

638018

FINAL REPORT NUMBER 225-MGA-05-010

SAFETY COMPLIANCE TESTING FOR FMVSS 225
"Child Restraint Anchorage Systems"

HONDA OF AMERICA MFG., INC.
2005 ACURA TL
NHTSA No. C55301

MGA RESEARCH CORPORATION
446 Executive Drive
Troy, Michigan 48083



Test Date: August 26, 2005
Report Date: September 7, 2005

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

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By:



Melanie Schlick, Project Engineer



Brad Reaume, Test Personnel



Helen A. Kaleto, Laboratory Manager

Approved By:



Approval Date:

08/07/2005

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By:

Amanda Prescott

Digitaly signed by Amanda Prescott
DN: CN=Amanda Prescott, C=US, O=Office of Vehicle Safety Compliance, OU=1018-028
Reason: I am approving this document
Date: 2005.08.07 10:29:05 -0400

Acceptance Date:

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 PURPOSE AND PROCEDURE	5
2.0 COMPLIANCE TEST AND DATA SUMMARY	5
3.0 TEST VEHICLE INFORMATION	6
4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION	8
5.0 DATA	9
6.0 PHOTOGRAPHS	14
6.1 Front view	
6.2 Rear view	
6.3 ¼ Front left view	
6.4 ¼ Front right view	
6.5 Test vehicle's certification label	
6.5.1 Certification label photo #1	
6.5.2 Certification label photo #2	
6.5.3 Tire information label photo #1	
6.5.4 Tire information label photo #2	
6.6 Vehicle tie down at each tie down location	
6.6.1 Front under vehicle	
6.6.2 Left front	
6.6.3 Left rear	
6.6.4 Right front	
6.6.5 Right rear	
6.7 2-dimensional template	
6.7.1 LH position photo #1	
6.7.2 LH position photo #2	
6.7.3 Center position photo #1	
6.7.4 Center position photo #2	
6.7.5 RH position photo #1	
6.7.6 RH position photo #2	
6.8 CRF verification	
6.8.1 LH position photo #1	
6.8.2 LH position photo #2	
6.8.3 RH position photo #1	
6.8.4 RH position photo #2	
6.9 ¼ Front view of test vehicle with test apparatus in place	
6.9.1 ¼ Front left view of SFADII	
6.9.2 ¼ Front right view of SFADII	
6.10 Pre-test views of each child restraint anchorage system installed in the vehicle	
6.10.1 Pre-test photo #1 of SFADII	
6.10.2 Pre-test photo #2 of SFADII	
6.10.3 Pre-test photo #3 of SFADII	

TABLE OF CONTENTS (continued)

<u>SECTION</u>	<u>PAGE</u>
6.11 Post-test views of each child restraint anchorage system installed in the vehicle	44
6.11.1 Post-test photo #1 of SFADII	
6.11.2 Post-test photo #2 of SFADII	
6.11.3 Post-test photo #3 of SFADII	
6.11.4 Post-test photo #4 of SFADII	
6.11.5 Post-test photo #5 of SFADII	
6.11.6 Post-test photo #6 of SFADII	
6.11.7 Post-test photo #7 of SFADII	
6.11.8 Post-test photo #8 of SFADII	
6.11.9 Post-test photo #9 of SFADII	
6.11.10 Post-test photo #10 of SFADII	
6.11.11 Post-test photo #11 of SFADII	
7.0 PLOTS	53
8.0 REPORT OF VEHICLE CONDITION	55
<u>SECTION</u>	
APPENDIX A OWNERS MANUAL CHILD RESTRAINT SYSTEMS	58
APPENDIX B MANUFACTURER'S DATA (OVSC Form 14)	66

LIST OF TABLES

<u>TABLE#</u>		
1.	Summary Data for Strength and Displacement	6
2.	General Test and Vehicle Parameter Data	6
3.	Child Restraint Tether Anchorage Configuration	9
4.	Child Restraint Lower Anchorage Configuration	10
5.	Tether Location and Dimensional Measurements	12
6.	Tether Anchorage Static Loading and Displacement	13

1.0 PURPOSE AND PROCEDURE

PURPOSE

The child restraint anchorage testing results presented in this report are part of the Federal Motor Vehicle Safety Standard (FMVSS) No. 225 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-02-D-11043. The purpose of the testing was to determine if the subject vehicle, a 2005 Acura TL, NHTSA No. C55301 meets the performance requirements of FMVSS No. 225, "Child Restraint Anchorage Systems."

PROCEDURE

This testing was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure TP-225-01 (4/11/05) and MGA's Laboratory Test Procedure, MGATP225GOV (2/24/05).

The front occupant compartment consisted of two (2) adjustable outboard bucket seats and the rear occupant compartment consisted of a 2nd row three-passenger bench seat. Each 2nd row outboard seating position was equipped with a child restraint anchorage system (one tether and two lower anchorages). The 2nd row center seating position was equipped with a tether anchorage. The center-to-center spacing between the 2nd row outboard lower anchorages was approximately 700 mm. Each 2nd row outboard seating position was tested with the SFADII fixture.

2.0 COMPLIANCE TEST AND DATA SUMMARY

TEST SUMMARY

The testing was conducted at MGA in Troy, Michigan on August 26, 2005.

Based on the test results, the 2005 Acura TL appears to meet the requirements of FMVSS No. 225 for this test.

The SFADII at the 2nd row left seating position sustained a maximum force of 5,144 N and held the required load for 4 seconds. The total displacement from point "X" on the SFADII for the 2nd row left seating position was 71 mm. The SFADII at the 2nd row right seating position sustained a maximum force of 5,082 N and held the required load for 4 seconds. The total displacement from point "X" on the SFADII for the 2nd row right seating position was 63 mm.

DATA SUMMARY

Strength and displacement summary data are provided below. Data for the configuration and the location of each child restraint anchorage system are provided in Section 5.0. Photographs are found in Section 6.0 and test plots are found in Section 7.0.

Table 1. Summary Data for Strength and Displacement

MGA Test #	Fixture Type	Test Configuration	Seating Position	Max. Load (N)	Displacement (mm)
SB5314	SFAD II	Lateral Left	2 nd Row Left	5,144	71
			2 nd Row Right	5,082	63

3.0 TEST VEHICLE INFORMATION

Table 2. General Test and Vehicle Parameter Data

VEH. MOD YR/MAKE/MODEL/BODY	2005 Acura TL
VEH. NHTSA NO.	C55301
VIN	19UUA66275A014409
COLOR	Black
VEH. BUILD DATE	11/04
TEST DATE	August 26, 2005
TEST LABORATORY	MGA Research Corporation
OBSERVERS	Melanie Schick, Brad Reaume, Kenney Godfrey

GENERAL INFORMATION:

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Honda of America Mfg., Inc.

Date of Manufacture: 11/04;

VIN: 19UUA66275A014409

GVWR: 4525 lbs;

GAWR FRONT: 2495 lbs

GAWR REAR: 2075 lbs

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 32 psi REAR: 32 psi

Recommended Tire Size: P235/45R17 93W

Recommended Cold Tire Pressure:

FRONT: 32 psi REAR: 32 psi

Size of Tire on Test Vehicle: P235/45R17 93W

Type of Spare Tire: T135/80R16 101M

VEHICLE CAPACITY DATA:

Type of Front Seats: Bench ____; Bucket X; Split Bench ____

Number of Occupants: Front 2; Middle N/A; Rear 3; TOTAL 5.

4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

MGA Research Corporation 446 Executive Drive Troy, Michigan 48083	
Test Equipment Used for Testing	Calibration Due Date
MGA Hydraulic Test Frame	N/A
Two (2) Load Cell 10,000 lb Capability	S/N 607 (02/10/06), S/N 618 (02/10/06)
String Potentiometer	Calibrated at each use (S/N 20765, 21809)
Hydraulic Pump	N/A
MGA CRF Fixture	N/A
MGA SFADI	N/A
MGA SFADII	N/A
MGA 2-Dimensional Template	N/A
Linear Scale	S/N TPM486 (03/29/06)
MGA Data Acquisition System	N/A
Digital Calipers	S/N MGA00053 (09/20/06)
Force Gauge	S/N MGA00516 (05/25/06)
Inclinometer (Digital)	S/N MGA00050 (10/06/05)

5.0 DATA

Table 3. Child Restraint Tether Anchorage Configuration

Seating Position		Permit the attachment of a tether hook	Accessible without the need for any tool other than a screwdriver or coin	Ready for use without the need for any tools	Sealed to prevent the entry of exhaust fumes
Front Row		N/A	N/A	N/A	N/A
Second Row	LH	Yes	Yes	Yes	Yes
	Ctr.	Yes	Yes	Yes	Yes
	RH	Yes	Yes	Yes	Yes
Third Row		N/A	N/A	N/A	N/A

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

REMARKS: NONE.

Table 4. Child Restraint Lower Anchorage Configuration

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION				
		FRONT ROW	SECOND ROW		THIRD ROW
			I/B	O/B	
Above anchorage, permanently marked with a circle not less than 13 mm in Dia.; and whose color contrasts with its background; and its center is not less than 50 mm and not more than 100 mm above the bar, and in the vertical longitudinal plane that passes through the center of the bar.	LH	N/A	55	51	N/A
	Cr		N/A		
	RH		55	51	
Each of the bars is visible, without the compression of the seat cushion or seat back, when the bar is viewed, in a vertical longitudinal plane passing through the center of the bar, along a line marking an upward 30 degree angle with a horizontal plane.	LH	N/A	No		N/A
	Cr		N/A		
	RH		No		
Diameter of the bar (mm)	LH	N/A	6.00	6.00	N/A
	Cr		N/A		
	RH		6.00	6.00	
Inspect if the bars are straight, horizontal and transverse	LH	N/A	Yes		N/A
	Cr		N/A		
	RH		Yes		
Optional Marking: At least one anchorage bar (when deployed for use, if storable anchorages), one guidance fixture, or one seat marking is visible.	LH	N/A	N/A		N/A
	Cr				
	RH				
Optional Marking: If guidance fixtures are used, the fixture(s) must be installed.	LH	N/A	N/A		N/A
	Cr				
	RH				
Measure the distance between Point "Z" of the CRF and the front surface of the anchorage bar (mm)	LH	N/A	49		N/A
	Cr		N/A		
	RH		48		
Measure the distance between the SRP to the center of the anchorage bar (mm)	LH	N/A	181		N/A
	Cr		N/A		
	RH		177		

Table 4. Child Restraint Lower Anchorage Configuration (continued)

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION				
		FRONT ROW	SECOND ROW		THIRD ROW
			I/B	O/B	
Inspect if the centroidal longitudinal axes are collinear within 5 degrees	LH	N/A	Yes		N/A
	Cr		N/A		
	RH		Yes		
Inspect if the inside surface of the bar that is straight and horizontal section of the bars, and determine they are not less than 25 mm, but not more than 60 mm in length (mm).	LH	N/A	28	28	N/A
	Cr		N/A		
	RH		27	27	
Inspect if the bars can be connected to, over their entire inside length by the connectors of child restraint system.	LH	N/A	Yes		N/A
	Cr		N/A		
	RH		Yes		
Measure the distance between the center of the length of one bar to the center of the length of the other bar. The requirement is 280 mm $\pm$ 1 mm (mm).	LH	N/A	280		N/A
	Cr		N/A		
	RH		281		
Inspect if the bars are an integral and permanent part of the vehicle.	LH	N/A	Yes		N/A
	Cr		N/A		
	RH		Yes		
Inspect if the bars are rigidly attached to the vehicle. If feasible, hold the bar firmly with two fingers and gently pull.	LH	N/A	Yes		N/A
	Cr		N/A		
	RH		Yes		

PITCH, YAW, & ROLL INFORMATION

SEAT POSITION	PITCH (deg)	YAW (deg)	ROLL (deg)
2 nd Row Left	10	No Data	2
2 nd Row Center	N/A	N/A	N/A
2 nd Row Right	11	No Data	1

N/A indicates that there were no lower anchorages in the 2nd row center seating position.

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

REMARKS: NONE

Table 5. Tether Location and Dimensional Measurements

SEAT POSITION FOR TETHER		TETHER ANCHORAGE LOCATION Located in the required zone?
Front Row		N/A
Second Row	LH	Yes
	Ctr.	Yes
	RH	Yes
Third Row		N/A

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

REMARKS: NONE

Table 6. Tether Anchorage Static Loading and Displacement

SEAT POSITION		Seat, Seat Back, & Head Restraint Positions			Type of SPAD Used	Angle (deg)	Initial Location (mm)	Onset Rate (N/sec.)	Force Applied (N)	Max. Load (N)	Final Location (mm) (m)	Horiz. Displ. (m)
		Seat	Seat Back	Is There a E/R?								
Front Row		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Second Row	LH	Fixed	Fixed	Yes	II	0	13	167	5,000	5,144*	84	71
	Chr.			No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	RH			Yes	II	0	11	167	5,000	5,082*	74	63
Third Row		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: (1) AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

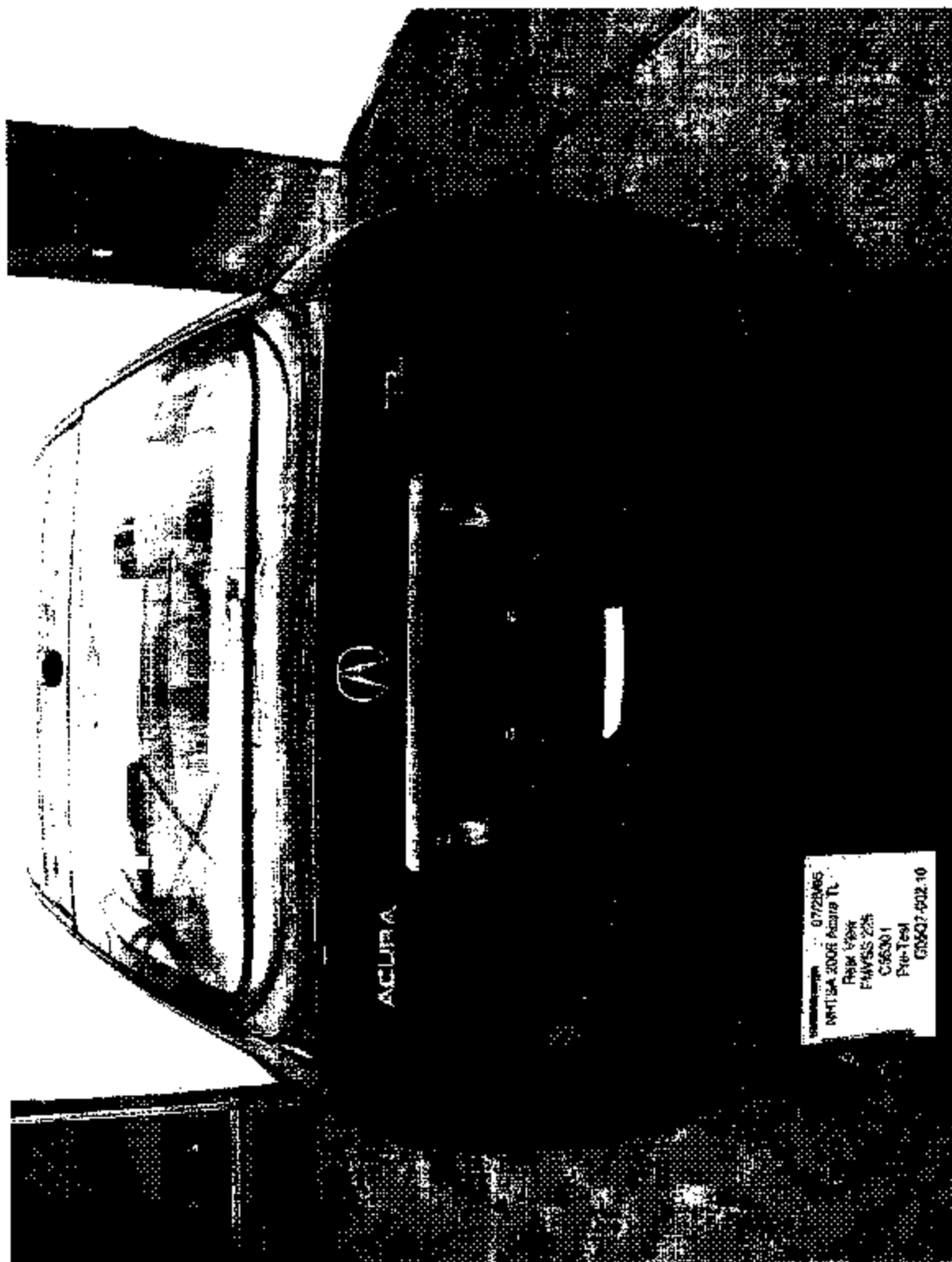
REMARKS: * Applied force exceeded the force specified in the test procedure.

