

REPORT NUMBER: 221-MGA-2009-002

**SAFETY COMPLIANCE TESTING FOR
FMVSS NO.: 221
SCHOOL BUS BODY JOINT STRENGTH**

**BLUE BIRD BODY COMPANY
2009 BLUE BIRD MICRO BIRD SCHOOL BUS
NHTSA NO.: C90902**

**PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105**




FINAL REPORT DATE: OCTOBER 12, 2010

FINAL REPORT


**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
MAIL CODE: NVS-220
1200 NEW JERSEY AVENUE, S.E.
WASHINGTON, D.C. 20590**

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Prepared by:  Date: October 12, 2010
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FINAL REPORT ACCEPTED BY:


October 12, 2010
Date of Acceptance

Technical Report Documentation Page

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16. Abstract Compliance tests were conducted on the subject 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No.: TP-221-03 for the determination of Compliance with FMVSS 221 requirements. Test Failures: One (1) joint sample failed to meet the requirements of FMVSS 221. Tests of two (2) joint samples were determined to be invalid but are included in this report as indicant tests.					
17. Key Words Compliance Testing Safety Engineering FMVSS 221			18. Distribution Statement Copies of this report are available from: NHTSA, Technical Information Services (TIS) Mail Code: NPO-411 1200 New Jersey Avenue, S.E. Washington, D.C. 20590 FAX No.: (202) 493-2833 E-mail: tis@dot.gov		
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SECTION 1
PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902, in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-221-03 to determine compliance with the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 221, "School Bus Body Joint Strength".

This program is sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No.: DTNH22-08-D-00075.

SECTION 2

TEST PROCEDURE

The 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902 was subjected to FMVSS 221 testing.

The joint samples were selected in conjunction with the Contract Officer's Technical Representative (COTR). Four 12 x 48 inch samples were selected. They were removed from the bus using a metal shear and/or SawzAll type of cutter.

After each sample area had been removed from the bus, the sample was cut to the specific selected dimensions. Each specimen was carefully shaped to the final size using supports as specified in FMVSS 221. Additionally, temperature monitoring stickers were placed at the specified locations of each sample to ensure the sample temperature did not exceed 140°F during the shaping operation.

The samples were tested using the MGA 50,000 pound tensile tester. The force applied was measured directly at the upper clamp. The upper clamp was attached to the load cell and the lower clamp was attached to the load frame.

The gripping devices were fabricated from 3" x 3" angle iron. Slots were milled on the face that mounted to the machine, in order to allow for fore and aft movement of the clamps. This allowed the specimens to be fixtured so that the axis of the test specimen coincided with the centerline axis of the tensile tester heads.

The test specimen was inserted in between the grips, and the grips were then bolted together using 7 size ½" bolts. The bolts were inserted through one grip, through the test specimen, and then through the other grip. This prevented any slipping of the test sample in the grips, while fully distributing the clamping force across the entire end width of the test sample. Post test examination of the specimens indicated that no loads were applied to the clamp mounting holes.

The rate of load application was ¼ inch per minute. The force and displacement were recorded and displacement vs. time was plotted to monitor the displacement rate.

SECTION 3
TEST DATA SUMMARY

A total of three samples were tested for this vehicle. The samples were selected from the mid roof interior, mid roof exterior and front roof exterior.

Joint Location	Joint Specimen I.D.	Maximum Load (N)	60% of Material Strength (N)	PASS/FAIL
Front Roof Exterior	BSRCFE181BAH	16,139	23,015	INVALID TEST
Mid Roof Exterior	BSRCME1810BAH	23,959	20,254	PASS
Mid Roof Interior	BSRCMI186BRH	16,284	18,194	INVALID TEST
Front Roof Exterior	BSRCFE282BAH	20,417	22,224	FAIL

The maximum forces measured, and the displacement rate used, are provided in Section 7.
The photographs taken from the samples are provided in Section 6 and Section 8.

SECTION 4
COMPLIANCE TEST DATA

The following data sheets document the results of FMVSS 221 testing on the 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902.

DATA SHEET 1
ADMINISTRATIVE DATA SHEET

Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C90902**
Test Dates: **6/25/09 – 10/8/09**

INCOMPLETE VEHICLE (IF APPLICABLE)

Manufacturer:	Ford Motor Company
VIN:	1FDDE35L19DA17396
Build Date:	10/08
Certification Date:	10/08

COMPLETED VEHICLE (SCHOOL BUS)

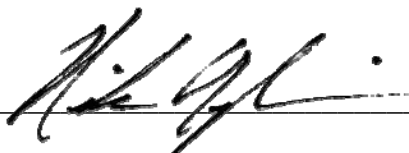
Manufacturer:	Blue Bird Body Company
Make/Model:	Blue Bird Micro Bird
VIN:	1FDDE35L19DA17396
NHTSA No.:	C90902
Color:	Yellow
GVWR:	4,356 kg / 9,600 lbs
Build Date:	12/08
Certification Date:	12/08

DATES

Vehicle Receipt:	12/29/08
Start of Compliance Test:	06/25/09
Completion of Compliance Test:	06/25/09

COMPLIANCE TEST:

All tests were performed in accordance with the references outlined in TP-221-03.

Recorded By: 

Approved By: 

Date: 10/08/09

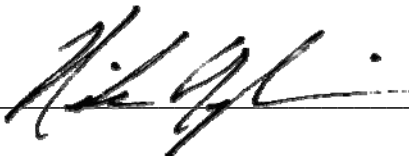
DATA SHEET 2
SUMMARY OF DATA


Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C90902**
Test Dates: **6/25/09 – 10/8/09**

Joint Specimen I.D.	Joint Location	Joint Load Reqmt (60%) (N)	Max. Load at Joint Separation (N)	Calculated Material Strength (N)	PASS/ FAIL
BSRCFE181BAH	Front Roof Exterior	23,015	16,139	38,359	INVALID TEST
BSRCME1810BAH	Mid Roof Exterior	20,254	23,959	33,757	PASS
BSRCMI186BRH	Mid Roof Interior	18,194	16,284	30,324	INVALID TEST
BSRCFE282BAH	Front Roof Exterior	22,224	20,417	37,040	FAIL

Comments: None

Recorded By: 

Approved By: 

Date: 10/08/09

DATA SHEET 3

JOINT STRENGTH WHEN ASTM MATERIAL PROPERTIES ARE KNOWN

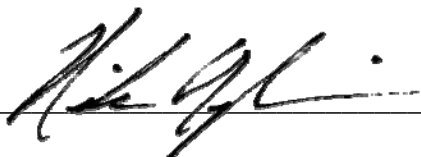
Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**


NHTSA No.: **C90902**
 Test Dates: **6/25/09 – 10/8/09**

Specimen Description:	Front Roof Exterior		
Joint Number:	BSRCFE181BAH	Test Number:	Q09211

	Weaker Member	Stronger Member
Material	Fiberglass	N/A
Tensile Strength (MPa)	61.5	N/A
Gage/Thickness (mm)	3.175	N/A
Fastener Holes (No./Diameter – mm.)	1 / 6.76	N/A
Net Area (Sq. mm.)	623.7	N/A
Material Strength (N)	38,358.8	N/A
60% of Material Strength (N)	23,015.3	N/A
Maximum Load From Tensile Test of Joint (N)	16,139	N/A
PASS/FAIL	INVALID TEST*	N/A

Comments: *The second rivet on this specimen was bisected; therefore the test results are used as "indicant" results.

Recorded By: 

Approved By: 

Date: 10/08/09

DATA SHEET 3... (Continued)

JOINT STRENGTH WHEN ASTM MATERIAL PROPERTIES ARE KNOWN

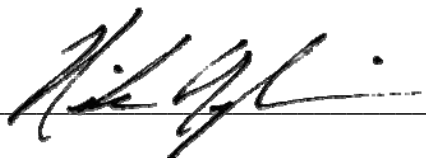
Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**


NHTSA No.: **C90902**
 Test Dates: **6/25/09 – 10/8/09**

Specimen Description:	Mid Roof Exterior		
Joint Number:	BSRCME1810BAH	Test Number:	Q09212

	Weaker Member	Stronger Member
Material	5052-H32 AL ASTM-B209	N/A
Tensile Strength (MPa)	213.7	N/A
Gage/Thickness (mm)	1.016	N/A
Fastener Holes (No./Diameter – mm.)	10 / 4.78	N/A
Net Area (Sq. mm.)	157.9	N/A
Material Strength (N)	33,756.7	N/A
60% of Material Strength (N)	20,254.0	N/A
Maximum Load From Tensile Test of Joint (N)	23,959	N/A
PASS/FAIL	PASS	N/A

Comments: NONE

Recorded By: 

Approved By: 

Date: 10/08/09

DATA SHEET 3... (Continued)

JOINT STRENGTH WHEN ASTM MATERIAL PROPERTIES ARE KNOWN

Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C90902**
 Test Dates: **6/25/09 – 10/8/09**

Specimen Description:	Mid Roof Interior		
Joint Number:	BSRCMI186BRH	Test Number:	Q09123

	Weaker Member	Stronger Member
Material	5052-H32 AL ASTM-B209	N/A
Tensile Strength (MPa)	213.7	N/A
Gage/Thickness (mm)	0.813	N/A
Fastener Holes (No./Diameter – mm.)	6 / 4.78	N/A
Net Area (Sq. mm.)	141.9	N/A
Material Strength (N)	30,323.6	N/A
60% of Material Strength (N)	18,194.2	N/A
Maximum Load From Tensile Test of Joint (N)	16,284	N/A
PASS/FAIL	INVALID TEST*	N/A

Comments: *Joint number: BSRCMI186BRH, yielded at the mounting hole locations, not at the actual joint. Therefore, the test results are used as “indicant” results.

