

REPORT NUMBER: 217-MGA-2009-005

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

**GIRARDIN MINIBUS, INC.
2008 GIRARDIN G5 SCHOOL BUS
NHTSA NO.: C80902**

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



TEST DATES: OCTOBER 28 – 29, 2010

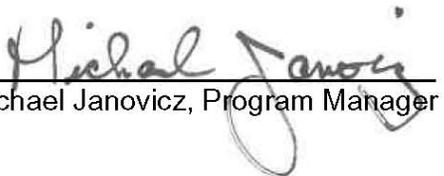
FINAL REPORT DATE: JANUARY 12, 2011

FINAL REPORT

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

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Prepared by:  Date: January 12, 2011
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<p>16. Abstract</p> <p>Compliance tests were conducted on the subject 2008 Girardin G5 School Bus, NHTSA No.: C80902, 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.</p> <p>Data Sheet 5 omitted as test was not performed.</p> <p>Test failures were as follows: None</p>			
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SECTION 1
PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2008 Girardin G5 School Bus, NHTSA No.: C80902, 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 2008 Girardin G5 School Bus, NHTSA No.: C80902, 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 2008 Girardin G5 School Bus,
NHTSA No.: C80902.

**DATA SHEET 1
TEST SUMMARY**

GENERAL VEHICLE IDENTIFICATION

Model Year / Mfr. / Make / Model	2008 Girardin G5 School Bus	
NHTSA No.	C80902	
GVWR	6,373 kg /14,050 lbs	
Build Date for Bus Chassis	06/08	
VIN	1FD4E45PX8DB40217	
Seating Capacity	(1 Driver, 18 Passengers, 1 Wheelchair)	
Type of Bus	School Bus	
Tire Pressure from tire placard (at capacity)	Front: 450 kPa	Rear: 550 kPa
Odometer Reading	2,787 Miles	

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

Comments: None

Recorded By: 

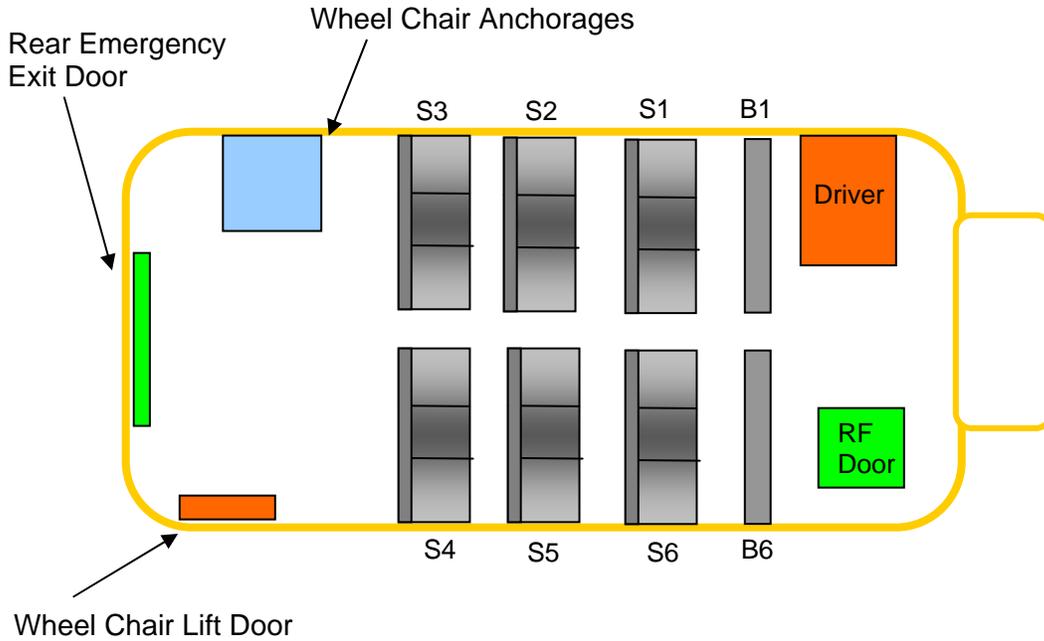
Approved By: 

Date: 10/28/10

DATA SHEET 2
PROVISION OF EMERGENCY EXITS

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
Test Dates: **10/28 – 10/29/10**



		Height (mm)	Width (mm)
1	Rear Emergency Exit Door	1,328	840

Seating Capacity: 20 (Including Driver & Wheelchair Position)

Requirements	Pass / Fail
Bus meets minimum emergency exit provision, based upon Table 1.	PASS

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).	PASS
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.	N/A
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: 10/28/10

