Wisconsin State Patrol

Human Service Vehicle Inspection Manual

January 2024

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HSV INSPECTION PROCEDURE

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Collect driver's license and unit registration card.

STEP 4 IDENTIFY CARRIER

STEP 5 INSPECT FRONT OF HSV
Check headlamps, directional signals, emergency flashers, clearance and I.D. lamps (if applicable), windshield wipers and washer system, horn, bumper and windshield.

STEP 6 INSPECT LEFT SIDE OF HSV
Check body, mirror, windows door latches and handles, tires and wheels (hub caps must be removed to inspect lug nuts and wheel studs), inspect fuel cap.

STEP 7 INSPECT REAR OF HSV
Check tail, stop and directional lamps, clearance and I.D. lamps, emergency flashers, back up lamps, strobe lamp (if applicable), bumper and window.

STEP 8 INSPECT RIGHT SIDE OF HSV
Check body, mirror, windows, door latches, and handles, tires and wheels (hub caps must be removed to inspect lug nuts and wheel studs)

STEP 9 INSPECT RAMP/ LIFT, SERVICE ENTRANCE OF HSV
Check for proper opening size, ensure 90 degree mechanisms function on door, check ramp/lift area illumination, safety glass, step well lamp, visual or audio door open signal, hand rail and step heights.
-Service entrance must be on right side
-Vehicles over 22' length – door height must >=68" Lift or Ramp Entrance Only
- After January 17th, 2017 Large Non-Rail vehicle greater than 25ft
-Vehicles under 22' length – door height must be >=56" Lift or Ramp Entrance Only
- Prior to January 18th, 2017 Small Non-Rail vehicle – 25ft or less
(Measured from raised platform or highest point of ramp to top of door tolerance of ¼")
-Step for service door can be no more than 18"
-Step risers can be no more than 15"
-Step must be made of slip resistant material

STEP 10 INSPECT LIFT OF HSV
Check for lift capacity verification, ensure locked in stowed position, check positive control systems function, check lift interlock system, check for backup system, ensure lift is properly mounted padded, and that it has hand rails.
-Minimum capacity of >=700lbs
-Side barrier minimum of 1 ½ "
-Platform of 28 1/2" wide at surface, 30" 2 inches above surface, and 48" long (minimum size)
-Platform must be slip resistant with no protrusions over ¼".
-Gaps and platform surface and barrier can be no more than 5/8"
-When fully raised platform surface must be no more than 5/8" higher or lower of the finished floor and extend no more than ½" from finished floor.
-Handrails must be 30"-38" inches above the platform surface and have usable grip of 8". Must be able to support 100lbs. Must have diameter of 1 ¼" to 1 ½" and knuckle clearance of 1 ½".

INSPECT RAMP OF HSV

Check for ramp capacity verification, ensure locked in stowed position, check surface and side barriers, ensure ramp mounted properly, check 1:4 ratio slope to ground level.
-Ramp >= 30" design load of 600lbs
-Ramp <=30" design load of 300lbs
-Ramp surface must be slip resistant
-Protrusions of no more than ¼" (Prior to Jan 18th, 2017)
-Ramps must have a continuous width of 30 inches
-Side barriers must be at least 2 inches high
-Gaps between ramp and vehicle finish floor cannot be more than 5/8"

STEP 11 INSPECT INTERIOR OF HSV

Check general cleanliness, barriers, and stanchions is required, safety restraint systems, interior height for wheelchair or mobility aid access and securement location, check securement system/devices, verify proper orientation, check floor area size for wheelchair or mobility aid positions, check fire extinguisher, first aid kit, emergency warning devices, check for any protrusions or unsafe conditions.

-Lighting shall be provided in the stepwell
-Doorways shall be marked by a stripe. The stripe shall be 1 inch (25 mm) wide minimum and contrast with the rest of the walking surface either light-on-dark or dark-on-light
-Handrails and stanchions shall be provided for each entrance. (Prior to Jan. 18th, 2017)
- Handrails or stanchions shall be provided at passenger doorways in a configuration that permits grasping and use from the outside the non-rail vehicle and throughout the boarding and alighting process.
-The handrails or stanchions must be at least 10" (Prior to Jan. 18th, 2017)
- The cross section of seat-back handholds shall have an outside diameter of 7⁄8 inches (22 mm) minimum and 2 inches (50 mm) maximum.
- Handrails and stanchions with a circular cross section shall have an outside diameter of 1 1⁄4 inches (32 mm) minimum and 2 inches (50 mm) maximum.
- Handrails and stanchions with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 ¼ inches (160 mm) maximum, and a cross section dimension of 2 1⁄4 inches (57 mm) maximum.
-Handrail for vehicles over 22' must be continuous from front to back except for a gap at rear doorway. (Prior to Jan. 18th, 2017)
- Large vehicles (>25'). Handholds or stanchions shall be provided within large non-rail vehicles on all forward and rear-facing seat backs located directly adjacent to the aisle. (**Exception.** Where high-back seats are provided, handrails located overhead or on overhead luggage racks shall be permitted instead of stanchions or handholds.)
-Floor space for wheelchair 30X48" for each position.
-Must have padded barrier behind rearward facing mobility aid locations.
-At least one forward facing seat(s) must be designated as priority seat for persons with disabilities. (Prior to Jan. 18th, 2017) Signs must be provided.
- Non-rail vehicles operated in fixed-route service shall designate at least two seats as priority seats for passengers with disabilities. Priority seats shall be located as near as practicable to a doorway used for boarding and alighting. Where non-rail vehicles provide both aisle-facing and forward-facing seats, at least one of the priority seats shall be a forward-facing seat.
-Over 22 feet in length at least one forward facing position and the remaining may be forward or rearward facing.
-Under 22 feet positions may be forward or rearward facing.
-CANNOT HAVE SIDEWAYS/CENTER FACING WHEELCHAIR POSITIONS IF PLACED IN SERVICE AFTER 2-25-92.
-Must have proper stowage of wheelchair fastners.
-Check that seats are secure and not loose.
-CANNOT HAVE SIDE MOUNTED SEAT OVER WHEEL WELL IF PLACED IN SERVICE AFTER 8-25-90
-Must have lap and shoulder belt for each securement location for wheelchair.
-Sign must indicate that securement area is to be used by person who use wheelchairs and mobility aids. (Prior to Jan. 18th, 2017)
- Wheelchair spaces shall be identified by the International Symbol of Accessibility

STEP 12 INSPECT DRIVER'S AREA OF HSV
Obtain odometer reading and vin, check safety restraint, seat securement, two-way communication system, foot brake, parking brake, high beam and directional indicator, gauges and instrument panel, check defroster and heaters, check rearview mirror, sunshield and steer wheel

STEP 13 INSPECT UNDER HOOD OF HSV
Check hoses, belts, battery securement, master brake cylinder and related hoses and lines, check for leaks, hole or gaps from engine compartment into interior or HSV.

STEP 14 INSPECT UNDERCARRIAGE OF HSV
Check steering system, front and rear suspension, front and rear brakes, hoses and lines, fuel tank, drive shaft, shock absorbers and exhaust system.

STEP 15 TAKE APPRORIATE ENFORCEMENT ACTION
Refer to Out of Service criteria. Apply OOS Decal if required.

STEP 16 COMPLETE INSPECTION
Complete all paperwork. Return documents to driver. Explain violations.

STEP 17 APPLY HSV ANNUAL INSPECTION DECAL
If vehicle passes, apply decal to lower right side edge of right rear window.

PURPOSE – TRANS 301.01

(1) The purpose of this chapter is to promote the safe transportation of persons in a vehicle utilized as a human service vehicle.

Scope – Trans 301.02

(1) This chapter is promulgated under authorization granted in s. 110.05, Stats. This chapter is intended to provide specific safety related standards regarding design, construction and equipment requirements for new and in-use human service vehicles. This chapter may require different standards for vehicles of various size and use. It provides for the inspection and operation of human service vehicles as defined in this chapter.

DEFINITIONS – TRANS 301.03

In this chapter:

(1) "Attended" means the driver is in the immediate area service door or, in the case of an HSV equipped with a power lift, the driver is assisting a disabled person to board or exit the HSV operating the power lift controls.

(2) "Department" means the department of transportation.

(3) "GVWR" means the gross vehicle weight rating.

(4) "HSV" means a human services vehicle as identified in s. 340.01 (23g), Stats. and regulated under s. 110.05, Stats.

(5) "Owner" means the owner of the vehicle and includes the lessee or operator of the vehicle, if the owner of the vehicle leases or authorized the use of the vehicle.

(6) "Placed in operation" means the date entered on the original application for title/registration as an HSV as the date the vehicle was first placed in operation as an HSV in Wisconsin, regardless of who owned the vehicle or where it was placed in operation. In the case of a vehicle modified or remanufactured for use as an HSV, "placed in operation" means the date of first physical manipulation or activation of any of the controls of the motor vehicle necessary to put it in motion in Wisconsin after modification or remanufacture, regardless of who owned the vehicle or where is was put in motion.
Note: In the event the transfer of title/registration after the date first placed in operation as an HSV, the very first date of operation as an HSV continues to govern, unless the vehicle is modified or remanufactured.

(7) "Secretary" means the secretary of the department of transportation.

(8) "Service Door" means the door usually used by the majority of the passengers for entering and leaving the HSV. In a vehicle commonly referred to as a van, this may be either the right front door or the door located near the center of the vehicle on the right side. The van door may be either on a sliding glide way or may open outward.

FEDERAL REGULATIONS ADOPTED – TRANS 301.04

The federal regulations in title 49CFR part 393 (October 1, 1995), parts and accessories necessary for safe operation, 49CFR part 571 (October 1, 1995), motor vehicle safety standards, and 36CFR part 1192 (October 1, 1996), Americans with disabilities act accessibility guidelines for transportation vehicles, that are specified in this chapter shall be enforced in relation to an HSV under this chapter as though the regulations were set out in full in this chapter.

SUBCHAPTER 1

DRIVER REQUIREMENTS – TRANS 301.05

(1) The driver may not smoke or permit smoking aboard the HSV. The driver may not operate an HSV while under the influence of alcohol or controlled substance or permit the use of alcohol or controlled substance on the vehicle.

(2) The driver shall maintain order among passengers being transported. Misconduct shall be promptly reported to the proper authority. The driver may assign seating order.

DRIVER REQUIREMENTS – TRANS 301.05 Continued

(3) Prior to the start of any trip the driver shall check the condition of the HSV, giving particular attention to brakes, tires, lights, emergency equipment, mirrors windows, special equipment, and interior cleanliness of the vehicle. Defects shall be reported to the person in charge of vehicle maintenance. The driver shall be responsible for the cleanliness of the interior of the vehicle. The windshield and mirrors shall be clean before each operation.

(4) In case of an accident or a breakdown the driver should remain with the vehicle and secure aid by means of 2-way communication.

(5) Passenger loading and unloading locations or points shall be selected with due regard for traffic and pedestrian safety and s. 346.475, Stats.

(6) Doors shall be closed securely before starting and shall remain closed while the vehicle is in motion, except as provided in part (12). Abrupt starts and stops or sudden maneuvers are prohibited, except in an emergency.

(7) A driver may not leave the vehicle unattended with the engine running or the key in the ignition.

(8) Articles may not be transported within the vehicle body if there is or may be interference with passengers or driver, or if aisle, well or steps are obstructed. Articles other than those associated with agency activity or in the personal possession of passengers may not be transported. At no time will animals, except for dogs permitted by s.1066.52(3)(am), Stats., for the sight or hearing impaired or other animals assisting a person with a disability, or firearms or other weapons unless accompanied by written authorization from the agency administrator be permitted on an HSV. The driver shall refuse admittance to any person not presenting proper authorization. The driver may designate where items shall be carried on the vehicle.

(9) Minors being transported in an HSV are prohibited from crossing the road either to be loaded or discharged. The driver shall position the vehicle in such a manner that a minor need not cross the road to be loaded or discharged from the vehicle.

(10) Drivers, transportation supervisors, and vehicle owners shall cooperative at all time with authorized department personnel in carrying out the inspections of equipment, or examination of driver pursuant to law, or to department rules.

(11) No driver may require or allow any passenger to stand while the vehicle is in motion. The driver may not move or start the HSV until all passengers are seated. The driver may not permit a passenger to gut up from a seated position until the HSV has come to a complete stop. The driver may not permit any passenger to sit anywhere except in seats provided. This subsection does not apply to chaperones or monitors in the performance of their duties.

(12) The driver of any vehicle required to stop at a railroad crossing by s. 346.45, Stats., shall come to a full stop at a distance of not less than 15 feet nor more than 50 feet before crossing at grade any track of a railroad. The vehicle hazard warning lamps shall be used when the HSV is slowing for the stop and shall remain on until the bus has resumed normal speed. While the vehicle is so stopped, the driver shall open the service door and listen and look in both directions along the track for any approaching train and for signals indicating the approach of a train. After stopping and upon proceeding when it is safe to do so, the driver of the bus shall cross only in the gear of the bus that will make it
unnecessary to manually shift gears while traversing the crossing, and the driver may not shift gears while traversing the crossing. The door shall remain open until the front wheels of the HSV have cleared the first set of tracks for each required stop.

(13) Passenger shall comply with all orders given by drivers in carrying out the driver's responsibilities under the Wisconsin administrative code.

(14) The use of audio headsets by drivers shall be prohibited.

INSPECT/DEFECTS- DRIVER REQUIREMENTS- TRANS 301.05

1. Check that articles transported within the HSV body do not, or may not interfere with the safe transportation of passengers or with the driver, or that any articles obstruct the aisle, step-well, or steps.

*OOS if aisle, step-well or steps are blocked.

2. Check driver for signs of alcohol or controlled substance use
*OOS if alcohol or controlled substance is present.

VEHICLE OWNER AND EMPLOYER REQUIREMENTS – TRANS 301.06

It is the vehicle owner's and the employer's responsibility to determine that qualified personnel operate the vehicle according to safe practices, including s. 346.94(15), Stats., relating to prohibited towing practices, that the vehicle is insured as an HSV under s 344.55, Stats., registered as an HSV under s. 341.25(1) (k), Stats., and inspected as required by s. 110.05, Stats., and this chapter.

OUT OF SERVICE – TRANS 301.07

(1) Any vehicle that is found to be in such condition that it is unsafe to use as an HSV shall have an "out of service" sticker attached to the upper glass in the service door. The vehicle may not be used as an HSV while such sticker is displayed.

(2) A vehicle with an "out of service" sticker displayed shall be re-inspected after repairs are completed. The sticker shall be removed by an agent of the department prior to reuse as an HSV.

(3) It shall be illegal for any person other than an agent of the department to remove an "out of service" sticker unless the vehicle has the base registration removed and is reregistered in such a manner so as to prohibit its use as an HSV.

SUBCHAPTER II – EQUIPMENT STANDARDS

EQUIPMENT STANDARDS – TRANS 301.09

Any HSV with a passenger carrying capacity of 16 or more persons, including the operator, shall comply with Ch. Trans 330, motor bus equipment and inspection, except s. Trans 330.23, inspection fees. In addition, motor buses used to transport disabled persons shall comply with s. Trans 301.14, communication requirements, and subch. III special equipment requirements.

AISLE -- TRANS 301.10

(1) Any HSV with a GVWR of more than 10,000 pounds or a vehicle with the aisle throughout the center of the unit shall have a minimum clearance of 12 inches leading to the emergency door when measured at any point between the seats or between any seat and the emergency door framer in the case of a vehicle with a side emergency door. An open area for wheelchairs may not be considered an aisle.
Note: For purposes of measurement, the 12 inch aisle clearance is required when measured from a foldaway seat when the seat is in its fully deployed and open position. For purposes of measurement, the 12 inch aisle clearance is required from a flip-up seat that complies with s. Trans 301.29(3) at a side emergency door location when the seat is not occupied and is in its automatically closed position.

INSPECT/DEFECTS- AISLE -- TRANS 301.10

1. Without depressing cushions, **measure** center aisle space between outer edges of cushions.

2. **Check** that center aisle extends from driver's compartment to emergency door in rear.

3. On HSV with a side emergency door, **check** that aisle space from center aisle to side of emergency door is 12 inches by measuring between the vertical line of the seat back and the face of the next seat cushion or bottom of a fold-up seat.

BRAKES — TRANS 301.11

(1) Brakes shall conform to the applicable standards under 49 CFR 393.40 and 393.52 and applicable standards under 49 CFR 571.105 and 571.121.

(2) An HSV that uses air assisted brakes shall be equipped with a low pressure warning system which functions at 60 PSI and lower. The governor cut out pressure may not exceed 135 PSI. The governor cut in pressure may not be lower than 80 PSI.

(3) An HSV that uses vacuum assisted brakes shall be equipped with a low pressure warning system which functions when the vacuum is 8 inches of mercury and less.

(4) An HSV when equipped with air or vacuum assisted brakes shall be equipped with a reserve tank having a capacity of not less than 1,000 cubic inches to provide additional air or vacuum for the primary brake system. There shall be a check valve or pressure protective valve to protect the system from loss of air or vacuum. There shall be no accessory except the low pressure warning device operated from the air or vacuum reserve tank or its connecting lines. The low pressure warning system shall be installed to indicate the air pressure or vacuum in the tank. The gauge required to monitor this system shall be visible to the driver at all times. Unless previously equipped, Type A-1 buses with a GVWR of 11,500 pounds or less that use vacuum assisted brakes are not equipped with an additional reserve tank and gauge, provided the vacuum assist system meets FMVSS No. 105.

(5) Every HSV shall be equipped with a power assist brake system.

