REPORT NUMBER: 301SB-MGA-2011-003

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 301 FUEL SYSTEM INTEGRITY

2012 BLUE BIRD ALL AMERICAN D3 RE SCHOOL BUS
NHTSA NO.: CC0901

PREPARED BY:
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BURLINGTON, WI 53105

TEST DATE: NOVEMBER 4, 2011

FINAL REPORT DATE: DECEMBER 27, 2011

FINAL REPORT

PREPARED FOR:
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NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
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OFFICE OF VEHICLE SAFETY COMPLIANCE
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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 11/04/11 *14. Sponsoring Agency Code* NVS-220	
15. Supplementary Notes			
16. Abstract A compliance test was conducted on the subject 2012 Blue Bird All American D3 RE School Bus, NHTSA No. CC0901 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: Stoddard solvent spillage in excess of FMVSS 301 requirements.			
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SECTION 1
PURPOSE OF COMPLIANCE TEST AND SUMMARY

A fuel system integrity test was performed on a MY2012 Blue Bird All American D3 RE School Bus, NHTSA No. CC0901, 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 MY2012 Blue Bird All American D3 RE School Bus, NHTSA No. CC0901 does not appear 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 MY2012 Blue Bird All American D3 RE School Bus, NHTSA No. CC0901.

DATA SHEET 1

SCHOOL BUS DATA

Test Vehicle: **2012 Blue Bird All American D3 RE School Bus** NHTSA No.: **CC0901**
Test Lab: **MGA Research Corporation** Test Date: **11/04/11**

GENERAL VEHICLE IDENTIFICATION

School Bus Manufacturer	Blue Bird	
School Bus Model	All American D3 RE	
Build Date	12/10	
Incomplete Vehicle Manufactured By	N/A	
Build Date for Bus Chassis	N/A	
School Bus GVWR (kg)	14,973 kg / 33,000 lb	
School Bus GAWR Front (kg)	5,603 kg / 12,350 lb	
School Bus GAWR Rear (kg)	9,528 kg / 21,000 lb	
School Bus VIN	1BABLBPA8CF283351	
No. of Designated Seating Positions (DSP) including Driver	48	
School Bus NHTSA No.	CC0901	
Bus Body Color	Yellow	
No. of Cylinders	6	
Engine Displacement (L)	6.7 – Longitudinal	
Fuel Pump Actuation	Mechanical	
School Bus Width (mm)	2,394	
School Bus Length (mm)	11,576	
Bus Unloaded Vehicle Weight (UVW) (kg)	9,246	
Bus Occupant Load	2,538 kg - Passenger 68 kg - Driver 2,606 kg - Total	
Target Bus Test Weight (SBTW) (kg)	11,852	
Actual (SBTW) (kg)	11,847	
School Bus Tire Manufacturer	Goodyear	
	Front	Rear
Rec. Cold Tire Inflation Pressure (kPa)	723	723
Tire Size	11R22.5	11R22.5
Load Range	G	G

DATA SHEET 1

SCHOOL BUS DATA

GENERAL VEHICLE IDENTIFICATION

SCHOOL BUS ATTITUDE

	Units	LF	RF	LR	RR
Pre-Test (As Received)	mm	1157	1124	1199	1158
Post Test	mm	1122	1105	1161	1143

FUEL TANK CAPACITY INFORMATION

Fuel Tank Capacity (liters)	227.1
Tank Test Volume (liters)	211.2

TEST VEHICLE WEIGHTS

	Units	As Delivered			As Tested		
		Front	Rear	Total	Front	Rear	Total
Left	kg	1,635	2,889		2,061	3,730	
Right	kg	1,567	3,155		2,000	4,056	
Ratio	%	34.6	65.4		34.3	65.7	
Totals	kg	3,202	6,044	9,246	4,061	7,786	11,847

COMMENTS: NONE

Recorded By: 

