Kevin J. Fowler
DOOLEY ROBERTS & FOWLER LLP
Suite 201, Orlean Pacific Plaza
865 South Marine Corps Drive
Tamuning, Guam 96913
Telephone No. (671) 646-1222
Facsimile No. (671) 646-1223
E-mail: fowler@guamlawoffice.com

Attorneys for Appellant
Morrico Equipment, LLC

THE OFFICE OF PUBLIC ACCOUNTABILITY

In the Procurement Appeal of MORRICO EQUIPMENT, LLC, Appellant.	**APPELLANT'S AMENDED EXHIBIT LIST** Docket No. OPA-PA-14-011 Docket No. OPA-PA-14-012

Morrico Equipment, LLC ("Morrico"), hereby files its amended exhibit list with respect to this appeal, adding the following two exhibits.

Exhibit T: FMVSS Section 571.221 – School Bus Body Joint Strength.

Exhibit U: Market share of Thomas Built Buses against Blue Bird buses.

Morrico reserves any right it may have to offer additional exhibits for rebuttal purposes.

Dated this 26th day of January, 2015.

DOOLEY ROBERTS & FOWLER LLP

By: _____
KEVIN J. FOWLER
Attorneys for Appellant
Morrico Equipment, LLC

FEDERAL MOTOR VEHICLE SAFTEY STANDARDS – SECTION 571.221 – JOINT STRENGTH

§571.221 Standard No. 221; School bus body joint strength.

S1. *Scope.* This standard establishes requirements for the strength of the body panel joints in school bus bodies.

S2. *Purpose.* The purpose of this standard is to reduce deaths and injuries resulting from the structural collapse of school bus bodies during crashes.

S3. Application. This standard applies to school buses.

S4. *Definitions. Body component* means a part of a bus body made from a single piece of homogeneous material or from a single piece of composite material such as plywood.

Body panel means a body component used on the exterior or interior surface to enclose the bus' occupant space.

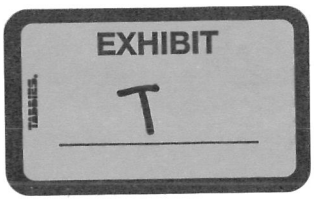
Body panel joint means the area of contact or close proximity between the edges of a body panel and another body component, including but not limited to floor panels, and body panels made of composite materials such as plastic or plywood, excluding trim and decorative parts which do not contribute to the strength of the bus body, members such as rub rails which are entirely outside of body panels, ventilation panels, components provided for functional purposes, and engine access covers.

Bus body means that portion of a bus that encloses the bus occupant space, including the floor, but excluding the bumpers and chassis frame and any structure forward of the passenger compartment.

Maintenance access panel means a body panel which must be moved or removed to provide access to one or more serviceable component(s).

Passenger compartment means space within the school bus interior that is between a vertical transverse plane located 762 mm in front of the forwardmost passenger seating reference point and including a vertical transverse plane tangent to the rear interior wall of the bus at the vehicle centerline.

Serviceable component means any part of the bus, of either a mechanical or electrical nature, which is explicitly identified by the bus chassis and/or body manufacturer in the owner's manual or factory service manual as requiring routine maintenance actions at intervals of one year or less. Tubing, wires and harnesses are considered to be serviceable components only at their attachments.



S5 Requirements.

S5.1 Except as provided in S5.2, each body panel joint, including small, curved, and complex joints, when tested in accordance with the procedure of S6, shall hold the body panel to the member to which it is joined when subjected to a force of 60 percent of the tensile strength of the weakest joined body panel determined pursuant to S6.2.

S5.1.1 Body panels attached to each other shall have no unattached segment at the joint longer than 203 mm.

S5.2 Exclusions

S5.2.1 The requirements of S5.1 do not apply to—

(a) Any interior maintenance access panel or joint which lies forward of the passenger compartment.

(b) Any interior maintenance access panel within the passenger compartment that does not exceed 305 mm when measured across any two points diametrically on opposite sides of the opening.

(c) Trim and decorative parts which do not contribute to the strength of the joint, support members such as rub rails which are entirely outside of body panels, doors and windows, ventilation panels, and engine access covers.

S6 Procedure

S6.1 Preparation of the test specimen.

S6.1.1 If a body panel joint is 203 mm or longer, cut a test specimen that consists of any 203 mm segment of the joint, together with a portion of the bus body whose dimensions are those specified in Figure 1, so that the specimen's centerline is perpendicular to the joint at the midpoint of the joint segment. Where the body panel joint is not fastened continuously, select the segment so that it does not bisect a spot weld or a discrete fastener. Support members which contribute to the strength of a body panel joint, such as rub rails on the outside of body panels or underlying structure attached to joint members, shall remain attached to the test specimen, except that material may be removed from the support members as necessary to clear the gripping areas of the joint members being tested.

