

REPORT NO. 207-KAR-03-003

**SAFETY COMPLIANCE TESTING
FOR FMVSS 207**

SEATING SYSTEMS

2003 CHRYSLER
PT CRUISER
4 DOOR HATCHBACK

NHTSA NO. C30304

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AUGUST 15, 2003

FINAL REPORT

PREPARED FOR:
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SECTION 1
PURPOSE OF COMPLIANCE TEST

1. PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2003 Chrysler PT Cruiser 4 Door Hatchback, manufactured by Daimler Chrysler Corporation, to determine compliance with FMVSS 207, "Seating Systems". The purpose of this standard is to reduce the number of deaths and injuries that may be caused by the failure of seats, their attachment hardware, and their installation when said failure results from the forces on the seat in a vehicle impact.

All tests were conducted based on the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-207-09, dated June 18, 1992, and corresponding KARCO Engineering, LLC test procedure KTP-207, dated August 2, 2003. Detailed procedures for receiving, inspecting, testing and reporting of test results are described in the test procedures and are not repeated in this report.

This report is organized in sections containing pertinent test information and data tables as follows:

- Section 2 - Compliance Test Procedure and Data Summary
- Section 3 - Compliance Test Data
- Section 4 - Noncompliance Data (if applicable)
- Appendix A - Photographs
- Appendix B - Data Plots
- Appendix C - Test Equipment List and Calibration Information

SECTION 2
COMPLIANCE TEST PROCEDURE and DATA SUMMARY

2. COMPLIANCE TEST PROCEDURE AND DATA SUMMARY

A 2003 Chrysler PT Cruiser 4 Door Hatchback was subjected to FMVSS 207 compliance testing on August 13, through August 15, 2003. All tests were conducted at KARCO Engineering, LLC in Adelanto, California. Summary data is shown on Data Sheet No. 2. The following tests were performed:

- Receiving inspection
- Aft moment tests on front seat backs
- Aft load tests on front seat frames and adjusters
- Forward load tests on front seat frames and adjusters
- Forward load tests on front seat frames and adjusters with 210 loads.
- Aft moment tests on rear seat backs
- Aft load tests on rear seat cushions and seat backs
- Forward load tests on rear seat cushions and seat backs

The tests were conducted per the FMVSS 207 test procedure. The significant aspects of the test procedure are described in the following paragraphs.

2.1 Test Vehicle Inspection. The test vehicle was inspected to verify that all seat, restraint systems and seat belt assembly anchorage systems are complete and the seat adjusting mechanisms are working properly.

2.2 Test Vehicle Preparation and Pre-test Measurements. The test vehicle was securely mounted to the test fixture and connected to the appropriate number of hydraulic actuators. Lateral spacing of the individual seat anchorages were measured and all other angular and dimensional measurements were verified to be in compliance with the requirements of the subject safety standards. The components were weighed and their centers of gravity determined.

2.3 Static Load Tests-General Performance Requirements.

When tested in accordance with S5, each occupant seat, other than a side-facing seat or a passenger seat on a bus, shall withstand the following forces:

- (a) In any position to which it can be adjusted — 20 times the weight of the seat applied in a forward longitudinal direction;

(Continued on next page)

2.... (Continued)

- (b) In any position to which it can be adjusted — 20 times the weight of the seat applied in a rearward longitudinal direction;
- (c) For a seat belt assembly attached to the seat — the force specified in subparagraph (a), if it is a forward facing seat, or subparagraph (b), if it is a rearward facing seat, in each case applied simultaneously with the forces imposed on the seat by the seat belt assembly when it is loaded in accordance with section S4.2 of Federal Motor Vehicle Safety Standard No. 210; and
- (d) In its rearmost position — a force that produces a 3,300 inch-pound moment about the seating reference point (SRP) for each designated seating position (DSP) that the seat provides, applied to the upper cross-member of the seat back or the upper seat back, in a rearward longitudinal direction for forward-facing seats and in a forward longitudinal direction for rearward-facing seats.
- (e) To meet FMVSS 210 requirements, the anchorages, attachment hardware, and attachment bolts for all Type 2 and automatic seat belt assemblies that are installed to comply with Standard No. 208 (49 CFR 571.208) shall withstand 3,000-pound forces when tested in accordance with S5.2.

SECTION 3
COMPLIANCE TEST DATA

3. COMPLIANCE TEST DATA

The results of FMVSS 207 compliance tests that were conducted on the 2003 Chrysler PT Cruiser 4 Door Hatchback on August 13 through August 15, 2003, to determine compliance with FMVSS 207, "Seating Systems" is presented in this section. No performance failures were identified for the vehicle tested.

DATA SHEET NO. 1
TEST VEHICLE RECEIVING INSPECTION

VEHICLE			
YEAR	2003	MAKE	CHRYSLER
MODEL	PT CRUISER	BODY STYLE	4 DOOR HATCHBACK
NHTSA NO.	C30304	VIN	3C4FY48B33T545410
BUILD DATE	09/02	TEST DATE	08/13/03
TEST LABORATORY		KARCO ENGINEERING, L.L.C.	

1. First compliance test by laboratory for this vehicle is S207 test.

	Yes	<u>X</u>	No (Go to item 2)
--	-----	----------	-------------------

<u>X</u>	1.1	Label test vehicle with NHTSA Number
<u>X</u>	1.2	Verify all options on the "window sticker" are present on the vehicle
<u>X</u>	1.3	Verify tires and wheel rims are new and the same as listed
<u>X</u>	1.4	Verify there are no dents or other interior or exterior flaws
<u>X</u>	1.5	Verify the glove box contains an owner's manual, warranty document, consumer information, and extra keys
<u>X</u>	1.6	Verify the vehicle is equipped with the proper fuel filler cap
<u>X</u>	1.7	If the vehicle has been delivered from the dealer, verify the vehicle has been properly prepared and is in running condition
2. Verify seat adjusters are working

<u>X</u>	Yes	No
----------	-----	----
3. Verify there is a seat belt at each seating position

<u>X</u>	Yes	No
----------	-----	----
4. Without disturbing the integrity of each seat belt and anchorage, verify that each seat belt is attached to the anchorage. For seat belts that are attached to the seat, also verify the seats are attached to the seat anchors and the seat anchors are attached to the vehicle.

<u>X</u>	Yes	No
----------	-----	----

RESULTS OR RECEIVING INSPECTION:

PASS --	<u>X</u>
FAIL --	<u> </u>
CONDITIONAL --	<u> </u>

REMARKS:

RECORDED BY: MARK A. KRATZKE DATE: 08/13/03

APPROVED BY: MATTHEW A. IVORY DATE: 08/13/03

DATA SHEET NO. 2
SEATING SYSTEM TEST RESULTS

VEHICLE			
YEAR	2003	MAKE	CHRYSLER
MODEL	PT CRUISER	BODY STYLE	4 DOOR HATCHBACK
NHTSA NO.	C30304	VIN	3C4FY48B33T545410
BUILD DATE	09/02	TEST DATE	08/13/03
TEST LABORATORY	KARCO ENGINEERING, L.L.C.		

LEGEND: W_a - Weight of Seat Assembly
 W_b - Weight of Seat Back
 W_c - Weight of Seat Cushion
 Z - Distance from Seat SRP to Uppermost Crossmember = 19.0 "

FOR FRONT BUCKET SEATS - - LEFT SIDE

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Seat Back	Forward	W _b = 15	20 x W _b = 300	N/A	N/A	N/A
Seat Assy.	Forward	W _a = 44	20 x W _a = 880	879.8	N/A	PASS
	Rearward	W _a = 44	20 x W _a = 880	876.6	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	179.8	3236.4	PASS

FOR FRONT BUCKET SEATS - - RIGHT SIDE

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Seat Back	Forward	W _b = 23	20 x W _b = 460	N/A	N/A	N/A
Seat Assy.	Forward	W _a = 52	20 x W _a = 1040	1035.0	N/A	PASS
	Rearward	W _a = 52	20 x W _a = 1040	1044.7	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	178.3	3209.4	PASS

(Continued on next page)

DATA SHEET NO. 2.... Continued

FOR FRONT BUCKET SEATS -- COMBINED

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	ATTACHMENT (PASS/FAIL)
Driver Lap Belt	Forward	N/A	3,000 lbs, -10, -50	2970.7	PASS
Driver Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	2977.5	PASS
Center Lap Belt	Forward	N/A	5,000 lbs, -10, -50	N/A	N/A
Passenger Lap Belt	Forward	N/A	3,000 lbs, -10, -50	2970.9	PASS
Passenger Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	2994.0	PASS
Driver Seat Assembly	Forward	W _a = 44	20 x W _a = 880	874.5	PASS
Passenger Seat Assembly	Forward	W _a = 52	20 x W _a = 1040	1019.0	PASS

LEGEND:

W_a - Weight of Seat Assembly

W_b - Weight of Seat Back

W_c - Weight of Seat Cushion

Z - Distance from Seat SRP to Uppermost Crossmember = 20.0 "

FOR REAR SEATS --

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Left Back	Forward	W _c = 19	20 x W _b = 380	360.8	N/A	PASS
Left Assembly	Aft	W _b = 40	20 x W _b = 800	793.8	N/A	PASS
Left Seat Back Moment	Aft	N/A	3275 in-lb/Z	159.5	3190	PASS
Right Back	Forward	W _b = 35	20 x W _b = 700	688.0	N/A	PASS
Right Assembly	Aft	W _a = 64	20 x W _a = 1280	1259.3	N/A	N/A
Right Seat Back Moment	Aft	N/A	3275 in-lb/Z	160.5	3210	PASS

(Continued on next page)

DATA SHEET NO. 2.... Continued
FOR REAR SEATS -- COMBINED

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	ATTACHMENT (PASS/FAIL)
Left Lap Belt	Forward	N/A	3,000 lbs, -10, -50	2987.0	N/A
Left Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	2980.2	N/A
Left Rear Seat Assembly	Forward	W _a = 40	20 x 40 = 800	786.2	PASS
Center Lap Bolt	Forward	N/A	3,000 lbs, -10, -50	2958.8	N/A
Center Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	2973.9	N/A
Right Lap Belt	Forward	N/A	3,000 lbs, -10, -50	2976.0	N/A
Right Shoulder Belt	Forward	N/A	3,000 lbs, -10, -50	2956.0	N/A
Right Rear Seat Assembly	Forward	W _a = 64	20 x 64 = 1280	1270.2	N/A

COMMENTS:

RECORDED BY: MARK A. KRATZKE DATE: 08/13/03

APPROVED BY: MATTHEW A. IVORY DATE: 08/13/03

DATA SHEET NO. 3
SEAT BACK ANGLES

VEHICLE			
YEAR	2003	MAKE	CHRYSLER
MODEL	PT CRUISER	BODY STYLE	4 DOOR HATCHBACK
NHTSA NO.	C30304	VIN	3C4FY48B33T545410
BUILD DATE	09/02	TEST DATE	08/13/03
TEST LABORATORY	KARCO ENGINEERING, L.L.C.		

LAP BELT ANCHORAGES:

SEAT	SEATING POSITION	SPECIFIED ANGLE RANGE ABOVE HORIZONTAL	MEASURED ANGLE		DOES BELT SECURELY FIT ON PELVIS?
			I/B	O/B	
FRONT	Left	30 to 75 degrees	32°	33°	YES
	Center	30 to 75 degrees	N/A	N/A	N/A
	Right	30 to 75 degrees	32°	34°	YES
REAR	Left	30 to 75 degrees	34°	32°	YES
	Center	30 to 75 degrees	32°	34°	YES
	Right	30 to 75 degrees	34°	32°	YES

SHOULDER BELT ANCHORAGES:

SEAT	SEATING POSITION	SPECIFIED ANGLE RANGE ABOVE OR BELOW HORIZONTAL	MEASURED ANGLE
FRONT	Left	0 – 80 degrees above	38°
		0 – 40 degrees below	--
	Right	0 – 80 degrees above	42°
		0 – 40 degrees below	--
REAR	Left	0 – 80 degrees above	10°
		0 – 40 degrees below	--
	Center	0 – 80 degrees above	10°
		0 – 40 degrees below	--
	Right	0 – 80 degrees above	10°
		0 – 40 degrees below	--

RECORDED BY: MARK A. KRATZKE DATE: 08/13/03

APPROVED BY: MATTHEW A. IVORY DATE: 08/13/03

DATA SHEET NO. 4**REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING**

The following vehicle has been subjected to compliance testing for FMVSS No. **207**

VEHICLE			
NHTSA NO.	C30304	TEST DATE	08/15/03
CONTRACT NO.	DTNH22-01-C-31025	VIN	3C4FY48B33T545410
SEAT CONFIGURATION			
VEHICLE OR SEAT MANUFACTURER	NEW UNITED MOTOR MANUFACTURING		
TEST LABORATORY	KARCO ENGINEERING, L.L.C.		

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 (NAD-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.

TEST VEHICLE INFORMATION			
Manufacturer	DAIMLER CHRYSLER CORP	VIN	3C4FY48B33T545410
Manufacturing Date	09/02	Delivery Date	03/19/03
Dealer	VICTOR VALLEY CHRYSLER	NHTSA No.	C30304
Odometer Reading (m.)	21	Fuel Type	GAS
Engine Displacement	2.4 LITERS	Cylinders	4
Transmission	MANUAL	Final Drive	FRONT
Engine Placement	TRANSVERSE	Color	BLACK
Tire Press./Max. Cap. Front	34 psi	Cold Tire Press.	34 psi
Tire Press./Max. Cap. Rear	34 psi	Cold Tire Press. Rear	34 psi
Recommend Tire Size	P195/65 R15	Type of Spare	T125/70 D15
Tire Size on Vehicle	P195/65 R15	Manufacturer	GOODYEAR
GVWR	4225 lbs.	Cargo Capacity	200 lbs.
GAWR Front	2298 lbs.	GAWR Rear	2075 lbs.
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	YES
Disc Brakes (Front)	YES	Disc Brakes (Rear)	NO
Power Windows	YES	Tilt Steering	YES
Anti-lock Brakes (ABS)	NO	Power Seats	NO
Driver Airbag	YES	Passenger Airbag	YES

Test Vehicle Condition: **FRONT OF VEHICLE WAS REMOVED, SEATS WERE TESTED.**

RECORDED BY: **MARK A. KRATZKE** DATE: **08/15/03**

APPROVED BY: **MATTHEW A. IVORY** DATE: **08/15/03**

APPENDIX A
PHOTOGRAPHS



Figure A-1: Left Front (as Received)



Figure A-2: Left Side (as Received)

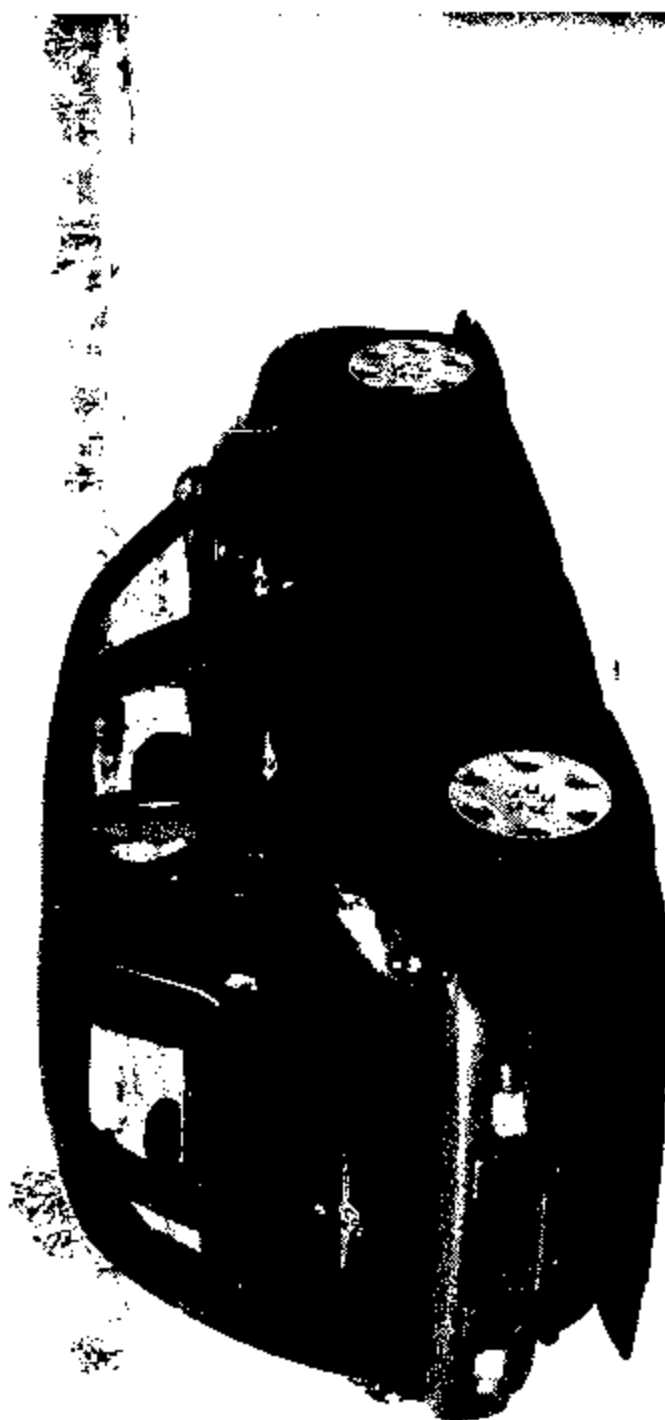


Figure A-3: Right Rear (as Received)

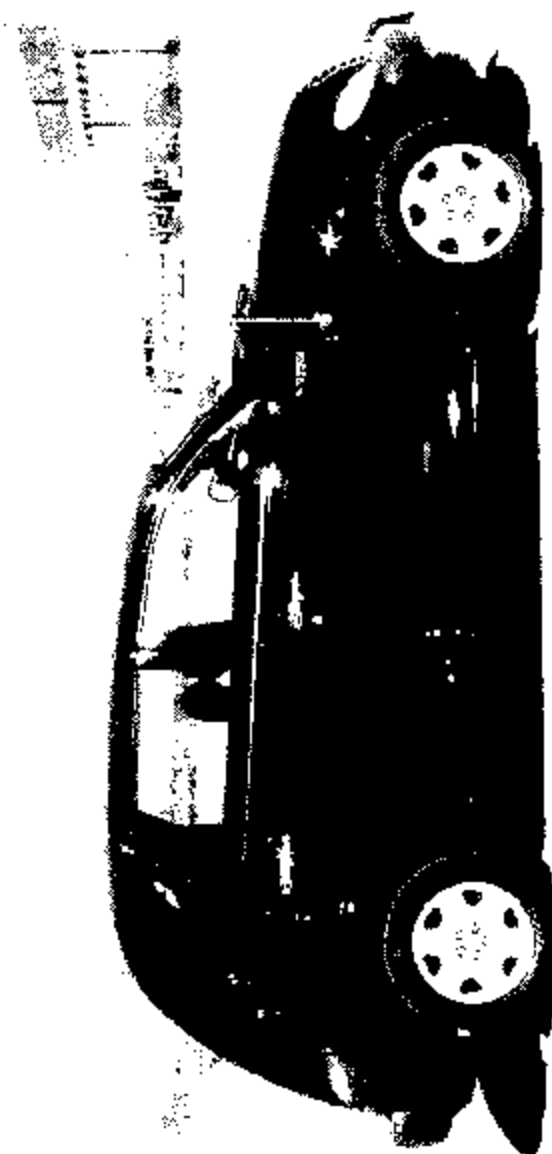


Figure A 4: Right Side (as Received)

PYSLER DATE OF MFR OWNER
 IN 9-02 1917 KG(04225 LB)
 WITH TIRES RIMS AT CULP
 P195/65R15 89T 15X6.0 234 KPA(34 PSI)
 WITH TIRES RIMS AT CULP
 P195/65R15 89T 15X6.0 234 KPA(34 PSI)

ORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND TEST
 METHODS IN EFFECT ON THE DATE OF MANUFACTURE SHOULD BE OBSERVED.

VIN: 1S410 TYPE: MPV



18 865AA PNT:PX8 VEHICLE ID: 18 865AA

Figure A 5: Vehicle Certification Label

	VEHICLE CAPACITY OR LESS
1st SEAT	2 PASS.
2nd SEAT	3 PASS.
LUGGAGE	115 LBS-52 kg
TOTAL	5 PASS.
TOTAL WEIGHT	865 LBS-392 kg
TIRE PRESSURE COLD	34 PSI 240 kPa
RECOMMENDED TIRE SIZES	
P195/65R15 STANDARD LOAD	
P205/55R16 STANDARD LOAD	
SEE OWNERS MANUAL FOR ADDITIONAL DATA	
PRINTED IN USA	04656 432AC

Figure A-6: Vehicle Tire Label

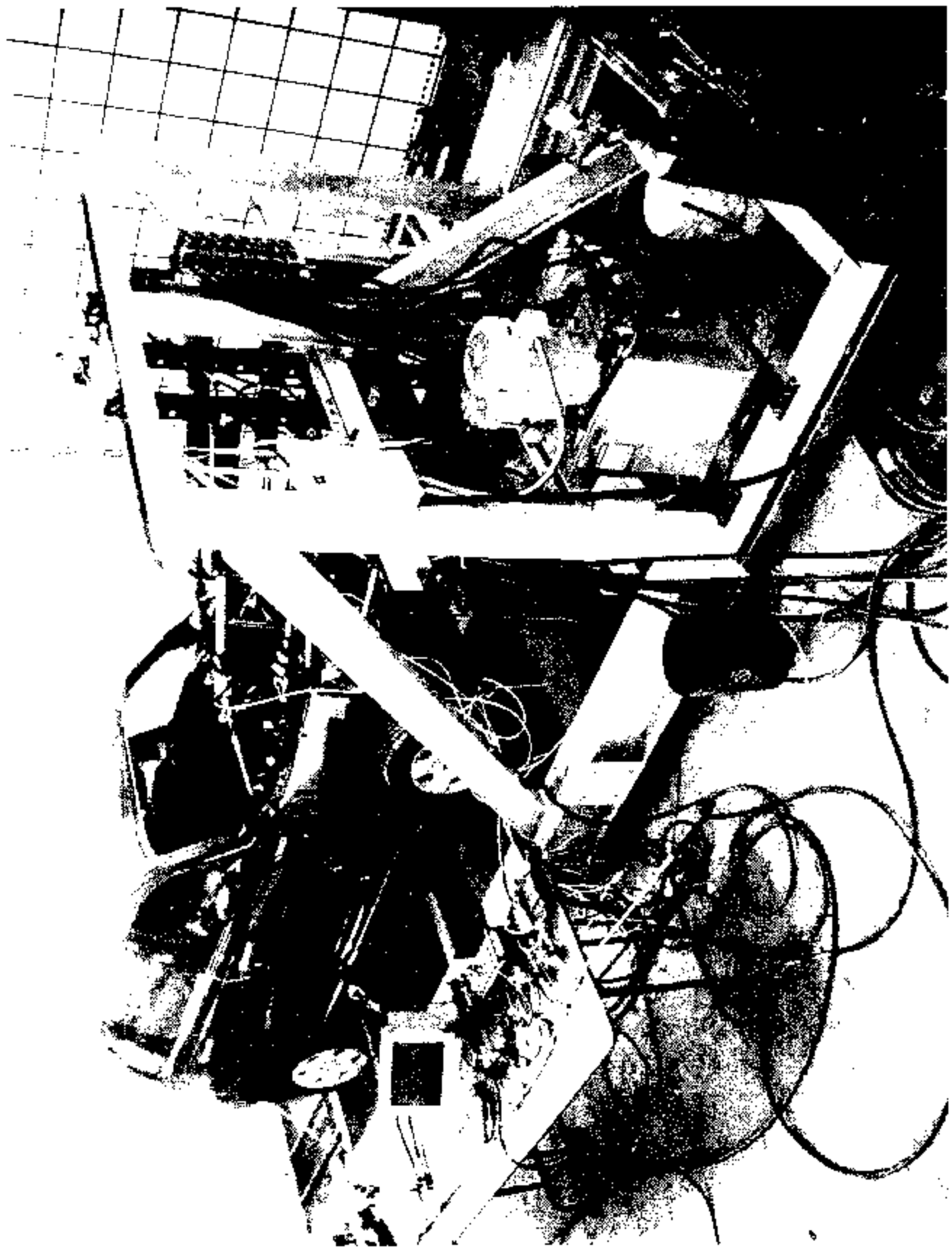


Figure A-7: Vehicle Mounted in Test Fixture

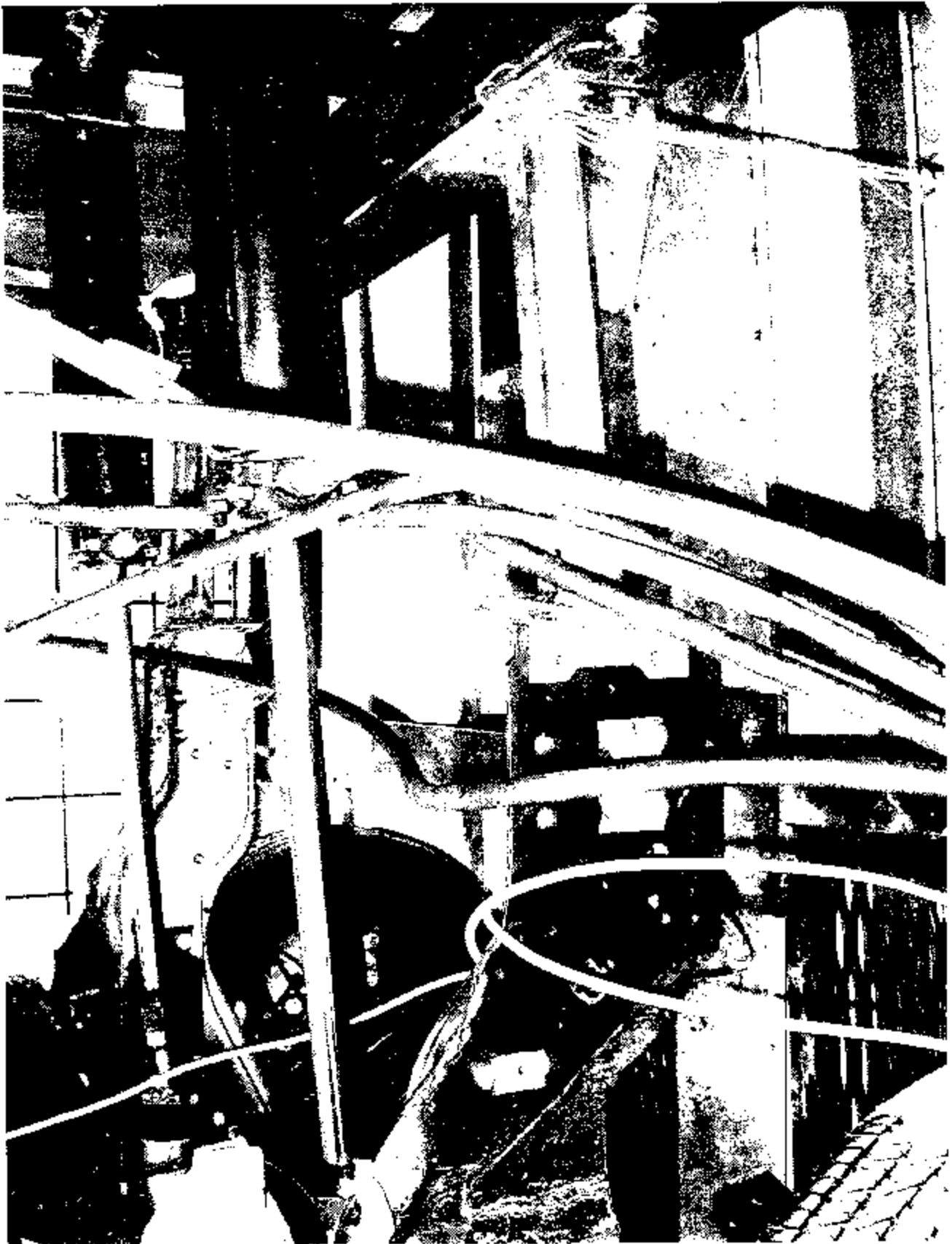


Figure A-8: Vehicle Mounted in Test Fixture

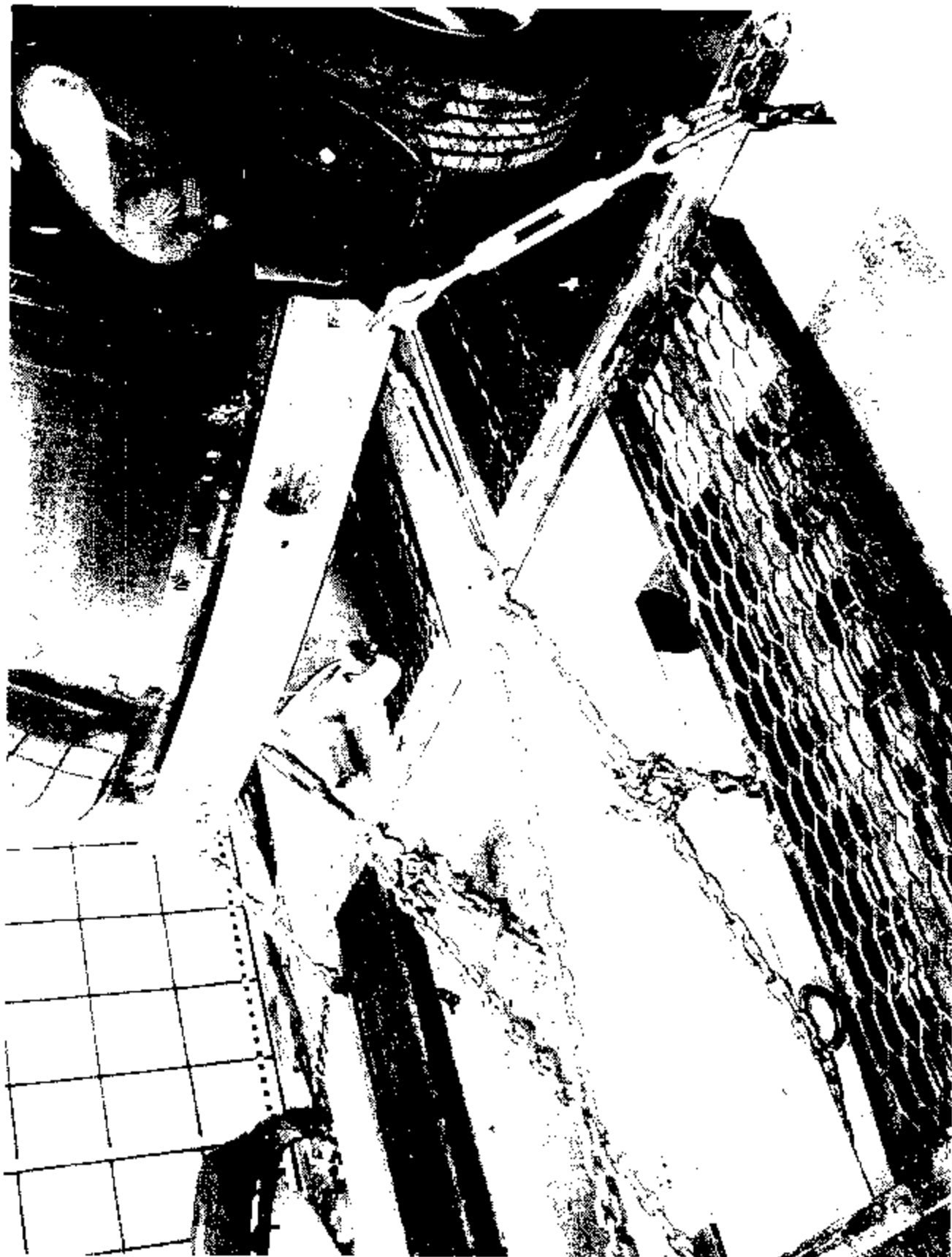


Figure A-9: Vehicle Mounted in Test Fixture

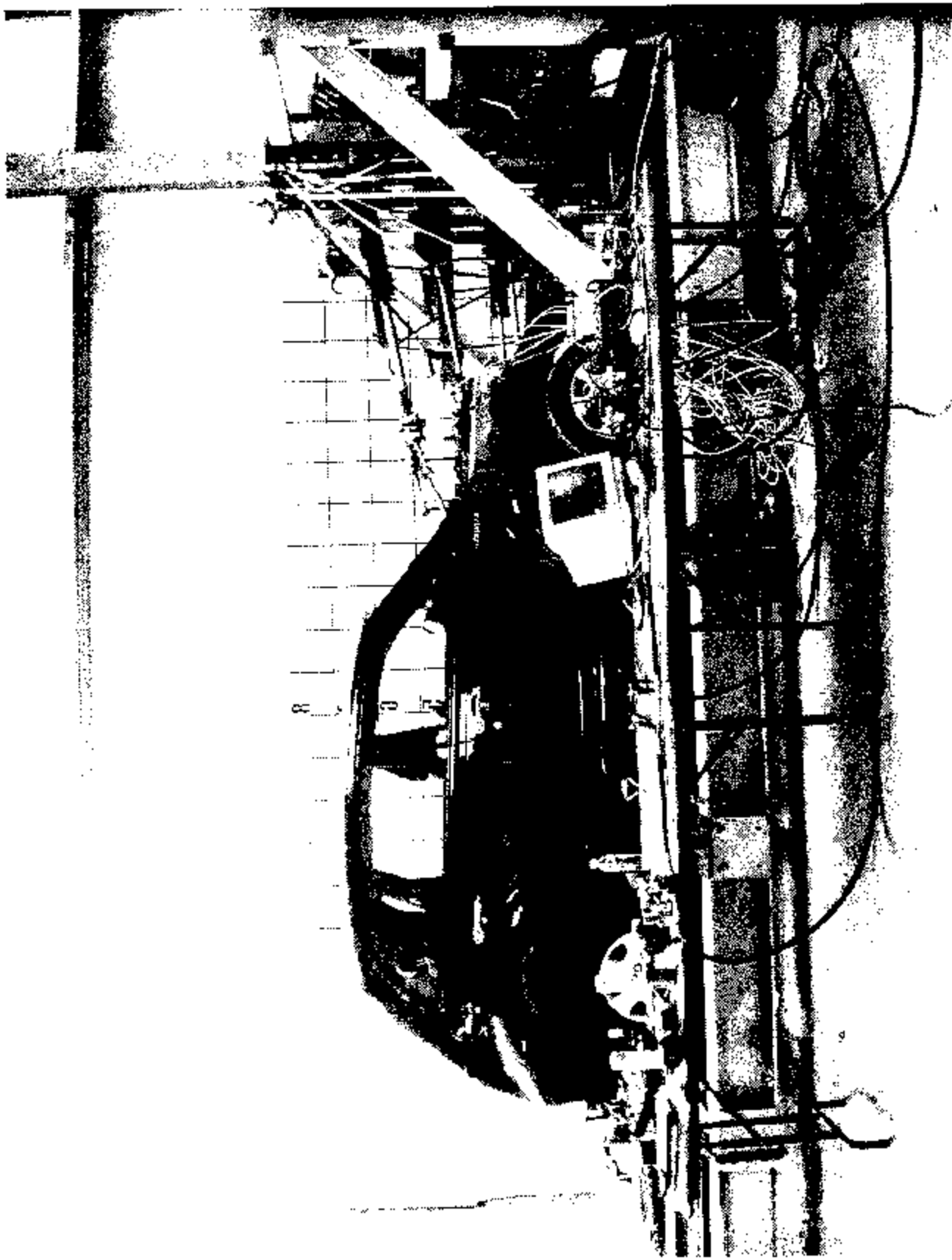


Figure A-10: Vehicle Mounted in Test Fixture

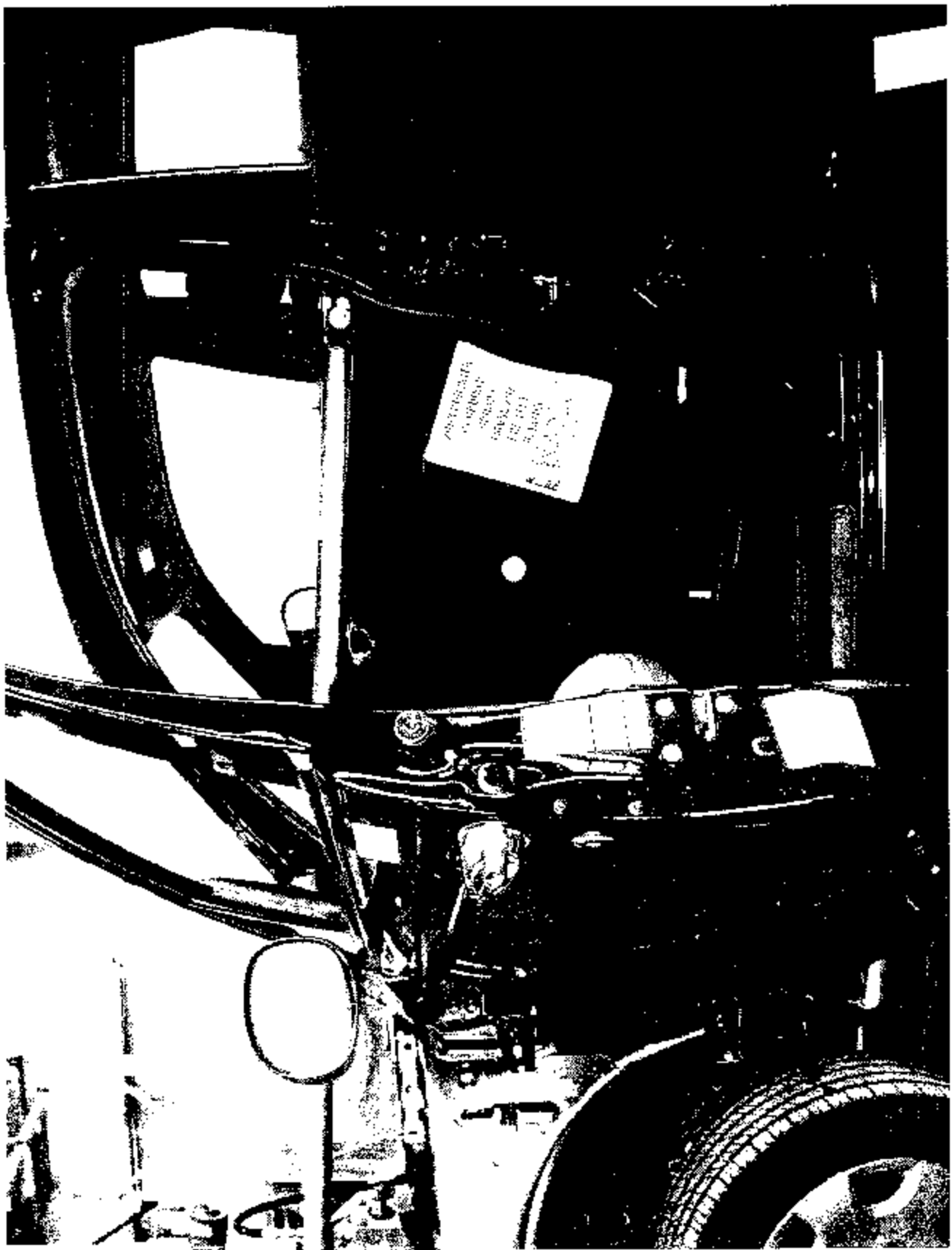


Figure A-11: Aft Moment on Seat Frame and Adjusters, Driver's Side, Pre-Test

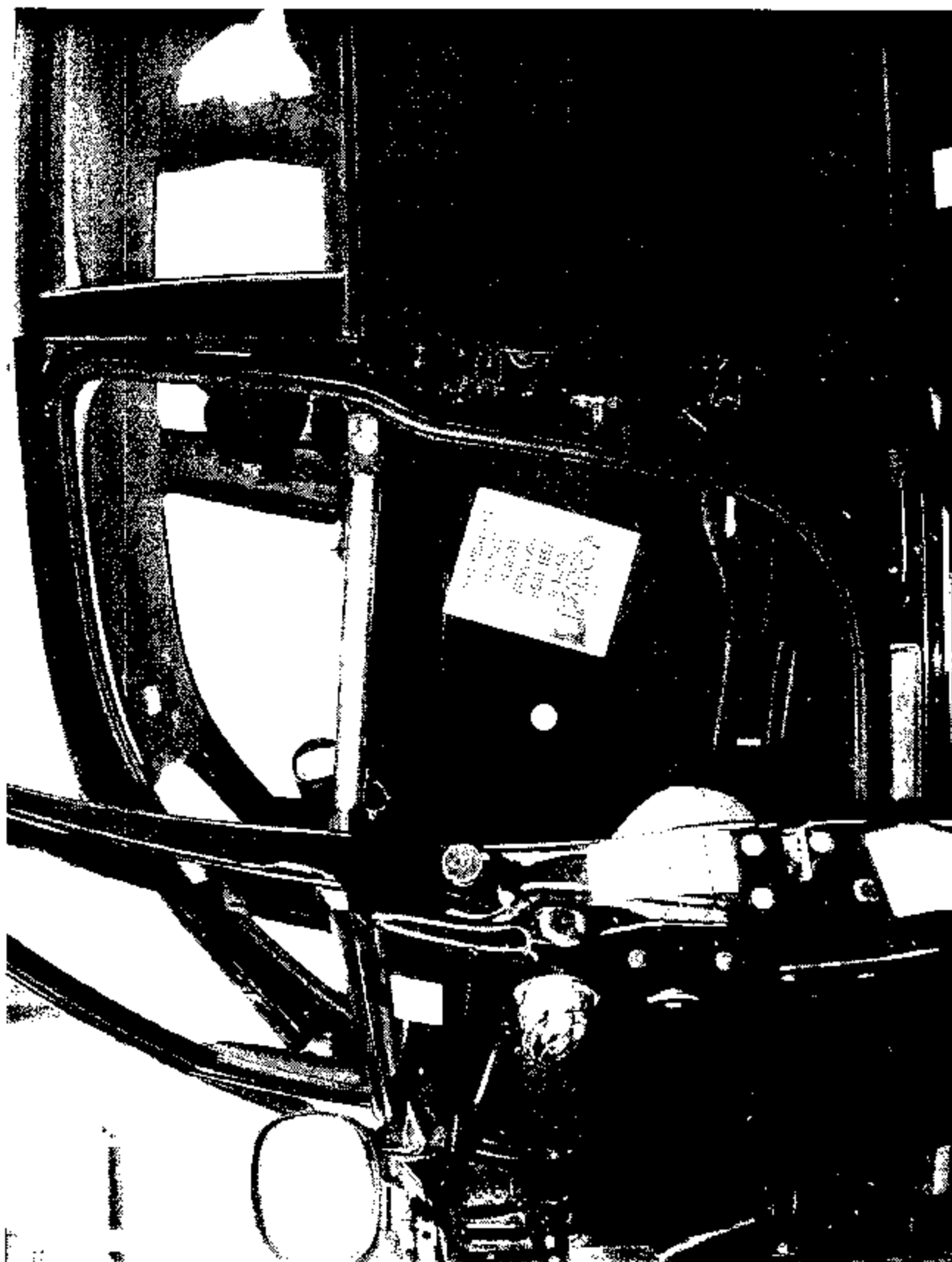


Figure A-12: Aft Moment on Seat Frame and Adjusters, Driver's Side Post-Test

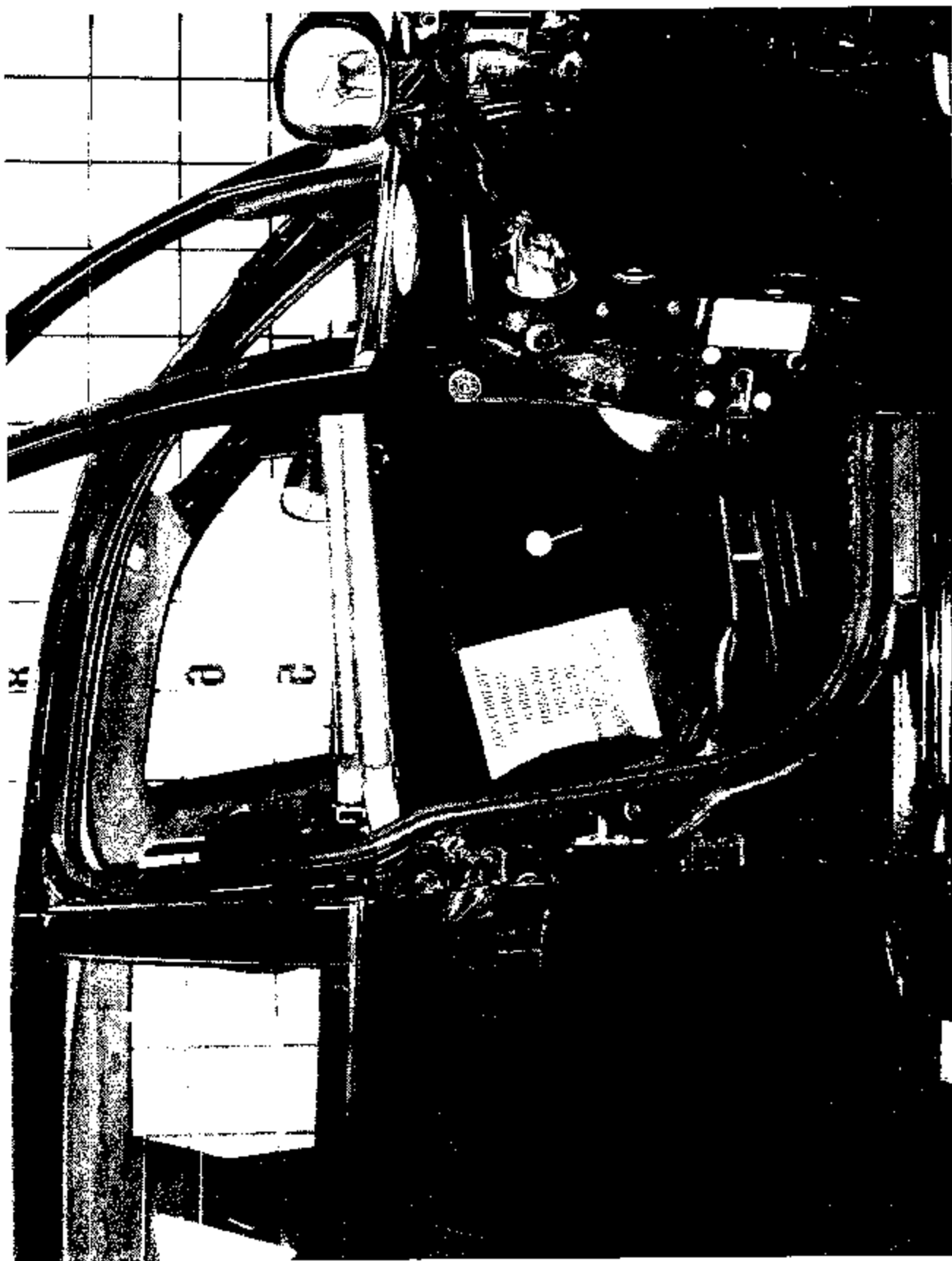


Figure A-13: Aft Moment on Seat Frame and Adjusters, Passenger's Side, Pre-Test

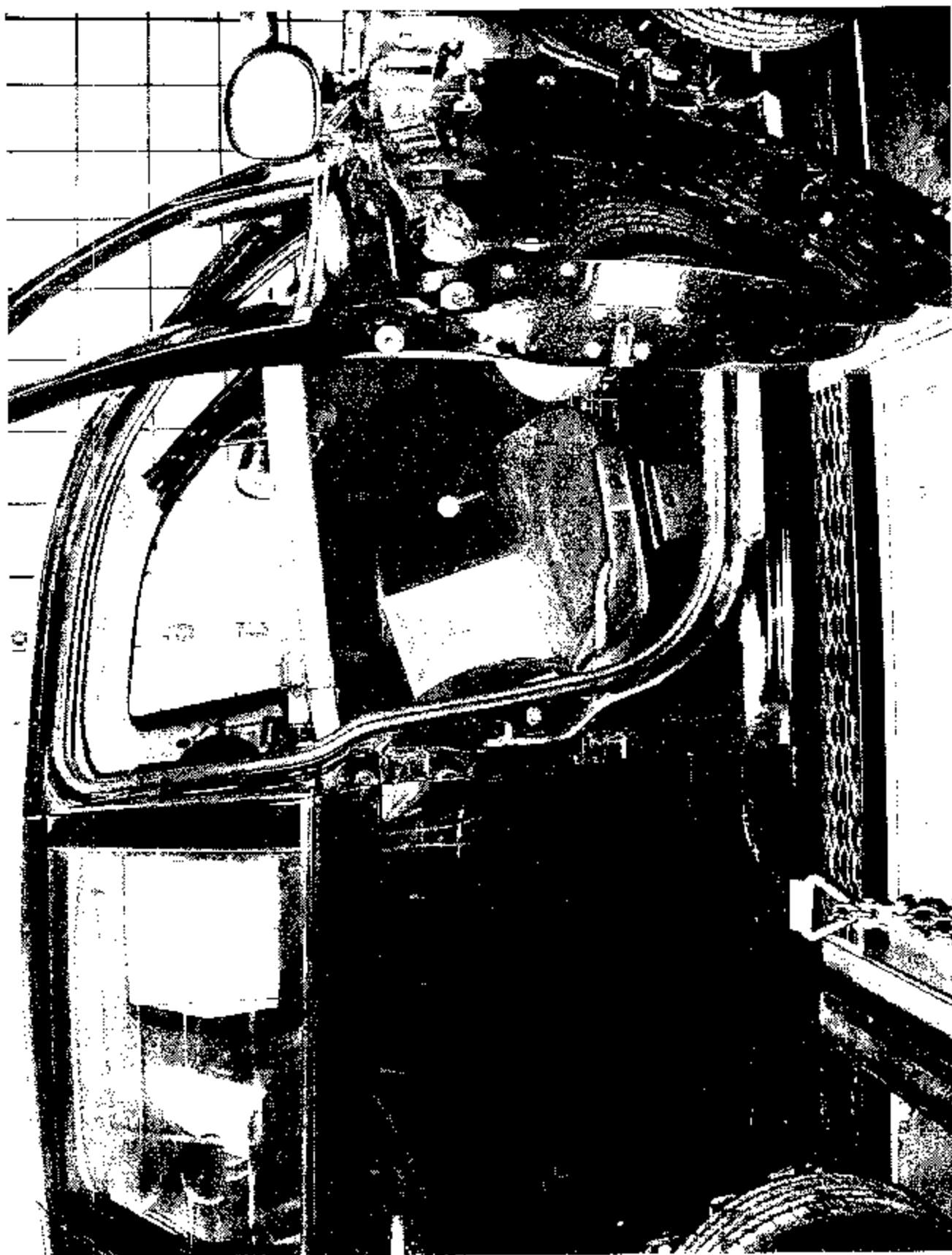


Figure A-14: Aft Moment on Seat Frame and Adjusters, Passenger's Side, Post-Test

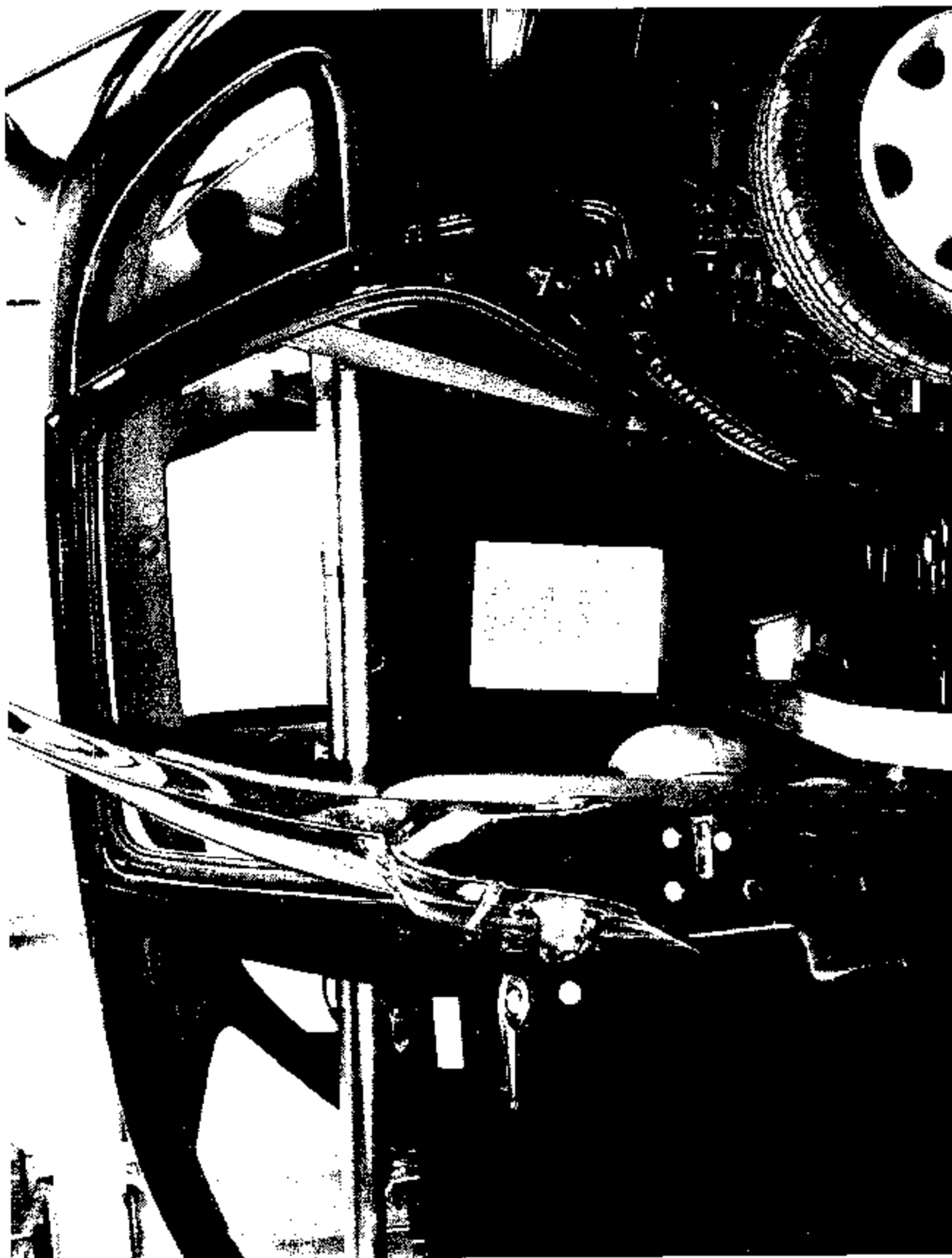


Figure A-15: Aft Moment on Seal Frame and Adjusters, Driver's Side Rear, Pre Test

