Report Numbers: 208-TRC-94-011
212-TRC-94-011
301-TRC-94-011

Vehicle Safety Compliance Testing for Occupant Crash Protection, Windshield Mounting, Windshield Zone Intrusion, and Fuel System Integrity

Mazda Motor Corporation

1994 Mazda MX6

2-door coupe

NHTSA Number: CR5402

TRC Test Number: 940223

Transportation Research Center Inc.

10820 State Route 347

East Liberty, Ohio 43319

March 11, 1994

Final Report

Prepared For:

U.S. Department of Transportation

National Highway Traffic Safety Administration

Office of Vehicle Safety Compliance (NEF-31)

400 Seventh Street, S.W., Room No. 6115

Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-93-D-01089.

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FINAL REPORT OF FMVSS NOS. 208, 212, 219 (PARTIAL), AND 301 COMPLIANCE TESTING OF A 1994 MAZDA MX6 2-DOOR COUPE, NHTSA NO. CR5402	MARCH 11, 1994
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15. Supplemental Notes

16. Abstract

A 30 mph flat frontal barrier impact test was conducted on a 1994 Mazda MX6 2-door coupe, NHTSA No. CR5402, at Transportation Research Center Inc. on February 23, 1994. This test was conducted to determine compliance with Federal Motor Vehicle Safety Standards: FMVSS 208, "Occupant Crash Protection"; 212, "Windshield Mounting"; 219 (partial), "Windshield Zone Intrusion"; and 301 "Fuel System Integrity." The barrier impact velocity was 29.7 mph. The vehicle's maximum static crush was 14.5 inches. The ambient temperature was 72° F.

The driver's head injury criteria (HIC) was 351. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 49.9 *g*. The driver's left and right femur maximum axial forces were 1543 pounds and 1793 pounds, respectively.

The passenger's HIC was 398. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 36.0 *g*. The passenger's left and right femur maximum axial forces were 1334 pounds and 1421 pounds, respectively.

The vehicle appears to comply with the applicable requirements of FMVSS 208, 212, 219 (partial), and 301.

17. Key Words	18. Distribution Statement
Frontal Impact 30 mph Vehicle Safety Compliance Testing: FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Mounting" FMVSS 219 (partial), "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity"	Available from: NHTSA Technical Reference Division Room 5108, (NAD-52) 400 Seventh Street, S.W. Washington, DC 20590 Attn: Mr. Robert Hornickle

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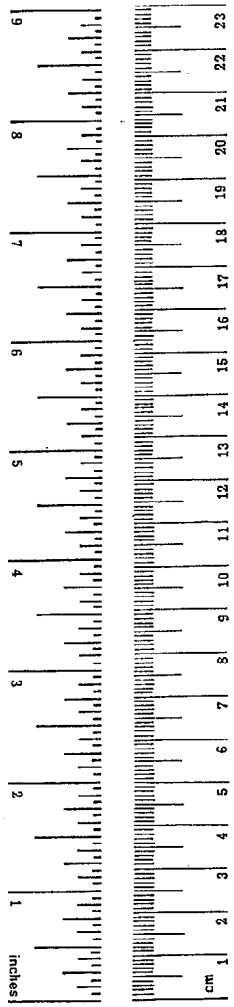
METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

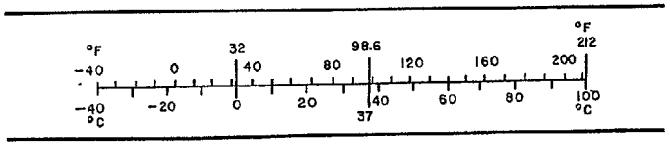
Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.5	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.5	square kilometers	km^2
	acres	0.4	hectares	ha
	MASS (weight)			
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
	VOLUME			
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.



Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
	AREA			
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
	MASS (weight)			
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
	VOLUME			
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
	TEMPERATURE (exact)			
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



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Section 1.0

Purpose and Test Procedure

Purpose

This 30 mph flat frontal barrier impact test is part of the Federal Motor Vehicle Safety Standards (FMVSS) 208, 212, 219 (partial), and 301 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by the Transportation Research Center Inc. (TRC) under Contract No. DTNH22-93-D-01089. The purpose of this test was to determine if the subject vehicle, a 1994 Mazda MX6 2-door coupe, NHTSA No. CR5402, meets the performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219 (partial), "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity," in the flat frontal barrier impact mode.

Test Procedure

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208-09. Data was obtained relative to FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219 (partial), "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity," performance.

The test vehicle was instrumented with seven (7) accelerometers to measure longitudinal axis accelerations and one (1) accelerometer to measure vertical axis acceleration. The vehicle's specified impact velocity range was 28.9 to 29.9 mph. The vehicle impacted a flat frontal barrier.

The test vehicle contained two (2) Part 572 B 50th percentile adult male anthropomorphic test devices (dummies). The dummies were positioned in the front outboard designated seating positions according to the dummy placement procedure specified in Appendix B of the Laboratory Test Procedure.

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations, and with left and right femur load cells to measure axial forces.

The twenty-four (24) data channels were multiplexed and recorded on a 14-track tape drive. The data was digitally sampled at 12,500 samples per second and processed per Sections 11.13 through 11.15 of the Laboratory Test Procedure.

The crash event was recorded by one (1) real-time panning motion picture camera and fourteen (14) high-speed motion picture cameras. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera.

The vehicle and occupant data are summarized in Section 2.0. The FMVSS 208, 212, 219 (partial) and 301 data are presented in Section 3.0. The vehicle, occupant, and camera measurements are presented in Section 4.0. Appendix A contains the still photographic prints. Appendix B contains the dummy and vehicle data plots. Appendix C contains the manufacturer's vehicle information.

Section 2.0

Frontal Barrier Impact Test Summary

Test Results Summary

This flat frontal barrier test was conducted at TRC on February 23, 1994.

The test vehicle, a 1994 Mazda MX6 2-door coupe, NHTSA No. CR5402, appeared to comply with the performance requirements of FMVSS 208, 212, 219 (partial), and 301 in the flat frontal barrier impact mode. The Head Injury Criteria (HIC) calculations were less than 1000, the chest resultant accelerations did not exceed 60 g's, and the compressive forces transmitted through the upper legs did not exceed 2,250 pounds as measured by Part 572 B dummies seated in the front outboard designated seating positions. The vehicle's restraint system met the applicable comfort and convenience requirements. The windshield periphery retention was 100 percent. There was no penetration into any portion of the windshield. No fluid spilled from the vehicle's fuel system following the impact or during the static rollover test.

The test vehicle was equipped with airbags at the driver's and right front passenger's seating positions. The vehicle's test weight was 3003 pounds. The vehicle's impact speed was 29.7 mph. The vehicle's maximum static crush was 14.5 inches.

The driver's HIC was 351. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 49.9 g. The driver's left and right femur maximum compressive forces were 1543 pounds and 1793 pounds, respectively.

The right front passenger's HIC was 398. The right front passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 36.0 g. The right front passenger's left and right femur maximum compressive forces were 1334 pounds and 1421 pounds, respectively.

There was no loss of windshield periphery retention.

There was no penetration through the windshield.

Following the impact, no fluid spilled from the vehicle's fuel system prior to the static rollover test or during any portion of the static rollover test.

Table 1 Crash Test Summary

NHTSA number:	CR5402
Test type:	Frontal barrier impact
Test date:	02/23/94
Test time:	1446
Ambient temperature at impact area:	72° F
Vehicle year/make/ model/body style:	1994/Mazda/MX6/2-door coupe
Vehicle test weight:	3003 lb
Impact angle[1]:	0°
Impact velocity[2]:	
Primary:	29.7 mph
Secondary:	29.7 mph
Maximum static crush:	14.5 in
Average rebound:	34.2 in
Number of cameras:	
Real-time:	2
High-speed:	14
Door opening data:	
Left front:	Easy
Right front:	Easy

[1] With respect to tow track centerline.
[2] Speed trap measurement (± .05 mph accuracy)

Table 1 Crash Test Summary, Cont'd.

Dummies:	Driver #353	Passenger #1173
Type:	Part 572 B	Part 572 B
Location:	Left front	Right front
Restraint:	Airbag	Airbag
Number of data channels:	8	8
Front seat data:		
Seat track failure:	None	None
Seat back failure:	None	None
Visible dummy contact points:		
Head:	Airbag, sun visor, & head restraint	Airbag, sun visor, & head restraint
Chest:	Airbag	Airbag
Abdomen:	None	None
Left knee:	Instrument panel	Instrument panel
Right knee:	Instrument panel	Instrument panel

Table 2 Test Vehicle Information

Vehicle year/make/ model/body style:	1994/Mazda/MX6/2-door coupe
Color:	Gold
VIN:	1YVGE31C3R5118046
NHTSA number:	CR5402
Engine data:	
Placement:	Transverse/lateral
Cylinders:	4
Displacement:	2.0 liters
Transmission data:	_5_speed, _X_manual, __automatic, ___overdrive
Final drive:	_X_fwd, __rwd, __4wd
Date vehicle received:	01/13/94
Odometer reading:	120
Dealer's name and address:	Ricart Mazda 4255 N. Hamilton Rd. Columbus, OH 43230

Accessories:

Power steering	Yes	Automatic transmission	No
Power brakes	Yes	Automatic speed control	Yes
Power seats	No	Tilting steering wheel	Yes
Power windows	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	No
Clock	Yes	Rear window defroster	Yes
Power door locks	Yes	Other	None

Certification data from vehicle's label:

Vehicle manufactured by:		Autoalliance International Inc.
Date of manufacture:		09/10/93
VIN:		1YVGE31C3R5118046
GVWR:		3525 lb
GAWR:	Front:	2030 lb
	Rear:	1545 lb

Table 2 Vehicle Information, Cont'd.

Size of tires on vehicle:	P195/65R14
Tire pressure with maximum capacity vehicle load:	
Front:	35 psi
Rear:	35 psi
Spare tire:	Space saver
Type of front seats:	Bucket

Tire & capacity data from vehicle's label:

Recommended tire size:	P195/65R14
Recommended cold tire pressure:	
Front:	32 psi
Rear:	26 psi
Designated seating capacity:	
Front:	2
Rear:	2
Total:	4
Vehicle capacity weight:	680 lbs.

Test vehicle attitudes:

Delivered attitude:	LF:	26.9 in.	RF:	26.6 in	LR:	26.8 in	RR: 26.7 in
Fully loaded attitude:	LF:	26.0 in	RF:	25.8 in	LR:	25.3 in	RR: 25.3 in
Pre-test attitude:	LF:	26.0 in	RF:	25.8 in	LR:	25.6 in	RR: 25.6 in

Table 2 Test Vehicle Information, Cont'd.

Weight of test vehicle as received (with maximum fluids):

Right front	838	lb	Right rear	459	lb
Left front	810	lb	Left rear	489	lb
Total front weight	1648	lb	(63.5% of total vehicle weight)		
Total rear weight	948	lb	(36.5% of total vehicle weight)		
Total delivered weight	2596	lb			

Calculation of test vehicle's target test weight:

RCLW[1] = Rated Cargo and Luggage Weight

UDW = Unloaded Delivered Weight (2596 lb)

VCW = Vehicle Capacity Weight (680 lb)

DSC = Designated Seating Capacity (4)

RCLW[1] = VCW - 150 (DSC) = 680 - 150(4) = 80

Target test weight = UDW + RCLW[1] + (Number of Hybrid II dummies x 164 lb per dummy)

Target test weight = 2596 + 80 + 328 = 3004 lb

Weight of test vehicle with required dummies and 79 lb of cargo weight:

Right front	892	lb	Right rear	602	lb
Left front	889	lb	Left rear	620	lb
Total front weight	1781	lb	(59.3% of total vehicle weight)		
Total rear weight	1222	lb	(40.7% of total vehicle weight)		
Total test weight	3003	lb	(0.0% under target test weight)		

Weight of ballast secured in vehicle cargo area: 0 lb

Components removed to meet target test weight: None

CG rearward of front wheel centerline: 41.9 in

Vehicle Wheelbase: 103.0 in

[1] Cargo weight for multi-purpose passenger vehicles, trucks, and buses is the vehicle's rated cargo and luggage weight from the vehicle's label or 300 pounds, whichever is less.

Table 3 Post-Impact Data

Test number:	940223
NHTSA number:	CR5402
Test date:	02/23/94
Test time:	1446
Test type:	Frontal barrier impact
Impact angle:	0°
Ambient temperature at impact area:	72° F
Temperature in occupant compartment:	71° F

Impact velocity:

Primary:	29.7 mph
Secondary	29.7 mph
Specified range:	28.9 to 29.9 mph

Distance from vehicle to barrier:

Entering velocity trap:	14.0 in
Exiting velocity trap:	2.0 in

Test vehicle static crush:

Overall length of test vehicle:

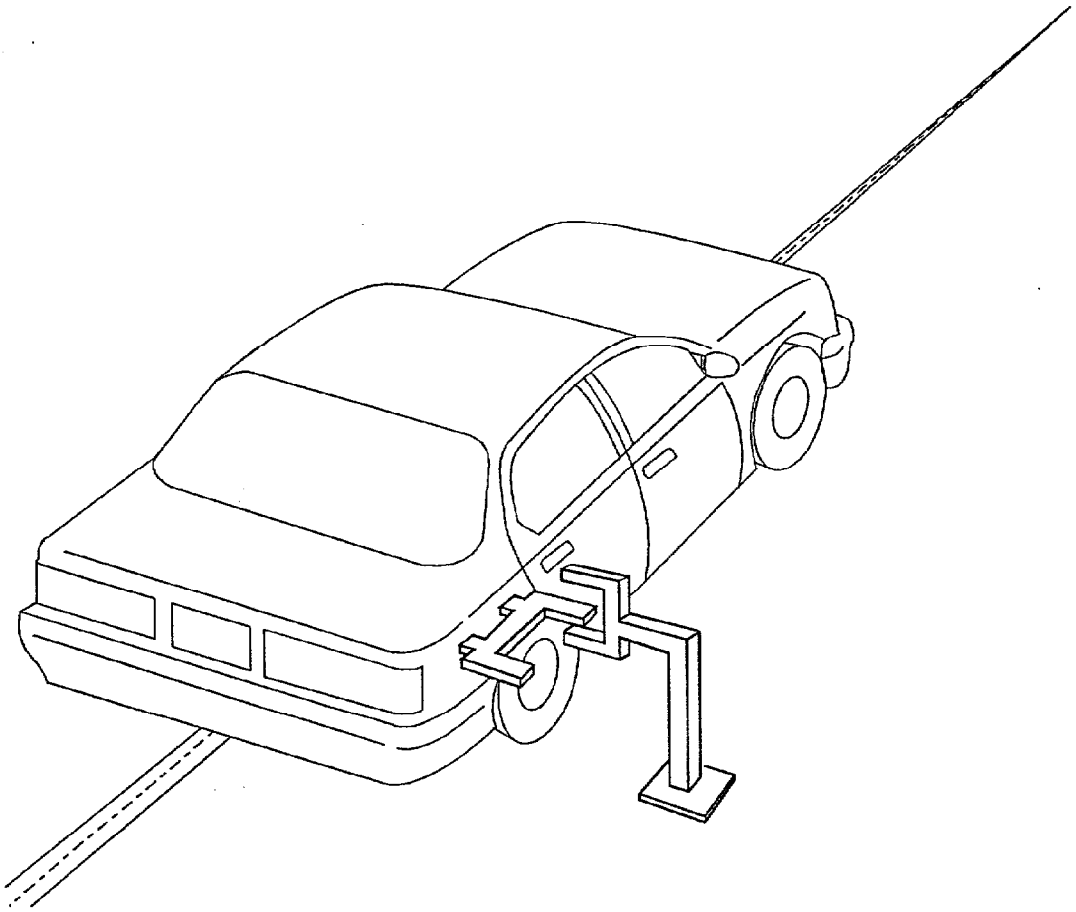
Pre-test:	L:	174.2 in	C:	181.0 in	R:	174.2 in
Post-test:	L:	161.0 in	C:	167.1 in	R:	165.0 in
Total crush:	L:	13.2 in	C	13.9 in	R:	9.2 in
Average crush:	12.1 in					

Test vehicle rebound from flat barrier:

Distance from test vehicle to barrier:

Post-test:	L:	37.8 in	C:	31.6 in	R:	33.3 in
Average rebound:	34.2 in					

Figure 1 Impact Velocity Measurement System

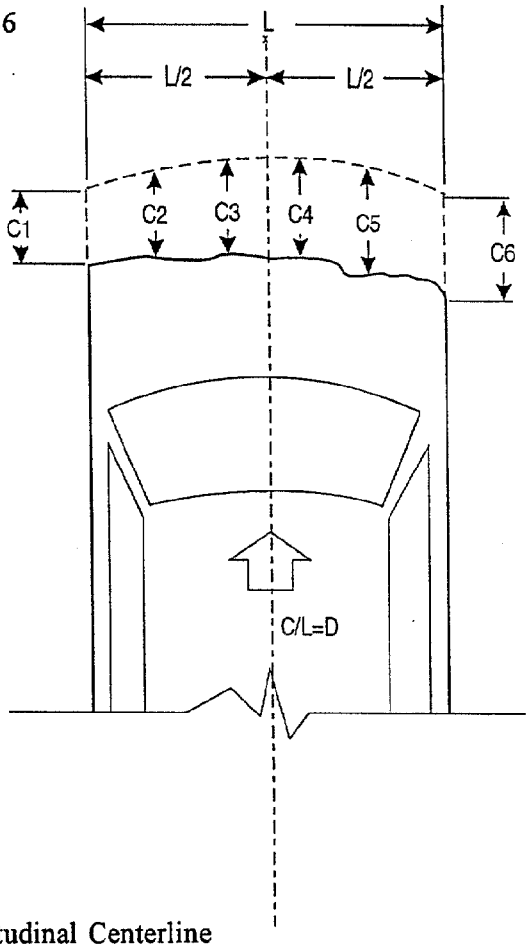


The final vane clears emitter/receiver two inches before impact.

The vanes have a one-foot spacing.

Figure 2 Accident Investigation Division Data for 30 mph Frontal Barrier Impact

NHTSA number:	CR5402
Test date:	02/23/94
Vehicle year/make/ model/body style:	1994/Mazda/MX6/2-door coupe
Vehicle size category:	Sub-compact
VIN:	1YVGE31C3R5118046
Build date:	09/10/93
Test weight:	3003 lb
Vehicle wheelbase:	103.0 in
Maximum width:	68.6 in
Front overhang:	38.5 in



Collision Deformation

Classification (CDC) Code: 12FDEW2

Crush depth measurements:	C1:	13.2 in
	C2:	14.5 in
	C3:	14.2 in
	C4:	12.9 in
	C5:	11.5 in
	C6:	9.2 in

Midpoint of damage: D: Vehicle Longitudinal Centerline

Length of damaged region: L: 56.0 in

Table 4 Post-test Airbag Data

NHTSA number:	CR5402
Test date:	02/23/94
Technician:	Markusic
Vehicle year/make/ model/body style:	1994/Mazda/MX6/2-door coupe

A. Number of airbag vent holes:

Driver:	2
Passenger:	2

B. Size of airbag vent holes:

Driver:	1.2 in dia
Passenger:	2.2 in dia

C. Total airbag vent area:

Driver:	2.3 in^2
Passenger:	7.6 in^2

D. Deflated airbag length and width dimensions or, if round, diameter

Driver:	Length	NA
	Width	NA
	Diameter	25.5
Passenger:	Length:	35.5
	Width:	15.0
	Diameter:	NA

Table 4 Post-test Airbag Data, Cont'd.

E. Is the airbag tethered?

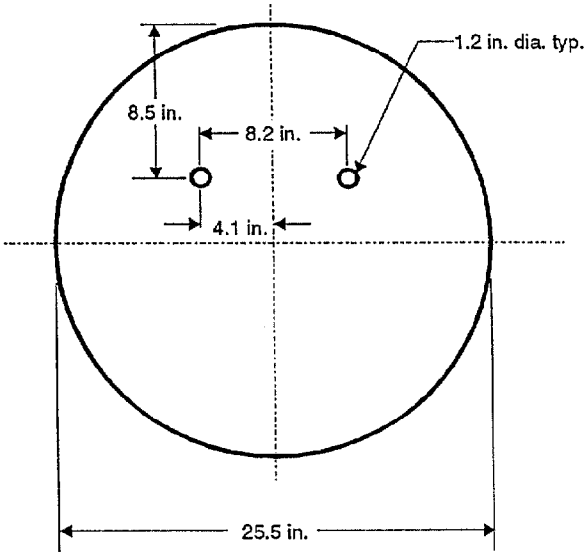
Driver: No

If yes, record length of tether: NA

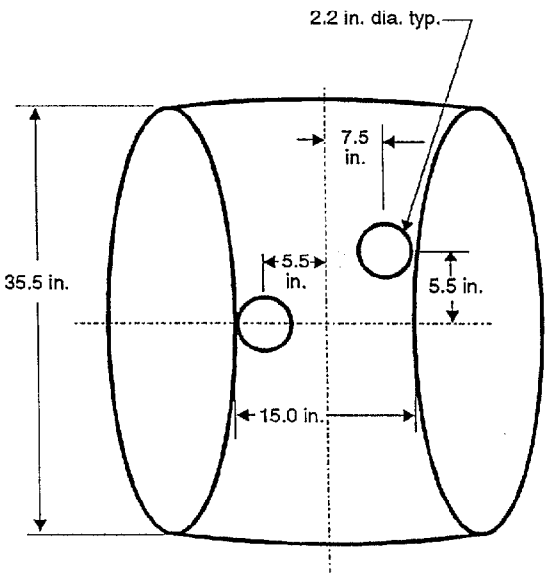
Passenger: No

If yes, record length of tether: NA

Driver's airbag:



Passenger's airbag:

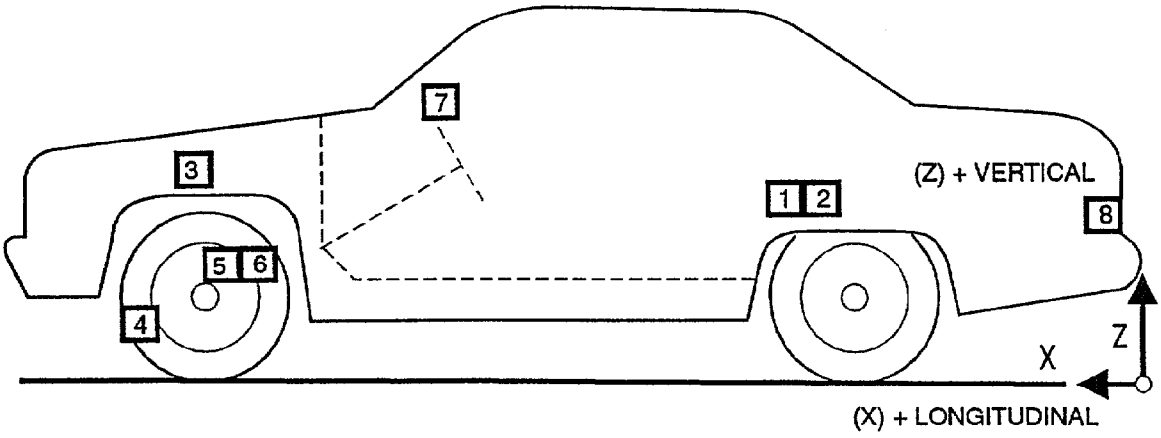


F. Airbag and gas generator part numbers and manufacturer's names.

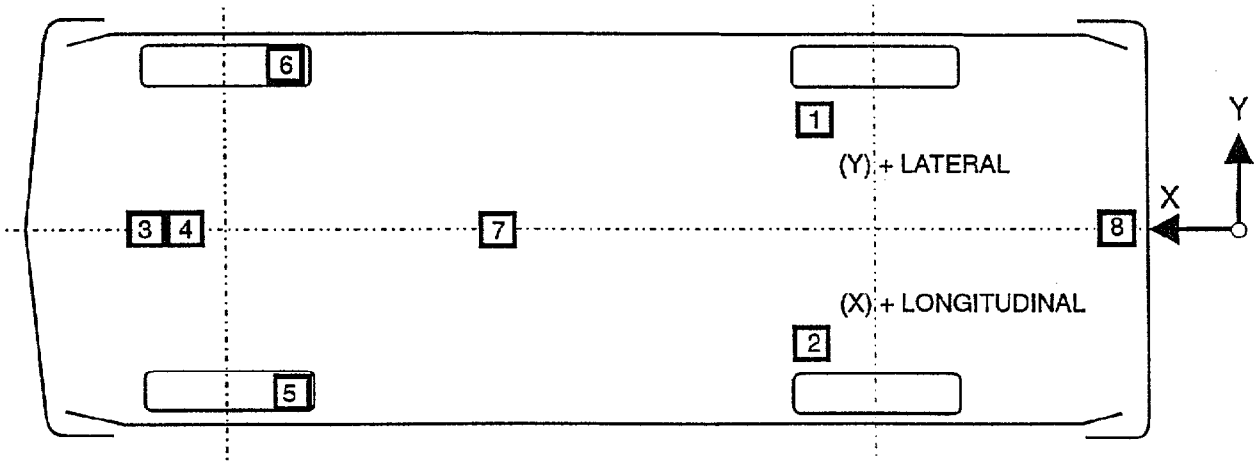
Driver: Morton International, Airbag: PUT11573-01F, Gen: DFAD853XA1S

Passenger: TRW, Airbag: 2000812C, Gen: MP5B232G10485

Figure 3 Vehicle Accelerometer Placement



SIDE VIEW



BOTTOM VIEW

Table 5 Vehicle Accelerometer Locations and Data Summary

No.	LOCATION		X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1	LEFT REAR SEAT CROSSMEMBER	PRE	72.0 in	14.5 in	15.1 in		
		POST	71.8 in	14.5 in	15.4 in		
	LONGITUDINAL					2.5 g @ 138.6 ms	37.9 g @ 45.4 ms
2	RIGHT REAR SEAT CROSSMEMBER	PRE	70.8 in	-14.1 in	15.2 in		
		POST	71.5 in	-14.1 in	15.0 in		
	LONGITUDINAL					3.1 g @ 103.9 ms	37.5 g @ 46.2 ms
3	ENGINE TOP	PRE	152.0 in	-2.2 in	30.8 in		
		POST	146.6 in	-1.5 in	31.2 in		
	LONGITUDINAL					19.0 g @ 44.6 ms	66.9 g @ 36.8 ms
4	ENGINE BOTTOM	PRE	147.8 in	-8.9 in	8.9 in		
		POST	143.1 in	-8.0 in	10.5 in		
	LONGITUDINAL					35.2 g @ 47.8 ms	76.3 g @ 31.9 ms
5	RIGHT BRAKE CALIPER	PRE	148.1 in	-25.9 in	12.4 in		
		POST	146.2 in	-25.9 in	12.8 in		
	LONGITUDINAL					8.2 g @ 164.9 ms	57.2 g @ 47.6 ms
6	LEFT BRAKE CALIPER	PRE	147.9 in	25.9 in	12.2 in		
		POST	144.2 in	26.5 in	12.5 in		
	LONGITUDINAL					7.7 g @ 166.7 ms	53.4 g @ 49.4 ms
7	INSTRUMENT PANEL CENTER	PRE	125.0 in	0.0 in	34.6 in		
		POST	125.9 in	0.0 in	34.6 in		
	LONGITUDINAL					17.8 g @ 28.2 ms	39.2 g @ 75.6 ms
8	VEHICLE REAR CENTER	PRE	8.3 in	0.2 in	19.2 in		
		POST	8.4 in	0.2 in	20.8 in		
	VERTICAL					18.0 g @ 139.9 ms	21.6 g @ 80.4 ms

REFERENCE: X: + FORWARD FROM REAR BUMPER
Y: + LEFTWARD FROM VEHICLE CENTERLINE
Z: + UPWARD FROM GROUND LEVEL

Report of Vehicle Condition at the Completion of Testing

Contract number: DTNH22-93-D-01089
From: Transportation Research Center Inc.
10820 State Route 347
East Liberty, OH 43319

To: Mr. Charles Case, COTR
Office of Vehicle Safety Compliance

The following vehicle has been subjected to testing for FMVSS 208. 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 carbon copy to the responsible testing office. 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.

NHTSA number:	CR5402
Vehicle year/make/ model/body style:	1994/Mazda/MX6/2-door coupe
Body color:	Gold
VIN:	1YVGE31C3R5118046
Odometer (arrival):	120 Date: 01/13/94
Odometer (completion):	125 Date: 02/23/94
Cost:	$16,758.00

Air conditioner	Yes	Console	Yes	Brakes	Power
Tinted glass	Yes	Tachometer	Yes	Front	Disc
Power steering	Yes	Speed control	Yes	Rear	Drum
Power windows	Yes	Rear window def.	Yes	Front seats	Man. adjustable
Power door locks	Yes	Sun/moon roof	No	Seat type	Front-Bucket
Radio	Yes	T-top	No		Rear-Bench
Clock	Yes	Tilt steering wheel	Yes	Number of seats	4
Roof rack	No	Other options:			

Report of Vehicle Condition at the Completion of Testing, Cont'd.

Engine data:

Cylinders:	4
Displacement:	2.0 liters
Transmission:	Manual
Final drive:	FWD
Tire size:	P195/65R14
Gasoline type:	Unleaded

Equipment that is no longer on the vehicle as noted above:

rear seat

spare tire

trunk trim

Explanation:

Items removed to allow installation of data acquisition system.

VEHICLE CONDITION: Vehicle was subjected to a 30 mph crash test There is severe structural damage. Various interior and exterior portions of the vehicle have been painted and have had holes drilled to facilitate attachment of instrumentation. Various trim and body parts have been removed including the rear seats. Stoddard solvent replaced the fuel in the fuel system and engine. THE VEHICLE IS FOR SALVAGE ONLY AND IS NOT TO BE REPAIRED FOR HIGHWAY USE.

Section 3.0

FMVSS 208, 212, 219 (partial), and 301 Data

Table 6 Dummy Injury Criteria

Maximum Acceleration

	Head				Chest		
	X	Y	Z	R	X	Y	Z
Driver	-57.0 *g*	15.0 *g*	-30.3 *g*	61.8 *g*	-50.7 *g*	-8.0 *g*	9.6 *g*
Passenger	-82.4 *g*	23.8 *g*	-61.2 *g*	96.4 *g*	-35.5 *g*	11.5 *g*	-22.2 *g*

Maximum Femur Compressive Force

	Left femur	Right femur
Driver	1543 lbf	1793 lbf
Passenger	1334 lbf	1421 lbf

Head Injury Criteria[1]

	HIC	Time t_1	Time t_2
Driver	351	67.0 ms	103.0 ms
Passenger	398	70.1 ms	80.9 ms

Chest Maximum Resultant Acceleration[2]

	Accelerometer	Time t_1	Time t_2
Driver	49.9 g	82.5 ms	85.4 ms
Passenger	36.0 g	86.3 ms	89.2 ms

[1] As defined in FMVSS No. 208

[2] Defined as equal to or exceeding 0.003 sec. duration

Dummy Kinematic Summary

Driver Dummy

Upon impact, the driver dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's chest impacted the airbag. The dummy's head impacted the airbag, rotating slightly downward, and then impacted the sunvisor rotating the head rearward. The driver dummy was restrained by the airbag. The dummy rebounded rearward into the seat back as the dummy's head rotated rearward contacting the head restraint. The driver dummy came to rest in the driver's seat.

Right Front Passenger Dummy

Upon impact, the right front passenger dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's chest impacted the airbag. The dummy's head impacted the airbag and sunvisor, rotating rearward and to the left and then forward. The right front passenger dummy was restrained by the airbag. The dummy rebounded rearward into the seat back as the dummy's head rotated rearward contacting the head restraint. The right front passenger dummy came to rest in the right front passenger's seat, leaning forward with the dummy's head resting on the airbag/instrument panel.

Table 7 FMVSS 208 Seat Belt Comfort and Convenience Test Summary

Front Outboard Designated Seating Positions

NHTSA number: CR5402

Vehicle model year/make/model/body style: 1994/Mazda/MX6/2-door coupe

Date of comfort/convenience check: 02/07/94

Technician performing check: Markusic

GVWR: 3525 lb

Automatic seat belts installed in any vehicle, other than a walk-in van-type vehicle which has a gross vehicle weight rating of 10,000 pounds or less, and is manufactured on or after September 1, 1986, shall meet the requirements for convenience hooks, webbing tension-relieving devices, and belt contact force.

Manual seat belts installed for compliance with this standard in front outboard designated seating positions of any vehicle, other than a walk-in van-type vehicle which has a gross vehicle rating of 10,000 pounds or less, and is manufactured after September 1, 1989, shall meet the requirements for belt contact force, plate access, retraction and seat belt guides, and hardware.

Vehicle Equipment:

The vehicle's front outboard seating positions were equipped with manual Type 2 seat belts which must comply with the dynamic test requirements of S5.1; requirements for webbing tension-relieving devices (S7.4.2), belt contact force (S7.4.3), latchplate access (S7.4.4), retraction (S7.4.5), and seat belt guides and hardware (S7.4.6) apply.

Convenience Hooks (S7.4.1):

Not applicable, the vehicle is not equipped with automatic seat belts.

Table 7 FMVSS 208 Seat Belt Comfort and Convenience Test Summary

Front Outboard Designated Seating Positions, Cont'd.

NHTSA number: CR5402

Vehicle model year/make/model/body style: 1994/Mazda/MX6/2-door coupe

Date of comfort/convenience check: 02/07/94

Technician performing check: Markusic

GVWR: 3525 lb

Webbing Tension-Relieving Device (S7.4.2):

The front outboard position seat belt assemblies do not have webbing tension-relieving devices.

Belt Contact Force (S7.4.3):

The belt contact force on chest of the test dummy is 0.2 pounds.

Latchplate Access (S7.4.4):

The seat belt latchplates, in their normal stowed position, are within the reach envelope.

The clearance test block moves unhindered to the latchplate or buckle.

Retraction (S7.4.5):

The seat belt automatically retracts when the seat belt latchplate is released.

The stowed seat belt webbing and hardware are not pinched when the door is closed.

Table 7 FMVSS 208 Seat Belt Comfort and Convenience Test Summary

Front Outboard Designated Seating Positions, Cont'd.

NHTSA number: CR5402

Vehicle model year/make/model/body style: 1994/Mazda/MX6/2-door coupe

Date of comfort/convenience check: 02/07/94

Technician performing check: Markusic

GVWR: 3525 lb

Seat Belt Guides and Hardware (S7.4.6):

The seat cushion is movable but the seat back does not serve a function other than seating.

The seat is not removable.

The seat is movable but the space formerly occupied by the seat cannot be used for a secondary function.

Note: If the seat or seat cushion is removable or if the seat is movable so the space formerly occupied by the seat can be used for a secondary function, the seat belt guides and hardware requirements do not apply.

The webbing is not designed to pass through the seat cushion or between the cushion and seat back.

The restraint system does not provide guides.

The inboard receptacle end of the outboard seating position's seat belt is accessible with the center arm rest in any position to which it can be adjusted without moving the arm rest for access.

