the use

of tools.

(LLL) "Raised Entry Doors" means the OEM door(s) are modified to extend the height of the door(s) for entering and exiting the vehicle.

(MMM) "Raised Fiberglass Roof" means the OEM roof is removed and replaced with an aftermarket fiberglass roof to allow headroom inside the van.

(NNN) "Remote Switches" means the relocation of controls from the OEM location for ease of operation by a driver with a disability.

(OOO) "Removable Seat Base" means a device or modification that allows a factory seat to be removed or repositioned while maintaining OEM specifications.

(PPP) "Roof Support Structure" means a structure that prevents or limits the collapse of the motor vehicle roof.

~~(QQQ) "RTSU" means the rehabilitation technology support unit of the rehabilitation services commission (RSC).~~

~~(RRR)~~ (QQQ) "Servo" means a power device which amplifies control forces and automatically corrects the output in proportion to input.

~~(SSS)~~ (RRR) "Servo Controls" means controls powered by an auxiliary source (e.g., electric, hydraulic, or vacuum diaphragm) reducing the necessary amount of strength needed by the driver.

~~(TTT)~~ (SSS) "Single point failure" means any failure that results in a hazard or that otherwise adversely affects the safe operation of the system.

~~(UUU)~~ (TTT) "Specialty Vehicle" means a vehicle, other than a full-size van or a minivan, available to the public with structural or other modifications that do not conform to the specifications pursuant to rules 3304-6-01 to 3304-6-15 of the Administrative Code.

~~(VVV)~~ (UUU) "Steering Column Extension Add On" means a spacer added between the steering wheel and steering column. This spacer brings the steering wheel closer to the driver.

~~(WWW)~~ (VVV) "Steering Column Extension Integral" means a certified welder cuts the original steering column and welds a spacer into the column to bring the steering wheel closer to the driver.

~~(XXX)~~ (WWW) "Steering devices" means a device attached to the steering wheel which allows rotation of the steering wheel with one hand. The following steering wheel devices may be used:

(1) Knob: A steering wheel device with a knob type grip.

(2) Tri pin: A steering wheel device with three upright pins to stabilize the hand and wrist of the driver.

(3) "U" or "V": A steering wheel device with two vertical pins to stabilize the hand of the driver.

(4) Cuff: A steering wheel device with a curved oval shape that fits around the hand of the driver.

(5) Amputee: A steering wheel device that integrates with a driver's prosthesis.

(6) Custom: A steering wheel device designed by the driver rehabilitation specialist and fabricated by the vendor when the standard steering device is ineffective.

~~(YYY)~~ (XXX) "Structural Reinforcement for Tops" means a structure that prevents or limits the collapse of the motor vehicle roof and sides.

~~(ZZZ)~~ (YYY) "Subsystem" means a combination of parts which performs an operational function within a system and is usually a major subdivision of that system.

~~(AAAA)~~ (ZZZ) "Switch" means a device used to open or close an electrical circuit. Switches may be adapted with a variety of interfaces to suit the consumer's needs, e.g., loop, ring, hook, t-handle, or other device that is controlled as follows:

(1) Push/pull: controlled with an in/out motion;

(2) Rocker: controlled with a pivoting motion;

(3) Rotary: controlled with a clockwise/counter-clockwise motion;

(4) Toggle switch: controlled by a lever that moves through an arc motion.

~~(BBBB)~~ (AAAA) "Transfer Seat Base" see powered seat base as defined in paragraph (ZZ) of this rule.

~~(CCCC)~~ (BBBB) "Turn Signal Extension" means a device that attaches to the OEM turn signal lever to allow a different location for activation.

~~(DDDD)~~ (CCCC) "Unilever driving systems" or "joysticks" mean high tech driving systems that are used to apply throttle, brake, and steering inputs to the vehicle using a single control handle.

~~(EEEE)~~ (DDDD) "Unloaded Vehicle Weight" means the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle (fuel tank, etc) but without cargo, any occupant or accessories ordinarily removed from the vehicle when not in use.

~~(FFFF)~~ (EEEE) "Unoccupied" means a seating position in a vehicle not designed for use while the vehicle is in motion.

~~(GGGG)~~ (FFFF) "Upper Torso Positioning Belt" means a belt system designed to prevent excessive upper torso and/or shoulder movement.

~~(HHHH)~~ (GGGG) "Vacuum gas and brake" (VGB) means a non-manual gas/brake control system powered by negative pressure; see "Servo" as defined in paragraph (RRR) of this rule.

~~(IIII)~~ (HHHH) Incorporation by reference. This chapter includes references to certain matter or materials. The text of the incorporated materials is not included in the regulations contained in this chapter. The materials are hereby made a part of the regulations in this chapter. For materials subject to change, only the specific version specified in the regulations are incorporated. Material is incorporated as it exists on the effective date of this rule. Except for subsequent annual publication of existing (unmodified) Code of Federal Regulation compilations, any amendment or revision to a referenced document is not incorporated unless and until this rule has been amended to specify the new dates.

(1) Availability. The materials incorporated by reference are available as

follows:

(a) Americans with Disabilities Act accessibility guidelines (ADAAG), Information and copies may be obtained by writing to: "United States Access Board, 1331 F. Street, NW, Suite 1000, Washington, D.C. 20004-1111," by calling 1-800-872-2253, by e-mailing ta@access-board.gov, or by visiting their website at http://www.access-board.gov/adaag/html/adaag.htm.

(b) American welding society (AWS). Information and copies of relevant standards may be ordered by writing to: "The AWS Store, Customer Service, 2671 W. 81st Street, Hialeah, Florida 33016," by calling 1-305-826-6193, by e-mailing customer.service@awspubs.com, or by visiting their website at https://www.awspubs.com

(c) Code of Federal Regulations (CFR). Information and copies may be obtained by writing to: "Superintendent of Documents, Attn: New Orders, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954." The full text of the C.F.R. is also available in electronic format at http://www.gpoaccess.gov/cfr/index.html. The C.F.R. compilations are also available for inspection and copying at most public libraries and "The State Library of Ohio."

(d) Military standards (MIL-STD). Information and copies of relevant standards may be obtained from the acquisition streamlining and standardization information system (ASSIST), a database used by the department of defense to manage document information. The database can be accessed by visiting their website at http://assist.daps.dla.mil/quicksearch.

(e) National mobility equipment dealer association (NMEDA). Information and copies of relevant documents may be obtained by writing to: "NMEDA, 3327 W. Bearss Ave., Tampa, Florida 33618," by calling 1-800-833-0427, or by visiting their website at ~~www.nmeda.org~~ www.nmeda.com .

(f) Society of automotive engineers (SAE). Information and copies of relevant automotive engineering standards may be ordered by writing to: "SAE Customer Service, 400 Commonwealth Drive, Warrendale, Pennsylvania 15096-0001, by calling 1-877-606-7323, or by visiting their website at http://store.sae.org.

(2) Incorporated materials:

(a) 49 C.F.R. 571.101: "Controls and Displays"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(b) 49 C.F.R. 571.102: "Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(c) 49 C.F.R. 571.104: "Windshield Wiping and Washing Systems"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(d) 49 C.F.R. 571.106: "Brake Hoses"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(e) 49 C.F.R. 571.108: "Lamps, Reflective Devices and Associated Equipment"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(f) 49 C.F.R. 571.110: "Tire Selection and Rims"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(g) 49 C.F.R. 571.113: "Hood Latch Systems"; as published in the October 1,

~~2006~~ 2011 Code of Federal Regulations.

(h) 49 C.F.R. 571.114: "Theft Protection"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(i) 49 C.F.R. 571.118: "Power-Operated Window, Partition, and Roof Panel Systems"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(j) 49 C.F.R. 571.124: "Accelerator Control Systems"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(k) 49 C.F.R. 571.135: "Passenger Car Brake System"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(l) 49 C.F.R. 571.201: "Occupant Protection in Interior Impact"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(m) 49 C.F.R. 571.203: "Impact Protection for the Driver from the Steering System Control"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(n) 49 C.F.R. 571.204: "Steering Control Rearward Displacement"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(o) 49 C.F.R. 571.206: "Door Locks and Door Retention Components"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(p) 49 C.F.R. 571.207: "Seating Systems"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(q) 49 C.F.R. 571.208: "Occupant Crash Protection"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(r) 49 C.F.R. 571.209: "Seat Belt Assemblies"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(s) 49 C.F.R. 571.210: "Seat Belt Assembly Anchorages"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(t) 49 C.F.R. 571.214: "Side Impact Protection"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(u) 49 C.F.R. 571.216: "Roof Crush"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(v) 49 C.F.R. 571.225: "Child Restraint Anchorage Systems"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(w) 49 C.F.R. 571.301: "Fuel System Integrity"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(x) 49 C.F.R. 571.302: "Flammability of Interior Materials"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(y) 49 C.F.R. 571.403: "Platform Lift Systems for Motor Vehicles"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(z) 49 C.F.R. 571.404: "Platform Lift Installations in Motor Vehicles"; as

published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(aa) 49 C.F.R. 595: "Make Inoperative Exemptions"; as published in the October 1, ~~2006~~ 2011 Code of Federal Regulations.

(bb) "Americans with Disabilities Act Accessibility Guidelines ~~for Buildings and Facilities~~ "; as amended ~~through 2002~~ 2010 .

(cc) AWS D1.1/D1.1M: "Structural Welding Code - Steel"; as published in ~~2006~~ 2010 .

(dd) AWS D10.7M/D10.7: "Recommended Practices for Gas Shielded Arc Welding of Aluminum and Aluminum Alloy Pipe"; as published in ~~2000~~ 2008 .

(ee) MIL-STD 1472F: "Human Engineering Design Criteria for Military Systems, Equipment, and Facilities"; as published on Dec. 5, 2003.

(ff) NMEDA "Guidelines"; as ~~approved on December 20, 2007~~ in the 2012 Edition .

~~(gg) NMEDA "Raised Roof and Floor - Ford E150 - Guidelines Manual"; as published in March 2000.~~

~~(hh) NMEDA "Six-inch Lowered Floor Manufacturing Guidelines for 2004/2005 Ford E250 and E350"; as published in 2004.~~

~~(ii) NMEDA "2005 Lowered Floor Guidelines for General Motors Savana"; as published in 2005.~~

~~(jj) NMEDA "Lowered Floor Ford - E150 and E250 - Guidelines Manual"; as published in March 2000.~~

~~(kk)~~ (gg) SAE J140: "Seat Belt Hardware Test Procedure"; as published in 1995.

~~(ll)~~ (hh) SAE J188: "Power Steering Pressure Hose"; as published in 2003.

~~(mm)~~ (ii) SAE J189: "Power Steering Return Hose"; as published in 2003.

~~(nn)~~ (jj) SAE J190: "Power Steering Pressure Hose - Wire Braid"; as published in 2007.

~~(oo)~~ (kk) SAE J191: "Power Steering Pressure Hose - Low Volumetric Expansion Type"; as published in 2003.

~~(pp)~~ (ll) SAE J383: "Motor Vehicle Seat Belt Anchorages Design Recommendations"; as published in 1995.

~~(qq)~~ (mm) SAE J384: "Motor Vehicle Seat Belt Anchorages-Test Procedure"; as published in 1994.

~~(rr)~~ (nn) SAE J385: "Motor Vehicle Seat Belt Anchorages"; as published in 1995.

~~(ss)~~ (oo) SAE J514: "Hydraulic Tube Fittings"; as published in ~~2004~~ 2012 .

~~(tt)~~ (pp) SAE J516: "Hydraulic Hose Fittings"; as published in ~~2005~~ 2011 .

~~(uu)~~ (qq) SAE J517: "Hydraulic Hose"; as published in ~~2007~~ 2010 .

~~(vv)~~ (rr) SAE J518: "Hydraulic Flanged Tube, Pipe, and Hose Connections 4-Bolt Split Flange Type"; as published in 1993.

~~(ww)~~ (ss) SAE J1138: "Design Criteria - Driver Hand Controls Location for Passenger Cars, Multipurpose Passenger Vehicles and Trucks, (10,000 GVW and Under)"; as published in ~~1999~~ 2009 .

~~(xx)~~ (tt) SAE J1139: "Direction of Motion Stereotypes for Automotive Hand Controls"; as published in ~~1999~~ 2009 .

~~(yy)~~ (uu) SAE J1176: "External Leakage Classifications for Hydraulic System"; as published in 1986.

~~(zz)~~ (vv) SAE J1211: ~~"Recommended Environmental Practices for Electronic Equipment Design"~~ "Handbook for Robustness Validation of Automotive Electrical Modules ; as published in ~~1978~~ 2009 .

~~(aaa)~~ (ww) SAE J1273: "Recommended Practices for Hydraulic Hose Assemblies"; as published in ~~2004~~ 2009 .

~~(bbb)~~ (xx) SAE J1292: ~~"Automotive, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring"~~ "Automobile and Motor Coach Wiring" ; as published in ~~1981~~ 2008 .

~~(ccc)~~ (yy) SAE J1402: "Automotive Air Brake Hose and Hose Assemblies"; as published in ~~2006~~ 2010 .

~~(ddd)~~ (zz) SAE J1403: "Vacuum Brake Hose"; as published in 2005.

~~(eee)~~ (aaa) SAE J1725: "Structural Modification for Personally Licensed Vehicles to Meet the Transportation Needs of Persons with Disabilities"; as published in 1999.

~~(fff)~~ (bbb) SAE J1903: "Automobile Adaptive Driver Controls, Manual"; as published in 1997.

~~(ggg)~~ (ccc) SAE J2094: "Vehicle and Control Modifications for Driving with Physical Disabilities Terminology"; as published in 2001.

~~(hhh)~~ (ddd) SAE J2249: "Wheelchair Tie-down and Occupant Restraint Systems for Use in Motor Vehicles"; as published in 1999.

~~(iii)~~ (eee) SAE J2388: "Secondary Control Modifications"; as published in ~~2002~~ 2011 .

~~(jjj)~~ (fff) SAE J2588: "Remote Steering Control Systems"; as published in 2004.

~~(kkk)~~ (ggg) SAE J2603: "Recommended Practice Powered Gas/Brake Control Systems Information Report"; as published in 2007.

~~(lll)~~ (hhh) SAE J2604: "Recommended Test Practice Powered Gas/Brake Control Systems Information Report"; as published in 2007.

~~(mmm)~~ (iii) SAE J2671: "Reduced Effort Brakes and Reduced Effort Vacuum Powered Brake Backup Systems"; as published in 2004.

~~(nnn)~~ (jjj) SAE J2672: "Reduced Effort Power Steering and

Power Steering Backup Systems"; as published in 2004.

~~(ooo)~~ (kkk) SAE TSB002: "Preparation of SAE Technical Reports"; as published in 1992.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 06/03/2002, 08/04/2008

3304-6-02 Motor vehicle modifications, scope and limitations.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) ~~RSC~~ OOD may purchase automotive adaptive equipment and motor vehicle modifications in whole or in part, pursuant to the vocational rehabilitation program, as described in Chapter 3304-2 of the Administrative Code, for a vehicle titled to a consumer or an immediate family member. ~~RSC~~ OOD does not purchase vehicles in whole or in part.

(B) Rules 3304-6-01 to 3304-6-15 of the Administrative Code shall apply to all devices, mechanisms, and additions to a vehicle that are or can be installed as an after-manufacturer purchase item, including devices and provisions for entering and leaving a vehicle, for operating a vehicle or the components of a vehicle, and for restraining the driver and passengers and equipment associated with those persons, such as wheelchairs, canes, and walkers, and modifications to structural members and existing subsystems of a vehicle in order to affect adaptation for the driver or passenger, including but not limited to electrical, mechanical, and control and displays.

(C) Modifications excluded from coverage under these rules are the installation of adaptive equipment or modifications to any vehicle not defined as a passenger car in paragraph (E) of section 4501.01 of the Revised Code and repairs to standard OEM or adaptive equipment.

(D) ~~RSC~~ OOD shall only fund vehicle modifications if they are necessary to enable a consumer to reach or maintain the employment outcome as defined in his/her individualized plan for employment and when the consumer complies with the following requirements:

(1) The consumer participates in a driver evaluation provided by a qualified driver rehabilitation specialist (i.e., qualified through the association ADED CDRS or equivalent or on CDRS eligible track) approved by ~~RSC~~ OOD ;

(2) The consumer completes driver training prescribed by the driver rehabilitation specialist. Such training shall be provided by a qualified driver trainer who meets the requirements as defined in Chapter 4508. of the Revised Code and those of the department of public safety, as defined in Chapter 4501-7 of the Administrative Code, and who has been approved by ~~RSC~~

OOD ;

(3) The consumer demonstrates competency with adaptive driving equipment equivalent to that recommended by the driver rehabilitation specialist by procuring a valid driver's license with appropriate restrictions as required by section 4507.14 of the Revised Code or, for consumers who have a restricted driver's license, by obtaining a written certification of driver competency from a driver rehabilitation specialist;

(4) As it relates to modifications of transport vehicles, i.e., a vehicle for transporting a non-driver consumer that uses a wheelchair, the consumer participates in a vehicle modification consultation provided by a qualified driver specialist approved by ~~RSC~~ OOD ; and

(5) The consumer signs a vehicle modification consumer agreement form.

(E) A consumer is only eligible to receive a replacement modification for vehicle modifications provided by ~~RSC~~ OOD after seven years, or after having accumulated seventy thousand miles, from the date of the final inspection of the previous modification. The replacement modification must be necessary to enable a consumer to reach or maintain the employment outcome as defined in his/her individualized plan for employment. Under the following conditions and at the discretion of ~~the RTSU of RSC~~ OOD , ~~RSC~~ OOD may grant exceptions to the time and accumulated miles requirements and fund vehicle modifications in the following situations:

(1) When a consumer with a progressive disability (e.g., multiple sclerosis, muscular dystrophy, spinal muscular atrophy) experiences a deterioration of function such that he/she is no longer able to safely drive or be transported with the provided level of adaptive driving technology.

(2) When a consumer experiences an additional disability, such that he/she is no longer able to safely drive or be transported using the provided modification.

