

**REPORT NUMBER: 217-MGA-2011-002**

**SAFETY COMPLIANCE TESTING FOR  
FMVSS NO. 217  
SCHOOL BUS EMERGENCY EXITS AND WINDOW  
RETENTION AND RELEASE**

**2011 GIRARDIN MICRO BIRD SCHOOL BUS  
NHTSA NO.: CB0903**

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



**TEST DATE: JUNE 17, 2011**

**FINAL REPORT DATE: AUGUST 2, 2011**

**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:   
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Date: August 2, 2011

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Date: August 2, 2011

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Date of Acceptance

**Technical Report Documentation Page**

1. Report No. 217-MGA-2011-002		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 217 Compliance Testing of 2011 Girardin Micro Bird School Bus NHTSA No.: CB0903				5. Report Date August 2, 2011	
				6. Performing Organization Code MGA	
7. Author(s) Eric Peschman, Project Engineer Michael Janovicz, Program Manager				8. Performing Organization Report No. 217-MGA-2011-002	
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105				10. Work Unit No.	
				11. Contract or Grant No. DTNH22-08-D-00075	
12. Sponsoring Agency Name and Address 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				13. Type of Report and Period Covered Final Report 06/17/11	
				14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes					
16. Abstract Compliance tests were conducted on the subject 2011 Girardin Micro Bird School Bus, NHTSA No.: CB0903, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-217-06 for the determination of FMVSS 217 compliance.  Data Sheet 5 omitted as test was not performed.					
17. Key Words  Compliance Testing Safety Engineering FMVSS 217				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: <a href="mailto:tis@dot.gov">tis@dot.gov</a>	
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 50	22. Price

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**SECTION 1**  
**PURPOSE OF COMPLIANCE TEST**

Tests were conducted on a 2011 Girardin Micro Bird School Bus, NHTSA No.: CB0903, in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-217-06 to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 217, "School Bus Emergency Exits and Window Retention and Release".

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

**SECTION 2**  
**TEST DATA SUMMARY**

Based on the tests performed, the 2011 Girardin Micro Bird School Bus, NHTSA No.: CB0903, appeared to meet the requirements of FMVSS 217. See Data Sheet 1 for Test Summary.

**SECTION 3**  
**COMPLIANCE TEST DATA**

The following data sheets document the results of testing on the 2011 Girardin Micro Bird School Bus, NHTSA No.: CB0903.

**DATA SHEET 1  
TEST SUMMARY**

**GENERAL VEHICLE IDENTIFICATION**

Model Year / Mfr. / Make / Model	2011 / Corp. Micro Bird Inc. Girardin / Micro Bird	
NHTSA No.	CB0903	
GVWR	5,216 kg / 11,500 lb	
Build Date for Bus Chassis	09/10	
VIN	1FDEE3FLXBDA10617	
Seating Capacity	1 Driver, 19 Passengers	
Type of Bus	School Bus	
Tire Pressure from tire placard (at capacity)	Front: 450 kPa	Rear: 450 kPa
Odometer Reading	199.1 miles	

	Pass / Fail
<b>S5.1 WINDOW RETENTION</b>	<b>PASS</b>
<b>S5.2 PROVISION OF EMERGENCY EXITS</b>	<b>PASS</b>
Meets minimum exit provisions	<b>PASS</b>
Meets all other exit requirements	<b>PASS</b>
Meets requirements for additional exits	<b>PASS</b>
<b>S5.2.3.1.A EMERGENCY EXIT DOOR OPERATIONAL REQUIREMENTS</b>	<b>PASS</b>
<b>S5.3 EMERGENCY EXIT RELEASE</b>	<b>PASS</b>
Forces to unlatch the emergency exits	<b>PASS</b>
Forces to open the emergency exits	<b>PASS</b>
<b>S5.4 EMERGENCY EXIT OPENING</b>	<b>PASS</b>
<b>S5.5 EMERGENCY EXIT LABELING AND IDENTIFICATION</b>	<b>PASS</b>
<b>S5.5 TAPE REFLECTIVITY (49CFR 571.131)</b>	<b>Not Tested</b>

Comments: None

Recorded By: 

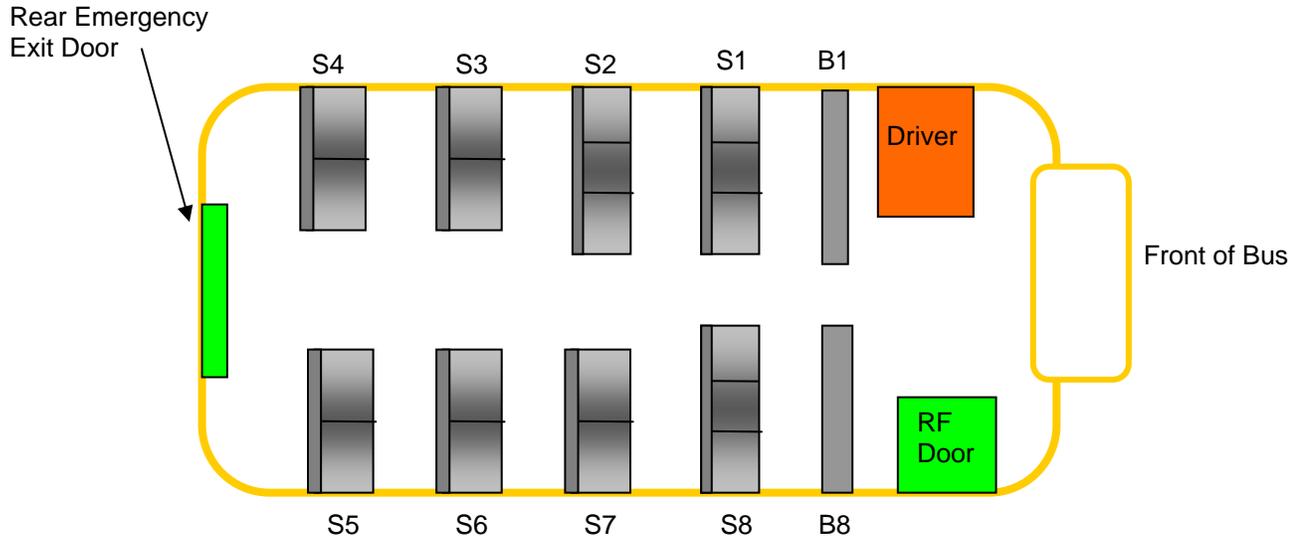
Approved By: 

