REPORT NUMBER: 110-MGA-2009-001

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 110 TIRE SELECTION AND RIMS FOR MOTOR VEHICLES WITH A GVWR OF 4,536 KG OR LESS

THOMAS BUILT BUSES
2009 THOMAS MINOTOUR SCHOOL BUS
NHTSA NO.: C90901

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

FINAL REPORT DATE: JUNE 29, 2009

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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Prepared by: _____ Date: June 29, 2009
Eric Peschman, Project Engineer

Reviewed by: _____ Date: June 29, 2009
Michael Janovicz, Program Manager

FINAL REPORT ACCEPTED BY:

_____
June 29, 2009
Date of Acceptance

Technical Report Documentation Page

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16. Abstract

A compliance test was conducted on the subject 2009 Thomas Minotour School Bus, NHTSA No.: C90901, in accordance with FMVSS 110, "Tire selection and rims for motor vehicles with a GVWR of 4,536 KG or less," and TP-110T-02. The vehicle was weighed in the unloaded and fully loaded conditions and its tires, rims, and related information were checked.

Test failures:
"The Vehicle Placard required by FMVSS 110 paragraph S4.3 displayed an incorrect Vehicle Capacity Weight value. The placard also included various other format errors as reported on the attached Laboratory Notice of Test Failure.

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SECTION 1
PURPOSE OF COMPLIANCE TEST

The purpose of this test report is to document the results of tests performed on a MY 2009 Thomas Minotour School Bus, NHTSA No.: C90901, in accordance with the requirements stated in Federal Motor Vehicle Safety Standard (FMVSS) No. 110, “Tire Selection and Rims for Motor Vehicles with a GVWR of 4,536 KG or less. ”

This standard establishes requirements to ensure that applicable vehicles are equipped with tires of adequate size and load rating and rims of appropriate size and type designation. This standard also establishes location, content, and format requirements for the Vehicle Placard and optional Tire Inflation Pressure Label.

SECTION 2
TEST PROCEDURE AND DISCUSSION OF RESULTS

Testing of the 2009 Thomas Minotour School Bus, NHTSA No.: C90901, was conducted at MGA Research Corporation in accordance with NHTSA TP-110T-02, dated August 31, 2007 and MGA-TP-110-02 dated February 28, 2008. The vehicle mounted tires and rims were surveyed to ensure that the rims were suitable for the tires and that the tires inflated to the maximum inflation pressure stated on the tire sidewall were appropriate for the vehicle's certified Gross Axle Weight Ratings (GAWR). The vehicle labeling was surveyed to ensure that the vehicle manufacturer's recommended rims were suitable for the recommended tires. The vehicle placard was photographed and checked for compliance to location, content, and format requirements, and that the recommended tires inflated to the recommended inflation pressures stated on the labeling were appropriate for the vehicle's certified GAWRs. The vehicle was ballasted and weighed in three different loading conditions to determine if vehicle, axle or tire overloading could occur. The three loading conditions were:

Condition 1 – Unloaded Vehicle Weight (UVW).
Condition 2 – Vehicle in Condition 1 state plus the addition of ballast to simulate twenty-one passengers (one adult driver and twenty students) .
Condition 3 – Vehicle in Condition 2 state plus the addition of ballast to simulate a full occupant and cargo load.

The vehicle mounted tires inflated to the recommended inflation pressure specified on the vehicle placard have load ratings appropriate to carry the maximum loads as required by FMVSS No. 110. The vehicle rims are suitable for the vehicle tires and contain the required markings. The vehicle placard did not meet certain content and format requirements as specified by FMVSS 110, and noted on the Laboratory Notice of Test Failure (attached).

"The Vehicle Placard displayed an incorrect Vehicle Capacity Weight of 4619.39 KG. The correct Vehicle Capacity Weight, as provided by Thomas Built Buses to the COTR on November 14, 2008, was 1157 KG." This test did not include a "normal load" condition or a rim retention "blowout" test.

SECTION 2…continued

TEST PROCEDURE AND DISCUSSION OF RESULTS

Model Year/Mfr. /Make/Model:	2009 Thomas Minotour School Bus	
Date of Manufacture:	07/2008	
NHTSA No.:	C90901	
GVWR:	4,356 KG / 9,600 lbs	
Build Date for Bus Chassis:	06/2008	
Incomplete Vehicle Make/Model:	General Motors	
VIN:	1GBHG31C181210142	
Designated Seating Capacity:	(1 Driver, 20 Passengers)	
Vehicle Type:	School Bus	
Tire Pressure from Vehicle Placard:	Front: 552 KPa (80 psi)	Rear: 552 KPa (80 psi)
Odometer Reading:	1079 Miles	
Dealer Installed Optional Accessories	None Noted	

SUMMARY

Requirements	Pass/Fail
General (Data Sheet 2) The vehicle is equipped with tires that meet the requirements of S139. (S110, S4.1)	**Pass**
Tire Load Limits (Data Sheet 2) The sum of the maximum load ratings of the tires fitted to an axle is not less that the gross axle weight rating (GAWR) of the axle system as specified on the certification label. When passenger car tires are installed, each tires load rating is reduced by dividing it by 1.10 before determining the sum of the maximum load ratings of the tires fitted to an axle. (S110, S4.2.2.1, S4.2.2.2)	**Pass**
When passenger car tires are installed, the vehicle normal load on the tire is not greater than the value of 94 percent of the de-rated load rating at the vehicle manufacturer's recommended cold inflation pressure for that tire. When LT tires are installed, the vehicle normal load on the tire is not greater than the value of 94 percent of the load rating at the vehicle manufacturer's recommended cold inflation pressure for that tire. (S110, S4.2.2.3(a), (b))	**Not Performed**
Rims (Data Sheet 3) Each rim is constructed to the dimensions of a rim referred to in FMVSS 139 that is listed by the manufacturer of the tires as suitable for use with those tires. (S110, S4.4.1(a))	**Pass**
Vehicle rims retain deflated tires during a controlled braking application. (S110, S4.4.1(b))	**Not Performed**
Each rim is properly marked. (S110, S4.4.2)	**Pass**
Certification, Placard, and Tire Inflation Pressure Labels (Data Sheet 4) The placard and tire inflation pressure label (if provided) are affixed and located correctly, and display the information and format required. (S110, S4.3)	**Fail***
The Part 567 certification label shows the size designation of the tires and rims appropriate for the vehicle including the tire size(s) listed on the vehicle placard and, if provided, tire inflation pressure label. (S110, S4.3.3)	**Pass**
No inflation pressure other than the maximum permissible inflation pressure is shown on the placard and, if any, tire inflation pressure label unless as required. (S110, S4.3.4)	**Pass**

Vehicle Weight Distribution (Data Sheet 5) The Gross Vehicle Weight Rating (GVWR) is not less than the sum of the unloaded vehicle weight, rated cargo load, and 68 kg times the vehicle's designated seating capacity. However, for school buses, the minimum occupant weight allowance is 54 kg. (49 CFR 567, *Certification)*	**Pass**
Owner's Manual (Data Sheet 6) Owner's manual or other document has discussion of Vehicle Placard, Loading and Tires. (575.6 (a)(4))	**Pass**
Owner's manual includes exact statement relating to "Steps for Determining Correct Load Limits." (575.6(a)(5))	**Pass**

*****Test Data indicates a Pass when correct data for the Vehicle Placard was provided by Thomas Built Buses to the COTR on November 14, 2008.

