

REPORT NUMBER: 301-MGA-2009-004

**SAFETY COMPLIANCE TESTING FOR
FMVSS NO. 301
FUEL SYSTEM INTEGRITY**

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

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



TEST DATE: OCTOBER 12, 2010

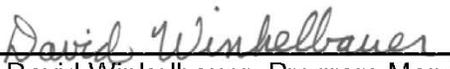
FINAL REPORT DATE: NOVEMBER 30, 2010

FINAL REPORT

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16. Abstract A compliance test was 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-301-04 for the determination of FMVSS 301 compliance. Test failures identified were as follows: None			
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SECTION 1
PURPOSE OF COMPLIANCE TEST AND SUMMARY

A fuel system integrity test was performed on a MY2008 Girardin G5 School Bus, NHTSA No. C80902, in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedure TP-301-04, to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 301, "Fuel System Integrity".

Based on the test results, the MY2008 Girardin G5 School Bus, NHTSA No. C80902 appears to meet the requirements of FMVSS 301 testing.

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

SECTION 2
COMPLIANCE TEST DATA

The following data sheets document the results of testing on the MY2008 Girardin G5 School Bus, NHTSA No. C80902.

DATA SHEET 1
SCHOOL BUS DATA

Test Vehicle:	2008 GIRARDIN G5 SCHOOL BUS	NHTSA No.:	C80902
Test Lab:	MGA RESEARCH CORPORATION	Test Date:	10/12/2010

GENERAL VEHICLE IDENTIFICATION

School Bus Manufacturer:	Girardin Minibus Inc.	
School Bus Model:	G5	
Build Date:	06/08	
Incomplete Vehicle Manufactured By:	Ford	
Build Date for Bus Chassis:	05/08	
School Bus GVWR (kg):	6,373 kg / 14,050 lbs	
School Bus GAWR Front (kg):	2,087 kg / 4,600lbs	
School Bus GAWR Rear (kg):	4,309 kg / 9,500 lbs	
School Bus VIN:	1FD4E45PX8DB40217	
No. of Designated Seating Positions (DSP) including Driver:	19	
School Bus NHTSA No.:	C80902	
Bus Body Color:	Yellow	
No. of Cylinders:	6.0L	
Fuel Pump Actuation:	Electrical Pump "ON" with ignition	
School Bus Width (mm):	2,438	
School Bus Length (mm):	7,061	
Bus Unloaded Vehicle Weight (UVW) (kg):	4,543	
Bus Occupant Load:	1,026 kg - Passenger 68 kg - Driver 1,094 kg - Total	
Target Bus Test Weight (SBTW) (kg):	5,636	
Actual (SBTW) (kg):	5,632	
School Bus Tire Manufacturer:	Michelin	
	Front	Rear
Rec. Cold Tire Inflation Pressure (KPa):	450	550
Tire Size:	LT225/75R16	LT225/75R16
Load Range:	E	E

DATA SHEET 1 (CONTINUED)
SCHOOL BUS DATA

GENERAL VEHICLE IDENTIFICATION

SCHOOL BUS ATTITUDE

	Units	LF	RF	LR	RR
Pre-Test	mm	904	870	835	803
Post Test:	mm	884	851	809	788

FUEL TANK CAPACITY INFORMATION

Fuel Tank Capacity (liters):	191.5
Tank Test Volume (liters):	178.1

TEST VEHICLE WEIGHTS

	Units	As Delivered			As Tested		
		Front	Rear	Total	Front	Rear	Total
Left	kg	730	1,472		811	1,886	
Right	kg	900	1,440		1,037	1,898	
Ratio	%	38.4	61.6		32.8	67.2	
Totals	kg	1,630	2,912	4,542	1,848	3,784	5,632

