HMC. 636456

REPORT NUMBER: 120-MGA-03-001

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

American Transportation Corporation
2003 ATC IC3S530 School Bus
NHTSA No.: C30902

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

Final Report Date: February 6, 2003

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW, ROOM 6111 (NVS-220)
WASHINGTON, D.C. 20590

Prepared by: _____ Date: February 6, 2003
James Hansen, Project Technician

Reviewed by: _____ Date: February 6, 2003
Michael Janovicz, Program Manager

FINAL REPORT ACCEPTED BY OVSC:

_____

2/24/03
Date of Acceptance

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
120-MGA-03-001		

4. Title and Subtitle	5. Report Date
Final Report of FMVSS 120 Compliance Testing of 2003 American Transportation Corp IC3S530 School Bus NHTSA No.:C30902	February 6, 2003
	6. Performing Organization Code MGA

7. Author(s)	8. Performing Organization Report No.
James Hansen, Project Technician Michael Janovicz, Project Manager	120-MGA-03-001

9. Performing Organization Name and Address	10. Work Unit No.
MGA Research Corporation 5000 Warren Road Burlington, WI 53105	
	11. Contract or Grant No. DTNH22-02-D-01057

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance 400 Seventh St., S.W. Room 6111 (NVS-220) Washington, D.C. 20590	Final Report December 4-5, 2002
	14. Sponsoring Agency Code NVS-220

15. Supplementary Notes

16. Abstract

A test was conducted on a 2003 American Transportation Corp. IC3S530 School Bus, NHTSA No. C30902, 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	18. Distribution Statement
Compliance Testing Safety Engineering FMVSS 120	Copies of this report are available from: NHTSA Technical Information Services (TIS) Room 5108 (NAD-40) 400 Seventh Street, S.W. Washington, D.C. 20590 (202) 366-4946

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	34	

Form DOT F1700.7 (8-72)

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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 2003 American Transportation Corporation, Model No. IC3S530 School Bus, NHTSA No. C30902, 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 2003 American Transportation Corp., Model No. IC3S530 School Bus was 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 sixty-five passengers (one adult driver and 64 students).

Condition 3 – Vehicle in Condition 2 state plus the addition of ballast to simulate cargo loading. Target vehicle load is the certified gross vehicle weight rating (GVWR). [1]

The vehicle mounted and labeled tires and rims appear to be suitable and appropriate to carry loads as required by FMVSS 120.

NOTE:

[1] = Per NHTSA Test Engineer, cargo weight was added at 9.1 Kg (20 lbs) per student. The Condition 3 weight did not reach the vehicle GAWR's or GVWR.

TEST PROCEDURE AND DISCUSSION OF RESULTS

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

Vehicle Make/Model: American Transportation Corp./IC3S530 **MY:** 2003

NHTSA No.: C30902 **VIN:** 4DRBRABN73B955119 **Vehicle Type:** School Bus

Incomplete Veh. Make/Model: Not Noted on Placard

Designated Seating Capacity: 65, (1 driver, 64 passengers)

Dealer Installed Optional Accessories: None Noted

Summary

Requirements	PASS/FAIL
TIRE AND RIM SELECTION (S5.1) Installed tires and rims are suitable for vehicle	PASS
Rim Marking (S5.2) Rims contain all required markings of proper dimensions	PASS
LABEL INFORMATION (S5.3) Vehicle has proper certification/tire information label. Label tires at recommended inflation pressure and rims are suitable for vehicle.	PASS
Weight Distribution (49 CFR 567 Certification) Vehicle loaded with occupants and cargo does not exceed GVWR	PASS
Results: Test data indicates compliance with FMVSS 120	PASS

SECTION 3
COMPLIANCE TEST DATA

FMVSS 120 – DATA SHEET 1
GENERAL TIRE AND RIM DATA

Test Vehicle:	**2003 American Transportation Corp. School Bus**	NHTSA No.:	**C30902**
Test Lab:	**MGA Research-Wisconsin Operations**	Test Date:	**12/4/02**

GENERAL DATA

Tire Type: (Passenger car or other)	TRUCK/BUS
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)	NO Cert. Label Tire Size is: 265/75R22.5 Mounted Tire Size is:10R22.5
Number of axles	2
Dual tires on rear axle(s)	YES

TIRE DATA FROM SIDEWALL

	RIGHT FRONT	SPARE
Manufacturer	Goodyear	N/A
Brand	Goodyear G159	N/A
Tire Size	10R22.5	N/A
Maximum Tire Load Rating (KG)	2,360-Single 2,240-Dual	N/A
De-rated Tire Load Rating (KG)	N/A	N/A
Maximum Inflation Pressure (KPA)	690	N/A
Tire has DOT symbol (Yes/No)	Yes	N/A
DOT serial number	DOT MC3N 1 POW 3402	N/A

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

	FRONT AXLE	REAR AXLE
A. GAWR (KG) from certification label	4,536	7,938
B. (No. of tires) x (tire load rating (KG) from above table)	4,720	8,960
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: **2003 American Transportation Corp. School Bus** NHTSA No : **C30902**
Test Lab: **MGA Research-Wisconsin Operations** Test Date. **12/4/02**

RIM MARKINGS

	RIGHT FRONT	SPARE
Source of published dimensions (letter designation)	T	N/A
Rim Size	22.5 x 7.50	N/A
Does rim contain DOT symbol? (Yes/No)	Yes	N/A
Manufacturer's name, symbol or trademark (copy formal)	Accuride	N/A
Date of manufacture or symbol	09 12 02	N/A
Do items A-C appear on weather side of rim? (Yes/No)	Yes	N/A
Letter height (not less than 3mm)	Yes	N/A
Lettering (impressed or embossed)	Impressed	N/A
Are all rim markings legible? (Yes/No)	Yes, with effort	N/A
Do all markings comply with requirements? (Yes/No)	Yes	N/A
Rims are suitable for tires on vehicles? (Yes/No)	Yes	N/A

RIM MEASUREMENTS

	RIGHT FRONT	SPARE
Rim width	191 mm (7.5")	N/A
Rim diameter	572 mm (22.5")	N/A
Rim measurements same as rim markings? (Yes/No)	Yes	N/A

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

Remarks: **NONE**

Tested By: _____ Approved By: _____

Date: December 4, 2002

FMVSS 120 - DATA SHEET 2
CERTIFICATION AND TIRE LABEL INFORMATION

Test Vehicle: **2003 American Transportation Corp. School Bus** NHTSA No.: **C30902**
Test Lab: **MGA Research-Wisconsin Operations** Test Date: **12/4/02**

LABEL INFORMATION

Label Design (Combined Certification and Tire Label):	Combined
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 Windshield (driver's side)

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

GVWR: KG	FRONT AXLE	REAR AXLE
Tire Size	265/75R22.5G	265/75R22.5G
Rim Size	22.5 X 7.5	22.5 X 7.5
Recommended inflation pressure (KPa)	758	689
Are labeled rims suitable for labeled tires (Yes/No)[1]	Yes	Yes
Referenced load rating at label recommended inflation pressure (KG)[1]	2360	2050

[1] Referenced source for tire/rim match and load rating data: 2002 Tire and Rim Assoc.

CERTIFICATION/TIRE LABEL MAXIMUM CAPACITY COMPARSION

GVWR: KG	FRONT AXLE	REAR AXLE
A.GAWR (kg) FROM CERTIFICATION LABEL	(C) 4536	(D) 7938
B.(No. of tires) x (Tire load rating (KG))	4720	8200
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
LABEL INFORMATION (S5.3) Vehicle has proper certification/tire information label. Label tires at recommended inflation pressure and rims are suitable for vehicle.	

Tested By: _____ Approved By: _____

Date: December 4, 2002

FMVSS 120 - DATA SHEET 3
WEIGHT DISTRIBUTION

Test Vehicle: **2003 American Transportation Corp. School Bus** NHTSA No.: **C30902**
Test Lab: **MGA Research-Wisconsin Operations** Test Date: **12/4/02**

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)	690	690	690	690

Occupant and Cargo Loads

Total Occupant Load (kg): [# of designated seating positions x 68 KG per adult or 54 KG per student]	3,524 (1-driver, 64-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
12474 KG – 7310 KG - 3524 KG = 1640 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	2360	1,583	NO	1,804	NO	1,798	NO
Right Front Tire	2360	1,542	NO	1,792	NO	1,792	NO
Front Axle	4536	3,125	NO	3,596	NO	3,590	NO
Left Rear Tire	4480	2,032	NO	3,548	NO	3,810	NO
Right Rear Tire	4480	2,152	NO	3,736	NO	3,994	NO
Rear Axle	7938	4,184	NO	7,284	NO	7,804	NO
Total Vehicle	12474	7,309	NO	10,880	NO	11,394	NO

*- Vehicle and axle weight ratings (GVWR & GAWR) are located on the vehicle certification label plate. Vehicle tire loading ratings are based upon sidewall data of the mounted Goodyear 10R22.5 tires because mounted tires differ from labeled tires.