DATA SHEET 3

EMERGENCY EXIT DOOR OPERATIONAL REQUIREMENTS

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
Test Dates: **10/28 – 10/29/10**

	Requirements	Pass / Fail
1	The engine starting system does NOT operate if any Emergency Exit is LOCKED.	PASS
2	All Emergency Door and Roof Exits can be released by one person (from inside and outside of bus).	PASS
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.	PASS
4	Emergency exit release mechanism does not use remote controls or central power systems.	PASS

Comments: None

Recorded By: 

Approved By: 

Date: 10/28/10

DATA SHEET 4A

EMERGENCY EXIT IDENTIFICATION AND LABELING

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
 Test Dates: **10/28 – 10/29/10**

EMERGENCY EXIT LABELING - INTERIOR

Exit Location	Rear Door
Exit Description	Emergency Door
Letter Height (cm)	5.0
Background Color	White
Location Inside	Above Door
Pass / Fail	PASS

OPERATING INSTRUCTIONS - INTERIOR

Exit Location	Rear Door
Instructions	Emergency Only To Open Pull Up And Push
Letter Height (cm)	1.0
Letter Color	Black
Background Color	White
Distance From Release (cm)	3.0
Reflective Tape Color	N/A
Reflective Tape Width (cm)	N/A
Pass / Fail	PASS

Comments: None

Recorded By: 

Approved By: 

Date: 10/28/10

DATA SHEET 4B

EMERGENCY EXIT IDENTIFICATION AND LABELING

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
 Test Dates: **10/28 – 10/29/10**

EMERGENCY EXIT LABELING - EXTERIOR

Exit Location	Rear Door
Exit Description	Emergency Door
Letter Height (cm)	5.0
Background Color	Yellow
Location Outside	Top of Door
Pass / Fail	PASS

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	PASS

Comments: None

Recorded By: *Eve Leonard*

Approved By: *Michael Janoy*

Date: 10/28/10

DATA SHEET 4

EMERGENCY EXIT IDENTIFICATION AND LABELING

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
 Test Dates: **10/28 – 10/29/10**

	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.	PASS
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.	PASS
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.	PASS
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.	PASS

Comments: None

Recorded By: 

Approved By: 

Date: 10/28/10

DATA SHEET 6A

FORCE TESTS TO UNLATCH THE EMERGENCY EXITS - INTERIOR

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
 Test Dates: **10/28 – 10/29/10**

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. 40.0	Pull Handle Upward	Pull Handle Upward	PASS
				2. 39.0			
				3. 40.1			
				Average: 39.7			

Comments: None

Recorded By: *Eva Lovdahl*

Approved By: *Michael Janicz*

Date: 10/28/10

DATA SHEET 6B

FORCE TESTS TO UNLATCH THE EMERGENCY EXITS – EXTERIOR

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
 Test Dates: **10/28 – 10/29/10**

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. 140.1	Mfr's Discretion	Lift Handle Upwards	PASS
				2. 130.4			
				3. 122.2			
				Average: 130.9			

Comments: None

Recorded By: *Eva Lovdorn*

Approved By: *Michael Janoy*

Date: 10/28/10

DATA SHEET 7A

FORCE TESTS TO OPEN THE EMERGENCY EXITS – INTERIOR

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
 Test Dates: **10/28 – 10/29/10**

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. 17.8	Push Outward	Push Outward	114x61x30 Parallelepiped	PASS
				2. 24.3				
				3. 24.2				
				Average: 22.1				

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: 10/28/10

DATA SHEET 7B

FORCE TESTS TO OPEN THE EMERGENCY EXITS – EXTERIOR

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
 Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
 Test Dates: **10/28 – 10/29/10**

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. 17.4	Pull Outward	Pull Outward	114x61x30 Parallelepiped	PASS
				5. 18.3				
				6. 21.8				
				Average: 19.2				

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: 10/28/10

DATA SHEET 8
EMERGENCY EXIT EXTENSION

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
Test Dates: **10/28 – 10/29/10**

	Requirements	Pass / Fail
1	Exit(s) can be extended by a single person.	PASS
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).	PASS
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.	PASS

Comments: None

Recorded By: 

Approved By: 

Date: 10/28/10

DATA SHEET 9
WINDOW RETENTION TEST

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
Test Dates: **10/28 – 10/29/10**