Table 8 FMVSS 208 Equipment Data

FMVSS 208 Seat Belt Warning System Data

With an occupant in the driver's position and the lap belt/unibelt in stowed position and ignition switch placed in the "start/on" position the duration of audible warning signal is 6 s and the duration of the reminder light is 6 s.

With an occupant in the driver's position and the lap belt/unibelt in use and the ignition switch placed in the "start/on" position the duration of audible warning signal is 0 s and the duration of the reminder light operation is 6 s.

NOTE: the audible warning should not operate.

The wording of the visual seat belt warning is the symbol from Table 2 of FMVSS 101.

Table 8 FMVSS 208 Equipment Data, Cont'd.

FMVSS 208 Labeling and Driver's Manual Data

The label which describes manufacturer's maintenance or replacement schedule for the crash-deployed occupant protection system was located on the driver's sun visor.

The airbag system does not require maintenance unless the "Airbag" lamp does not light when key is turned on, flashes, stays lit, or groups of five beeps are heard.

Appropriate instructions concerning maintenance and/or replacement of this system were provided in the owner's manual on page 2-34 and on a label on the vehicle.

A description of the functional operation of the system was provided in the owner's manual on pages 2-31 to 2-33.

A reference to the instructions and description of the system was included on the label.

An owner's manual was provided.

The owner's manual contained appropriate information concerning maintenance and/or replacement and a description of the functional operation of the systems on pages 2-31 to 2-34.

Table 8 FMVSS 208 Equipment Data, Cont'd.

FMVSS 208 Readiness Indicator Data

The vehicle contained a crash-deployed occupant protection system which was not totally mechanical. The readiness indicator was located on the left edge of the instrument cluster.

The readiness indicator was clearly visible to the driver.

A list of the elements in the occupant restraint system, being monitored by the readiness indicator was provided in the owner's manual on page 2-33.

All rear outboard seating positions had Type 2 seat belts.

Figure 4 FMVSS 212 Test Data

Details of windshield mounting such as retention method, trim type, etc.:

Plastic trim around outer perimeter and adhesive around inner perimeter.

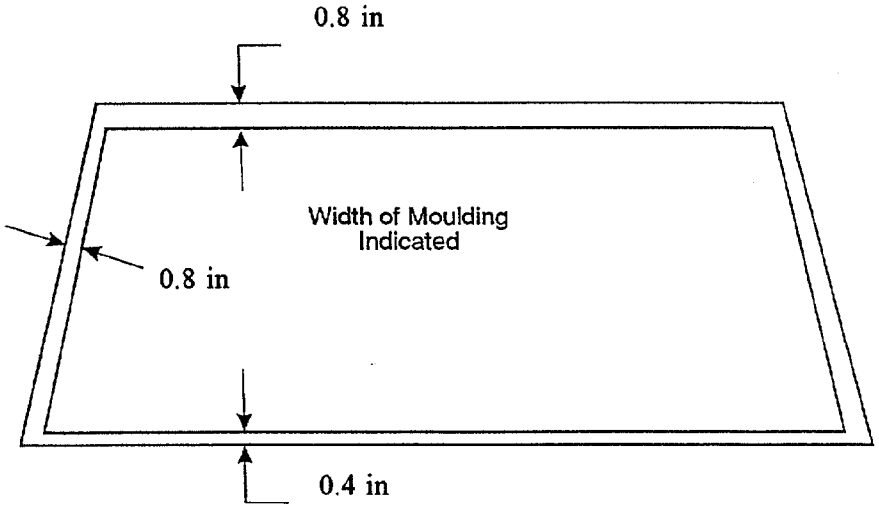
Clips or brackets used to retain windshield: None

FMVSS 212 requirements: The post-test periphery retention amount must be at least 75% of the pre-test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

Windshield periphery measurements:

	Pre-test	Post-test	Percent Retention
Right side	77.2 in	77.2 in	100
Left side	77.2 in	77.2 in	100
Total	154.4 in	154.4 in	100

Pre-test windshield mounting material temperature: 72° F



Front view of windshield[1]

Loss of windshield retention lengths: None

[1] Indicate areas of loss of retention, if any, on windshield diagram.

Figure 5 FMVSS 219 Test Data

Protected zone lower edge requirement:

The lower edge of the protected zone is determined by placing a 6.5-inch diameter rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 0.5 inch from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection onto the outer surface of the windshield of this line.

Windshield measurements:

A: 42.8 in

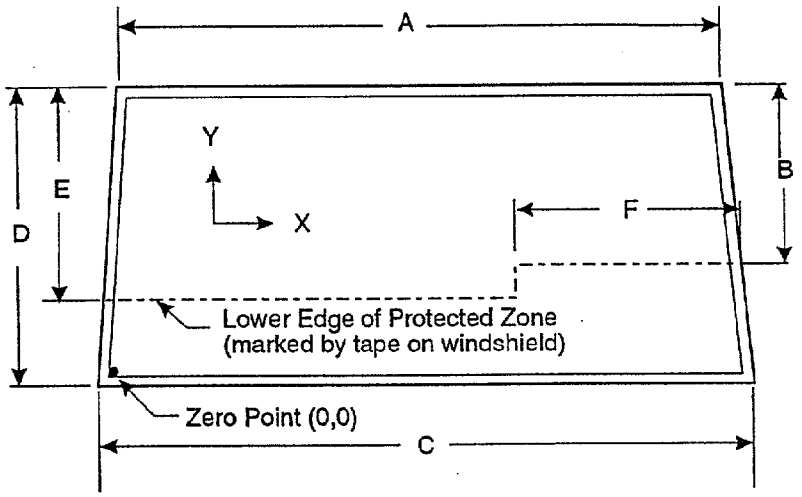
B: 14.4 in

C: 61.4 in

D: 29.3 in

E: 18.7 in

F: 24.9 in



FRONT VIEW

Method of adhering protected zone template to windshield:
NA

Areas of windshield template penetration greater than 0.25 in:
NA

	Coordinates X	Y
1.		
2.		
3.		

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield:
None

1.		
2.		
3.		

Table 9 Fuel System Data

Vehicle year/make/ model/body style:	1994/Mazda/MX6/2-door coupe
NHTSA number:	CR5402
Fuel system capacity:	15.5 gal (from owner's manual)
Usable capacity:	14.5 gal (furnished by COTR)
Test volume range:	13.3 gal to 13.6 gal (92-94% of usable)
Actual test volume:	13.5 gal (with entire fuel system filled)
Test fluid type:	Stoddard solvent
Specific gravity:	0.764
Kinematic viscosity:	0.99 centistokes
Test fluid color:	purple
Type of fuel pump:	electric

Does electric fuel pump operate with ignition switch "on" and the engine not operating? No

Details of fuel system:

The fuel tank is located in front of the rear axle. The fuel filler neck is located on the left side. The fuel lines run along the left side to the front.

Table 10 FMVSS 301 Post-Impact Test Data

NHTSA number: CR5402

Test date: 02/23/94

Vehicle year/make/
model/body style: 1994/Mazda/MX6/2-door coupe

Test requirements:

Test vehicle fuel tank filled to 92 to 94% of manufacturer's usable capacity and with electric fuel pump operating (if it will operate without engine operation). Part 572 test dummies located at each front designated seating position.

Test vehicle impact type:

_x_ Frontal (30 mph)

_____ Oblique (30 mph) with __° barrier face first contacting (driver's/passenger's) side

_____ Rear moving barrier (30 mph)

_____ Lateral moving barrier (20 mph)

Fuel system fluid spillage measurements:

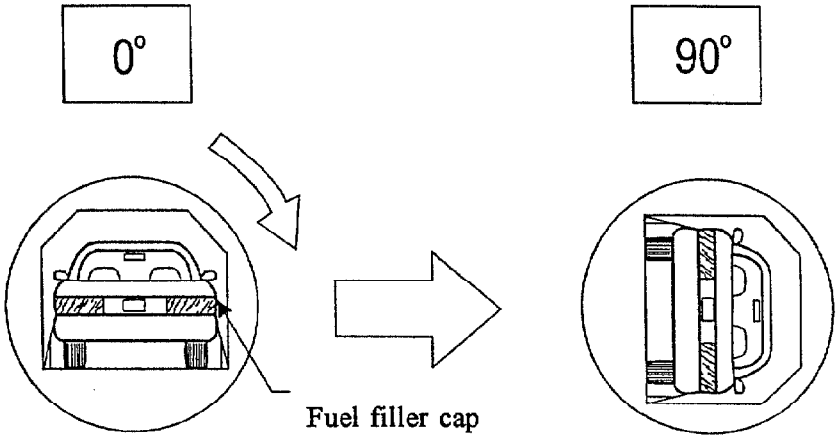
		Test Results	Maximum Allowable
1.	From impact until vehicle motion ceases	0 oz	1 oz
2.	5-Minute period after vehicle motion ceases	0 oz	5 oz
3.	Next 25 minutes after 5-minute period	0 oz	1 oz/1 min

Fuel system fluid spillage location(s): None

Figure 6 FMVSS 301 Static Rollover Test Data

NHTSA number: CR5402

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90°	=	2	minutes,	0	seconds
FMVSS 301 position hold time	=	5	minutes,	0	seconds
Total	=	7	minutes,	0	seconds
Next whole minute interval	=	7	minutes		

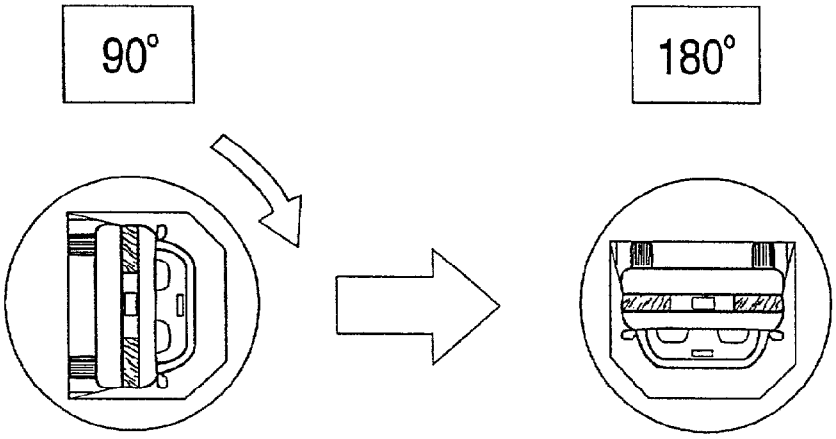
Fuel system fluid spillage measurements:

0° to 90° rotation (fuel filler cap down)	Test Results	Maximum Allowable
1. First 5 minutes from onset of rotation	0 oz	5 oz
2. Sixth minute from onset of rotation	0 oz	1 oz
3. Seventh minute from onset of rotation	0 oz	1 oz

Fuel system fluid spillage location(s): None

Figure 6 FMVSS 301 Static Rollover Test Data, Cont'd.

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90°	=	2	minutes,	0 seconds
FMVSS 301 position hold time	=	5	minutes,	0 seconds
Total	=	7	minutes,	0 seconds
Next whole minute interval	=	14	minutes	

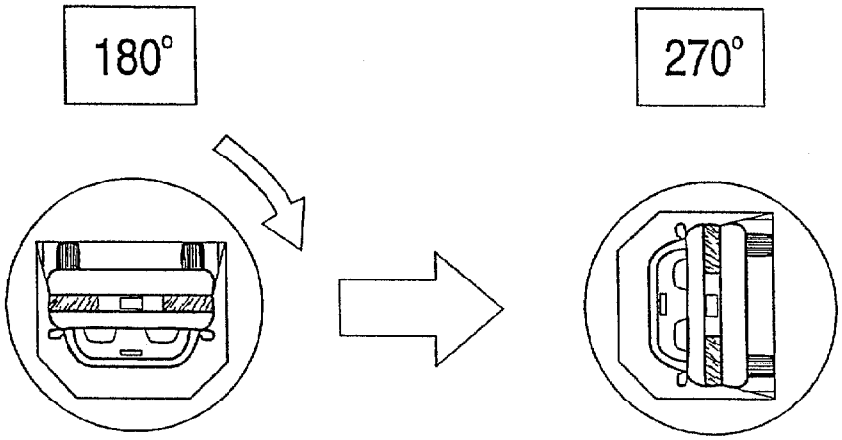
Fuel system fluid spillage measurements:

90° to 180° rotation	Test Results	Maximum Allowable
1. First 5 minutes from onset of rotation	0 oz	5 oz
2. Sixth minute from onset of rotation	0 oz	1 oz
3. Seventh minute from onset of rotation	0 oz	1 oz

Fuel system fluid spillage location(s): None

Figure 6 FMVSS 301 Static Rollover Test Data, Cont'd.

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90°	=	2	minutes,	0	seconds
FMVSS 301 position hold time	=	5	minutes,	0	seconds
Total	=	7	minutes,	0	seconds
Next whole minute interval	=	21	minutes		

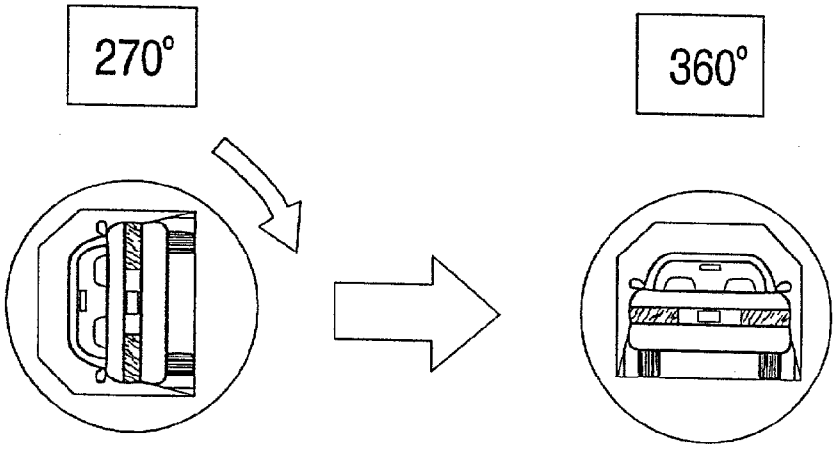
Fuel system fluid spillage measurements:

180 to 270° rotation	Test Results	Maximum Allowable
1. First 5 minutes from onset of rotation	0 oz	5 oz
2. Sixth minute from onset of rotation	0 oz	1 oz
3. Seventh minute from onset of rotation	0 oz	1 oz

Fuel system fluid spillage location(s): None

Figure 6 FMVSS 301 Static Rollover Test Data, Cont'd.

Test phase



Static rollover machine rotation time information: (specified range is 1-3 minutes)

Time required for machine to rotate 90°	=	2	minutes,	0 seconds
FMVSS 301 position hold time	=	5	minutes,	0 seconds
Total	=	7	minutes,	0 seconds
Next whole minute interval	=	28	minutes	

Fuel system fluid spillage measurements:

270° to 360° rotation	Test Results	Maximum Allowable
1. First 5 minutes from onset of rotation	0 oz	5 oz
2. Sixth minute from onset of rotation	0 oz	1 oz
3. Seventh minute from onset of rotation	0 oz	1 oz

Fuel system fluid spillage location(s): None

Section 4.0

Vehicle, Occupant, and Camera Measurements

Figure 7 Pre-test and Post-test Measurement Points

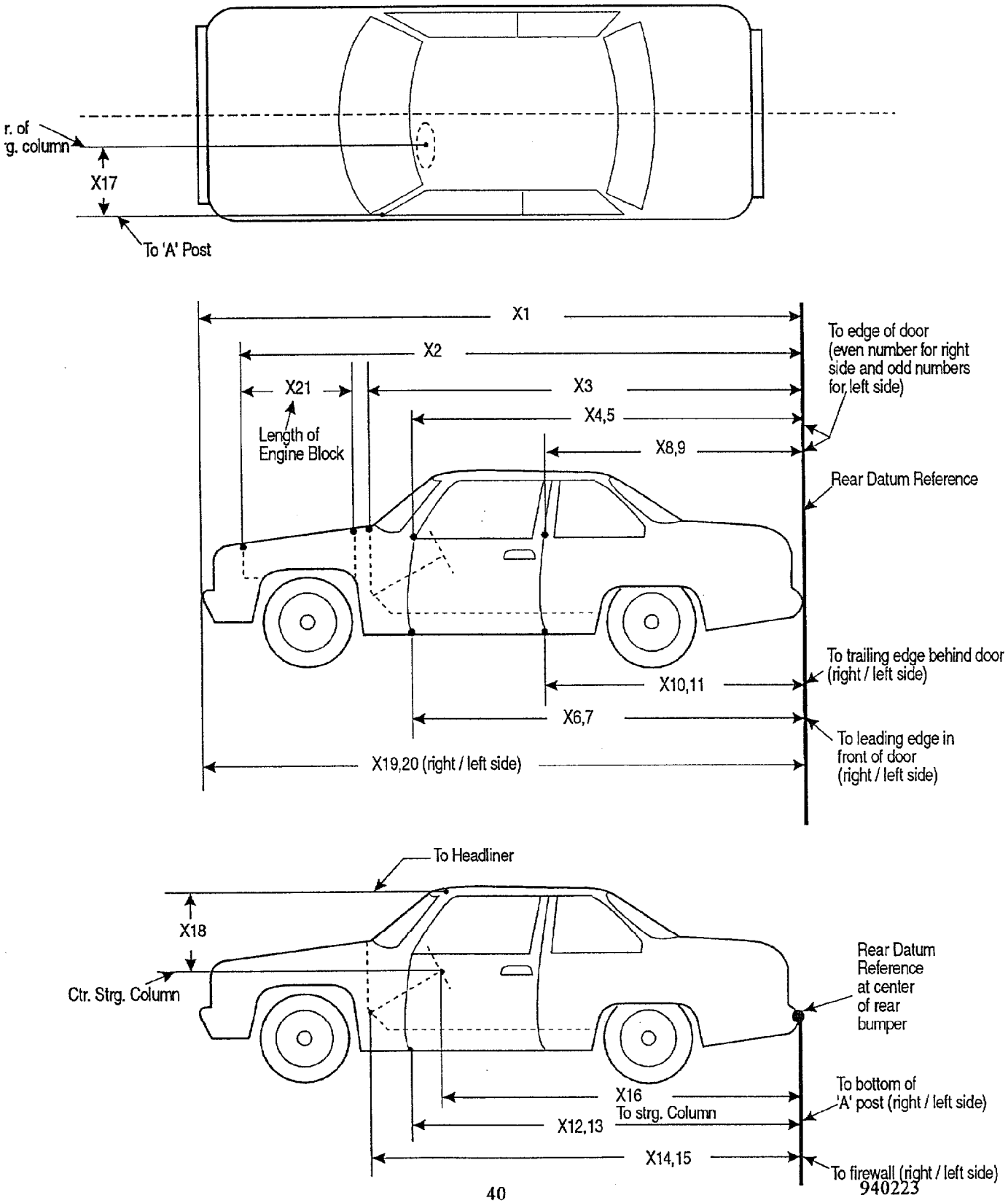


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Table 11 Impacted Vehicle Measurements

Vehicle year/make/model/body style: 1994/Mazda/MX6/2-door coupe

Test number: 940223

No.	Type of Measurement	Pre-test	Post-test	Difference
X1	Total length of vehicle at centerline	181.0 in	167.1 in	13.9 in
X2	Rear surface of vehicle to front of engine block	174.9 in	150.8 in	24.1 in
X3	Rear surface of vehicle to firewall	136.0 in	131.1 in	4.9 in
X4	Rear surface of vehicle to upper leading edge of right door	119.7 in	119.5 in	0.2 in
X5	Rear surface of vehicle to upper leading edge of left door	119.9 in	119.9 in	0.0 in
X6	Rear surface of vehicle to lower leading edge of right door	120.0 in	119.8 in	0.2 in
X7	Rear surface of vehicle to lower leading edge of left door	120.5 in	120.1 in	0.4 in
X8	Rear surface of vehicle to upper trailing edge of right door	74.1 in	74.0 in	0.1 in
X9	Rear surface of vehicle to upper trailing edge of left door	74.1 in	74.1 in	0.0 in
X10	Rear surface of vehicle to lower trailing edge of right door	75.8 in	75.5 in	0.3 in
X11	Rear surface of vehicle to lower trailing edge of left door	77.2 in	76.9 in	0.3 in
X12	Rear surface of vehicle to bottom of "A" post on right side	120.5 in	120.1 in	0.4 in
X13	Rear surface of vehicle to bottom of "A" post on left side	120.7 in	120.2 in	0.5 in
X14	Rear surface of vehicle to firewall - right side	130.4 in	130.5 in	-0.1 in
X15	Rear surface of vehicle to firewall - left side	130.4 in	131.9 in	-1.5 in
X16	Rear surface of vehicle to steering wheel center	104.4 in	106.1 in	-1.7 in
X17	Center of steering column to "A" post	11.4 in	12.0 in	-0.6 in
X18	Center of steering column to headliner	16.8 in	16.0 in	0.8 in
X19	Rear surface of vehicle to right side of front bumper	174.2 in	165.0 in	9.2 in
X20	Rear surface of vehicle to left side of front bumper	174.2 in	161.0 in	13.2 in
X21	Length of engine block	19.0 in	19.0 in	0.0 in

Figure 8 Vehicle Target Locations

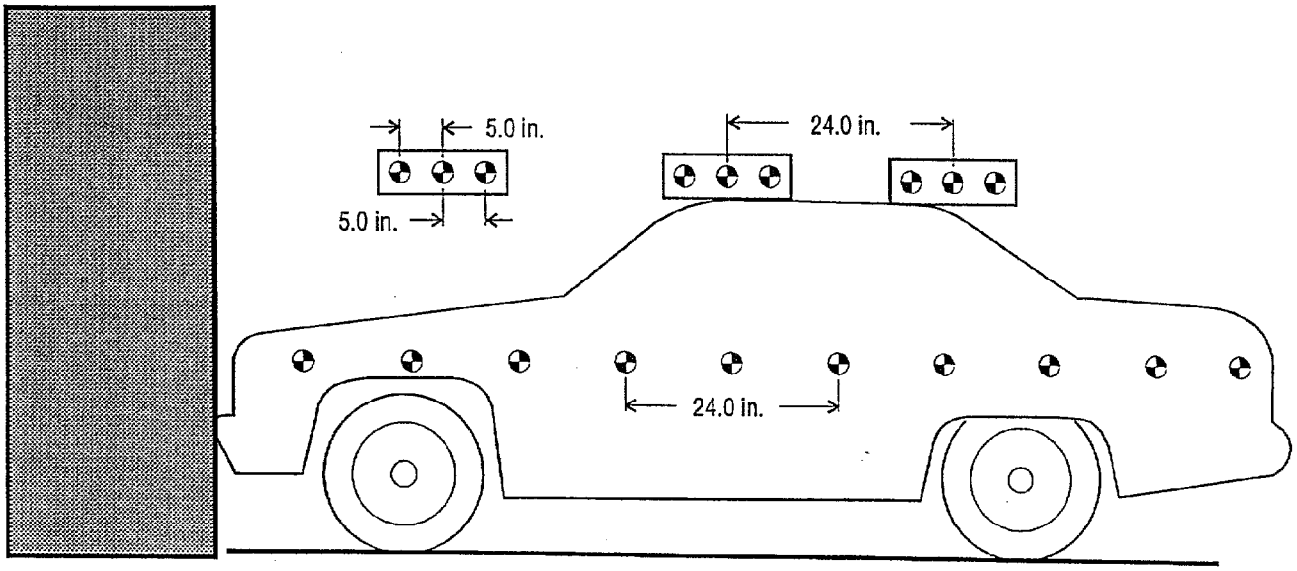

Figure 9 Dummy Measurement Locations for Front Seat Occupants

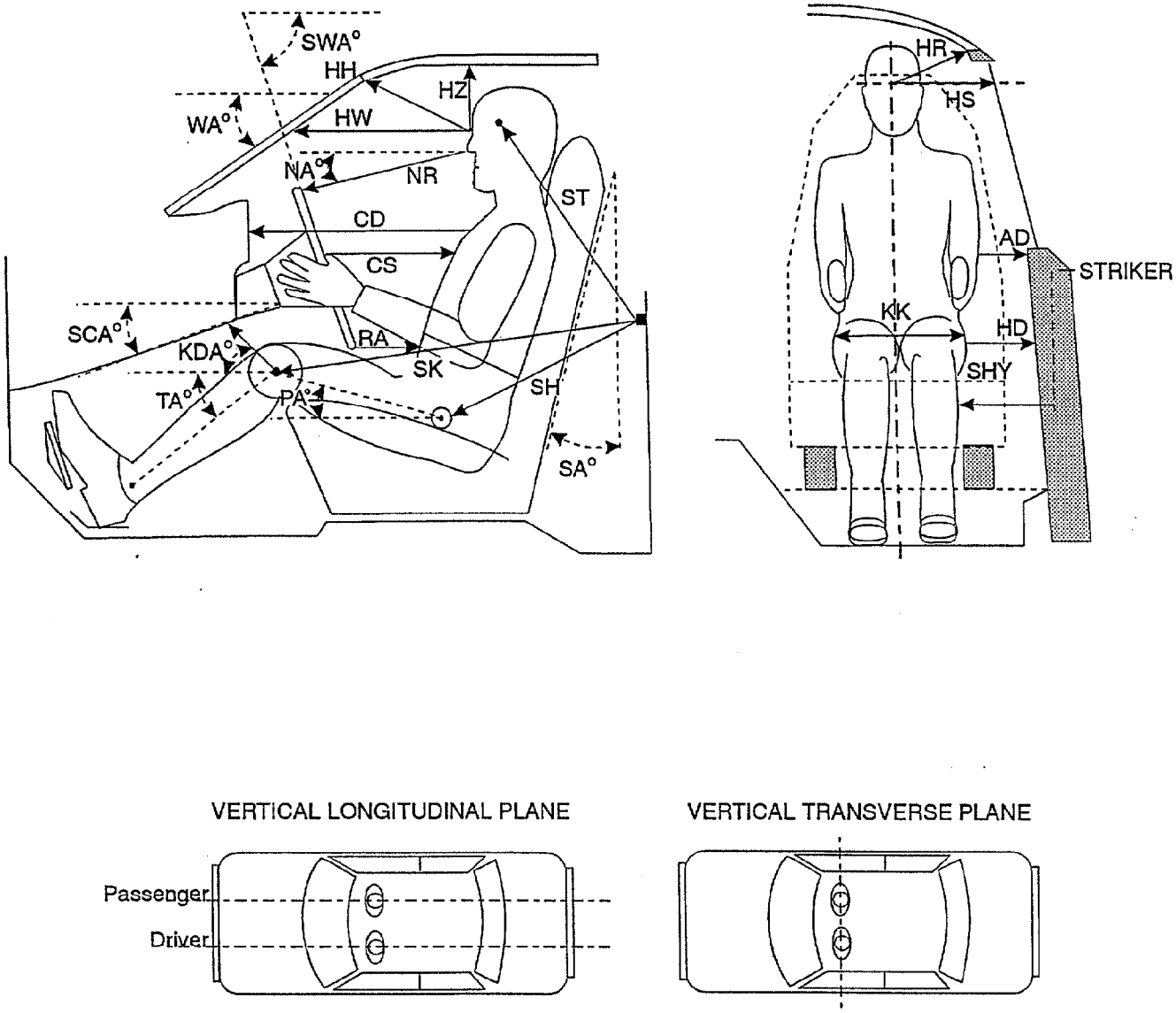

Table 12 Dummy Measurement Data for Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #353)	Passenger (Serial #1173)
WA	Windshield angle	27°	NA
SWA	Steering wheel angle	18°	NA
SCA	Steering column angle	72°	NA
SA	Seat back angle	19°	19°
HZ	Head to roof	5.0 in	4.6 in
HH	Head to header	16.1 in	16.8 in
HW	Head to windshield	22.2 in	21.5 in
HR	Head to side header	6.9 in	6.1 in
NR	Nose to rim	16.9 in	NA
NA	Nose to rim angle	18°	NA
CD	Chest to dash	22.6 in	25.2 in
CS	Steering wheel to chest	14.5 in	NA
RA	Rim to abdomen	7.1 in	NA
KDL	Left knee to dash	7.2 in	7.8 in
KDR	Right knee to dash	6.6 in	7.1 in
KDA	Outboard knee to dash angle	34°	34°
PA	Pelvic angle	11°	9°
TA	Tibial angle	32°	27°
KK	Knee to knee	15.6 in	12.0 in
ST[1]	Striker to head	20.6 in	19.9 in
	Striker to head angle	-64°	-66°
SK[1]	Striker to knee	32.1 in	32.7 in
	Striker to knee angle	6°	6°
SH[1]	Striker to H-point	17.6 in	18.1 in
	Striker to H-point angle	25°	22°
SHY	Striker to H-point (Y dir.)	10.0 in	9.6 in
HS	Head to side window	8.9 in	8.9 in
HD	H-point to door	5.0 in	4.2 in
AD	Arm to door	3.8 in	2.8 in

The seat back angle (SA°) is measured relative to vertical, all other angles are measured relative to horizontal.

[1] A negative angle indicates the measurement point was located above the striker.

Figure 10 Camera Positions

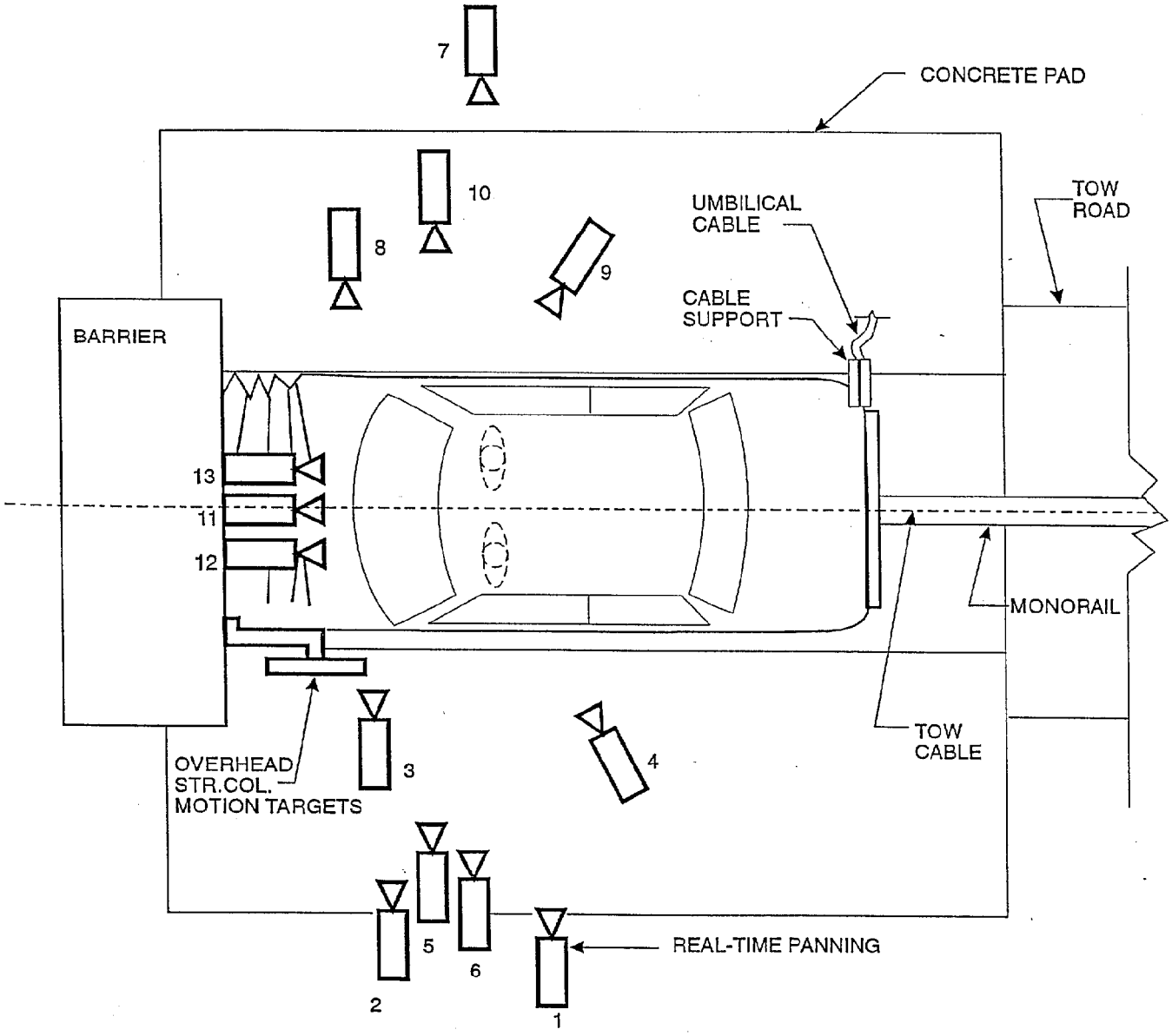

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Figure 10 Camera Positions, Cont'd.

