**Section 441.APPENDIX K Undercoating through Windshield Wipers**

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| a) | | UNDERCOATING | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | PROCEDURES/SPECIFICATIONS:  Fire resistant undercoating material applied to entire underside of body, front fenders, wheel wells, floor members, and side panels below floor level. Non-metallic parts need not be coated. | | | |
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| b) | | VENTILATION | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | PROCEDURES/SPECIFICATIONS:  Body must be equipped with ventilating system capable of supplying proper quantity of air under operating conditions. | | | |
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|  | | | | | | | | | | | | REJECT VEHICLE IF:  Air is obstructed; not securely fastened; not covered. | | | |
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| c) | | WARNING  DEVICES | | | | | | | | | |  | | | |
|  | | PROCEDURES/SPECIFICATIONS:  *Either three red cloth flags not less then 12 inches square and three red reflectors minimum of 3 inches in diameter or three bidirectional emergency triangles that conform to* *49 CFR 571.125.* (Section 17-702 of the Illinois Vehicle Law) Kit shall be securely stored. | | | |
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| d) | | WHEELS | | | | | | | | | |  | | | |
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|  | | | 1) | | | Housings | | | | | | PROCEDURES/SPECIFICATIONS:  Full open type attached to floor sheet to prevent water, fumes or dust entering the body. Inside height should not exceed 10 inches above floor line. Housings shall allow for unimpeded wheel and tire service or removal. Housing shall provide clearance for installation and use of tire chains on the dual or single tires installed on the rear wheels.  Inspect tire and road wheel assemblies. | | | |
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|  | | | | | | | | | | | | REJECT VHEICLE IF:  Wheel housings do not meet clearance requirement; wheel housings are not firmly secured; holes are present.  A tire or wheel is rubbing against any portion of the suspension, chassis, or body. | | | |
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|  | | | 2) | | | Rim | | | | | | PROCEDURES/SPECIFICATIONS:  Inspect all wheel and rim bolts, nuts, studs, lugs, locking rings, etc. Each cover, cap, or decorative ring that obscures any of these items must be removed prior to the inspection.  Inspect for visible wheel damage. | | | |
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|  | | | | | | | | | | | | REJECT VEHICLE IF:  Any wheel or rim securing device such as a nut, bolt, stud, lug, ring, or other type securing device is loose, missing, or cracked.  Wheel locating hole(s) are elongated, oversized, or "wallowed out." Any part of a wheel or rim is cracked, repaired by welding or rewelding, or damaged so as to cause unsafe operation of the vehicle. | | | |
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|  | | | 3) | | | | Tires | | | | | PROCEDURES/SPECIFICATIONS:  Inspect tire for proper inflation (i.e., flat tire).  A regrooved, retreaded, or recapped tire shall not be on the front steering axle.  A tire with restricted use marking is prohibited. (e.g., "NHS" or "SL" following size marking, "Off Highway," "Farm Use," "Racing Only," etc.)  No school bus shall be equipped with any tire which has been so worn that tread configuration is absent on any part of the tire in contact with the road surface.  Inspect for tread wear. | | | |
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|  | | | | | | | | | | | | A) | | | Check for the presence of tread wear indicators. |
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|  | | | | | | | | | | | | B) | | | For tires without tread wear indicators, use tread depth gauge to measure groove depth.  Steering (Front) and Drive (Rear) Axles: Measure groove depth at any point on a major tread groove. |
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|  | | | | | | | | | | | | C) | | | For tires without tread wear indicators and with noncircumferential grooves, or "spaces," between the tread elements (as in snow, mud, lug knob, or traction treads):  Steering (Front) and Drive (Rear) Axles: Measure in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove. |
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|  | | | | | | | | | | | | D) | | | Inspect tire for bald, partially bald, cupped, dished or unevenly worn areas. |
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|  | | | | | | | | | | | | E) | | | The measurements shall not be made where the tie bars, humps, or fillets are located. |
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|  | | | | | | | | | | | AGENCY NOTE: | "Bald" means without a groove.  Inspect for visible cord damage and exposure of ply cords in sidewalls and treads, including belting material cords.  Inspect for evidence of tread or sidewall separation.  Inspection for regrooved or recut treads. | | | |