1	Test Window Identification:	Left Rearmost Upper Glass		
2	Provide a detailed description of the window such as fixed, push out, single or double glazed, horizontal or vertical sliding, etc.	Single Glazed, Vertical Sliding		
3	Provide the horizontal and vertical glazing dimensions for each panel.	720 mm X 400 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)	Glazing Developed Cracks at 36 seconds PASS		
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test?	Unlatch Force Measured (N)	Open Force Measured (N)	Pass / Fail
		1. N/A	1. N/A	N/A
		2. N/A	2. N/A	N/A
		3. N/A	3. N/A	N/A

Comments: None

Recorded By: 

Approved By: 

Date: 10/28/10

DATA SHEET 9
WINDOW RETENTION TEST

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
Test Dates: **10/28 – 10/29/10**

1	Test Window Identification:	Left Side 4 th of 5 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.	700 mm X 400 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)	Glazing Cracked PASS		
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test?	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: 10/28/10

DATA SHEET 9
WINDOW RETENTION TEST

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
Test Dates: **10/28 – 10/29/10**

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 Glazed		
3	Provide the horizontal and vertical glazing dimensions for each panel.	785 mm X 605 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)	Glazing Cracked PASS		
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test?	Unlatch Force Measured (N)	Open Force Measured (N)	Pass / Fail
		40.3	22.0	PASS
		42.0	21.0	PASS
		40.6	21.3	PASS

Comments: None

Recorded By: 

Approved By: 

Date: 10/29/10

SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST

Test Vehicle: **2008 GIRARDIN G5 SCHOOL BUS**
Test Lab: **MGA RESEARCH CORPORATION**

NHTSA No.: **C80902**
Test Dates: **10/28 – 10/29/10**

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	1210AF / 22566	09/09/10	03/09/11
String Pot.	Ametek	P-40A / 0504-21782	08/10/10	02/10/11
Inclinometer	Digital Protractor	Pro 360 / 006	09/24/10	03/24/11
Digital Calipers	Mitutoyo	CD-6"CSX / 07416506	11/12/09	11/12/10
Steel Tape	Stanley	Powerlock / 542	09/23/10	03/23/11
Ellipsoid	MGA	ELLIP – 1A	When Used	When Used
Parallelepiped	MGA	PARA – 1A	When Used	When Used
Force Gauge	Quantrol	55447-0039 / DMLC1120014	10/15/10	04/15/11

**SECTION 5
PHOTOGRAPHS**

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Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
Procedure: FMVSS 217 Test Dates: 10/28 – 10/29/10



Exterior Left Side View of School Bus

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
Procedure: FMVSS 217 Test Dates: 10/28 – 10/29/10



Exterior Right Side View of School Bus

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217

NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Exterior Left Front ¾ View of School Bus

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
Procedure: FMVSS 217 Test Dates: 10/28 – 10/29/10



Exterior Right Front ¾ View of School Bus

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
Procedure: FMVSS 217 Test Dates: 10/28 – 10/29/10



Exterior Left Rear $\frac{3}{4}$ View of School Bus

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217

NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Exterior Right Rear ¾ View of School Bus

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
Procedure: FMVSS 217 Test Dates: 10/28 – 10/29/10



MFD BY: GIRARDIN MINIBUS INC
DRUMMONDVILLE, QUEBEC, CANADA, J2B 6V4



DATE OF MANUFACTURE: JUNE 2008

BODY NUMBER: 08-24233

INC. VEH. MFD. BY: FORD 05/08

GVWR: 14050 LB / 6373 KG

GAWR-FRONT: 4600 LB / 2087 KG WITH: LT225/75R16E

RIMS: 16 X 6.0K AT 450 KPA / 65 PSI COLD SINGLE

GAWR-REAR: 9500 LBS / 4309 KG WITH: LT225/75R16E

RIMS: 16 X 6.0K AT 550 KPA / 80 PSI COLD DUAL

V.I.N.: 1FD4E45PX8DB40217

CLASSIFICATION: SCHOOL BUS

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL
MOTOR VEHICLE SAFETY STANDARDS IN EFFECT
ON THE DATE OF MANUFACTURE SHOWN ABOVE.

MAX. PERMITTED SEATED PASSENGERS INCL. DRIVER: 19

MAX. PERMITTED WHEELCHAIR CAPACITY: 1

Certification Label

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
 Procedure: FMVSS 217 Test Dates: 10/28 - 10/29/10

INCOMPLETE VEHICLE MFD. BY FORD MOTOR COMPANY

DATE: 05/08	4600LB 2087KG	TIRES	GVWR: 14050LB/ 6373KG
FRONT GAWR:		RIMS	REAR GAWR: 9500LB 4309KG
WITH LT225/75R16E			WITH LT225/75R16E
16x6.0K			16x6.0K
AT 450 kPa/ 65 PSI COLD			AT 550 kPa/ 80 PSI COLD
VIN: 1FD4E45PX8DB40217			

Equipped with the Ford School Bus Prep Pkg

EXT PNT: BY	INT TR	TP/PS	R	AXLE	TR	SPR	8E410
WB			7	82	B	VV77	B05
158	CE					ULN	▽ 5USA-3520472-AA

MADE IN U.S.A.