SECTION 3

COMPLIANCE TEST DATA

DATA SHEET 1

TEST VEHICLE INFORMATION

Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**
VIN No.:	**1GBHG31C181210142**		

Manufacture Date:	7/2008		
GVWR: (kg)	4356		
Front GAWR: (kg)	1860		
Rear GAWR: (kg)	2760		
Seating Positions:	Front: 1	Mid: 0	Rear: 20
Odometer Reading at Start of Test:	1079 Miles		
Engine Data:	Cylinders: 8	Liters: 4.8	Cubic Inches: 293
Transmission Data:	Automatic, 3 Speed		
Final Drive Data:	Rear Drive		

CHECK APPROPRIATE BOXES FOR INSTALLED VEHICLE EQUIPMENT

X	Air Conditioning		Traction Control		Clock
	Tinted Glass		Tachometer		Roof Rack
X	Power Steering		Cruise Control		Console
	Power Windows		Rear Window Defroster	X	Driver Air Bag
	Power Locks		Sun roof or T-Top		Passenger Air Bag
	Power Seats	X	Tilt Steering Wheel		Side Curtain Air Bag(s)
X	Power Brakes		Stereo	X	Front Disc Brakes
X	Antilock Brake System		Telephone	X	Rear Disc Brakes
	Navigation System		Trailer Hitch		Other:

Remarks: None

Recorded By: _____ Date: 11/13/08

Approved By: _____ Date: 11/13/08

DATA SHEET 2

VEHICLE TIRE IDENTIFICATION AND LOAD LIMITS

Test Vehicle: **2009 THOMAS MINOTOUR SCHOOL BUS** NHTSA No.: **C90901**
Test Lab: **MGA RESEARCH CORPORATION** Test Dates: **10/20/08 – 11/13/08**
VIN No.: **1GBHG31C181210142**

	Yes / No / NA
All tires on the vehicle (excluding the spare) are the same size:	Yes
Spare tire is the same size as all the other tires	NA

Tire Sidewall	Right Front	Left Rear (If different)	Spare Tire (If different)
Manufacturer and Model	Bridgestone V-Steel	Bridgestone V-Steel	
Tire Size Designation	LT245/75R16	LT245/75R16	
Load Range	E	E	
Maximum Inflation Pressure	550 KPa (80 psi)	550 KPa (80 psi)	
Maximum Load Rating	Single: 1380 kg Dual: 1260 kg	Single: 1380 kg Dual: 1260 kg	
Tread/Traction/Temperature			
Tires Have "DOT" Markings	Yes	Yes	

SERIAL NUMBERS ON TIRES

Right Front:	R265GZ	Left Front:	R265GZ
Right Rear:	R265GZ	Left Rear:	R265GZ
Spare:	NA		

MOUNTED TIRE VS. AXLE RATING COMPARISON (at sidewall maximum inflation pressure)

	Front Axle	**Rear Axle**
A. GAWR (kg) from certification label	1860	2760
B. Tire Maximum Load Rating from above (kg)	1380	1380
C. Reduced Tire Load Rating if applicable (kg)*	NA	NA
D. (Number of tires on axle) x (tire load rating, de-rated if appropriate)	2760	2760
Is "D" equal to or greater than "A"? (Yes/No)	Yes	Yes

* If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating is reduced by dividing by 1.10.

Data Indicates Compliance: **Pass**

Remarks: None

Recorded By: _____ Date: 11/13/08

Approved By: _____ Date: 11/13/08

DATA SHEET 3

VEHICLE RIM IDENTIFICATION

Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**
VIN No.:	**1GBHG31C181210142**		

RIM MARKINGS

	Right Front	Left Rear
A. Source of published dimensions (letter designation)	T	T
B. Rim size	16 x 6.5J	16 x 6.5J
C. Does rim contain DOT symbol? (Yes/No)	Yes	Yes
D. Manufacturer's name, symbol or trademark (copy format)*	K4	K4
E. Date of manufacture or symbol (copy format)	6 18 08	6 18 08
Do items A-C appear on weather side of rim? (Yes/No)	Yes	Yes
Letter height (not less than 3mm)	3.75 mm	3.75 mm
Lettering (impressed or embossed)	Impressed	Impressed
Are all rim markings legible? (Yes/No)	Yes	Yes
Do all markings comply with requirements? (Yes/No)	Yes	Yes

RIM MEASUREMENTS

	Right Front	Left Rear
Rim width (mm)	165	165
Rim diameter (mm)	407	407
Rim measurements same as rim markings? (Yes/No)	Yes	Yes
Rims are suitable for tires on vehicle? **	Yes	Yes

******Reference source used for tire/rim match verification: Tire and Rim Association Year Book 2008

Data Indicated Compliance: **Pass**

Remarks:
*The rim manufacturer Hayes Lemmerz uses the symbol or trademark "K4".

Recorded By: _____ Date: 11/13/08

Approved By: _____ Date: 11/13/08

DATA SHEET 4 (1 of 3)

VEHICLE PLACARD, AND TIRE INFLATION PRESSURE LABEL

Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**
VIN No.:	**1GBHG31C181210142**		

IDENTIFICATION OF VEHICLE LABELING

	(Yes/No)	Location	Pass/Fail
1. Certification Label*	Yes	Above driver's Head	Pass
2. Vehicle Placard*	Yes	Driver's Side B-Pillar	Pass
3. Tire Inflation Pressure Label*	No		

*Labels are to be located as specified in Section 12.4 of the NHTSA Test Procedure, TP-110T-02 dated, August 31, 2007.

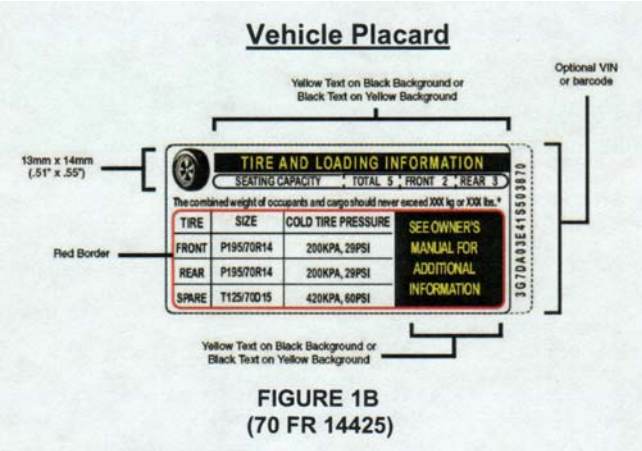

FIGURE 1B
(70 FR 14425)

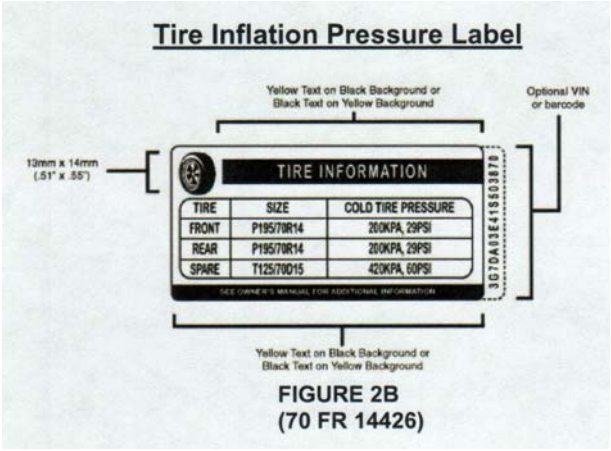

FIGURE 2B
(70 FR 14426)

Labeling Notes:

1. Tire size and pressure can be omitted from the Vehicle Placard if same data is displayed on a Tire Inflation Pressure Label.
2. The Alphanumeric Identifier or Barcode, is optional. It can be located vertically, along the right edge or the left edge of the placard or the label, or horizontally, along the bottom edge of the placard or the label.
3. Tire size can include the tire load range identification symbol ("XL" or "reinforced", "B", "C", "D", "E", or "F"), the load index number, and the speed rating symbol, located immediately to the right of the tire size designation.
4. The tire "SIZE" heading can be replaced with "ORIGINAL TIRE SIZE" or 'ORIGINAL SIZE."
5. The "SPARE" tire heading can be replaced with "SPARE TIRE."
6. For full size spare tires, the recommended cold tire inflation pressure can be replaced with "SEE ABOVE."
7. If no spare tire is provided, the word "NONE" is to replace the manufacturer's cold tire inflation pressure.