Date: 06/17/11

**DATA SHEET 2**  
**PROVISION OF EMERGENCY EXITS**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
Test Date: **6/17/11**



		Height (mm)	Width (mm)
1	Rear Emergency Exit Door	1,330	840

Seating Capacity: 20 (Including Driver & Passengers)

Requirements	Pass / Fail
Bus meets minimum emergency exit provision, based upon Table 1. Yes – Pass; No – Fail	<b>PASS</b>

**DATA SHEET 2 (CONTINUED)**  
**PROVISION OF EMERGENCY EXITS**

	Requirements	Pass / Fail
1	Rear Emergency Door – opens outward and is hinged on the right side (either side, if the bus has a GVWR of 10,000 pounds or less). Yes – Pass; No – Fail	<b>PASS</b>
2	Side Emergency Door – hinged on its forward side. No more than one side emergency exit door is located, in whole or in part, within the same post and roof bow panel space.	N/A
3	Rear Push Out Window – provides a minimum opening clearance 41 cm high and 122 cm wide (16" x 48").	N/A
4	Roof Exit – is hinged on its forward side, and operable from both the inside and outside the vehicle.	N/A
5	There is an even number of side emergency exit windows on each side of bus. Yes – Pass; No – Fail	<b>PASS</b>
6	The bus is not equipped with both sliding and push-out windows, (except for buses equipped with rear push out emergency exit windows).	N/A
7	A right side emergency exit door, if any, is located as near as practicable to the midpoint of the passenger compartment.	N/A

Comments: None

Recorded By: 

Approved By: 

Date: 06/17/11

**DATA SHEET 3**

**EMERGENCY EXIT DOOR OPERATIONAL REQUIREMENTS**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
Test Date: **6/17/11**

	Requirements	Pass / Fail
1	The engine starting system does NOT operate if any Emergency Exit is LOCKED. Yes – Pass; No – Fail	<b>PASS</b>
2	All Emergency Door and Roof Exits can be released by one person (from inside and outside of bus). Yes – Pass; No – Fail	<b>PASS</b>
3	When the Release Mechanism is NOT in the closed position and the vehicle ignition is in the "ON" position, there is a continuous warning sound audible at the Driver's DSP and in the vicinity of the Emergency Door(s) having the unclosed mechanism. Yes – Pass; No – Fail	<b>PASS</b>
4	Emergency exit release mechanism does not use remote controls or central power systems. Yes – Pass; No – Fail	<b>PASS</b>

Comments: None

Recorded By: 

Approved By: 

Date: 06/17/11

**DATA SHEET 4A**

**EMERGENCY EXIT IDENTIFICATION AND LABELING**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
 Test Date: **6/17/11**

**EMERGENCY EXIT LABELING - INTERIOR**

Exit Location	Rear Door
Exit Description	Emergency Door
Letter Height (cm)	5.1
Background Color	White
Location Inside	Above Exit Door
Pass / Fail	<b>PASS</b>

**OPERATING INSTRUCTIONS - INTERIOR**

Exit Location	Rear Door
Instructions	Emergency Only To Open Pull Up & Push
Letter Height (cm)	1.02
Letter Color	Black
Background Color	White
Distance From Release (cm)	6.2
Reflective Tape Color	N/A
Reflective Tape Width (cm)	N/A
Pass / Fail	<b>PASS</b>

Comments: None

Recorded By: 

Approved By: 

Date: 06/17/11

**DATA SHEET 4B**

**EMERGENCY EXIT IDENTIFICATION AND LABELING**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
 Test Date: **6/17/11**

**EMERGENCY EXIT LABELING - EXTERIOR**

Exit Location	Rear Door
Exit Description	Emergency Door
Letter Height (cm)	5.1
Background Color	Yellow
Location Outside	Above Door
Pass / Fail	<b>PASS</b>

**OPERATING INSTRUCTIONS – EXTERIOR**

Exit Location	Rear Door
Instructions	No Written Instructions Picture of Arrow
Letter Height (cm)	N/A
Letter Color	N/A
Background Color	N/A
Distance From Release (cm)	N/A
Reflective Tape Color	Yellow
Reflective Tape Width (cm)	2.5 cm
Pass / Fail	<b>PASS</b>

Comments: None

Recorded By: *Eve Leonard*

Approved By: *Michael Janoy*

Date: 06/17/11

**DATA SHEET 4**

**EMERGENCY EXIT IDENTIFICATION AND LABELING**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
 Test Date: **6/17/11**

	Requirements	Pass / Fail
1	Each required Emergency Exit is labeled with the words "Emergency Exit" or "Emergency Door" as appropriate in letters at least 5 cm high (2") of a color that contrasts with its background. Yes – Pass; No – Fail	<b>PASS</b>
2	Emergency Doors – The designation "Emergency Exit" or "Emergency Door" is located at the top of, or directly above the exit door on both inside and outside surfaces of the bus. Yes – Pass; No – Fail	<b>PASS</b>
3	Roof Exits – The designation for roof exits is located on an inside surface of the exit, or within 30 cm (11.8") of the roof exit opening.	N/A
4	Emergency Window Exits – The designation is located at the top of, or directly above, or at the bottom of the emergency window exit on both the inside and outside surfaces of the bus.	N/A
5	Exit Operating Instructions indicate all motions required to unlatch and open the exit, in letters at least 1 cm (.39") high and of a color that contrast with its background and shall be located within 15 cm (5.9") of the release mechanism on the inside surface of the bus. Yes – Pass; No – Fail	<b>PASS</b>
6	Each required Emergency Exit opening is outlined around its perimeter with a 2.5 cm (1") wide retroreflective tape of red, white, or yellow color. Yes – Pass; No – Fail	<b>PASS</b>

Comments: None

Recorded By: *Eino Lehtinen*

Approved By: *Michael Janney*

Date: 06/17/11

**DATA SHEET 6A**

**FORCE TESTS TO UNLATCH THE EMERGENCY EXITS - INTERIOR**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
 Test Date: **6/17/11**