** - Per NHTSA Test Engineer, cargo weight was added at 9.1 Kg (20 lbs) per student. The Condition 3 weight did not reach the vehicle GAWR's or GVWR.

FMVSS 120 - DATA SHEET 3 ... (continued)
WEIGHT DISTRIBUTION

Test Vehicle:	**2003 American Transportation Corp. School Bus**	NHTSA No.:	**C30902**
Test Lab:	**MGA Research-Wisconsin Operations**	Test Date:	**12/4/02**

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

Tested By: _____ Approved By: _____

Date: December 4, 2002

SECTION 4
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SECTION 4

INSTRUMENTATION AND EQUIPMENT LIST

Test Vehicle: **2003 American Transportation Corp. School Bus** NHTSA No : **C30902**
Test Lab: **MGA Research-Wisconsin Operations** Test Date: **12/4/02**

	Digital Caliper	Vehicle Scale	Ballast Scale	Tire Pressure Gauge	Inclinometer	Laser Level	Tape Measure
Make	Starrett	Massload	Toledo	Dill	Digital Protractor	Laser Tool	Stanley
Model	721	ml-slim	2191	N/A	Pro 360	MX Laser	Powerlock
Serial # (s)	00410129	22562/22566	542749	MGA-06133	Comp lab	6692	SN101
Range	0-150 mm	0 to 10 tons	0-1800 lb.	0-130 psi	0-360deg.	N/A	0-8 m
Accuracy	.01 mm	0.25% static	1 lb.	1 psi	0.1 deg.	N/A	1 mm
Cal Date	8/22/02	11/27/02	8/28/02	10/16/02	11/15/02	N/A	10/28/02
Cal. Due Date	8/22/03	5/27/03	2/03	10/16/03	5/15/03	N/a	4/28/03

INSTRUMENTATION AND EQUIPMENT LIST

Test Vehicle:	2003 American Transportation Corp. School Bus	NHTSA No.:	C30902
Test Lab:	MGA Research-Wisconsin Operations	Test Date:	12/4/02

SCALE CALIBRATION SHEET

(copy of vehicle scale test report)

SERVICE CALIBRATION RECORD
Service Inspection Agreement

UNITED SCALE and ENGINEERING CORP.
16725 W. Victor Road New Berlin, WI 53151

Office: NB Job No:
Customer No or Name: MGA Research Corporation
Standards Used: X1, X2, X3
Technician Initials: D.K.B.
Date: 11-27-02

Mfg: Intercomp / Weightech
Model No: AA-SCAN / M3000
Serial No: 23562 / 3052
Description: Wheel Weigher
Capacity: 20,000 LB
Location:
Scale ID:

Parameter Tested	Actual As Found	Deviation	Final Reading
2500 LB	2675	+175	2530
5000 LB	5170	+170	5070
7500 LB	7700	+200	7550

Recalibrated scale, retested scale accuracy, unable to obtain HB 44 tolerances, repeatability at 2 gram to +/- 3 grams

Uncertainty Measurement: 7/5 [illegible]

Mfg: Intercomp / Weightech
Model No: AA-SCAN / M3000
Serial No: 23563 / 3052
Description: Wheel Weigher
Capacity: 20,000 LB
Location:
Scale ID:

Parameter Tested	Actual As Found	Deviation	Final Reading
2500 LB	2560	+60	2510
5000 LB	5090	+90	5025
7500 LB	7615	+115	7500

Recalibrated scale, retested scale accuracy, unable to obtain HB 44 tolerances, repeatability [illegible] good

Uncertainty Measurement: [illegible]

Mfg:
Model No:
Serial No:
Description:
Capacity:
Location:
Scale ID:

Parameter Tested	Actual As Found	Deviation	Final Reading

Uncertainty Measurement:

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SECTION 5
PHOTOGRAPHS

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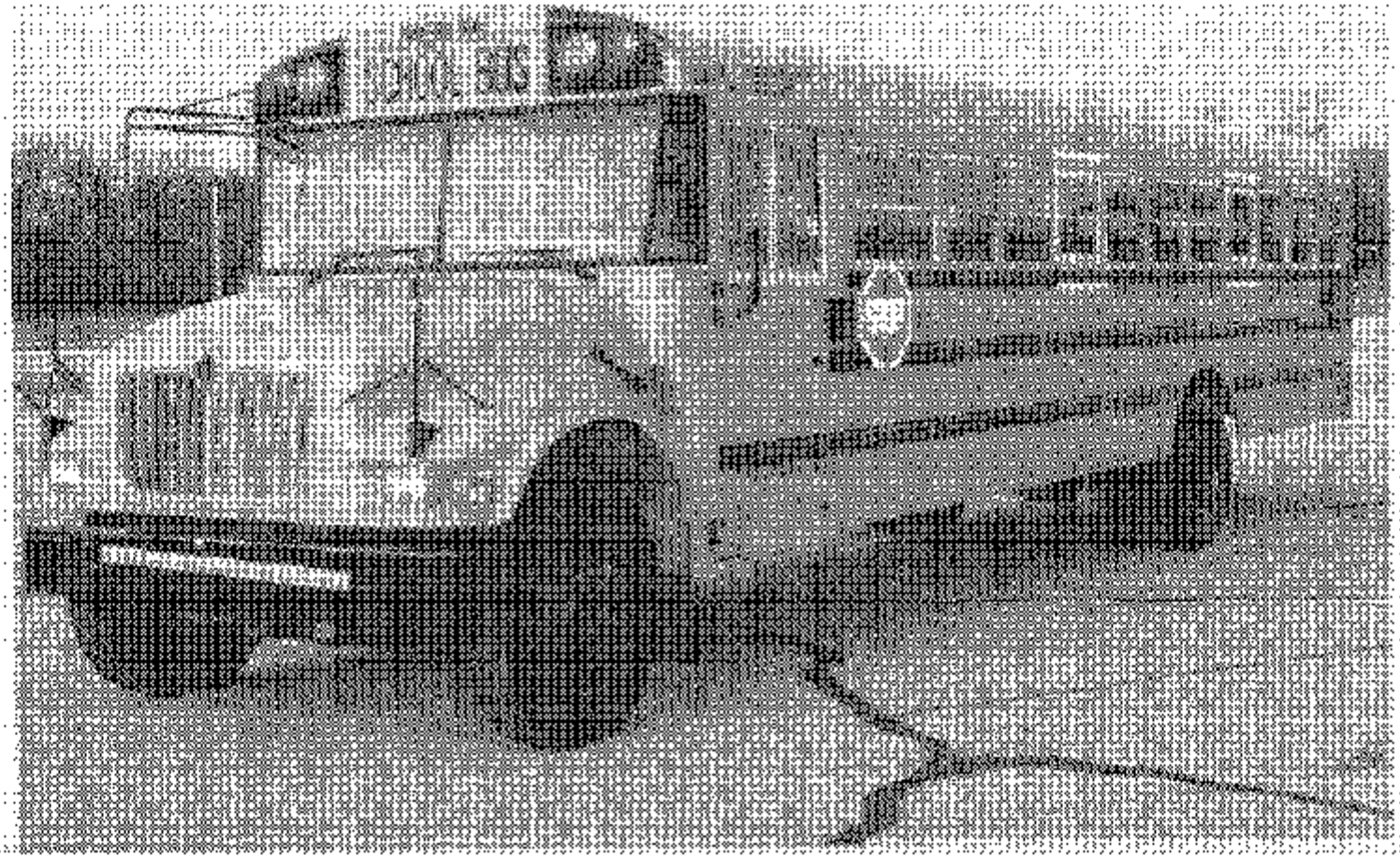


