

REPORT NUMBER: 120-MGA-05-004

HS#  
637933

**SAFETY COMPLIANCE TESTING FOR  
FMVSS NO. 120  
TIRE SELECTION AND RIMS  
FOR MOTOR VEHICLES OTHER THAN PASSENGER CARS**

**Girardin Minibus Inc.  
2005 Minibus  
NHTSA No. C60902**

**PREPARED BY:  
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BURLINGTON, WI 53105**



**Final Report Date: July 19, 2006**

**FINAL REPORT**

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



**Technical Report Documentation Page**

1. Report No. 120-MGA-05-004		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 120 Compliance Testing of 2005 Girardin Minibus School Bus NHTSA No.:C50902				5. Report Date July 19, 2005	
				6. Performing Organization Code MGA	
7. Author(s) James Hansen, Project Manager John Roberts, Project Engineer				8. Performing Organization Report No. 120-MGA-05-004	
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105				10. Work Unit No.	
				11. Contract or Grant No. DTNH22-02-D-01057	
12. Sponsoring Agency Name and Address  U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance 400 Seventh St., S.W. Room 8115 (NVS-224) Washington, D.C. 20590				13. Type of Report and Period Covered Final Report 06/27/05 - 07/19/05	
				14. Sponsoring Agency Code NVS-224	
15. Supplementary Notes					
16. Abstract A test was conducted on a 2005 US Girardin Minibus School Bus, NHTSA No. C50902, in accordance with FMVSS 120, "Tire selection and rims for motor vehicles other than passenger cars," and TP-120-03. The vehicle was weighed in the unloaded and fully loaded conditions and its tires, rims, and related information were checked.  Test failures were as follows:  None					
17. Key Words  Compliance Testing Safety Engineering FMVSS 120				18. Distribution Statement Copies of this report are available from: NHTSA Technical Information Services (TIS) Room 2338 (NAD-405) 400 Seventh Street, S.W. Washington, D.C. 20590 (202) 366-4948	
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 31	22. Price

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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 MY2005 Girardin Minibus School Bus, NHTSA No.: C50902, in accordance with the requirements stated in Federal Motor Vehicle Safety Standard (FMVSS) No. 120, "Tire Selection and Rims for Motor Vehicles other than Passenger Cars."

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.

**SECTION 2**  
**TEST PROCEDURE AND DISCUSSION OF RESULTS**

Testing of the 2005 Girardin Minibus School Bus conducted at MGA Research Corporation - Wisconsin Operations in accordance with NHTSA TP-120-03, dated April 10, 2000 and MGA-TP-120-03 dated November 20, 2002. 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 certification and tire information labeling was surveyed to ensure that the vehicle manufacturer's recommended rims were suitable for the recommended tires, 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 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 Nineteen passengers (one adult driver and eighteen students) .

Condition 3 – Vehicle in Condition 2 state plus the addition of ballast to simulate cargo loading. Target vehicle load is the certified gross weight rating (GVWR).

The vehicle mounted tires inflated to the inflation pressure labeled on the tire sidewall have a load rating appropriate to carry the maximum loads as required by FMVSS No. 120. The vehicle rims are suitable for the vehicle tires and contain the required markings.

**SECTION 2...continued**  
**TEST PROCEDURE AND DISCUSSION OF RESULTS**

Test Lab: MGA Research-Wisconsin Operations Contract No: DTNH22-02-D-01057

Vehicle Make/Model: Girardin/Minibus MY: 2006

NHTSA No.: C50902 VIN: 1FDSE35L85HA02436 Vehicle Type: School Bus

Incomplete Veh. Make/Model: Ford

Designated Seating Capacity: 19 (1 driver, 18 passengers)

Dealer Installed Optional Accessories: None Noted

**Summary**

Requirements	PASS/FAIL
<b>TIRE AND RIM SELECTION (S6.1)</b> Installed tires and rims are suitable for vehicle	<b>PASS</b>
<b>Rim Marking (S6.2)</b> Rims contain all required markings of proper dimensions	<b>PASS</b>
<b>LABEL INFORMATION (S6.3)</b> Vehicle has proper certification/tire information label. Label tires at recommended inflation pressure and rims are suitable for vehicle.	<b>PASS</b>
<b>Weight Distribution (49 CFR 567 Certification)</b> Vehicle loaded with occupants and cargo does not exceed GVWR	<b>PASS</b>
<b>Results:</b> Test data indicates compliance with FMVSS 120	<b>PASS</b>

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



**FMVSS 120 - DATA SHEET 1  
GENERAL TIRE AND RIM DATA**

Test Vehicle: 2005 Girardin Minibus  
Test Lab: MGA Research-Wisconsin Operations

NHTSA No.: C50902  
Test Date: 8/27/05

**GENERAL DATA**

Tire Type: (Passenger car or other)	Light Truck
Are the tire and rim sizes the same for all axles, including the spare?	YES
Does the tire size fitted to the axles appear on the Certification or Tire label? (If NO, describe)	YES
Number of axles	2
Dual tires on rear axle(s)	NO

**TIRE DATA FROM SIDEWALL**

	RIGHT FRONT	SPARE
Manufacturer	Hankook	
Brand	Dynapro AS	
Tire Size	LT245/75R16	
Maximum Tire Load Rating (KG)	1380-Single 1260-Dual	
De-rated Tire Load Rating (KG)	N/A	
Maximum Inflation Pressure (KPA)	550	
Tire has DOT symbol (Yes/No)	Yes	
DOT serial number	DOT T7XD 5JNH	

**MOUNTED TIRE VS. AXLE RATING COMPARISON  
(AT SIDEWALL MAXIMUM INFLATION PRESSURE)**

	FRONT AXLE	REAR AXLE
A. GAWR (KG) from certification label	2086	2759
B. (No. of tires) x (tire load rating (KG) from above table)	2760	2760
C. Is "B" equal to or greater than "A"? (Yes/No)	Yes	Yes

**FMVSS 120 - DATA SHEET 1...continued  
GENERAL TIRE AND RIM DATA**

Test Vehicle: **2005 Girardin Minibus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C50902**  
Test Date: **6/27/05**

**RIM MARKINGS**

	RIGHT FRONT	SPARE
Source of published dimensions (letter designation)	T	
Rim Size	16 x 7	
Does rim contain DOT symbol? (Yes/No)	Yes	
Manufacturer's name, symbol or trademark (copy format)	Accuride	
Date of manufacture or symbol	07 25 04	
Do items A-C appear on weather side of rim? (Yes/No)	Yes	
Letter height (not less than 3mm)	Yes - 5 mm	
Lettering (impressed or embossed)	Impressed	
Are all rim markings legible? (Yes/No)	Yes	
Do all markings comply with requirements? (Yes/No)	Yes	
Rims are suitable for tires on vehicles? (Yes/No)	Yes	