Tire Placard

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
Procedure: FMVSS 217 Test Dates: 10/28 – 10/29/10



Interior Front to Rear View Depicting Seating Arrangement

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217

NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Interior Rear to Front View Depicting Seating Arrangement

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217

NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Rear Exit Door Identification (Outside View)

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217
NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Rear Exit Door Identification (Inside View)

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS NHTSA No.: C80902
Procedure: FMVSS 217 Test Dates: 10/28 – 10/29/10



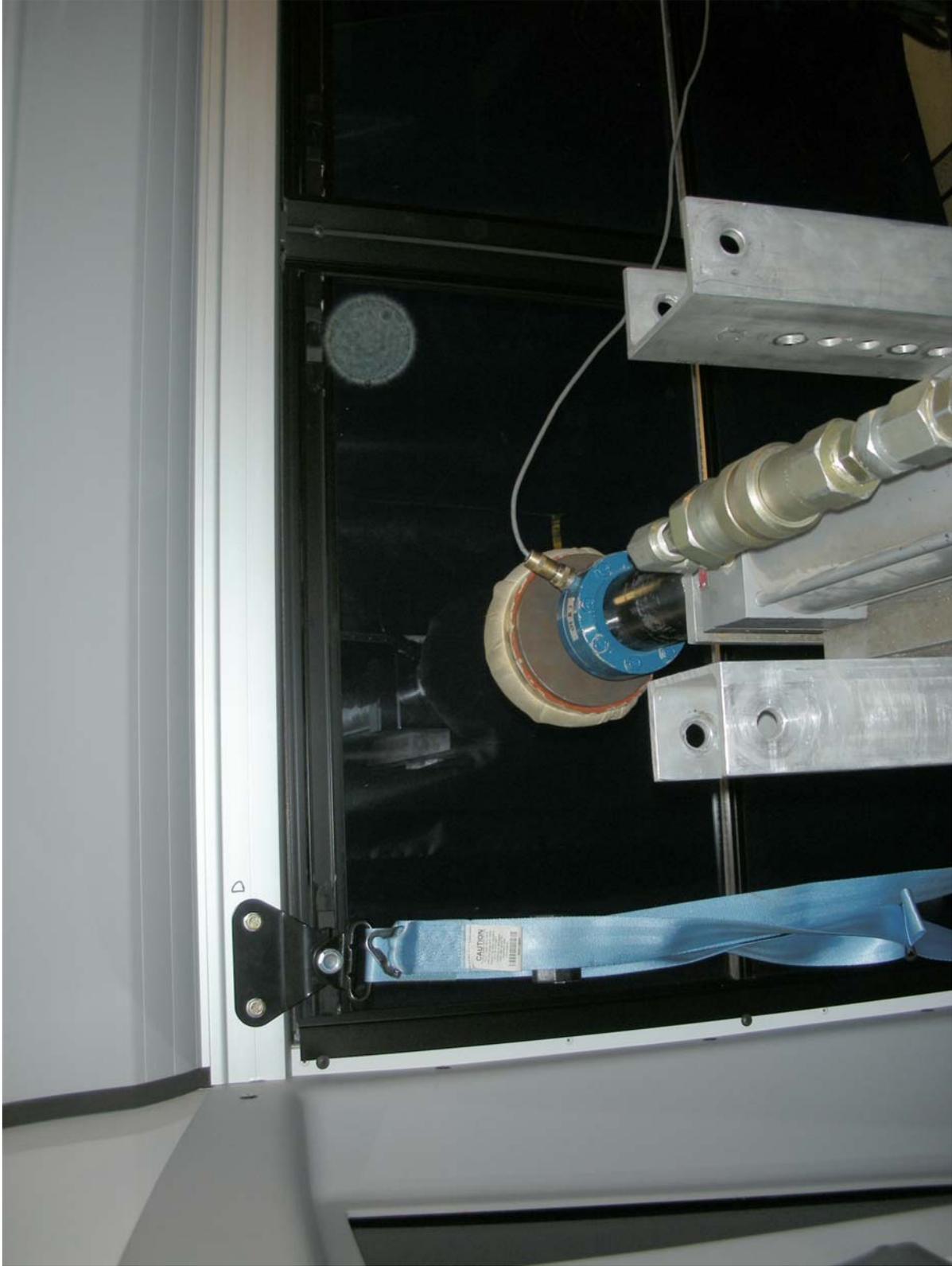
Rear Exit Door Identification (Inside View Close-Up)