6.0 PHOTOGRAPHS

6.1 Front view



6.2 Rear view



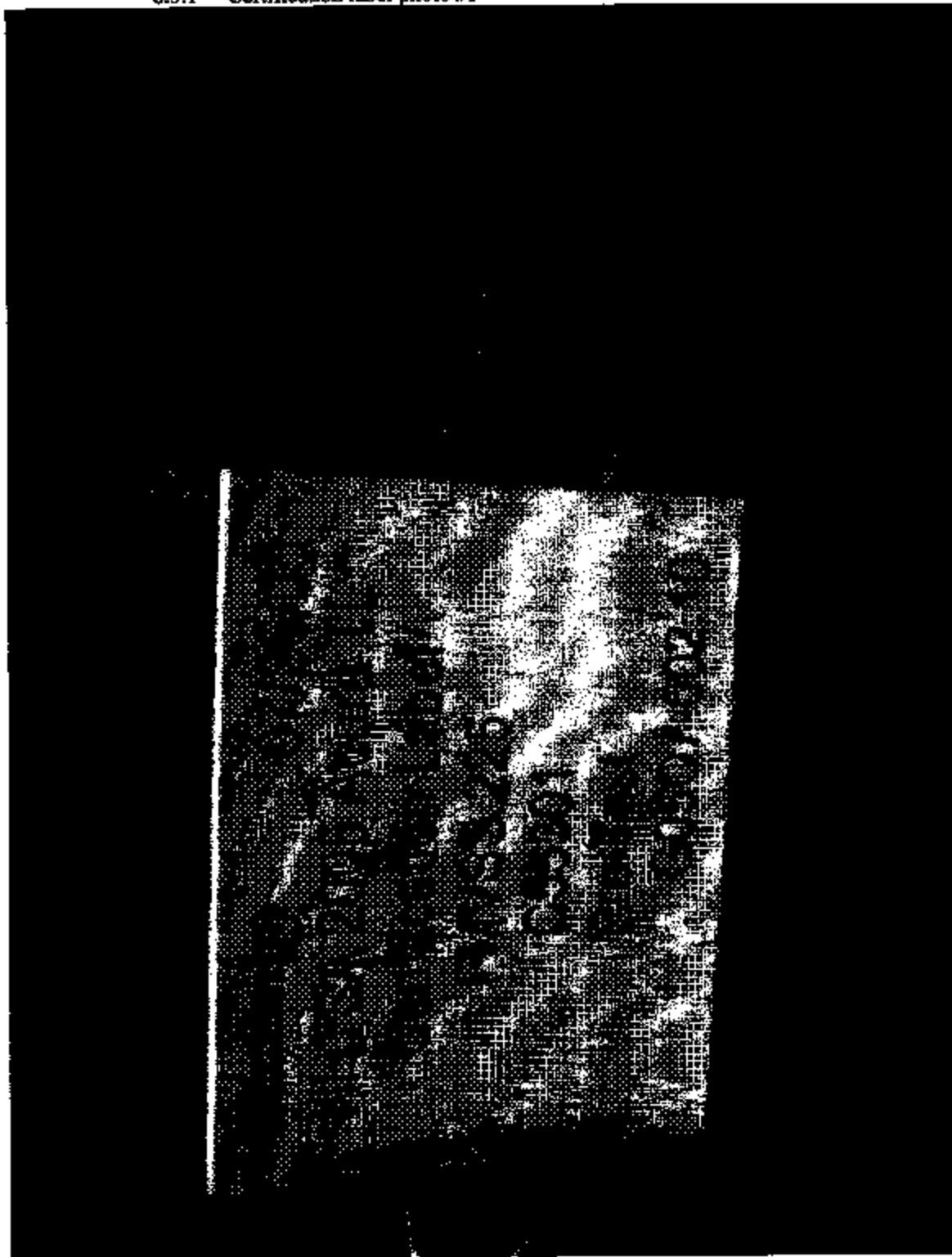
6.3 ¾ Front left view



6.4 ¾ Front right view



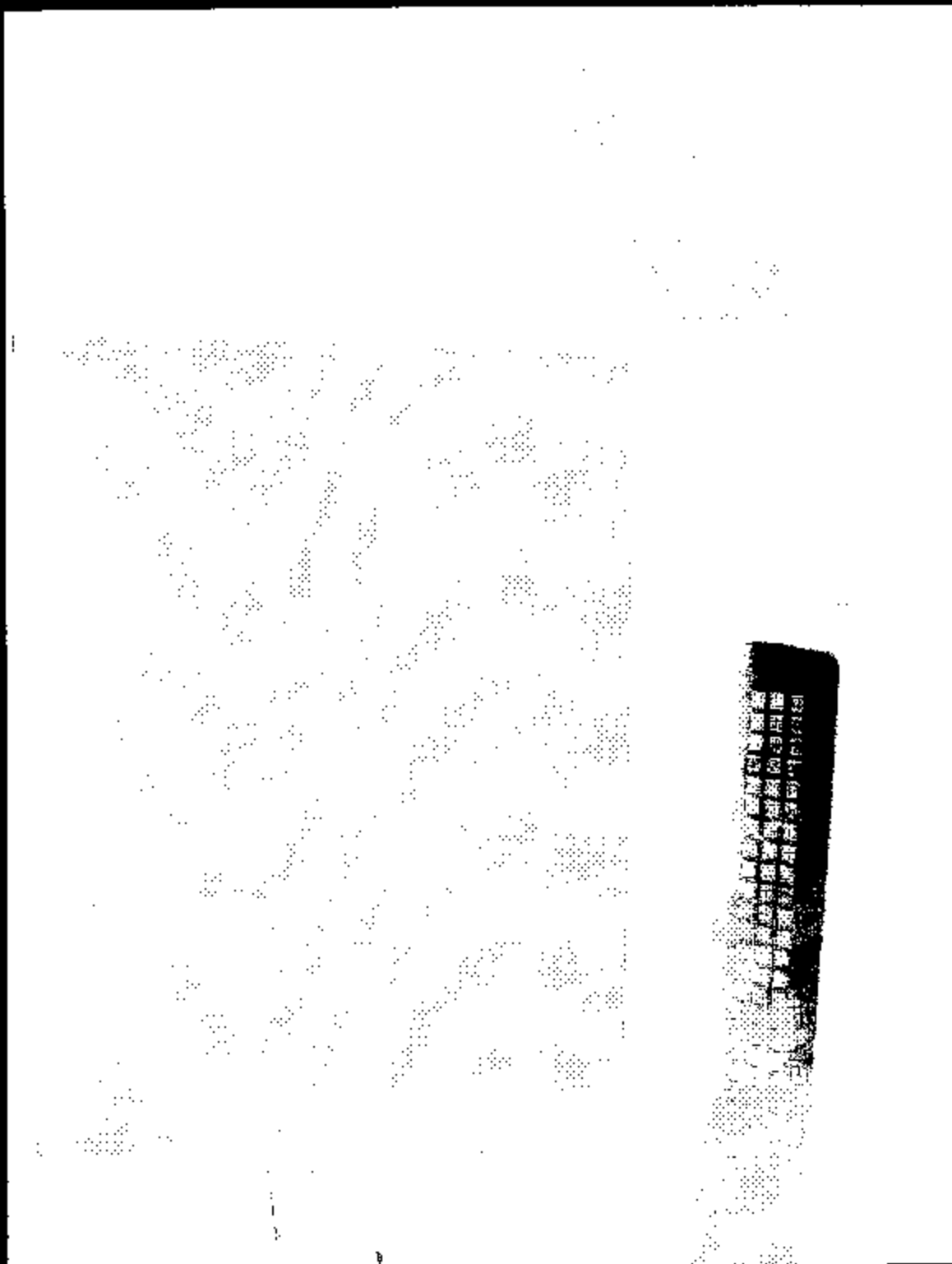
- 6.5 Test vehicle's certification label
- 6.5.1 Certification label photo #1