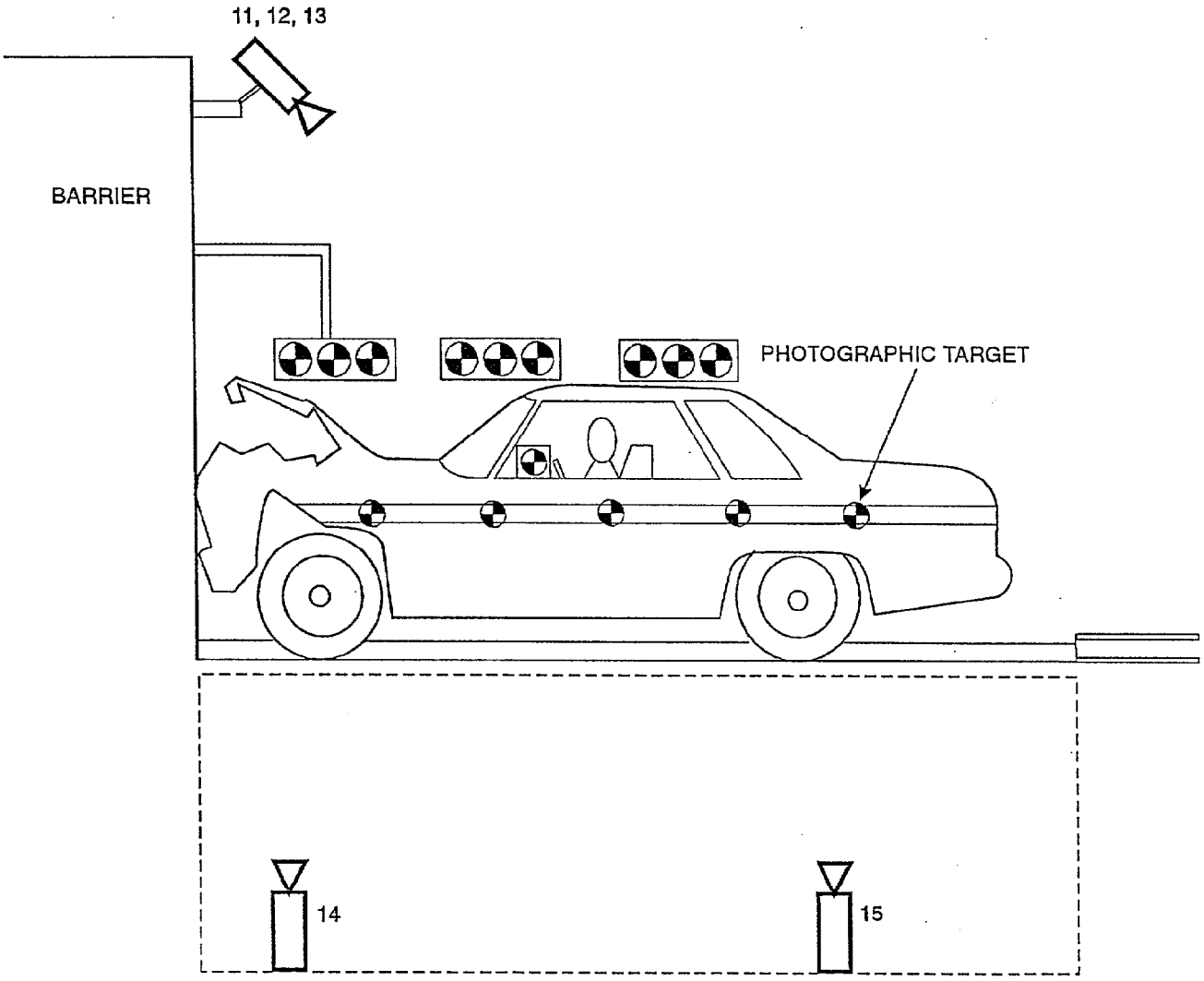

Table 13 Motion Picture Camera Locations

Vehicle year/make/model/body style: 1994/Mazda/MX6/2-door coupe

Test number: 940223

Camera Number	View	Camera Positions[1] X	Y	Z	Camera Angle[2]	Film Plane to Head Target	Camera Lens	Film Speed
1	Real-time panning	-142.0 in	504.0 in	61.0 in	NA	NA	16 mm	24 frames/s
2	Left vehicle crush	-41.5 in	295.0 in	44.0 in	-4°	239 in	25 mm	1000 frames/s
3	Left windshield intrusion	-53.0 in	309.4 in	42.3 in	0°	NA	50 mm	1005 frames/s
4	Driver kinematics	-157.3 in	116.0 in	87.0 in	-27°	98 in	25 mm	1000 frames/s
5	Steering column motion	-78.0 in	286.0 in	103.0 in	-14°	NA	25 mm	1010 frames/s
6	Steering column motion	-78.0 in	286.0 in	75.1 in	-9°	NA	25 mm	1002 frames/s
7	Right overall	-81.3 in	-266.4 in	37.1 in	-2°	NA	13 mm	1008 frames/s
8	Right windshield intrusion	-38.1 in	-306.1 in	44.0 in	0°	NA	50 mm	998 frames/s
9	Passenger kinematics	-152.1 in	-116.0 in	87.0 in	-26°	95 in	25 mm	988 frames/s
10	Passenger kinematics	-38.8 in	-293.0 in	45.3 in	-4°	206 in	25 mm	998 frames/s
11	Windshield front view	-6.0 in	0.0 in	84.0 in	-40°	NA	13 mm	1020 frames/s
12	Driver - front view	-6.8 in	14.5 in	93.0 in	-50°	NA	17 mm	973 frames/s
13	Passenger - front view	-4.5 in	-13.8 in	93.0 in	-50°	NA	17 mm	1008 frames/s
14	Pit - front position	-50.5 in	0.0 in	-92.4 in	90°	NA	13 mm	998 frames/s
15	Pit - rear position	-99.3 in	0.0 in	-99.0 in	90°	NA	13 mm	998 frames/s
16	Real-time documentation	NA	NA	NA	NA	NA	12-120 mm	24 frames/s

[1] +X: Film plane forward of barrier face
+Y: Film plane to left of monorail centerline
+Z: Film plane above ground level

[2] +Angle: Film plane angled upward from horizontal plane

Appendix A

Photographs

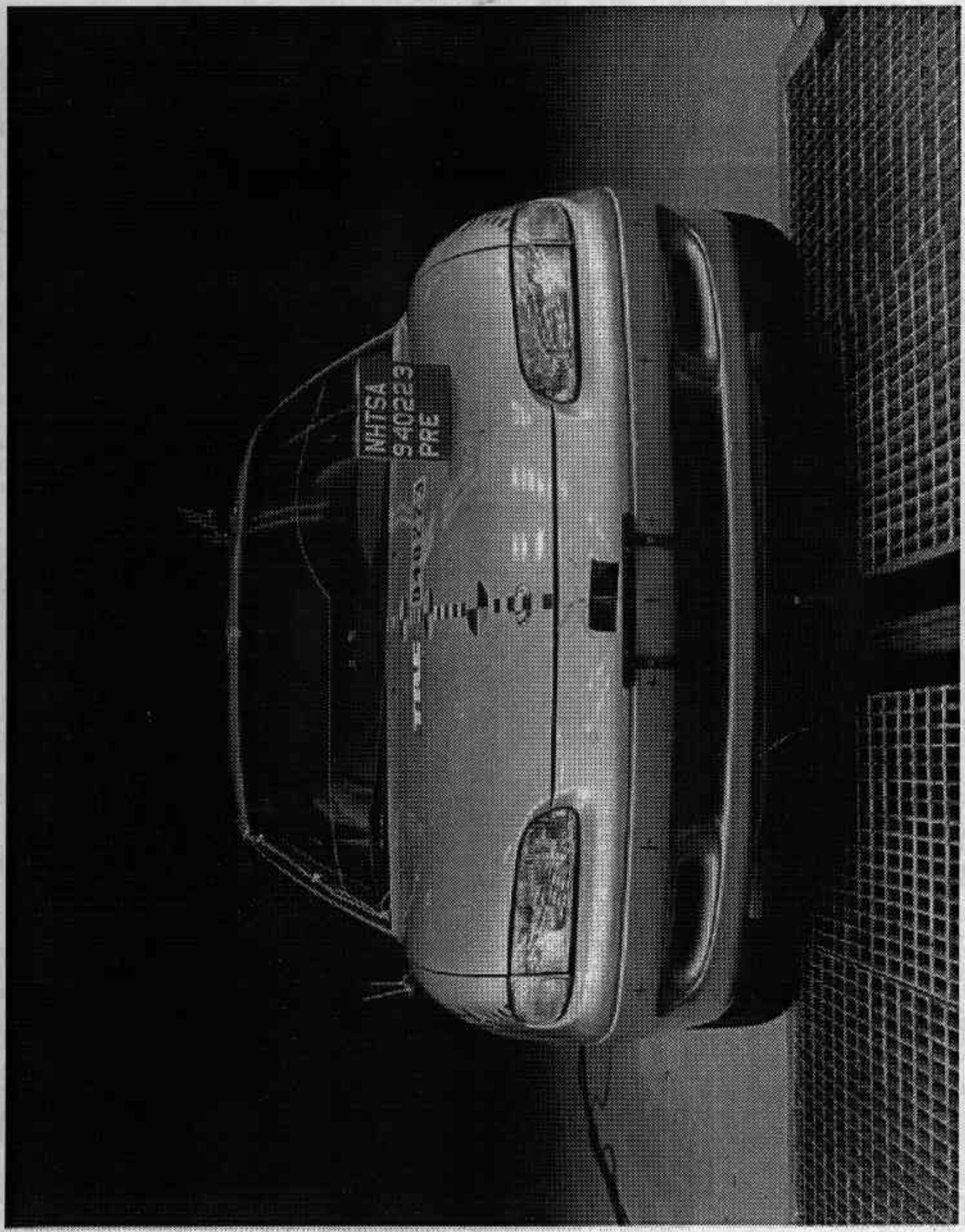

Figure A-1. PRE-TEST FRONT VIEW

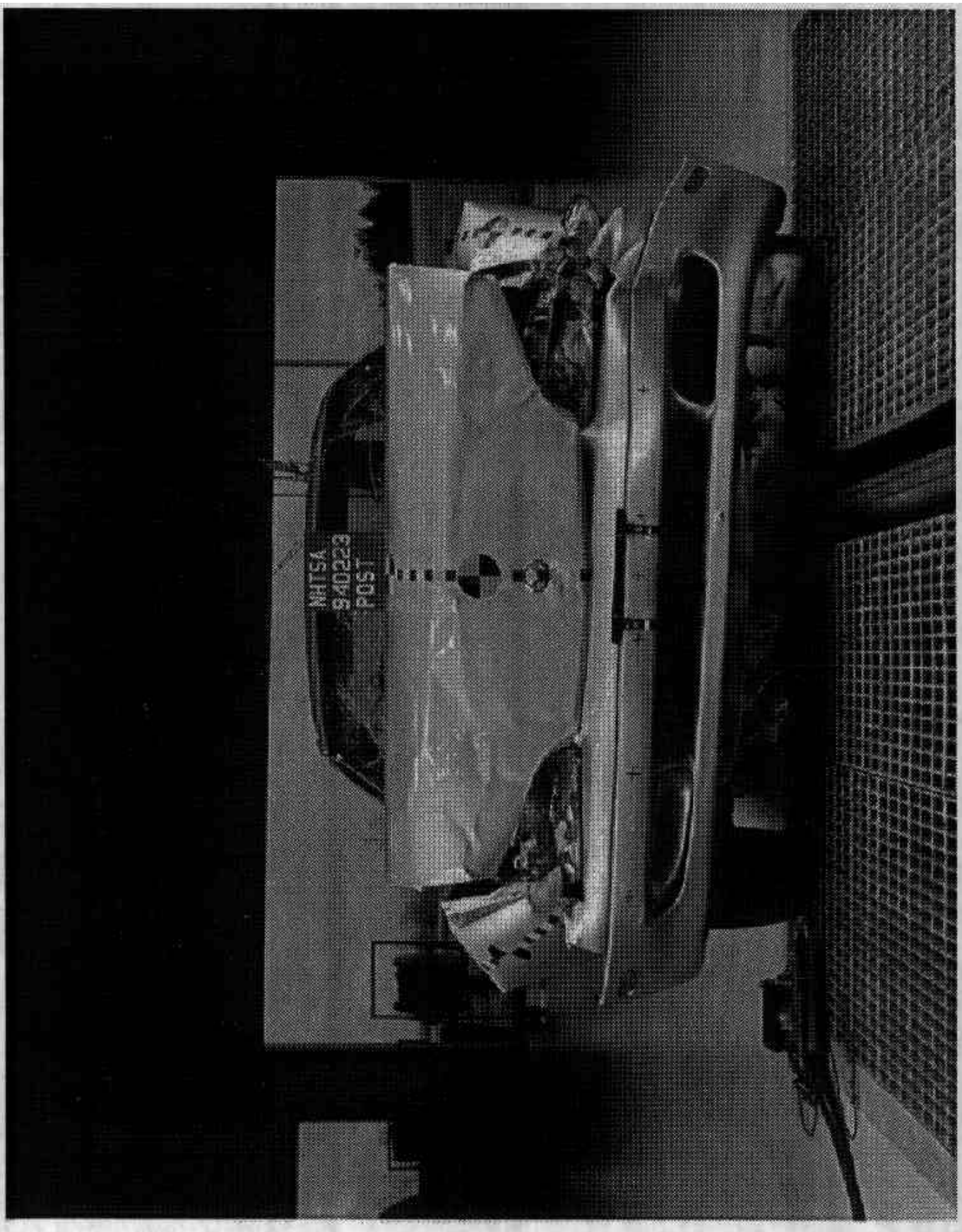

Figure A-2. POST-TEST FRONT VIEW

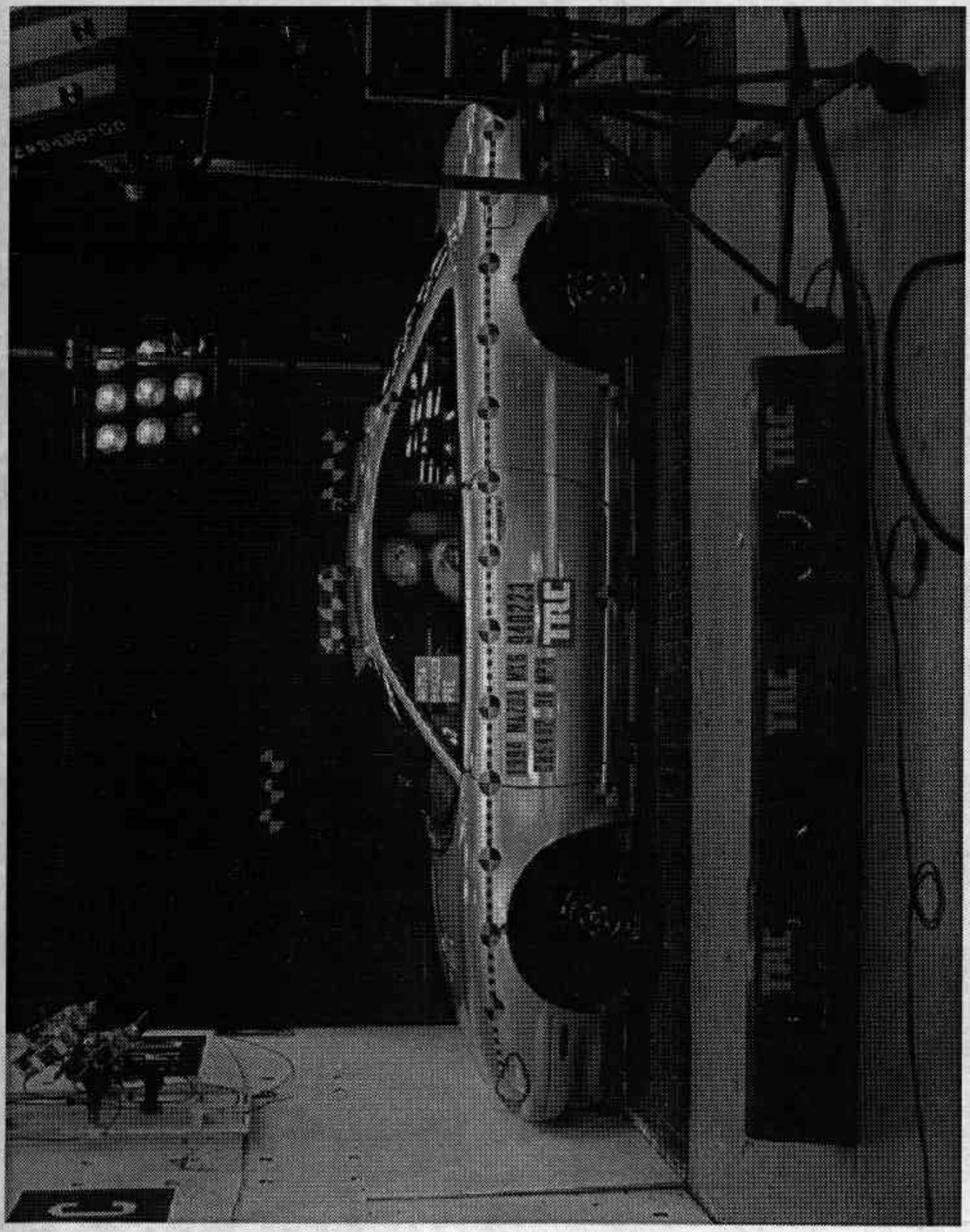

Figure A-3. PRE-TEST LEFT SIDE VIEW

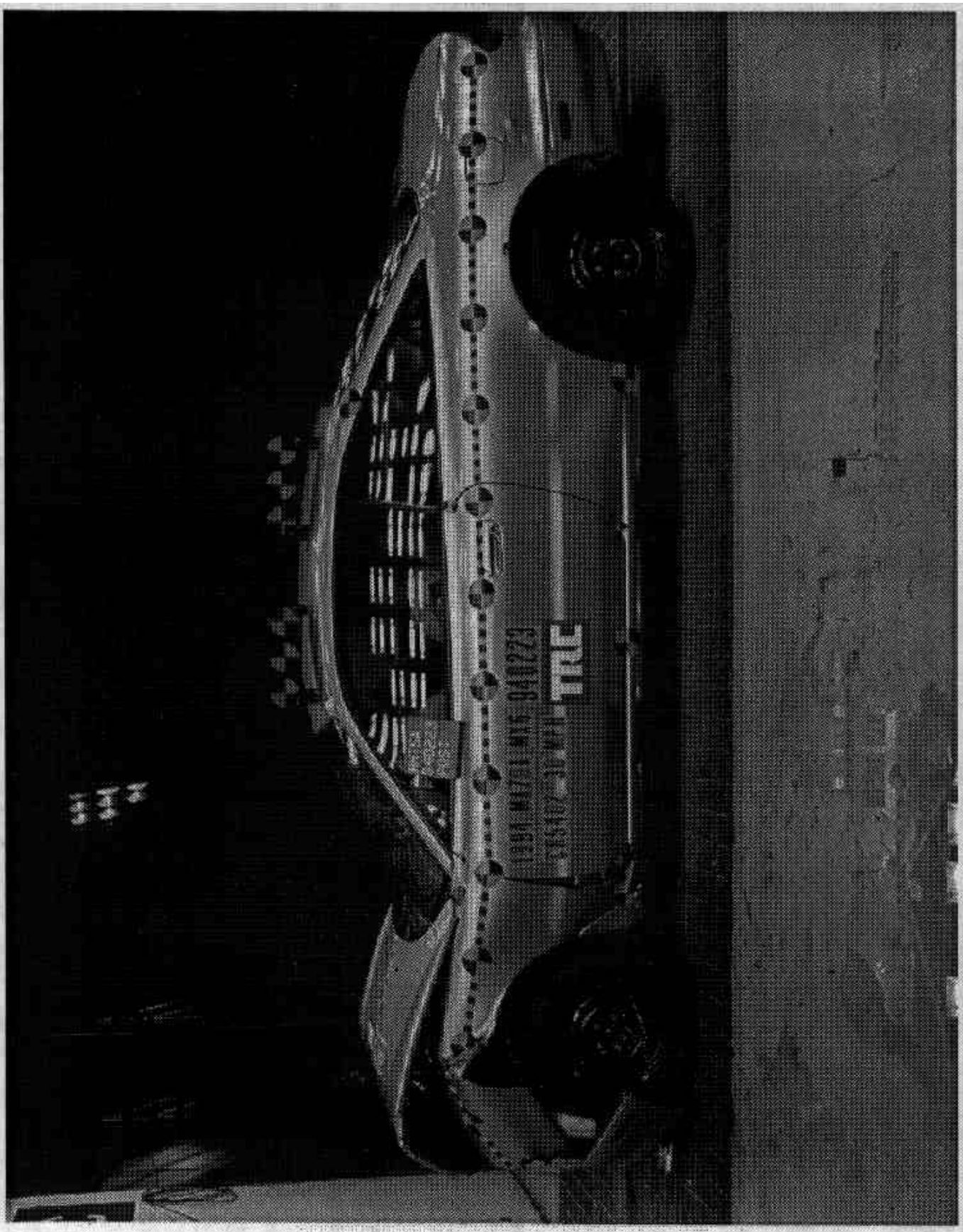

Figure A-4. POST-TEST LEFT SIDE VIEW

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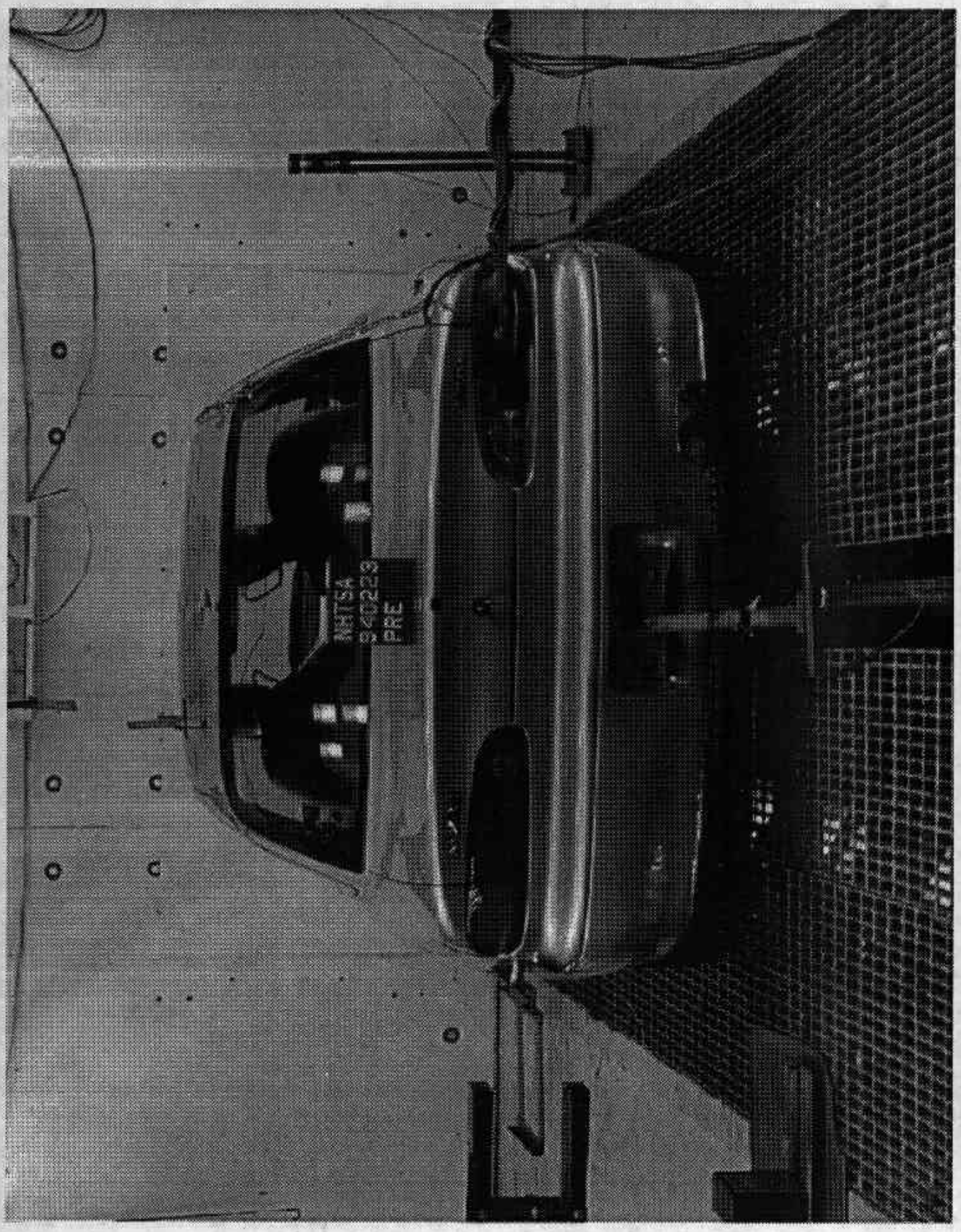