Recorded By: 

Approved By: 

Date: 10/08/09

DATA SHEET 3... (Continued)

JOINT STRENGTH WHEN ASTM MATERIAL PROPERTIES ARE KNOWN

Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C90902**
 Test Dates: **6/25/09 – 10/8/09**

Specimen Description:	Front Roof Exterior		
Joint Number:	BSRCFE282BAH	Test Number:	Q09403

	Weaker Member	Stronger Member
Material	Fiberglass	N/A
Tensile Strength (MPa)	61.5	N/A
Gage/Thickness (mm)	3.175	N/A
Fastener Holes (No./Diameter – mm.)	1 / 6.76	N/A
Net Area (Sq. mm.)	623.7	N/A
Material Strength (N)	37,040.3	N/A
60% of Material Strength (N)	22,223.3	N/A
Maximum Load From Tensile Test of Joint (N)	20,417	N/A
PASS/FAIL	FAIL	N/A

Comments: None

Recorded By: 

Approved By: 

Date: 10/08/09

**SECTION 5
INSTRUMENTATION AND EQUIPMENT LIST**

Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C90902**
 Test Dates: **6/25/09 – 10/8/09**

Equipment	Description	Model/Serial No.	Cal. Date	Next Cal. Date
Load Cell	Interface	1210AF / 137781	05/13/09	11/13/09
Linear Potentiometer	Ametek	P25A / 1202-19365	05/25/09	11/25/09
Steel Tape	Stanley	Powerlock / 184	04/09/09	10/09/09
Temp. Stickers	McMaster Carr	60° C / 5952K21	One Time Use	---

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Test Vehicle: **2009 BLUE BIRD MICRO BIRD SCHOOL BUS** NHTSA No.: **C90902**
Test Lab: **MGA RESEARCH CORPORATION** Test Date: **06/25/09 – 10/08/09**



Front View of School Bus

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 – 10/08/09



Rear View of School Bus

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 – 10/08/09



Left Side View of School Bus

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Right Side View of School Bus

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 - 10/08/09

MANUFACTURED BY

BLUE BIRD BODY COMPANY

DATE OF MFR. 12/08

SUITABLE TIRE - RIM CHOICE

GVWR: 4356 KG (9600 LB)

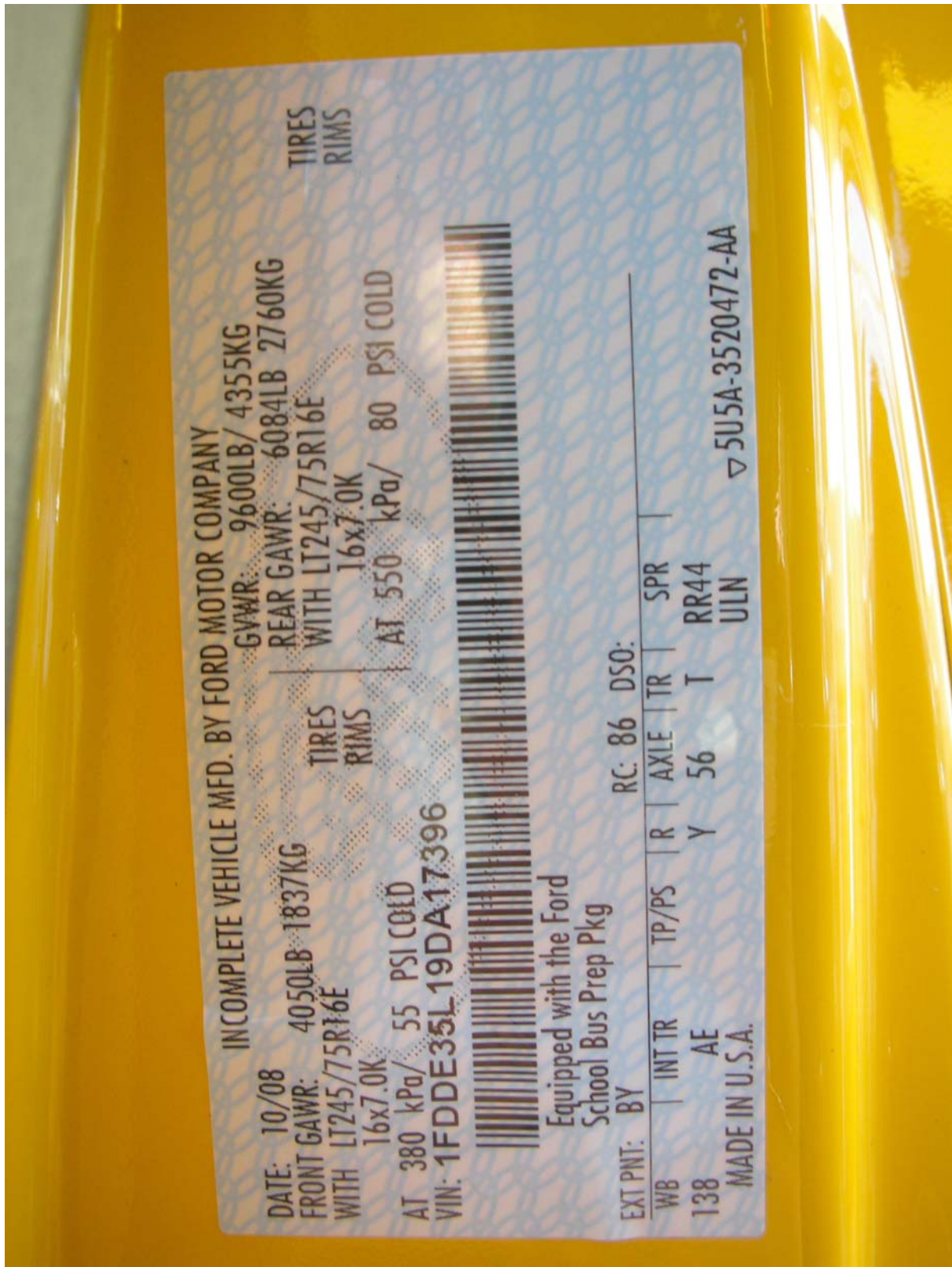
GAWR : FRONT 1838 KG (4050 LB) WITH LT245/75R16E TIRES
16X7.0K RIMS. AT 379 KPA (55 PSI) COLD SINGLE

GAWR : REAR 2760 KG (6084 LB) WITH LT245/75R16E TIRES
16X7.0K RIMS. AT 551 KPA (80 PSI) COLD SINGLE

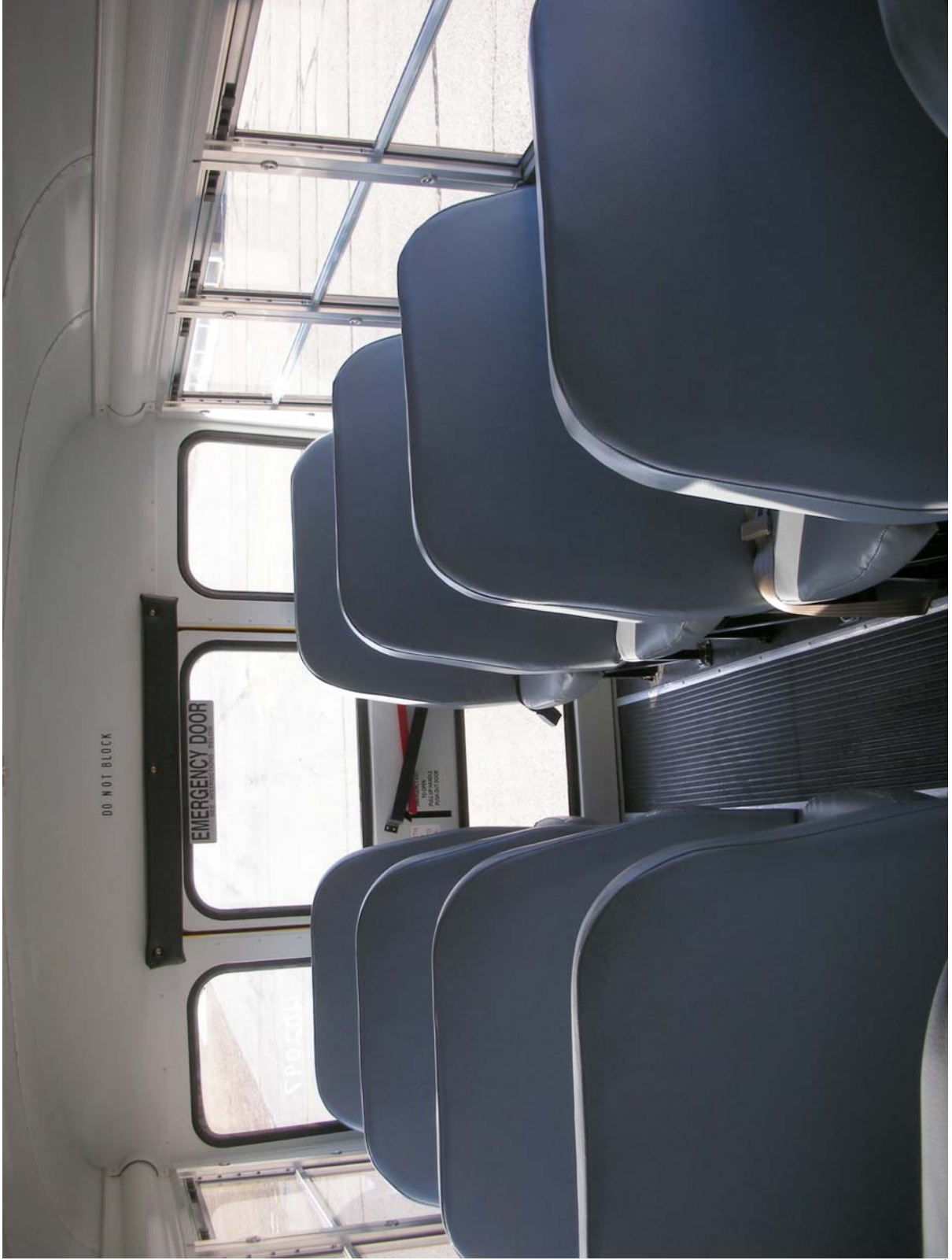
THIS VEHICLE HAS BEEN COMPLETED IN ACCORDANCE WITH THE PRIOR
MANUFACTURERS 'IVD, WHERE APPLICABLE. THIS VEHICLE CONFORMS TO ALL
APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS, (AND BUMBER AND
THEFT PREVENTION STANDARDS, IF APPLICABLE) IN EFFECT IN 10/08