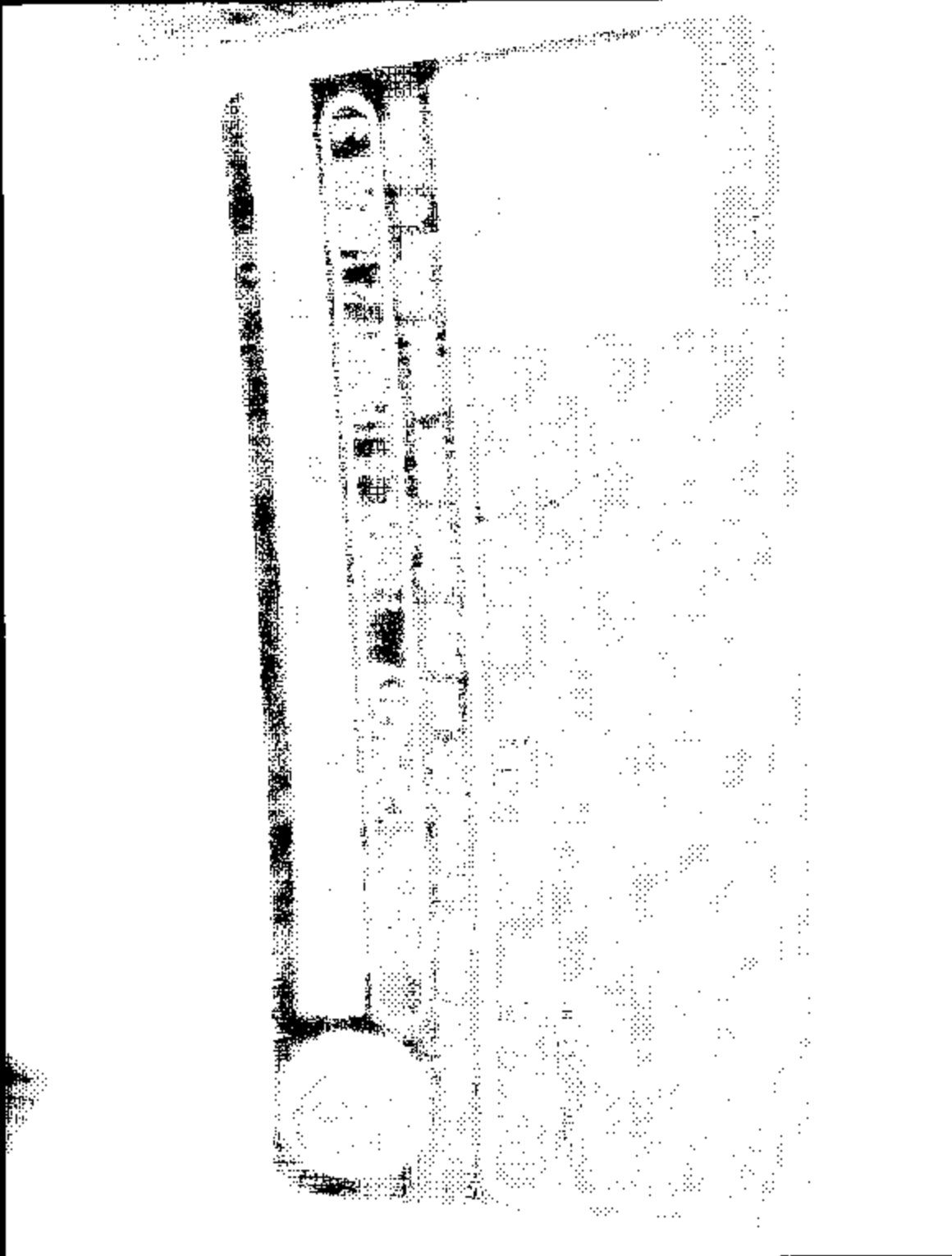
6.5.2 Certification label photo #2



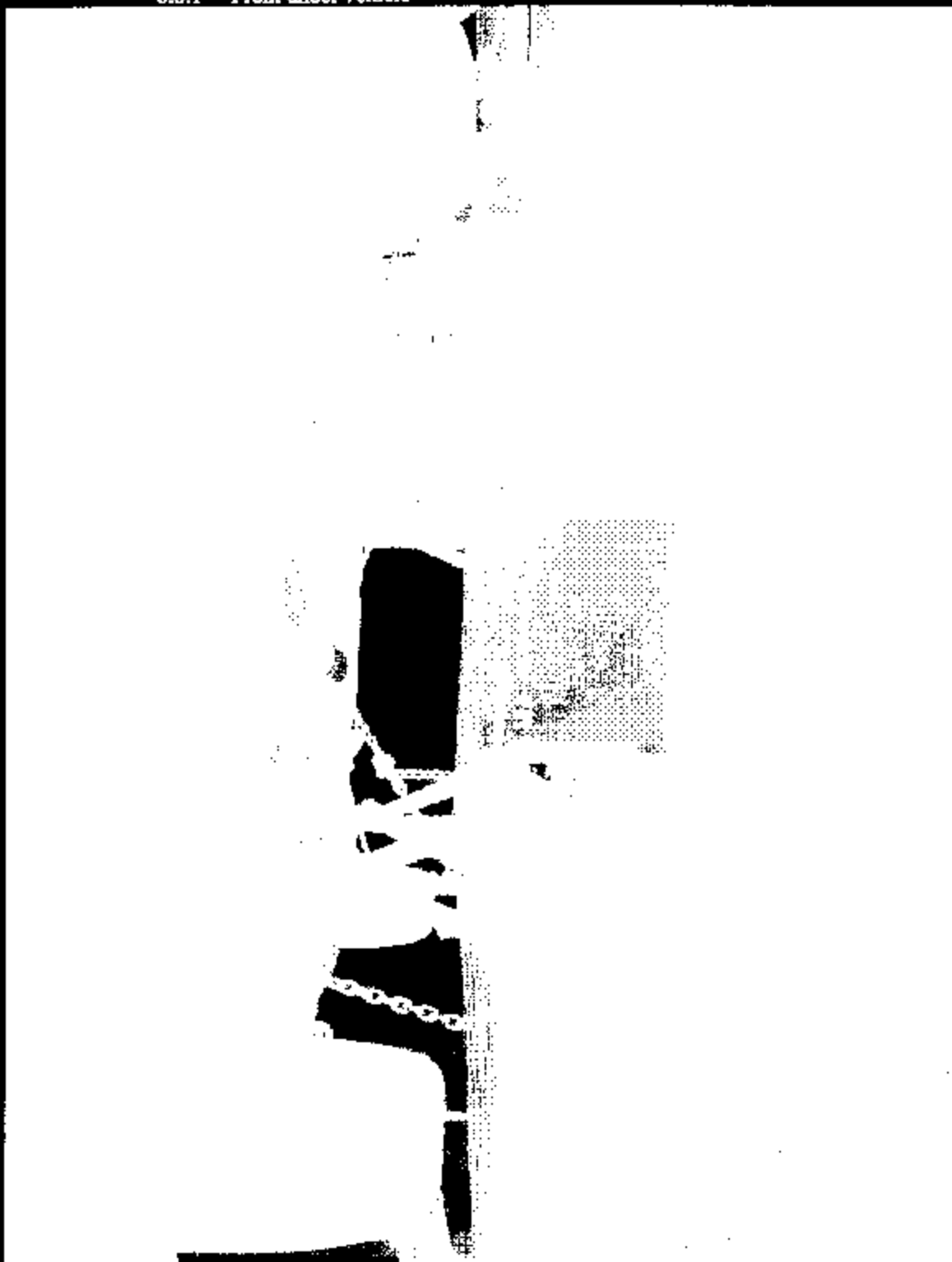
6.5.3 Tire information label photo #1



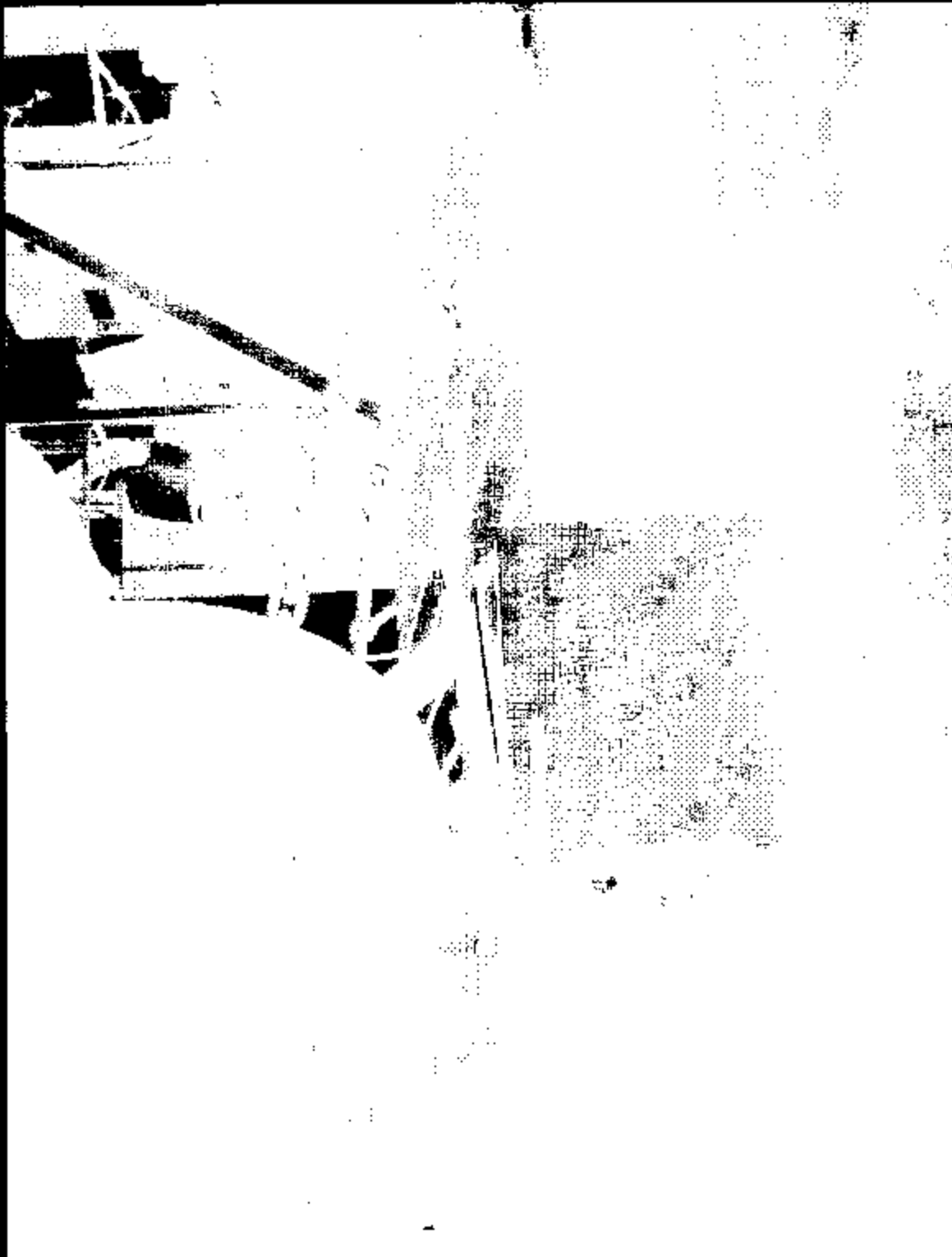
6.5.4 Tire information label photo #2



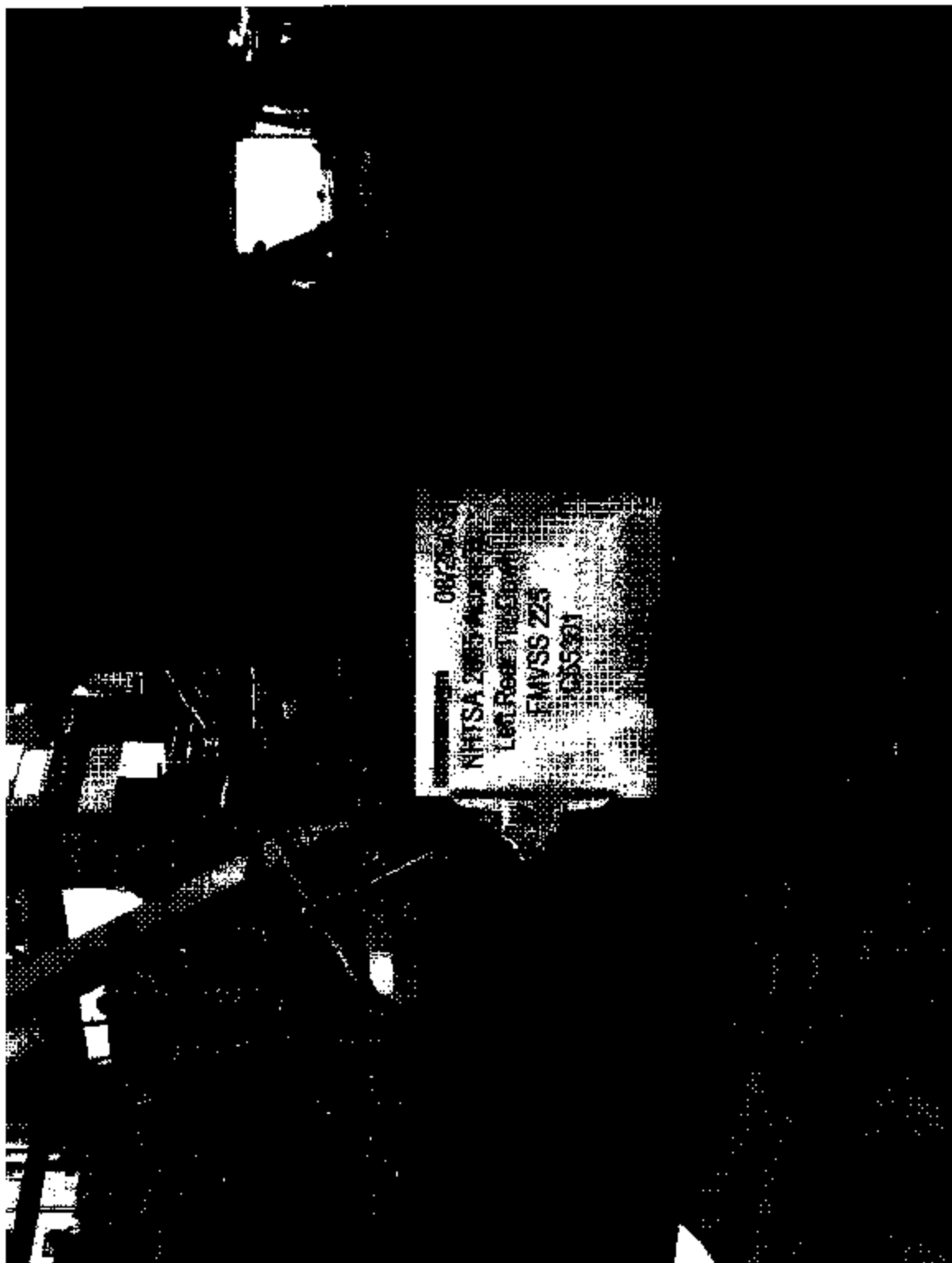
- 6.6 Vehicle tie down at each tie down location
- 6.6.1 Front under vehicle