DATA SHEET 4 (2 of 3)

VEHICLE PLACARD, AND TIRE INFLATION PRESSURE LABEL

	Yes/No/NA
Vehicle Placard has the exact color and format as specified in the above Figure 1 and text is in the English language.	***No**
Tire Inflation Pressure Label, if provided, has the exact color and format as specified in the above Figure 2 and text is in English language.	NA
Vehicle Placard and, if provided, Tire Inflation Pressure Label are permanently affixed.	Yes

*See Laboratory Notice of Test Failure.

VEHICLE PLACARD INFORMATION

Combined weight of occupants and cargo: (kg)	4619.39 (See Remarks)
Seating Capacity Total:	21
Seating Capacity Front:	1
Seating Capacity Rear:	20
Is the number of belted seating positions the same as the labeled seat capacity?	Yes
Is the tire size and pressure provided?	Yes
If no, is the tire size and pressure provided on the Tire Inflation Pressure Label?	

VEHICLE PLACARD OR TIRE INFLATION PRESSURE LABEL TIRE INFORMATION

Tire Size:	Front: LT245-75R16	Rear: LT245/75/R16
Tire Inflation Pressure:	Front: 552 KPa (80 psi)	Rear: 552 KPa (80 psi)

Are the sizes of the installed tires the same as the sizes of the labeled tires?	Yes	
	Front Axle	Rear Axle
Is the labeled cold tire inflation pressure equal to or less than the sidewall labeled maximum cold tire inflation pressure?	Yes	Yes

VEHICLE CERTIFICATION LABEL INFORMATION

	Tire Size	Rim Size	Rim Suitable for Tire? (Yes/No)**
Front Axle	245/75R16	16 x 6.5	Yes
Rear Axle	245/75R16	16 x 6.5	Yes

**Referenced source used for tire/rim match verification: Tire and Rim Association Year Book 2008

DATA SHEET 4 (3 of 3)

VEHICLE PLACARD, AND TIRE INFLATION PRESSURE LABEL

	Yes/ No
Is (Are) tire size(s) listed on the vehicle placard and/or tire inflation pressure label also listed on the certification label with suitable rim size?	Yes

LABELED TIRE CAPACITY AT SPECIFIED PRESSURE

GVWR: 4356 kg	Front Axle	Rear Axle
A. GAWR (kg) from certification label	1860	2760
B. Tire load rating (kg) of labeled tire size at labeled inflation pressure*	1380	1380
C. Reduced tire load rating if applicable**		
D. (No. of tires) x (Tire load rating de-rated if appropriate (kg))	2760	2760
Is "D" equal to or greater than "A"? (Yes/No)	Yes	Yes

* Reference source used for determining load rating: Tire and Rim Association Year Book 2008

**If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating is reduced by dividing by 1.10.

Data Indicated Compliance: **Fail, (See Remarks and Laboratory Notice of Test Failure)**

Remarks: The Vehicle Placard value for the "combined weight of occupants and cargo" of 4619.39 KG was found to be incorrect. The correct value provided by the manufacturer prior to conducting the vehicle loading portion of this test was 2550 lbs (1157 KG). The manufacturer is conducting a recall campaign to correct the noted placard problems.

Recorded By: _____ Date: 11/13/08

Approved By: _____ Date: 11/13/08

DATA SHEET 5 (1 of 3)

CURB WEIGHT, NORMAL LOAD WEIGHT AND MAXIMUM VEHICLE WEIGHT

Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**
VIN No.:	**1GBHG31C181210142**		

FLUID LEVELS

Fuel:	FULL
Coolant:	FULL
Other Fluids: Washer fluid, brake fluid, etc.	FULL

TIRE PRESSURES

Tire	Left Front	Right Front	Left Rear	Right Rear
Tire Pressure (KPa)	552	552	552	552

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

Tire	Left Front	Right Front	Left Rear	Right Rear
Weight (kg)	752	722	816	782
Axle	Front Axle		Rear Axle	
Weight (kg)	1474		1598	
Total Vehicle Weight (kg)	3072			

B. MEASURED VEHICLE NORMAL LOAD WEIGHT (Test not performed)

(1) Seating Capacity from Vehicle Placard	NA
(2) Normal Load Number of Occupants	NA
Occupant Distribution: (Front Seat)	NA
Occupant Distribution: (Second Seat)	NA
Occupant Distribution: (Third Seat)	NA
Occupant Distribution: (Fourth Seat)	NA
(3) Total Normal Occupant Load (kg) (# of occupants x 68 kg per occupant)	NA

(4) Measured Normal Load on Axles

Tire	Left Front	Right Front	Left Rear	Right Rear
Weight (kg)	NA	NA	NA	NA
Axle	Front Axle		Rear Axle	
Weight (kg)	NA		NA	
Total Vehicle Weight (kg)	NA			

(5) Calculated Vehicle Normal Load on Tire	
Front Tires (measured front axle normal load/2) (kg)	NA
Rear Tires (measured rear axle normal load/2) (kg)	NA

DATA SHEET 5 (2 of 3)

CURB WEIGHT, NORMAL LOAD WEIGHT AND MAXIMUM VEHICLE WEIGHT

MEASURED NORMAL LOAD ON TIRE VS. VALUE OF 94% OF LOAD RATING FOR THAT TIRE AT SPECIFIED PRESSURE

Vehicle Normal Load on the Tire should not be greater than the Value of 94% of the load rating at the vehicle manufacturer's recommended cold inflation pressure.

	Front Axle	Rear Axle
A. Calculated Vehicle Normal Load on the Tire from (5)	NA	NA
B. Tire load rating (kg) of installed tire size at recommended cold inflation pressure*	NA	NA
C. Reduced tire load rating if applicable**		
D. 94% of tire load rating, de-rated if appropriate (kg)	NA	NA
Is "D" equal to or greater than "A"? (Yes/No)	NA	NA

* Reference source used for determining load rating: Tire and Rim Association Year Book 2008
**If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating is reduced by dividing by 1.10.