V.I.N. 1FDDE35L19DA17396 TYPE CLASSIFICATION SCHOOL BUS

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
 Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 - 10/08/09



Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 – 10/08/09



Vehicle Interior View Front to Rear

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 – 10/08/09



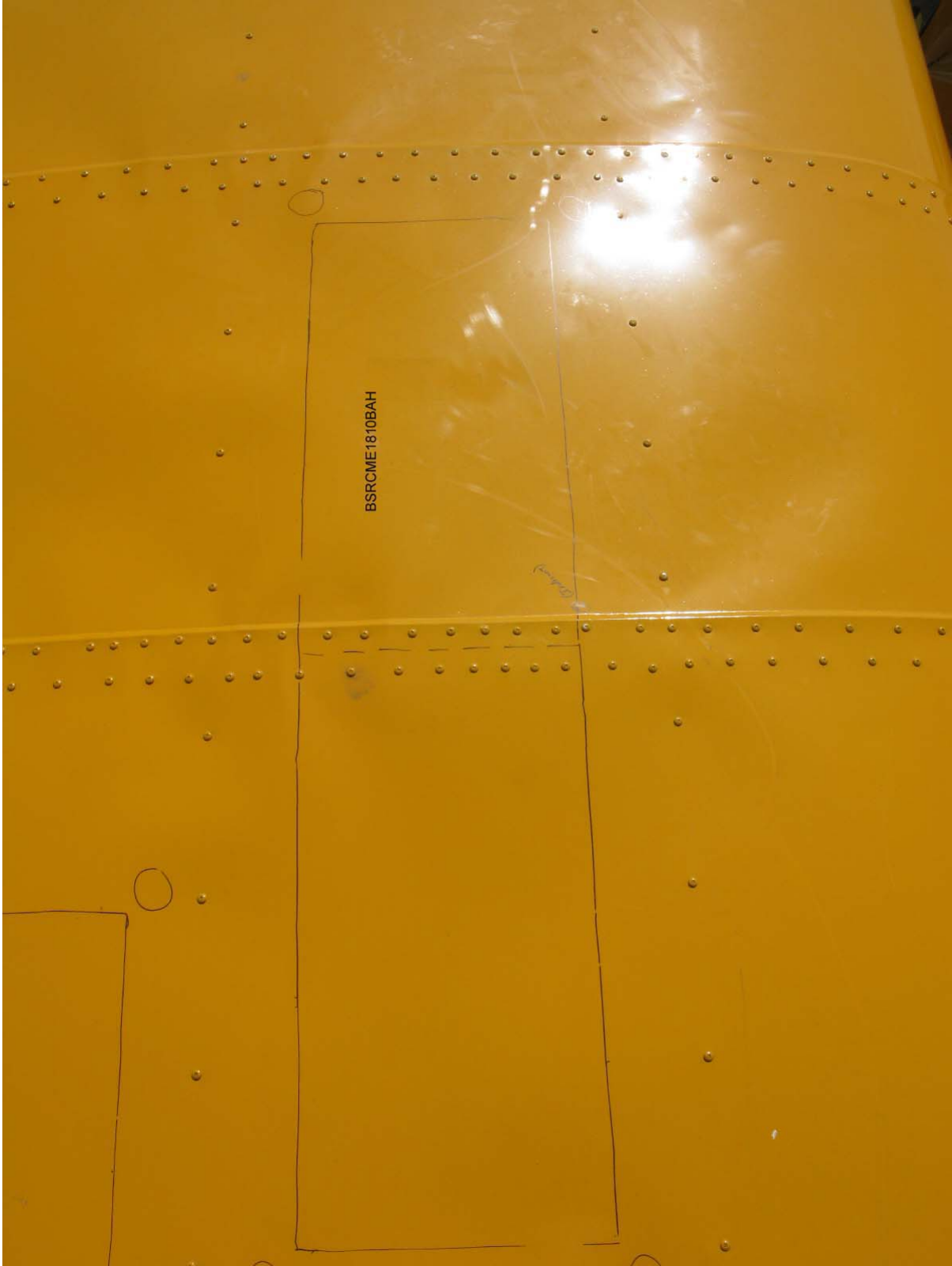
Vehicle Interior View Rear to Front

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Location of Joint ID Number BSRCFE181BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Location of Joint ID Number BSRCME1810BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Location of Joint ID Number BSRCMI186BRH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Location of Joint ID Number BSRCFE282BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



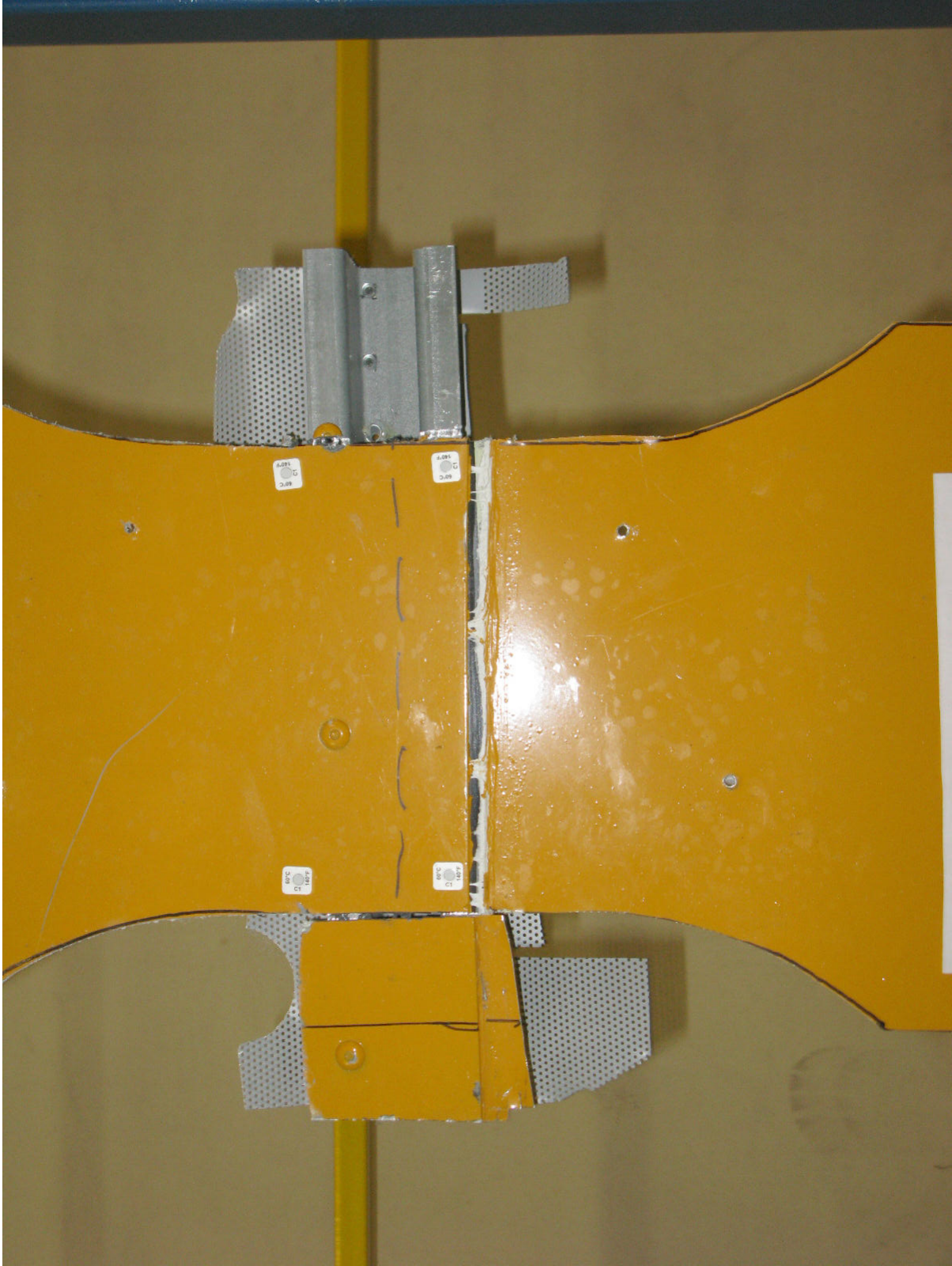
Pre-Test of Joint ID Number BSRCFE181BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