(6) The interior of the brake drums, brake linings, brake discs, and pads shall be free of cracks and contamination from oil or grease.

(7) The brake systems shall be properly adjusted to provide maximum braking effort in accordance with 49 CFR 396.17 (Appendix G).

(8) Check that the ABS brake system complies with FMVSS 121 and 105.

INSPECT/DEFECTS- BRAKES — TRANS 301.11

AIR BRAKES- (All)

1. **Check** for improper, missing, non-functioning, loose, contaminated (with grease or oil), or cracked parts on the brake system, such as brake drums, shoes, rotors, pads, lining, brake chambers, chamber mounting, push rods and slack adjusters.

2. **Check** for "S" cam flip-over.

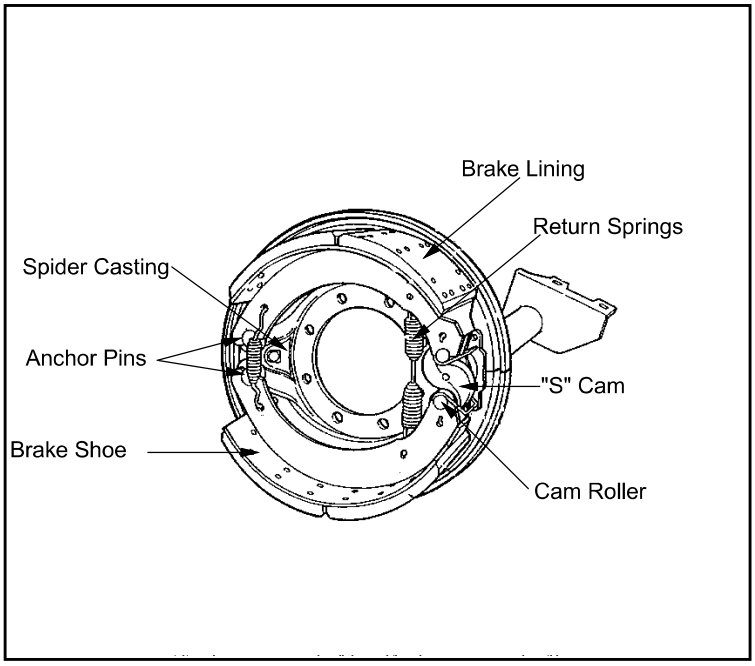
3. **Listen** for audible air leaks around brake components and lines.

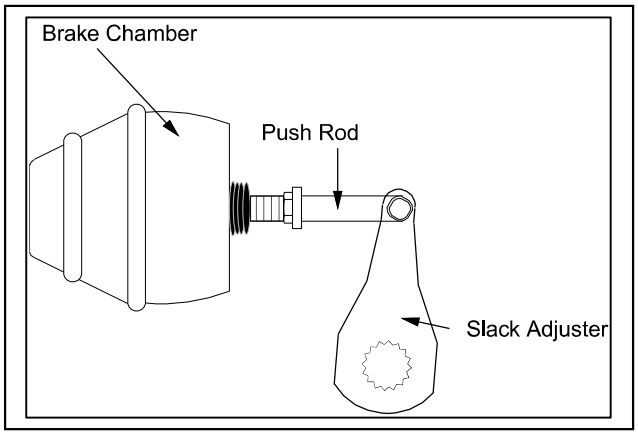
4. With the brake released, mark the brake chamber push rod at a point where the push rod exits the brake chamber. Mark the push rods on both sides at this time. All push rods will be **measure**d later.

5. **Check** that the slack adjusters are the same length (from center of "S" cam to center of clevis pin), and that the air chambers on the steering axle are the same size.

6. Check that the ABS brake system complies with FMVSS 121 on vehicles manufactured on or after March 1, 1998.

“S” Cam Air Brake Components





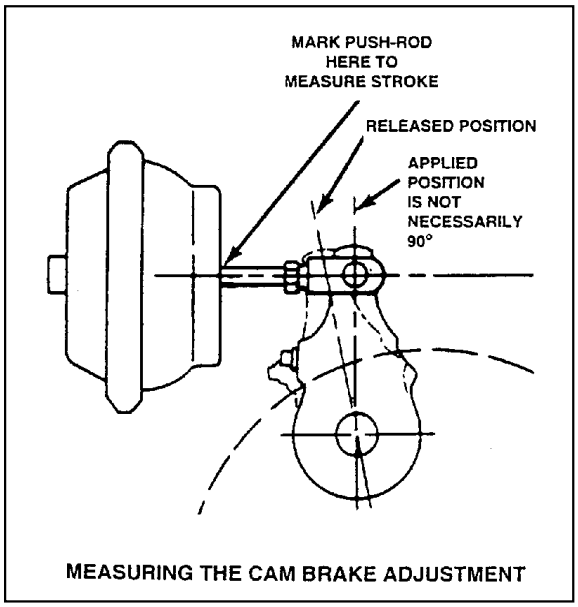
ALL OF THE FOLLOWING OOS

** OOS if:

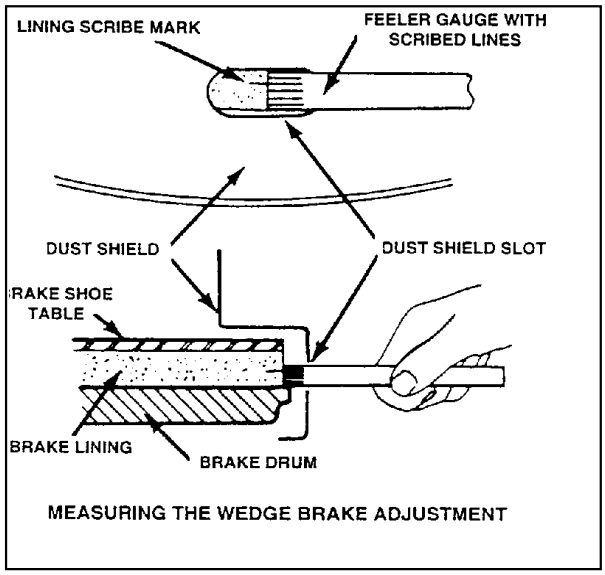
**The number of defective brakes is equal to or greater than 20% of brakes on the vehicle or combination. A defective brake includes any brake that meets one of the following criteria:

1. **Absence of effective braking action upon application for the service brakes (such as brake linings failing to move or contact braking surface upon application.) (393.48(a))
2. **Missing or broken mechanical components including: shoes, linings, pads, spring, anchor pins, spiders, cam rollers, pushrods, and air chamber mounting bolts. (393.48(a))
3. **Loose brake components including air chambers, spiders, and camshaft support brackets. (393.48(a)
4. **Audible air leak at brake chamber (Example: ruptured diaphragm, loose chamber clamp, etc.) (396.3(a)(1)
5. **Brake adjustment limits. Bring reservoir pressure between 90 to 100 psi; turn engine off and then fully apply the brakes.
   - **One brake at ¼" or more beyond the adjustment limit.
     (Example: Type 30 clamp type brake chamber pushrod measured at 2 ¼" would be one defective brake.)
     (396.3(a)(1)
   - **Two brakes less than ¼" beyond the adjustment limit also equal one defective brake. Example: Type 30 clamp type brake chamber pushrods measure: Two at 2 1/8”
   - **The above example would equal one defective brake.
     (396.3(a)(1)

6. **Brake linings or pads. (Except on power unit steering axles.)
   - **Cracked, loose, or missing linings.
   - **Lining cracks or voids of 1/16" in width observable on the edge of the lining
   - **Portions of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge.
   - **Cracks that exceed 1 ½" in length.
   - **Loose lining segments (*rev. 11-25-98*).
   - **Complete lining segment missing. (393.47)



MEASURING THE CAM BRAKE ADJUSTMENT



MEASURING THE WEDGE BRAKE ADJUSTMENT

REFERENCE CHART

Brake Adjustment: Shall not exceed those specifications contained hereunder relating to "Brake Adjustment Limit." (Dimensions are in inches.)

CLAMP TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
6	4 ½	1 ¼
9	5 ¼	1 3/8
12	5 11/16	1 3/8
16	6 3/8	1 3/4
20	6 25/32	1 3/4
24	7 7/32	1 3/4
30	8 3/32	2
36	9	2 ¼

'LONG STROKE' CLAMP TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
16	6 3/8	2.0
20	6 25/32	2.0
20	6 25/32	2.5
24	7 7/32	2.0
24*	7 7/32	2.5
30	8 3/32	2.5

* For maximum stroke type 24 chambers.

TIE ROD STYLE PISTON BRAKE CHAMBER DATA

SIZE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	6 ½	2.5

BOLT TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
A	6 15/16	1 3/8
B	9 3/16	1 3/4
C	8 1/16	1 3/4
D	5 ¼	1 ¼
E	6 3/16	1 3/8
F	11	2 ¼
G	9 7/8	2

ROTOCHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
9	4 9/32	1 ½
12	4 13/16	1 ½
16	5 13/32	2
20	5 15/16	2
24	6 13/32	2
30	7 1/16	2 ¼

36	7 5/8	2 3/4
50	8 7/8	3

INSPECT/DEFECTS- **BRAKES — TRANS 301.11 (Continued) Air**

DD-3 BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	8 1/8	2 ¼

NOTE: The DD3 brake chamber does not feature a push rod over-stroke indicator, because a splash boot completely covers the push rod. The DD3 can be easily distinguished from spring brake chambers by the number air lines attached to the chamber. A DD3 chamber has three (3) air lines attached, while a spring brake has 2. The DD3 is usually found on motor coaches.

****Evidence of oil seepage into or out of the brake lining/drum interface area. This must include wet contamination of the lining edge accompanied by evidence that further contamination will occur — such as oil running from the drum or a bearing seal.**

NOTE: Grease on the lining edge, back of shoe, or drum edge and oil stains with no evidence of fresh oil leakage are not conditions for out-of-service. (393.47)

- ****Lining with a thickness less than ¼ inch or to wear indicator if lining is so marked, measured at the shoe center for out-of-service. (393.47)**

7. **Missing brake on any axle required to have brakes. (393.42)

****STEERING AXLE BRAKES:**
In addition to being included in the 20% criterion, the following criteria places a vehicle out-of-service.

1. **Absence of effective braking action on any steering axle of any vehicle required to have steering axle brakes, including the dolly and front axle of a full trailer. (393.48(a)

2. **Mismatch across any power unit steering axle of:
- ****Air chamber sizes. (393.47(b))**
- ****Slack adjuster length. (393.47(c))**

3. **Brake linings or pads on the steering axle of any power unit:
- ****Cracked, loose, or missing lining.**
- ****Lining cracks or voids of 1/16" in width observable on the edge of the lining.**
- ****Portions of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge.**
- ****Cracks that exceed 1 ½" in length.**
- ****Loose lining segments (*rev. 11-25-98*).**
- ****Complete lining segment missing. (393.47)**

****Evidence of oil seepage into or out of the brake lining/drum interface area. This must include wet contamination of that lining edge accompanied by evidence further contamination will occur — such as oil running from the drum or bearing seal.**

NOTE: Grease on the lining edge, back of shoe, or drum edge and oil stains with no evidence of fresh oil leakage are not conditions for out-of-service. (393.47)

****Lining with a thickness less than 3/16" for a shoe with a continuous strip of lining or ¼" for a shoe with two pads for drum brakes or to wear indicator if lining is so marked, or less than 1/8" for air disc brakes, and 1/16" or less for hydraulic disc, drum and electric brakes. (393.47)**

End of 20% Brake Criteria

PARKING BRAKES:

****Any non-manufactured holes or cracks in the spring brake housing section of a parking brake. (396.3(a) (1)**

Brake Smoke/Fire:

****OOS if brake malfunction causing smoke or fire to emit from the wheel end. (393.48(a))**
Example: Brake lining continuously in contact with drum or rotor.

*NOTE: Does not include overheating due to severe brake use***
NOTE: Refer to "Wheels"; as cause may either be the brakes or a problem in the hub and bearing area.

BRAKE DRUMS OR ROTORS (DISCS):

****Drums with any external crack or cracks that open upon brake application. (393.47(a))**

NOTE: Do not confuse short hairline heat check cracks with flexural cracks. (393.47(a))

****Any portion of the drum or rotor (discs) missing or in danger of falling away. 393.47(a))**

BRAKE HOSE:

****Hose with any damage extending through the outer reinforced ply. (Rubber impregnated fabric cover is not a reinforced ply.) (Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube. Exposure of second color is out-of-service.) (393.45(a))**
****Bulge, swelling when air pressure is applied. (393.45(a))**

****Hose with audible leak at other than a proper connection. (393.45)**

****Two hoses improperly joined such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube. (393.45(a))**

****Air hose cracked, broken, or crimped in such a manner as to restrict air flow. (393.45(a))**

BRAKE TUBING:

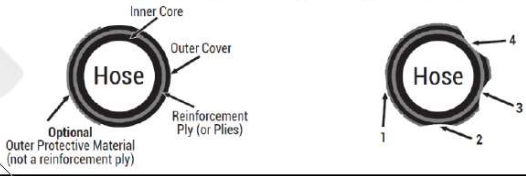
****Tubing with an audible leak at other than a proper connection. (393.45(a))**

****Tubing cracked, damaged by heat, broken, or crimped. (393.45(a))**

Air Brake Hose/Tubing

Any damage extending into the reinforcement ply. (393.45(b)(2)) (as per 4 below)

NOTE: A reinforcement ply is a braid or a spiral layer of fabric or steel.



Ref #	*Visual Characteristics*	*OOS Status*
1	Wear extends into outer protective material.	Not OOS
2	Wear extends through outer protective material into outer cover.	Not OOS
3	Wear makes reinforcement ply visible, but ply is intact.	Not OOS
4	Any part of the fabric/steel braid reinforcement ply is frayed, severed or cut.	OOS

Brake Hose/Tubing Continued:

Note: Rubber impregnated fabric cover is not a reinforcement ply.
Note: Thermoplastic nylon tube may have a braid reinforcement or color difference between cover and inner tube. Exposure of second color is an out-of-service condition.

Interpretation:
When should air hoses not be documented as a violation for chafing?

Answer- A violation should not be recorded until a reduction of the hose diameter is observed. It is not a violation if the hoses/lines rest on, or lightly rub on vehicle components. A hose that is found to have a reduction in diameter but is no longer chafing does not constitute a violation unless damage extending to or through the outer reinforcement ply is observable; when damage extends to or through the outer reinforcement ply a violation will be recorded (thermoplastic nylon tubing that is discoloured or faded but not damaged, is not a violation).

Note: If inspectors observe air hose lines that appear to be resting on or lightly rubbing on vehicle components, but no observable reduction is present, inspectors should educate the drivers that this is a condition that, while not in violation, is a condition that could lead to a violation/OOS condition in the future and make comments in the notes only, if so inclined.

LOW PRESSURE WARNING DEVICE:

****Low pressure warning device missing, inoperative, or does not operate at 55 psi and below, or ½ of the governor cut-out pressure, whichever is less.** *NOTE: If either an audible or visual warning device is working, vehicle should not be placed out-of-service.* (393.51)

AIR LOSS RATE:

****If an air leak is discovered and the reservoir pressure is not maintained when:**

- ****Governor is cut-in**
- ****Reservoir pressure is between 80 & 90 psi**
- ****Engine is at idle, and**
- ****Service brakes are fully applied. (396.3(a)(1)**

AIR RESERVOIR:

**** OOS Air reservoir security, separated from its original attachment points. (393.50)**

AIR COMPRESSOR:

(Normally to be inspected when readily visible or when conditions indicate compressor problems.)

****OOS if loose compressor mounting bolts. (396.3(a)(1)**

****OOS if cracked, broken, or loose pulley. (396.3(a)(1)**

****OOS if cracked or broken mounting brackets, braces, or adapters. (396.3(a)(1)**

HYDRAULIC BRAKE SYSTEMS- GENERAL

All HSV shall be in safe and proper operating condition at all times. These include parts and accessories in this section and any other additional parts and accessories which may affect safe operation. This section may not include all items specified in Trans. 301, therefore the applicable Federal Standard may have to be referenced when necessary.

1. Visually **inspect** conditions of hydraulic system.
   -inspect hydraulic hoses and tubes for leaks, cracks, chafing, flattened or restricted sections and improper support.
   ****OOS if brake hose or tubing is leaking fluid, flattened, restricted, or insecurely fastened. (393.45(a))**

   ****OOS if brake hoses chafed/cracked through outer cover to fabric layer**. (393.45(b)(2))

   ****OOS if any observable bulge or swelling on a brake hose. (393.45(a))**
2. Visually **inspect** condition of master cylinder (Normally inspected when readily visible or when problem is apparent).
   -inspect for brake fluid level in reservoir.
   ****OOS if fluid level is below 25% full. (396.3(a)(1))**

**** OOS if Master Cylinder assembly is loose or missing mounting bolts or not secured causing it to shift**

Hydraulic Brake Systems – General (Continued):

3. Visually **inspect** condition of wheel cylinders and brake calipers.
   -inspect wheel cylinders and brake calipers for fluid leaks. Do not confuse axle lubricant with brake fluid.
   ****OOS if any brake fluid leak is observed. (393.45(a))**
   -test for operation of light by turning ignition to start position (bulb check). Some vehicles will flash this "Brake" warning upon start up. (i.e. 1987 vacuum operated GM one ton chassis.)
   -with ignition on and engine running, apply 125- 150 pounds of pedal force and observe light.
   ****OOS if wire is disconnected. (393.51(b))**

   ****OOS if light is inoperative. (393.51(b))**

   ****OOS if light comes on when brake pedal is depressed. (393.51(b))**

4. Visually **inspect** condition of pressure differential switch and brake warning light. This is located by following the brake lines from a dual master cylinder to the switch. Many newer vehicles have the proportioning valve integrated into the master cylinder (Ford F & E Series and new IHC buses are examples). There will then be a plug into the side of the master cylinder which is a low fluid indicator in many cases (*Required after 1973*).
   -inspect wire connection at pressure differential switch.
      -test for operation of light by turning ignition to start position (bulb check). Some vehicles will flash this "Brake" warning upon start up (ie. 1987 vacuum operated GM one ton chassis).
   -with ignition on and engine running, apply 125 150 pounds of pedal force and observe light.
   ****OOS if wire is disconnected. (393.51(b))**

   ****OOS if light is inoperative. (393.51(b))**

   ****OOS if light comes on when brake pedal is depressed. (396.3(a)(1))**

5. Inspect condition of brake pedal reserve and hydraulic system.
   -with engine running apply brakes with moderate foot force for one minute.

