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REPORT NUMBER: 111-MGA-03-003

HS#  
636600

**SAFETY COMPLIANCE TESTING FOR  
FMVSS NO. 111  
SCHOOL BUS REARVIEW MIRRORS**

**Mid Bus, Inc.  
2003 Mid Bus Guide School Bus  
NHTSA No.: C30903**

**PREPARED BY:  
MGA RESEARCH CORPORATION  
5000 WARREN ROAD  
BURLINGTON, WI 53106**



Final Report Date: June 11, 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 6116 (NSA-221)  
WASHINGTON, D.C. 20590**



**Technical Report Documentation Page**

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16. Abstract Compliance tests were conducted on the subject 2003 Mid Bus Guide School Bus, NHTSA No. C30903 in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-111SB-00 for the determination of FMVSS 111 compliance.  Test failures were as follows:           NONE					
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**SECTION 1**  
**PURPOSE OF COMPLIANCE TEST**

Tests were conducted on a MY2003 Mid Bus Guide School Bus, NHTSA No. C30903, in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-111SB-00 to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 111, "School Bus Rearview Mirrors."

This program is sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-02-D-01057.

**SECTION 2**  
**TEST DATA SUMMARY**

Based on the tests performed, the MY2003 Mid Bus Guide School Bus, NHTSA No. C30903 appears to meet all of the requirements of FMVSS 111. See Data Sheet 1 for Test Summary on the following page.

**FMVSS 111SB, SCHOOL BUS REARVIEW MIRRORS  
TEST SUMMARY...continued**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
Test Date: **5/20/03**

**System A Mirrors**

**A. Mirror #3 – Outside Driver Side – Unit Magnification**

	<b>Pass/Fail</b>	<b>Comments</b>
Mounting	<b>PASS</b>	--
Field of View	<b>PASS</b>	--
Surface Area	<b>PASS</b>	--
Reflectance	<b>PASS</b>	--
Unit Magnification	<b>PASS</b>	--

**B. Outside Passenger Side Mirror #4 – Unit Magnification**

	<b>Pass/Fail</b>	<b>Comments</b>
Mounting	<b>PASS</b>	--
Field of View	<b>PASS</b>	--
Surface Area	<b>PASS</b>	--
Reflectance	<b>PASS</b>	--
Unit Magnification	<b>PASS</b>	--

**C. Outside Driver Side Mirror #5 – Convex**

	<b>Pass/Fail</b>	<b>Comments</b>
Mounting	<b>PASS</b>	--
Field of View	<b>PASS</b>	--
Reflectance	<b>PASS</b>	--

**D. Outside Passenger Side Mirror #6 – Convex**

	<b>Pass/Fail</b>	<b>Comments</b>
Mounting	<b>PASS</b>	--
Field of View	<b>PASS</b>	--
Reflectance	<b>PASS</b>	--

**FMVSS 1118B, SCHOOL BUS REARVIEW MIRRORS  
TEST SUMMARY...continued**

Test Vehicle: 2003 Mid Bus Guide School Bus  
Test Lab: MGA Research-Wisconsin Operations

NHTSA No.: C30903  
Test Date: 5/20/03

**System B Mirrors**

**E. Mirror #1 – Driver Side Front – Cross View**

	Pass/Fail	Comments
Mounting	PASS	--
Field of View	PASS	--
Overlap with System A	PASS	--
Distance to Eye Point	PASS	--
No Surface Discontinuities	PASS	--
Surface Area	PASS	--
If Convex – Radius of Curvature	PASS	--
Radius of Curvature Label	PASS	--
Arc Separation	PASS	--
Reflectance	PASS	--

**F. Passenger Side Front Mirror #2 – Cross View**

	Pass/Fail	Comments
Mounting	PASS	--
Field of View	PASS	--
Overlap with System A	PASS	--
Distance to Eye Point	PASS	--
No Surface Discontinuities	PASS	--
Surface Area	PASS	--
If Convex – Radius of Curvature	PASS	--
Radius of Curvature Label	PASS	--
Arc Separation	PASS	--
Reflectance	PASS	--



**SECTION 3  
COMPLIANCE TEST DATA**

**FMVSS 111SB - DATA SHEET 1  
SCHOOL BUS INSPECTION AND IDENTIFICATION**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
Test Date: **5/20/03**

**GENERAL VEHICLE IDENTIFICATION**

VIN No.	1GBJG31U431110295	Date of Mfg.	12/02
Chassis Manufacturer	Chevrolet Motor Corporation	Date of Mfg.	9/02
Seating Capacity (including driver)	25 + 1 w/c	GVWR	5,443 kg
Unloaded Weight	N/A	GAWR Front	1,951 kg
Cargo Weight	N/A	GAWR Rear	3,901 kg
Total Rated Load	N/A		

**DESCRIPTION OF MIRRORS**

Mirror No.	Type			Description	Manufacturer
	Unit Mag	Convex	Cross View		
1			X	Driver Side	Rosco Mirror
2			X	Passenger Side	
3	X			Driver Side	
4	X			Passenger Side	
5		X		Driver Side	
6		X		Passenger Side	

Recorded By: *John Walsh*

Approved By: *Michael [Signature]*

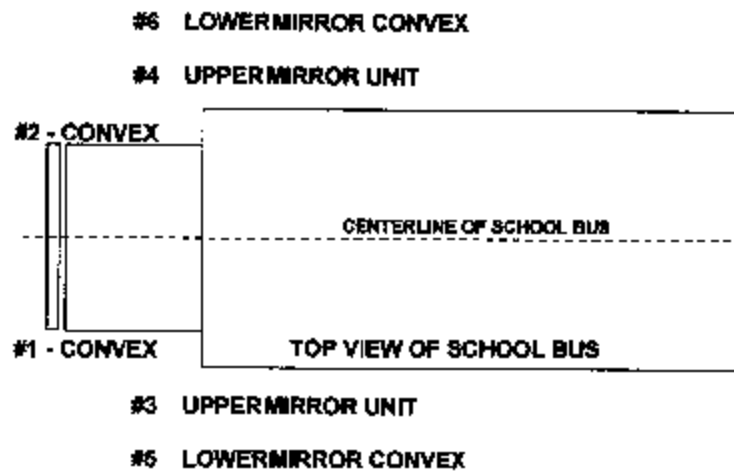
Date: 6/11/03

**FMVSS 111SB - DATA SHEET 2  
MIRROR LOCATION AND FIELD OF VIEW**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
Test Date: **5/20/03**

**MIRROR DIAGRAM**



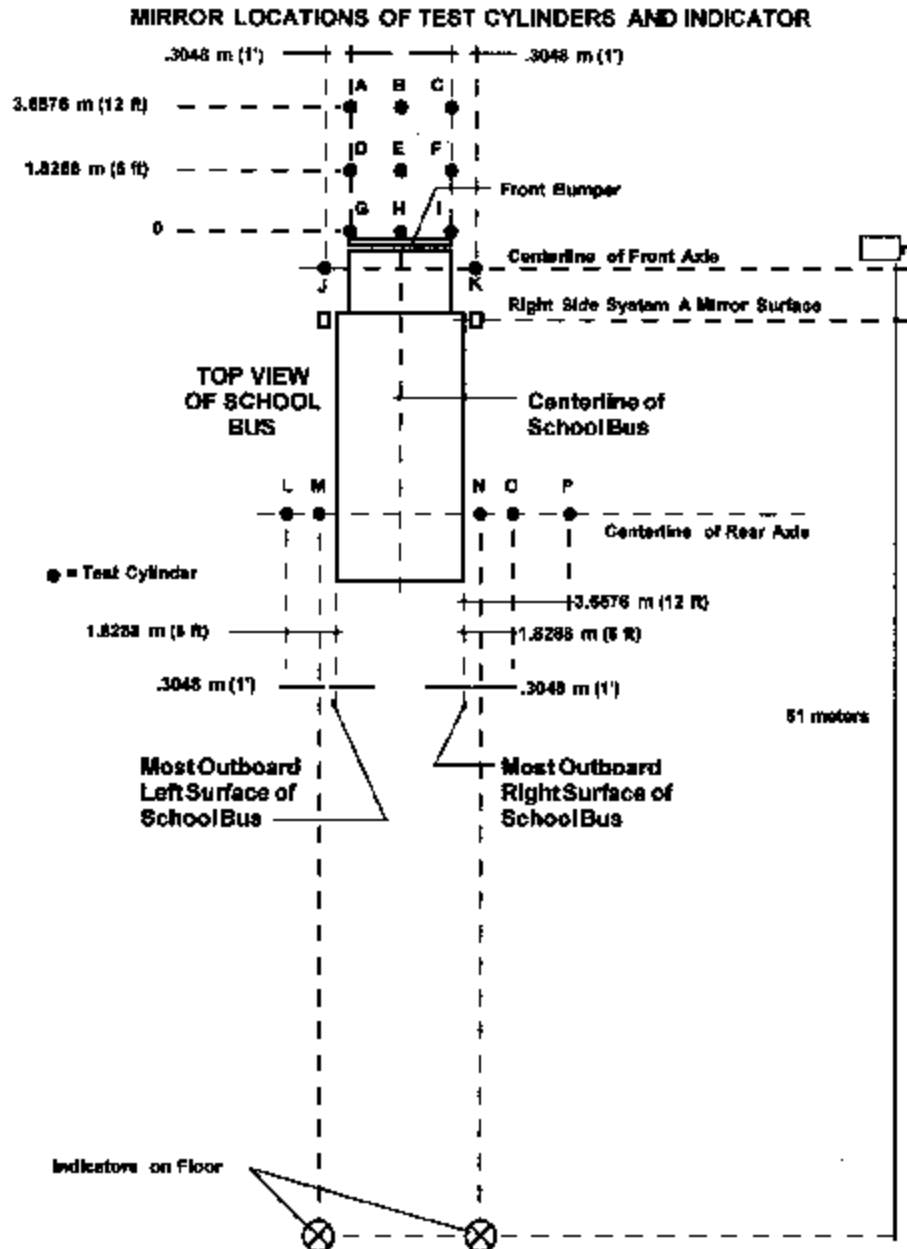
MIRROR NO.	TYPE	MIRROR SYSTEM	CYLINDERS VIEWED (entire top surface)
1	CROSS VIEW/CONVEX	B	B,C,E,F,G,H,I,J,L,M
2	CROSS VIEW/CONVEX	B	A,B,D,E,F,G,H,I,K,N,O,P
3	UNIT MAGNIFICATION	A	61 Meter INDICATOR
4	UNIT MAGNIFICATION	A	61 Meter INDICATOR
5	CONVEX	A	L,M
6	CONVEX	A	N,O,P

SEE FIGURE ON NEXT PAGE

**FMVSS 111SB – DATA SHEET 2...continued  
MIRROR LOCATION AND FIELD OF VIEW**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
 Test Date: **6/20/03**



- NOTES:**
1. The cylinders shall be a color which provides a high contrast with the surface on which the bus is parked (S13.1).
  2. The cylinders are 0.3048 m high and 0.3048 m in diameter, except for cylinder P which is 0.9144 m high and 0.3048 m in diameter.