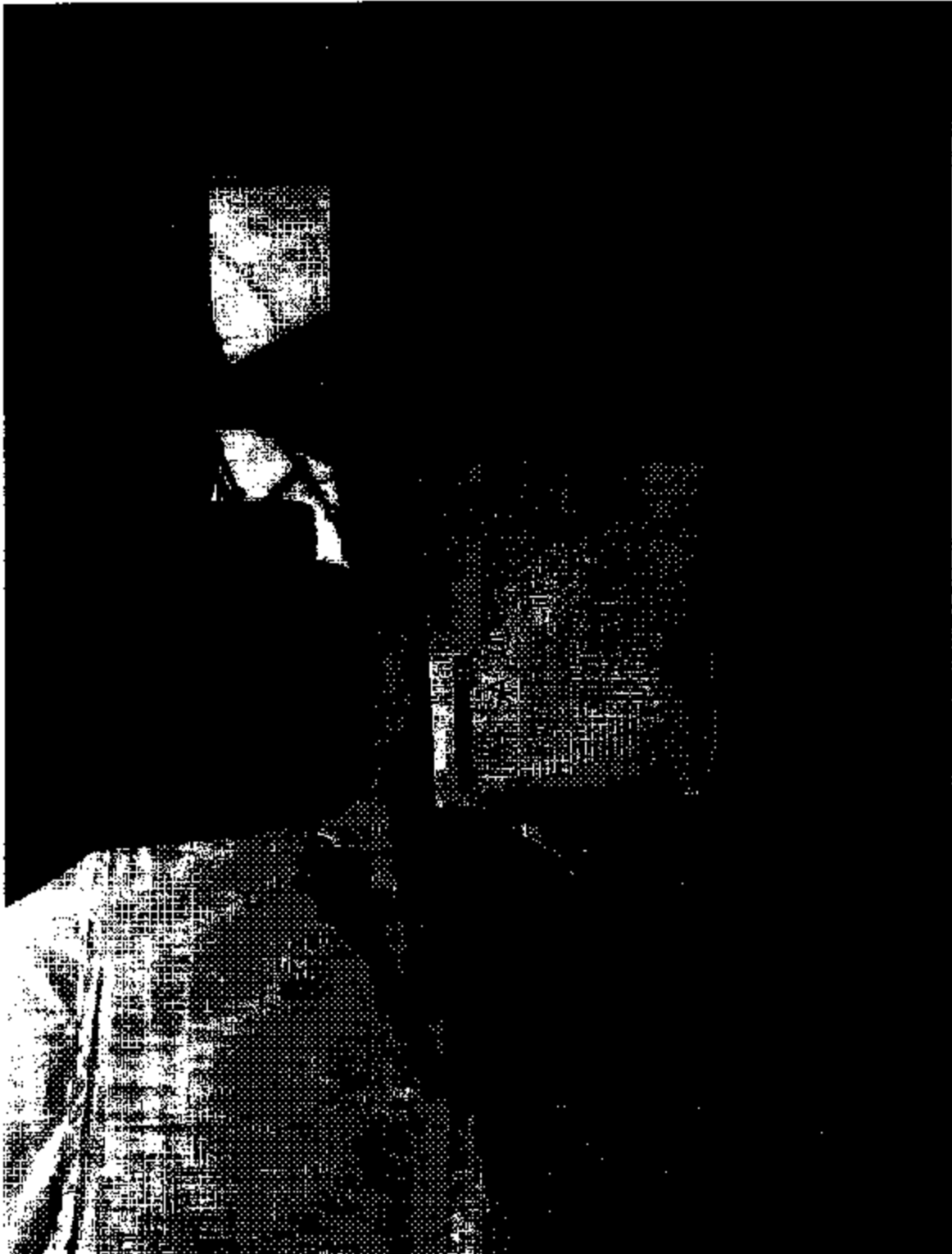
6.6.2 Left front



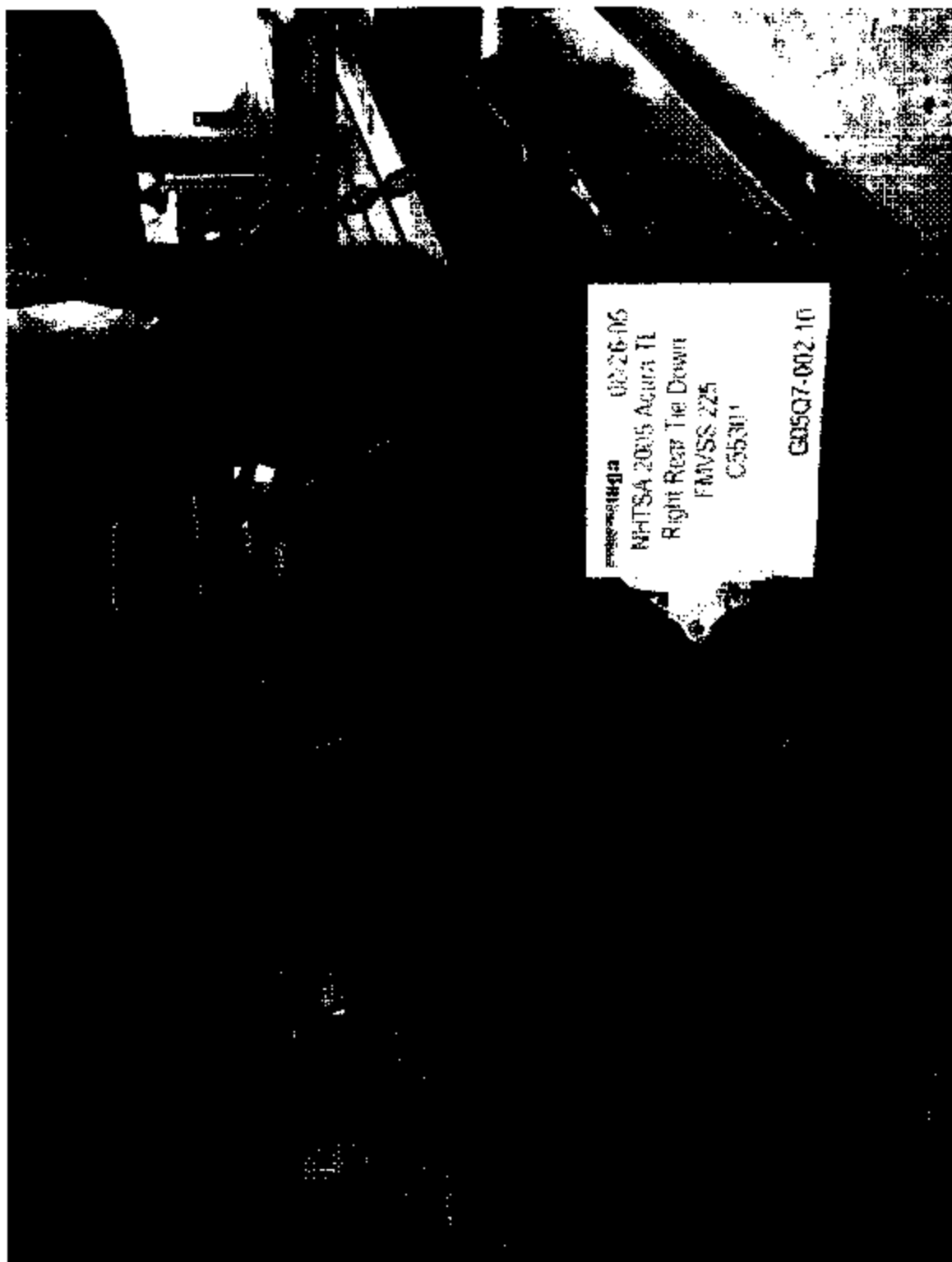
6.6.3 Left rear



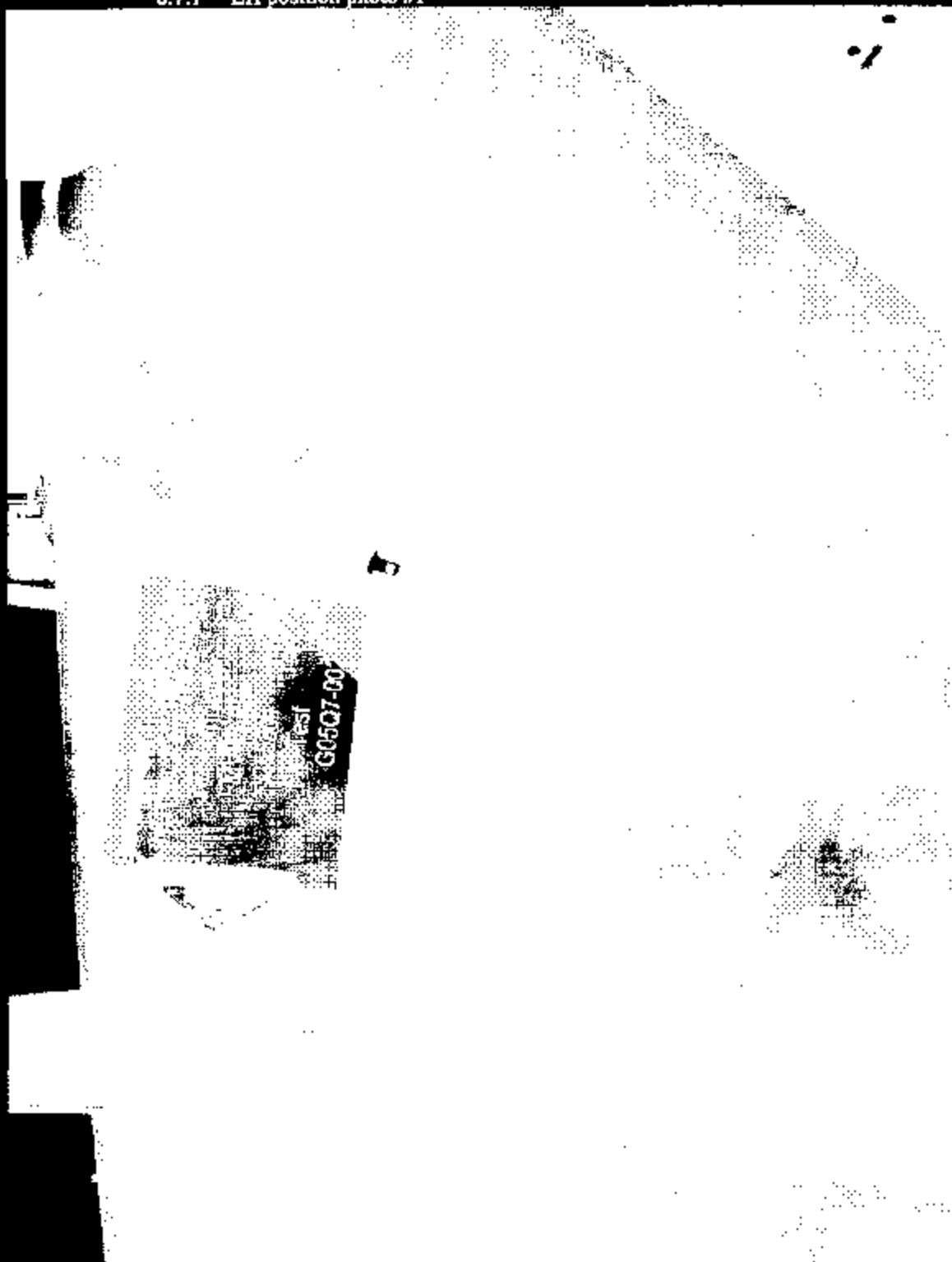
6.6.4 Right front



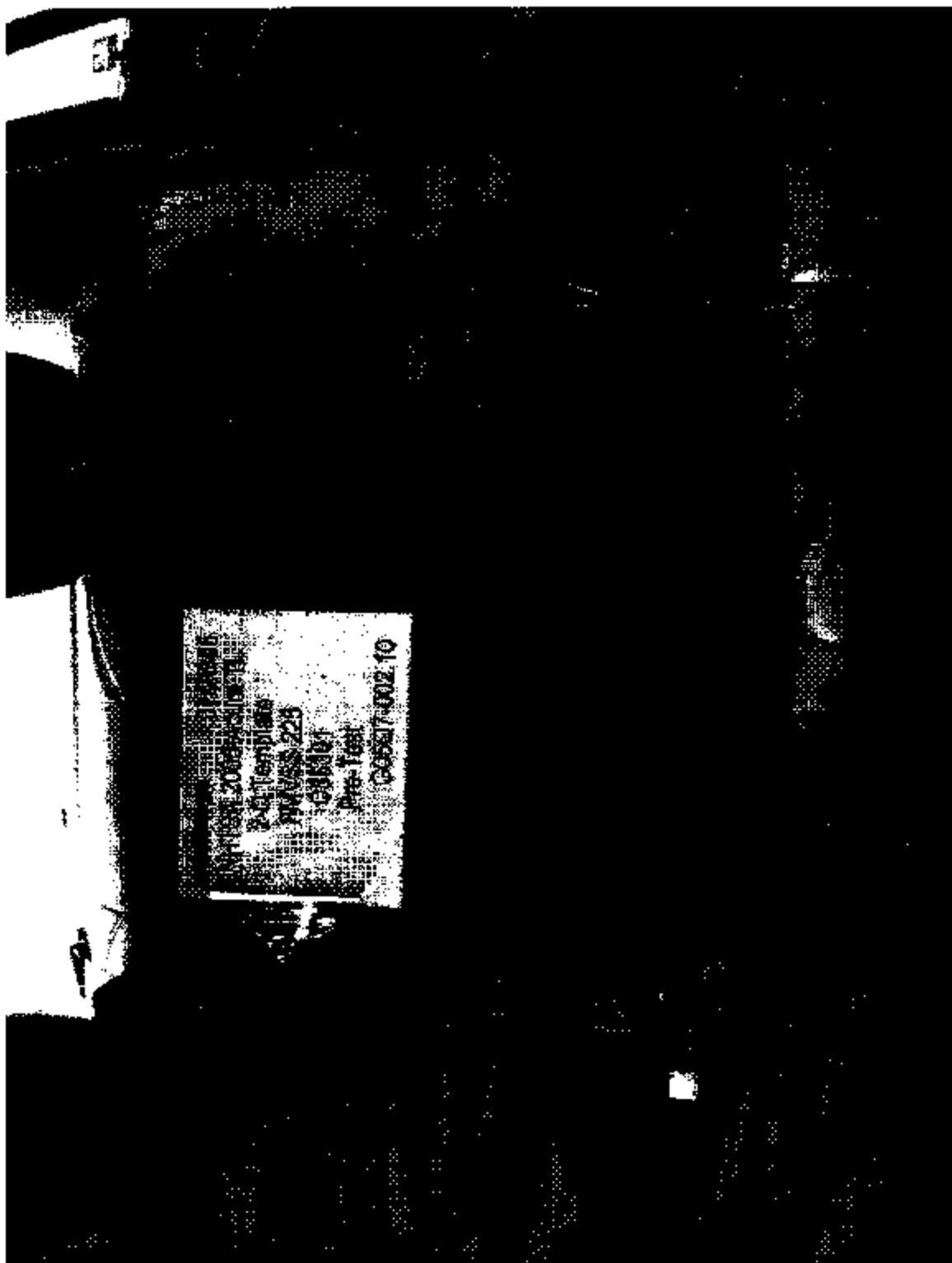
6.6.5 Right rear



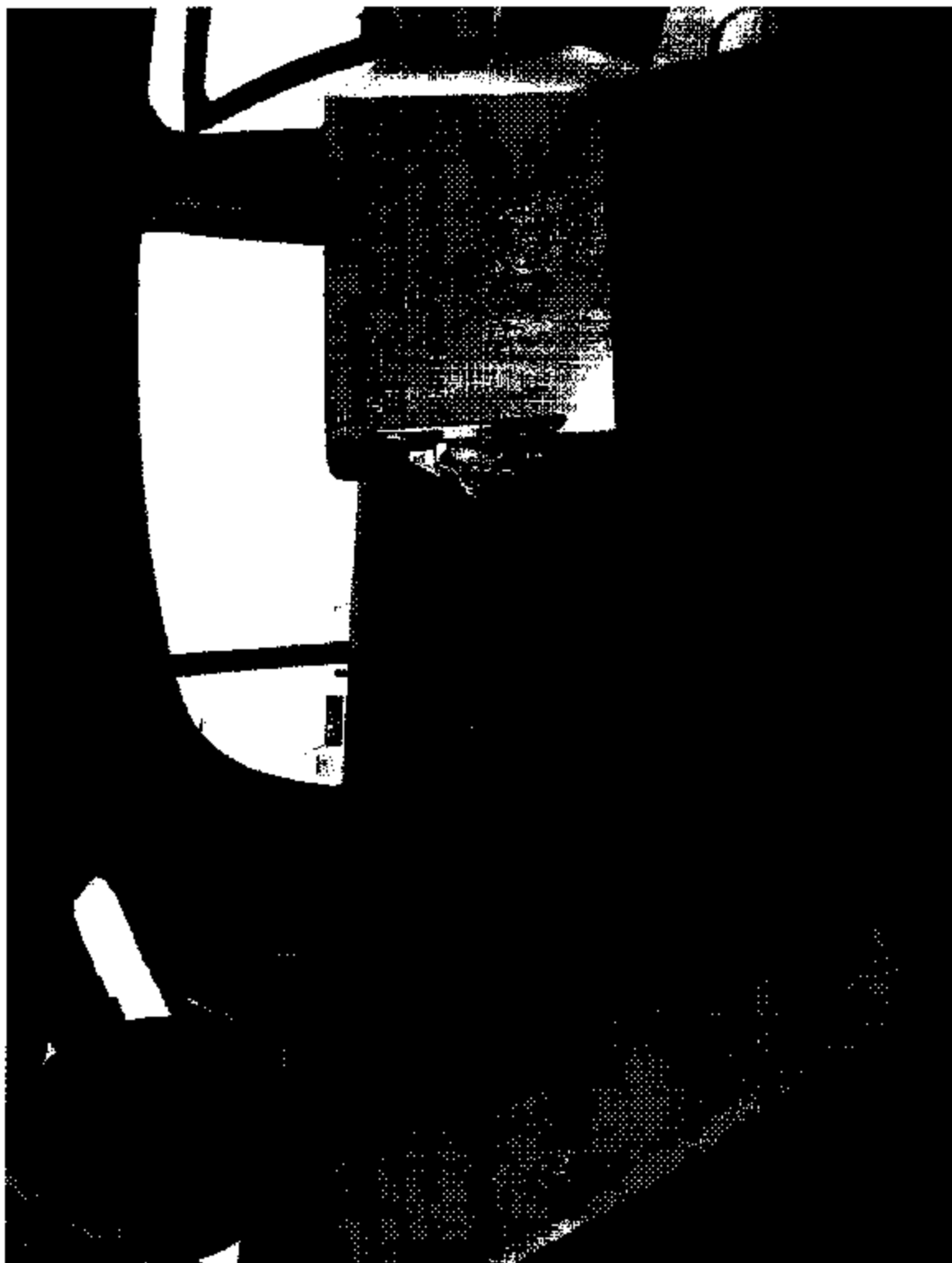
6.7 2-dimensional template
6.7.1 LH position photo #1