****OOS if less than 20% of the total available pedal travel remains. (393.40(b))**

****OOS if service brake pedal moves slowly in applied direction while foot pressure is maintained** signifying a fluid leak. (393.45(a))

6. **Inspect** condition of brake drums or rotors (discs).
   -inspect drums and rotors for cracks or improper wear.
   ****OOS if cracks in drum open upon brake application (do not confuse short hairline heat check cracks with flexural cracks). (393.47(a))**

   ****OOS if rotor surfaces are worn through. (393.47(g))**

   ****OOS if any portion of the drum or rotor (disc) is missing or in danger of falling away. (393.47(a))**

7. Visually **inspect** condition of brake linings.
   -**inspect** linings for improper wear or contamination.
   ****OOS if lining cracks or voids of 1/16" in width observable on the edge of the lining.**

   ****OOS if portions of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge. (393.47(a))**

   ****OOS if there are cracks that exceed 1 1/2" in length. (393.47(a))**

   ****OOS if there is a loose lining segment (*rev. 11-25-98*). (393.47(a))**

   ****OOS if complete lining segment is missing. (393.47(a))**

NOTE: Grease on the lining edge, back of shoe, or drum edge and oil stains with no evidence of fresh oil leakage are not conditions for out-of-service. (393.47)

7. Brake Lining Inspection (Continued)

****OOS if evidence of oil seepage into or out of the brake lining/drum or lining edge accompanied by evidence that further contamination will occur such as oil leaking from an axle seal. (393.47(a))**

****OOS if lining has a thickness of 1/16" of less for disc or drum brakes. (393.47(a))**

8. Visually and physically **check** condition of parking brake system and parking brake warning light.
   -set the parking brake firmly to determine the reserve travel of the hand lever or foot pedal.
   ****OOS if cannot hold vehicle stationary for 5 minutes, in both forward and reverse direction on a 20 percent grade free from snow, ice, and loose materials (CFR 571.105 & CFR 571.121).**

   ****OOS if it cannot hold vehicle stationary (to the limit of traction on the braked wheels) for 5 minutes in both forward and reverse direction on a 30 percent grade free from snow, ice and loose materials (CFR 571.105 & CFR 571.121).**

   -inspect the band type parking brake on the drive shaft for the presence of oil or grease.
   ****OOS if brake lining is contaminated and evidence of oil seepage onto lining is present.**

   ****OOS if brake lining fails to make contact with drum.**
   -while parking brake is applied **check** the parking brake warning light.

9. Visually and physically **check** condition of emergency brake system.
   -inspect vehicle to assure the emergency brake system shall perform emergency stopping function and is constructed that single failure anywhere in the brake system which performs service brake function, excepting mechanical parts of wheel brake assemblies and brake pedal and brake pedal attachment to brake valves or

master cylinder, will not leave vehicle without operative brakes capable of stopping vehicle when loaded up to and including manufacturers rated gross vehicle weight at any legal speed.

-inspect the control by which the driver applies the emergency brake system to assure it can be readily operated while being properly restrained by a seat belt.

-inspect to assure the controls for applying the service brake, parking brake, and emergency brake are not combined into one system. The emergency brake may be combined with either the parking or service brake.

****OOS if HSV is not equipped to provide emergency braking capabilities found in the brake performance table in CFR 49 Part 393.52.**

****OOS if driver cannot apply emergency brake system while properly restrained.**

****OOS if all three brake systems are combined.**

Hy- Power (Hydro-Boost/ Delco Moraine) Hydraulic Brake System (Chev, GMC, IHC before March 1987)

These requirements apply in addition to the general section:

1. Visually **inspect** master cylinder and hydraulic power booster.

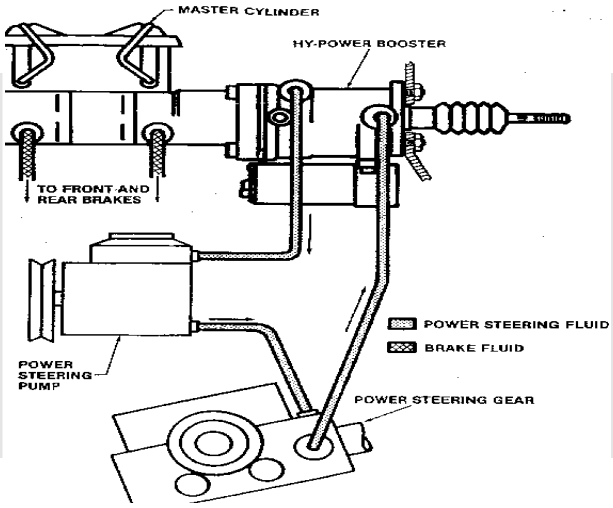
-Observe any fluid leaks and check flow switch.

-dampness caused by fluid seeping, which is not visually detected when brakes are applied or steering action is occurring, is not a defect.

****OOS if fluid is leaking- if a leak is detected clean surfaces and with motor running rock steering and apply brakes, check for persisting leak.**

****OOS if flow switch is disconnected or inoperative.**

****OOS if power steering fluid reservoir is empty.**



INSPECT/DEFECTS - BRAKES TR. 301.11 (Continued) Hy-Power Hydraulic Brake System

2. **Inspect** brake light warning device, electric brake motor warning light and electric brake motor operation. Refer to equipment standards that pertained to make and model year of vehicle when it was manufactured. ***Use information below as guidelines*.**

-with engine off and ignition off apply the brakes and **observe** brake warning light and listen for electric brake motor.

-1990- 91 **Blue Bird** in the early 90's used different systems.

-Some 1991 and 1992 **Blue Bird** chassis will activate only the electric brake motor.

-Some **1992 Blue Bird** chassis will activate brake warning light, warning chime and electric brake motor.

-1993 **Blue Bird** chassis will activate brake motor only - no warning lights.

-1999-**Bluebird** chassis will activate bell, red brake pressure light, "BRAKE SYSTEM". ABS is optional.

-2000-2002 **Bluebird** chassis will activate bell, red brake pressure light, "BRAKE SYSTEM" and amber ABS light.

-1996 - 2002 **GMC** chassis will activate only electric brake motor.

- All **IHC** chassis will activate electric brake motor only.

-1987- 1990 **Chevy** chassis will activate electric brake motor only.

**** OOS if electric motor brake light/buzzer is not observed when equipped to function or electric assist brake motor is inoperative.**

-with the engine off and ignition on, with or without brake application, **observe** brake warning light, brake electric motor light and listen for electric brake motor.

-Sept. 1990 Blue Bird chassis will activate brake warning light, warning chime, and electric brake motor.
-1992 **Blue Bird** chassis will activate brake warning light, warning chime, and electric brake motor.
-1993 **Blue Bird** chassis will activate brake warning light and electric brake motor will be running.
-1996 - 2002 **GMC** will activate warning bell without brake application. When brake is applied the electric brake motor will activate along with warning bell. When vehicle starts "AUX BRAKE" and "PRIMARY BRAKE" will flash and then go off to indicate bulbs are working.
-Before 5/7/1985 **IHC** electric brake will only operate when you apply pressure to the brake pedal. The "BRAKEPRESSURE" light will be operating with the key in the on position and engine off.

-with the engine off and ignition on, with or without brake application, **observe** brake warning light, brake electric motor light and listen for electric brake motor.

-Sept. 1990 Blue Bird chassis will activate brake warning light, warning chime, and electric brake motor.
-1992 **Blue Bird** chassis will activate brake warning light, warning chime, and electric brake motor.
-1993 **Blue Bird** chassis will activate brake warning light and electric brake motor will be running.
-1996 - 2002 **GMC** will activate warning bell without brake application. When brake is applied the electric brake motor will activate along with warning bell. When vehicle starts "AUX BRAKE" and "PRIMARY BRAKE" will flash and then go off to indicate bulbs are working.
-Before 5/7/1985 **IHC** electric brake will only operate when you apply pressure to the brake pedal. The "BRAKEPRESSURE" light will be operating with the key in the on position and engine off.

-After 5/7/1985- March 1987, **IHC** will activate brake pressure light and electric brake motor will be running.
-1987- 1990 **Chevy** will activate two lights indicating "BRAKE" and "BRAKE BOOST" along with the electric brake motor running and warning chime.

****OOS if brake warning light/buzzer, brake electric motor warning light is not observed when equipped to function or electric brake motor is inoperative.**

-with the engine on apply brakes and rock steering (note: do not turn wheel to steering stops).

****OOS if any brake warning light activates or loss of power steering occurs.**

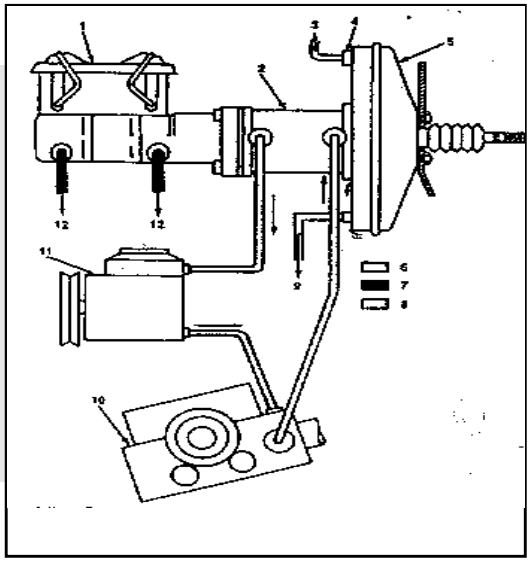
Dual Power Hydraulic Brake System - These requirements apply in addition to the general section.

1. Visually and aurally **inspect**: hydraulic power booster, vacuum booster, vacuum reserve system.
-**observe** any fluid leaks and check condition of flow switch.

-dampness caused by fluid seeping, which is not visually detected when brakes are applied or steering action is occurring, is not a defect.

****OOS if fluid is leaking (if leak is detected, clean surfaces and with motor running, rock steering and apply brakes, check for persisting leak.**

****OOS if flow switch is disconnected or inoperative.**



****OOS if power steering fluid reservoir is empty.**

****OOS if any vacuum leak is detected.**

2. Visually and aurally **inspect** condition of brake warning light, low vacuum warning light/buzzer and vacuum gauge.
-with engine running build full vacuum and turn motor off. **Observe** vacuum gauge.

****OOS if any observable vacuum leaks after initial shut down or up to two minutes there after (*rev. 11-25-98*).**

-with vacuum built up, apply and hold brake for one minute.

****OOS if any observable vacuum leaks after initial brake application (*rev 11-25-98*).**

-after checking above item, release brakes and apply two more times.

****OOS if vacuum reserve is not adequate for three full brake applications.**

-after checking above item, **check** that the low vacuum warning light/buzzer is functioning when the vacuum gauge reads below eight inches Hg. (pump brakes if necessary and make sure ignition is in start position to view light or hear buzzer.

-Mid 1980's **IHC**, the flow switch, pressure differential switch and low vacuum warning light all activate one warning light. To check the low vacuum warning light, deplete vacuum system and start bus. Light should stay on until vacuum reaches 8 inches of mercury. If light goes out immediately upon startup with vacuum depleted the low vacuum switch (mounted on inside of firewall, under dash) is inoperative.
-1986 **Chevy** with key on and full vacuum will activate no lights. With low vacuum will activate sharp tone and low vacuum light. Upon start up you will observe low additional lights indicating "BRAKE" (differential switch) and "BRAKE BOOST" (flow switch).

-OOS if vehicle is equipped with both low warning indicator and one is not functioning.

****OOS if no low vacuum warning indicator is functioning.**

****OOS if brake warning light is inoperative.**

-after checking above item the vacuum system should be depleted. Depress brake pedal and hold. Start vehicle while depressing pedal. A surge should be felt in the brake pedal indicating an operating vacuum system.

****OOS if you do not feel the brake pedal surge.**

-after feeling surge in brake pedal when the vehicle starts the brake pedal should travel farther to the floor indicating proper hydraulic assist. At this time a "throttling" noise will be heard.

****OOS if pedal does not travel farther to the floor and "throttling" noise not heard.**

Vacuum Brake System: These requirements apply in addition to the general section.

Refer to Tr. 301.11(3) & (4). Under 10,000 GVWR exemptions of vacuum gauge, reserve tank and low vacuum waning device.

1. Visually and aurally **inspect** vacuum booster, and vacuum reserve system.

****OOS if any observable vacuum leaks.**

2. Visually and aurally **inspect** condition of low vacuum warning light/ buzzer and vacuum gauge. Brake warning light for pressure differential switch will also be present (see general section for inspection procedure).
-with engine running build full vacuum and turn motor off. Observe vacuum gauge.

**** OOS if any observable vacuum leaks after initial shut down and up to two minutes there after (*rev 11-25-98*).**

-with vacuum built up, apply and hold brake for one minute.

****OOS if any observable vacuum leaks after initial brake application (*rev. 11-25-98*).**

-after checking above item, release and apply brake two more times.

****OOS if vacuum reserve is not adequate for three full brake applications.**

-after checking above item, check that the low vacuum warning light is functioning when the vacuum gauge reads below 8 inches of Hg (pump brakes if necessary and make sure ignition is in start position to view light or hear buzzer).

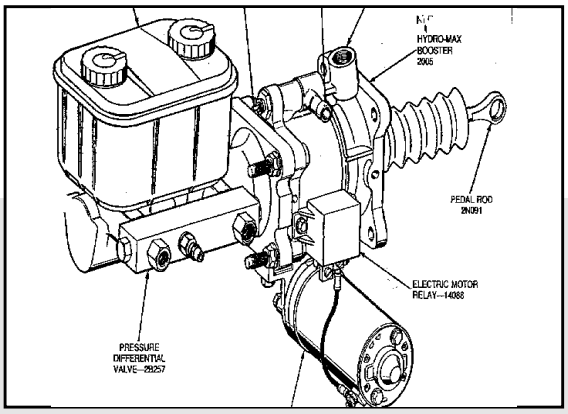
****OOS if no low vacuum warning indicator is functioning.**

-after checking above item, the vacuum system should be depleted. Depress brake pedal and hold. Start vehicle while depressing pedal. A surge should be felt in the brake pedal indication an operating vacuum system.

****OOS if you do not feel the brake pedal surge.**

Hydro-Max (Bendix) Hydraulic Brake System (IHC- after March 1987 and Ford vehicles):

These apply in addition to the general section.



1. Visually **inspect** master cylinder, hydraulic power booster, and on Ford vehicles check the Saginaw brake pump and associated components related to the parking brake system.

-observe any fluid leaks and check flow switch.

-dampness caused by fluid seeping, which is not visually detected when brakes are applied or steering action is occurring, is not a defect.

****OOS if fluid is leaking- if a leak is detected clean surfaces and with motor running rock steering and apply brakes. To check Ford's parking brake system the vehicle should be running with the brakes released. This will build pressure in the rear canisters.**

****OOS if flow switch is disconnected or inoperative.**

****OOS if Saginaw brake pump fluid reservoir is empty (Ford).**

2. **Inspect** brake warning device, electric motor warning light and electric brake motor.

-with the engine off and ignition off apply the brakes and observe electric brake motor warning light/buzzer and listen for electric brake motor operation.

-IHC vehicles will activate electric brake motor only.

-Ford vehicles will activate electric brake motor warning light, buzzer, and electric brake motor.

-Nov. 1998 - 2006 Freightliner (Thomas C-2 body is on Freightliner chassis) vehicles will activate electric brake motor only and audible alarm.

-1995 **Thomas** chassis will activate brake motor only.

-2003 - 2006 Blue Bird will activate brake motor only.

****OOS if the electric brake motor warning light and buzzer or bell is inoperative or electric brake motor is inoperative when equipped to function.**

-with the engine off and ignition on with or without brake application observe brake warning light, brake electric motor light/buzzer and listen for electric brake motor operation.

-Mar 1987 -1991 IHC will activate brake pressure light and brake motor. No bell.

-1991-98 **IHC** will activate brake pressure light, bell, and electric brake motor. Oct. 1991 had two brake pressure warning lights.

-3/1/1999-2004 **IHC** will activate brake pressure light, ABS light, bell and brake motor.

-Nov. 1998 **Freightliner** vehicles will activate brake pressure light (!), buzzer, and electric brake motor. This is the new hydro-max system from Bendix. The light is a low fluid, differential switch, and flow switch indicator.

-1995 **Thomas** will activate warning buzzer, brake pressure light and electric brake motor.

-1998 **Thomas** will activate red brake pressure light, and audible alarm

-3/1/1999 - 2006 **Thomas**(Thomas C-2 body is on Freightliner chassis) will activate brake pressure light, audible alarm and ABS light

-2003 – 2006 **Blue Bird** will activate brake pressure light, audible alarm and ABS light

****OOS if the brake warning light or the brake electric motor light and buzzer (bell) inoperative or electric brake motor inoperative. (Majority of IHC systems have one light, Ford has two lights)**

-with the engine off and ignition on with or without brake application observe brake warning light, brake electric motor light/buzzer and listen for electric brake motor operation.