Figure A-5. PRE-TEST REAR VIEW

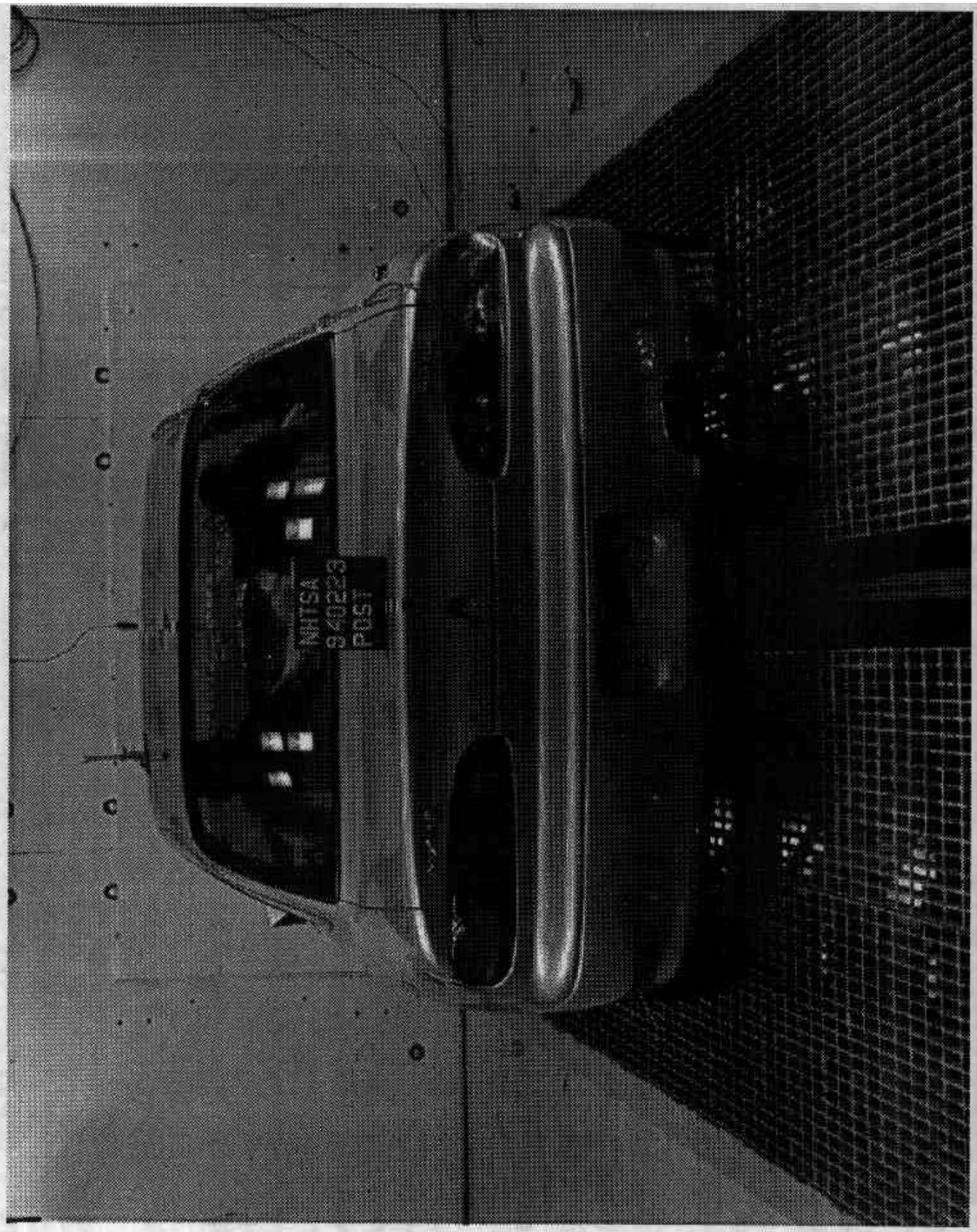

Figure A-6. POST-TEST REAR VIEW

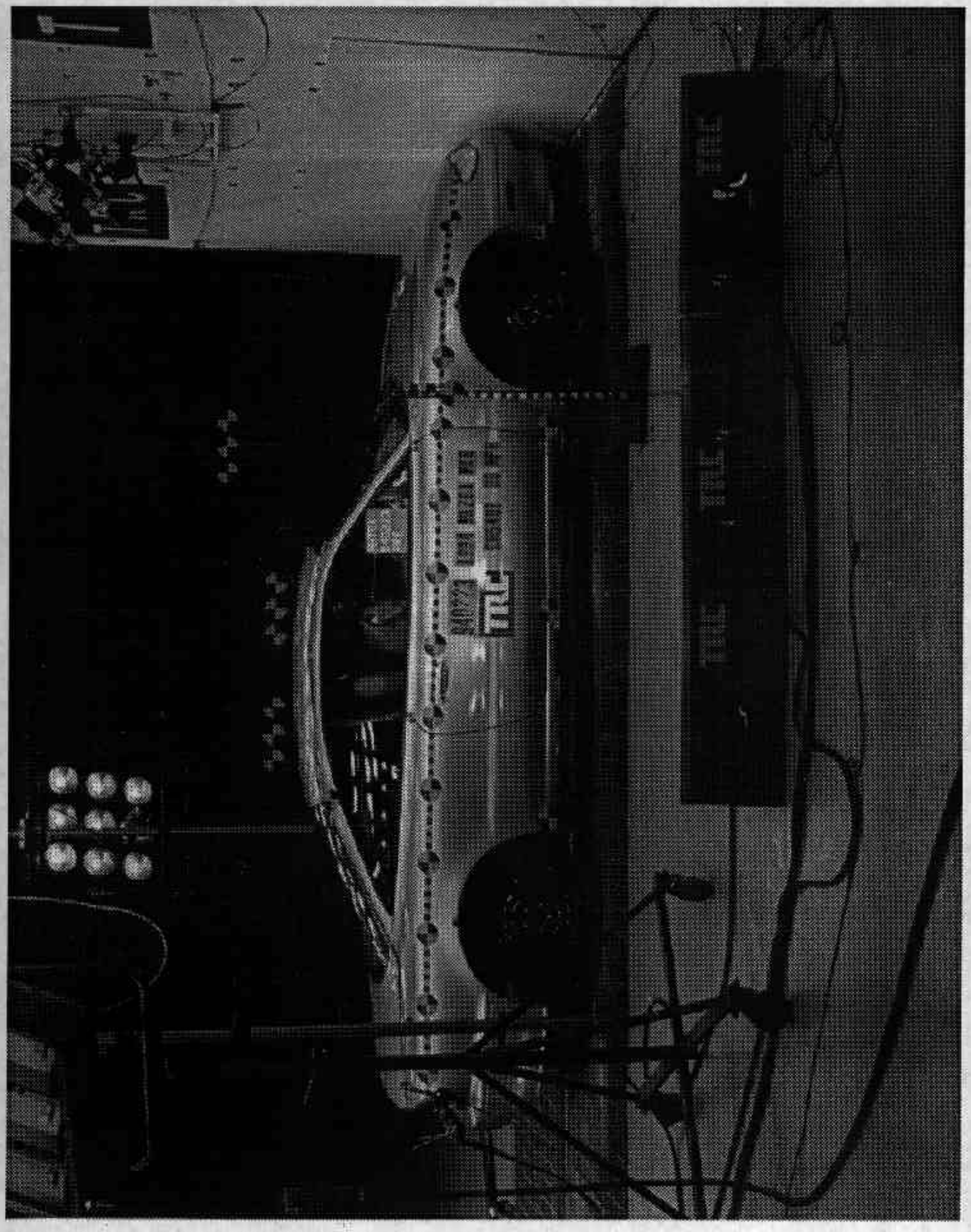

Figure A-7. PRE-TEST RIGHT SIDE VIEW

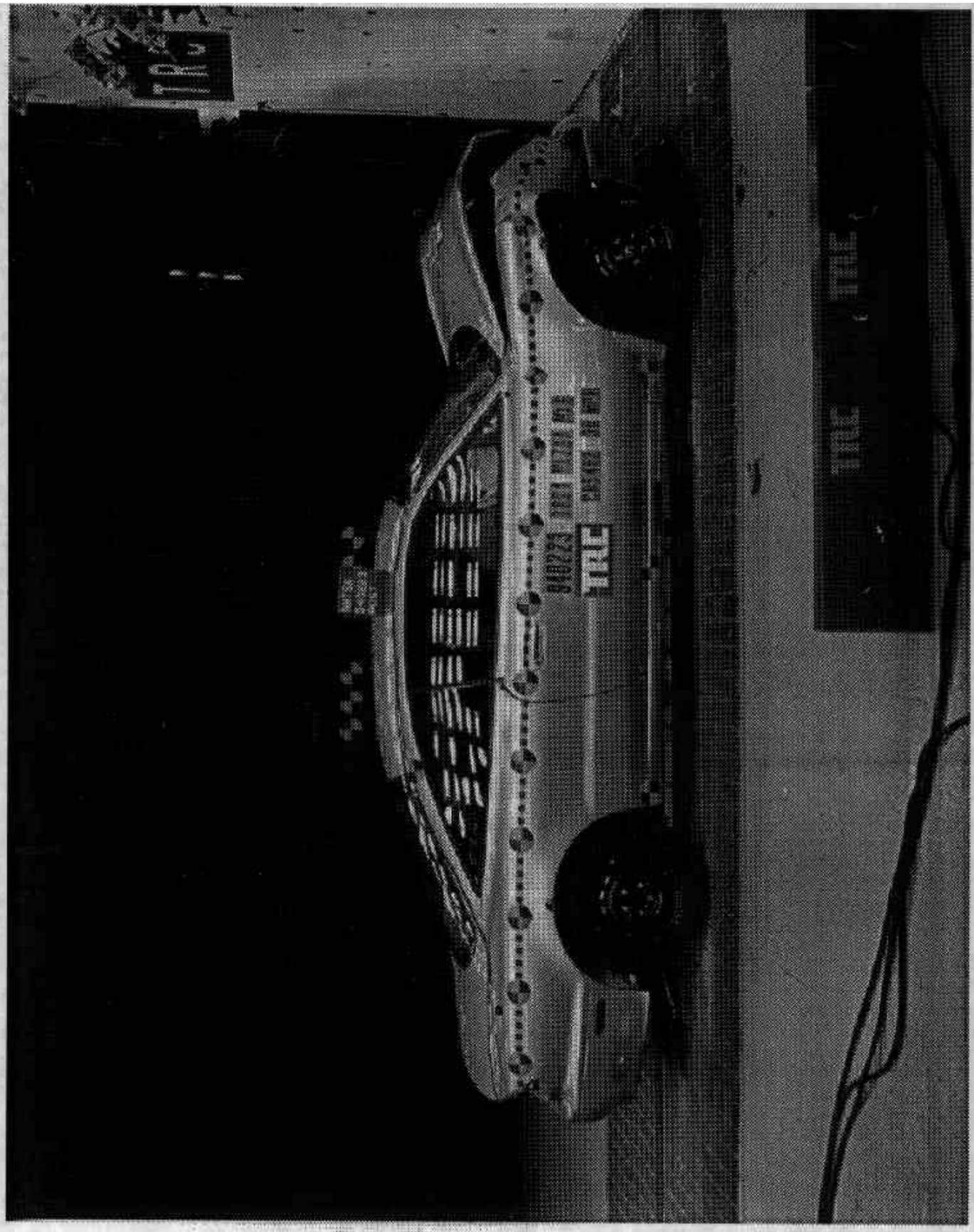

Figure A-8. POST-TEST RIGHT SIDE VIEW

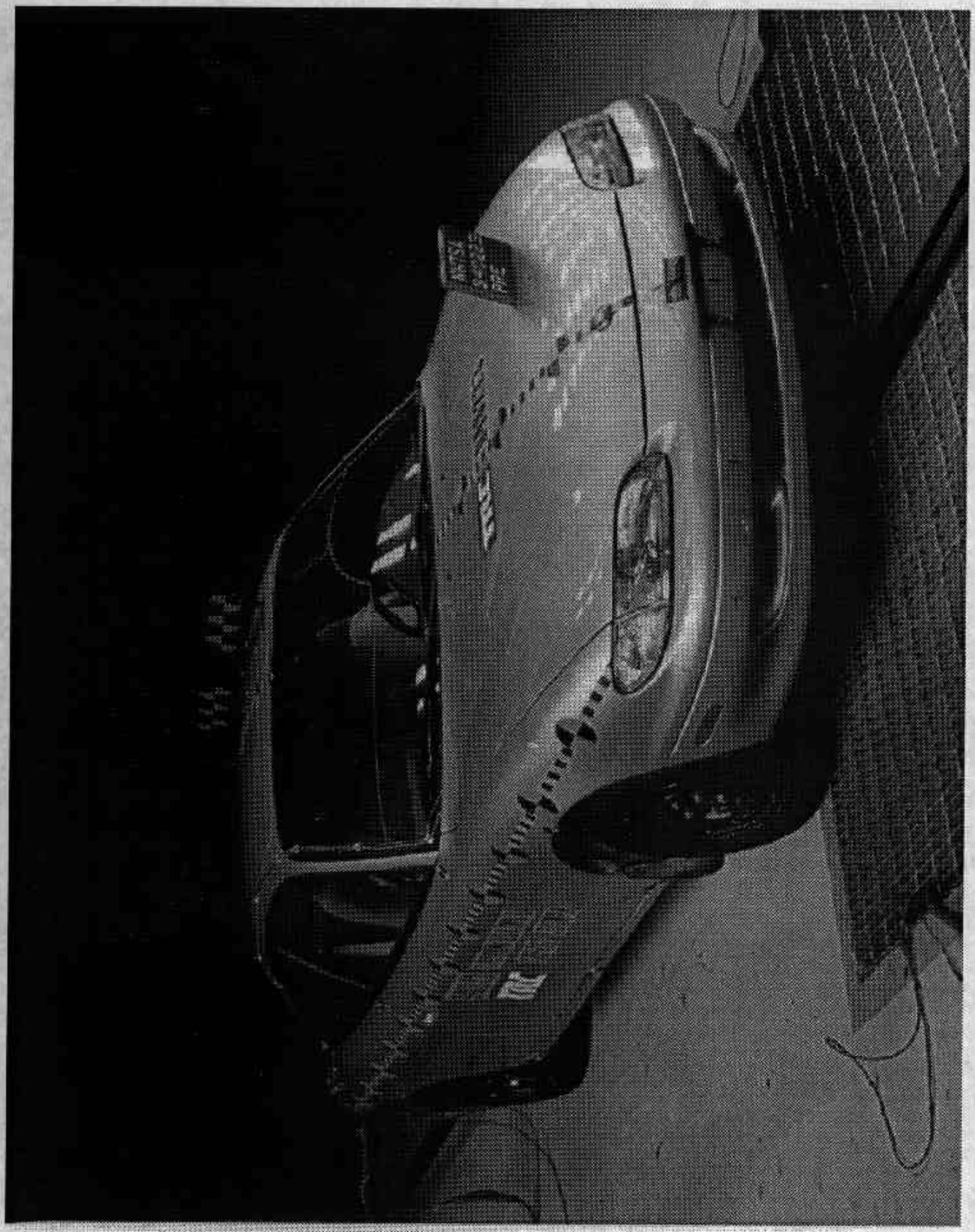

Figure A-9. PRE-TEST RIGHT FRONT THREE-QUARTER VIEW

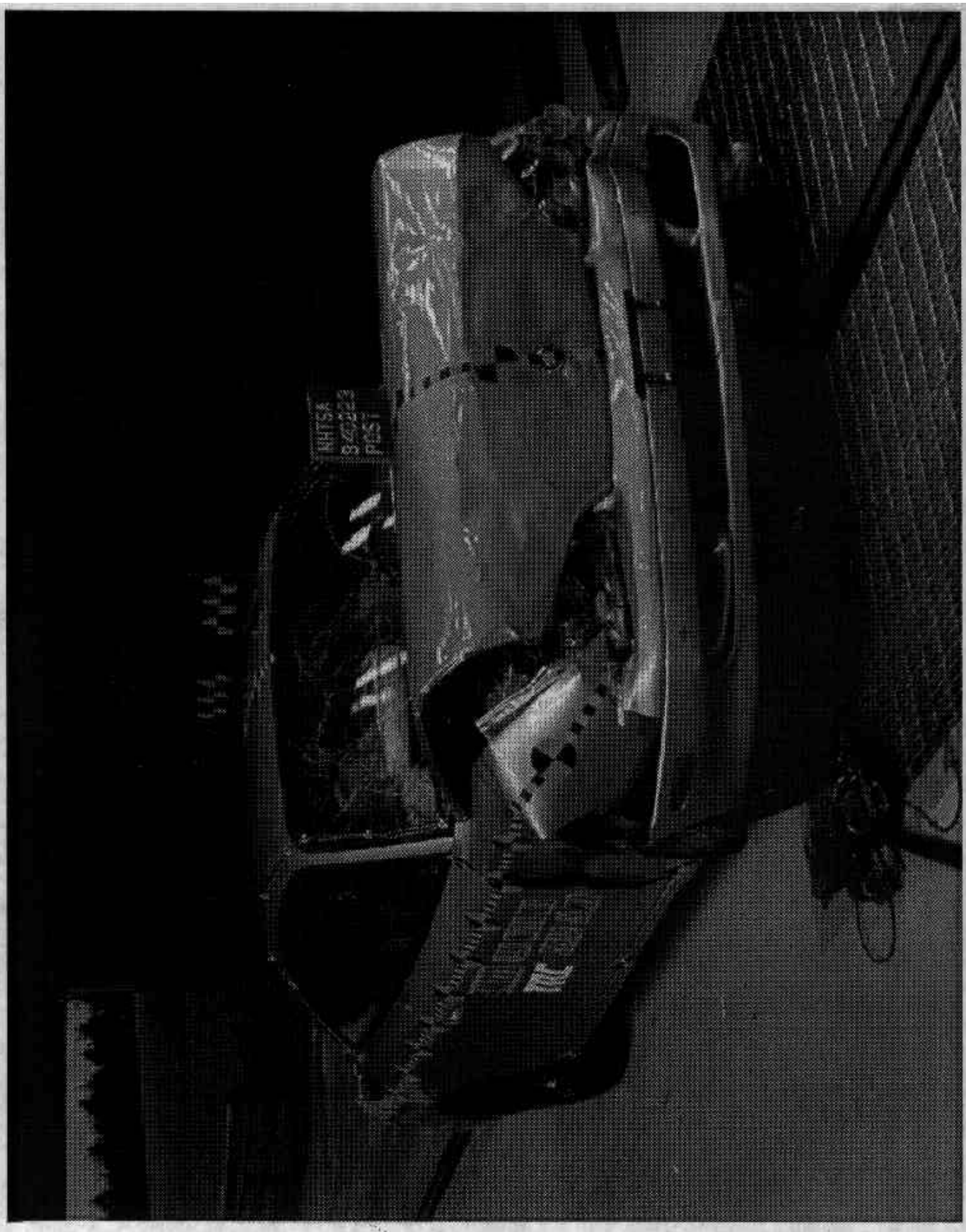

Figure A-10. POST-TEST RIGHT FRONT THREE-QUARTER VIEW

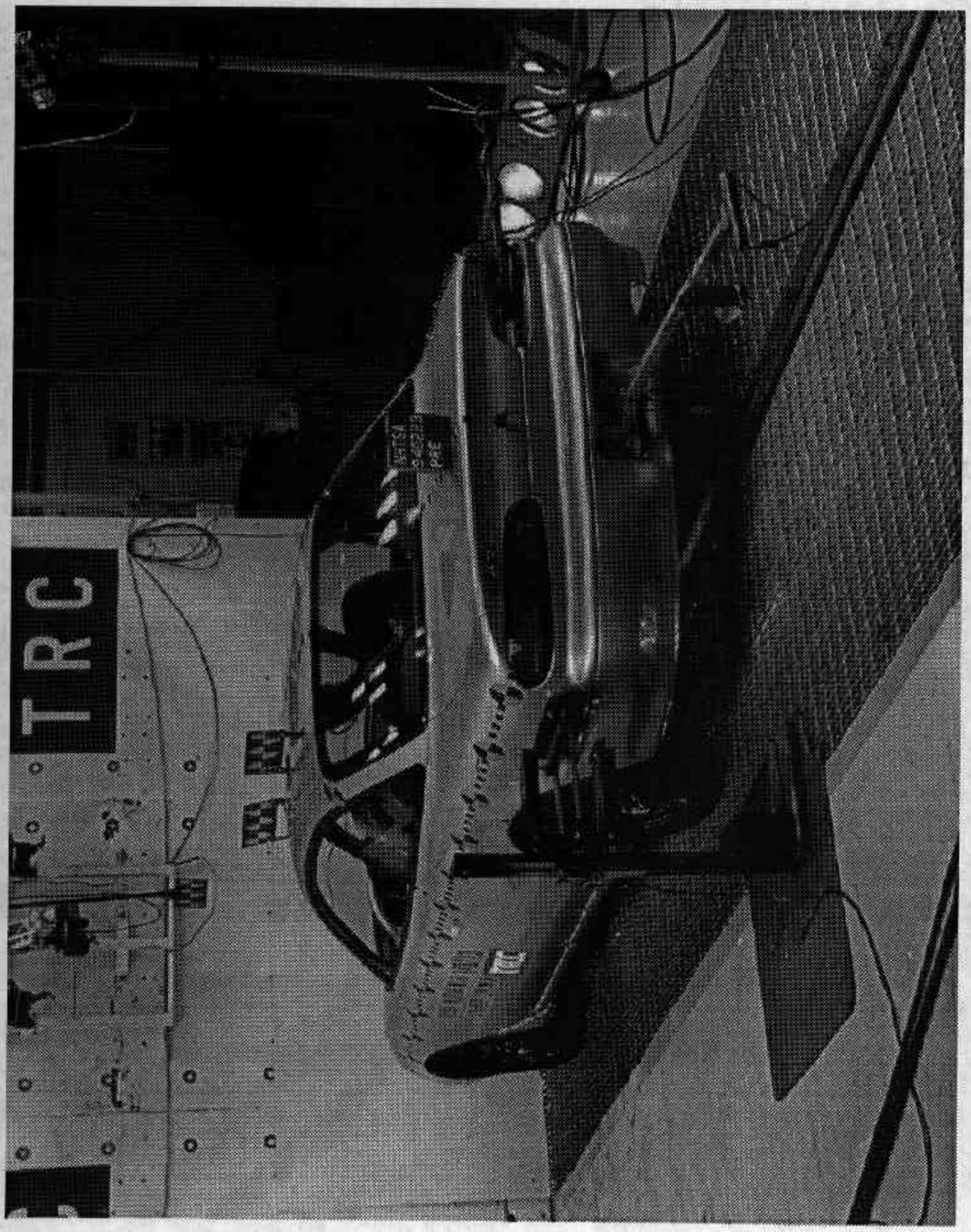

Figure A-11. PRE-TEST LEFT REAR THREE-QUARTER VIEW

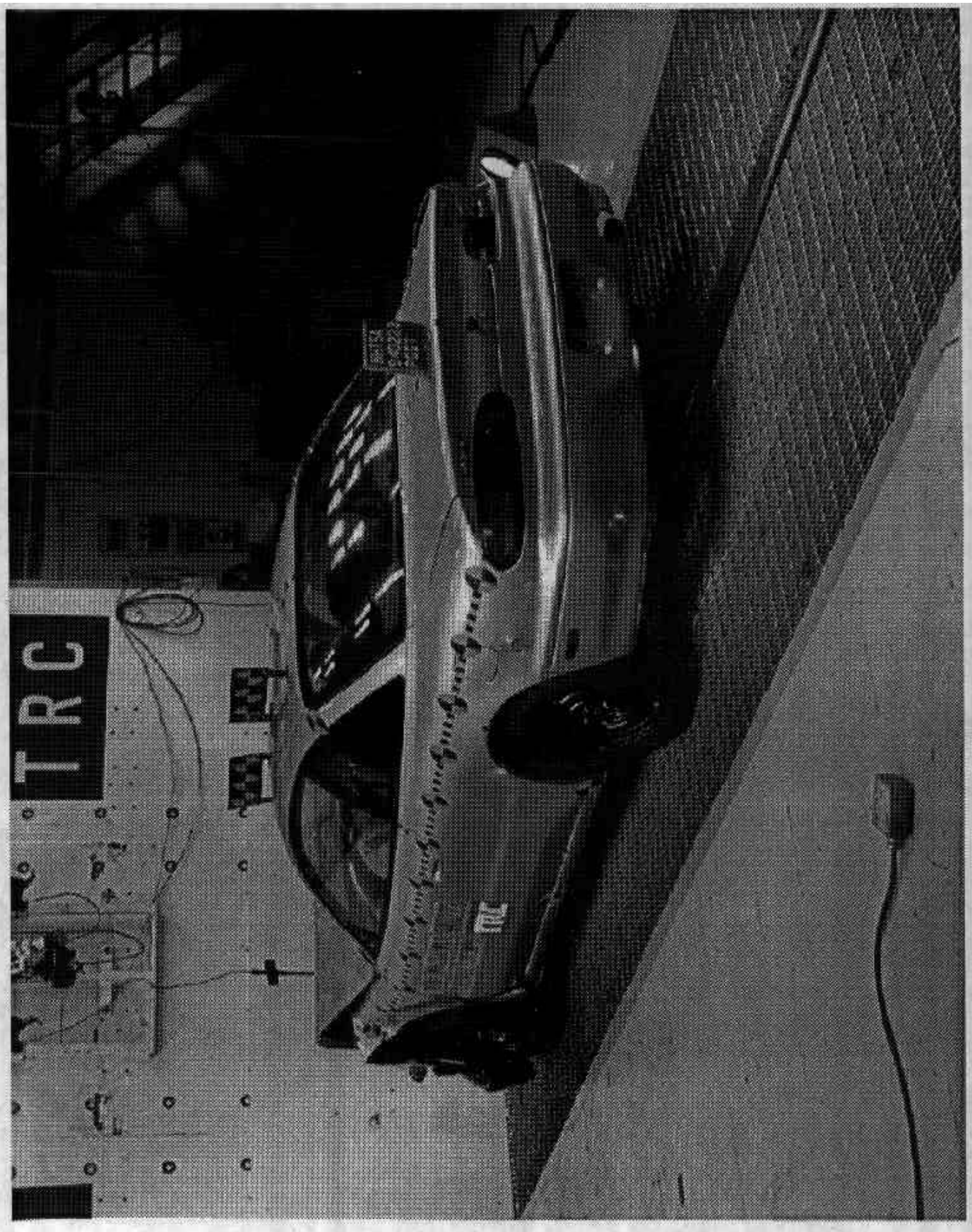

Figure A-12. POST-TEST LEFT REAR THREE-QUARTER VIEW

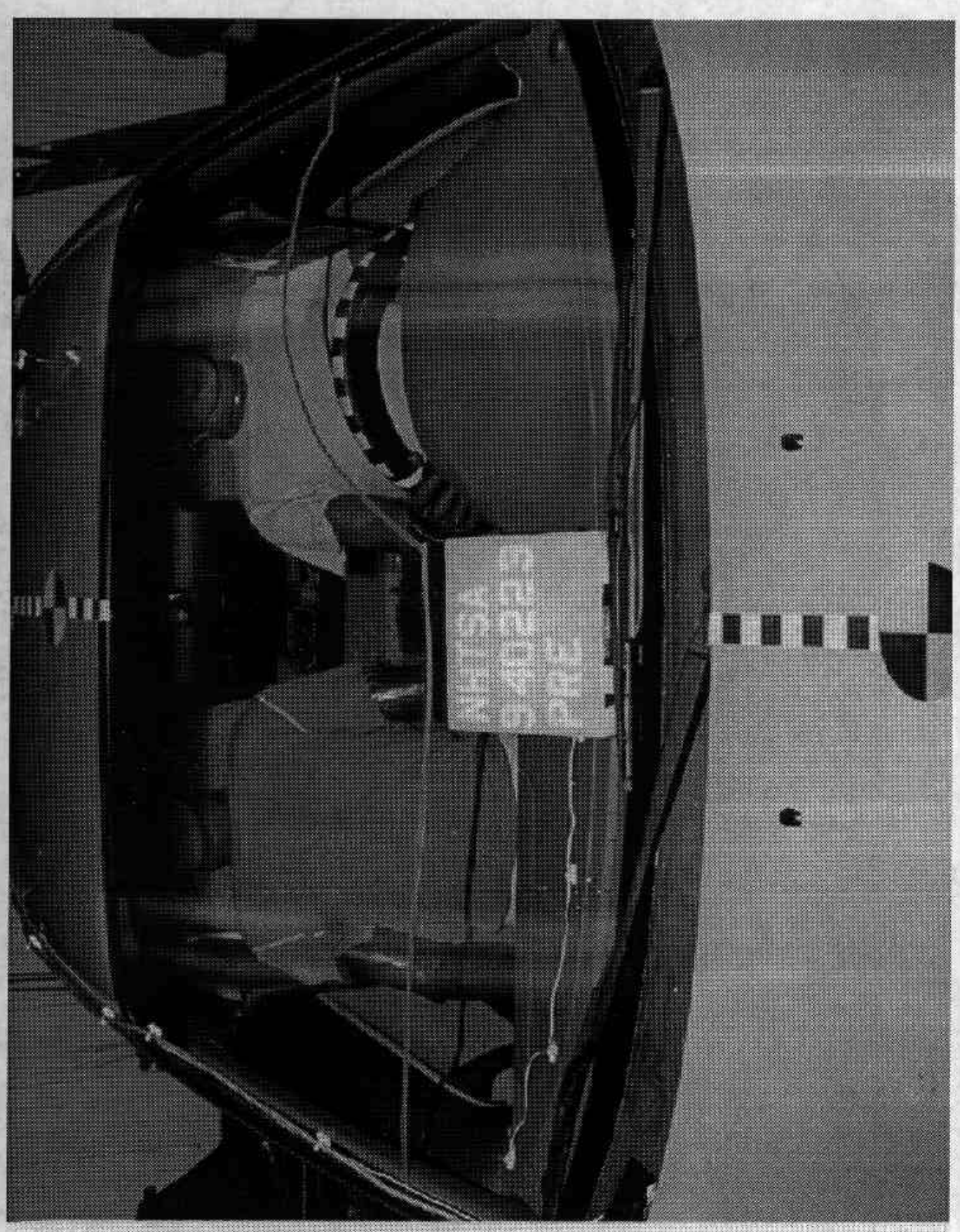

Figure A-13. PRE-TEST WINDSHIELD VIEW

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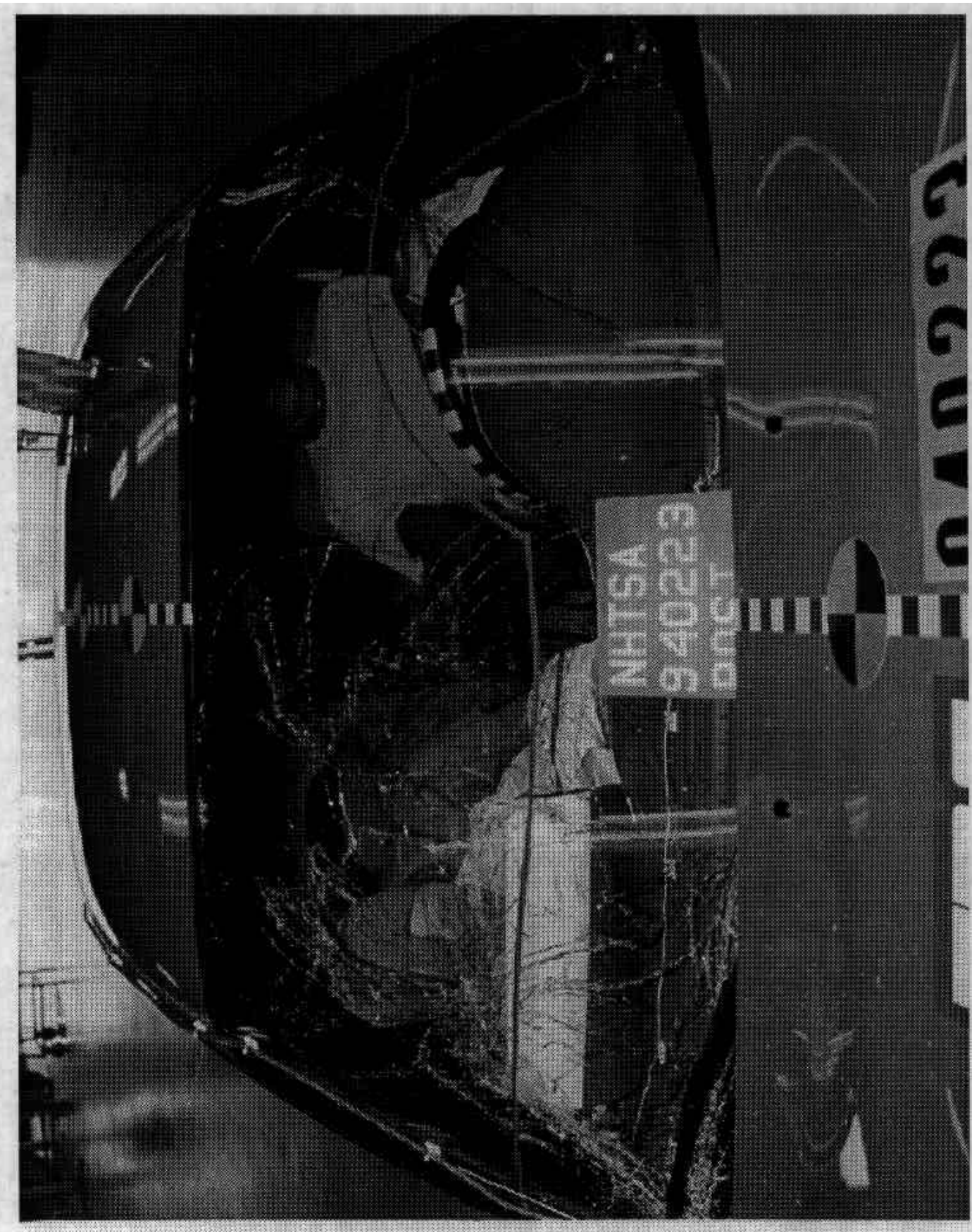