C. MEASURED VEHICLE WEIGHT WITH FULL OCCUPANT LOAD

(1) Seating Capacity from Vehicle Placard (Total)				21
			Front	1
			Rear	20
(2) Full Occupant Load (kg) (# of occupants x 68 kg per adult occupant and 54 kg per student occupant)				1148
(3) Measured Vehicle Weight with Full Occupant Load (total) (kg)				
Tire	Left Front	Right Front	Left Rear	Right Rear
Weight (kg)	838	758	1356	1270
Axle	Front Axle		Rear Axle	
Weight (kg)	1596		2624	
Total Vehicle Weight (kg)	4222			

D. MEASURED VEHICLE WEIGHT WITH MAXIMUM LOAD (PLACARD)

(1) Vehicle Capacity Weight (from placard) (kg)				1157
(2) Full Occupant Load (kg) (from C.(2) above)				1148
(3) Luggage/Cargo Load (subtract (2) from (1)) (kg)				9
(4) Measured Vehicle Maximum Load on Axles				
Tire	Left Front	Right Front	Left Rear	Right Rear
Weight (kg)	838	770	1356	1270
Axle	Front Axle		Rear Axle	
Weight (kg)	1606		2626	
Total Vehicle Weight (kg)	4232			

DATA SHEET 5 (3 of 3)

CURB WEIGHT, NORMAL LOAD WEIGHT AND MAXIMUM VEHICLE WEIGHT

WEIGHT DISTRIBUTION

Item	Tire or Vehicle Rating* (kg)	Unloaded Vehicle Weight (kg)		Vehicle Weight with Full Occupant Load (kg)		Vehicle Maximum Weight with Occupants and Cargo (kg)	
		Measured	Overload	Measured	Overload	Measured	Overload
Left Front Tire	1380	752	No	838	No	838	No
Right Front Tire	1380	722	No	758	No	770	No
Front Axle (GAWR)	1860	1474	No	1596	No	1606	No
Left Rear Tire	1380	816	No	1356	No	1356	No
Right Rear Tire	1380	782	No	1270	No	1270	No
Rear Axle (GAWR)	2760	1598	No	2624	No	2626	No
Total Vehicle (GVWR)	4356	3072	No	4222	No	4232	No

* Vehicle and axle weight ratings (GVWR & GAWR) are located on the vehicle certification label. Vehicle tire load ratings are based upon the inflation pressure specified on the Vehicle Placard or Tire Inflation Pressure Label for each respective axle, as determined from the appropriate Tire and Rim reference manual. If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus the tire's load rating is reduced by dividing by 1.10.

Data Indicated Compliance: **Pass**

Remarks: None

Recorded By: _____ Date: 11/13/08

Approved By: _____ Date: 11/13/08

DATA SHEET 6 (1 of 2)

OWNER'S MANUAL REQUIREMENTS

Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**
VIN No.:	**1GBHG31C181210142**		

OWNER'S MANUAL DISCUSSES

Part 575.6 (a) Paragraph	Required Discussion Topic	Discussed in Manual? (Yes/No)	Page Numbers
(4)(i)	Tire labeling, including a description and explanation of each marking on the tires provided with the vehicle, and information about the location of the Tire Identification Number (TIN).	Yes	5.57 – 63
(4)(ii)	(A) Description and explanation of recommended cold tire inflation pressure.	Yes	5.64
	(B) Description and explanation of FMVSS 110 Vehicle Placard and Tire Inflation Pressure Label and their location (s).	Yes	4.21 – 24
	(C) Description and explanation of adverse safety consequences of under-inflation including tire failure.	Yes	5.64
	(D) Description and explanation for measuring and adjusting air pressure to achieve proper inflation.	Yes	5.65
(4)(iii)	Glossary of tire terminology, including "cold tire pressure," maximum inflation pressure," and "recommended inflation pressure," and all non-technical terms defined in S3 of FMVSS 110 & 139.	Yes	5.61 – 63
(4)(vi)	Tire care, including maintenance and safety practices.	Yes	5.64 – 65
(4)(v)	(A) Description and explanation of locating and understanding load limit information, total load capacity, seating capacity, towing capacity, and cargo capacity.	Yes	4.20 – 35
	(B) Description and explanation for calculating total and cargo load capacities with varying seating configurations including quantitative examples showing/illustrating how the vehicle's cargo and luggage capacity decreases as the combined number and size of occupants increase.	Yes	4.20 – 24
	(C) Description and explanation for determining compatibility of tire and vehicle load capabilities.	Yes	4.20 – 24
	(D) Description and explanation of adverse safety consequences of overloading on handling and stopping and on tires.	Yes	4.20 - 24

DATA SHEET 6 (2 of 2)

OWNER'S MANUAL REQUIREMENTS

	(Yes/No)
The following verbatim statement, in the English language, is provided in the Owner's Manual. Reference Part 575.6(a)(5)	Yes

STEPS FOR DETERMINING CORRECT LOAD LIMIT---

(1) Locate the statements "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle's placard.

(2) Determine the combined weight of the driver and passengers that will be riding in your vehicle.

(3) Subtract the combined weight of the driver and passenger from XXX kg or XXX lbs.

(4) The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400lbs. and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (1400-750 (5x150)=650 lbs.)

(5) Determine the combined weight of the luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.

(6) If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

Data Indicated Compliance: **Pass**

Remarks: None

Recorded By:  Date: 11/13/08

Approved By:  Date: 11/13/08

SECTION 4

INSTRUMENTATION AND EQUIPMENT LIST

Test Vehicle: **2009 THOMAS MINOTOUR SCHOOL BUS** NHTSA No.: **C90901**
Test Lab: **MGA RESEARCH CORPORATION** Test Dates: **10/20/08 – 11/13/08**

	Digital Caliper	Vehicle Scale	Tape Measure
Make	Mitutoyo	GSE	Stanley
Model	CD-6" CX	465	Powerlock
Serial # (s)	05389443	004804	SN 33-231
Range	0-150mm	0 to 20,000 lb	0-8 m
Accuracy	0.01mm	0.25% static	1 mm
Cal. Date	01/18/08	09/09/08	08/19/08
Cal. Due Date	01/18/09	12/09/08	02/19/09

INSTRUMENTATION AND EQUIPMENT LIST

Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**

SCALE CALIBRATION SHEET

Confidential **REPORT OF INSPECTION AND CALIBRATION** *Trade Secret*

Operating Under A2LA Accreditation #2006.01; Performed by **Certified Scale Inc.** N57 W13640 Carmen Avenue, Menomonee Falls, WI 53051. As Directed by **MGA Research Corporation**

TYPE DIGITAL FLOOR CLASS IIIL MODEL 465 CAPACITY 20,000
MANUFACTURER GSE SERIAL # 004804 ID# NONE MAX. LOAD 15,000
LOCATION BUS AND TRUCK BAY 1 MINIMUM DIVISION 5 UNITS Lbs.

TEST AND UNCERTAINTY PROCEDURE JUSTIFICATION

PLEASE REFER TO TEST JUSTIFICATION AND UNCERTAINTY POLICY MADE PART OF SCALE MAINTENANCE AND CALIBRATION PROCEDURE MANUAL; SERIAL # MGA-704-L1

☐ THERE WAS NO DEVIATION IN PROCEDURE AS WRITTEN
☑ DEVIATION FROM PROCEDURE IS NOTED HEREUPON

NIST TRACEABLE TEST STANDARDS USED THIS CALIBRATION

50# NUMBERS E800 THRU E819
500# NUMBERS THRU
1000# NUMBERS NSI 01 THRU NSI 15
SUBSTITUTION LOAD ☐

TEST WEIGHT CERTIFICATION

PLEASE REFER TO TEST STANDARD TRACEABILITY DOCUMENTS MADE PART OF SCALE MAINTENANCE AND CALIBRATION PROCEDURE MANUAL; SERIAL # MGA-704-L1

ESTIMATE OF ENVIRONMENTAL CONDITIONS

Temperature 69° Humidity 47 % Air Movement Minimal
Vibration Minimal Other none

VISUAL INSPECTION	ACCEPT	REJECT
FUNCTIONALITY; as left	✓	
REPEATABILITY/SENSITIVITY; as left	✓	
PHYSICAL CONDITION; as left	✓	
SUITABILITY FOR INTENDED USE	✓	