**FMVSS 111SB DATA SHEET 2...continued  
MIRROR LOCATION AND FIELD OF VIEW**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
Test Date: **5/20/03**

**SYSTEM A AND DIRECT VISION**

System A Mirrors	Pass/Fail
Entire top surface of cylinder N and the indicator 61 meters (200 feet) rearward of the mirror surface be viewed in the photograph	<b>PASS</b>
Entire top surface of cylinder M and indicator 61 meters (200 feet) rearward of the mirror surface be viewed in the photograph	<b>PASS</b>
Which test cylinders A through P can not be photographed directly from the driver's eye location within the semi-circle viewing area using no mirror system:	<b>D,E,F,G,H, I,J,K,L,M,N,O,P.</b>

**SYSTEM B ARC'S AND DISTANCE**

Mirror Number (from data sheet 2)	Mirror Location	Distance from the Driver's Eye Point to the Center of the Mirror (cm)	3 Minutes of Arc (cm)	9 Minutes of Arc (cm)
#1	Left Front	209	0.182	-
#2	Right Front	262	0.229	0.566

Distance determined in column 3 multiplied by 0.000873 yield 3 minutes of arc, for column 4, for that mirror as viewed from the driver's eye point; the distances determined in column 3 multiplied by 0.0021618 yield 9 minutes of arc, for column 5, for that mirror as viewed from the driver's eye point. The minimum distance for any system B mirror between the driver's eye point and the center of the mirror is more than 95 centimeters (37.5 inches):

	Distance	Pass/Fail
Distance between center of System B mirror #1 and driver's eye point	209 cm	<b>PASS</b>
Distance between center of System B mirror #2 and driver's eye point	262 cm	<b>PASS</b>

Recorded By: *J. A. Rahl*

Approved By: *Michael J. [Signature]*

Date: 6/11/03

**FMVSS 111SB DATA SHEET 3  
FIELD OF VIEW TEST - PHOTOGRAPHS System B**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
Test Date: **5/20/03**

		<b>Pass/Fail</b>
All test cylinders with entire top surface not directly visible from the driver's semi-circle eye location are able to be viewed with System B mirrors from the driver's semi-circle location:		<b>PASS</b>
All test cylinders with entire top surface not directly visible from the driver's semi-circle eye location but the image can be viewed with System B mirrors. The image is separated for the edge of the effective mirror surface of the mirror providing that image by a distance of not less than 3 minutes of arc:		<b>PASS</b>
If the entire top surface of test cylinder is not directly visible from the driver's semi-circle eye location, the image can be viewed with System B mirrors from the driver's semi-circle eye location, where the angular size of the shortest dimension of that cylinder's image is not less than 3 minutes of arc, and the angular size of the longest dimension of that cylinder's image is not less than 9 minutes of arc:		<b>PASS</b>
Shortest arc length dimension	0.182 cm	
Longest arc length dimension	0.566 cm	
For each of the test cylinders whose entire top surface is not directly visible from the driver's eye location, System B provides a view of the ground that overlaps with the view of the ground provided by System A.		<b>PASS</b>

Recorded By: *John P. [Signature]*

Approved By: *[Signature]*

Date: 6/11/03

**FMVSS 111SB DATA SHEET 4  
MOUNTING ADEQUACY TEST**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
 Test Date: **6/20/03**

**MOUNTING SUPPORT OF ALL MIRRORS**

Mirror No. (from data sheet 2)	Type	System	Stable Support
			Yes/No
1	Cross View/Convex	B	Yes
2	Cross View/Convex	B	Yes
3	Unit Magnification	A	Yes
4	Unit Magnification	A	Yes
5	Convex	A	Yes
6	Convex	A	Yes

	Pass/Fail
Outside mirrors free of sharp points or edges that could contribute to pedestrian injury	<b>PASS</b>
System B mirrors have no discontinuities in the slope of the surface of the mirror	<b>PASS</b>

Recorded By: *John Rahl*

Approved By: *Michael J. [Signature]*

Date: 6/11/03

**FMVSS 1118B DATA SHEET 5**  
**REFLECTANCE TEST - ALL MIRRORS**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

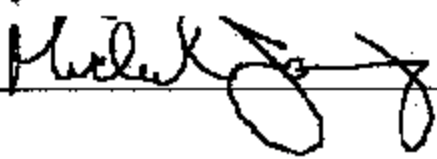
NHTSA No.: **C30903**  
 Test Date: **5/20/03**

Mirror No.	Type	Light meter reading from calibration	Light meter reading from light reflected by mirror	Pass/Fail	Observations
1	Crossview/Convex	90	60	<b>PASS</b>	--
2	Crossview/Convex	89	60	<b>PASS</b>	--
3	Unit	89	49	<b>PASS</b>	--
4	Unit	89	52	<b>PASS</b>	--
5	Convex	89	60	<b>PASS</b>	--
6	Convex	89	56	<b>PASS</b>	--

Note: Reflectance (example) = Reading (Ref) / Reading (Cal) = 0.832 x 100 = 83.2 percent  
 Minimum Requirement = 35 percent

Mirror No.	Type	Reflectance	Requirement
1	Crossview/Convex	67%	>35%
2	Crossview/Convex	67%	>35%
3	Unit	55%	>35%
4	Unit	58%	>35%
5	Convex	67%	>35%
6	Convex	63%	>35%

Recorded By: 

Approved By: 

Date: 6/11/03



**FMVSS 111SB DATA SHEET 6  
UNIT MAGNIFICATION/CONVEX MIRROR TEST - ALL MIRRORS**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
Test Date: **5/20/03**

**CONVERSION DATA TABLE FROM SPHEROMETER DIAL  
READING TO RADIUS OF CURVATURE**

**MIRROR NO. 1 (CONVEX)**

Test Position	Dial Readings (inches)	Radius of Curvature (mm)	Deviation Between the Average Radius of Curvature and the Test Position Radius of Curvature (mm)	Percent Deviation from the Average Radius of Curvature
1	0.05340	134.5	45.2	33.6 %
2	0.03540	202.3	-22.6	11.2 %
3	0.02825	253.2	-73.5	29.0 %
4	0.04865	146.5	32.2	21.8 %
5	0.05075	141.4	38.3	27.1 %
6	0.03575	200.3	-20.6	10.3 %
7	0.04930	145.5	34.2	23.5 %
8	0.03040	235.4	-55.7	23.7 %
9	0.05435	132.1	47.6	36.0 %
10	0.03490	205.1	-25.4	12.4 %
Avg. Radius of Curvature - the Summation of Column 3 divided by 10 179.7 mm			Greatest Percent Deviation from the Average Radius of Curvature, Column 5 36.0%	

**MIRROR NO. 2 (CONVEX)**

Test Position	Dial Readings (inches)	Radius of Curvature (mm)	Deviation Between the Average Radius of Curvature and the Test Position Radius of Curvature (mm)	Percent Deviation from the Average Radius of Curvature
1	0.05380	133.5	46.1	34.5 %
2	0.03570	200.6	-21.0	10.5 %
3	0.02695	265.4	-85.8	32.3 %
4	0.04865	147.5	32.1	21.8 %
5	0.05110	140.4	39.2	27.9 %
6	0.03565	200.8	-21.2	10.6 %
7	0.04870	147.3	32.3	21.9 %
8	0.03170	225.8	-46.2	20.5 %
9	0.05420	132.5	47.1	35.5 %
10	0.03535	202.5	-22.8	11.3 %
Avg. Radius of Curvature - the Summation of Column 3 divided by 10 179.6 mm			Greatest Percent Deviation from the Average Radius of Curvature, Column 5 35.5%	

**FMVSS 1118B DATA SHEET 6...continued**  
**UNIT MAGNIFICATION/CONVEX MIRROR TEST – ALL MIRRORS**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
 Test Date: **5/20/03**

**CONVERSION DATA TABLE FROM SPHEROMETER DIAL  
 READING TO RADIUS OF CURVATURE**

**MIRROR NO. 3 (UNIT MAGNIFICATION)**

Test Position	Dial Readings (inches)	Radius of Curvature (mm)	Deviation Between the Average Radius of Curvature and the Test Position Radius of Curvature (mm)	Percent Deviation from the Average Radius of Curvature
1	0.00000	N/A	N/A	N/A
2	0.00100	N/A	N/A	N/A
3	0.00000	N/A	N/A	N/A
4	0.00000	N/A	N/A	N/A
5	0.00000	N/A	N/A	N/A
6	0.00000	N/A	N/A	N/A
7	0.00000	N/A	N/A	N/A
8	0.00100	N/A	N/A	N/A
9	0.00000	N/A	N/A	N/A
10	0.00000	N/A	N/A	N/A
Avg. Radius of Curvature – the Summation of Column 3 divided by 10 N/A			Greatest Percent Deviation from the Average Radius of Curvature, Column 5 N/A	

**MIRROR NO. 4 (UNIT MAGNIFICATION)**

Test Position	Dial Readings (inches)	Radius of Curvature (mm)	Deviation Between the Average Radius of Curvature and the Test Position Radius of Curvature (mm)	Percent Deviation from the Average Radius of Curvature
1	0.00000	N/A	N/A	N/A
2	0.00000	N/A	N/A	N/A
3	0.00000	N/A	N/A	N/A
4	0.00000	N/A	N/A	N/A
5	0.00000	N/A	N/A	N/A
6	0.00000	N/A	N/A	N/A
7	0.00000	N/A	N/A	N/A
8	0.00000	N/A	N/A	N/A
9	0.00000	N/A	N/A	N/A
10	0.00000	N/A	N/A	N/A
Avg. Radius of Curvature – the Summation of Column 3 divided by 10 N/A			Greatest Percent Deviation from the Average Radius of Curvature, Column 5 N/A	

**FMVSS 111SB DATA SHEET 6...continued**  
**UNIT MAGNIFICATION/CONVEX MIRROR TEST - ALL MIRRORS**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
 Test Date: **6/20/03**

**CONVERSION DATA TABLE FROM SPHEROMETER DIAL**  
**READING TO RADIUS OF CURVATURE**

**MIRROR NO. 5 (CONVEX)**

Test Position	Dial Readings (inches)	Radius of Curvature (mm)	Deviation Between the Average Radius of Curvature and the Test Position Radius of Curvature (mm)	Percent Deviation from the Average Radius of Curvature
1	0.01205	593.0	90.5	18.0 %
2	0.01480	482.9	-19.6	3.9 %
3	0.01445	494.6	-7.9	1.6 %
4	0.01450	482.9	-9.6	1.9 %
5	0.01450	492.9	-9.6	1.9 %
6	0.01445	494.6	-7.9	1.6 %
7	0.01480	482.9	-19.6	3.9 %
8	0.01435	498.0	-4.5	0.9 %
9	0.01465	487.8	-14.7	2.9 %
10	0.01415	505.0	2.5	5.0 %
Avg. Radius of Curvature - the Summation of Column 3 divided by 10 <b>502.5 mm</b>			Greatest Percent Deviation from the Average Radius of Curvature, Column 5 <b>18.0%</b>	