Figure A-14. POST-TEST WINDSHIELD VIEW

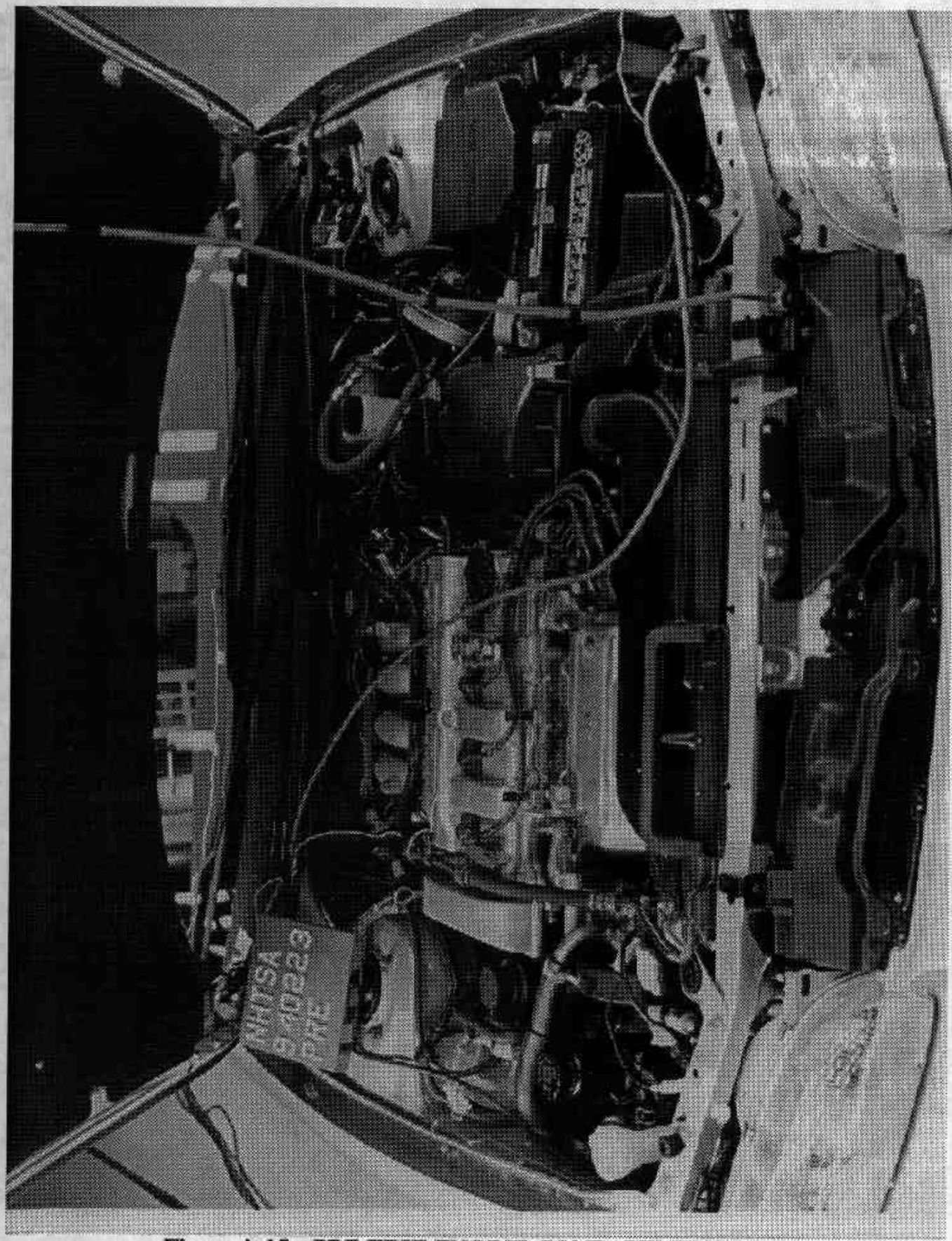

Figure A-15. PRE-TEST ENGINE COMPARTMENT VIEW

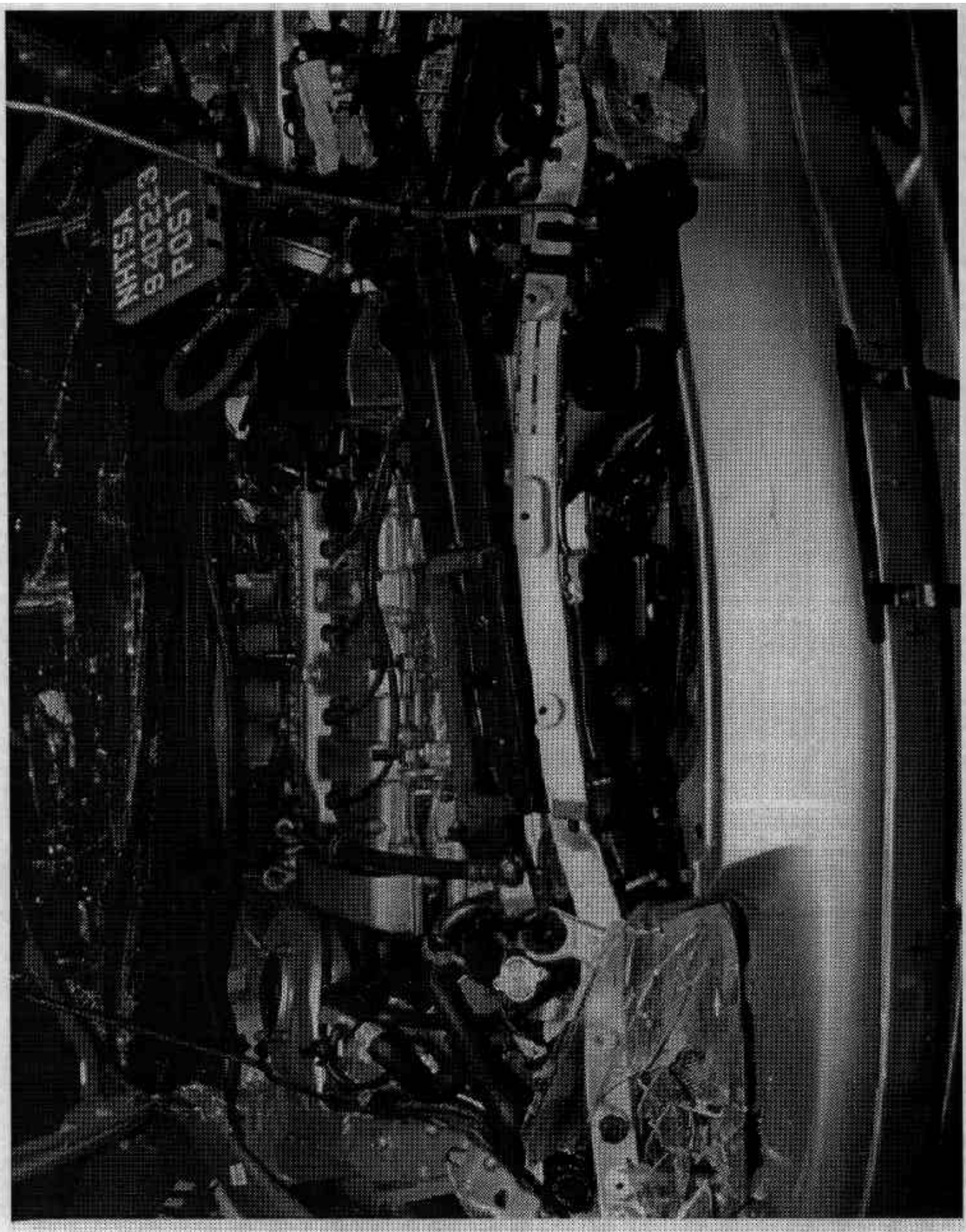

Figure A-16. POST-TEST ENGINE COMPARTMENT VIEW

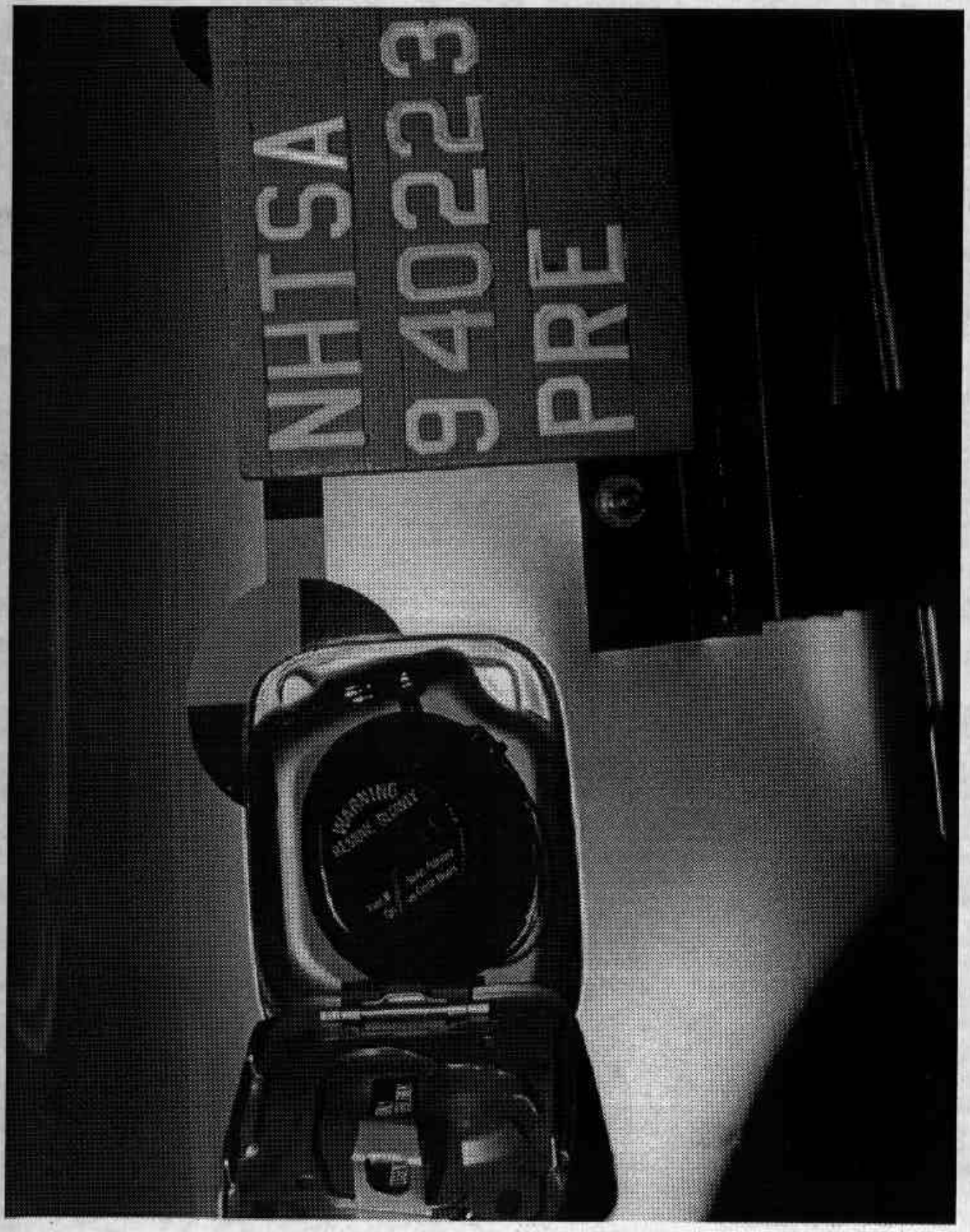

Figure A-17. PRE-TEST FUEL FILLER CAP VIEW

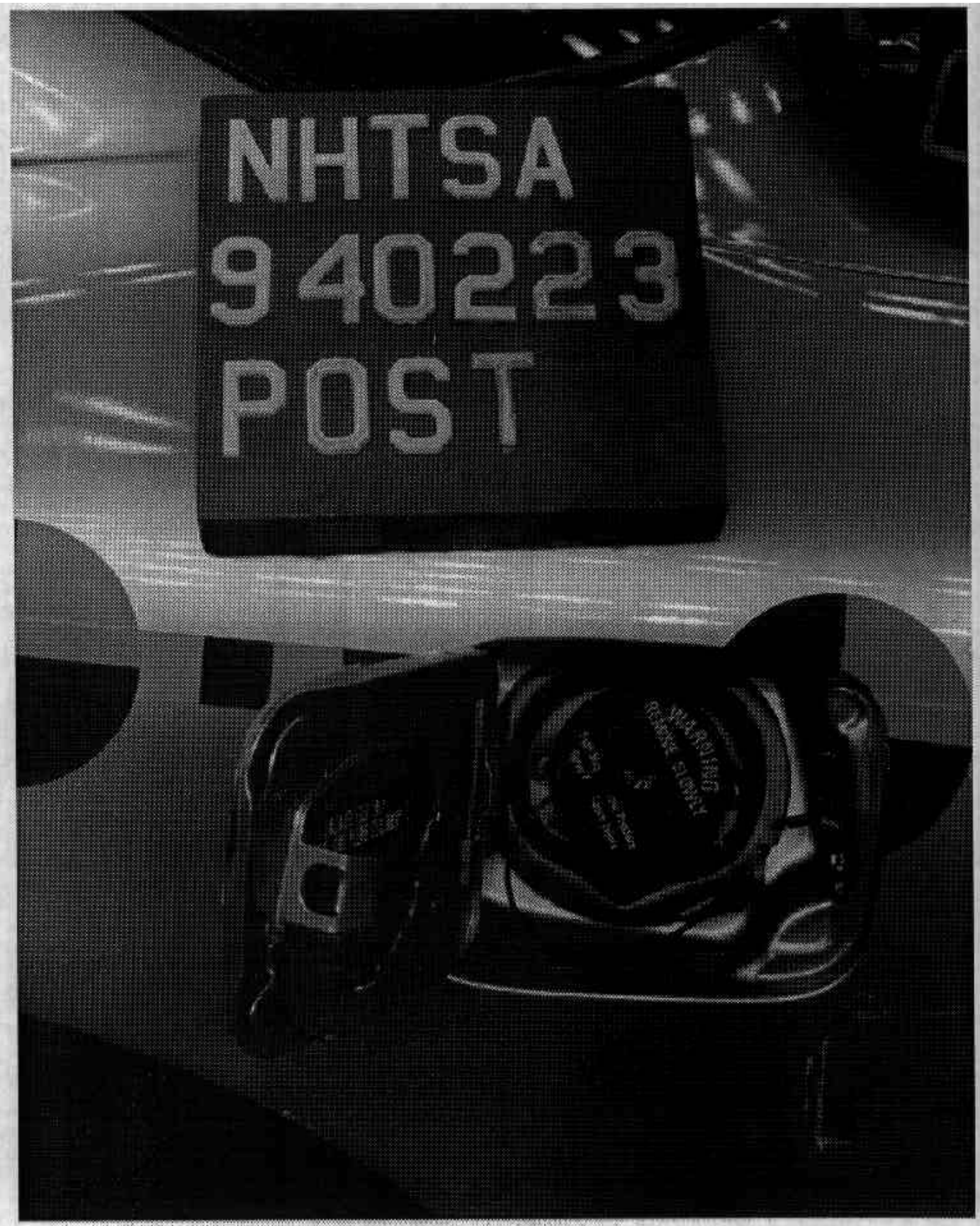

Figure A-18. POST-TEST FUEL FILLER CAP VIEW

Figure A-19. PRE-TEST FUEL FILLER NECK VIEW

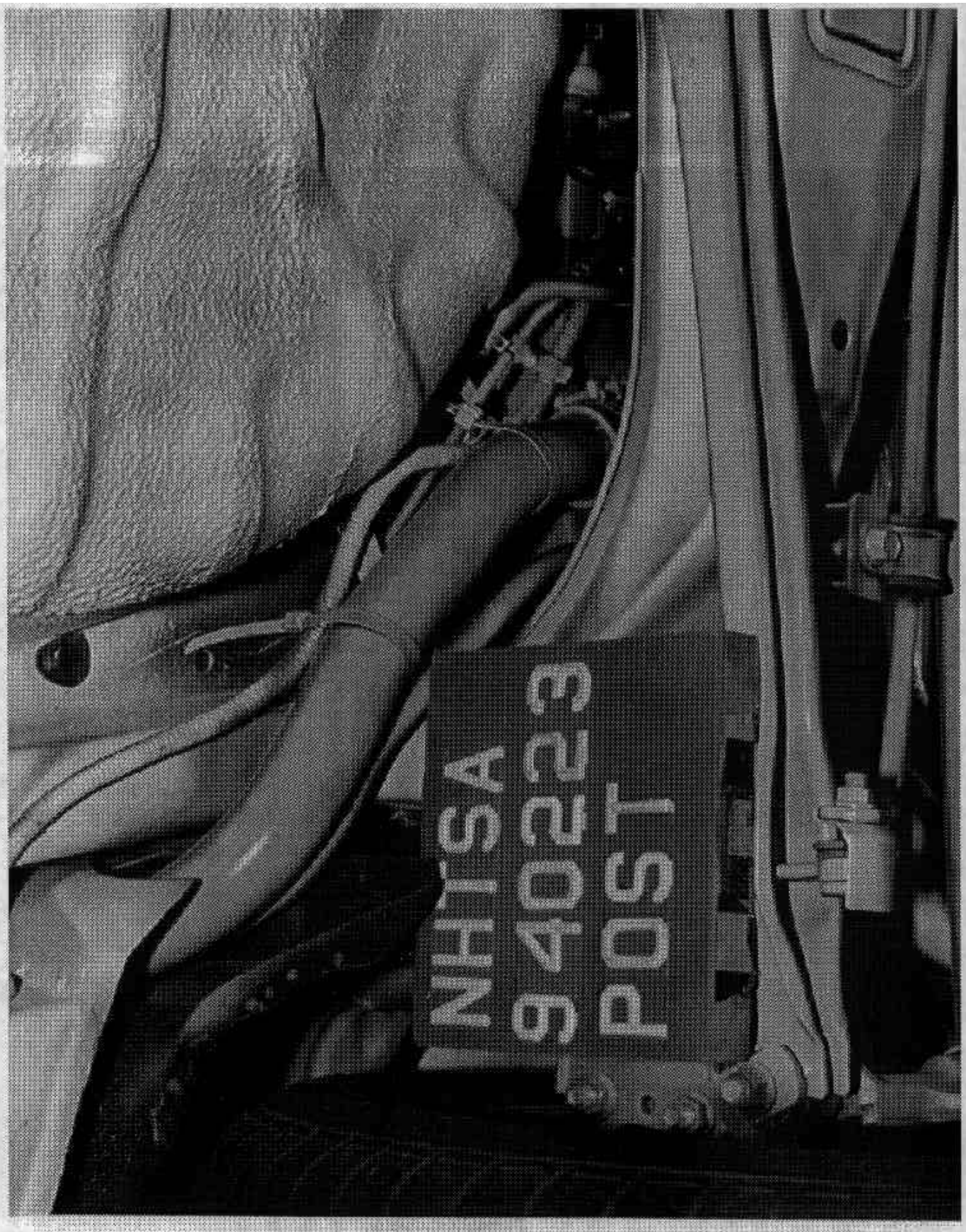

Figure A-20. POST-TEST FUEL FILLER NECK VIEW

Figure A-21. PRE-TEST FUEL FILLER NECK AND FUEL TANK VIEW

Figure A-22. POST-TEST FUEL FILLER NECK AND FUEL TANK VIEW

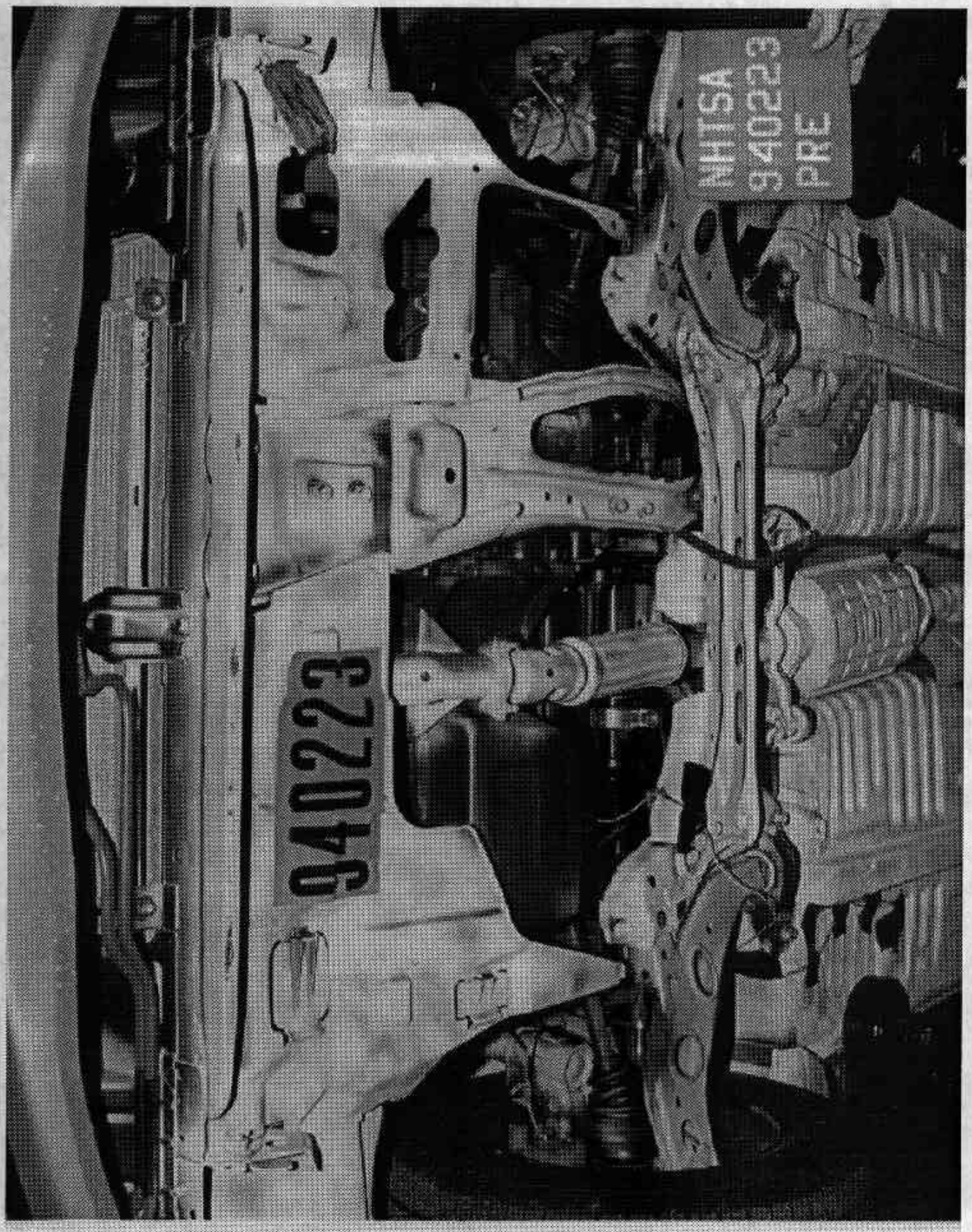

Figure A-23. PRE-TEST FRONT UNDERBODY VIEW

Figure A-24. POST-TEST FRONT UNDERBODY VIEW

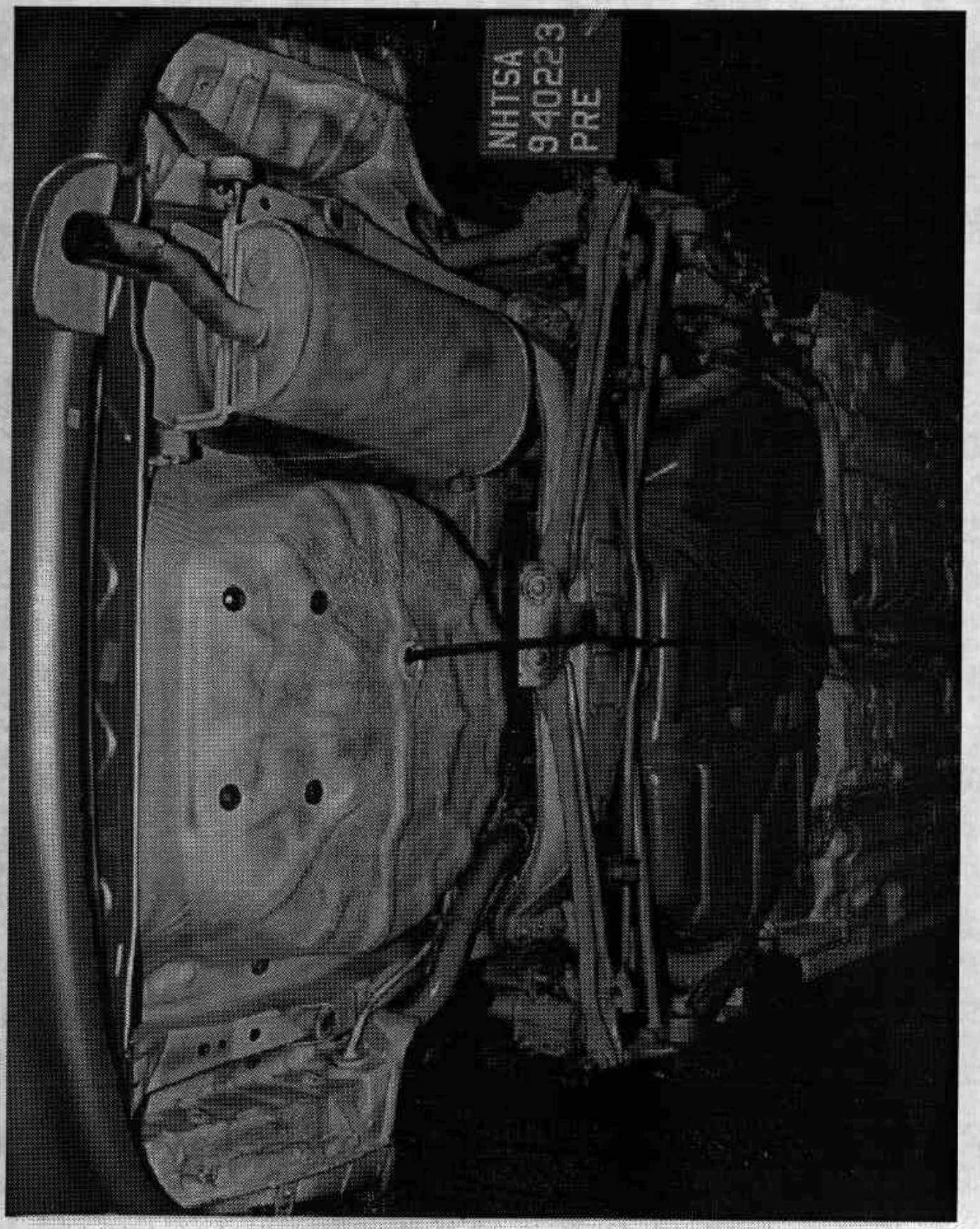

Figure A-25. PRE-TEST REAR UNDERBODY VIEW

Figure A-26. POST-TEST REAR UNDERBODY VIEW

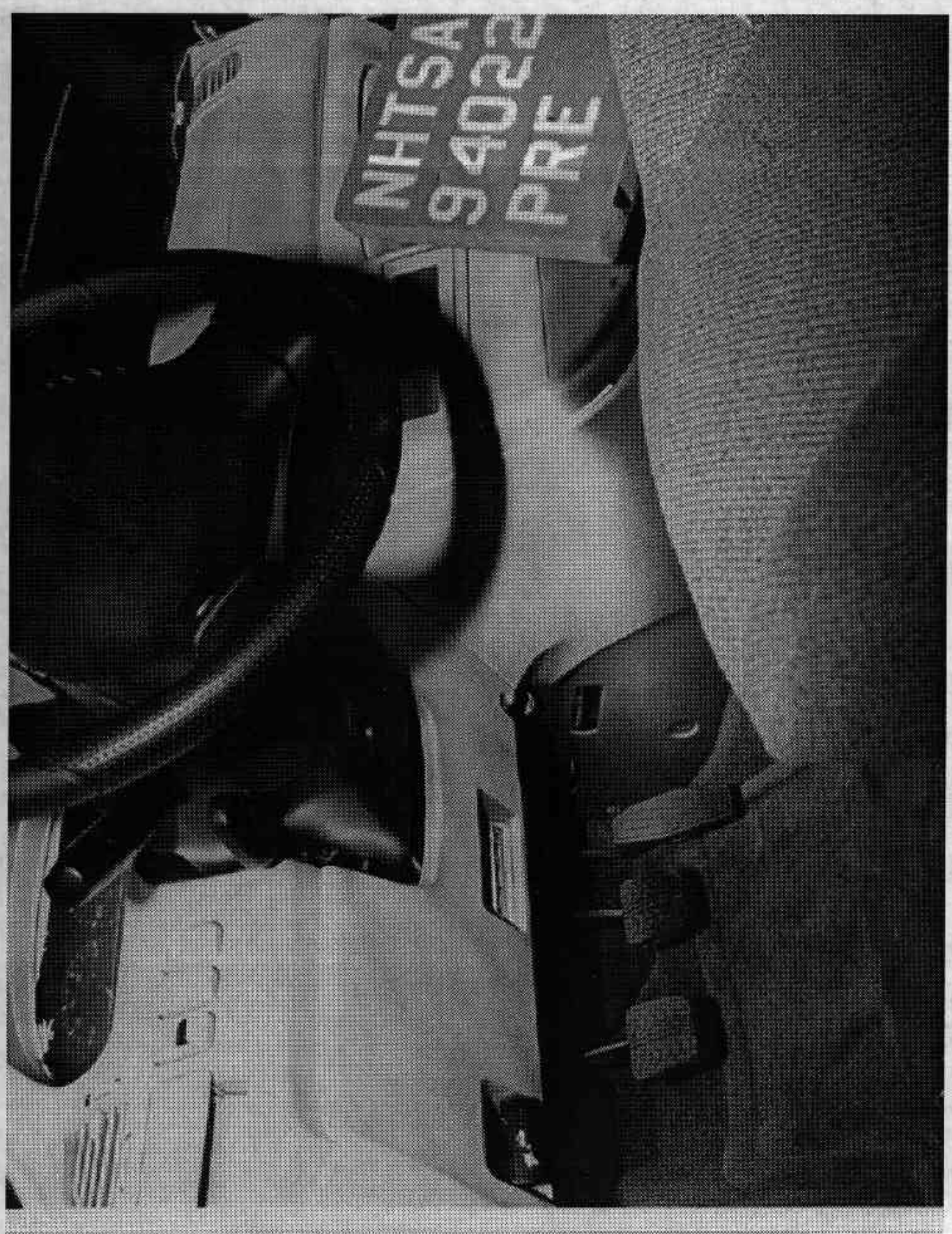

Figure A-27. PRE-TEST DRIVER'S KNEE BOLSTER VIEW

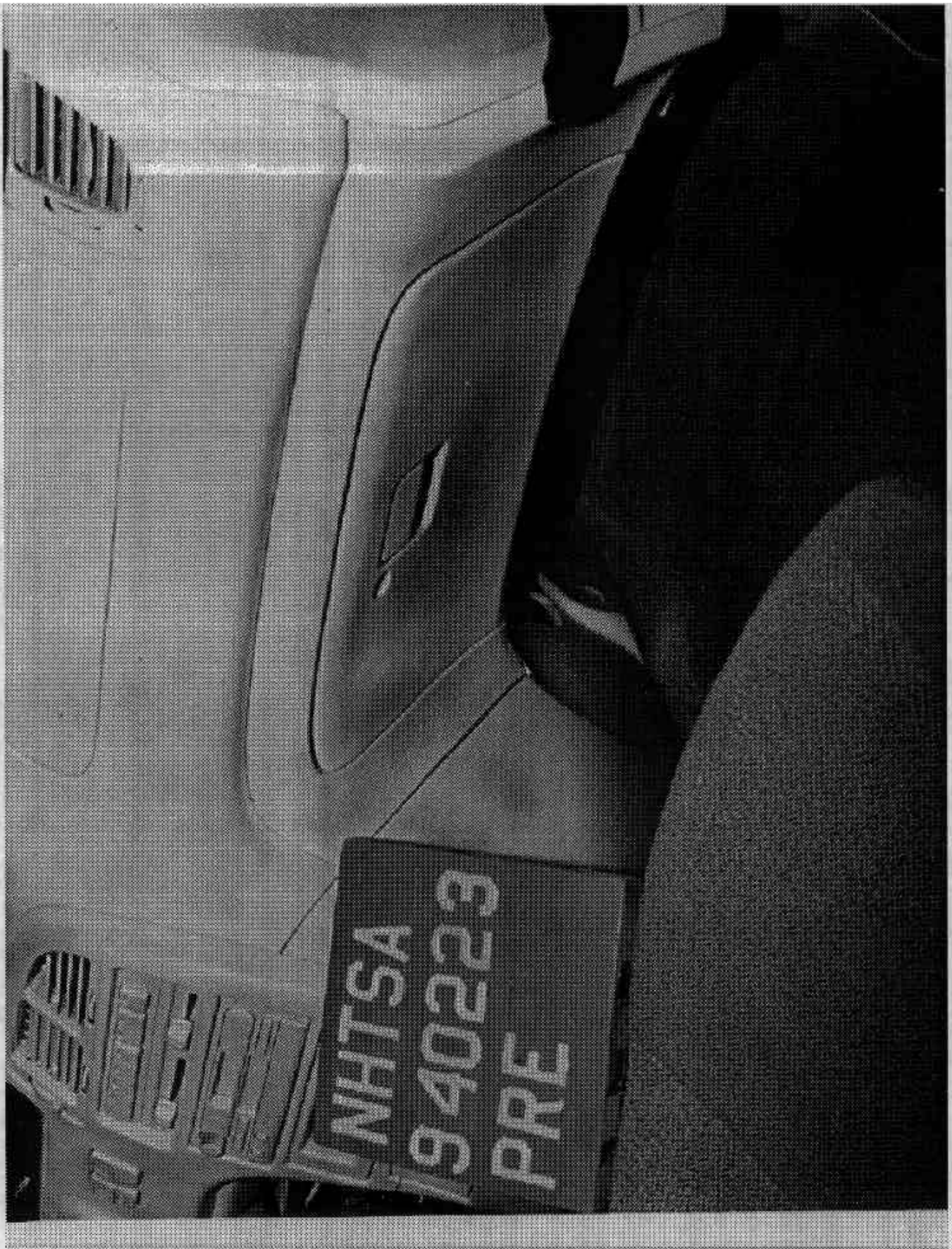

Figure A-28. PRE-TEST PASSENGER'S KNEE BOLSTER VIEW

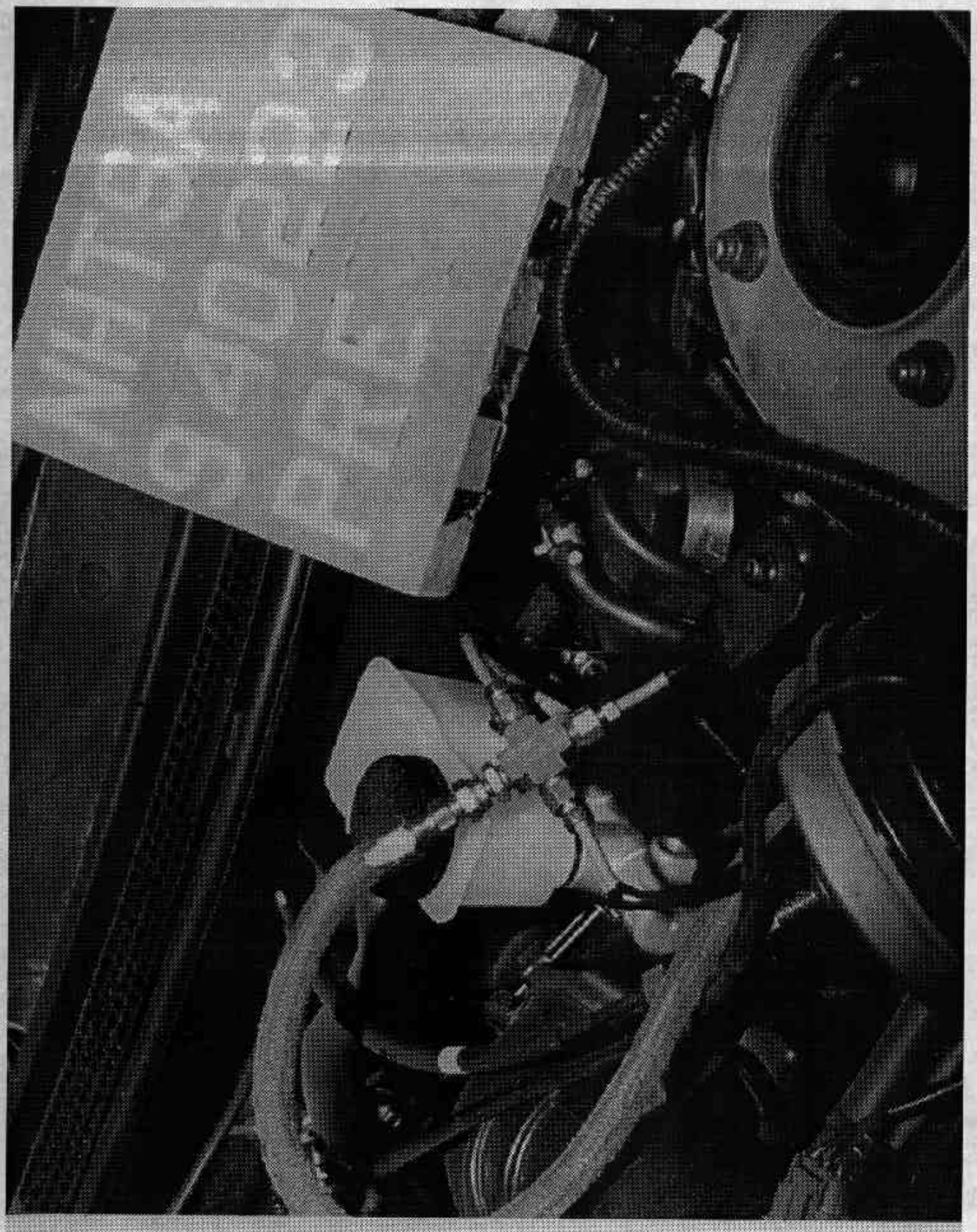

Figure A-29. PRE-TEST STEERING COLUMN AT FIREWALL VIEW

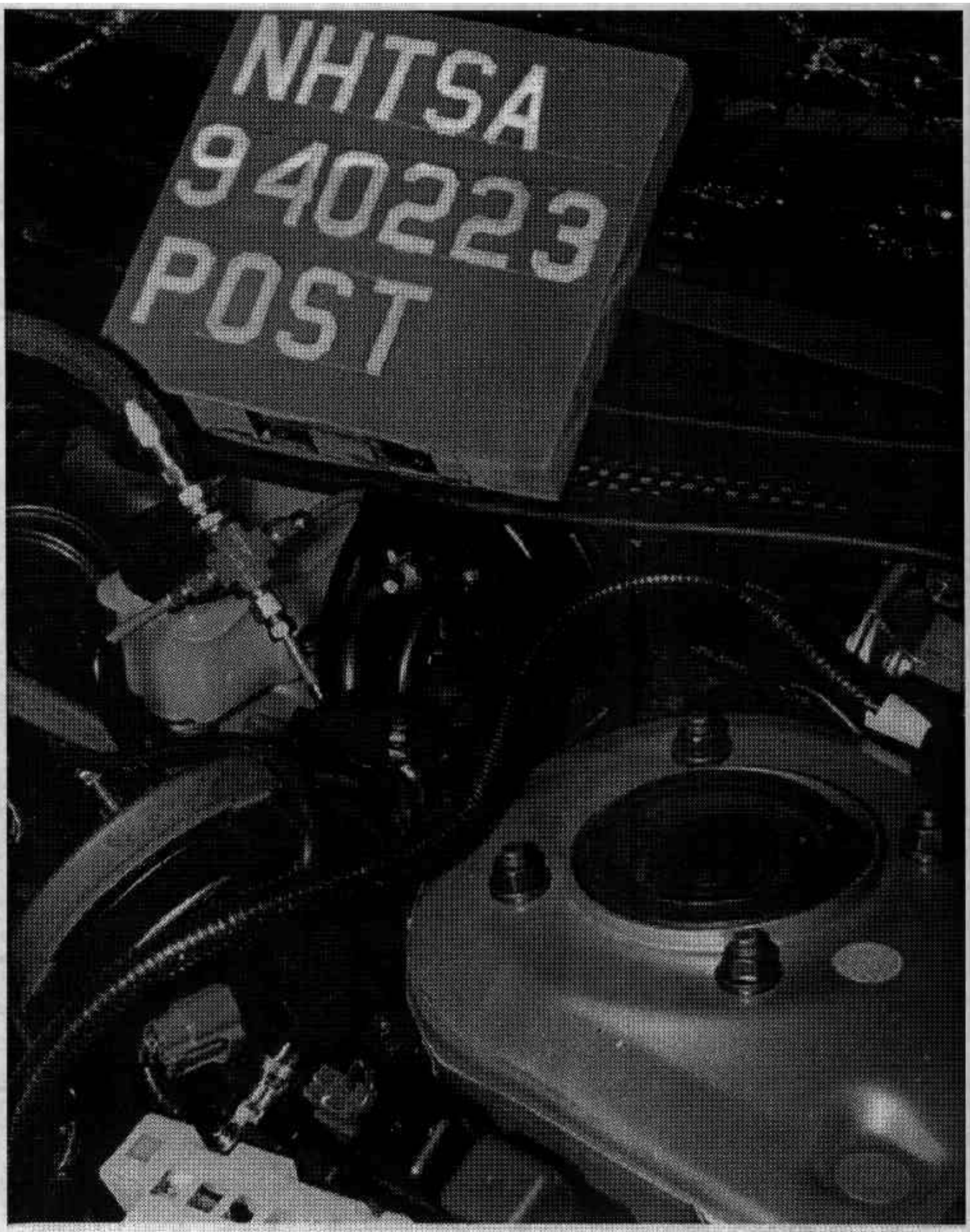