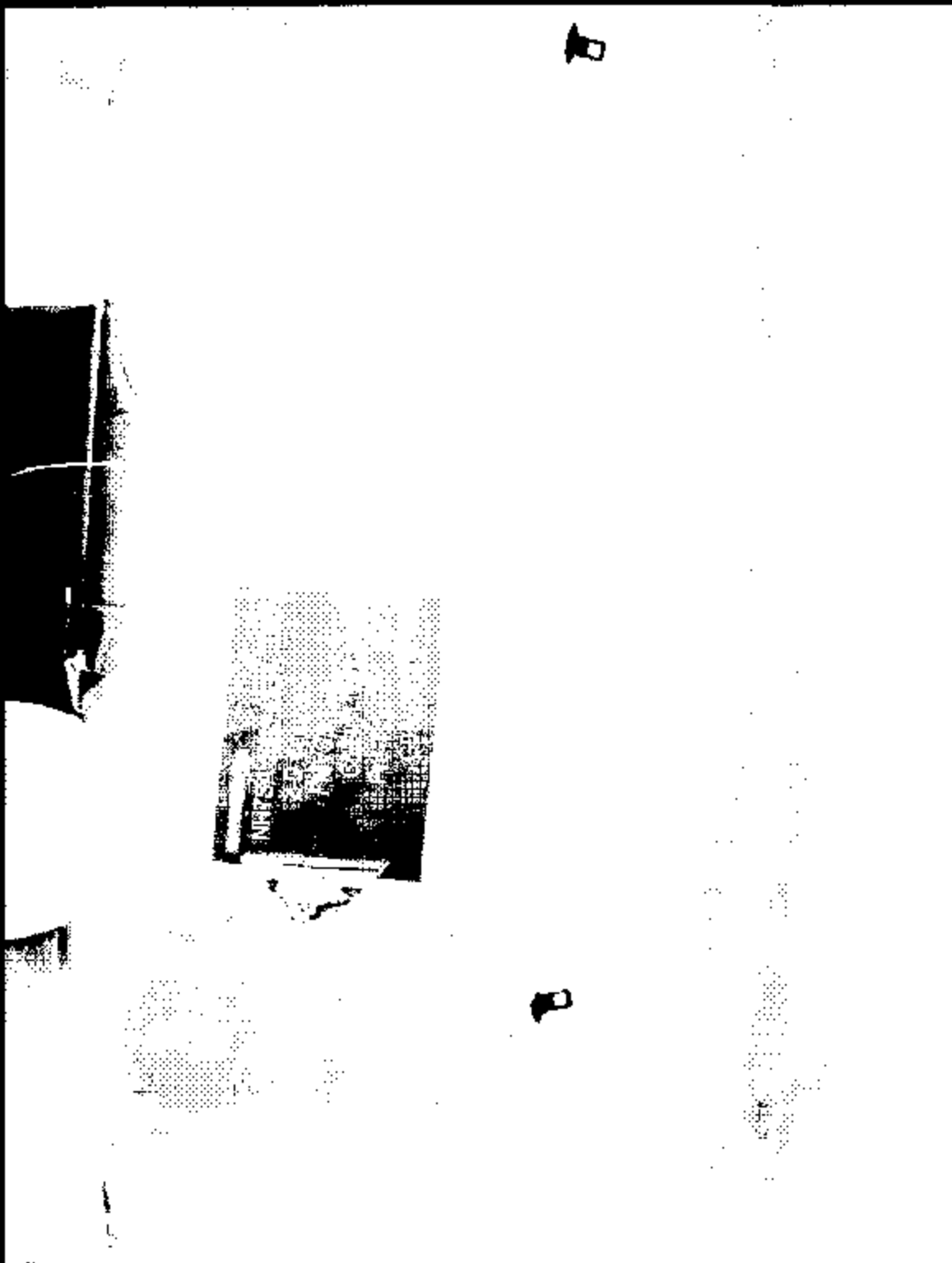
6.7.2 LH position photo #2



6.7.3 Center position photo #1



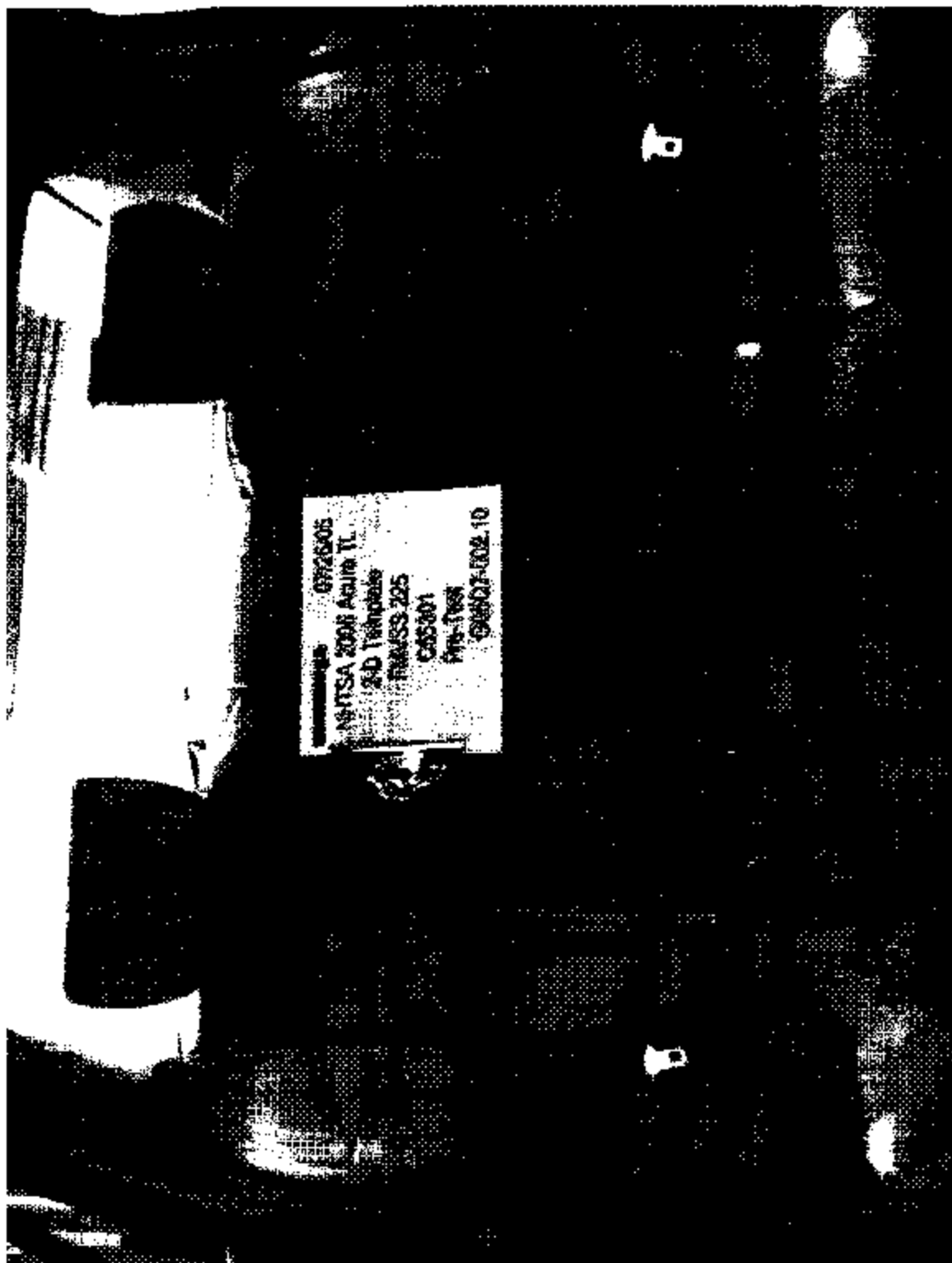
6.7.4 Center position photo #2



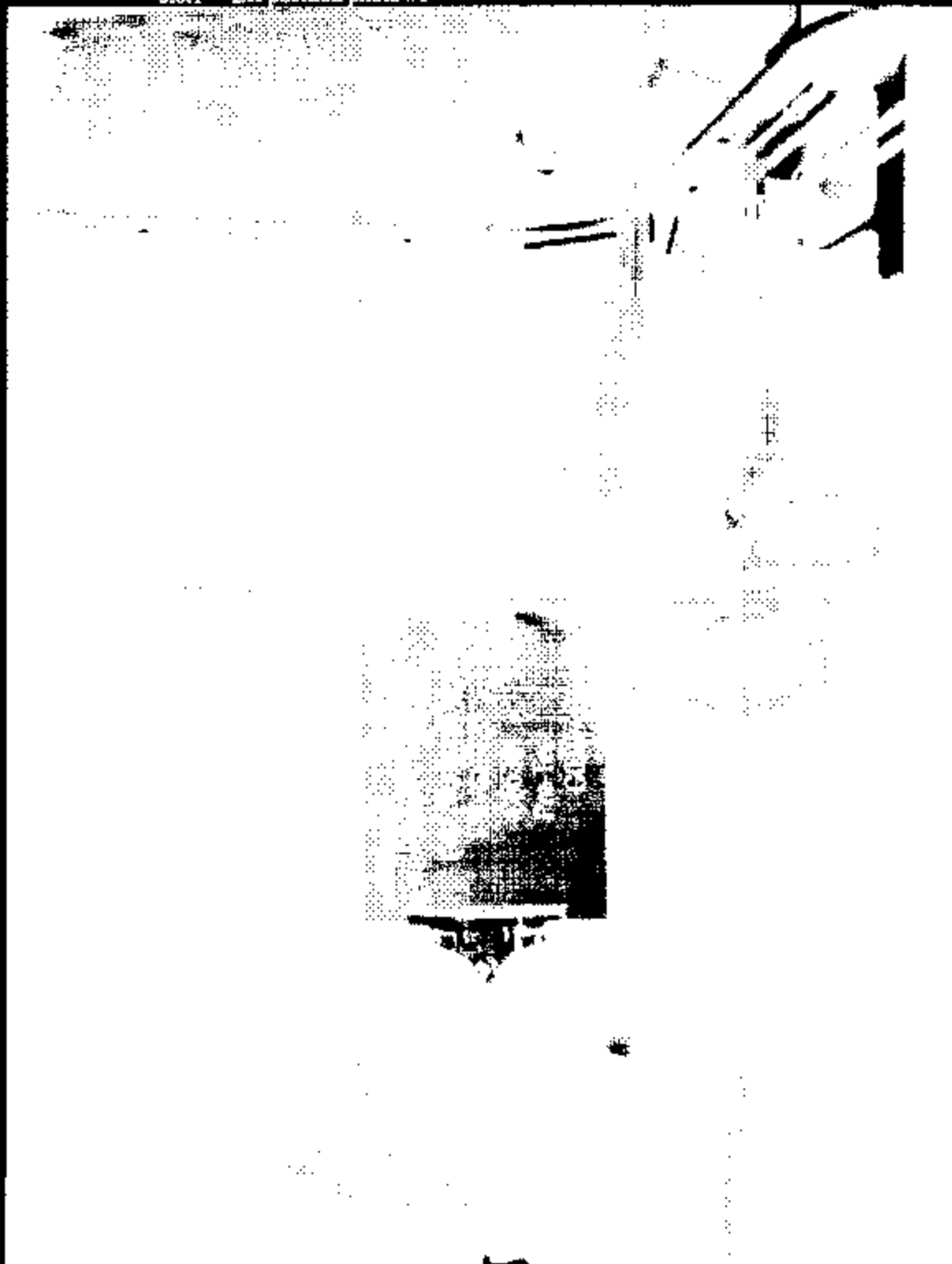
6.7.5 RH position photo #1



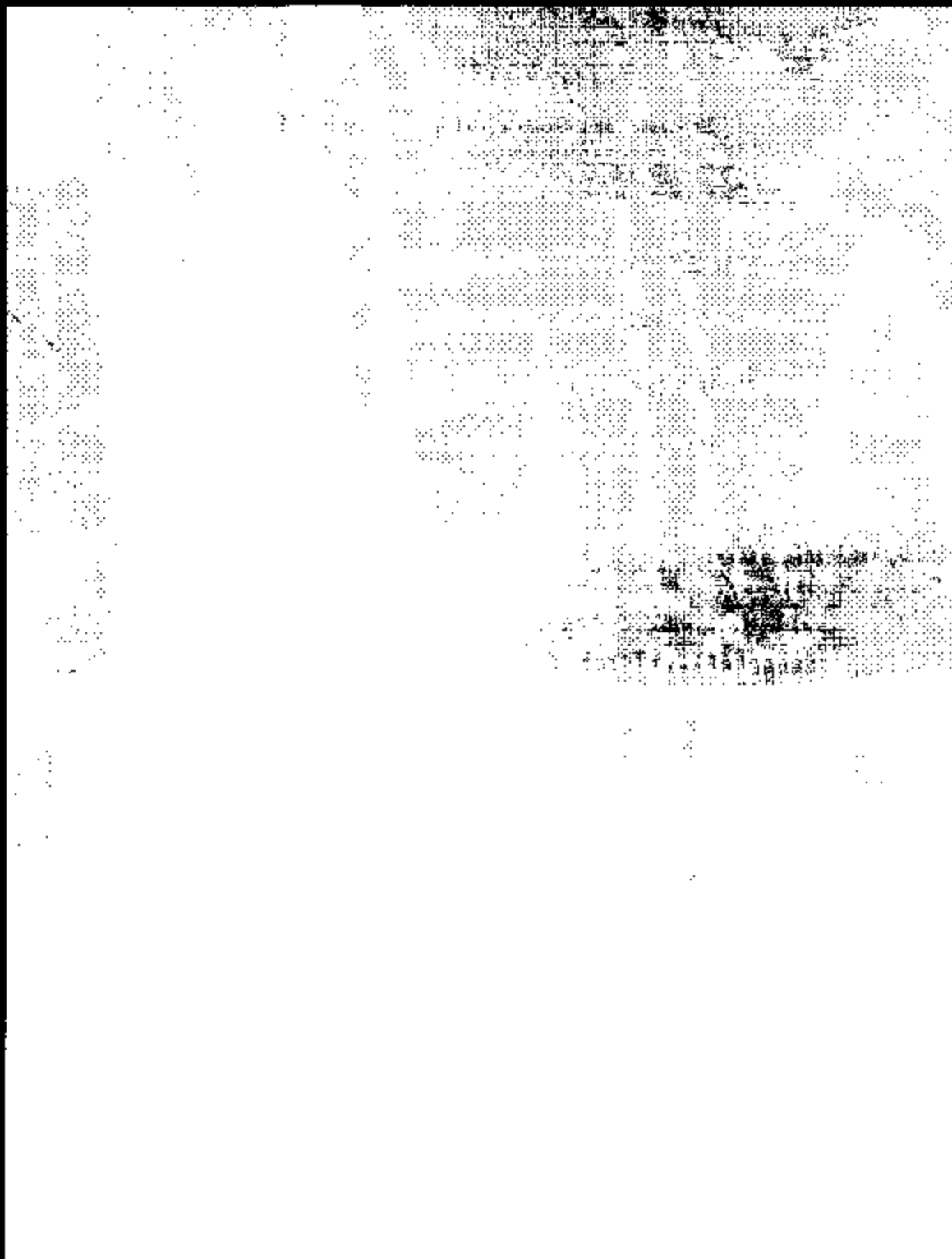
6.7.6 RH position photo #2



6.8 CRF verification
6.8.1 LH position photo #1



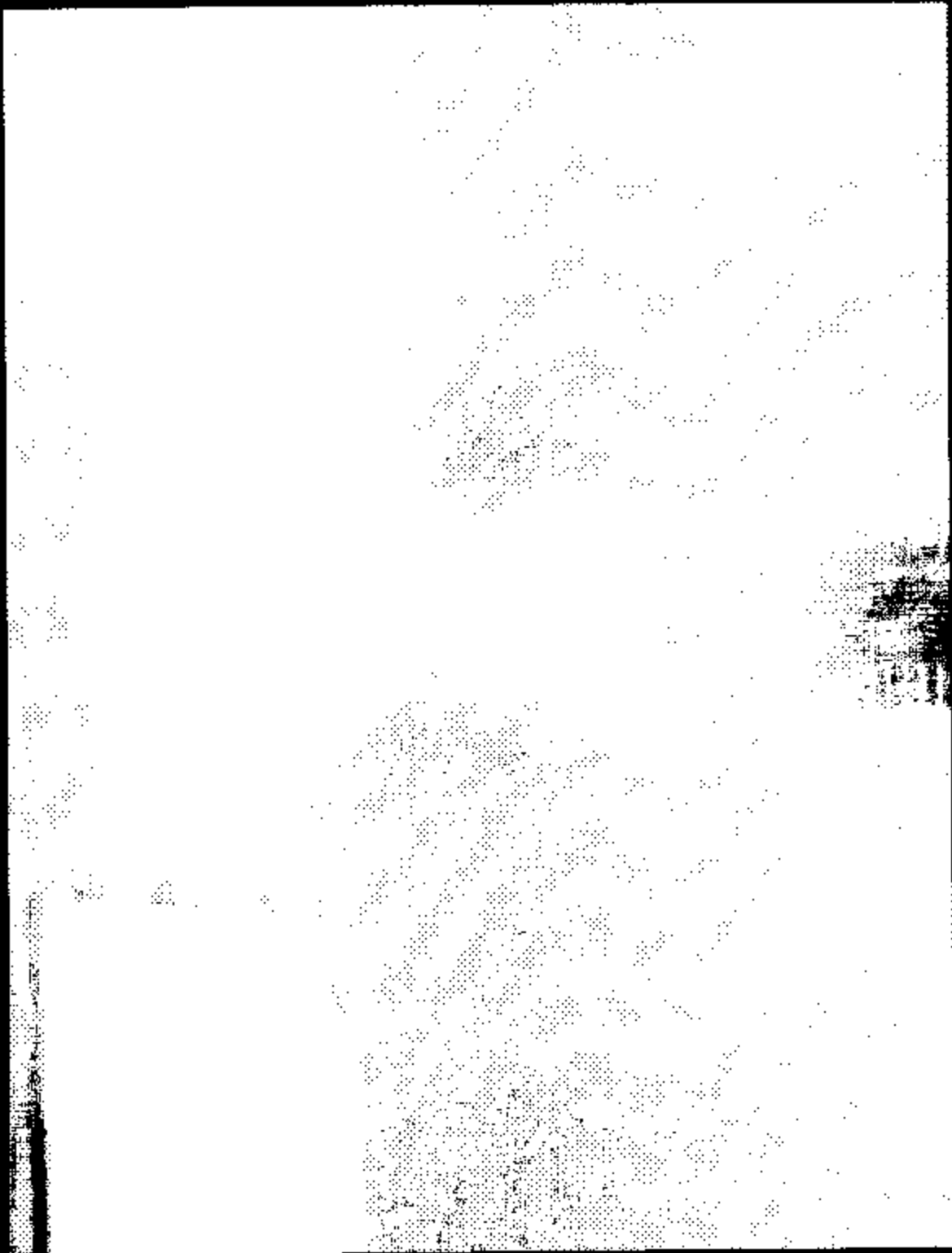
6.8.2 LH position photo #2



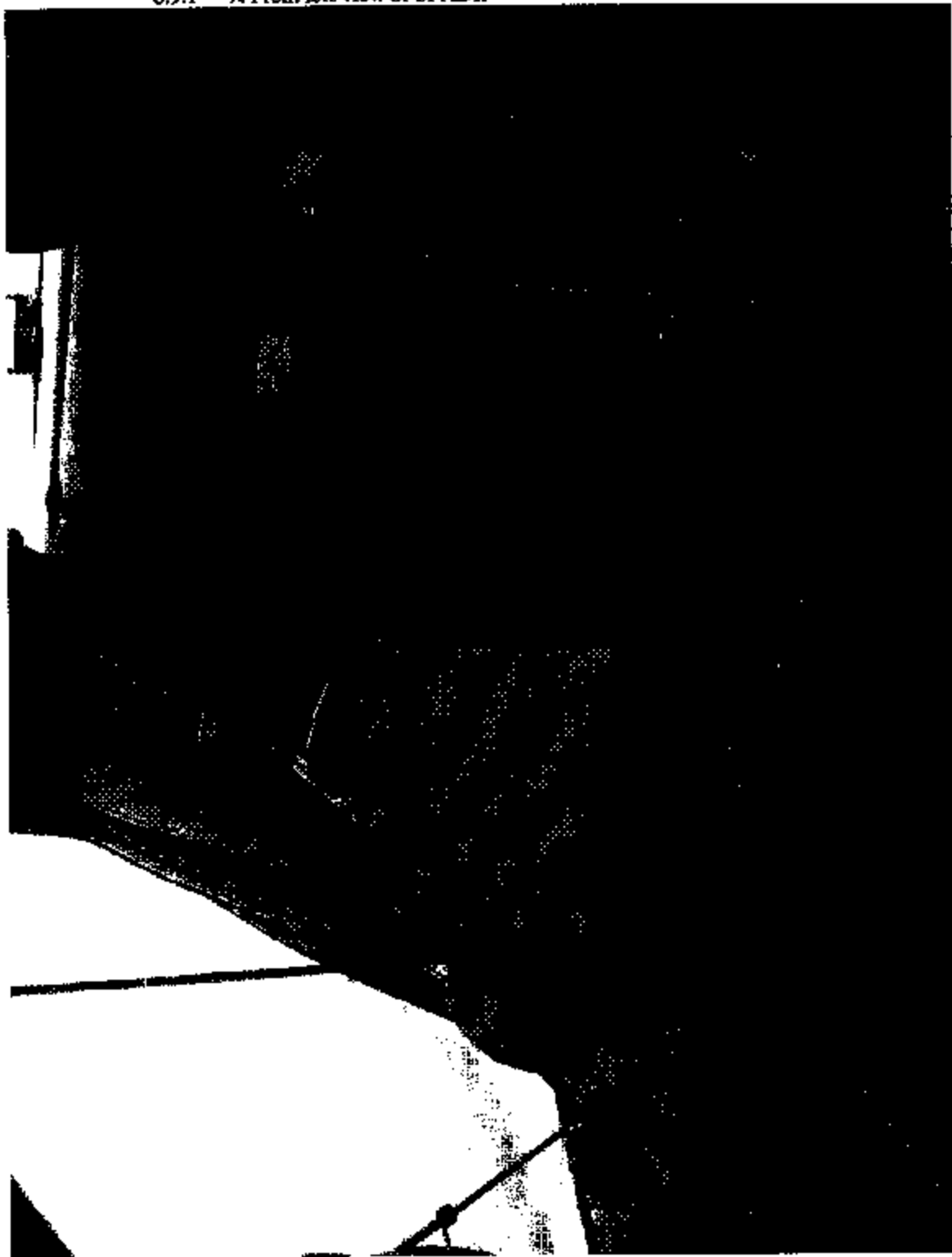
6.8.3 RH position photo #1



6.8.4 RH position photo #2



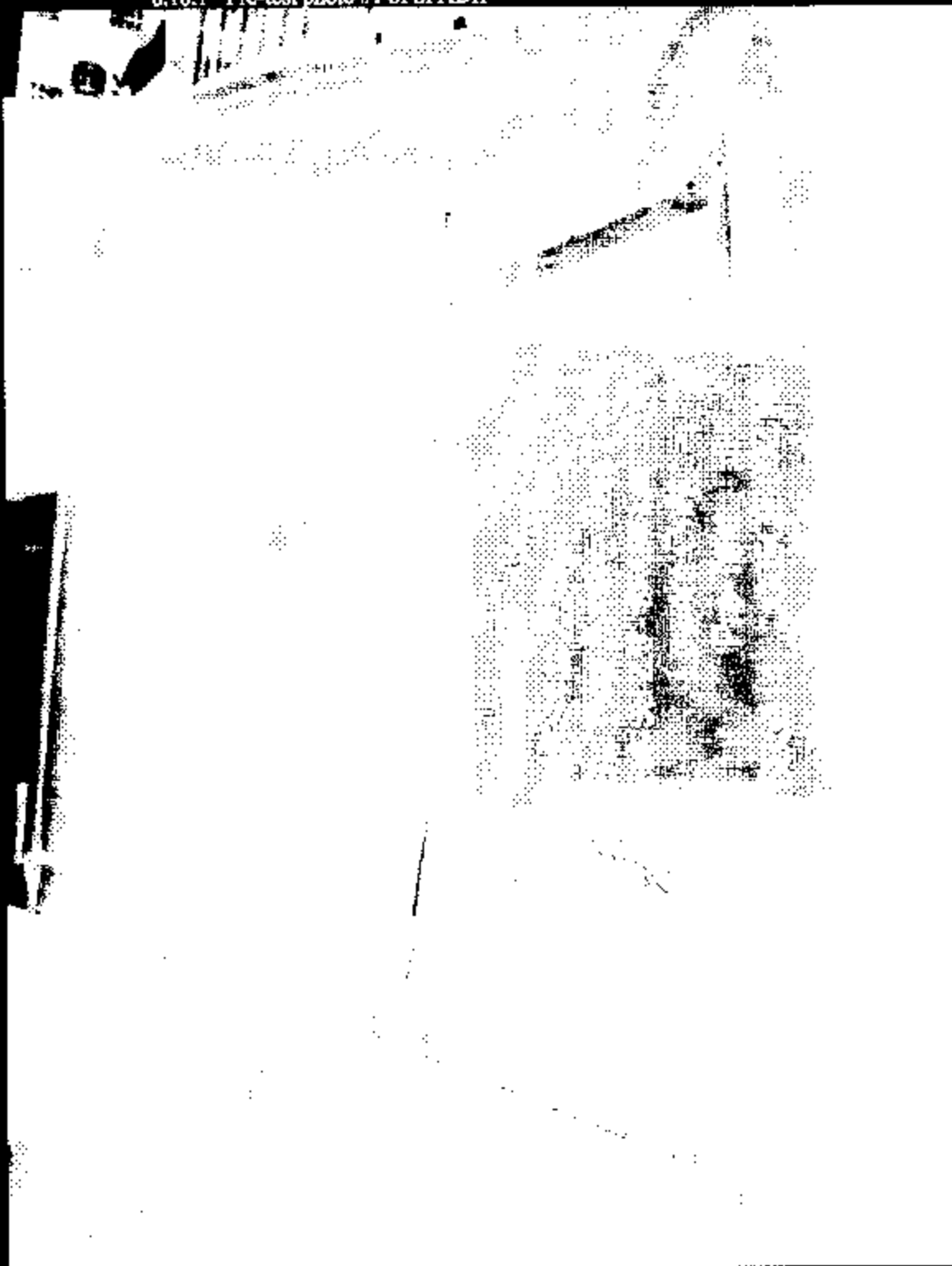
- 6.9 ¾ Front view of test vehicle with test apparatus in place
6.9.1 ¾ Front left view of SFADII