****OOS if the brake warning light and the brake electric motor light/buzzer inoperative or brake motor inoperative.**

-with the engine off and ignition on with the parking brake set, check the parking brake warning light.

-with the engine on apply brakes and rock steering (note: do not turn wheel to steering stops).

****OOS if any brake warning light activates or loss of power steering occurs.**

INSPECT/DEFECTS- BRAKES TR. 301.11 Hydro-Boost Hydraulic Brake System

Hydro-Boost Hydraulic Brake System: (found mainly on GM and Ford one ton chassis)

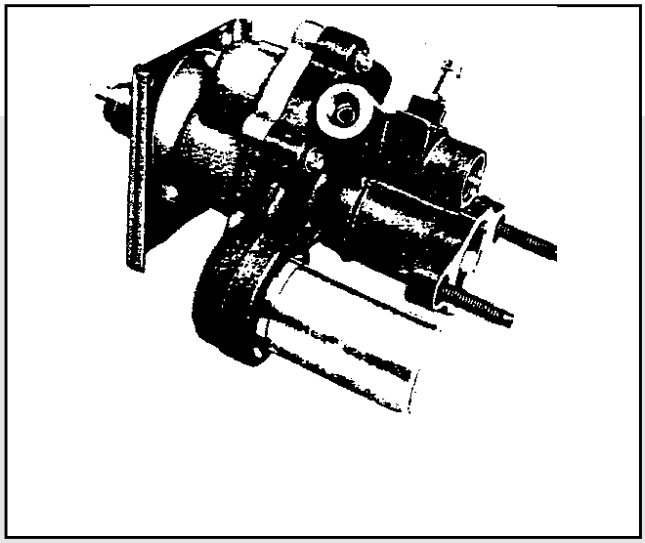
These requirements apply in addition to the general section.

1. Visually **inspect** master cylinder, hydraulic power booster and flow switch.

-**observe** any fluid leaks and check flow switch.

-1987 -1989 **Chevy** no flow switch.

-December of 1989 flow switch present in hydraulic hose coming from pump.



-dampness caused by fluid seeping, which is not visually detected when brakes are applied or steering action is occurring, is not a defect.

****OOS if fluid is leaking- if a leak is detected, clean surfaces and with motor running rock steering and apply brakes, check for persisting leak.**

****OOS if flow switch is disconnected or inoperative.**

****OOS if power steering fluid reservoir is empty.**

2. With engine off inspect condition of dual system by applying brakes several times until a hard brake pedal is felt. Apply and hold brake pedal. Start vehicle and the brake pedal should kick back indicating a properly working system.

****OOS if pedal does not kick back (check condition of Nitrogen canister).**

3. With engine off and ignition on, observe brake warning light.

****OOS if brake warning light is inoperative.**

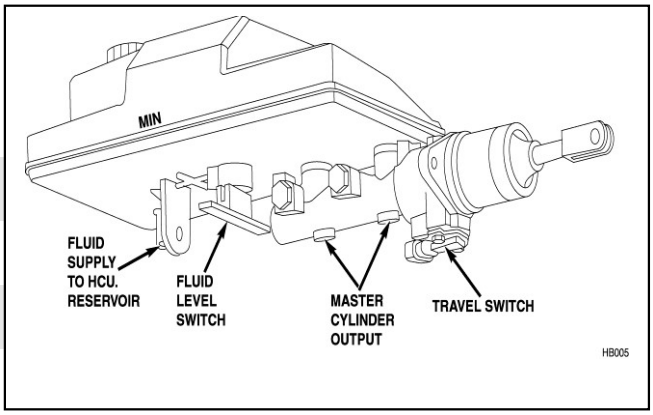
4. With engine on, apply brakes and rock steering (note: do not turn wheel to steering stops.

****OOS if any brake warning light activates or loss of power steering occurs.**

BRAKES TR. 301.11 Wabco/International Hydraulic Brake System

Wabco/International Brake system Hydraulic Brake System (ICCO-International starting 2005):

These apply in addition to the general section.



1. Visually **inspect** master cylinder, fluid level, fluid level switch, and travel switch.
   -observe any fluid leaks

****OOS if fluid is leaking**

2. **Inspect** pump motors. With engine off (key on or off) press brake pedal several times. Listen for pump motors to operate.

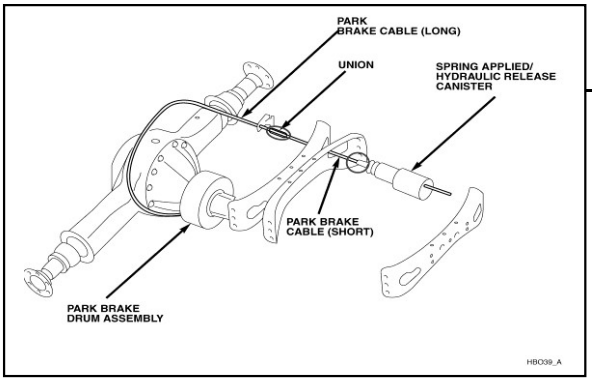
****OOS if motor does not run. (Located on left side frame rail behind axle 1)**

3. **Inspect** brake warning light. Turn key from off to on position. Instrument panel should light up and go off after approximately 5 seconds. Lights will not come on upon start up.

****OOS if brake pressure light or brake fluid light is inoperative.**

4. **Inspect** the powered parking brake.

****OOS if system has a fluid leak.**



BUMPERS — TRANS 301.12

(1) Every HSV shall be equipped with front and rear bumpers properly attached to the vehicle to be effective in the event of an accident.

INSPECT/DEFECTS- BUMPERS — TRANS 301.12
1. Check bumpers for defects and proper attachment points.
****OOS if bumper is not properly attached, missing or structurally damaged.**

CONSTRUCTION — TRANS 301.13

(1) Every HSV manufactured in accordance with federal school bus standards after May 1, 1997 shall meet the requirements of 49 CFR 571.220, school bus roll over protection.

(2) Every van modified with a raised roof or doors, or both, placed in operation after May 1, 1997 shall meet the requirements of 49 CFR 571.220, school bus roll over protection.

(3) A modified van with raised rood or doors, or both, plated in operation prior to May 1, 1997 may continue operation for 5 years after May 1, 1997 without modification, if it meets the accessibility guidelines for transportation vehicles in 36 CFR part 1192, subpart B, including the door heights standard in 36 CFR 1192.25(c).

Note: 36 CFR 1192.25(c) reads as follows: For vehicles in excess of 22 feet in length of overhead clearance between the top of the door opening and the raised lift platform, or highest point of a ramp, shall be a minimum of 68 inches. For vehicles of 22 feet or less, the overhead clearance between the top of the door opening and the raised lift platform, or highest point of a ramp, shall be a minimum of 56 inches.

INSPECT/DEFECTS- CONSTRUCTION — TRANS 301.13
1. Check that HSV is manufactured in accordance with federal school bus standards and every van modified with a raised roof or doors, or both, put into service after May 1, 1997, must comply with 49 CFR 571.220 school bus roll over protection.
**OOS if no proof of compliance with roll over protection.
2. Verify that any modifications meet required federal standards, either by markings or documentation from manufacturer or installer.
****OOS if modifications do not have proof of compliance with federal standards.**

COMMUNICATONS – TRANS 301.14

(1) Every HSV shall be equipped with some type of 2-way communication system. This system shall be of such design and installation that the vehicle operator shall at all times be able to communicate with either the base of operations or another intermediary party that could communicate with the base of operations.

Verify that vehicle is equipped with a communications system
**OOS in not equipped. Transfer of communication systems between HSV's is allowable.

DEFROSTER - TRANS 301.15

(1) All defrosting equipment shall keep the windshield and the glazing to the left and right of the driver clear of fog and frost. The defroster outlets may not be restricted in any way.

(2) Fans may be used in addition to defrosters, but shall be mounted so as not to obstruct the driver's view.

(3) Any exposed fan blade shall have a shroud.

INSPECT/DEFECTS- DEFROSTER - TRANS 301.15
1. **Check** that the defrosting system is moving air to windshield and side window areas.
****OOS if view is obstructed by fog or frost.**
****OOS if inoperative and conditions restrict visibility.**
2. **Check** that a mounted fan does not obstruct the driver's view.
****OOS if visibility is obscured.**
3. **Chec**k that exposed fan blades are protected with a shroud.
****OOS if fan blade is exposed.**

EMERGENCY EXITS — TRANS 301. 16

(1) Every HSV with a GVWR of more than 10,000 pounds shall be provided with emergency exits that comply with 49 CFR 49 571.217, bus emergency exits and window retention and release, and the following requirements:

(a) 1. The door shall be devised so as to be opened from the inside and outside.

2. The aisle to the emergency door shall be kept clear of obstructions.

(b) There may not be any steps leading to the emergency door.

(c) The upper and lower portion of the central rear emergency door shall be equipped with approved safety glass, the area of which shall be not less than 400 square inches in the upper portion and not less than 280 square inches in the lower portion. Van type buses are exempt from the requirements to have glazing in the lower part of the door. The left side emergency door shall be equipped with safety glass in the upper portion and the lower portion shall be of at least the same gauge metal as the body. The emergency door shall be hinged on the right side if it is in the rear of the bus and on the front side if it is in the left side and shall open only outward. Control of the emergency door from the driver's seat shall not be permitted.

(d) The emergency doors shall be equipped with a slide bar, cam-operated latch which shall have a minimum stroke of one inch. The latch shall be equipped with an electric plunger-type switch connected with a distinctive signal audible to the driver, shall be automatically operated, shall clearly indicate the unlatching of the emergency door and may not have a cutoff switch installed in the circuit. The switch and its activating plunger shall be enclosed in a case, which will prevent tampering, and wires leading from the switch shall be concealed in the body. The switch shall be so installed that the plunger contacts the farthest edge of the slide bar in such a manner that any movement of the slide bar will immediately close the circuit and activate the signal. The door latch shall be equipped with an interior handle that shall be capable of quick release but shall be protected against accidental release. The handle shall lift up to release the latch. The outside handle shall be such as to minimize hitching and shall be securely attached.

(e) If locks are installed on the emergency door they shall include a device to prevent the activating of the starter mechanism of the bus engine while any door is locked. An audio alarm shall indicate to the driver when any door lock is in the locked position while the ignition switch is in the "on" position.

(f) A rear emergency window at least 16 inches in height and as wide as practicable shall be provided in any HSV where the emergency door is not in the rear. The rear window shall be designed so as to opened from either the inside or the outside. It shall be hinged at the top and designed to prevent accidental closing in an emergency. A positive latch on the inside shall provide for quick release but offer protection against accidental release. The outside handle shall be nondetachable and designed to minimize hitching.

1. The inside of each emergency window shall have the designation "Emergency Exit". Concise operating instructions shall be located within 6 inches of the release mechanism. The outside of the emergency door shall be clearly marked "Emergency Door" or "Emergency Exit" in letters 2 inches high at the top of the door. An arrow at least 6 inches long and ¾ inch in width indicating the direction the release mechanism should be turned to open the door shall be painted in contracting or conspicuous colors.

EMERGENCY EXITS — TRANS 301.16(Continued)

The outside of the emergency window shall be labeled “Emergency Exit” in letter at least 2 inches high directly above the window.

2. A distinctive audible signal automatically operated shall clearly indicate to the driver the unlatching of any emergency window and no cut off switch shall be installed in the circuit.

(g) The area on the inside above the emergency door shall be covered with padding at least 2 inches high to within 2 inches of each side of the door opening.

(2) Each HSV 10,000 pounds or less GVWR need not have a specific emergency exit providing there are 2 separate openings where persons could exit the vehicle under normal circumstances.

(3) All doors shall be capable of being opened easily from the inside and outside including the rear door of a van.

(4) Motor buses used as an HSV shall have emergency exits that conform to the requirements under 49 CFR 393.61, 393.62, 393.63, and 393.92 and the applicable standards under 49 CFR 571.217.

INSPECT/DEFECTS- EMERGENCY EXITS — TRANS 301.16

1. Verify GVWR over 10, 000 pounds.

2. Ensure aisle to emergency door is unobstructed
**OOS if aisle obstructed (if side exit has flip-up seat and seat fails to flip up)

3. Visually inspect exits for proper seal and condition
**OOS if fails to seal against outside elements or rusted through

4. Check slide-bar stroke length and ensure emergency door can be opened from both interior and exterior of vehicle.
**OOS if door cannot be opened from both interior and exterior

5. Confirm operation instructions properly marked for all emergency exits.

6. Check for audible signal indicating exits are not fully closed. (including exit windows)
**OOS if no functional warning buzzer on any one exit

7. If equipped with emergency door lock, put in lock position and ensure vehicle cannot be started.
**OOS if ignition interlock/door lock system inoperative

8. Check for padded barrier above door opening.

9. Check for proper marking on both interior and exterior of vehicle for emergency exit.
**OOS if “emergency exits” or “emergency doors” are not identified

10. Inspect glass for safety rating and proper size.
**OOS if window does not meet size and safety requirements

11. Check emergency windows
**OOS if rear emergency window fails to remain in open position, does not latch properly or opening is less than 16” in height

FLOOR AND FLOOR COVERING – TRANS 301.17

(1) Every HSV shall have a nonslip floor mat or covering wherever the driver or passengers normally place their feet or utilize floor space to get to their seats.

**OOS if no slip resistant material in required areas or damaged so as to cause a hazard to passengers.

EXHAUST SYSTEM — TRANS 301.18

(1) The exhaust system that includes the exhaust manifolds, joining gaskets, piping leading from the exhaust manifold, muffler, catalytic converter, and tail pipe may not enter the HSV body at any location. The exhaust system pipes shall be of nonflexible tubing. The exhaust system pipes shall extend to, but not beyond the rear limit of the bumper or the body limits on the left side of the bus behind the driver's compartment, or may exit to the right side of the vehicle to the rear of the rear wheel. The complete exhaust system shall be tightly connected and free from leaks and shall be properly insulated from the electrical wirings or any combustible part of the vehicle.

INSPECT/DEFECTS- EXHAUST SYSTEM — TRANS 301.18

1. Visually **inspect** mufflers, resonators, catalytic converters, tail pipes, exhaust pipes and supporting hardware.
-inspect for presence and condition- i.e. rusted/ corroding/pinched/loose.

****OOS if no muffler**
****OOS if leaks present (393.83(g)**
****OOS if any portion of system is located in the interior of the vehicle**
****OOS if exit location improper (393.83(d))**
****OOS if any component located so as to create a hazard to passengers (i.e. Pipes are exposed beyond the body line of the vehicle)**
****OOS if any part of the exhaust system is located as to be likely to result in the burning, charring, or damaging the electrical wiring, fuel supply, or any combustible part of the motor vehicle. (393.83(a))**

FIRE EXTINGUISHER — TRANS 301.19

(1) Each HSV shall be equipped with a fire extinguisher mounted in full view in the driver's compartment or mounted inside a compartment in the driver's area if the compartment is in plain view and is labeled "Fire Extinguisher" in red letters to indicate its location. An automobile or station wagon may have the fire extinguisher mounted in the luggage are provided there is an indication on the dash that the fire extinguisher is so located.

(2) The fire extinguisher may be locked or kept in a locked compartment provided it is not locked when passengers are being transported. This subsection may not apply to the cargo area of an automobile.

(3) The fire extinguisher shall be at least a 10 BC rating.

(4) All extinguishers shall be kept fully charged and sealed.

(5) All extinguishers shall be in a bracket or receptacle to secure it to the vehicle.
(6) CO2 extinguishers are prohibited from use in an HSV.

INSPECT/DEFECTS- FIRE EXTINGUISHER — TRANS 301.19

1. **Check** for presence, location, and readiness of the fire extinguisher and that it is a dry chemical type or Halon and is sealed.
**** OOS if missing.**
****OOS is discharged or not properly sealed.**

2. Confirm that the fire extinguisher is at least 10 BC rating.

3. If stored in a compartment, **check** that it is labeled as "fire extinguisher".

FIRST AID KIT — TRANS 301. 20

(1) Each HSV shall carry a first aid kit. The container shall be moisture-proof and dustproof and of rigid construction. It shall be secured in the vehicle.

(2) The kit shall be a 10 unit kit or larger containing the following:

Adhesive bandage, ...1-inch ..... 2 packets
Bandage compress, .…....2-inch ..... 2 packets
Bandage compress, ...4-inch ..... 4 packets
Gauze compress, ...24-inch x 24-inch minimum .....……1 packet
Triangular bandage, ...40-inch ..... 1 packet

(3) All units shall be sanitized packages.

INSPECT/DEFECTS- FIRST AID KIT — TRANS 301.20

1. **Check** for presence of and general condition of first aid kit.

2. **Check** for proper contents.

FRAME — TRANS 301.04

(1) Alterations to the frame side members may only be made by the chassis or body manufacturer.

(2) Holes shall not be permitted except where originally provided in the chassis frame. There shall be no welding to the frame except by the chassis or body manufacturer.

INSPECT/DEFECTS- FRAME — TRANS 301.04

1. **Check** frame and cross members for cracks, holes, distortions, alterations, and improper welds not completed by chassis or body manufacturer.
**** OOS if frame components are cracked, welded, etc (except welds from the original manufacturer) (393.201(a)).**

FUEL TANK AND FUEL SYSTEM INTEGRITY — TRANS 301.21

(1) In addition to the requirements under 49 CFR 393.65, 393.67, and 393.69, all fuel system and tanks shall be maintained free of leaks.