Figure A-30. POST-TEST STEERING COLUMN AT FIREWALL VIEW

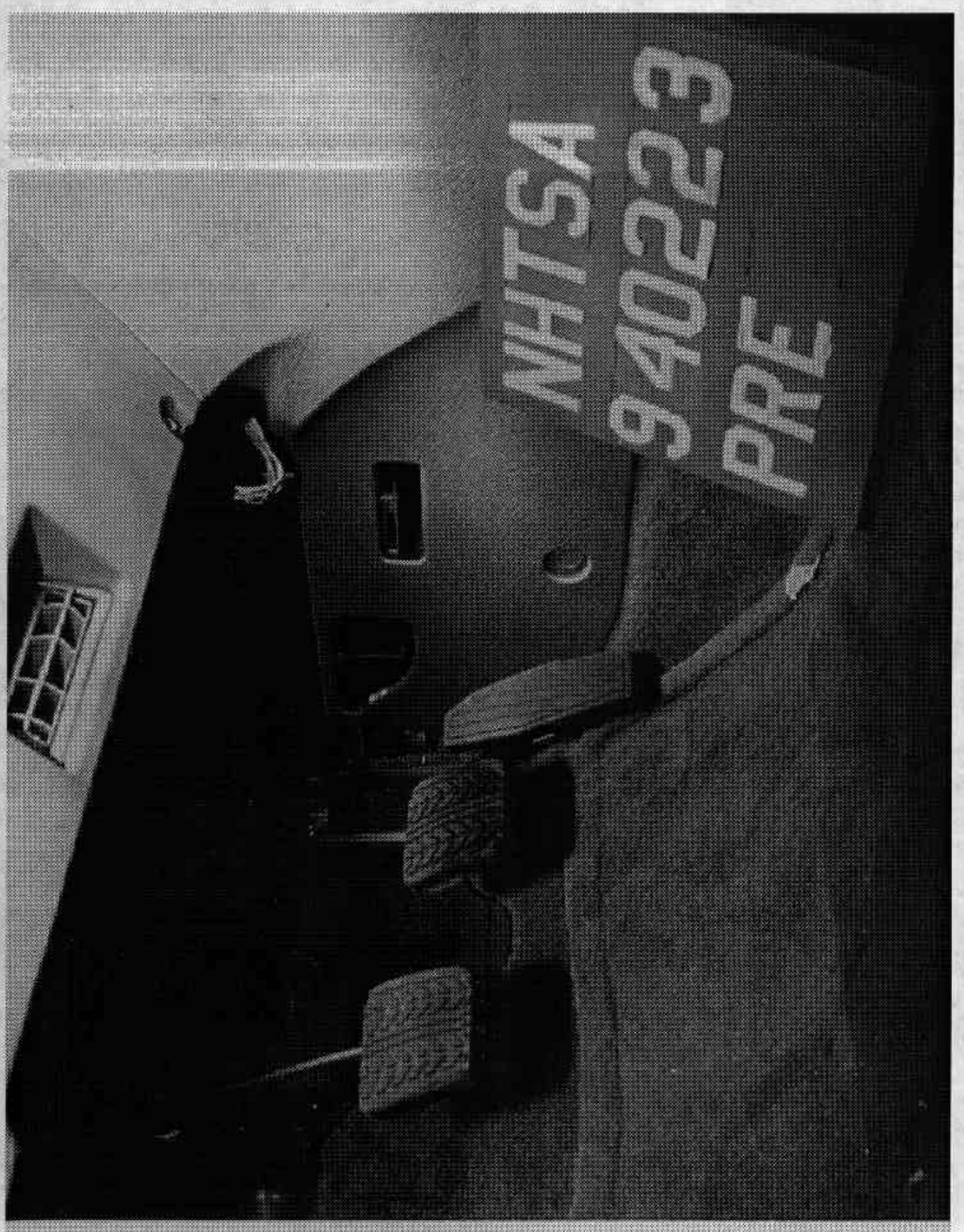

Figure A-31. PRE-TEST STEERING COLUMN AT FIREWALL VIEW - INTERIOR

Figure A-32. POST-TEST STEERING COLUMN AT FIREWALL VIEW - INTERIOR

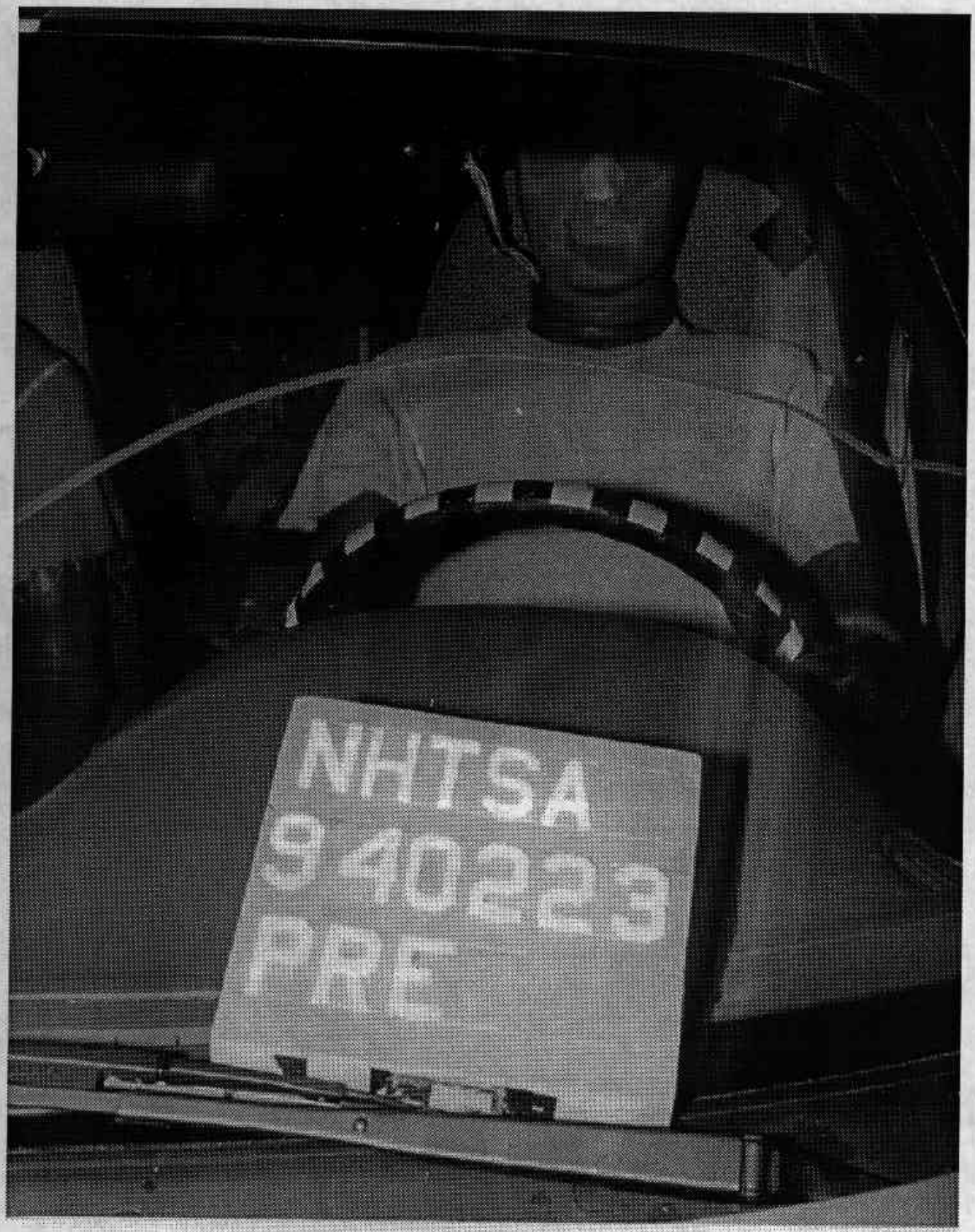

Figure A-33. PRE-TEST DRIVER DUMMY POSITION - VIEW 1

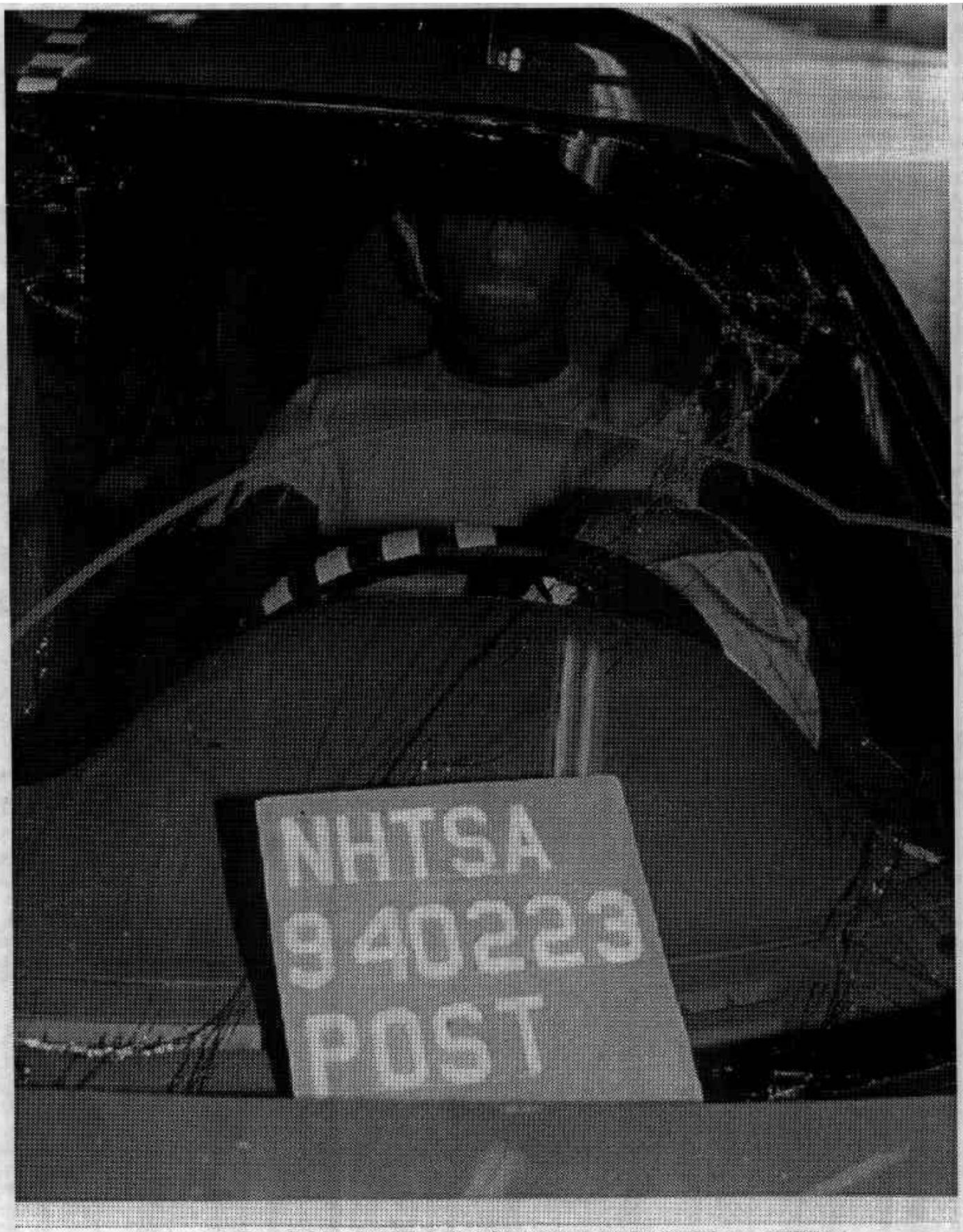

Figure A-34. POST-TEST DRIVER DUMMY POSITION - VIEW 1

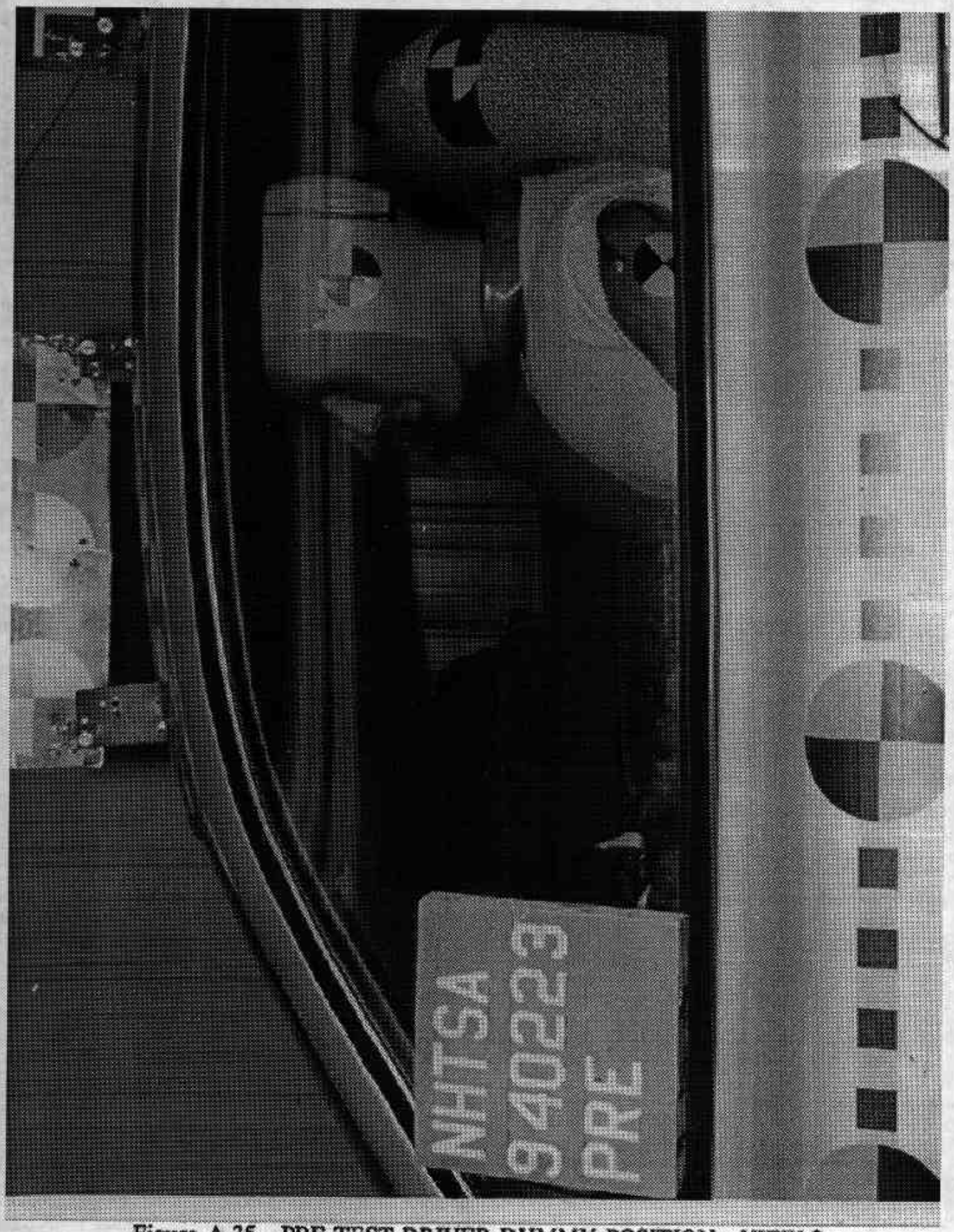

Figure A-35. PRE-TEST DRIVER DUMMY POSITION - VIEW 2

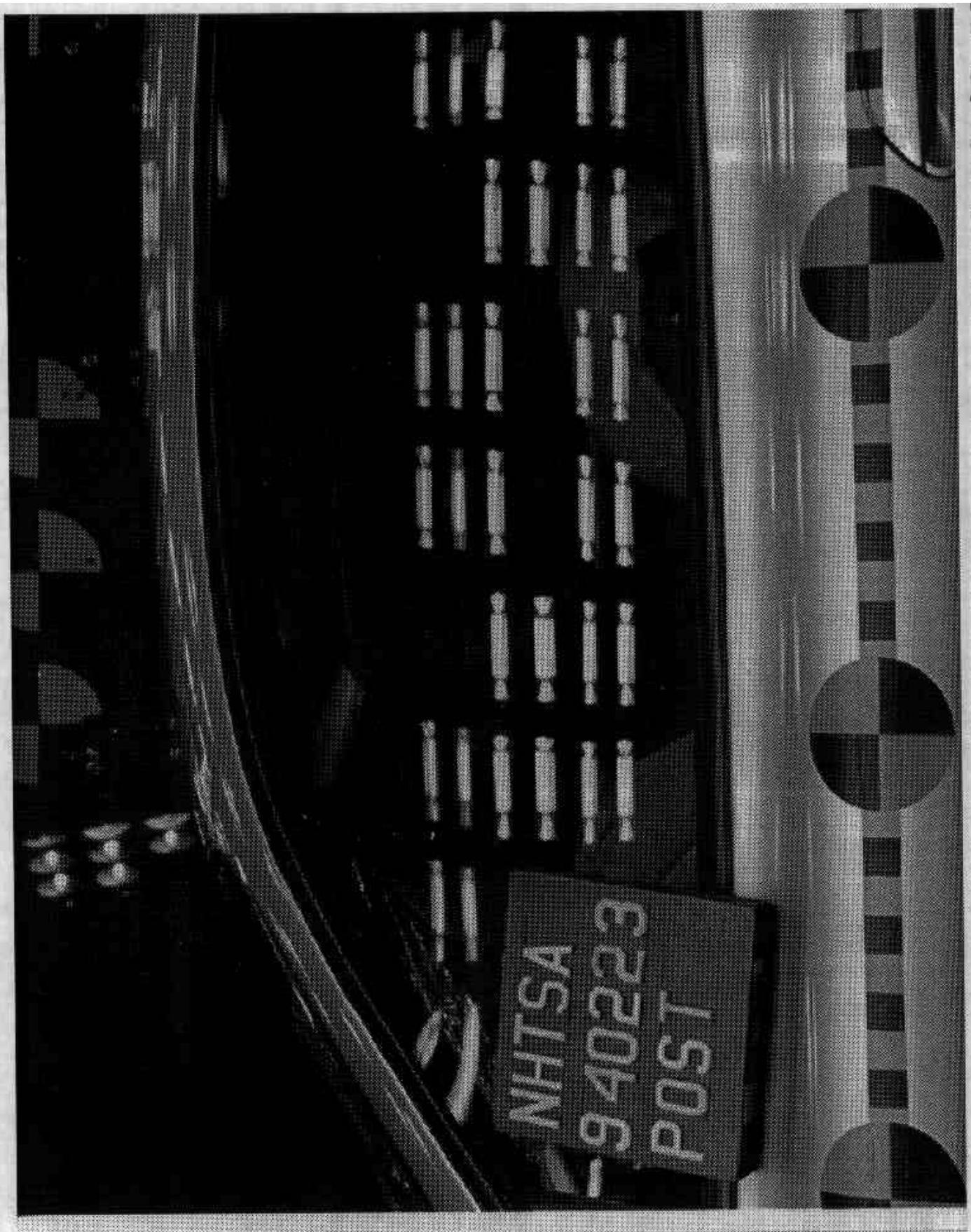

Figure A-36. POST-TEST DRIVER DUMMY POSITION - VIEW 2

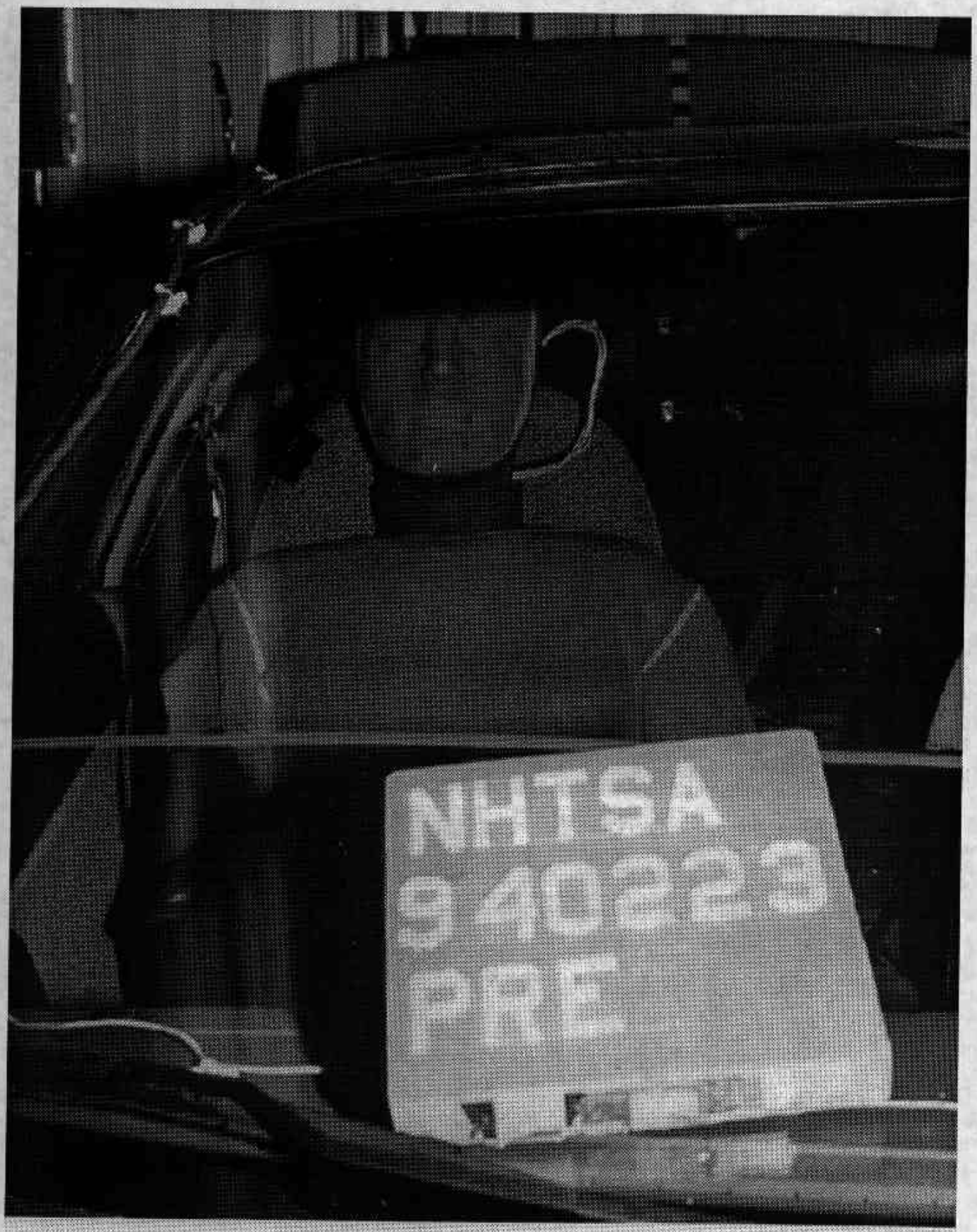

Figure A-37. PRE-TEST PASSENGER DUMMY POSITION - VIEW 1

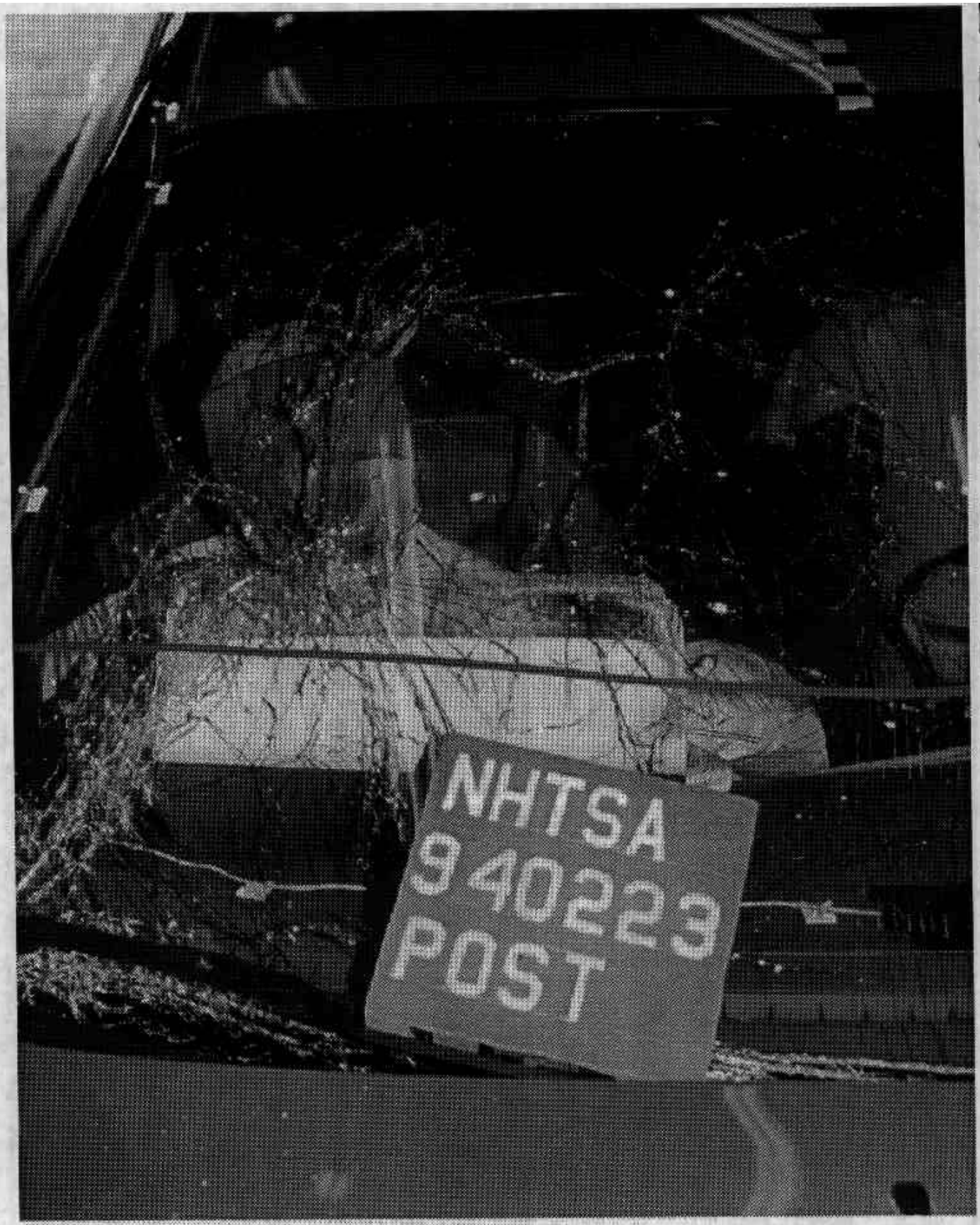

Figure A-38. POST-TEST PASSENGER DUMMY POSITION - VIEW 1

Figure A-39. PRE-TEST PASSENGER DUMMY POSITION - VIEW 2

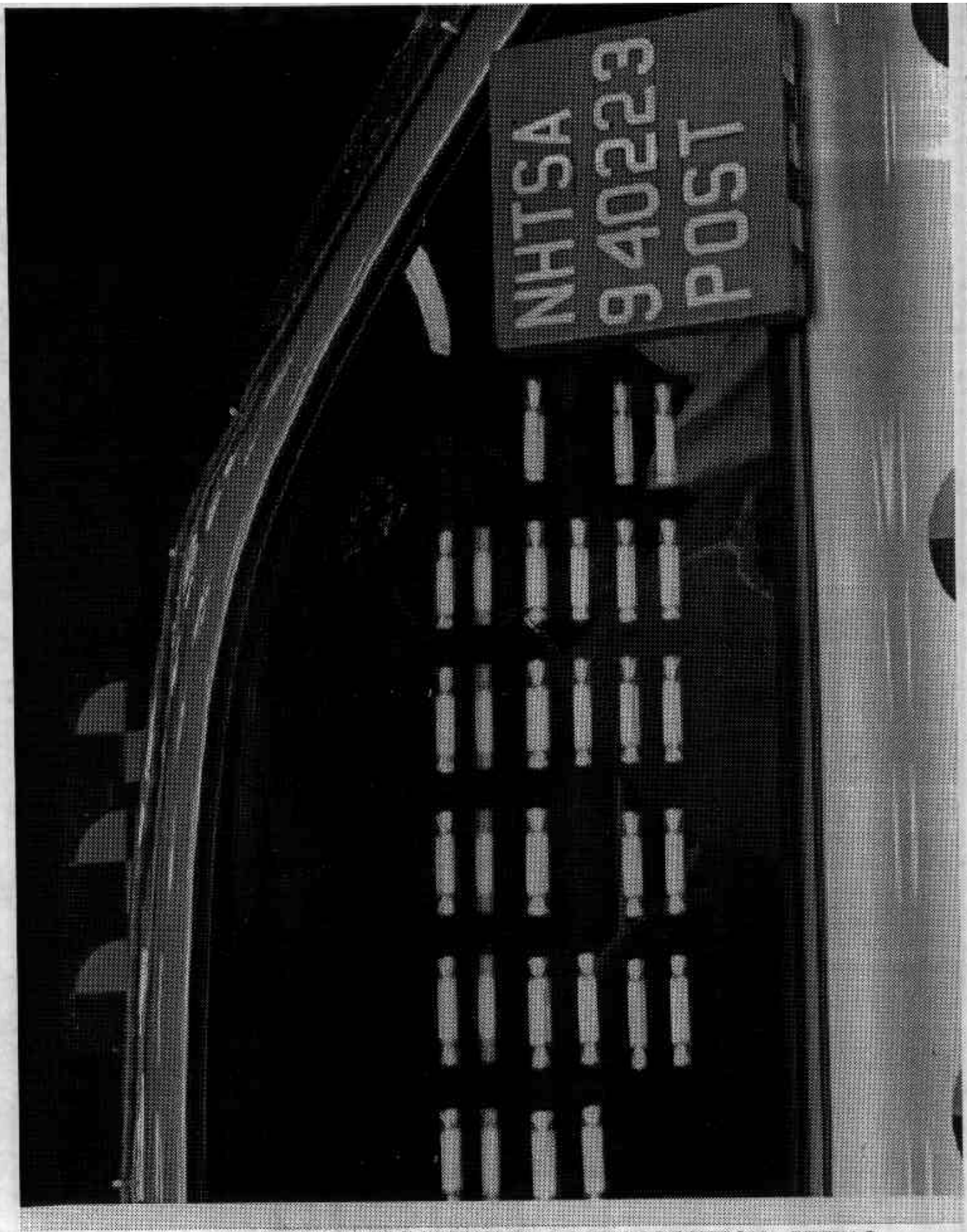

Figure A-40. POST-TEST PASSENGER DUMMY POSITION - VIEW 2

Figure A-41. PRE-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 1

Figure A-42. POST-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 1

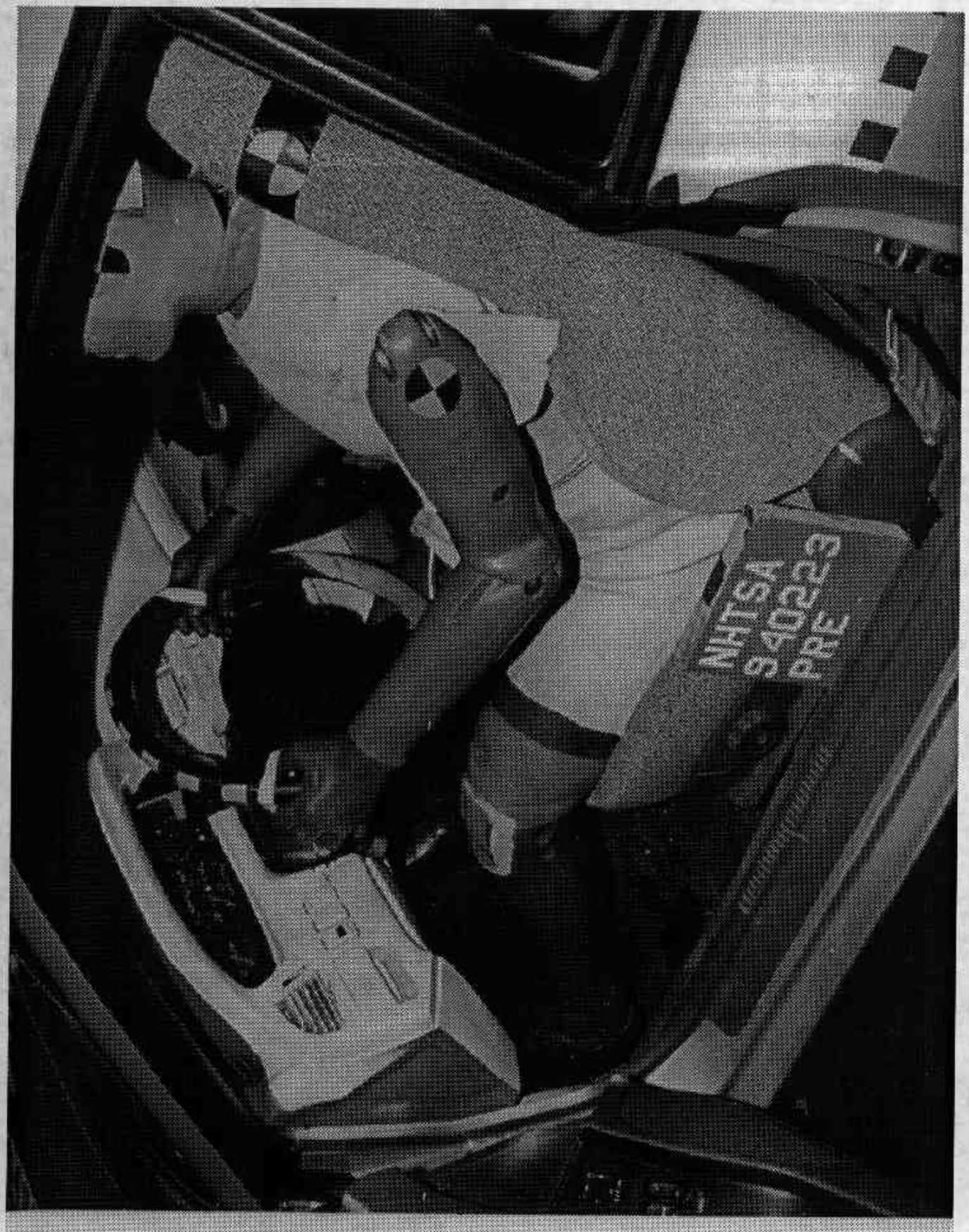

Figure A-43. PRE-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 2