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217
NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Rear Door Emergency Exit Parallelepiped Clearance

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217
NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Loading Fixture

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217
NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Retention Test of Left Rearmost Upper Window (Pre-Test)

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217
NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Retention Test of Left Rearmost Upper Window (Post-Test)

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217
NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Retention Test of Left Side 4th of 5 Lower Window (Pre-Test)

Test Vehicle:
Procedure:

2008 GIRARDIN G5 SCHOOL BUS
FMVSS 217

NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



Retention Test of Left Side 4th of 5 Lower Window (Post-Test)

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217
NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



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

Test Vehicle: 2008 GIRARDIN G5 SCHOOL BUS
Procedure: FMVSS 217

NHTSA No.: C80902
Test Dates: 10/28 – 10/29/10



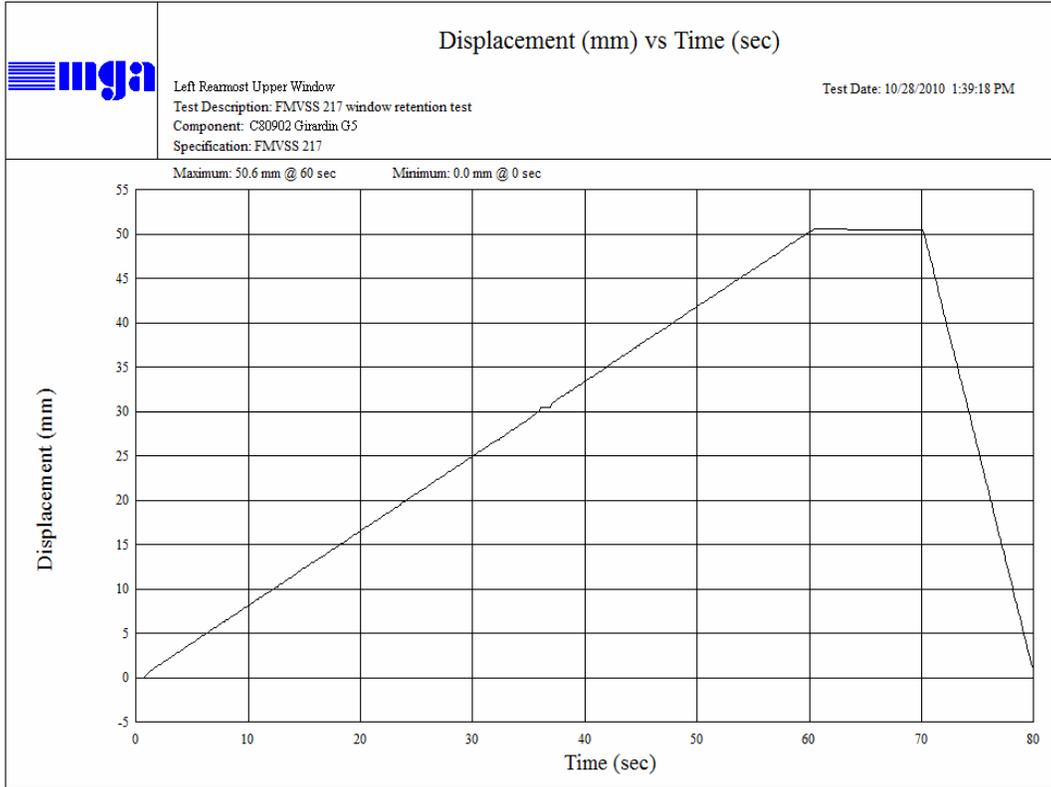
Retention Test of Rear Emergency Door Upper Window (Post-Test)