Approved By:  Date: 11/04/11

DATA SHEET 2

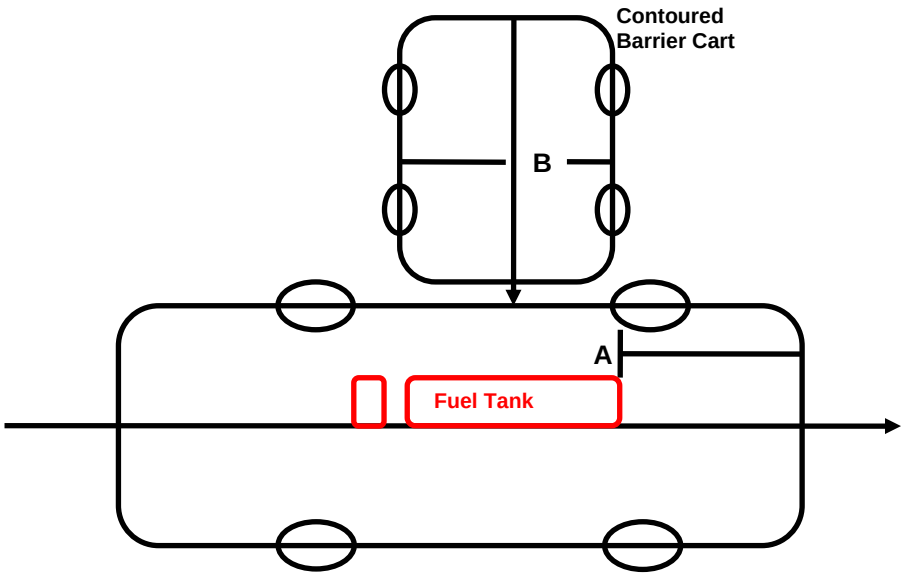
SCHOOL BUS IMPACT DATA

Test Vehicle:	**2012 Blue Bird All American D3 RE School Bus**	NHTSA No.:	**CC0901**
Test Lab:	**MGA Research Corporation**	Test Date:	**11/04/11**

IMPACT INFORMATION

Time of Impact	09:59 AM
Ambient Temperature (°C)	21
Barrier Velocity – Speed Trap 1 (kph)	47.4
Barrier Velocity – Speed Trap 2 (kph)	47.4
Barrier Penetration	1,245 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

SCHOOL BUS IMPACT DATA

Fuel Spillage Noted	Yes
Failure, if applicable	Yes

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)	830 grams (29.28 ounces)	**FAIL**
$T_2 - T_3$	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	5,566 grams (196.32 ounces)	**FAIL**

COMMENTS: None

Recorded By: _____

Approved By: _____ Date: 11/04/11

SECTION 3

INSTRUMENTATION AND EQUIPMENT LIST

Equipment	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
Counter/Timer	Newport	0080077	10/03/11	04/03/12
Counter/Timer	Newport	0080076	10/03/11	04/03/12
Vehicle Scales	GSE	004804&212091R	09/28/11	03/28/12
Tape Measure	Stanley Powerlock	551	08/19/11	02/19/12

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PHOTOGRAPHS

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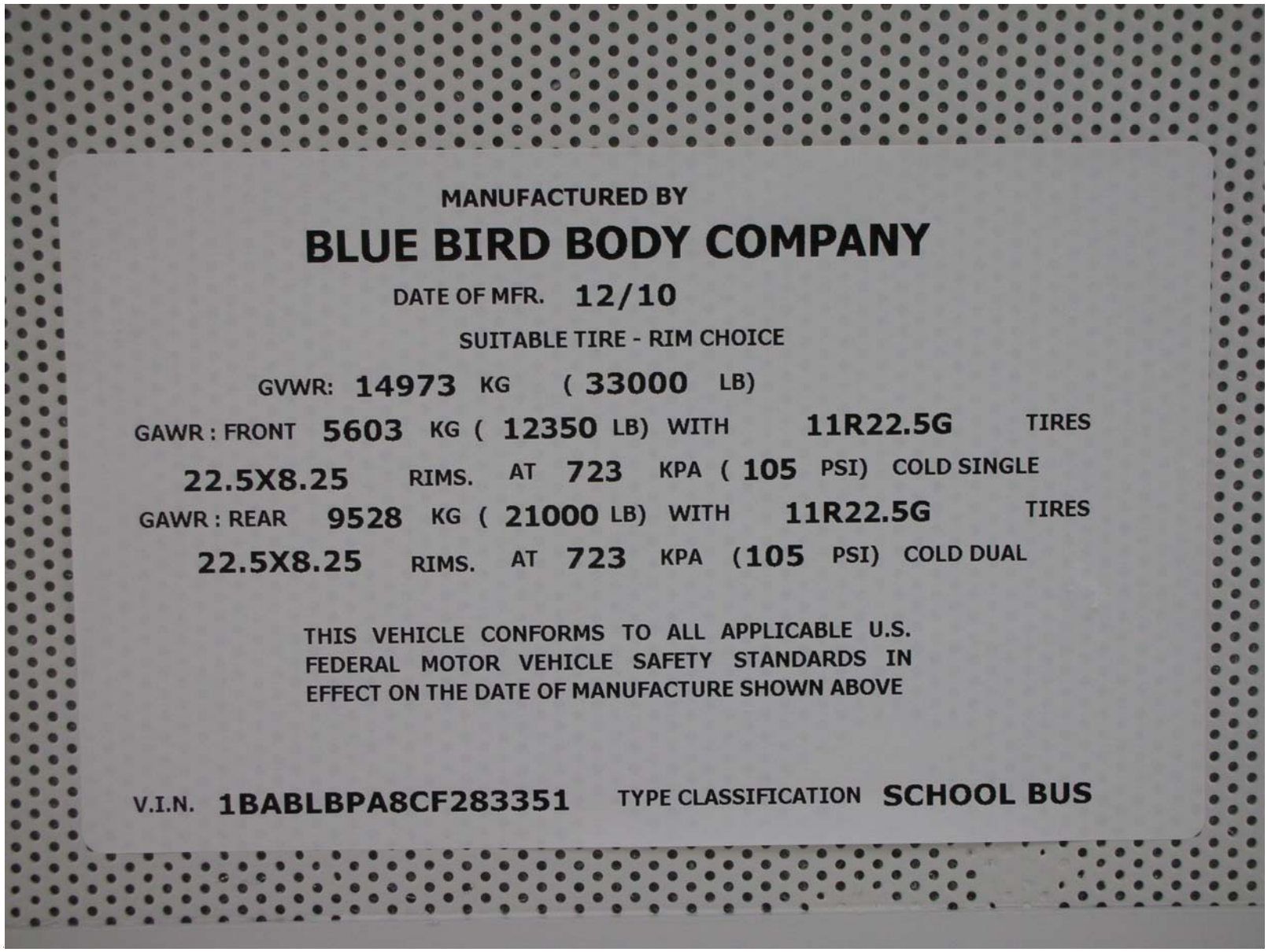