LOCATION OF TEST/NOTICE OF SUB-CONTRACTOR

☐ This test was conducted at Certified Scale Inc. facility, Menomonee Falls, WI
☑ This test was conducted within the customer facility; located at :
5000 Warren Road, Burlington, WI 53105
☐ Subcontracted to:

***** FINAL TEST RESULTS *****

TEST POINT	AS FOUND EXPECTED VALUE	AS FOUND MEASURED VALUE	AS FOUND ERROR	ACCEPT	REJECT	AS LEFT MEASURED VALUE	AS LEFT ERROR	ACCEPT	REJECT	TOLERANCES LOW LIMIT	TOLERANCES HIGH LIMIT
SCALE #1											
DISTRIBUTION	1000	995	<5>	✓		1000	0	✓		995	1005
DISTRIBUTION	2000	1995	<5>	✓		2000	0	✓		1995	2005
DISTRIBUTION	3000	2995	<5>	✓		3000	0	✓		2990	3010
DISTRIBUTION	4000	3995	<5>	✓		4000	0	✓		3990	4010
DISTRIBUTION	5000	4990	<10>	✓		5000	0	✓		4990	5010
DISTRIBUTION	10,000	9990	<10>	✓		10000	0	✓		9980	10,020
DISTRIBUTION	15,000	14985	<15>	✓		15000	0	✓		14,970	15,030
DISTRIBUTION	17000 ~~18,000~~	16985	<15>	✓		17000	0	✓		17,960	18,040

PAGE (1) OF (2)

***** FINAL CONCLUSIONS *****

AS FOUND: ACCEPT ☑ REJECT ☐ | AS LEFT: ACCEPT ☑ REJECT ☐ | ACTION PENDING: ☐

***** STATEMENT OF ESTIMATED UNCERTAINTY AND CONFIDENCE *****

☐ ESTIMATED UNCERTAINTY OF THIS CALIBRATION IS ____________; BY CSI TYPE EVALUATION DEFAULT; WITH A CONFIDENCE LEVEL OF 99%.
☑ UNCERTAINTY OF THIS CALIBRATION IS UNKNOWN BY STATISTICAL CALCULATION; ASSUMED EQUAL TO ±50% OF THE MINIMUM VALID DIVISION.

M.W.P. APPROVED

Technician's Comments/Observations/Opinions: Adjusted Calibration

MGA2 - NM:6/05

** THIS REPORT IS APPLICABLE ONLY TO THE DEVICE IDENTIFIED IN THE LOCATION SPECIFIED AS PART OF THIS REPORT. **

The serial number of this report is C90908MGA02. "This report may not be duplicated without written consent of Certified Scale Inc."

This report, page (1) of (1) was completed on 9/9/2008 (Date) by [signature] (Certified Scale Inc. Representative).

Next scheduled Full Calibration is due ~~12/2008~~ EP 9-9-2009 (Date). Next Preventive Maintenance visit is due none (Date).

Revision - O Certified Scale Inc. - Quality Procedure Manual - Controlled Document R-510L1RIC (File #5.10.c)

Page 1 of 1

The calibration sheet incorrectly shows the next scheduled full calibration due December 2008. The calibration interval for this instrument is 12 months. The next scheduled full calibration is due September 9, 2009.

Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**

SCALE CALIBRATION SHEET

Confidential **REPORT OF INSPECTION AND CALIBRATION** *Trade Secret*

Operating Under A2LA Accreditation #2006.01; Performed by Certified Scale Inc. N57 W13640 Carmen Avenue, Menomonee Falls, WI 53051. As Directed by MGA Research Corporation

TYPE DIGITAL FLOOR — CLASS IIII — MODEL 465 — CAPACITY 20,000
MANUFACTURER GSE — SERIAL # 004804 — ID# NONE — MAX. LOAD 15,000
LOCATION BUS AND TRUCK BAY 2 — MINIMUM DIVISION 5 — UNITS Lbs.

TEST AND UNCERTAINTY PROCEDURE JUSTIFICATION

PLEASE REFER TO TEST JUSTIFICATION AND UNCERTAINTY POLICY MADE PART OF SCALE MAINTENANCE AND CALIBRATION PROCEDURE MANUAL; SERIAL # MGA-704-L1

☐ THERE WAS NO DEVIATION IN PROCEDURE AS WRITTEN

☑ DEVIATION FROM PROCEDURE IS NOTED HEREUPON

NIST TRACEABLE TEST STANDARDS USED THIS CALIBRATION

50# NUMBERS C800 C500 THRU E819
500# NUMBERS NSI 02 THRU NSI 15
1000# NUMBERS NSI 01 THRU NSI 15
SUBSTITUTION LOAD ☐

TEST WEIGHT CERTIFICATION

PLEASE REFER TO TEST STANDARD TRACEABILITY DOCUMENTS MADE PART OF SCALE MAINTENANCE AND CALIBRATION PROCEDURE MANUAL; SERIAL # MGA-704-L1

ESTIMATE OF ENVIRONMENTAL CONDITIONS

Temperature 69° Humidity 47 % Air Movement Minimal
Vibration Minimal Other none

VISUAL INSPECTION	ACCEPT	REJECT
FUNCTIONALITY; as left	✓	
REPEATABILITY/SENSITIVITY; as left	✓	
PHYSICAL CONDITION; as left	✓	
SUITABILITY FOR INTENDED USE	✓	

LOCATION OF TEST/NOTICE OF SUB-CONTRACTOR

☐ This test was conducted at Certified Scale Inc. facility, Menomonee Falls, WI.

☑ This test was conducted within the customer facility; located at: 5000 Warren Road, Burlington, WI 53105

☐ Subcontracted to:

***** FINAL TEST RESULTS *****

TEST POINT	AS FOUND			ACCEPT	REJECT	AS LEFT		ACCEPT	REJECT	TOLERANCES	
	EXPECTED VALUE	MEASURED VALUE	ERROR			MEASURED VALUE	ERROR			LOW LIMIT	HIGH LIMIT
SCALE #2											
DISTRIBUTION	1000	995	<5>	✓		1000	0	✓		995	1005
DISTRIBUTION	2000	1995	<5>	✓		2000	0	✓		1995	2005
DISTRIBUTION	3000	2995	<5>	✓		3000	0	✓		2990	3010
DISTRIBUTION	4000	3995	<5>	✓		4000	0	✓		3990	4010
DISTRIBUTION	5000	4990	<10>	✓		5000	0	✓		4990	5010
DISTRIBUTION	10,000	9990	<10>	✓		10000	0	✓		9980	10,020
DISTRIBUTION	15,000	14985	<15>	✓		15000	0	✓		14,970	15,030
DISTRIBUTION	17000 18,000	16985	<15>	✓		17000	0	✓		17,960	18,040

PAGE (1) OF (2)

***** FINAL CONCLUSIONS *****

AS FOUND: ACCEPT ☑ REJECT ☐ | AS LEFT: ACCEPT ☑ REJECT ☐ | ACTION PENDING: ☐

***** STATEMENT OF ESTIMATED UNCERTAINTY AND CONFIDENCE *****

☐ ESTIMATED UNCERTAINTY OF THIS CALIBRATION IS ________; BY CSI TYPE EVALUATION DEFAULT; WITH A CONFIDENCE LEVEL OF 99%.