Exit Location	Exit Description	High / Low Force Area	Maximum Force Requirement (N)	Actual Force Measured (N)	Motion(s) Required to Release Exit	Actual Motion(s) to Release Exit	Pass / Fail
Rear Door	Emergency Door	High	178	1. 27.8	Straight	Lift Handle Upward	<b>PASS</b>
				2. 28.9			
				3. 26.7			
				Average: 27.8			

Comments: None

Recorded By: *Eva Lovdahl*

Approved By: *Michael Janusz*

Date: 06/17/11

**DATA SHEET 6B**

**FORCE TESTS TO UNLATCH THE EMERGENCY EXITS – EXTERIOR**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
 Test Date: **6/17/11**

Exit Location	Exit Description	High / Low Force Area	Maximum Force Requirement (N)	Actual Force Measured (N)	Motion(s) Required to Release Exit	Actual Motion(s) to Release Exit	Pass / Fail
Rear Door	Emergency Door	High	178	1. 77.8	Rotary	Turn Handle Counter-Clockwise	<b>PASS</b>
				2. 83.4			
				3. 63.4			
				Average: 74.9			

Comments: None

Recorded By: *Eva Leonard*

Approved By: *Michael Janoy*

Date: 06/17/11

**DATA SHEET 7A**

**FORCE TESTS TO OPEN THE EMERGENCY EXITS – INTERIOR**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
 Test Date: **6/17/11**

Exit Location	Exit Description	High / Low Force Area	Maximum Force Requirement (N)	Actual Force Measured (N)	Motion(s) Required to Open Exit	Actual Motion(s) to Open Exit	Passage of Ellipsoid or Parallelepiped	Pass / Fail
Rear Door	Emergency Door	High	178	1. 13.3	Straight	Push Outward	114x61x30 Parallelepiped	<b>PASS</b>
				2. 11.1				
				3. 8.9				
				Average: 11.1				

Describe in the comments section if more than one force and motion are required to unlatch the exit.

Comments: None

Recorded By: *Eva Lechner*

Approved By: *Michael Janusz*

Date: 06/17/11

**DATA SHEET 7B**

**FORCE TESTS TO OPEN THE EMERGENCY EXITS – EXTERIOR**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
 Test Date: **6/17/11**

Exit Location	Exit Description	High / Low Force Area	Maximum Force Requirement (N)	Actual Force Measured (N)	Motion(s) Required to Open Exit	Actual Motion(s) to Open Exit	Passage of Ellipsoid or Parallelepiped	Pass / Fail
Rear Door	Emergency Door	High	178	4. 13.3	Straight	Pull Outward	114x61x30 Parallelepiped	<b>PASS</b>
				5. 13.3				
				6. 13.3				
				Average: 13.3				

Describe in the comments section if more than one force and motion are required to unlatch the exit.

Comments: None

Recorded By: *Eva Lechner*

Approved By: *Michael Janicz*

Date: 06/17/11

**DATA SHEET 8**  
**EMERGENCY EXIT EXTENSION**

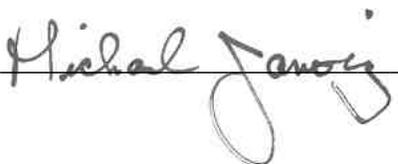
Test Vehicle: **2011 Girardin Micro Bird School Bus**  
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
Test Date: **6/17/11**

	Requirements	Pass / Fail
1	Exit(s) can be extended by a single person. Yes – Pass; No – Fail	<b>PASS</b>
2	Each emergency exit door is equipped with a positive door opening device that meets the requirements (outlined in Section S5.4.1 (3) of FMVSS 217).	<b>PASS</b>
3	There is a 30 cm (11.81") wide clear aisle space for each side emergency door exit.	N/A
4	For flip-up seat adjacent to the side emergency door exit it automatically assumes and retain a vertical position when not in use, so that no portion of the seat bottom is within the 30 cm (11.81") aisle clearance space	N/A
5	There is no seat or barrier which extend past the side door opening	N/A
6	There is no obstruction of door latch mechanism for the rear emergency door. Yes – Pass; No – Fail	<b>PASS</b>

Comments: None

Recorded By: 

Approved By: 

Date: 06/17/11

**DATA SHEET 9**  
**WINDOW RETENTION TEST**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
Test Date: **6/17/11**

1	Test Window Identification:	Rear Emergency Door Upper Pane		
2	Provide a detailed description of the window such as fixed, push out, single or double glazed, horizontal or vertical sliding, etc.	Fixed, Single Glaze		
3	Provide the horizontal and vertical glazing dimensions for each panel.	Horizontal: 747 mm Vertical: 564 mm		
4	Did the window pass the retention requirements? Describe how the window structure and glazing withstood the force per the force per the PASS / FAIL criteria: Yes – Pass; No – Fail	Yes - Glazing Cracked at 1,730 N  <b>PASS</b>		
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test? Yes – Pass; No – Fail	Unlatch Force Measured (N)	Open Force Measured (N)	Pass / Fail
		1. 22.2	1. 2.5	<b>PASS</b>
		2. 20.2	2. 2.8	<b>PASS</b>
		3. 21.2	3. 2.6	<b>PASS</b>

Comments: None

Recorded By: 

Approved By: 

Date: 06/17/11

**DATA SHEET 9**  
**WINDOW RETENTION TEST**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
Test Date: **6/17/11**

1	Test Window Identification:	Window W5 Rearmost Passenger Side Upper Pane		
2	Provide a detailed description of the window such as fixed, push out, single or double glazed, horizontal or vertical sliding, etc.	Sliding, Single Glazed		
3	Provide the horizontal and vertical glazing dimensions for each panel.	Horizontal: 720 mm Vertical: 402 mm		
4	Did the window pass the retention requirements? Describe how the window structure and glazing withstood the force per the PASS / FAIL criteria: Yes – Pass; No – Fail	Yes – Reached Maximum Displacement  <b>PASS</b>		
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test? Yes – Pass; No – Fail	Unlatch Force Measured (N)	Open Force Measured (N)	Pass / Fail
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A

Comments: None

Recorded By: 

Approved By: 