6.9.2 ¼ Front right view of SFADII



6.10 Pre-test views of each child restraint anchorage system installed in the vehicle
6.10.1 Pre-test photo #1 of SFADII



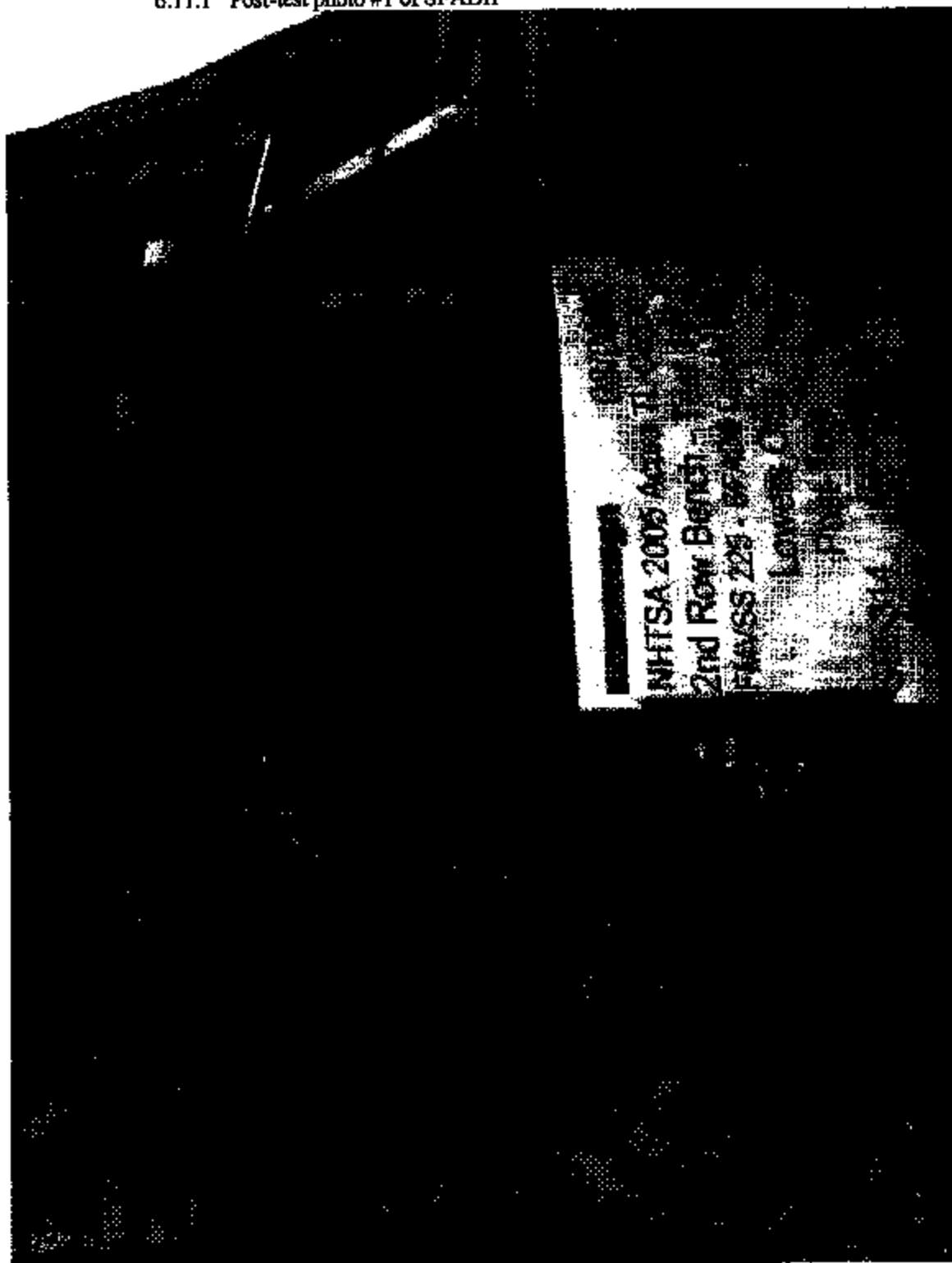
6.10.2 Pre-test photo #2 of SFADII



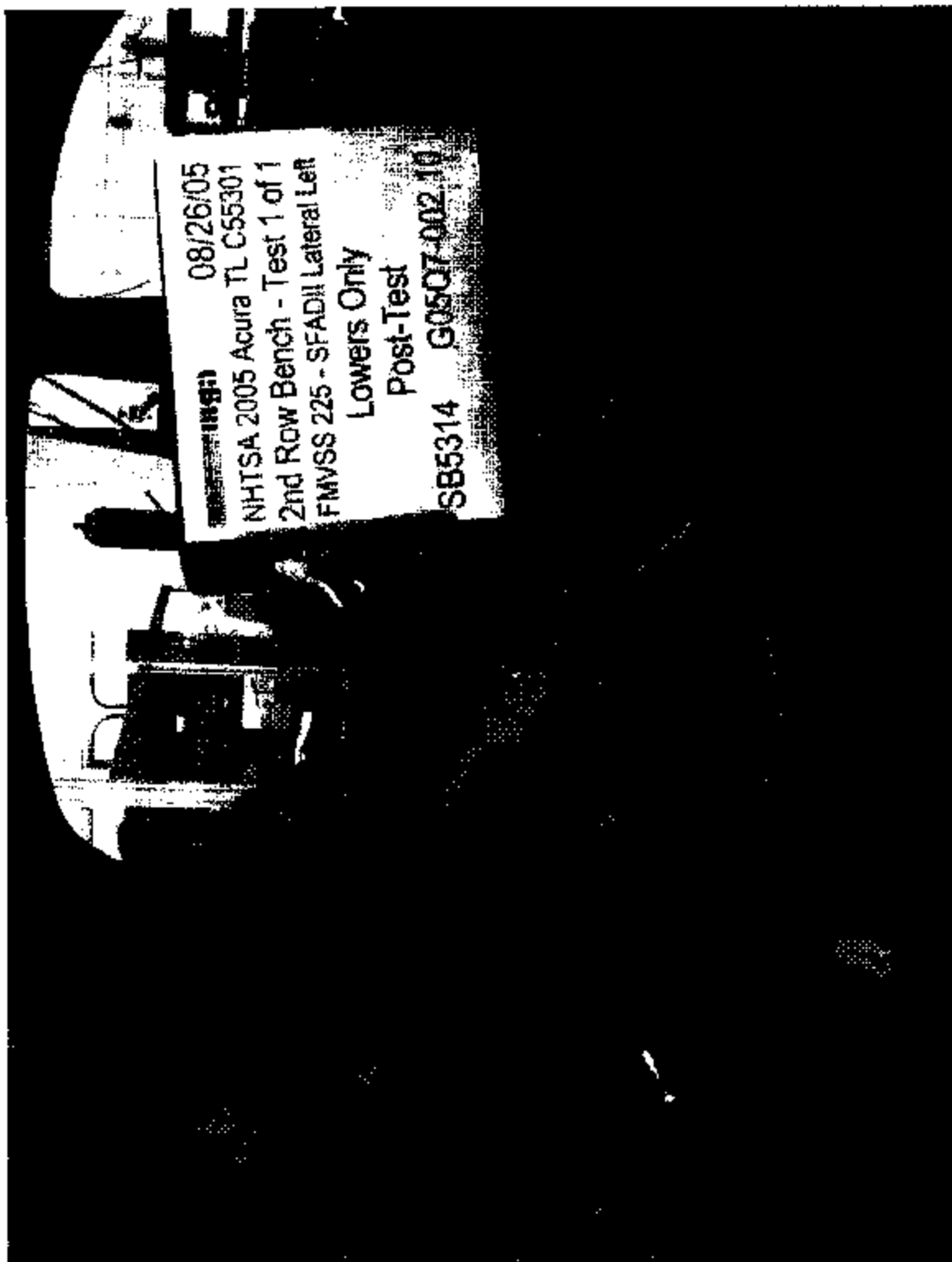
6.10.3 Pre-test photo #3 of SFADII



- 6.11 Post-test condition of each child restraint anchorage system
6.11.1 Post-test photo #1 of SFADII