(2) All fuel lines shall be secured in a manner that will prevent wear.

INSPECT/DEFECTS- FUEL TANK AND FUEL SYSTEM INTEGRITY — TRANS 301.21

1. Visually **examine** the fuel tank, fuel tank support straps, filler tube, tube clamps, fuel tank vent hoses or tubes, filler housing drain, overflow tubes and filler cap.
**** OOS if any part of the system is not securely fastened or supported. 393.65(c))**
**** OOS if there is fuel leakage at any point in the system. (396.3(a)(1))**
**** OOS if the fuel filler cap is missing. (393.67(c)(7)(v))**

HEATERS — TRANS 301.22

(1) In addition to 49 CFR 393.77, a heater shall maintain an inside temperature of not less than 50 degrees Fahrenheit throughout the HSV at the average minimum January temperatures as established by the U.S. Department of commerce, weather bureau, for the area I which the bus is to be operated.

(2) The heater hose shall be adequately supported to guard against excessive wear or abrasion and may not interfere with or restrict the driver. Heater lines inside the passenger compartment shall be shielded to prevent accidental contact by the driver or passengers.

INSPECT/DEFECTS- HEATERS — TRANS 301.22

1. **Inspect** heater(s) for capability to maintain inside temperature of 50 degrees F.
   **** OOS if heater can't maintain temperature of 50 degrees.**

2. **Inspect** for leakage and general condition of heating system, including hoses and hose shielding.

INSTRUMENTS AND GAUGES – TRANS 301.23

(1) Every HSV originally equipped with any of the following instruments, warning devices, or gauges shall be maintained with that equipment or a comparable replacement in good working condition:

(a) Air pressure or vacuum, where air or vacuum brakes are used with low energy supply warning systems.
(b) Ammeter, voltmeter or electrical capacity.
(c) Fuel
(d) Oil pressure
(e) Water temperature.

(2) The gauges or instruments shall be mounted in such a manner that each is clearly visible to the seated driver.

INSPECT/DEFECTS- **HORN — TRANS 301.23**

1. Check all instruments and gauges (for brake system gauges refer to brake section)

INTERIOR — TRANS 301.24

(1) The interior of an HSV shall be free of all unnecessary projections likely to cause injury. This standard requires inner lining on ceilings and walls.

INSPECT/DEFECTS- **INSIDE HEIGHT — TRANS 301.24**

1. Check for hazardous projections and inner lining on ceiling and walls
   ****OOS if any projection is likely to cause injury**
   ****OOS if required lining is missing from ceilings and walls**

2. Check for cleanliness of HSV

LIGHTS, LAMPS, AND REFLECTORS — TRANS 301.25

(1) The lights, lamps, and reflectors required for an HSV shall conform to the requirements for color, position, and type under 49 CFR 393.9 to 393.26, and required by Ch. 347, Stats.

INSPECT/DEFECTS- LIGHTS, LAMPS, AND REFLECTORS — TRANS 301.25

1. Check function and operation of the following: lights/reflectors should be checked for presence, operation, color, correct number, obstructions or devices restricting the amount of light, and condition of components such as lenses, mounting and wiring.

Headlamps, high and low beams
**** OOS if during hours of darkness, both lamps inoperative.**

Back up lamps.

Tail lamps
**** OOS if during hours of darkness, both lamps inoperative/ missing**

Stop lamps
**** OOS if both lamps are inoperative or missing.**

Directional lamps
****OOS if HSV does not have at least one operative right and left directional lamp on the front and the rear.**

MIRRORS — TRANS 301.26

(1) HSV mirror shall comply with the requirements of 49 CFR 571.111. In addition, every HSV with a GVWR of more than 10,000 pounds shall have an interior rearview mirror at least 6 x 30 inches overall. There shall also be 2 exterior clear view outside rearview mirrors, one to the left and one to the right of the driver. Area of each mirror shall be not less than 50 square inches overall. Each mirror shall be firmly supported and adjustable to give driver views past left rear and right rear of vehicle. The right outside mirror mounts shall include a side angle adjustable convex mirror to provide and additional close-in field vision located so as not to reduce the visual field of the flat surfaced mirror below 50 square inches, or as an option have a front mounted mirror, these shall provide a view from the service door rearward.

(2) Each HSV with a GVWR of 10,000 pounds or less shall have:
(a) One interior review mirror.
(b) Two outside rearview mirrors. One shall be on the right side and one on the left side of the vehicle.

(3) Every HSV except an automobile or station wagon transporting minors shall be equipped with a 7 inch cross view mirror providing a reflection of the road from the front bumper to a point where direct observation is possible.

(4) Mirrors which are cracked, broken, or clouded shall be replaced.

(d) There shall be an adjustable convex mirror or equivalent "banana type mirror" (FIGURES 1 & 2) mounted on the right side to provide an additional close-in field of vision from the front of the bus rearward. This mirror may be mounted on the bracket required for the cross view mirror. The mirror required in this paragraph shall be independently adjustable. It shall have at least a 7-inch diameter face.

(2) Type A-II buses shall have an interior and 2 exterior rearview mirrors, one on the right and one on the left side of the bus capable of reflecting a view past the rear of the bus. Mirrors shall not have sharp corners or edges.

(3) All buses after 3-1-95 shall be equipped with 2, 7-inch diameter convex mirrors or an equivalent "banana type mirror" which shall be mounted on the right and left sides in such a manner that the driver may observe a reflection of the road from beneath the front bumper forward to a point where direct observation is possible through each mirror. (FIGURE 3)

(4) Each mirror required in this section shall not be broken, cracked or discolored.

INSPECT/DEFECTS- MIRRORS — TRANS 301.26

1. Check for the presence of required mirrors.

2. If vehicle is a van or bus and used to transport minors, check for presence of 7" cross view mirror.

3. From the drivers' position, visually inspect interior and exterior mirrors for proper mounts, location, cracks, sharp edges, or ease of adjustment.

****OOS if mirror is loosely mounted or does not provide a clear view to the rear.**
****OOS if mirror will not maintain a set adjustment.**
****OOS if mirror is not mounted on a stable support, not properly located or provides adequate view.**
****OOS if mirror is missing.**
****OOS if view from mirror is obstructed.**
****OOS if mirror is cracked, broken, has sharp edges, is discolored, pitted, or clouded to the extent that vision is obscured.**
**** OOS if equipped optional convex interior mirror has exposed sharp edges.**

OPENINGS - TRANS 301.27

(1) Every HSV shall have all openings between the engine and passenger compartments adequately sealed to prevent engine fumes from entering the passenger compartment. Every HSV shall have doors which have a weather shield or weather strip to prevent drafts, or inclement weather from entering the vehicle.

(2) Every HSV shall be free of rusted or deteriorated areas which could permit the entrance of foreign substance into the interior of the vehicle.

INSPECT/DEFECTS- OPENINGS - TRANS 301.27

1. Check for any openings in school bus body that would allow dust or exhaust fumes to enter the passenger compartment.
**** OOS if any openings allow exhaust in or not protected by conduits or grommets.**

2. Check for proper protection of hoses, tubing and wires that pass through floorboard of firewall.

RUB RAILS - TRANS 301.28

(1) Every HSV originally manufactured to federal and state school bus standards with a GVWR of more than 10,000pounds shall comply with the following requirements:

(a) There shall be one rub rail located approximately at seat level which shall extend from the rear side of the service door to the rear of the vehicle and one rub rail located on the left side from the front to the rear.

(b) There shall be one rub rail located between the floor line and 9 inches above the floor line. It shall extend over the same longitudinal distance as the upper rub rail, except where it meets the wheel housings, and which may terminate at the radii of the right and left rear corners.

(c) Rub rails shall be constructed of 16 gauge longitudinally corrugated or ribbed steel of 4-inch maximum width. Each rub rail flange shall be attached at each body post. Pressed in or snap on rails are not permitted.

(2) An HSV with a GVWR of 10,000 pounds or less is not required to have rub rails.

INSPECT/DEFECTS- RUB RAILS - TRANS 301.28

1. On vehicles with GVWR more than 10,000 pounds inspect the rub rails. Check for location and attachment.

**** OOS if not properly located or attached.**

**** OOS if missing or not proper size.**

2. Check for damage/ deterioration.

**OOS if holes more than one inch in diameter

SEATING - TRANS 301.29

(1) All seats shall be forward facing and securely fastened to that part or parts of the body which support them. A passenger seat cushion retention system shall be employed to prevent passenger seat cushions from disengaging from seat frames in event of accident.

(2) The top corners and at least 10 inches of the top of the back surface of the seat backs shall be padded sufficiently to reduce the likelihood of injury. Hand holds may be incorporated on a seat back. These holds are exempt from the padding requirement.

(3) For the purpose of this section, a "foldaway seat" is a single or double seat designed so the seat back folds down or the seat bottom folds up and includes seats where the entire folded assembly may lock securely along the interior wall of the vehicle. Foldaway seat shall comply with the requirements in 49 CFR 571.207.

SEATING - TRANS 301.29 (Continued)

A "flip-up seat" may be used at a side emergency door location. A flip-up seat shall conform to the following requirements:

(a) The automatic flip-up seat shall be designed and constructed to inhibit passenger limbs from becoming lodged between the seat cushion and seat back

(b) The working mechanism under the seat shall be covered to eliminate any tripping hazard.

(c) The bottom of the flip-up seat shall be covered with sheet metal or other material of equal strength and durability and any sharp edges padded to prevent injury or snagging clothing.

(d) The seat shall be designed and constructed to raise to a vertical position automatically when not occupied.

(4) All passengers aboard an HSV shall be seated in a permanently mounted seat. The department shall interpret the removable seat in a van as being a permanently mounted seat. This subsection does not apply to persons transported in a wheelchair or some other device which would make this provision impractical.

(5) Rear or center facing seats in a station wagon are not permitted.

INSPECT/DEFECTS- SEATING - TRANS 301.29

1 Check for proper seat orientation.

**** OOS if seat facing the wrong direction.**

2. Check seats to see that they are securely anchored to floor pan.

****OOS if seat anchor bolts are not securely fastened to floor or are missing**

3. Check seats for condition of frames, springs, and cover.

**** OOS if seat cushions are loose- only in the case where the cushion can be removed from the frame without the use of tools**

4. Check seat belts for frayed, split or torn webbing, malfunctioning buckles, loose or damaged anchors.

**OOS if buckles do not operate or anchorage's are loose, corroded, damaged, or deformed.

5. Check that flip up seats are proper.

SERVICE DOOR - TRANS 301.30

(1) The service door shall be located on right side of vehicle.

(2) Service door shall be so designed as to prevent accidental opening.

(3) In a vehicle of more than 10,000 pounds GVWR, the lower as well as upper panels shall be of safety glass as follows:
(a) The bottom of the lower glass panel may not be more than 35 inches from the ground when vehicle is unloaded.
(b) The upper glass shall be hermetically sealed or the vehicle shall be equipped with a defrosting device to assure the driver has a clear view out of the service door glass.

INSPECT/DEFECTS- SERVICE DOOR - TRANS 301.30

1. Check that the service door is located on the right side of the vehicle and that it functions properly, including latching.

**OOS if not on right side or does not securely latch.

2. Check that the service door is equipped with safety glass

3 In a vehicle over 10,000 pounds, check that bottom of lower glass is no more than 35" from ground and the upper glass is hermetically sealed.

****OOS if upper window fogged or clouded and severely limits drivers view.**

STEERING — TRANS 301.31

(1) All components and linages for the steering system shall be properly maintained.

INSPECT/DEFECTS- STEERING — TRANS 301.31

1. Check for secure steering wheel attachment.

**** OOS if steering wheel is not properly secured.**

2. Check steering wheel lash.

2. Check steering wheel clearance from wheel to cowl.

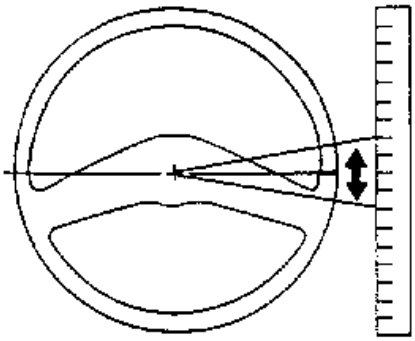
**** OOS if steering wheel to cowl clearance is less than 1 ¾ inches.**

1. **Check** steering wheel lash. With road wheels in straight ahead position, turn steering wheel in one direction just until the steering motion can be observed at the road wheels. Mark steering wheel position. Now turn steering wheel in opposite direction just until steering motion can again be detected at the road wheels. Mark second position. Compare measurements to those listed in defective chart. With power steering systems the engine must be running to perform this test.

Steering Wheel lash: (393.209(d))

Wheel Size	Manual		Power	
	Defect	***OOS***	*Defect*	***OOS***
16" or less	2" +	**4 ½"**	4 ½"	**6 3/4"**

18"	2 ¼"	**4 3/4"**	4 3/4"	**7 1/8"**
19"	2 3/8"	**5"**	5"	**7 ½"**
20"	2 ½"	**5 ¼"**	5 ¼"	**7 7/8"**
21"	2 5/8"	**5 ½"**	5 5/8"	**8 ¼"**
22"	2 3/4"	**5 3/4"**	5 3/4"	**8 5/8"**



STEERING LASH

4. Check steering stops by moving the steering wheel from right to left through the full range of steering movement.

**** OOS if any modification or other condition that interferes with the free movement of any steering component. (393.209(d))**

5. Inspect steering column for any looseness in bolts, clamps, positioning parts or universal joints. Check general condition.

****OOS if any absence or looseness of U-bolts or other positioning parts. (393.209(c))**
****OOS if any worn, faulty, or obviously repair-welded universal joints.**

6. **Inspect** steering gear box, pitman arm, connecting rod, ball and socket joints, tie rod, drag links, front axle beam and all steering components.

STEERING — TRANS 301.31 CONTINUED

Front Axle Beam and Other Steering Components
****OOS if any cracks. (396.3(a)(1))**
****OOS if any obvious welded repairs. (396.3(a)(1))**
****OOS if steering stop is broken or missing permitting tire to rub on frame or other component. (393.209(d))**

Steering Gear Box
**** OOS if any mounting bolts are loose or missing. (393.209(d))**
**** OOS if any cracks in gearbox or mounting brackets. (393.209(d))**
**** OOS if any obvious weld repair. (396.3(a)(1))**
**** OOS if any looseness of the yoke-coupling to the steering gear input shaft. (393.209(d))**

Pitman Arm
****OOS if any looseness of the pitman arm to steering gear output shaft. (393.209(d))**
****OOS if any obvious welded repair. (393.209(d))**

Ball and Socket Joints
****OOS if any movement under steering loads of a stud nut. (393.209(d))**

****OOS if any motion, other than rotational, between any linkage member and its attachment point of more than 1/8 inch when measured with hand pressure only (Also observe movement while steering is be rocked if practical)(*rev.11-25-98*) (393.209(d))**

****OOS if any obvious welded repair. (393.209(d))**

Tie Rods, Connecting Rods, and Drag Links

****OOS if any loose clamps or clamp bolts or any looseness in any threaded joint. (396.3(a)(1))**

7. **Inspect** power steering belts for proper tension and condition.

8. Inspect power steering system including hoses, hose connections, cylinders, valves, pump and pump mounting for condition, rubbing and leaks.

****OOS if cylinders, valves or pump show evidence of leakage (i.e. dripping or obvious fluid loss).**

****OOS if pump mounting parts are broken or loose. (393.209(e))**

**** OOS if any auxiliary power assist cylinder is loose. (393.209(e))**

**** OOS if hose, hose connection, or seals are leaking.**

9. Inspect power steering reservoir for fluid level at operating temperature.

****OOS if reservoir is empty.**

STEPS — TRANS 301.32

(1) The first step at the service door shall not be more than 18 inches above the ground when the vehicle is empty. The use of a portable step may not be considered in meeting this requirement.

(2) The riser of the upper step at the service door shall be not more than 15 inches.

(3) A grab handle not less than 10 inches in length shall be provided in an unobstructed location inside doorway to assist a person entering or leaving an HSV.

(4) The surface of the steps shall be of nonskid material or construction.

STEPS – TRANS 301.32 CONTINUED

INSPECT/DEFECTS- STEPS — TRANS 301.32

1. Check service door steps/risers for proper height.

****OOS if step at service door measures more than 18 inches.**

****OOS if riser of any step is more than 15 inches.**

2. Check that each step is covered with or constructed of a nonskid material.

****OOS if step is not covered with or constructed of slip resistant material.**

3. Check for grab handle presence, at least 10 inches in length inside the doorway.

SUSPENSION SYSTEM — TRANS 301.33

(1) In addition to conforming to the requirements of 49 CFR 393.207, all suspension parts, including mountings, shackles, U-bolts, airbags, and all connecting air lines shall be maintained in good working order.

INSPECT/DEFECTS- SUSPENSION SYSTEM — TRANS 301.33

1. If air suspension present, **check** all components of air ride suspension.

**** OOS if deflated air suspension.**

2. Inspect for broken or sagging springs.

**** OOS if any spring leaves in a leaf spring assembly are broken, or any center bolt is broken, loose or missing. (393.207(c))**

**** OOS if one or more leaves are displaced in such a manner that it could result in contact with a tire, rim, brake drum, or frame. (393.207(c))**

**** OOS if any coil spring is broken. (393.207(d))**

**** OOS if any rubber spring is missing. (393.207(a))**

3. Inspect spring hanger brackets and shackles, spring assembly center bolts, "U" bolts, clips, and other attaching parts.