Date: 06/17/11

**DATA SHEET 9**  
**WINDOW RETENTION TEST**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
Test Date: **6/17/11**

1	Test Window Identification:	Window W4 Rearmost Driver Side Lower Pane		
2	Provide a detailed description of the window such as fixed, push out, single or double glazed, horizontal or vertical sliding, etc.	Fixed, Single Glazed		
3	Provide the horizontal and vertical glazing dimensions for each panel.	Horizontal: 720 mm Vertical: 402 mm		
4	Did the window pass the retention requirements? Describe how the window structure and glazing withstood the force per the PASS / FAIL criteria: Yes – Pass; No – Fail	Yes - Glazing Cracked at 1,316 N  <b>PASS</b>		
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test? Yes – Pass; No – Fail	Unlatch Force Measured (N)	Open Force Measured (N)	Pass / Fail
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A

Comments: None

Recorded By: 

Approved By: 

Date: 06/17/11

**SECTION 4**  
**INSTRUMENTATION AND EQUIPMENT LIST**

Test Vehicle: **2011 Girardin Micro Bird School Bus**  
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **CB0903**  
Test Date: **6/17/11**

Equipment	Description	Model / Serial No.	Cal. Date	Next Cal. Date
Head Form	MGA	217	When Used	When Used
Sphere	MGA	Sphere – 1A	When Used	When Used
Load Cell	Interface	1010AF-5K-B / 258576	03/22/11	09/22/11
String Pot.	Ametek	P-25A / 1102-19183	02/11/11	08/11/11
Inclinometer	Digital Protractor	Pro 360 / 006	When Used	When Used
Digital Calipers	Mitutoyo	CD 6"CSX / 07416506	12/28/10	12/28/11
Steel Tape	Stanley	Powerlock / 612	03/24/11	09/24/11
Ellipsoid	MGA	ELLIP – 1A	When Used	When Used
Parallelepiped	MGA	PARA – 1A	When Used	When Used
Force Gauge	Wagner	FDK-60 / 18109	03/07/11	10/07/11

**SECTION 5**  
**PHOTOGRAPHS**

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Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION              Test Date: 06/17/11



Exterior Left Side View of School Bus

Test Vehicle: 2011 Girardin Micro Bird School Bus  
Test Lab: MGA RESEARCH CORPORATION

NHTSA No.: CB0903  
Test Date: 06/17/11



Exterior Right Side View of School Bus

Test Vehicle: 2011 Girardin Micro Bird School Bus  
Test Lab: MGA RESEARCH CORPORATION

NHTSA No.: CB0903  
Test Date: 06/17/11



Exterior Left Front 3/4 View of School Bus

Test Vehicle: 2011 Girardin Micro Bird School Bus  
Test Lab: MGA RESEARCH CORPORATION

NHTSA No.: CB0903  
Test Date: 06/17/11



Exterior Right Front 3/4 View of School Bus

Test Vehicle: 2011 Girardin Micro Bird School Bus  
Test Lab: MGA RESEARCH CORPORATION

NHTSA No.: CB0903  
Test Date: 06/17/11



Exterior Left Rear ¾ View of School Bus

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION              Test Date: 06/17/11



Exterior Right Rear ¾ View of School Bus

Test Vehicle: 2011 Girardin Micro Bird School Bus  
Test Lab: MGA RESEARCH CORPORATION

NHTSA No.: CB0903  
Test Date: 06/17/11



**MICRO BIRD**  
*by GIRARDIN*



MFD BY: CORP. MICRO BIRD INC.  
DATE OF MANUFACTURE NOVEMBER 2010

BODY NUMBER 11-24020 WI

GVWR 5,216 KG (11,500 LB)

GAWR FRONT 1,837 KG (4,050 LB)

WITH LT225/75R16E TIRES

16X6.0K RIMS AT 450 KPA(65 PSI) COLD SINGLE

GAWR REAR 3,545 KG (7,800 LB)

WITH LT225/75R16E TIRES

16X6.0K RIMS AT 450 KPA(65 PSI) COLD DUAL

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 THEFT PROTEC-  
TION STANDARD, IF APPLICABLE IN EFFECT IN 11/10 .

VIN: 1FDEE3FLXBDA10617

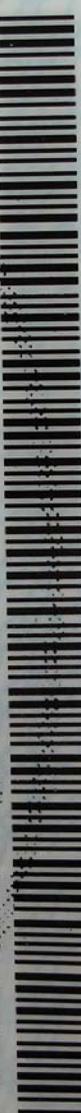
TYPE CLASSIFICATION: SCHOOL BUS

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
 Test Lab: MGA RESEARCH CORPORATION              Test Date: 06/17/11

INCOMPLETE VEHICLE MFD. BY FORD MOTOR COMPANY

DATE: 09/10 FRONT GAWR: 4050LB 1837KG WITH LT225/75R16E 115/112R 16x6.0K AT 450 kPa/ 65 PSI COLD VIN: 1FDEE3FLXBDA10617	GVWR: 11500LB/ 5216KG REAR GAWR: 7800LB 3538KG WITH LT225/75R16E 115/112R 16x6.0K AT 415 kPa/ 60 PSI COLD
--	---

TIRES RIMS DUAL



Equipped with the Ford School Bus Prep Pkg

EXT PNT: BY	RC: 86	DSO: 2233					
WB	INT TR	TP/PS	R	AXLE	TR	SPR	BE414
138	CE	7	52	T	RRVV	R05	
MADE IN U.S.A.				ULN			▽ 5U5A-3520472-AA

**Test Vehicle:** 2011 Girardin Micro Bird School Bus  
**Test Lab:** MGA RESEARCH CORPORATION

**NHTSA No.:** CB0903  
**Test Date:** 06/17/11



Interior Front to Rear View Depicting Seating Arrangement

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION                      Test Date: 06/17/11