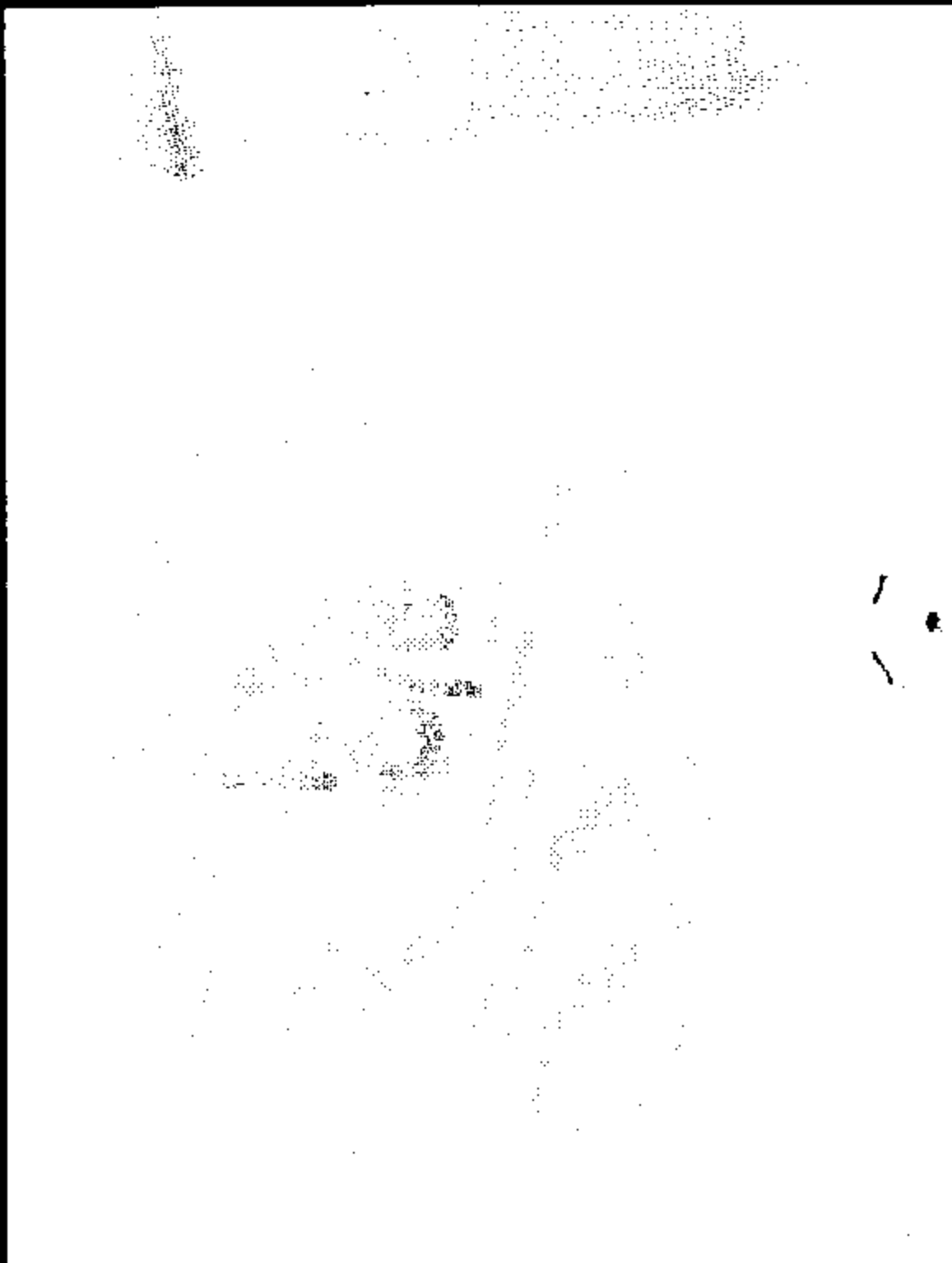
6.11.2 Post-test photo #2 of SFADII



6.11.3 Post-test photo #3 of SFA011



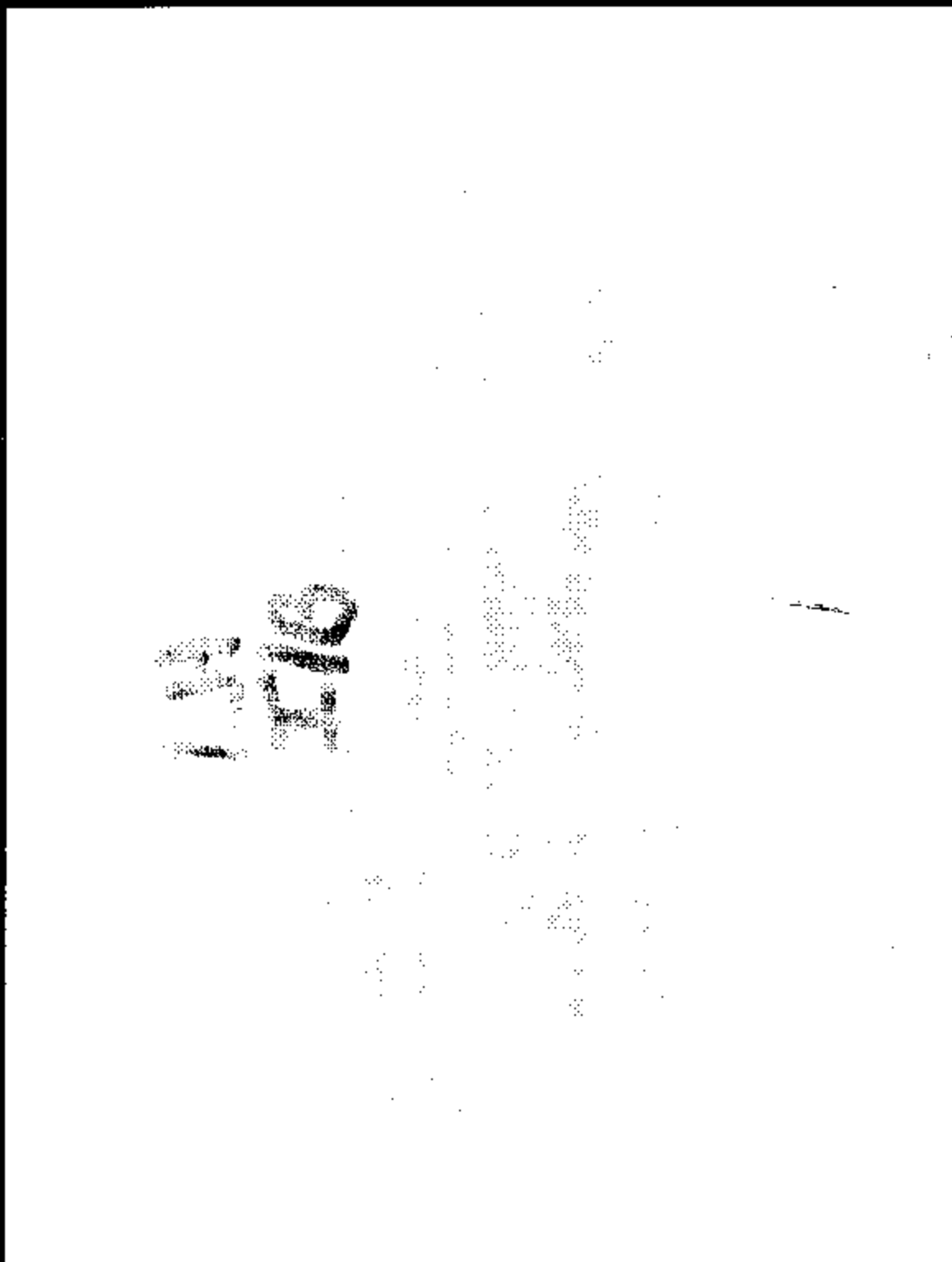
6.11.4 Post-test photo #4 of SFADII



6.11.5 Post-test photo #5 of SFADII



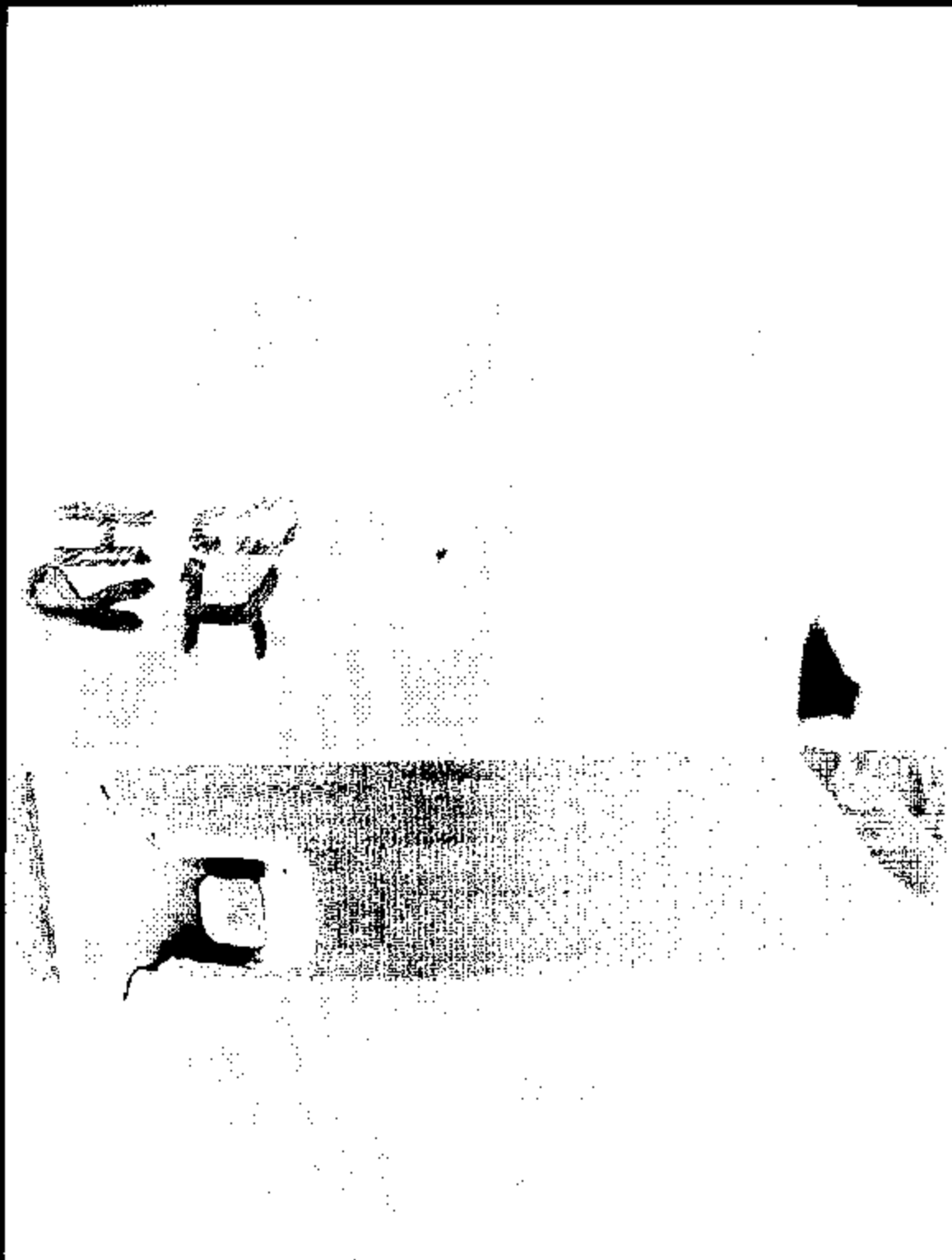
6.11.6 Post-test photo #6 of SFADII



6.11.7 Post-test photo #7 of SFADII



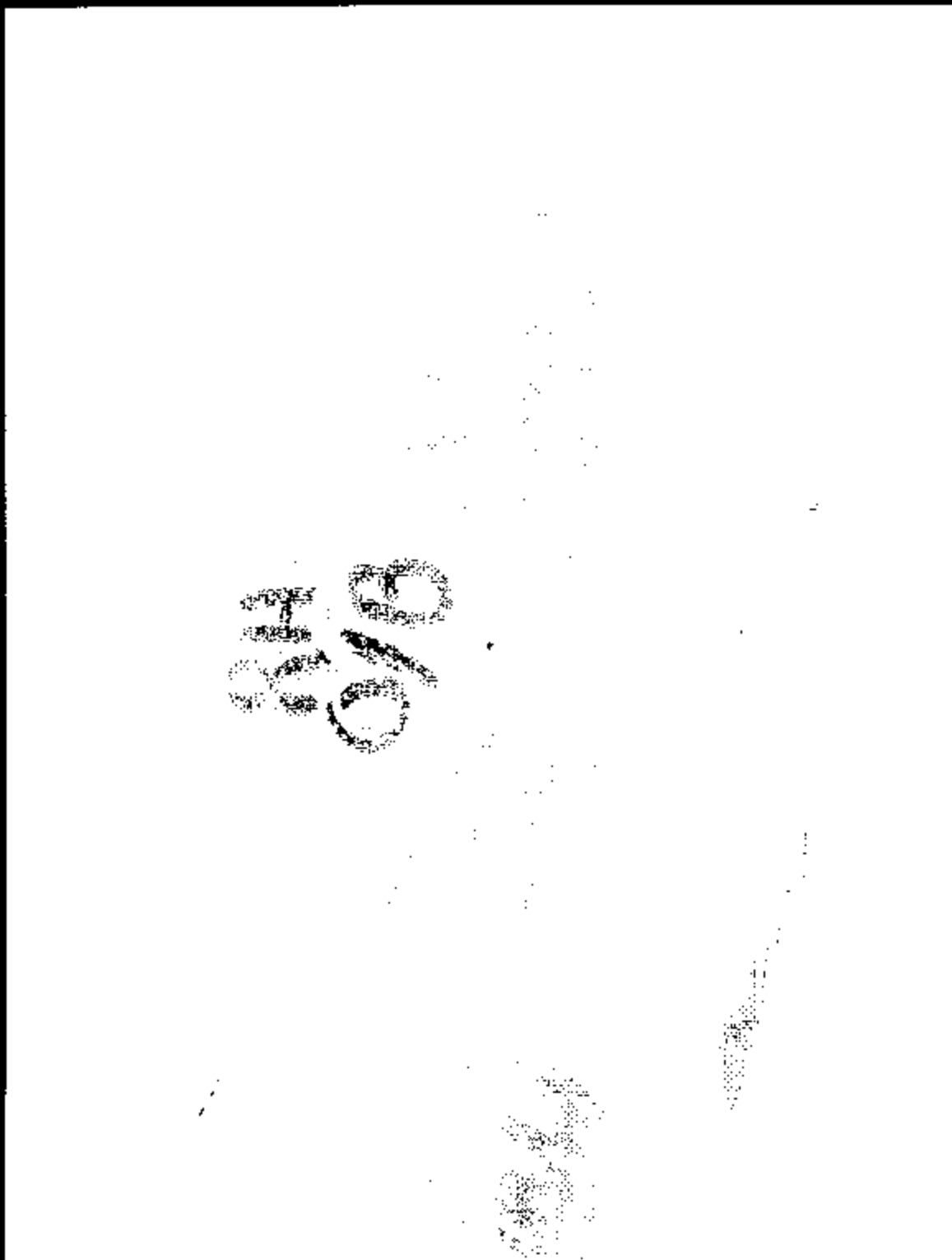
6.11.8 Post-test photo #8 of SFADII



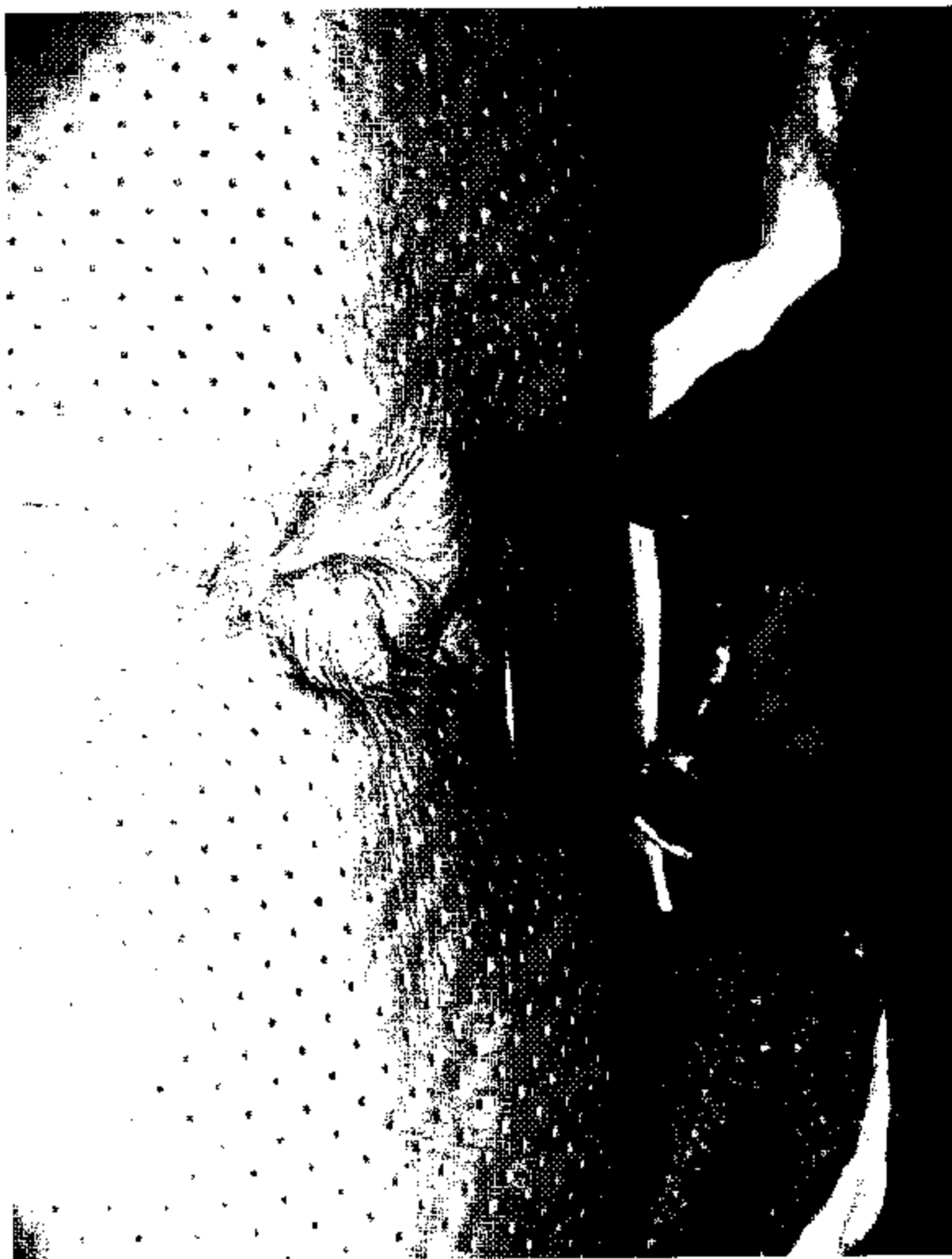
6.11.9 Post-test photo #9 of SFADII



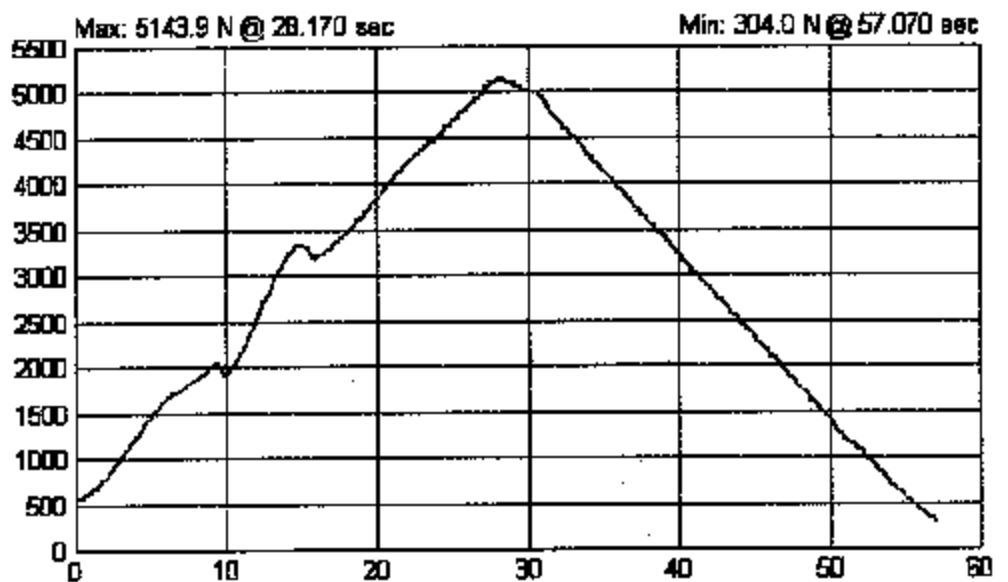
6.11.10 Post-test photo #10 of SFADII



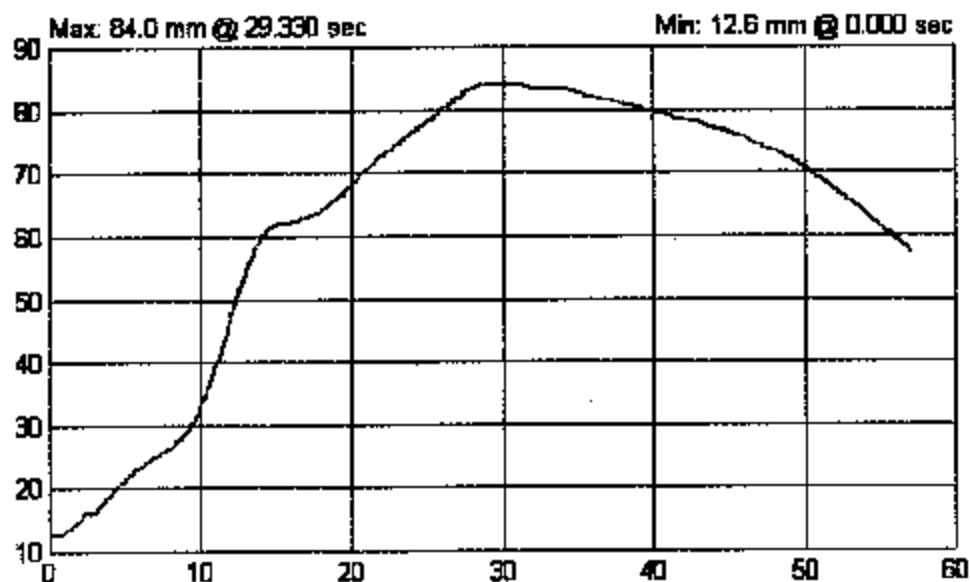
6.11.11 Post-test photo #11 of SFADII



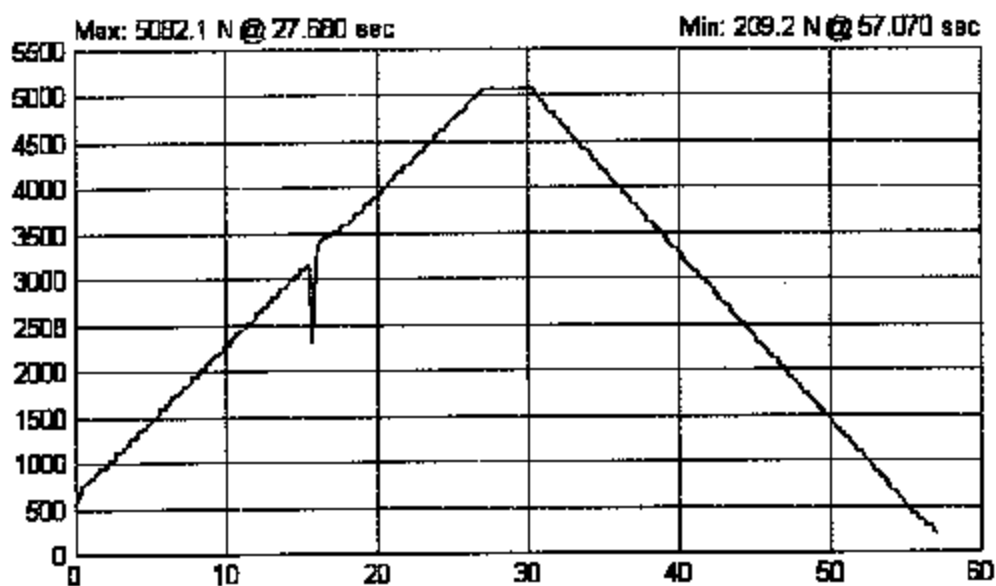
7.0 PLOTS



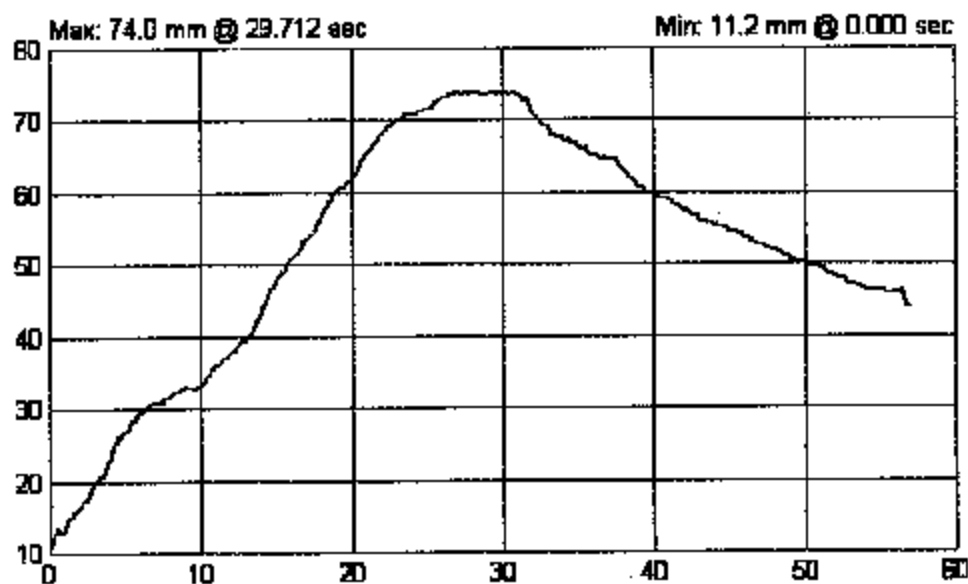
Run# SB5314: Lower Anchor Lateral Test (S9.4.1b) -RS LH Load (N) vs. Time (sec)



Run# SB5314: LH X Displacement (S9.4.1b) (mm) vs. Time (sec)



Run# SB5314: Lower Anchor Lateral Test (S9.4.1b)-RS RH Load (N) vs. Time (sec)



Run# SB5314: RH X Displacement (S9.4.1b) (mm) vs. Time (sec)

8.0 REPORT of VEHICLE CONDITION

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

CONTRACT No.: DTNH22-02-D-11043

DATE: August 26, 2005

From: MGA Research Corporation, 446 Executive Drive, Troy, MI 48083

To: NHTSA, OVSC, NVS-220

The following vehicle has been subjected to compliance testing for FMVSS No. 201U and 225

The vehicle was inspected upon arrival at the laboratory for the test and found to contain all of the equipment listed below. All variances have been reported within 2 working days of vehicle arrival, by letter, to the NHTSA Industrial Property Manager (NAD0-30), with a copy to the OVSC COTR. The vehicle is again inspected, after the above test has been conducted, and all changes are noted below. The final condition of the vehicle is also noted in detail.