(3) When a consumer who is using a high tech integrated driving system funded by ~~RSC~~ OOD pursuant to rule 3304-6-13 of the Administrative Code requires replacement modifications after five years or after accumulating fifty thousand miles from the date of the final inspection of the previous modifications;

(4) When the high tech driving system manufacturer recommends a safety upgrade to the driving system and the high tech integrated driving system is out of warranty and the warranty had been maintained through appropriate maintenance;

(5) When a consumer requires vehicle modifications due to an unforeseen need not addressed above and not covered in the vehicle modification consumer agreement form upon approval of the BVR or BSVI area manager.

(F) The consumer must apply for all applicable mobility rebates. If a consumer receives a rebate from an original equipment manufacturer because of modifications made to a vehicle, that rebate shall be returned to ~~RSC~~ OOD to defray the costs of the modifications.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-03 General requirements.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) Required specifications. The state of Ohio shall retain the right to refuse payment for any work that is poorly designed, fabricated, installed or fit, or that does not comply with the provisions of rules 3304-6-01 to 3304-6-15 of the Administrative Code. Failure of the retail dealer to comply with these rules shall result in the loss of "good standing" status, and may result in any or all of the following: revocation of bid, delayed payment until correction is made, refusal to accept delivery of modifications, suspension from bidding, removal from the list of ~~RSC~~ OOD approved retail dealers, or other actions deemed necessary to protect the consumer, the state of Ohio, ~~RSC~~ OOD , and the taxpayer.

(1) For a retail dealer's first bid/price submission after the effective date of this rule, "good standing" means that the retail dealer meets all of the requirements in paragraphs (B) to (E) and (G) to (J) of this rule.

(2) For a retail dealer's bid/price submission after completing a vehicle modification for ~~RSC~~ OOD . "good standing" means that the retail dealer shall have complied with rules 3304-6-01 to 3304-6-15 of the Administrative Code.

(B) Requirements for retail dealers. A retail dealer shall meet all of the following conditions:

(1) Maintain valid up-to-date accreditation with the NMEDA's quality assurance program (QAP) and shall provide written proof of same to ~~RSC~~ OOD on an annual basis and as otherwise requested by ~~RSC~~ OOD ; written documentation shall include the designated type(s) of accreditation (i.e., mobility equipment installer, structural, and high tech.) and the effective dates of accreditation.

(a) Being accredited as NMEDA QAP, the retail dealer is required to install modifications per the NMEDA guidelines and all applicable FMVSS referenced therein. When the specifications contained in rules 3304-6-01 to 3304-6-15 of the Administrative Code are more stringent than the NMEDA guidelines, the specifications contained in rules 3304-6-01 to 3304-6-15 of the Administrative Code shall prevail.

(b) Should the NMEDA QAP program or any of its parts be shown to be in violation of state of Ohio or federal laws or found to be likely to cause harm to ~~RSC~~ OOD consumers if followed, ~~the RTSU of RSC~~ OOD reserves the right to discontinue the use of the NMEDA QAP accreditation program and adopt or create an equivalent program.

(2) Register with NHTSA in accordance with federal regulations as contained in 49 C.F.R. 595.6.

(3) Comply with ~~RSC~~ OOD quality inspections and be in "good standing" with ~~RSC~~ OOD .

(4) Operate a permanent business location in the state of Ohio, except for those cases in which an essential modification or its equivalent is not available in the state of Ohio including, but not limited to, those modifications governed by rules 3304-6-10 and 3304-6-15 of the Administrative Code.

(5) Maintain, at that location, all of the facilities necessary to install, maintain, repair, and replace those components/assemblies included in any bid the retail dealer submits to ~~RSC~~ OOD and perform said work at that location, except as noted in paragraph (C) of this rule.

(6) Maintain, at that location, accessible restroom facilities pursuant to the Americans with Disabilities Act of 1990 (Public Law 101-336) requirements.

(7) Be recognized by the aftermarket manufacturer(s) as an approved installer of the devices and mechanisms identified in rule 3304-6-02 of the Administrative Code.

(8) Hire and retain employee(s) who are trained by the manufacturer of the equipment and who are certified to install, service, and repair the equipment.

(9) Maintain a current list of those certified employees and provide a copy of this list to ~~RSC~~ OOD upon request.

(C) Subcontracting. Other than as indicated for modifications identified in rules 3304-6-10, 3304-6-11, and 3304-6-15 of the Administrative Code, a retail dealer may subcontract only non-adaptive work, but shall retain fitting, warranty, and repair responsibility for all subcontracted work. Non-adaptive refers to those items other than specialized equipment provided for the sole purpose of enabling a person with a disability to drive or be transported in a vehicle. Subcontractors shall meet requirements of paragraph (B)(3) of this rule.

(D) Warranties. Retail dealers shall use only new products and new parts that are protected against defects by manufacturers' written warranties of a minimum of one year except for those items transferred in accordance with rule 3304-6-14 of the Administrative Code. Retail dealers shall warrant in writing their own installation work for at least two years from the date of delivery of the vehicle to the consumer. For the warranty to be valid, the consumer shall present the vehicle to the retail dealer every six months for inspection. The retail dealer may enter into an agreement with another retail dealer to conduct the inspection.

(E) Liability insurance. Each retail dealer shall maintain "product/completed operations" liability insurance that holds ~~RSC~~ OOD , its agents, employees, and consultants harmless from any claim for damages resulting from the retail dealer's work or the work/products of his/her suppliers, and provides minimum coverage of one million dollars. Each retail dealer shall maintain "garage-keeper's" liability insurance and "premises" liability insurance as well. The first price quotation from each retail dealer shall include a written certification of insurance from the insurance company specifying the dates and limits of coverage and including a provision for notification of cancellation within thirty days to ~~RSC~~ OOD . Thereafter, the retail dealer's first quotation following each renewal of the policy shall include an updated certificate.

(F) Information provided by retail dealer. At the completion of the authorized work, the retail dealer shall issue to the consumer an original copy of the installation, operations, maintenance instructions, and warranty cards for all equipment installed in the vehicle. Copies of the operations, maintenance instructions, and warranty cards shall accompany the bill sent to ~~RSC~~ OOD . The retail dealer shall provide a full demonstration

to the consumer of all adapted equipment and upon completion of each job:

(1) A signed statement for ~~RSC~~ OOD certifying that all work complies with rules 3304-6-01 to 3304-6-15 of the Administrative Code;

(2) Permanently affixed labels adjacent to the original certification label or the alterer certification label:

(a) NMEDA QAP label in accordance with NMEDA QAP accreditation requirements, unless use of the NMEDA QAP has been discontinued by ~~RSC~~ OOD , and

(b) Label required by NHTSA in compliance with 49 C.F.R. 595.7.

(3) A list of modifications including all modifications made to the vehicle and all additional equipment installed. This list shall be provided to ~~RSC~~ OOD or its representative and to the consumer. This list shall contain the NMEDA QAP label identification number unless use of the NMEDA QAP has been discontinued by ~~RSC~~ OOD .

(4) A list of FMVSS, or portions thereof, subject to the make inoperative prohibition exemption provided in federal regulations at 49 C.F.R. 595 with which the vehicle may no longer be in compliance.

(5) A statement based on the vehicle's GVWR, in compliance with 49 C.F.R. 595, indicating any reduction in the load carrying capacity of the vehicle of more than two hundred twenty pounds after the modifications are complete. The retail dealer shall state whether the weight of the user's wheelchair is included in the available load capacity.

(6) A complete wiring diagram that identifies all added or modified components and subassemblies by name and by wire color and gauge. The wiring diagram shall be given to the consumer. If the wiring is custom a wiring diagram must be supplied with the modification.

(7) For all major equipment additions and modifications, any operating and maintenance information available from manufacturers shall be provided to the consumer.

(8) A list of unused parts shall include all items removed from the vehicle. The list and the unused parts will be returned to the consumer. The consumer shall sign the list, entering a note that the signature either acknowledges receipt of the items or releases them for the retail dealer's disposal.

(G) Confidentiality. Any information the retail dealer obtains about an ~~RSC~~ OOD consumer as a result of submitting bids and/or providing modifications to the consumer's vehicle, including the identity of the consumer, shall be confidential. The retail dealer shall not reveal any such information without the consumer's written consent. Failure to maintain confidentiality shall result in loss of "good standing" status as defined in paragraph (A) of this rule.

(H) Related costs. ~~RSC~~ OOD may require that the retail dealer include the following items in its bid/price submission:

(1) Pickup and delivery of the vehicle from and to the consumer.

(2) Transportation of the vehicle for the purpose of service, maintenance, and follow-up adjustments during the warranty period.

(3) Projected completion time. ~~RSC~~ OOD reserves the right to provide a mandatory completion time and to impose a daily monetary penalty

for exceeding this completion time.

(I) Manufacturer requirements. Retail dealers shall install only products which conform to the following, except for those items transferred in accordance with rule 3304-6-14 of the Administrative Code:

(1) Only products for which the manufacturer carries liability insurance coverage that provides a minimum of one million dollars for each claim, with a minimum aggregate for a one-year policy period of two million dollars. Obtaining proof of such coverage shall be the responsibility of the retail dealer and shall be provided to ~~RSC~~ OOD upon request. Any bid containing products which do not meet this provision shall be rejected.

(2) Any product that is a powered mechanism or contains a powered mechanism shall permanently bear, via engraving or fixed plate, a model number, a serial number, and the name and address of the manufacturer. The engraving or fixed plate shall remain visible after installation. All OEM powered mechanisms (such as a power steering pump or a brake vacuum booster) that have been modified as part of the vehicle modification shall contain such an engraving or fixed plate.

(J) Bid requests and awards. Competitive bidding shall be required for all vehicle modifications except those involving only items defined to be relatively minor. in paragraph (A)(2)(b) of rule 3304-6-14 of the Administrative Code.

(1) Competitive bidding. Requests for quotations/bids shall only be sent to the three qualified retail dealers chosen by the consumer from among those retail dealers on ~~RSC's~~ OOD's list of approved retail dealers, maintained by ~~the RTSU of RSC~~ OOD , which are qualified to perform the specific modifications required by the consumer. No other quotations/bids shall be solicited or accepted. The bidder submitting the lowest of the three bids shall be awarded the work. In the case where two or three retail dealers have submitted identical low bids, consumer choice among the tied low bidders shall prevail.

(2) Relatively minor modifications. For modifications involving only those items defined as "relatively minor" in paragraph (A)(2)(b) of rule 3304-6-14 of the Administrative Code, the retail dealer (i.e., vehicle modification shop) that will perform the modification shall be chosen by the consumer from the current list of ~~RSC~~ OOD approved retail dealers maintained by ~~the RTSU of RSC~~ OOD . No other retail dealers shall be asked to submit prices or used to provide vehicle modifications.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 09/04/1990, 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-04 General design standards.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) Safety of operation and construction. The primary design consideration shall be safety to the person using automotive adaptive equipment and vehicles that have been modified. Any installation of equipment or modification of the vehicle shall neither introduce new single-point failures of the associated vehicle subsystem which otherwise do not exist in that subsystem nor compromise user safety or safety of the public.

(1) Any installation of equipment or modification of the vehicle shall not compromise safety provisions provided by the vehicle manufacturer in compliance with the applicable FMVSS, as defined in the federal regulations at 49 C.F.R. 571 to include the following: 102 to 106, 110, 111, 113, 116, 124, 129, 205, 206, 209, 210, 212, 213, 216, 220, 301 to 303 and shall be compliant with FMVSS 403 and 404.

(2) Installation and/or modifications may make safety features inoperative only as indicated in the federal regulations in sections of 49 C.F.R. 595 listed in this paragraph with respect to the following FMVSS:

(a) 101 Controls and displays except for S5.2(a), S5.3.1, S5.3.2 and S5.3.5;

(b) 108 Lamps, reflective devices, and associated equipment (S5.1.1.5 when the modified motor vehicle does not have a steering wheel and it is not feasible to retain the turn signal self-canceling device installed by the vehicle manufacturer);

(c) 114 Theft protection (S4.4 and S4.5 when the original key-locking system must be modified);

(d) 118 Power-operated window, partition, and roof panel systems (S4(a) when the medical condition of the person for whom the vehicle is modified requires a remote ignition to start the vehicle);

(e) 135 Passenger car brake systems (S5.3.1 when the vehicle modification requires removal of the vehicle manufacturer installed foot pedal);

(f) 201 Occupant protection in interior impact only with respect to targets on the side rail, B-pillar and first "other" pillar adjacent to the stowed platform of a lift or ramp, or the rear header and rearmost pillars adjacent to the stowed platform of a lift or ramp; all S6 in cases in which the disability necessitates raising the roof or door or lowering the floor of the vehicle;

(g) 202 Head restraints when the motor vehicle is modified to be driven by an individual in a wheelchair and no other seat is provided for the driver or the front passenger sits in a wheelchair and no other front passenger seat is provided, and S4.3(b)(1) and S4.3(b)(2) when the driver's head restraint must be modified to accommodate a driver with a disability;

(h) 203 Impact protection for the driver from the steering control system (S5.1 when the modification requires a structural change to or removal of the original steering shaft, and S5.2 when an item of adaptive equipment must be mounted on the steering wheel);

(i) 204 Steering control rearward displacement only, when the modification requires a structural change to or removal of the original steering shaft;

(j) 207 Seating systems (S4.1 when the motor vehicle is modified to be driven by an individual in a wheelchair and no other seat is provided for the

driver and a wheelchair securement device is installed in the driver position);

(k) 208 Occupant crash protection (S4.1.5.1(a)(1), S4.1.5.1(a)(3), S4.2.6.2, S5, S7.1, S7.2, S7.4, and S14 to S27 when type 2 or type 2A seat belts meeting the requirements of FMVSS 209 and 210 are installed in the affected seating position);

(l) 214 Side impact protection (S5 when the affected seating and/or restraint system must be modified to accommodate a person with a disability);

(m) 225 Child restraint anchorage systems when the vehicle contains at least one tether anchorage. If no anchorage remains, the anchorage shall be installed to comply with 49 C.F.R. 571.225, S6, S7, and S8.

(B) Installation and/or modifications shall not present hazards, such as sharp edges, to vehicle occupants. The design of the adaptive equipment itself shall meet applicable standards contained in rules 3304-6-01 to 3304-6-15 of the Administrative Code.

(C) Workmanship. All retail dealers shall comply with the most recent version of NMEDA QAP unless use of the NMEDA QAP has been discontinued by ~~RSC~~ OOD .

(D) Conventional use. When possible, adaptive equipment and vehicle modifications shall permit operation by a driver without a disability with as little change as possible to conventional subsystems operation and function. Adaptive equipment shall not impede the operation of secondary controls.

(E) Requirements of components and assemblies. Design of automotive adaptive equipment shall be consistent with accepted engineering principles and with automotive design practice with regard to materials, structures, lubricants, and maintainability. Any adaptive device or component shall be designed to enhance the usability of the vehicle by the person who has a disability, and not degrade the vehicle's value and safety of operation. ~~RSC~~ OOD may require an adaptive device or modification to be submitted for testing and evaluation by an agency acceptable to ~~the RTSU of RSC~~ OOD before the adaptive device or modification is approved for purchase by ~~RSC~~ OOD . Assembly of automotive adaptive equipment shall have good workmanship in accordance with good commercial practice and shall conform to the following requirements:

(1) Welded assemblies. The design and fabrication of any welded assembly shall conform to sections 1, 2, 3, and 4 of the AWS "Structural Welding Code -Steel," D1.1-94 or the most recent revision, or to the AWS "Recommended Practices for Gas Shielded Arc Welding of Aluminum and Aluminum Alloy Pipe," D10.7-86R, or the most recent revision as applicable.

(2) Assembly fasteners. Fasteners shall conform to the SAE standards or recommended practices, as applicable. Fasteners shall be designed or treated for resistance to loosening from vibration. Fasteners shall be grade 5 minimum. Bolts shall be fastened with self-locking nuts or with standard nuts and separate lock washers used with thread locking liquid. Clevis pins, axles, and connectors employed at pivot points on various control and servo systems shall be hardened steel and shall be adequately secured with hardened pins, castellated and pinned nuts, or self-locking nuts.

(F) Electrical and electronic performance guidelines. Any electrical or electronic component of an automotive adaptive device shall be designed, assembled, and connected as defined in SAE J1211.

(1) Any electrical component and its associated wiring including connection into stock automotive wiring or in place of it shall meet the minimum standards of SAE J1292.

(2) Any electronic device shall be certified by the manufacturer to have passed the applicable environmental tests specified in SAE J1211 if that device is part of the adaptive equipment which, if the electronic device fails, constitutes a single point failure.

(G) Labeling of controls and displays. Labels for controls, for operation of equipment, or for cautionary information shall be designed to be legible at the distance at which they should be expected to be read under normal operating conditions, under daytime conditions, and under illumination. Size of the lettering on the labels shall comply with MIL-STD 1472F, human engineering design criteria for military systems, equipment and facilities. Under nighttime levels of illumination, certain labels on the dash panel are required to be illuminated as in FMVSS 101, controls and displays. If these controls are relocated to a panel visible to the driver in the driver position, they shall be illuminated. Label names and symbols shall be designed to meet the standards of FMVSS 101, unless OEM labels differ, in which case the OEM label for the same function shall be repeated. Labels shall be designed to remain permanently affixed and legible for the design lifetime of the device or panel to which they are affixed. The use of temporary labels or labels made through the use of embossing devices on special pressure-sensitive tape shall not be acceptable.

(H) Hydraulic, pneumatic, and vacuum performance guidelines. Any hydraulic, pneumatic, or vacuum operated subsystem of an automotive adaptive system shall be designed, assembled, and connected in a manner suitable for the automotive operational environment. The automotive operational environment and test criteria is defined in SAE J1211.

(1) Selection and installation of hydraulic hose shall conform to the general guidelines of SAE J1273.

(2) Hoses used for adaptive equipment for power steering systems including servo controls shall meet the requirements of SAE J188, J190, or J191 for pressure hoses, and J189 for return hoses.

(3) The hydraulic system shall be subject to an integrity inspection. Adaptive equipment using hydraulic components shall meet minimum external leakage as defined in SAE J1176 as a Class 3 leakage state, that is, recurring fluid that results in the formation of a non-falling droplet.

(I) Pneumatic and vacuum performance requirements. Pneumatic and vacuum equipment that includes actuators, valves, hoses, and fittings designed for operation by either pressurized air or by engine manifold vacuum shall meet the following requirements:

(1) Pneumatic hoses and associated fittings shall meet the requirements of SAE J1402.