**RIM MEASUREMENTS**

	RIGHT FRONT	SPARE
Rim width	175 mm (7")	
Rim diameter	813 mm (18")	
Rim measurements same as rim markings? (Yes/No)	Yes	

RESULTS	PASS/FAIL
<b>TIRE AND RIM SELECTION (S5.1)</b> Installed tires and rims are suitable for vehicle	<b>PASS</b>
<b>Rim Marking (S5.2)</b> Rims contain all required markings of proper dimensions	<b>PASS</b>

Remarks: **NONE**

Tested By: *JL Webb* Approved By: *[Signature]*  
Date: June 27, 2005

**FMVSS 120 - DATA SHEET 2  
CERTIFICATION AND TIRE LABEL INFORMATION**

Test Vehicle: **2005 Girardin Minibus**  
Test Lab: **NGA Research-Wisconsin Operations**

NHTSA No.: **C50902**  
Test Date: **6/27/05**

**LABEL INFORMATION**

Label Design (Combined Certification and Tire Label):	Yes
Label Design (Separate Tire Information Label):	N/A
Label in English? (Yes/No)	Yes
Block capital letter and numbers are not less than 2.4 mm in height (yes/no):	Yes
Label is permanently affixed; describe method of affixing (rivets, glue, etc.)	glue
Does label text color contrast with background? (yes/no)	Yes
Location of Label(s) on the vehicle:	Above Driver's Door

**TIRE AND RIM DATA FROM LABEL (FOR EACH GAWR/GVWR)**

GVWR: <b>4354 KG</b>	FRONT AXLE	REAR AXLE
Tire Size	LT245/75R16	LT245/75R16
Rim Size	16 x 7	16 x 7
Recommended inflation pressure (KPa)	380	550
Are labeled rims suitable for labeled tires (Yes/No) <sup>1</sup>	Yes	Yes
Referenced load rating at label recommended inflation pressure (KG) <sup>1</sup>	1241	1350

<sup>1</sup> Referenced source for tire/rim match and load rating data: 2005 Tire and Rim Assoc.

**CERTIFICATION/TIRE LABEL MAXIMUM CAPACITY COMPARISON**

GVWR: <b>4354 KG</b>	FRONT AXLE	REAR AXLE
A. GAWR (kg) FROM CERTIFICATION LABEL	(C) 2086	(D) 2759
B. (No. of tires) x (Tire load rating (KG))	2482	2760
Is "B" equal or greater than "A"? (Yes/No)	Yes	Yes
Is (C) plus (D) equal to or greater than GVWR? (Yes/No)	Yes	

RESULTS	PASS/FAIL
<b>LABEL INFORMATION (85.3)</b> Vehicle has proper certification/tire information label. Label tires at recommended inflation pressure and rims are suitable for vehicle.	<b>PASS</b>

Tested By: J. O. B. Approved By: [Signature]  
Date: June 27, 2005

**FMVSS 120 - DATA SHEET 3  
WEIGHT DISTRIBUTION**

Test Vehicle: **2005 Girardin Minibus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C50902**  
Test Date: **8/27/05**

Fluid Levels				
Fuel:			FULL	
Coolant:			FULL	
Other Fluids: <u>Washer fluid, brake fluid, etc.</u>			FULL	
Tire Pressures				
Tire	Left Front	Right Front	Left Rear	Right Rear
Tire Pressure (KPa)	380	380	550	550
Occupant and Cargo Loads				
Total Occupant Load (kg): [# of designated seating positions x 68 KG per adult or 54 KG per student]			1040 (1-driver, 18-students)	
Manufacturer's Rated Cargo Load (kg): [If not stated on vehicle or provided in owner's manual leave blank]			N/A	
Certified GVWR - Measured UVW - Total Occupant Load = Rated Cargo Load 4354 KG - 2994 KG - 1040 KG = 320 KG (must be positive)				
Describe Placement of Cargo:		Center of aisle Fore to Aft distribution		

**Weight Distribution**

ITEM	Tire or Vehicle Rating* (KG)	CONDITION 1 UVW (KG)		CONDITION 2 Cond. 1 + occupants (KG)		CONDITION 3 Cond. 2 + cargo (KG)	
		Measured	Overload	Measured	Overload	Measured	Overload
Left Front Tire	1241	670	NO	808	NO	828	NO
Right Front Tire	1241	728	NO	788	NO	778	NO
Front Axle	2088	1398	NO	1574	NO	1604	NO
Left Rear Tire	1380	806	NO	1294	NO	1432	YES**
Right Rear Tire	1380	792	NO	1182	NO	1314	NO
Rear Axle	2759	1598	NO	2478	NO	2746	NO
Total Vehicle	4354	2994	NO	4052	NO	4350	NO

\* - Vehicle and axle weight ratings (GVWR & GAWR) are located on the vehicle certification label plate. Vehicle tire load ratings are based upon the inflation pressure specified on the certification label plate for each respective axle, as determined from the appropriate tire manufacturer's specification table.

\*\* - For condition 3, the target total vehicle load was the vehicle's GVWR. The amount and placement of the cargo ballast was arbitrary. The total cargo ballast load could have been reduced and redistributed to ensure that none of the tire, axle, or vehicle ratings were exceeded.

FMVSS 120 – DATA SHEET 3...continued  
WEIGHT DISTRIBUTION

Test Vehicle: 2005 Girardin Minibus  
Test Lab: MGA Research-Wisconsin Operations

NHTSA No.: C50902  
Test Date: 6/27/05

RESULTS	PASS/FAIL
Weight Distribution (49 CFR 567 Certification) Vehicle loaded with occupants and cargo does not exceed GVWR	PASS

Remarks:

Tested By: *J. R. Webb* Approved By: *[Signature]*  
Date: June 27, 2005

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

**Test Vehicle:** 2005 Girardin Minibus  
**Test Lab:** NGA Research-Wisconsin Operations

**NHTSA No.:** C50902  
**Test Date:** 6/27/05

	Digital Caliper	Vehicle Scale	Tape Measure
Make	Mitutoyo	GSE	Stanley
Model	CD-6" CS	Pro-Weigh 84	Powerlock
Serial # (s)	0441288	212081/212082	SN152
Range	0-150mm	0 to 20,000 lb	0-8 m
Accuracy	.01mm	0.25% static	1 mm
Cal. Date	4/1/05	6/10/05	5/31/05
Cal. Due Date	10/1/05	12/10/05	11/31/05



**SECTION 4...continued**  
**INSTRUMENTATION AND EQUIPMENT LIST**

Test Vehicle: **2005 Girardin Minibus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C80902**  
 Test Date: **6/27/05**

**SCALE CALIBRATION SHEET**

*Calibration* *Field Use*

**OPERATING INSTRUCTIONS**  
 Operating Under NHTSA Approval: **NO. 100-100000-01**  
 Issued by: **U.S. DEPARTMENT OF TRANSPORTATION**

**TYPE:** SCALE **MANUFACTURER:** ... **MODEL:** ... **DATE:** ...

**LOCATION:** ... **TESTER:** ... **DATE:** ...

This instrument is used for the purpose of ...