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|  | | | | | | | | | | | AGENCY NOTE: | 49 CFR 369 requires tires marked "REGROOVABLE" to have sufficient tread rubber that, after regrooving, cord material below the grooves shall have a protective covering of tread material at least 3/32 inch thick.  Inspect tires for legible markings showing size designation and carcass construction. | | | |
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|  | | | | | | | | | | | AGENCY NOTE: | "R" in size designation shows radial construction. More plies at tread than sidewall shows belted construction. Same number of plies at tread and sidewall, without a belted or radial indication, shows plain bias construction.  Tires on same axle must be of same construction.  Inspect tires for size designation and for matched construction. | | | |
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|  | | | | | | | | | | | AGENCY NOTE: | "Construction" refers to bias, bias belted, or radial arrangement of ply cords in the tire carcass.  Inspect each single dual tire assembly.  A mixture of regular and mud-and-snow treads must be the same on both sides of axle.  When radial and conventional (i.e., bias) tires are both used on a vehicle, one of the following two requirements shall be met: | | | |
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|  | | | | | | | | | | | | A) | | | On vehicles with one single wheel axle and one or more dual wheel axles, radial tires shall be used on the steering (i.e., front) axle only. |
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|  | | | | | | | | | | | | B) | | | On vehicles having two single wheel axles, radial tires shall be used on the rear axle only. |
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|  | | | | | | | | | | | | A tube built only for bias tire shall not be installed in a radial tire. Red color shall not be added to stem of a "bias" tube. (Valve stem of tube for radial tire is either marked "radial" or has red ring or is painted red.) A "radial" tube and flap may be used in a bias tire.  Inspect valve stems. | | | |
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|  | | | | | | | | | | | | Regrooved, retreaded or recapped tire is located on front steering axle. | | | |
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|  | | | | | | | | | | | | Restricted marking is present. | | | |
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|  | | | | | | | | | | | | Any part of tire which is in contact with road surface is absent of tread configuration. | | | |
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|  | | | | | | | | | | | | A) | | Tread wear indicators contact road at any point on a major tread groove. | |
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|  | | | | | | | | | | | | B) | On steering (front) axle: Tread groove depth is less than 4/32 inch when measured at any point on a major tread groove.  On drive (rear) axle: Tread groove depth is less than 2/32 when measured at any point on a major tread groove. | | |
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|  | | | | | | | | | | | | C) | On steering axle: Tread groove depth is less than 4/32 inch when measured in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove.  On drive axle: Tread groove depth is less than 2/32 inch when measured in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove. | | |
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|  | | | | | | | | | | | | D) | The tire has bald, partially bald, cupped, dished or unevenly worn areas. | | |
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|  | | | | | | | | | | | | A broken or cut cord can be seen. Rubber is worn, cracked, cut or otherwise deteriorated or damaged so that a cord can be seen – either when the tire is not touched or when the edges of the crack, cut or damage are parted or lifted by hand.  Tire has bump, bulge, knot or other evidence of partial carcass failure, air seepage, or loss of adhesion between carcass and tread or sidewall.  Tread has been regrooved or recut on a tire that does not have the word "REGROOVABLE" molded on or into both sides of the tire.  A tire on a road wheel does not exhibit a legible size marking and a legible construction marking.  Tires on the same axle are not of same construction.  A tire exceeds the diameter (not width) of its mate by ½ inch (¼ inch radius) or more; or one tire touches its mate.  A mixture of regular and mud-and-snow treads are not the same on both sides of the axle.  Requirements for using both radial and conventional tires on a vehicle are not met.  A tube built only for bias tire but installed in a radial tire.  A valve stem leaks; is cracked; is either damaged or positioned so as to hamper pressure checking or inflation; shows evidence of wear because of misalignment. | | | |
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| e) | | WINDOWS | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | PROCEDURES/SPECIFICATIONS:  All applicable provisions of 49 CFR 571.205 apply to the optional laminated safety glass and also to any plastic material(s) used in a multiple glazed unit.  Glazing shall be marked as follows pursuant to 49 CFR 571.205: | | | |