(2) Vacuum hoses and associated fittings shall meet the requirements of SAE J1403. Vacuum hoses connected to adaptive equipment shall be secured by suitable hose clamps.

(3) Pneumatic and vacuum operated adaptive equipment shall be visually inspected for integrity. Any audible leak in pneumatic equipment shall disqualify that equipment from acceptance. Any vacuum operated adaptive equipment shall be capable of sustaining a vacuum of at least ten inches of mercury when it is not operating but the vehicle engine is running.

(J) Inspections of vehicle modifications. Inspections shall be performed for all vehicle modification projects including standard mechanical hand/foot controls on automobiles, vans and trucks. A qualified consultant, designated by ~~the RTSU of RSC~~ OOD , shall perform all vehicle modification inspections.

(1) ~~RSC~~ OOD , with the assistance of the consultant, shall determine the number of inspections and the time when each inspection is needed. ~~RSC~~ OOD shall advise the retail dealer of the required number of inspections in the final award notice.

(a) The minimum number of inspections is one final inspection. At the final inspection, the consultant, the retail dealer, and the consumer shall be present and all parties shall be satisfied with the results of the inspection before the consumer accepts the vehicle.

(b) When modifications are made to the roof or floor, except those crash-tested in that configuration as governed by paragraph (B)(1) of rule 3304-6-10 and paragraph (E) of rule 3304-6-15 of the Administrative Code, an interim inspection shall be required.

(2) The retail dealer shall contact the vehicle modification inspector to schedule the necessary inspections.

(a) ~~RSC~~ OOD shall deduct the ~~RSC~~ OOD consultant's invoiced fee from the amount ~~RSC~~ OOD owes the retail dealer if the consultant is required to make a return visit to the retail dealer for inspection for either of the following reasons: the vehicle is not ready for inspection, or the modifications have not been completed in accordance with this chapter.

(b) The retail dealer shall cancel the appointment at least twenty-four hours in advance in order to avoid the deduction.

~~(3) RSC may require the vehicle modification inspector to perform an inspection of rework completed on a consumer's modified vehicle within the first ninety days following delivery of the completed vehicle to the consumer. If it is determined that the cause of the rework is dealer installation or workmanship, the retail dealer shall be required to pay for the cost of the inspection, including the fee and travel expenses of the inspector and any reasonable costs incurred by the consumer as a result of the rework.~~

(K) Inspection of used vehicles prior to conversion. Vehicles shall be inspected by an ~~RSC~~ OOD representative or designee before authorizing a modification for the installation of a wheelchair or scooter handling device. The ~~RSC~~ OOD representative or designee shall inspect the vehicle to insure the structural integrity of the vehicle and to determine that the design of the vehicle is appropriate for installation of the recommended device. Minivans shall be inspected by an inspector hired by ~~RSC~~ OOD prior to conversion to a lowered-floor minivan, pursuant to paragraph (B) of rule 3304-6-15 of the Administrative Code.

(L) Applicability to other rules. Unless otherwise provided with specific specifications therein, the general design standards contained in this rule shall also apply to all modifications covered in rules 3304-6-05 to 3304-6-15 of the Administrative Code.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 09/04/1990, 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-05 Primary controls.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

Primary controls are controls for speed, braking, and steering. This rule applies only to adaptations that run parallel to OEM factory controls. Any other adaptive primary controls shall be evaluated on a case-by-case basis by ~~the RTSU of RSC~~ OOD .

(A) Approved manufacturers. When applicable, ~~RSC~~ OOD shall purchase only standard controls, vacuum, pneumatic or electric/electronic brake/gas controls, low or maximum reduced effort steering and low or minimum effort braking, and corresponding back-up systems ~~identified as meeting VA standards of safety and quality as listed in VHA directive 10-94-070 (dated August 5, 1994 or as subsequently revised as of date of purchase)~~ . Hand controls, both mechanical and servo, shall be identified in accordance with SAE J1903, section 4.1.1, automotive adaptive driver controls. Each control assembly or component available for sale as a separate unit shall bear a model number, a serial number, and the name and address of the manufacturer. The identification may be engraved directly onto a permanent structural member or placed on a permanently affixed tag. The identification shall remain visible when the product has been installed in the vehicle.

(B) Powered pedals and pedal ~~guard~~ guards .

(1) Vehicles equipped with OEM powered adjustable gas/brake pedals shall have the powered pedal mechanism disabled by the retail dealer prior to the installation of manual hand controls, powered gas/brake controls, and left foot accelerator.

(2) At the location where the pedals have been disabled, a permanent tag shall be attached that states the reason why the system has been rendered inoperative.

(3) A quick release pedal guard shall be installed over the OEM accelerator pedal on all vehicles on which a hand control, a powered gas/brake control, or a left foot accelerator has been installed to prevent inadvertent access to the OEM accelerator.

(a) A pedal guard for both the accelerator and brake pedal may be installed at the discretion of the evaluator.

(C) Manual hand controls. Manual hand controls are those devices that substitute for foot controls to operate the accelerator and the service brake. The type and location of hand controls shall be determined by the driver rehabilitation specialist in accordance with the consumer's needs to safely and effectively operate the vehicle. The most common manual hand controls are push/pull, push/right angle pull ~~and~~ , push/twist , and rock/push hand controls.

(1) Installation requirements. Hand controls shall be permanently mounted only on a vehicle with power brakes, power steering, and automatic transmission. Hand controls shall be installed in accordance with the manufacturer's specifications.

(2) Performance requirements. Standard hand controls shall comply with SAE J1903 "Automotive Adaptive Driver Controls, Manual."

(a) A hand control shall be accepted when documentation is furnished showing compliance with all sections of SAE J1903. or

(b) A hand control may be accepted, at ~~the discretion of the RTSU of RSC~~ OOD , when a visual inspection of an uninstalled control and an installed control is found to comply with all sections of SAE J1903 except sections 4 and 5.4, which are specifications for testing and testing procedures.

(D) Powered gas/brake controls. Powered gas/brake controls are add-on parallel controls for throttle and/or brake which are powered other than by the driver's own muscular efforts. The assistance to the driver may be achieved by vacuum, pneumatic, hydraulic, or electric/electronic servos. Powered gas/brake controls shall meet the following specifications:

(1) Manufacturers. ~~RSC~~ OOD shall purchase powered gas/brake controls only from manufacturers that have provided the following information to ~~the RTSU of RSC~~ OOD :

(a) Name of device;

(b) Model number of device;

(c) Item description, including general description, purpose of device, and device features;

(d) System restrictions and limitations, including:

(i) Restrictions to installation on specific vehicles, and

(ii) Incompatibilities (known and probable) with other adaptive driving equipment or with OEM equipment;

(e) Limitations/capabilities of intended user population;

(f) Current availability of the model:

(i) Length of time in production,

(ii) Number of units sold to date, and

(iii) Customer references, including local/state/federal government and private payers;

(g) Status or designation of VA approval, if any;

(h) Written signed statement that the design complies with all applicable paragraphs of rules 3304-6-01 to 3304-6-15 of the Administrative Code;

(i) Written results of all laboratory, field, and clinical testing as well as data related to compliance pursuant to paragraph (D)(3)(c) of this rule;

(j) List of consumer-specific adjustments indicating who shall accomplish the adjustments, that is, the retail dealer, driver rehabilitation specialist, manufacturer, consumer, or other;

(k) Maintenance schedule;

(l) Warranty documents;

(m) Installation/assembly instructions with fully labeled diagrams that specify when factory installation(s) is required;

(n) User's manual;

(o) Proof of liability insurance as defined in paragraph (I)(1) of rule 3304-6-03 of the Administrative Code. Proof that such insurance remains in full force and effect shall be provided to ~~RSC~~ OOD on an annual basis. The manufacturer shall notify his insurance carrier(s) that ~~RSC~~ OOD shall be notified within thirty days of any reductions in coverage or cancellation. ~~The~~

(p) The manufacturer(s) shall provide an indemnification notice to ~~RSC~~ OOD stating that they shall indemnify and hold ~~RSC~~ OOD , its agents, employees, and consultants harmless from all claims, damages, suits or actions, including any judgments, costs, expenses, and legal fees arising from any modifications made by said manufacturer; and

~~(p)~~ (q) List of approved retail dealer installers.

(2) All information provided by the manufacturer shall be considered public information and subject to public information requests. The information shall be reviewed by a team of licensed engineers for approval. All design changes to an approved model shall be reported to ~~the RTSU of RSC~~ OOD . Such design changes shall not be sold to ~~RSC~~ OOD prior to notice, review, and approval. The information that must be submitted for design change review is that indicated in paragraphs (D)(1)(a), (D)(1)(b), (D)(1)(c), (D)(1)(d)(ii), and (D)(1)(h) to (D)(1)(1) of this rule. If the information previously provided for in paragraphs (D)(1)(c), (D)(1)(d)(i), (D)(1)(d)(ii), and (D)(1)(j) to (D)(1)(n) of this rule remains the same as that submitted for the original design approval, the manufacturer shall provide written verification in lieu of resubmitting the requested information. ~~The RTSU of RSC~~ OOD shall determine whether the design change is sufficient to warrant the need for approval as a new product. ~~RSC~~ OOD reserves the right to suspend or withdraw approval without prior notification to the manufacturer if the manufacturer's product is found to be in violation of these rules or is found to involve a significant risk to consumer safety.

(3) Performance requirements.

(a) Operation. The powered gas/brake control shall have the capability for custom sensitivity settings that can be adjusted by the manufacturer's designee as stated in paragraph (D)(1)(j) of this rule to match the consumer's optimal strength and range of motion and shall have proportional feedback.

(b) Testing. The powered gas/brake control shall have pre-check operational capability with visual monitoring and/or an audible and visual warning system in case of malfunction.

(c) The powered gas/brake control shall comply with ~~the following requirements; no exceptions shall be considered, however, a grace period of one calendar year from the effective date of this rule shall be granted for~~ the testing requirements contained in SAE J2603, sections 4.1 to 4.8, 4.10, 5.4.2, 6.1,6.2, 6.3, and 6.7 and SAE J2604, sections 5.1 and 5.2:

(i) The items on a completed vehicle shall be inspected for compliance with sections of SAE J2603, SAE J2604, and SAE J2604, section 4, visual inspection of the installed system;

(a) SAE J2603, section 4.25, control box connections;

(b) SAE J2603, section 4.24, vehicle interface;

(c) SAE J2603, section 4.22, attachment;

(d) SAE J2603, sections 4.12, compatibility with normal vehicle use; 4.13, injurious exposures; 4.14, operator safety; 4.15, maintenance; 4.16, accommodations for wear; 4.17, environmental resistance; 4.18, mechanical finish; 4.20, cleanliness; 4.21, drivers vision; 4.22 and 4.23, clearance;

(e) SAE J2603, section 5.2, protection of hosing and tubing and all sections of SAE J2604;

(f) SAE J2603, section 5.4.1, structural fasteners;

(g) SAE J2603, section 6.4, warning label and SAE J2604, section 3.3, powered gas/brake control system installation manual;

(h) SAE J2603, section 6.6, shutoff;

(i) SAE J2603, section 6.8, labeling; and

(j) SAE J2603, section 8.1, identification markings and SAE J2604, section 3.7, identification marking.

(ii) The owner's manual shall be inspected for compliance with SAE J2603, section 6.5, users manual and SAE J2604, section 3.2, powered gas/brake control system users manual.

(iii) The installation manual shall be inspected for compliance with the following sections of SAE J2603 and SAE J2604:

(a) SAE J2603 section 4.9, EMI and SAE J2604 sections 3.3, powered gas/brake control system installation manual and 3.6, other documents;

(b) SAE J2603, section 5.5, furnished peripheral components, to be inspected in conjunction with parts list in section 7.4 and SAE J2604, section 3.3 and 3.4, furnished components;

(c) SAE J2603, section 5.6, modified OEM parts, to be inspected in conjunction with the parts list in section 7.4 and SAE J2604, section 3.5, modified OEM parts;

(d) SAE J2603, section 6.4, warning label (if not on control) and SAE J2604 section 3, receiving inspection and section 4;

(e) SAE J2603, section 7, installed manual and SAE J2604, section 3.3.

(iv) Other documentation shall be inspected for compliance with the following sections of SAE J2603 and referenced sections of SAE J2604:

(a) SAE J2603, section 4.2.1, failure analysis and SAE J2604 section 3.6;

(b) SAE J2603, sections 4.9 and 4.10, vibration environment and SAE J2604, sections 3.3 and 3.6;

(c) SAE J2603, section 6.5.7, warranty information and SAE J2604, section 3.2;

(d) SAE J2603, section 8, markings, recall and NHTSA registration SAE J2604, sections 3.6, and 3.7, identification marking, and section 4.

(v) Documentation of compliance pursuant to paragraph (D)(2) of this rule shall be signed off by a licensed professional engineer and sent to ~~the RTSU of RSC~~ OOD . Verification of compliance shall include observation and inspection of both an uninstalled system and an installed

system.

(4) The back-up brake system shall have an automatically activated power source to assist in brake application in case of engine failure.

(5) When a reservoir tank is needed and supplied, it shall be constructed of a minimum of fourteen-gauge steel or be fabricated of non-corrosive material tested to one hundred fifty per cent of operating pressure.

(6) The handle shall have the capability of adaptation for devices that the consumer needs for effective and safe operation.

(7) All bearings shall be either sealed bearings, oil-impregnated bronze bushings, or the industrial equivalent.

(8) All housings shall be constructed of corrosion-resistant material.

(9) Powered gas/brake controls shall not be used in combination with components of another manufacturer's secondary control console or multi-axis remote servo steering wheel controls without the knowledge and permission of both manufacturers.

(10) Powered gas/brake control systems shall be in compliance with FMVSS 124, accelerator control systems. The method of compliance shall be provided in detail.

(E) Left foot accelerators are devices (consisting only of pedals, extensions, and brackets) that are added to the accelerator pedal to enable a driver to operate the accelerator pedal with the left foot. The left foot accelerator shall be able to be removed and re-installed without the use of tools. This device shall have a permanently mounted base.

(F) Pedal extensions. Mechanical, non-powered pedal extensions are add-on devices for use with the original vehicle accelerator, brake and clutch pedals. These devices are used by drivers who can operate the foot pedals, but cannot reach them, or, have difficulty operating the original pedals where they are placed. The pedal extensions should be permanently attached to the original pedal with some type of mechanical fastener (i.e. bolt, clamp, screw, etc.). Or, the pedal end bracket of a quick disconnect type pedal extension, which may be removed and re-installed in only one set position, should be permanently attached with a mechanical fastener. The mechanical fastener should be such that the pedal extension remains secured and rigid to the original pedal throughout the range of travel of the pedal during use.

(1) Vehicles equipped with OEM powered, adjustable gas/brake pedals may need to have the powered pedal mechanism disabled by the dealer if adjustment of the powered pedal causes any binding of the pedal extension mechanism, interference of the pedal and/or extensions, or causes either pedal to be applied, or misapplied, during the pedal adjustment.

(2) A separate foot rest may be required for the individual to set their feet on to operate the pedals with the pedal extensions.

(3) foot pedal surfaces must be of non-skid material.

(4) Installation must meet or exceed the manufacturer's guidelines.

(5) Pedal modifications, such as pedal extensions, foot supports, or enlarged pedal surface areas, must be securely attached to the original pedal of the vehicle with a minimum of grade 5 bolt. The type of pedal modification, size and extension shall be determined by the driver rehabilitation specialist. The preference is for a permanently affixed pedal modification, however, the consumer, with full information, may choose a removable device.

~~(F)~~ (G) Braking modifications. Braking modifications lower the amount of driver effort required to operate the brakes and consist of modifications to the vacuum actuated power booster of the stock power brake systems provided as original equipment. This paragraph is limited to modifications which retain a standard brake pedal and associated linkage, the stock master cylinder and all plumbing down to and including the brake wheel cylinders or actuators, and additional equipment which is installed to provide back-up/emergency operation; specifically excluded are power assisted hand controls.

(1) The amount of reduction in effort in a low or minimal effort braking system and the pump or tank backup system shall be determined by the driver rehabilitation specialist, based on the consumer's need to achieve safe and effective driving. The retail dealer's bid shall specify the manufacturer and the system that will provide that amount of reduction.

(2) An automatically activated back-up system shall be required on low or minimum effort brake systems, and shall provide protection during engine failure. The back-up system shall include a low-vacuum warning indicator. The vacuum back-up system shall utilize a reservoir that meets the requirements of paragraph (D)(4) of this rule.

(3) Any hoses, lines, and fittings shall be of OEM quality and shall meet FMVSS for standard passenger vehicles.

~~(G)~~ (H) Steering devices. Mechanical non-powered steering devices are add-on devices for use with stock automotive steering wheels. These devices are used by drivers who require some assistance in gripping or maintaining contact with the steering wheel with one hand.

~~(H)~~ (I) Steering column extension. A steering column-shaft extension is any elongation of, addition to, or replacement of an OEM steering column so that an individual can reach the steering wheel. A steering column-shaft assembly shall meet the following specifications:

(1) A steering column-shaft assembly shall not interfere with the normal collapsibility of the steering column pursuant to FMVSS 203, impact protection for the driver from the steering control system.

(2) The length of the assembly and whether it is integral or add-on shall be determined by the driver rehabilitation specialist, based on the consumer's needs to achieve effective and safe driving. The maximum length shall be six inches.

(3) That portion of the extended steering column which protrudes above the OEM column cover/housing shall be covered in a manner consistent with the finish and trim of the vehicle interior.

(4) Steering column extensions may affect the driver's proximity to secondary switches and their OEM operation. The driver's ability to operate these controls shall be confirmed after the column has been extended.

~~(I)~~ (J) Horizontal steering. Horizontal steering is a replacement steering column that relocates the steering wheel to a horizontal plane. The column is powered up and down to provide access to the horizontal wheel for a driver in a wheelchair. A horizontal steering system shall meet the following:

(1) Collapsibility. A horizontal steering system shall comply with FMVSS 203.

(2) Positioning. A motorized electrical actuator shall be used to

consistently set the steering column head to the proper height.