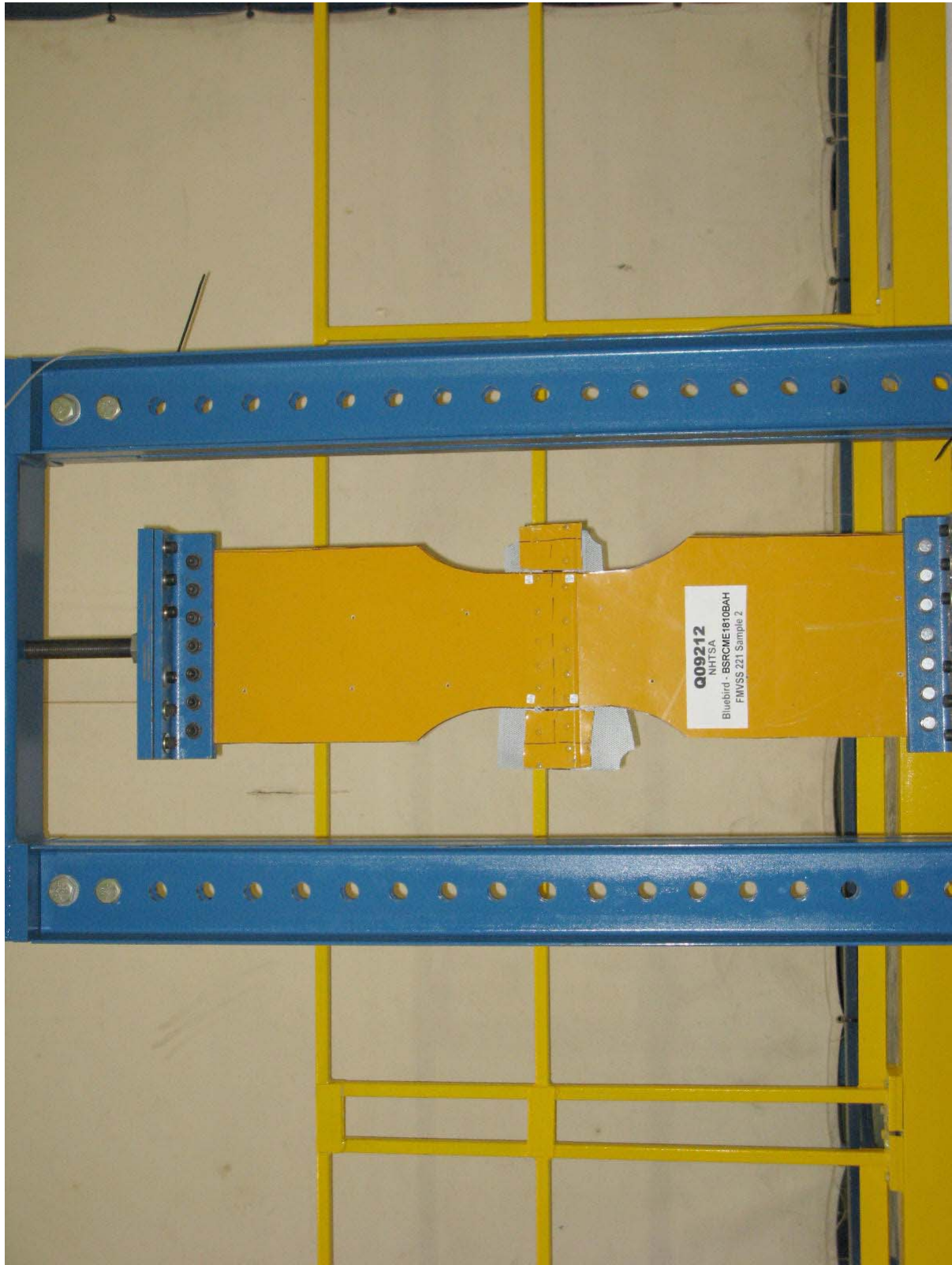
Post-Test of Joint ID Number BSRCFE181BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 – 10/08/09



Post-Test of Joint ID Number BSRCFE181BAH, Close Up View

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



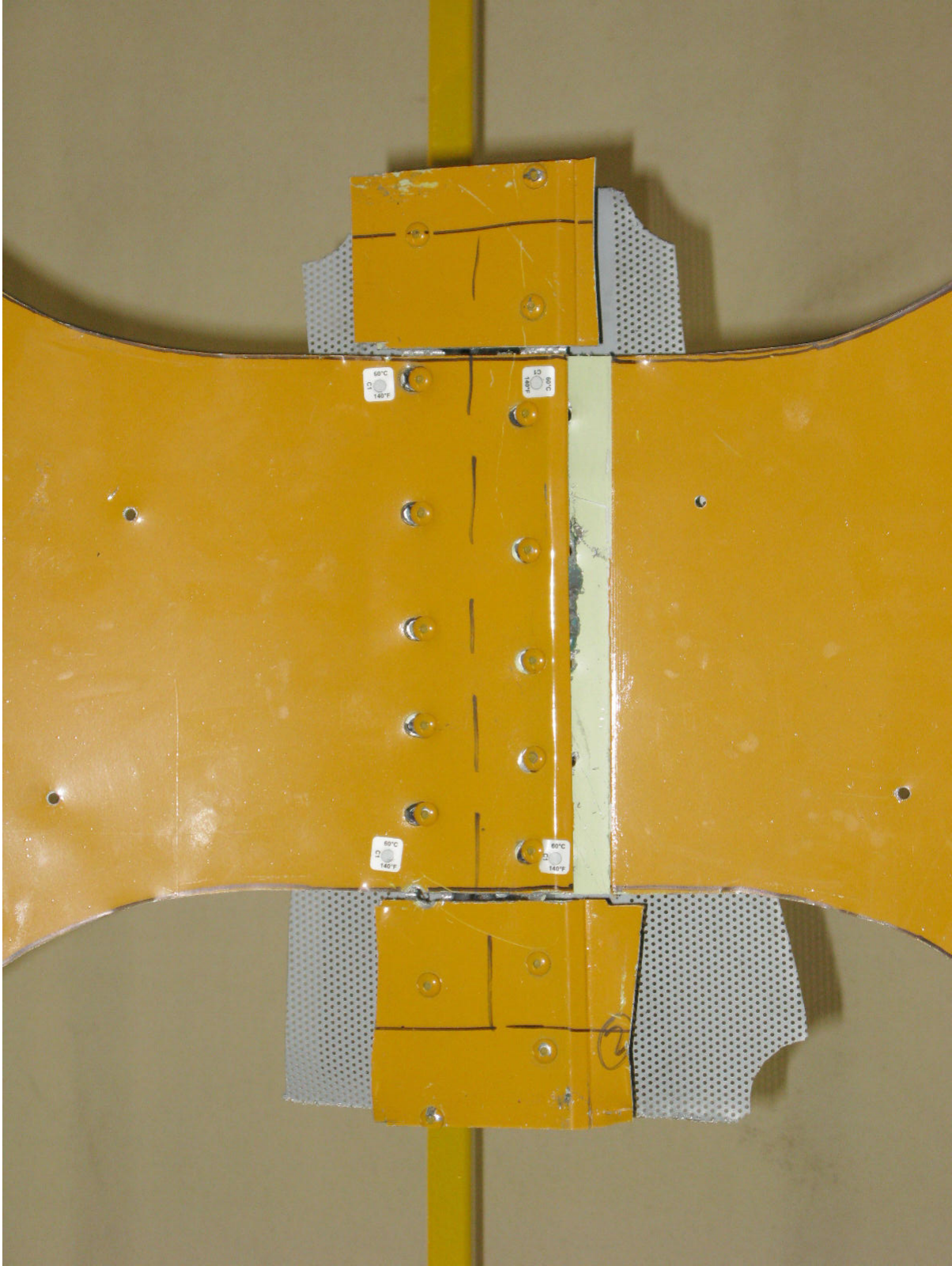
Pre-Test of Joint ID Number BSRCME1810BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Post-Test of Joint ID Number BSRCME1810BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Post-Test of Joint ID Number BSRCE1810BAH, Close Up View

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Pre-Test of Joint ID Number BSRCMI186BRH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Post-Test of Joint ID Number BSRCMI186BRH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Post-Test of Joint ID Number BSRCMI186BRH, Close Up View

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Pre-Test of Joint ID Number BSRCFE282BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Post-Test of Joint ID Number BSRCFE282BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



Post-Test of Joint ID Number BSRCFE282BAH, Close Up View

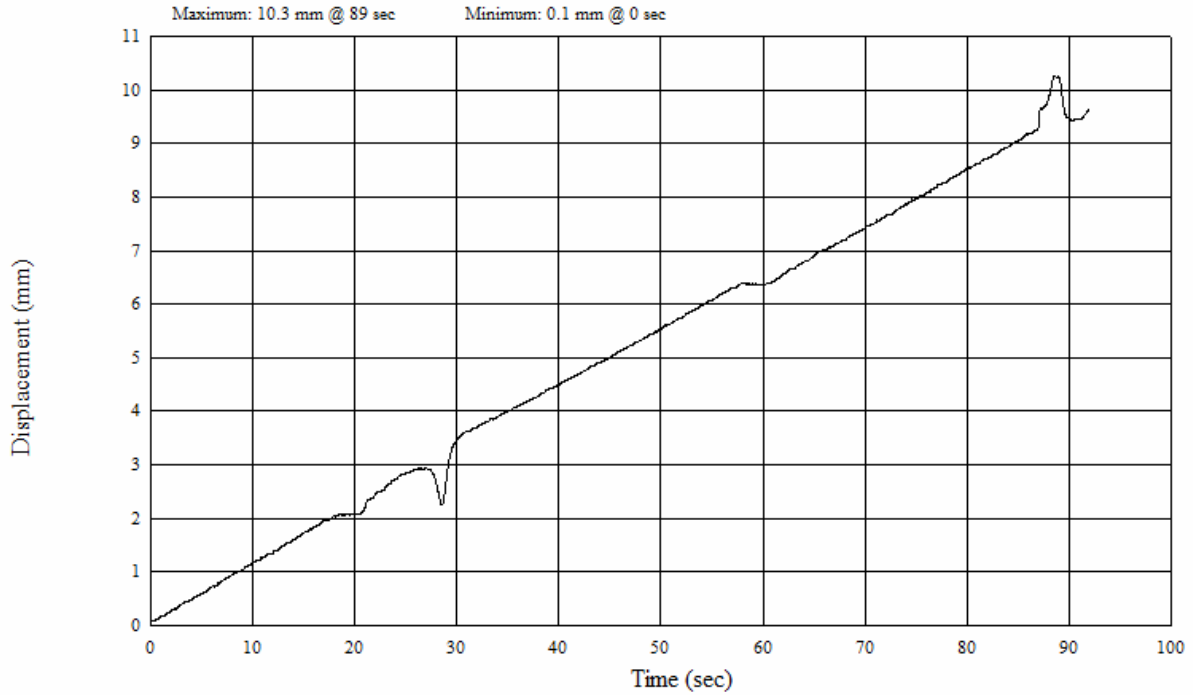
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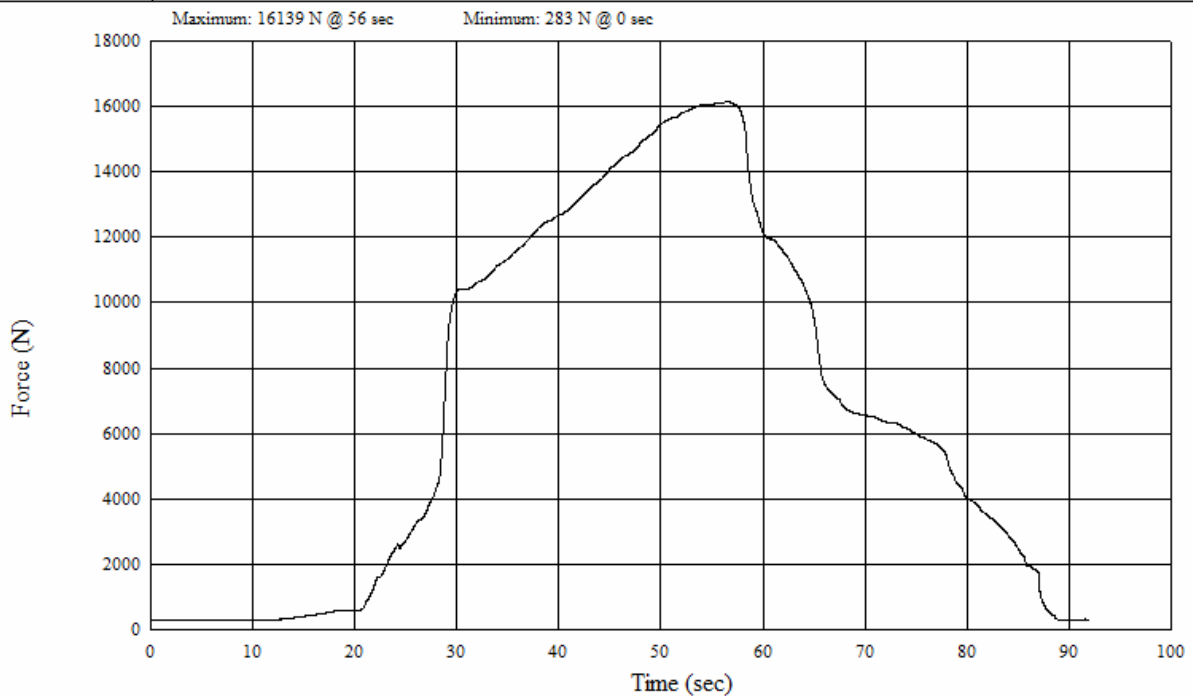
Displacement (mm) vs Time (sec)

Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.: BSRCFE181BAH
Test Date: June 25, 2009



Force (N) vs Time (sec)

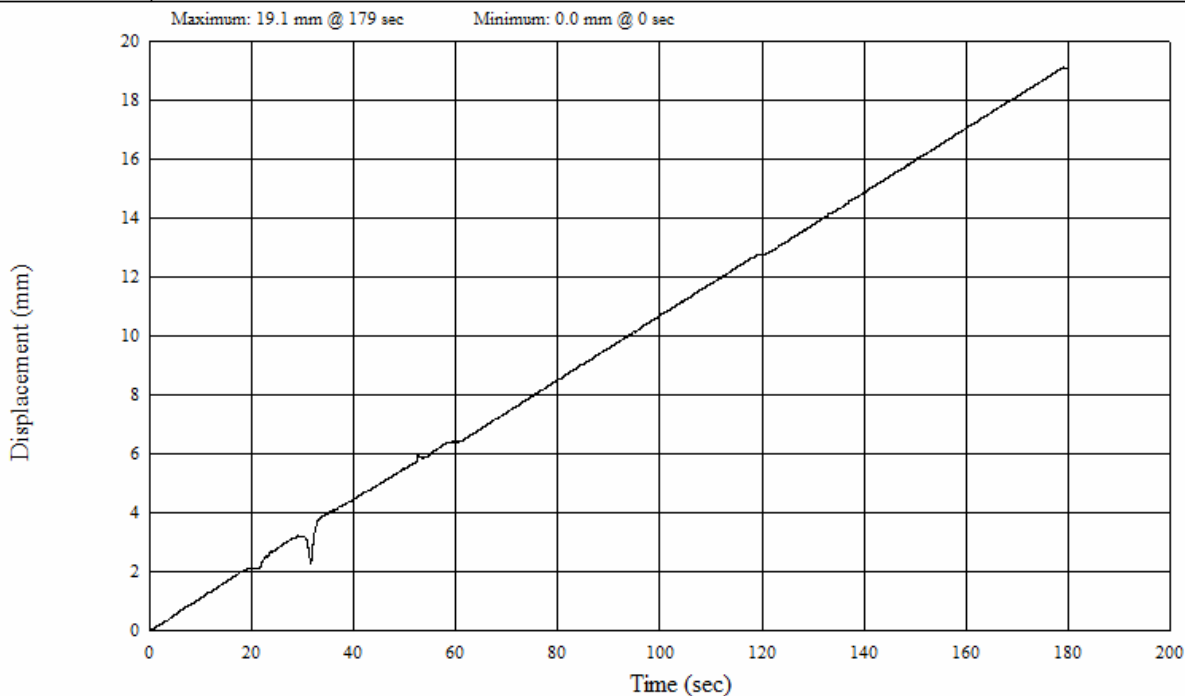
Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.: BSRCFE181BAH
Test Date: June 25, 2009





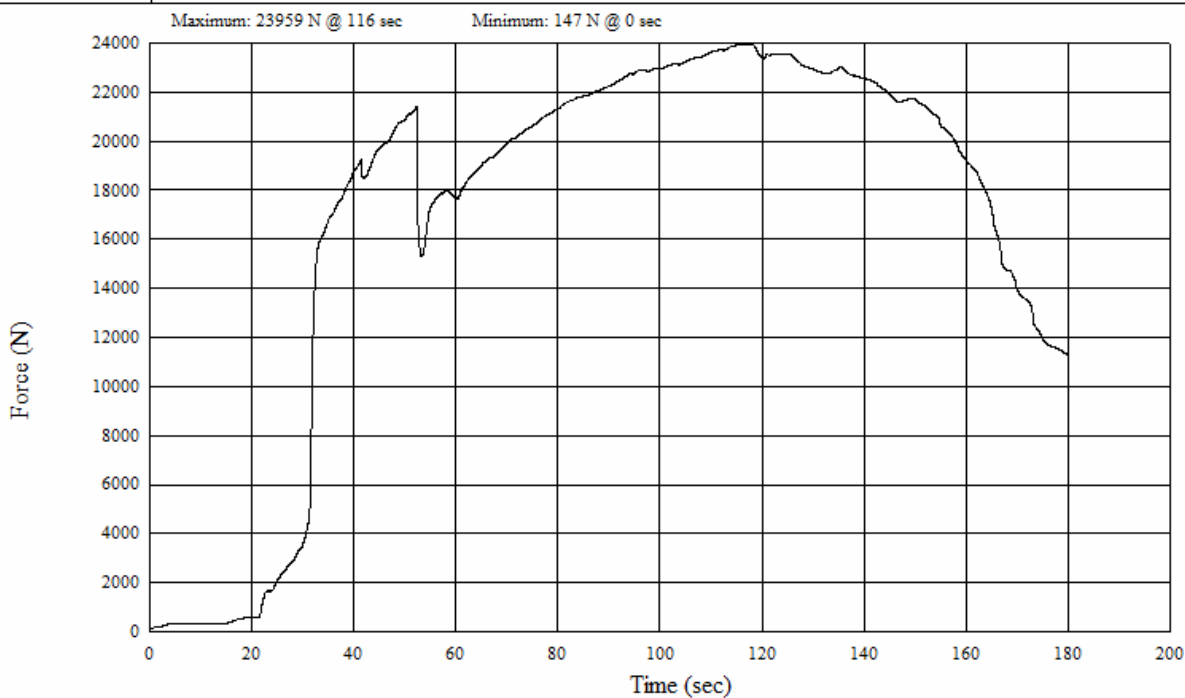
Displacement (mm) vs Time (sec)

Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.: BSRCME1810BAH
Test Date: June 25, 2009



Force (N) vs Time (sec)

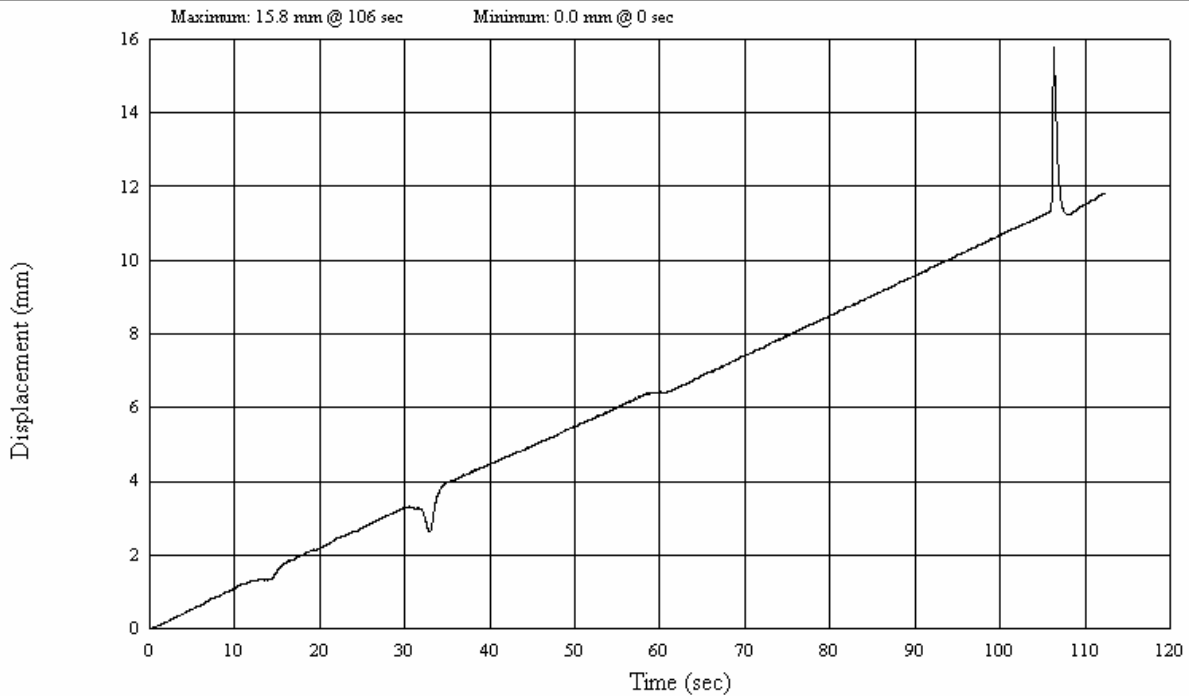
Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.: BSRCME1810BAH
Test Date: June 25, 2009