Figure A-44. POST-TEST DRIVER DUMMY & VEHICLE INTERIOR - VIEW 2

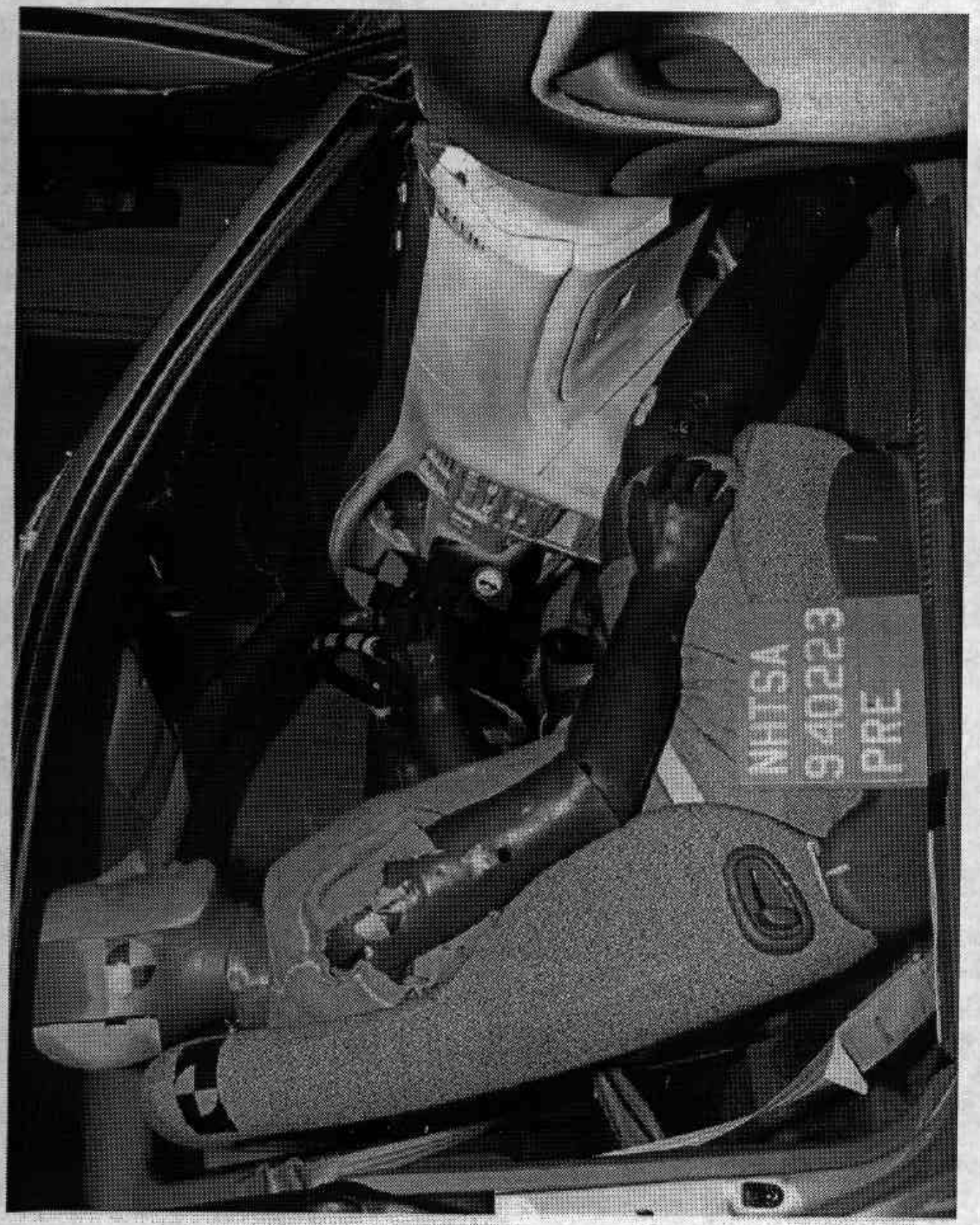

Figure A-45. PRE-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 1

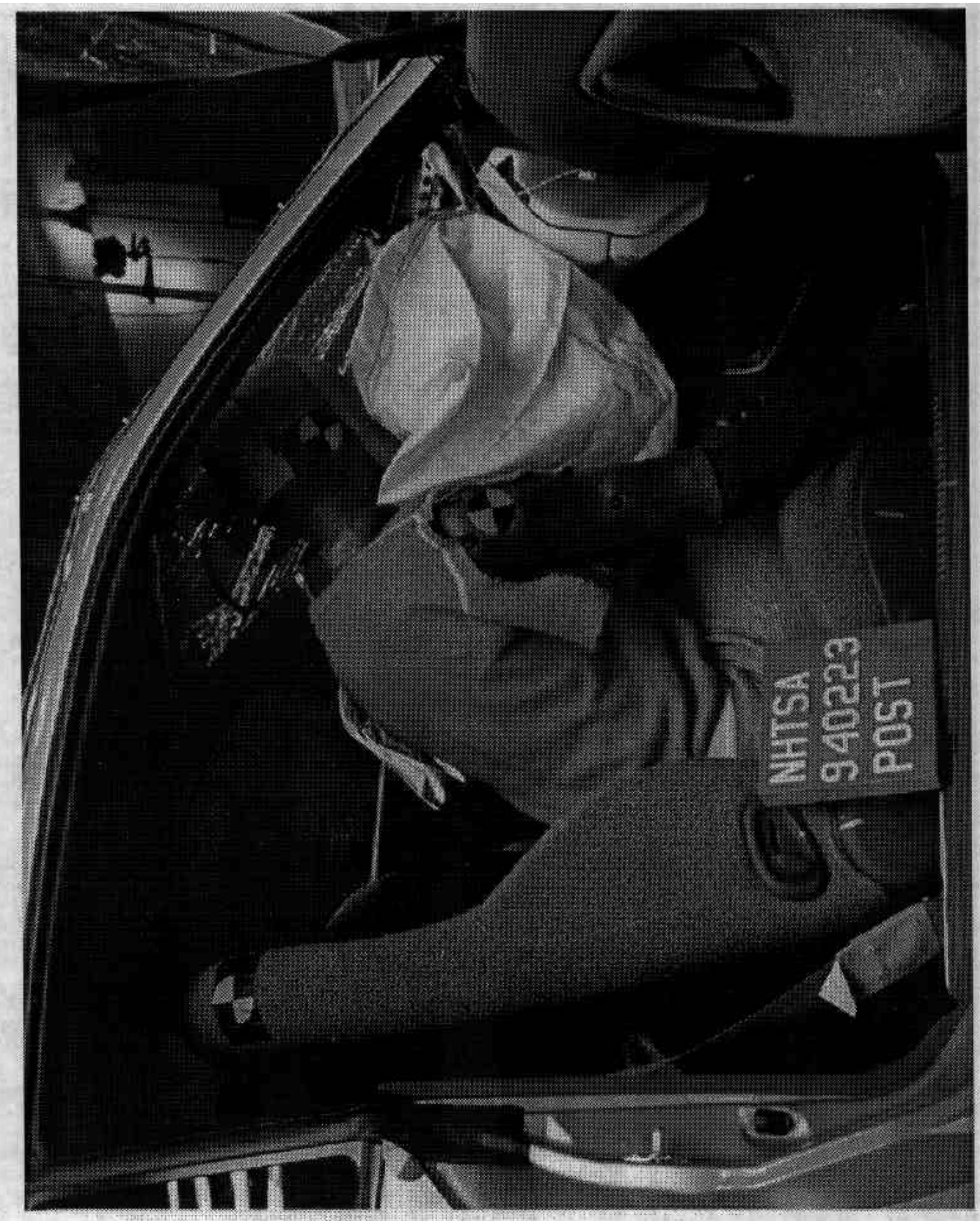

Figure A-46. POST-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 1

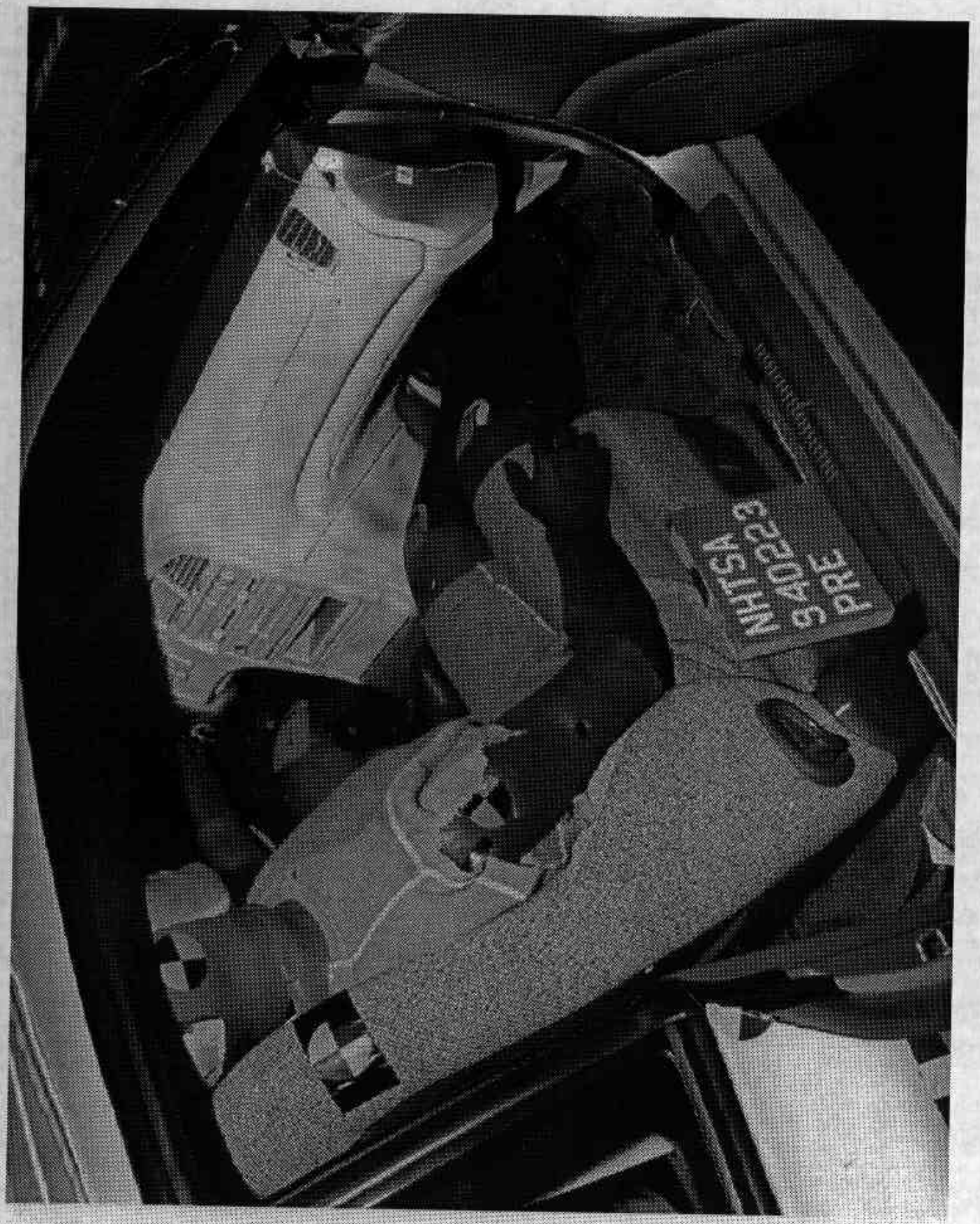

Figure A-47. PRE-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 2

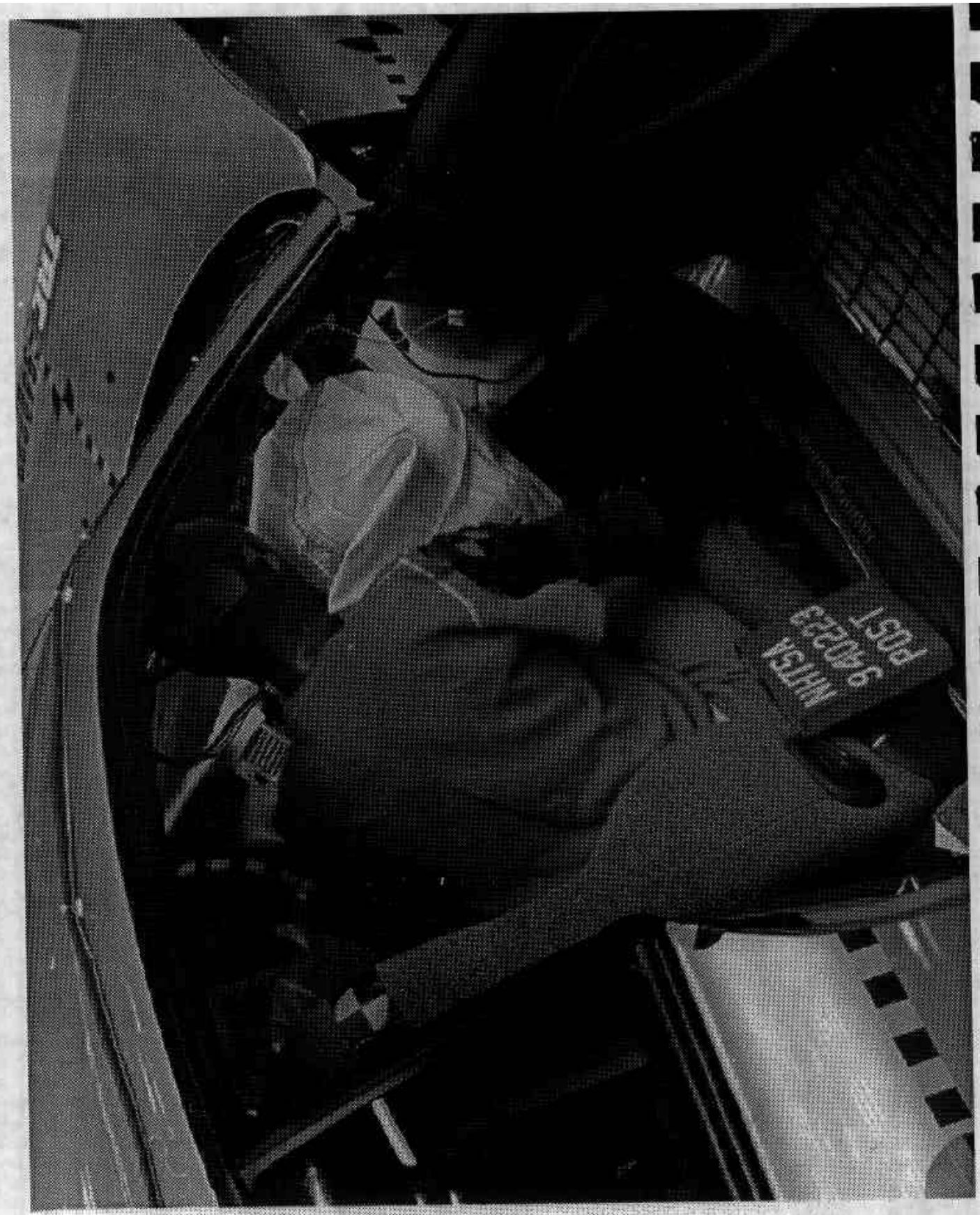

Figure A-48. POST-TEST PASSENGER DUMMY & VEHICLE INTERIOR - VIEW 2

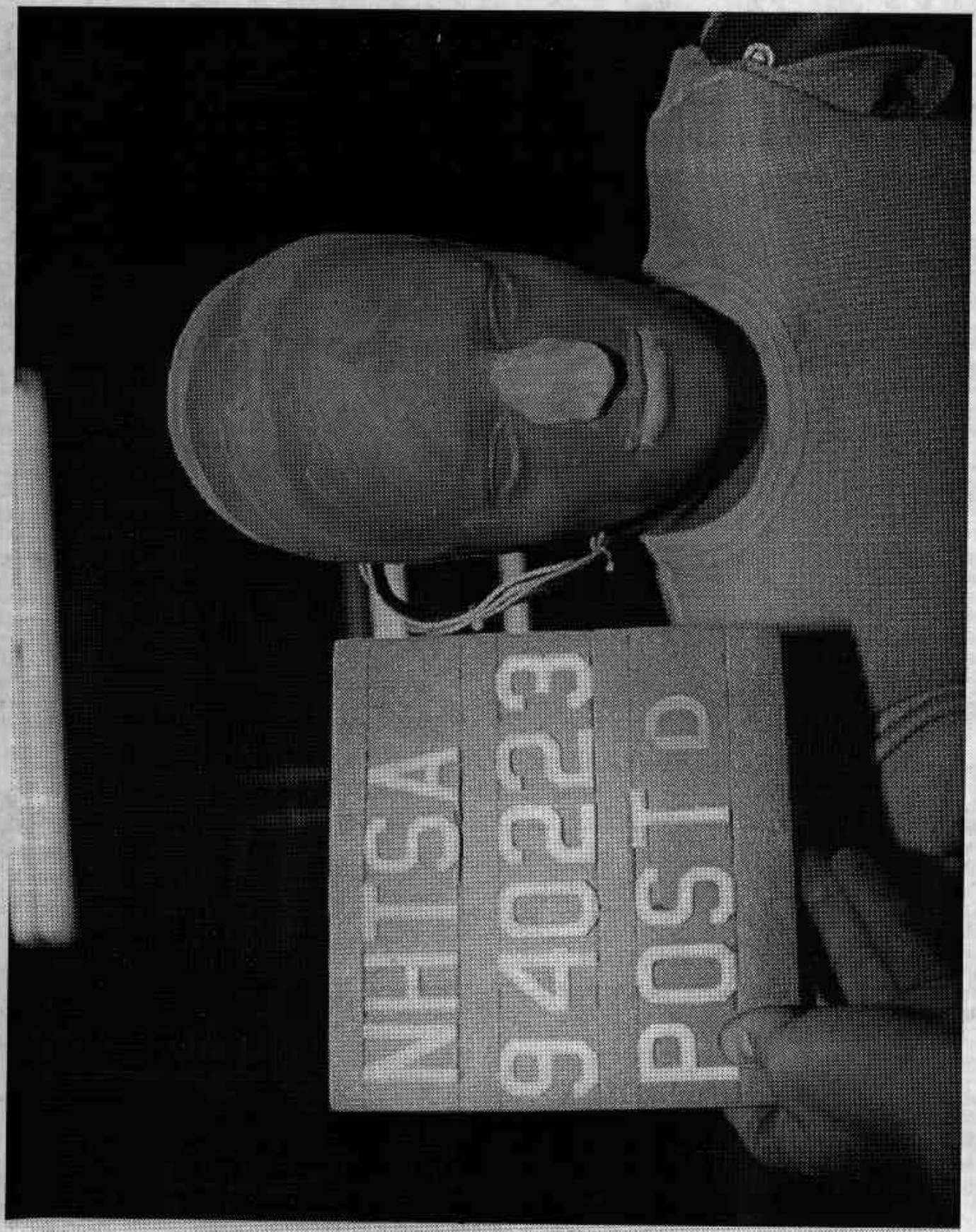

Figure A-49. POST-TEST DRIVER DUMMY HEAD CONTACT - VIEW 1

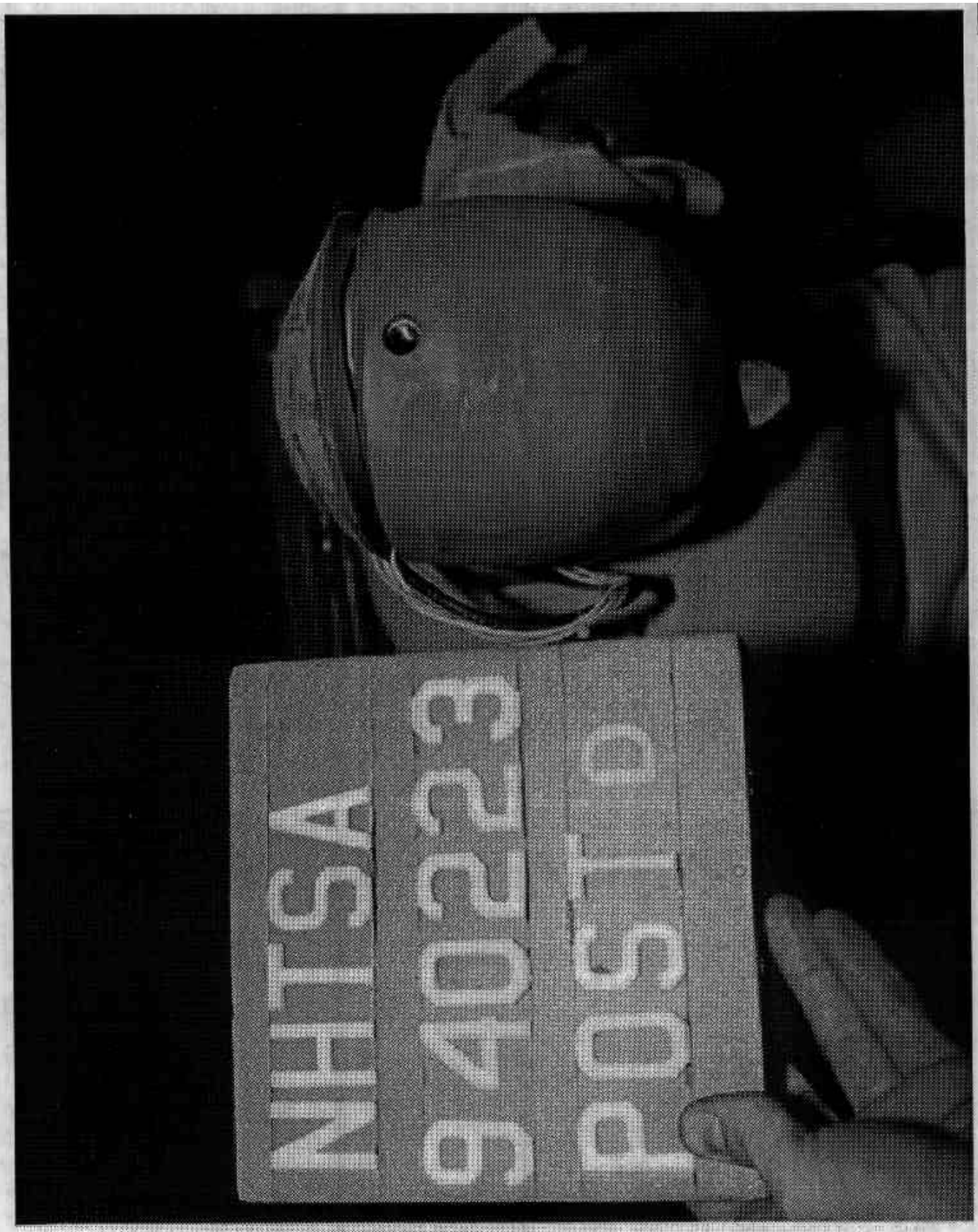

Figure A-50. POST-TEST DRIVER DUMMY HEAD CONTACT - VIEW 2

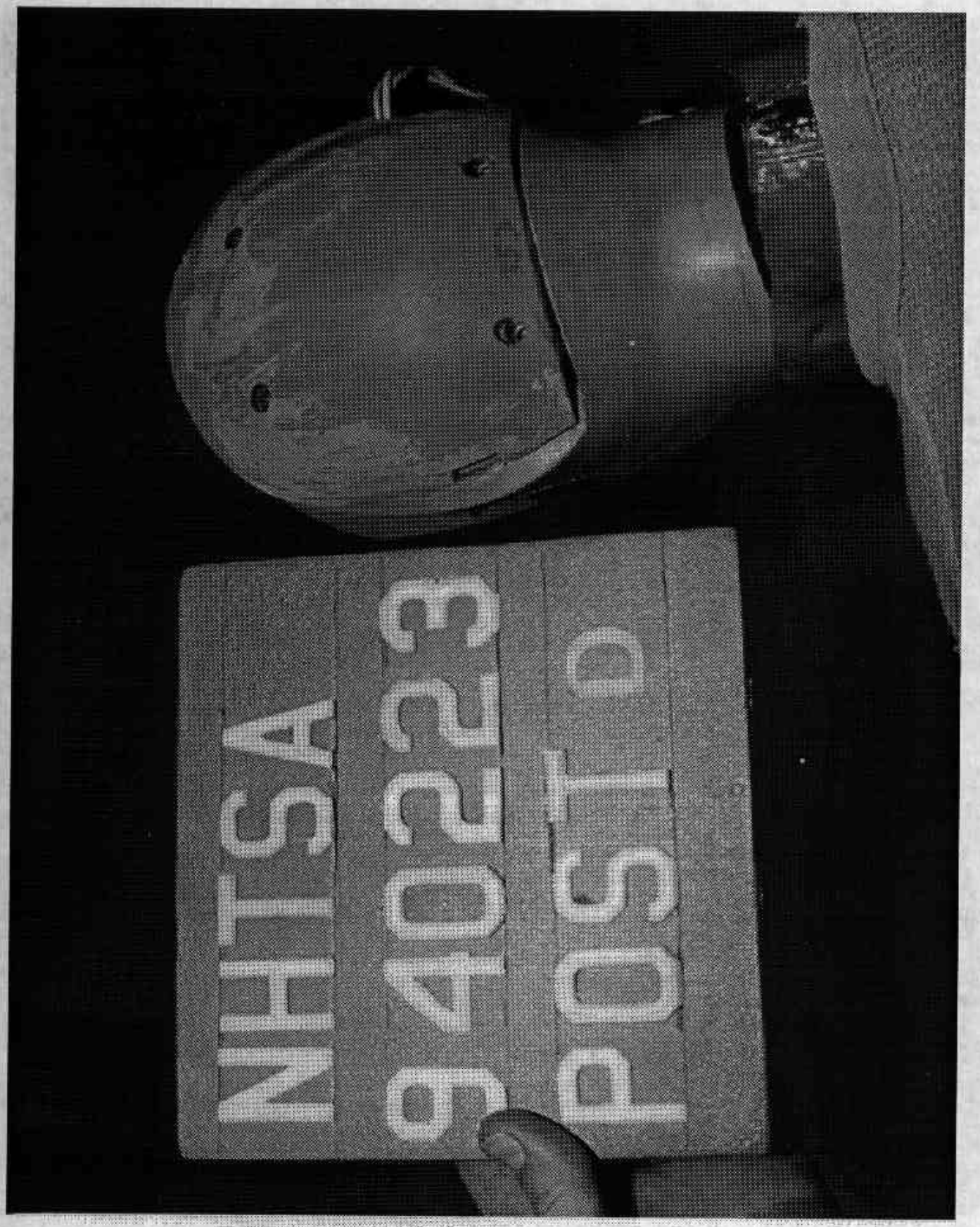

Figure A-51. POST-TEST DRIVER DUMMY HEAD CONTACT - VIEW 3

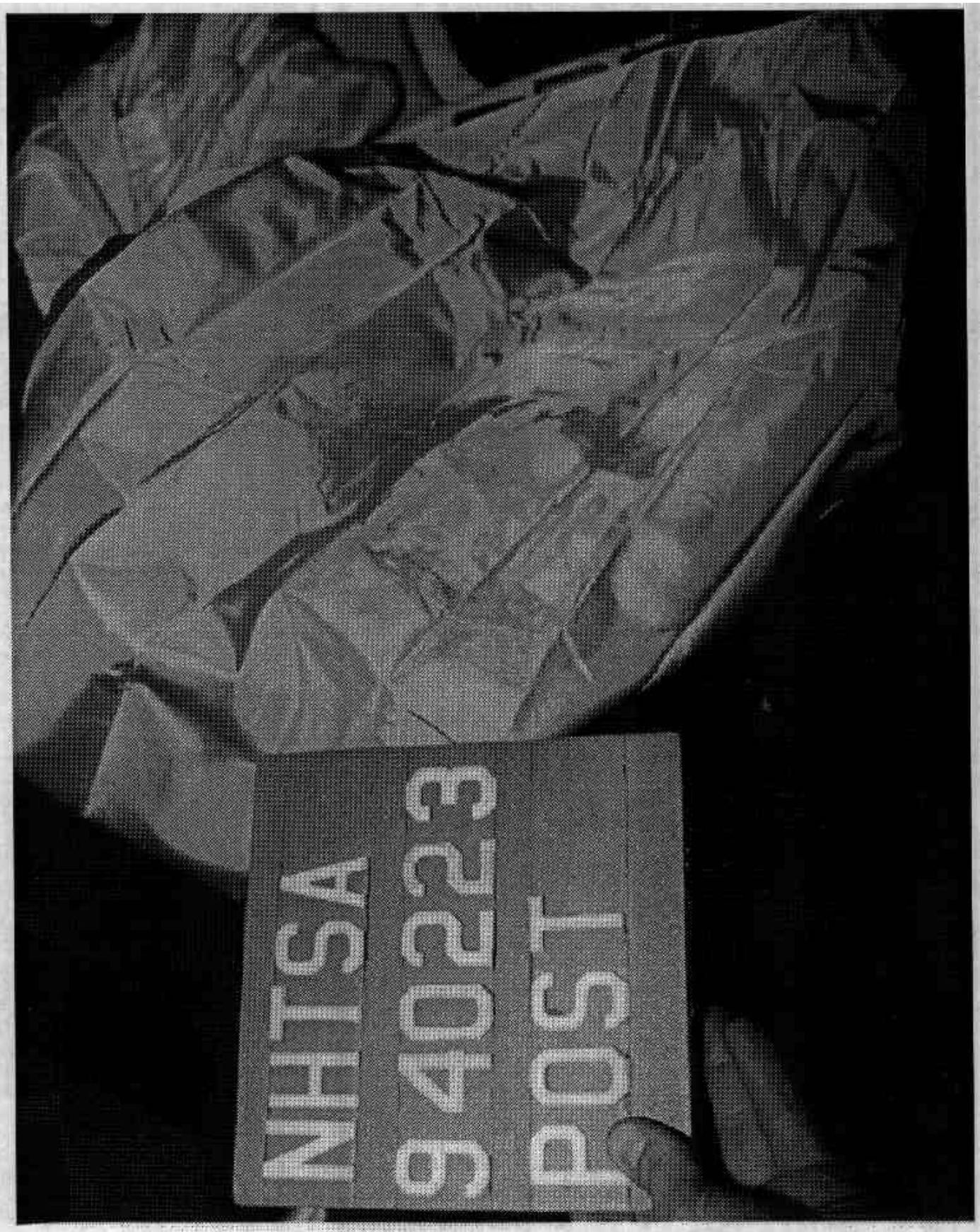

Figure A-52. POST-TEST DRIVER DUMMY HEAD CONTACT - VIEW 4

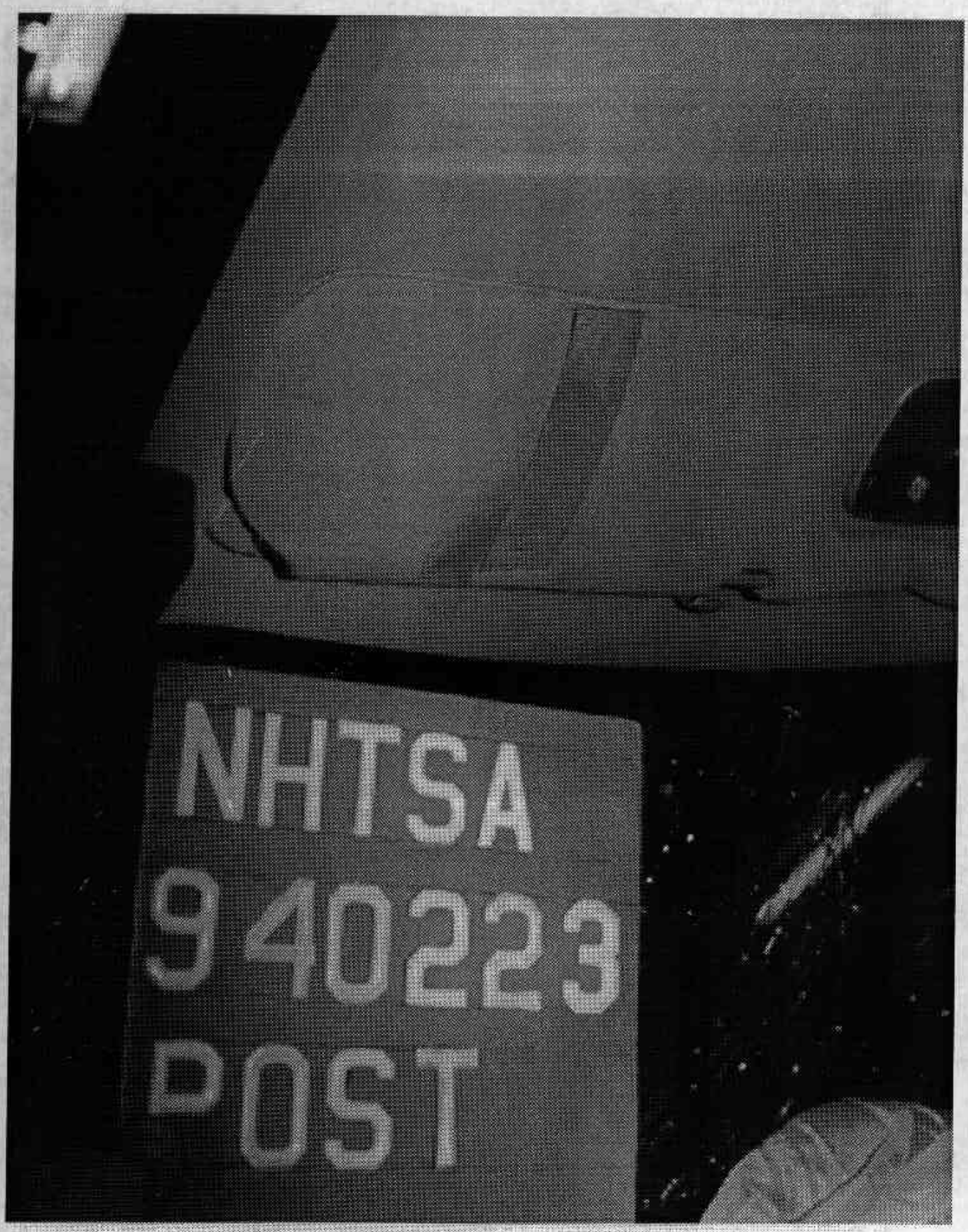

Figure A-53. POST-TEST DRIVER DUMMY HEAD CONTACT - VIEW 5

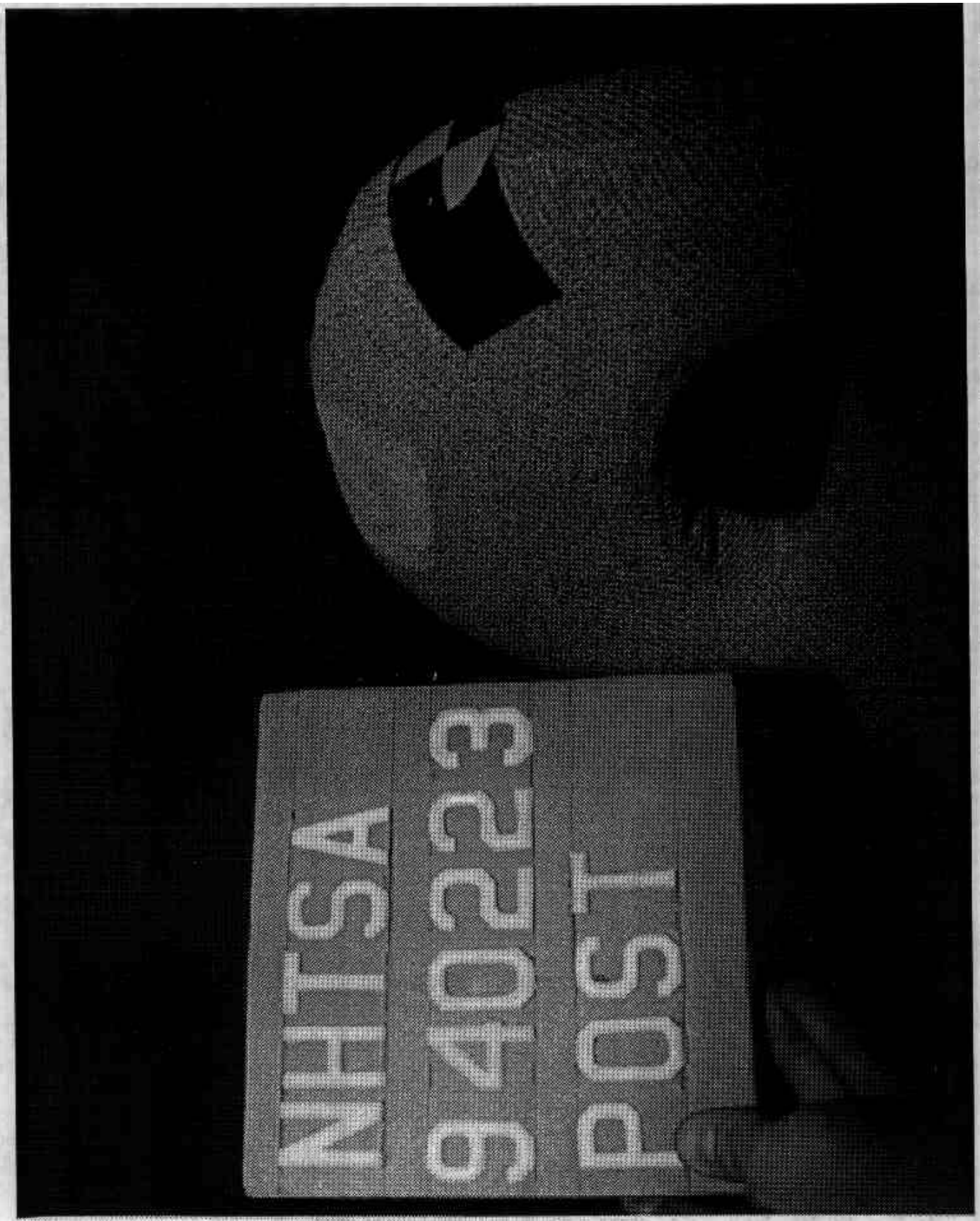

Figure A-54. POST-TEST DRIVER DUMMY HEAD CONTACT - VIEW 6

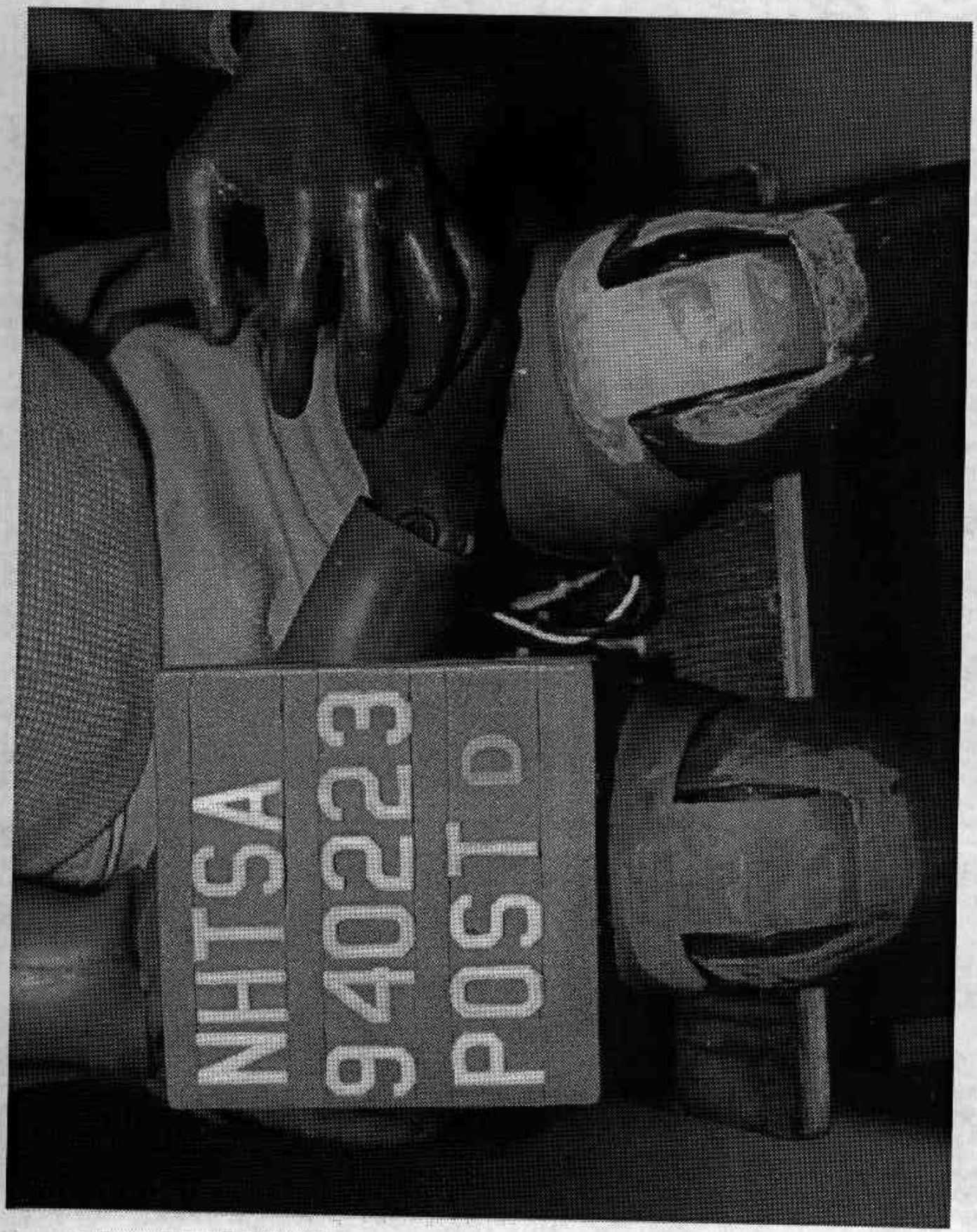

Figure A-55. POST-TEST DRIVER DUMMY KNEE CONTACT - VIEW 1

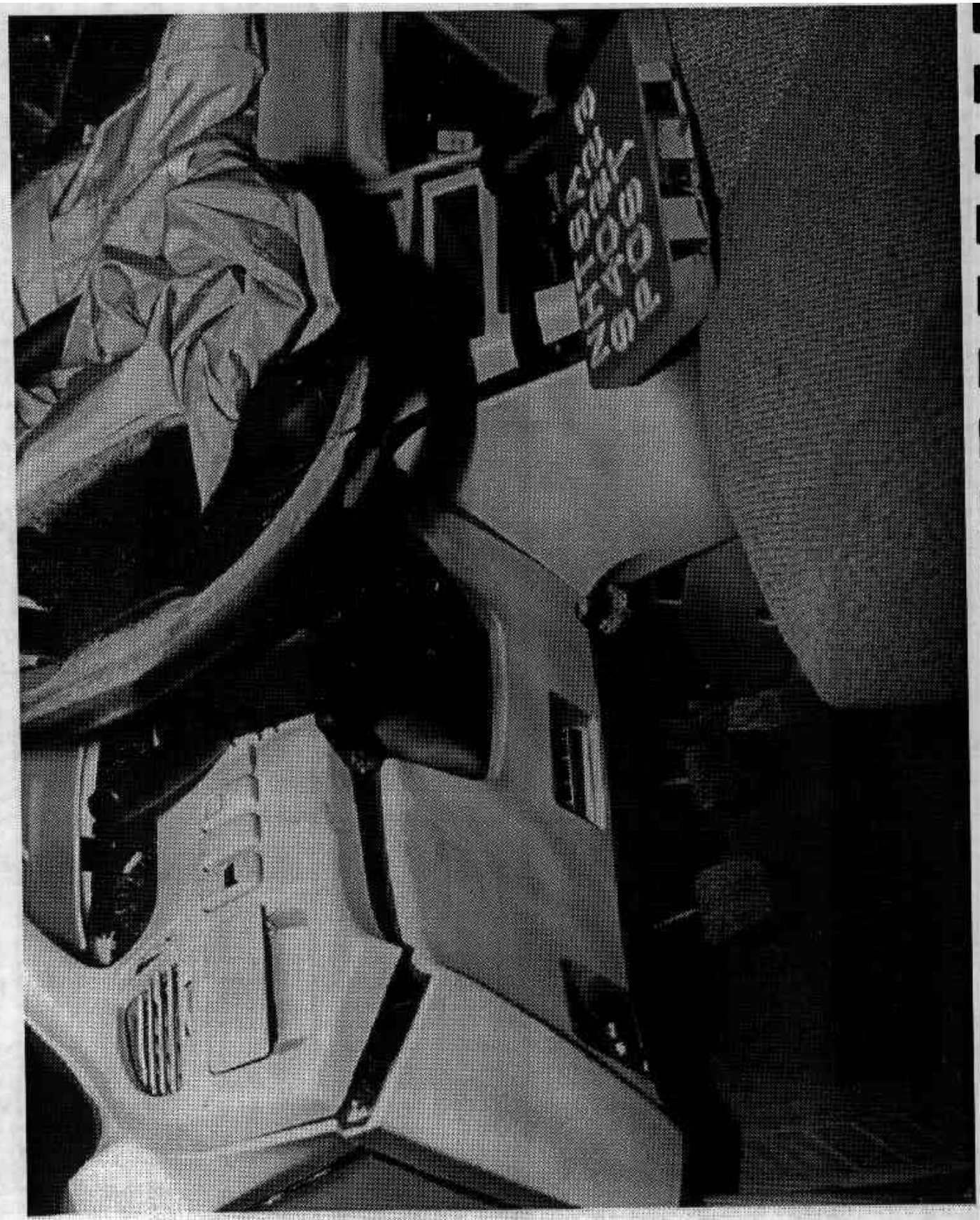