**MIRROR NO. 6 (CONVEX)**

Test Position	Dial Readings (inches)	Radius of Curvature (mm)	Deviation Between the Average Radius of Curvature and the Test Position Radius of Curvature (mm)	Percent Deviation from the Average Radius of Curvature
1	0.01120	638.0	10.1	1.6 %
2	0.01135	629.5	18.6	3.0 %
3	0.01095	652.5	-4.4	6.7 %
4	0.01100	649.6	-1.5	2.3 %
5	0.01125	635.1	13.0	2.0 %
6	0.01180	605.6	42.5	7.0 %
7	0.01010	707.4	-59.3	8.4 %
8	0.01015	703.9	-55.8	7.9 %
9	0.01120	638.0	10.1	1.6 %
10	0.01150	621.3	26.8	4.3 %
Avg. Radius of Curvature - the Summation of Column 3 divided by 10 <b>648.1 mm</b>			Greatest Percent Deviation from the Average Radius of Curvature, Column 5 <b>8.4%</b>	

**FMVSS 1115B DATA SHEET 6...continued**  
**UNIT MAGNIFICATION/CONVEX MIRROR TEST – ALL MIRRORS**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
 Test Date: **5/20/03**

**UNIT MAGNIFICATION IN SYSTEM A**

	Pass/Fail
At least one System A Mirror on the left and right sides of the bus is unit magnification Zero Radius of Curvature	<b>PASS</b>

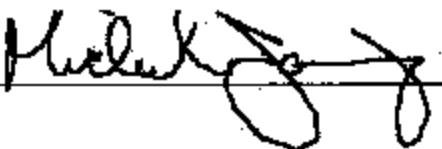
**AVERAGE RADIUS OF CURVATURE  
 OF CONVEX MIRRORS USED IN SYSTEM B**

Mirror No.	Radius of Curvature	If needed, wording printed properly Pass/Fail
1	179.7 mm	<b>PASS</b>
2	179.6 mm	<b>PASS</b>

\* If any of the Convex Mirrors in System B have an average radius of curvature less than 889 mm, then the following words must be printed on a label in type face and color that are clear and conspicuous to the driver:

"Use cross view mirrors to view pedestrians while bus is stopped. Do not use these mirrors to view traffic while bus is moving, images in such mirrors do not accurately show another vehicle's location."

Recorded By: 

Approved By: 

Date: 8/6/03

**FMVSS 111SB DATA SHEET 7  
MIRROR REFLECTIVE SURFACE AREA TEST  
SYSTEM A & B**

Test Vehicle: **2003 Mid Bus Gulde School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
Test Date: **5/20/03**

**DATA TABLE FOR SURFACE AREA**

System A Mirrors Mirror No.	Area	Requirement Min. 323 cm <sup>2</sup>	Pass/Fail
3	384 cm <sup>2</sup>	323 cm <sup>2</sup>	<b>PASS</b>
4	384 cm <sup>2</sup>	323 cm <sup>2</sup>	<b>PASS</b>
System B Mirrors Mirror No.	Area	Requirement Min. 258 cm <sup>2</sup>	Pass/Fail
1	543 cm <sup>2</sup>	258 cm <sup>2</sup>	<b>PASS</b>
2	543 cm <sup>2</sup>	258 cm <sup>2</sup>	<b>PASS</b>

Recorded By: \_\_\_\_\_

*J. A. Pahl*

Approved By: \_\_\_\_\_

*Michael J. [Signature]*

Date: 6/8/03

**SECTION 4  
INSTRUMENTATION AND EQUIPMENT LIST**

**SECTION 4  
INSTRUMENTATION AND EQUIPMENT LIST**

Test Vehicle: **2003 Mid Bus Guide School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30903**  
 Test Date: **5/20/03**

	Digital Caliper	Light Meter	Tape Measure	Spherometer
Make	Mitutoyo	AEMC	Stanley	MGA
Model	721	CA813	Powerlock	001
Serial # (s)	0004174	04L1017Y	SN118	001
Range	0-150 mm	2000fc, 2000lux	0-6 m	$2.25 \times 10^{13}$ (cm * Hz <sup>1/2</sup> ) + W
Accuracy	.01 mm	0.0 fc or 0.01 lux	1 mm	$1.1 \times 10^{13}$ W/H <sup>1/2</sup>
Cal. Date	10/8/02	10/11/02	4/09/03	Daily when used
Cal. Due Date	10/8/03	10/11/03	10/9/03	N/A

**SECTION 5  
PHOTOGRAPHS**



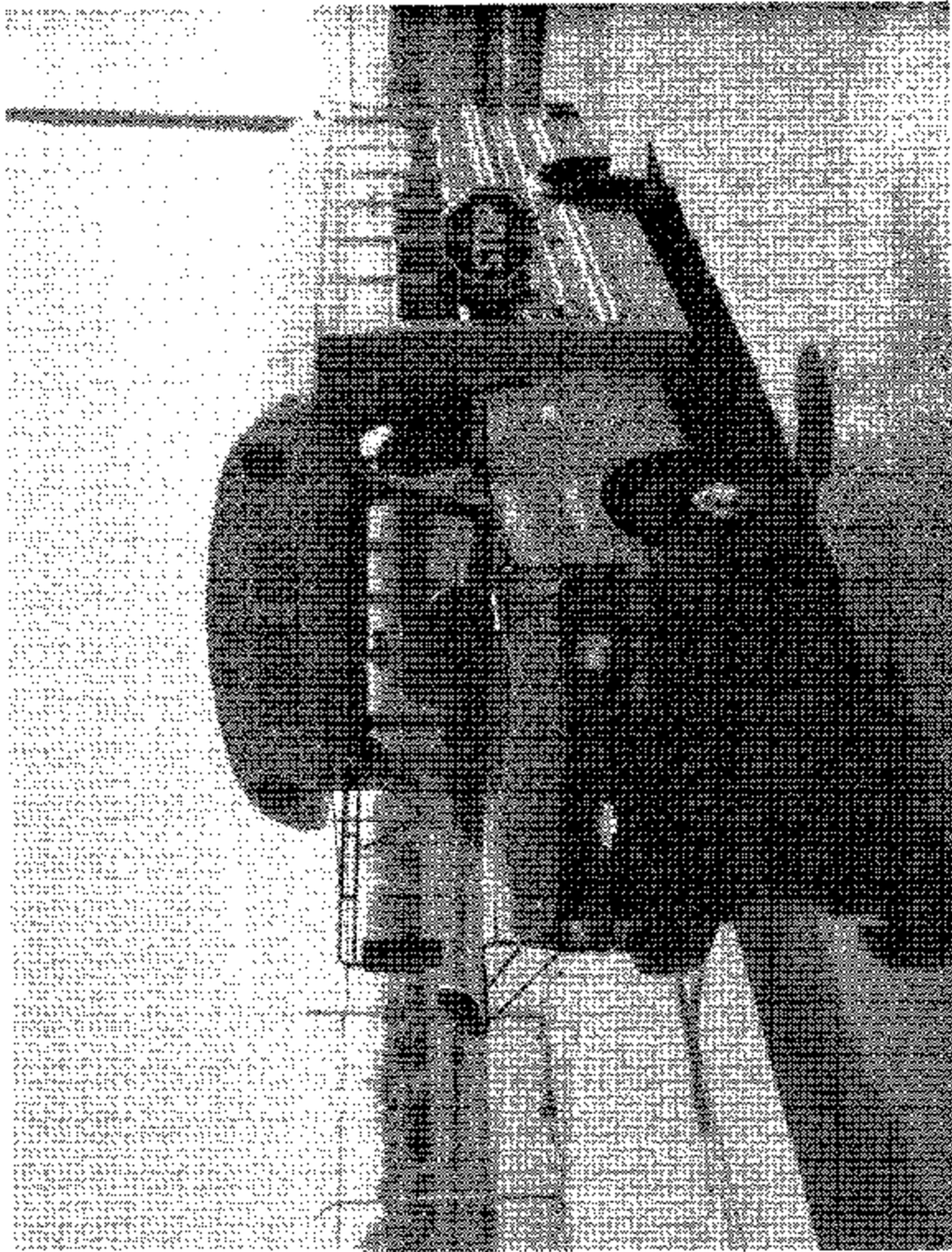
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Note: Photographs may not accurately represent view used for compliance verification.