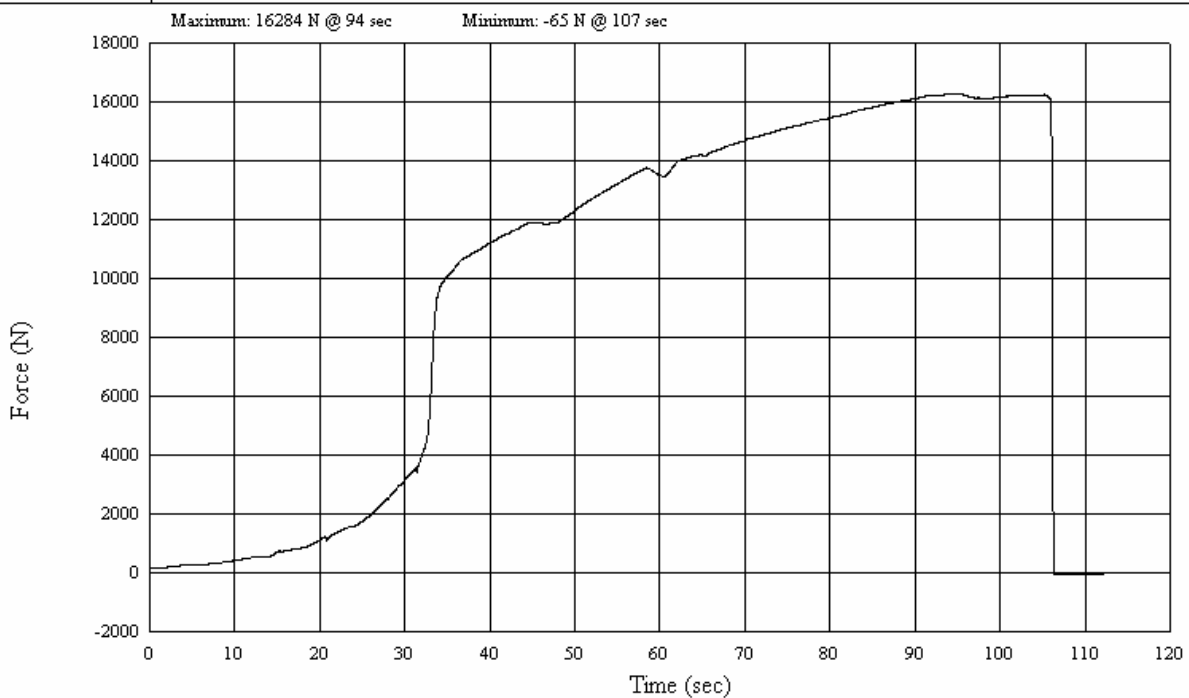
Displacement (mm) vs Time (sec)

Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.:BSRCM186BRH
Test Date: June 25, 2009



Force (N) vs Time (sec)

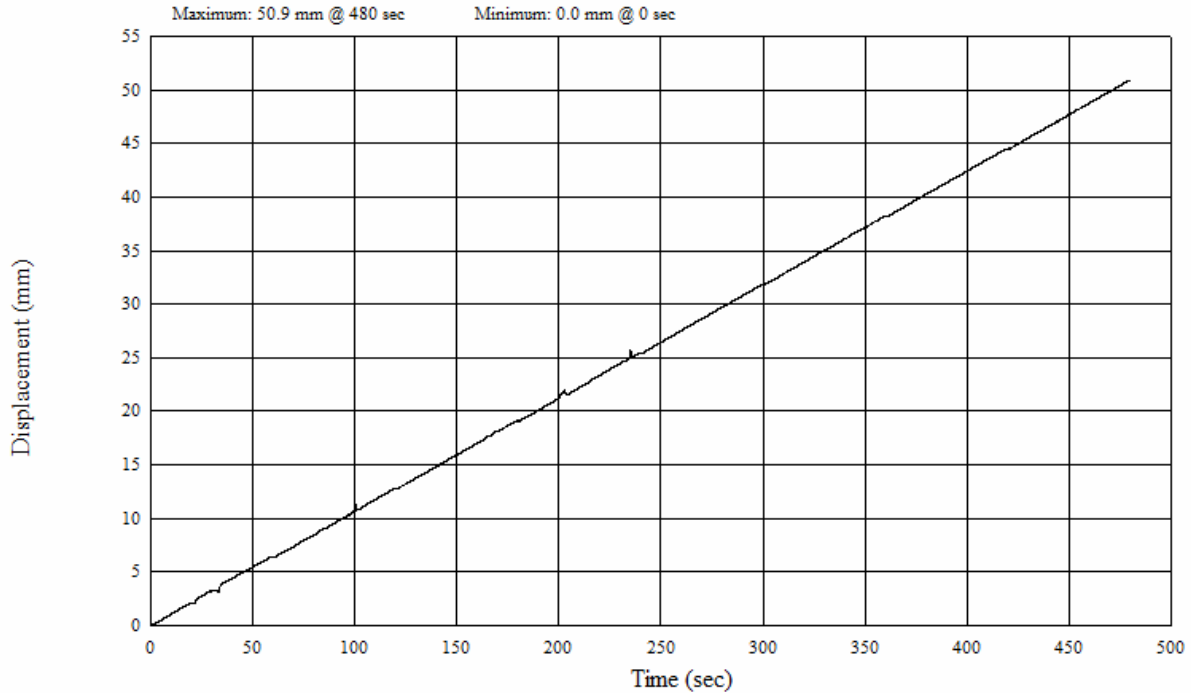
Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.:BSRCM186BRH
Test Date: June 25, 2009





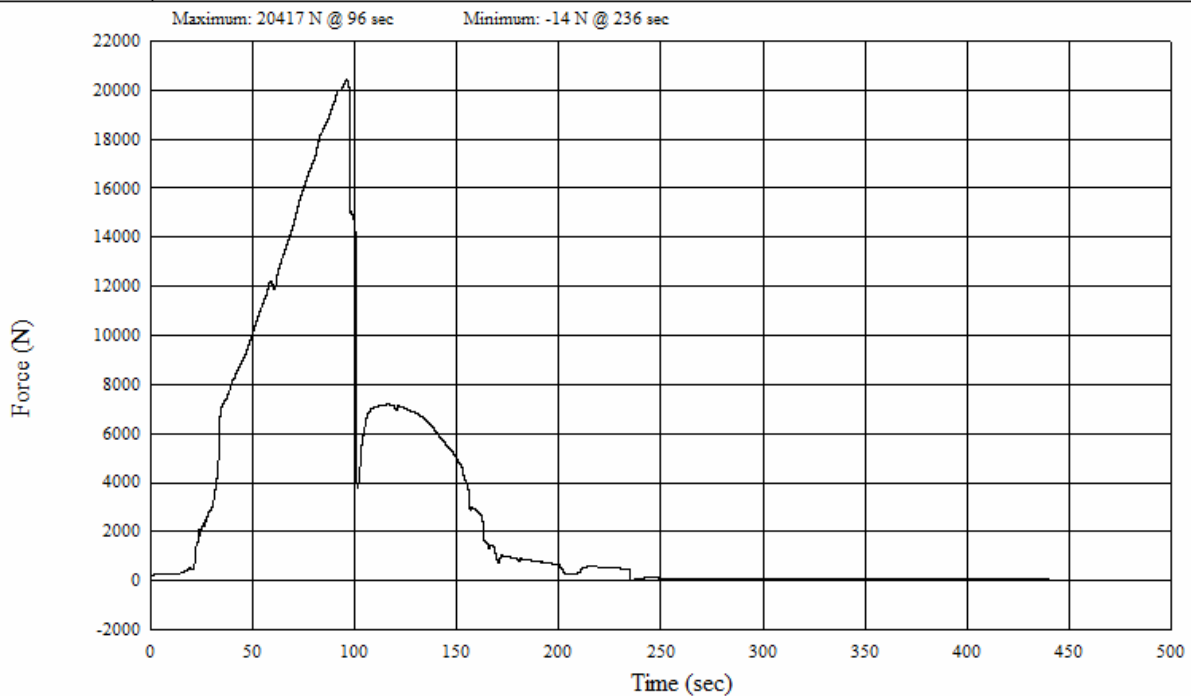
Displacement (mm) vs Time (sec)

Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.: BSRCFE282BAH
Test Date: October 8, 2009



Force (N) vs Time (sec)

Test Description: FMVSS 221
Component ID: 2009 Blue Bird Micro Bird School Bus, NHTSA No.: C90902
Sample No.: BSRCFE282BAH
Test Date: October 8, 2009