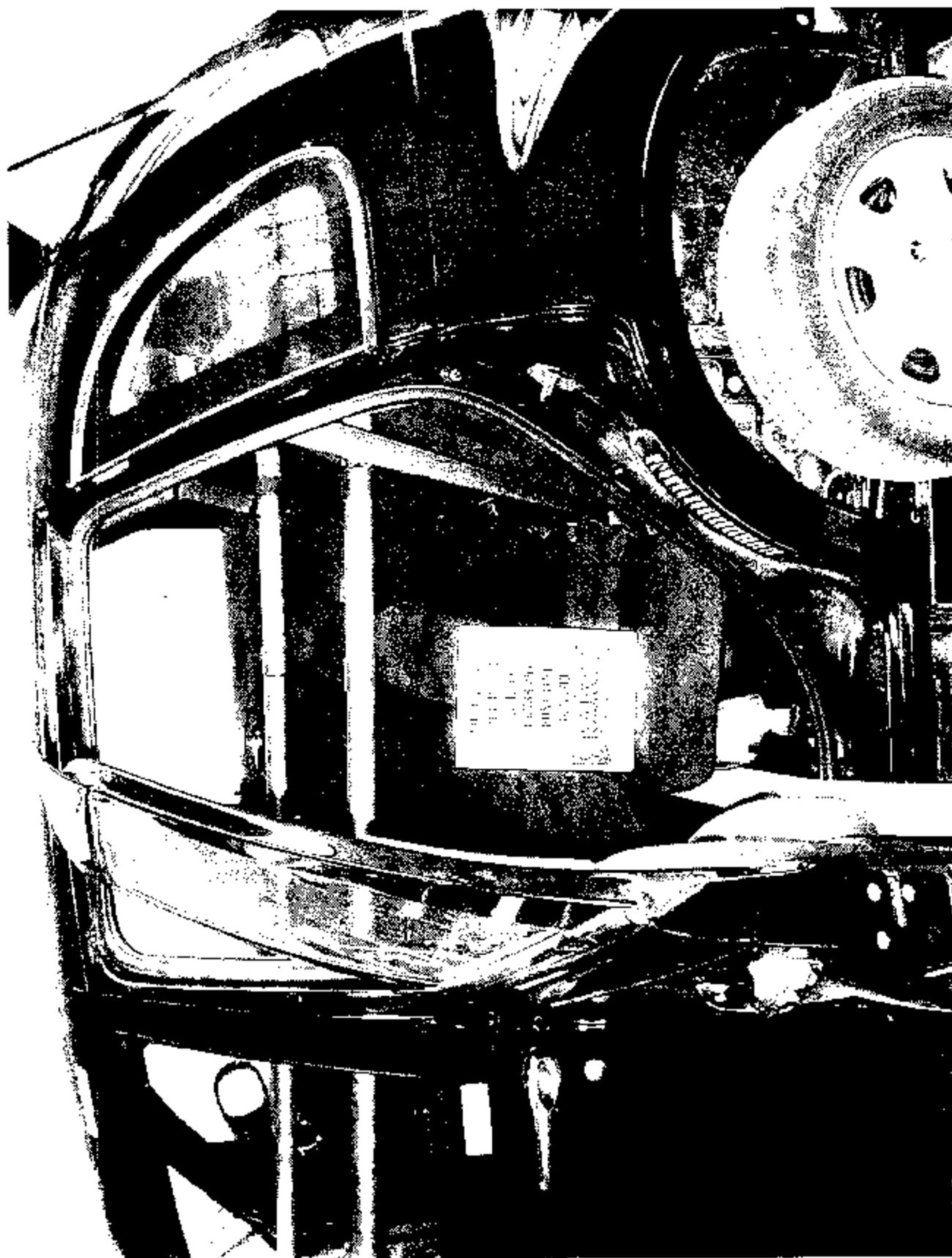


Figure A-16: A-1 Moment on Seat Frame and Adjusters, Driver's Side Rear, Post-Test



Figure A 17: Aft Moment on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test

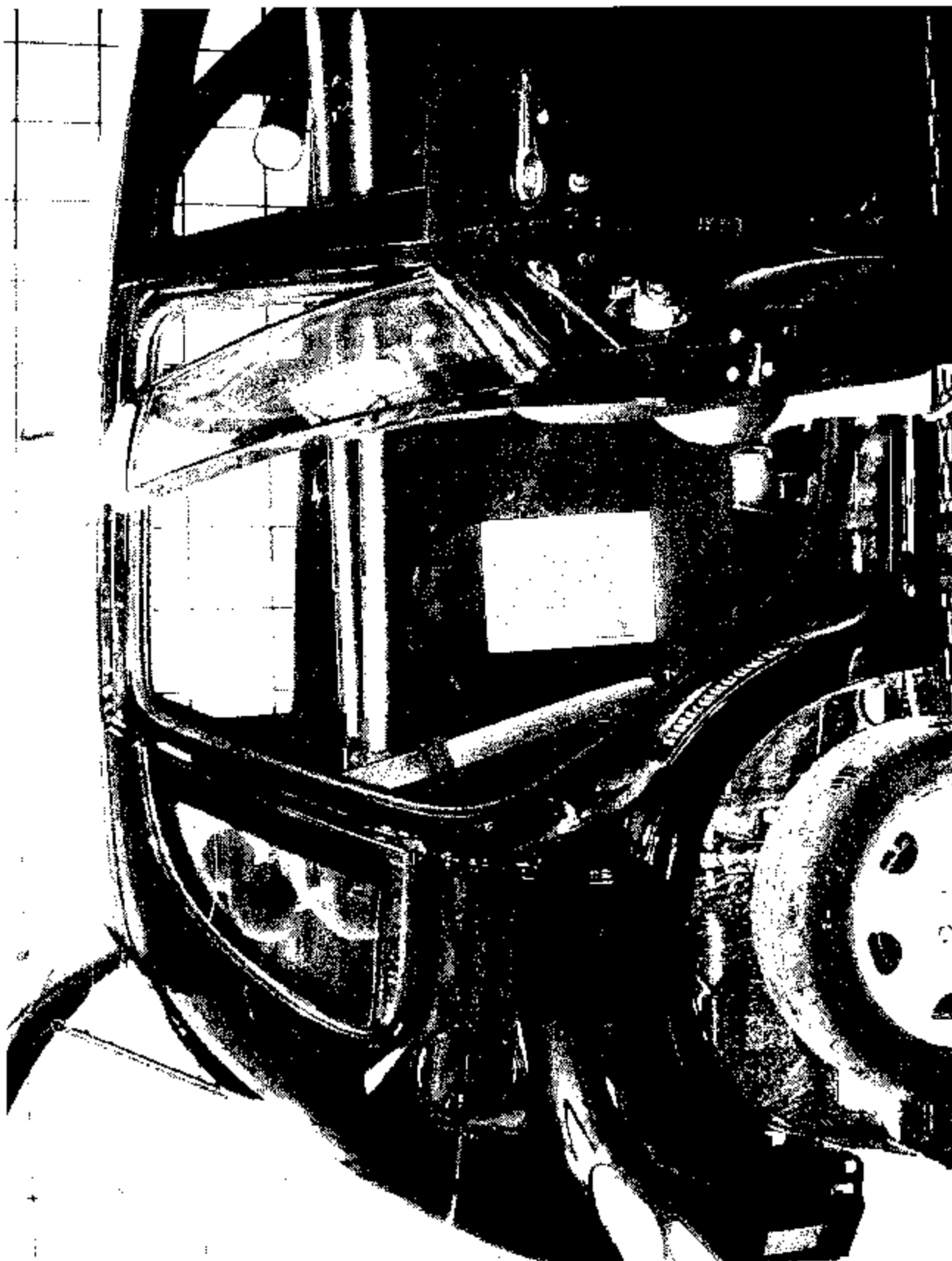


Figure A-18: Aft Moment on Seat Frame and Adjusters, Passenger's Side Rear, Post-Test

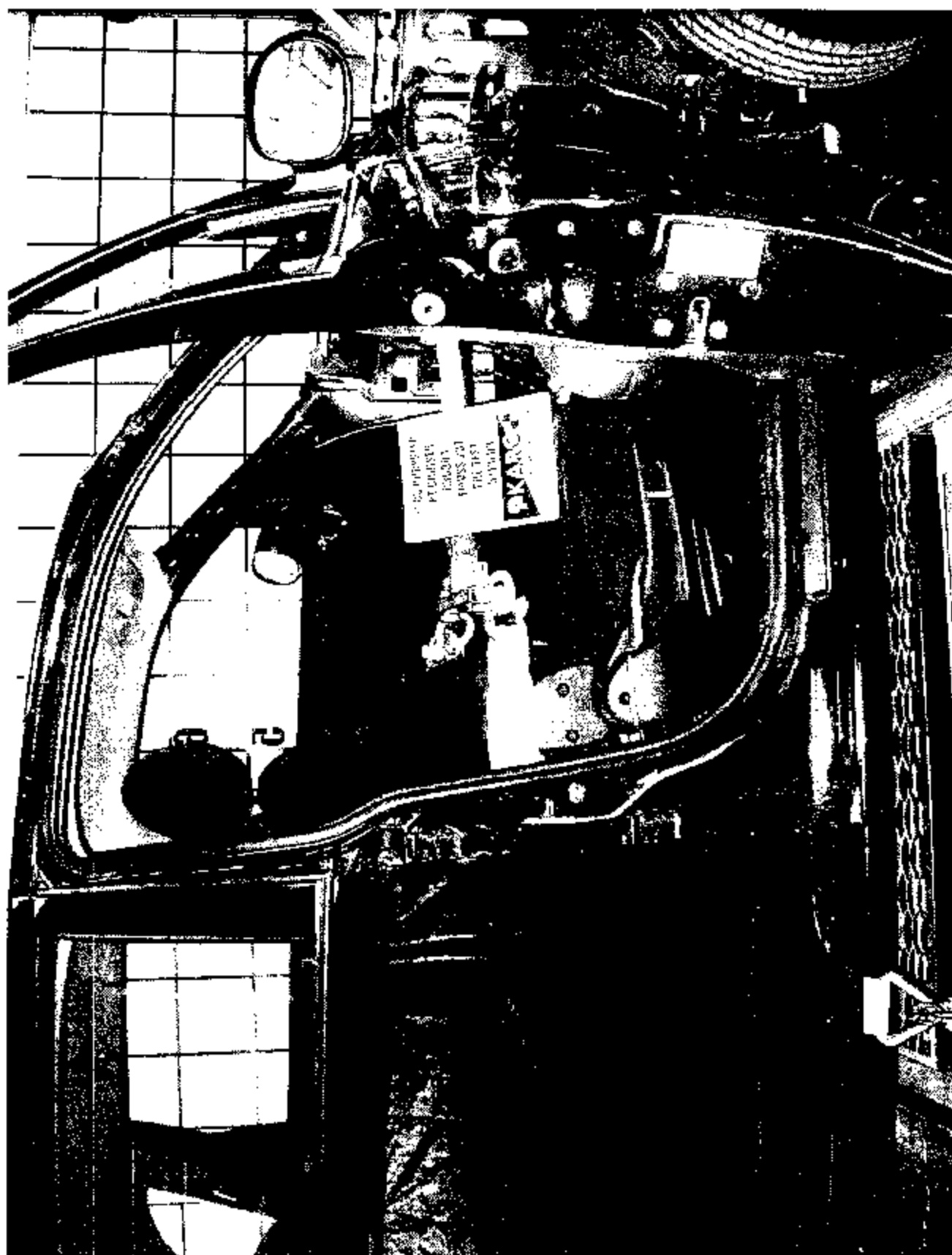


Figure A-19: Forward Load, No Struts, Passenger's Side Pre Test

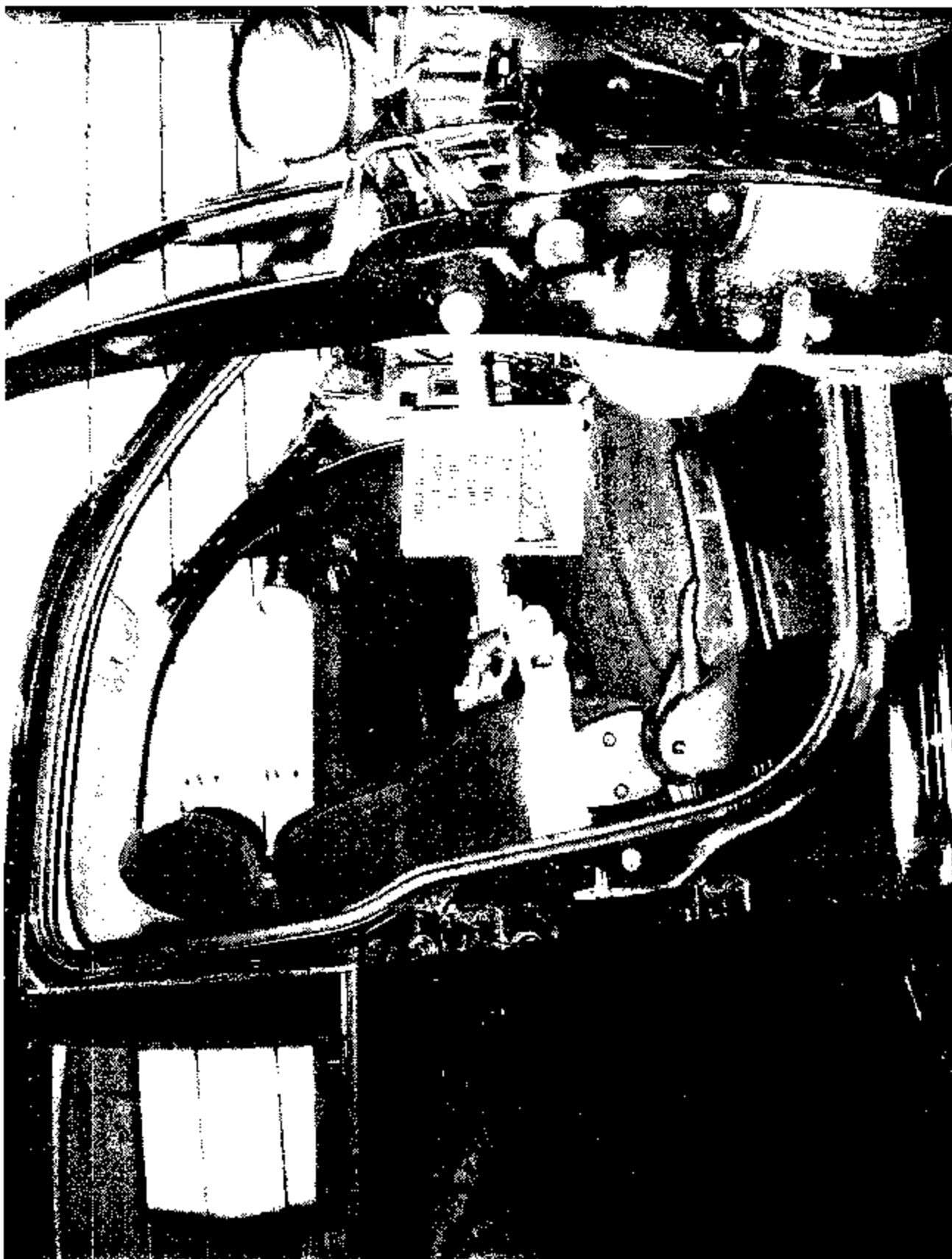


Figure A-23: Forward Load, No Struts, Passenger's Side, Post-Test

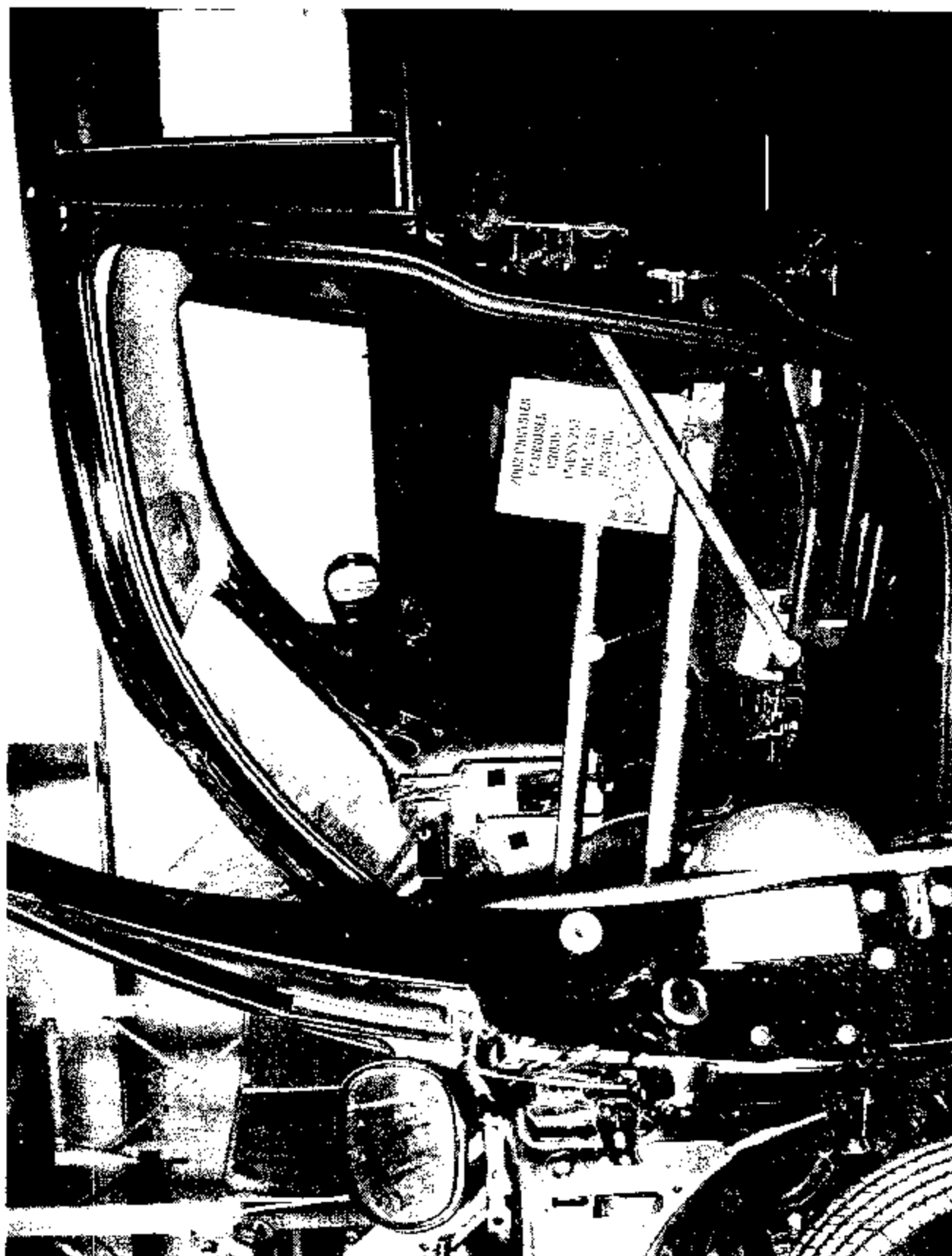


Figure A-21: Alt Load on Seat Frame and Adjusters, Driver's Side, Pre-Test

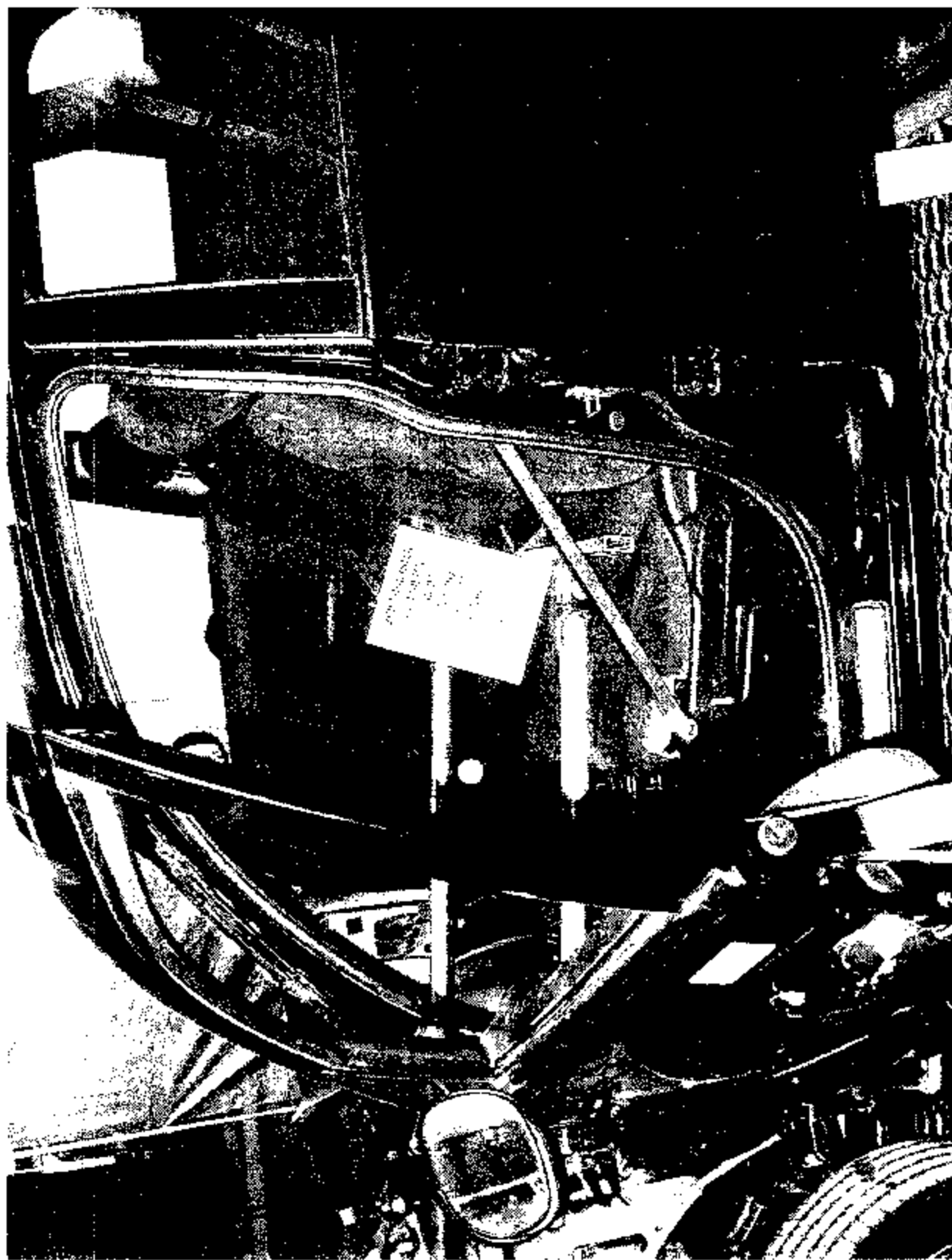


Figure A 22: Aft Load on Seat Frame and Adjusters, Driver's Side, Post-Test

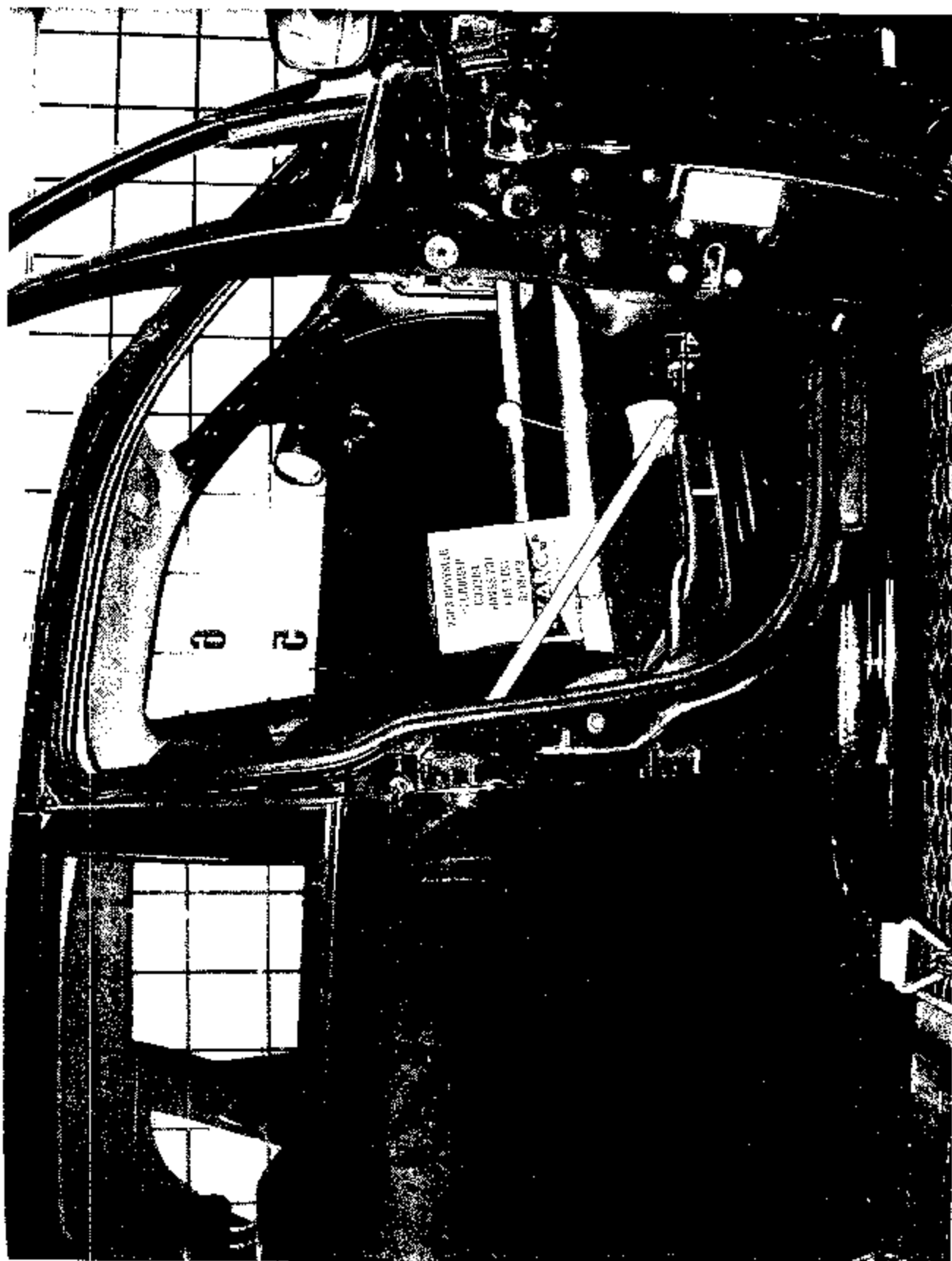


Figure A-23: Aft Load on Seat Frame and Adjusters, Passenger's Side, Pre Test

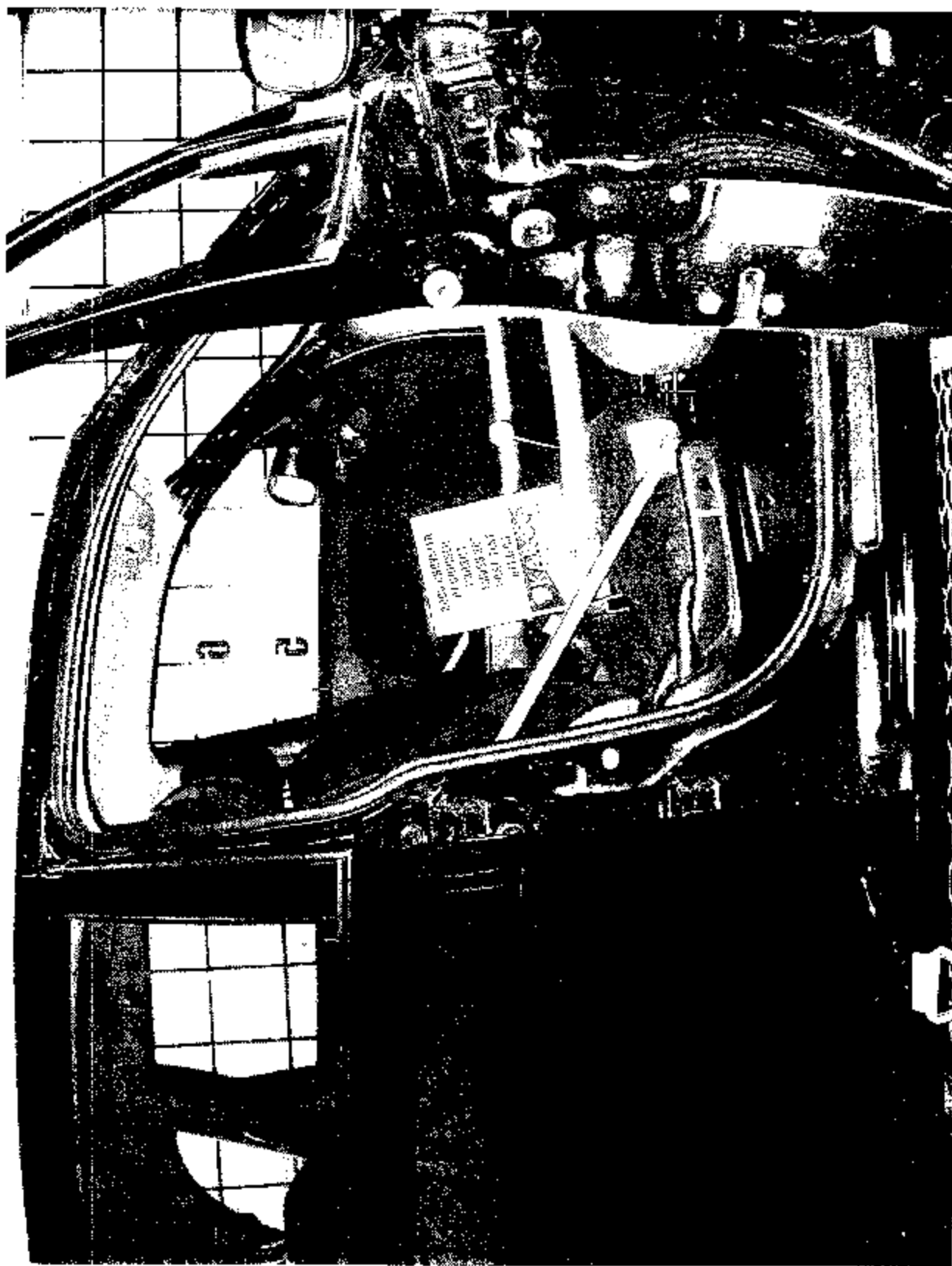


Figure A-24: Aft Load on Seat Frame and Adjusters, Passenger's Side, Post Test

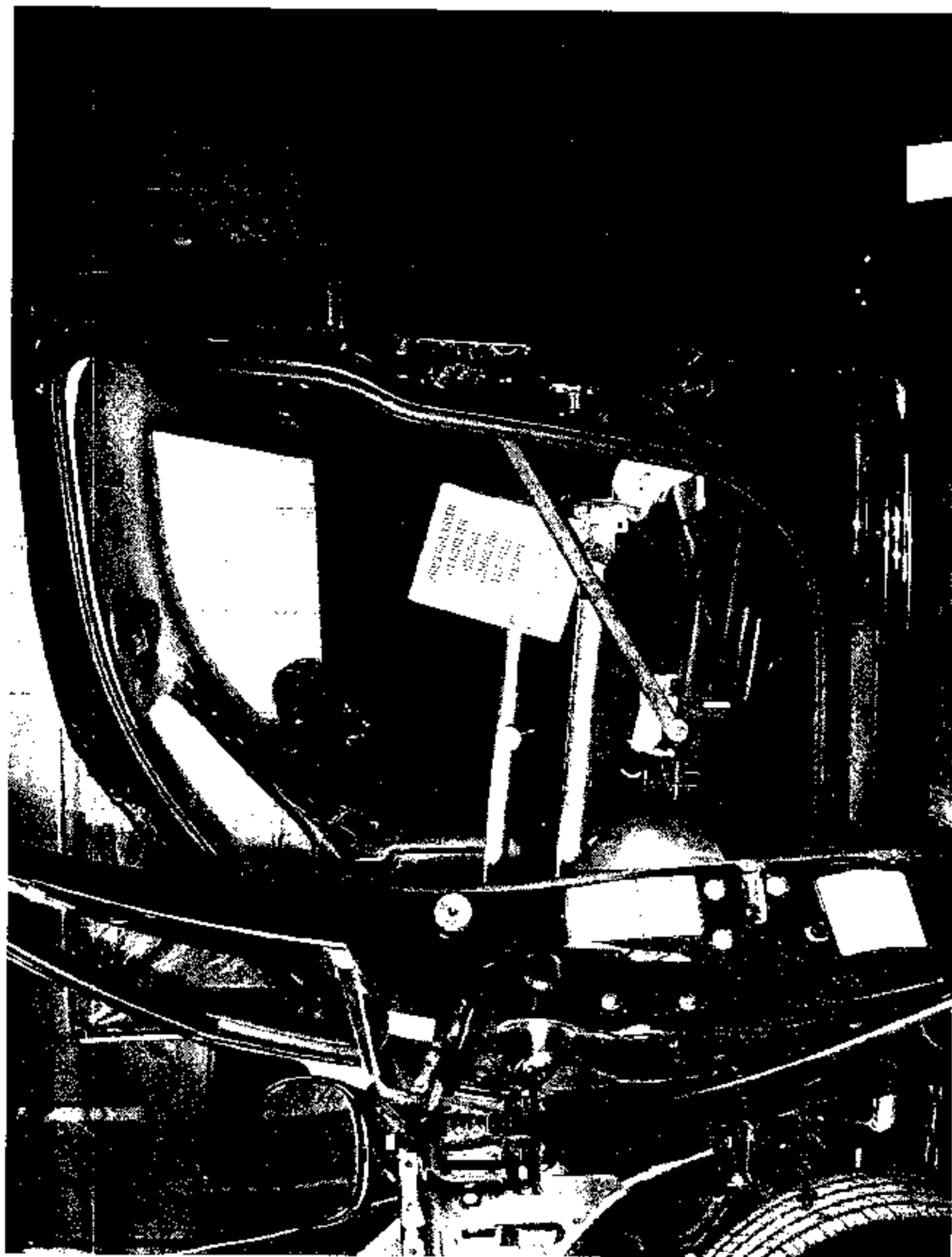


Figure A-25: Forward Load on Seat Frame and Adjusters, Driver's Side, Pre-Test

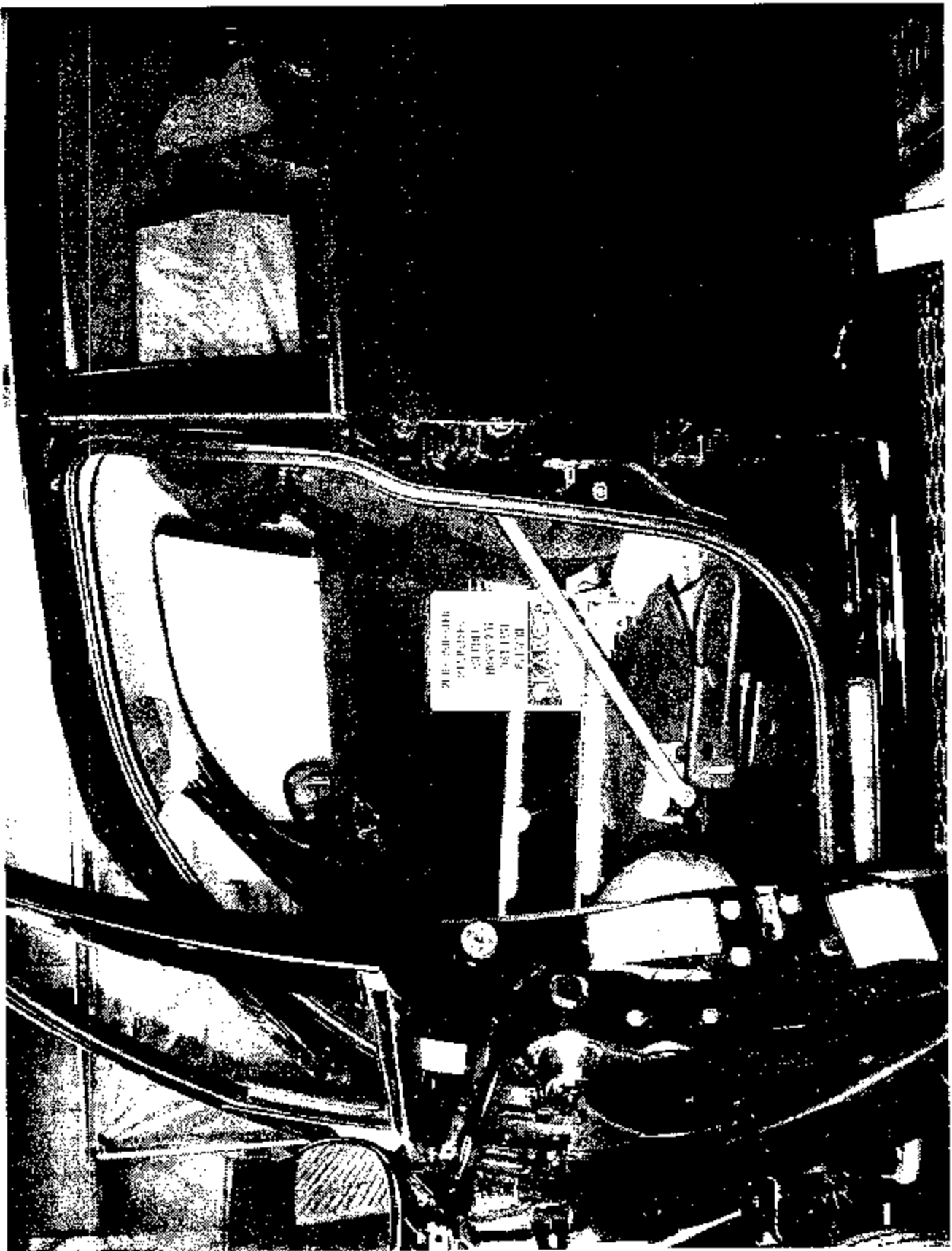


Figure A-26: Forward Load on Seat Frame and Adjusters, Driver's Side, Post-Test

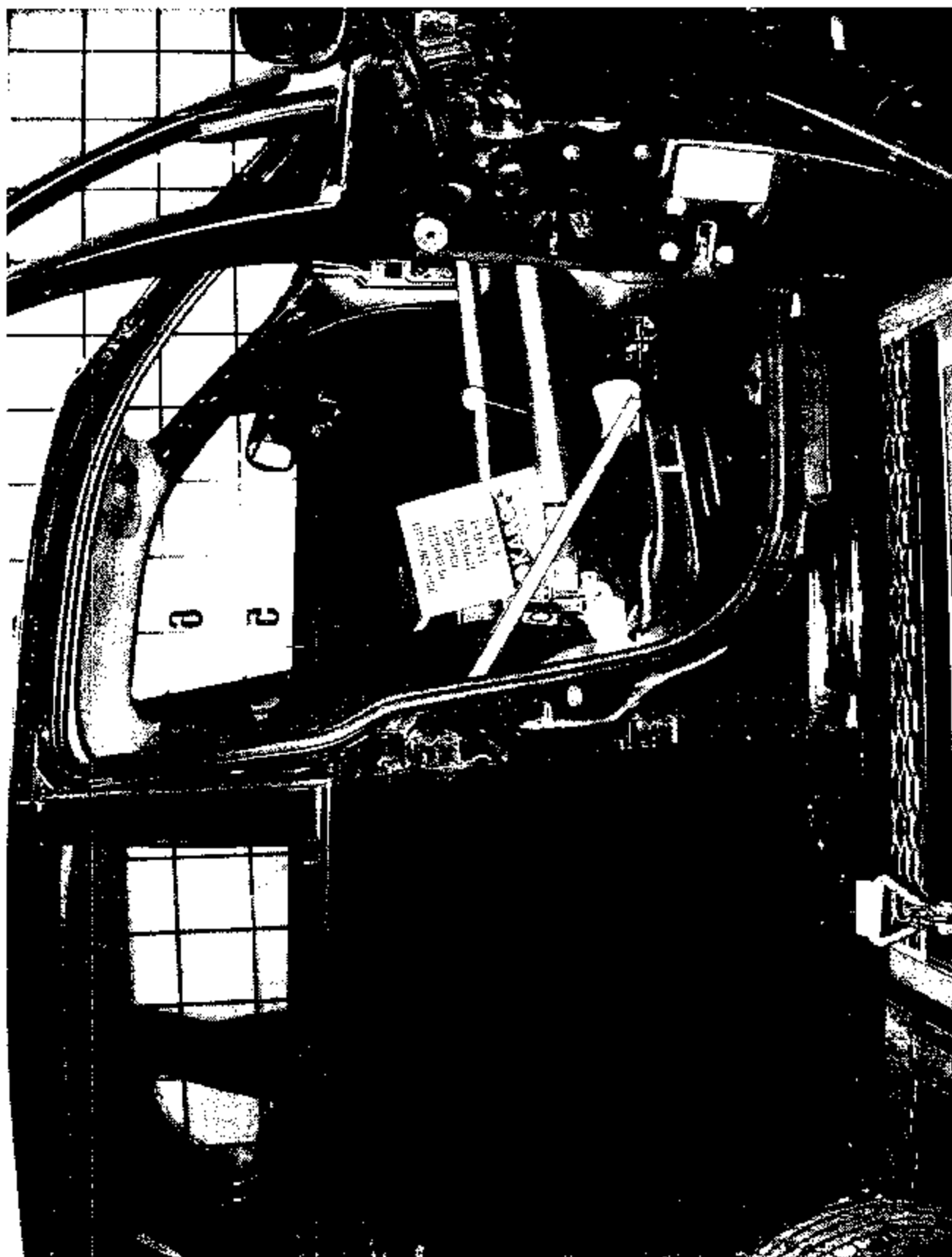


Figure A-27 Forward Load on Seat Frame and Adjusters, Passenger's Side, Pre-Test

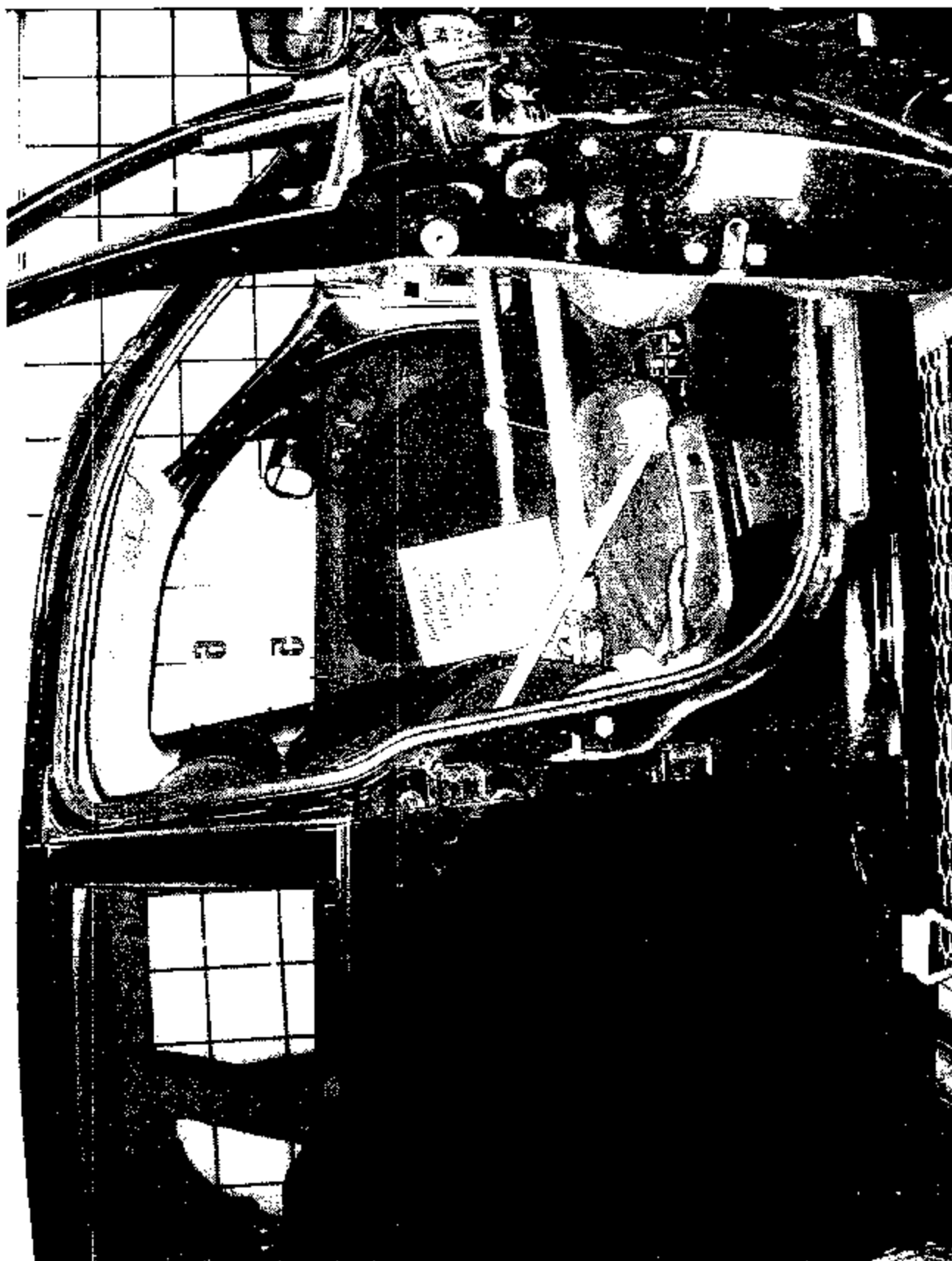


Figure A-28: Forward Load on Seat Frame and Adjusters, Passenger's Side, Post-Test

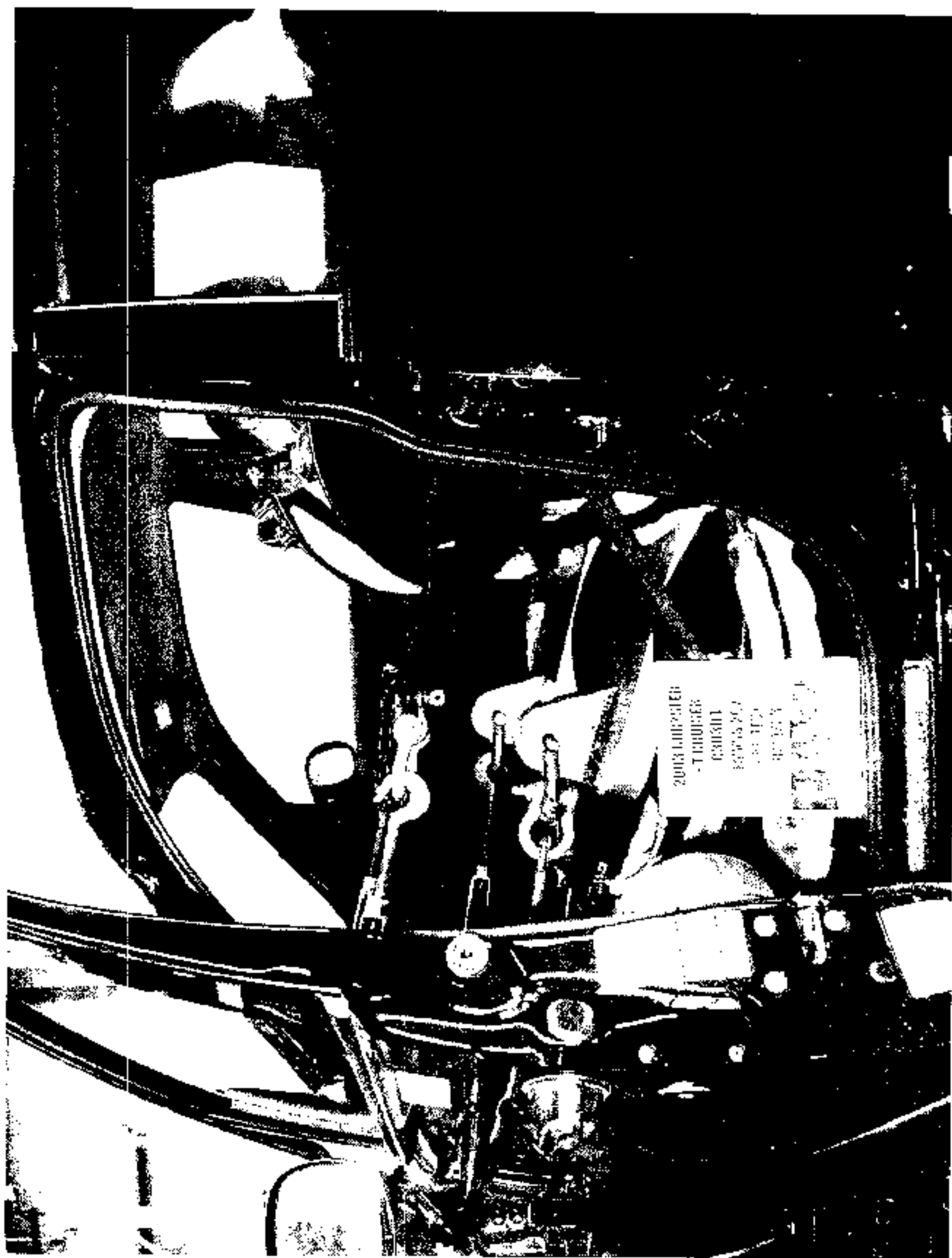


Figure A-29: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side, Pre-Test



Figure A-30: 207/210 Forward Load on Seat Frame and Adapters, Driver's Side, Post-Test