**SECTION 6
TEST PLOTS**

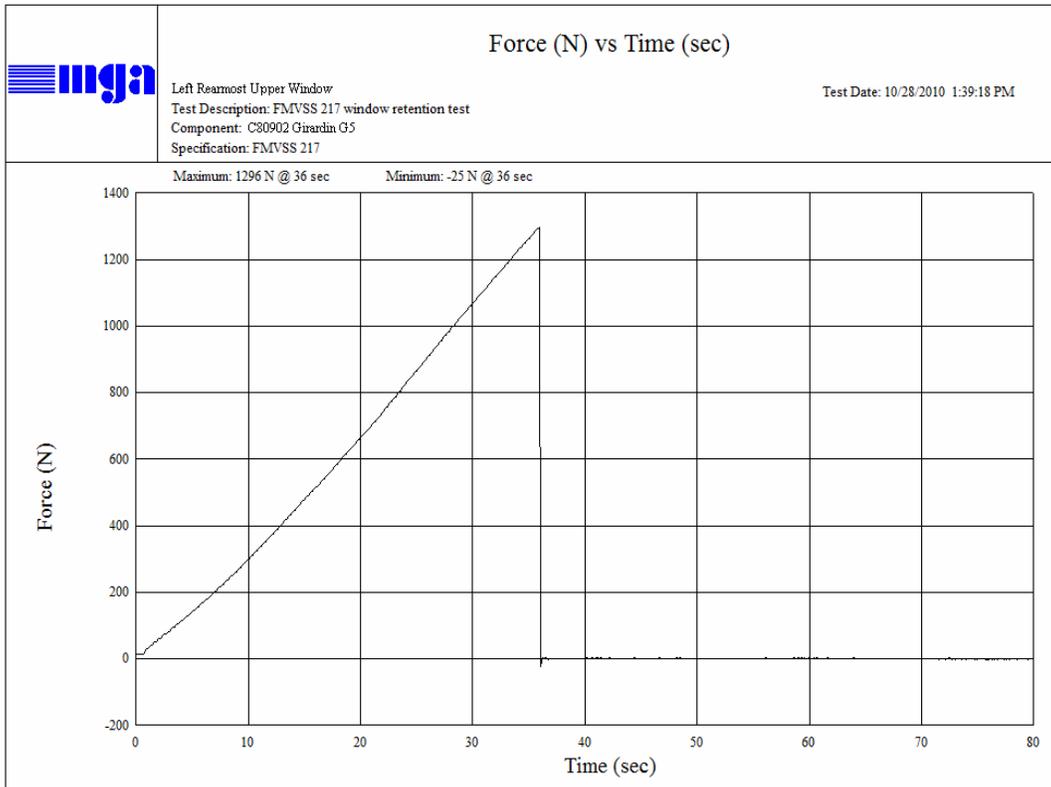
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SECTION 6 TEST PLOTS

