

REPORT NUMBER: 131-MGA-03-001

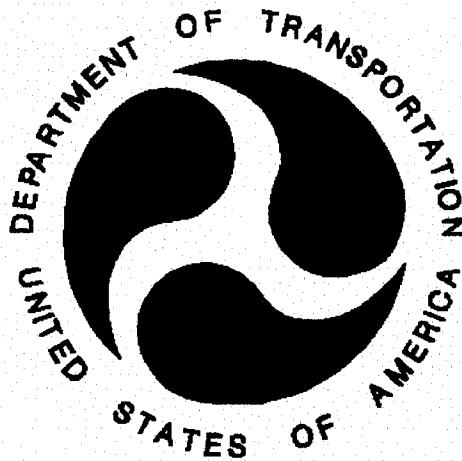
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HS#
636408

**SAFETY COMPLIANCE TESTING FOR
FMVSS NO. 131
SCHOOL BUS PEDESTRIAN SAFETY DEVICES**

American Transportation Corporation
2003 ATC IC3S530
NHTSA # C30902

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



Test Date: November 20, 2002

FINAL REPORT

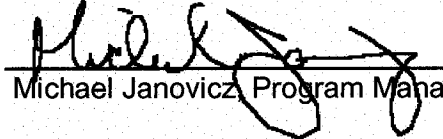
**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW, ROOM 6115 (NVS-221)
WASHINGTON, D.C. 20590**

Disclaimer:

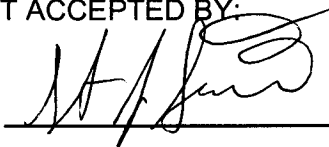
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FINAL REPORT ACCEPTED BY:



12/23/02
Date of Acceptance

Technical Report Documentation Page

1. Report No. 131-MGA-03-001		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 131 Compliance Testing of 2003 American Transportation Corp. IC3S530 NHTSA No.: C30902				5. Report Date December 1, 2002	
				6. Performing Organization Code MGA	
7. Author(s) James Hansen, Project Technician Michael Janovicz, Project Manager				8. Performing Organization Report No. 131-MGA-03-001	
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-R-01057	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration; Enforcement Office of Vehicle Safety Compliance (NVS-221) 400 Seventh St., S.W. Room 6111 Washington, D.C. 20590				13. Type of Report and Period Covered Final Report	
				14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes					
16. Abstract Compliance tests were conducted on the subject, 2003 American Transportation Corp. 65 Passenger School Bus, NHTSA No.C30902 in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-131SB1 for the determination of FMVSS 131 compliance. Test failures identified were as follows: None					
17. Key Words Safety Bus Compliance Testing Safety Engineering FMVSS 131				18. Distribution Statement 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) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 29	22. Price

TABLE OF CONTENTS

<u>Section</u>		<u>Page No</u>
1	Purpose of Compliance Test	1
2	Test Data Summary / Vehicle Description	2
3	Compliance Test Data	4
	Data Sheet 1- Dimensions of Stop Signal Arm (S5.1)	5
	Data Sheet 2 – Surface Content and Labeling (S5.2)	6
	Data Sheet 3 – Conspicuity (S5.3)	7
	Data Sheet 4 - Stop Signal Arm Installation S5.4)	10
	Data Sheet 5 - Stop Signal Arm Operation (S5.5)	11
4	Instrumentation and Equipment List	12
5	Photographs	14

SECTION 1
PURPOSE OF COMPLIANCE TEST

Tests were conducted by the MGA Research Corporation-Wisconsin Operations on a 2003 American Transportation Corp. school bus, NHTSA NO. C30902, in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-131SB1 to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 131, "School Bus Pedestrian Safety Devices."

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

SECTION 2
TEST DATA SUMMARY

Based on the tests performed, the 2003 American Transportation Corp. school bus, NHTSA No. C30902 appears to meet all of the requirements of FMVSS 131. See Test Summary Data Sheet on the following page.

**FMVSS 131, SCHOOL BUS PEDESTRIAN SAFETY DEVICES
VEHICLE INFORMATION AND TEST SUMMARY**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

VIN No.	4DRBRABN73B955119	Chassis Cab	Yes
No. of Stop Signal Arms	2	Forward Control	No
Pass. Capacity (driver included)	65	Rear Engine	No
Stop Signal Arm Manufacturer	SMC Specialty Mfg	Wheelbase (meters)	6.45
Tire Size (on bus)	10R22.5		

DATA FROM CERTIFICATION LABEL

Final Stage Manufacturer	American Transportation Corporation	Date of Mfg.	10/02
Incomplete Vehicle Manufacturer	Not Found	Date of Mfg.	Not Found
GVWR (kg)	12,474	GAWR Front (kg)	4,536
		GAWR Rear (kg)	7,938

TEST SUMMARY

SUMMARY	Pass/Fail or N/A
Dimensional Requirements (S5.1)	PASS
Surface Content and Labeling (S5.2)	PASS
Conspicuity Requirements (S5.3)	PASS
Location and Position Requirements (S5.4)	PASS
Arm Operation Requirements (S5.5)	PASS

**SECTION 3
COMPLIANCE TEST DATA**

**FMVSS 131 – DATA SHEET 1
DIMENSIONS OF STOP SIGNAL ARM**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

DIMENSIONS OF STOP SIGNAL ARM (S5.1)

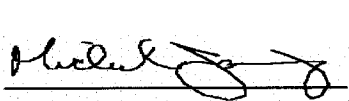
“Regular octagon” with diameter of at least 450 mm (point to point).