Figure A-31: 207/210 Forward Load on Seat Frame and Adjusters. Driver's Side, Pre-Test

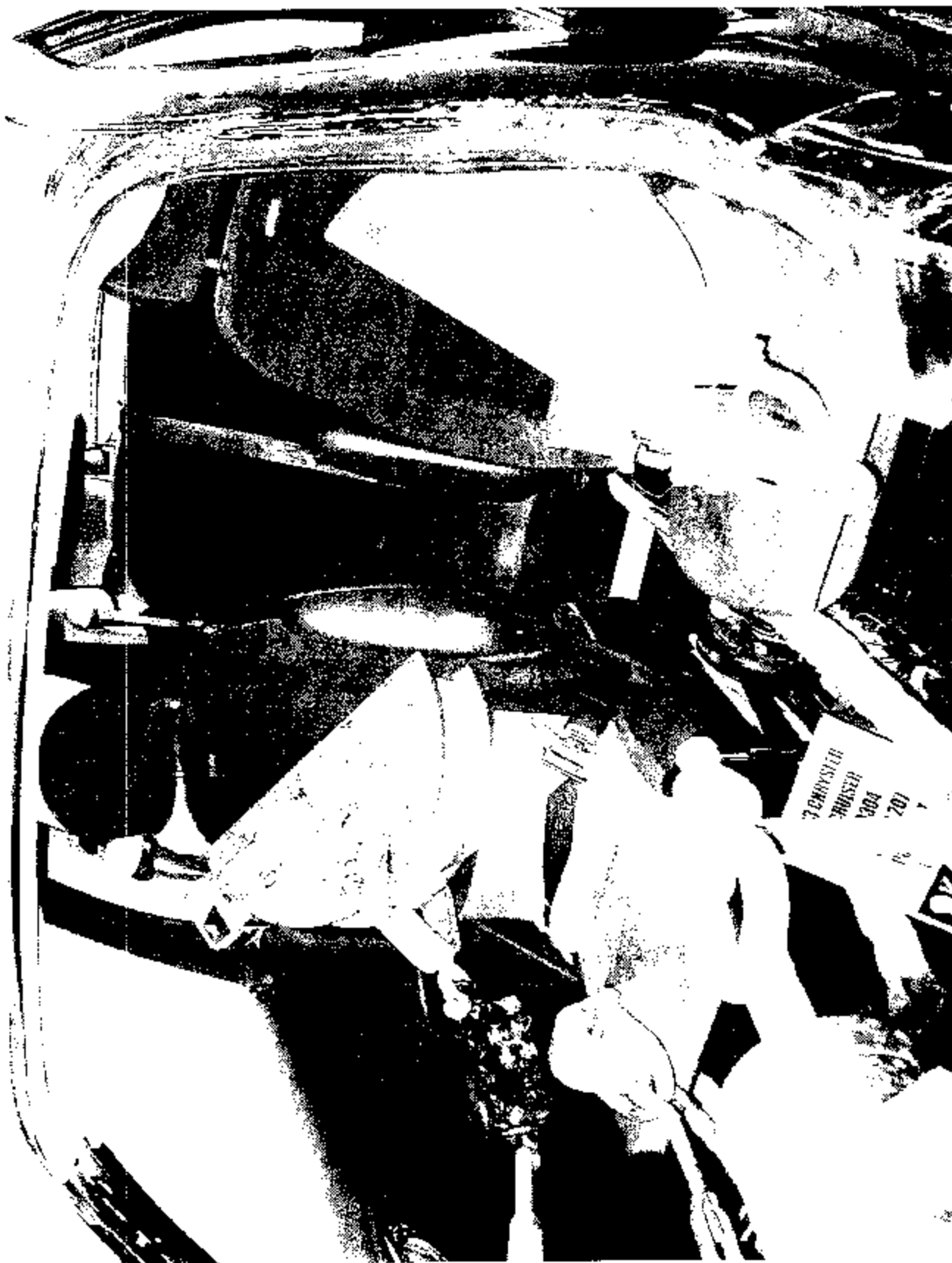


Figure A-32: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side, Post Test

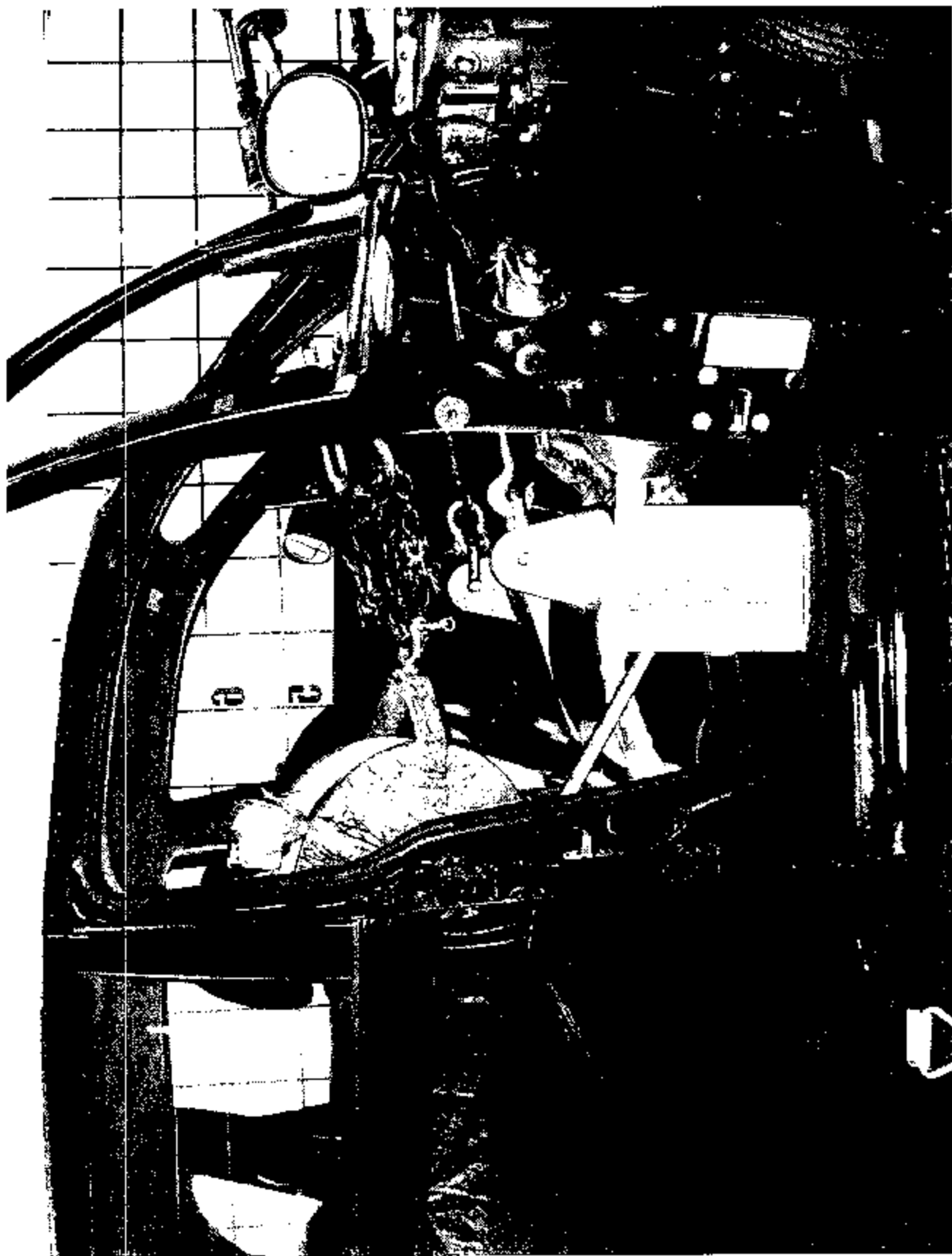


Figure A-33: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side, Pre-Test

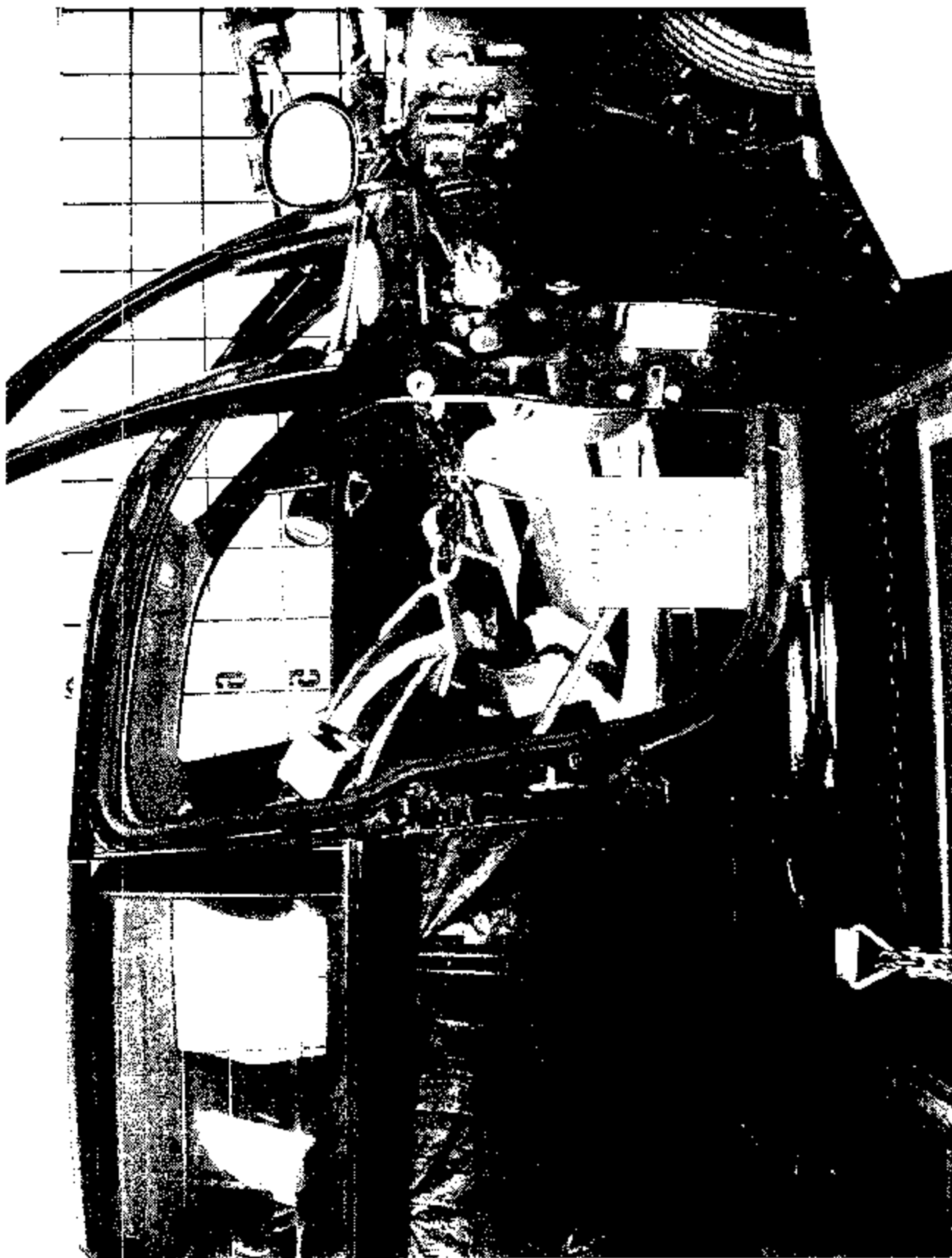


Figure A-34: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side, Post-Test

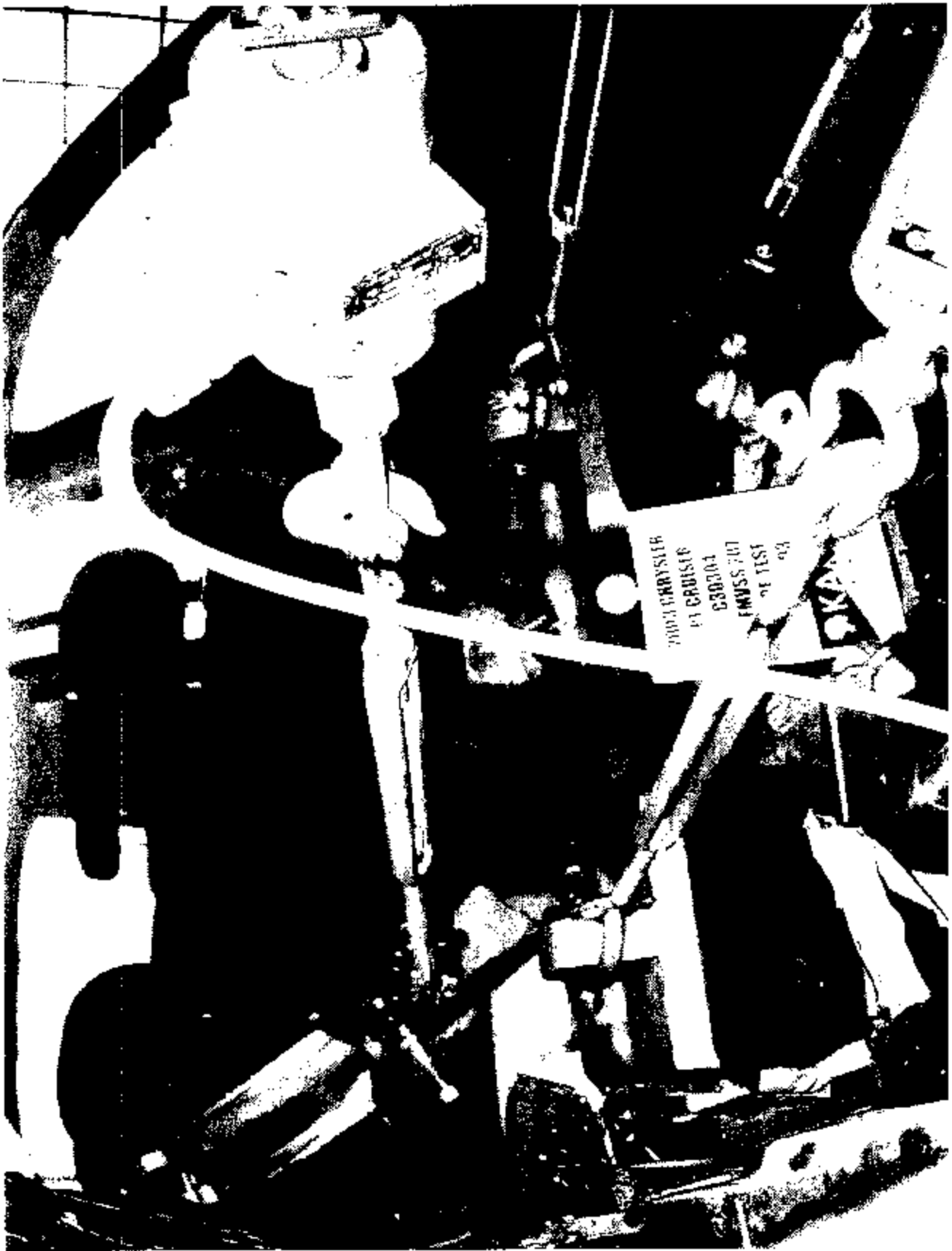


Figure A-35: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side, Pre-Fuel



Figure A-36: 207210 Forward Load on Seat Frame and Adjusters Passenger's Side, Post-Test

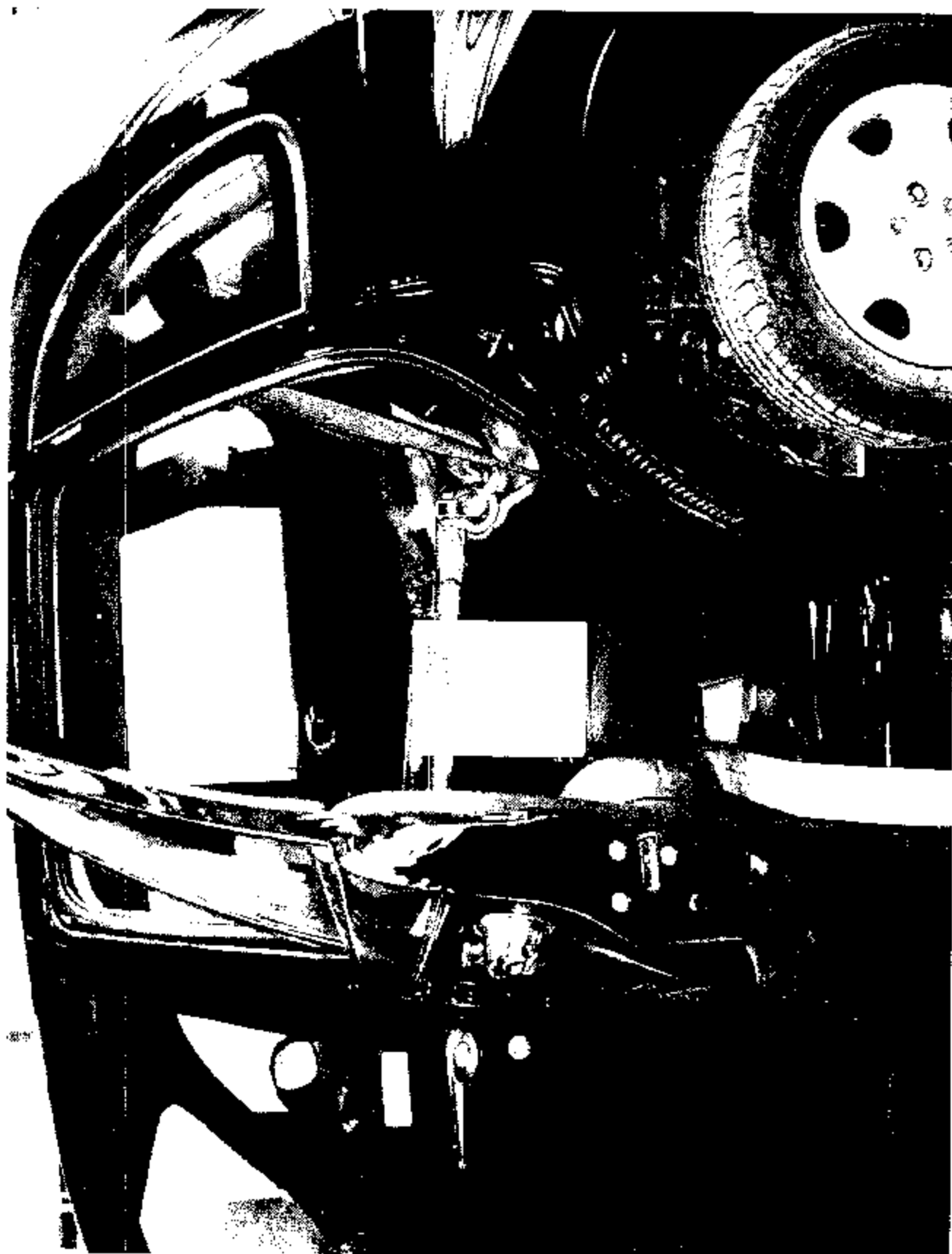


Figure A-37: Forward Load, No Struts. Driver's Side Rear, Pre-Test

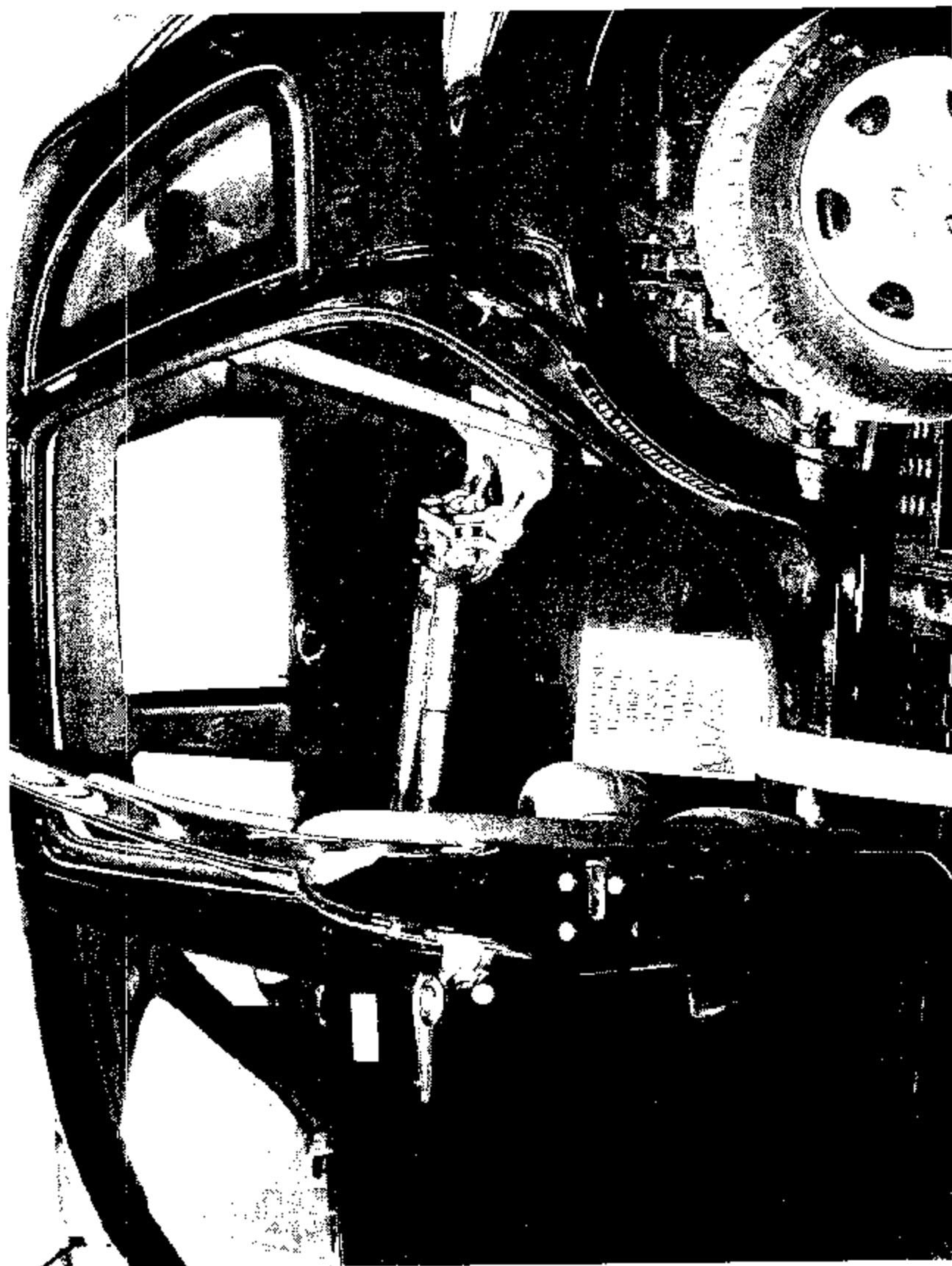


Figure A-38: Forward Load, No Struts, Driver's Side Rear, Post-Test



Figure A-39 Forward Load, No Struts, Passenger's Side Rear, Pre-Test:

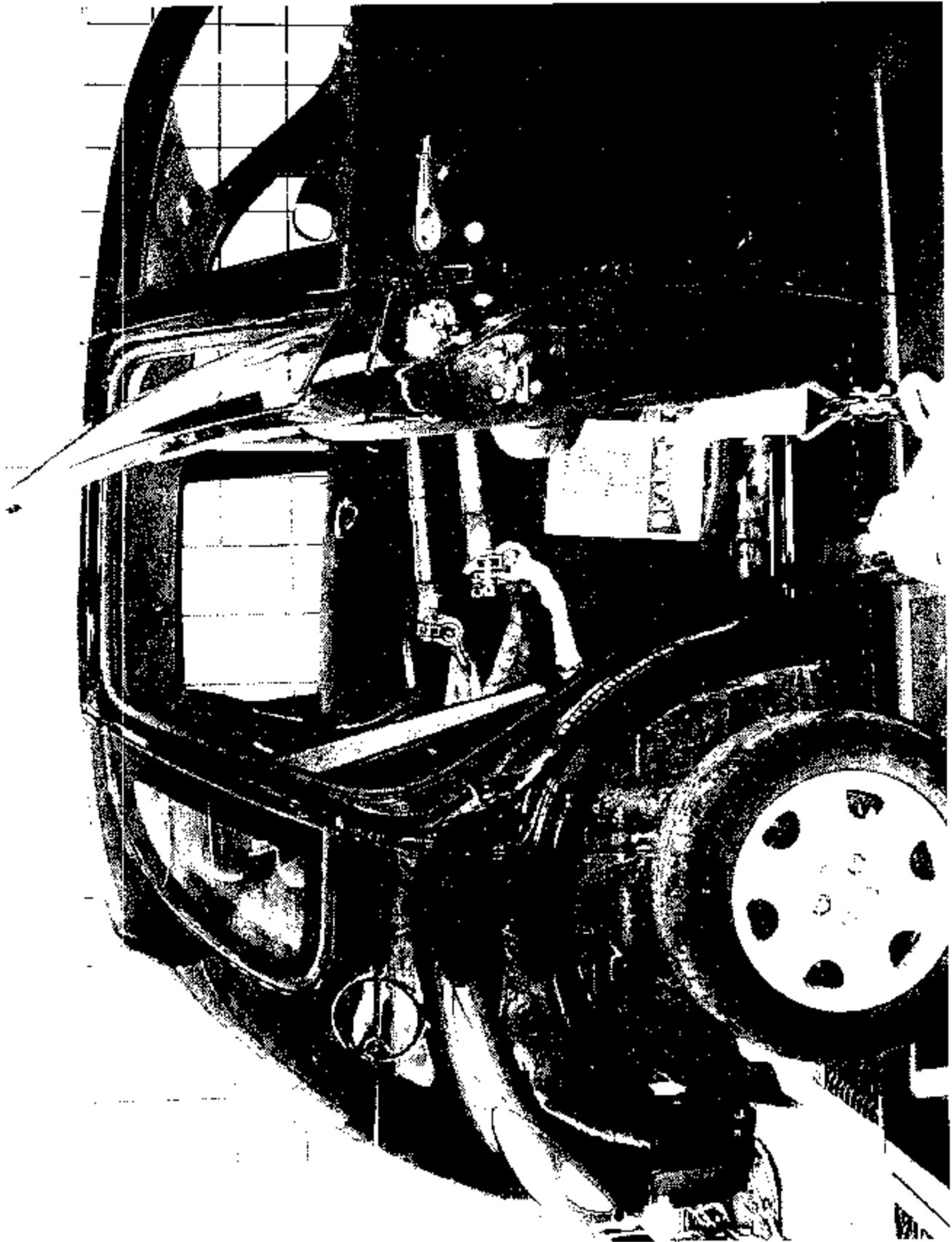


Figure A-40: Forward Load, No Struts, Passenger's Side Rear, Post-Test

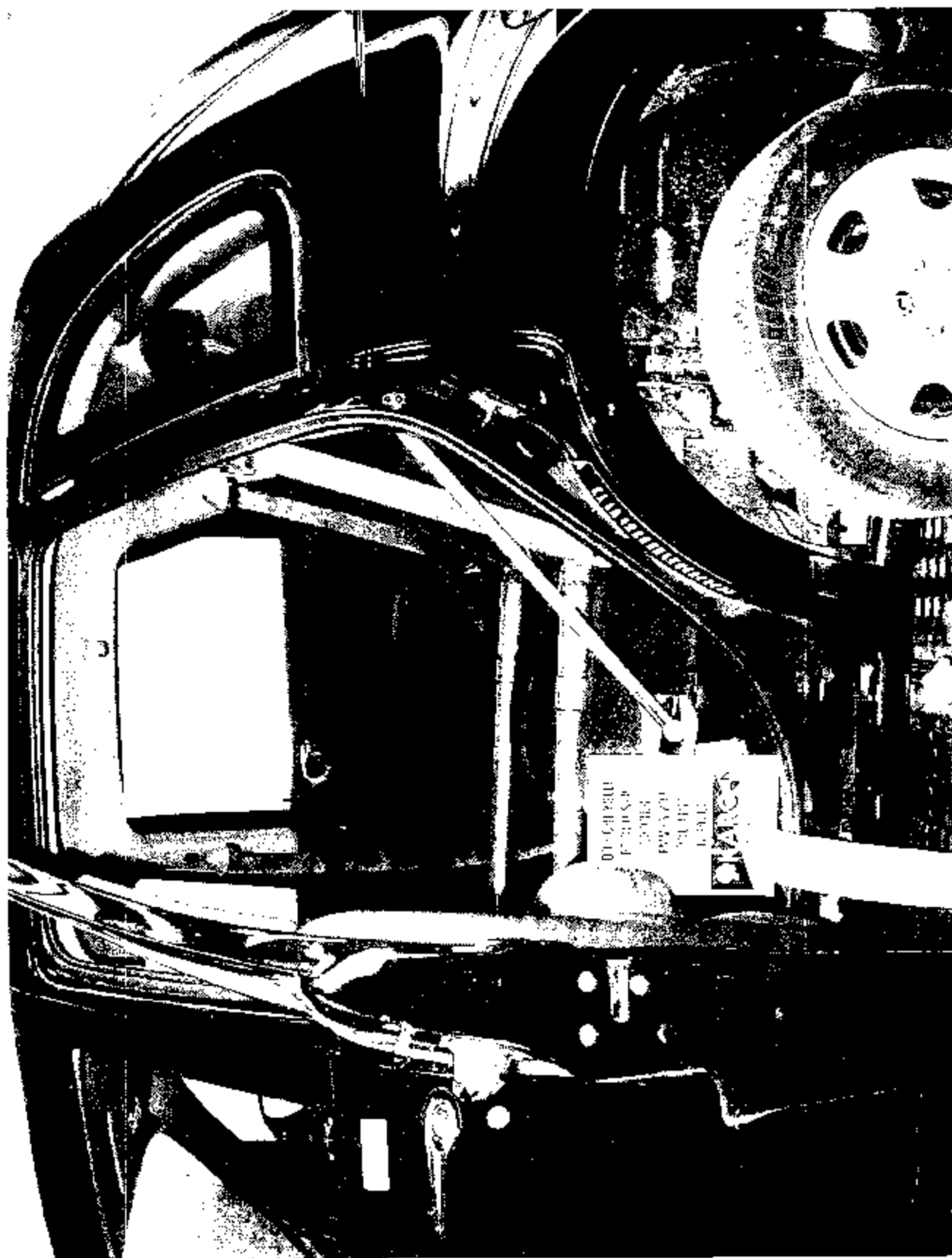


Figure A 41: Aft Load on Seat Frame and Adjusters Driver's Side Rear, Pre Test

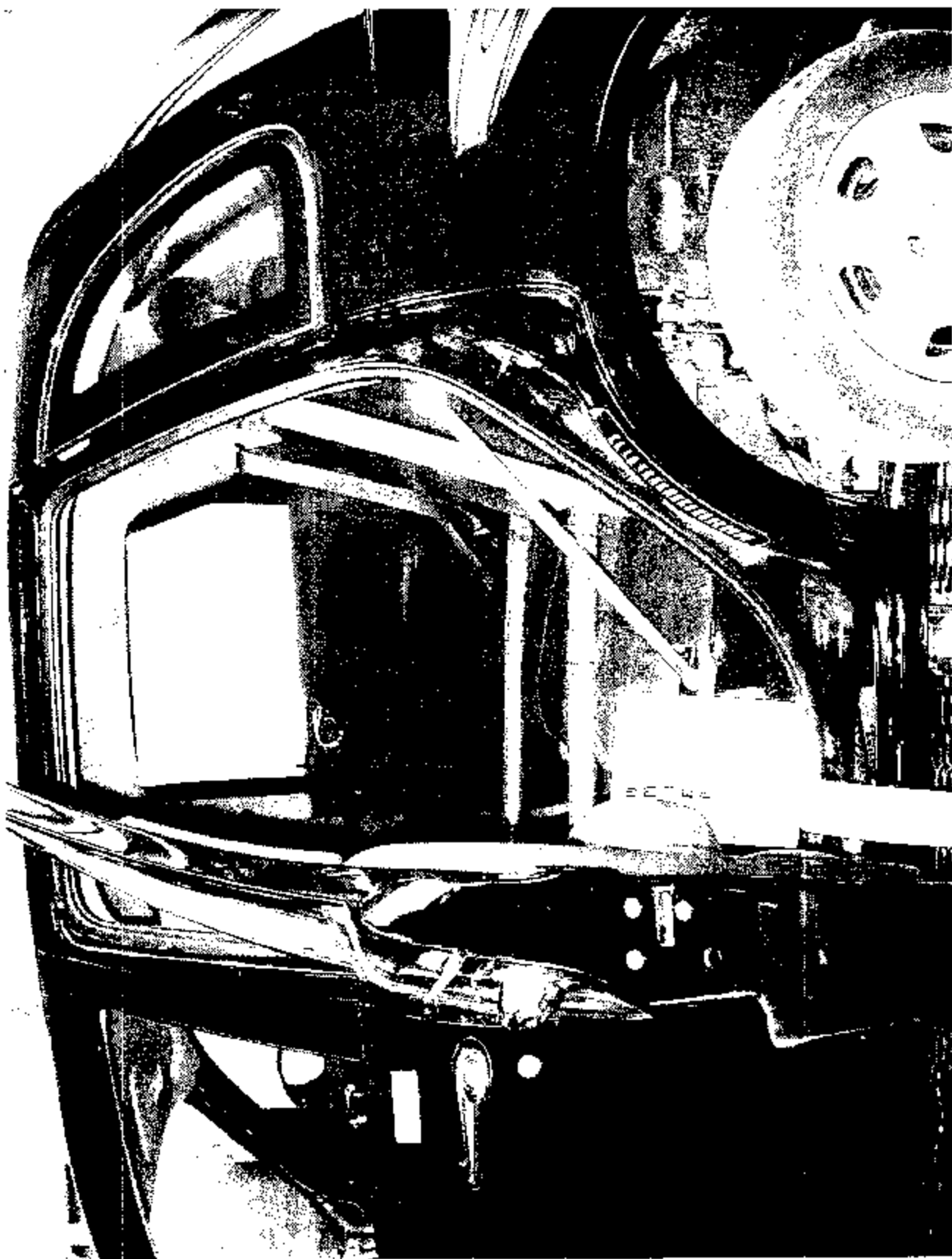


Figure A-42: Aft Load on Seat Frame and Adjusters, Driver's Side Rear, Post-Test

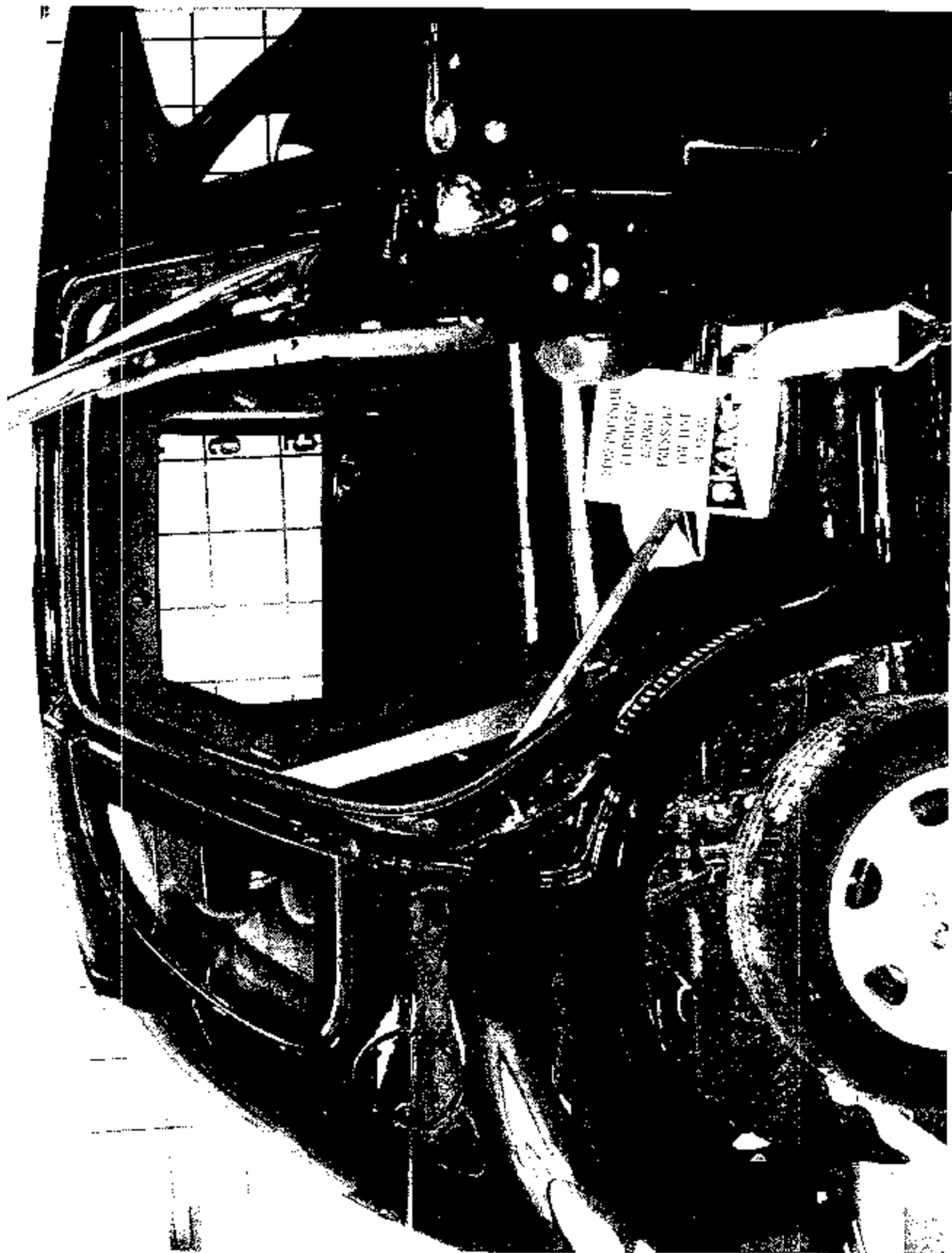


Figure A-43: Aft Load on Seat Frame and Adjusters, Passenger's Side Rear, Pro-Test



Figure A-44 Alt Load on Seat Frame and Adjusters, Passenger's Side Rear, Post Test

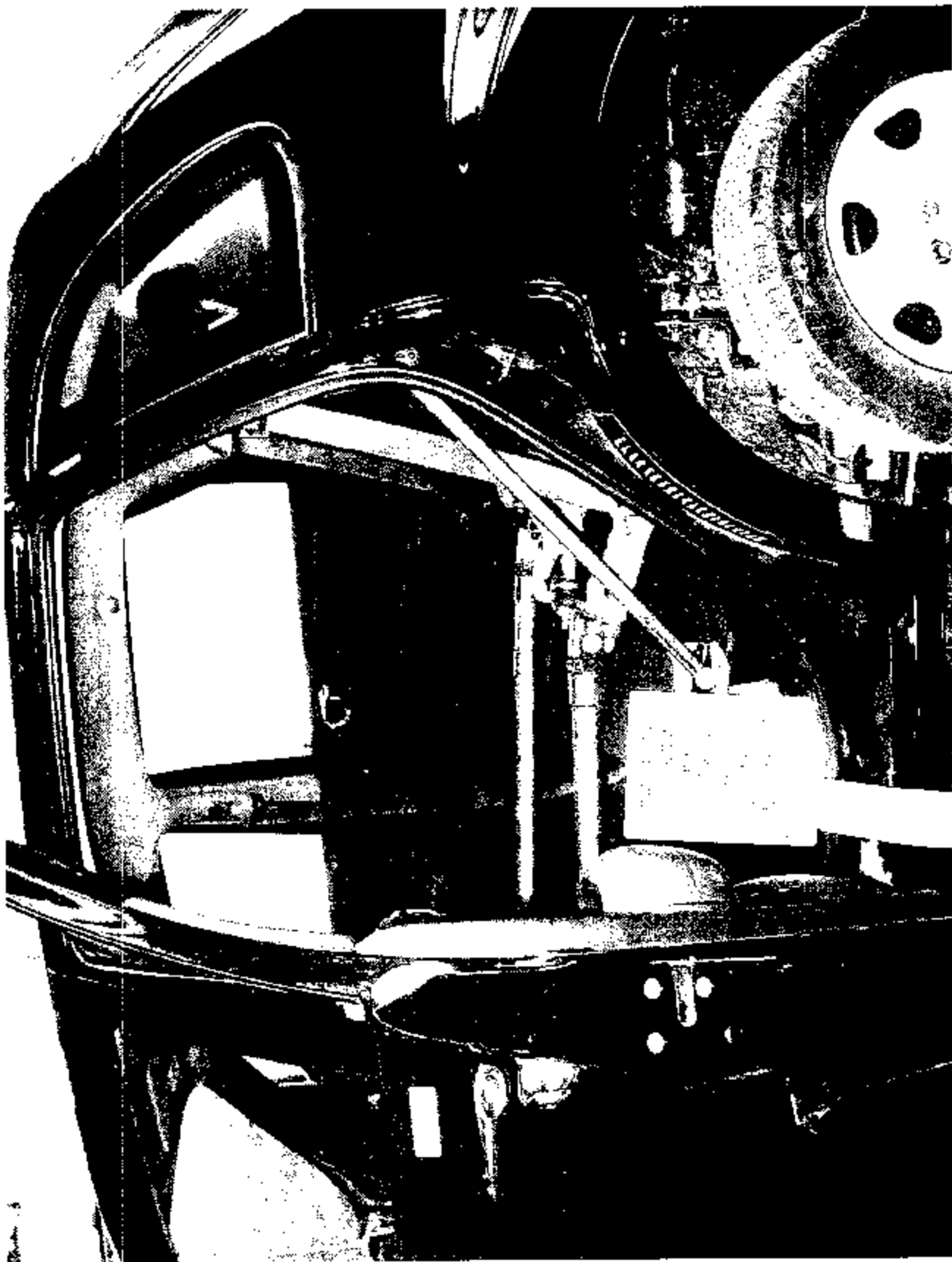


Figure A-45: Forward Load on Seal Frame and Adjusters. Driver's Side Rear, Pro Test

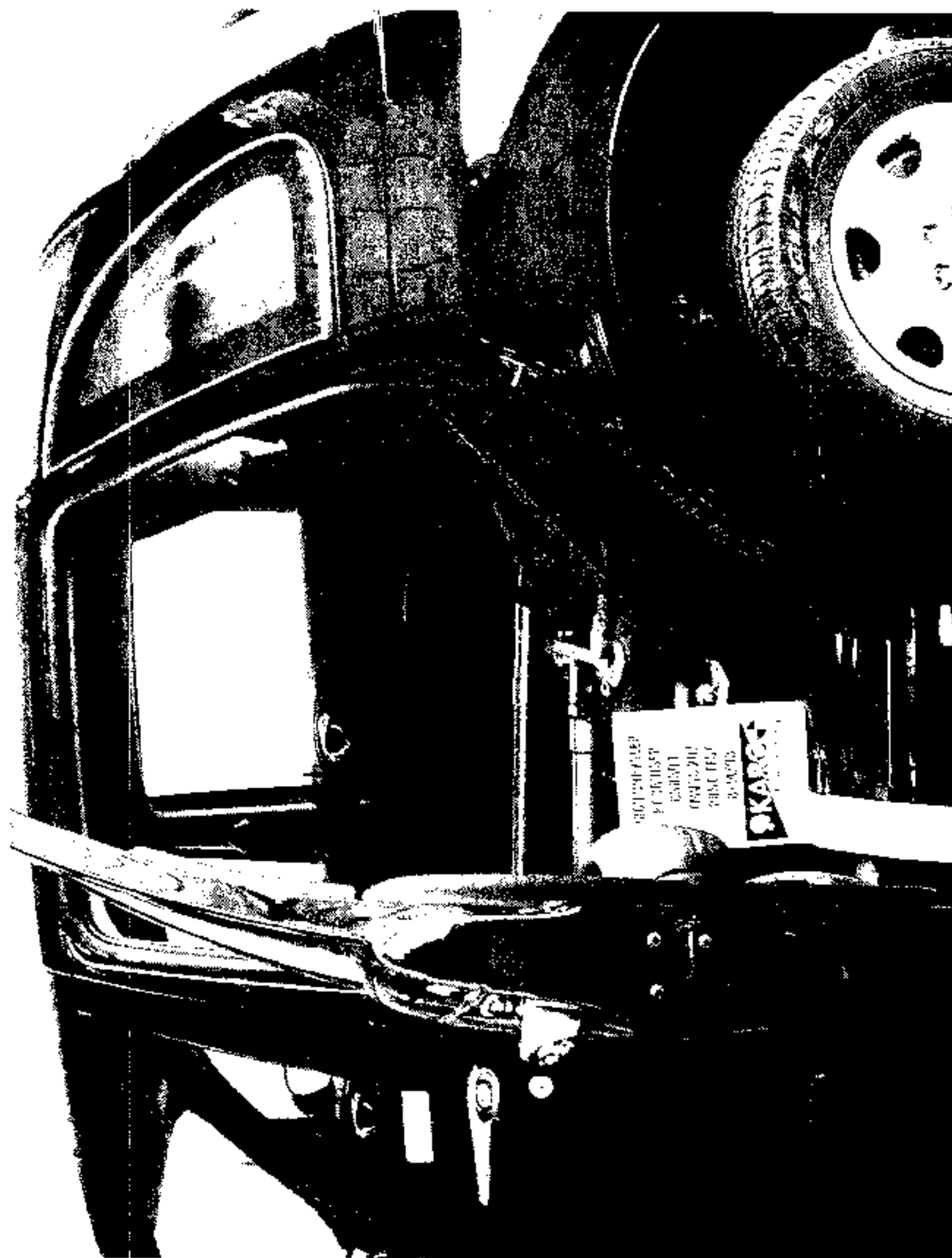


Figure A 46: Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Post-Test



Figure A-47: Forward Load on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test



Figure A-48: Forward Load on Seat Frame and Adjusters, Passenger's Side Rear, Post-Test