VEH. MOD YR/MAKE/MODEL/BODY: 2005 Acura TL

VEH. NHTSA NO.: C55301

VIN: 19UUA66275A014409

COLOR: Black

ODOMETER READINGS: ARRIVAL 41 miles Date: 03/30/05

COMPLETION 42 miles Date: 08/26/05

PURCHASE PRICE: \$31,296 DEALER'S NAME: Acura of Troy

ENGINE DATA: 6 Cylinders 3.2 Liters Cubic Inches

TRANSMISSION DATA: X Automatic Manual No. of Speeds 5

FINAL DRIVE DATA: Rear Drive X Front Drive 4 Wheel Drive

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT:

TEST LABORATORY: MGA Research Corporation

OBSERVERS: Melanie Schick, Brad Reaume, Kenney Godfrey

☒	Air Conditioning	☐	Traction Control	☒	Clock
☐	Tinted Glass	☐	All Wheel Drive	☐	Roof Rack
☒	Power Steering	☒	Speed Control	☒	Console
☒	Power Windows	☒	Rear Window Defroster	☒	Driver Air Bag
☒	Power Door Locks	☒	Sun Roof or T-Top	☒	Passenger Air Bag
☒	Power Seat(s)	☒	Tachometer	☒	Front Disc Brakes
☒	Power Brakes	☒	Tilt Steering Wheel	☒	Rear Disc Brakes
☒	Antilock Brake System	☒	AM/FM/Compact Disc	☐	Other

REMARKS:

Salvage only.

Equipment that is no longer on the test vehicle as noted on previous pages:

All equipment inventoried and placed in vehicle.

Explanation for equipment removal:

Left rear door was removed before conducting the test.

Test Vehicle Condition:

Salvage only.

RECORDED BY: Melanie Schick, Kenney Godfrey

DATE: August 26, 2005

APPROVED BY: Brad Reaume

APPENDIX A
OWNERS MANUAL CHILD RESTRAINT SYSTEMS

Installing a Child Seat

After selecting a proper child seat, and a good place to install the seat, there are three main steps to installing the seat:

1. **Properly secure the child seat to the vehicle.** All child seats must be secured to the vehicle with the lap part of a lap/shoulder belt or with the LATCH (Lower Anchors and Tethers for Children) system. A child whose seat is not properly secured to the vehicle can be endangered in a crash.
2. **Make sure the child seat is firmly secured.** After installing a child seat, push and pull the seat forward and from side to side to verify that it is secure.

A child seat secured with a seat belt should be installed as firmly as possible. However, it does not need to be "rock solid." Some side-to-side movement can be expected and should not reduce the child seat's effectiveness.

If the child seat is not secure, try installing it in a different seating position, or use a different style of child seat that can be firmly secured.

3. **Secure the child in the child seat.** Make sure the child is properly strapped in the child seat according to the child seat maker's instructions. A child who is not properly secured in a child seat can be seriously injured in a crash.

The following pages provide guidance on how to properly install a child seat. A forward-facing child seat is used in all examples, but the instructions are the same for a rear-facing child seat.

Driver and Passenger Safety

43

Installing a Child Seat

Installing a Child Seat with LATCH

Your vehicle is equipped with LATCH (Lower Anchors and Tethers for Children) at the outer rear seats.

The lower anchors are located between the seat-back and seat bottom, and are to be used only with a child seat designed for use with LATCH.

The location of each lower anchor is indicated with a small button above the anchor point.



To install a LATCH-compatible child seat:

1. Move the seat belt buckle or tongue away from the lower anchors.
2. Make sure there are no objects near the anchors that could prevent a secure connection between the child seat and the anchors.



3. Place the child seat on the vehicle seat, then attach the seat to the lower anchors according to the child seat maker's instructions.

Some LATCH-compatible seats have a rigid-type connector as shown above.

44

Installing a Child Seat



Other LATCH-compatible seats have a flexible-type connector as shown above.

4. Whatever type you have, follow the child seat maker's instructions for adjusting or tightening the fit.



5. Lift the head restraint (see page 57), then route the tether strap through the legs of the head restraint, over the seat-back, making sure the strap is not twisted.

6. Attach the tether strap hook to the anchor, then tighten the strap as instructed by the child seat maker.

7. Push and pull the child seat forward and from side to side to verify that it is secure.

Driver and Passenger Safety

48

Installing a Child Seat

Installing a Child Seat with a Lap/Shoulder Belt

When not using the LATCH system, all child seats must be secured to the vehicle with the lap part of a lap/shoulder belt.

In addition, the lap/shoulder belts in all seating positions except the driver's have a locking mechanism that must be activated to secure a child seat.



1. With the child seat in the desired seating position, route the belt through the child seat according to the seat maker's instructions, then insert the latch plate into the buckle.



2. To activate the lockable retractor, slowly pull the shoulder part of the belt all the way out until it stops, then let the belt feed back into the retractor.

3. After the belt has retracted, tug on it. If the belt is locked, you will not be able to pull it out. If you can pull the belt out, it is not locked, and you will need to repeat these steps.

49

Installing a Child Seat



4. After confirming that the belt is locked, grab the shoulder part of the belt near the buckle, and pull up to remove any slack from the lap part of the belt. Remember, if the lap part of the belt is not tight, the child seat will not be secure.

To remove slack, it may help to put weight on the child seat, or push on the back of the seat while pulling up on the belt.



5. Push and pull the child seat forward and from side to side to verify that it is secure enough to stay upright during normal driving maneuvers. If the child seat is not secure, unlatch the belt, allow it to retract fully, then repeat these steps.

To deactivate the locking mechanism and remove a child seat, unlatch the buckle, unroute the seat belt, and let the belt fully retract.

Installing a Child Seat with a Tether



A child seat with a tether can be installed in any seating position in the back seat, using one of the anchorage points shown above.

Since a tether can provide additional security to the lap/shoulder belt installation, we recommend using a tether whenever one is required or available.

Driver and Passenger Seating

47

Installing a Child Seat

Using an Outer Anchor



1. After properly securing the child seat (see page 46), lift the head restraint, then route the tether strap over the seat-back and through the legs of the head restraint.
2. Lift the anchor cover, then attach the tether strap hook to the anchor, making sure the strap is not twisted.
3. Tighten the strap according to the seat maker's instructions.

Using the Center Anchor



1. After properly securing the child seat (see page 46), route the tether strap over the top of the seat-back.
2. Follow steps 2 and 3 in the previous column.

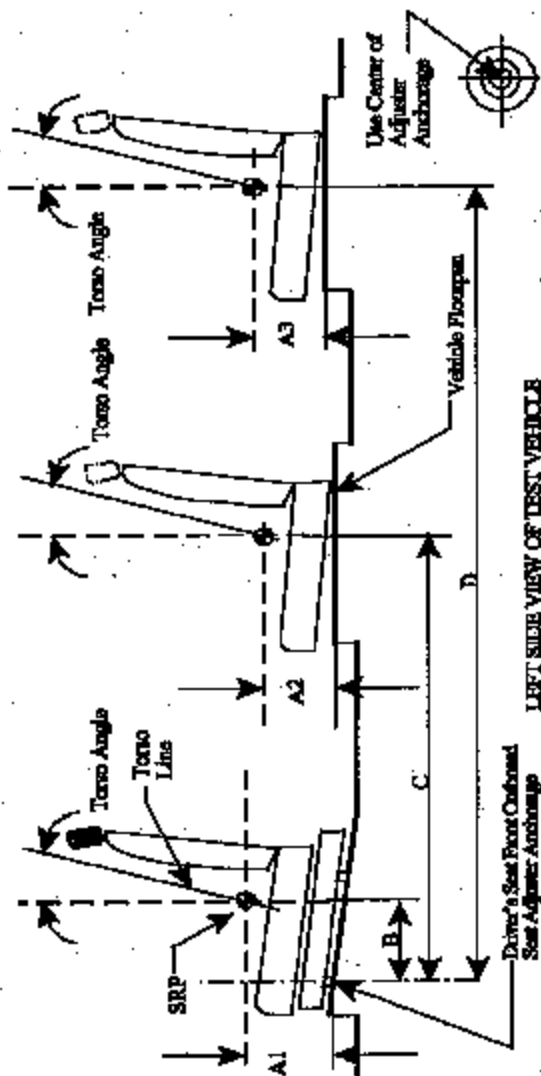
48

APPENDIX B
MANUFACTURER'S DATA (OVSC FORM 14)

FORM 14
 Page 1 of 10

SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA
 FOR FMVSS 225
 (All dimensions in mm)

Model Year: 2005 ; Make: ACURA ; Model: TL ; Body Style: 4-DOOR SEDAN
 Seat Style: Front row BUCKET ; Second row: BENCH ; Third row: NA



FORM 14
 Page 2 of 10

Table 1. Seating Positions¹ and Torso Angles

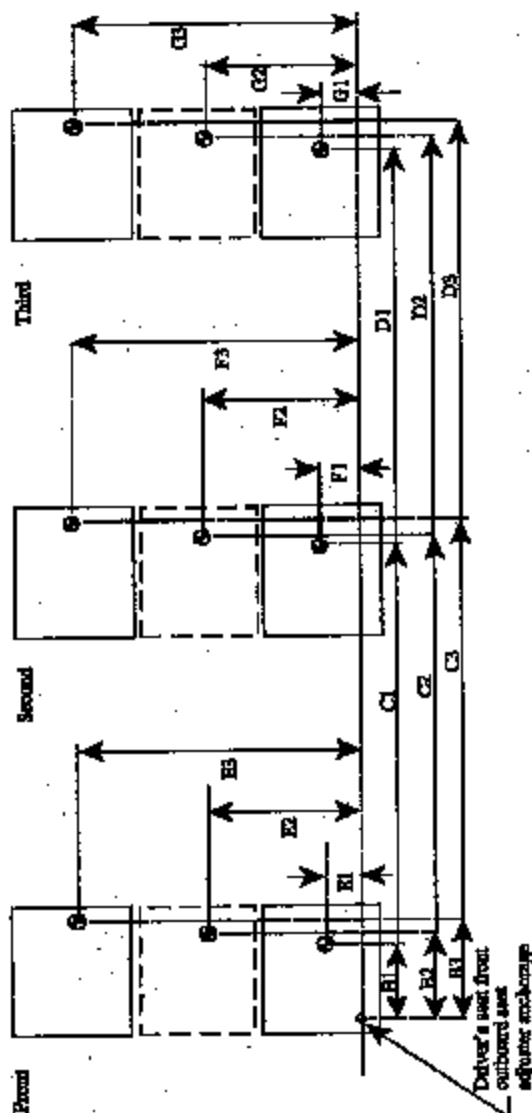
	Left (Driver Side)	Center (If any)	Right
A1	(Driver) 223	N/A	(Front Passenger) 223
A2	248	284	248
A3	N/A	N/A	N/A
B	328	N/A	328
C	1151	1147	1161
D	N/A	N/A	N/A
Torso Angle (degree)	Front Row		
	21° ±	N/A	21° ±
	Second Row	17° ±	25° ±
	Third Row	N/A	N/A

Note: 1. All dimensions are in mm. If not, provide the unit used.

FORM 14
 Page 3 of 10

SEATING REFERENCE POINT
 FOR FMVSS 225
 (All dimensions in mm)

Model Year: 2006 ; Make: ACURA ; Model: TL ; Body Style: 4-DOOR SEDAN
 Seat Style: Front row: BUCKET ; Second row: BENCH ; Third row: NA



FORM 14
 Page 4 of 10

Table 2. Seating Reference Point and Tether Anchorage Locations

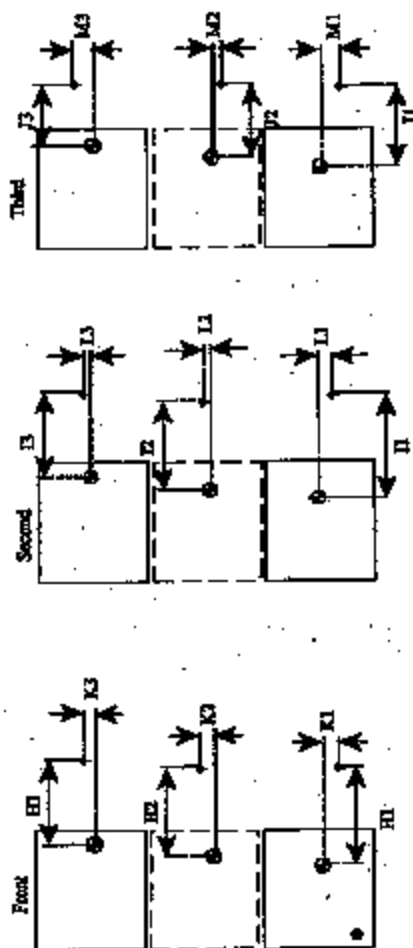
Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage ¹
Front Row	B1	328
	E1	180
	B2	N/A
	E2	N/A
	B3	328
	E3	890
Second Row	C1	1151
	F1	205
	C2	1147
	F2	855
	C3	1181
	F3	805
Third Row	D1	N/A
	G1	N/A
	D2	N/A
	G2	N/A
	D3	N/A
	G3	N/A

Note: 1. Use the center of anchorage.

FORM 14
 Page 5 of 10

TETHER ANCHORAGE LOCATIONS
 FOR FMVSS 225
 (All dimensions in mm)

Model Year: 2005 ; Make: ACURA ; Model: TL ; Body Style: 4-DOOR SEDAN
 Seat Style: Front row BUCKET ; Second row BENCH ; Third row NA



Q: SLP
 +: Tether anchorage

Note: 1. The location shall be measured at the center of the bar.

FORM 14
 Page 4 of 10

Table 3. Seating Reference Point and Tether Anchorage Locations

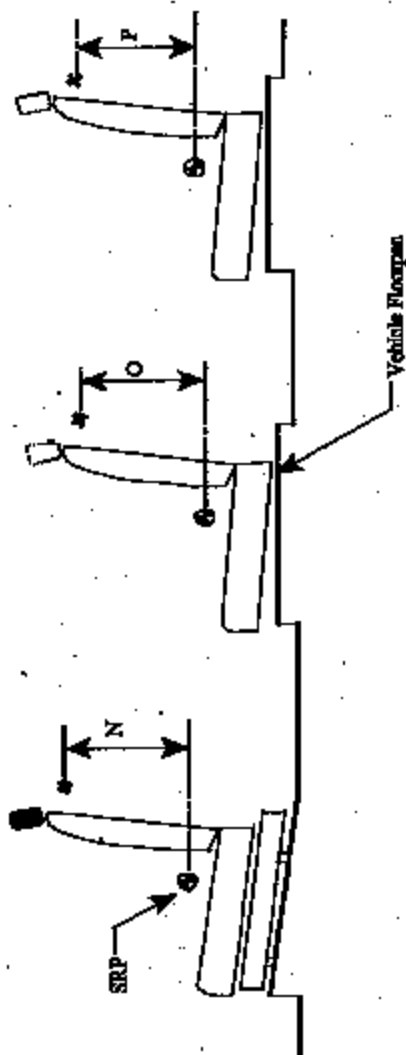
Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	N/A
	K1	N/A
	H2	N/A
	K2	N/A
	H3	N/A
	K3	N/A
Second Row	R	510
	L1	0
	R	514
	L2	0
	R	510
	L3	0
Third Row	J1	N/A
	M1	N/A
	J2	N/A
	M2	N/A
	J3	N/A
	M3	N/A

Note: 1. Use the center of anchorage.

FORM 14
Page 7 of 10

TETHER ANCHORAGE LOCATIONS - VERTICAL
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2005 ; Make: ACURA ; Model: TL ; Body Style: 4-DOOR SEDAN
Seat Style: Front row BUCKET ; Second row: BENCH ; Third row: NA



LEFT SIDE VIEW OF TEST VEHICLE

FORM 14
 Page 8 of 10

Table 4. Vertical Dimension For The Tether Anchorage

Seating Row	Vertical Distance from Seating Reference Point
Front Row	N1 (Driver)
	N2 (Center)
	N3 (Right)
Second Row	D1 (Left)
	D2 (Center)
	D3 (Right)
Third Row	P1 (Left)
	P2 (Center)
	P3 (Right)

Note: 1. All dimensions are in mm. If not, provide the unit used.

FORM 14
Page 9 of 10

Test Procedures Used for Compliance Tests

Tether Anchorage

Seating Location	FMVSS Section(s) - Req.
Front	Driver N/A Center (if any) N/A Right (if any) N/A
Second	Left S.8.3.1 Center S.8.3.1 Right (if any) S.8.3.1
Third	Left N/A Center N/A Right N/A
Fourth	Left N/A Center N/A Right N/A

Lower Anchorage

Seating Location	FMVSS Section(s) - Req.
Front	Driver N/A Center (if any) N/A Right (if any) N/A
Second	Left S.9 Center N/A Right S.9
Third	Left N/A Center N/A Right N/A
Fourth	Left N/A Center N/A Right N/A

FORM 14
Page 10 of 10

For each anchorage system, provide the following information:

1. **Lower Anchorage Dimensions:** Whether the anchorages are certified with S15.1.2.1 of FMVSS No. 225.
It is certified with S.9.1.1 of FMVSS No.225.
Not applied for S.15.1.2.1 of FMVSS No.225.
2. **Lower Anchorage Location:** Whether the anchorages are certified with S15.1.2.2 of FMVSS No. 225. If the anchorages are certified with S15.1.2.2, provide the pitch, roll and yaw angles.
It is certified with S.9.2.1 of FMVSS No.225.
Not applied for S.15.1.2.2 of FMVSS No.225.
3. **Lower Anchorage Marking and Conspicuity:** Whether the anchorages are certified with S15.4 of FMVSS No. 225. If guidance fixtures are used, provide the location of the seating systems that are equipped with the guidance fixture.
It is certified with S.9.5 of FMVSS No.225.
Not applied for S.15.4 of FMVSS No.225.
4. **Location of Tether Anchorage:** Applicable section of FMVSS No. 225 for the option used for its certification.
S.6.2 (S8.2.1)
5. **Number of Tether Anchorage:** Applicable section of FMVSS No. 225 for the option used for its certification
S4.4