	Forward Signal Arm (mm)	Rearmost Signal Arm (mm)
Diameter 1	495	495
Diameter 2	495	495
Diameter 3	495	495
Diameter 4	495	495
Range (max. – min.)	0	0

	Yes, No, N/A
Are all octagon diameter values \geq 450 mm?	Yes
Is range of octagon diameter values \leq 12 mm?	Yes
Are all octagon chord dimensions equal within 6 mm?	Yes

Test Results		Pass/Fail
S5.1	Dimensions of Stop Signal Arm	PASS

Tested By: 

Approved By: 

Date: December 13, 2002

**FMVSS 131 – DATA SHEET 2
SURFACE CONTENT AND LABELING**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

SURFACE CONTENT AND LABELING (S5.2)

	Forward Signal Arm		Rearmost Signal Arm	
	Front Side	Aft Side	Front Side	Aft Side
Color RED except for border & legend (Yes/No)	YES	YES	YES	YES
Color of border is WHITE (Yes/No)	YES	YES		YES
Color of word "STOP" is WHITE (Yes/No)	YES	YES		YES
Word "STOP" is in upper case letters (Yes/No)	YES	YES		YES
Width of border (≥ 12 mm)	14 mm	14 mm		14 mm
Percent of border obscured by mounting brackets, clips, or bolts, or other components ($15\% \leq$)*	0%	12%		12%
Height of letters (≥ 150 mm)	150 mm	150 mm		150 mm
Stroke width of letters (≥ 20 mm)	25 mm	25 mm		24 mm

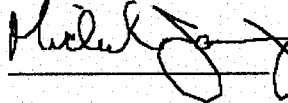
* = In addition to area obscured by 2 optional red lamps, if installed.

NOTE:

1. Front side of rearmost signal arm shall not contain any lettering or border.

Test Results		Pass/Fail
S5.2	Surface content and labeling	PASS

Tested By: 

Approved By: 

Date: December 13, 2002

**FMVSS DATA SHEET 3
CONSPICUITY (S5.3)**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

The Stop Signal Arm shall comply with either S5.3.1 or S5.3.2, or both.

REFLECTORIZED MATERIAL (S5.3.1)

Requirements	Forward Signal Arm		Rearmost Signal Arm	
	Front Side	Aft Side	Front Side	Aft Side
Entire surface of stop signal arm reflectorized except for mounting brackets, clips, bolts, or other necessary components. Front side of rearmost stop signal arm must not be reflectorized. (Yes/No)	YES ¹	YES ¹	NO	NO
Percent of entire surface obscured by mounting brackets, clips, bolts or other components necessary for mechanical or electrical operation. (7.5% max. each side)	0% ²	3.8% ²	N/A	N/A

Test Notes:

¹ Flashing lights prevent full reflectorization.

² Percentages do not include area obscured by red flashing lights.

**FMVSS 131 DATA SHEET 3...continued
CONSPICUITY (S5.3)**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

Optional Illuminated Lettering (S5.3.1.1)

Item	Stop Signal Arm	
	Forward	Rearmost
Does the stop sign(s) have illuminated lettering? If optional illuminated lettering is installed, the following requirements apply in addition to reflectorized surface.	No	No

Requirements	Forward Signal Arm		Rearmost Signal Arm	
	Front Side	Aft Side	Front Side	Aft Side
Only Red lamps used (Yes/No)	N/A	N/A	N/A	N/A
Red lamps form the complete shape of each letter of the legend. (Yes/No)	N/A	N/A	N/A	N/A
Red lamps centered within stroke of each letter (yes/No) or Red lamps outline each letter in immediately surrounding area (Yes/No)	N/A	N/A	N/A	N/A
The shape of each letter remains constant (Yes/No)	N/A	N/A	N/A	N/A
Net stroke width > 15 mm (stroke width minus lamp width)	"S"	N/A	N/A	N/A
	"T"	N/A	N/A	N/A
	"O"	N/A	N/A	N/A
	"P"	N/A	N/A	N/A
Lamps on each side of the signal arm flash (60-120 flashes/min.)	N/A	N/A	N/A	N/A
Lamps current "on" time of 30% to 75% of the total flash cycle	N/A	N/A	N/A	N/A
Total current "on" time for the two terminals shall be between 90-110% of the total flash cycle.	N/A	N/A	N/A	N/A
If Xenon short-arc lamps – "off" time before each flash of at least 50% of the total flash cycle.	N/A	N/A	N/A	N/A