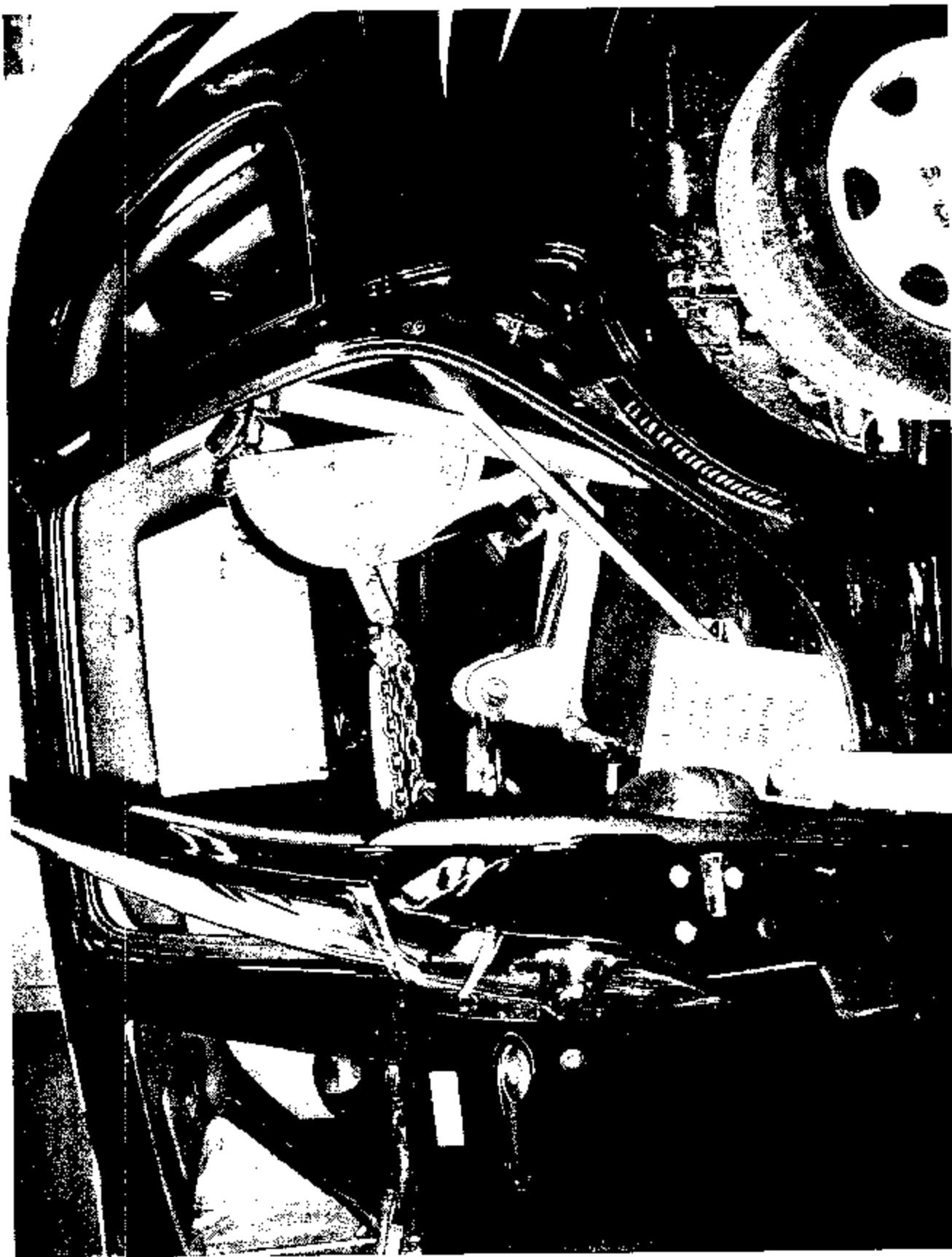


Figure A-49: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Pro Test

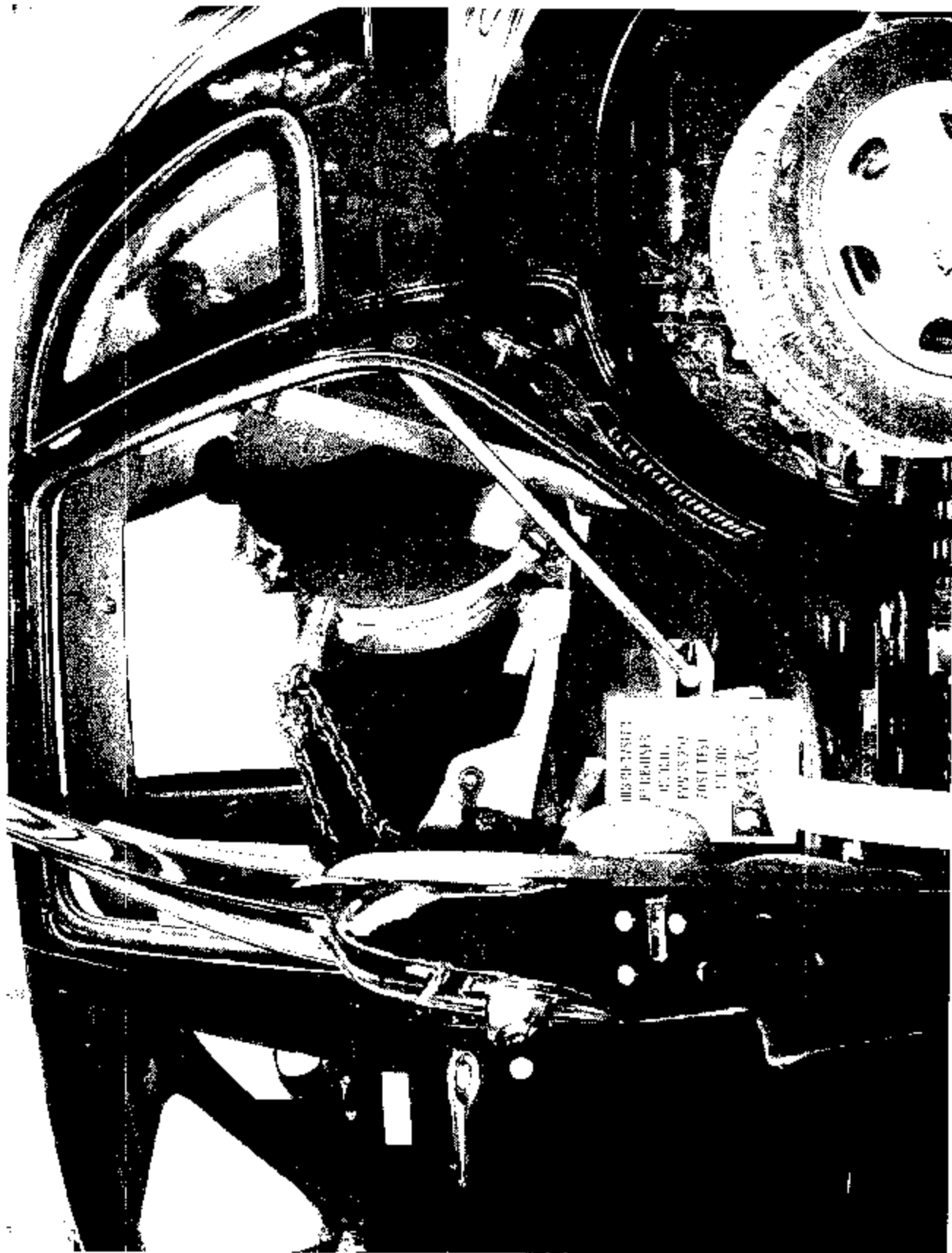


Figure A-50: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Post-Test



Figure A-51: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Pre Test

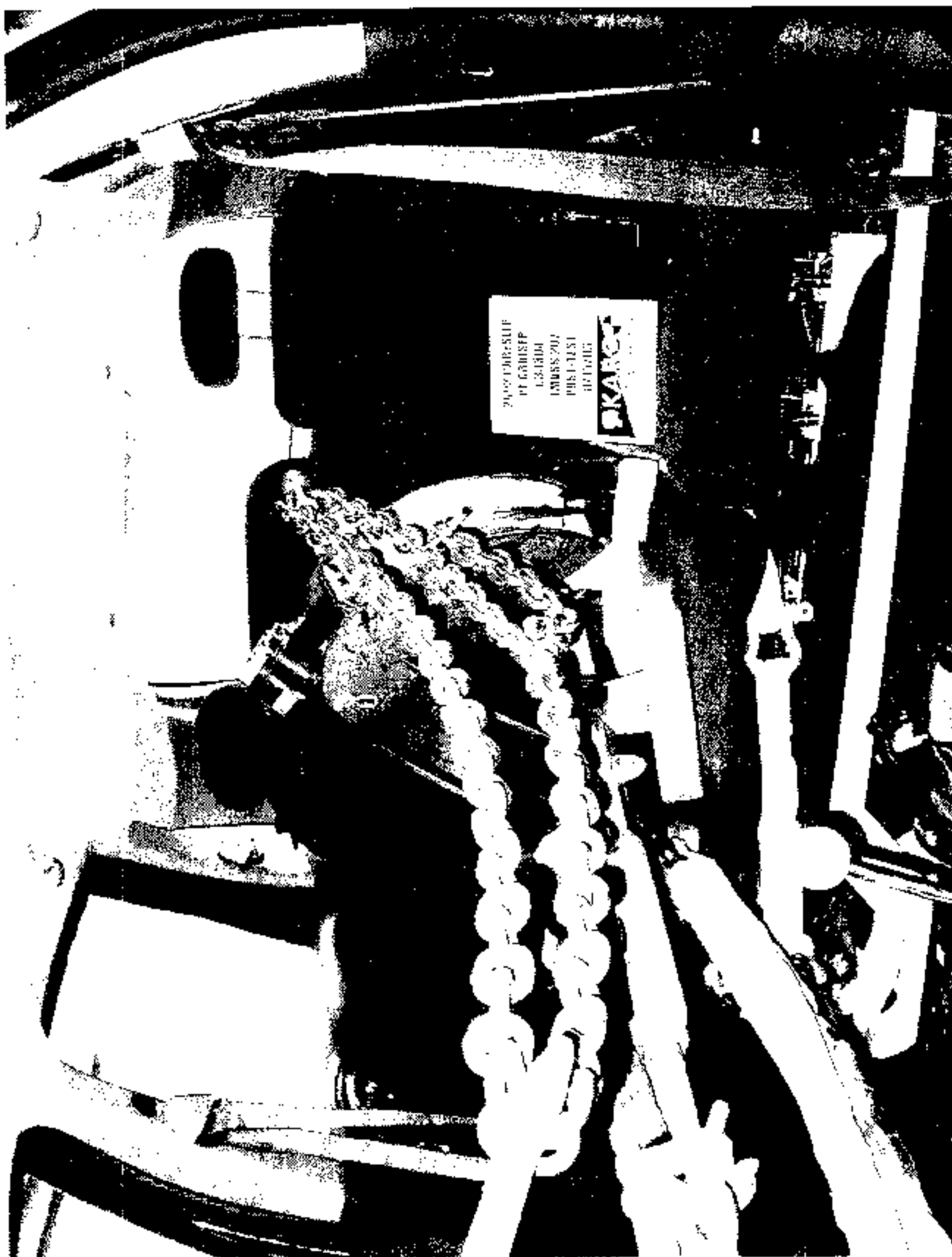


Figure A-52: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Post-Test

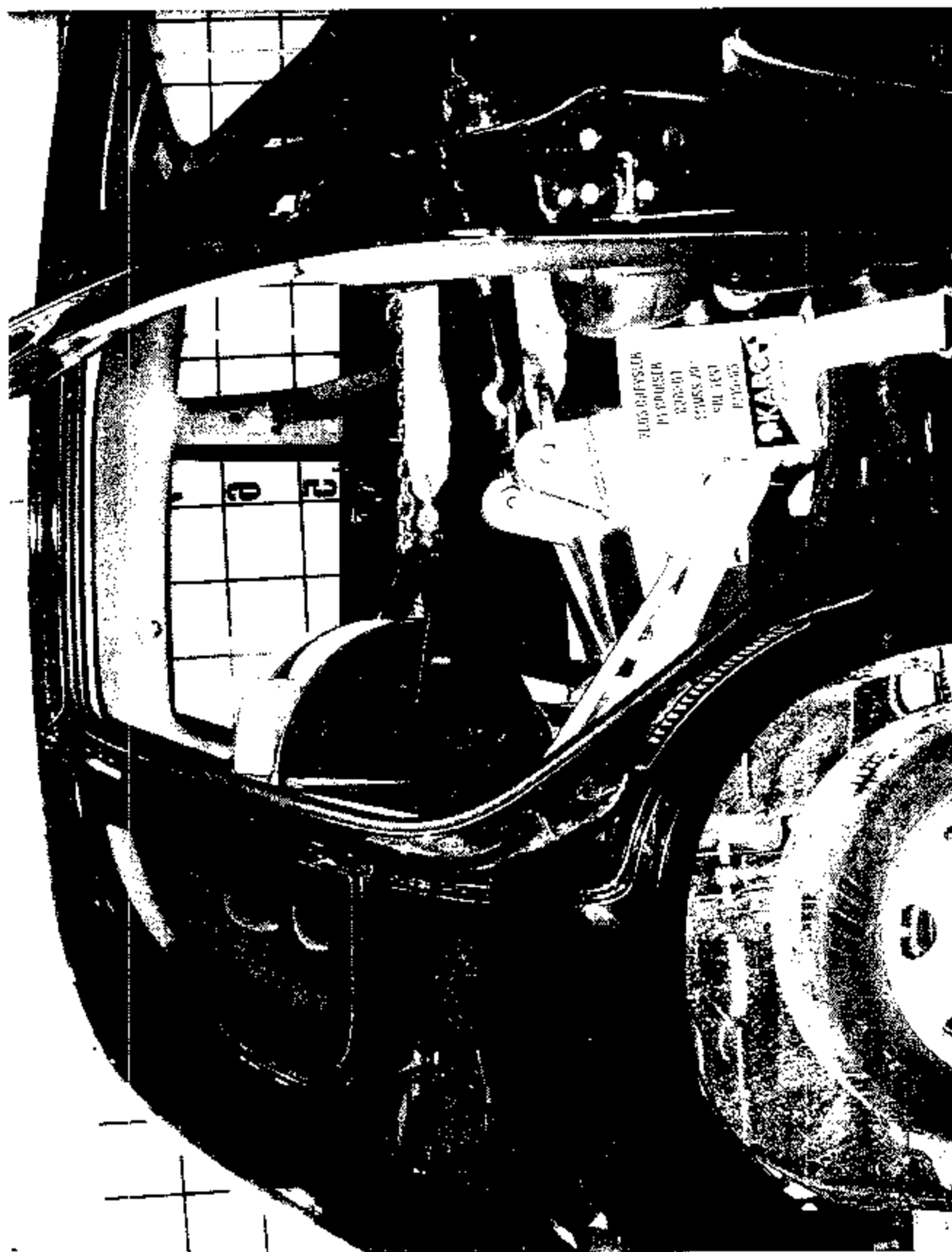


Figure A-53: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test



Figure A-54: 2012/10 Forward Load on Seat Frame and Adjusters, Passenger's Side Rear, Post Test

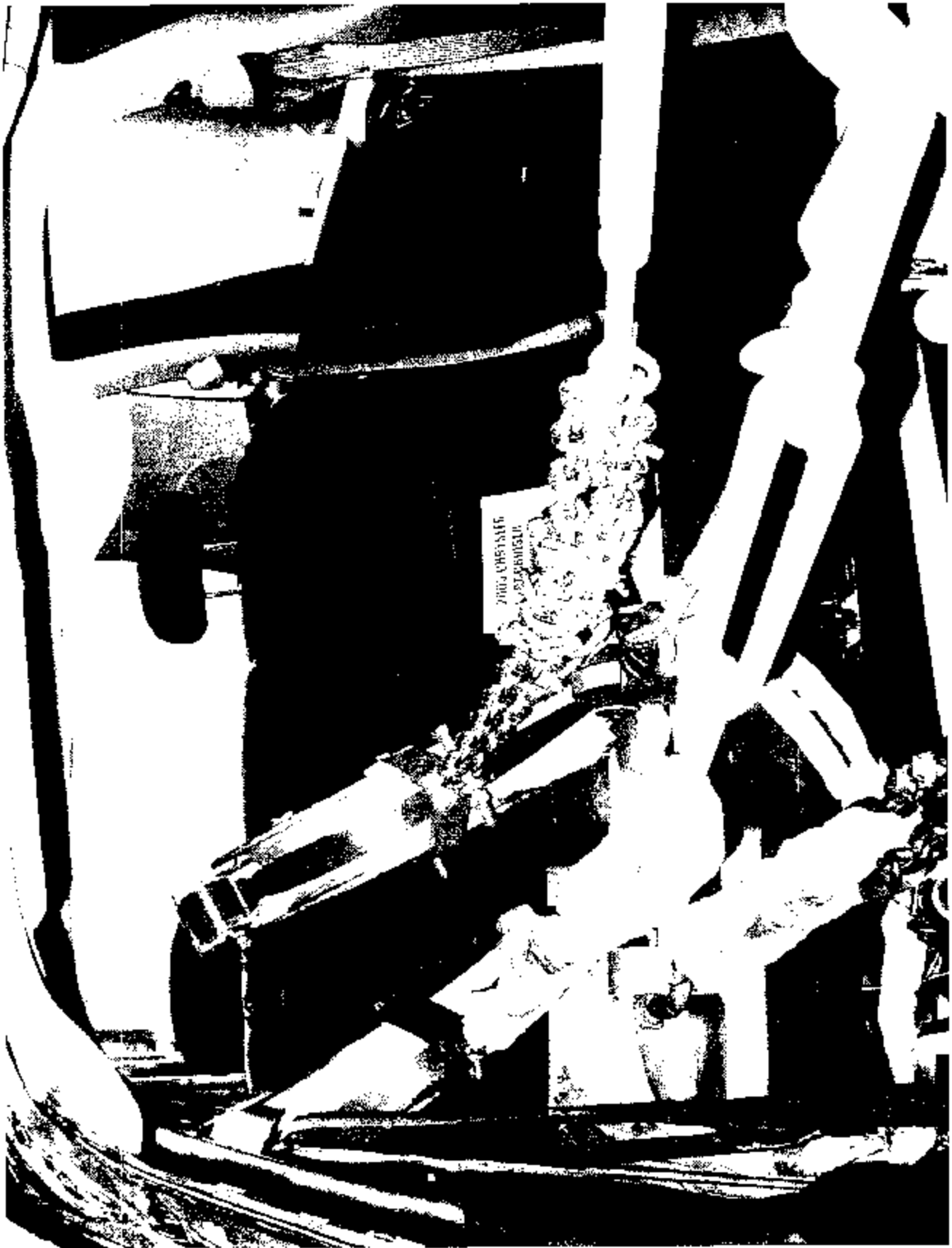


Figure A-55: 207/210 Forward Load on Seal Frame and Adjusters, Passenger's Side Rear, Pre-Test



Figure A-56: 207/210 Inward Load on Seat Frame and Adjusters, Passenger's Side Rear, Post-Test

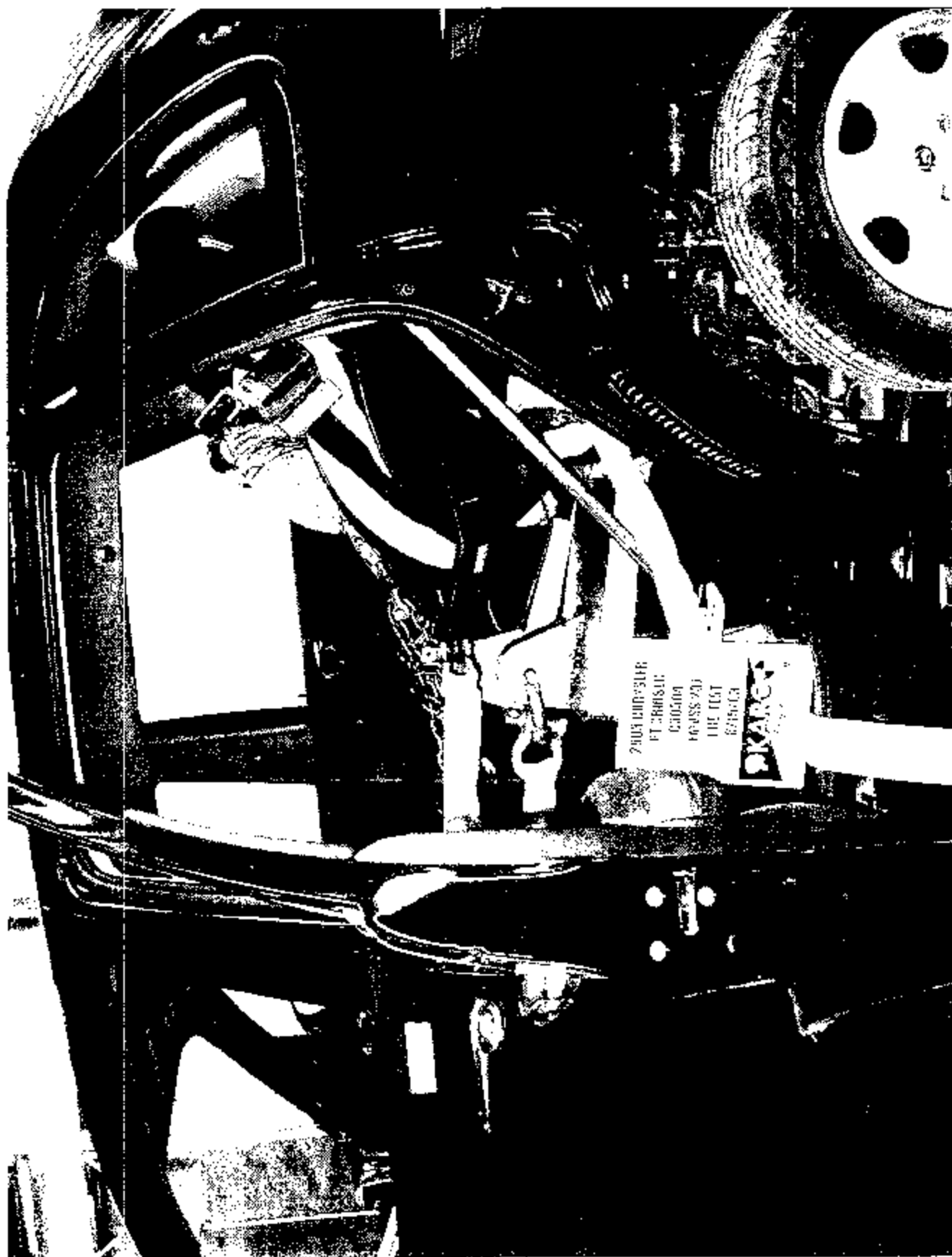


Figure A-57: 2007/210 Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Pre-Test



Figure A-58: 207/210 Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Post Test



Figure A-59: 207/210 Forward Load on Seat Frame and Adjusters. Driver's Side Rear. Pre-Test

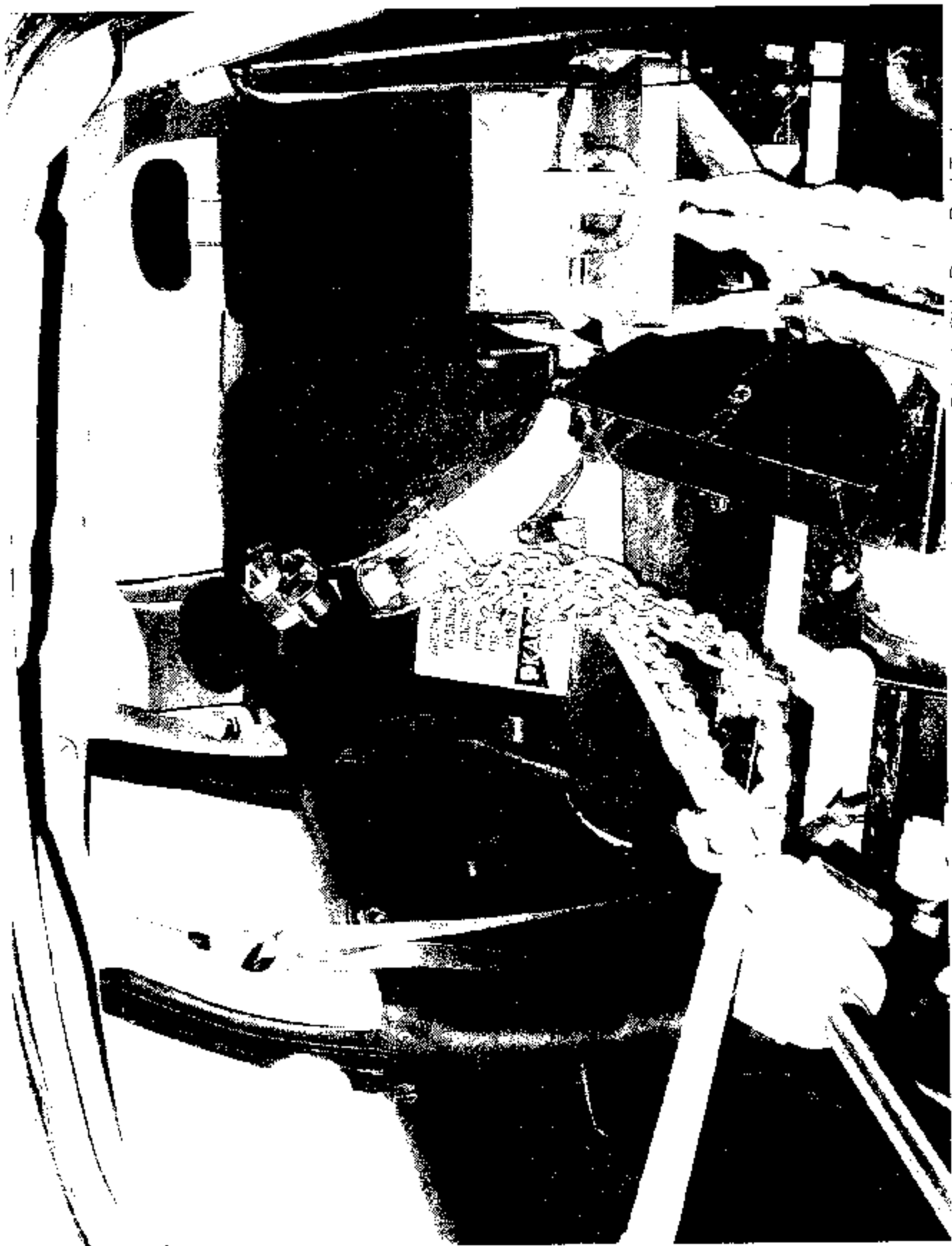


Figure A-60: 2017/20 Forward Load on Seat Frame and Adjusters, Driver's Side Rear, Post-Test

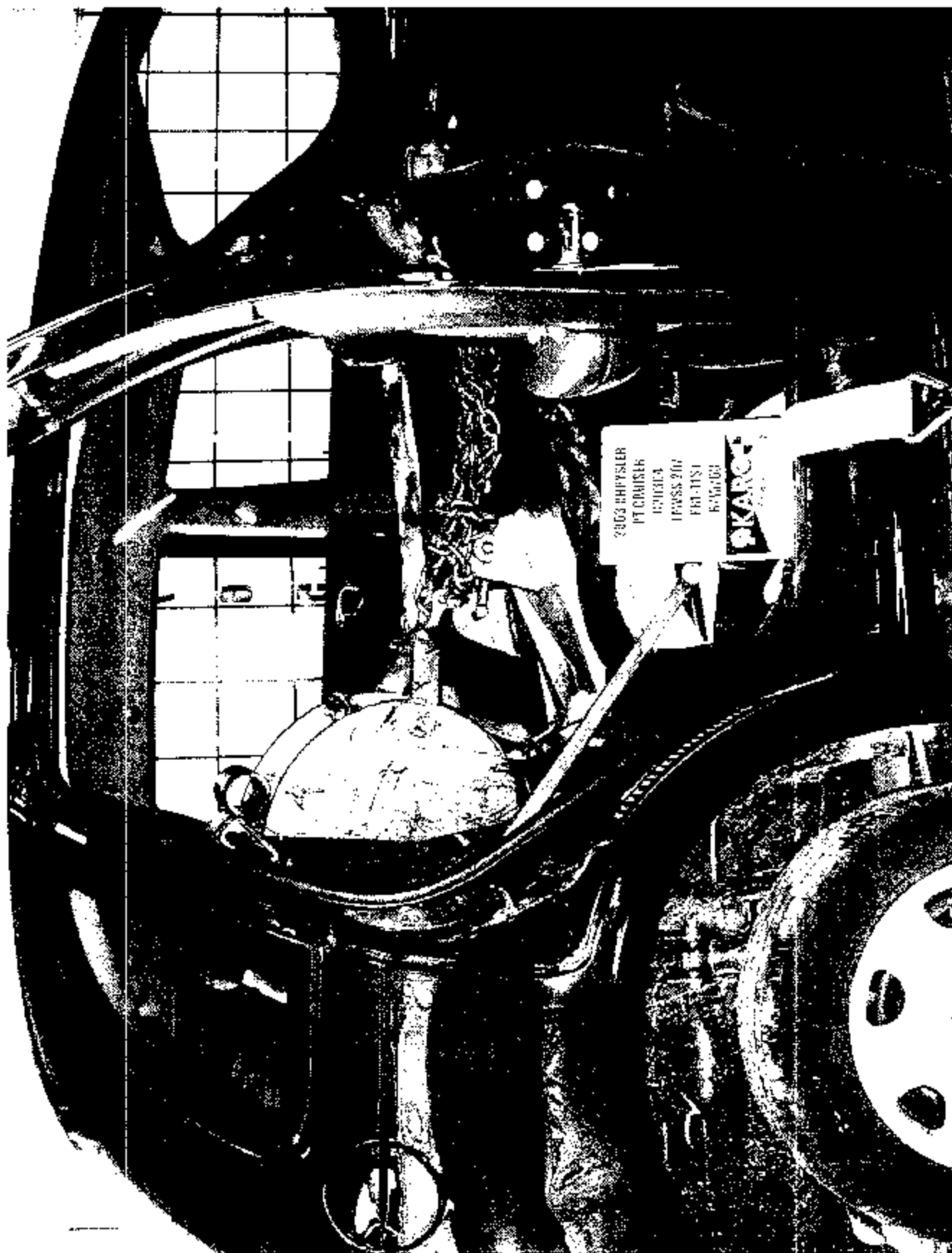


Figure A-61: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test

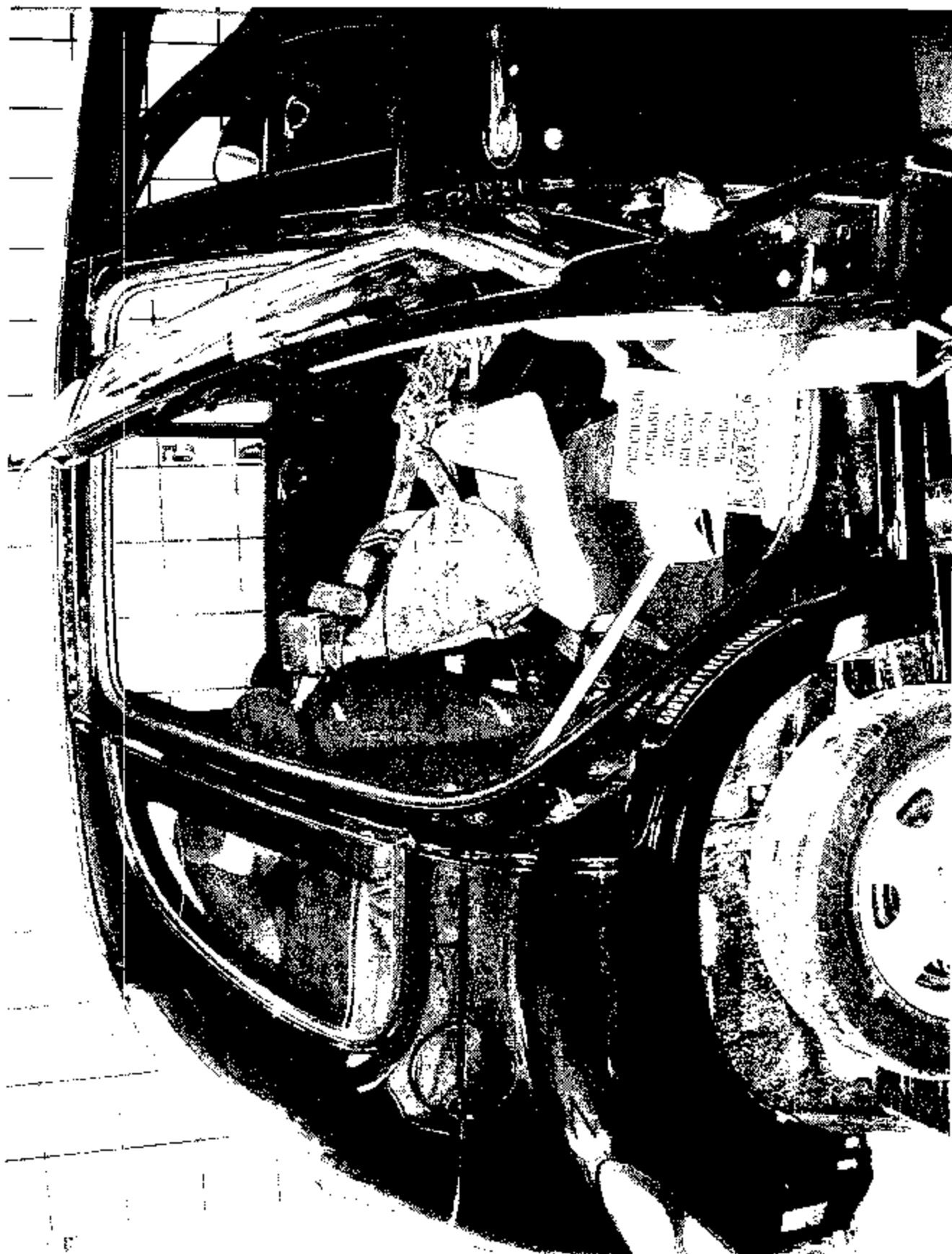


Figure A-62 207/210 Forward Load on Seat Frame and Adjusters. Passenger's Side Rear. Post Test

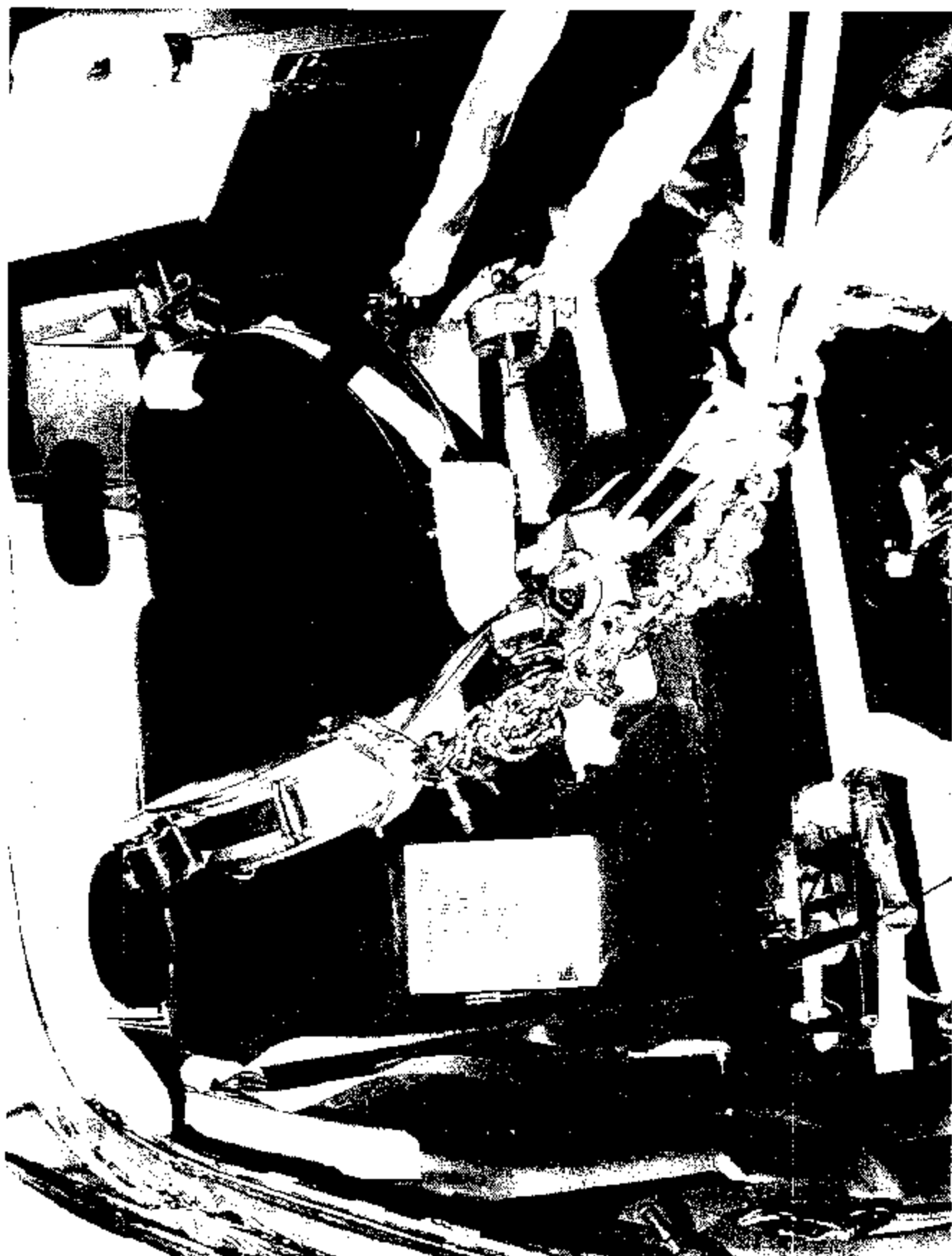


Figure A-63: 207/210 Forward Load on Seat Frame and Adjusters, Passenger's Side Rear, Pre-Test

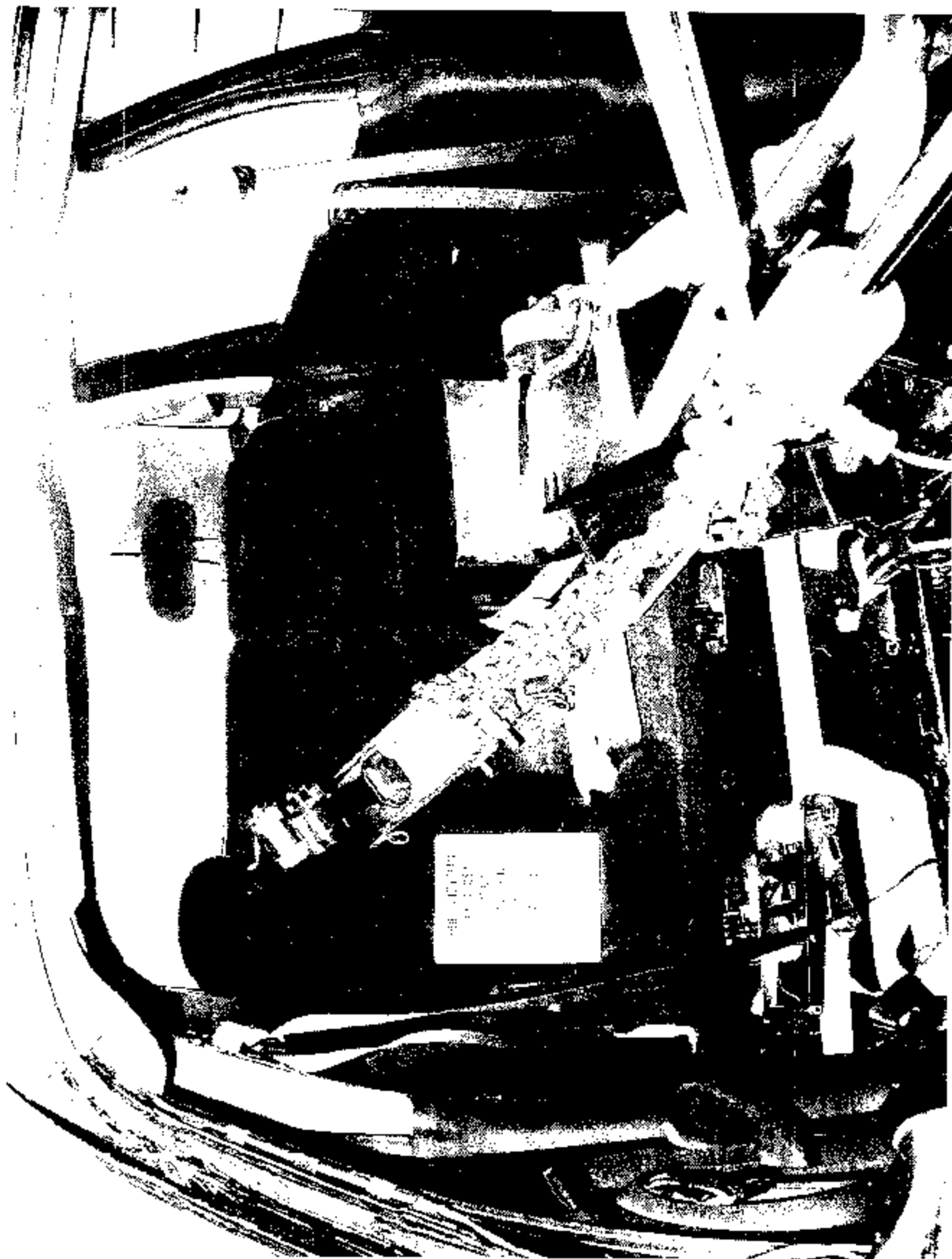


Figure A-64: 207/2'0 Forward Load on Seat Frame and Adjusters, Passenger's Side Rear, Post-Test

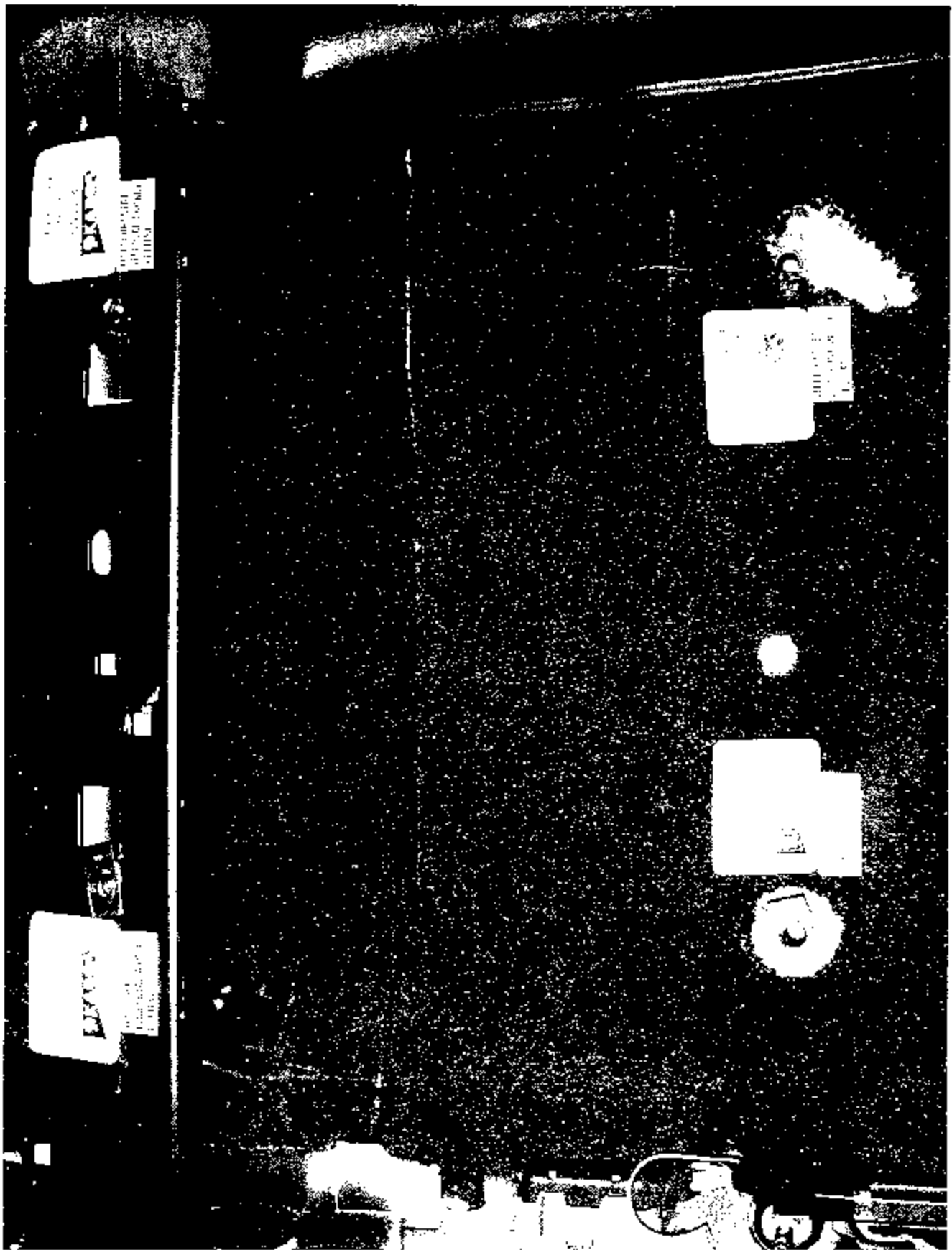


Figure A-65: Floor Pan Anchors, Left Front Seat Overall, Pre-Test

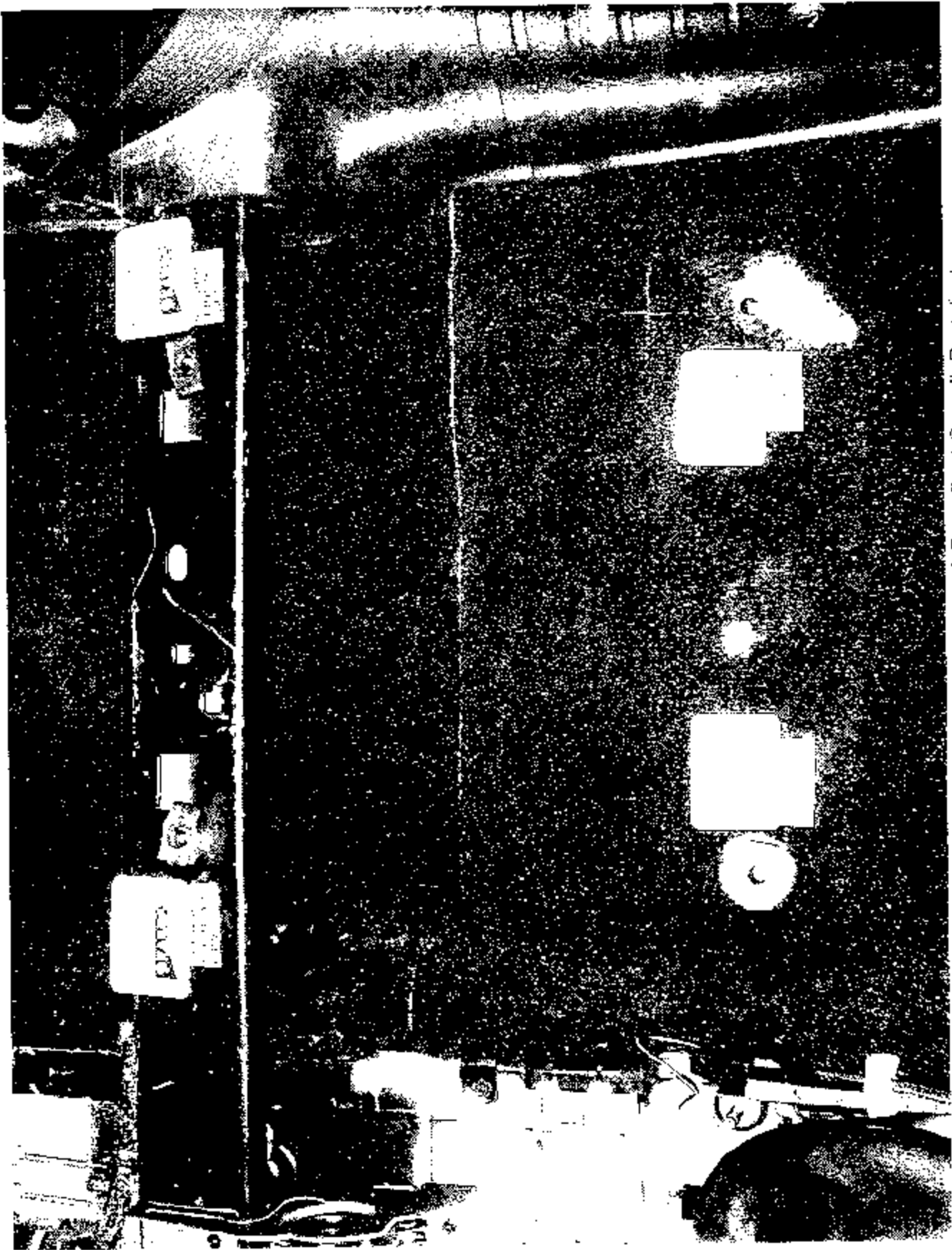


Figure A 66: Floor Pan Anchors, Left Front Seal Overall, Post-Test

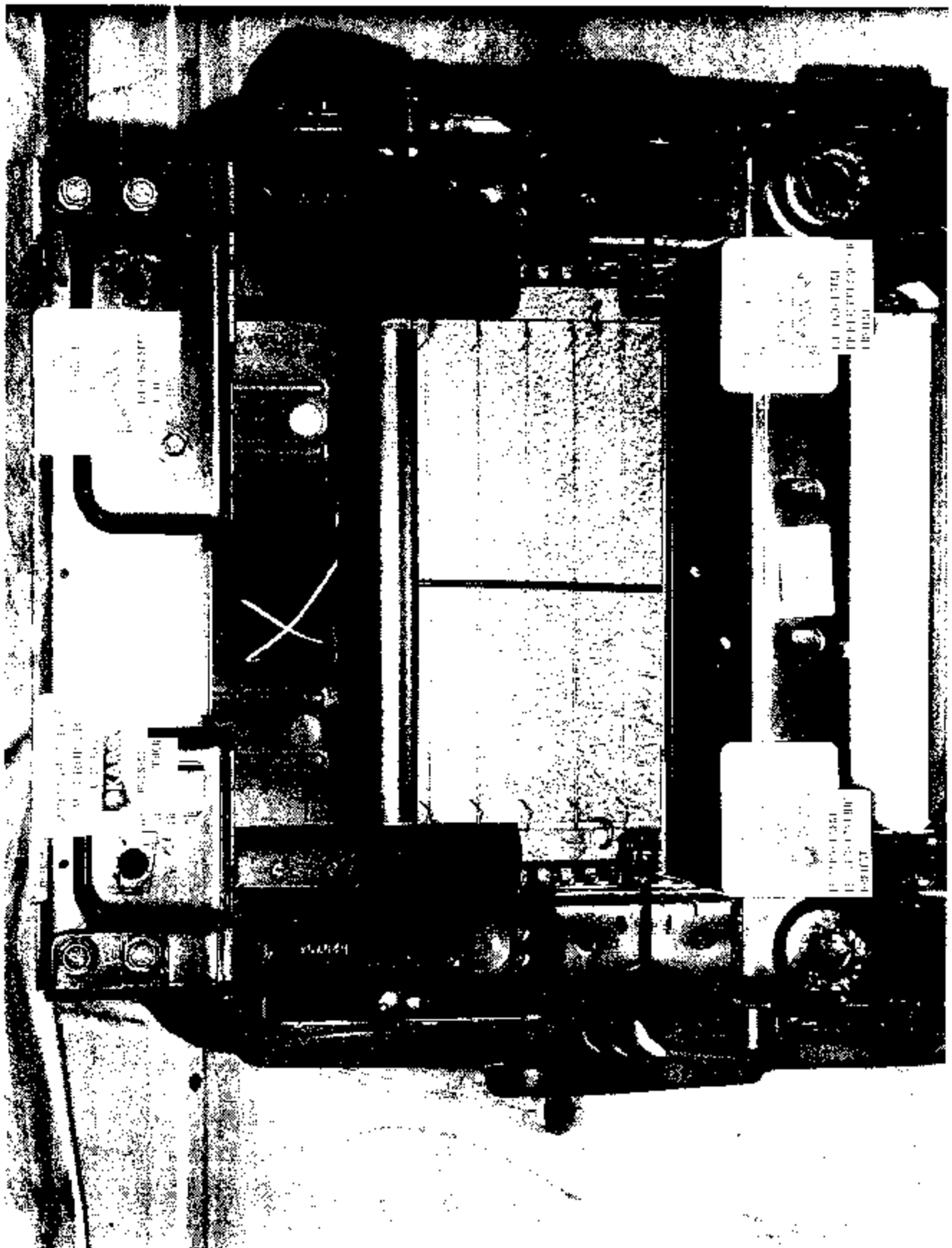


Figure A-67: Seat Anchors, Left Front Seal Overall, Pre-Test

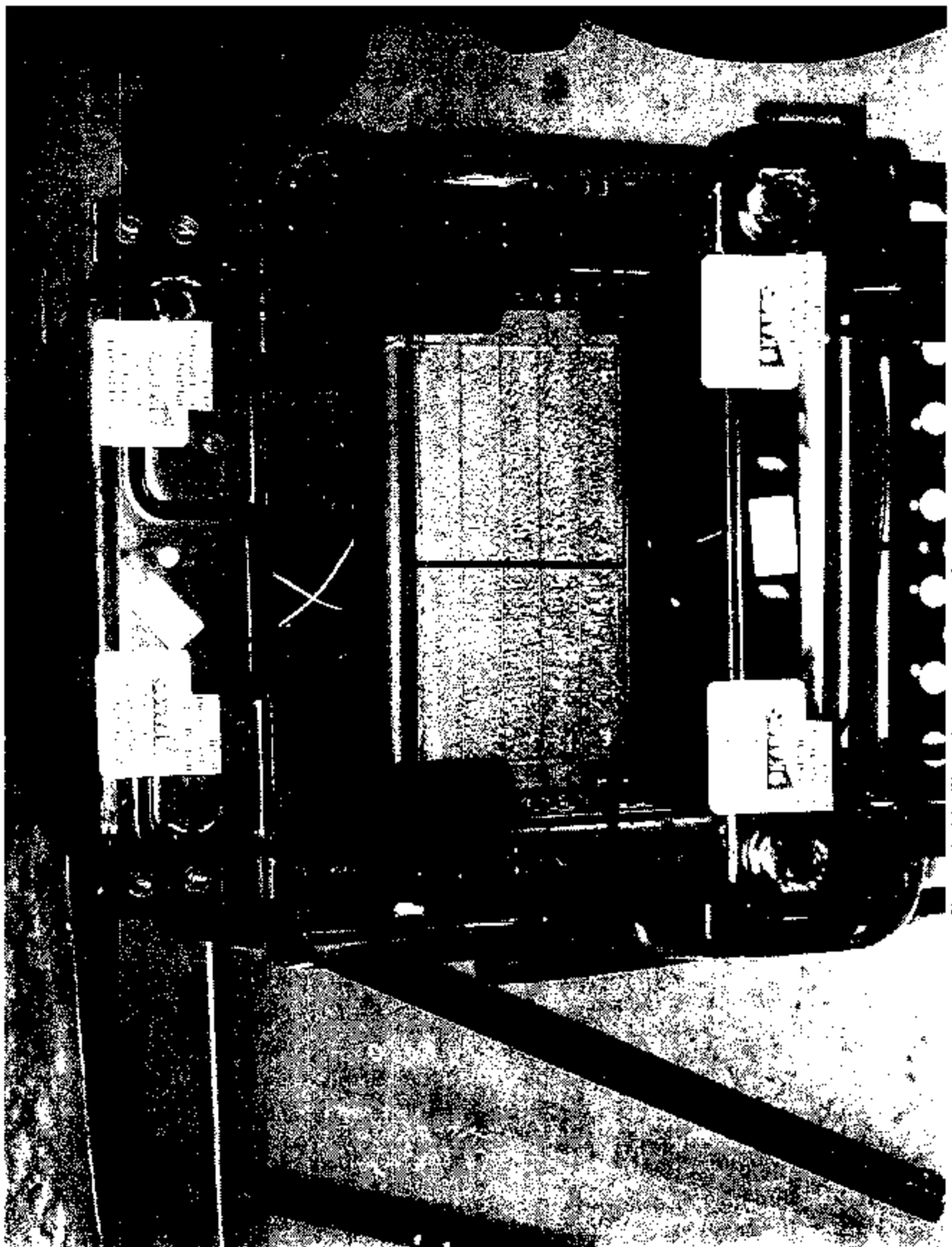


Figure A-68: Floor Pan Anchors, Left Front Seat Overall, Post-Test

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**LEFT FRONT SEAT
LEFT FRONT ANCHOR
PRE-TEST**