**** OOS if any U-bolt or other spring to axle clamp bolt is cracked, broken, loose, or missing. (393.207(a))**

**** OOS if a broken torsion bar in torsion bar suspension. (393.207(e))**

**** OOS if any spring hanger, other axle positioning part or spring attaching part is cracked, broken, loose or missing resulting in shifting of an axle from its normal position. (393.207(a))**

4. Inspect shock absorbers and mountings for oil leakage, condition of bushings and attachments.

****OOS if the shock absorbers are loose, broken, or missing.**

TIRES — TRANS 300.34

(1) The front and rear tires shall have tread depth of at least 2/32-inch around the entire periphery measured at 2 points no less than 15 inches apart in any major tread groove. Vehicles with a GVWR of more than 10,000 pounds shall have front tires with a minimum of 4/32 inch tread depth and rear tires with a minimum of 2/32 inch tread depth.

(2) An HSV may not be operated with re-grooved, recapped, or re-treaded tires on the front wheels.

(3) An HSV may not be operated with cuts or chunks missing exposing the cord, recaps peeled loose or off, or showing an indication of ply separation.

(4) Tires of different size or ply rating may be used except that all tires on an axle shall be the same size ply rating.

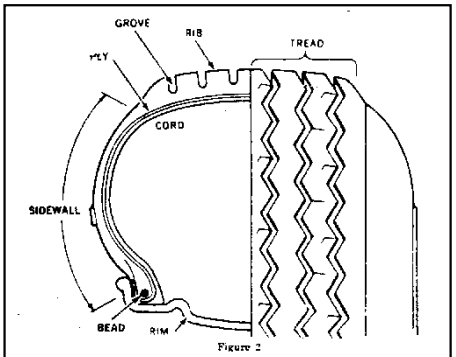
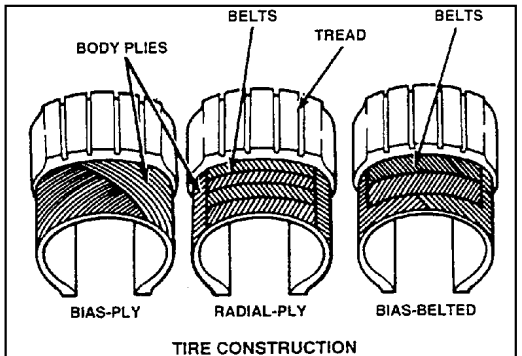
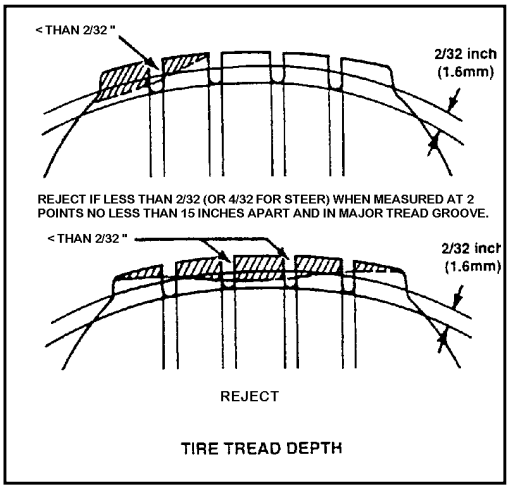


Figure 2



TIRE CONSTRUCTION



INSPECT/DEFECTS- **TIRES — TRANS 301.34**

1. Visually inspect all tires for condition and wear. Check tire tread depth with tread depth gauge to ensure tire tread is not below required tread depth standards.

****OOS if less than 4/32 inch tread when measured no less than 15 inches apart in any two adjacent major tread grooves at any location on a steering axle tire on a vehicle less than 10,001# GVWR and over 10,000 # GVWR.**

****OOS if so worn that less than 2/32 inch tread remains when measured no less than 15 inches apart in any two adjacent major tread grooves at any location on tires other than the steering axle tires.**

INSPECT/DEFECTS- **TIRES – TRANS 301.34 CONTINUED**

****OOS if seventy-five percent or more of the tread width loose or missing in excess of 12 inches in circumference.**

****OOS if any part of the breaker strip or casing ply is showing in the tread.**

****OOS if tire is cut, worn or damaged to the extent the ply cord is exposed.**

****OOS if observable bump, bulge, or knot apparently related to tread or sidewall separation.**

Exception: A bulge due to a section repair is allowed, not to exceed 3/8" in height. A blue triangular label in the immediate vicinity may sometimes identify this bulge.

****OOS if tire is flat (50% or less of maximum inflation pressure marked on tire sidewall) or has noticeable leak. (e.g., can be heard or felt)**

****OOS – Presence of rubber-coated cord or cured rubber plug in the sidewall**

****OOS — Bias Ply Tire: When more than one ply is exposed in the tread area or sidewall or when the exposed area of the top ply exceeds 2 square inches.**

****OOS — Radial Ply Tire: When two or more plies are exposed in the tread area or damaged cords are evident in the sidewall or when the exposed area exceeds 2 square inches in the sidewall.**

****OOS if so mounted or inflated that it comes in contact with any part of the vehicle. (This includes any tire contacting its mate in a dual set.)**

****OOS if weight carried exceeds tire load limit. This includes overloaded tires resulting from low air pressure.**

2. **Visually check** tires to ensure that each axle has the same size and type of tire, does not have a mixture of bias and radial tires and that the steer axle tires have not been recapped, re-grooved or re-treaded.

****OOS if recapped, re-grooved, or re-treaded tires on steering axle.**

****OOS if different size and type of tires on an axle.**

****OOS if a mixture of bias and radial tires on an axle.**

****OOS if labeled "not for highway use" or carrying other markings that would exclude use.**

WINDOWS AND WINDSHIELDS — TRANS 301.35

Windows and windshields shall conform to the applicable requirements under 49 CFR 393.60, 393.61, 393.62, 393.63 and 571.217 and to the following:

(1) All windows that open shall operate freely. Any side window latches shall be capable of holding the window securely in place in all positions.

(2) All exposed edges shall be banded or ground to eliminate sharp or rough areas.

(3) If an emergency window is originally equipped with an automatically operative, audible signal to indicate to the driver that the window is unlatched when the ignition is in the “on” position, no cut-off may be installed in the audible signal circuit.

INSPECT/DEFECTS- WINDOWS AND WINDSHIELD — TRANS 301.35 (CONTINUED)

1. Check that windows open freely and that lathes are in proper working condition

2. Check for sharp exposed edges.

****OOS if a hazard**

3. Check emergency window for an audible signal when opened, if originally equipped, and in proper working order.

****OOS if an audible signal is not heard when the emergency window is unlatched.**

4. Check windshield for proper "AS 1" safety class designation, cracks, chips, or discoloration, and vision obstruction.

**** OOS if the windshield has damage or discoloration severe enough to distort the driver's vision.**

WINDSHIELD WIPERS AND WASHERS — TRANS 301.36

(1) In addition to the requirements for windshield wipers under 49 CFR 393.78, the windshield wiper system shall have at least 2 speeds or a variable speed motor.

(2) If an HSV is originally equipped with a windshield washer system that provides fluid for the windshield wipers to clean the windshield, the system shall be maintained in operational condition.

INSPECT/DEFECTS- WINDSHIELD WIPERS AND WASHERS— TRANS 301.36

1. Check that the windshield wipers operate at two speeds.

2. Check that the windshield washers are working properly, if originally equipped.

**OOS if either wiper is inoperative, missing or ineffective (Annual criteria) OOS when in inclement weather would require its use (Spot Check criteria).

WIRING – TRANS 301.37

Wiring shall conform to the requirements under 49 CFR 393.27 to 393.29, 393.31 and 393.33.

INSPECT/DEFECTS- WIRING— TRANS 301.37

1. **Check** that the battery is either mounted in the engine compartment or, if mounted outside of the engine compartment, is in a closed, drained, weather-tight, and vented compartment that is latched (rev. 11-25-98).

2. **Check** battery cables for corrosion, splicing or otherwise damaged.

****OOS if electrical cable insulation chafed, frayed, damaged, burnt, causing bare cable to be exposed. (393.28)**

****OOS if missing or damaged protective grommets insulating electrical cables through metal components panels (393.28)**

****OOS if electrical cables unsupported, hanging or missing clamps that may cause a chafing or frayed condition. (393.28)**

NOTE: A cable is the power conveying part of a high wattage/voltage electrical system. It usually has no circuit overload protection included in the system. (i.e., battery to electric starter or alternator to battery)

SUBCHAPTER III — SPECIAL EQUIPMENT REQUIREMENTS

GENERAL REQUIREMENTS – TRANS 301.60

(1)Vehicles used for transporting persons with a disability shall comply with current Wisconsin statutes and rules except for modifications necessary for the installation of special equipment. Such modifications or exceptions are set forth in this section

through s. Trans 301.66. In addition, new, used or remanufactured buses and vans placed in operation after February 25, 1992, and sued to transport disabled persons shall comply with all requirements in 36 CFR 1192, subparts A and B.

(2) Any HSV use for transporting persons with a disability in wheelchairs shall be equipped with a side ramp or a lift located on the right side of the body. The side ramp or lift may not be attached to the exterior of the body, but shall be completely contained and securely fastened within the perimeter of the vehicle body when not in operation. An HSV equipped with a ramp or a lift using the HSV rear door may not be used to load or discharge persons on a highway as defined by s. 340.01(22), Stats., or where otherwise prohibited. An HSV need not be equipped with a side ramp or lift located on the right side of the body.

INSPECT/DEFECTS- GENERAL REQUIREMENTS – TRANS 301.60

1. HSV must be used to transport people with disabilities in wheelchairs for this subchapter to apply.

2. If the HSV was placed into service after February 25, 1992, 36 CFR 1192 subparts A and B will apply. HSVs manufactured January 18th 2017 and later Appendix A will apply. (ADA standards)

3. Locate the lift or ramp. It must be located on the right side, or rear of the vehicle. The lift/ramp must not be located on the outside of the vehicle.

**OOS if lift or ramp located other than the right side or rear or mounted outside the body.
**OOS if lift or ramp not securely fastened to the HSV.
**OOS if persons being transported in a wheelchair in an HSV not equipped with a lift or ramp.

SPECIAL SERVICE OPENING – TRANS 301.61

(1) There shall be an enclosed door opening located on the right side of the HSV and far enough to the rear so that any forward mounted door when fully opened may not obstruct or interfere with the normal operation of the regular service door.

(2) A device shall be provided to hold doors in a wide open position of at least 90 degrees.

(3) Door materials and structural strength shall be equivalent to conventional service and emergency doors.

(4) Each door shall have a glass window meeting the requirements of s. Trans 301.35.

(5) The door shall be equipped with a device that shall actuate an audible or visual signal located in the driver's compartment when door is not securely closed and latched and may deactivate when door is fully opened. This subsection shall be applicable to vehicles manufactured after January 1, 1982.

(6) Door panels shall enclose the complete opening in the body made necessary by the installation of a side ramp or power lift.

INSPECT/DEFECTS- SPECIAL SERVICE OPENING — TRANS 301.61 Continued

1. Inspect special service door for 90 degree door hold device
**OOS if hold is missing or inoperative

2. Check for safety glass in service door.

3. Check for audible or visible signal in the driver's compartment that the special service door is open. (This may be dome light or a "door ajar" light)

4. Check that doors completely enclose the opening.

5. Check door height from raised platform or highest point of ramp to the top of the door opening ***ADA****
   Vehicles in excess of 22 feet (After Jan 17th, 2017 = 25ft) in length – door height >= 68 inches
   Vehicles 22 feet (After Jan 17th, 2017 = 25 ft) or less in length – door height >= 56 inches
   **OOS if less than minimum door height for vehicle length (1/4 inch tolerance)

6. Check the measurement from the floor to the ceiling in the area from the lift to the securement area for the minimum interior height. ****ADA****
   Vehicles in excess of 22 feet (After Jan 17th, 2017 = 25ft) in length – door height >= 68 inches
   Vehicles 22 feet (After Jan 17th, 2017 = 25 ft) or less in length – door height >= 56 inches
   **OOS if less than the minimum interior height for the vehicle length (¼ inch tolerance)

POWER LIFT -- TRANS 301.62 and T403
36 CFR 1192.23 – MOBILITY AID ACCESSIBILITY
36 CFR 1192.25(b) – DOORS, STEPS AND THRESHOLDS

(1) The lifting mechanism shall have a minimum capacity of 700 pounds.

(2) All power lift mechanisms shall be enclosed.

(3) Power lift may be mounted to chassis frame.

(4) Lift platform edges shall be designed to prevent wheelchairs or attendant's feet from becoming entangled during raising and lowering process.

(5) The platform floor surface shall be of nonskid material.

(6) The platform shall lock mechanically when in the stored position. A power lift designed to remain in a rigid position with the power off is exempt from having a mechanical lock. The intent of this subsection is to prevent a lift from having any movement while the vehicle is in motion.

(7) Up and down limits shall be controlled by limit switch or by-pass valve. A lift with gravity lowering capabilities is exempt from having a by-pass valve.

(8) Positioning power lift shall be controlled by switches which give the operator instant and positive control to move, stop, or reverse the lift travel at will.

(9) With the exception of floor molding, no metal screws are to be used in fabrication of platform assembly.

CONTINUED
POWER LIFT -- TRANS 301.62
36 CFR 1192.23 – MOBILITY AID ACCESSIBILITY
36 CFR 1192.25(b) – DOORS, STEPS AND THRESHOLDS

(10) The lift control shall be interlocked with the vehicle brakes, transmission, or door, or shall provide other appropriate mechanisms or systems, to ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged.

(11) New, used or remanufactured buses and vans placed in operation after February 25, 1992, and sued to transport physically disabled persons shall comply with the requirements found in 36 CFR 1192.21 and 1192.23.

INSPECT/DEFECTS- POWER LIFT OR RAMPS — TRANS 301.62

1. Check for a minimum lift capacity of 700 pounds. May be a manufacturer label or stamp or documentation available upon request.
   **OOS if no proof of lift capacity
   **OOS if capacity under 700 pounds

2. Check that all power lift mechanisms are enclosed and lift is properly padded
   **OOS if not padded or moving parts are exposed.

3. Check platform for slip resistant surface and protrusions.

4. Check that the platform does not move in the stored position, either by design or mechanical lock.

5. Check for proper operation with the control unit.
   *** OOS if operator control unit is inoperative or not functioning properly.**

6. Check for power interlock device.
   ****OOS if interlock is not installed.**
   ****OOS if the interlock cannot ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged.**

7. Check for an emergency method of deployment in the event of a power failure. ****ADA****

8. Check for power down limit switch or gravity down design.
   **OOS if there is no limit switch (gravity exempt)

9. Check platform for barriers that prevent the wheelchair from rolling off. Side barriers must be a minimum of 1 ½ inches high. *****ADA*****
   **OOS if no side or end roll off protection

10. Check platform size, 28 ½ inches wide at the platform surface, 30 inches wide 2 inches above the surface, and 48 inches long. (minimum size) *****ADA*****
   **OOS if and dimension is less than minimum.

11. Check lift for handrails. *****ADA*****
   **OOS if no handrails

12. Check the outer edge of the platform for a contrasting band of color(s) across the entire width of the platform edge. *****ADA*****

RAMPS – TRANS 301.63 and T402
36 CFR 1192.23(C) – VEHICLE RAMP
36 CFR 1192.25(b) – DOOR, STEPS AND THRESHOLD

(1) A floor ramp shall be covered with nonskid material. A ramp when in the store position shall be locked by a mechanical device to prevent its movement while the vehicle is in motion.

(2) New, used or remanufactured buses and vans placed in operation after February 25, 1992, and used to transport the physically disabled shall comply with the requirements found in 36 CFR 1192.21 and 1192.23.

INSPECT/DEFECTS- RAMPS, VEHICLE RAMP, DOOR, STEPS AND THRESHOLD – TRANS 301.63

1. Check that the ramp has slip resistant surface.

2. Check that the ramp is locked while in a stored position.
OOS if the ramp is a hazard to the passengers or impedes the free movement of the passengers. ***ADA**
**OOS if no locking mechanism is present or inoperative.

3. Check for label or certification of ramp design load. May be a manufacturer label or stamp or documentation available upon request. ***ADA****
**OOS if no label or certification carried.
**OOS If ramps 30 inches or longer are not rated for a minimum of 600 pounds.
**OOS if ramps fewer than 30 inches long are not rated for a minimum of 300 pounds.

4. Check ramp surface for protrusions.

5. Check ramp for a 30 inch continuous width.
**OOS if platform has less than a 30 inch continuous width.

6. Check ramp sides for 2 inch high barriers to prevent the wheelchair from rolling off. ***ADA****
**OOS if no roll off barrier

7. Measure height from the ground to the finished vehicle floor. For every inch of height there must be a minimum of 4 inches of ramp length.

8. Check that the ramp is firmly attached to the vehicle for loading and unloading. ***ADA****
**OOS if the ramp cannot be firmly attached to the vehicle (may be portable, but must be able to be attached to the vehicle to load and unload)

9. Check that a stowed ramp does not impinge on passenger or wheelchair mobility or creates a hazard when stored. ***ADA****
**OOS if stowed ramps presents a hazard to occupants and is not padded or protected.

10. Check for a contrasting color band across the ramp end. ***ADA****

STANCHIONS AND BARRIERS – TRANS 301.64 and T207

(1) Barriers shall be furnished to provide a restraint for passengers. If the vehicle is a van and has only seats with no area for wheelchairs, it is exempt from having barriers. The most forward seat behind an open area for wheelchair use and the most forward seat behind a power lift or ramp shall be protected by a barrier. This subsection does not apply to vehicles equipped with seat belts and shoulder restraints that meet 49 CFR 571.208, occupant crash protection requirements, and that are used in accordance with s. 347.48, Stats.