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

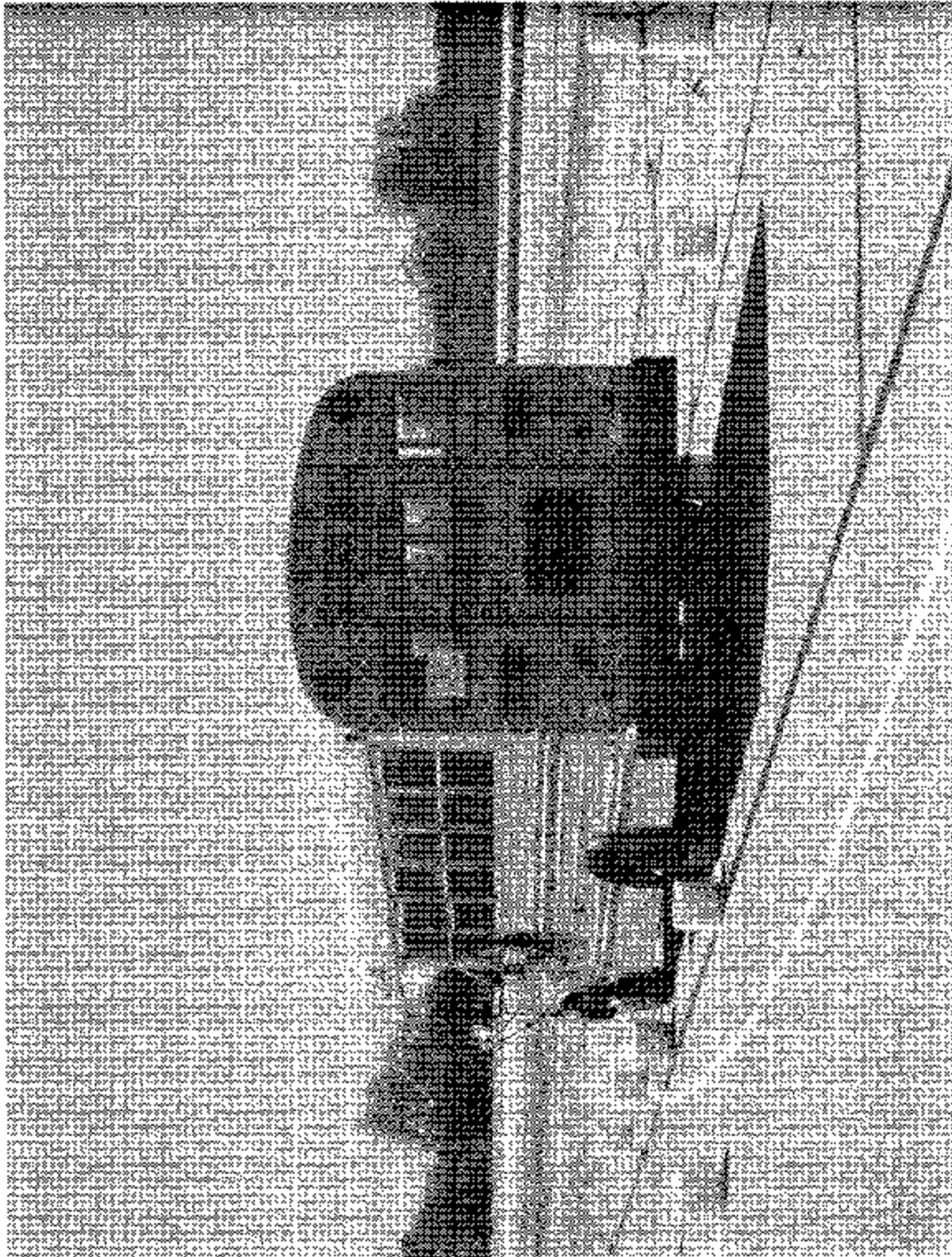
NHTSA No.: C30903



Three-Quarter Left Front View of School Bus

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No. C30903



Three-Quarter Left Rear View of School Bus



Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No.: C30903

REAR TIRE SCHOOL BUS  
CSD-7460-C-033027

SUITABLE TIRE-FIM CHOICE

FRONT LT225/75R15D TIRPS  
16x6.5T RIMS, @ 450 KPA  
65 PSI COLD Sandale

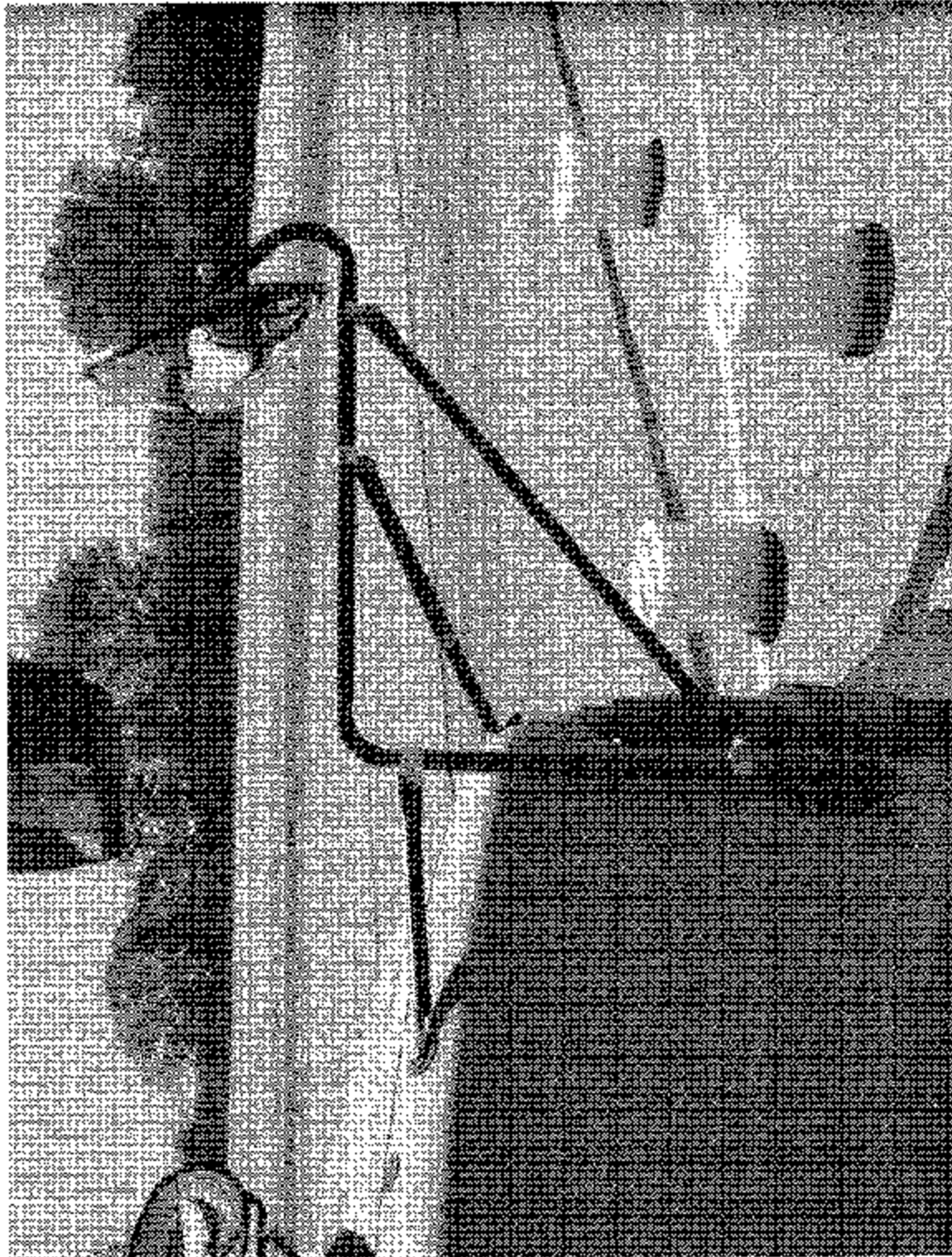
INTERMEDIATE (1)  
TIRPS, KPA  
PSI COLD RIMS, @  
INTERMEDIATE (2)  
TIRPS, KPA  
PSI COLD RIMS, @

REAR LT225/75R15E TIRPS  
16x6.5T RIMS, @ 450 KPA  
65 PSI COLD Sandale

Tire Information Label

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

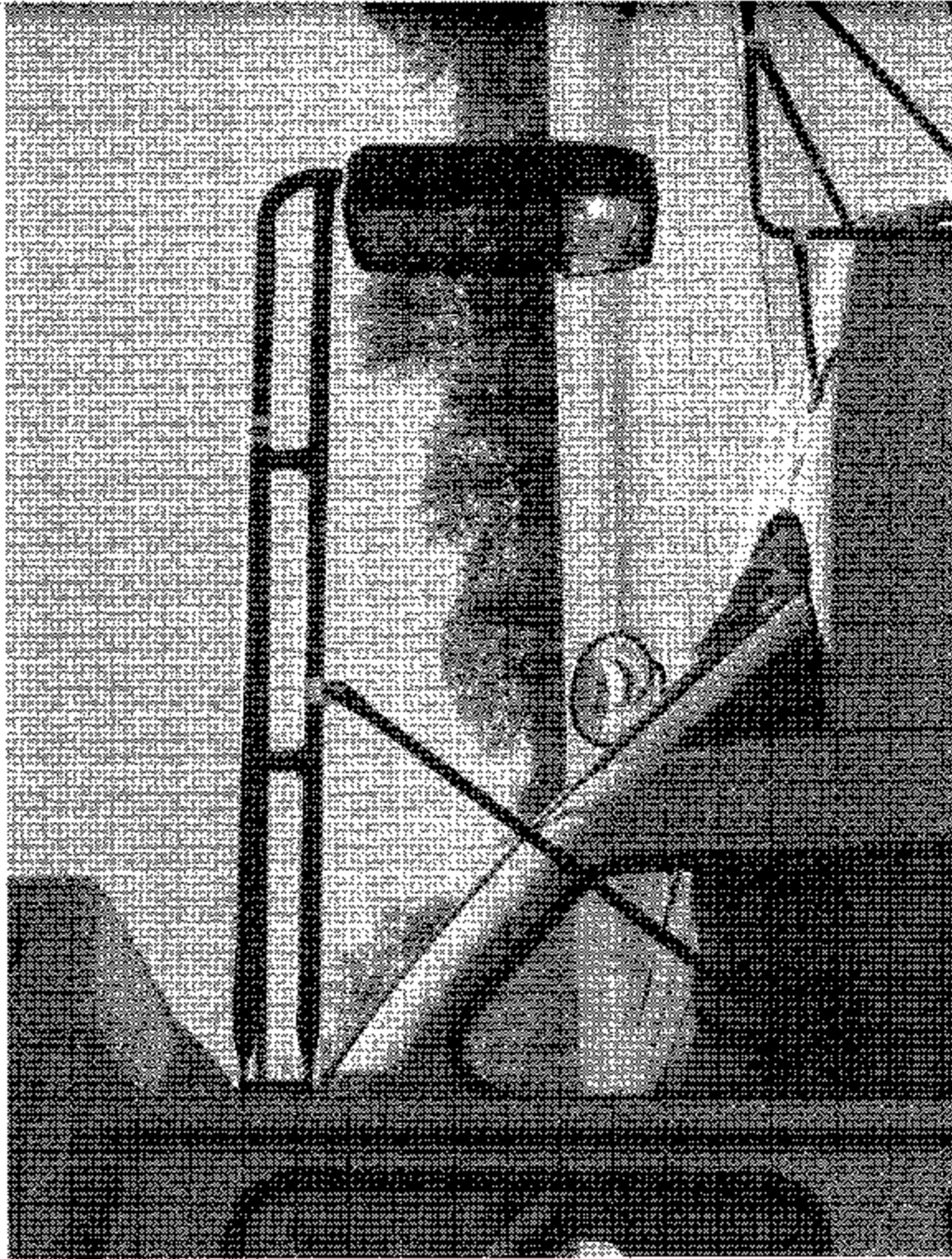
NHTSA No.: C30903



Right Front Cross View Mirror and Mounting

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

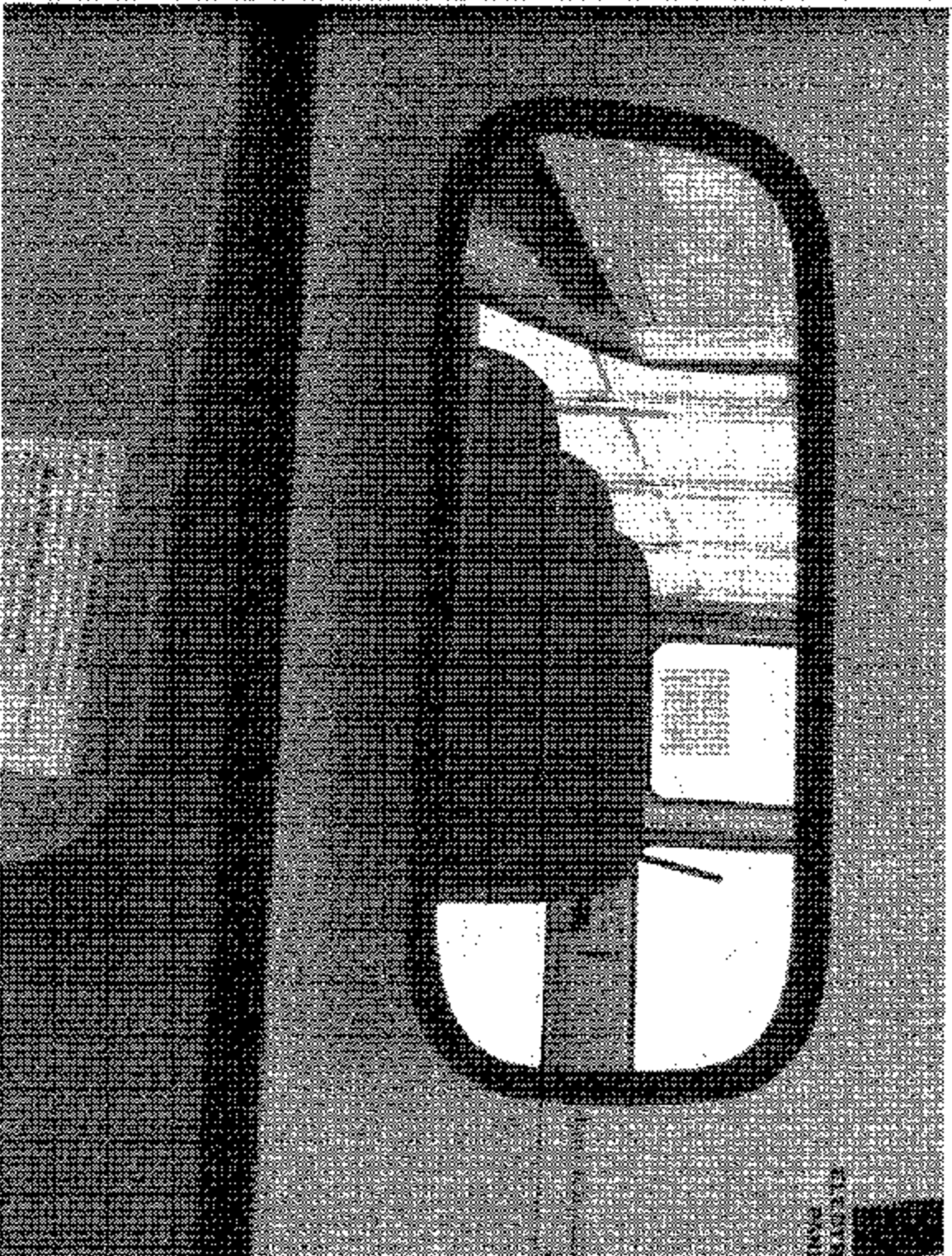
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Passenger Side Rearview Mirror and Mounting