Figure A-69: Floor Pan Anchor, Left Front Seat, Pre-Test

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LEFT FRONT SEAT
LEFT FRONT ANCHOR
POST TEST

Figure A-70: Floor Pan Anchor, Left Front Seat, Post-Test

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PT CRUISER
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LEFT FRONT SEAT
LEFT FRONT ANCHOR
PRETEST

Figure A-71: Seat Anchor, Left Front Seat, Pre-Test

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**LEFT FRONT SEAT
LEFT FRONT ANCHOR
POST TEST**

Figure A-72: Seat Anchor, Left Front Seat, Post-Test

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PT CRUISER**

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**LEFT FRONT SEAT
RIGHT FRONT ANCHOR
PRETEST**



Figure A-73: Floor Pan Anchor, Left Front Seat, Pre-Test

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**LEFT FRONT SEAT
RIGHT FRONT ANCHOR
POST TEST**



Figure A-74: Floor Pan Anchor, Left Front Seat, Post-Test

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LEFT FRONT SEAT
RIGHT FRONT ANCHOR
PRETEST

Figure A-75: Seat Anchor, Left Front Seat, Pre-Test

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**LEFT FRONT SEAT
RIGHT FRONT ANCHOR
POST TEST**

Figure A-76: Seat Anchor, Left Front Seat, Post-Test

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LEFT FRONT SEAL
LEFT REAR ANCHOR
PRE-TEST

Figure A-77: Floor Pan Anchor, Left Front Seal, Pre-Test

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LEFT FRONT SEAT

LEFT REAR ANCHOR

POST TEST

Figure A-73: Floor Pan Anchor, Left Front Seat, Post-Test

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LEFT FRONT SEAT
LEFT REAR ANCHOR
PRE-TEST

Figure A-79: Seat: Anchor, Left Front Seat, Pre-Test

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SEAT

ANCHOR

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Figure A-80: Seat Anchor, Left Front Seat, Post-Test

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AKARCO

LEFT FRONT SEAT

**RIGHT FRONT SEAT
PRETEST**

Figure A-81: Floor Pan Anchor, Left Front Seat, Pre-Test

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**LEFT FRONT SEAT
RIGHT REAR ANCHOR
POST TEST**

Figure A-82: Floor Pan Anchor, Left Front Seat, Post-Test

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**LEFT FRONT SEAT
RIGHT REAR ANCHOR
PRETEST**

Figure A-83: Seat Anchor, Left Front Seat, Pre-Test

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PT CRUISER**

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**LEFT FRONT SEAT
RIGHT REAR ANCHOR
POST TEST**



Figure A-84: Seat Anchor, Left Front Seat, Post-Test

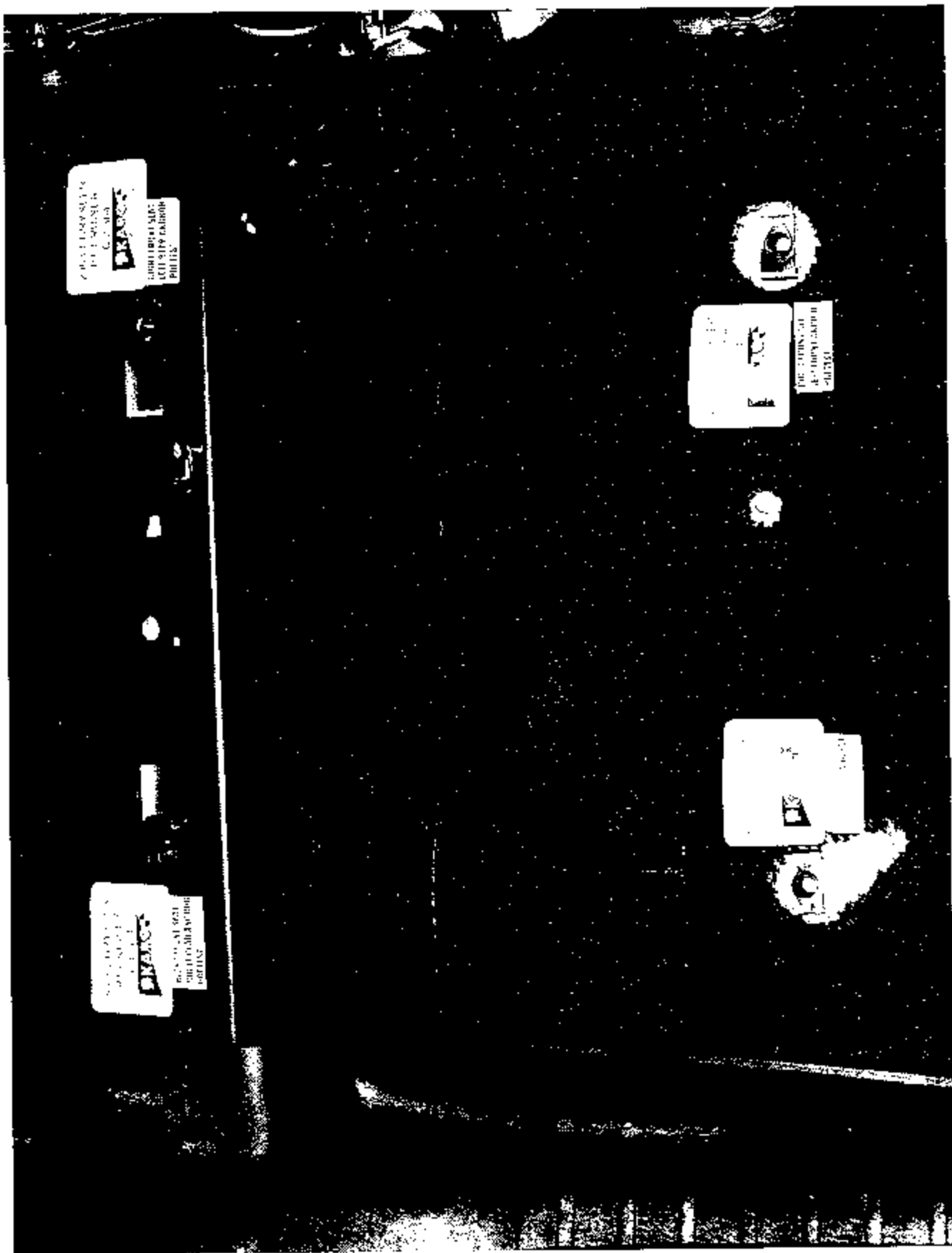


Figure A-85: Floor Pan Anchors, Right Front Seat Overall, Pre-Test

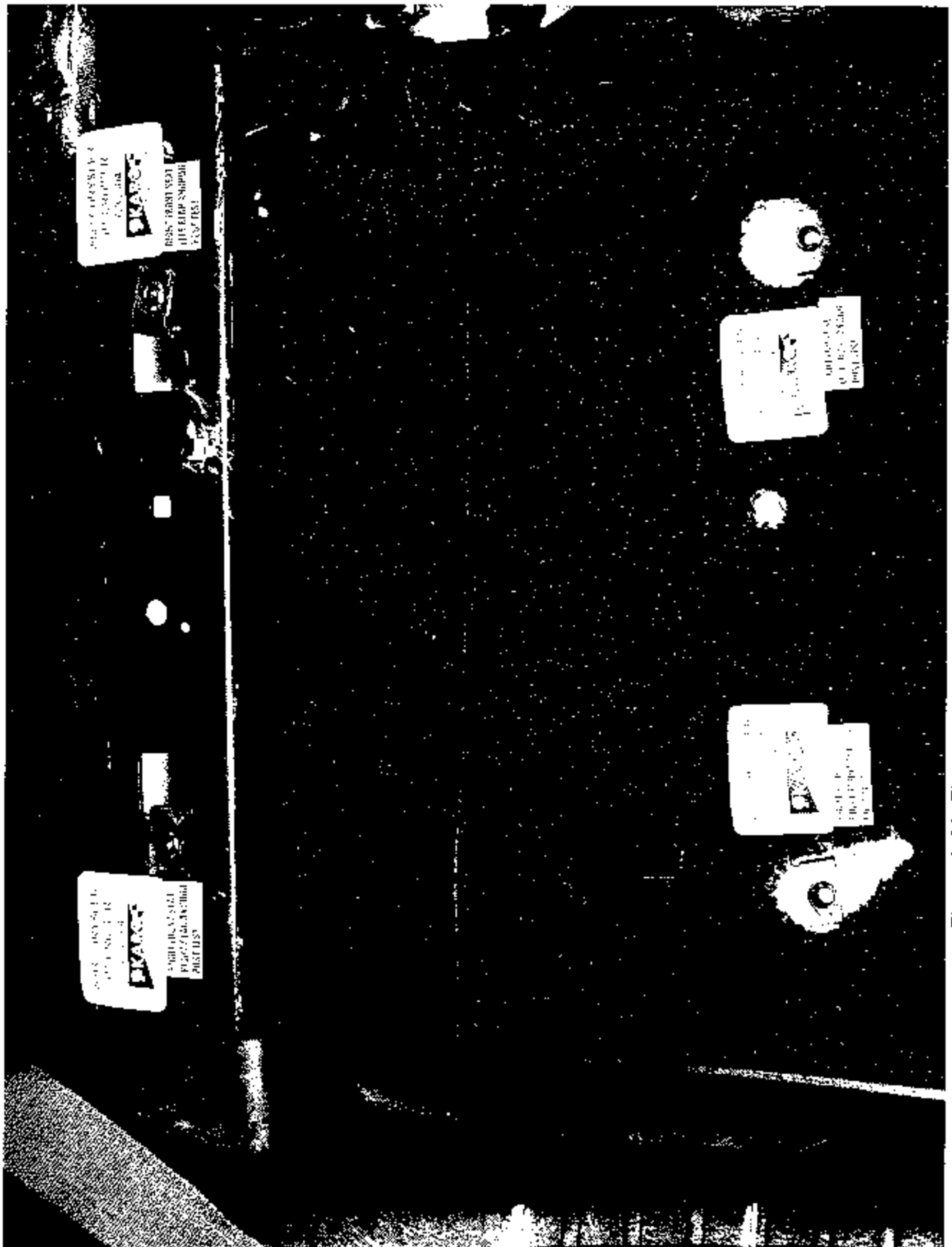


Figure A-86: Floor Pan Anchors, Right Front Seat Overall, Post-Test

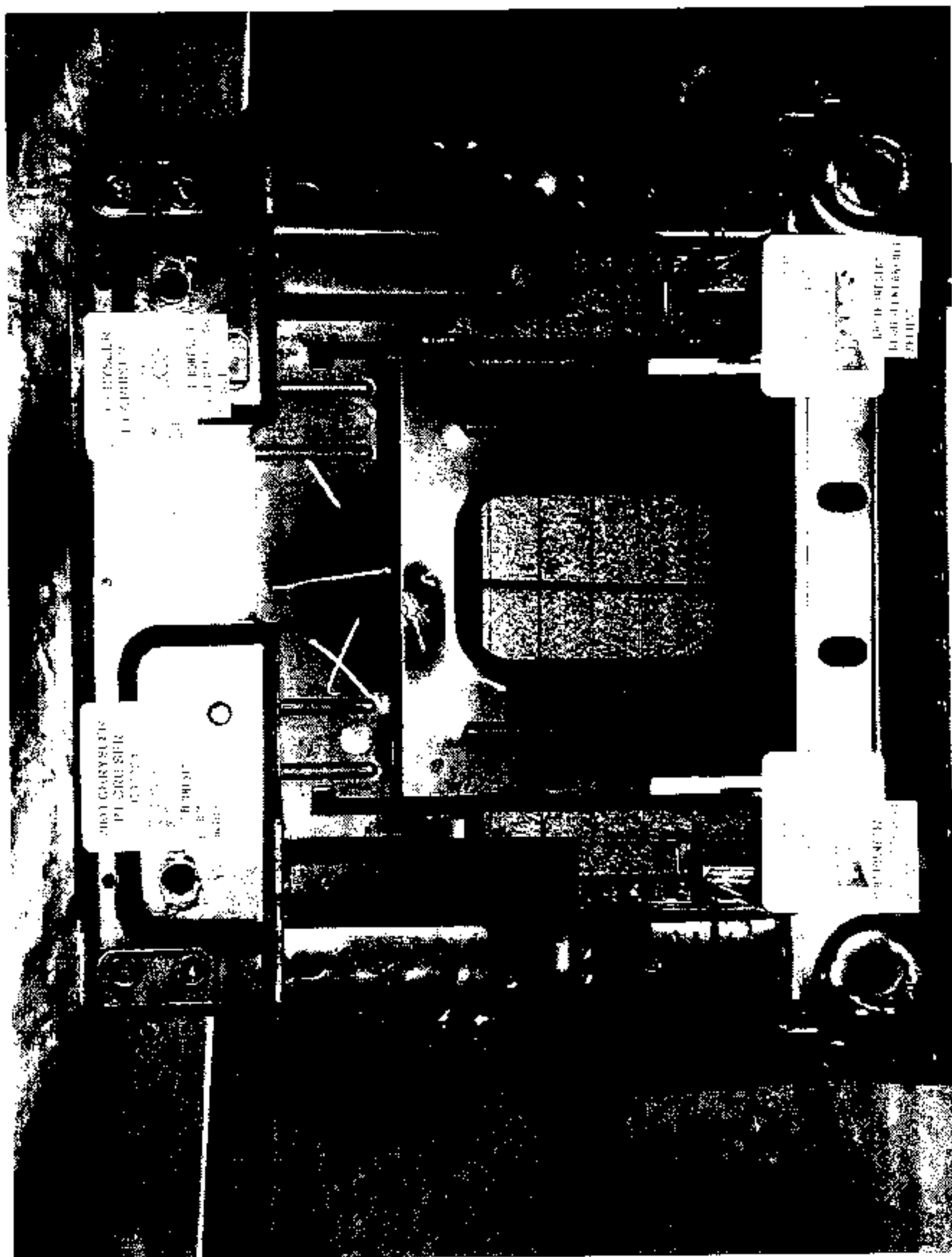


Figure A-87: Seal Anchors, Right Front Seat Overall, Pre-Test

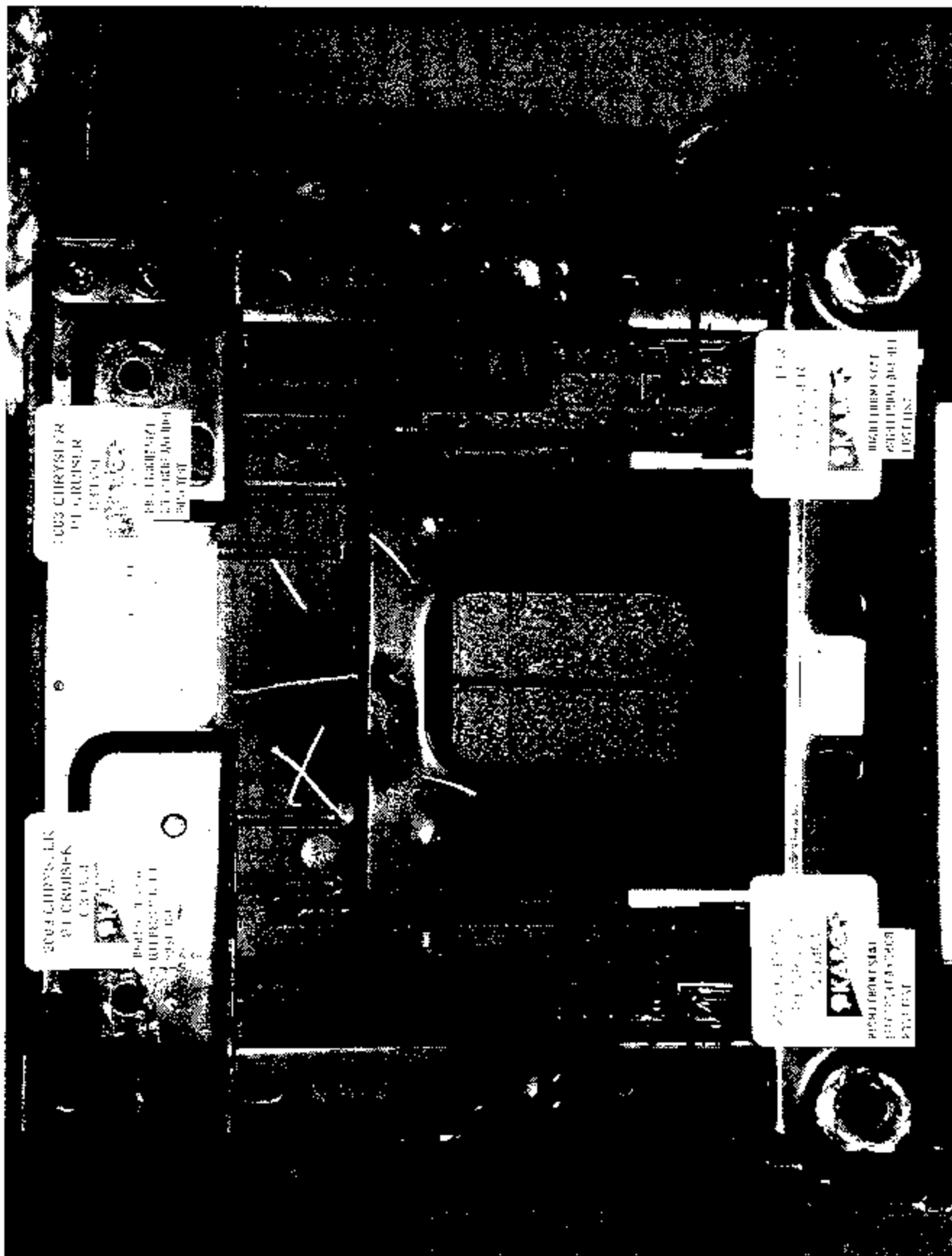


Figure A-88: Seat Anchors, Right Front Seat Overall, Post-Test

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RIGHT FRONT SEAT
LEFT FRONT SEAT
PRETEST

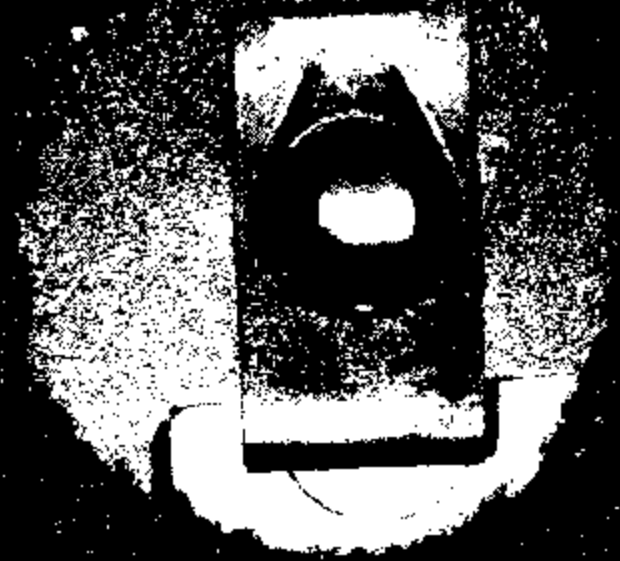


Figure A-89: Floor Pan Anchor, Right Front Seat, Pre-Test

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**RIGHT FRONT SEAT
LEFT FRONT ANCHOR
POST TEST**



Figure A-90: Floor Pan Anchor, Right Front Seat, Post-Test

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**RIGHT FRONT SEAT
LEFT FRONT ANCHOR
PRETEST**

Figure A-91: Seat Anchor, Right Front Seat, Pre-Test

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RIGHT FRONT SEAT
LEFT FRONT ANCHOR
POST TEST

Figure A-92: Seat Anchor, Right Front Seat, Post-Test

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PT CRUISER
C30304**



**RIGHT FRONT SEAT
RIGHT FRONT ANCHOR
PRETEST**

Figure A-93: Floor Pan Anchor, Right Front Seat, Pre-Test

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PT CRUISER

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RIGHT FRONT SEAT
RIGHT FRONT ANCHOR
POST TEST

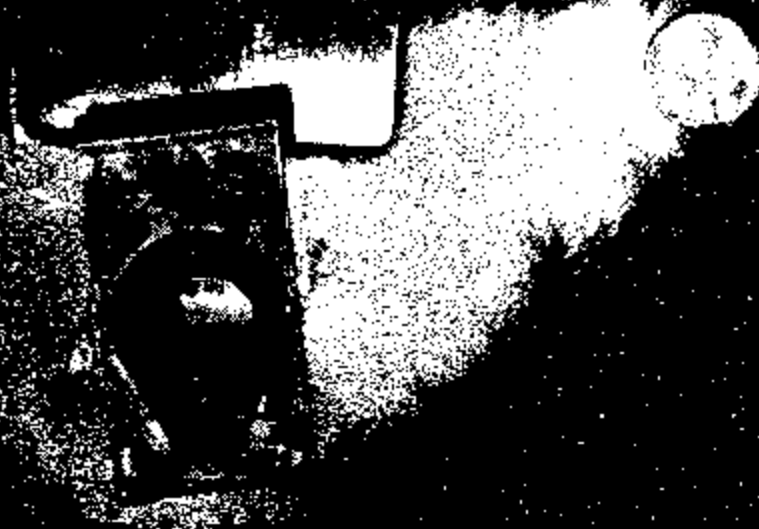


Figure A-94: Floor Pan Anchor, Right Front Seat, Post-Test

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PT CRUISER

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RIGHT FRONT SEAT

RIGHT FRONT ANCHOR

PRETEST

Figure A-95: Seat Anchor, Right Front Seat, Pre-Test

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Engineering

**RIGHT FRONT SEAT
RIGHT FRONT ANCHOR
POST TEST**

Figure A-96: Seat Anchor. Right Front Seat, Post-Test

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**RIGHT FRONT SEAT
LEFT REAR ANCHOR
PRETEST**

Figure A-97: Floor Pan Anchor, Right Front Seat, Pre-Test

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RIGHT FRONT SEAT
LEFT REAR ANCHOR
POST TEST

Figure A-98: Floor Pan Anchor, Right Front Seat, Post-Test

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RIGHT FRONT SEAT
LEFT REAR ANCHOR
PRETEST

Figure A-99: Seat Anchor, Right Front Seat, Pre-Test

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RIGHT FRONT SEAT
LEFT REAR ANCHOR
POST TEST

Figure A-100: Seat Anchor, Right Front Seat, Post-Test

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PT CRUISER

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Engineering

RIGHT FRONT SEAT
RIGHT FRONT SEAT
PRETEST



Figure A-101: Floor Pan Anchor, Right Front Seat, Pre-Test

2003 CHRYSLER

PT CRUISER

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RIGHT FRONT SEAT

RIGHT REAR ANCHOR

POST TEST

Figure A-102: Floor Pan Anchor, Right Front Seat, Post-Test

2003 CHRYSLER
PT CRUISER

C30304

PAKARCO

Engineering

RIGHT FRONT SEAT

RIGHT REAR ANCHOR

PRETEST

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Figure A-103: Seat Anchor, Right Front Seat, Pre-Test

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PT CRUISER

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RIGHT FRONT SEAT

RIGHT REAR ANCHOR

POST TEST

Figure A-104: Seat Anchor, Right Front Seat, Post-Test

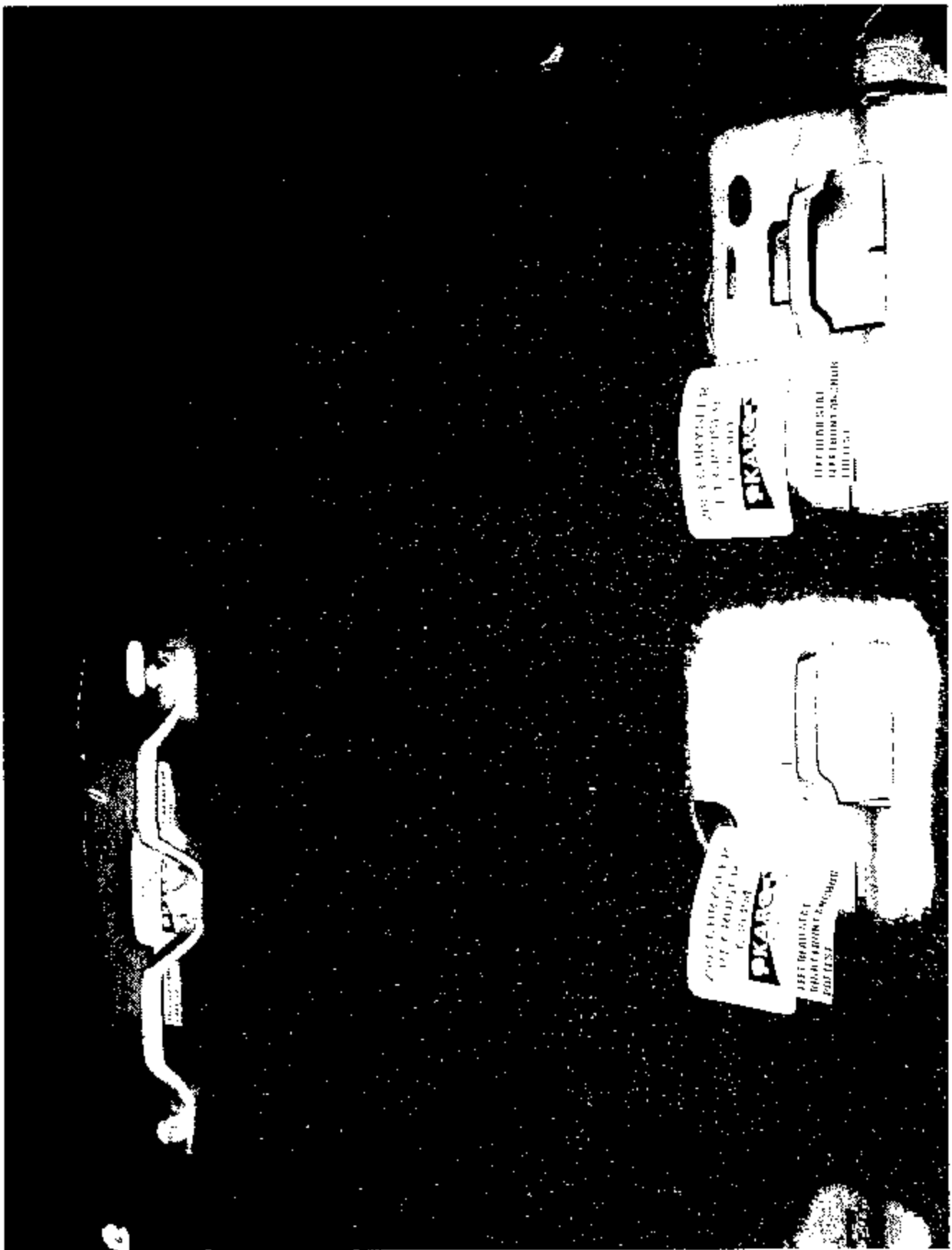


Figure A-105: Floor Pan Anchors, Left Rear Seat Overall, Pre-Test

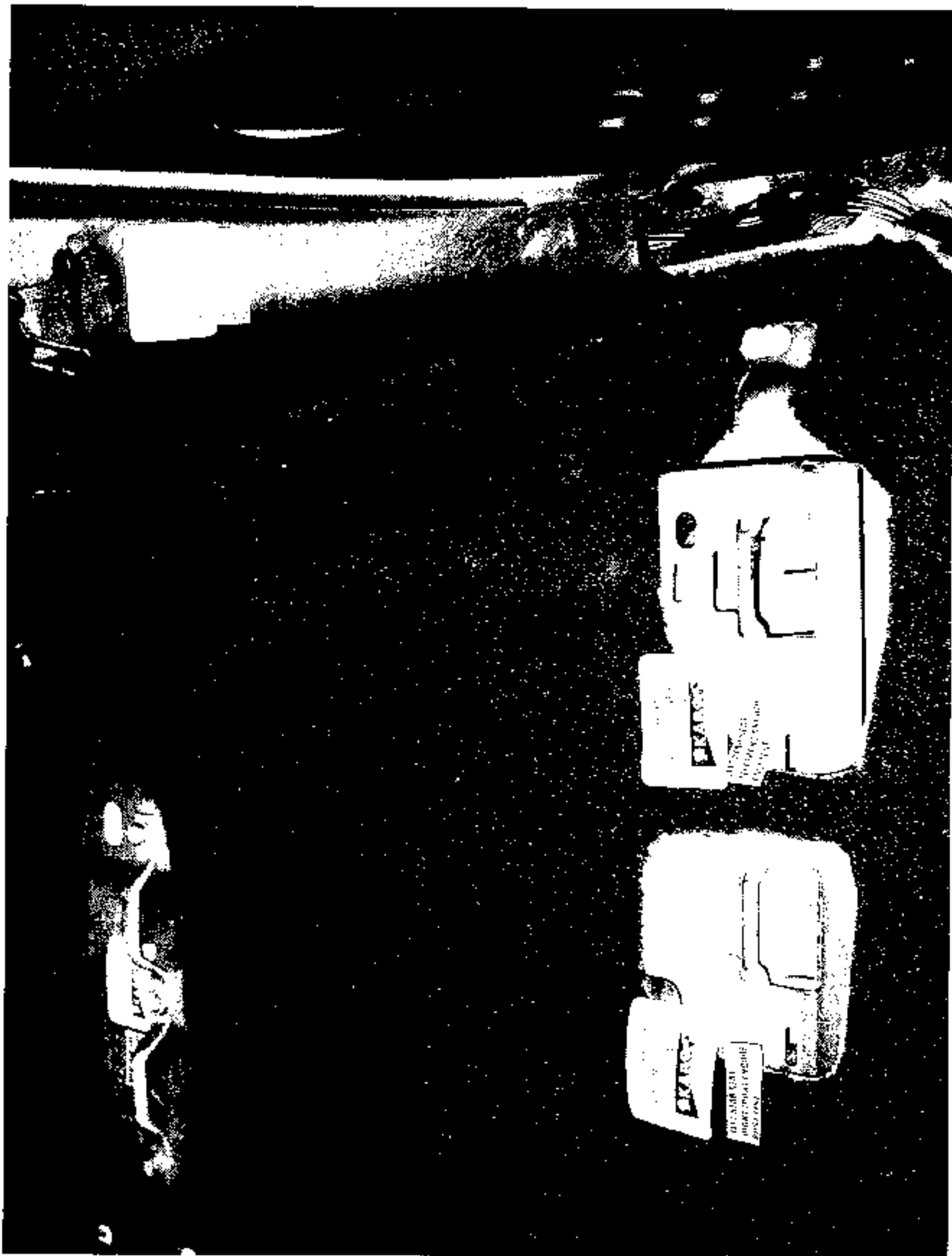


Figure A-106: Floor Pan Anchors, Left Rear Seat Overall, Post-Test

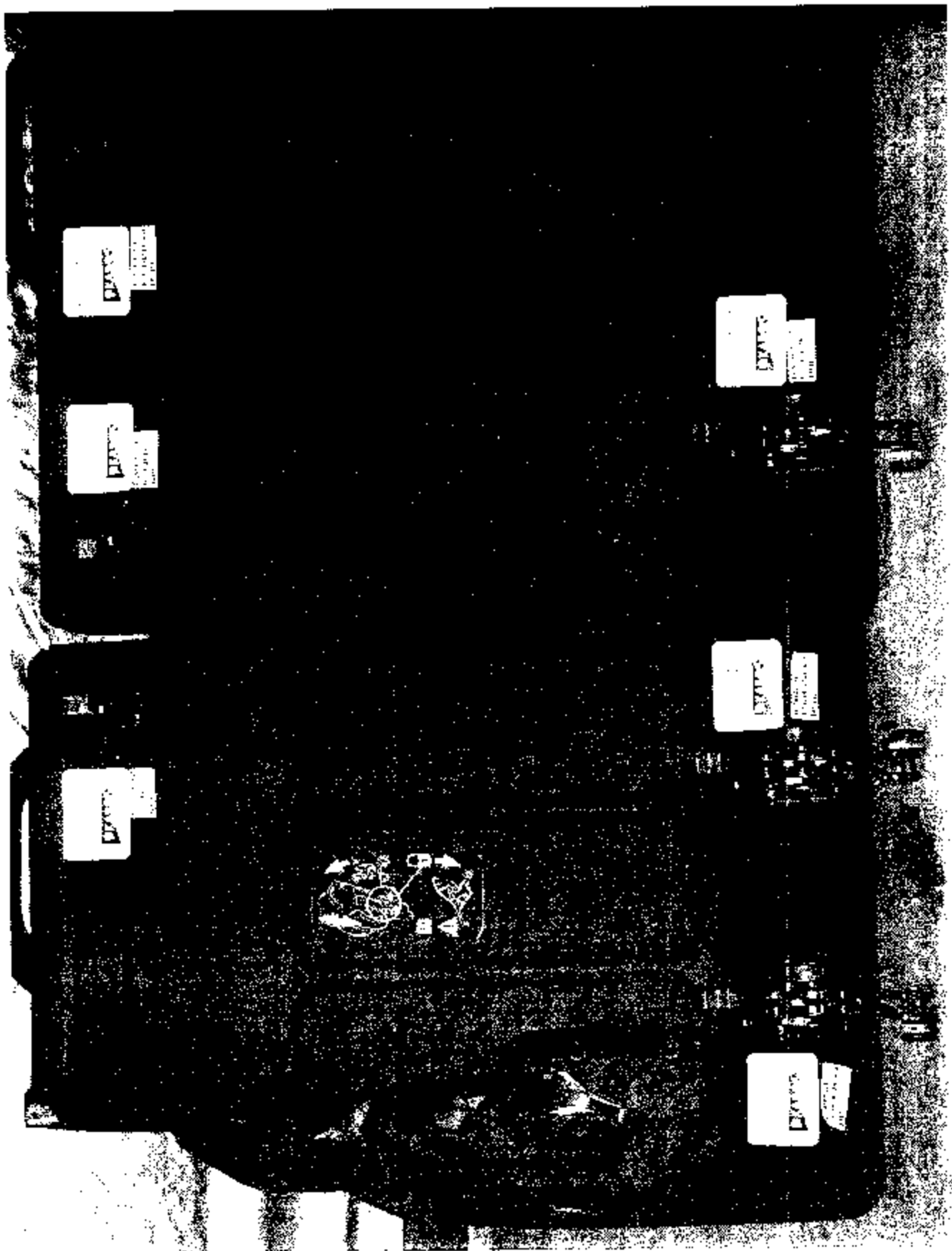


Figure A-107: Seat Anchors, Left Rear Seat Overall, Pre Test:

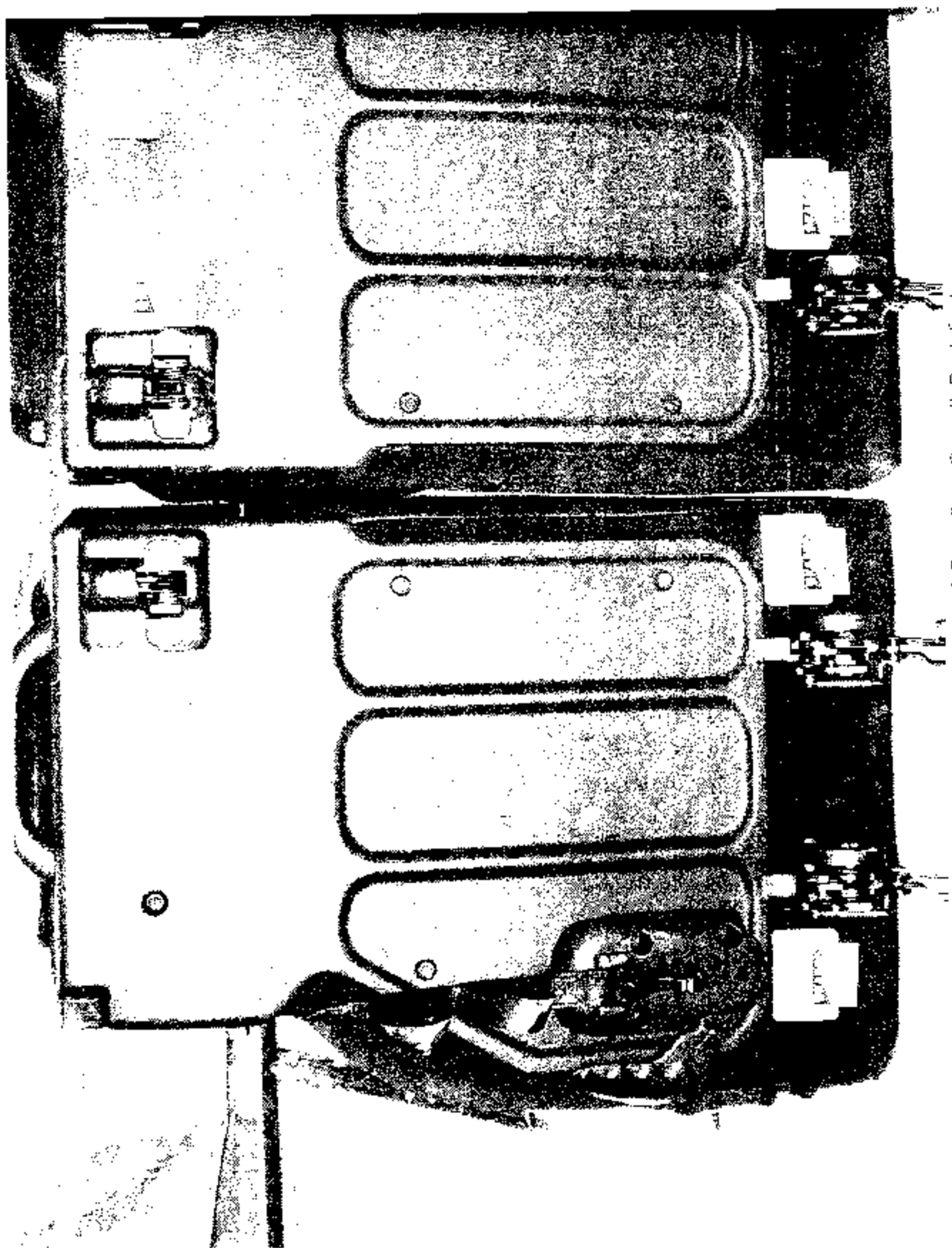


Figure A-108: Seat Anchors, Left Rear Seat Overall. Post-foam

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LEFT REAR SEAT
LEFT FRONT ANCHOR
PRETEST

Figure A-109: Floor Pan Anchor, Left Rear Seat, Pre-Test

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LEFT REAR SEAT
LEFT FRONT ANCHOR
POST TEST

Figure A-110: Floor Pan Anchor, Left Rear Seat, Post-Test

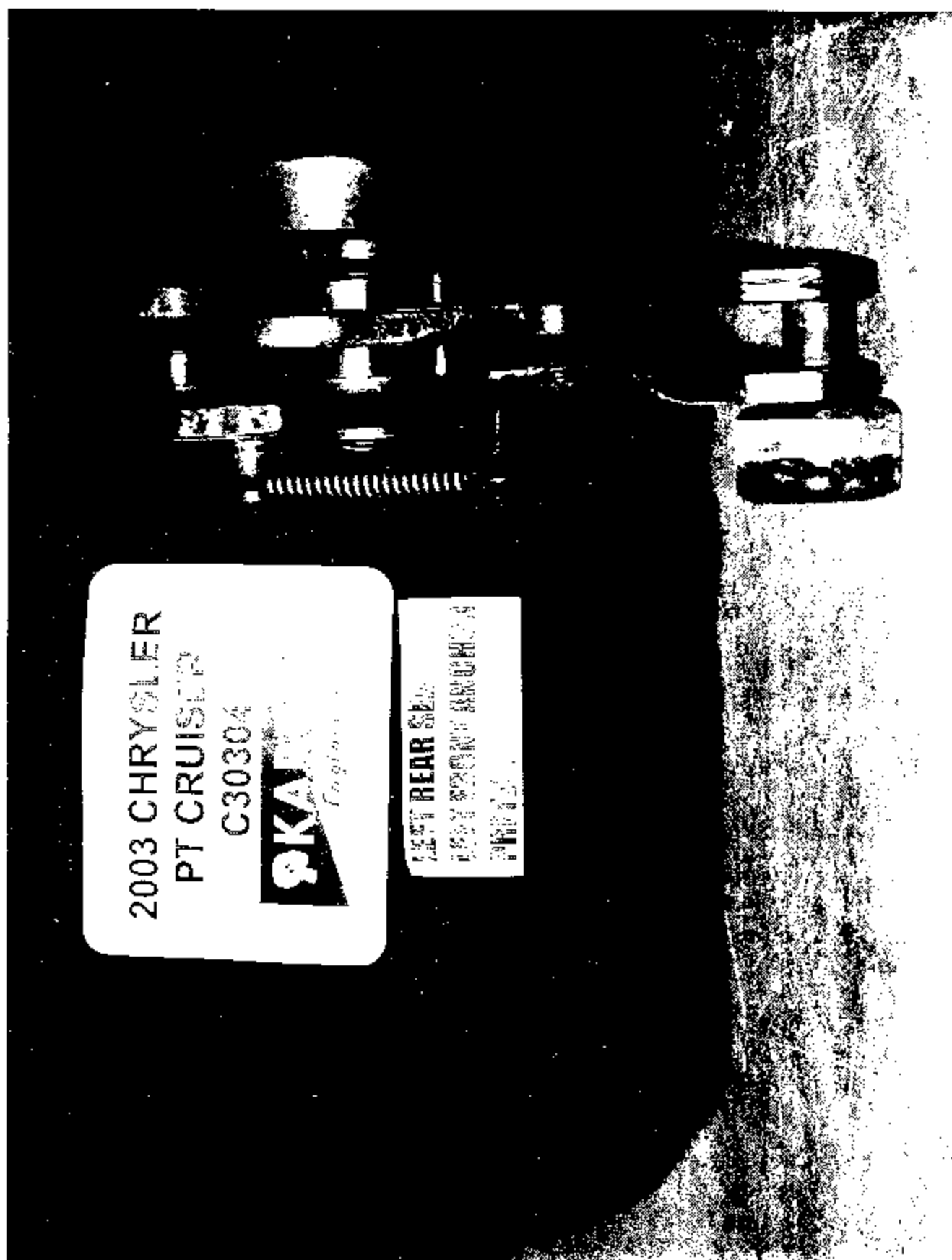


Figure A-111: Seat Anchor, Left Rear Seat, Pre-Test

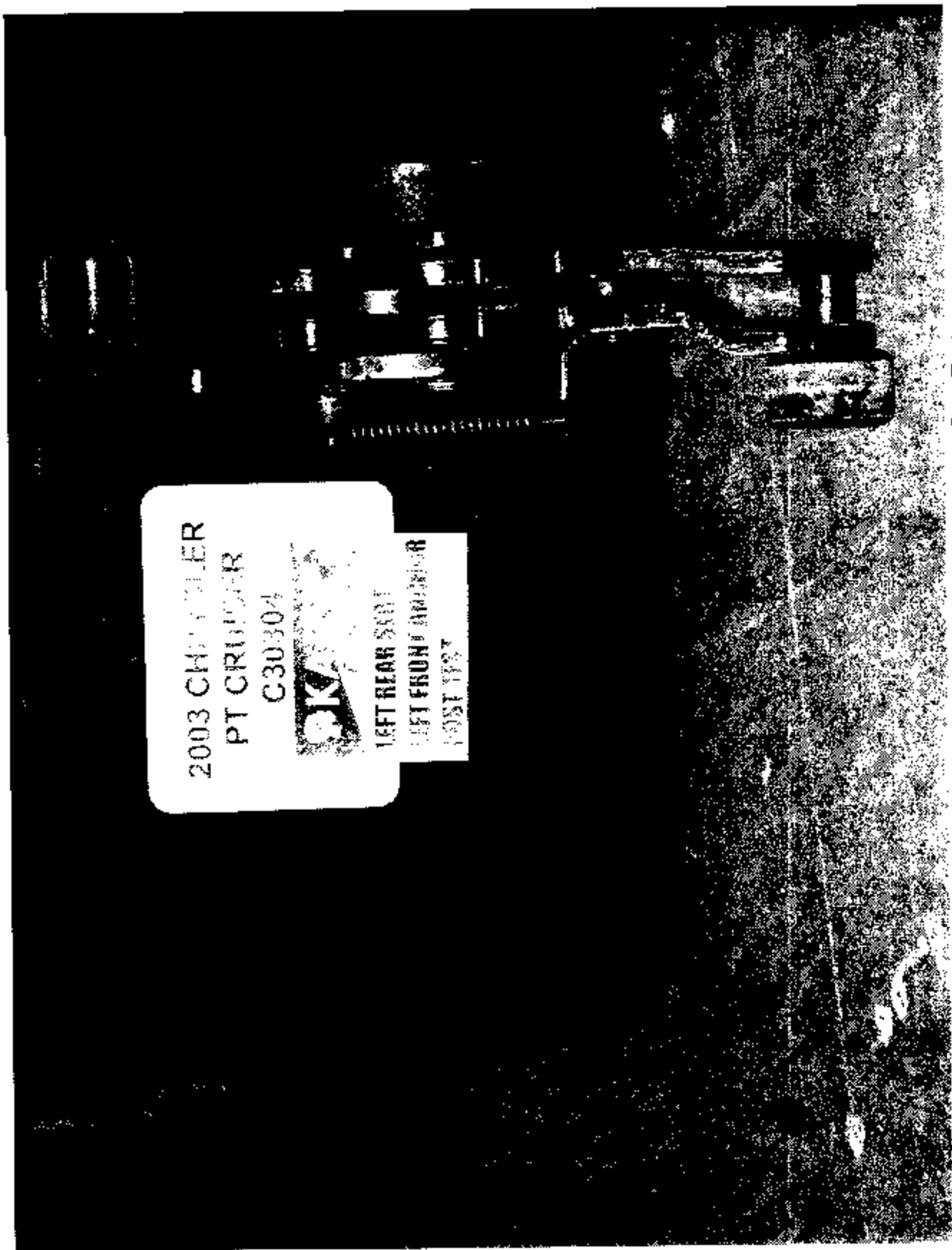


Figure A-112: Seat Anchor, Left Rear Seat, Post-Test

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LEFT REAR SEAT
RIGHT FRONT ANCHOR
PRETEST