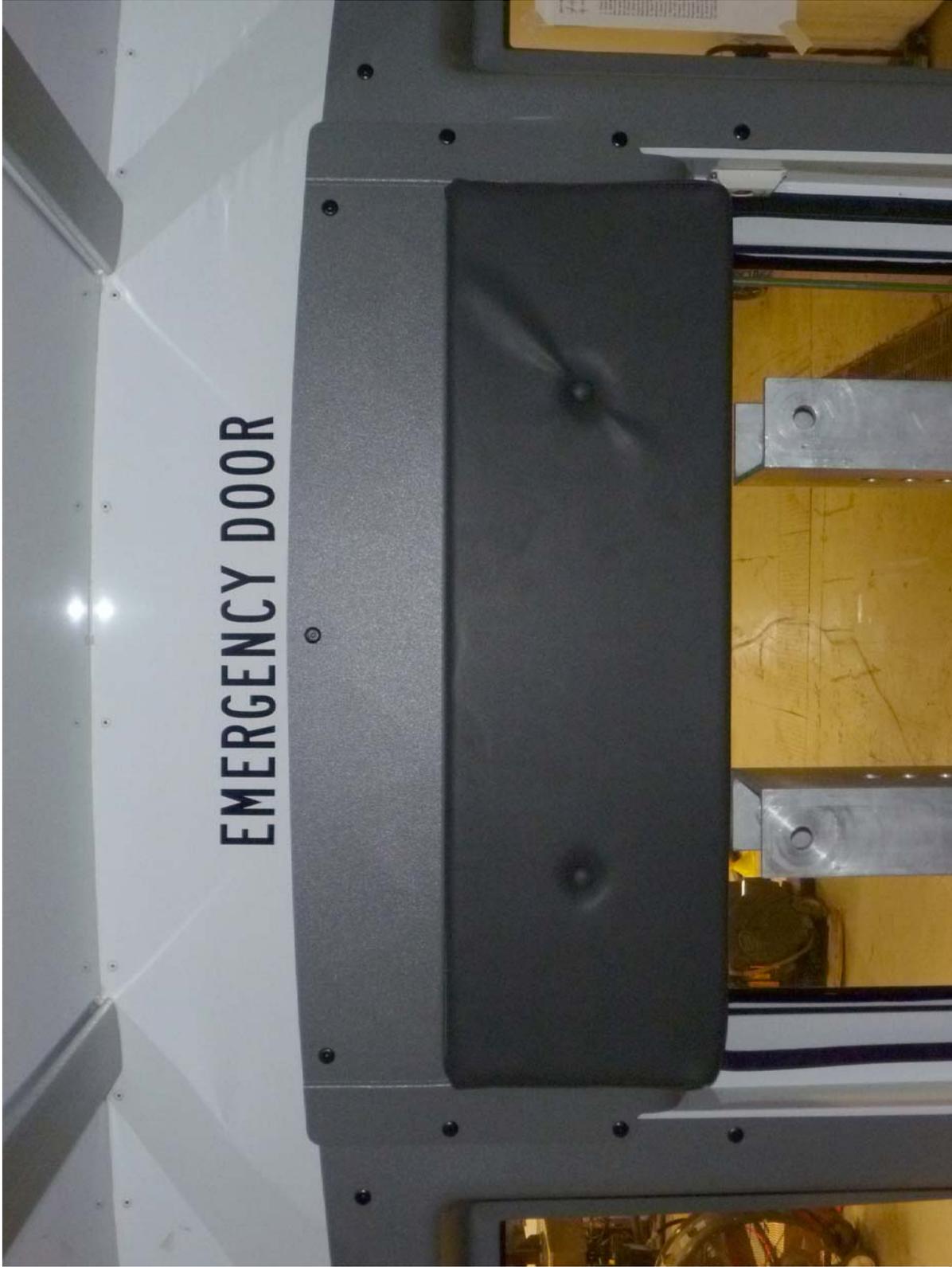
Interior Rear to Front View Depicting Seating Arrangement

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION              Test Date: 06/17/11



Rear Exit Door Identification (Outside View)

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION                      Test Date: 06/17/11



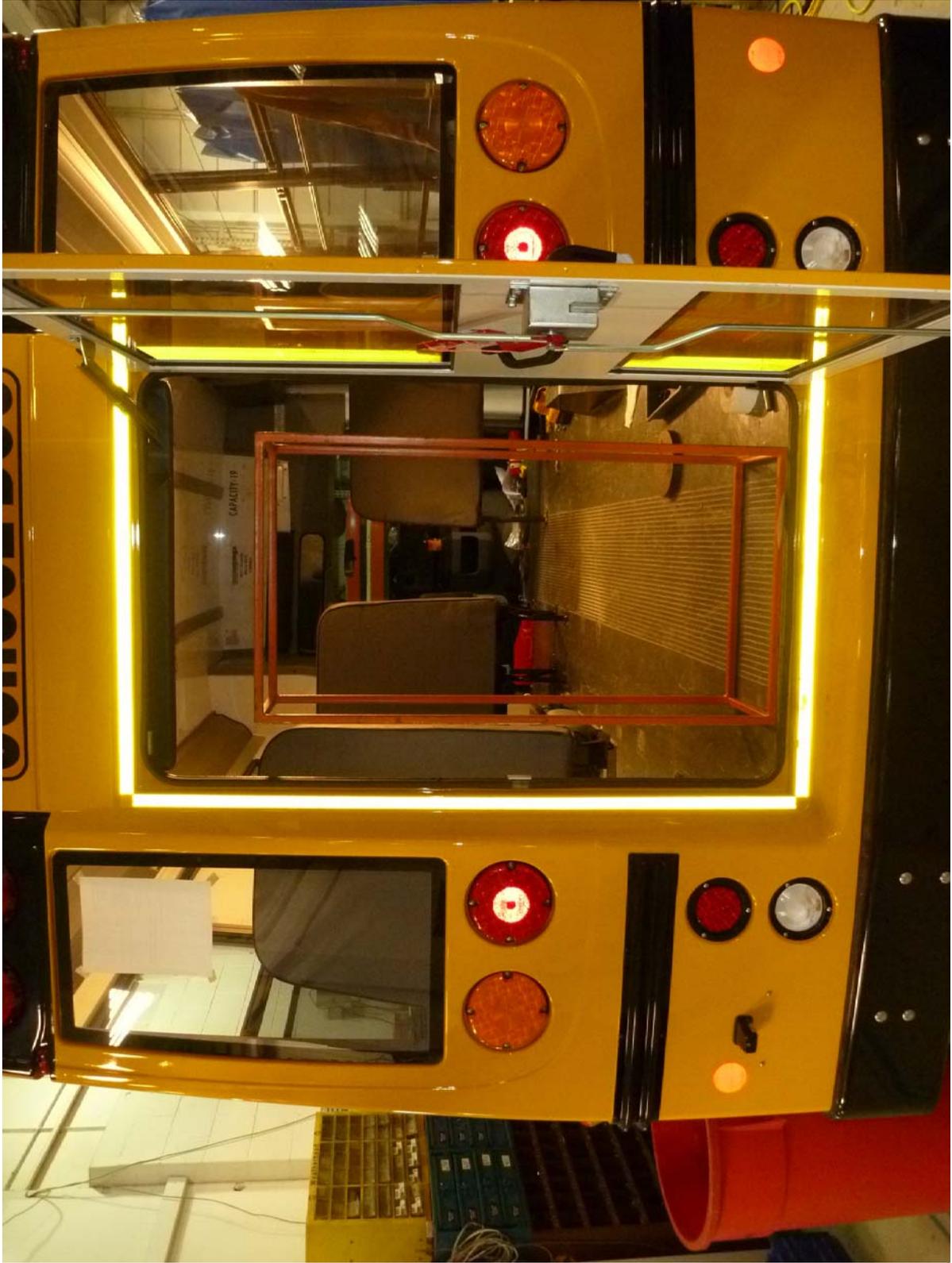
Rear Exit Door Identification (Inside View)