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No.: C30903

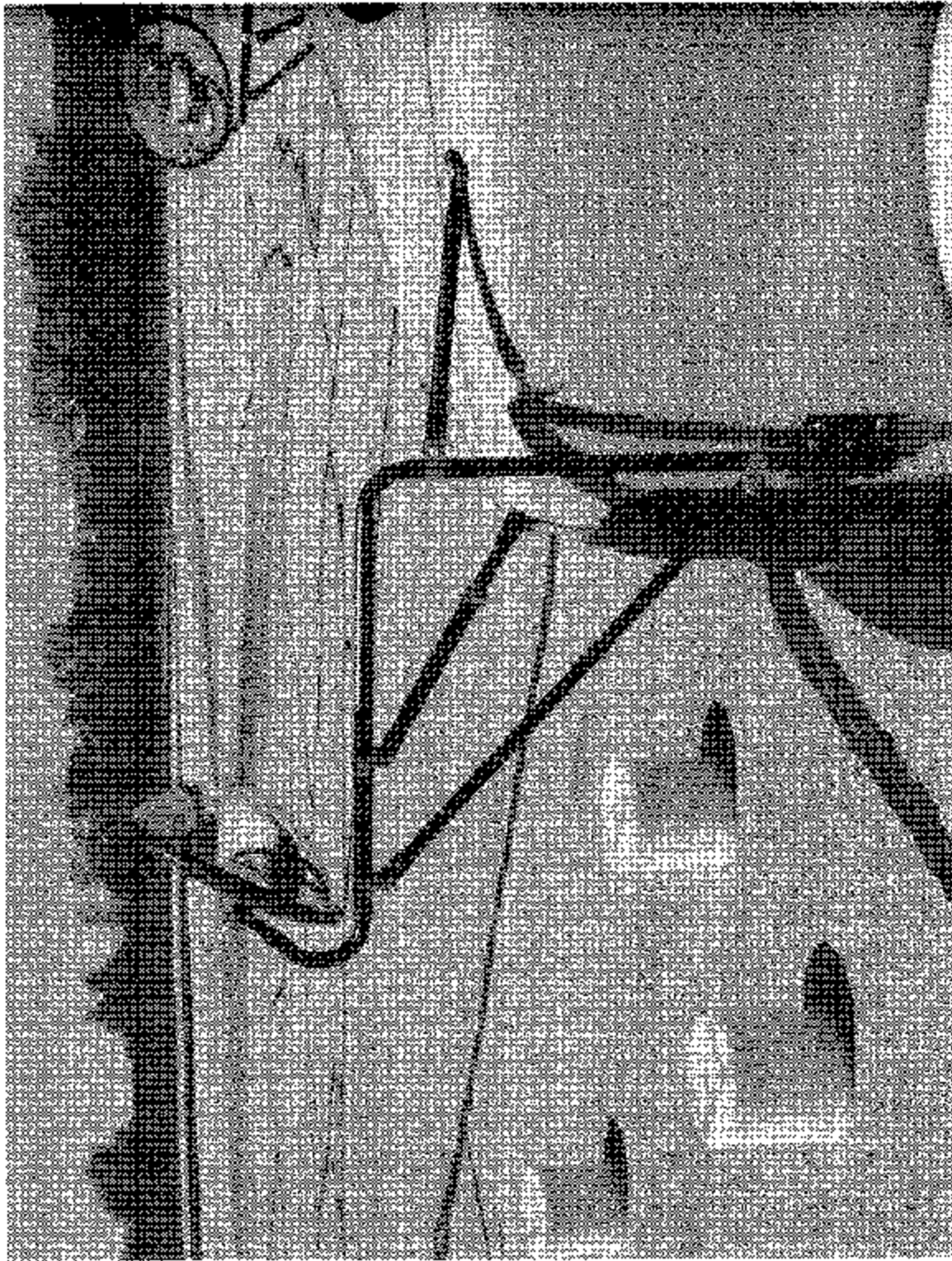


Inside Rearview Mirror and Mounting



Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

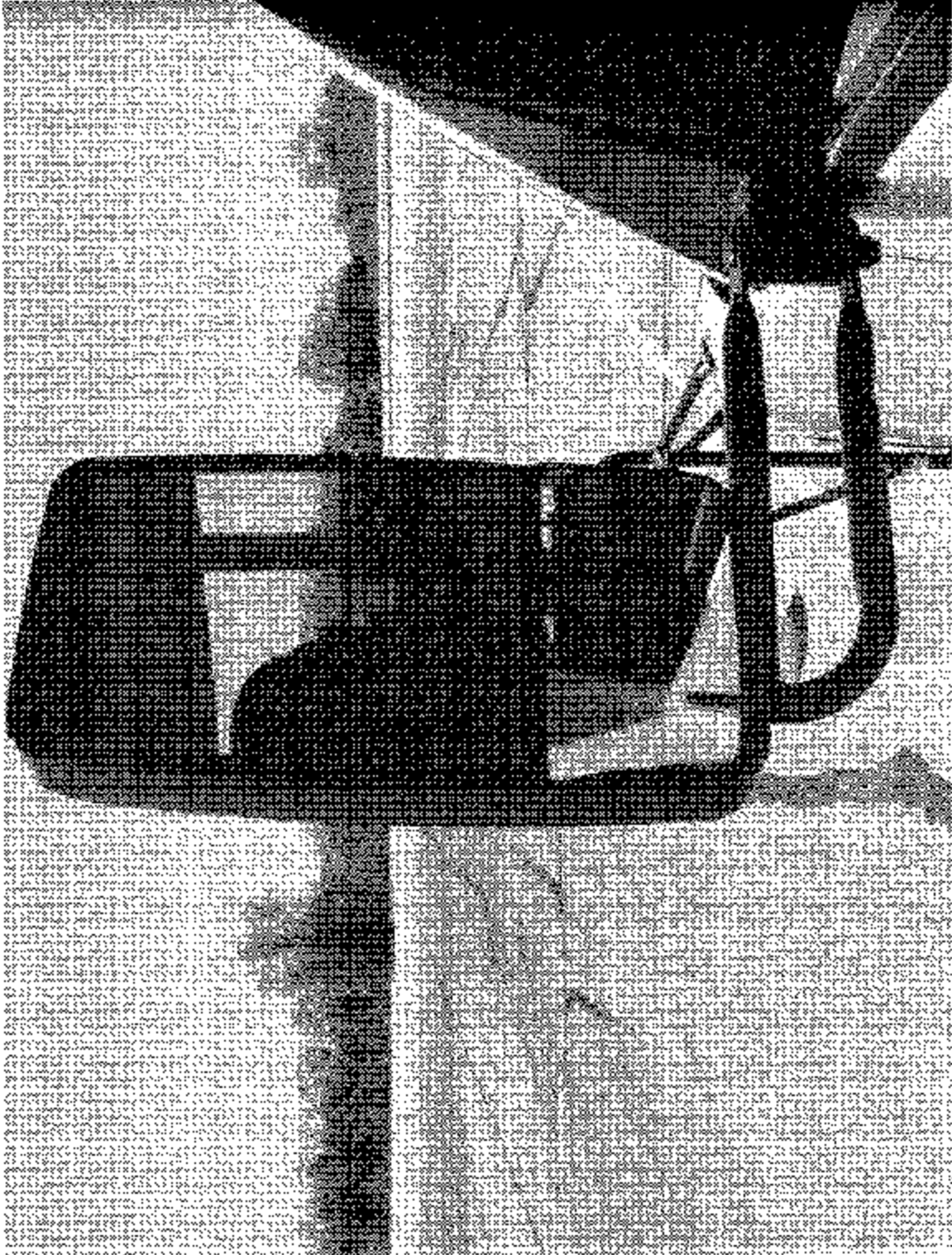
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Left Front Cross View Mirror and Mounting

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

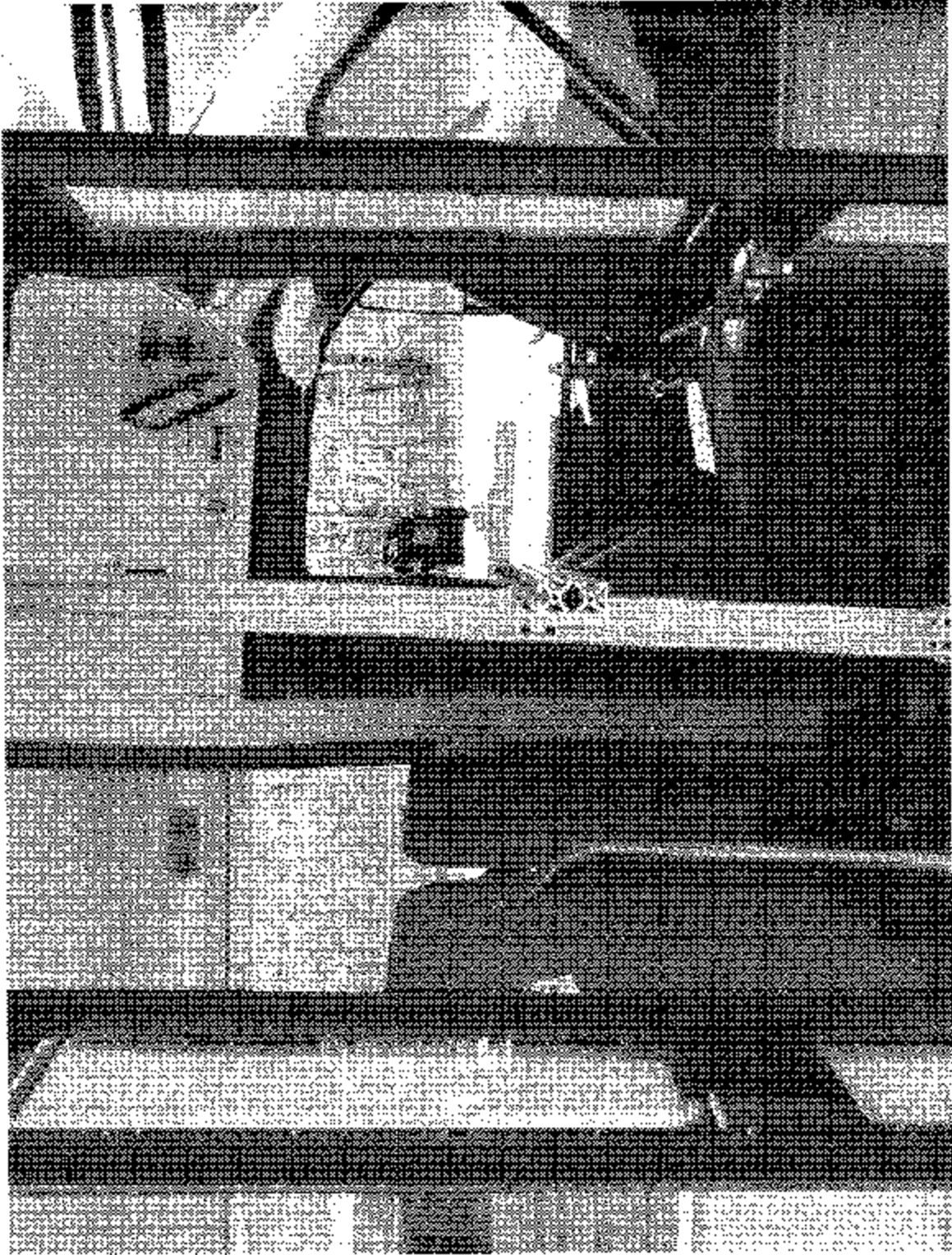
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Driver Side Rearview Mirror and Mounting