Lamp Type	Filament	
	Gaseous Discharge	
	Light emitting diode	

**FMVSS 131 DATA SHEET 3...continued
CONSPICUITY (S5.3)**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

RED FLASHING LAMPS (S5.3.2)

Requirements	Forward Signal Arm		Rearmost Signal Arm	
	Front Side	Aft Side	Front Side	Aft Side
Red lamps centered on the vertical centerline (At least 2, enter quantity)	2 - YES	2 - YES	2-Yes	2 - YES
One lamp at extreme top and another at extreme bottom (Yes/No)	YES	YES	Yes	YES
Lamps on each side of the signal arm flash alternately (60-120 flashes/min.)	YES ¹	YES ¹	Yes ²	YES ²
Lamps current "on" time of 30% to 75% of the total flash cycle.	YES	YES	Yes	YES
Total current "on" time for two terminals shall be between 90 and 110% of the total flash cycle.	YES	YES	Yes	YES
If Xenon short-arc lamps-"off" time before each flash of at least 50% of total flash cycle.	N/A	N/A	N/A	N/A
Symbol "DOT" on each lamp lens (Yes/No)	YES	YES	Yes	YES
Additional markings on lamp lenses	SMC-194 FMVSS 131	SMC-194 FMVSS 131	SMC-194 FMVSS 131	SMC-194 FMVSS 131

MARKINGS ON THE FLASHER

Make	Weldon Technologies	Serial No.	Unknown
Model	7000 Electronic Lamp Light	Date of Mfg.	Unknown

Test Notes:

¹ Flash rate was 84/minute

² Flash rate was 84/minute

TEST RESULTS		Pass, Fail, or N/A
S5.3.1	Reflectorized Material	N/A
S5.3.1.1	Optional Illuminated Lettering	N/A
S5.3.2	Red Flashing Lamps	PASS

Tested By:  Approved By: 

Date: December 13, 2002

**FMVSS 131 DATA SHEET 4
STOP SIGNAL ARM INSTALLATION (S5.4)**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

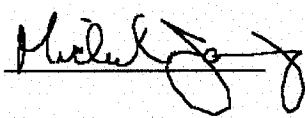
NHTSA No.: **C30902**
Test Date: **11/19/02**

Dimensions and angles measured with Signal Arm in the extended position.

Requirements	Stop Signal Arm	
	Forward	Rearmost
Signal arm perpendicular to side of bus (Measure angle between vertical plane of side of bus and vertical plane of the signal arm.) $90 \pm 5^\circ$	YES	YES
Top edge of signal arm parallel to horizontal plane (Measure angle between vertical plane of side of bus and the top edge of the signal arm.) $90 \pm 5^\circ$	YES 89.7°	YES 88.8°
Top edge of signal arm not more than 152.4 mm from a horizontal plane tangent to lower edge of frame of passenger window immediately behind the driver's window:		
Measure top corner closest to the school bus	22 mm	5 mm
Measure top corner furthest from school bus	22 mm	2 mm
Vertical centerline of signal arm not less than 228.6 mm away from side of bus	313 mm	313 mm
Stop signal arm(s) installed on left side of bus (Yes, No, or Not Applicable)	YES	YES

TEST RESULTS		PASS, FAIL, or N/A
S5.4	Stop Signal Arm Installation	PASS

Tested By: _____
Date: December 13, 2002

Approved By: 

**FMVSS 131 DATA SHEET 5
STOP SIGNAL ARM OPERATION (S5.5)**

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

Stop Signal Arm(s) shall be automatically extended, at a minimum, whenever the red signal lamps on the bus required by FMVSS 108 are activated; except that a manual override device may be installed that prevents automatic extension.

Requirements	Stop Signal Arm	
	Forward	Rearmost
Signal Arm(s) automatically extended when red lights are activated and override device is not activated. (Yes, No, or Not Applicable)	YES	YES
If a MANUAL OVERRIDE DEVICE is installed, enter applicable data below:		
Mechanism for activating the override device is within reach of the school bus driver (Yes/No)	N/A	N/A
While the override device is activated; there is a continuous or intermittent signal audible to the driver unless equipped with optional cut-off timing device (Measure duration > 10 min.)	N/A	N/A
If audible signal is equipped with optional cut-off timing device, it sounds for at least 60 seconds while the manual override is activated. (Measure 3 times, duration > 60 sec.)	N/A	N/A
If audible signal is equipped with optional cut-off timing device, it automatically recycles every time the service entry door is opened while the engine is running and the manual override is engaged. (Recycle 3 times, Yes/No each cycle)	N/A	N/A

Describe location and mode of operation of the manual override control, if installed:

No manual override device was installed on this vehicle which allowed overhead lights to flash and stop signal arm NOT to extend.