COMMENTS: NONE

Recorded By: *Eiv Leebman*

Approved By: *Michael Janoy*

Date: 10/12/2010

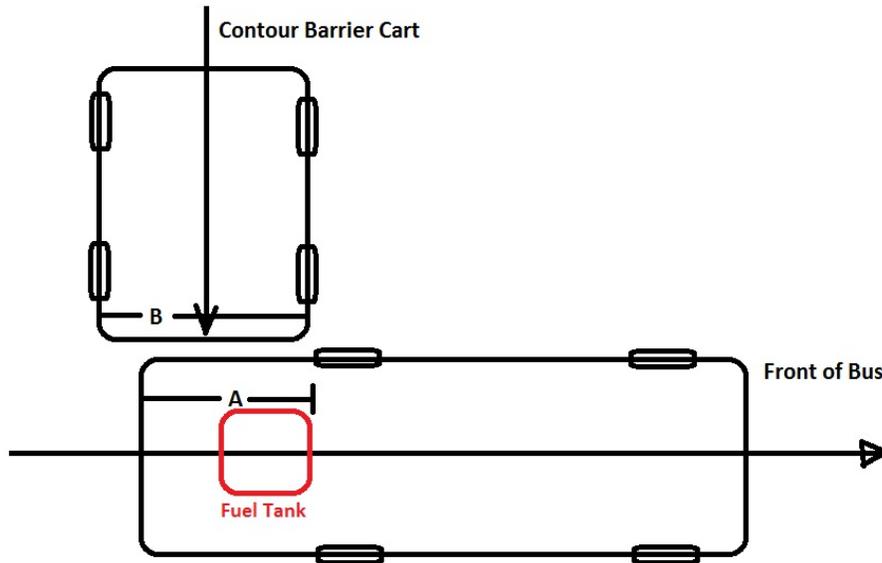
DATA SHEET 2
SCHOOL BUS IMPACT DATA

Test Vehicle:	2008 GIRARDIN G5 SCHOOL BUS	NHTSA No.:	C80902
Test Lab:	MGA RESEARCH CORPORATION	Test Date:	10/12/2010

IMPACT INFORMATION

Time of Impact:	10:08 AM
Ambient Temperature (°C)	21
Barrier Velocity – Speed Trap 1 (kph):	47.5
Barrier Velocity – Speed Trap 2 (kph):	47.5
Barrier Penetration:	346 mm

INDICATE IMPACT POINT BELOW:



LEGEND: Arrow indicates point and angle of barrier impact (C_L of arrow coincides with C_L of monorail).

DESCRIPTION: Fuel tank is located on the centerline of the vehicle, just rearward of the rear Axle.

DATA SHEET 2 (CONTINUED)
SCHOOL BUS IMPACT DATA

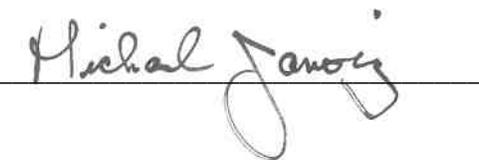
Fuel Spillage Noted:	No
Failure, if applicable:	None

STODDARD SOLVENT SPILLAGE MEASUREMENTS

Timeframe	Description	Allowable Spillage	Measured Spilled	Results
$T_0 - T_1$	Time Zero to Cessation of Motion	31 grams (1 ounce)	0	PASS
$T_1 - T_2$	Cessation of Motion to 5 minutes after Cessation of Motion	156 grams (5 ounces)	0	PASS
$T_2 - T_3$	5 Minutes after Cessation of Motion to 30 minutes after Cessation of Motion	28 grams (1 ounce) per minute 775 grams (25 ounces) Total Allowed	0	PASS

COMMENTS: None

Recorded By: 

Approved By: 

Date: 10/12/2010

SECTION 3
INSTRUMENTATION AND EQUIPMENT LIST

Equipment	Description	Serial No.	Cal. Date	Next Cal. Date
Counter/Timer	DTI	69	8/23/10	2/23/10
Counter/Timer	DTI	4470268	9/10/10	3/10/10
Vehicle Scales	Intercomp	SW20K	6/02/10	12/02/10
Tape Measure	Stanley Powerlock 8M	593	8/19/10	2/19/10

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Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



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**

ATTENTION DRIVER!
 USE CROSS VIEW MIRRORS TO VIEW REAR

Vehicle Certification Label/Tire Placard

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10

INCOMPLETE VEHICLE MFD. BY FORD MOTOR COMPANY

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



Equipped with the Ford School Bus Prep Pkg

EXT PNT: BY	RC: 86	DSO:					
WB	INT TR	TP/PS	R	AXLE	TR	SPR	8E410
158	CE		7	82	B	VV77	B05
MADE IN U.S.A.						ULN	5U5A-3520472-AA

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Incomplete Vehicle Label

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



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Pre-Test Front View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



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Pre-Test Left Front Three-Quarter View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Right Front Three-Quarter View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Left Side View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



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Pre-Test Right Side View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Rear View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Left Rear Three-Quarter View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



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Pre-Test Right Rear Three-Quarter View of School Bus (receiving photograph)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Cart Positioned by School Bus (rear view)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Cart and School Bus (rear view)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Cart Positioned by School Bus (side view)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Cart and School Bus (side view)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



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Pre-Test Cart Positioned by School Bus (overhead view)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Cart and School Bus (overhead view)

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



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Post-Test Impact View 1

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Impact View 2

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Right Front Three-Quarter View of School Bus w/out Cart

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Right Rear Three-Quarter View of School Bus w/out Cart