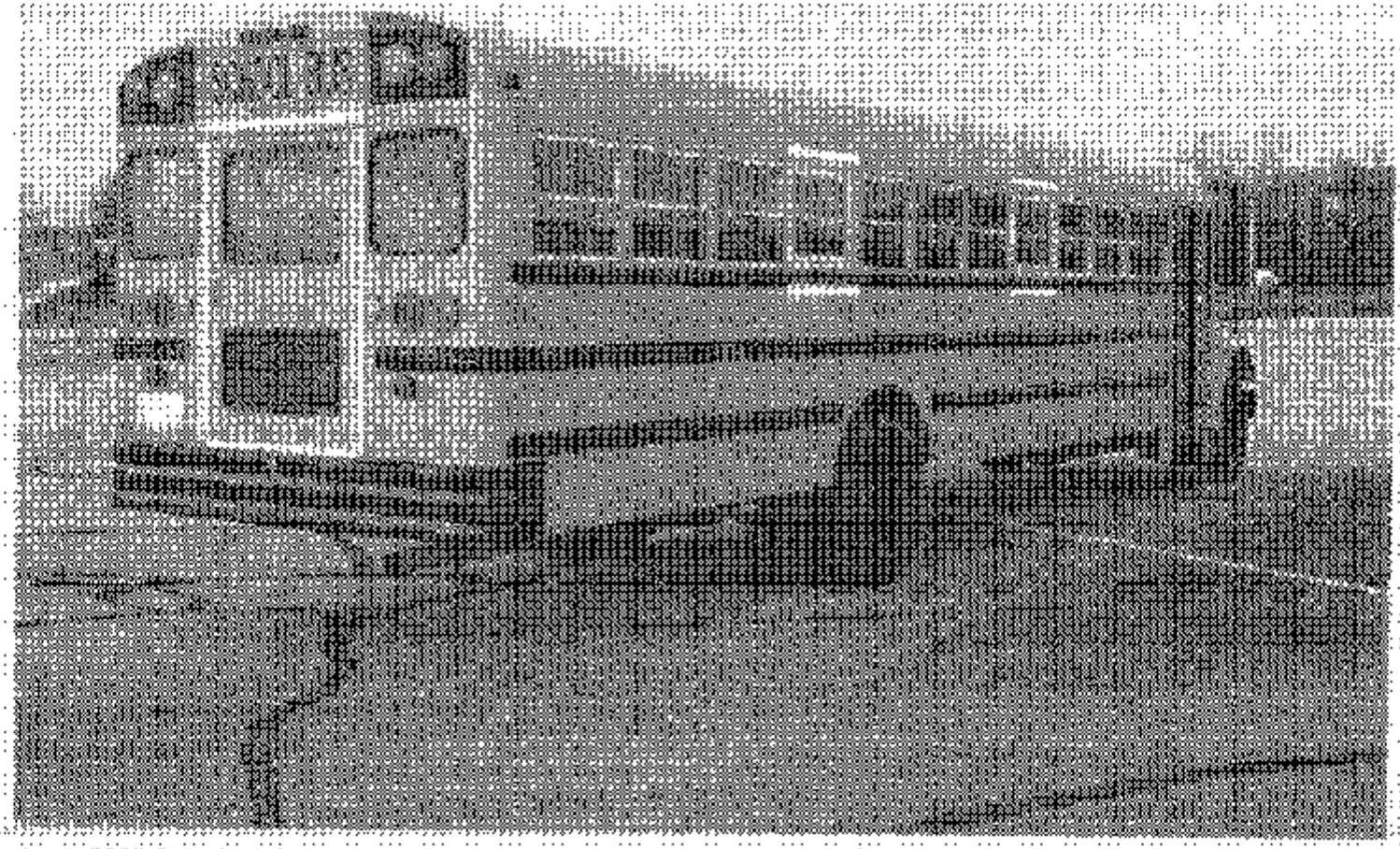
Test Vehicle: 2003 American Transportation Corp. IC3S530

Procedure: FMVSS 120

NHTSA No.: C30907

Photograph 1:

Three-Quarter View From Left Side of Test Vehicle



Test Vehicle: 2003 American Transportation Corp. IC35S30

Procedure: FMVSS 120

NHTSA No.: C30902

Photograph 2:

Three-Quarter View From Right Side of Test Vehicle

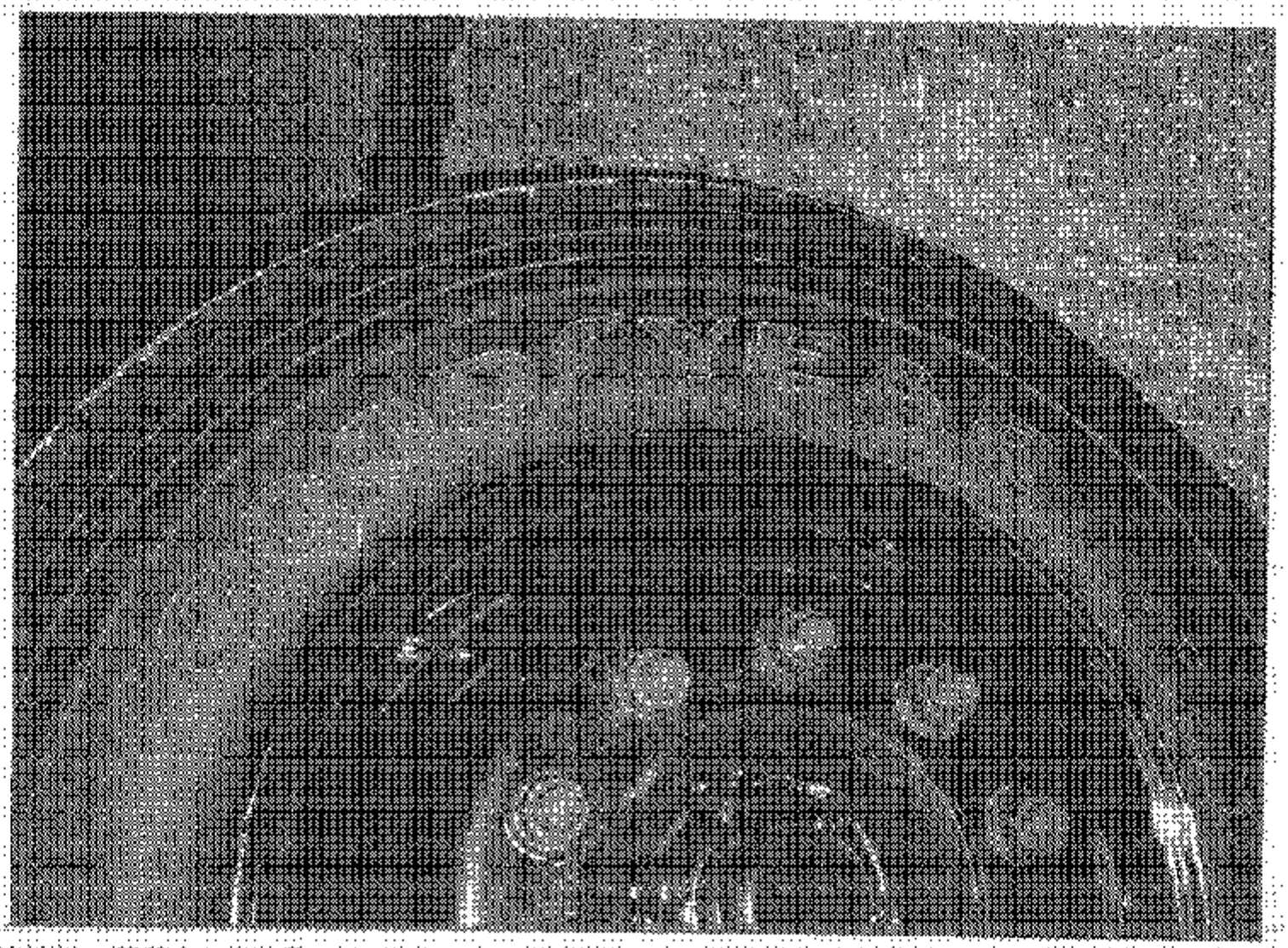
Test Vehicle: **2003 American Transportation Corp. IC3S530**

Procedure: **FMVSS 120**

NHTSA No.: **C30902**

Photograph 3:

Vehicle Certification and Tire Information Label



Test Vehicle: 2003 American Transportation Corp. IC3S530

Procedure: FMVSS 120

NHTSA No: C30902

Photograph 4:

Right Front Tire Mismatch

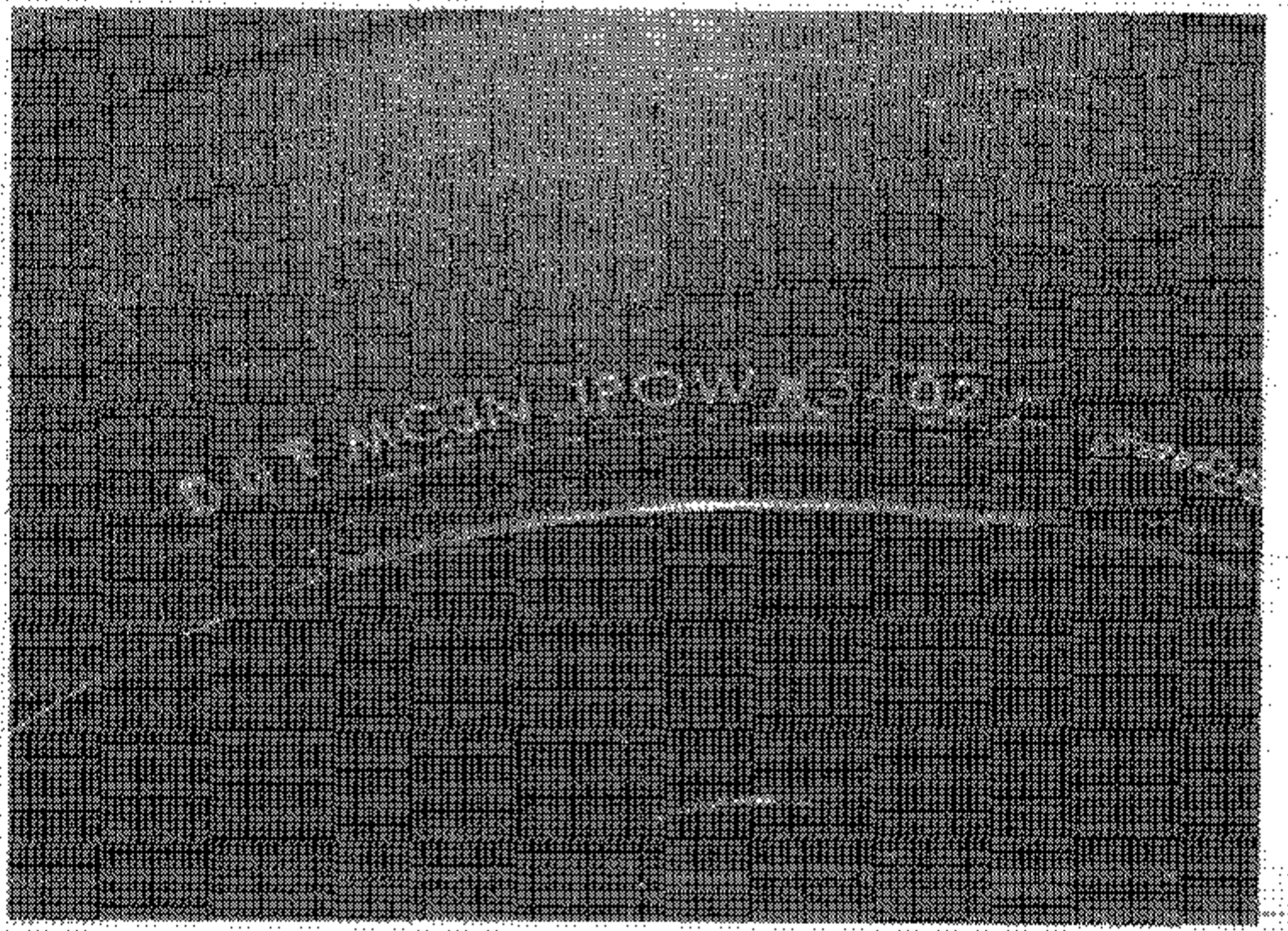
Test Vehicle: 2003 American Transportation Corp. IC3S600

Procedure: FMVSS 129

NHTSA No.: C30902

Photograph #:

Right Front Tire Model Number



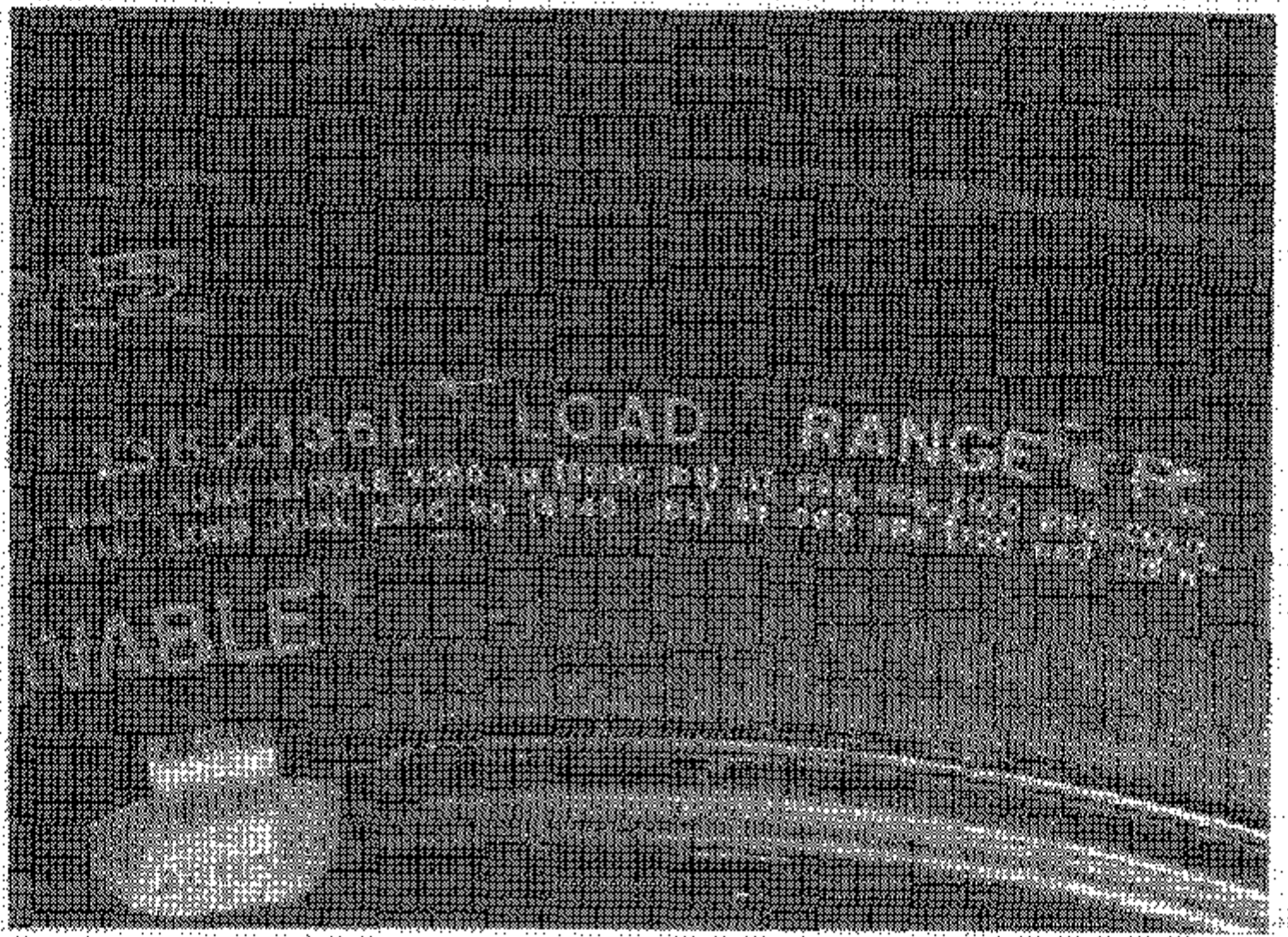
Test Vehicle: 2003 American Transportation Corp. IC38536

Procedure: FMVSS 120

NHTSA No. C30902

Photograph 6:

Right Front Tire DOT Serial Number



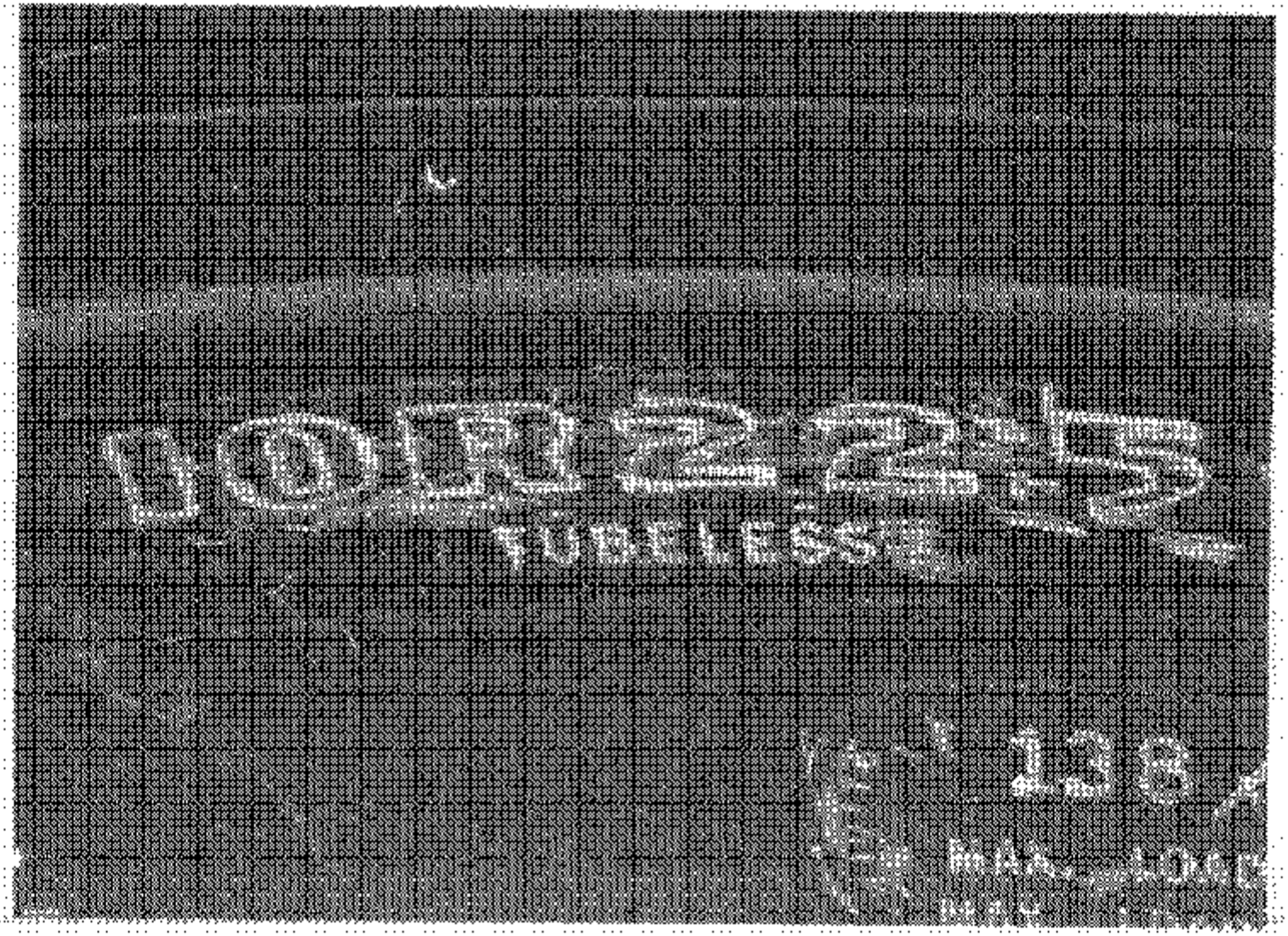
Test Vehicle: 2003 American Transportation Corp. IC3S530

Procedure: FMVSS 126

NHTSA No.: C30902

Photograph 7:

Right Front Tire Load Ratings



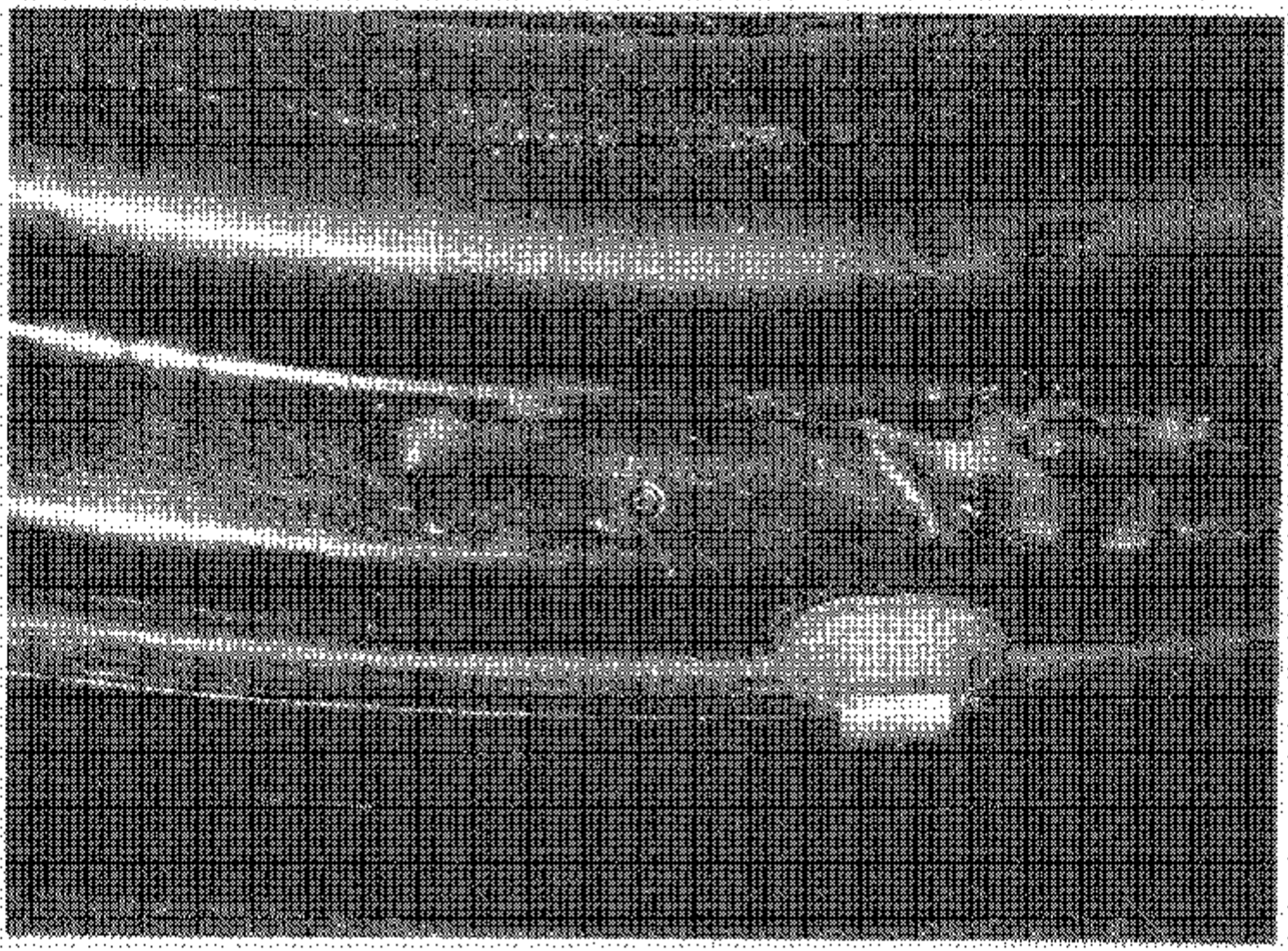
Test Vehicle: 2003 American Transportation Corp. IC35S20

Procedure: FMVSS 120

NHTSA No.: C30902

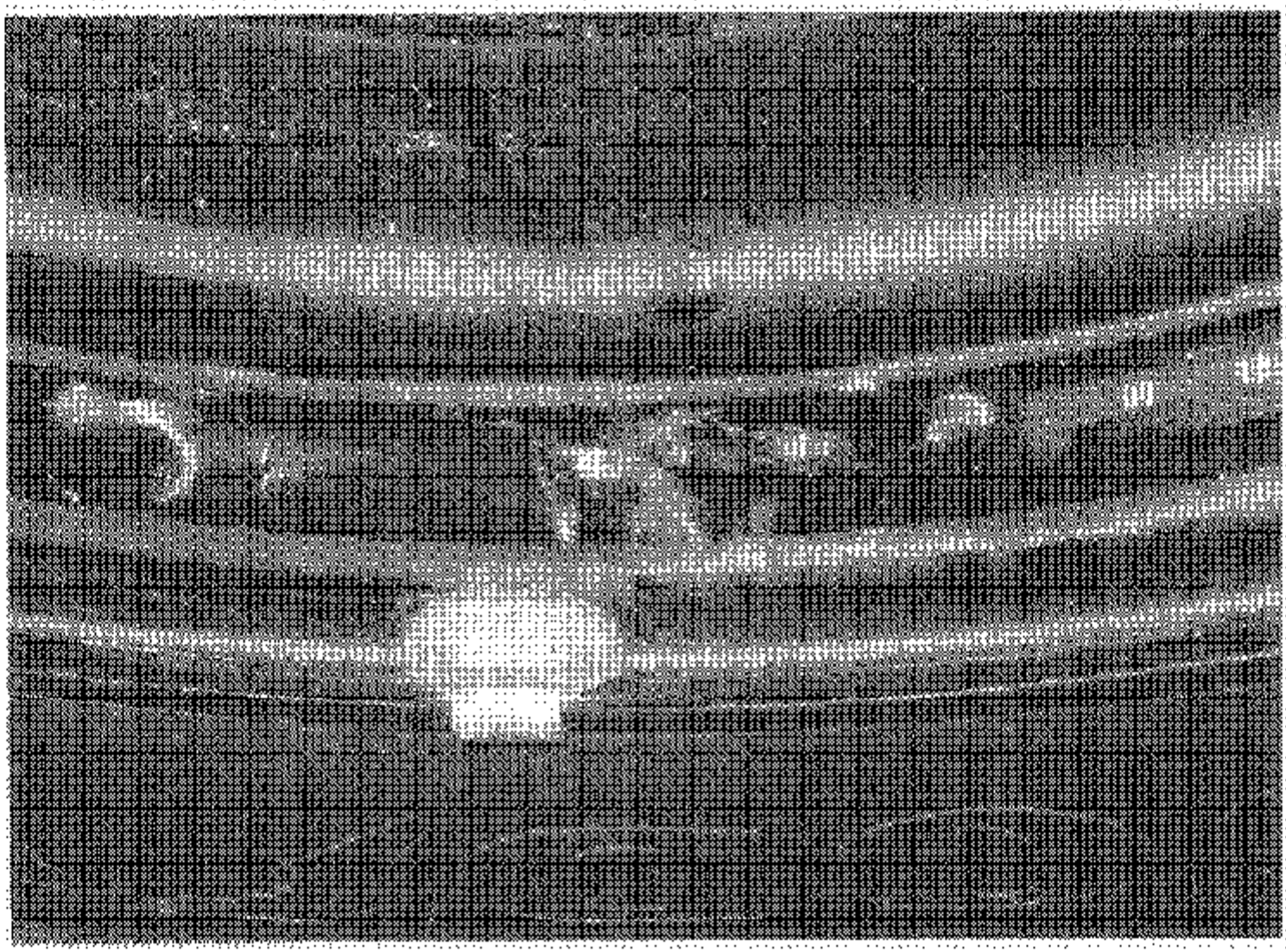
Photograph 6:

Right Front Tire Size Designation



Test Vehicle: 2003 American Transportation Corp. IC3S30
Procedure: FMVSS 120
NHTSA No.: C30902

Photograph 8:
Right Front Rim Manufacturer

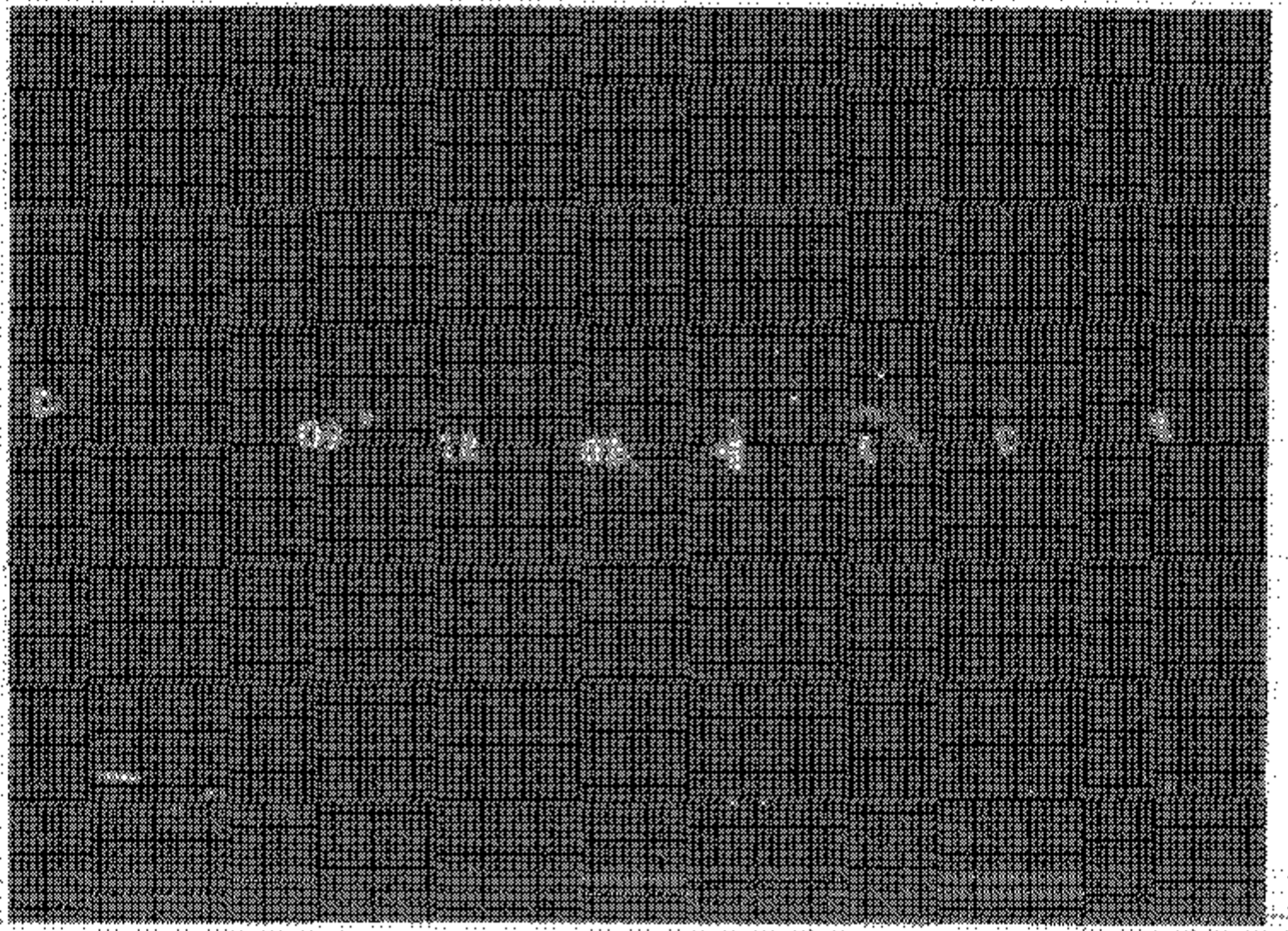


Test Vehicle: 2000 American Transportation Corp. IC35S39

Procedure: FMVSS 120

NHTSA No.: C50982

Photograph 19:
Right Front Rim DOT, Rim Size, and Source of Published Information Markings



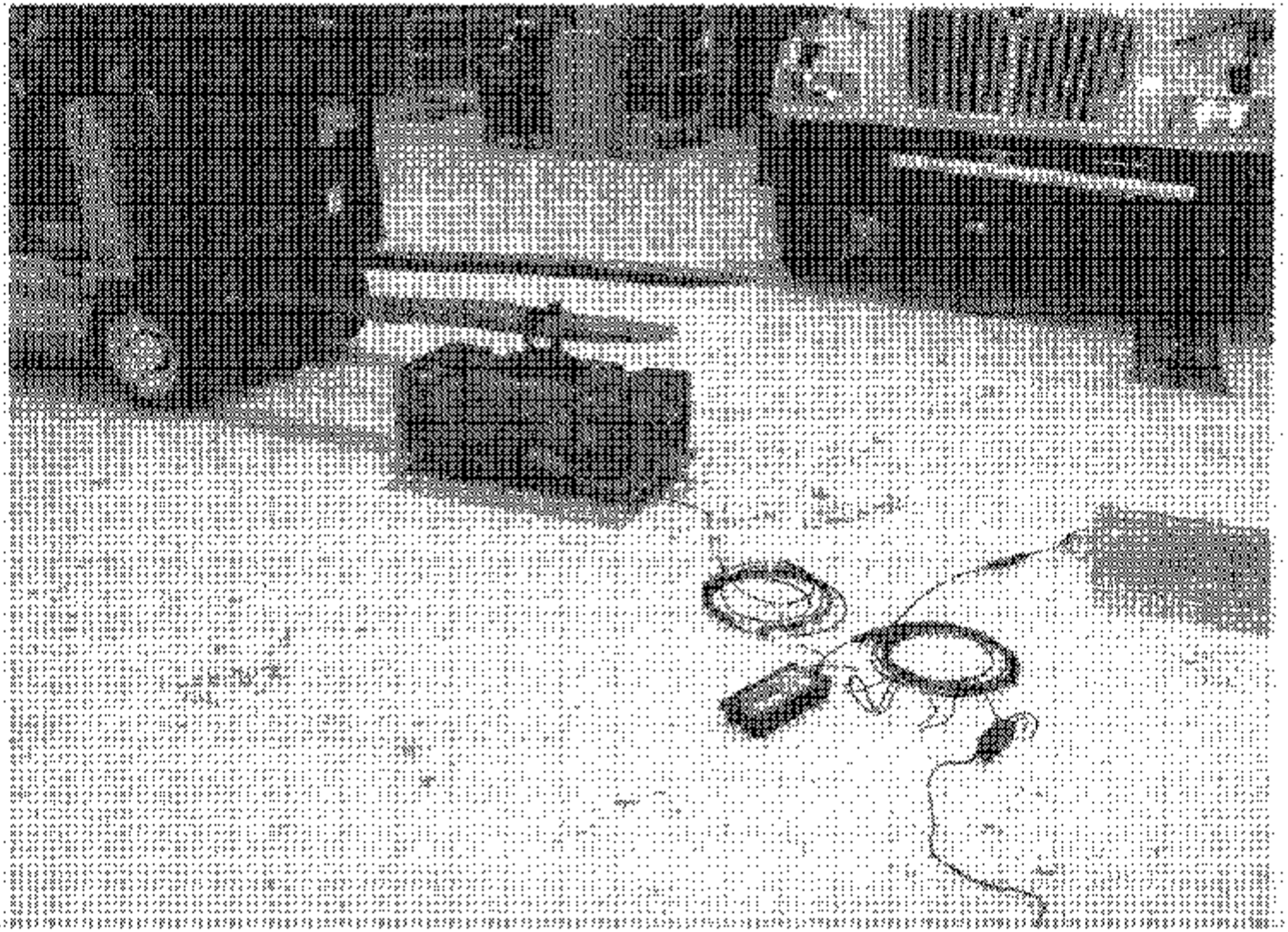
Test Vehicle: 2003 American Transportation Corp. IC3S530