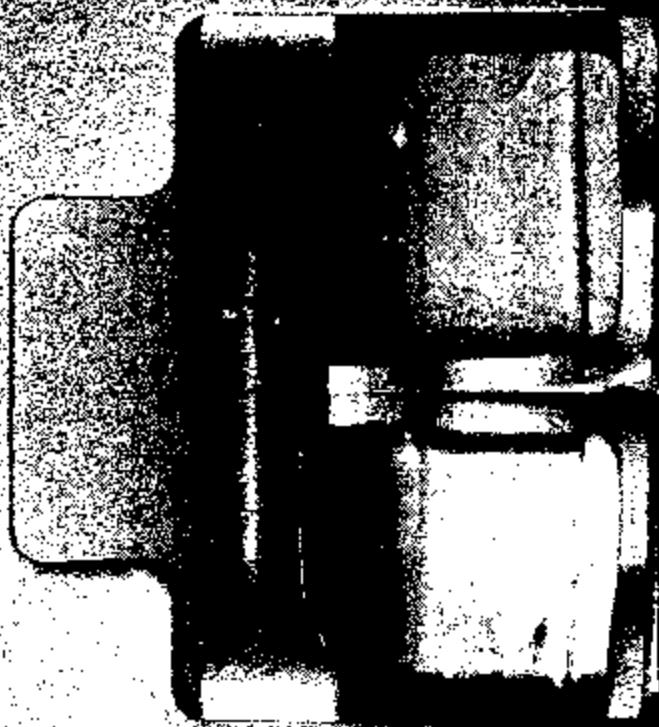


Figure A-113: Floor Pan Anchor, Left Rear Seat, Pre-Test

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LEFT REAR SEAT
RIGHT FRONT ANCHOR
POST TEST

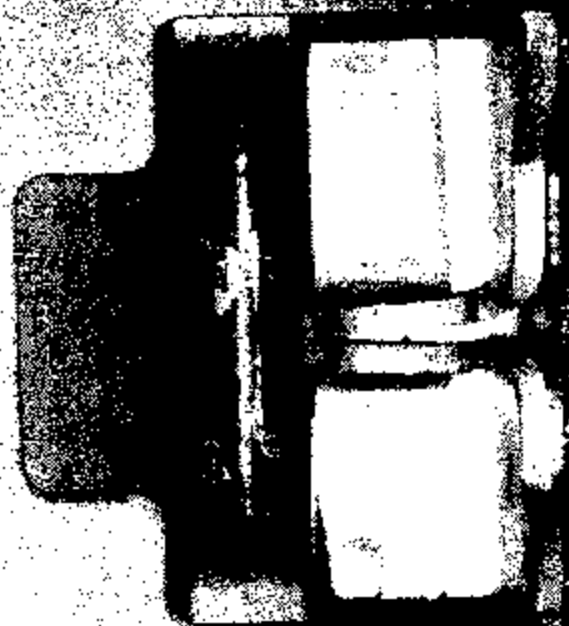


Figure A-114: Floor Pan Anchor, Left Rear Seat, Post-Test

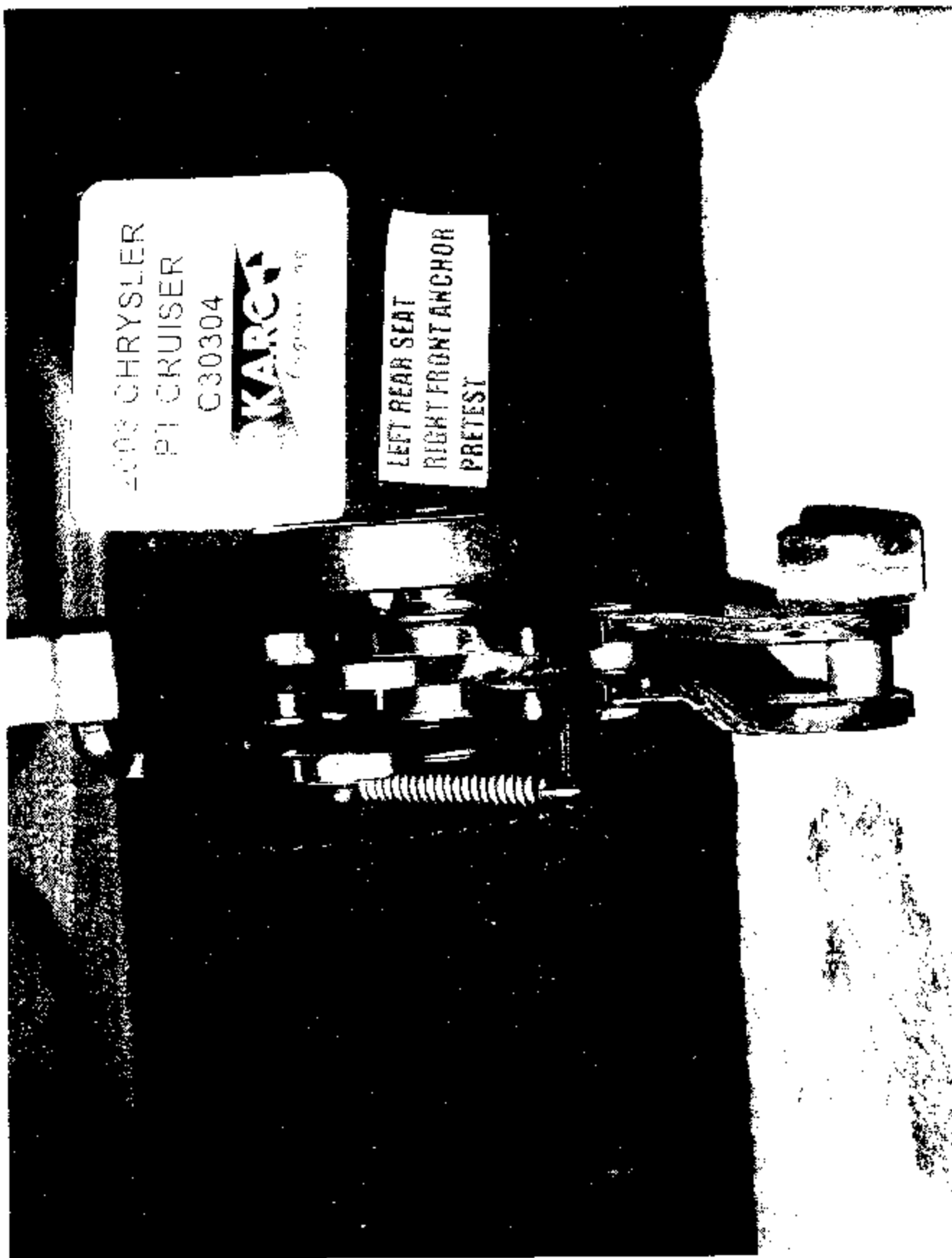


Figure A-115: Seat Anchor, Left Rear Seat, Pre-Test

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LEFT REAR SEAT
RIGHT FRONT ANCHOR
POST TEST

Figure A-116: Seat Anchor, Left Rear Seat, Post-Test

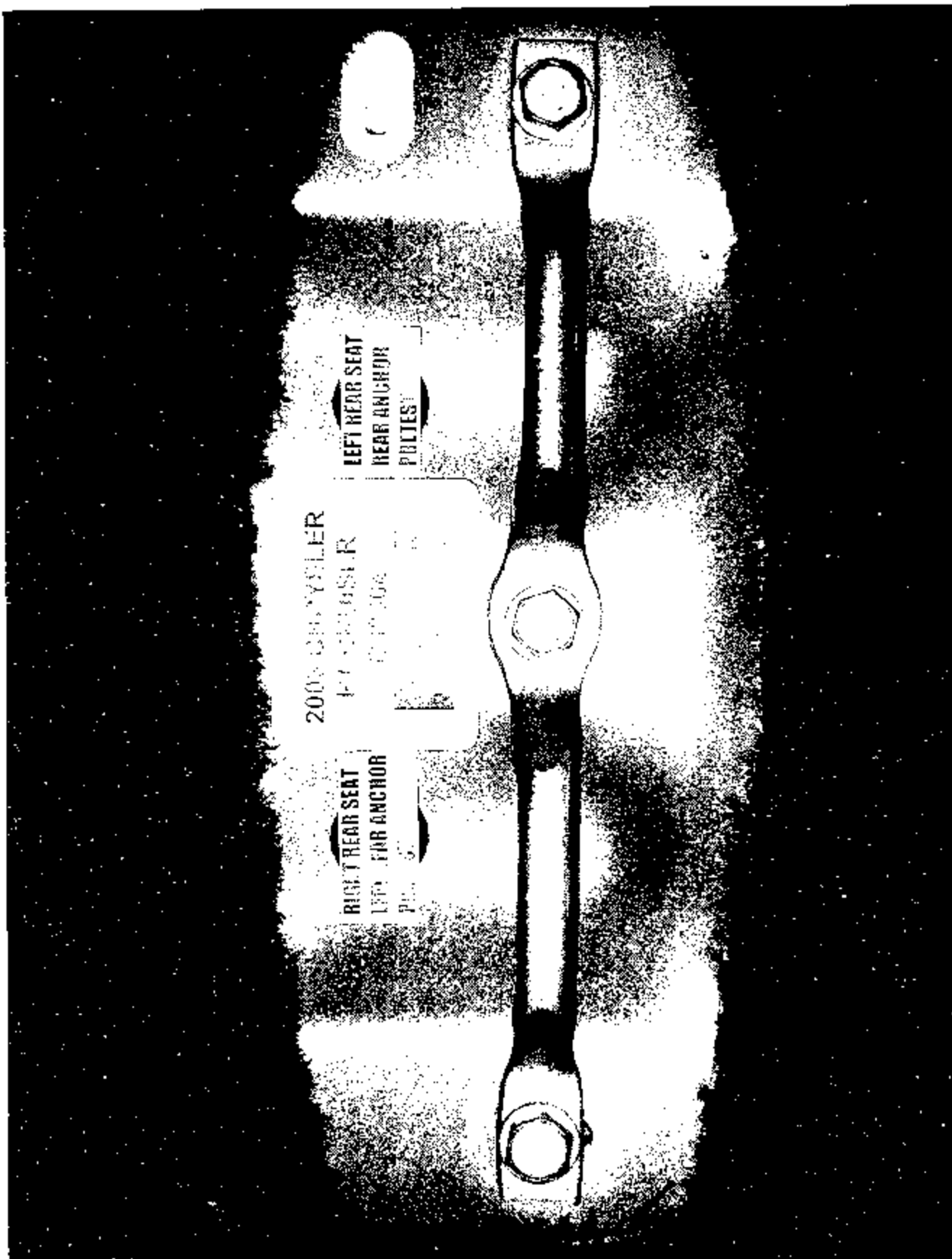


Figure A-117: Floor Pan Anchor, Left Rear Seat, Pre-Test

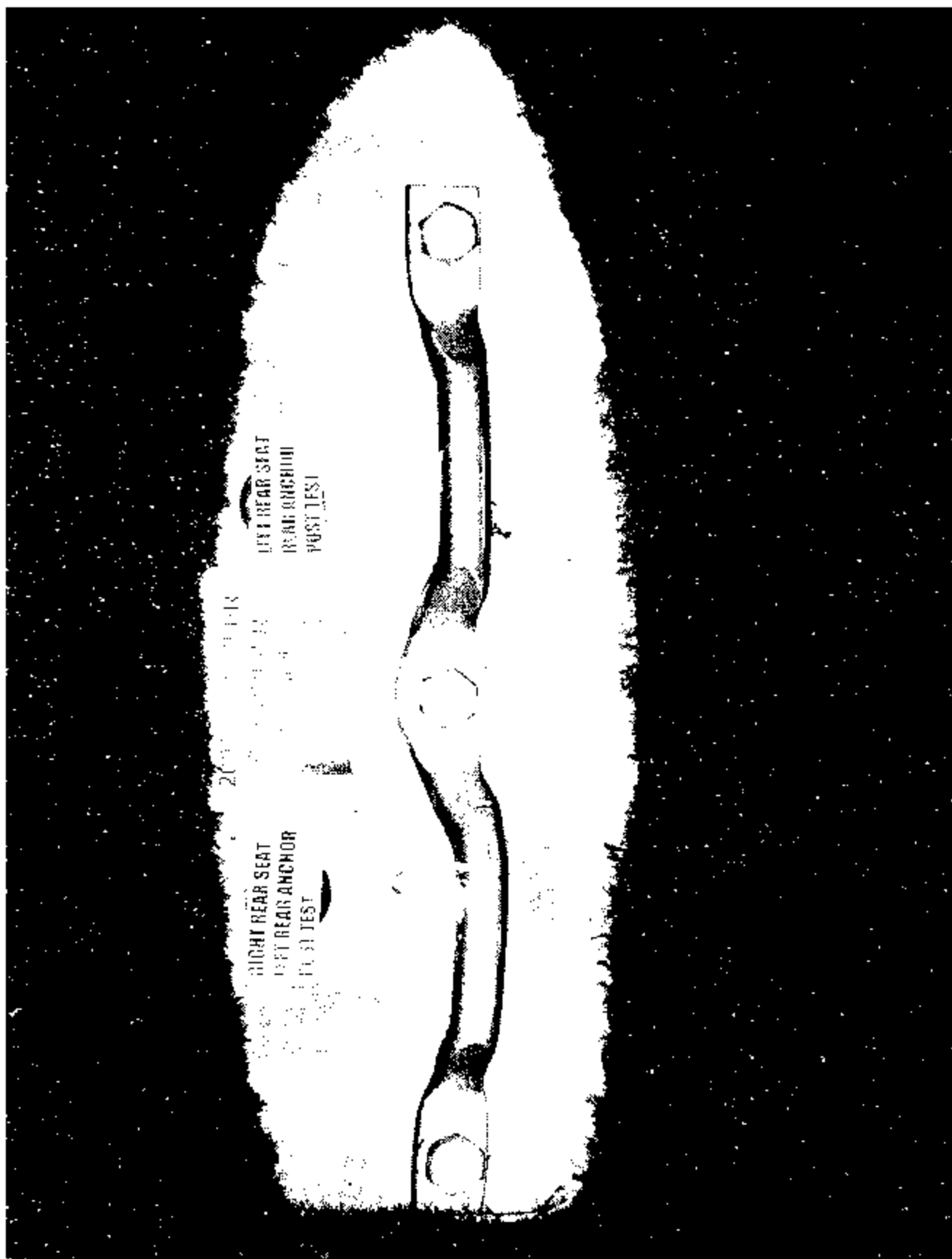


Figure A-118: Floor Pan Anchor, Left Rear Seat, Post-Test:

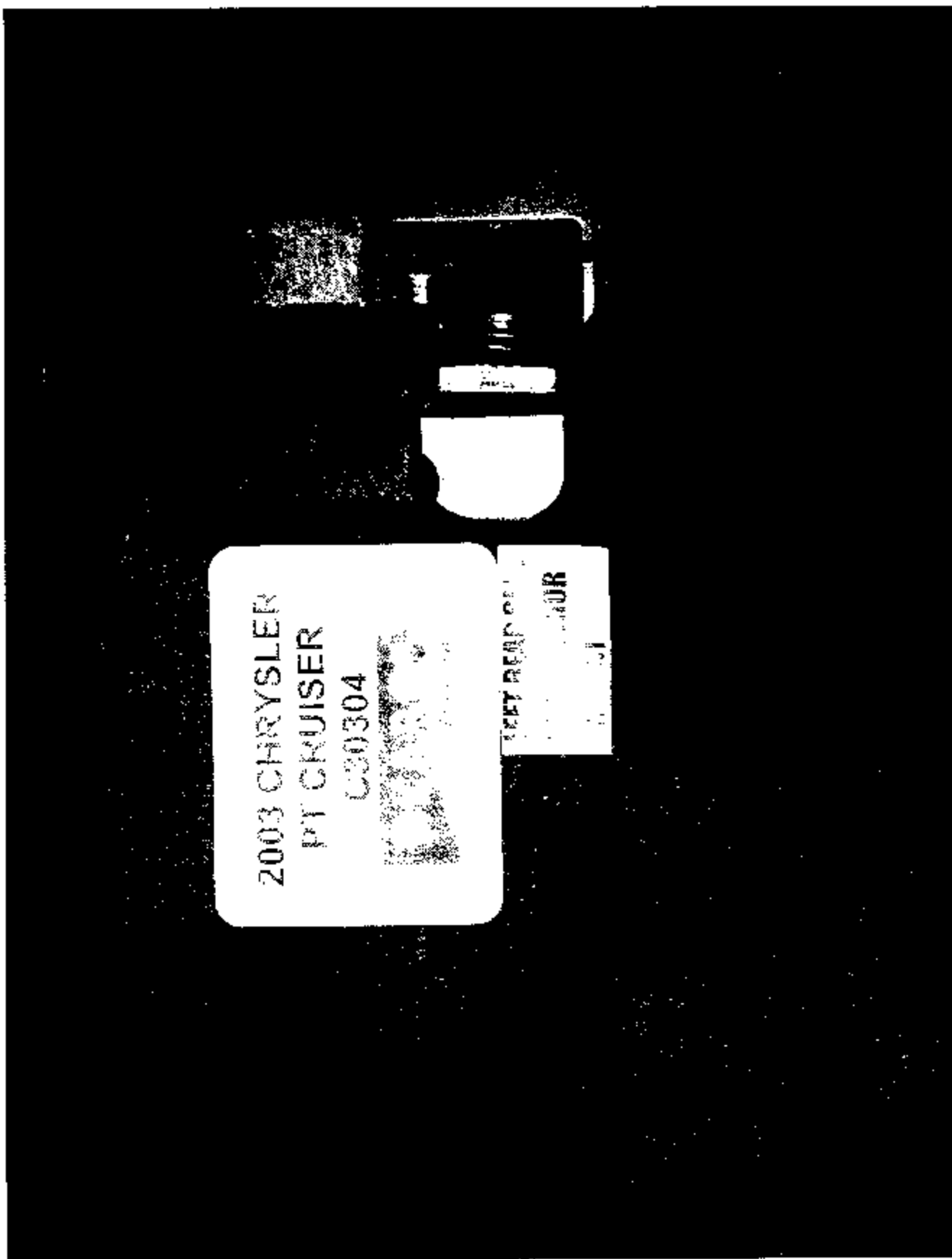


Figure A-119: Seat Anchor, Left Rear Seat, Pre-Test



Figure A-120: Seat Anchor, Left Rear Seat, Post-Test

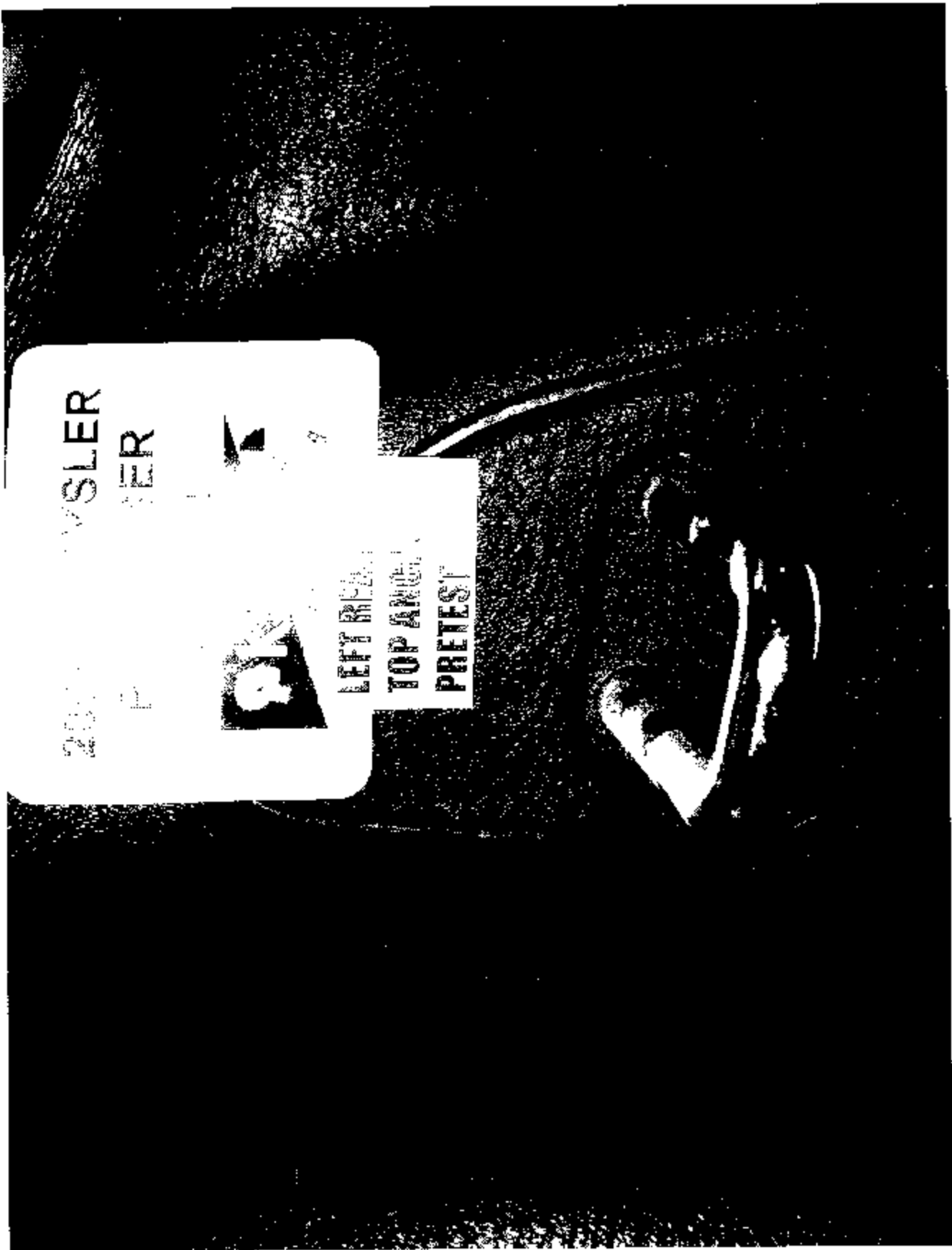


Figure A-121: Floor Pan Anchor, Left Rear Seat, Pre-Test

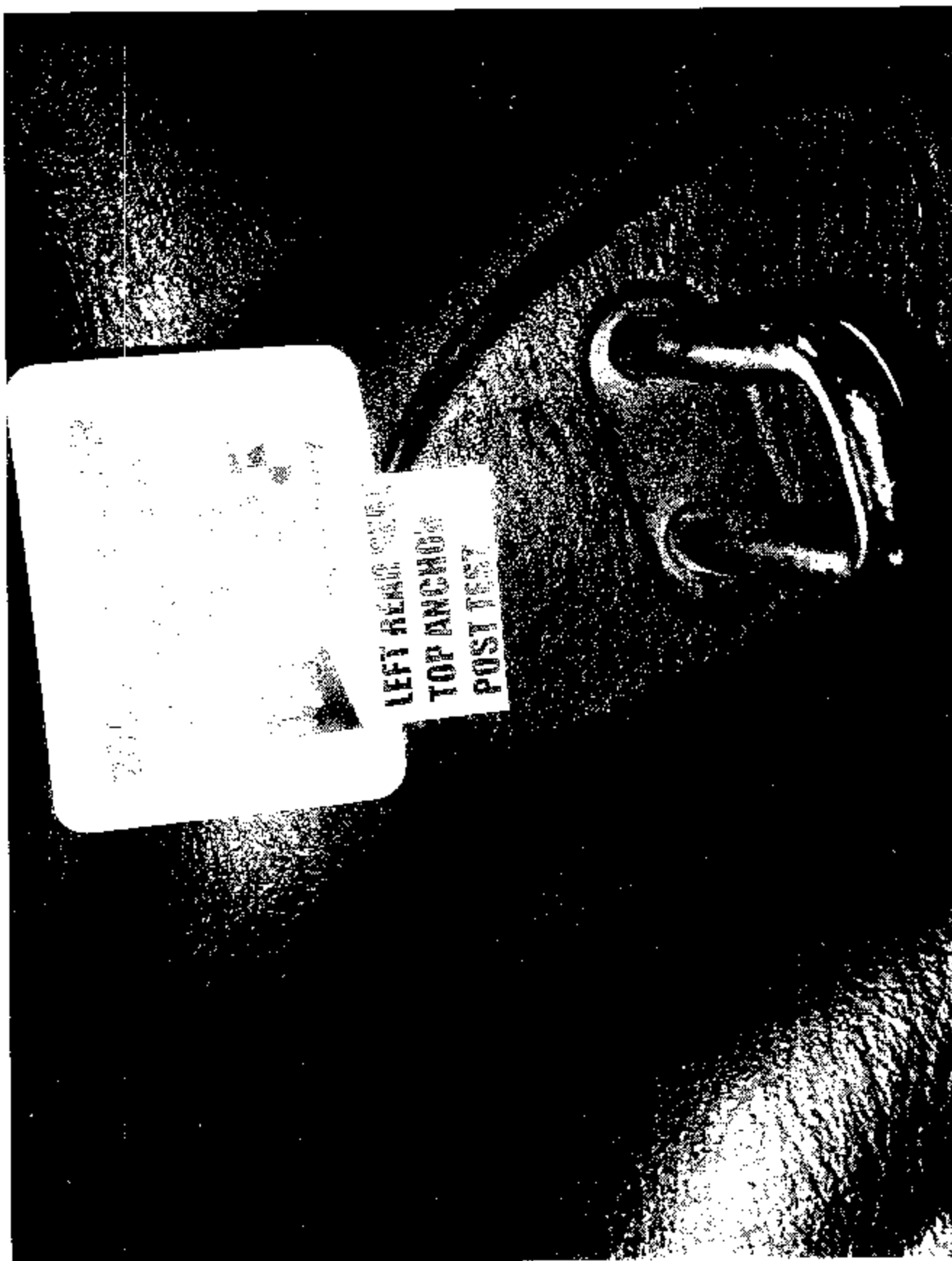


Figure A-122: Floor Pan Anchor, Left Rear Seat, Post-Test

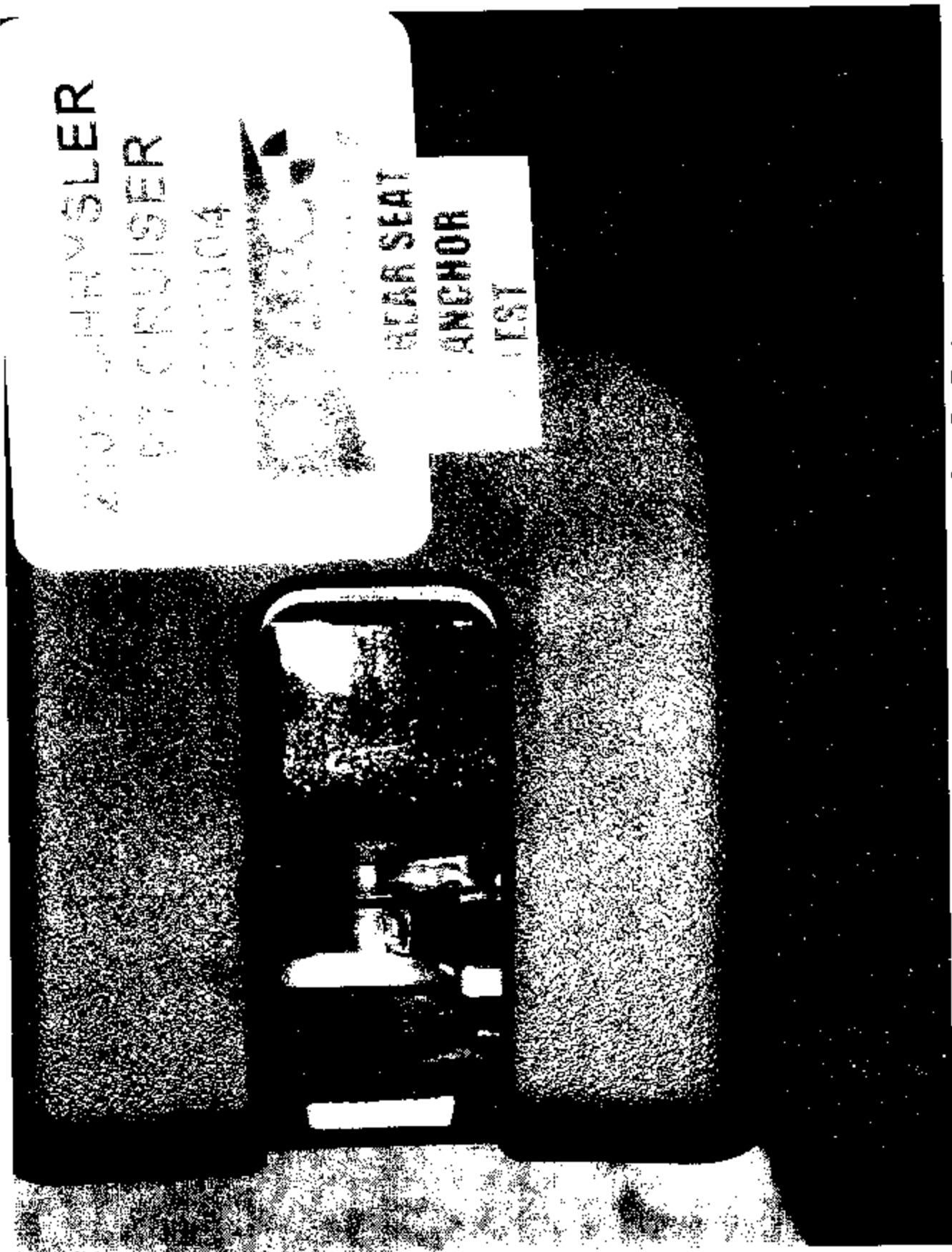


Figure A-123: Seat Anchor, Left Rear Seat, Pre-Test

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SEAT ANCHOR

LEFT REAR SEAT
TOP ANCHOR
POST TEST

Figure A-124: Seat Anchor, Left Rear Seat, Post-Test



Figure A 125: Floor Pan Anchors, Right Rear Seat Overall, Pre-Test



Figure A-126: Floor Pan Anchors, Right Rear Seat Overall, Post-Test

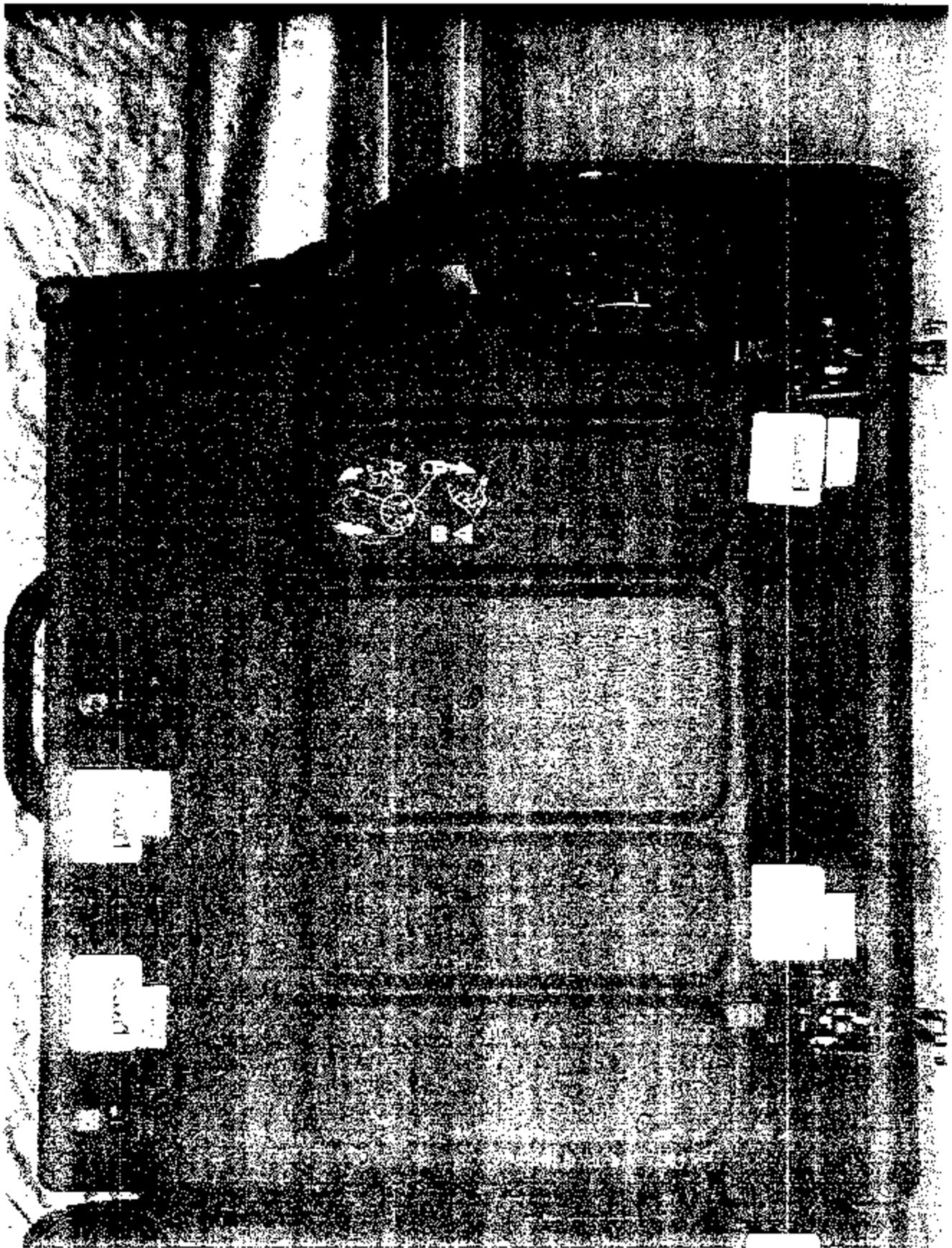


Figure A 127. Seca, Anchors, Night Rear Seal Overall, Pre-Test

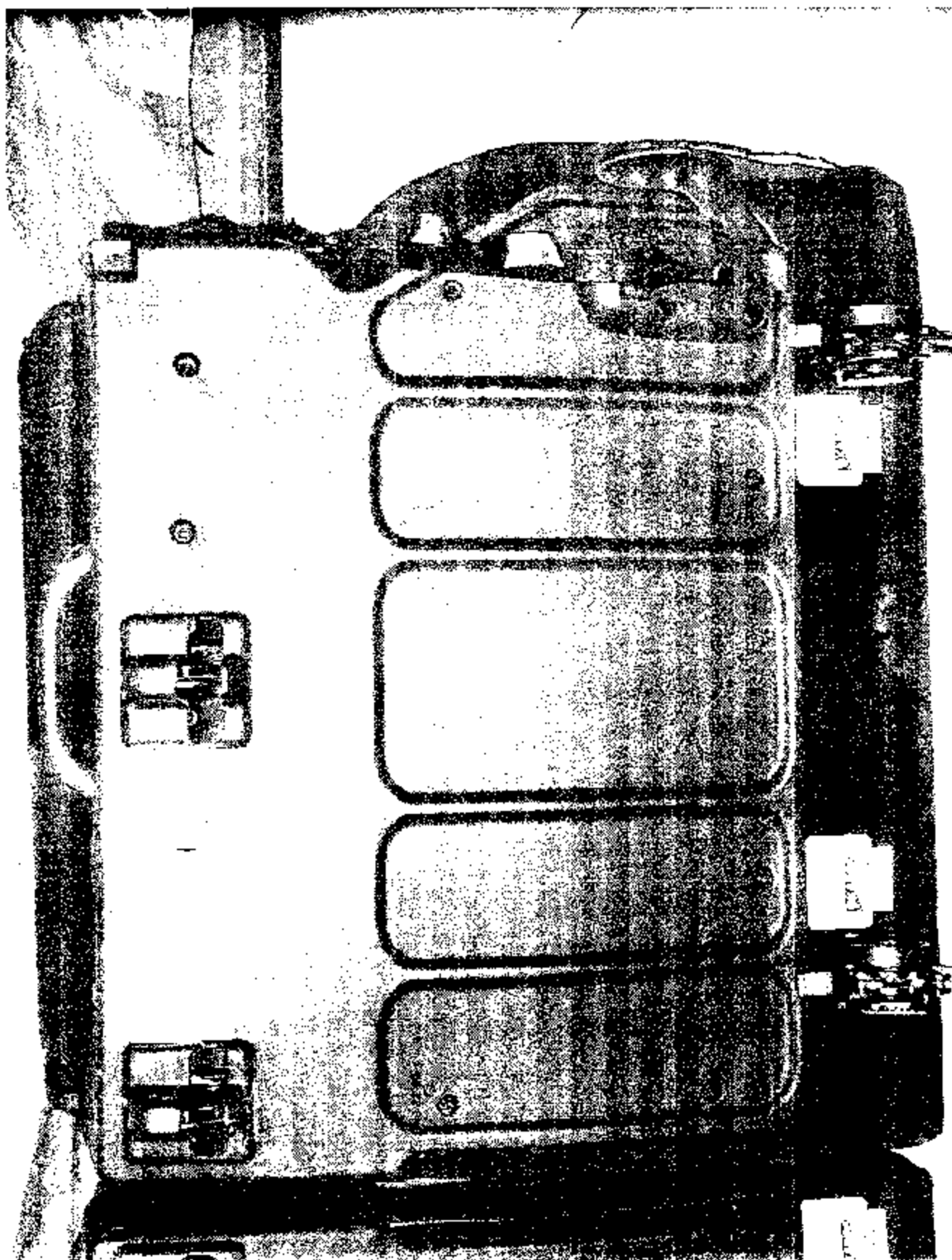


Figure A-128: Seat Anchors, High: Rear Seat: Overall, Post Test

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RIGHT REAR SEAT
LEFT FRONT ANCHOR
PRETEST



Figure A-129: Floor Pan Anchor, Right Rear Seat, Pre-Test

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RIGHT REAR SEAT
LEFT FRONT ANCHOR
POST TEST



Figure A-130: Floor Pan Anchor, Right Rear Seat, Post-Test

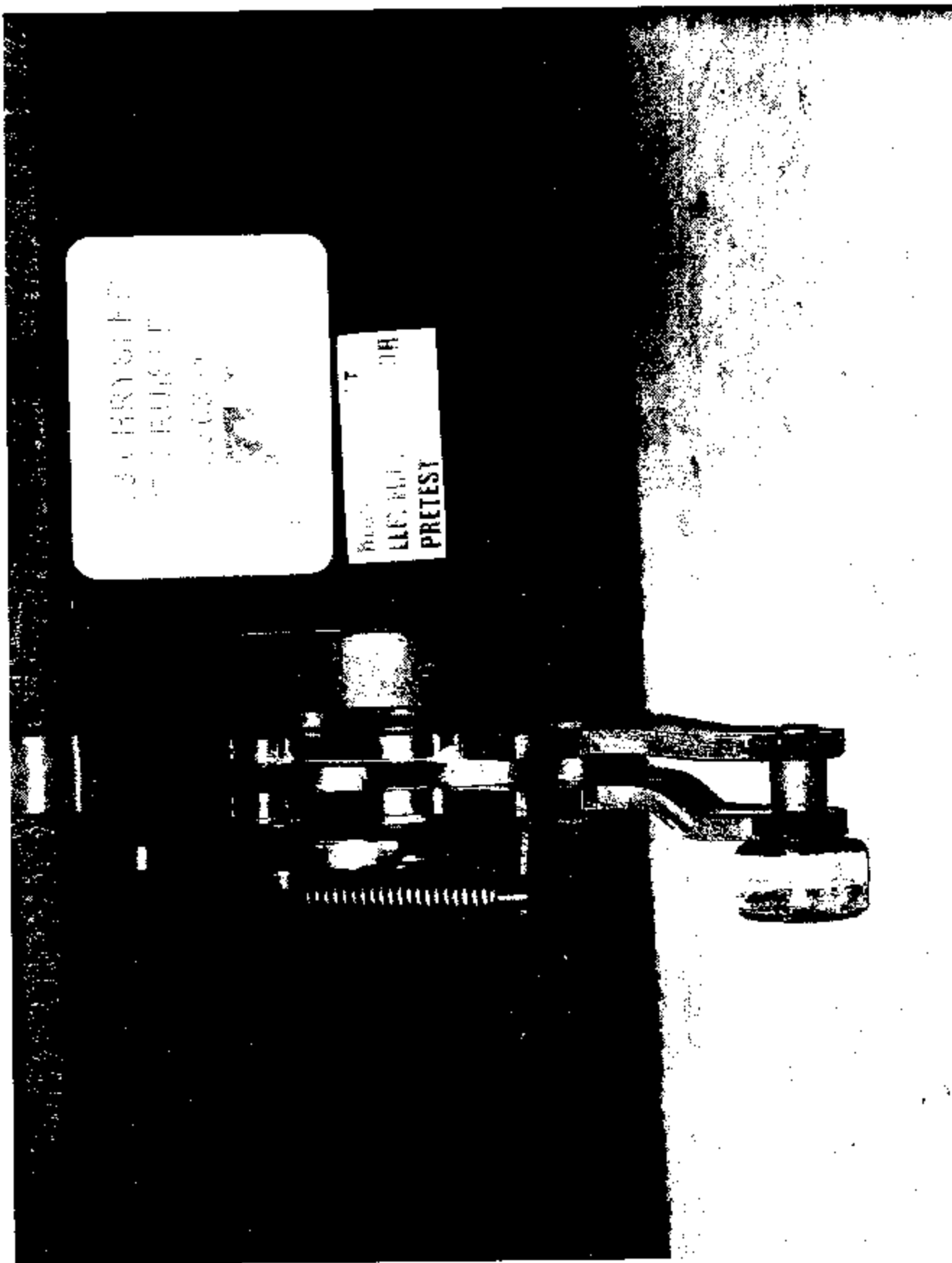


Figure A-131: Seat Anchor, Right Rear Seat, Pre-Test

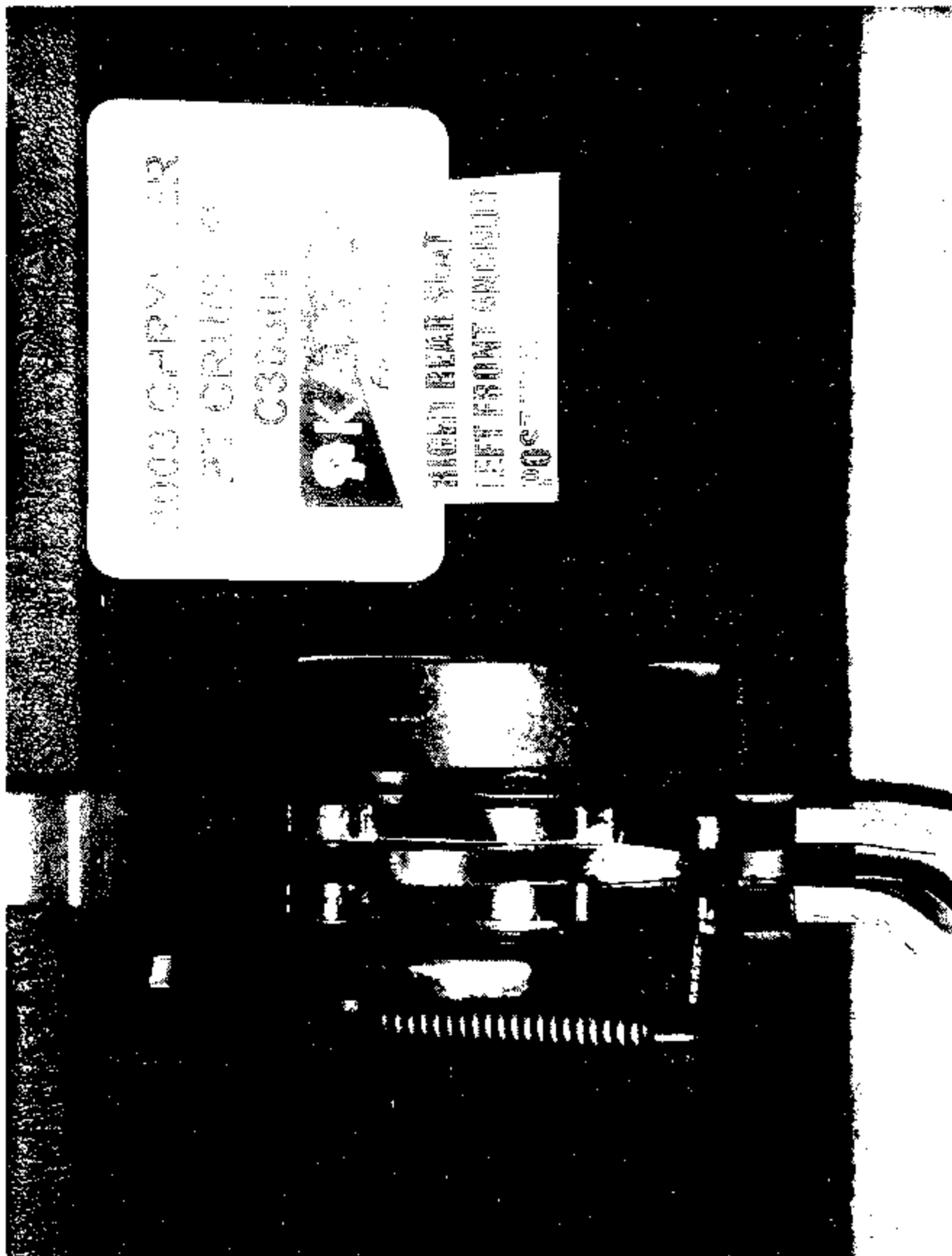


Figure A-132: Seat Anchor, Right Rear Seat, Post-Test

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RIGHT REAR SEAT
RIGHT FRONT ANCHOR
PRETEST

Figure A-133: Floor Pan Anchor, Right Rear Seat, Pre-Test

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RIGHT REAR SEAT
RIGHT FRONT ANCHOR
POST TEST

Figure A-134: Floor Pan Anchor, Right Rear Seat, Post-Test

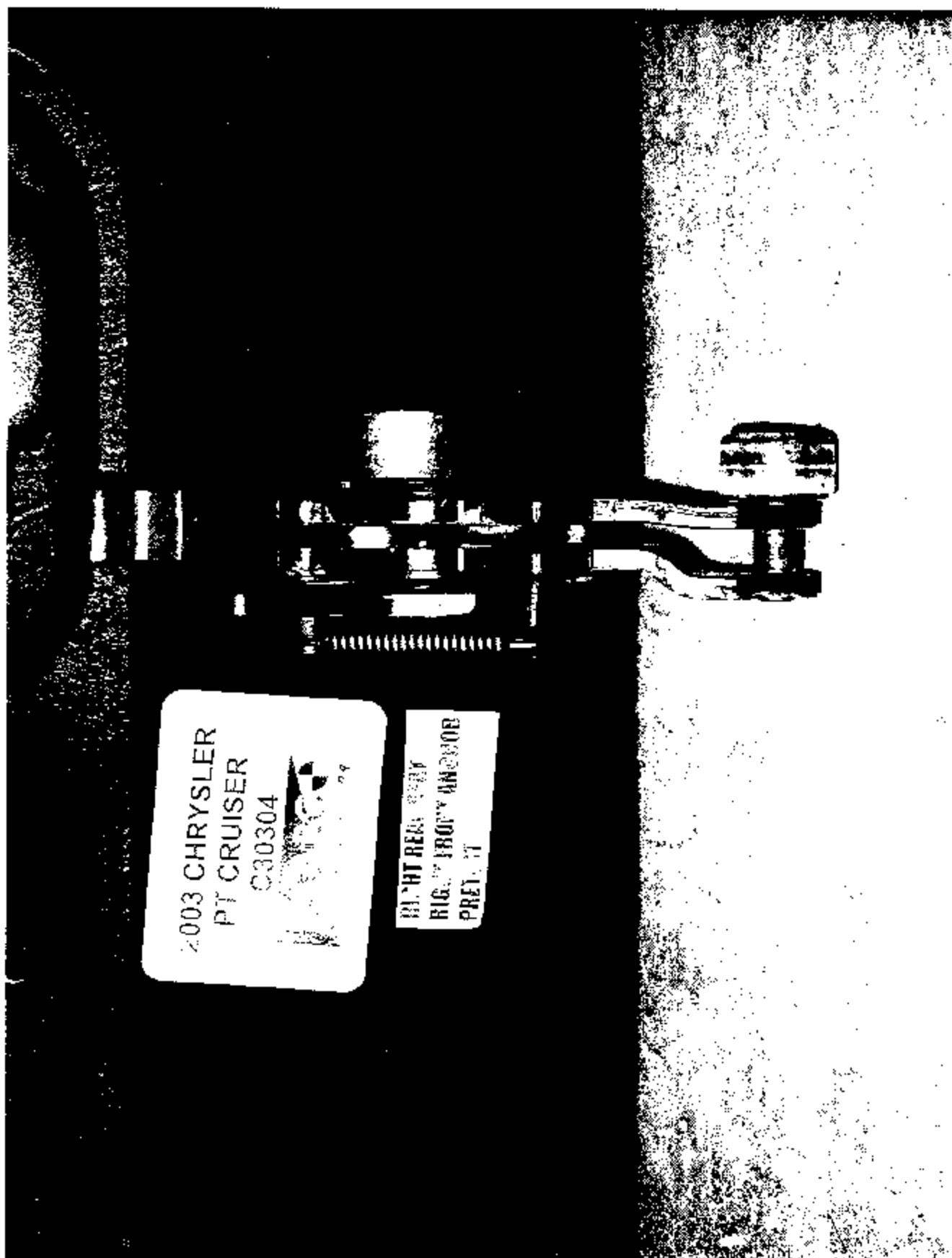


Figure A-135: Seat Anchor, Right Rear Seat, Pre-Test

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**RIGHT REAR SEAT
SEAT ANCHOR**

Figure A-136: Seat Anchor, Right Rear Seat, Post-Test

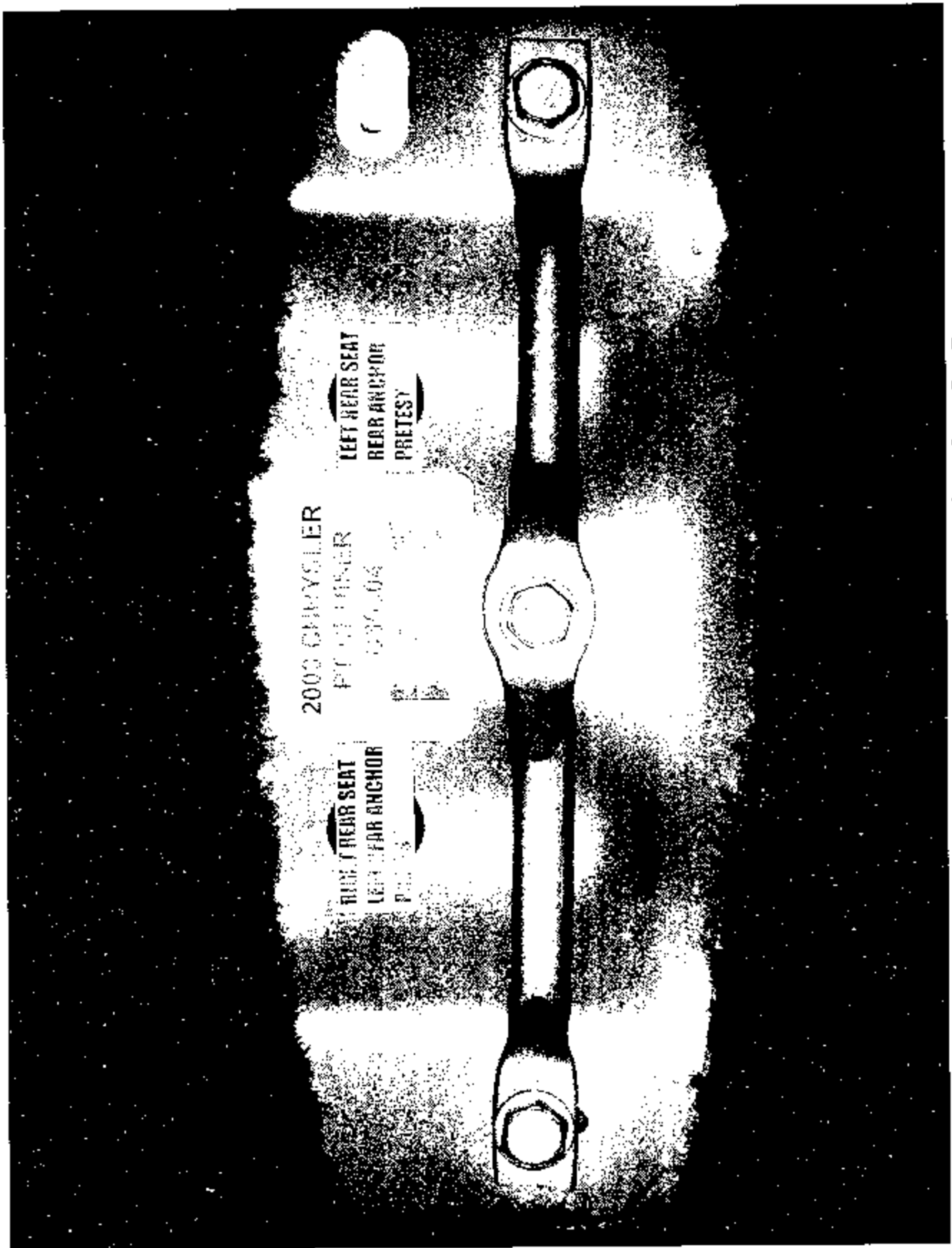


Figure A-137: Floor Pan Anchor, Right Rear Seat, Pre-Test

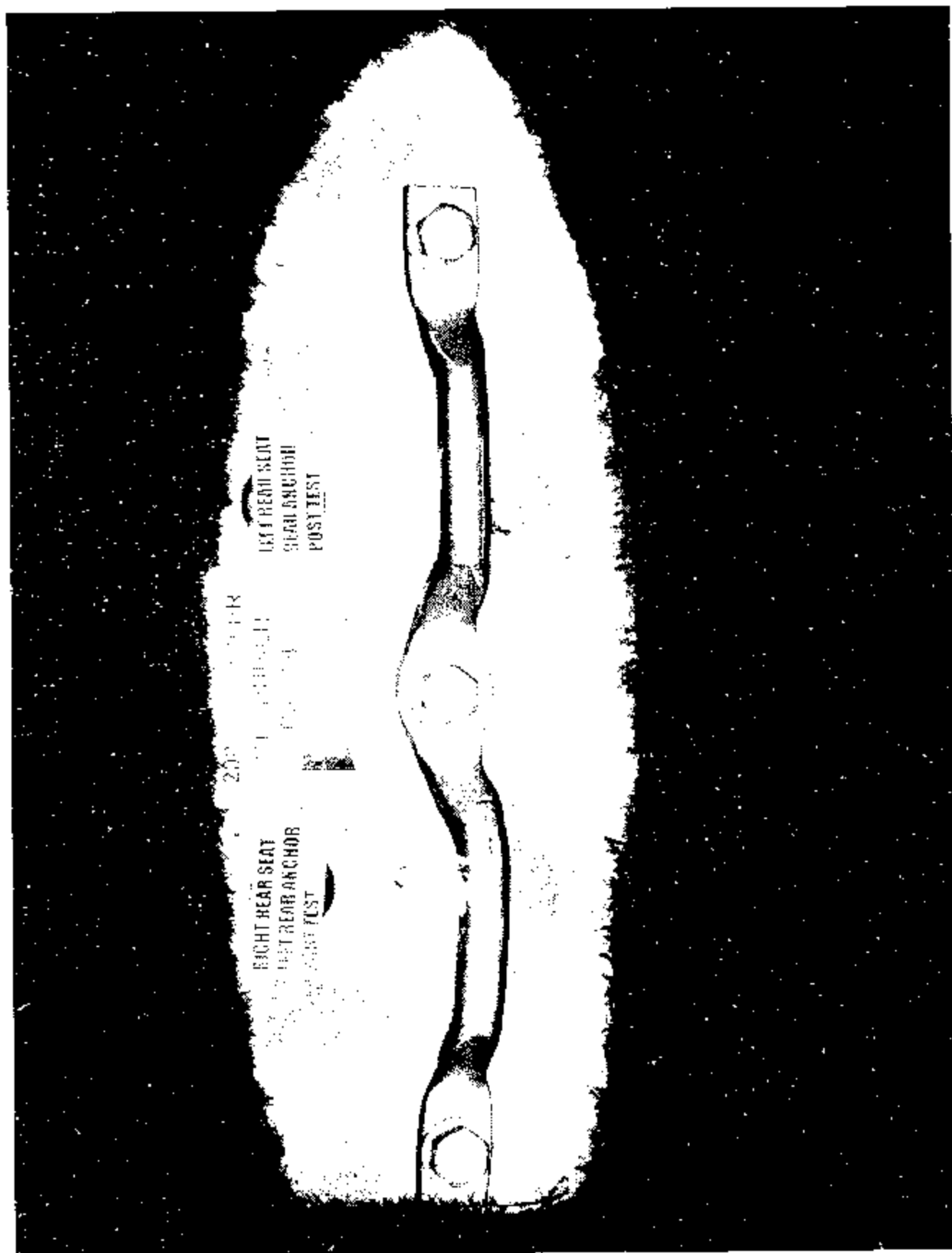


Figure A-138: Floor Pan Anchor, Right Rear Seat, Post-Test:



Figure A-139: Seat Anchor, Right Rear Seal, Pre-Test

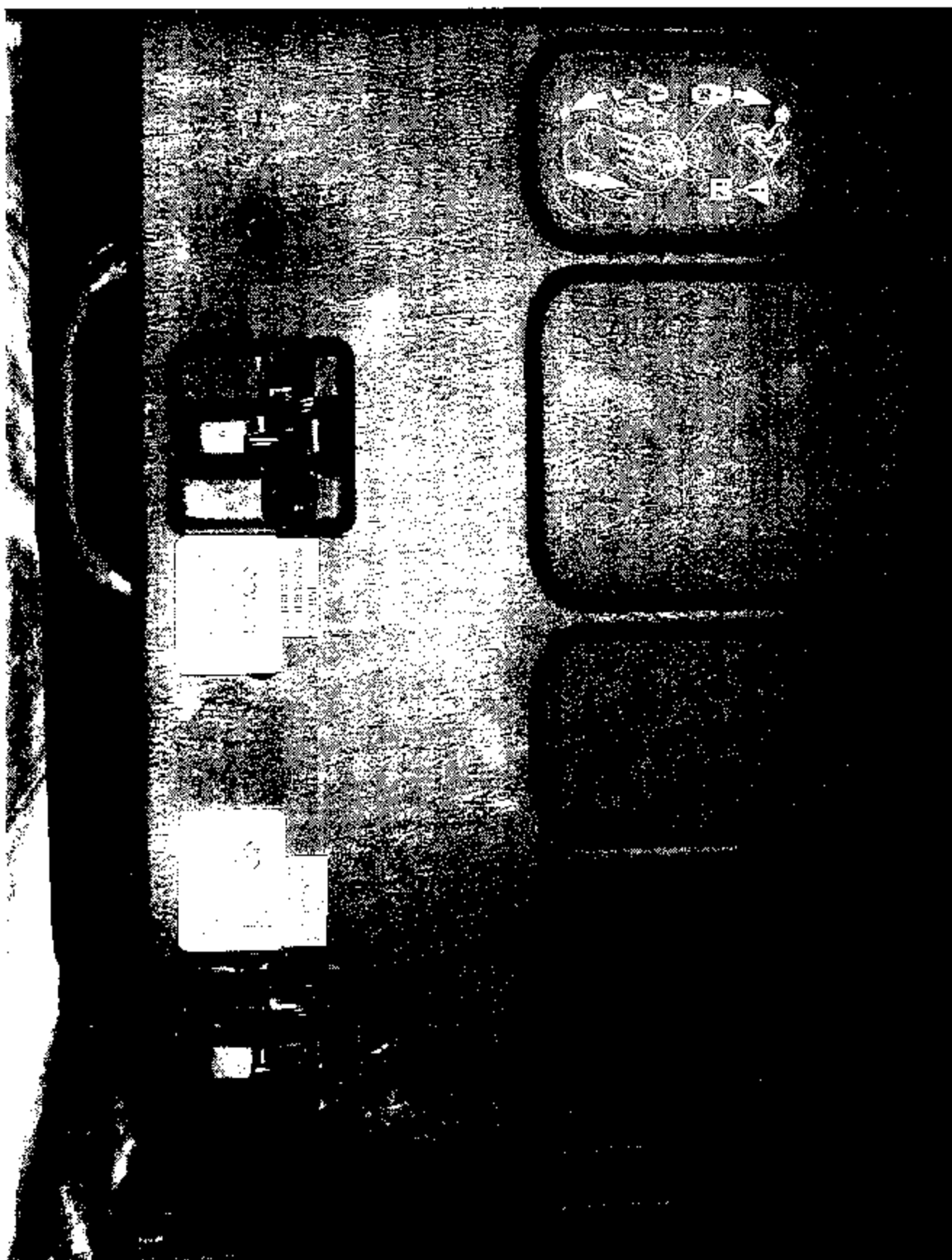
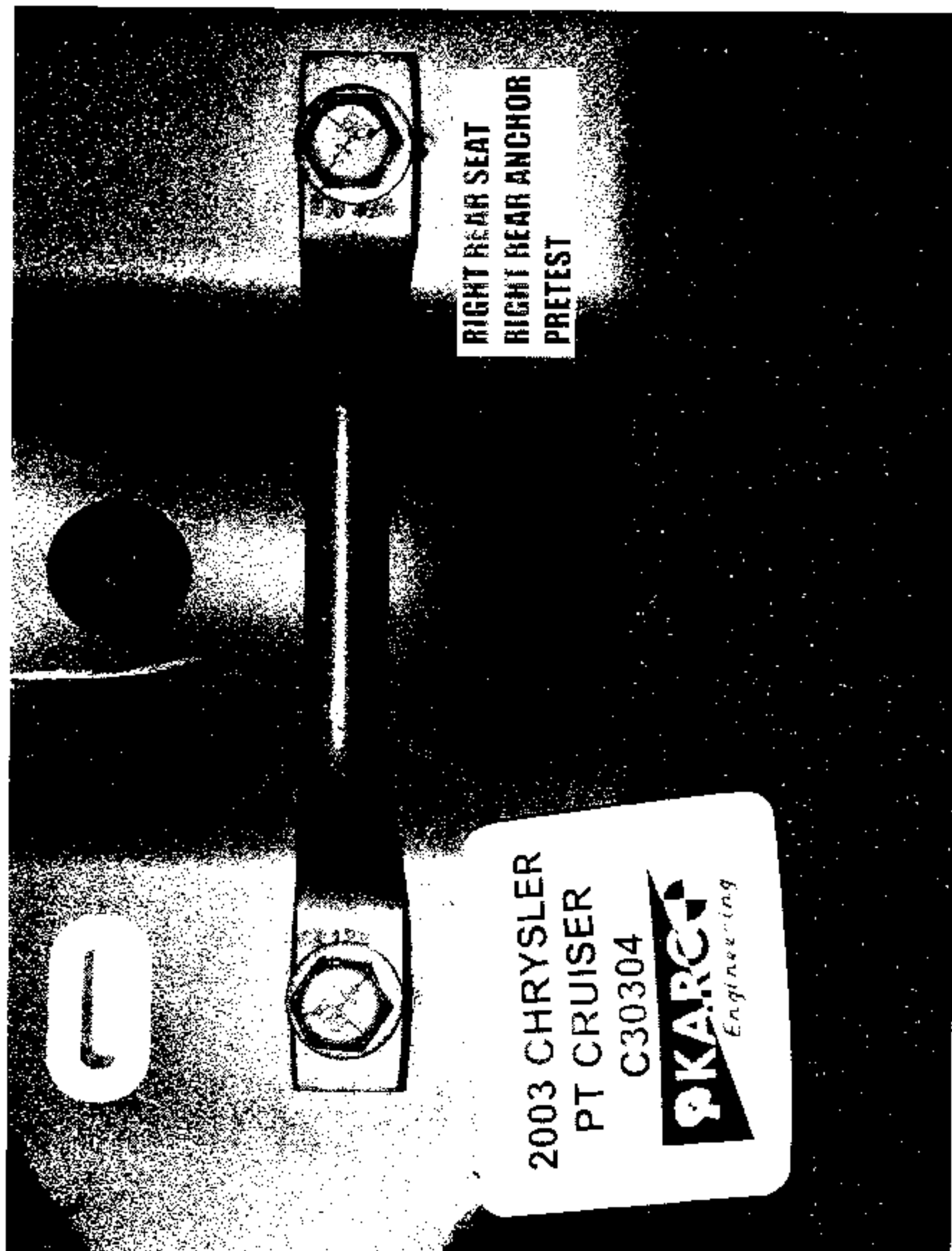


Figure A-140: Seat Anchor, Right Rear Seat, Post-Test



RIGHT REAR SEAT
RIGHT REAR ANCHOR
PRETEST

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Figure A-141: Floor Pan Anchor, Right Rear Seat, Pre-Test

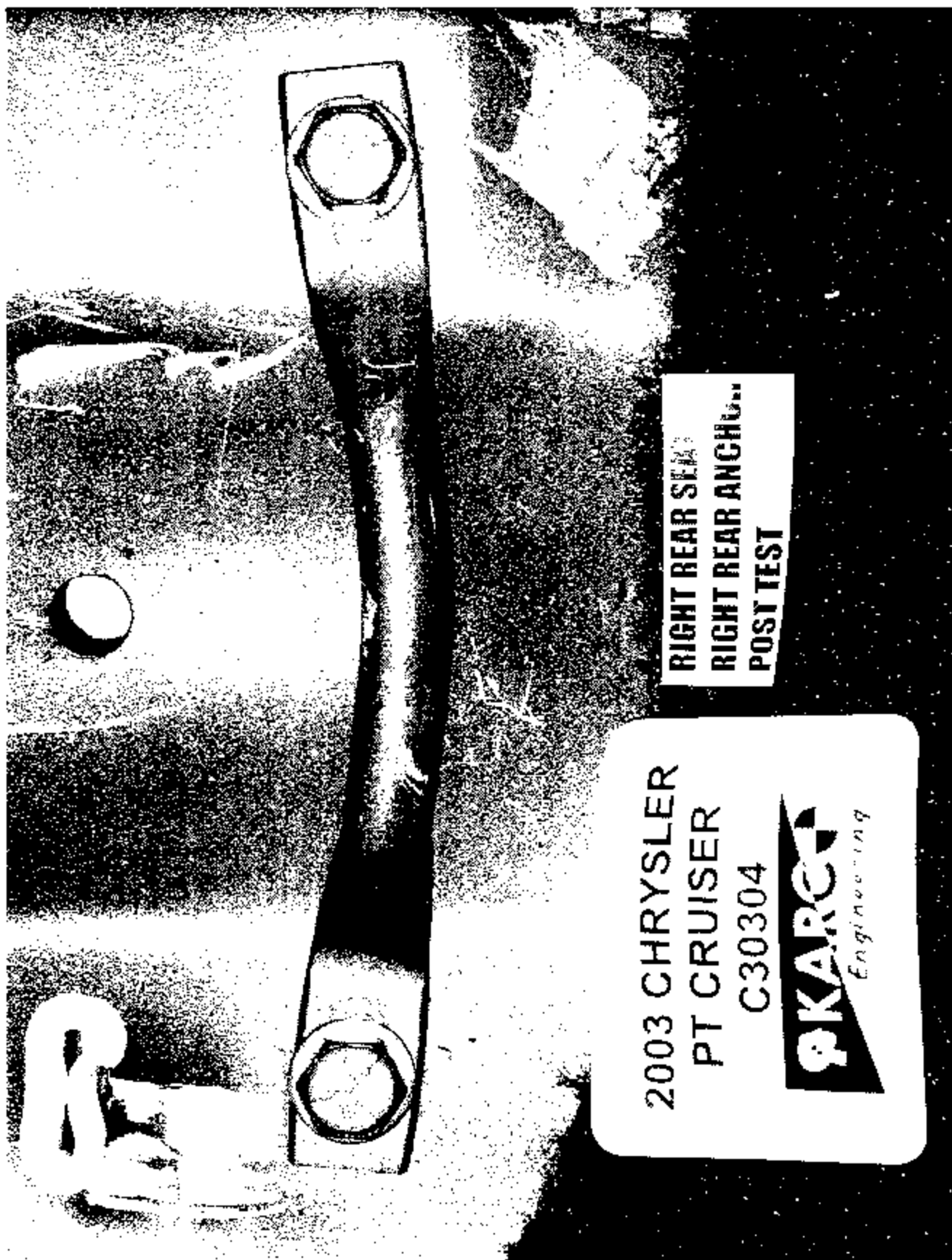


Figure A-142: Floor Pan Anchor, Right Rear Seat, Post-Test



Figure A-143: Seal Anchor, Right Rear Seat, Pre-Test

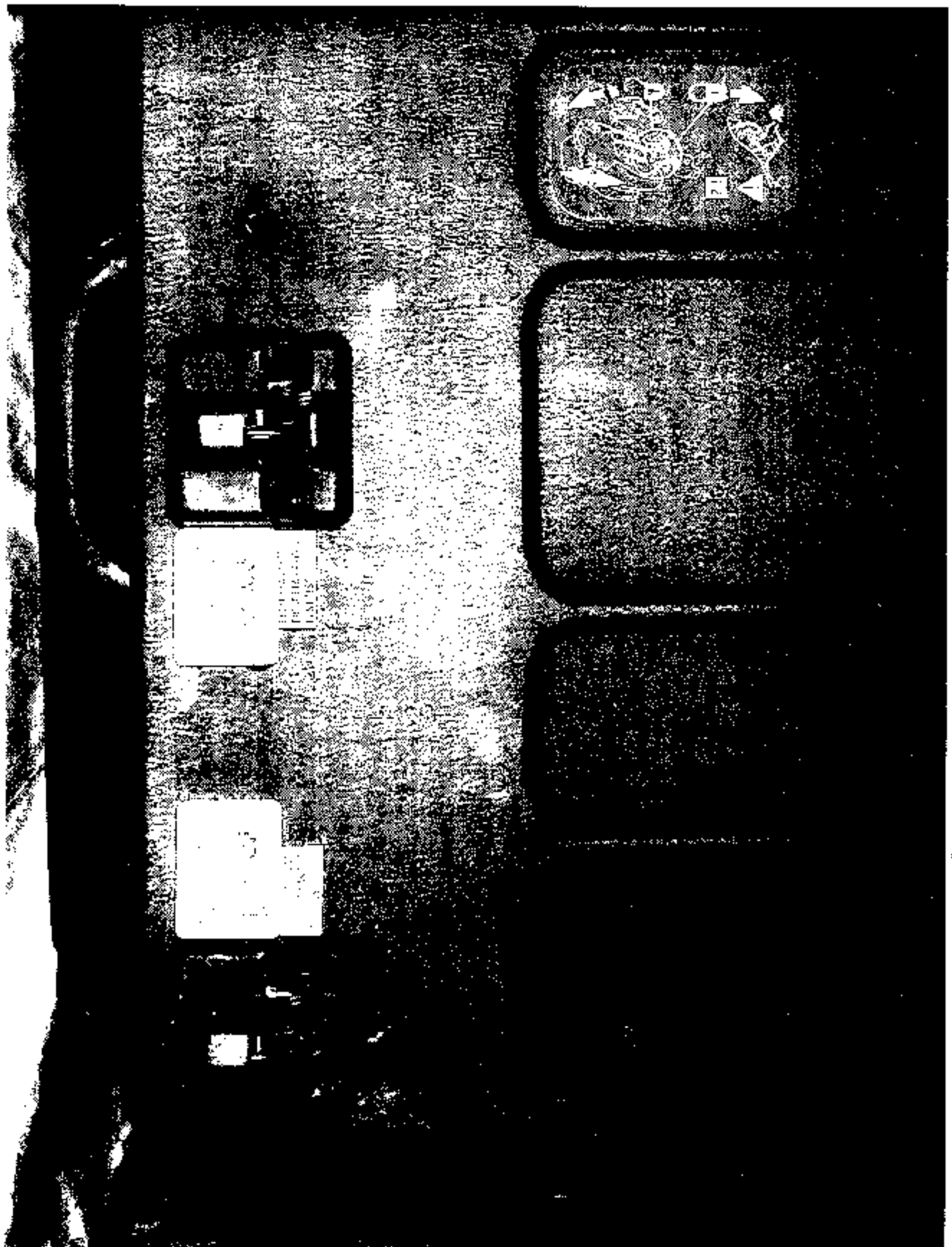


Figure A-144: Seat Anchor, Right Rear Seat, Post-Test

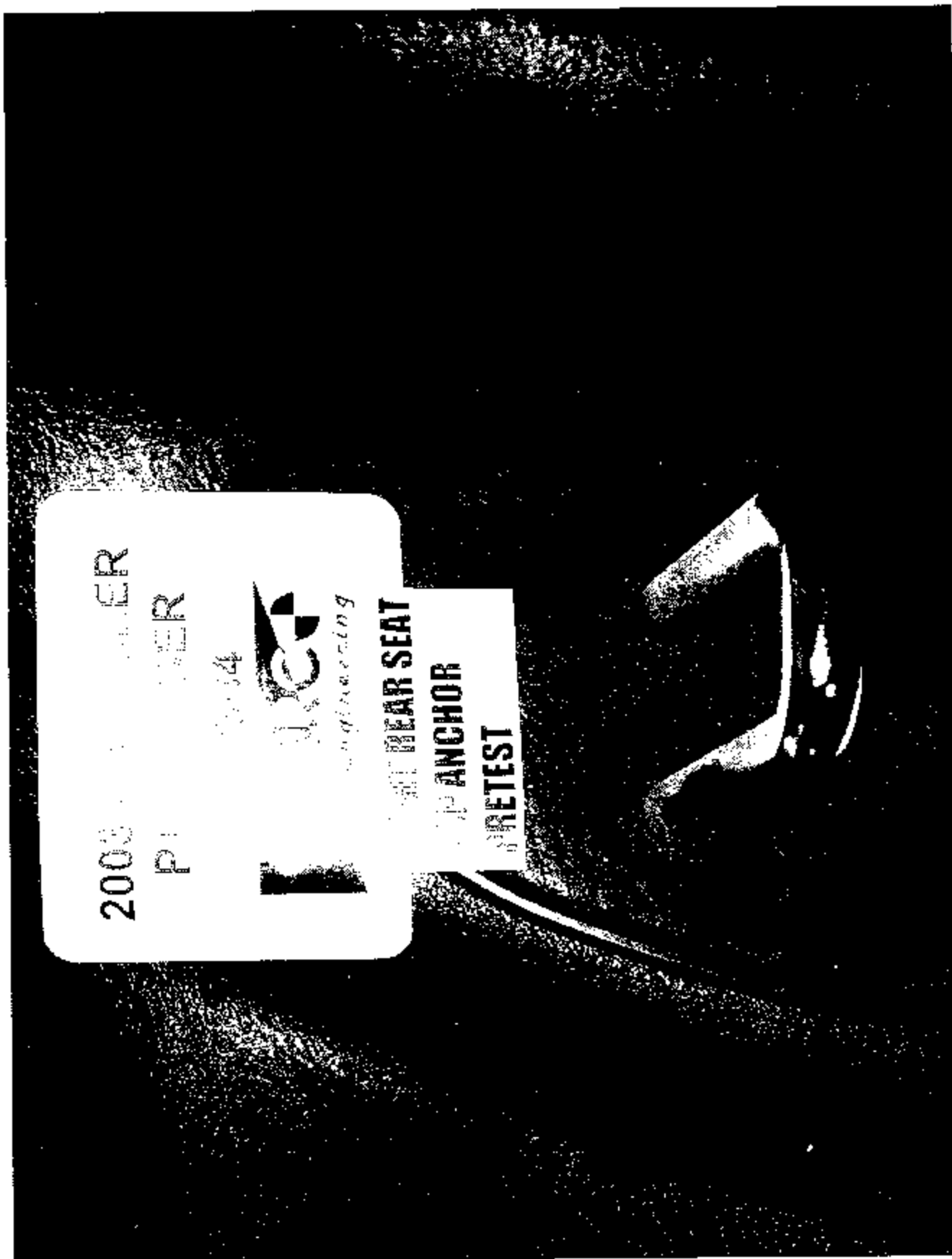


Figure A-145: Floor Pan Anchor, Right Rear Seat, Pre-Test



Figure A-146: Floor Pan Anchor, Right Rear Seat, Post-Test:

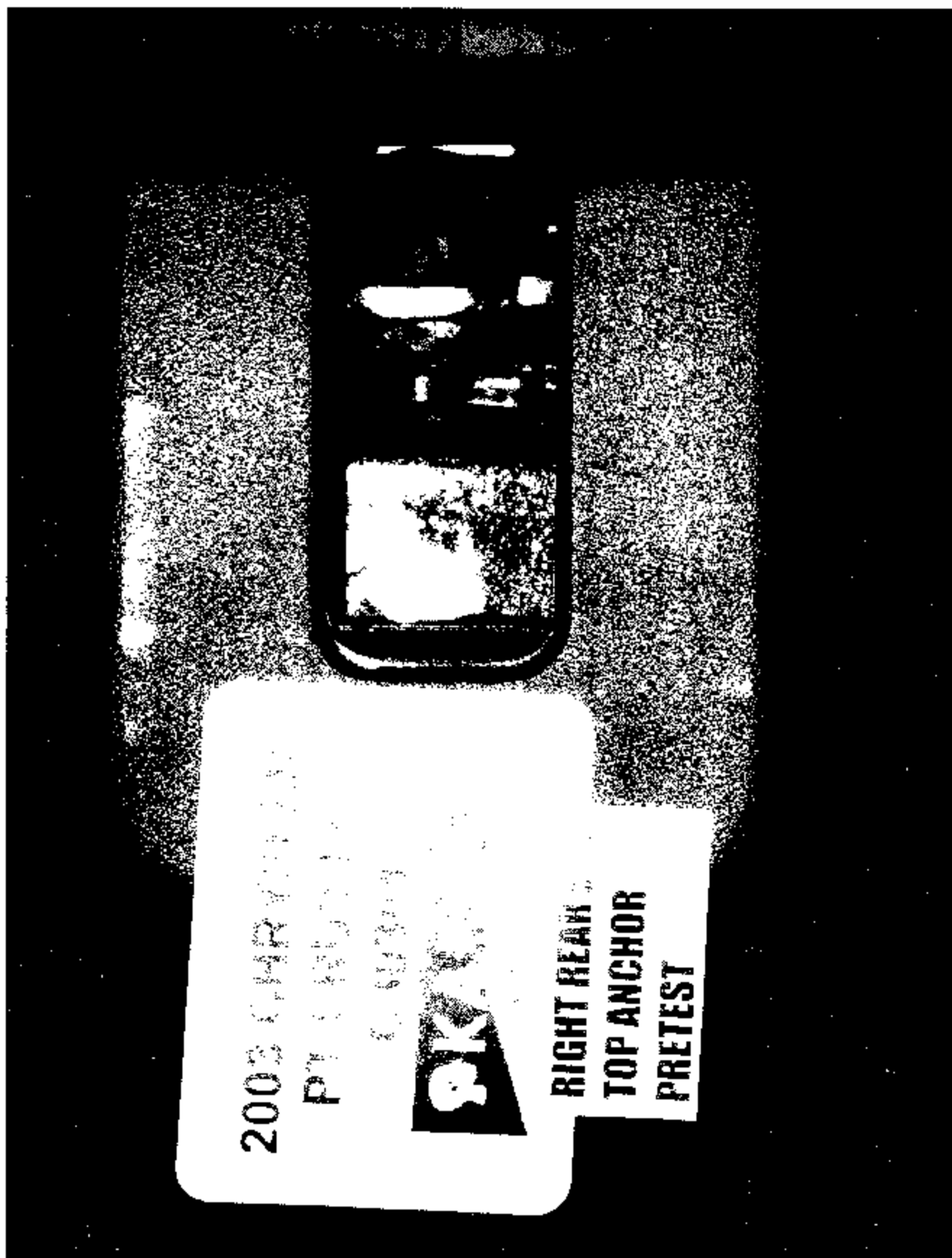


Figure A-147: Seat Anchor, Right Rear Seat, Pre-Test

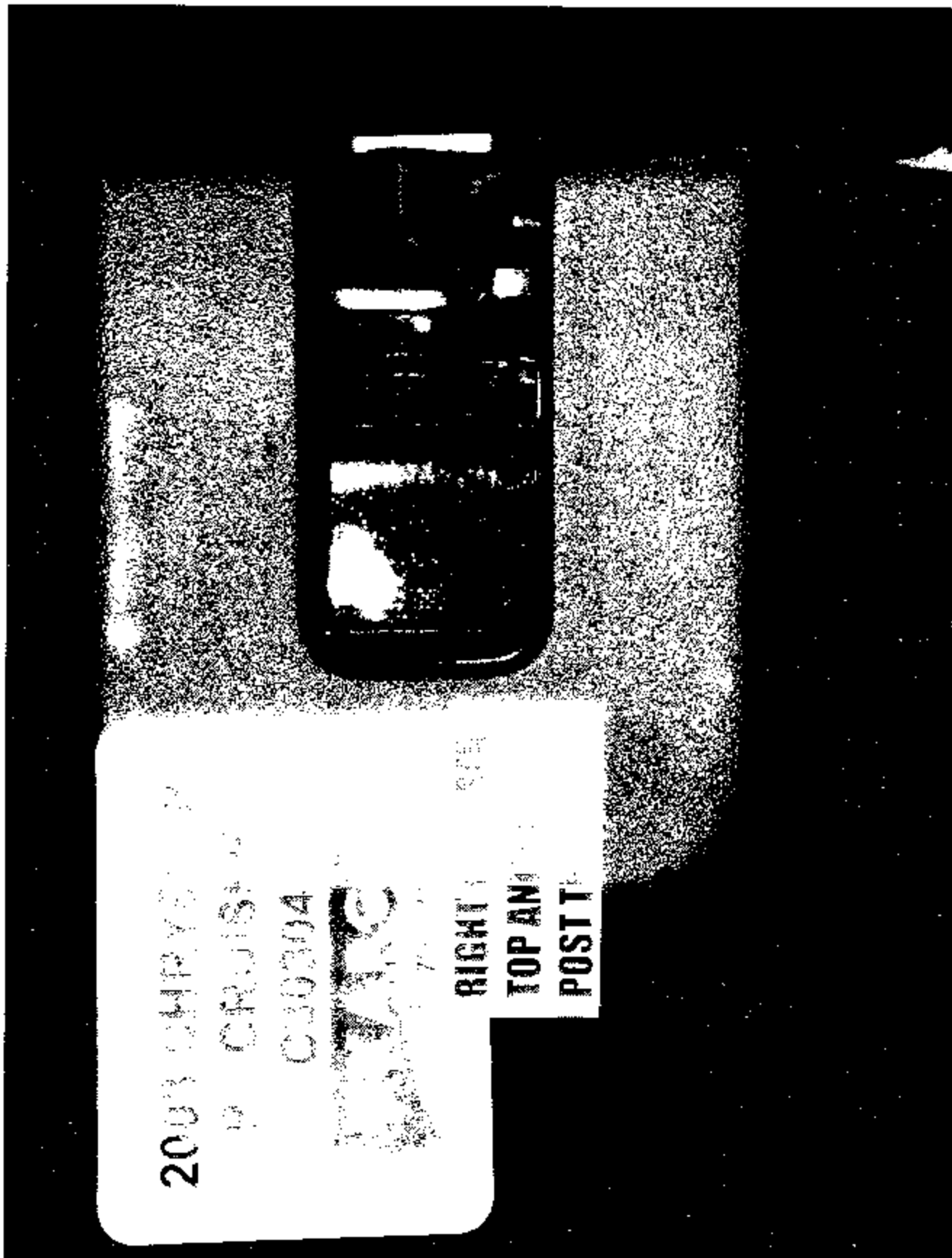
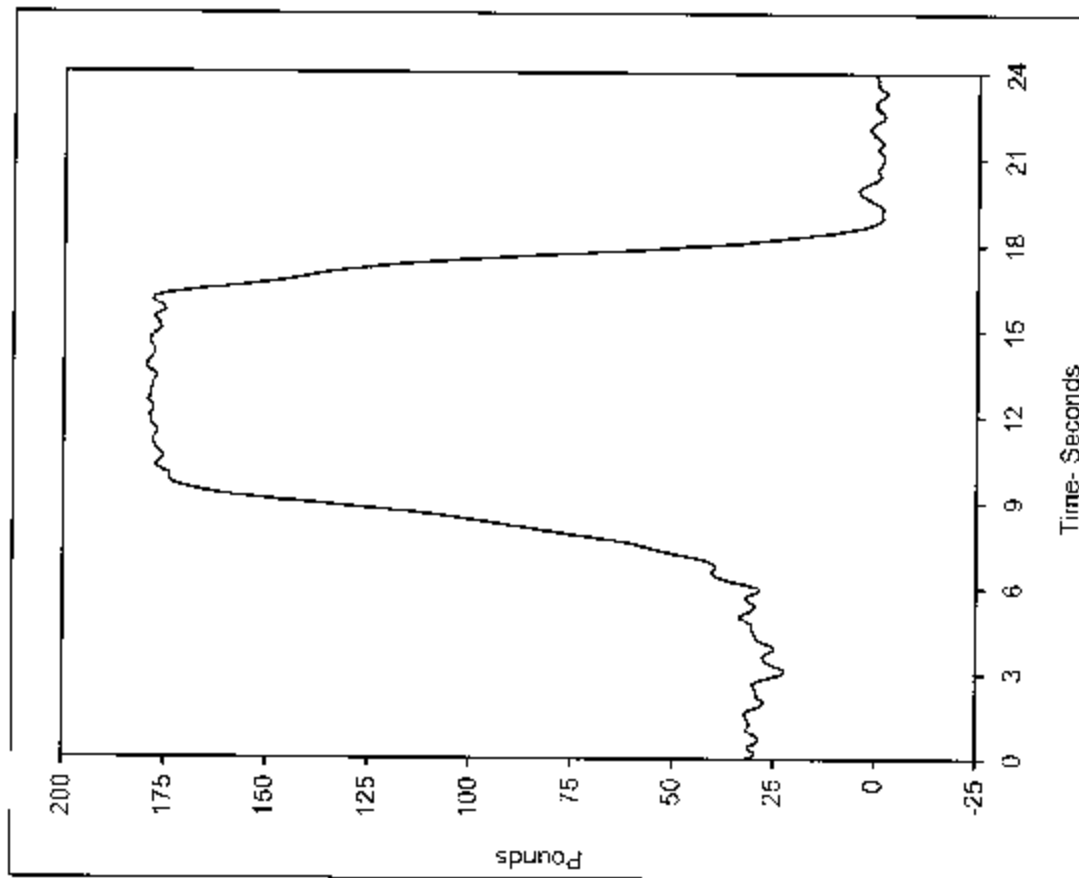


Figure A-148: Seat Anchor. Right Rear Seat, Post-Test

APPENDIX B
DATA PLOTS

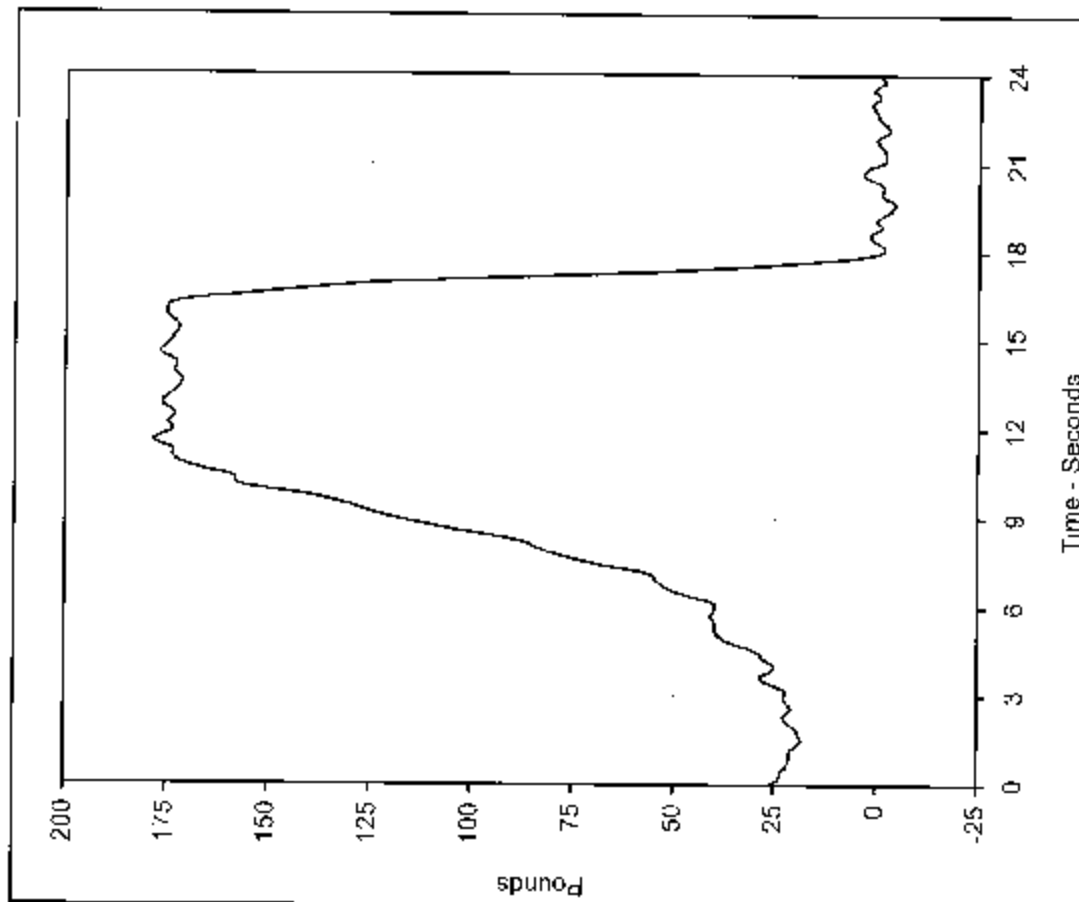


Curve Description		CURNO		Type	
Dvr. Upper X-Member		001		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	179.8	13.7	-2.1	23.3	1

Test Program:
Test Vehicle:

FMVSS 207 Aft Moment (Front)
2003 Chrysler PT Cruiser 4 Door Hatchback

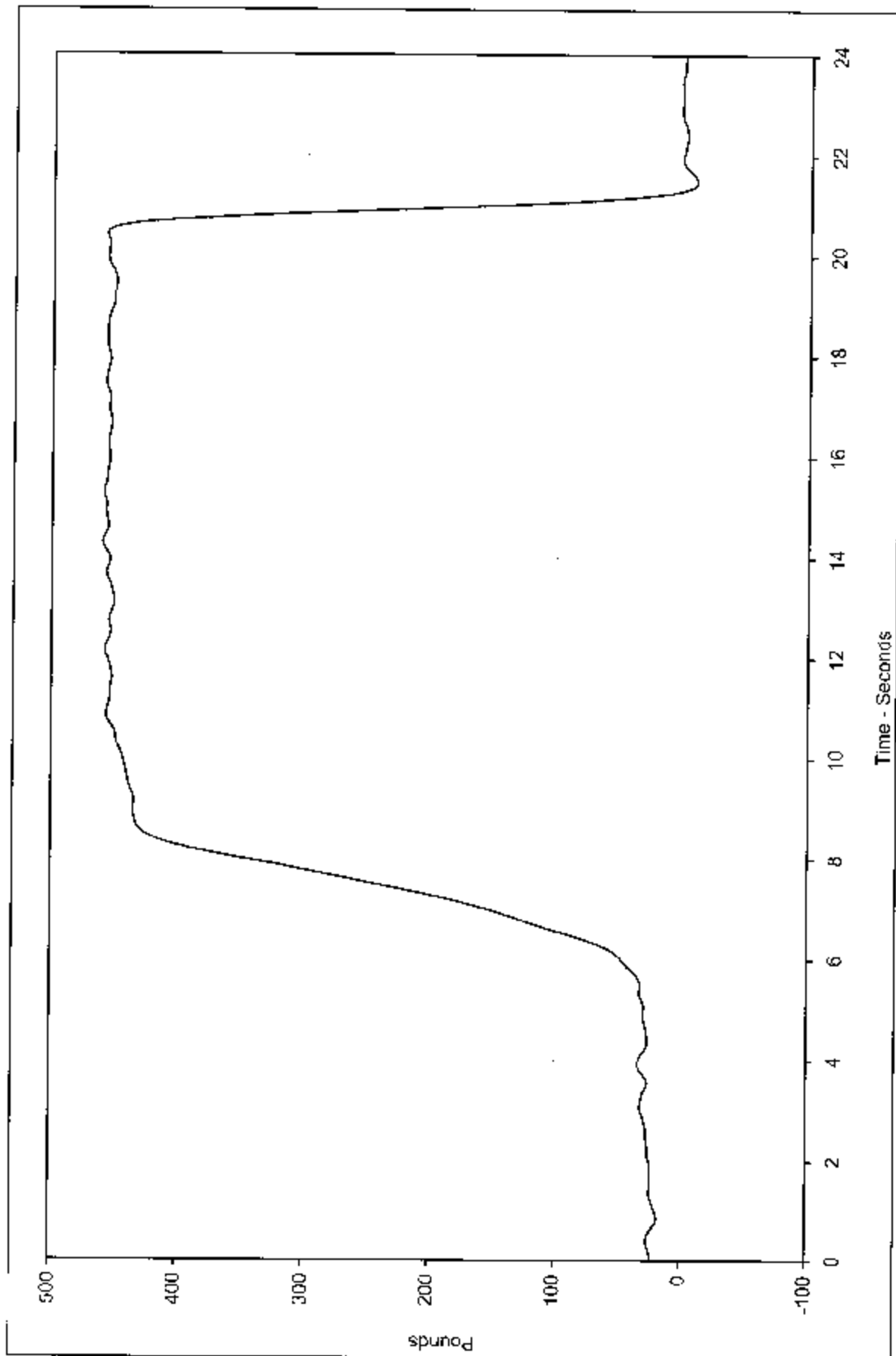


Curve Description		CURNO		Type	
Pass. Upper X-Member		002		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	178.3	11.6	-4.0	19.6	1

Test Date: 8/13/03
Project No.: C30304





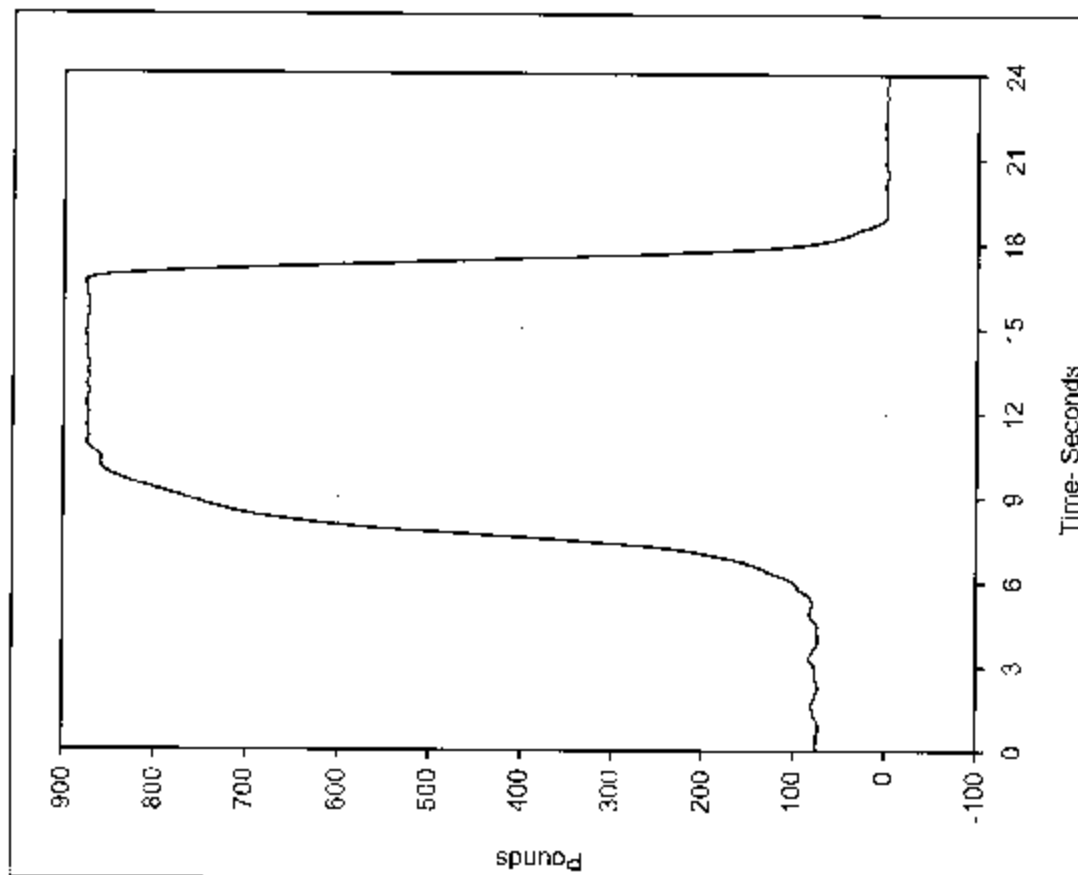
Curve Description	CURNO	Type	Units	Max	Time	Min	Time	Filter (Hz)
Pass. Seat Back (Hinged Tray)	001	FIL	Pounds	459.9	14.3	-9.3	21.5	1

Test Vehicle: 2003 Chrysler PT Cruiser 4 Door Hatchback

Test Date: 8/18/03

Test Program: FMVSS 207 Fwd. Seat Back (Front)

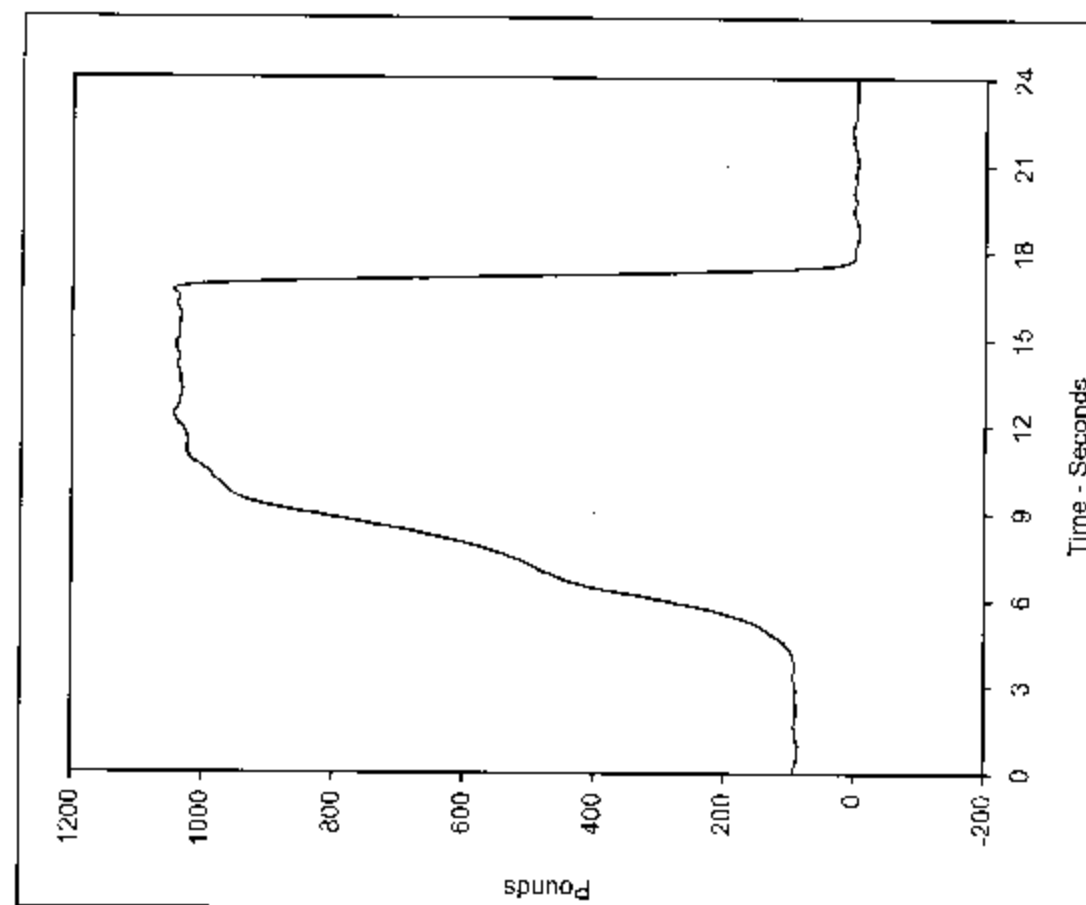
NHTSA No.: C30304



Curve Description		CURNO		Type	
Driver Seat Assy.		001		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	876.6	16.6	-2.1	20.5	1

Test Program: FMVSS 207 Aft Seat Frame & Adjusters (Front)
 Test Vehicle: 2003 Chrysler PT Cruiser 4 Door Hatchback

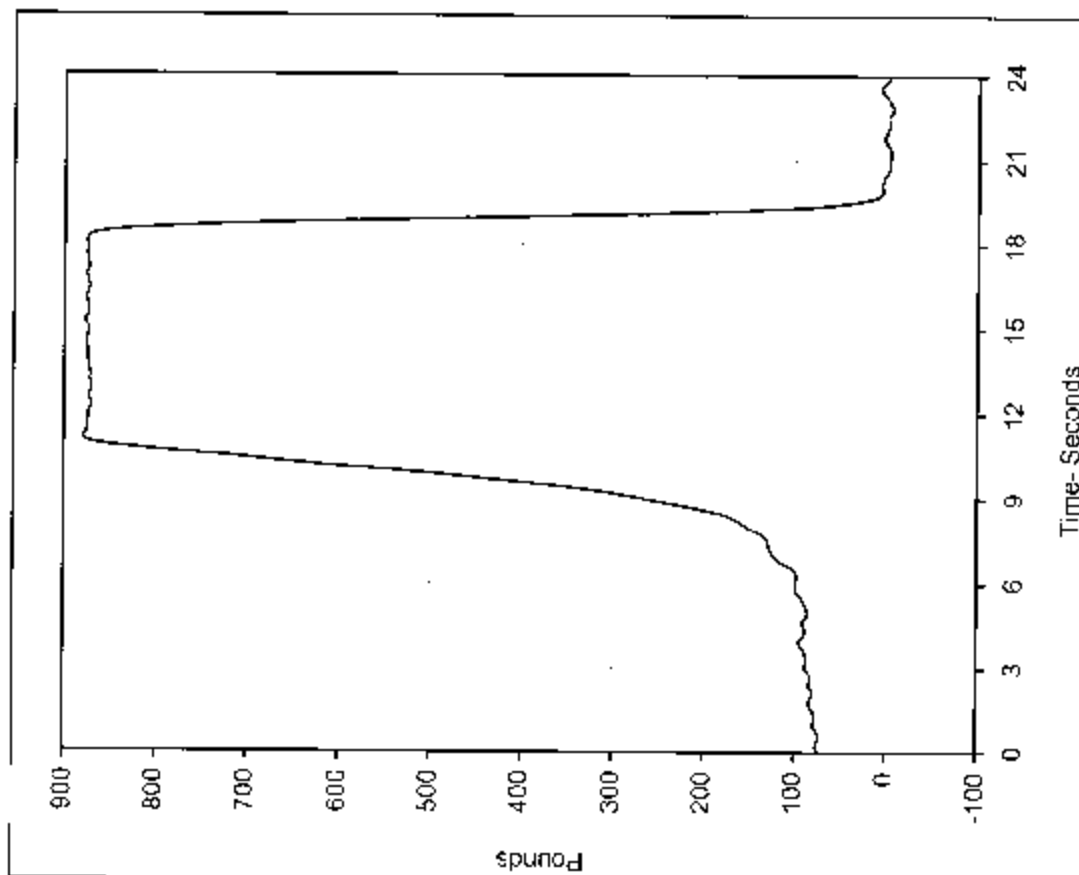


Curve Description		CURNO		Type	
Pass. Seat Assy.		002		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1044.7	16.7	-5.3	18.8	1

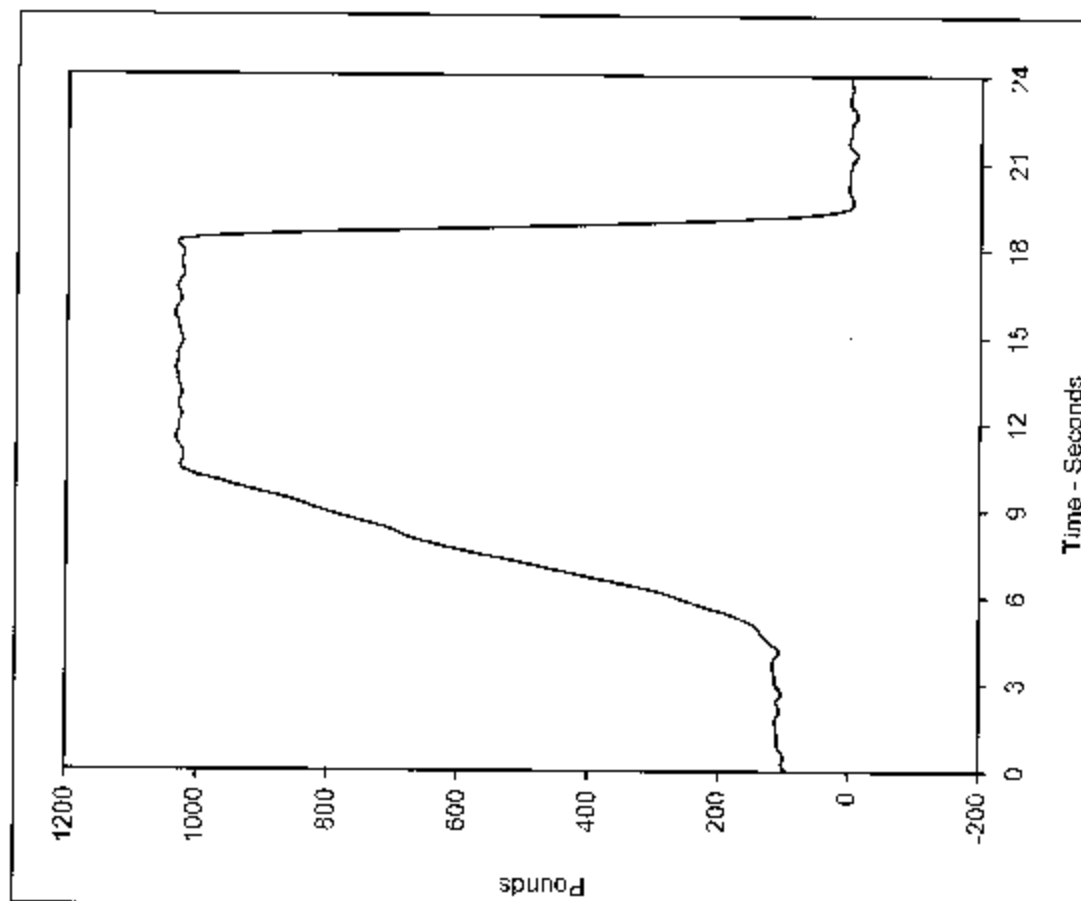
Test Date: 8/13/03
 Project No.: C30304





Curve Description		CURNO		Type	
Driver Seat Assy.		001		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	879.8	11.1	-6.3	22.9	1



Curve Description		CURNO		Type	
Pass. Seat Assy.		002		FIL	

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1035.0	15.8	-9.3	21.3	1

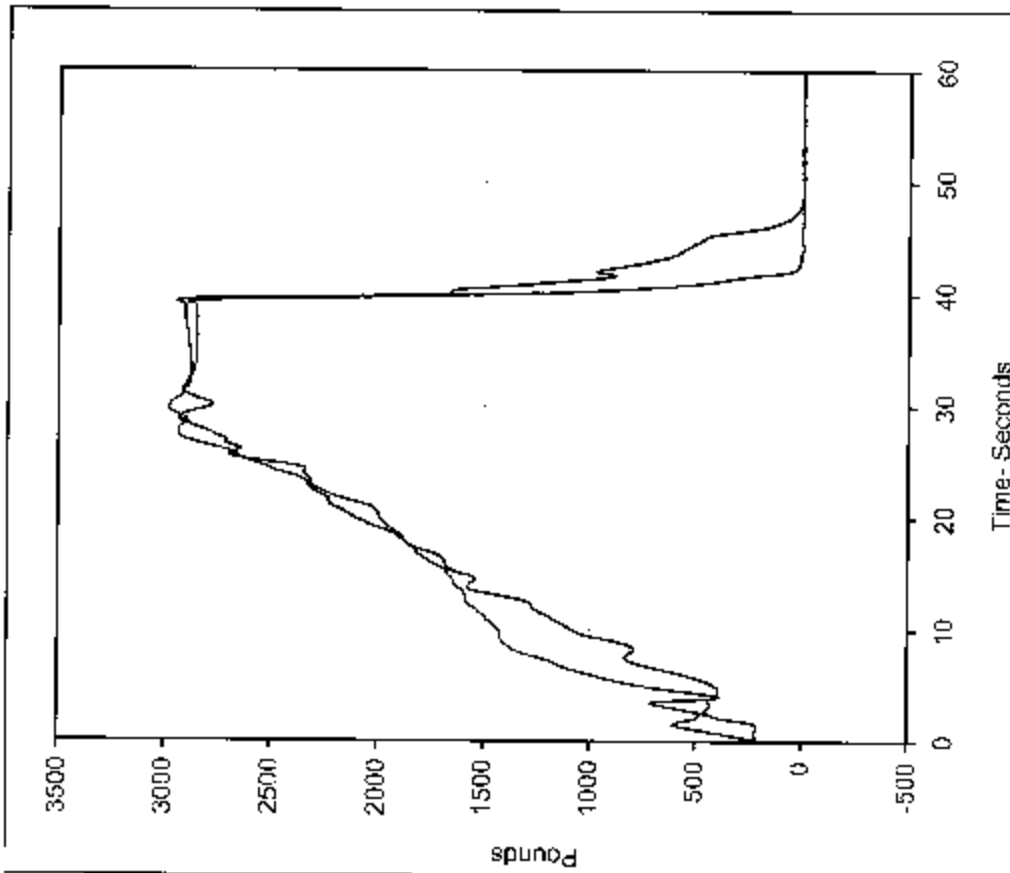
Test Program:
Test Vehicle:

FMVSS 207 Fwd. Seat Frame & Adjusters (Front)
2003 Chrysler PT Cruiser 4 Door Hatchback

Test Date:
Project No.:

8/14/03
C30304



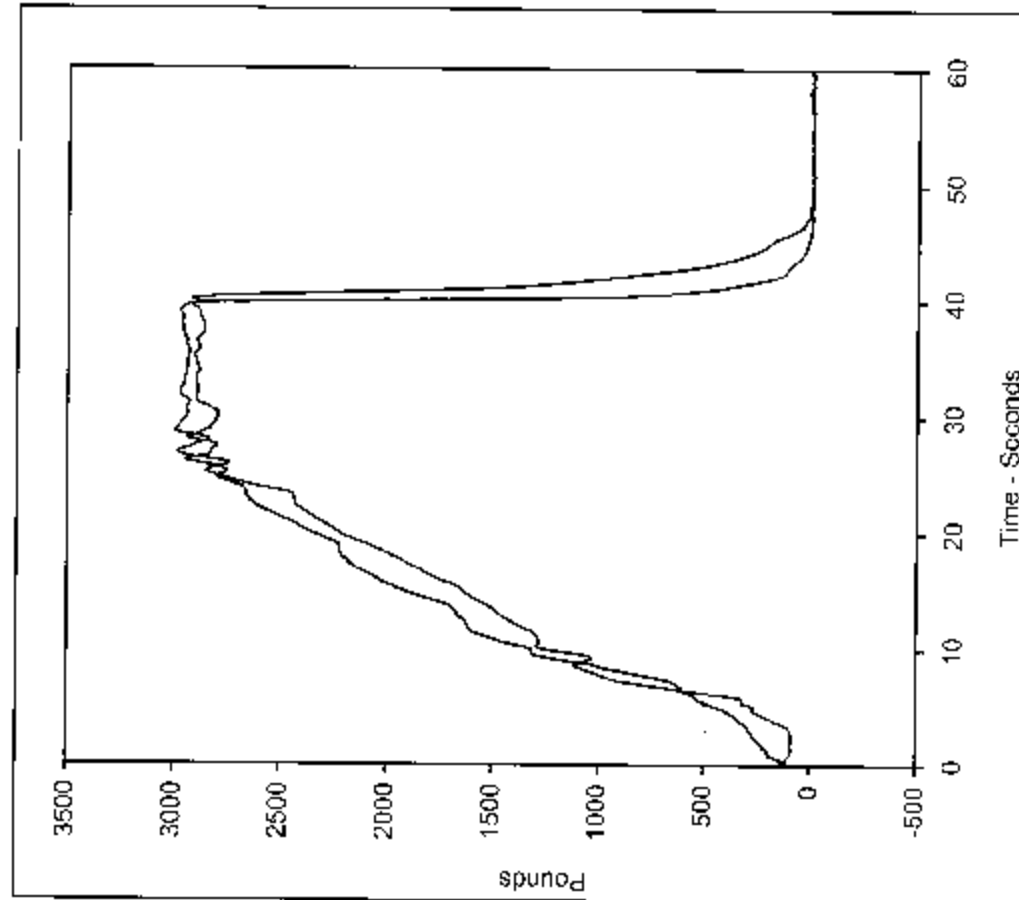


Curve Description	CURNO	Type
Driver Lap Belt Force	001	FIL
Driver Shoulder Belt Force	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2933.4	28.9	-6.1	50.5	1
Pounds	2982.5	29.8	-5.2	60.0	1

Test Program:
Test Vehicle:

FMVSS 207/210 Front Seats
2003 Chrysler PT Cruiser 4 Door Hatchback

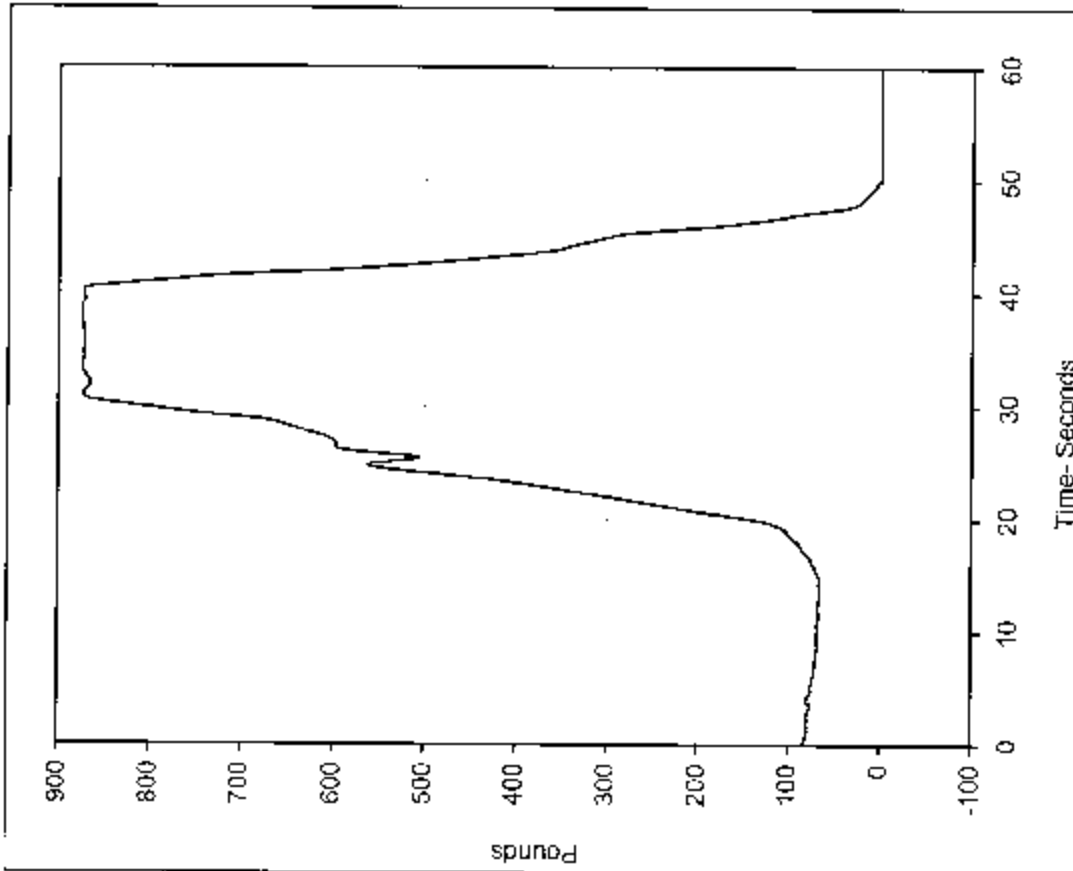


Curve Description	CURNO	Type
Pass. Lap Belt Force	004	FIL
Pass. Shoulder Belt Force	005	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2946.2	26.3	-6.8	51.0	1
Pounds	2935.2	28.8	-3.6	52.9	1

Test Date: 8/14/03
Project No.: C30304





Curve Description		CURNO	Type
Driver Seat Force		003	FIL

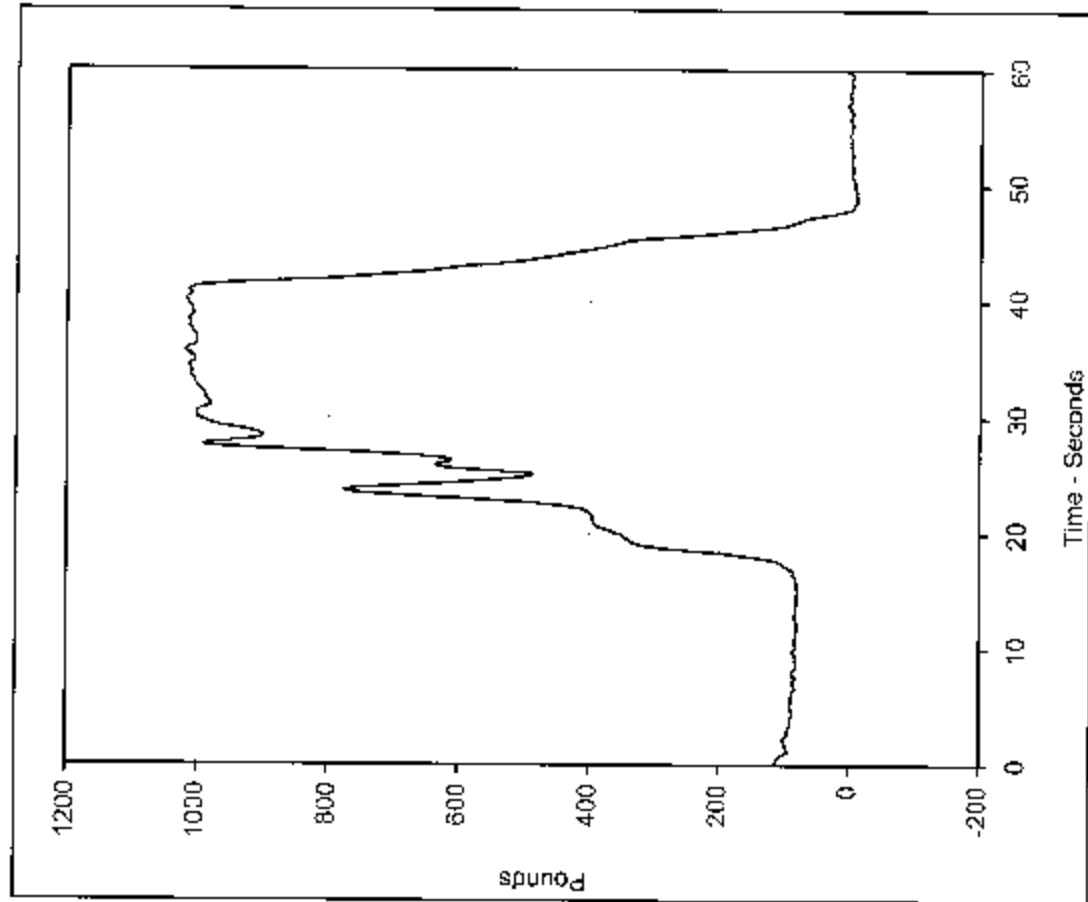
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	874.9	38.7	-0.7	50.7	1

Test Program:

FMVSS 207/210 Front Seats

Test Vehicle:

2003 Chrysler PT Cruiser 4 Door Hatchback



Curve Description		CURNO	Type
Pass. Seat Force		006	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1019.0	35.8	-8.9	48.7	1

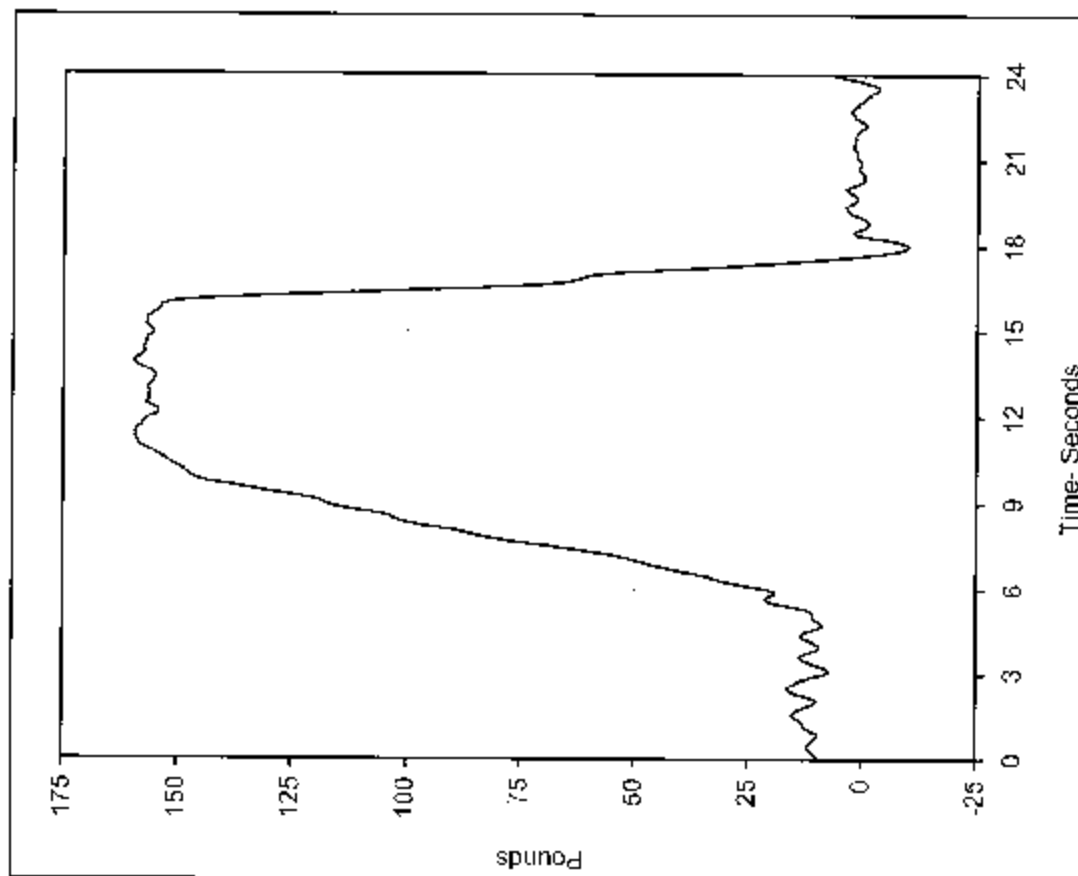
Test Date:

8/14/03

Project No.:

C30304





Curve Description		CURNO	Type
Drvr. Side Upper X-Member		001	FIL

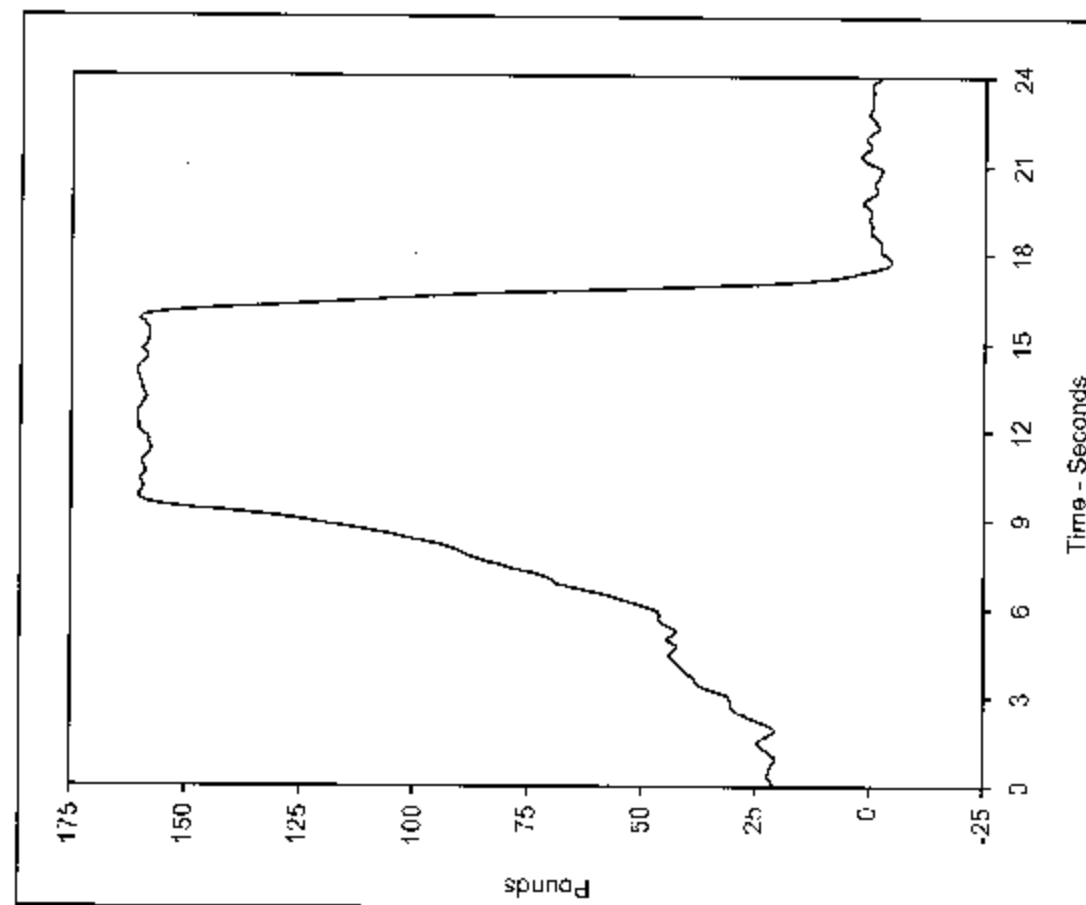
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	159.5	13.9	-9.9	18.0	1

Test Program:

FMVSS 207 Alt Moment (Rear)

Test Vehicle:

2003 Chrysler PT Cruiser 4 Door Hatchback



Curve Description		CURNO	Type
Pass. Side Upper X-Member		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	160.6	14.1	-4.6	17.8	1

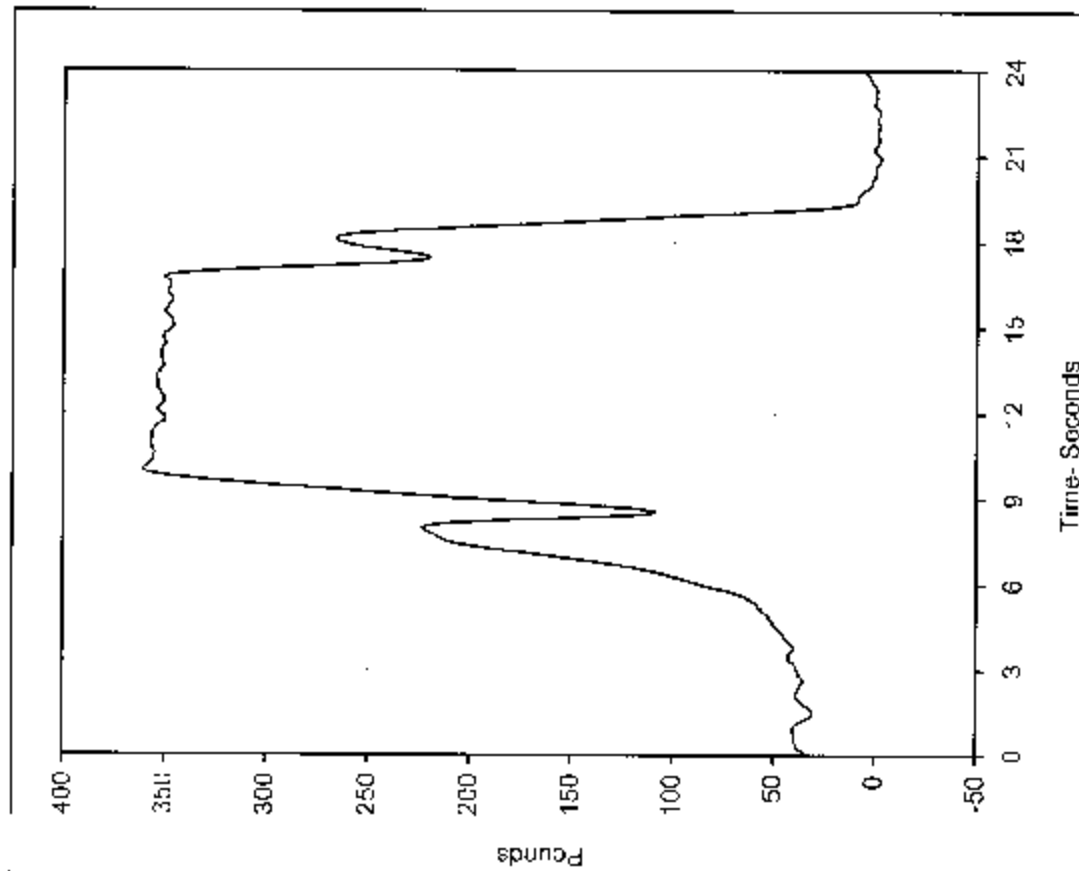
Test Date:

8/13/03

Project No.:

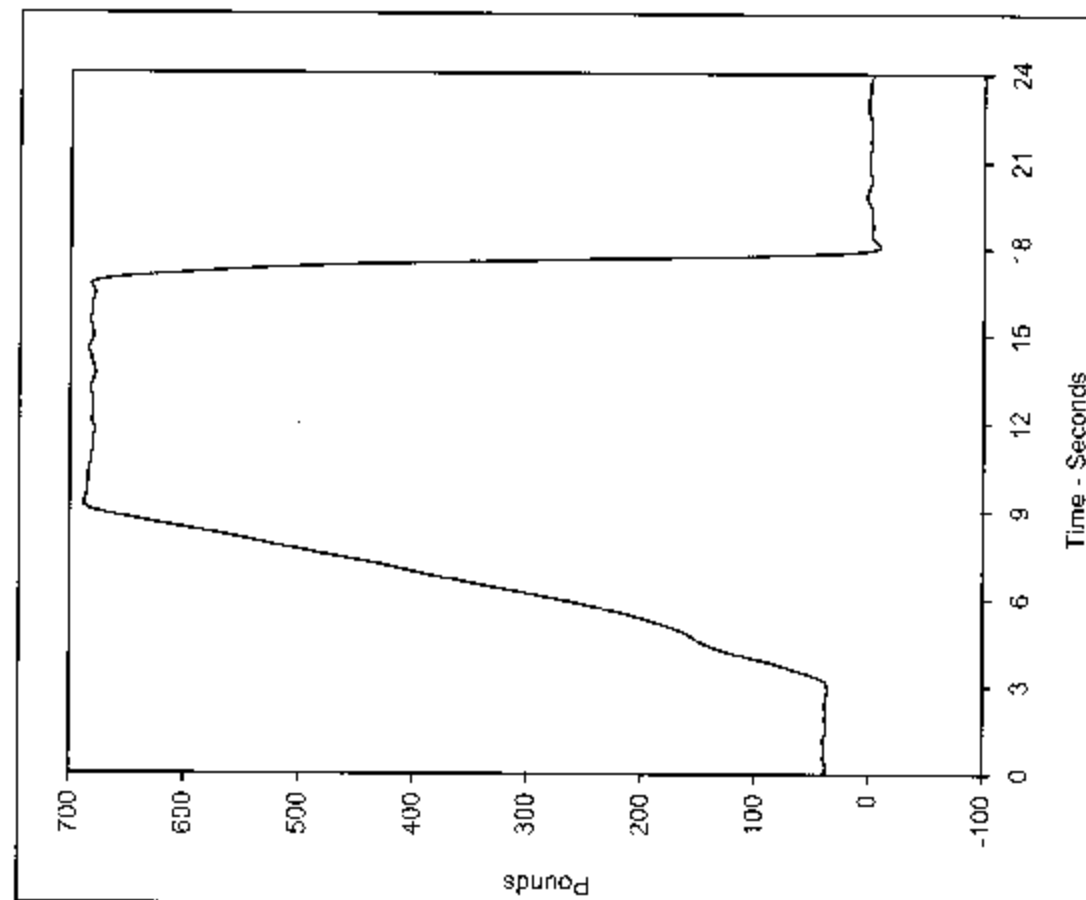
C30304





Curve Description		CURNO	Type
Left Rear Seat Back.		001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	360.8	10.1	-2.3	21.0	1



Curve Description		CURNO	Type
Right Rear Seat Back.		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	688.0	9.3	-9.0	18.1	1

Test Program:

FMVSS 207 Fwd. Seat Back (Rear)

Test Vehicle:

2003 Chrysler PT Cruiser 4 Door Hatchback

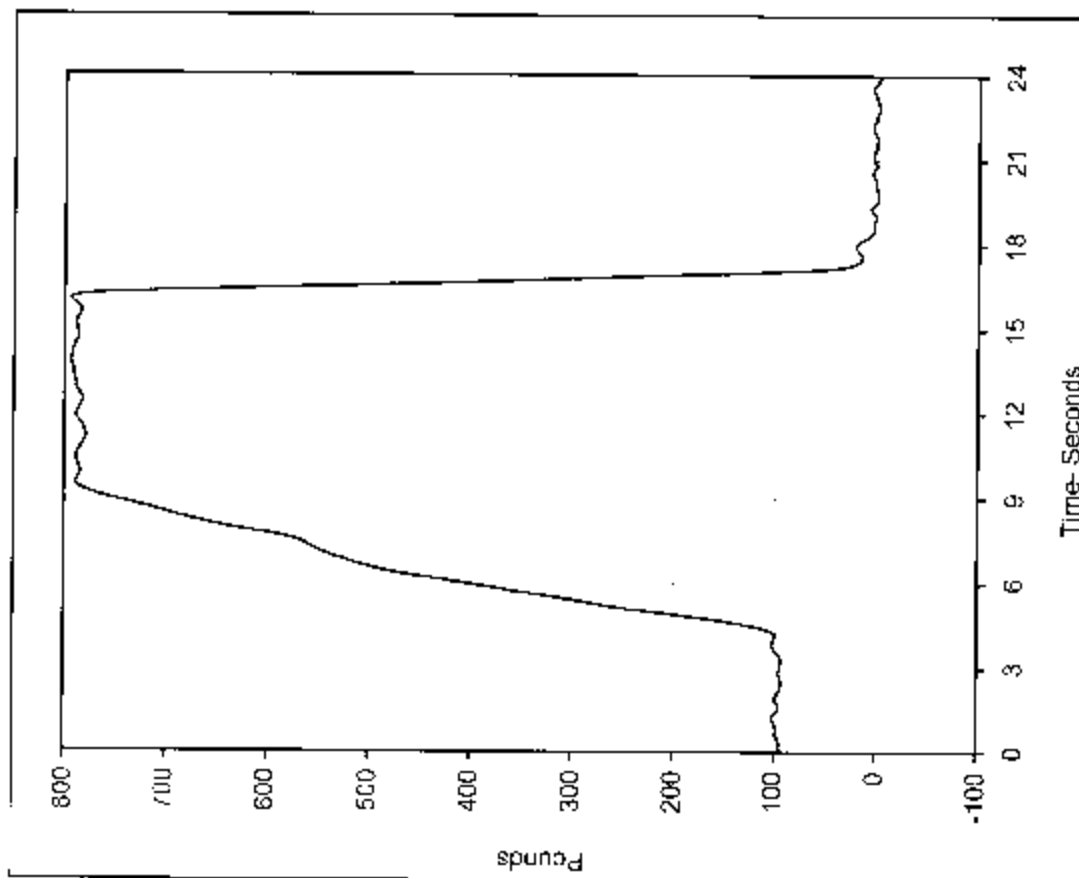
Test Date:

8/14/03

Project No.:

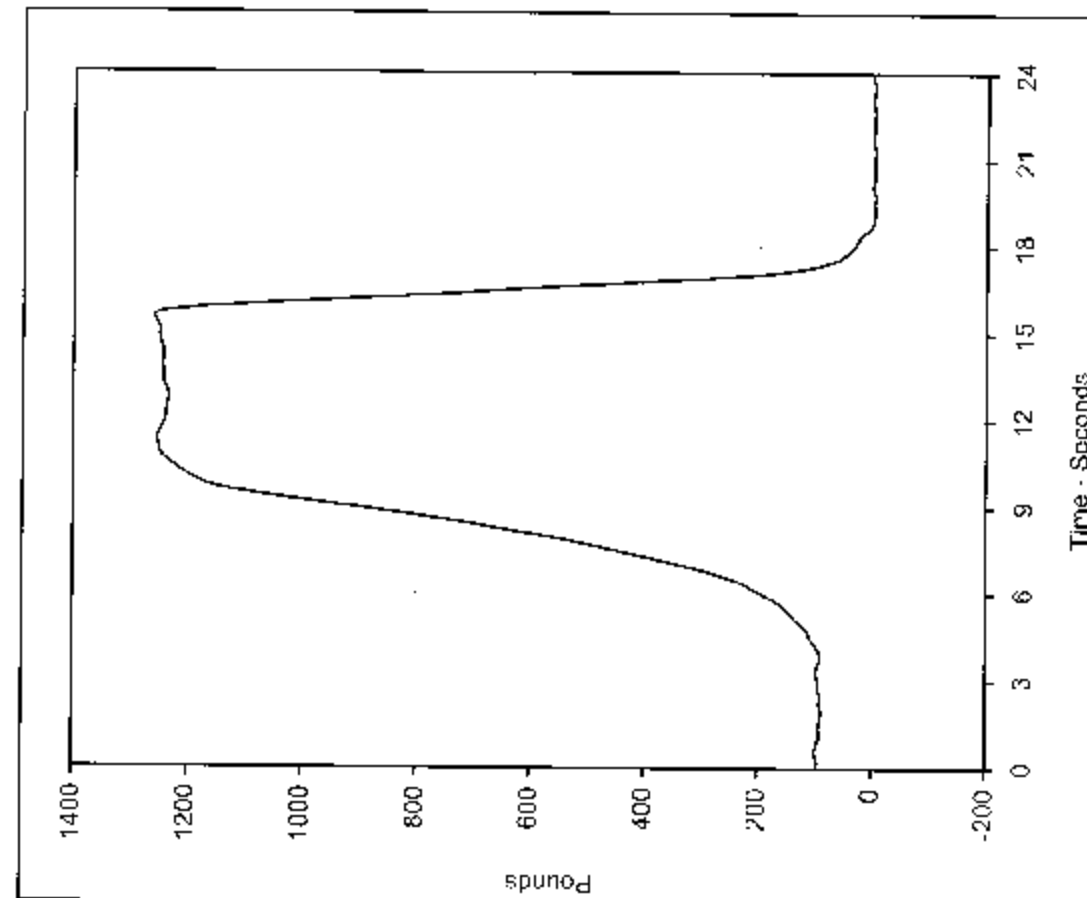
C30304





Curve Description		CURNO	Type
Driver Seat Assy.		00~	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	793.8	13.9	-2.5	24.0	1



Curve Description		CURNO	Type
Pass. Seat Assy.		002	FIL

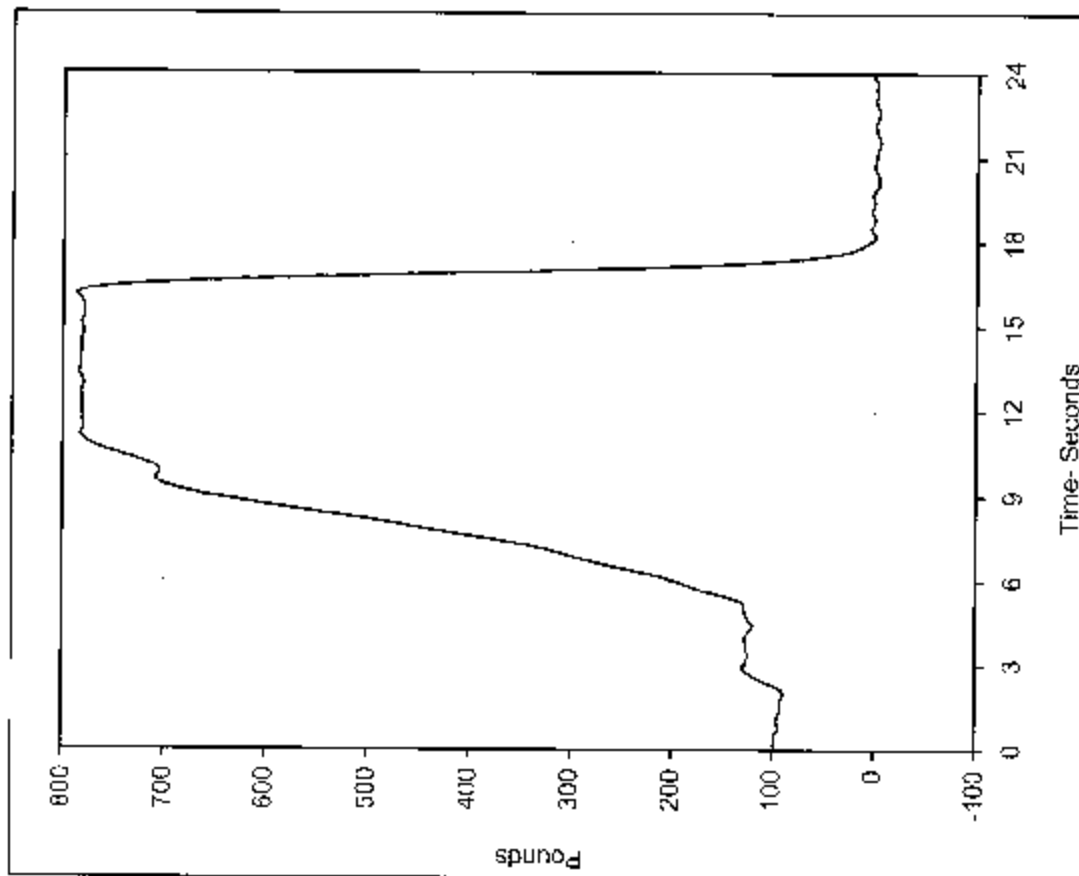
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1259.3	15.6	-3.2	19.8	1

Test Program:
Test Vehicle:

FMVSS 207 All Seat Frame (Rear)
2003 Chrysler PT Cruiser 4 Door Hatchback

Test Date: 8/14/03
Project No.: C30304





Curve Description		CURNO	Type
Driver Side Seat Assembly		001	FIL

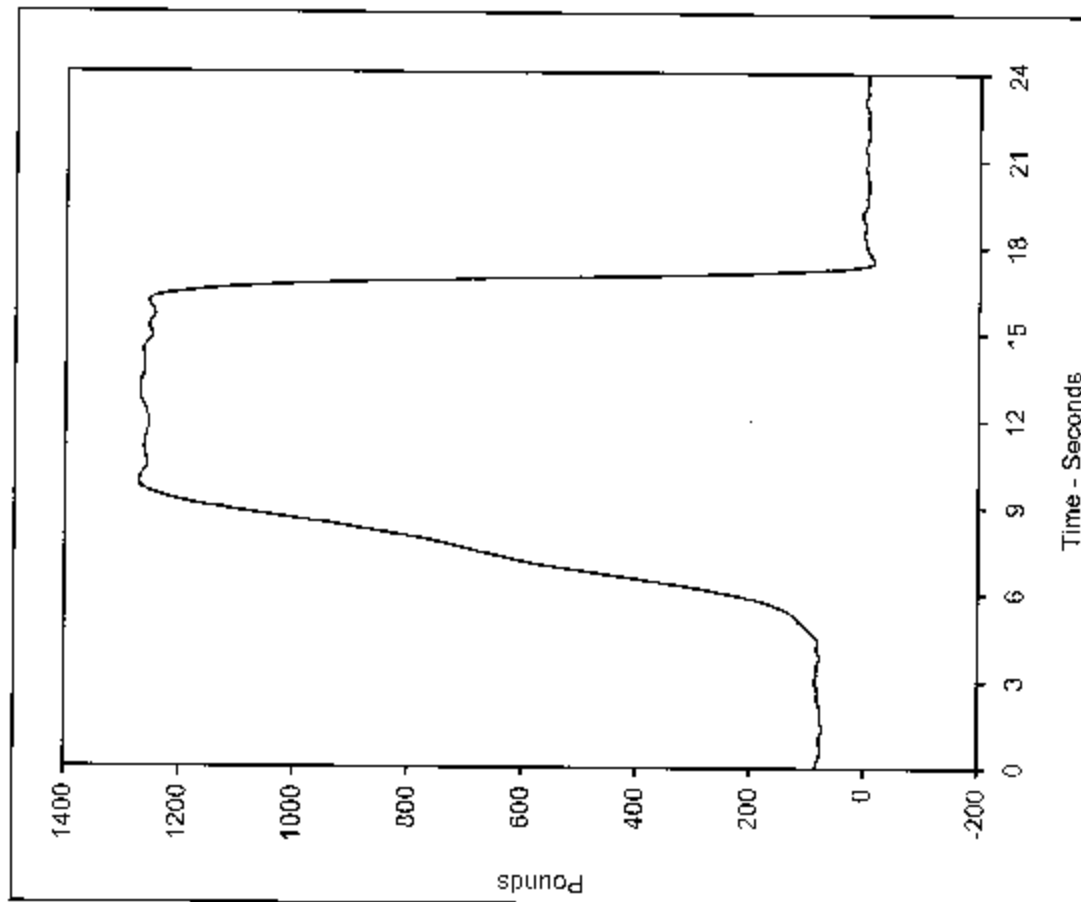
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	786.2	16.1	-4.0	21.6	1

Test Program:

FMVSS 207 Forward Seat Frame (Rear)

Test Vehicle:

2003 Chrysler PT Cruiser 4 Door Hatchback



Curve Description		CURNO	Type
Pass. Side Seat Assembly		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1270.2	9.8	-14.9	17.6	1

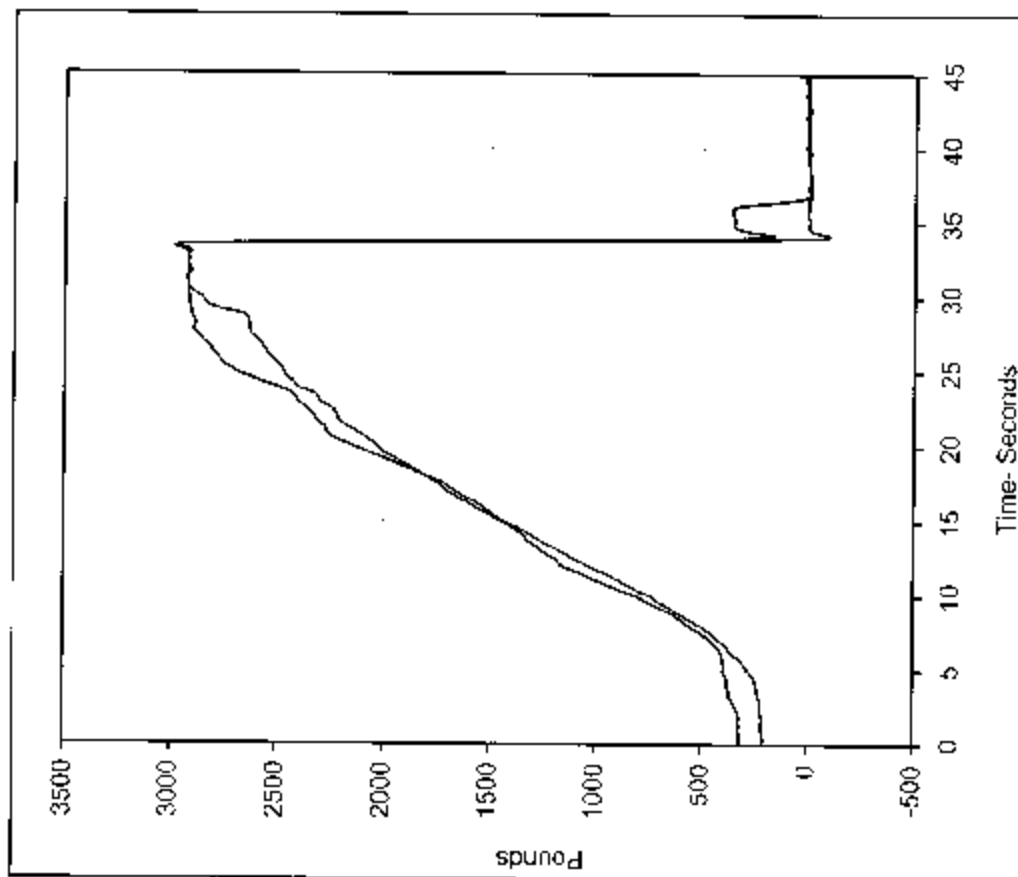
Test Date:

8/14/03

Project No.:

C30304

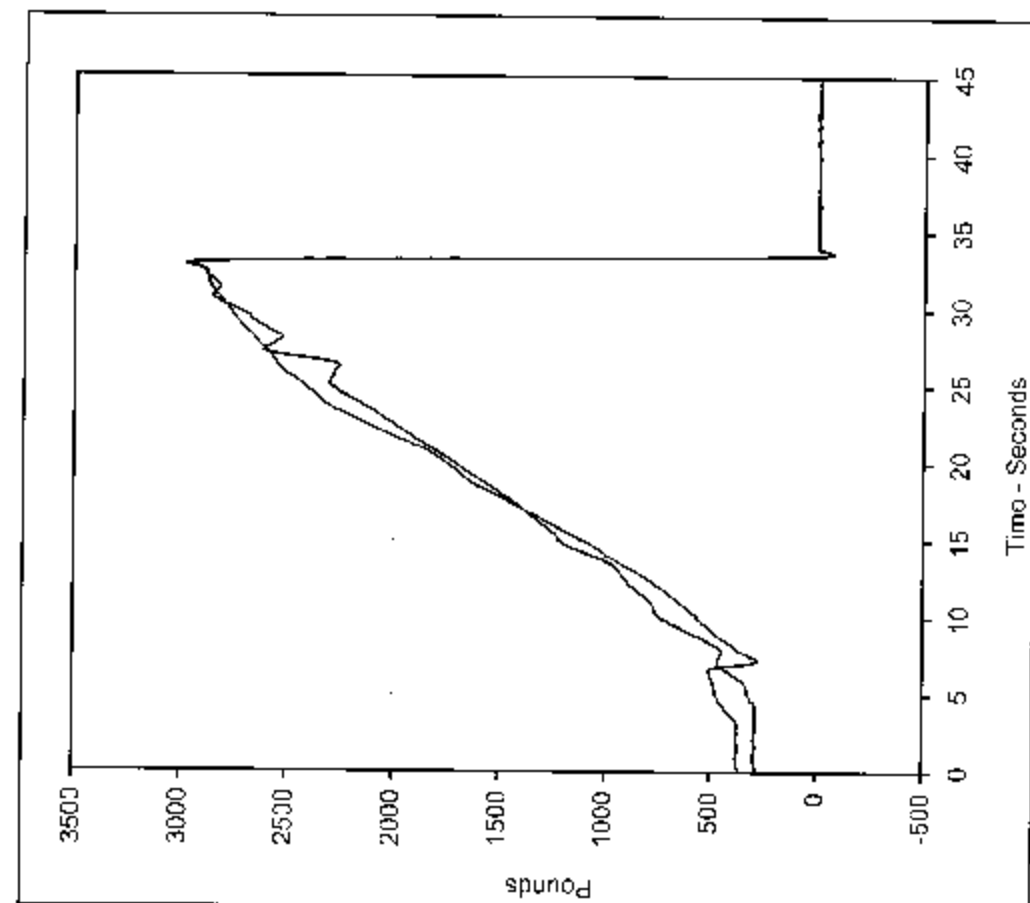




Curve Description	CURNO	Type
Left Rear Lap Belt Force	001	FIL
Left Rear Shoulder Belt Force	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2987.0	33.4	-7.5	38.2	1
Pounds	2980.2	33.4	-97.1	34.2	1

Test Program: FMVSS 207/210 Rear Seat
 Test Vehicle: 2003 Chrysler PT Cruiser 4 Door Hatchback

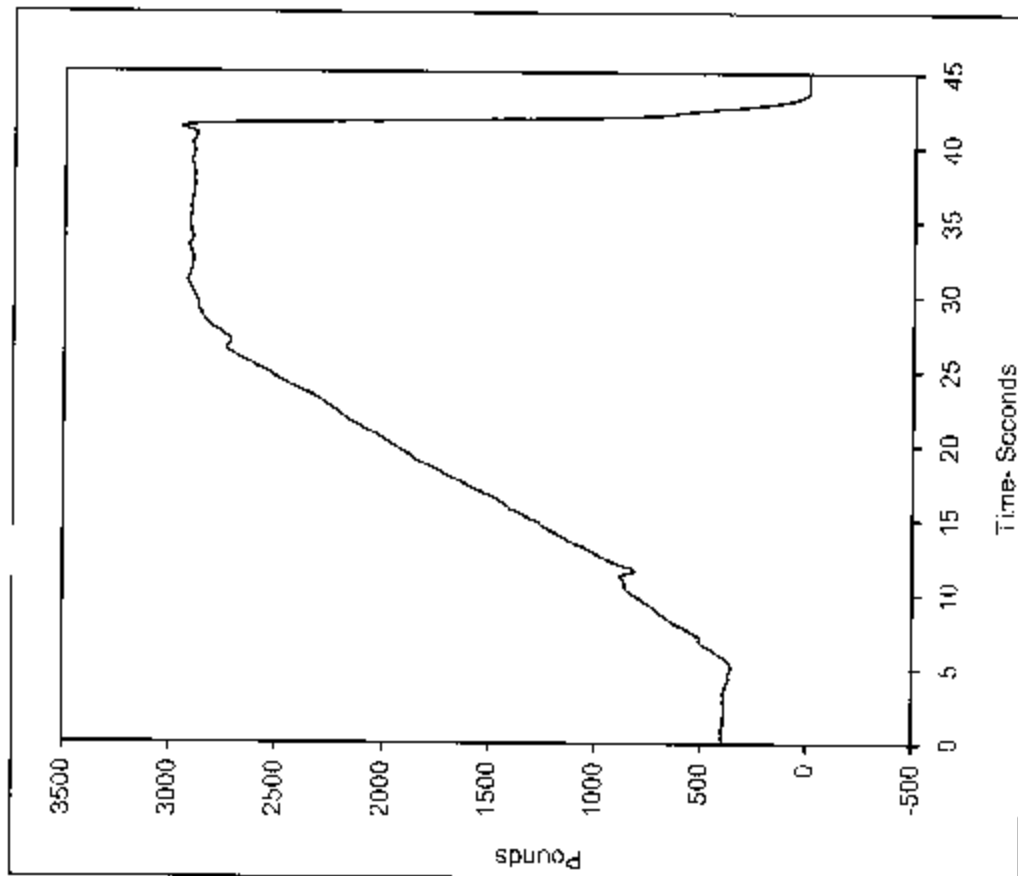


Curve Description	CURNO	Type
Right Rear Lap Belt Force	003	FIL
Right Rear Shoulder Belt Force	004	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2976.0	32.8	-72.0	33.7	1
Pounds	2956.0	32.8	-63.0	33.6	1

Test Date: 8/15/03
 Project No.: C30304

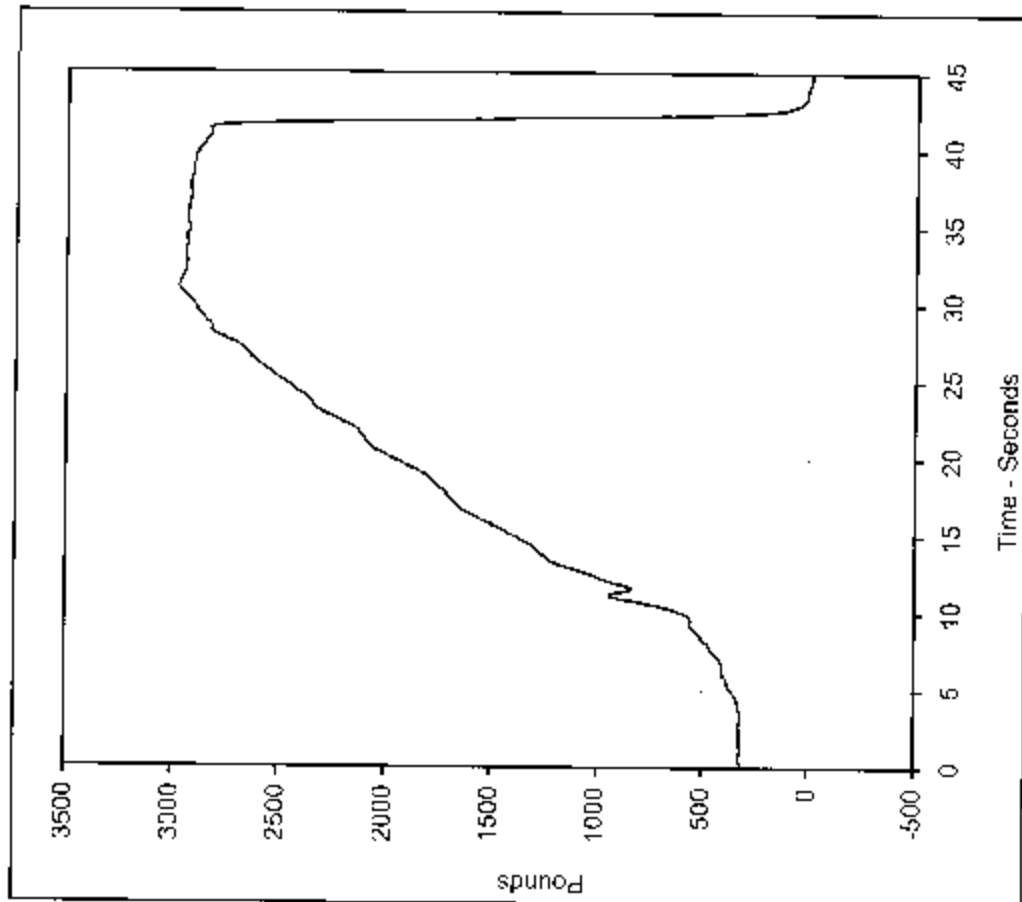




Curve Description	CURNO	Type
Center Lap Belt Force	005	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2956.8	41.3	-2.6	44.4	1

Test Program: FMVSS 207/210 Rear Seat
 Test Vehicle: 2003 Chrysler PT Cruiser 4 Door Hatchback



Curve Description	CURNO	Type
Center Shoulder Belt Force	006	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2973.9	31.1	-2.0	45.0	1

Test Date: 8/15/03
 Project No.: C30304



APPENDIX C

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

FMVSS 207
Test Equipment List
8/13/03

2003 Chrysler PT Cruiser 4 Door Hatchback

Description	Manufacturer	Model No.	Serial No.	Limit	Accuracy	Cal. Date	Duc Cal.
Hydraulic Pump	Lincoln	T-3825-C	2460952	8 gpm @ 2700 psi			
Computer	Panasonic	CF-71	81MAA01852	N/A	N/A	N/A	N/A
TDAS	DTS	TDAS	DM0103	N/A	SAE J211	11/15/02	11/15/03
Load Cell	Lebow	3108	1001	300 LB	+ 1.0%	6/2/03	12/1/03
Load Cell	Lebow	3132	622	500LB	± 1.0%	6/2/03	12/1/03
Load Cell	BLH	U3G1	49296	3K	± 1.0%	6/1/03	11/30/03
Load Cell	BLH	U-1C	N873	6K	± 1.0%	6/2/03	12/1/03
Load Cell	BLH	U-1C	11139	12K	± 1.0%	6/2/03	12/1/03
Load Cell	Alinco	342-E	22438-B	10K	± 1.0%	5/30/03	11/28/03
Load Cell	Alinco	342-E	22440-A	10K	± 1.0%	5/30/03	11/28/03
Load Cell	BLH	U3G1	81711A	10K	± 1.0%	6/2/03	12/1/03
Load Cell	Interface	1220FS	15777	50K	± 1.0%	6/2/03	12/1/03
Load Cell	Interface	1220FS	15656	50K	± 1.0%	6/2/03	12/1/03