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Fuel Filler Cap

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Fuel Filler Cap

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test Fuel Tank

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



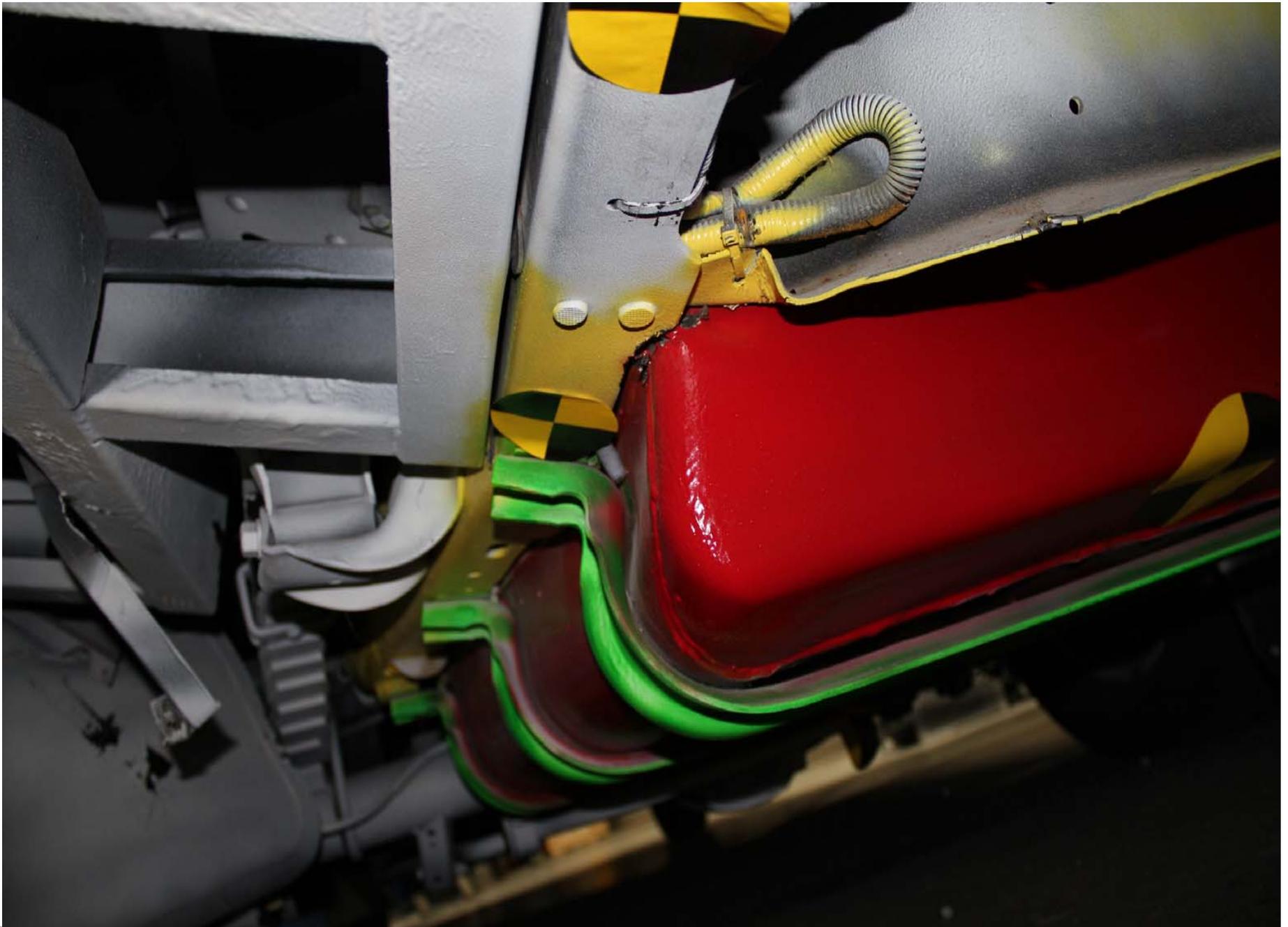
Post-Test Fuel Tank

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Damage Right Rear Quarter View

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Damage Underbody View 1

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Post-Test Damage Underbody View 2

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10

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Post-Test Damage Underbody View 3

Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test View of Ballast Weight View 1