STANCHIONS AND BARRIERS – TRANS 301.64 (CONTINUED)

(2) All inside and rear facing surfaces except the platform surface of a lift shall be padded. Barriers and stanchions shall be padded.

INSPECT/DEFECT- STANCHIONS AND BARRIERS – TRANS 301.64

1. Check for barriers if required.

**OOS if required barrier/stanchion is missing, not padded loose, missing parts or does not cover proper area of protection.

2. If no barrier is present, check for required safety restraints system.

**OOS if forward most seat behind open wheelchair area or lift/ramp area not equipped with lap belts and shoulder harness in outboard seating positions and lap belt in the center position.

3. Note that the padding requirements of the lift/ramp were covered in the two previous sections.

WHEELCHAIR FASTENERS — TRANS 301.65 and T603

(1) Each wheelchair shall be secured to the vehicle before the vehicle moves from the parked position with a fastening device with sufficient strength to:

(a) Retain the chair in the event the vehicle overturns.

(b) Prevent the chair from moving.

(c) Prevent the chair's wheels from leaving the floor in the event of a sudden stop or start.

(2) The fastening device may be either a metal locking unit that secures the wheelchair to the wall or floor or a webbing-belt system that accomplishes the same purpose.

(3) No wheelchair may be attached to any door.

(4) A webbing belt system shall be secured to the bus at not less than 2 points with bolts, nuts, and lock washers or self-locking nuts, or with a positive latching mechanism of matching interlocking units which permits the belt portion to be removed and stored. The webbing system shall be free of any tears or damage to the locking mechanism.

(5) A webbing belt used to secure the wheelchair to the body frame shall not be used to also secure the passenger to the wheelchair.

INSPECT/DEFECTS- WHEELCHAIR FASTENERS — TRANS 301.65

1. Check for proper wheelchair securement devices.

****OOS if securement devices are missing or not functioning properly.**

2. Check for proper amount of floor space for each wheelchair or mobility aid. ****ADA****

**OOS if a clear floor area less than 30 inches x 48 inches for each position.

INSPECT/DEFECTS- WHEELCHAIR FASTENERS – TRANS 301.65 (CONTINUED)

3. Check for proper mobility aid orientation. ****ADA****
(if over 22 feet (after Jan 17th, 2017 = 25 feet) in length at least one forward facing position, the remaining positions may be forward or rearward facing)
(if 22 feet (after Jan 17th, 2017 = 25 feet) or under positions may be forward or rearward facing)
**OOS if placed in service after February 25, 1992 with sideways/center facing wheelchair positions.
**OOS if wheelchair attachment to any door.

4. Check for padded barrier behind rearward facing mobility aid locations. *****ADA*****
**OOS if no barrier immediately behind a rearward facing location.

5. Check for proper stowage of fasteners. *****ADA*****
**OOS if a hazard to passenger
**OOS if an interference to passenger movement (does not include having to walk around the device)

6. Check for lap belt and shoulder harness for each wheelchair position. *****ADA*****
**OOS if no lap belt and shoulder harness for each position.
**OOS if used in lieu of wheelchair restraints.

SEATS AND RESTRAINTS — TRANS 301.66

(1) Seat frames may be equipped with a device to which belts or restraining harnesses may be attached.

(2) Every occupant shall be secured to the wheelchair while being transported.

(3) Vehicles manufactured and placed in operation prior to August 25, 1990, that are designed to transport wheelchairs may have aisle facing seats over the wheel housing provided they are equipped with a device to prevent a passenger from sliding off either end. A seat belt may not in itself meet this requirement. The seat shall be permanently mounted and may not fold up or down.

INSPECT/DEFECTS- SEATS AND RESTRAINTS — TRANS 301.66

1. Check when a vehicle equipped with a side mounted seat over the wheel well was placed into service.
**OOS if place into service after August 25, 1990.

2. Check aisle facing seats for proper equipment and attachment.
**OOS if no device to prevent passenger from sliding off or seat belt the only device used.
**OOS if seat is loose or retractable.
**OOS if missing seat padding creates a passenger impact hazard.

3. Inspect wheelchair for independent restraining device for passenger.
**OOS if wheelchair “passenger” securement device is missing or inoperative.

36 CFR 1192.27 – PRIORITY SEATING SIGNS

1. Check for proper signing.

36 CFR 1192.29 – INTERIOR CIRCULATION, HANDRAILS AND STANCHIONS

1. Check entrance area for handrails or stanchions to assist boarding.
   **OOS if no handrails or stanchions

2. If the vehicle is over 22 feet (After Jan 17th, 2017 = 25 feet) long check for overhead handrails.
   **OOS if no handrails installed overhead. (mass transit)

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36 CFR 1192.31 and T503 – LIGHTING

1. Check for proper lighting around step wells, doorways, and the special service opening.
   **OOS if the outside lighting that illuminated the lift/ramp area is missing or is not properly installed.
   **OOS if outside light not mounted below the window level and not shielded to protect the boarding passengers eyes.
   **OOS if outside light does not come on when the special service door is open.

36 CFR 1192.35 and T704– PUBLIC INFORMATION SYSTEM

1. If required, check for presence of a public address system.

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36 CFR 1192.37 and T704– STOP REQUEST

1. If the HSV is used on routes that allow passengers to board or alight at multiple stops at their option check for stop request controls.
   **OOS if securement locations without stop request controls.

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36 CFR 1192.39 – DESTINATION AND ROUTE SIGNS

1. Check outside of HSV for destination or route information if required. (mass transit)

SUBCHAPTER IV — INSPECTION AND ENFORMENT STANDARDS

GENERAL REQUIREMENTS

(1) Any item if covered by a standard in this chapter shall, upon replacement, be replaced with an item meeting the original standard. Any modification of an HSV shall be made to conform to federal and state regulations at the time of modification.

(2) A panel truck may not be used as an HSV.

ENFORCEMENT — TRANS 301.96

(1) The enforcement policy of the department shall consider the age, condition, and equipment HSV's before granting approval for their continued use. The department may not permit the use of any HSV for transportation purposes if the department fins it unsafe or unfit for service.

(2) In construing and enforcing the provisions of this chapter, the act, omission or failure of any officer, employee, agent, servant or other person acting for or employed by the registered owner or the lessee of the HSV, whoever has control, done within the scope of his employment or on behalf of the registered owner or lessee, is deemed to be the act, omission or failure of such registered owner or lessee. This subsection shall not apply to violations of Ch. 346, Stats.

(3) (a) It is the responsibility of the owner or operator to have the HSV inspected annually. After notification by the owner or operator, or the authorized representative of any transportation assistance program for elderly or disabled persons, that vehicles are to be inspected, the department shall attempt to inspect the vehicles, contingent on other duties, at the earliest time available.

(b)During subsequent inspection periods, the department shall attempt to perform the inspections without notification; however, the responsibility remains with the owner to have the HSV inspected.

(c) The department may arrange to inform the authorized representative of any transportation assistance program for the elderly or disabled persons when and if vehicles have been inspected and the results of any inspections.

(d) The department may require display of a distinctive annual inspection sticker on any HSV. No vehicle required to be inspected by s. 110.05, Stats. or this chapter, or s. DHS 105.39 may be operated on any highway unless it displays on the body of the vehicle, as close as practicable to the lower right-hand corner of the windshield, an unexpired certificate of inspection decal issued by the department.

Enforcement Continued – TR. 301.96

(4) Violations of any provision of this chapter shall be prosecuted as set forth under s. 110.05 (4), Stats. In addition t or in lieu of any other penalty provided by law, the department may refuse to register or suspend, or both, any or all registrations of persons that do not comply with this chapter, including annual inspection requirements, and may require the surrender of any registration plates. Any registration suspended this section shall remain suspended until the person complies with this chapter and make application for registration or re-registration and the required fee for registration is paid.

(5) This chapter applies to all HSV's except vehicles owned by volunteers. Human services vehicles formerly in compliance as school buses may continue to meet those requirements, or may convert to meet the requirements of this chapter. In the event that the vehicle is converted from a school bus, all identification requirements of a school bus shall be removed. Upon conversion, the owner shall repaint a vehicle meeting the yellow-black color scheme to some other color. The stop arm, school bus sign and alternating flashing red lights shall be removed immediately upon conversion. Human services vehicles placed in operation in Wisconsin after May 1, 1997 shall comply with the requirements in effect at the time they are inspected as an HSV.

HUMAN SERVICE VEHICLE INSPECTION GUIDELINES

The inspection guidelines provided are not all inclusive of the requirements found in State Statute (Chapters 340 to 348); State Administrative Code (Trans Orders 301 and 305); and Federal Regulations (Title 49 CFR Parts 393 and 571, and title 36 CFR Appendix A to Part 1192). In situations where State requirements differ from Federal requirements the more stringent of the requirements will be enforced.

On or after January 18th, 2017

Small non-rail vehicle - Non-rail vehicles that are equal to or less than 25 feet (7.6 m) in length.

Large non-rail vehicle - Non-rail vehicles that are more than 25 feet (7.6 m) in length.

Lift Specifications			
Description	**State Reference**	**Federal Reference Prior To Jan. 18th, 2017**	**Federal Reference On or After Jan. 18th, 2017**
The minimum capacity of a lift must be at least 700 lbs. Design Load. (Enforce TR301 Standards)	TR301.62(1)	1192.23(b)(1)	T403
The lift control shall be interlocked with the vehicle brakes, transmission or door, or shall provide other appropriate mechanisms or systems, to ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged.	TR301.62(10)	1192.23(b)(2)(l)	
Positioning power lift shall be controlled by switches which give the operator instant and positive control to move, stop, or reverse the lift travel at will.	TR301.62(8)	1192.23(b)(2)(l)	
Lifts must be equipped with an emergency back-up system. The emergency back-up system shall be capable of being operated both up and down without the platforms "stowing" while occupied.	TR301- No Ref.	1192.23(b)	
CFR 1192.23(b)(4) - Must be designed so that in the event a power failure, the platform cannot fall faster than 12 inches per second.	TR301 No Ref.	1192.23(b)(4)	T403

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
CFR 1192.23(b)(5) - Side barriers must be at least one and one-half inches high.	TR301-No Ref.	1192.23(b)(5)	T403
CFR 1192.23(b)(5) - The "loading-edge" (or outer barrier) shall be sufficient to prevent a power wheelchair from riding over or otherwise defeating it. If this barrier is automatic, it must close when the platform is no more than 3 inches off the ground. If the outer-barrier is to be driver operated, it must have an interlock or inherent design that prevents the platform from being raised until the barrier is closed or other system is engaged.	TR301- No Ref.	1192.23(b)(5)	
The platform surface must be slip-resistant with no protrusions over ¼ of an inch.	TR301.62(5)	1192.23(b)(6)	T403
Up and down limits shall be controlled by limit or by-pass valve. A lift with gravity lowering capabilities is exempt from having a by-pass valve.	TR301.62(7)	1192 - No Ref.	
The platform must be at least 28-1/2 inches wide measured at the platform surface and at least 30 inches wide measured from 2 inches above the platform surface to 30 inches above the surface. It must also be at least 48 inches long measured from 2 inches above the surface to 30 inches above the surface.	TR301.62(1)	1192.23(b)(6)	T403

Lift Specifications (Continued)			
Gaps between the platform surface and any barrier can be no more than 5/8 of an inch. Semi-automatic lifts can have a handhold in the platform that measures no more than 1-1/2 inches by 4-1/2 inches.	TR301.62(1)	1192.23(b)(7)	T403
When in the fully raised position, the platform surface must be no more than 5/8 inch higher or lower of the finished floor and not extend more than 1/2 inch from finished floor.	TR301.62(1)	1192.23(b)	T403

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
CFR 1192.23(b)(13) - Must be equipped with two handrails which move in tandem with the lift platform. Handrails must be 30 - 38 inches above the platform surface and must have a useable grasping area of at least 8 inches. Handrails must be capable of supporting 100 pounds, must have a cross-sectional diameter of 1-1/4 to 1-1/2 inches, and must have at least 1-1/2 inches of "knuckle clearance". T303.1 - General. Handrails, stanchions, and handholds in non-rail vehicles shall comply with T303.	TR301 – NO REF	1192.23(b)(13)	T303
The platform shall lock mechanically or by design when in the stored position.	TR301.62(6)	1192 - No Ref.	
All the inside and rear facing surfaces except the platform surface of a lift shall be padded. Barriers and stanchions shall be padded.	TR301.64(2)	1192 – No Ref.	
Ramp Specifications			
Ramps 30 inches or greater in length must have a design load of 600 pounds. Ramps under 30 inches in length must have a design load of 300 pounds.	TR301.63(2)	1192.23(c)(1)	T402.2
Ramp surface must be continuous and slip-resistant. Protrusions can be no more than 1/4inch. Surfaces. Ramp and bridgeplate surface material shall comply with T302 and extend across the full width and length of the ramp or bridgeplate. T302.2 Walking surfaces shall be slip resistant.	TR301.63(1)	1192.23(c)(2)	T402.5 T302.2
Ramps must have a minimum continuous width of 30 inches.	TR301.63(2)	1192.23(c)(3)	T402.6

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
If the threshold from the ground to the ramp surface (e.g., the thickness of the ramp surface) exceeds ¼ inch, it must be beveled. T402.9 Transitions. Vertical surface discontinuities at transitions from boarding and alighting areas to ramps and bridgeplates shall comply with T302.4. T302.4 Surface Discontinuities. Surface discontinuities shall be 1⁄2 inch (13 mm) high maximum and shall be beveled with a slope not steeper than 1:2.	TR301.63(2)	1192.23(c)(3)	T402.9
Side barriers, at least 2 inches high, must be provided. T402.7 Edge Guards. Ramps and bridgeplates shall provide edge guards continuously along each side of the ramp or bridgeplate to within 3 inches (75 mm) of the end of the ramp or bridgeplate that is deployed furthest from the non-rail vehicle. Edge guards shall be 2 inches (51 mm) high minimum above the ramp or bridgeplate surface.	TR301.63(2)	1192.23(c)(4)	T402.7
Ramps must have the least slope practicable. When the ramp is deployed to ground level the slope cannot exceed 1:4 (i.e.; for a vehicle with a finished floor 12 inches above the ground, a 48 inch ramp would be needed). T402.8 Running Slope. The maximum running slope of ramps and bridgeplates shall comply with T402.8.1 or T402.8.2. T402.8.1 Deployment to Roadways or to Curb Height Boarding and Alighting Areas. The running slope of ramps and bridgeplates used for deployment to the roadway or to curb-height boarding and alighting areas shall be 1:6 maximum, as measured to ground level with the non-rail vehicle resting on a flat surface. T402.8.2 Deployment to Boarding Platforms. The running slope of ramps and bridgeplates used for deployment to platforms shall be 1:8 maximum, as measured to the boarding platform with the non-rail vehicle resting on a flat surface.	TR301.63(2)	1129.23(c)(5)	T402.8 T402.8.1 T402.8.2

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
The ramp must be firmly attached to the vehicle when in use. T402.3 Installation and Operation. When used for boarding and alighting, ramps and bridgeplates shall be firmly attached to the non-rail vehicle to prevent displacement. Ramps and bridgeplates provided on large non-rail vehicles shall be permanently installed and power operated.	TR301.63(2)	1192.23(c)(6)	T402.3
Gaps between the ramp and the vehicle finish floor can be no more than 5/8 inch.	TR301.63(2)	1192.23(c)(6)	T402.11
A compartment or securement system must be provided for the ramp to keep it from impinging on the space set aside for mobility aid users and to keep it from becoming a hazard in the event of a sudden stop.	TR301.63(1)	1192.23(c)(7)	T402.12
Handrails are not required, however, if they are provided ADA specifications must be met.	TR301.63(2)	1192.23(c)(8)	T303.1
Securement Systems			
Vehicles over 22 feet in length must have two (2) wheelchair or mobility aid positions. Vehicles 22 feet and under must have one (1) wheelchair or mobility aid position. Vehicles are to be measured from the front- most part to the rear-most item (including bumpers). Large non-rail vehicles: shall provide at least two wheelchair spaces complying with T602. Small non-rail vehicles: shall provide at least one wheelchair space complying with T602.	TR301.60(1)	1192.23(a)	T210.2 T210.3

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
Wheelchairs and mobility aids must be oriented as follows: -For vehicles greater than 22 feet in length, at least wheelchair or mobility aid position must be forward-facing. Other wheelchair or mobility aid areas can be either forward or rear-facing. -For vehicles 22 feet in length or less, the one required wheelchair or mobility aid position can be either forward or rear- facing. T603.2 Orientation. Wheelchair securement systems shall secure the wheelchair so that the occupant faces the front of the non-rail vehicle. ***Exception:*** *O*n large non-rail vehicles designed for use by both seated and standing passengers, rear-facing wheelchair securement systems shall be permitted provided that at least one wheelchair securement system is front facing.	TR301.60(1)	1192.23(d)(4)	T603.2 EXCEPTION:
If wheelchair and mobility aid users are secured in a rear-facing orientation, a padded barrier must be provided. The barrier must be 18 inches wide and extend from 38 inches to 56 inches above the floor. T603.5 Securement Systems for Rear-Facing Wheelchair Positions. Rear-facing wheelchair securement systems shall provide forward excursion barriers and padded head rests that comply with ISO 10865-1:2012(E), Wheelchair containment and occupant retention systems for accessible transport vehicles designed for use by both sitting and standing passengers	TR301.60(1)	1192.23(d)(4)	T603.5
Securement systems must meet ADA specifications. The device may be either a metal locking unit that secures the wheelchair to the wall or floor or a webbing belt system that accomplishes the same purpose. T603.3 Design Load. Wheelchair securement systems shall comply with the design loads specified in T603.3.1 or T603.3.2, as applicable. T603.3.1 Non-Rail Vehicles with Gross Vehicle Weight Rating Equal to or Greater than 30,000 lbs. T603.3.2 Non-Rail Vehicles with Gross Vehicle Weight Rating Less than 30,000 lbs	TR301.60(1) TR301.65(2)	1192.23(d)(1)	T603.1 T603.3.1 T603.3.2