This instrument is used for the purpose of ...

**FUNCTIONALITY:** ...

**ACCURACY:** ...

**REPRODUCIBILITY:** ...

**STABILITY:** ...

**VERIFIABILITY:** ...

Test Point	In Process			After			Tolerance	
	Expected Value	Measured Value	Error	Expected Value	Measured Value	Error	Upper Limit	Lower Limit
WEIGHT	1000	1000	0	1000	1000	0	1000	1000
WEIGHT	2000	2000	0	2000	2000	0	2000	2000
WEIGHT	3000	3000	0	3000	3000	0	3000	3000
WEIGHT	4000	4000	0	4000	4000	0	4000	4000
WEIGHT	5000	5000	0	5000	5000	0	5000	5000
WEIGHT	6000	6000	0	6000	6000	0	6000	6000
WEIGHT	7000	7000	0	7000	7000	0	7000	7000
WEIGHT	8000	8000	0	8000	8000	0	8000	8000

Accuracy of instrument is ...

Accuracy of instrument is ...

**TESTER'S SIGNATURE:** ...

**APPROVED**

The serial number of this report is **C80902-12-05**

Report, page **2** of **3** was recorded on **6/27/05**

Next scheduled Full Calibration is due **12-05**

Rating - **D** Certified Technician - Quality Program Director - Calibration Department



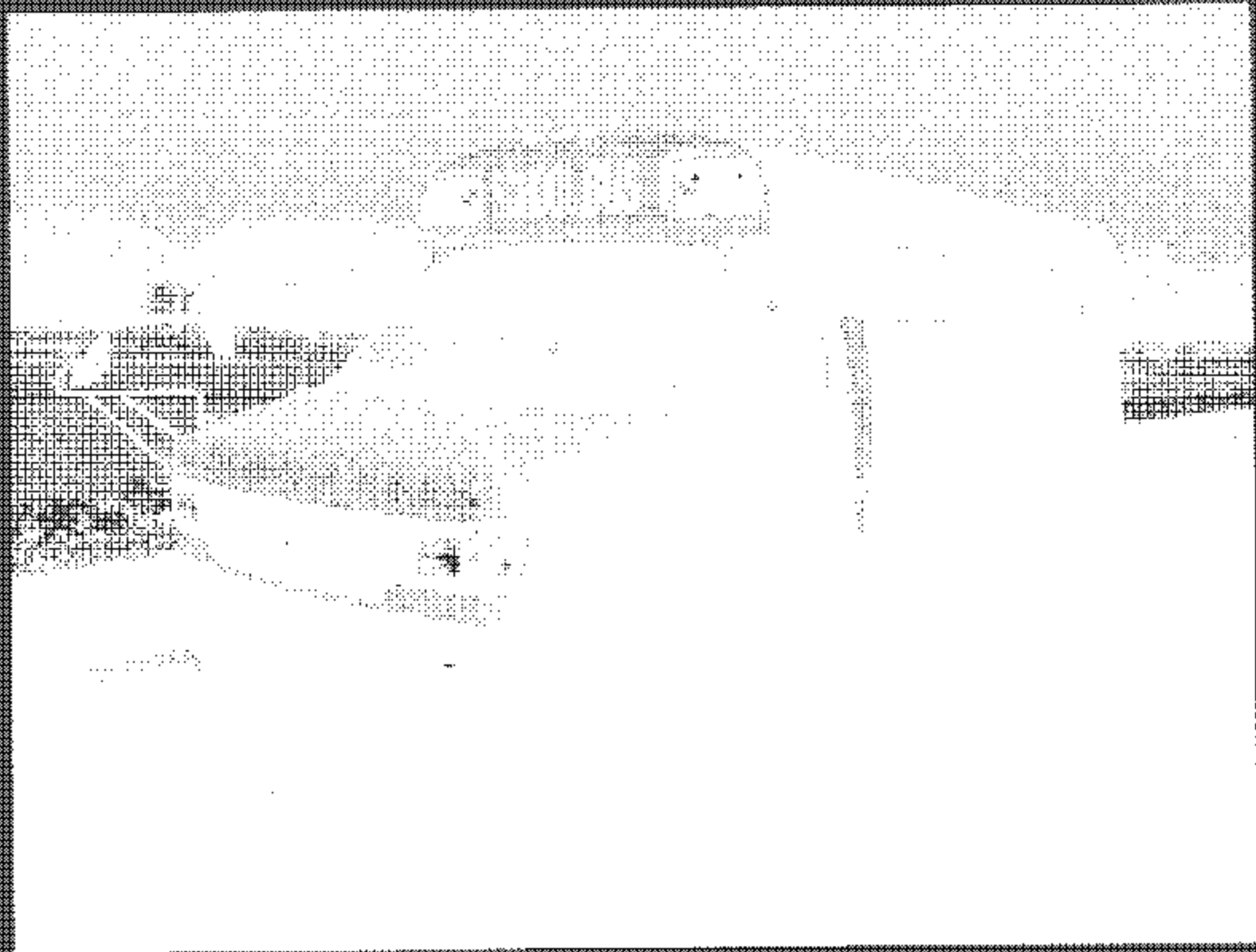
**SECTION 5**  
**PHOTOGRAPHS**

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Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