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

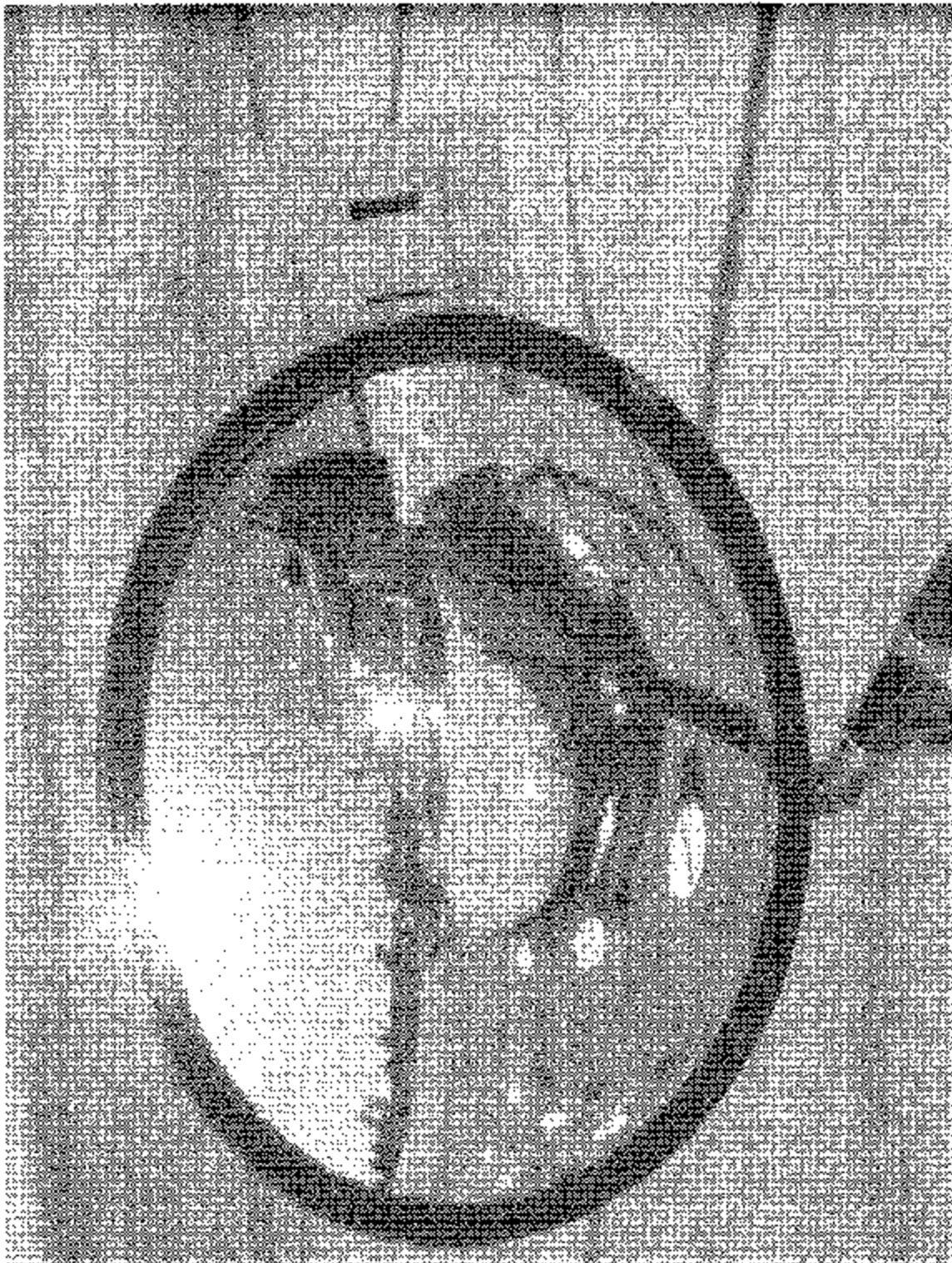
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Field of View Instrument Setup