Procedure: FMVSS 120

NHTSA No.: C36962

Photograph 11:

Right Front Rim Date of Manufacturer



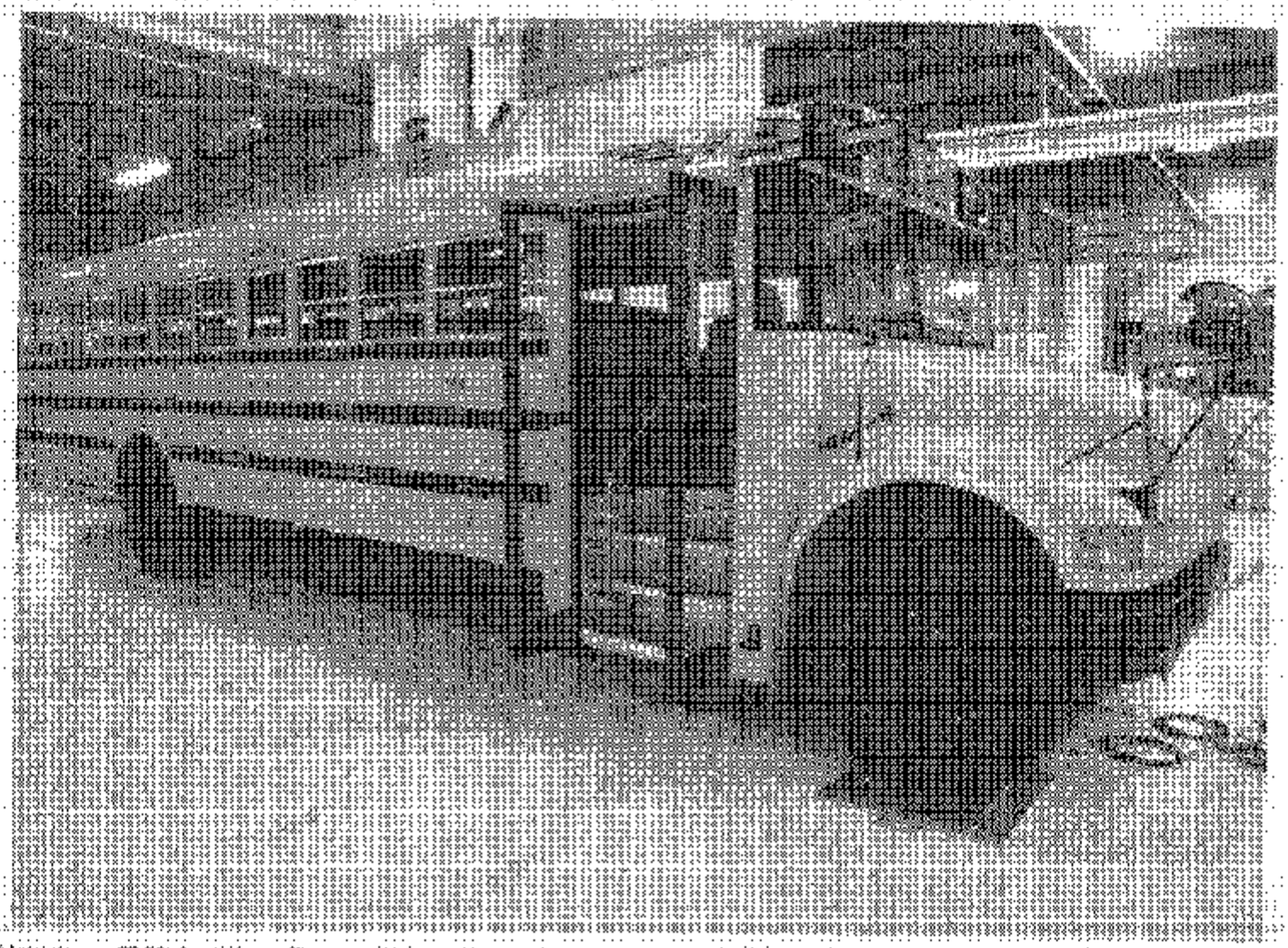
Test Vehicle: 2003 American Transportation Corp. IC3S639

Procedure: FMVSS 120

NHTSA No.: C30902

Photograph 12:

Weight Scale Field Check



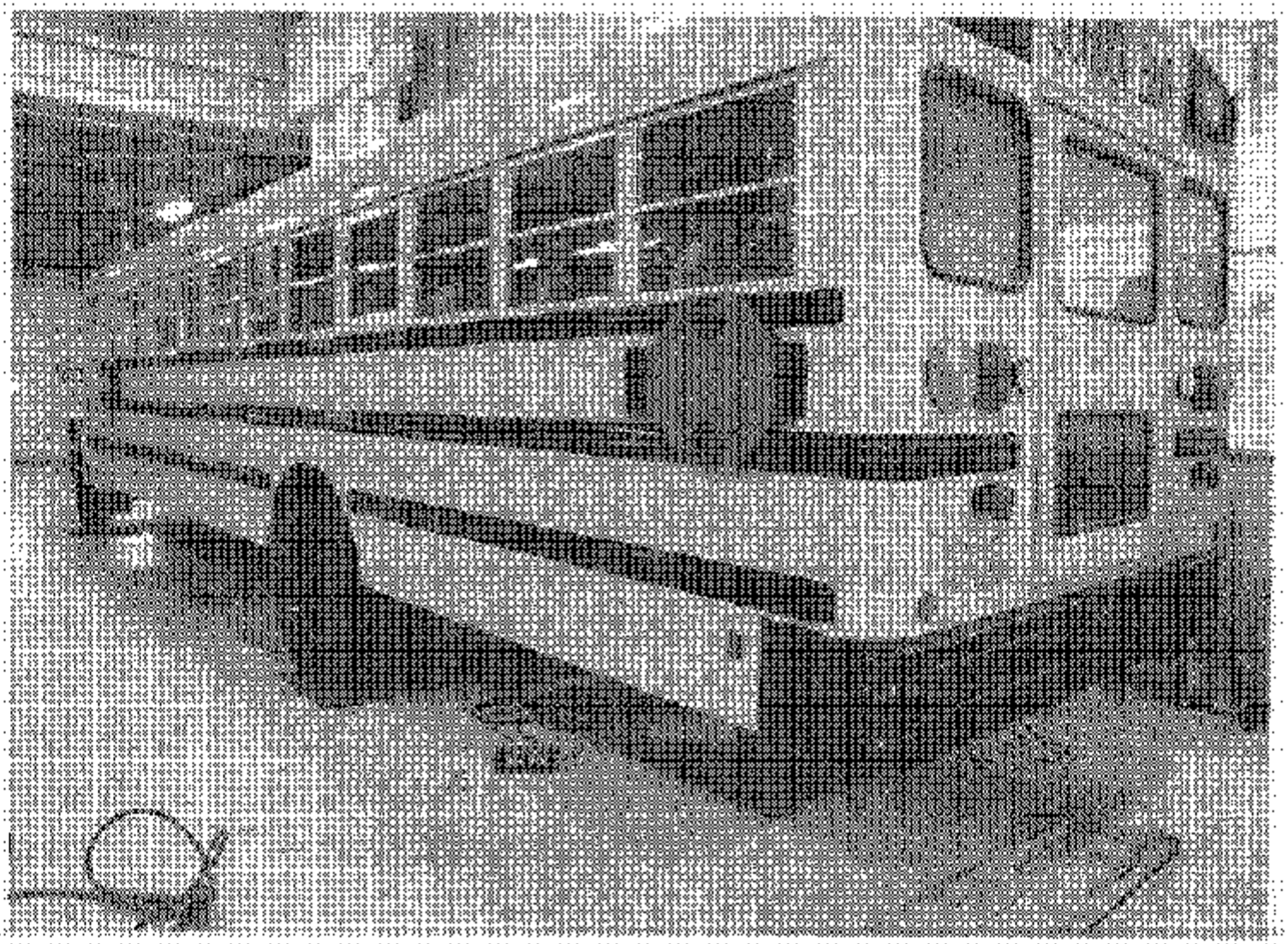
Test Vehicle: 2003 American Transportation Corp. IC3S530