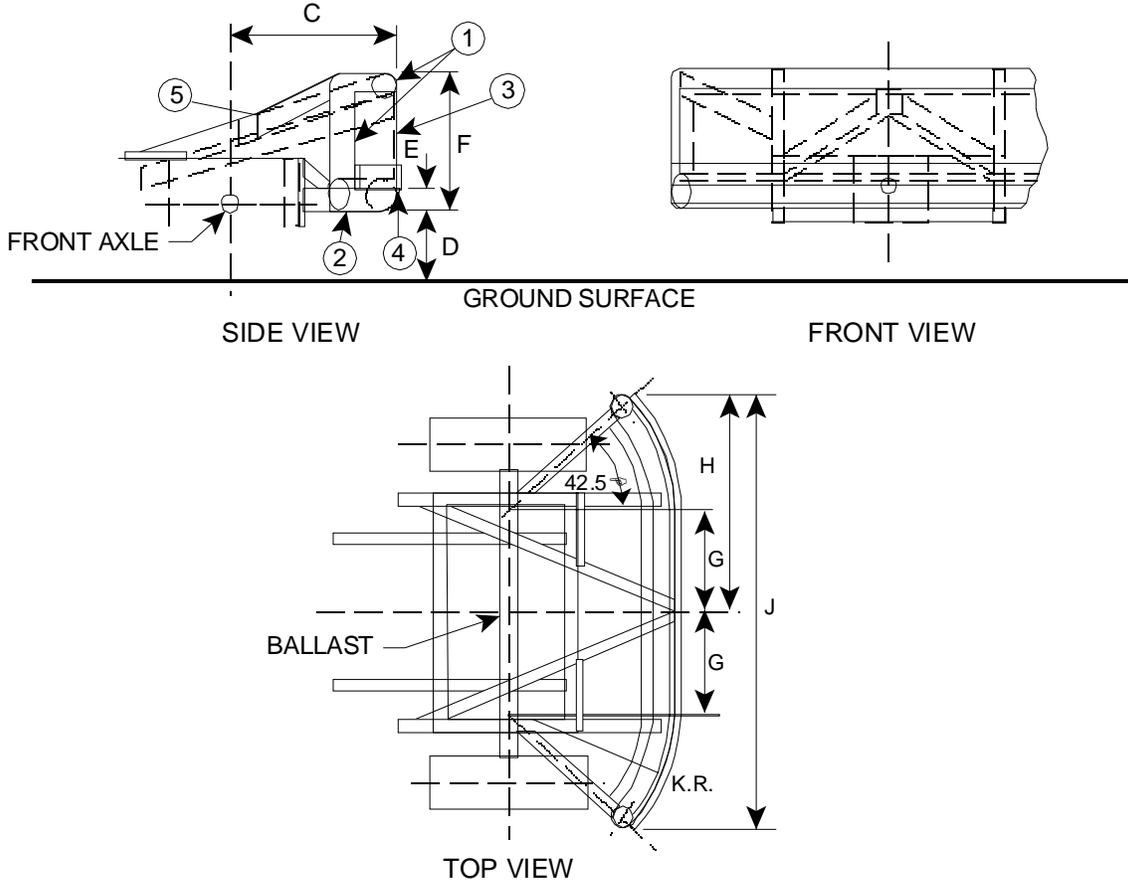
Test Vehicle:	2008 Girardin G5 School Bus	NHTSA No.:	C80902
Procedure:	FMVSS 301	Test Date:	10/12/10



Pre-Test View of Ballast Weight View 2

SECTION 5
BARRIER INFORMATION

CONTOURED IMPACT SURFACE FOR COMMON CARRIAGE



DIMENSIONS SHOWN IN TABLE ON NEXT PAGE

NOTES:

1. Upper Frame 4.0 in. dia x 0.25 in. wall (102 mm dia x 6 mm wall)
Steel Tubing (3 Sides)
2. Lower Frame 6.0 in. dia x 0.50 in. wall (152 mm dia x 13 mm wall)
Steel Tubing
3. Face Plate 0.75 in. (19 mm) thick cold rolled steel
4. Leading Edge 1.0 s 4.0 in. (25 x 102 mm) steel band, sharp
edges broken
5. All Inner Reinforcements 4.0 x 2.0 x 0.19 in. (102 x 51 x 5 mm)
steel tubing

Total Weight = 4,000 ± 50 lbs (1,814.1 ± 22.7 kg)

Weight at each Rear Wheel =
900 ± 25 lbs (408.2 ± 11.3 kg)

Weight at each Front Wheel =
1,100 ± 25 lbs (499.0 ± 11.3 kg)

Moments of Inertia:

$I_x = 271 \pm 13.6 \text{ slug-ft}^2 (367 \pm 18.4 \text{ kg-m}^2)$

$I_z = 3,475 \pm 174 \text{ slug-ft}^2 (4,711 \pm 236 \text{ kg-m}^2)$

DIMENSIONS FOR CONTOURED IMPACT SURFACE

LETTER	INCHES	MILLIMETERS
A	54.0	1372
B	15.8	401
C	30.0	762
D	5.25	133
E	3.75	95
F	24.75	629
G	18.0	457
H	39.0	991
J	78.0	1981
K	30.0	762