TEST RESULTS		PASS, FAIL, or N/A
S5.5	Stop Signal Arm Operation	PASS

Tested By: [Signature] Approved By: [Signature]
Date: December 13, 2002

**SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST**

SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST

Test Vehicle: **2003 American Transportation Corp.**
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**
Test Date: **11/19/02**

Identify the instruments used during this test and record their make, model, serial number, range, accuracy, and calibration date

	Digital Callper	Inclinometer	Tape Measure
Make	Starrett	Digital Protractor	Stanley
Model	721	Pro 360	Powerlock
Serial # (s)	00410129	Complab	101
Range	0 to 150 mm	0 to 360 degrees	0 to 8 m
Accuracy	0.01 mm	0.1 degree	1 mm
Cal. Date	8/22/02	11/15/02	10/28/02
Cal. Due	2/22/03	05/15/03	04/28/03

**SECTION 5
PHOTOGRAPHS**

TABLE OF PHOTOGRAPHS

No.		Page No.
1	Left Front $\frac{3}{4}$ View of Vehicle with Stop Signal Arm extended	16
2	Left Rear $\frac{3}{4}$ View of Vehicle with Stop Signal Arm extended	17
3	Close-up View of Forwardmost Stop Signal Device from Front	18
4	Close-up View of Forwardmost Stop Signal Device from Back	19
5	Close-up View of Rearmost Stop Signal Device from Front	20
6	Close-up View of Rearmost Stop Signal Device from Back	21
7	Close-up of Certification Label	22
8	Close-up of Vehicle Placard	23
9	Close-up of Flasher	24
10	View of Device that Activates Automatic Extension of the Stop Arm Signal and Warning Lights	25
11	View of Device that Overrides Automatic Extension of the Stop Arm Signal and Warning Lights	Not Applicable



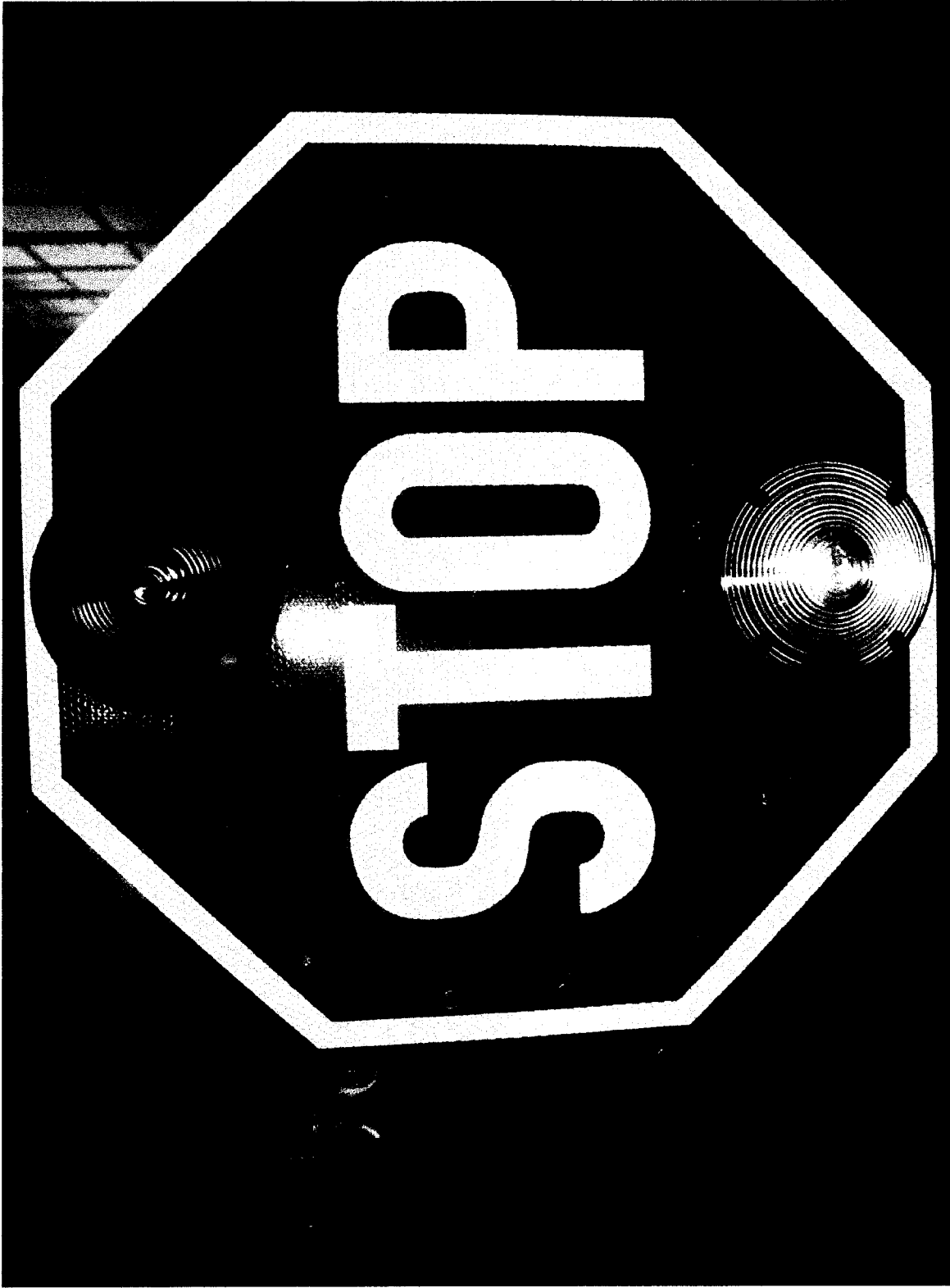
Photograph 1:
Left Front $\frac{3}{4}$ View of Vehicle with Stop Signal Arm
extended