NHTSA No: C80902



15

Three-Quarter Frontal View of Left Side of Test Vehicle

Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

NHTSA No.: C60902



Three-Quarter Rear View from Left Side of Vehicle

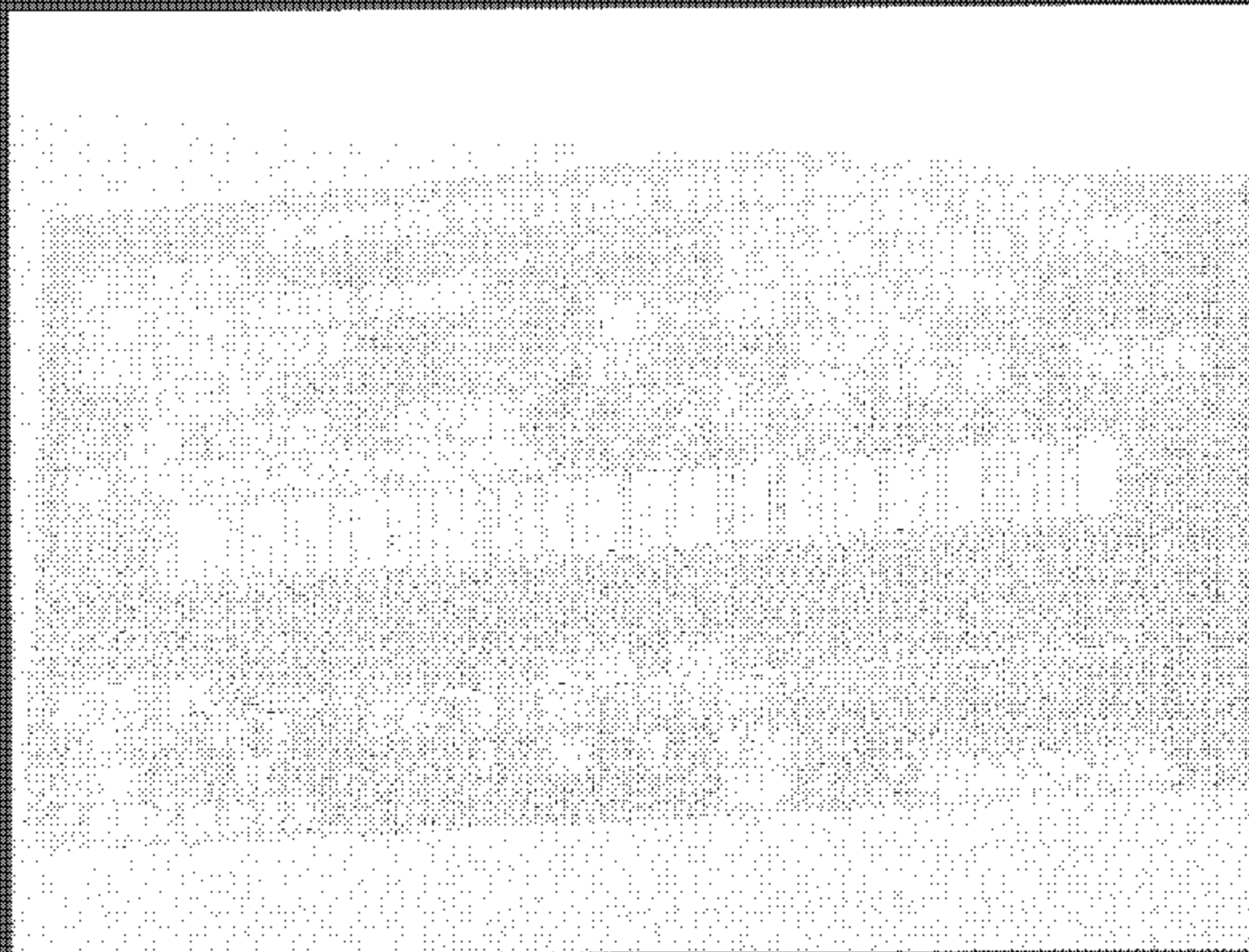
Test Vehicle: 2008 Girardin Minibus School Bus  
Procedure: FMVSS 120