Vehicle Certification Label/Tire Placard

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Front View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Left Front Three-Quarter View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Right Front Three-Quarter View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Left Side View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Right Side View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Rear View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Left Rear Three-Quarter View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Right Rear Three-Quarter View of School Bus (Receiving Photograph)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Cart Positioned by School Bus (Rear View)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Post-Test Cart and School Bus (Rear View)

Pre-Test Cart Positioned by School Bus (Side Close-up View)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Post-Test Cart and School Bus (Side Close-up View)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test Cart Positioned by School Bus (Front View)

Post-Test Cart and School Bus (Front View)

Pre-Test Impact Point

Post-Test Impact Point

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Post-Test Impact Close-up View 1

Post-Test Impact Close-up View 2

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Post-Test Left Front Three-Quarter View of School Bus

Post-Test Left Rear Three-Quarter View of School Bus

Pre-Test Fuel Filler Cap

Post-Test Fuel Filler Cap

Pre-Test Fuel Tank View 1

Pre-Test Fuel Tank View 2

Post-Test Fuel Tank View 1

Post-Test Damage View 1

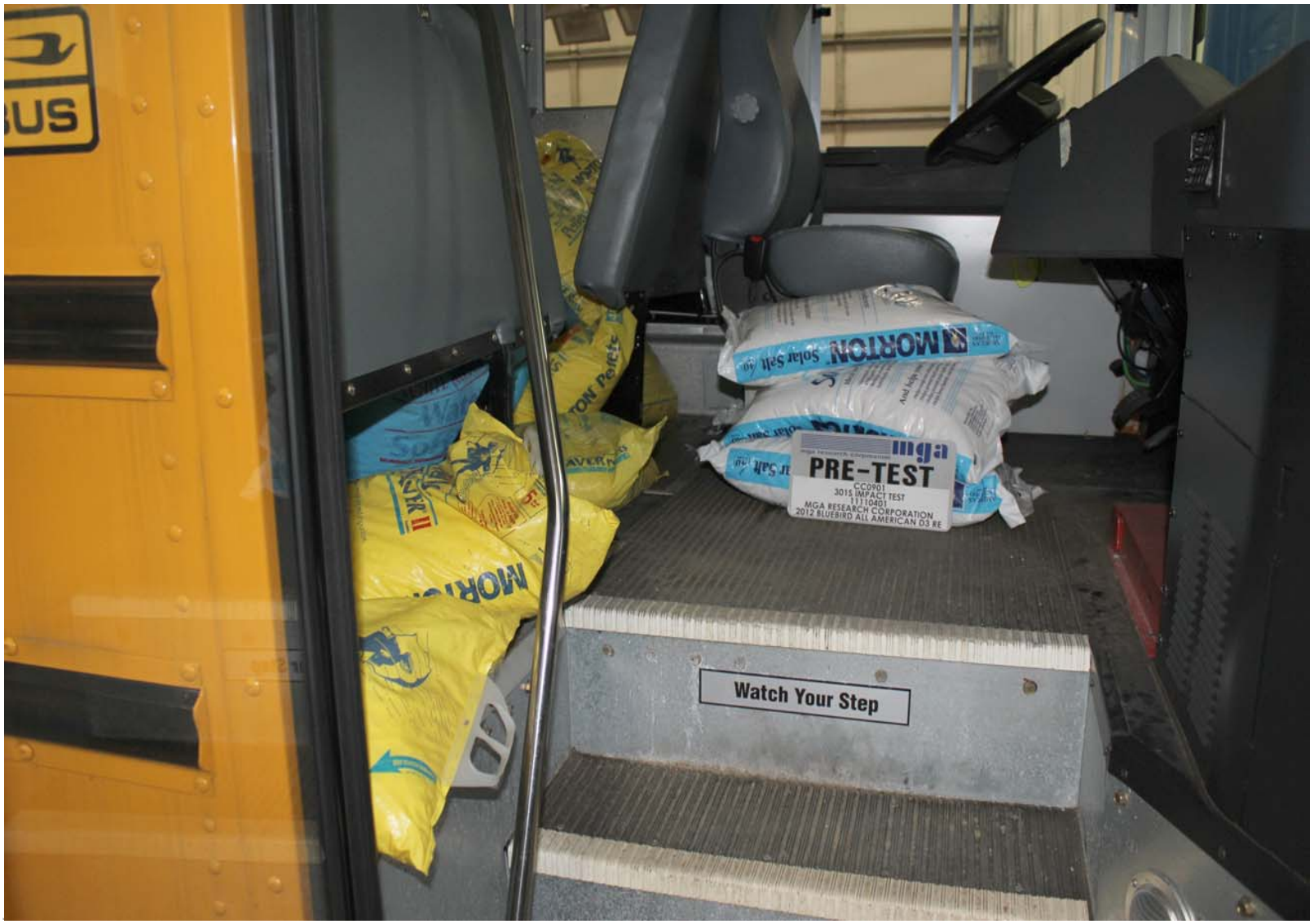
Post-Test Damage View 2

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Pre-Test View of Ballast Weight View 1