Test Vehicle: 2003 American Transportation Corp.
Procedure: FMVSS 131
NHTSA No.: C30902



Photograph 2:
Left Rear $\frac{3}{4}$ View of Vehicle with Stop Arm
extended

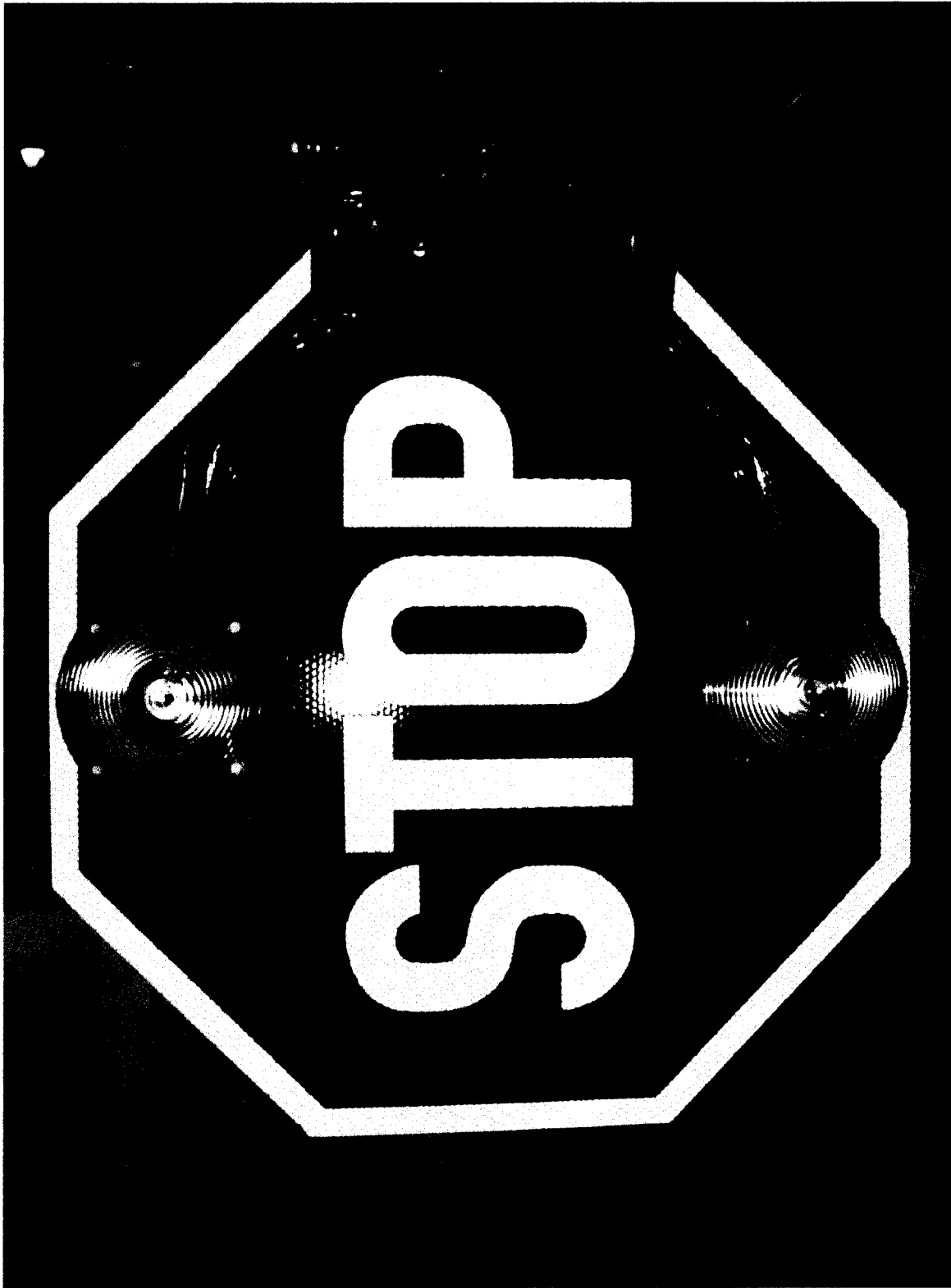
Test Vehicle: 2003 American Transportation Corp.
Procedure: FMVSS 131
NHTSA No.: C30902