NHTSA No. C50002



Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

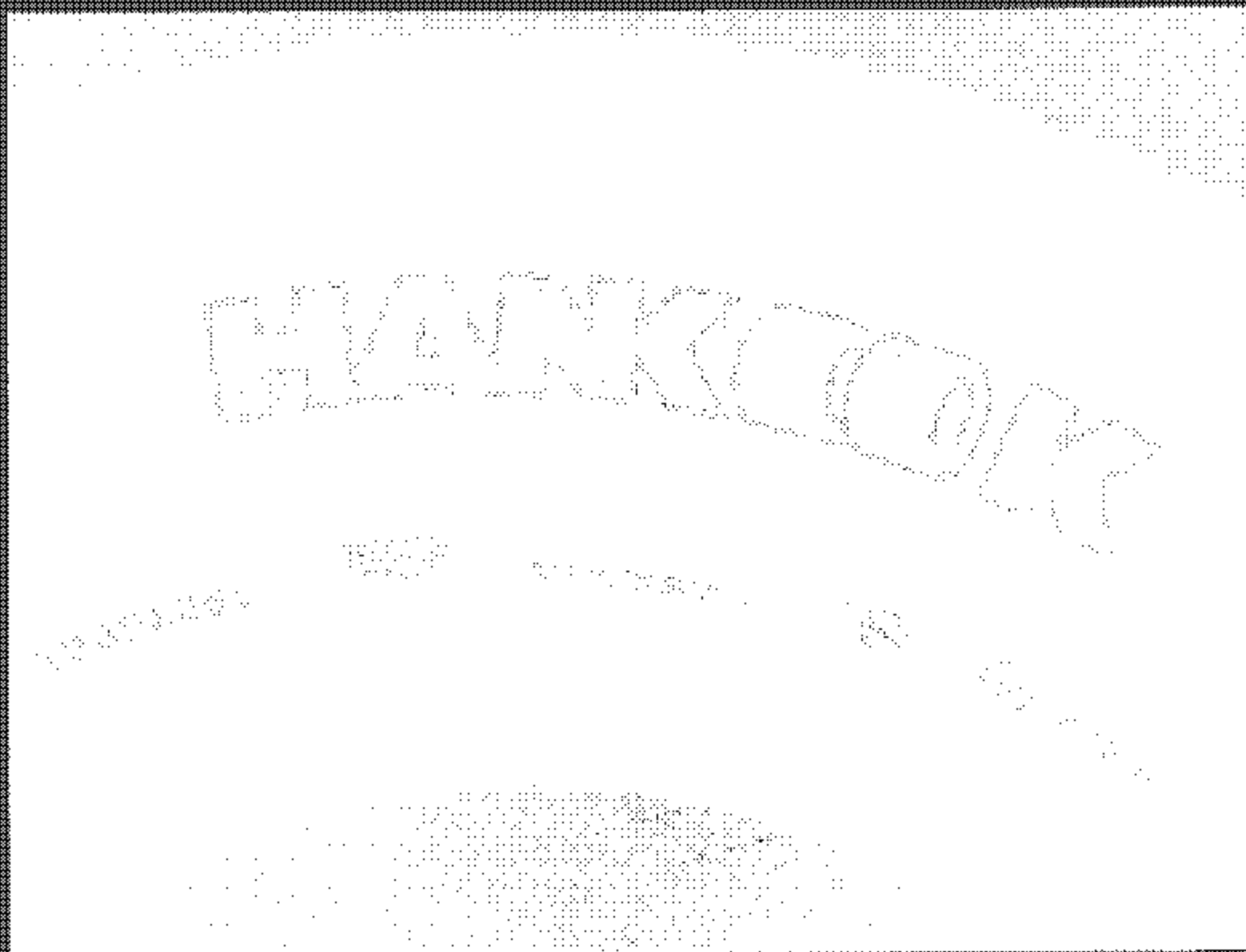
NHTSA No: C50902



Tire Information Label

Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

NHTSA No.: C5080Z



Right Front Tire Manufacturer

Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

NHTSA No.: C50802

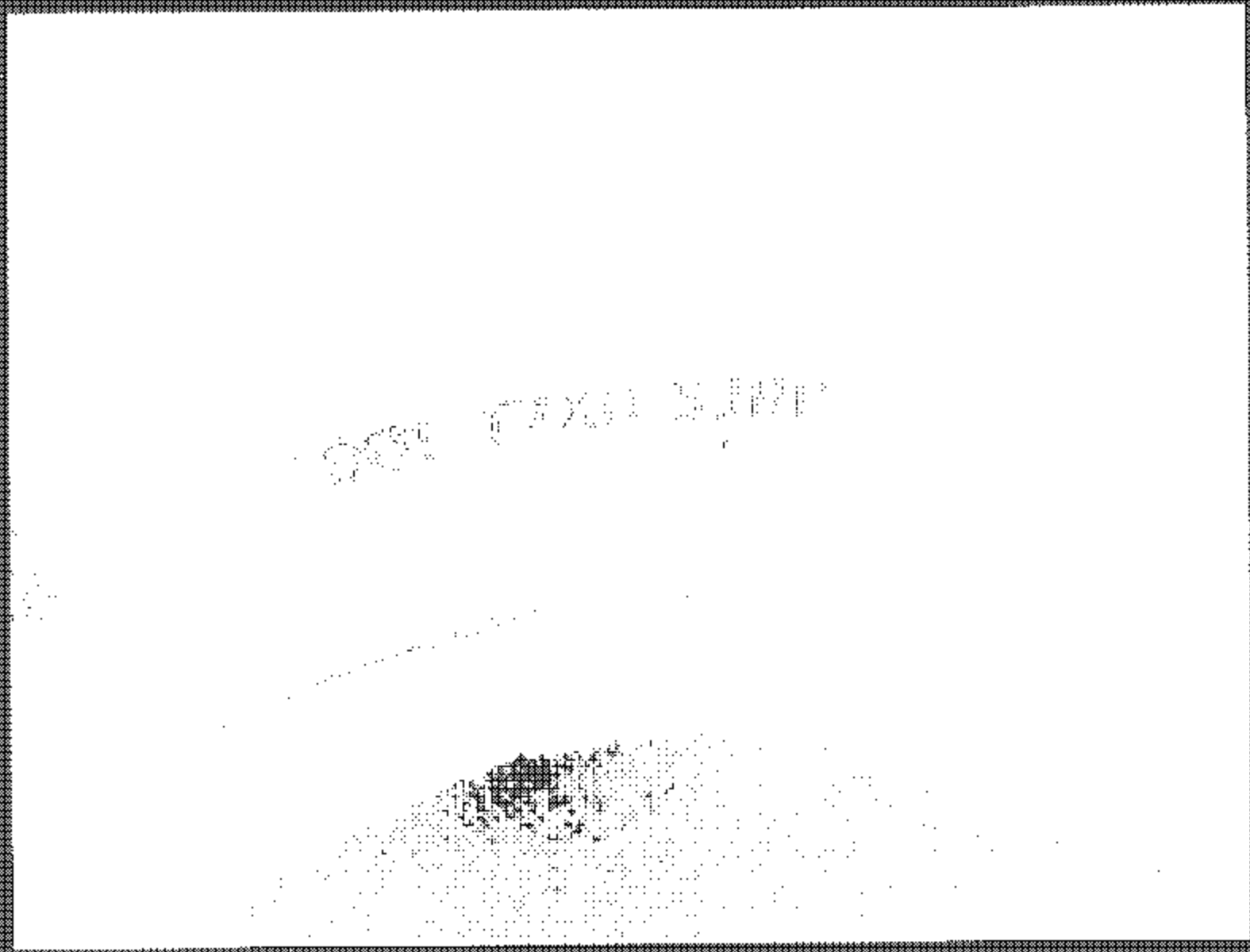


Right Front Tire Model Number



Test Vehicle: 2006 Girardin Minibus School Bus  