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION                      Test Date: 06/17/11



Rear Exit Door Identification (Inside View Close-Up)

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION              Test Date: 06/17/11



Rear Door Emergency Exit Parallelepiped Clearance

**NHTSA No.: CB0903**  
**Test Date: 06/17/11**

**Test Vehicle: 2011 Girardin Micro Bird School Bus**  
**Test Lab: MGA RESEARCH CORPORATION**



Loading Fixture

**Test Vehicle:** 2011 Girardin Micro Bird School Bus  
**Test Lab:** MGA RESEARCH CORPORATION

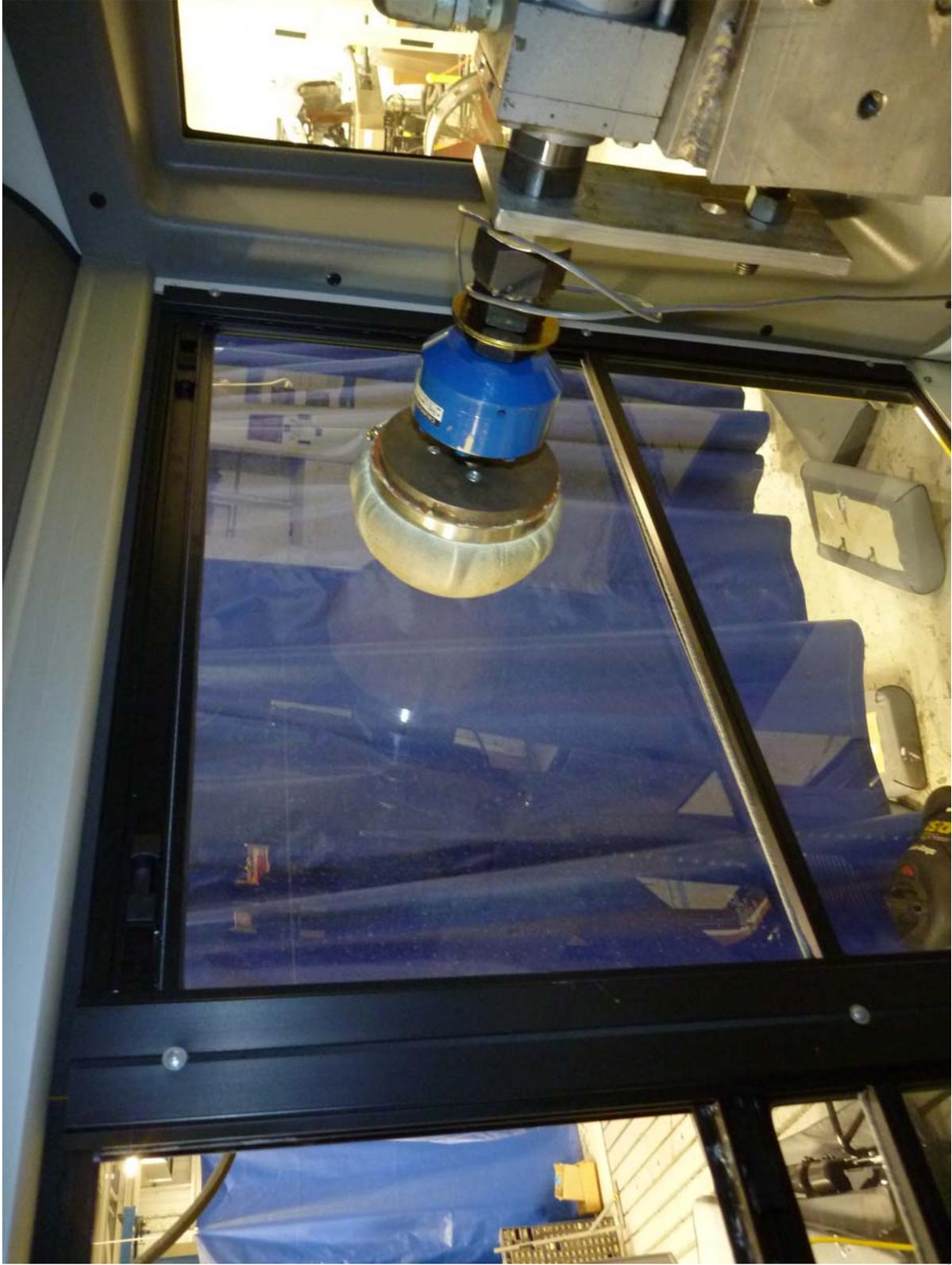
**NHTSA No.:** CB0903  
**Test Date:** 06/17/11



Window Retention Test of W5 Rearmost Passenger Side Upper Window (Pre-Test)

**Test Vehicle:** 2011 Girardin Micro Bird School Bus  
**Test Lab:** MGA RESEARCH CORPORATION

**NHTSA No.:** CB0903  
**Test Date:** 06/17/11



Window Retention Test of W5 Rearmost Passenger Upper Window (Post-Test)

**NHTSA No.: CB0903**  
**Test Date: 06/17/11**

**Test Vehicle: 2011 Girardin Micro Bird School Bus**  
**Test Lab: MGA RESEARCH CORPORATION**



Window Retention Test of W4 Rearmost Driver Side Lower Window (Pre-Test)