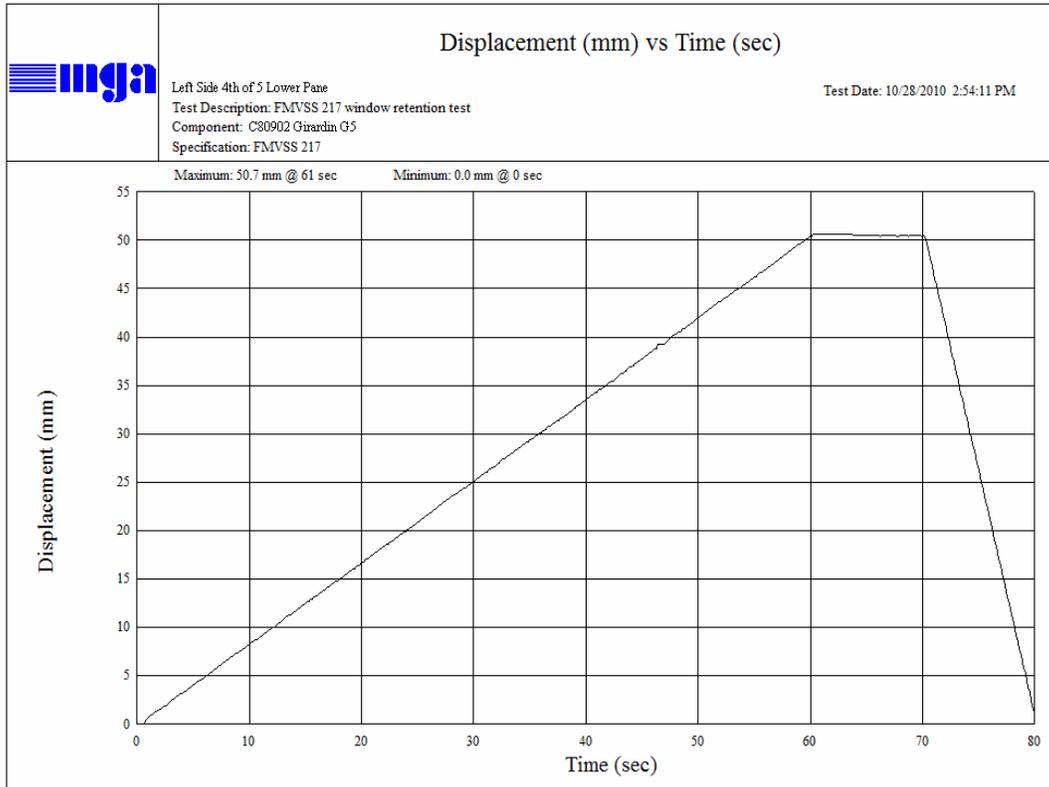


Left Rearmost Upper Window Displacement vs. Time

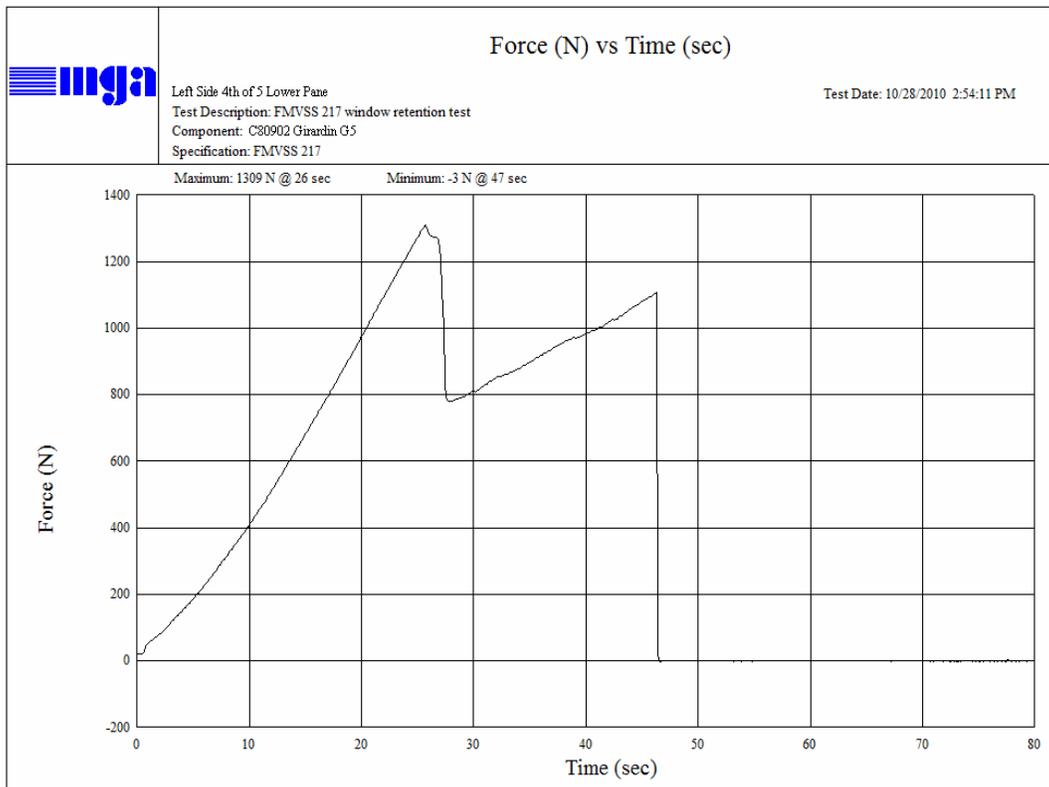


Left Rearmost Upper Window Force vs. Time

SECTION 6 TEST PLOTS

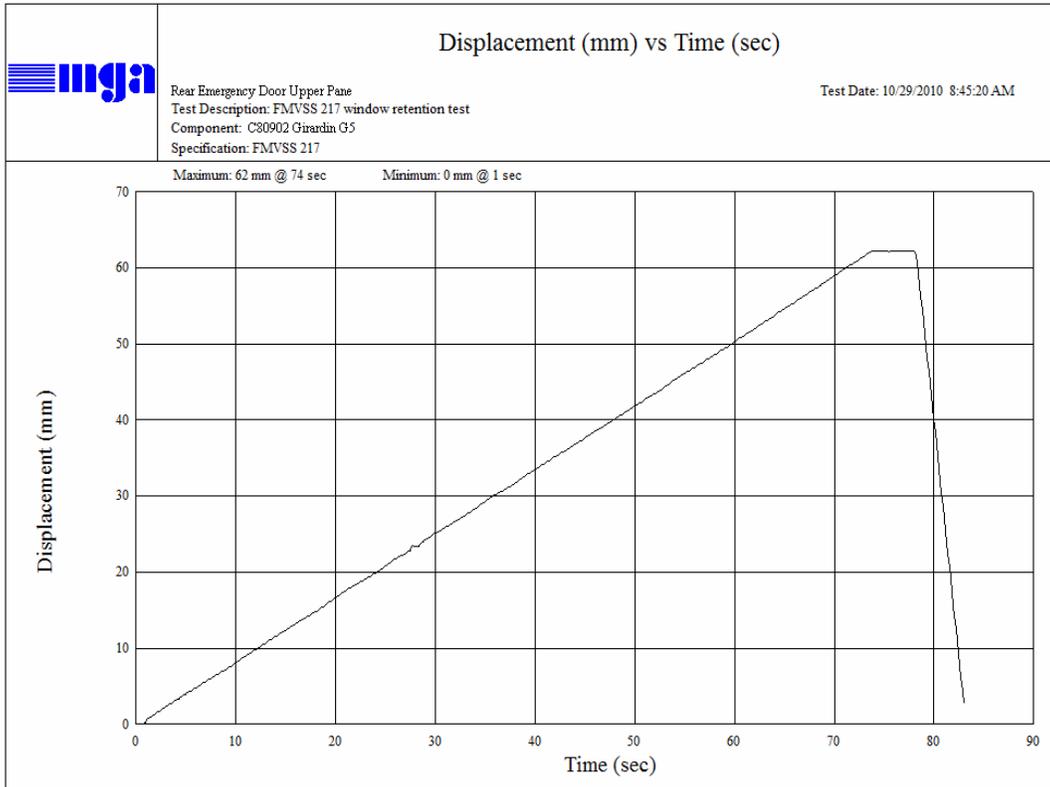