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
A clear floor areas of 30 inches wide by 48 inches long must be provided for each securement area. This can include an area up to 6 inches under a seat as long as there is a vertical clearance of at least 9 inches. If flip-seats are utilized, they cannot obstruct the required floor area. The required floor area can overlap the access path (the path of travel from the accessible entrance to the securement area). T504.1 General. Passenger access routes shall provide clearances that are sufficient to permit passengers using wheelchairs to move between wheelchair spaces and doorways that provide accessible boarding and alighting, and to enter and exit wheelchair spaces. T602.2 Surfaces. Wheelchair space surfaces shall comply with T302. T602.3 Approach. One full unobstructed side of each wheelchair space shall adjoin or overlap a passenger access route. T602.4 Size. Wheelchair spaces shall be 30 inches (760 mm) minimum in width and 48 inches (1220 mm) minimum in length. ***Exception:*** The portion of the wheelchair space occupied by wheelchair footrests shall be permitted to be located beneath another seat provided that space beneath the seat is 30 inches (760 mm) wide minimum, 9 inches (230 mm) high minimum, and 6 inches (150 mm) deep minimum. T602.5 Fold-Down or Removable Seats. Fold-down or removable seats shall be permitted in wheelchair spaces, provided that, when folded up or stowed, they do not obstruct the minimum size of the wheelchair space specified in T602.4.	TR301.60(1)	1192.23(d)(2)	T504.1 T602.2 T602.3 T602.4 EXCEPTION: T602.5
The securement system shall secure common wheelchairs and mobility aids and shall either be automatic or easily attached by a person familiar with the system and mobility aid and having average dexterity. T304.4	TR301.60(1)	1192.23(d)(3)	T304.4

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
Securement systems must keep mobility aids from moving no more than 2 inches in any direction. T603.4 Movement – Maximum 2-inch movement any direction.	TR301.65(1)(a) TR301.65(1)(b) TR301.65(1)(c)	1192.23(d)(5)	T603.4
Securement system must be located to be readily accessed when needed, but must not interfere with passenger movement or be a hazard to passengers. T604.1 General. Forward facing positions. See T603.5 for Rear facing positions.	TR301.60(1)	1192.23(d)(6)	T604.1
A seat belt and shoulder harness must be provided for each securement position. The seat belt and shoulder harness must be separate from the securement system for the mobility aid. T605.1 General. Seat belts and shoulder belts provided for passengers who use wheelchairs shall comply with 49 CFR 571.209. Seat belts and shoulder belts shall not be used in place of wheelchair securement systems complying with T603.	TR301.66(2)	1192.23(d)(7)	T605.1
A sign must be provided that the securement area is to be used by persons who use wheelchairs and mobility aids. Letter size and color must meet ADA specifications. T215.2.2 Wheelchair Spaces. Wheelchair spaces shall be identified by the International Symbol of Accessibility complying with T703.1	TR301.04	1192.27(a) 1192.27(b) 1192.27(c)	T215.2.2 T703.1

			
General Vehicle Specifications			
Description	**State Reference**	**Federal Reference Prior To Jan. 18th, 2017**	**Federal Reference On or After Jan. 18th, 2017**
Aisles, steps, and floor areas must be slip resistant T302.2 Slip Resistant. Walking surfaces shall be slip resistant. T405.2 Surfaces. Step tread surfaces shall comply with T302.	TR301.17	1192.25(a)	T302.2 T405.2
Step edges, thresholds, and the boarding edge of ramps or lift platforms must have a band of color which contrasts with the step/floor surface. T402.10 - Visual Contrast. The perimeter of the walking surface on ramps and bridgeplates shall be marked by a stripe. The stripe shall be 1 inch (25 mm) wide minimum and shall contrast visually with the rest of the walking surface either light-on-dark or dark-on-light.	TR301.04	1192.25(b)	T402.10

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
The height of doors at accessible entrances and the interior height along the path of travel between accessible entrances and securement areas shall be as follows: •For vehicles 22 feet or longer, the clearance from the raised lift platform or the ramp surface to the top of the door must be at least 68 inches. •For vehicles less than 22 feet, the overhead clearance must be at least 56 inches. T502.2.2 - Other Vehicles. For other non-rail vehicles, the vertical clearance at doorways shall be 56 inches (1420 mm) minimum on small non-rail vehicles and 68 inches (1725 mm) on large non-rail vehicles.	TR301.04	1192.25(c) 1192.29(f)	T502.2 T502.2.2
At least one set forward-facing seats must be designated as priority seats for persons with disabilities. Signs identifying these as priority seats must be provided. T215.2.1 Priority Seats. Priority seats shall be identified by signs informing other passengers to make the seats available for persons with disabilities. Signs at priority seats shall comply with T702.	TR301.04	1192.27(a)	T215.2.1
Interior handrails and stanchions should not interfere with the path of travel of a common wheelchair from the accessible entrance to the securement areas. T208.1 General. Non-rail vehicles shall provide passenger access routes that permit boarding and alighting, onboard circulation, and seating by passengers with disabilities. A passenger access route shall consist of a route complying with T208.2 between wheelchair spaces and doorways, walking surfaces complying with T302, and clearances complying with T504.	No Ref.	1192.29(a)	T208.1

Description	State Reference	Federal Reference Prior To Jan. 18th, 2017	Federal Reference On or After Jan. 18th, 2017
Handrails and stanchions shall be provided in the entrance area and through the fare collection area to assist persons with disabilities as they enter and pay a fare. Some portion of this handrail /stanchion system must be able to be grasped from outside the vehicle to assist the person as they start to board. The handrail or stanchion must be at least 10 inches. T207.2 Passenger Doorways. Handrails or stanchions shall be provided at passenger doorways in a configuration that permits grasping and use from outside the non-rail vehicle and throughout the boarding and alighting process. T207.3 Fare Collection Devices. Handrails shall be provided at fare collection devices and shall be configured so that they can be used for support when at the fare collection device.	TR301.32(3)	1192.29(b)	T207.2 T207.3
For vehicles longer than 22 feet, an overhead handrail or handrails shall be provided which are continuous from front to back except for a gap at the rear doorway. T207.4.1 Small vehicles. Handrails, stanchions, or handholds shall be provided within small non-rail vehicles in a configuration that permits onboard circulation and assistance with seating and standing. T207.4.2 Large vehicles. Handholds or stanchions shall be provided within large non-rail vehicles on all forward and rear-facing seat backs located directly adjacent to the aisle. **Exception**: Where high-back seats are provided, handrails located overhead or on overhead luggage racks shall be permitted instead of stanchions or handholds.	TR301.04	1192.23(c)	T207.4.1 T207.4.2
Lighting shall be provided in the stepwell or doorway immediately adjacent the driver. Lighting shall activate when the door is opened. Other stepwells and doorways shall have similar lighting at all times Lighting shall be provided outside all doorways which have a lift or ramp to illuminate the street surface for an area up to 3 feet perpendicular to the bottom step tread outer edge.	No Ref.	1192.31(a) 1192.31(b)	T205.1 T503.3 T503.5

Lighting shall be located below window level and shall be shielded to protect the eyes of entering and exiting passengers. T205.1 General. Non-rail vehicles shall provide illumination complying with T503 at ramps, bridge plates, doorways, and boarding and alighting areas.			

Attachment 1

(rev. 2/96)

36 CFR 1192
AMERICANS WITH DISABILITIES ACT (ADA)
ACCESSIBILITY GUIDELINES FOR TRANSPORATION VEHICLES

	Subpart B and Appendix A – Buses, Vans, and Systems	
	Federal Reference	**Description**
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.21(a) General. T201.1 General.	New, used and remanufactured buses and vans shall meet the requirements of this subpart to be considered accessible. Non-rail vehicles purchased, leased or remanufactured by entities covered by the Americans with Disabilities Act (ADA) shall comply with the requirements in the Non-Rail Vehicle Guidelines to the extent required by regulations issued by the Department of Transportation in 49 CFR Part 37.
	1192.2f(b) General.	Buses and vans not considered accessible need not retrofit.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.23(a) Mobility aid accessibility general. T202.1 General.	Shall provide a level change mechanism or boarding device (lift or ramp). Non-rail vehicles shall provide at least one means of accessible boarding and alighting that serves each designated stop on the fixed route to which the vehicle is assigned. Non-rail vehicles shall also provide at least one means of accessible boarding and alighting that can be deployed to the roadway. Provision of accessible boarding and alighting

		shall be made through one or more of the following methods: ramps or bridge plates complying with T402, lifts complying with T403, or a means of level boarding and alighting complying with T404.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.23(a) Securement locations and devices. T210.2 T210.3 T210.4	1. Vehicle over 22 feet- at least 2 2. Vehicle under 22 feet- at least 1 **Large non-rail vehicles (>25 ft.)**. Large non-rail vehicles shall provide at least two wheelchair spaces complying with T602. **Small non-rail vehicles (<25 ft.)**. Small non-rail vehicles shall provide at least one wheelchair space complying with T602. **Location**. Wheelchair spaces shall be located as near as practicable to doorways that provide a means of accessible boarding and alighting.
	1192.23(b) Vehicle lift.	1. Load minimum 600lbs. 2. Controls interlocked with brakes, transmission or door to stop vehicle movement when lift is down. 3. Emergency method of deploying. 4. Power or equipment failure protection. 5. Platform barriers- sides 1 ½ inches high, front edge no barrier height but must automatically raise/lower. 6. Platform surface- slip resistant, 30 inches wide minimum. 7. Handrails- 2 rails at 2 sides, move in tandem with the lift, provide support throughout the lift operation, grip area 8 inches long, located between 30 and 38 inches from the platform.
Prior Jan 18th, 2017	192.23(c) Ramps.	1. Ramps 30 inches or longer must have a 600lbs. load. 2. Ramps under 30 inches must have a 300lb. load. 3. Surface- must be continuous and slip resistant, 30 inches wide minimum. 4. Slope - maximum of 1:4

On or After Jan 18th, 2017	T402.12	5. Stowage- must be stored so ramps do not impinge on passengers, wheelchairs, or mobility aid. 6. Padded or protected to avoid injury of passengers during sudden stop or maneuver. 7. Handrails not needed on ramps. 8. If handrails are provided they must be able to be gripped from the outside of the vehicle and provide assistance throughout the entire loading process. Located between 30 and 38 inches from the ramp surface. Stowage. Where portable ramps and bridgeplates are permitted, a compartment, securement system, or other storage method shall be provided within the non-rail vehicle to stow such ramps and bridgeplates when not in use.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.23(d)(7) Seat belt and shoulder harness. T212.1 General. Seatbelts and shoulder belts	For each securement device a seat belt and shoulder harness must be provided for use by the person in the wheelchair or mobility aid. The belt assembly cannot be used in lieu of the securement device. Non-rail vehicles shall provide seat belts and shoulder belts complying with T605 at each wheelchair space.
	Subpart B and Appendix A – Buses, Vans, and Systems (Continued)	
	Federal Reference	**Description**
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.25(a)(b) Doors, steps and thresholds. T302 Walking Surfaces T405.2 STEPS T405.3 VISUAL CONTRAST	1. All aisles, steps and floor areas shall have slip resistant surfaces. 2. All step edges, thresholds and the boarding edge of the lift or ramp shall have a band of color(s) running the entire width of the step or edge that is a contrasting color to the rest. **T302.1 General**. Walking surfaces in non-rail vehicles shall comply with T302.

		Exception: Walking surfaces on lifts shall not be required to comply with T302. **T302.2 Slip Resistant**. Walking surfaces shall be slip resistant. **T302.3 Openings**. Openings in walking surfaces shall not allow the passage of a sphere more than 5⁄8 inch (16 mm) in diameter. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel. Exceptions: 1. Wheelchair securement system components affixed to walking surfaces shall be permitted to have openings 7⁄8 inch (22 mm) maximum in width provided that, where such openings are more than 5⁄8 inch (16 mm) in width, they contrast visually with the rest of the walking surface either light-on-dark or dark-on-light. 2. Ramp and bridge plate surfaces shall be permitted to have one opening 11⁄2 inches (38 mm) maximum in width and 41⁄2 inches (115 mm) maximum in length to allow the operator to grasp the ramp or bridge plate for manual operation. **T302.4 Surface Discontinuities**. Surface discontinuities shall be 1⁄2 inch (13 mm) high maximum and shall be beveled with a slope not steeper than 1:2. Exceptions: 1. Surface discontinuities 1⁄4 inch (6.4 mm) high maximum shall not be required to be beveled. 2. Steps complying with T405 shall be permitted on walking surfaces that are not part of a passenger access route.

		T405.2 Surfaces. Step tread surfaces shall comply with T302. T405.3 Visual Contrast. The outer edge of step treads shall be marked by a stripe. The stripe shall be 1 inch (25 mm) wide minimum and shall contrast visually with the rest of the step tread or circulation path surface either light-on-dark or dark-on-light.
	1192.25(c) Door height.	Overhead clearance is measured from the top of the door opening to the raised platform surface or the highest point of the ramp. 1. Vehicles longer than 22 feet = 68 inch minimum clearance. 2. Vehicles 22 feet or less = 56 inch minimum clearance
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.27 Priority seating signs. T215.2 Signs.	1. Each vehicle shall contain sign(s) indicating the front seats are for people with disabilities. 2. Each securement location shall have a sign designating it as such. **T215.2.1 Priority Seats.** Priority seats shall be identified by signs informing other passengers to make the seats available for persons with disabilities. Signs at priority seats shall comply with T702.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.29 Handrails and stanchions. T303 Handrails, Stanchions, and Handholds	1. Handrails and stanchions are to be provided at the entrance to assist passengers from outside the vehicle through the boarding process. 2. Vehicles longer than 22 feet in length shall have overhead handrail(s) provided which shall be continuous except for the gap at the rear doorway. **T303.1 General**. Handrails, stanchions, and handholds in non-rail vehicles shall comply with T303. **T303.2 Edges**. Edges shall be rounded or eased.

		T303.3 Cross Section. Gripping surfaces shall have a cross section complying with T303.3. **T303.3.1 Seat-Back Handhold Cross Section**. The cross section of seat-back handholds shall have an outside diameter of 7⁄8 inches (22 mm) minimum and 2 inches (50 mm) maximum. **T303.3.2 Handrail and Stanchion Circular Cross Section**. Handrails and stanchions with a circular cross section shall have an outside diameter of 1 1⁄4 inches (32 mm) minimum and 2 inches (50 mm) maximum. **T303.3.3 Handrail and Stanchion Non-Circular Cross Section**. Handrails and stanchions with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 1⁄4 inches (160 mm) maximum, and a cross section dimension of 2 1⁄4 inches (57 mm) maximum. **T303.4 Clearance**. Clearance between gripping surfaces and adjacent surfaces shall be 1 1⁄2 inches (38 mm) minimum.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.31 Lighting. T205 Illumination T503.1 General Illumination	1. The stepwell and doorway adjacent to the driver's seat must be lighted when the door is open. 2. Other stepwells and doorways must be lighted at all times. 3. Vehicle doorways shall have outside lights, that when the door is open, will illuminate an area for a distance of 3 feet from the bottom step. 4. Such lights must be located below the window line and be shielded to prevent the light from shinning in the passenger's eyes. **T205.1 General**. Non-rail vehicles shall provide illumination complying with T503 at ramps, bridge plates, doorways, and boarding and alighting areas. T503.1 General. Illumination shall be provided at ramps, bridgeplates, doorways, and boarding and alighting areas in accordance

		with T503. Lights shall be shielded so as not to project directly into the eyes of entering and exiting passengers.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.35 Public information system T215.3 Public Address and Stop Request Systems	Vehicles over 22 feet in length used in multiple stop, fixed route service must have a PA system. **T215.3. Public Address and Stop Request Systems**. Large non-rail vehicles that operate in fixed route service with multiple designated stops shall provide public address and stop request systems in accordance with T215.3. **T215.3.1 Public Address Systems**. Public address systems shall be provided within non-rail vehicles to announce stops and other passenger information.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.37 Stop Request. T215.3.2 Stop Request Systems	1. Vehicles over 22 feet in length, that allow passengers to alight or board at multiple stops at their option, shall provide controls adjacent to the securement areas which alert the driver when the passenger wishes to disembark. 2. Controls must tie mounted between 15 inches and 48 inches from the floor. 3. The system shall provide auditory and visual indications that the request was made. 4. The controls shall not require tight grasping, pinching or twisting of the wrists. **T215.3.2 Stop Request Systems**. Where non-rail vehicles stop on passenger request, stop request systems complying with T704.3 shall be provided.
Prior Jan 18th, 2017 On or After Jan 18th, 2017	1192.39 Destination and route signs. T215.2.4 Destination and Route Signs	Where destination and route information is displayed on the exterior of the vehicle, each vehicle shall have illuminated signs on the front and boarding side of the vehicle. Where destination or route signs are provided on the exterior of non-rail vehicles, such signs shall be located at a minimum on the front and boarding sides of the vehicle. The signs shall be illuminated and comply with T702.