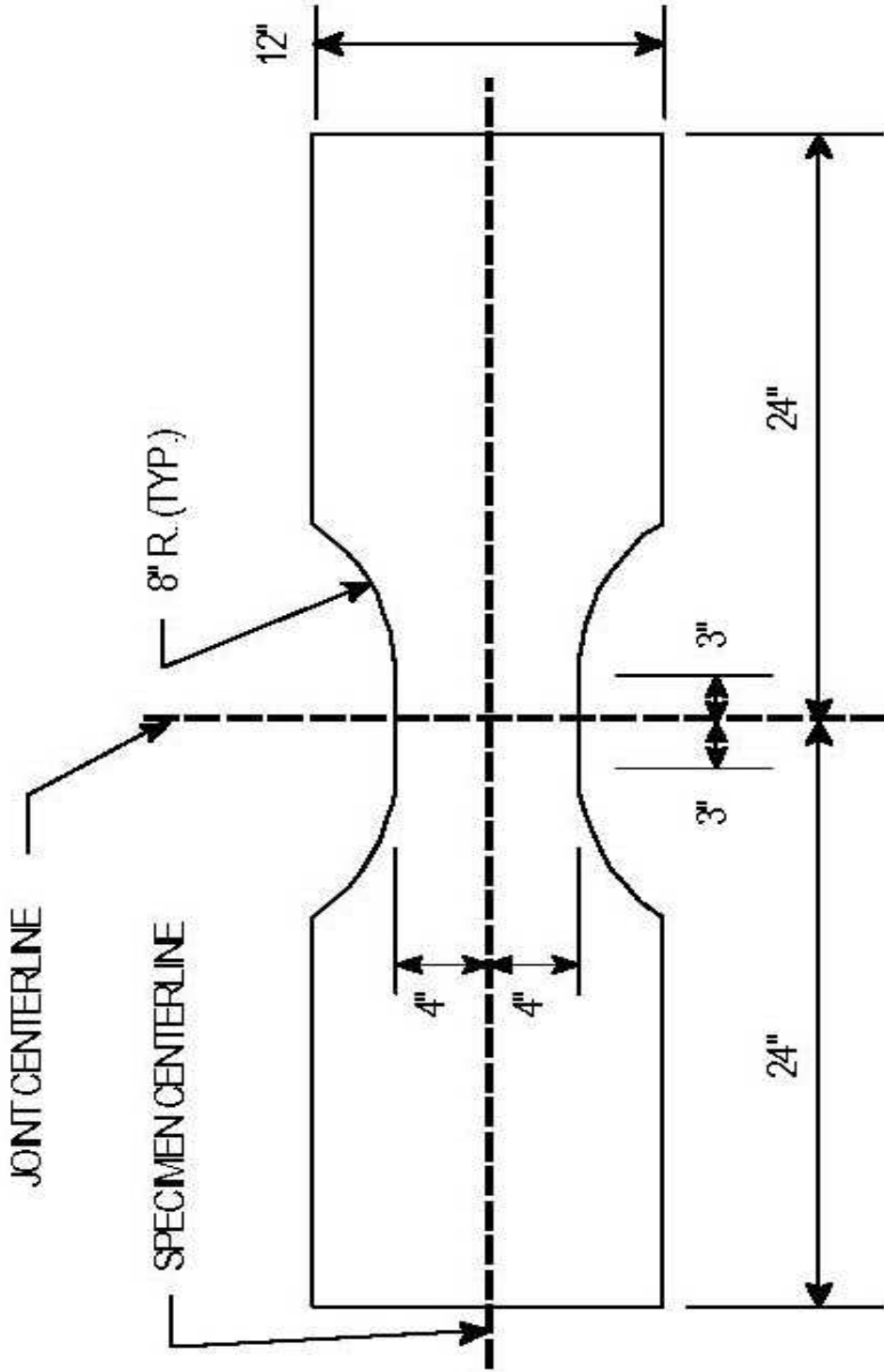


SECTION 8
JOINT CONFIGURATIONS
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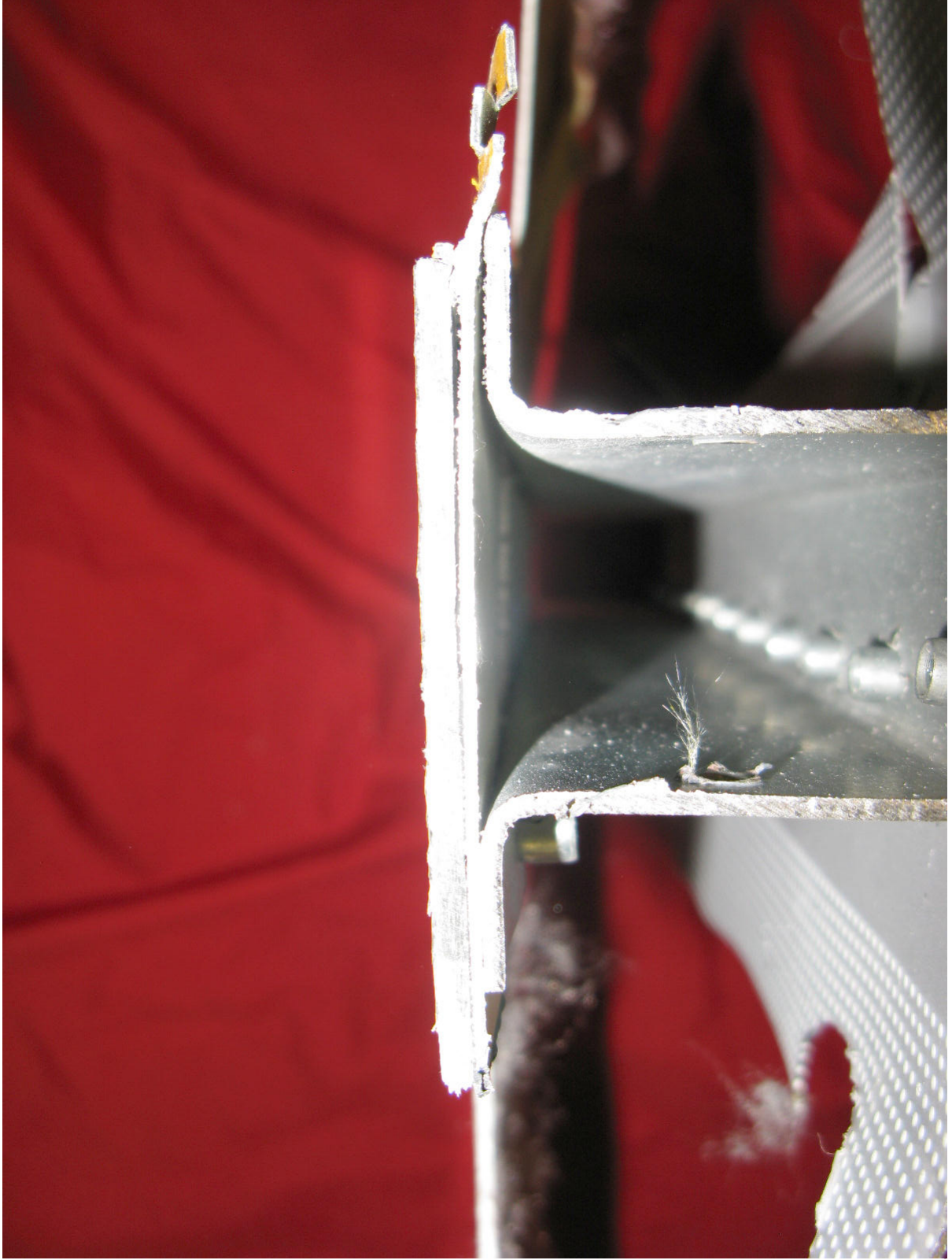
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Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 - 10/08/09