(3) Horizontal steering systems shall only be installed when low or maximum reduced effort steering and a back-up steering system are also installed.

~~(J)~~ (K) Steering modification. Steering modifications lower the amount of driver effort required to operate the steering system and modify the ~~hydraulic~~ control mechanism of the OEM power steering systems provided as original equipment. This paragraph is limited to modifications to the OEM mechanical steering systems ~~between the end of the steering column shaft and the pitman arm~~ that has an unchanged steering gearbox ratio and to additional equipment installed to provide back-up emergency operation.

(1) Steering modifications shall be provided as either low or maximum reduced effort steering systems. The amount of reduction in effort in low or maximum reduced effort steering system shall be determined by the driving rehabilitation specialist, based on the consumer's needs in order to achieve safe and effective driving. The retail dealer's bid shall specify the manufacturer and the system that will provide that amount of reduction.

(2) Hydraulic Steering modification performance requirements.

(a) Hydraulic Steering modifications shall comply with the following sections of SAE J2672:

(i) Sections 1.2, classification and 3, definitions;

(ii) The following parts of section 4.0, design requirements, including appendix "A," recommended test procedure (RTP), referred to in parts 4.1, conventional use of motor vehicle; 4.2, mandatory power steering back up system; 4.3.1, maintenance of OEM power steering; 4.4.1, automatic activation; 4.5.4.2, special hydraulic fluids; 4.5.3, pressure maintenance capability;

(iii) Section 5.0, materials and components, including the parts of appendix "A," RTP referred to in the parts indicated, except 5.2.4.4, operational testing of fasteners;

(iv) Section 6.0, operation, including the parts of appendix "A," RTP referred to in the parts indicated, except the part of 6.2.2.1, warning lamps, which refers to RTP "A" 5.3.3, warning light operation. The inspector shall check the operation of the auditory signal, if used, indicated in 6.2.2, automatic backup activation warning, but need not measure the level of the sound output; and

(v) Sections 7, method of installation and 8, quality control and maintenance.

(b) Documentation of compliance with paragraph (J)(2)(a) of this rule shall be signed off by a licensed professional engineer and sent to ~~the RTSU of RSC~~ OOD . Observation and inspection of both an uninstalled system and an installed system meets the requirements for compliance in lieu of bench testing or measurements.

(c) The number of turns of the steering wheel shall be the same as the OEM operation.

(3) Powered back-up steering shall be installed whenever low or maximum reduced effort hydraulic steering is used. Powered back-up steering for a driver with a disability to compensate for a malfunctioning OEM steering system may be installed at the discretion of the driver rehabilitation specialist.

(a) Steering modifications shall comply with the following sections of SAE

J2672:

(i) Sections 1, scope, classification and limitations; 2, references; and 3;

(ii) The following parts of section 4.0, including the parts of appendix "A," RTP referred to in parts 4.1, 4.2, and 4.5, system requirements (reduced effort power steering and power steering backup) and backup systems;

(iii) Section 5.0, including parts of appendix "A," RTP referred to in the parts indicated, except for 5.1.2, power steering pump quality, and 5.2.4.4, operational testing of fasteners;

(iv) Section 6.2, power steering backup systems, including the parts of appendix "A," RTP referred to in the parts, except the part of 6.2.1, manual operation (override), which refers to RTP 5.3.3. The inspector shall check the operation of the auditory signal, if used, indicated in 6.2.2.2, auditory warning, but need not measure the level of the sound output; and

(v) Sections 7.2, power steering and backup systems and 8.

(b) Documentation of compliance with paragraph (J)(3)(a) of this rule shall be signed off by a licensed professional engineer and sent to ~~the RTSU of RSC~~ OOD . Observation and inspection of both an uninstalled system and an installed system meets the requirements in lieu of bench testing.

(c) Any hoses, lines, and fittings shall be of OEM quality and shall meet all FMVSS for passenger vehicles.

(4) Electronic power steering modification performance requirements.

(a) Steering modifications shall comply with any applicable SAE information report, recommended practice or standard as published, or;

(b) Manufacturer shall demonstrate component and vehicle compatibility, endurance and capability of the reduced effort electric power steering system and the vehicle(s) it can be installed on. Demonstrations and testing should include (but not limited to) as described in the various SAE publications cited;

(i) Operational test of accleerated general endurance of the test vehicle with reduced effort - electric power steering (SAE J2672).

(ii) Steering torque/torque output test (SAE J2588 & J2672).

(iii) Duty time test (SAE J2672).

(iv) Vehicle test - Offset lane change (SAE J2588).

(v) Vehicle test - OEM steering test (SAE J2588).

(vi) Vehicle test - Reduced effort steering test (SAE J2588).

(vii) Vehicle test - Slalom test (SAE J2588).

(viii) Bench test - Service life test (SAE J2588).

(ix) Bench test - Vibration test (SAE J2588).

(x) Electro-Magnetic Interference (EMI) test (SAE J2588 & J1113).

(c) Documentation of all demonstrations and/or testing shall be

provided to Ohio OOD, for review.

(d) Electric power steering backup system requirements.

(i) A redundant power supply, i.e. a backup battery, for the reduced effort - electric power steering system shall be provided in case of the original battery failure.

(ii) The failure mode for the reduced effort - electric power steering system, including any failure of the original electric power steering system, shall be to the reduced effort steering mode.

(iii) An audible and visual warning device of any failure shall be provided.

~~(4)~~ (5) When the steering has been modified to maximum reduced effort and a steering device is attached to the steering wheel, a counterweight equivalent to the weight of the steering device and any attaching fixture shall be added to balance the steering wheel.

(a) This counterweight shall be mounted on the steering wheel directly opposite and one hundred eighty degrees away from the steering device.

(b) The counterweight and the steering device shall be removable to permit the vehicle to be driven by a person other than the driver with a disability.

~~(K)~~ (L) Steering wheel devices.

(1) The type and location of the steering device shall be determined by the driver rehabilitation specialist.

(2) The device or parts of the device shall not interfere with the consumer's ability to view any instrument panel display.

(3) The installed steering device shall not interfere with the operation of the air bag system.

(4) Steering devices shall be quick release and be easily removable by a person without a disability.

~~(L)~~ (M) Driver training brakes for driver rehabilitation specialists.

(1) Driver training brakes shall be securely fastened to the floor of the passenger side of the vehicle.

(2) The driver training brake shall not apply any brake pedal pressure until activated by the driver trainer.

(3) All mounting holes shall be filled and sealed when the driver training pedal is removed.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 09/04/1990, 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-06 Secondary controls.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) A secondary control is any device that operates a vehicle subsystem, other than those for steering, speed, and service braking. This rule is limited to adaptive extensions, to relocations of controls, and to devices that actuate one of the subsystems identified in this rule by means of movements of a member(s) of the driver's body by touching a switch or touchpad. This rule includes voice control for specific secondary controls.

(1) Systems using any kind of electrical instrumentation that transduces any process in the driver's body, such as muscle potentials, galvanic skin response, electroencephalograph, eye movement, etc., may be accepted only on a case-by-case basis after engineering study and approval by ~~the RTSU of RSC~~ OOD .

(2) The need for and location of the secondary controls shall be determined by the driver rehabilitation specialist.

(3) In some cases, the need for additional or alternative secondary controls, as well as alternative control locations, is determined by the ~~RSC~~ OOD inspector at the final fitting.

(B) General requirements. Secondary control system adaptive equipment shall be accessible to the driver with a disability for whom it is designed when he/she is behind the wheel, not susceptible to inadvertent operation, and suitable for use by drivers who are not disabled and may need to operate the vehicle. Secondary adaptive control design shall conform with SAE J2238, secondary control modifications. The following requirements, referenced in specific locations in SAE J2238, shall be used to the maximum extent possible:

(1) SAE J1139 "Supplemental Information-Driver Hand Controls Location for Passenger Cars, Multi-purpose Passenger Vehicles, and Trucks (10,000 GVW and Under)."

(2) MIL-STD 1472C "Human Engineering Design Criteria for Military Systems, Equipment and Facilities," section titled "Prevention of Inadvertent Operation."

(3) FMVSS 101.

(C) Electronic secondary controls systems. Any adaptive control for operating secondary functions that incorporates electronic circuits to intervene between the control interface with the driver and OEM control circuit shall meet the following requirements:

(1) These systems may include integrated circuit processors or computers.

(2) These systems shall not be used in conjunction with components of another manufacturer's secondary control console, joystick or multi-axis remote servo steering wheel controls or powered gas/brake controls without both manufacturers' knowledge and permission.

(3) These systems may include touch panels, scanning systems for selecting the desired secondary control, voice control systems and devices such as remote radio frequency controls on a spinner knob.

(D) Secondary control consoles. A secondary control console houses relocated secondary controls and more advanced design secondary controls, including associated automotive systems displays such as a voltmeter, vacuum gauge, pressure gauge, door open indicators or warning lamps, shift quadrant indicators, or display formats presented by liquid crystal or other types of displays. The secondary control console provides access to secondary controls for the driver and a protective housing for the electronic components.

(1) Performance requirements. The secondary control console shall:

(a) Provide positive retention (that is, permanent mounting) of all controls and displays mounted in it or on it;

(b) Use materials suitable for an automotive environment as defined in SAE J1211 and of sufficient strength and rigidity to be comparable to OEM panels for the same purpose on the unmodified vehicle;

(c) Avoid sharp edges through suitable protection, pad the surfaces likely to be contacted by occupants who are properly restrained, and pose no hazard to the vehicle driver or other occupants in the event of a collision; and

(d) Be positioned by supports that are designed to yield, deform, or break away under collision-level loading as defined in FMVSS 201, occupant protection in interior impact.

(2) Design requirements for maintainability. Provisions shall be made for access to serviceable components mounted in the console or on it without requirement for special tools, skill, or methods for gaining access. Any hazards to service personnel or to the equipment which can come about because access to the console is provided shall be prominently labeled by an appropriately worded label when the access hatch or cover is removed.

(3) Labeling of controls and displays. Labeling of controls and displays shall meet the requirements of paragraph (F)(2) of rule 3304-6-03 and paragraph (G) of rule 3304-6-04 of the Administrative Code in its entirety. Non-glare illumination of the labels shall be provided. All illumination sources shall include provisions for dimming the level of illumination.

(E) Transmission.

(1) Extension levers.

(a) Extension levers shall be firmly attached to the OEM shift lever.

(b) OEM shift levers may be extended for additional leverage but the extension shall not cross over to the left side of the column.

(c) Extension levers shall permit all ranges of the transmission to be selectable by the driver and shall not interfere with other controls or adaptive equipment.

(2) Relocated controls. A relocated transmission control is a device which either replaces the automatic transmission control linkage or is connected to it in a manner other than an extension lever. The power input may be mechanical, hydraulic, electric, pneumatic, vacuum, or any combination of these.

(a) All automatic transmissions shall have a specified transmission shift lever sequence, a starter interlock, and at least one low gear. Any interlocks

(ignition, brake pedal, etc.) shall not be defeated by the relocated control design or installation. The relocated transmission control shall incorporate a positive indication (that is, the indicator does not drift between gear selection letters) of transmission position in cases in which the OEM shift quadrant is obscured or removed.

(b) Relocated transmission controls shall meet FMVSS 102, transmission shift lever sequence, starter interlock, and transmission braking effect, as applicable.

(3) Powered gearshift control. A powered gearshift control replaces the shift selector lever with an electronic connection to a device that operates the shift linkage at the transmission. When the powered gearshift selector switch interface is located in an electronic secondary control system, the powered gearshift selector shall meet the requirements of paragraphs (C), (E)(2)(a) and (E)(2)(b) of this rule.

(F) Parking brake.

(1) Mechanical extension. All extension levers shall be installed to the existing foot pedal parking brake to allow full application and release of the parking brake by hand.

(2) Power parking brake. The power parking brake shall be held in the applied position by mechanical means.

(a) The power parking brake shall be protected from weather. The cables shall be free from mechanical interference.

(b) The control switch for the brake shall be clearly marked for the engaged and disengaged positions and shall be installed on the console or other location in accordance with the consumer's needs for effective and safe operation.

(c) Power parking brake cables shall be firmly secured to the vehicle's undercarriage by automotive ties capable of withstanding harsh and abusive weather and road conditions.

(d) An indicator shall be visible from the driver's position when the parking brake is engaged and the ignition is on.

(e) The operation of the parking brake shall remain in compliance with the applicable portions of FMVSS 135, light vehicle brake systems.

(3) When the powered parking brake switch interface is located in an electronic secondary control system, the powered parking brake shall meet the requirements of paragraphs (C) and (F)(2)(a) to (F)(2)(e) of this rule.

(G) Turn signals.

(1) Turn signal lever extension. An add-on extension to the OEM turn signal lever, normally located on the steering column, may be clamp-on or bolt-on lever, or may be otherwise permanently attached to the lever. The device shall be designed so that it does not interfere with either primary or secondary control functions..

(2) Relocated controls. A relocated turn signal is a device which either replaces or is wired in parallel with the standard switching system for operating turn signals. A relocated turn signal control shall incorporate or leave intact the following provisions:

(a) Positive indication (that is, a light) that the turn signals are operating.

(b) Visible indication of the direction of turn.

(c) Automatic cancellation of the signal either by reverse turn of the steering system as on the OEM installation or by an automatic time-out circuit.

(d) Indication of signal lamp or other failures.

(3) When the turn signal switch interface is located in an electronic secondary control system, the turn signal shall meet the requirements of paragraphs (C) and (G)(2)(a) to (G)(2)(c) of this rule. The control shall meet the requirements of paragraph (G)(2)(e) of this rule, when it uses the OEM lamps to indicate signal direction.

(H) Hazard warning signals.

(1) Extension grip. An add-on extension grip to the OEM hazard warning switch handle, sometimes located on the steering column, may be a clamp-on or bolt-on lever, or may be otherwise permanently attached to the switch. The device shall be designed so that it does not interfere with either primary or secondary control functions. The hazard warning extension shall be designed to be operable in the driver's position.

(2) Relocated controls. A relocated hazard warning control is a device, which either replaces or is wired in parallel with the standard switching system for operating the hazard warning flashers. A relocated hazard warning control shall incorporate or leave intact the following provisions:

(a) Positive indication (that is, a light) that the hazard flashers are operating.

(b) Indication of signal light failure or other failure.

(3) When the hazard warning signal switch interface is located in an electronic secondary control system, the hazard warning signal control shall meet the requirements of paragraphs (C) and (H)(2)(a) of this rule. It shall meet the requirements of paragraph (H)(2)(b) of this rule when the lamps indicate the hazard warning signal being activated.

(I) Windshield wiper/washer.

(1) An add-on extension to the OEM windshield wiper and/or washer control handle or switch may be a clamp-on or bolt-on device, or this extension may replace the OEM handle or switch lever. The device shall be designed to be operable in the driver's position. Extensions to the windshield wiper/washer system shall meet FMVSS 104, windshield wiping and washing systems, as applicable.

(2) A relocated windshield wiper/washer control is a device which either replaces or is wired in parallel with the standard switching system for operating the windshield wipers and washers. A relocated windshield wiper/washer control shall meet FMVSS 104 as applicable and shall incorporate or leave intact the following provisions:

(a) All wiper speeds originally available with the unaltered windshield wiper system.

(b) Automatic parking of the wiper arms when the wiper system is shut off and the ignition is on.

(3) When the windshield washer/wiper switch interface is located in an electronic secondary control system, the windshield washer/wiper control shall meet the requirements of paragraphs (C) and (I)(2)(b) of this rule. The control

shall incorporate at least wash/wipe, slow, and fast settings.

(J) Ignition and engine start.

(1) An add-on extension handle to the OEM bezel that activates the ignition-system-status-and-engine-start function may be a clamp-on or a bolt-on device. This device shall be designed to be operable in the driver's position and when the vehicle is in motion. In addition, express provisions to minimize the possibility of inadvertent operation (particularly ignition shut off) shall be incorporated in the design of an add-on extension to the OEM bezel for the ignition switch. Extensions may be added to ignition keys for easier insertion into the lock and turning the key/lock.

(2) Relocated ignition/engine start controls are devices suitably designed that either replace the standard switching system or are wired in parallel with it. The ignition control and engine start control may be integrated as they are in almost all vehicles but they may also be separate controls if they are relocated so as to be accessible and/or operable in the driver's position. A relocated ignition switch shall incorporate the following provisions:

(a) Inadvertent operation, particularly operation which shuts off the ignition, shall be minimized by:

(i) Isolating or guarding the switch or control so that, although it is still accessible to the driver, it is not likely to be operated through mistake or accident. There are a number of methods for physically isolating or guarding a switch in sources such as MIL-STD 1472, section 5.4.1.8, prevention of accidental activation, as applicable. Specific attention to this requirement shall be documented by the adaptive equipment supplier and/or installer to ~~the RTSU of RSC~~ OOD before acceptance.

(ii) Plainly marking the ignition switch or control as provided in FMVSS 101.

(b) The battery disconnect shall retain the OEM provision to disconnect loads of auxiliary systems from the battery during engine cranking.

(c) When possible, the ignition switch shall retain provisions for theft protection.

(d) A relocated engine start switch or control shall incorporate or leave intact the following provisions:

(i) Interlock with transmission position so that engine cranking is only possible in park or neutral and, when the unmodified vehicle was so equipped, shifting from neutral or park requires application of the service brake; and

(ii) FMVSS 102, and MIL-STD 1472, section 5.4.1.8, as applicable, shall be met by all relocated ignition/engine start switches separately or combined.

(3) When the ignition and engine start switch interfaces are located in an electronic secondary control system, the ignition and engine start switch shall meet the requirements of paragraphs (C) and (J)(2) of this rule.

(K) Lights.

(1) Panel and exterior controls.

(a) An add-on extension handle or lever for a light switch may be a clamp-on or bolt-on device, or it may completely replace the OEM light switch knob or lever. This device shall be designed to be operable in the driver's position.

(b) Relocated light controls are devices that either replace the standard switching system or are wired in parallel with it. Although panel lights and exterior lights are generally on the same switch assembly, these functions may be separate switches if relocated. Exterior lights (that is, parking/running lights, marker lights, tail lights, license plate lights, and headlights) shall be controlled by a single switch assembly having three positions: one position turns on all exterior lights, except for headlights; one position turns on all exterior lights including headlights; and the third position is off. If panel light brightness control was part of the OEM design of the panel lighting circuit, provision for adjusting brightness of the panel lights shall be incorporated into the design of relocated light control.