Test Vehicle:
Procedure:
NHTSA No.:

2003 American Transportation Corp.
FMVSS 131
C30902

Photograph 3:
Close-up View of Forwardmost Stop Signal Device
from Front



Test Vehicle:
Procedure:
NHTSA No.:

2003 American Transportation Corp.
FMVSS 131
C30902

Photograph 4:
Close-up View of Forwardmost Stop Signal Device
from Back



Test Vehicle:
Procedure:
NHTSA No.:

2003 American Transportation Corp.
FMVSS 131
C30902

Photograph 5:
Close-up View of Rearmost Stop Signal Device
from Front



Test Vehicle:
Procedure:
NHTSA No.:

2003 American Transportation Corp.
FMVSS 131
C30902

Photograph 6:
Close-up View of Rearmost Stop Signal Device
from Back

MANUFACTURED BY

AMERICAN TRANSPORTATION CORPORATION

DATE OF MANUFACTURE 10 MO. 02 YR.

GVWR 12,474 KGS (27,500 LBS)

GAWR FRONT 4,536 KGS (10,000 LBS) WITH

265/75R22.5G TIRES 12 PLY AT
758 KPa (110 PSI) COLD
RIMS 22.5X7.50 AXLE SINGLE

GAWR REAR 7,938 KGS (17,500 LBS) WITH

265/75R22.5G TIRES 12 PLY AT
689 KPa (100 PSI) COLD
RIMS 22.5X7.50 AXLE DUAL

THIS VEHICLE CONFORMS TO ALL
APPLICABLE FEDERAL MOTOR
VEHICLE SAFETY STANDARDS IN
EFFECT ON THE DATE OF
MANUFACTURE SHOWN ABOVE.

VEHICLE IDENTIFICATION NO.

4DRBRABN73B955119

VEHICLE TYPE

SCHOOL BUS BODY# 955119

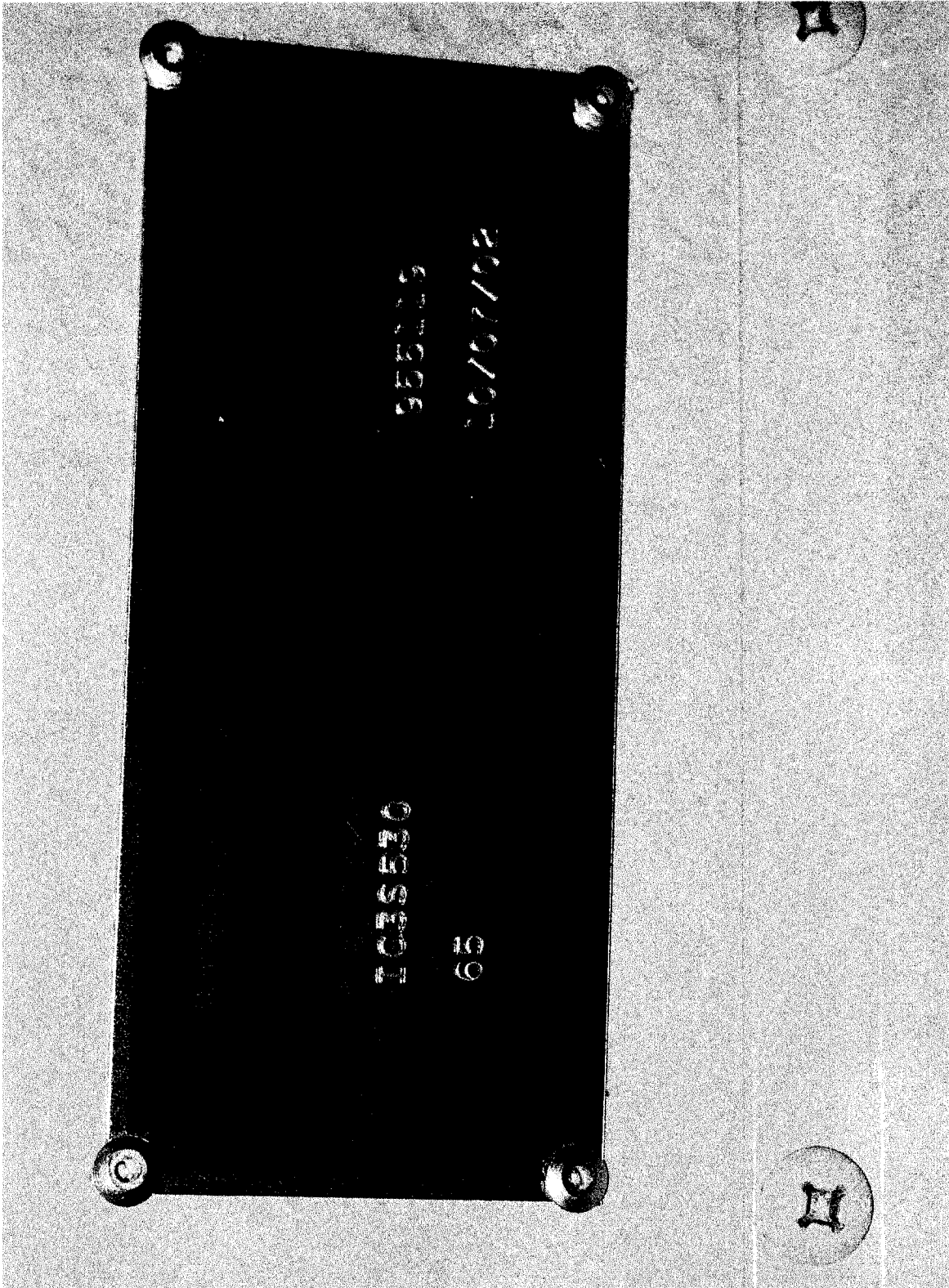
W/DRIVER!