**Test Vehicle:** 2011 Girardin Micro Bird School Bus  
**Test Lab:** MGA RESEARCH CORPORATION

**NHTSA No.:** CB0903  
**Test Date:** 06/17/11



Window Retention Test of W4 Rearmost Driver Side Lower Window (Post-Test)

**Test Vehicle:** 2011 Girardin Micro Bird School Bus  
**Test Lab:** MGA RESEARCH CORPORATION

**NHTSA No.:** CB0903  
**Test Date:** 06/17/11



Window Retention Test of W4 Rearmost Driver Side Lower Window Outside View (Post-Test)

Test Vehicle: 2011 Girardin Micro Bird School Bus      NHTSA No.: CB0903  
Test Lab: MGA RESEARCH CORPORATION              Test Date: 06/17/11



Window Retention Test of Rear Emergency Door Upper Window (Pre-Test)

Test Vehicle: 2011 Girardin Micro Bird School Bus  
Test Lab: MGA RESEARCH CORPORATION  
NHTSA No.: CB0903  
Test Date: 06/17/11



Window Retention Test of Rear Emergency Door Upper Window (Post-Test)

**SECTION 6**  
**TEST PLOTS**

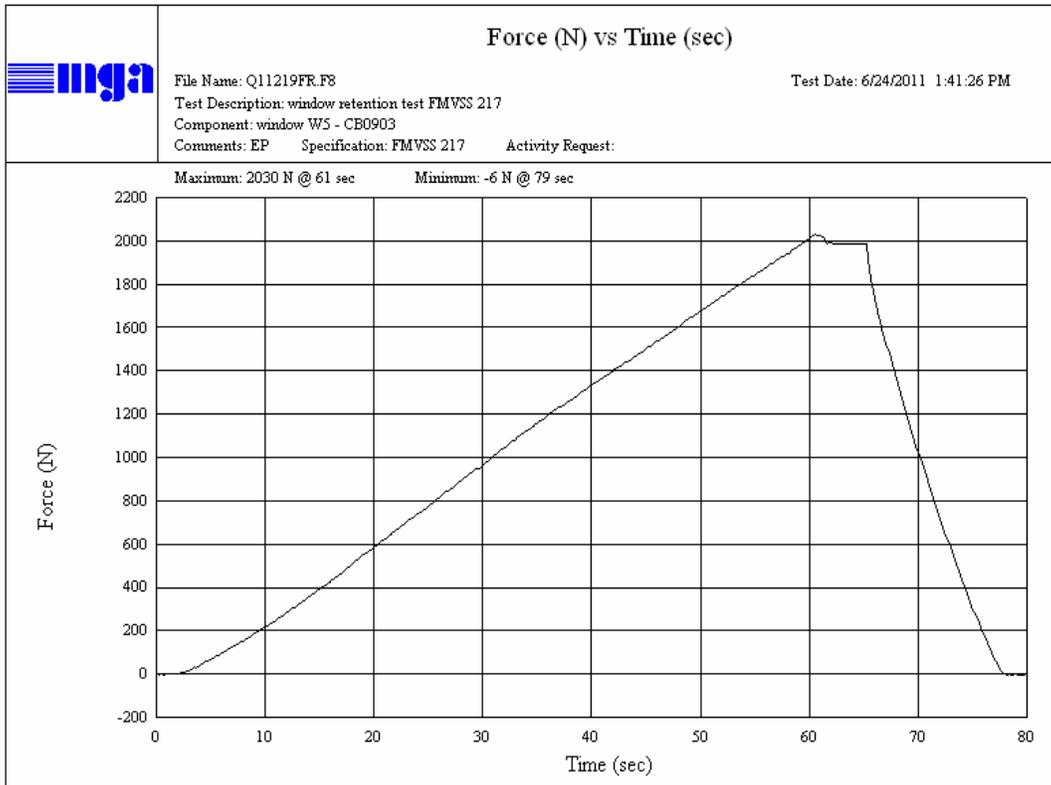
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## SECTION 6 TEST PLOTS