(c) When the headlight control switch interfaces are located in an electronic secondary control system, the headlight control switch shall meet the requirements of paragraphs (C) and (K)(1)(b) of this rule, with the exception of the panel light brightness control. Headlights on/off control switch interfaces shall not be included on a scanning type control.

(2) Headlight beam selector. This device is often referred to as a "dimmer switch," and is designed to accomplish the function of selecting the upper and the lower beam headlights while the vehicle is in motion.

(a) Relocated beam selectors shall retain or substitute an equivalent high beam indicator which shall indicate to the driver when he/she has selected the high beam headlights.

(b) When the headlight dimmer control switch interfaces are located in an electronic secondary control system, the headlight dimmer control switch shall meet the requirements of paragraphs (C) and (K)(2)(a) of this rule.

(L) Seats. Seat requirements in this paragraph are limited to vehicle seats that are provided as replacements or supplements to OEM seats and are specifically designed for automotive installation. The term "seat" specifically excludes wheelchairs, whether occupied or not, and includes special adaptive seat assemblies that move a driver from a wheelchair transfer position to a position behind the controls or to a position as a passenger.

(1) Vehicle seats that replace or supplement OEM seats shall meet the requirements of FMVSS 207, seating systems, as applicable. Seats shall meet FMVSS 302, flammability of interior materials. Seats shall incorporate OEM restraint devices, or restraint devices shall be installed. All restraint devices shall meet the requirements of FMVSS 208, occupant crash protection.

(2) Any cable, wire bundle, or other connective device associated with a vehicle seat shall be designed to remain clear of pinch points, abrasion, or other damage and shall remain connected throughout the range of movement of the seat; and maintain any wires needed for devices associated with meeting the requirements of FMVSS 208.

(3) When the seat control switch interfaces are located in an electronic secondary control system, the seat control switch shall meet all requirements of paragraph (C) of this rule.

(M) Power transfer seat bases. A power transfer seat base, other than an OEM power seat base, is installed in a vehicle solely for adaptive reasons, e.g., to move the seat to a location more accessible for a wheelchair user to transfer from the wheelchair to the driver's seat. The powered transfer seat base typically provides longer travel, up/down motion, and ninety degree rotation.

(1) The powered seat controls shall be permanently labeled with seat movement icons. Direction of movement of the powered seat controls shall be consistent with the direction of the chair occupant's position, as provided in

MIL-STD 1472.

(2) Controls for the power seat base shall be operable by the seated occupant at any point during the transfer cycle to and from the power seat. All wires shall be protected against entanglement, possible disengagement, breakage, and stretching when the seat moves in any direction.

(3) The power seat base and the seat itself shall be mounted and secured with automotive type bolts/attachments of OEM grade or equivalent. If the seat base is not bolted through into a cross member of the vehicle, a steel backing plate of at least fourteen-gauge steel shall be used.

(4) The standard OEM seat belt arrangement shall be reattached to the vehicle. When a powered transfer seat base is used, a wheelchair tie-down shall be used to secure the wheelchair in the transfer position.

(5) The seat base must be tested to certify compliance to FMVSS 207 and 210.

(N) Seat adjustment. Adaptive devices for seat adjustment range from simple add-to existing manual releases on vehicle seats to relocated control panels for power seats. These devices bring seat adjustment controls within the reach of the driver to meet his/her needs.

(1) Manual extension levers. An add-on extension handle or grip to release a seat for manual adjustment may be a clamp-on or bolt-on device, or may be permanently attached to the OEM lever. The device shall be designed so that it does not interfere with either primary or secondary control functions, and does not present a hazard to vehicle occupants in the event of a collision.

(2) Power adjustment. A power seat control may be an OEM power seat control panel which is placed in a more accessible location, or a panel designed to control a special adaptive seat. The panel shall be designed and installed in such a manner that it does not interfere with operation of either the primary or secondary controls and that the probability of inadvertent operation of the seat is prevented when the vehicle is in motion. In the case of a powered seat that facilitates transfer of the driver from a wheelchair to the driver position, a control panel shall be located at the point of transfer and accessible to the driver when he/she is in the driver position. The control panel shall not be placed in a location where the user can catch his/her fingers in the seat mechanisms while in operation.

(O) Aftermarket power windows. Aftermarket power windows for after-market adaptation of vehicles are devices sold by accessory manufacturers to replace manual window cranks and shall conform to FMVSS 118, power-operated window, partition, and roof panel systems. The standards in this section do not apply to power window units that are manufactured by or for the vehicle maker for installation as a factory or dealer option, and that are retrofitted by a retail dealer; this exemption applies when the unit is installed and the controls are located as originally designed by the vehicle manufacturer.

(1) Switch design shall be tailored to the driver's degree of dexterity.

(2) When two switches are required, the switch layout shall be arranged so that there are two switches for each position, one for raising and another for lowering the window. The switch for raising shall be forward of or above the switch for lowering.

(3) If the aftermarket power window switch interfaces are located in an electronic secondary control system, the aftermarket power window switch shall meet the requirements of paragraphs (C) and (O)(1) and (O)(2) of this rule.

(P) Power windows. Power windows refer to power window units manufactured

by or for the OEM for installation as a factory or OEM dealer option and retrofitted by a retail dealer.

(1) Relocated power window controls. If the OEM power window control switches are not within the reach of the driver, the power window switches may be relocated to a more convenient location. A relocated power window control is a device that replaces the standard switching system for operating any or all of the power window controls, or is wired in parallel with it. Power window controls shall move in the following directions to raise or lower the windows, depending on placement:

(a) Horizontal placement of switch. The switch shall move toward the front of the vehicle to raise the window and toward the rear of the vehicle to lower the window.

(b) Placement on door panel. The switch shall move upward to raise the window and downward to lower the window.

(c) When pushbutton or contact switches are installed to accommodate the needs of the driver, arrangements shall be as specified pursuant to paragraph (P) of this rule. When two switches are required, one switch shall raise and another switch shall lower the window. The switch for raising the window shall be forward of or above the switch for lowering in all locations.

(2) When the power window switch interfaces are located in an electronic secondary control system, the power window switch control shall meet the requirements of paragraph (C) of this rule.

(3) Relocated power window controls or power window switch interfaces located in an electronic secondary control system shall comply with FMVSS 118.

(Q) Heating, ventilation, and air conditioning (HVAC) controls. This class of secondary controls refers to adaptive equipment to permit operation of selected functions or all functions built into a vehicle HVAC system. Nothing in this paragraph shall be construed to require any vehicle to be equipped with any HVAC system or part thereof.

(1) If an add-on extension or replacement handle to any control on the HVAC panel is installed, it shall be installed to render that control accessible to a driver in the driving position. Any extension handle shall be securely fastened or clamped, and shall be designed and installed so as to not interfere with the operation of primary adaptive controls. If such an extension or set of extensions are installed, provisions should be made to operate the functions in the following order of priority:

(a) Defrost.

(b) Fan.

(c) Temperature.

(d) Heat, air.

(e) Vent (outside air).

(f) Other functions.

(2) Relocated HVAC controls are devices to either replace the standard HVAC control panel or are wired/connected in parallel with it. The priorities of relocation of functions are the same as in paragraph (Q)(1) of this rule. Movement of relocated controls shall follow either the movements of the original panel or be designed in accordance with SAE J1139. ~~If a function is relocated to a secondary control panel, all states of operation that were~~

~~originally controlled should be available in the relocated control. For example, if three fan speeds were available on the original control panel, three speeds should be selectable on the relocated panel.~~

(3) When the HVAC control switch interfaces are located in an electronic secondary control system, the HVAC control switch shall meet the requirements of paragraphs (C) and (Q)(2) of this rule.

(R) Door locks. Locks as secondary controls include extensions or modifications to the manual door locks to make them accessible and controllable from the driver's position, and controls for operating power door locks.

(1) An add-on manual extension to the OEM manual door lock handle may be a clamp-on or bolt-on device, or this extension may be a replacement for the OEM handle to make it more accessible or easier to operate by the driver in the driver's position.

(2) A relocated power door lock control is a device which either replaces the standard switching system for operating either all the door locks or any particular door lock or is wired in parallel with it. Power door lock controls shall move in the following directions to raise the door lock button, depending on placement:

(a) Horizontal placement of switch. The switch shall move toward front of vehicle.

(b) Placement on door panel. The switch shall move upwards.

(c) Engaging of door lock shall be accomplished in all cases above by a control movement in the opposite direction.

(d) Switch design shall be tailored to the driver's degree of dexterity. If push buttons or contact switches are used in order to adapt to the driver, arrangements shall be as specified above. When two switches are required, one switch shall raise the door lock and the other shall lower it. The switch for raising shall be forward of or above the switch for lowering in all locations specified above.

(3) When the power door lock control switch interfaces are located in an electronic secondary control system, the power door lock control switch shall meet the requirements of paragraph (C) of this rule.

(4) Relocated power door lock controls or power door lock control switch interfaces located in an electronic secondary control system shall retain OEM compliance with FMVSS 114, theft protection.

(S) Horn.

(1) Relocation horn controls shall retain instant accessibility of the OEM horn control and all other attributes of the OEM horn function.

(2) When the horn control interface is located in an electronic secondary control system, the horn switch shall meet the requirements of paragraphs (B) and (S)(1) of this rule.

(T) Cruise control.

(1) A relocated cruise control is a device that either replaces or is wired in parallel with the standard switching system for operating the OEM or an aftermarket cruise control. A relocated cruise control shall be in compliance with FMVSS 124, and all functions originally available shall remain unaltered.

(2) When the cruise control switch interface is located in an electronic

secondary control system, the cruise control system shall meet the requirements of paragraphs (C) and (T)(1) of this rule.

(U) Mirror control.

(1) A relocated mirror control is a device that either replaces or is wired in parallel with the standard switching system for operating the OEM or an aftermarket mirror control. A relocated mirror control shall leave intact all functions originally available.

(2) When the mirror control switch interface is located in an electronic secondary control system, the mirror control system shall meet the requirements of paragraphs (C) and (U)(1) of this rule.

(3) It should be noted that while FMVSS 111, rearview mirrors, prohibits moving or removing OEM mirrors, it does not prohibit installing additional mirrors when needed by the consumer for proper visibility.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-07 Access devices.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) Wheelchair lifts. Automatic and semi-automatic wheelchair lifts include a variety of electric powered, mechanical, and hydraulic systems used to raise or lower a person in a wheelchair from one level to another.

(1) This paragraph is limited to automatic power lift systems manufactured for use by persons with disabilities and retrofitted in vehicles (for example, vans). An automatic wheelchair lift permits independent entry into a van for a person who remains in a wheelchair. ~~RSC~~ OOD shall purchase only those wheelchair lifts that comply with FMVSS 403, platform lift systems for motor vehicles, and that do not reduce the ground clearance of the standard (unmodified) vehicle to less than eight inches.

~~(2) A semi-automatic lift is designed to be operated by a person other than the individual being raised or lowered by the lift, for example, an attendant, and is not suitable for drivers who can otherwise drive a vehicle without an attendant. This paragraph is limited to power lift systems manufactured for use by persons with disabilities and retrofitted in vehicles, and that must be operated by an attendant. Semi-automatic wheelchair lifts shall comply with FMVSS 403.~~

~~(3)~~ (2) All lifts installed by retail dealers shall be installed in compliance with FMVSS 404, platform lift installations for motor

vehicles.

(B) Seat lifts. Seat lift systems include a variety of devices that assist an individual into or out of a vehicle seat. Seat lift systems can be powered or manual in operation.

(1) All powered systems shall be independently operable by the user. Powered seat lift controls shall be permanently labeled with movement icons consistent with the provisions of MIL-STD 1472C.

(2) All wires shall be protected against entanglement, possible disengagement, breakage, and stretching during seat lift movement in any direction.

(3) Seat lift capacity shall be stated by the manufacturer.

(4) Installation shall not interfere with driving functions.

(C) Exterior mounted entry switching. Exterior mounted entry switching is any electrical control device mounted on the exterior of a vehicle that is designed to operate adaptive or other equipment by an operator with a disability, such as: door open/close, unfold/closing of the lift platform, and up/down operation of the lift platform.

(1) Exterior mounted entry switching performance requirements.

(a) If a lockbox (Exterior switch(es)) is used, it shall ~~:~~ be located so that opened vehicle doors do not interfere with the consumer's access to the switches.

~~(i) Be constructed of fiberglass, aluminum, stainless steel, or other noncorrosive material and be attached with noncorrosive fasteners;~~

~~(ii) Have an enclosed back; and~~

~~(iii) Be located so that opened vehicle doors do not interfere with the consumer's access to the switches.~~

(b) ~~Controls~~ Exterior switches shall possess a water-tight seal to prevent moisture from penetrating below the ~~control panel~~ switches . ~~The door of the control box shall have a weather seal to exclude any rain or moisture.~~ The ~~control box~~ switches shall have a lock which can be operated by an individual with limited finger dexterity.

(c) ~~Exterior control boxes~~ Switches that do not conform to this general performance guideline may be accepted if they are listed as an option on the original proposal and authorized by ~~the RTSU of RSC~~ OOD .

(2) Alternative controls. Magnetic, remote (radio, etc.) controls or other alternative exterior controls may be used if required because of the consumer's disability.

(D) Powered door operators. Powered door operators are any powered devices that will open and close vehicle doors to enable access to the vehicle. Exterior controls for powered door operators shall meet the standards of paragraph (C) of this rule. Powered door operators shall close the doors in four to ten seconds and shall meet the following specifications:

(1) Door operators shall permit complete closing of the door in a position at least equivalent to the manufacturer's original installations so the doors fit within the vehicle body when in the full-powered, closed position.

(2) OEM door latches must be retained ~~except doors that are equipped with the wheelchair lifts and that are linked to an alarm system consisting of either a flashing visible signal located in the driver's compartment or an alarm audible to the driver that is activated when the door is open~~ consistent with FMVSS 206.S4, door locks and door retention components, requirements.

(3) Door operators shall have an interior, emergency, quick-release manual mechanism that shall permit the opening of the doors to ensure the consumer's exit if power fails.

(4) Door operators shall be designed and installed so that the doors can close only when the lift is fully folded.

(5) Automatic lighting shall be installed in conjunction with automatic power doors to illuminate the lowest lift platform position when the automatic doors are opened. Automatic interior lights shall go on when the door is opened and shut off when the door is closed.

(E) Ramps. Ramps permit an occupant in a wheelchair to roll or be pushed into and out of a vehicle. These devices shall be permanently installed.

(1) Ramps are permitted on lowered floor minivans and specialty vehicles as defined in rule 3304-6-15 of the Administrative Code.

(2) Ramps shall be prohibited in full sized vans unless they meet with ADA compliant ramp angles .

(F) Steps. Steps are either folding or fixed and are used by ambulatory persons to gain access to a vehicle or exit from it. OEM steps or running boards are excluded from the provision of this paragraph.

(1) Steps shall have a nonskid surface.

(2) Steps shall be affixed to the vehicle in a manner sufficient to sustain the weight of the intended user without permanent deformation or separation from the vehicle.

(3) Steps shall conform to section 5577.05 of the Revised Code with reference to the maximum width of a vehicle.

(G) Assist handles. Assist handles are hand grips provided for the purpose of transferring from one location to another during entering or leaving a vehicle, moving around inside a vehicle, or performing other similar maneuvers. OEM assist handles are excluded from consideration under this paragraph.

(1) Handle dimensions shall afford a grip clearance of at least one and seven-eighths inches by four and three-eighths inches (inside dimensions) with at least a one inch diameter grip.

(2) Covers of handles shall be rounded and shall be padded to prevent injury.

(3) The grip surface shall be covered or equipped with a material that will provide thermal protection from heat or cold and afford maximum hand grip.

(4) Handles shall be installed so that they can support the load to be applied by the intended user without permanent deformation or separation from the vehicle.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 09/04/1990, 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-08 Wheelchair/scooter handling devices.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

Wheelchair/scooter handling devices are devices for retaining an unoccupied wheelchair/scooter on or in a vehicle. This function includes provisions for hoisting or lifting the wheelchair/scooter onto the vehicle or into it after its user exits the chair; retaining the wheelchair/scooter on the vehicle or in it, and placing the wheelchair/scooter within reach of the user after a trip in the vehicle is completed. Before a carrier or hoist can be funded by ~~RSC~~ OOD , the consumer's vehicle shall be inspected as required by paragraph (K) of rule 3304-6-04 of the Administrative Code.

(A) Car top carriers. Car top wheelchair carriers include any mechanism for loading or unloading a wheelchair into and out of a closed container specially designed for storage and permanently mounted on the vehicle.

(1) Performance requirements. Carriers shall incorporate an enclosure or cover to protect the wheelchair from the elements, and to prevent damage to the chair when it is in the stowed position. Carriers shall not extend beyond the perimeter of the vehicle, unless approved on a case-by-case basis by ~~the RTSU of RSC~~ OOD .

(a) The wheelchair shall be secured or restrained at all times by the carrier when the chair is stowed.

(b) Hoist devices may be levers or arms, or may incorporate cables or chains. Components, even when in a worn condition, shall not expose the wheelchair user to sharp edges or abrasion during any point in the operation of wheelchair containment.

(c) Hooks or other devices for retaining the chair during loading or unloading shall incorporate provisions for avoiding accidental release.

(d) Wheelchair containers or covers shall be designed to fulfill their function without damage to the chair.

(e) Wheelchair containers or covers shall be designed so that, in the event of mechanical or electrical failure, a manual override is available to allow the wheelchair to be removed from the device.

(2) Installation. The carrier with intended wheelchair load shall not be so heavy as to statically deform the vehicle sheet metal on which it is resting in excess of 0.125 inch at any single point of contact. Any penetrations into the passenger or luggage compartment for carrier retention or for electrical cables or similar connections shall be sealed to prevent moisture entering the

passenger compartment. Exterior controls shall meet the requirements of paragraphs (C) to (C)(2) of rule 3304-6-07 of the Administrative Code, as applicable. Wheelchair carrier controls shall be located to allow the wheelchair user to operate the carrier unassisted during all phases of the loading, stowing, and unloading operation.