Procedure: FMVSS 120

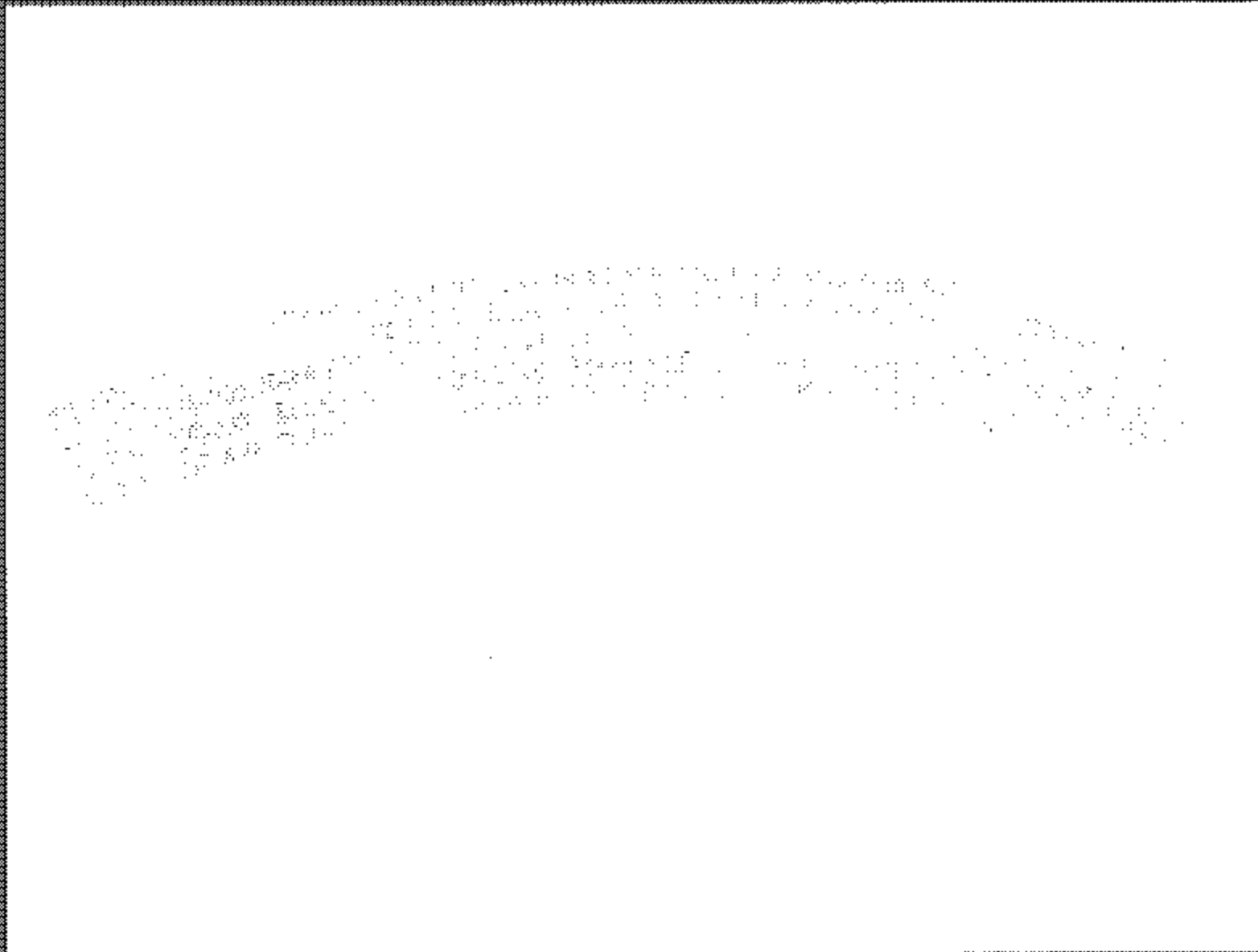
NHTSA No.: C50902



Right Front Tire DOT Serial Number

Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

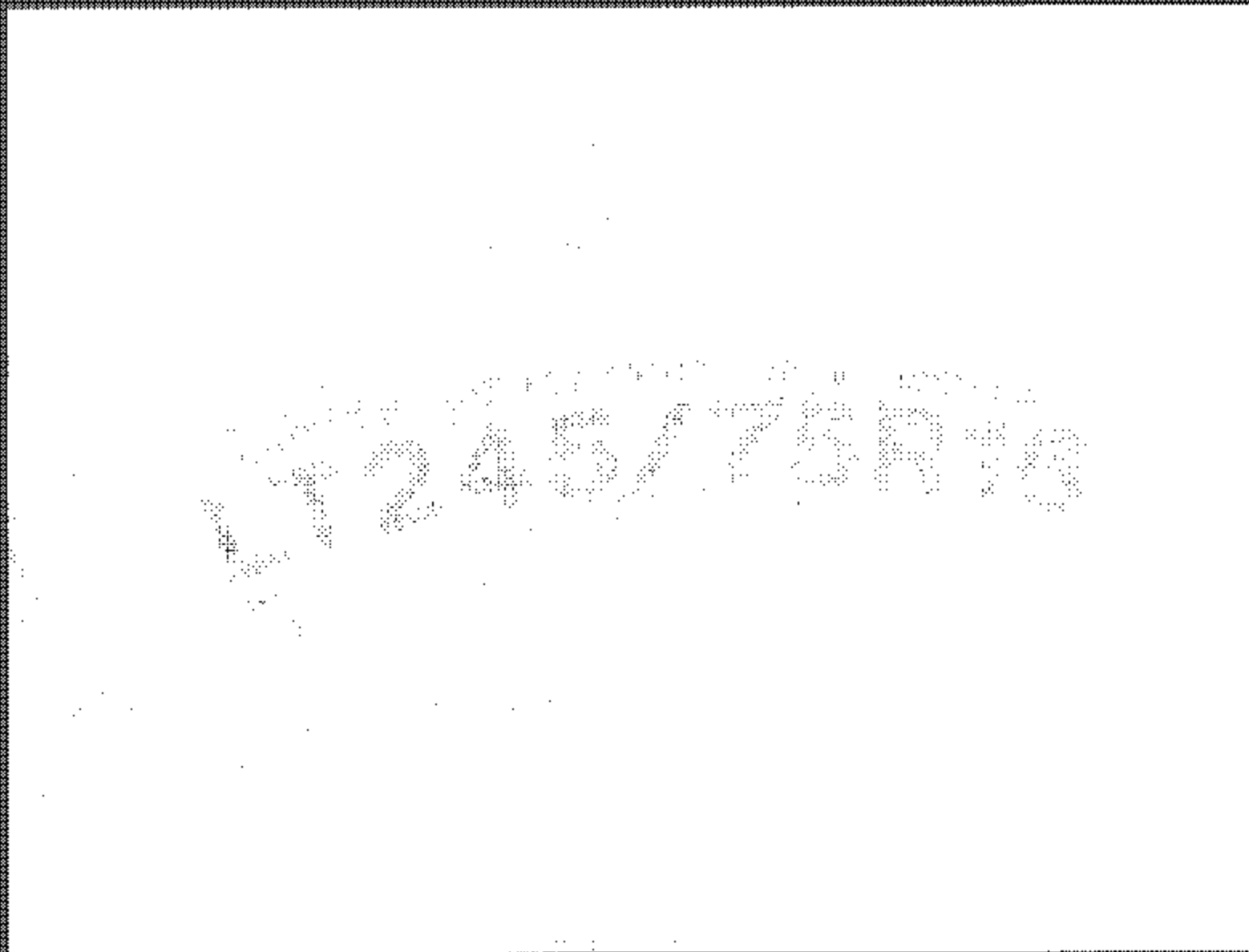
NHTSA No: C50902



Right Front Tire Load Ratings

Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

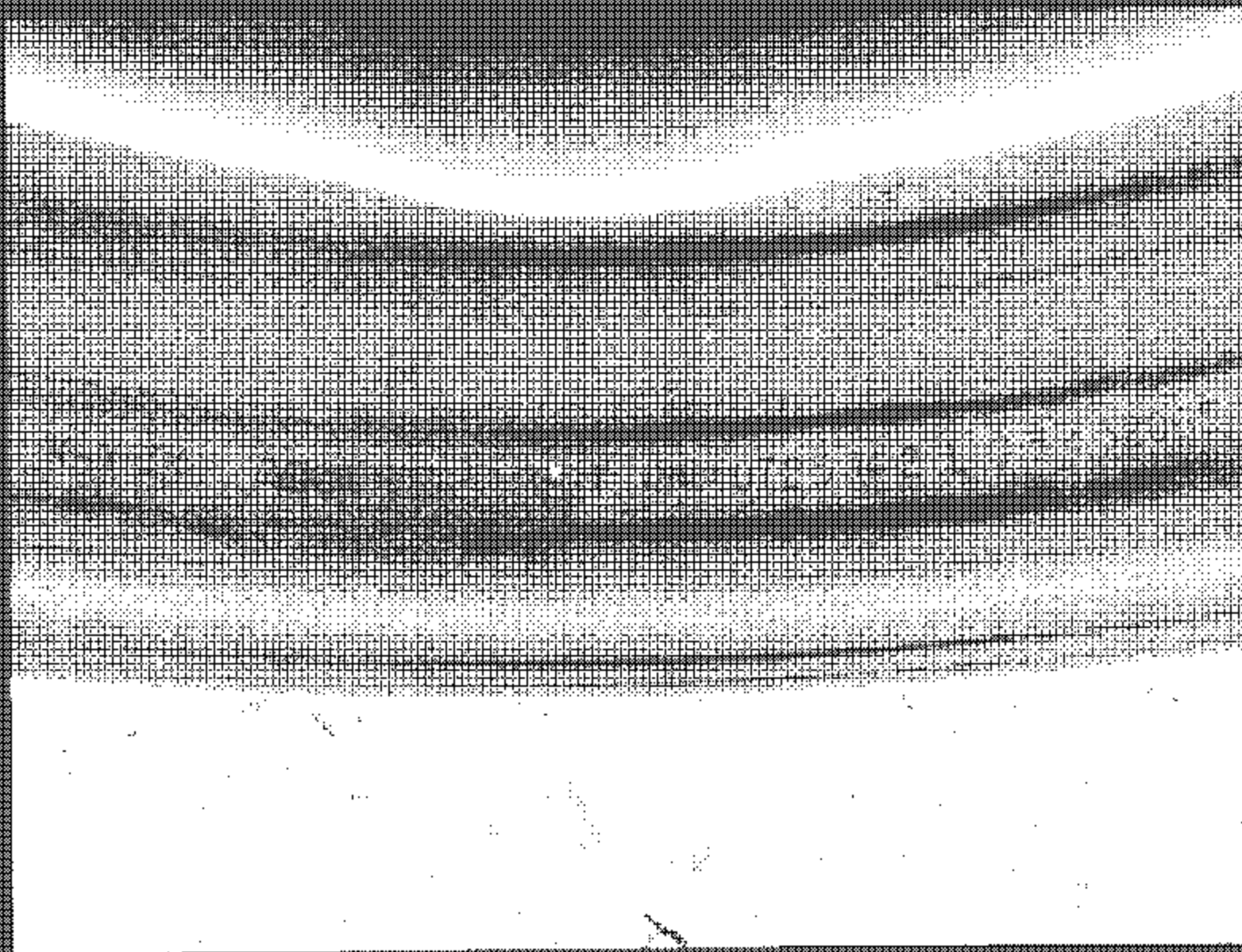
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Right Front Tire Size Designation