Pre-Test View of Ballast Weight View 2

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**



Pre-Test View of Ballast Weight View 3

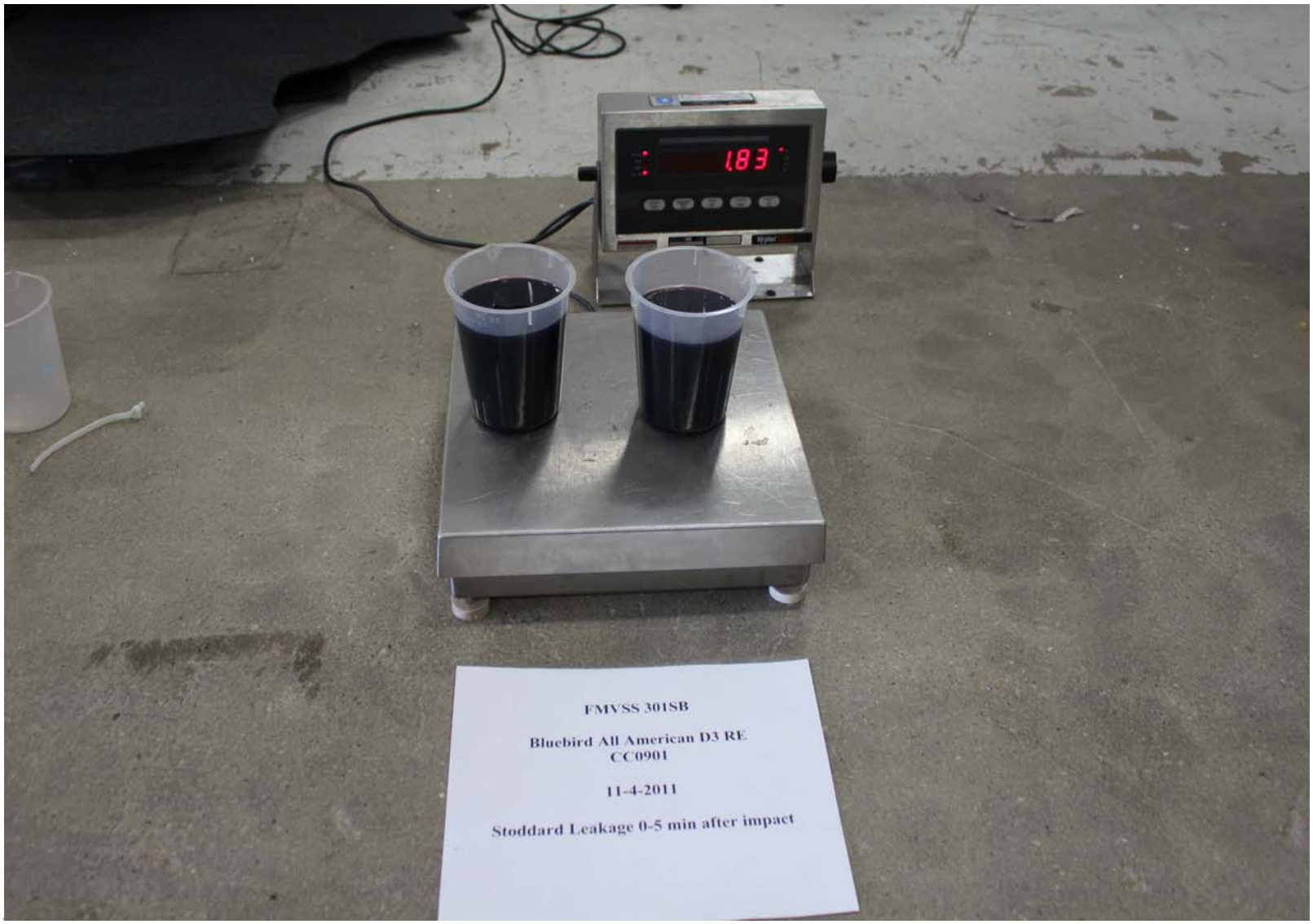
Pre-Test Barrier

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

Post-Test Barrier

Stoddard Solvent Spillage View 1

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**



Stoddard Solvent Spillage View 2 (Scale in Units of lb)

Test Vehicle:	**2010 Blue Bird All American D3 RE School Bus**	NHTSA	**CC0901**
Test Lab:	**MGA Research Corporation**	Test	**11/04/11**