(B) Wheelchair/scooter carriers/hoists that are permanently mounted on the vehicle bumper via a towing hitch or in a similar manner and carry the wheelchair/scooter shall not be approved.

(1) Wheelchair/scooter carriers/hoists that temporary attach to a vehicle towing hitch to assist in storing the wheelchair/scooter in the trunk of the car or other interior area of the vehicle may be utilized.

(2) Specialty trailers that are designed to carry only wheelchair/scooters in a secure, weather tight enclosure will be considered on a case by case basis and shall be documented by OOD before the approval process begins. At the discretion of OOD the specialty trailers will be considered if it complies with the performance requirements of paragraph (A)(1) of this section.

(C) Hoists. Wheelchair/scooter hoists include any mechanism for loading and unloading a wheelchair/scooter from the passenger compartment of a vehicle, the luggage compartment of a sedan or station wagon, the cargo space of a van or minivan, or the bed of a pickup that does not fit the description of a wheelchair lift or car top wheelchair carrier. These devices pull a wheelchair/scooter into the vehicle, extract it from its stowed position, and place it back onto the pavement. Wheelchair/scooter hoists may be manually or power operated.

(1) Hoist devices may be levers, platforms, arms, or may incorporate cables and chains. Components, even when in a worn condition, shall not expose the wheelchair/scooter user to sharp edges or abrasion during any part of the operation of a wheelchair/scooter hoist. Hooks or other devices for retaining the wheelchair/scooter during loading or unloading shall incorporate provisions for avoiding accidental release. A wheelchair/scooter hoist shall not compromise crashworthiness provisions of the vehicle, and shall not be located in such a position that the driver or any front-seat passenger is likely to strike a structural member of the loader if they are properly restrained in the vehicle.

(2) Any mounting holes drilled in the vehicle structure to install the hoist shall be sealed. Electrical wiring shall be routed and/or protected to limit abrasion or interference with any vehicle mechanism, or interference with the driver's ability to enter or exit the vehicle.

(a) Installation of the hoist in a pickup truck bed shall not interfere with the normal operation of the tailgate whenever possible. Installation of the hoist in the luggage compartment shall not interfere with closure of the luggage compartment deck lid.

(b) Installation of the hoist in a pickup truck bed may require installation of a motorized pickup bed cover (truck cap) based upon the recommendation of the driver rehabilitation specialist and with approval of ~~the RTSU of RSC~~ OOD . Powered pickup truck cap operators are any powered device that will open and close the pickup cap. Controls are typically on an inside pendent and/or remote control. If outside controls are used, they shall meet standards of paragraph (C) of rule 3304-6-07 of the Administrative Code. Powered pickup truck cap operators shall meet the following specifications:

(i) Powered pickup truck cap operators shall permit complete closing of the cap such that the cap fits the pickup body in the closed position equivalent to

the cap manufacturer's original installation intent.

(ii) Cap hinges shall be secured to the pickup box by manufacturer specified fasteners.

(c) Installation of the hoist in the luggage compartment shall not interfere with closure of the luggage compartment deck lid and shall not interfere with access to the spare tire when the wheelchair/scooter is removed.

(d) Wheelchair/scooter hoist controls and operating mechanisms shall be located to allow the wheelchair/scooter user to operate the hoist unassisted during all phases of loading, stowing, and unloading.

(3) The wheelchair/scooter hoist and the wheelchair/scooter shall not cause the gross vehicle axle rating (GVAR) or the vehicle to be exceeded.

(4) The combined weight of the wheelchair/scooter hoist, the wheelchair/scooter, and the number of passengers that can be transported in the vehicle, assuming a weight of one hundred fifty pounds for each passenger, shall not cause the gross vehicle weight rating (GVWR) of the vehicle to be exceeded.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-09 Occupant protection and restraint system.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) Restraints for driver/passenger not seated in a wheelchair.

(1) Passenger and driver restraints installed as part of an adaptive equipment modification to a vehicle shall meet the requirements of FMVSS 209, seat belt assemblies and FMVSS 210, seat belt assembly anchorages as applicable to the design of the belt system that is installed and shall be installed in the manner prescribed by the system's manufacturer. Restraints shall meet these design and installation requirements regardless of the design of the seat or other accommodation that may be provided for the driver or passenger.

(2) Passenger- and driver-restraint systems installed as a part of an adaptive modification to a vehicle shall provide an upper torso restraint through the use of a shoulder belt or harness regardless of the riding position in the vehicle. The upper torso restraint anchorage points shall meet the design requirements of SAE J383.

(a) Passenger and driver restraints for a driver/passenger not seated in a wheelchair, as well as the driver restraints for a driver riding in a removable

driver's seat pursuant to paragraph (B)(1)(d)(x) of rule 3304-6-10 of the Administrative Code, shall meet the requirements specified in paragraph (A)(1) of this rule.

(b) Chest straps or other devices to be used in conjunction with a shoulder belt shall be provided if necessary for the consumer's upper torso stability.

(c) All passenger- and driver-restraint systems modifications shall be situated so that the person with a disability is facing forwards.

(3) Driver restraints installed as part of an adaptive equipment modification to a vehicle shall be suitable for independent operation by the driver for whom it is supplied.

(B) Restraints for driver/passenger seated in a wheelchair. The wheelchair tie-down and occupant-restraint system (WTORS) intended for use by the person seated in a wheelchair includes a system or device for wheelchair tie-down as well as a separate and complimentary system for occupant restraint.

(1) WTORS shall meet the following specifications:

(a) WTORS shall be installed in accordance with the manufacturer's instructions, and shall be through-bolted with minimum grade 5 bolts into a structural member or sheet metal of at least sixteen-gauge or back plating of at least sixteen-gauge sheet metal that is a minimum of sixteen square inches in size and has been through-bolted or welded to the vehicle body.

(b) The manufacturer of the WTORS to be installed shall certify that the system meets the following requirements:

(i) For use in conjunction with a safety belt system, the system shall keep the wheelchair and occupant securely restrained in a thirty mile per hour frontal collision into an immovable barrier. The deceleration level at the floor of the vehicle during the collision shall be defined as twenty G's (G=32.2 feet/second/second). The manufacturer shall provide documentation that the tie-down meets this criteria when fully tested dynamically and under identical conditions on an impact sled simulator equal to the sled facility at the University of Michigan Transportation Research Institute (UMTRI), or that the tie-down complies with SAE J2249.

(ii) The system shall not be attached to van doors and shall not depend on friction.

(iii) The system shall not be attached to the wheels of the wheelchair.

(iv) The system shall not be attached to any wheelchair part that is designed for easy removal, for example, footrests or armrests.

(v) The system shall allow the consumer, when he/she is the driver, to independently maneuver the wheelchair into and out of the driving position and to independently engage the tie-down and chest straps or other devices necessary for upper torso stability.

(vi) The power-operated wheelchair tie-down for a driver shall be wired so that the release of the tie-down can only be activated when the ignition switch is off or so that an audible alarm sounds whenever the ignition is turned on and the wheelchair lockdown mechanism is not engaged.

(c) A wheelchair tie-down for a passenger shall be a belt tie-down using standard or retractable belts unless a power-operated tie-down has been justified by the driver rehabilitation specialist and ~~the RTSU of RSC~~ OOD has approved it.

(d) A wheelchair tie-down for a passenger may utilize fabric loops attached to the wheelchair to facilitate reaching a suitable attachment point on the wheelchair if the loops are obtained from the same manufacturer as the wheelchair tie-down.

(e) All retail dealer installed lap belts shall cross the occupant at the "H-Point".

(2) Based on engineering analysis and test results provided by the manufacturer or supplier, innovative designs for wheelchair tie-down and occupant restraint systems not envisioned under the requirements of this rule may be utilized with the approval of ~~the RTSU of RSC~~ OOD .

(C) Unoccupied wheelchair/scooter restraints. Wheelchair/scooter restraints for securing a wheelchair/scooter after its user has transferred into a vehicle seat include devices for retention of a folded wheelchair as well as devices for retention of a wheelchair in its unfolded state. Vehicles equipped with transfer seats shall have restraints to secure the unoccupied wheelchair/scooter and shall be placed in such a position to allow the consumer to transfer satisfactorily.

(1) Such restraints need not meet the criteria described in paragraphs (B) to (B)(1)(b)(iv) of this rule.

(2) Such restraints often mounted facing sideways shall be labeled "For Unoccupied Wheelchair Only."

(D) Inflatable restraint system. The inflatable restraint system consists of sensor(s), diagnostics, inflator(s), and module(s) which inflate a bag in certain vehicle crashes to assist the occupant(s) from impacting the interior portion of the vehicle.

(1) Consistent with NHTSA in accordance with 49 C.F.R. 595, an air bag may be permanently deactivated when it is necessary to remove the steering column in order to place the consumer in the best position to operate steering controls as described in rule 3304-6-13 of the Administrative Code or when air bag on/off switches do not exist and drivers using adaptive devices are not able to be positioned far enough away from the air bag to avoid injury.

(a) When the steering column/steering wheel is removed as part of the modifications, the passenger side air bag shall remain in operation unless the vehicle steering column wiring prevents this. If the consumer wishes the passenger side airbag to be removed/disabled, he/she shall follow the process described in paragraph (D)(2) of this rule.

(b) When the steering column/steering wheel is not removed but the air bag is deactivated, a retrofit air bag on/off switch, if available, shall be installed to allow drivers without a disability to use the air bag.

(2) When additional vehicle modifications due to disability are not required, NHTSA does not grant permission for air bag deactivation under the exemption to the make inoperative prohibition. In these situations, the consumer shall complete a request for removal of an air bag form, and submit for approval to NHTSA (or comply with current NHTSA regulations regarding air bag removal/deactivation). Once such a waiver is obtained from NHTSA, copies shall be kept by the retail dealer and the consumer. If removal of the steering column is not implicit in the vehicle modification prescription and the evaluation does not explicitly indicate the need for permanent air bag deactivation due to positioning, such removal/deactivation of an air bag is strictly the prerogative and responsibility of the consumer, to be pursued by the consumer through the procedures made available by NHTSA.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 09/04/1990, 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-10 Vehicle structural modifications.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) Wheelchair flooring. Wheelchair flooring is a covering on the floor of the vehicle that promotes ease of use and safety in mobility of a wheelchair user.

(1) Performance requirements.

(a) On ribbed vehicle floors of non-lowered floor OEM vehicles, wheelchair flooring shall be constructed of exterior grade or better plywood with a minimum thickness of three-eighths inch or sheet steel of at least twenty gauge.

(b) On flat portions of floors adjacent to ribbed floor areas where wheelchair flooring has been installed, wheelchair flooring shall be constructed of exterior grade or better plywood or sheet steel of sufficient thickness for a smooth transition. Other materials may be acceptable as equivalent in structure to plywood or sheet steel, but their use shall be reviewed and approved by ~~the RTSU of RSC~~ OOD .

(c) Wheelchair flooring shall not perceptively sag under load into depressions in the vehicle floor.

(2) Installation of wheelchair flooring shall be designed to be permanent. The method of fastening may be bolts, rivets, spot welding, bonding, or other methods. However as part of the final inspection, ~~RSC~~ OOD or its representative may partially remove the flooring in order to verify compliance to this rule.

(a) If the work was performed according to specifications and ~~RSC~~ OOD removed it for inspection, ~~RSC~~ OOD will pay for reinstallation of the flooring.

(b) If ~~RSC~~ OOD removes the flooring and the work was not performed according to specifications, the vendor shall absorb the cost of reinstallation.

(3) The floor covering shall be commercial-grade carpet, indoor/outdoor carpet, or nonskid material such as RCA rubber. Carpet shall be unpadded, low-pile, fire-resistant, and it shall be attached all across the floor; perimeter tack strips shall not be used.

(B) Dropped floor. A dropped floor is a recessed area that allows a wheelchair to be lower relative to the windows than is possible with open flooring. This lowering is necessary to achieve a safe eye-height for a driver who is driving from a wheelchair. Dropped floors are considered radical modifications and, as such, should be used when the driver is unable to transfer from a wheelchair into a suitable driver's seat to achieve maximum visibility for the driver who is seated in a wheelchair. In passenger applications, dropped floors should be considered only as an exception when a less radical raised-top modification cannot assist in obtaining sufficient head height clearance for the passenger in a wheelchair.

(1) When a dropped floor is necessary on a 2004 or later full-size van, it shall be done only on vehicles with an independent frame (non unit body construction) and on a model which has not been specifically disapproved by the OEM for such a modification. The structural modifier shall submit a plan that demonstrates compliance with all applicable federal motor vehicle safety standards and regulations. Data verifying compliance with the following items shall be submitted to ~~the RTSU of RSC~~ OOD :

(a) If the structural modifier has tested the floor lowering to the satisfaction of the OEM for the model vehicle being modified, approval of the floor lowering on OEM signed letterhead shall be sufficient proof of compliance.

(b) If the structural modifier is using the NMEDA floor lowering plan as the method to demonstrate compliance, the structural modifier shall:

(i) Be accredited as NMEDA QAP structural modifier and be able to produce a copy of the relevant NMEDA QAP lowered floor guidelines manual for the vehicle being modified. The vehicle shall be inspected to assure compliance with that guideline;

(ii) Produce certification from the fuel tank manufacturer stating that the fuel tank has been tested and found to be in compliance with FMVSS 301, fuel system integrity, in a vehicle using the NMEDA ~~QAP lowered floor~~ guidelines for the vehicle being inspected; and

(iii) Produce certification that the fuel system as installed per the NMEDA ~~QAP lowered floor~~ guidelines and the fuel tank manufacturer's instructions meet all federal emissions standards.

(c) All structural modifiers who plan to independently demonstrate compliance with applicable federal motor vehicle safety standards and regulations shall submit documentation that:

(i) The structural modifier has been audited for a comprehensive quality control program (e.g., participation in the ford truck quality program or equivalent).

(ii) The modification complies with applicable federal motor vehicle safety standards 49 C.F.R. 571.101, 108, 114, 118, 135, 201 to 204, 207, 208, 214 and 225 that are not exempted by 49 C.F.R. 595, or evidence that the non-exempted part of the FMVSS is not relevant to the modification.

(iii) The modification complies with federal motor vehicle safety standards 49 C.F.R. 571.102 to 104, 106, 111, 113, 116, 124, 129, 205, 206, 209, 210, 212, 213, 216, 301 and 302, or evidence that the indicated FMVSS is not relevant to the modifications.

(iv) The modification is in compliance with federal emissions standards.

(v) The modifier has liability insurance as defined in paragraph (I)(1) of rule 3304-6-03 of the Administrative Code. Proof that such insurance remains in

full force and effect shall be provided to ~~RSC~~ OOD on an annual basis. The structural modifier shall notify his/her insurance carrier(s) that ~~RSC~~ OOD shall be notified within thirty days of any reductions in coverage or cancellation. ~~The~~

(vi) The structural modifier shall also supply an indemnification notice to ~~RSC~~ OOD stating that he/she shall indemnify and hold ~~RSC~~ OOD , its agents, employees, and consultants harmless from all claims, damages, suits or actions, including any judgment, costs, expenses, and legal fees arising from any modifications made by said structural modifier.

(d) All structural modifiers demonstrating compliance pursuant to paragraph (B) of this rule shall meet the following additional requirements and shall provide documentation to ~~the RTSU of RSC~~ OOD relative to compliance with these requirements:

(i) No part of the body shall be attached to the frame except in a manner consistent with the concept and design of the original attachment.

(ii) All requirements described in paragraphs (A) to (A)(3) of this rule shall apply to a dropped floor.

(iii) A dropped floor shall be a minimum of eleven-gauge fabricated steel.

(iv) A dropped floor shall have heat shielding over the catalytic converter, exhaust pipe and the muffler to prevent transmission of excess heat to the floor.

(v) All seams shall be waterproof and treated to prevent corrosion through application of a suitable sealant, primer and paint. An automotive grade undercoating shall be applied to the exterior surfaces of the dropped floor. Installation shall not leave gaps or holes of any kind between the original floor and the dropped floor.

(vi) Cutting and/or welding of the body for the lowered floor installation shall be performed by a certified welder. The methods used shall meet or exceed OEM recommendations and methods described in service and shop repair manuals for that model vehicle and shall conform to SAE welding standards and good engineering practice. There shall be no body-to-frame welding.

(vii) Cutting of the frame for the lowered floor installation shall be allowed only if the floor is to be lowered more than six inches.

(viii) If the body is raised in order to lower the floor by the needed amount, the modification shall comply with paragraphs (C)(1) to (C)(4) of this rule concerning raised bodies.

(ix) If the fuel system is modified to lower the floor, the modification shall comply with the fuel delivery system modifications described in rule 3304-6-11 of the Administrative Code.

(x) A quick release removable seat base shall be provided in all vans configured so that an individual can drive from a wheelchair. The removable driver's seat shall have a suitable restraint system pursuant to paragraph (B) of rule 3304-6-09 of the Administrative Code. During the approval process, the modifier shall notify ~~the RTSU of RSC~~ OOD whether or not the removable driver's seat can be moved to the passenger side if the floor is lowered on both sides and, if so, whether the air bags and other parts of the restraint system work properly in the alternate locations.

(2) Approval of the structural modification.

(a) All information provided by the structural modifier in paragraphs

(B)(1)(a) to (B)(1)(d) of this rule shall be considered public information and subject to public information requests.

(b) The information shall be reviewed by a team of licensed engineers for approval. When a dropped floor is being considered, the review may include a visual inspection of the vehicle.

(c) All design changes to an approved structural modification shall be reported to ~~the RTSU of RSC~~ OOD . The information to be submitted for design change review is that indicated in paragraphs (B)(1)(a) to (B)(1)(d) of this rule. When the information previously provided in paragraphs (B)(1)(a) to (B)(1)(d) of this rule remains the same as the original design, the structural modifier shall provide a written statement to that effect in lieu of resubmitting the requested information. ~~The RTSU of RSC~~ OOD shall determine whether the design change is sufficient to warrant the need for approval as a new structural modification.

(d) ~~RSC~~ OOD shall not purchase design changes prior to notice, review and approval by ~~the RTSU of RSC~~ OOD .