S6.1.2 If a joint is less than 203 mm long, cut a test specimen with enough of the adjacent material to permit it to be held in the tension testing machine specified in S6.3.

S6.1.3 Prepare the test specimen in accordance with the preparation procedures specified in ASTM E8-89 (incorporated by reference, see §571.5).

S6.2 *Determination of minimum allowable strength.* For purposes of determining the

minimum allowable joint strength, determine the tensile strengths of the joined body components as follows:

(a) If the mechanical properties of a joint component material are specified in ASTM E8-89 (incorporated by reference, see §571.5), the lowest value of that material's thickness and tensile strength per unit of area shown in that source shall be used.

(b) If the mechanical properties of a material are not specified in ASTM E8-89 (incorporated by reference, see §571.5), determine its tensile strength by cutting a sheet specimen from outside the joint region of the bus body in accordance with Figure 1 of ASTM E8-89, and by testing it in accordance with S6.3.

(c) The cross sectional area of material removed to facilitate the installation of fasteners shall be subtracted from the cross-sectional area of the panel in the determination of the tensile strength of the weakest joined body panel.

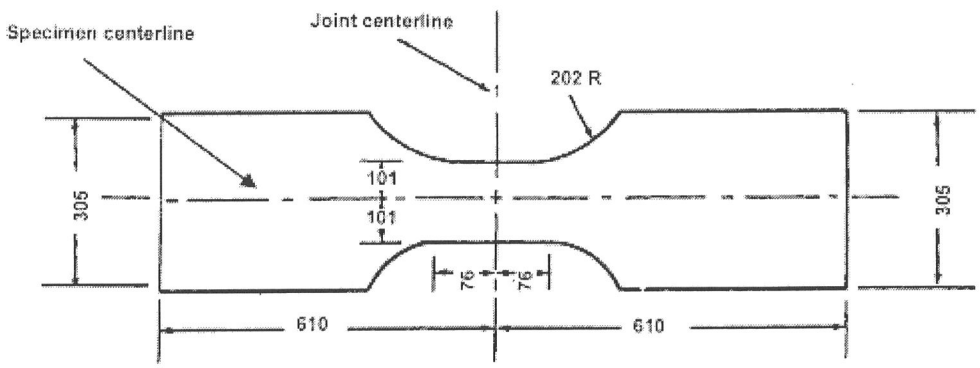
S6.3 Strength Test.

S6.3.1 The joint specimen is gripped on opposite sides of the joint in a tension testing machine in accordance with ASTM E8-89 (incorporated by reference, see §571.5).

S6.3.2 Adjust the testing machine grips so that the applied force on the joint is at 90 degrees plus or minus 3 degrees from the joint centerline, as shown in Figure 1.

S6.3.3 A tensile force is applied to the specimen by separating the heads of the testing machine at any uniform rate not less than 3 mm and not more than 10 mm per minute until the specimen separates.

FIGURE 1



All dimensions in millimeters

View or download PDF

[41 FR 3872, Jan. 27, 1976, as amended at 41 FR 36027, Aug. 26, 1976; 67 FR 64366, 64367, Dec. 13, 2002; 68 FR 6360, Feb. 7, 2003; 77 FR 768, Jan. 6, 2012]

EDITORIAL NOTE: At 65 FR 11754, Mar. 6, 2000, §571.221 was amended by revising S5.2.1(a), effective Apr. 5, 2000. However, paragraph S5.2.1(a) does not exist in the text in effect at that time. The revised text reads as follows:

§571.221 Standard No. 221, School bus body joint strength.

* * * * *

S5.2.1 The requirements of S5.1.1 and S5.1.2 do not apply to—

(a) Any interior maintenance access panel which lies forward of the passenger compartment, or which is less than 305 mm when measured across any two points diametrically on opposite sides of the opening.

* * * * *

THOMAS BUILT BUSES AND BLUE BIRD BUSES MARKET SHARE

(From Polk Data – https://www.ihs.com/btp/polk.html)

Type C Registration Units		
Rpt Yr	BLUE BIRD	THOMAS
2010	4213	6033
2011	4638	5930
2012	5107	7379
2013	6557	7915
2014/Nov	6597	7656

Type C Registration Market Share		
Rpt Yr	BLUE BIRD	THOMAS
2010	18%	26%
2011	23%	30%
2012	23%	33%
2013	28%	33%
2014/Nov	28%	32%

EXHIBIT

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