☑ UNCERTAINTY OF THIS CALIBRATION IS UNKNOWN BY STATISTICAL CALCULATION; ASSUMED EQUAL TO ±50% OF THE MINIMUM VALID DIVISION.

M.W.R. APPROVED

Technician's Comments/Observations/Opinions: Adjusted Calibration

MGA2 - Mod.6/05

** THIS REPORT IS APPLICABLE ONLY TO THE DEVICE IDENTIFIED IN THE LOCATION SPECIFIED AS PART OF THIS REPORT. **

The serial number of this report is 090908MGA 02. "This report may not be duplicated without written consent of Certified Scale Inc."

This report, page (1) of (1) was completed on 9/9/2008 (Date) by [signature] (Certified Scale Inc. Representative).

Next scheduled Full Calibration is due 12/2008 (Date) 9-9-2009. Next Preventive Maintenance visit is due none (Date).

Revision - 0 — Certified Scale Inc. - Quality Procedure Manual - Controlled Document — R-510L1RIC (File #5.10.c)

Page 1 of 1

The calibration sheet incorrectly shows the next scheduled full calibration due December 2008. The calibration interval for this instrument is 12 months. The next scheduled full calibration is due September 9, 2009.

SECTION 5

PHOTOGRAPHS

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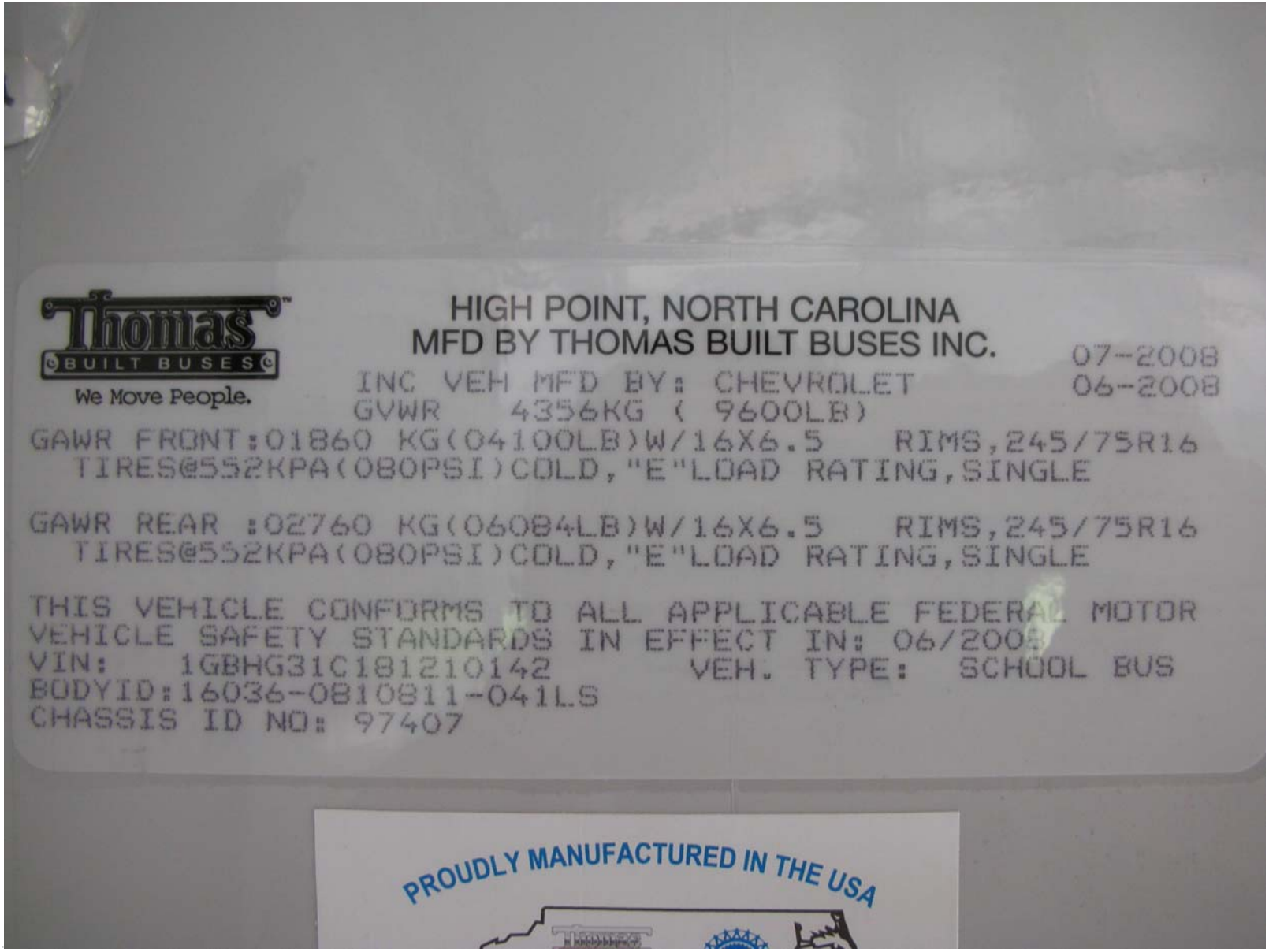
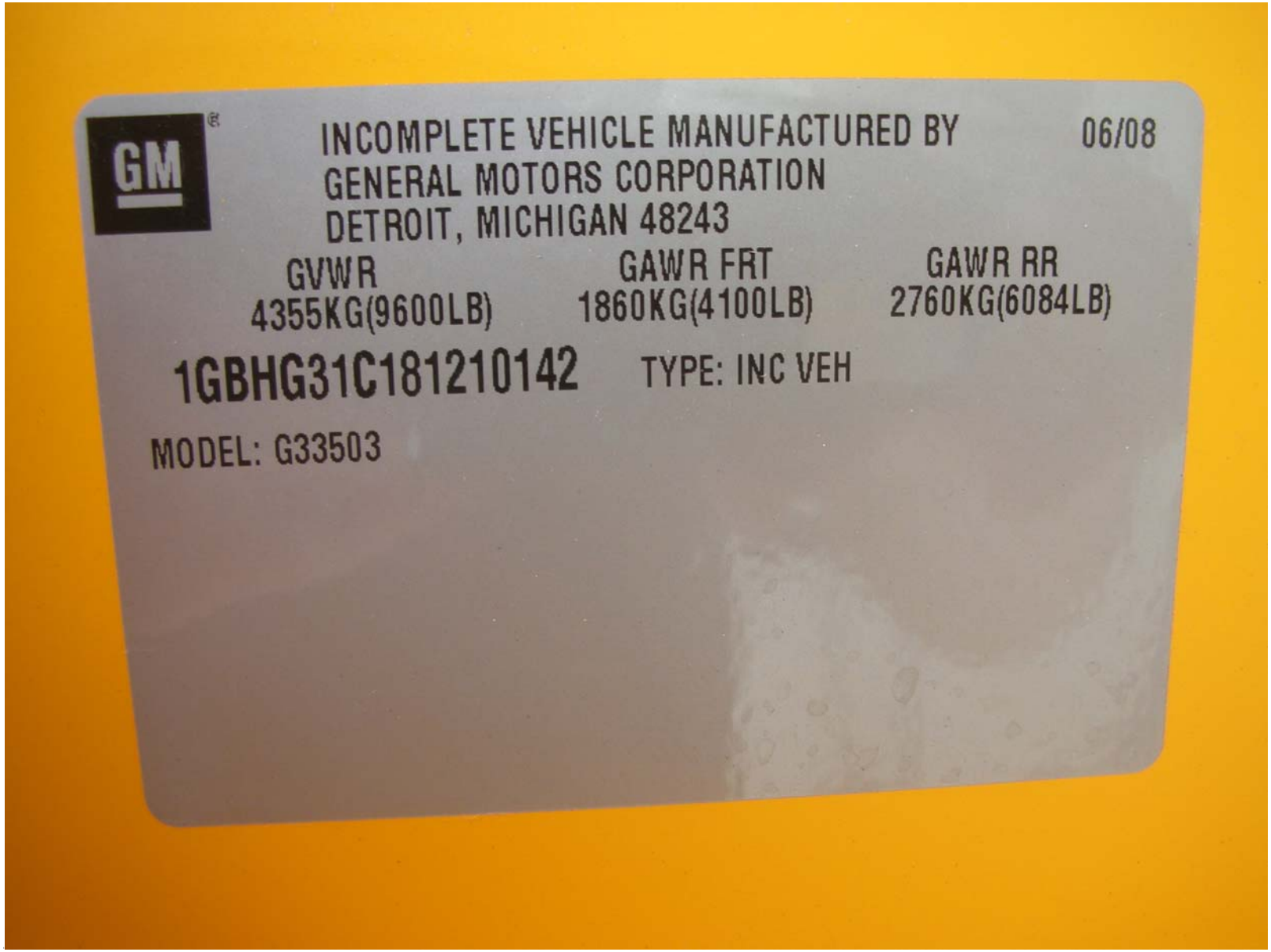
Test Vehicle:	**2009 THOMAS MINOTOUR SCHOOL BUS**	NHTSA No.:	**C90901**
Test Lab:	**MGA RESEARCH CORPORATION**	Test Dates:	**10/20/08 – 11/13/08**