(e) ~~The RTSU of RSC~~ OOD reserves the right to suspend or withdraw approval without prior notification to the manufacturer if the structural modifier's product is found to be in violation of these rules or is found to involve a significant risk to the consumer's safety.

(3) Floor lowering on 2003 or earlier full sized vans may not be possible due to the availability of fuel tanks and fuel systems which comply with FMVSS 301 and current federal emissions regulations. All bids shall be coordinated with ~~the RTSU of RSC~~ OOD .

(4) Any engine cover notch shall be sealed to prevent exhaust fumes from entering the van and shall be sufficient for footrest clearance.

(5) Notched fender wells for wheelchair footrests shall not restrict the travel of the vehicle's wheel in any direction.

(C) Raised body. If the body is raised to lower the floor more than the OEM design allows between the body and the frame in order to achieve consumer visibility needs, the following specifications shall be met:

(1) Body raise spacers shall be solid steel or other material with comparable characteristics, and no less in diameter than the existing base of the body mount. Any replacement bolts shall be minimum grade eight. Body supports shall be equal in number and similar in function to the OEM design. Locations shall be in accordance with the applicable NMEDA ~~lowered floor~~ guidelines ~~manual~~ unless the structural modifier is able to demonstrate compliance through independent crash test certification.

(2) For the radiator and fan shroud to remain in the same relationship to the engine as before modification, both shall be remounted to the vehicle body in a manner that retains the original fan-to-radiator relationship.

(3) To retain the steering column's original angle, the original entry hole shall be enlarged. If the existing rubber boot or seal will not cover the new opening, it shall be replaced with another boot or with a sheet metal plate conforming to the shape of the column. The plate shall be fastened to the dash panel above the entry point to cover the new opening. The entry point shall be sealed with a flexible sealant to assure that the juncture is watertight.

(4) Body raises shall not be completed in combination with roof raises that are of more than twelve inches.

(D) Raised roofs. Raised roofs are structural modifications to any vehicle

that substitute an after-market roof for the original roof of the vehicle. The after-market roof is installed to increase vertical clearance inside the vehicle to facilitate entering, exiting, and maneuvering inside the vehicle. The principal objective of paragraphs (D)(1) to (D)(2)(c) of this rule is to prevent any unreasonable compromise to vehicle structural integrity by removal of the original sheet metal roof and reinforcing members and by substitution of a raised roof.

(1) Raised roofs shall be constructed of durable materials, suitably finished to resist the effects of sunlight, moisture, snow, ice, and temperature extremes. Any fixtures mounted in a roof such as windows, ventilators, antennas, etc. shall be designed to be air-and-moisture leak resistant. The exterior of the raised roof shall be painted to match the body color of the van to which it is affixed. The roof interior shall be trimmed in a material and color to complement the vehicle's interior.

(2) Any raised roof conversion shall be provided with suitable reinforcement members. These members connect the sides of the vehicle body and preserve interior space in the event of a major collision or rollover. The raised roof shall meet the following specifications:

(a) Any van that has had the factory top removed shall have structural reinforcement added to restore rigidity to the van body. When possible, enough of the original roof shall be retained so that the original front roof support remains in place. The structural reinforcement shall be composed as follows:

(i) If the original front roof support remains in place, three cross-members shall be perpendicular to the sides of the van with one bar in front of the side doors, one to the rear of the side doors, and one in the rear of the van. If the original front roof support is removed, roof reinforcement must be done exactly as described in the NMEDA ~~raised roof and doors~~ guidelines with a total of five cross-members.

(ii) The cross-members shall be connected by three equally spaced bars (longitudinal members) running parallel to the sides of the van at the new roof line.

(iii) All bars shall be one-inch by two inch minimum one-eighth inch steel tubing, and shall be spaced to prevent slap against the top.

(iv) The bars shall be welded together and welded to ~~a one-and-one-half inch by one-and-one-half inch eleven-gauge steel header installed along the top interior sides of the van to which reinforcement is attached~~ (1) a steel header composed of tubing (1.5 inch by 1.5 inch by 11 gage thick), or (2) a steel attachment, plate as described by the NMEDA Guidelines (75 mm by 100 mm by 4 mm thick), or (3) a steel base plate as described by SAE J1725, "Structural modification for personally licensed vehicles to meet the transportation needs of persons with disabilities',which ever option is compatible with the original vehicle design and/or the raised roof design.
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(v) The horizontal bars shall be compatible with NMEDA and SAE ~~gussetted to the side header~~ to prevent front or rear shearing in rollover.

(vi) The structural reinforcement shall have one-half inch clearance from the raised roof.

(b) Neither water leaks under water hose pressure nor water collection points that could develop leaks shall be acceptable.

(c) The height of the roof shall be determined by the consumer's needs for safe and convenient entry and exit. ~~RSC~~ OOD shall not purchase a raised roof or reinforcement if the only reason for the increased height is

to accommodate the addition of carpeting or padding. Further, ~~RSC~~ OOD shall not purchase a roof with vents or windows unless it costs the same or less than a ventless/windowless roof of comparable height. A label identifying the maximum exterior height shall be prominently displayed within the driver's view.

(d) Roof raises of more than twelve inches shall not be completed in combination with body raises.

(e) The raised roof shall comply with applicable portions of FMVSS 216, roof crush resistance.

(f) The raised roof shall have an interior shell or headliner to protect occupants from the structural reinforcement.

(i) Raised roof interiors shall comply with applicable sections of FMVSS 201 not excluded by 49 C.F.R. 595.

(ii) Interior shells or headliners shall comply with FMVSS 302.

(E) Modified doors. Any alteration to the OEM vehicle doors that necessitates changes to the door frame constitutes a modified door. These modifications may be accomplished to increase entry height or width, to accommodate a raised roof or wheelchair lift installation, or for other special needs.

(1) Extensions to doors to make them taller or wider shall be accomplished in such a manner as to preserve the original door strength and rigidity. Corresponding alterations to door pillars and frames shall also preserve the structural integrity of the original body member. Raised entry doors and door frames shall meet the following specifications:

(a) Extended doors and door frames shall be braced in a manner consistent in strength to the original door and door frame.

(b) Completed doors shall include rubber molding and shall be moisture-sealed to prevent moisture or water entry in the full-powered closed position so that the seal is at least equivalent to the manufacturer's original installation.

(c) When a lift has not been mounted inside the extended doors, the doors must comply with applicable sections of the FMVSS 206, door locks and door retention components. All OEM latches shall remain functional and comply with the FMVSS 205, glazing materials. Documentation of compliance with the FMVSS governing latching of doors shall be provided to ~~the RTSU of RSC~~ OOD .

(2) All body work shall be primed and painted in accordance with accepted standards of automotive practice, and shall be comparable to the original fit and finish. Trim of the interior of the modified door shall be comparable to the original trim of the door. Door modifications shall be free of exposed burrs or sharp metal edges.

(F) Bumper height. The bumper height shall not be altered from the original height unless (1) directed to by the original equipment manufacturer (OEM) during vehicle structural modification and, (2) the new bumper height configuration has been tested as directed by OEM or to a 30 mph frontal impact as described in FMVSS 208 and a 5 mph frontal impact no airbag deployment test. At no time shall the raised bumper violate the Ohio Motor Vehicle Code .

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 09/04/1990, 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-11 Full size van fuel delivery system modifications.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) Replacement fuel tanks. ~~RSC~~ OOD will pay for removal of the OEM midship fuel tank only when it is necessary in order to achieve a dropped floor.

(1) ~~RSC~~ OOD will approve the installation of a fuel delivery system only when it is compatible with the OEM's design specification, meets all applicable sections of the FMVSS, and is approved by the OEM and/or ~~the RTSU of RSC~~ OOD .

(2) When an OEM approved product exists for a particular application, it shall be used in lieu of any other product.

(3) When a product is used that is not specifically approved by the OEM, the modifier shall demonstrate compliance with the FMVSS 301 and all applicable federal emissions standards pursuant to paragraph (B)(1) of rule 3304-6-10 of the Administrative Code.

(B) Fuel filler. When the fuel filler is relocated to the rear quarter, it shall have a cover/door to emulate the OEM appearance.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-12 Vehicle electrical modifications.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

(A) Battery and charging system. Any vehicle modification which adds electrically powered equipment not originally designed for that vehicle creates a load on the battery and charging system which may compromise vehicle reliability.

(1) When an adaptive device requires an auxiliary battery to operate, whether for current draw, incompatibility with other equipment, environmental conditions or any other reasons, the auxiliary battery and a compatible isolation system (circuit) shall be supplied or specified by the manufacturer. The installation method shall be specified in the manufacturer's installation manual.

(2) When a second battery is required by the manufacturer of an adaptive device or equipment, that battery shall be installed according to the manufacturer's specifications.

(3) While the auxiliary battery isolation circuitry and the installation information shall be provided by the manufacturer, the following guidelines shall be utilized for lead/acid batteries:

(a) Non lead/acid batteries, when required by a manufacturer, shall be installed according to the manufacturer's instructions for the device.

(b) The preferred location of the auxiliary battery is under the hood.

(c) When lack of space under the hood prevents this installation, the battery shall be placed under the floor in a suitable battery carrier.

(d) When ground clearance precludes an under floor location, the auxiliary battery may be placed in the passenger compartment but only in an enclosure designed for this purpose. The enclosure shall be vented to the outside, properly secured in the event of an accident, and totally sealed from the passenger compartment.

(e) Any auxiliary battery installation shall be accessible for inspection and maintenance without the removal of major vehicle components, the use of special tools, or the necessity to raise the vehicle.

(B) Other electrical modifications. Other modifications or additions to the vehicle's electrical system or devices powered by the vehicle's electrical system not covered by paragraph (F) of rule 3304-6-04 of the Administrative Code and paragraphs (A)(1) to (A)(3) of this rule shall be subject to individual consideration and approval by ~~the RTSU of RSC~~ OOD .

(C) Retail dealers shall not cut, modify, or attach anything to the OEM electrical system beyond the battery unless they have detailed, up to date instructions from the manufacturer of the modification related to the make and model of the vehicle being modified or they have information about that electrical system and are knowledgeable about the impact of the changes.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-13 High tech integrated driving systems.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

The systems contained in this rule shall meet all of the requirements identified in rules 3304-6-01 to 3304-6-12 of the Administrative Code, when applicable. When the requirements in this rule exceed these cited rules, this rule shall govern.

(A) Joysticks. Joysticks are a unilever driving system and use a single control lever to control the steering, throttle, and brake. The conventional controls for the steering, throttle, and brake remain operational. Joystick driving shall be used only when the consumer has exhausted all other driving control methods, and has demonstrated sufficient proficiency in the joystick's use and operation as assessed by a qualified driver rehabilitation specialist.

(1) ~~RSC~~ OOD shall purchase joysticks only from manufacturers that have provided the following information to ~~the RTSU of RSC~~ OOD :

(a) Name of device;

(b) Model number of device;

(c) Item description, including: general description, purpose or device, and device features;

(d) System restrictions and limitations, including:

(i) Restrictions to installation on specific vehicles, and

(ii) Incompatibilities (known and probable) with other adaptive driving equipment or with OEM equipment;

(e) Limitations/capabilities of intended user population;

(f) Current availability of the model:

(i) Length of time in production,

(ii) Number of units sold to date, and

(iii) Customer references, including local/state/federal government and private payers;

(g) Status or designation of VA approval, if any;

(h) Written signed statement that the design complies with all applicable paragraphs of rules 3304-6-01 to 3304-6-15 of the Administrative Code;

(i) Written results of all laboratory, field, and clinical testing as well as data relating to compliance with the gas/brake portion of joystick control in accordance with paragraph (D)(3)(c) of rule 3304-6-05 of the Administrative Code;

(j) List of consumer-specific adjustments indicating who shall accomplish the adjustments, that is, the retail dealer, driver rehabilitation specialist,

manufacturer, consumer, or other;

(i) The joystick shall have the capability for custom sensitivity settings that can be adjusted by the manufacturer's designee to match the consumer's optimal strength and range of motion.

(ii) The handle (lever) shall have the capability of adaptation by the manufacturer or the retail dealer to accommodate the consumer's needs for effective and safe operation.

(k) Maintenance schedule;

(l) Warranty documents;

(m) Installation/assembly instructions that specify when factory installation is required with fully labeled diagrams included;

(n) User's manual;

(o) Proof of liability insurance as defined in paragraph (I)(1) of rule 3304-6-03 of the Administrative Code. Proof that such insurance remains in full force and effect shall be provided to ~~RSC~~ OOD on an annual basis.

(p) List of approved retail dealers/installers.

(q) All information provided by the manufacturer shall be considered public information and subject to public information requests. The information shall be reviewed by a team of licensed engineers for approval. All design changes to an approved model shall be reported to the RTSU of ~~RSC.~~ OOD .

Such design changes shall not be sold to ~~RSC~~ OOD prior to notice, review, and approval. The information that shall be submitted for design change review is indicated in paragraphs (A)(1)(a) to (A)(1)(d)(ii), and (A)(1)(h) to (A)(1)(n) of this rule. When the information previously provided for in paragraphs (A)(1)(c) to (A)(1)(d)(ii), (A)(1)(j) to (A)(1)(l), and (A)(1)(n) of this rule remains the same as that submitted for the original design approval, the manufacturer shall provide written verification in lieu of resubmitting the requested information. ~~The RTSU of RSC~~ OOD shall determine whether the design change is sufficient to warrant the need for approval without prior notification to the manufacturer when the manufacturer's product is found to be in violation of these rules or is found to involve a significant risk to consumer safety.

(2) Performance requirements.

(a) The joystick shall have pre-check operational capability with visual monitoring and/or an audible and visual warning system in case of malfunction.

(b) The joystick shall have provisions for disengagement to allow any driver to operate the vehicle. The system shall not interfere with the existing driving station. The OEM steering, brake, and throttle will remain operable when the joystick has been disengaged.

(c) A quick release pedal guard shall be installed over the OEM accelerator pedal on all vehicles on which a joystick control has been installed to prevent inadvertent access to the OEM accelerator.

(B) Multi-axis remote servo steering wheel controls. Multi-axis remote servo steering wheel controls are replacement steering systems that may or may not eliminate the mechanical steering column shaft in favor of minimal travel cables that provide input to the steering spool valve. As such they cannot conform to standard steering modifications found in paragraphs (J) to (J)(4)(b)

of rule 3304-6-05 of the Administrative Code. Multi-axis steering modifications shall be used only when the consumer has demonstrated that he/she is unable to operate a vehicle with maximum reduced effort steering.

(1) ~~RSC~~ OOD shall purchase multi-axis remote servo steering systems pursuant to paragraph (A)(1) of this rule.

(2) Performance requirements.

(a) The system shall have the capability for custom sensitivity and location setting that can be adjusted by the manufacturer's designee as stated in paragraph (A)(1)(j) of this rule to match the consumer's optimal strength and range of motion.

(b) The system shall have pre-check operational capability with visual monitoring and/or an audible and visual warning system in case of malfunction.

(C) Hydraulic/mechanical unilever driving systems. Hydraulic/mechanical unilever driving systems are replacement driving systems that use a single control shaft, a joystick, to control steering, throttle, and brake. They are distinguished from joysticks in paragraph (A) of this rule in that the conventional controls for steering, throttle, and brake are inoperative. They use a larger control shaft that pivots from the floor, and require greater range of motion to initiate a control input. Hydraulic/mechanical unilever driving systems should be used only when the consumer has exhausted all other standard driving control methods. The consumer shall have demonstrated sufficient proficiency in the system's use and operation as assessed by a qualified driver rehabilitation specialist.

(1) ~~RSC~~ OOD shall purchase these systems from approved manufacturers pursuant to paragraph (A)(1) of this rule.

(2) Performance requirements.

(a) The system shall have the capability for custom sensitivity settings that can be adjusted by the manufacturer's designee as stated in paragraph (A)(1)(j) of this rule to match the consumer's optimal strength and range of motion.

(b) The system shall have pre-check operational capability with visual monitoring and/or an audible and visual warning system in case of malfunction.

(c) A quick release pedal guard shall be installed over the OEM accelerator pedal on all vehicles on which a hydraulic/mechanical unilever driving control has been installed to prevent inadvertent access to the OEM accelerator.

(D) Joystick and multi-axis remote servo steering wheel controls systems may emit or be affected by electromagnetic interference. They shall not be used in combination with components of another manufacturer's secondary control console or powered gas/brake controls without the knowledge and permission of both manufacturers.

(E) The driver rehabilitation specialist who completed the original driving evaluation shall drive with the consumer in the modified vehicle as a follow-up training to assure that the fit is appropriate. This drive may involve the installation of an instructor brake or other instructor control unit, to be removed after the drive, depending upon the type and location of the high tech control unit. When the original driver rehabilitation specialist is unable to complete this drive within a reasonable amount of time, a similarly qualified driver rehabilitation specialist shall be selected by ~~the RTSU of RSC~~ OOD to perform this function.

(F) ~~The RTSU of RSC~~ OOD reserves the right to suspend or

withdraw approval of any high tech driving system without prior notification to the manufacturer if the manufacturer's product is found to be in violation of rules 3304-6-01 to 3304-6-15 of the Administrative Code or is found to involve a risk to consumer safety.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-14 Used vehicles and transferred equipment.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

This rule shall pertain to the modification of used vehicles and the transfer of used equipment previously paid for with ~~RSC~~ OOD funds.

(A) Used vehicles. When ~~RSC~~ OOD is paying either wholly or in part for modifications to a used vehicle, one of the following requirements shall apply:

(1) For any vehicle in which the only modification is installing standard manual (mechanical) hand/foot controls or revising existing manual (mechanical) hand/foot controls, left foot accelerator, wheelchair hoists, and wheelchair carriers there shall be no age or mileage limitations.

(2) Other modifications.