Procedure: FMVSS 120

NHTSA No.: C30902

Photograph 13:

Vehicle on Scales Doing Measurement of Front Axle Loads



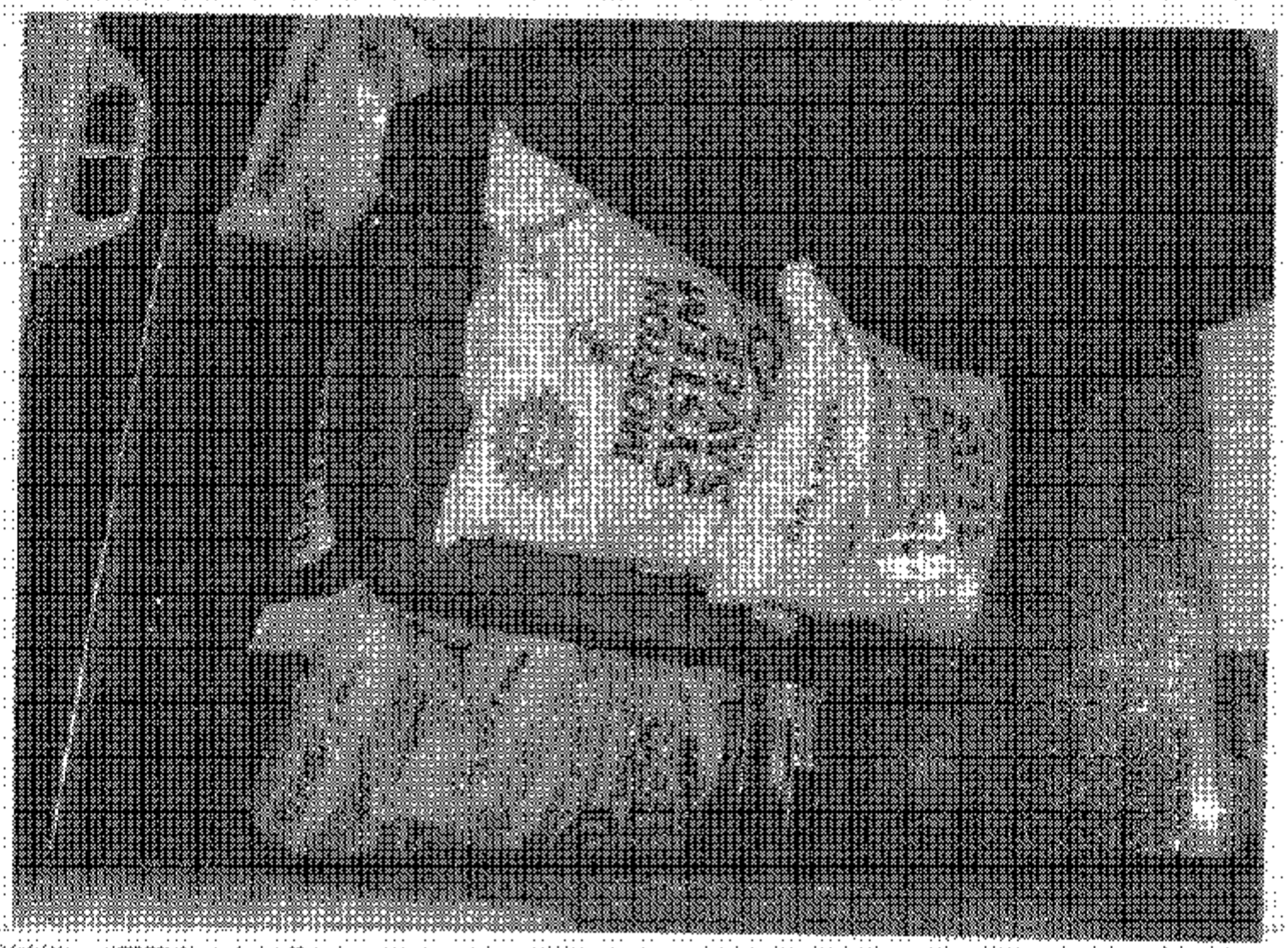
Test Vehicle: 2003 American Transportation Corp. IC3S530

Procedure: FMVSS 120

NHTSA No.: C30902

Photograph 14:

Vehicle on Scales Doing Measurement of Rear Axle Loads



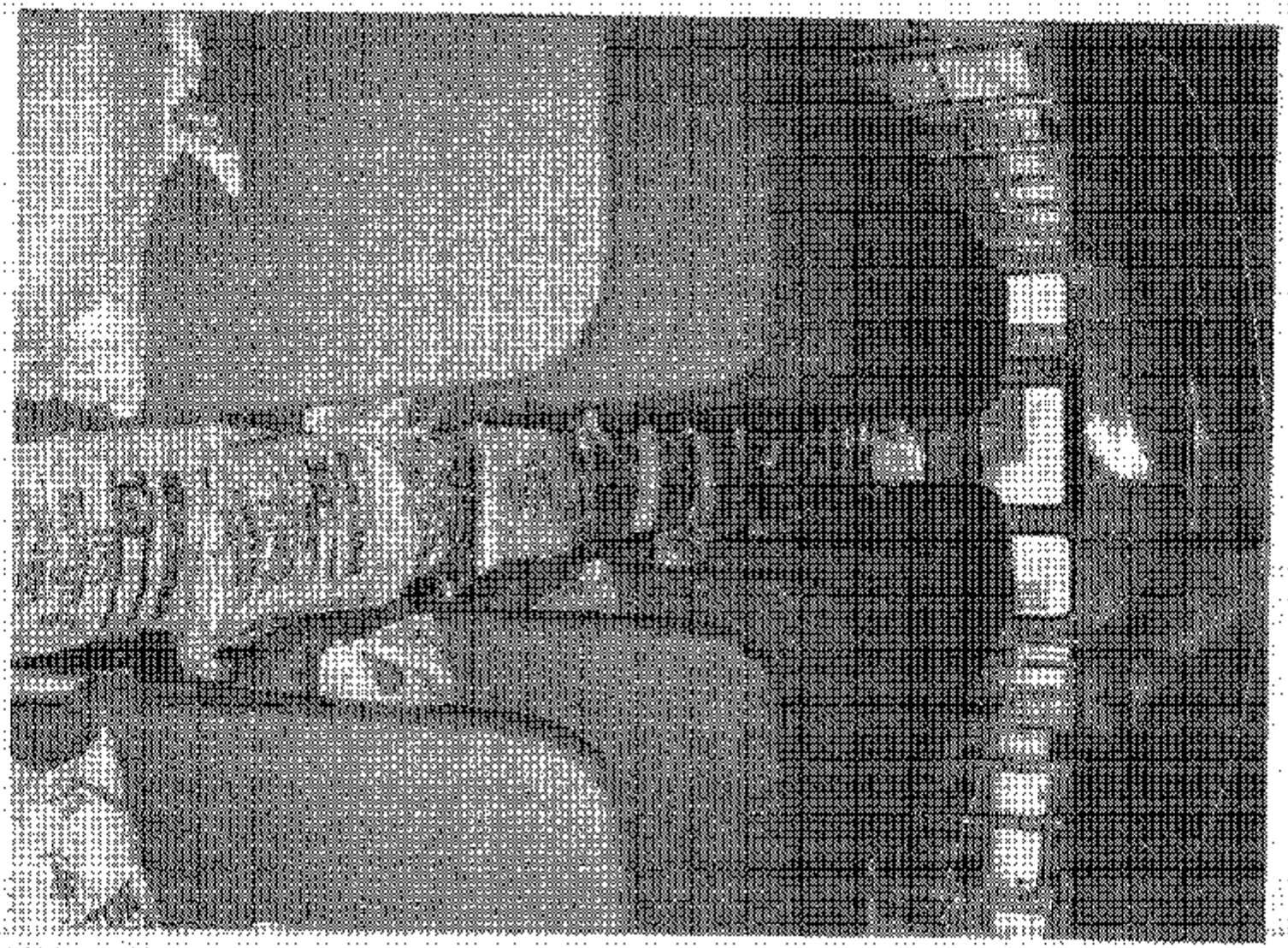
Test Vehicle: 2003 American Transportation Corp. (C36630

Procedure: FMVSS 120

NHTSA No.: C36902

Photograph 15:

Simulated Occupant Loading



Test Vehicle: 2003 American Transportation Corp. IC3S530
Procedure: FMVSS 120
NHTSA No.: C30602

Photograph 16:
Simulated Cargo Loading