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

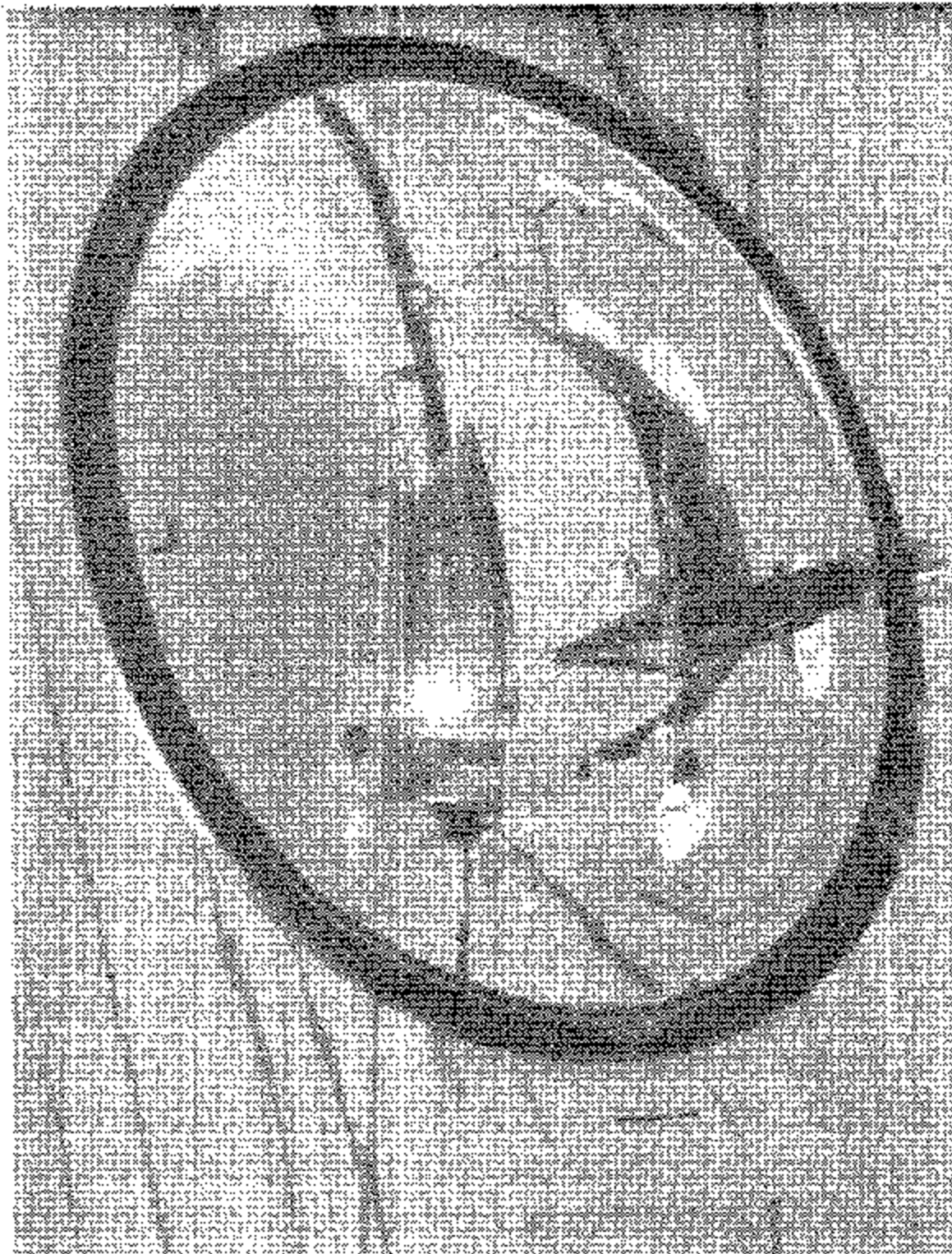
NHTSA No.: C30903



Mirror #2 System B Field of View

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No.: C30903

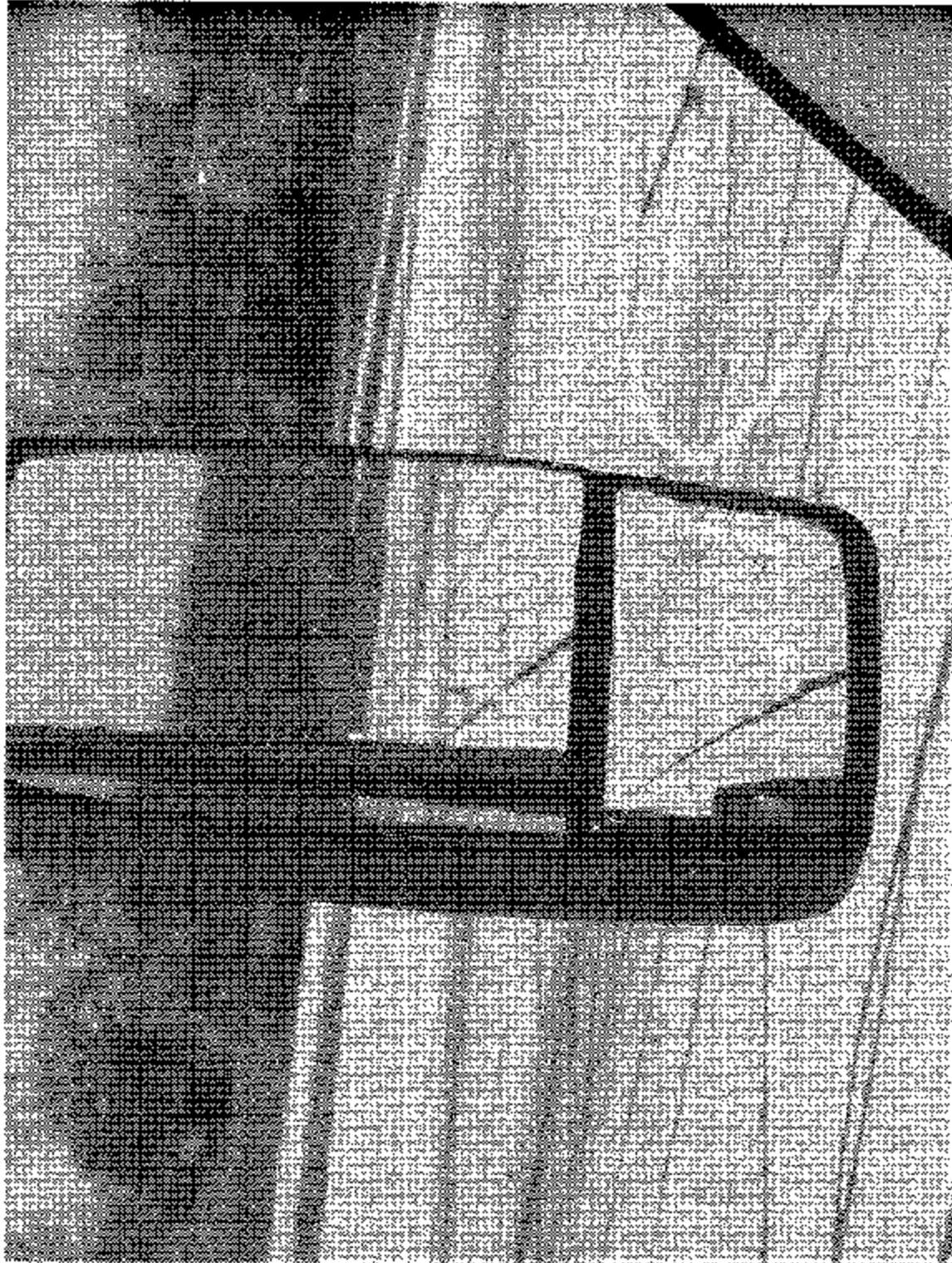


Mirror #1 System B Field of View

Test Vehicle: 2003 Mid Bus School Bus

Procedure: FMVSS 111

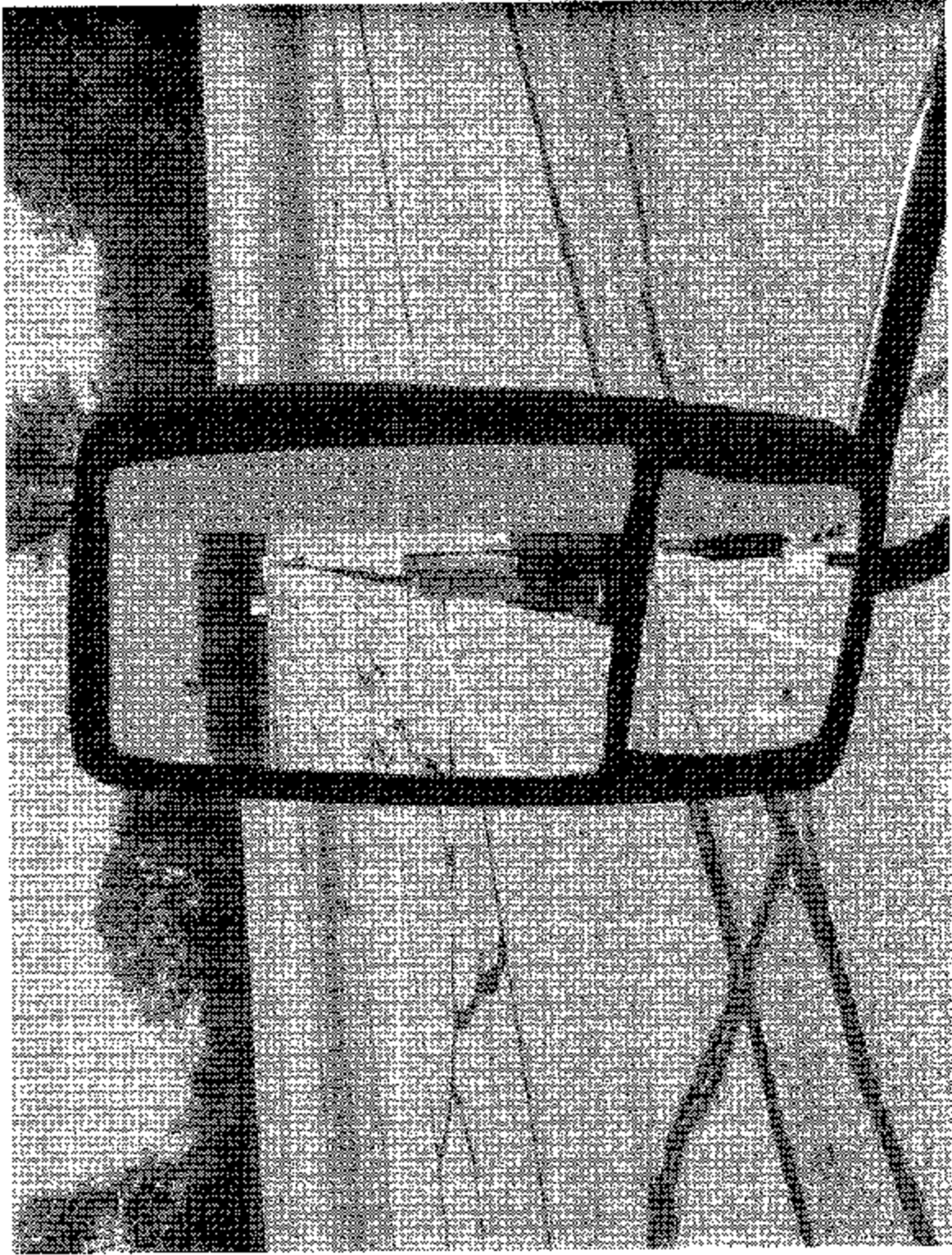
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Mirror #4 and #6 System A Field of View

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

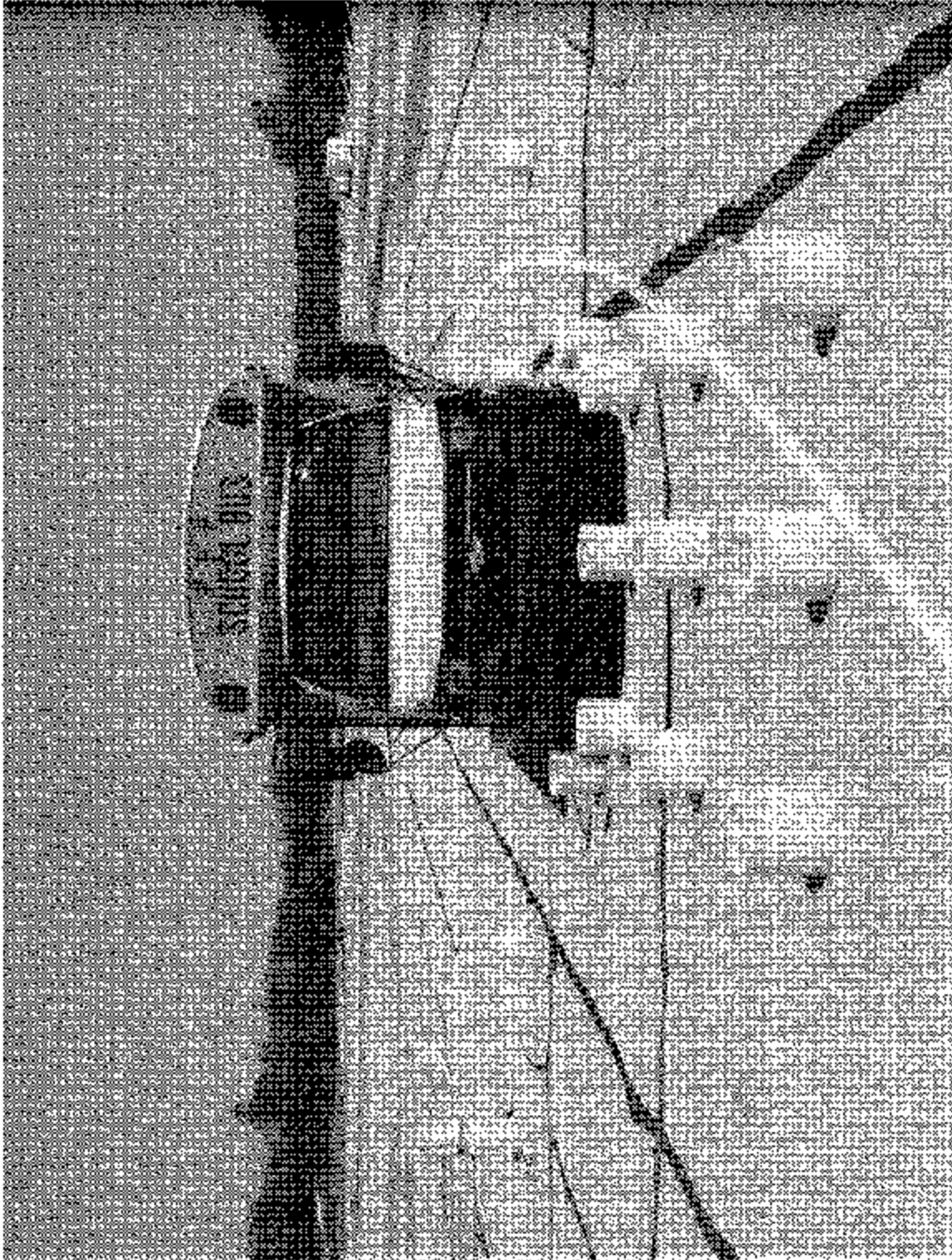
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Mirror #3 and #5 System A Field of View