(a) For vehicles ~~older than one year~~ not covered under a manufacturer's warranty , RSC OOD may authorize modifications on unmodified vehicles and additional modifications for previously modified vehicles after receipt of a written inspection report from a certified mechanic verifying that the vehicle is in sound condition or will be after repairs are completed. ~~The cost of such repairs specified in the report may be considered part of the overall modification project and included in each retail dealer's bid for the work.~~

(b) When a vehicle is older than seven years or has more than seventy thousand miles on the odometer, ~~RSC~~ OOD may authorize modifications on unmodified vehicles and additional modifications for previously modified vehicles when the previous and new modifications are relatively minor and the vehicle is in excellent condition, as inspected and reported by a certified mechanic. The following modifications are considered to be relatively minor:

(i) Those items covered in paragraph (A)(1) of this rule (manual hand/foot controls), spinner knobs, and simple extension modifications of secondary controls described in rule 3304-6-06 of the Administrative Code including shift

lever, park brake, turn signals, hazard lights, washer/wiper, ignition, lights, dimmer, seat adjustment, HVAC controls, and door locks.

(ii) Pedal extensions, left-foot accelerators, mirrors, and remote switches.

(iii) Other similar items will be considered by ~~the RTSU of RSC~~ OOD on a case-by-case basis.

(iv) Unoccupied wheelchair/scooter handling devices, as defined in rule 3304-6-08 of the Administrative Code, the installation of which are subject to prior vehicle inspection as required by paragraph (K) of rule 3304-6-04 of the Administrative Code.

(c) When a vehicle has been previously modified, ~~RSC~~ OOD may authorize additional modifications when all aspects of both the previous and new modifications can be brought into compliance with rules 3304-6-01 to 3304-6-15 of the Administrative Code. When a previously modified vehicle has a raised roof or lowered floor, it shall be inspected by an ~~RSC~~ OOD representative/designee to verify that it complies with or can be modified to comply with the standards in these rules. All other adaptive equipment on a used vehicle purchased by a consumer that is not in compliance with these standards shall be removed and replaced with new adaptive equipment as specified in the evaluation.

(3) Used lowered-floor minivans (L-FMs). ~~RSC~~ OOD may authorize modifications to L-FMs in accordance with paragraphs (A)(1) and (A)(2) of this rule provided that, when the L-FM was converted, it was in accordance with the requirements of rule 3304-6-15 of the Administrative Code, and that no structural changes have subsequently been made that would render the L-FM non-compliant with rule 3304-6-15 of the Administrative Code.

(B) Transferred equipment. When a consumer purchases a replacement vehicle and needs to have equipment that was previously purchased with ~~RSC~~ OOD funds removed, adjusted, lubricated, and re-installed in the replacement vehicle, the following requirements shall apply:

(1) The primary controls, except for low effort and maximum effort steering modification, will be considered acceptable for transfer by a retail dealer who is qualified to install the equivalent new equipment if the controls are visually and functionally inspected by an ~~RSC~~ OOD representative/designee and found to be satisfactory.

(2) An assessment of the subsystem, which may require disassembly, shall be done on each of the following subsystems to determine if it is in a satisfactory state of repair or condition to be reinstalled into a vehicle for further prolonged use:

(a) Secondary controls.

(b) Access devices.

(c) Wheelchair/scooter handling devices.

(d) Occupant protection and restraint systems; inflatable restraint systems shall not be transferred.

(e) High tech integrated driving systems.

(3) The following shall not be transferred:

(a) Structural modifications.

(b) Fuel delivery system modifications.

(c) Electrical modifications.

(4) The transfer of the modifications from the old vehicle to the replacement vehicle shall be considered a new modification with respect to replacement even though the equipment that is installed on the replacement vehicle was previously purchased with ~~RSC~~ OOD funds.

(C) Purchase of used equipment. ~~RSC~~ OOD shall not purchase used adaptive driving equipment.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

3304-6-15 Lowered-floor minivan and specialty vehicles.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the "Incorporation by Reference" section at the end of rule 3304-6-01 of the Administrative Code.]

A lowered-floor minivan (L-FM) shall meet all of the requirements identified in rules 3304-6-01 to 3304-6-12 of the Administrative Code, when applicable. When the requirements in this rule exceed the requirements in rules 3304-6-01 to 3304-6-12 of the Administrative Code, this rule shall govern.

(A) A minivan can be modified to an L-FM when a consumer's mobility needs will be equally or better served by specifying an L-FM as an alternative to a dropped-floor full-size van. Factors to be considered include the smaller, lower exterior; the impact of less interior maneuvering room; and the ability of the consumer in a wheelchair, to negotiate a ramp less than thirty inches wide that is fifty-four inches long with a slope of approximately eleven degrees.

(B) The only minivans that may be converted to L-FMs are " new motor ~~vehicles~~ vehicle(s)" as defined under Ohio Revised Code section 4517.01 (C) , except as specified in paragraph (B)(2) of this rule. ~~New means dropped-shipped or from a converter's pool, and not previously titled.~~

(1) These minivans shall meet the following specifications:

(a) A wheelbase of at least one hundred sixteen inches equipped with front-wheel drive instead of all-wheel drive.

(b) Tire size recommended by OEM for greatest GVW (gross vehicle weight).

(c) Power door locks (only if required by the L-FM after-market manufacturer) and windows.

(d) Speed control and tilt steering wheel.

(e) Front air conditioning.

(f) Rear window defrost and wiper.

(g) Heavy duty suspension or trailer towing package.

(h) Rear air conditioning.

(2) Exceptions. If a consumer currently owns , or is planning to purchase a minivan with the characteristics identified in paragraphs (B)(1)(a) to (B)(1)(h) of this rule, his/her vehicle may be converted when it meets the following requirements:

(a) Has less than ~~twenty-four~~ thirty six thousand miles and is less than ~~twenty-four months~~ three years old;

(b) Is fully covered by the manufacturer's new vehicle warranty as issued to the original purchaser;

(c) Is accepted as suitable for the conversion process by the converter; and

(d) Has been inspected by an inspector hired by ~~RSC~~ OOD pursuant to paragraph (K) of rule 3304-6-04 of the Administrative Code and found to be appropriate for the modifications needed.

(3) All other situations for conversion to an L-FM will be considered by ~~the RTSU of RSC~~ OOD on a case-by-case basis.

(C) Qualified L-FM retail dealers. A qualified L-FM retail dealer shall meet the requirements of paragraphs (A) to (H) of rule 3304-6-03 of the Administrative Code; shall be recognized as a provider of technical service/repairs by the L-FM converter; shall be able to demonstrate the vehicle to ~~RSC~~ OOD consumers at no cost to either ~~RSC~~ OOD or the consumer; shall have a permanent business location in the state of Ohio; shall have, at the location, all facilities necessary to maintain, repair and replace those components/assemblies excluded from the OEM's warranty; and shall have employee(s) who have been trained and certified by the converter.

(1) The qualified L-FM retail dealer shall not make any structural modifications to an L-FM, and shall not specify to the converter any structural modifications not specifically approved by ~~the RTSU of RSC~~ OOD , even if the consumer offers to pay for the changes. Prohibited features are specified in paragraphs (D)(2) to (D)(2)(c) of this rule.

(2) Qualified L-FM retail dealers who operate more than one facility in Ohio shall conform to paragraphs (B)(1) to (B)(9) of rule 3304-6-03 of the Administrative Code for each location and show that the certificate(s) required by paragraph (B)(7) of rule 3304-6-03 of the Administrative Code apply to all in-state branches. An L-FM retail dealer who is a branch operation of an out-of-state dealer shall show that the certificate(s) required by paragraph (B)(7) of rule 3304-6-03 specifically apply to the Ohio-based branch.

~~(3) A qualified L-FM retail dealer shall be a manufacturer-approved dealer for at least one make of manually operated hand controls; one make of servo assisted hand controls; one make of low effort steering; and one make of WTORS and shall have trained experienced technicians to install, adjust, and repair this equipment.~~

(D) Lowered-floor minivans (L-FMs). An L-FM, in order to be considered

under paragraph (A) of this rule, shall conform to the following requirements:

(1) The L-FM shall have the following features (exceptions will be reviewed on a case-by-case basis):

(a) A one hundred sixteen-inch or longer wheelbase.

(b) A ten-inch ~~to twelve-inch~~ or greater ~~(nominal)~~ lowered floor from the firewall to eighteen inches (approximate) forward of the rear axle.

(c) A powered door with means for operation if power fails.

(d) A powered ramp with a means for operation if power fails.

(e) Controls for the door and the ramp on the exterior of the vehicle and on the interior of the vehicle near the door/ramp within the driver's reach. The controls shall have a system to prevent door/ramp operation while the vehicle is in motion.

(f) One quick-release front seat with three-point restraint for occupant.

(g) WTORS in the mid-section to accommodate restraint of the occupied wheelchair without additional drilling or cutting by the L-FM retail dealer, and anchor points for the three-point restraint for the wheelchair occupant.

(h) A rear bench seat with OEM passenger restraints.

(i) A kneeling feature which complies with paragraph (D)(3)(f) of this rule when recommended by the driver rehabilitation specialist.

(2) An L-FM shall not have any of the following features:

(a) Automatic leveling, except for OEM.

(b) A raised roof.

(c) A sliding ramp, unless successfully crash tested with this configuration.

(3) An L-FM shall conform to the following specifications:

(a) The powered ramp shall be of a sufficient width to safely accommodate the intended user. The actuator shall be of electro-mechanical design. It shall have a side barrier on both sides to within twelve inches of the outboard end. The surface shall be covered with a durable non-slip surface. The ramp shall have an interior means for manual operation if power fails.

(b) The ramp shall support a routine operating load of six hundred pounds at the midpoint. It shall be capable of supporting a nine hundred pound proof load at its midpoint for one minute without any permanent bending, cracking, or changes, which would detract from its continued performance.

(c) The vehicle shall ~~be~~ have a minimum ~~of six inches~~ ground , running clearance of 4 inches. ~~at all points under the body with the following exceptions:~~ Ground Clearance, or "running clearance" (as defined per 49 CFR 523.2), means the distance from the surface on which an automobile (vehicle) is standing to the lowest point on the vehicle, excluding unsprung weight (mass).

(i) ~~The area under the vehicle, from twenty inches forward and aft of both the front and rear wheel centerlines, shall have a ground clearance of four inches or greater.~~ The unsprung mass consists of the combined

equivalent mass which is sprung between the tire and the suspension springs, and includes: wheel, tire, brakes, suspension linkage and suspension spring.

(ii) Front and rear wheel centerlines, shall have a ground clearance of four inches or greater.

~~(ii)~~ (iii) The exhaust pipe and associated components shall have a ground clearance of four inches or greater.

~~(iii)~~ (iv) Regardless of ground clearance measurements, the distance from the lowest point on the vehicle shall be greater that than the distance from any wheel rim to the ground.

(d) Jacking points, or similar provisions, shall be provided to permit any tire to be raised to clear the ground. A jack capable of achieving these goals shall be provided together with a sticker identifying the jacking points and any other necessary instructions.

(e) Towing of the vehicle, with the driving wheels raised, shall be possible with the normal apparatus carried by a tow truck.

(f) When the vehicle modification includes a system to raise and/or lower the rear end of the vehicle for reduction of ramp angles for loading, the raising and lowering mechanism shall be capable of withstanding the following tests:

(i) The lifting or lowering mechanism shall be able to withstand a life cycle test of the empty vehicle for four thousand four hundred cycles.

(ii) When the test identified in paragraph (D)(3)(f)(i) of this rule has been completed, the lifting mechanism shall be able to withstand a life cycle test of the vehicle at its maximum GVWR for twenty cycles.

(E) Testing requirements. By means of crash tests conducted in accord with the prescribed procedures, an identical vehicle shall have demonstrated conformance to the following FMVSS:

(1) When part of the hydraulic braking system deviates from that of the unmodified vehicle, the L-FM shall be re-tested and conform to FMVSS 135.

(2) Impact protection for the driver from the steering column system. Any deviation from the unmodified vehicle's steering assembly that might alter the force developed on the chest body block impacting the steering assembly at fifteen miles per hour, shall require re-testing to meet the criteria of FMVSS 203.

(3) Steering control rearward displacement. If any changes have been made to the steering control system, including but not limited to, the steering wheel, the steering column-shaft assembly, the front structure, the bumper, and the attaching parts, the L-FM shall be tested and meet the criteria of FMVSS 204, steering control rearward displacement.

(4) The seating systems of the vehicle shall have been tested to conform to FMVSS 207.

(5) The vehicle shall have been tested to meet occupant crash protection acceptance criteria of FMVSS 208.

(6) Seat belt assembly anchorages shall have demonstrated conformance in test prescribed in FMVSS 210.

(7) Side door strength. When FMVSS 214, side impact protection, is

applicable to the unmodified vehicle, the modified vehicle shall demonstrate conformance to the standard of the prescribed test procedure.

(8) Fuel system integrity. The vehicle shall have demonstrated conformance to FMVSS 301.

(F) Conformance requirements. The applicable components of the finished vehicle shall conform to the following ~~FMVSS/RSC~~ FMVSS/OOD requirements (conformance attested by certification):

(1) Brake hoses. If any brake hoses are different from the unmodified vehicle, those hoses shall be recertified as conforming to FMVSS 106, brake hoses.

(2) Seat belt assemblies. Any deviation in seat belt assemblies from the unmodified vehicle shall be certified as conforming to FMVSS 209.

(3) Flammability of interior materials. Burn resistance of all materials used within the passenger compartment, which have been added by the converter, shall be certified as conforming to FMVSS 302.

(4) Ramp loading. Conformance to the requirements of paragraph (D)(3)(b) of this rule shall be certified.

(5) Kneeling system. Conformance to the requirements of paragraph (D)(3)(f) of this rule shall be certified.

(G) Approved final-stage or intermediate converters of L-FM. The converter who produces an L-FM shall provide evidence that he/she is registered as an intermediate manufacturer or a final stage manufacturer (as defined in 49 C.F.R. 568) with the federal department of transportation. The converter shall conform to the requirements of 49 C.F.R. 568.5 or 568.6, as applicable. The approved final-stage or intermediate converter shall also meet the requirements of paragraph (G) of rule 3304-6-03 of the Administrative Code. ~~The RTSU of RSC~~ OOD will maintain a listing of approved L-FM converters who are in good standing.

(1) The converter shall supply the following documentation about warranty:

(a) From the OEM, identification of those components/assemblies, etc., of the L-FM which are no longer covered under the OEM warranty because of the changes made by the converter.

(b) From the converter, stipulation that those items no longer covered in paragraph (G)(1)(a) of this rule are warranted by the converter as follows:

(i) For structural modifications made on the vehicle unit body and suspension system, warranty conditions, time, and mileage are equal to, or better than, that offered on the unmodified vehicle.

(ii) Non-structural modifications, such as door and power operator, electrical modifications, etc., are warranted for three years or more.

(2) Insurance requirements. The converter shall provide proof of liability insurance coverage that provides a minimum of ~~two~~ one million dollars for each claim, with a minimum aggregate for a one-year policy period of four million dollars. Proof that such insurance remains in full force and effect shall be provided to ~~RSC~~ OOD on an annual basis. The converter shall notify his/her insurance carrier(s) that ~~RSC~~ OOD shall be notified within thirty days of any reductions in coverage or cancellation.

(3) The converter shall supply an indemnification notice to ~~RSC~~ OOD stating that they shall indemnify and hold ~~RSC~~ OOD ,
its agents, employees, and consultants harmless from all claims, damages, suits or actions, including any judgment, costs, expenses, and legal fees arising from any modifications made by said converter.

(4) The converter shall supply ~~RSC~~ OOD with a list of the
names and addresses of their qualified L-FM retail dealers within Ohio who currently meet all of the converter's requirements for an L-FM retail dealer. This list shall be updated when an L-FM retail dealer has been added or removed. If no changes have been made, the list shall be re-submitted annually.

(5) The converter shall supply a list annually, by September thirtieth, of those individuals who have completed their training/certification program, and are authorized to perform warranty and repair work.

(6) The converter shall maintain a list of current owners of vehicles which have been converted (including options/features of each vehicle) to enable a recall, should it be needed.

(7) The converter shall have sufficient records to document and establish engineering practices including the following:

(a) Engineering drawings and specifications maintained on all parts, assemblies, etc. unique to the converter's product(s).

(b) For any changes that are or have been made to the product which could have an effect on the conformance to FMVSS or ~~RSC~~ OOD
requirements, documentation that a professional engineer has signed off that there is no detriment to the product with respect to conformance.

(8) The converter shall have documented quality control and assurance procedures records to assure that:

(a) All items/assemblies made by the converter are within the converter's dimensional, material, performance, and appearance specifications or standards.

(b) All structural welding shall be completed by a certified welder.

(c) For all purchased components/assemblies that could affect the safety of the vehicle, the conformance to FMVSS or to ~~RSC's~~ OOD's
requirements that they are certified by the supplier, by lot, verifying that they conform to specification; or that they have been inspected using a recognized sampling plan for inspection which rejects the lot on one defect.

(9) The converter agrees that a representative of ~~RSC~~ OOD
may inspect/audit the manufacturing and conversion operations and or any available data or process pertaining to the requirements contained in paragraphs (G)(6) to (G)(8)(c) of this rule.

(10) With respect to conformance to FMVSS, the converter shall supply:

(a) Documentation that crash tests have been conducted at a recognized independent testing facility supervised and approved by a registered professional engineer with verification that the vehicle passed the criteria for acceptance of FMVSS 135, 203, 204, 207, 208, 210, 214 (when applicable to the unmodified vehicle), and 301;

(b) Certification documentation that the products, materials, and assemblies used in the vehicle conform to FMVSS 106, 203, and 209 as applicable; and

(c) Certification that the delivered product does not differ from the

vehicle tested and approved under the requirements in paragraphs (G)(10)(a) and (G)(10)(b) of this rule.

(H) Specialty vehicles. Specialty vehicles are considered vehicles that are not full-sized vans and do not conform with paragraph (B) of this rule. At the discretion of ~~the RTSU of RSC~~ OOD , structural modifications may be considered to specialty vehicles if the vehicle complies with paragraphs (D) to (G) of this rule. Exceptions for special design characteristics which are different from paragraphs (D) to (G) of this rule may be made on a case by case basis and shall be documented ~~by the RTSU of RSC~~ OOD before the approval process begins.

Effective:

R.C. 119.032 review dates: 06/23/2014

Certification

Date

Promulgated Under: 119.03

Statutory Authority: 3304.15(C)(1)

Rule Amplifies: 3304.15, 3304.17

Prior Effective Dates: 05/10/1995, 08/02/1999, 06/03/2002, 08/04/2008

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