Left Side 4th of 5 Lower Window Displacement vs. Time

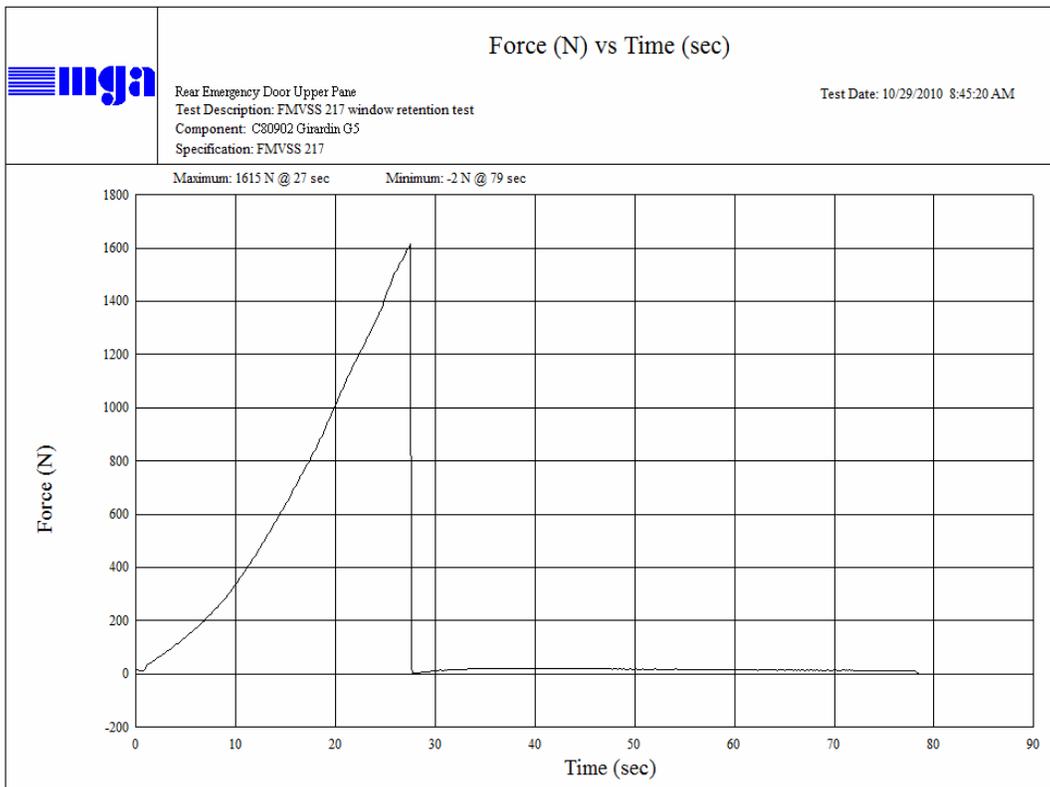


Left Side 4th of 5 Lower Window Force vs. Time

SECTION 6 TEST PLOTS



Rear Emergency Door Upper Window Displacement vs. Time



Rear Emergency Door Upper Window Force vs. Time