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No.: C30903

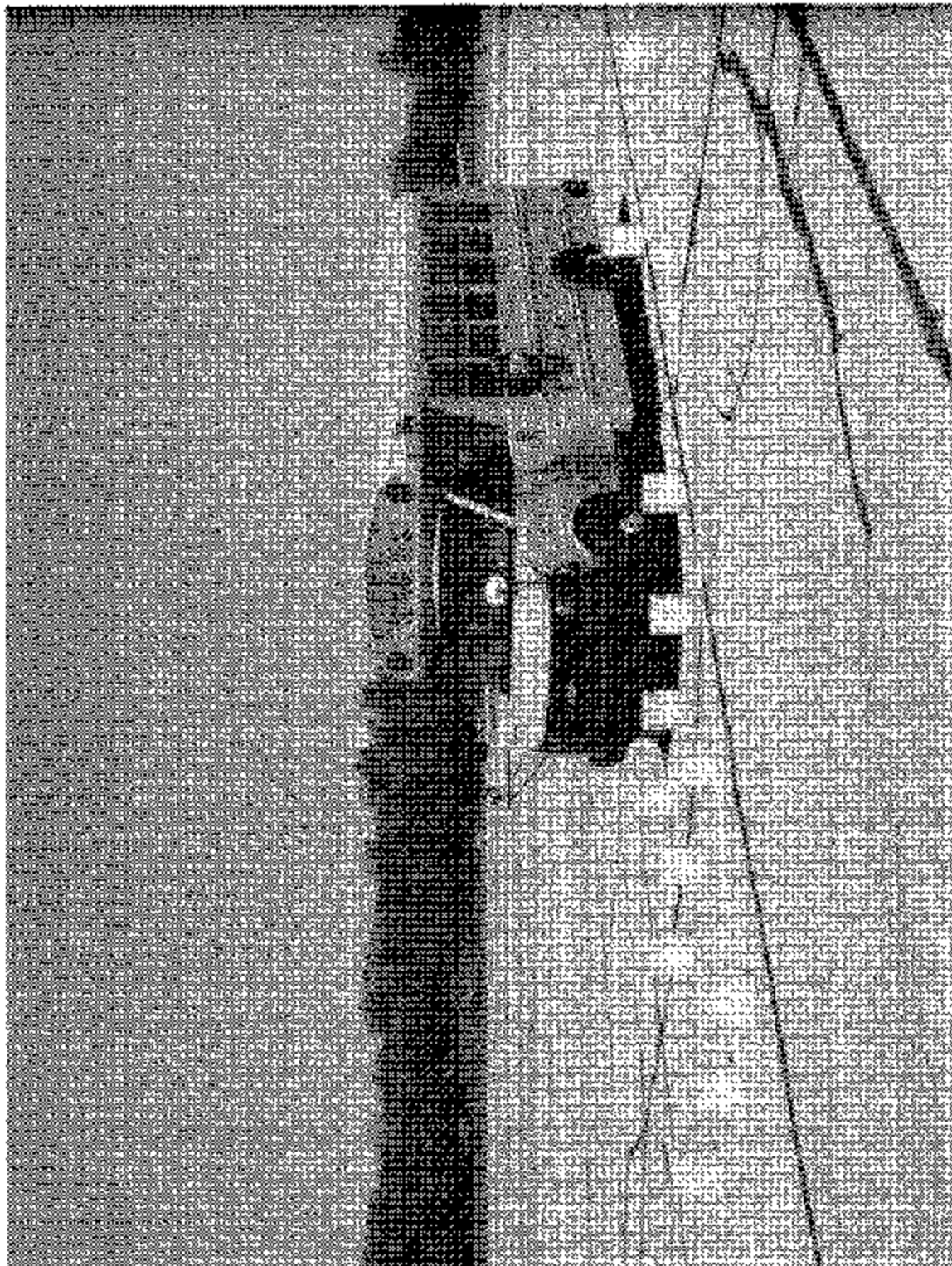


View of Cone Setup from Front



Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

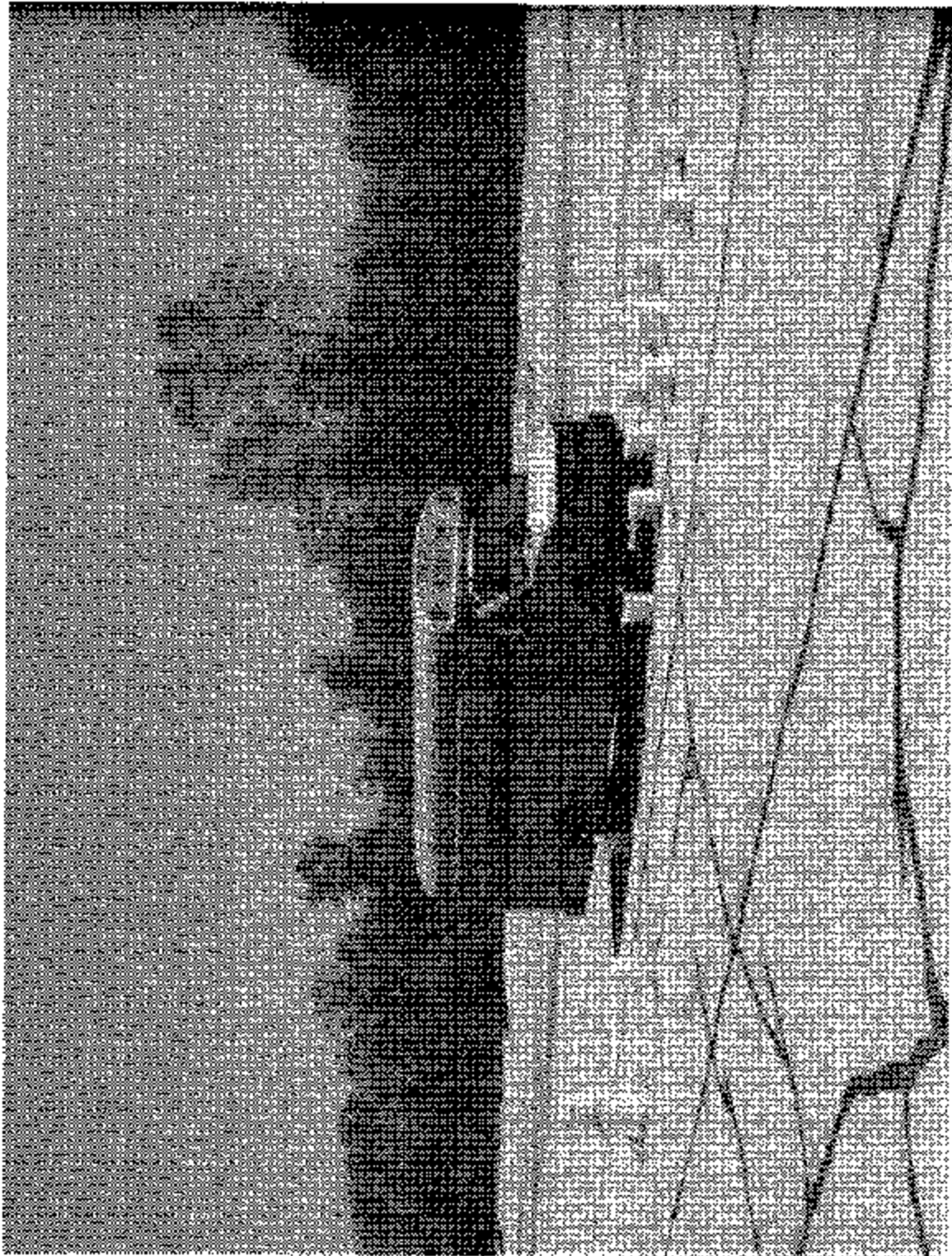
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Three-Quarter Left Front View of Cone Setup

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

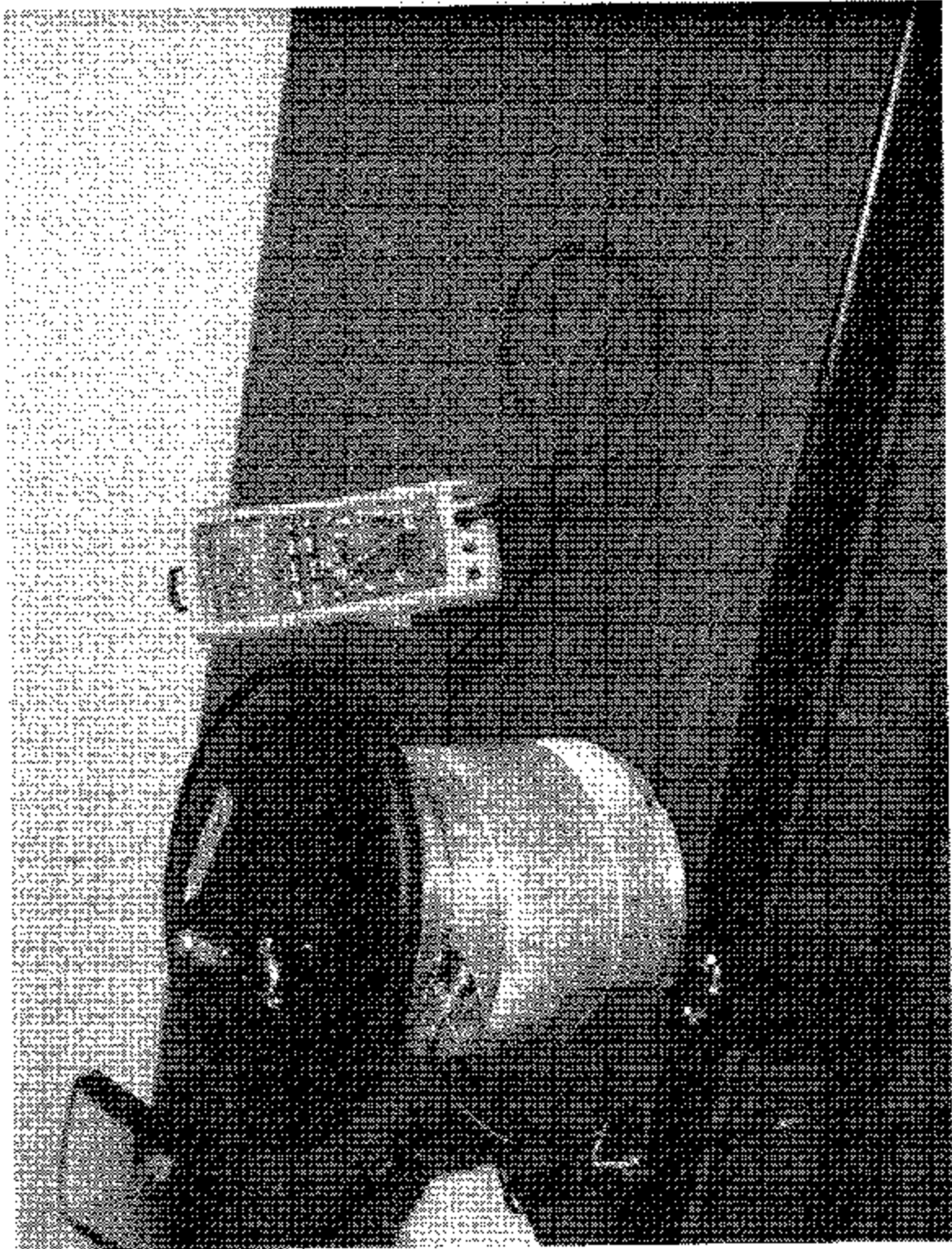
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Three-Quarter Right Front View of Cone Setup

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No. C30903



Reflectance Test Set-up

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No.: C30903

## ATTENTION DRIVER!

USE CROSSVIEW MIRRORS TO VIEW PEDESTRIANS WHILE BUS IS STOPPED. DO NOT USE THESE MIRRORS TO VIEW TRAFFIC WHILE BUS IS MOVING. IMAGES IN SUCH MIRRORS DO NOT ACCURATELY SHOW ANOTHER VEHICLES LOCATION.

THE HAWK-EYE™ CROSS VIEW MIRROR SYSTEM BY ROSCO INC., JAMAICA, NY 11418 TEL: (718) 526-2881

## ▲WARNING

THIS VEHICLE IS EQUIPPED WITH A BACK-UP ALARM.

### ALARM MUST SOUND!

WHEN OPERATING THIS VEHICLE IN REVERSE, THE OPERATOR IS RESPONSIBLE FOR THE SAFE OPERATION OF THIS VEHICLE. FOR THE SAKE OF SAFETY, IT IS HIGHLY RECOMMENDED THAT THE OPERATOR CHECK THROUGHOUT THE WORK PERIOD.

Label for Cross View Mirror Warning

Test Vehicle: 2003 Mid Bus School Bus  
Procedure: FMVSS 111

NHTSA No.: C36903