Test Vehicle: 2005 Grandin Minibus School Bus  
Procedure: FMVSS 120

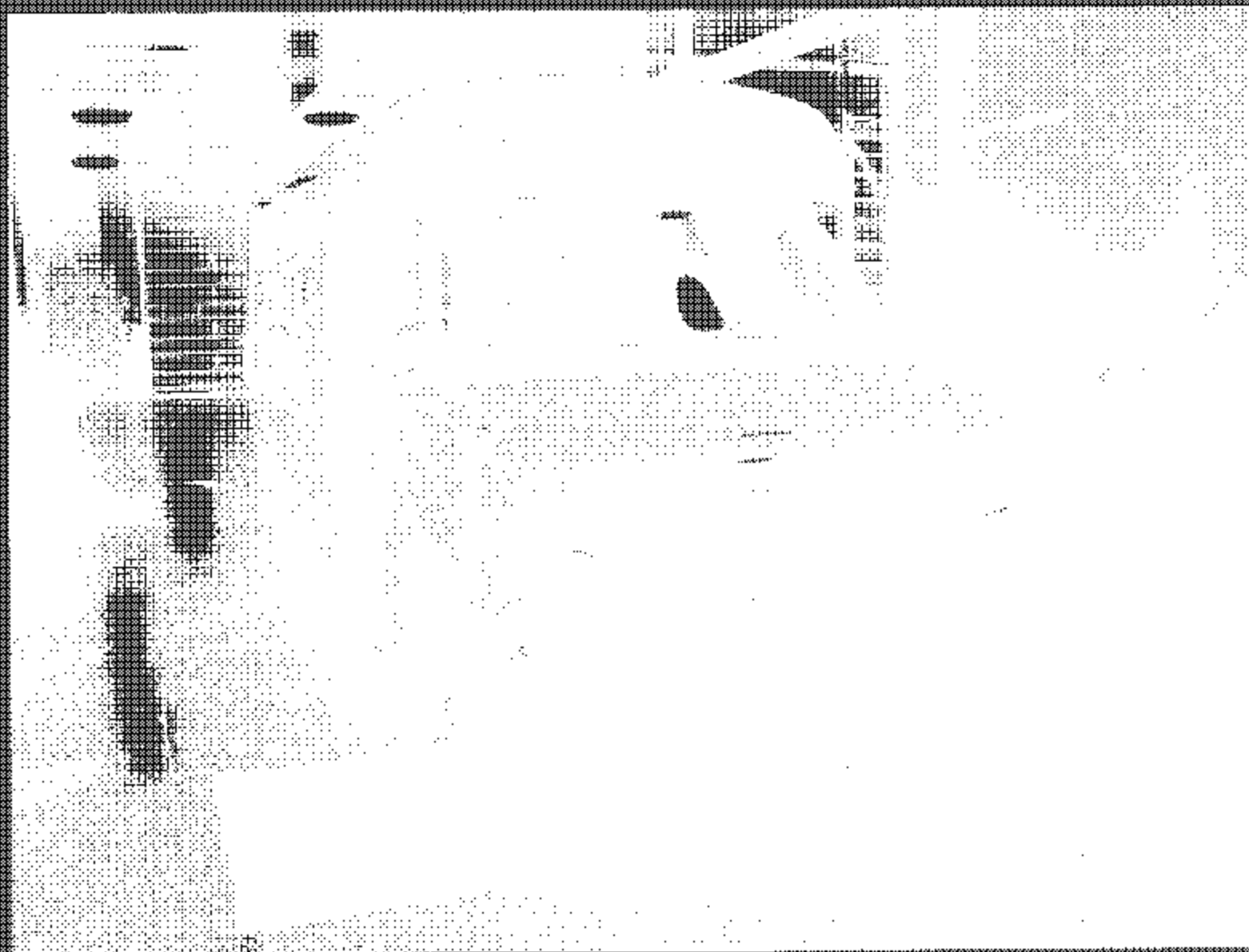
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Right Front Rim Manufacturer, DOT, Rim Size, Source of Published Information, and Date of Manufacture Markings

Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 128

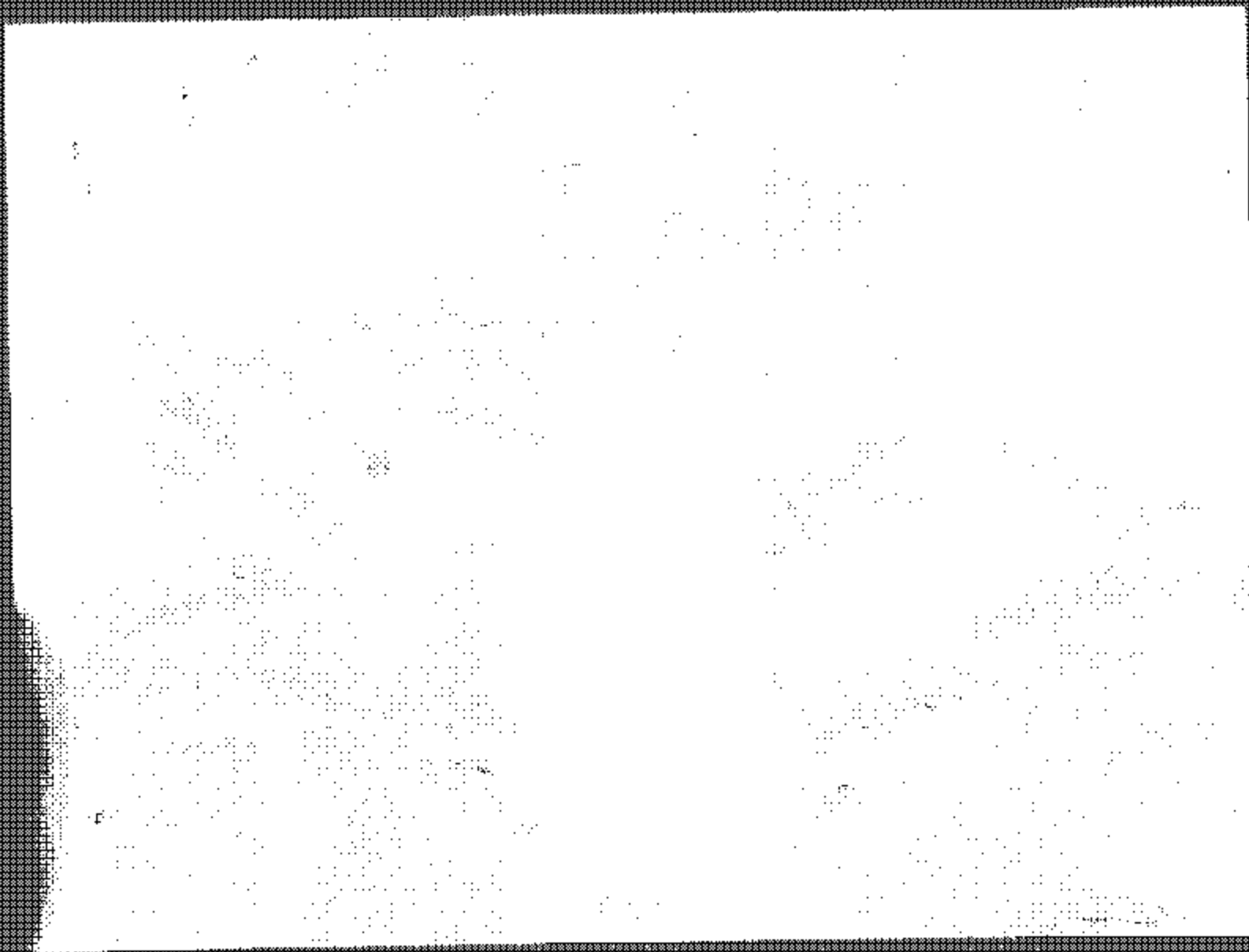
NHTSA No. C50902



Vehicle on Scales Doing Measurement of Front Axle Loads

Test Vehicle: 2006 Girardin Minibus School Bus  
Procedure: FMVSS 120

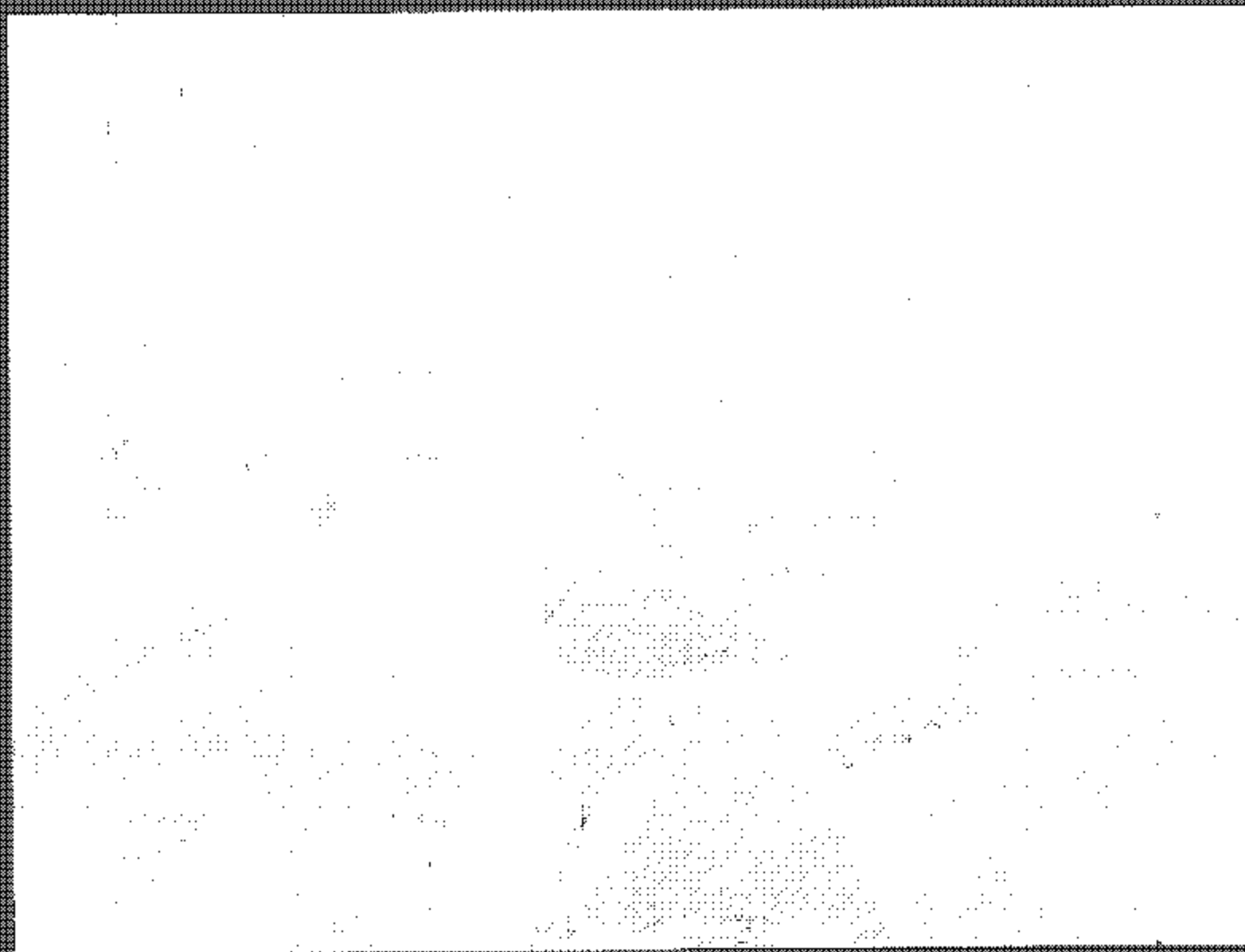
NHTSA No.: C56902



Simulated Occupant Loading

Test Vehicle: 2005 Girardin Minibus School Bus  
Procedure: FMVSS 120

NHTSA No: C50802



Simulated Cargo Loading