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|  | | | | | | | | | | | | A) | | | Windshield – "AS 1" Glass |
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|  | | | | | | | | | | | | B) | | | Driver's Window – "AS 1" Glass or "AS 2" Glass |
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|  | | | | | | | | | | | | C) | | | Driver's door – "AS 1" Glass or "AS 2" Glass |
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|  | | | | | | | | | | | | D) | | | All other locations – "AS 1" Glass, "AS 2" Glass, or "AS 3" Glass. |
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|  | | | | 1) | | | | | | Emergency  (Also see  EMERGENCY  EXITS) | |  | | | |
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|  | | | | | | | | | | PROCEDURES/SPECIFICATIONS:  When the emergency door is located on the left side, a rear emergency window shall be provided. Minimum dimensions are 16 inches high and 48 inches wide. Designed to be opened from the inside or the outside. Hinged on top, designed and operated to insure against accidental closing in an emergency. Inside handle shall provide for quick release. Outside handle shall be nondetachable and nonhitchable. When locked or not fully latched, window shall actuate alarm audible and visible to driver. No cutoff switch allowed.  Optional emergency windows are allowed. They must be labeled "Emergency Exit" in letters at least two inches high, of a color that contracts with its background, located at the top of or directly above the window on the inside surface of the bus. Optional emergency windows must be equipped with an audible alarm activated when window is locked or not fully latched. | | | |
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|  | | | | | | | | | | | | REJECT VEHICLE IF:  Operating mechanisms do not function. Alarm does not function. Glass is cracked or broken (see EMERGENCY EXIT – Alarms and Locks). | | | |
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|  | | | | | 2) | | | | | Rear | |  | | | |
|  | | | | | | | | | | | | PROCEDURES/SPECIFICATIONS:  Glazed panels, or windows, (except rear emergency window) shall be of fixed type. Any authorized or required signs, letters or numerals displayed on the window in the rear of the bus shall be located so as not to obstruct the driver's view. | | | |
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|  | | | 3) | | | | | | Side | | |  | | | |
|  | | | | | | | | | | | | PROCEDURES/SPECIFICATIONS:  Each side window shall provide unobstructed emergency opening at least 9 inches high and 22 inches wide, obtained either by lowering window or by use of knock-out type split sash. A "Stop Line" is required six inches from top of window on all windows. Safety glass with exposed edges shall be banded.  Window latches must be in proper working order. | | | |
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|  | | | | | | | | | | | | Exception: The requirements of this subsection do not apply to a side window or glazed panel installed forward of a front passenger seat, or in a side emergency exit.  Note: For information regarding optional route identification markings, see LETTERING. | | | |
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|  | | | 4) | | | | | Windshield | | | |  | | | |
|  | | | | | | | | | | | | PROCEDURES/SPECIFICATIONS:  *Shall be installed between front corner posts and designed not to obstruct driver's view.*  (Section 12-501 of the Illinois Vehicle Equipment Law) Windshield shall be slanted to reduce glare. Tinted safety glass shall only be allowed six inches below top of windshield. | | | |
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|  | | | | | | | | | | | | REJECT VEHICLE IF:  Windshield is not firmly sealed or attached. Glass is broken, cracked, or discolored (not including allowed tint). "Star chip" is present which measures more than one inch in diameter. | | | |
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| f) | WINDSHIELD  WASHER | | | | | | | | | | |  | | | |
|  | PROCEDURES/SPECIFICATIONS:  Windshield washer shall effectively clean entire area covered by both wipers.  Exception: All buses purchased prior to September 1974 are exempt. However, if bus is so equipped, washer must be in good operating condition. | | | |
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|  | | | | | | | | | | | | REJECT VEHICLE IF:  Windshield washer does not effectively clean entire area or does not operate properly. | | | |
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| g) | WINDSHIELD  WIPERS | | | | | | | | | | |  | | | |
|  | PROCEDURES/SPECIFICATIONS:  Two automatic, variable speed wipers with nonglare arms and blades. Need not be individually powered. | | | |
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|  | | | | | | | | | | | | REJECT VEHICLE IF:  Windshield wipers do not cover entire cleaning area. Blades are damaged, torn, hardened, or rubber wiping element has broken down. Wiper fails to park properly when shut off. | | | |

(Source: Amended at 22 Ill. Reg. 11889, effective June 29, 1998)