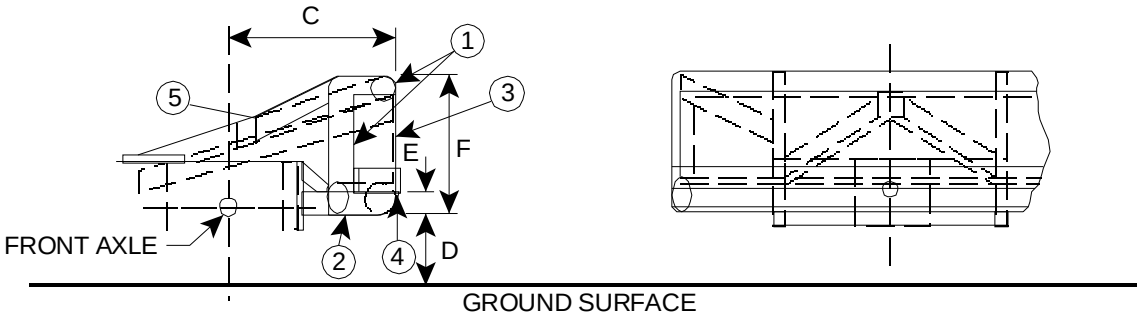
Stoddard Solvent Spillage View 3 (Scale in Units of lb)

Fuel Line Damage Post-Test

SECTION 5

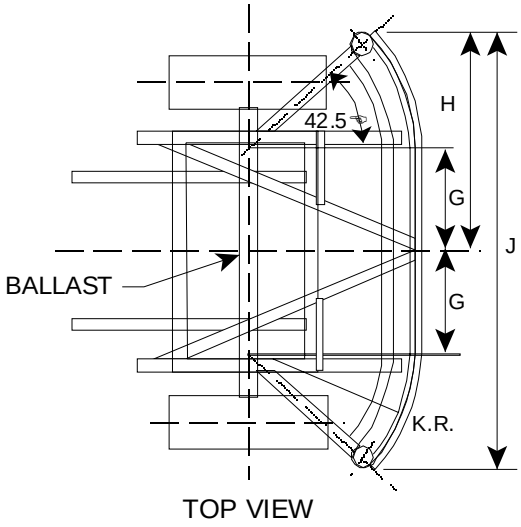
BARRIER INFORMATION

CONTOURED IMPACT SURFACE FOR COMMON CARRIAGE



SIDE VIEW

FRONT VIEW



TOP VIEW

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 ± 13.6 slug-ft^2 (367 ± 18.4 kg-m^2)
I_Z = 3,475 ± 174 slug-ft^2 (4,711 ± 236 kg-m^2)

SECTION 5

BARRIER INFORMATION

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