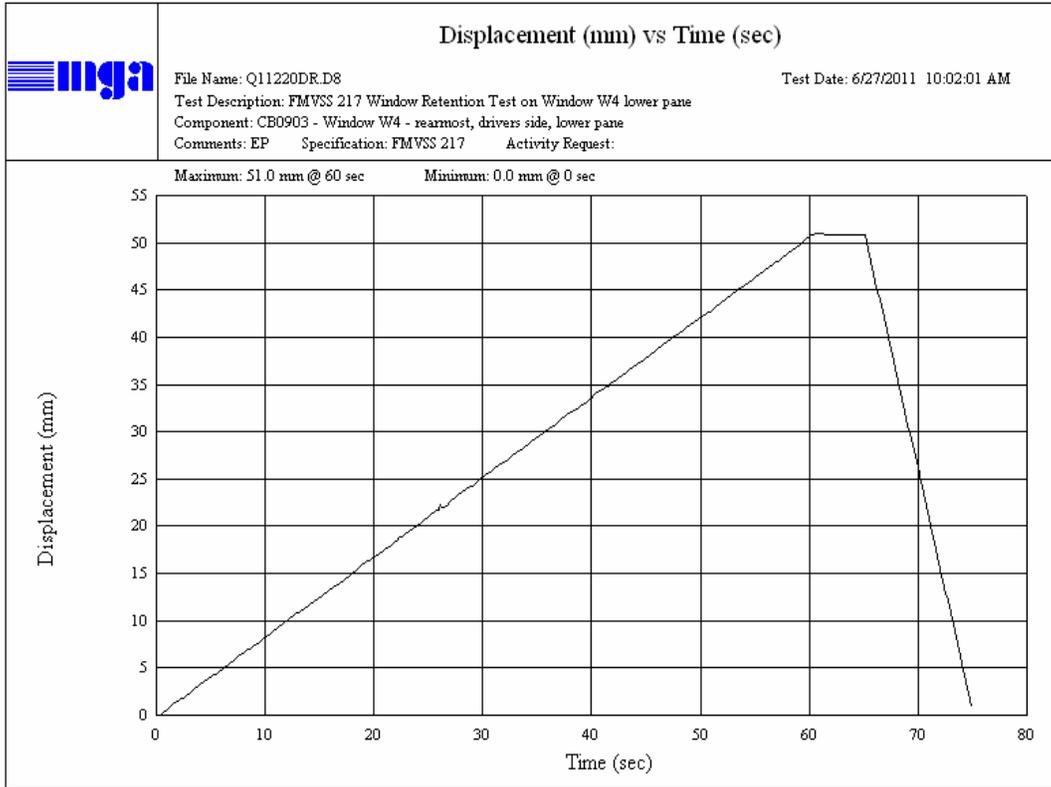


W5 Rearmost Passenger Side Upper Window Displacement vs. Time

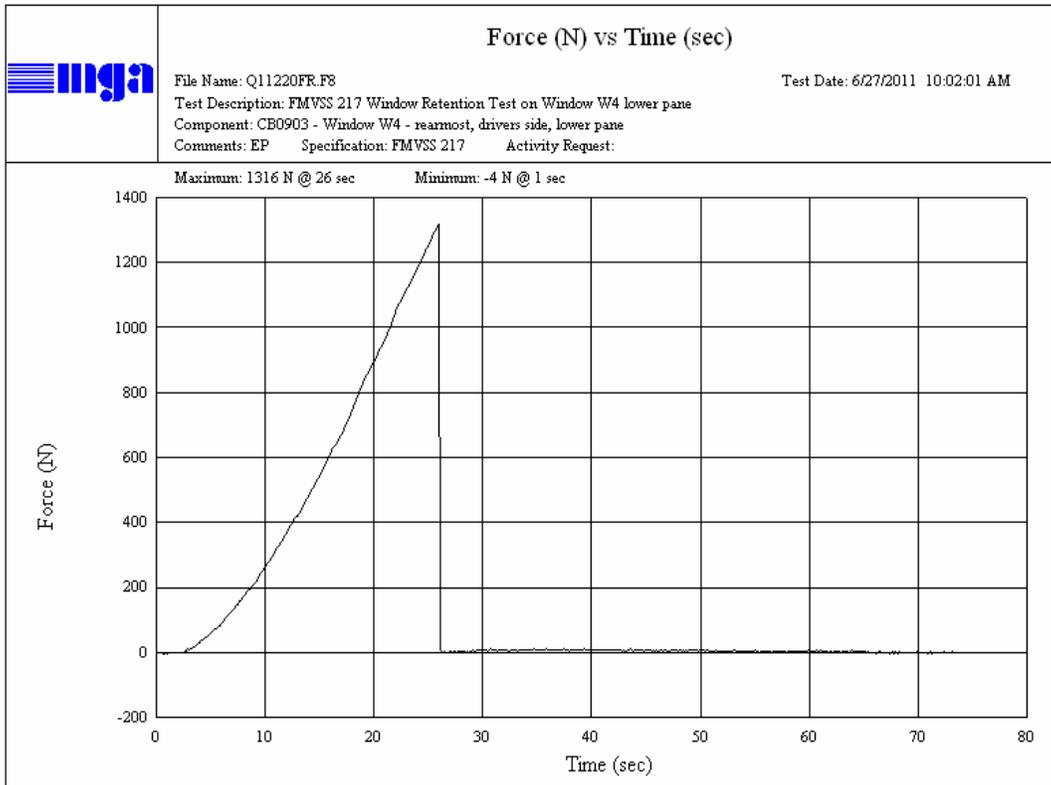


W5 Rearmost Passenger Side Upper Window Force vs. Time

## SECTION 6 TEST PLOTS



W4 Rearmost Driver Side Lower Window Displacement vs. Time

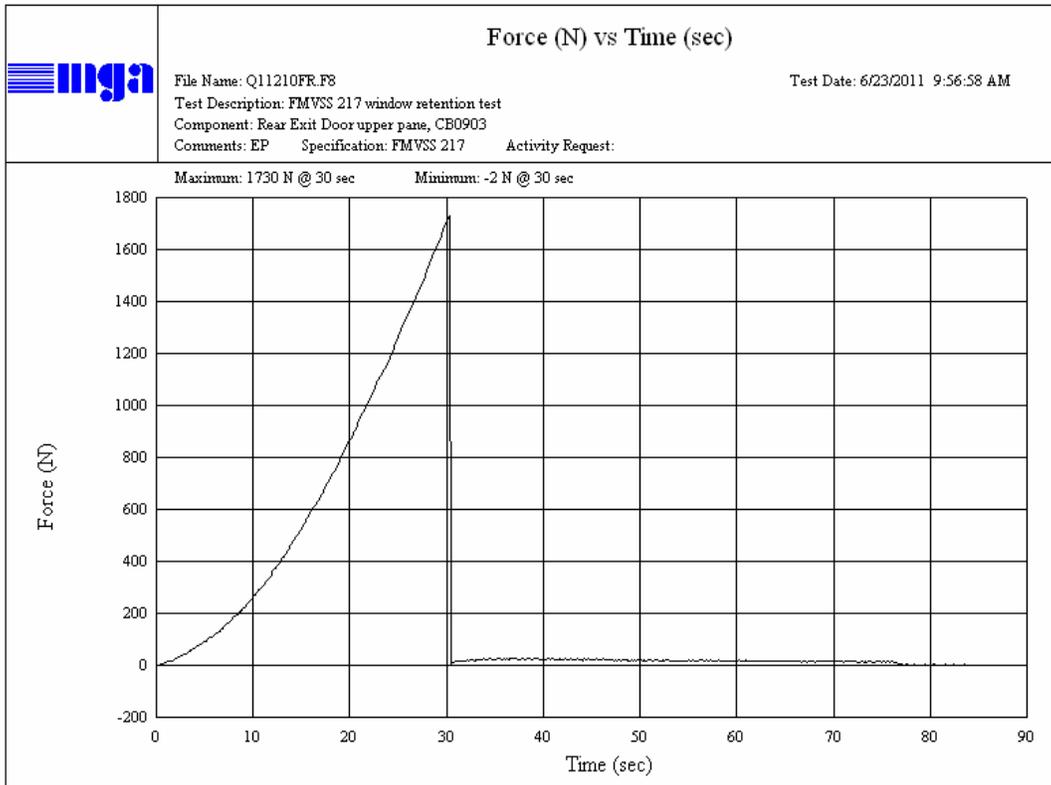


W4 Rearmost Driver Side Lower Window Force vs. Time

## SECTION 6 TEST PLOTS



Rear Emergency Door Upper Window Displacement vs. Time



Rear Emergency Door Upper Window Force vs. Time