Left Side Three-Quarter Frontal View of Test Vehicle

Right Side Three-Quarter Rear View of Vehicle



Certification Label



Incomplete Vehicle Label

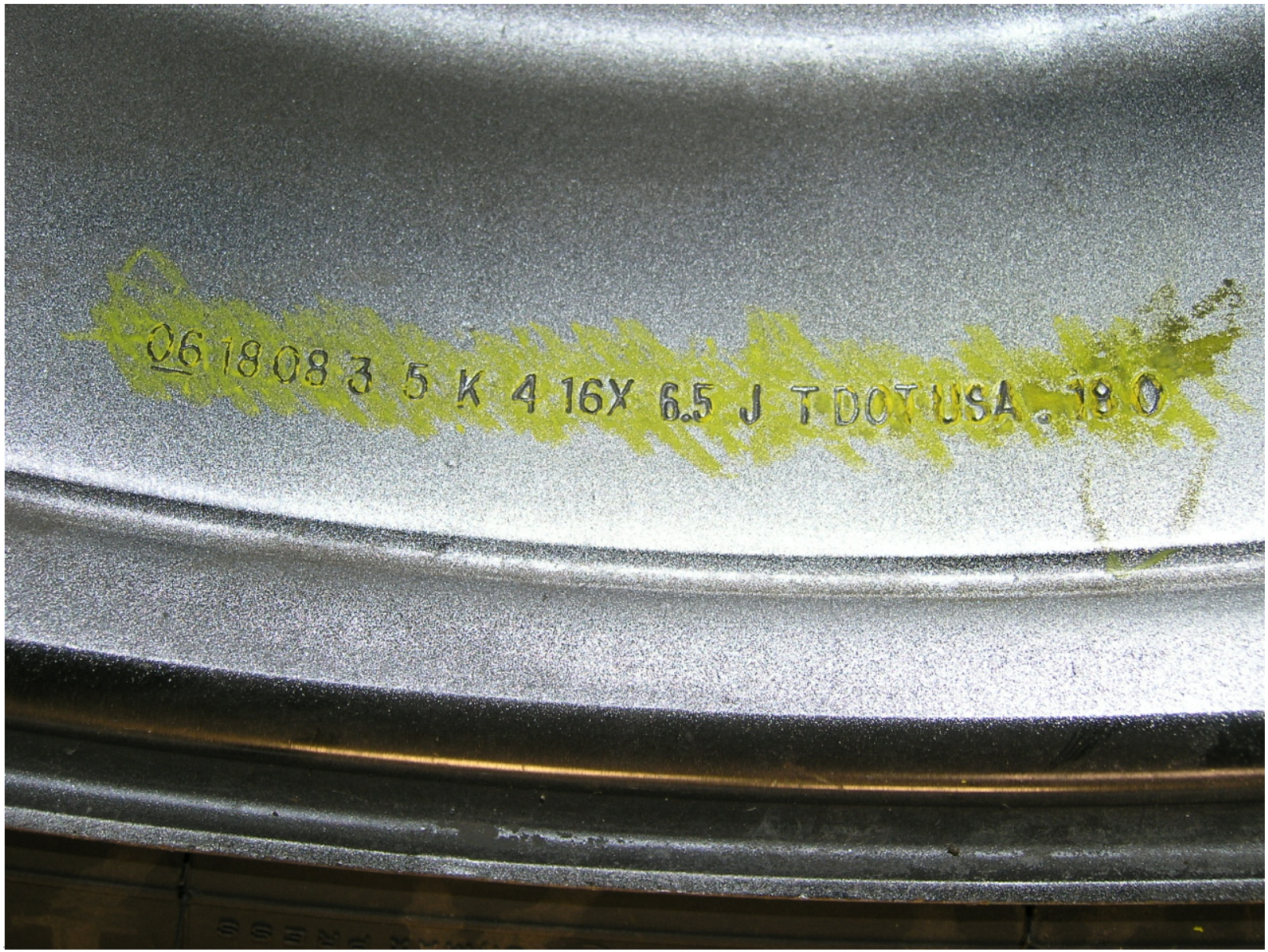
Vehicle Placard

Right Front Tire Manufacturer

Right Front Tire Model

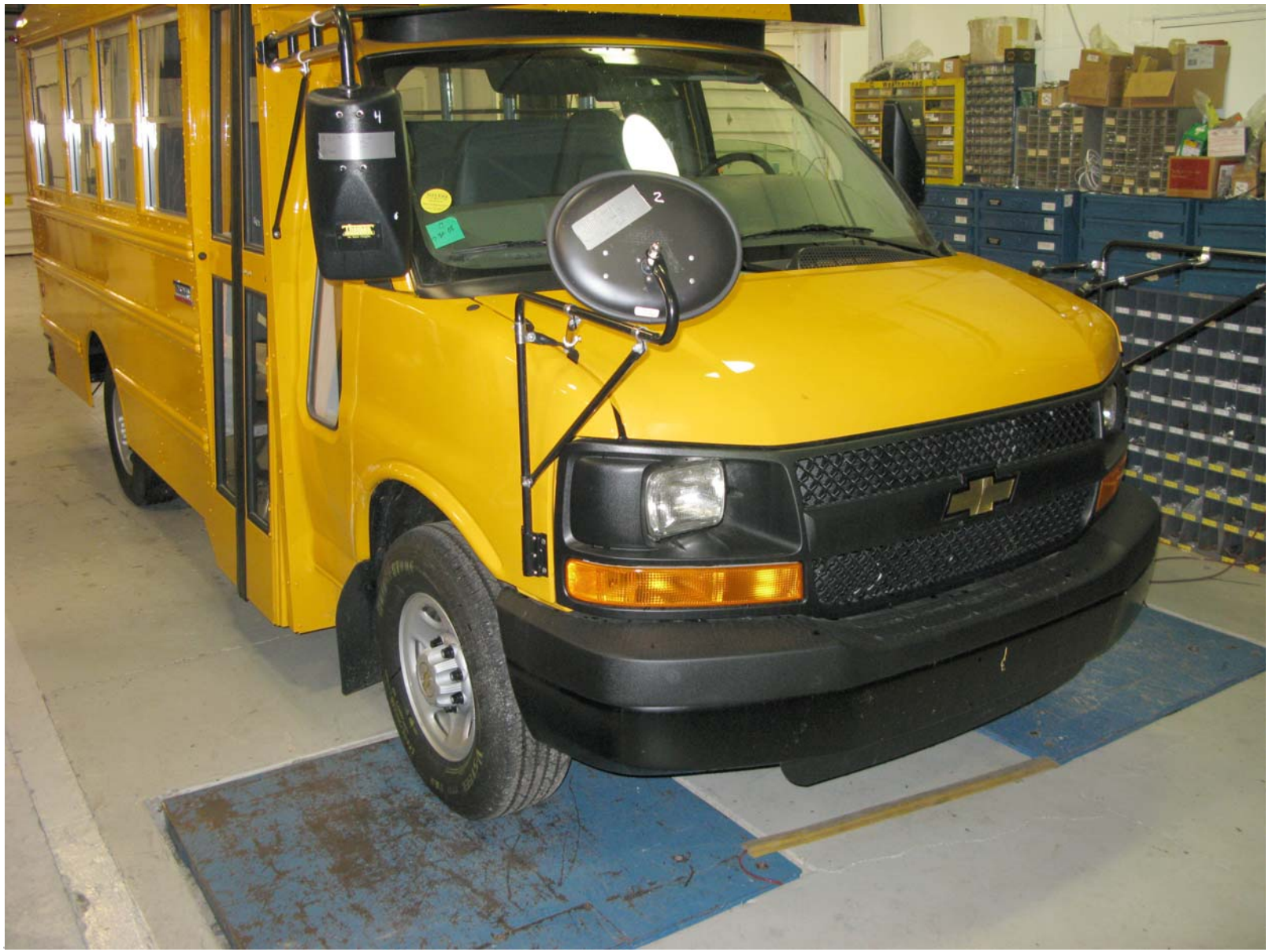
Right Front Tire DOT Serial Number, Tire Load Range Identification and Tire Size Designation

Right Front Tire Max Load Ratings and Max Inflation Pressure



Right Front Rim DOT, Source of Published Information, Date of Manufacture Markings and Right Front Rim Size

Right Front Rim Manufacturer



Vehicle on Scales Doing Measurement of Front Axle Loads

Vehicle on Scales Doing Measurement of Rear Axle Loads

Simulated Interior Occupant Ballast

Simulated Interior Cargo Ballast

SECTION 6

LABORATORY NOTICE OF TEST FAILURE

LABORATORY NOTICE OF TEST FAILURE TO OVSC

Test Procedure:	FMVSS 110	Test Date:	October 22, 2008
Test Vehicle:	Thomas Minitour	Test Lab:	MGA Research Corp.
NHTSA No.:	C90901	Project Engineer:	Eric Peschman
Contract No.:	DTNH22-08-D-00075	Delivery Order No.:	5
MFR.:	Thomas Built Buses	VIN:	1GBHG31C181210142
Build Date:	07/08		

TEST FAILURE DESCRIPTION

1. S4.3(a) – The vehicle capacity weight (VCW) figure provided on the label appears incorrect. The bus GVWR is specified as 9,600 pounds but the VCW given is greater then that at 10,184 pounds. The VCW figure should be approximately the GVWR less the unloaded vehicle weight.

2. S4.3(a) – The word “and” should be added between “occupants/cargo” in the VCW statement.

3. S4.3(a) – The VCW figures provided should be in kilogram units first followed by pound units.

4. S4.3(b) – The seating capacity information location and format on the label is incorrect.
   a. Location should be at top of label directly below the title.
   b. Format should provide a figure for only “TOTAL,” “FRONT,” and “REAR” seating capacity. Furthermore, the figures provided on the label are incorrect because the total capacity is 21 but only 15 individual seating positions are listed.

5. S4.3(c) and (d) – Format for identification of tires and inflation pressures are not correct.
   a. Tire sizes are commonly labeled with a slash (/) between the tire width and aspect ratio.
   b. Spare tire and corresponding inflation pressure should be identified and listed as “None” if a spare tire is not provided.
   c. Inflation pressures should be provided in metric units followed by English units.
6. S4.3(e) – The title of the label is incorrect and should be “Tire and Loading Information.”

FMVSS REQUIREMENTS DESCRIPTION

S4.3 *Placard.