BEWARE OF MIRROR
MIRRORS TO VIEW
IS MOVING. IMAGES
NOT ACCURATELY
VEHICLES LOCATION.

VIEW MIRROR SYSTEM BY
CALL 1-800-368-2601

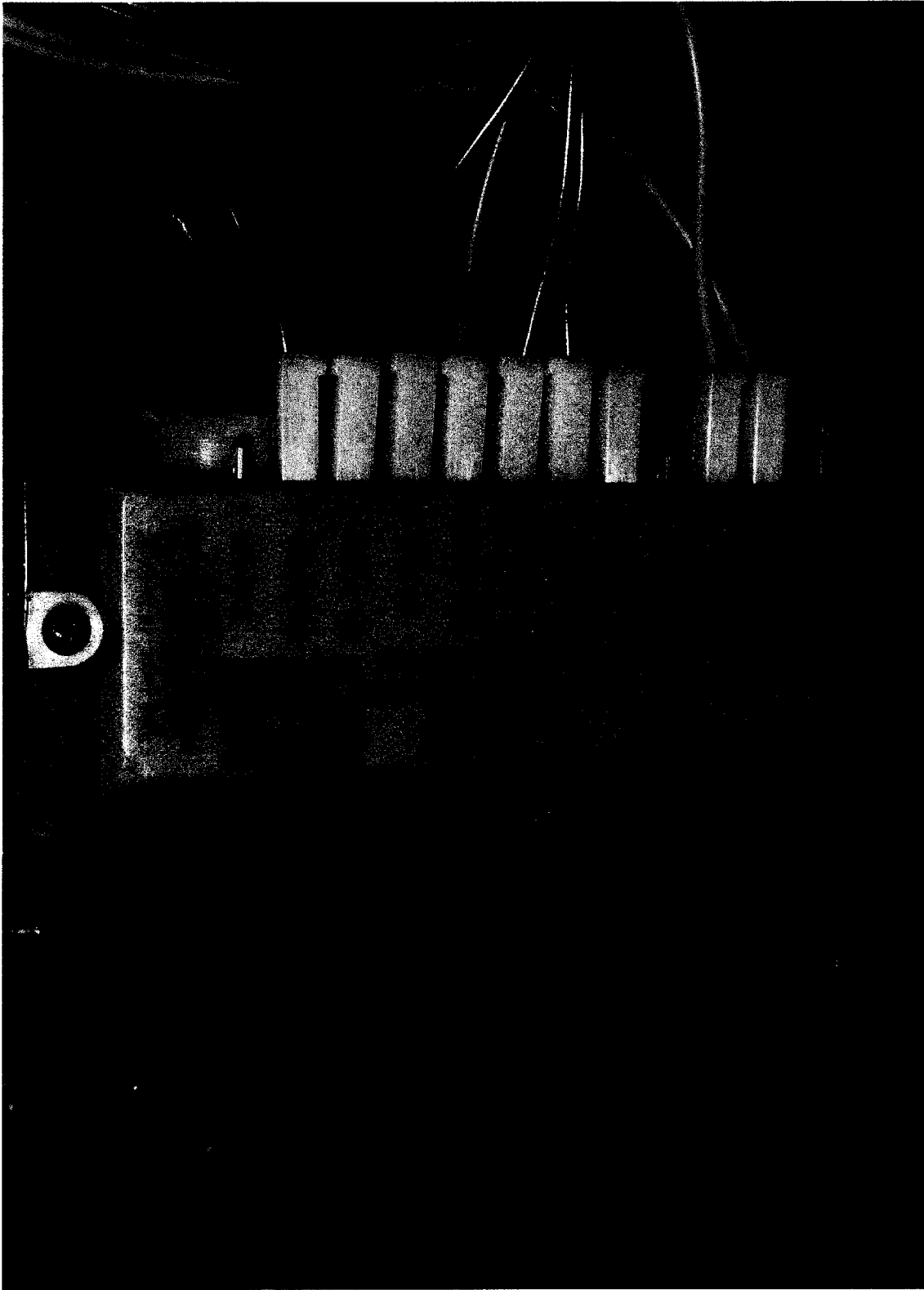
Test Vehicle: 2003 American Transportation Corp.
Procedure: FMVSS 131
NHTSA No.: C30902