**DIMENSION REQUIREMENTS OF BODY PANEL SPECIMEN
WHOSE JOINT SEGMENT IS 8 INCHES LONG**

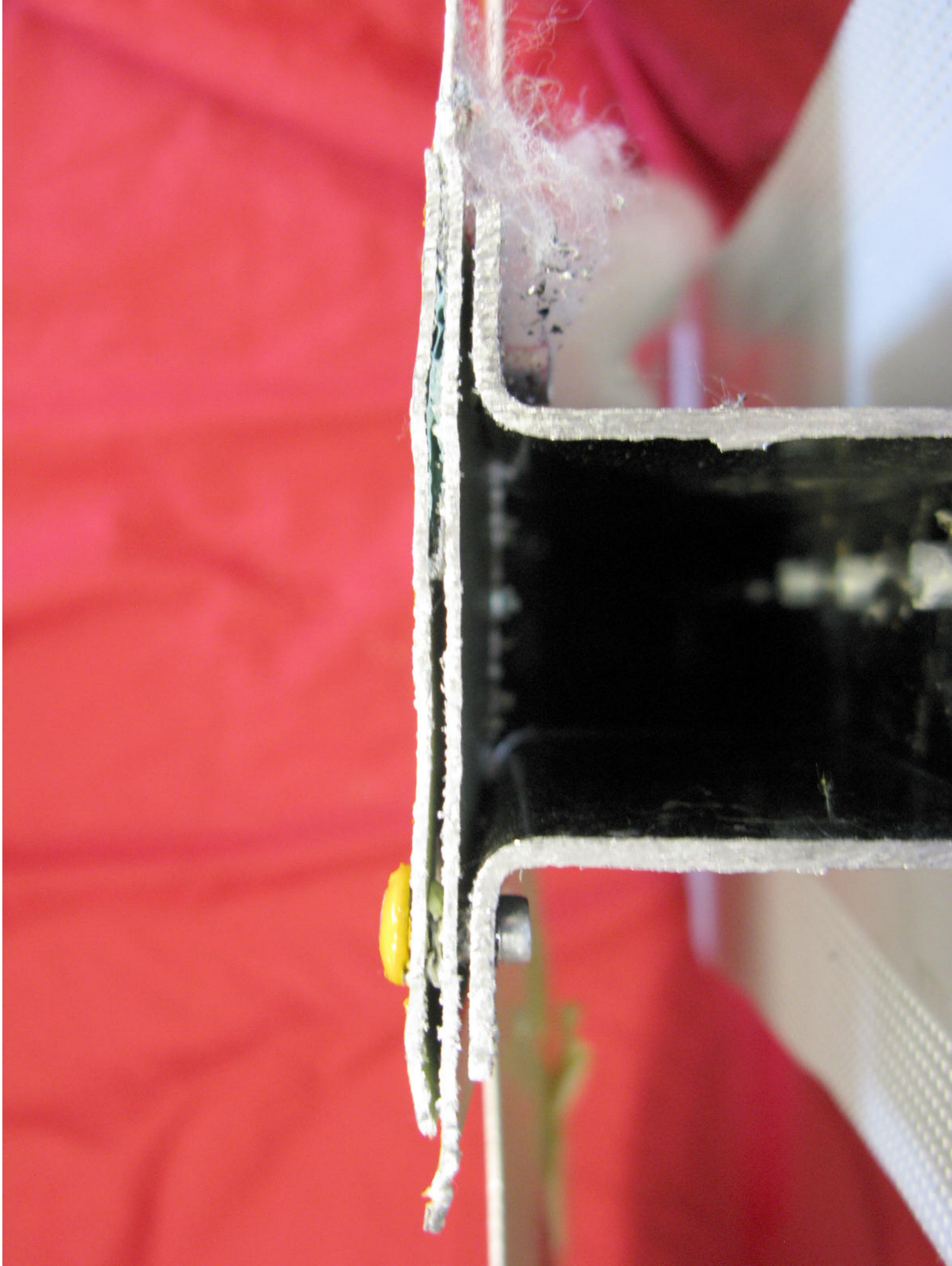


Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



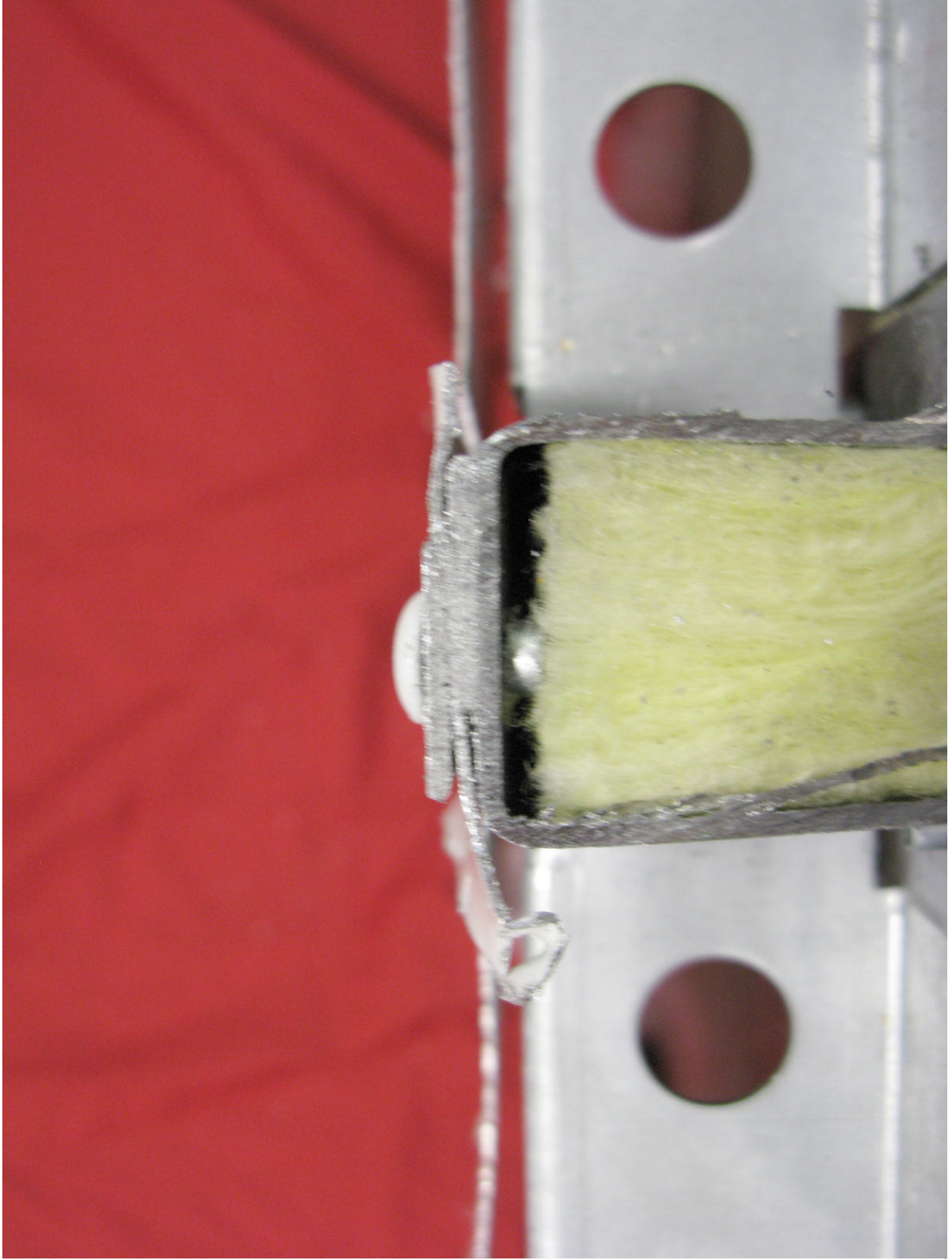
View of Joint ID Number BSRCFE281BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS NHTSA No.: C90902
Test Lab: MGA RESEARCH CORPORATION Test Date: 06/25/09 – 10/08/09



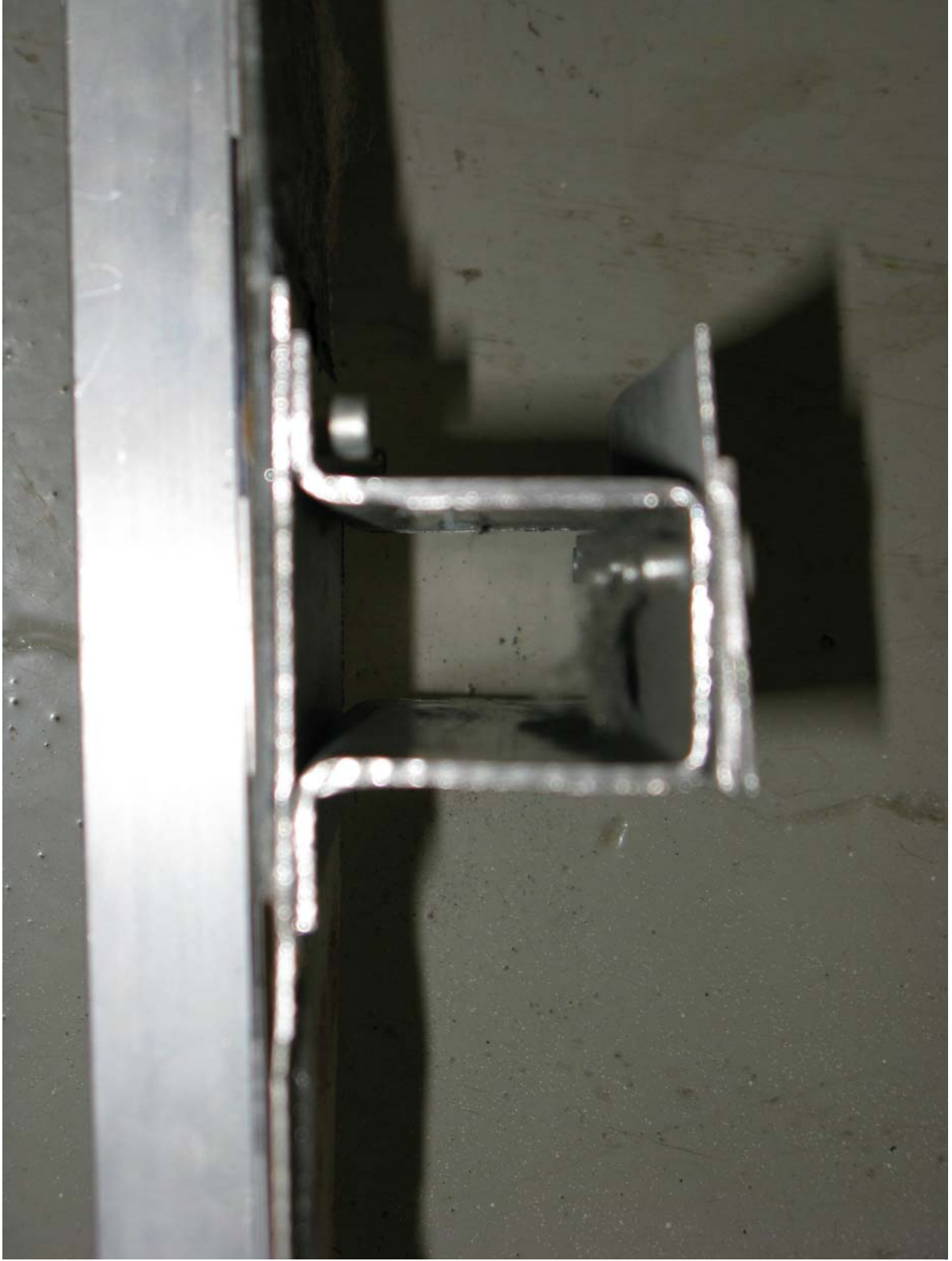
View of Joint ID Number BSRCE181BAH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



View of Joint ID Number BSRM1186BRH

Test Vehicle: 2009 BLUE BIRD MICRO BIRD SCHOOL BUS
Test Lab: MGA RESEARCH CORPORATION
NHTSA No.: C90902
Test Date: 06/25/09 – 10/08/09



View of Joint ID Number BSRCFE282BAH

SECTION 9
LABORATORY NOTICE OF TEST FAILURE

LABORATORY NOTICE OF TEST FAILURE

LABORATORY NOTICE OF TEST FAILURE TO OVSC

Test Procedure:	FMVSS 221	Test Date:	October 8, 2009
Test Vehicle:	Bluebird Microbird	Test Lab:	MGA Research Corp.
NHTSA No.:	C90902	Project Engineer:	Nick Aplin
Contract No.:	DTNH22-08-D-00075	Delivery Order No.:	5
MFR.:	Bluebird	VIN:	1FDDE35L19DA17396
Build Date:	12/08		

TEST FAILURE DESCRIPTION

During the body joint strength test, sample BSRCFE282BAH, removed from the exterior of the front roof panel, failed to hold the body panel to the member it was joined when subjected to a force of 60 percent of the tensile strength of the weakest joined body panel, as required by S5.1 of FMVSS 221.

FMVSS REQUIREMENTS DESCRIPTION

Paragraph 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.

Remarks: No remarks.

Notification to NHTSA (COTR): Larry Valvo

Date: October 9, 2009

By:  _____