* Each vehicle, except for a trailer or incomplete vehicle, shall show the information specified in S4.3 (a) through (g), and may show, at the manufacturer's option, the information specified in S4.3 (h) and (i), on a placard permanently affixed to the driver's side B-pillar. In each vehicle without a driver's side B-pillar and with two doors on the driver's side of the vehicle opening in opposite directions, the placard shall be affixed on the forward edge of the rear side door. If the above locations do not permit the affixing of a placard that is legible, visible and prominent, the placard shall be permanently affixed to the rear edge of the driver's side door. If this location does not permit the affixing of a placard that is legible, visible and prominent, the placard shall be affixed to the inward facing surface of the vehicle next to the driver's seating position. This information shall be in the English language and conform in color

and format, not including the border surrounding the entire placard, as shown in the example set forth in Figure 1 in this standard. At the manufacturer's option, the information specified in S4.3 (c), (d), and, as appropriate, (h) and (i) may be shown, alternatively to being shown on the placard, on a tire inflation pressure label which must conform in color and format, not including the border surrounding the entire label, as shown in the example set forth in Figure 2 in this standard. The label shall be permanently affixed and proximate to the placard required by this paragraph. The information specified in S4.3 (e) shall be shown on both the vehicle placard and on the tire inflation pressure label (if such a label is affixed to provide the information specified in S4.3 (c), (d), and, as appropriate, (h) and (i)) may be shown in the format and color scheme set forth in Figures 1 and 2. If the vehicle is a motor home and is equipped with a propane supply, the weight of full propane tanks must be included in the vehicle's unloaded vehicle weight. If the vehicle is a motor home and is equipped with an on-board potable water supply, the weight of such on-board water must be treated as cargo.

(a) Vehicle capacity weight expressed as “The combined weight of occupants and cargo should never exceed XXX kilograms or XXX pounds”;

(b) Designated seated capacity (expressed in terms of total number of occupants and number of occupants for each front and rear seat location);

(c) Vehicle manufacturer's recommended cold tire inflation pressure for front, rear and spare tires, subject to the limitations of S4.3.4. For full size spare tires, the statement “see above” may, at the manufacturer's option replace manufacturer's recommended cold tire inflation pressure. If no spare tire is provided, the word “none” must replace the manufacturer's recommended cold tire inflation pressure.

(d) Tire size designation, indicated by the headings “size” or “original tire size” or “original size,” and “spare tire” or “spare,” for the tires installed at the time of the first purchase for purposes other than resale. For full size spare tires, the statement “see above” may, at the manufacturer's option replace the tire size designation. If no spare tire is provided, the word “none” must replace the tire size designation;

(e) On the vehicle placard, “Tire and Loading Information and, on the tire inflation pressure label, “Tire Information”;

Remarks: No remarks.

Notification to NHTSA (COTR): Lawrence Q. Valvo

By: _____ Date: 10/22/08