Photograph 7:
Close-up of Certification Label



Photograph 8:
Close-up of Vehicle Placard

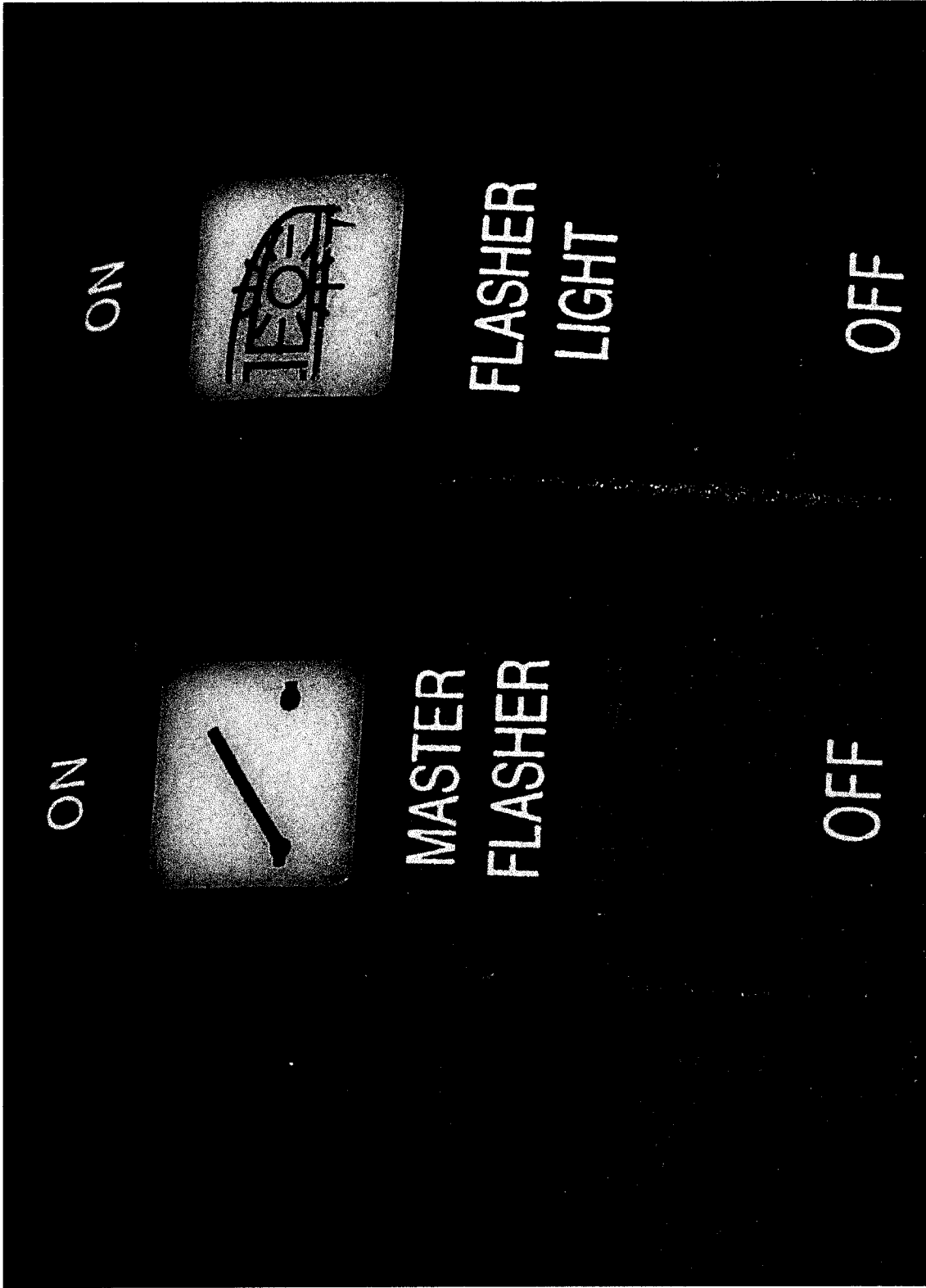
Test Vehicle: 2003 American Transportation Corp.
Procedure: FMVSS 131
NHTSA No.: C30902



Photograph 9:
Close-up of Flasher

2003 American Transportation Corp.
FMVSS 131
C30902

Test Vehicle:
Procedure:
NHTSA No.:



Test Vehicle:
Procedure:
NHTSA No.:

2003 American Transportation Corp.
FMVSS 131
C30902

Photograph 10:
View of Device that Activates Automatic Extension
of the Stop Arm Signal and Warning Lights