Figure A-56. POST-TEST DRIVER DUMMY KNEE CONTACT- VIEW 2

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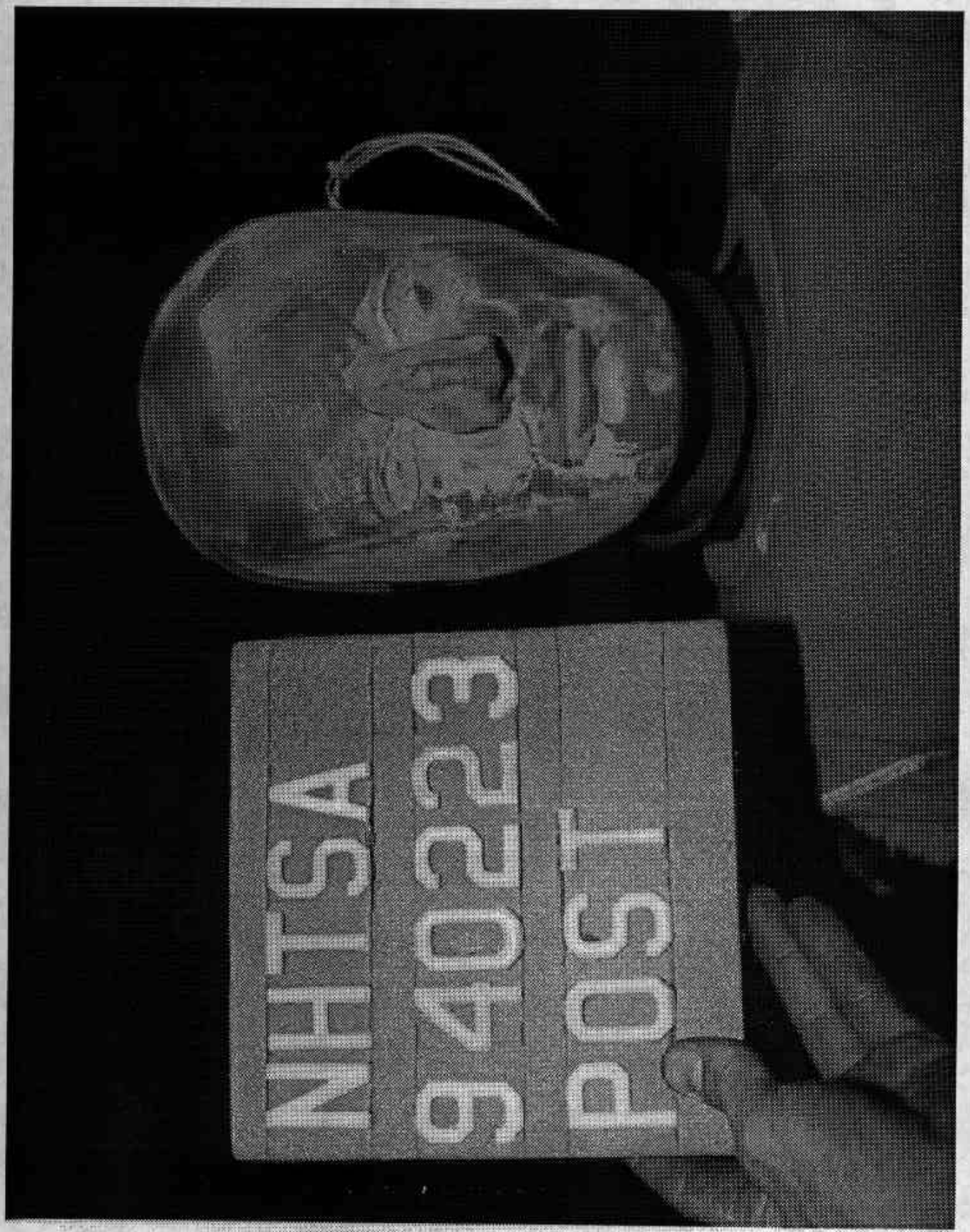


Figure A-57. POST-TEST PASSENGER DUMMY HEAD CONTACT - VIEW 1

Figure A-58. POST-TEST PASSENGER DUMMY HEAD CONTACT - VIEW 2

Figure A-59. POST-TEST PASSENGER DUMMY HEAD CONTACT - VIEW 3

Figure A-60. POST-TEST PASSENGER DUMMY KNEE CONTACT - VIEW 1

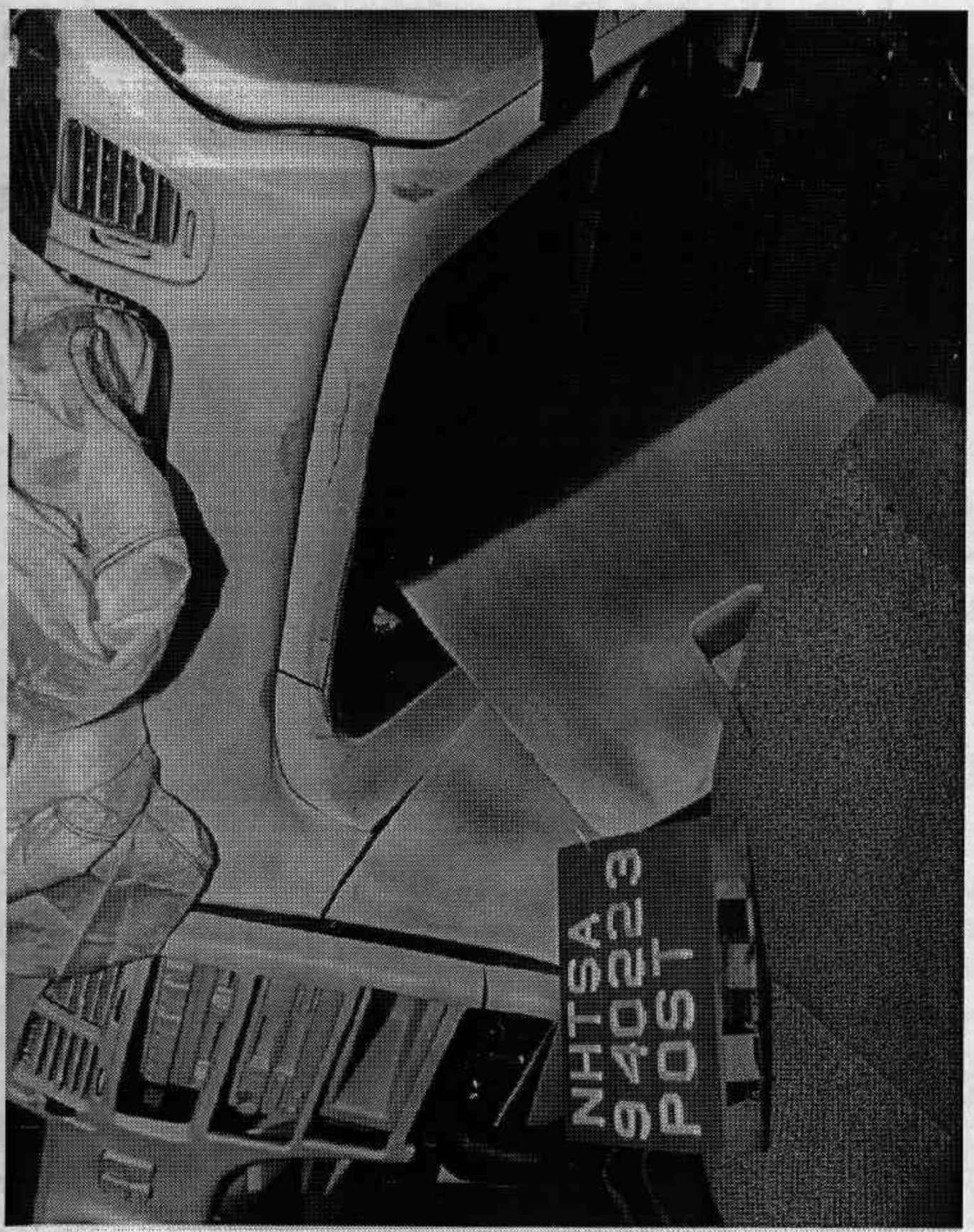


Figure A-61. POST-TEST PASSENGER DUMMY KNEE CONTACT - VIEW 2

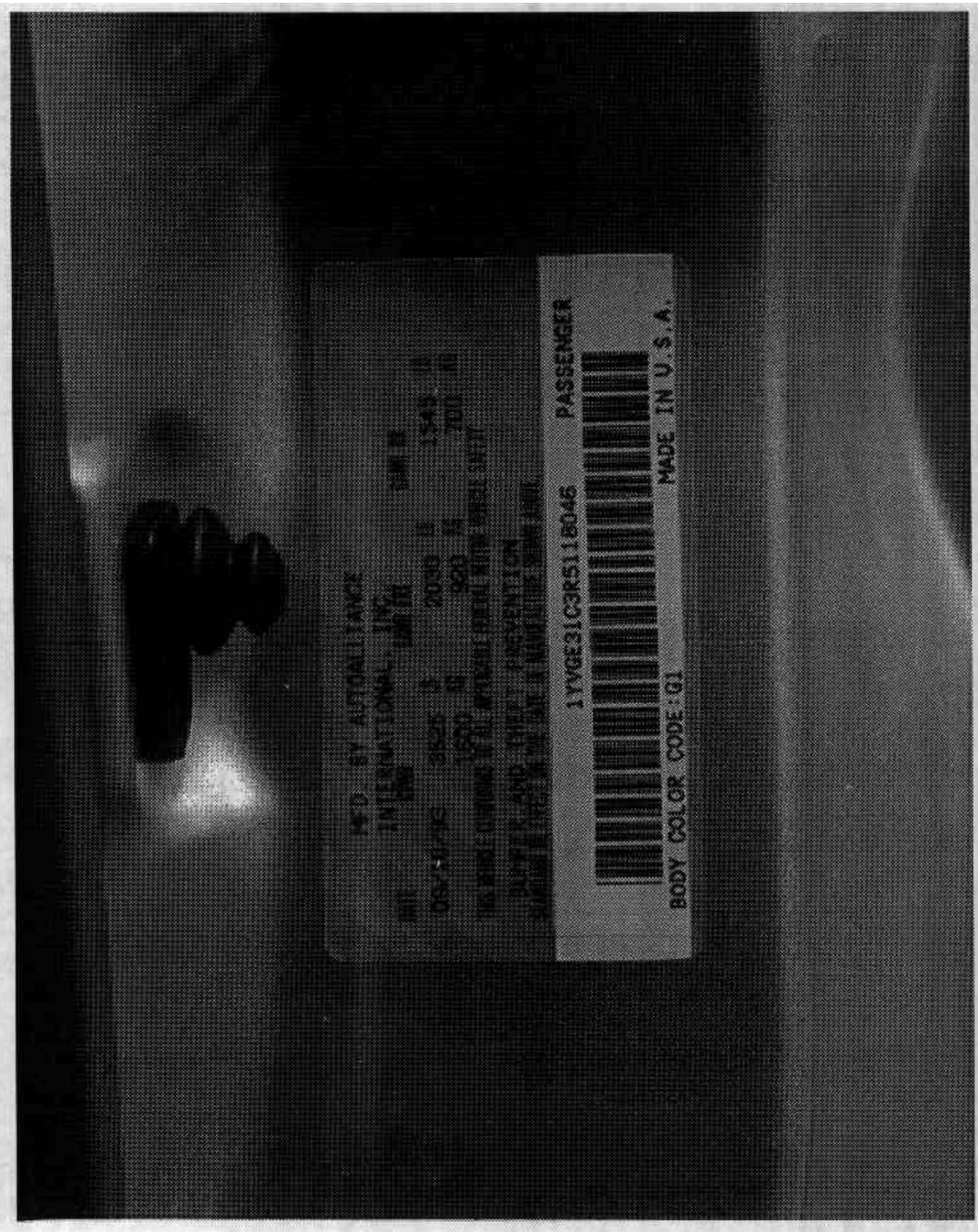


Figure A-62. PRE-TEST VEHICLE CERTIFICATION LABEL VIEW

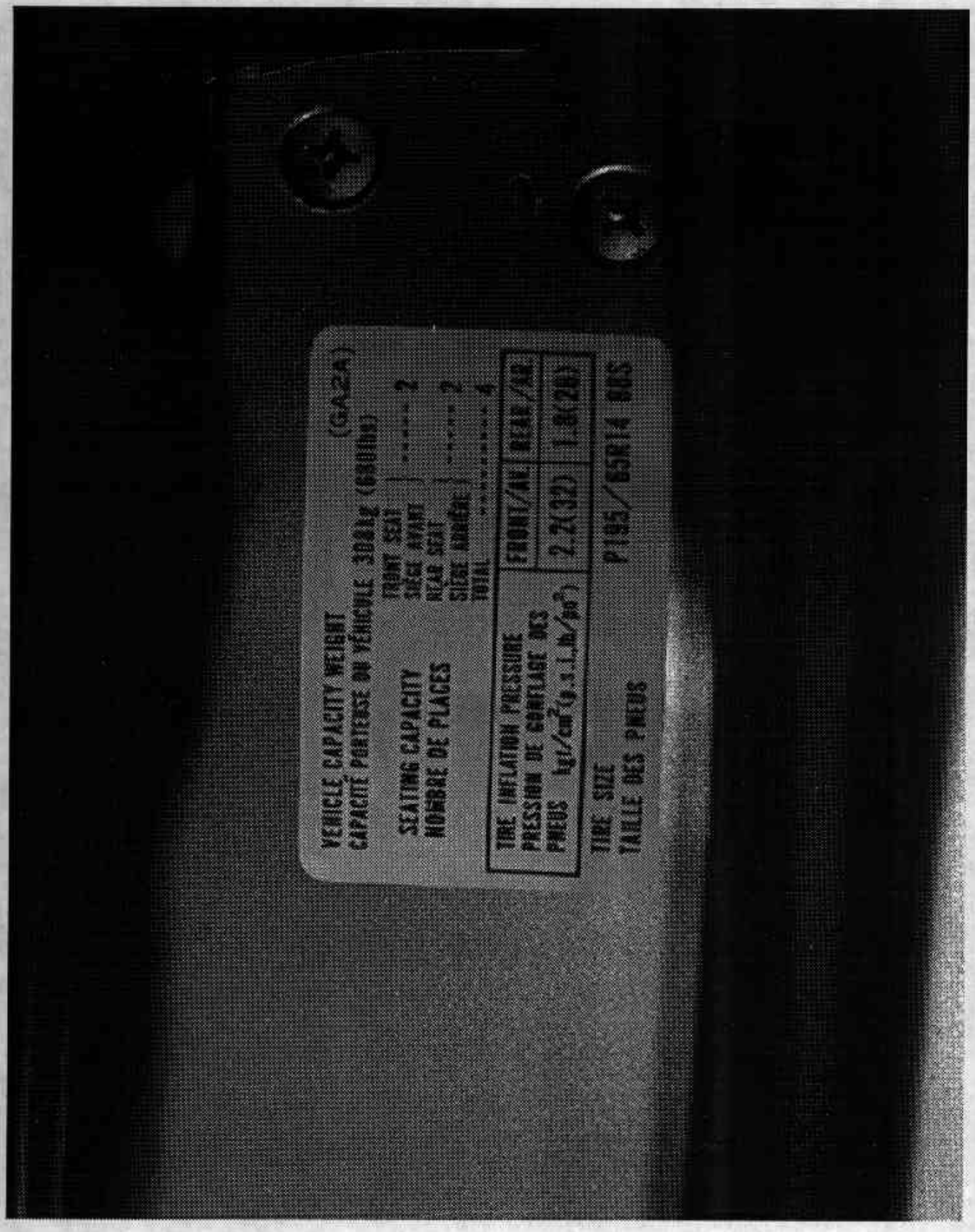


Figure A-63. PRE-TEST RECOMMENDED TIRE PRESSURE LABEL VIEW

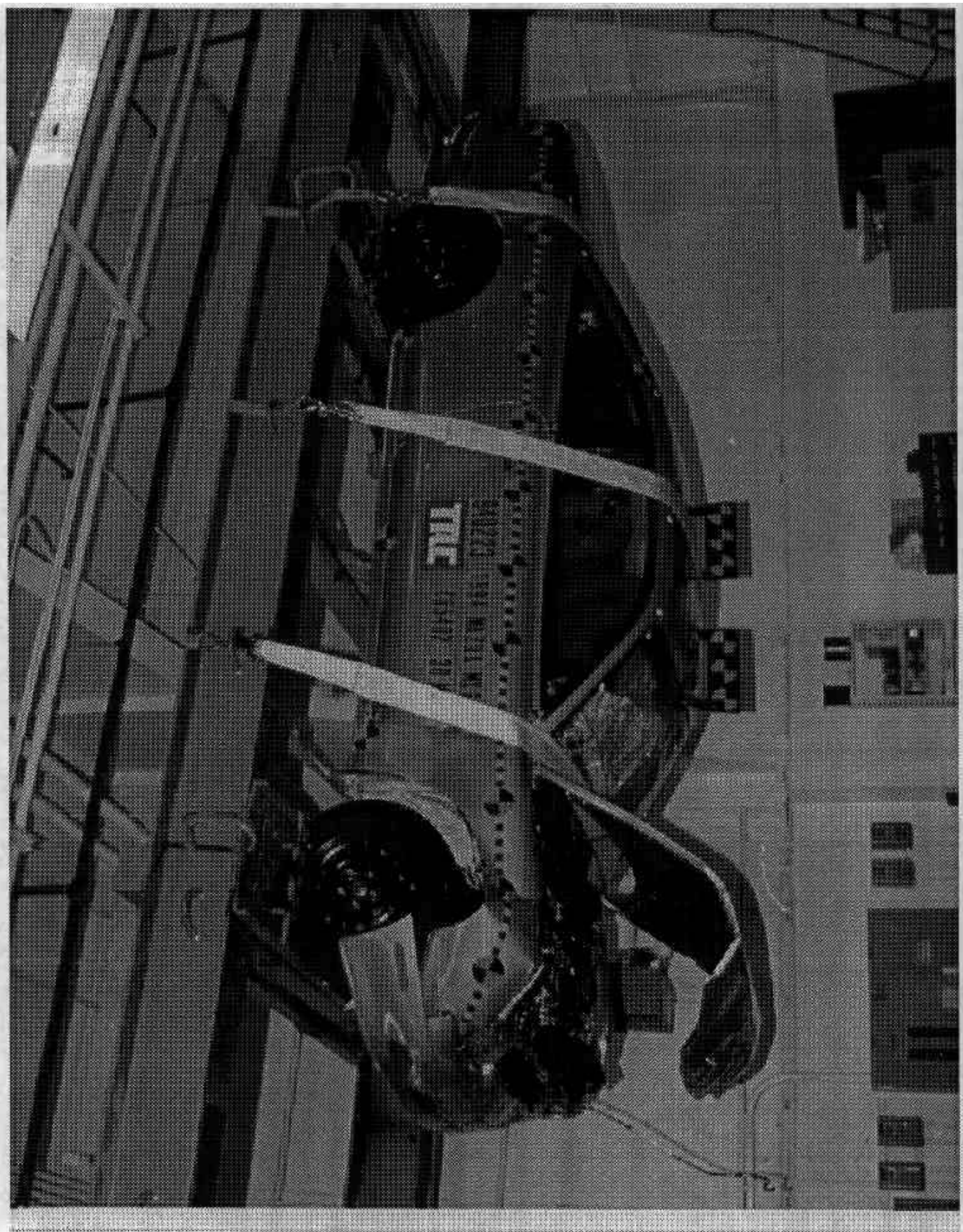
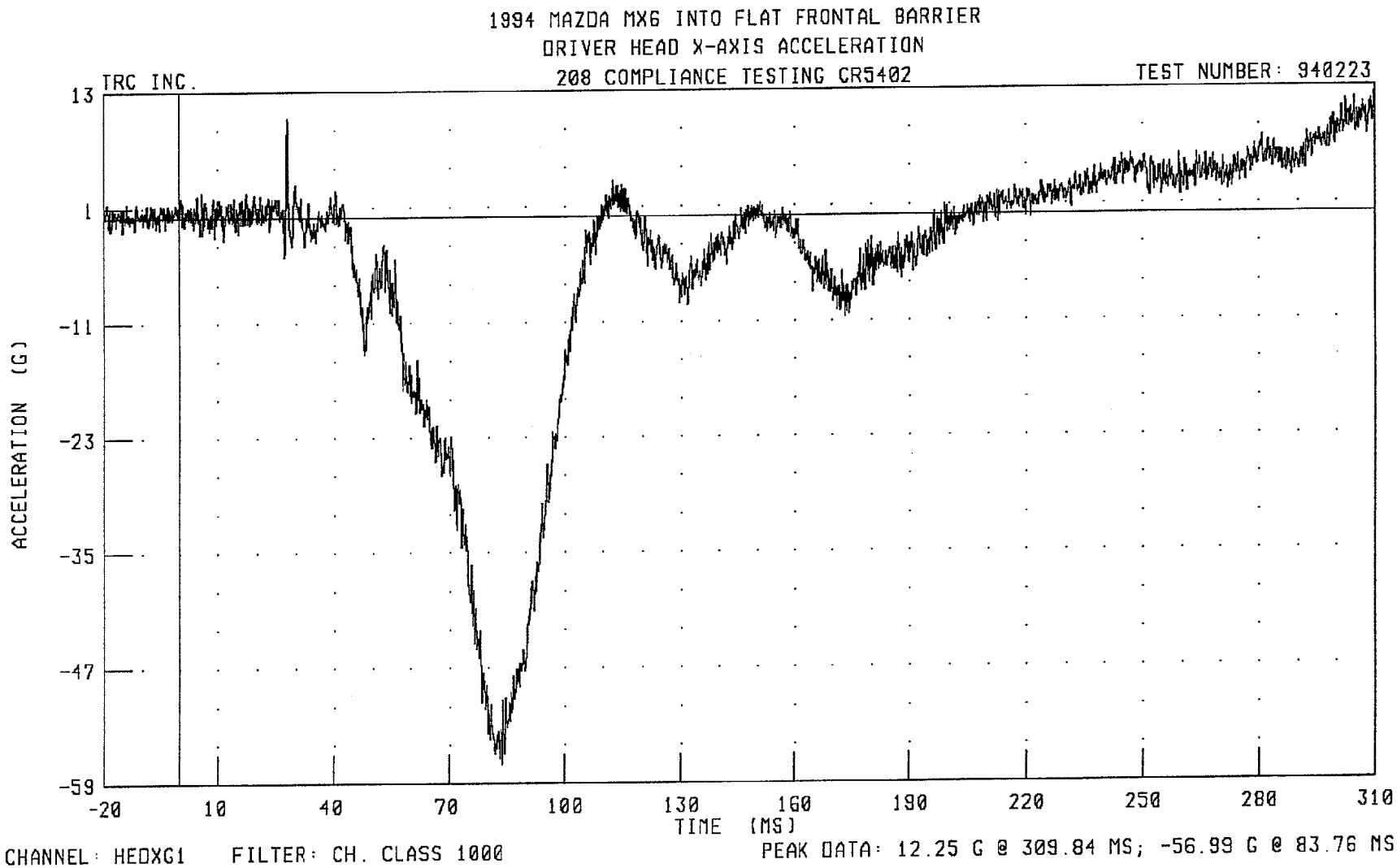


Figure A-64. POST-TEST VEHICLE ON STATIC ROLLOVER MACHINE VIEW

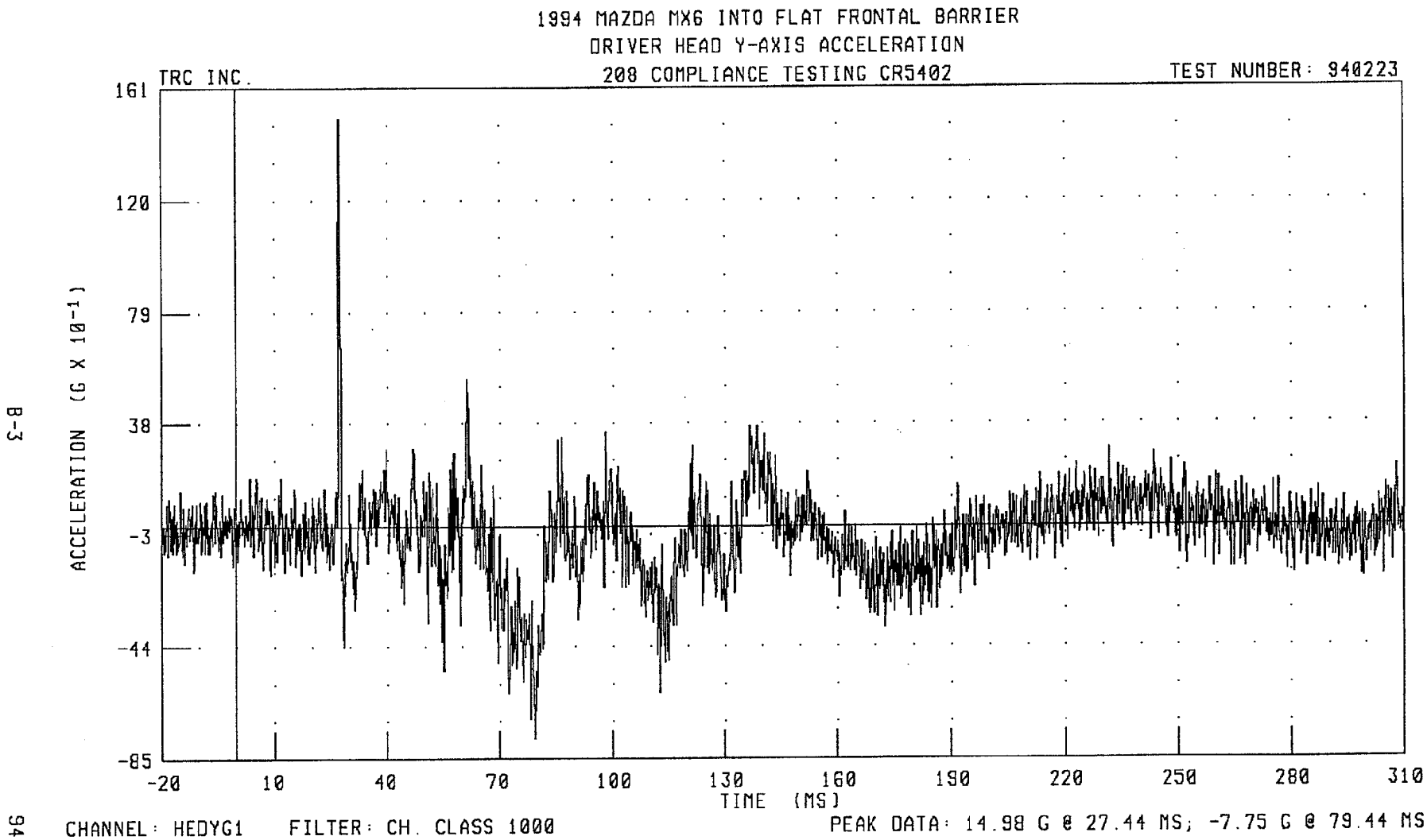
Appendix B

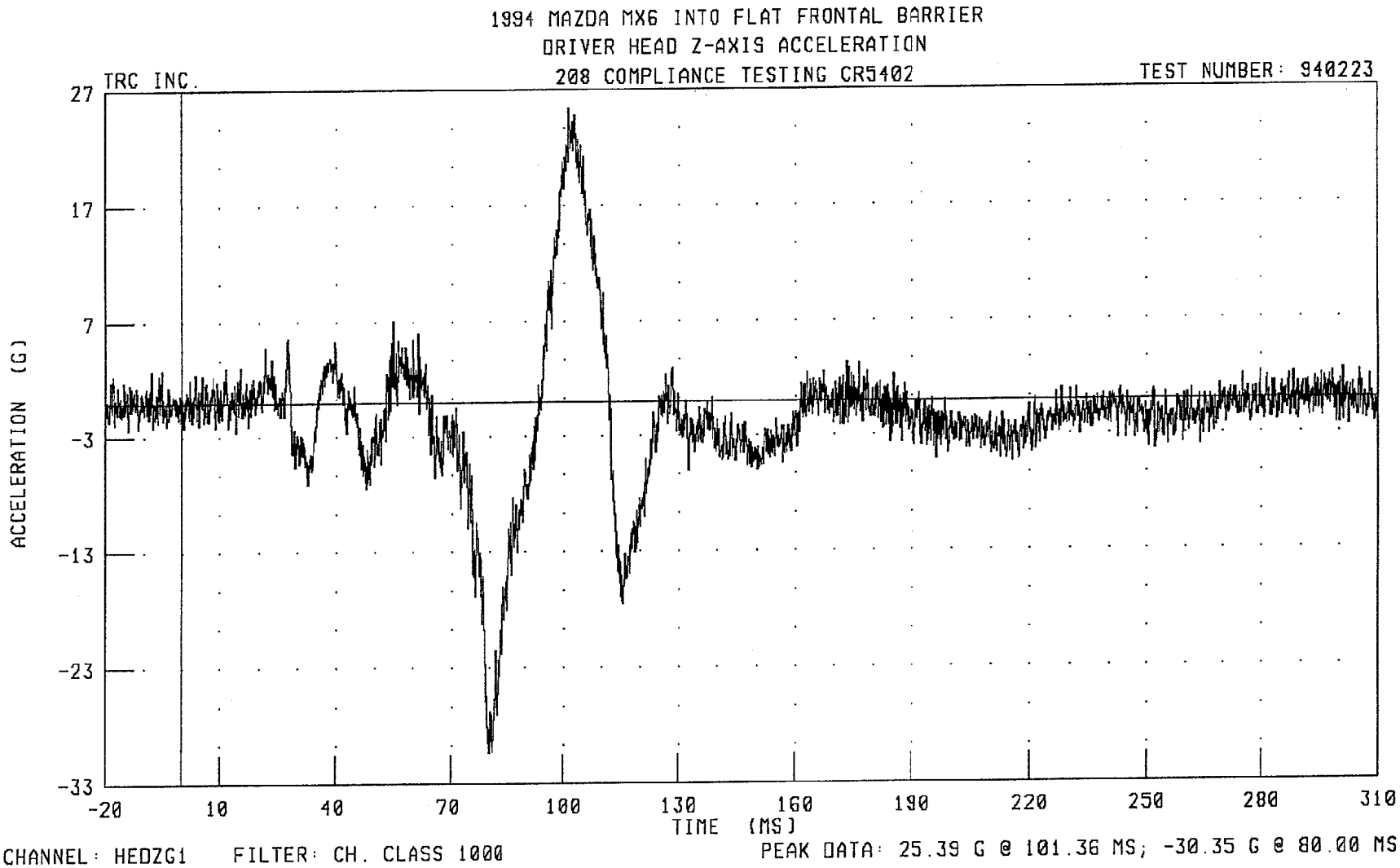
Data Plots


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER HEAD X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
13
1
-11
-23
-35
-47
-59
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDXG1
FILTER: CH. CLASS 1000
PEAK DATA: 12.25 G @ 309.84 MS; -56.99 G @ 83.76 MS

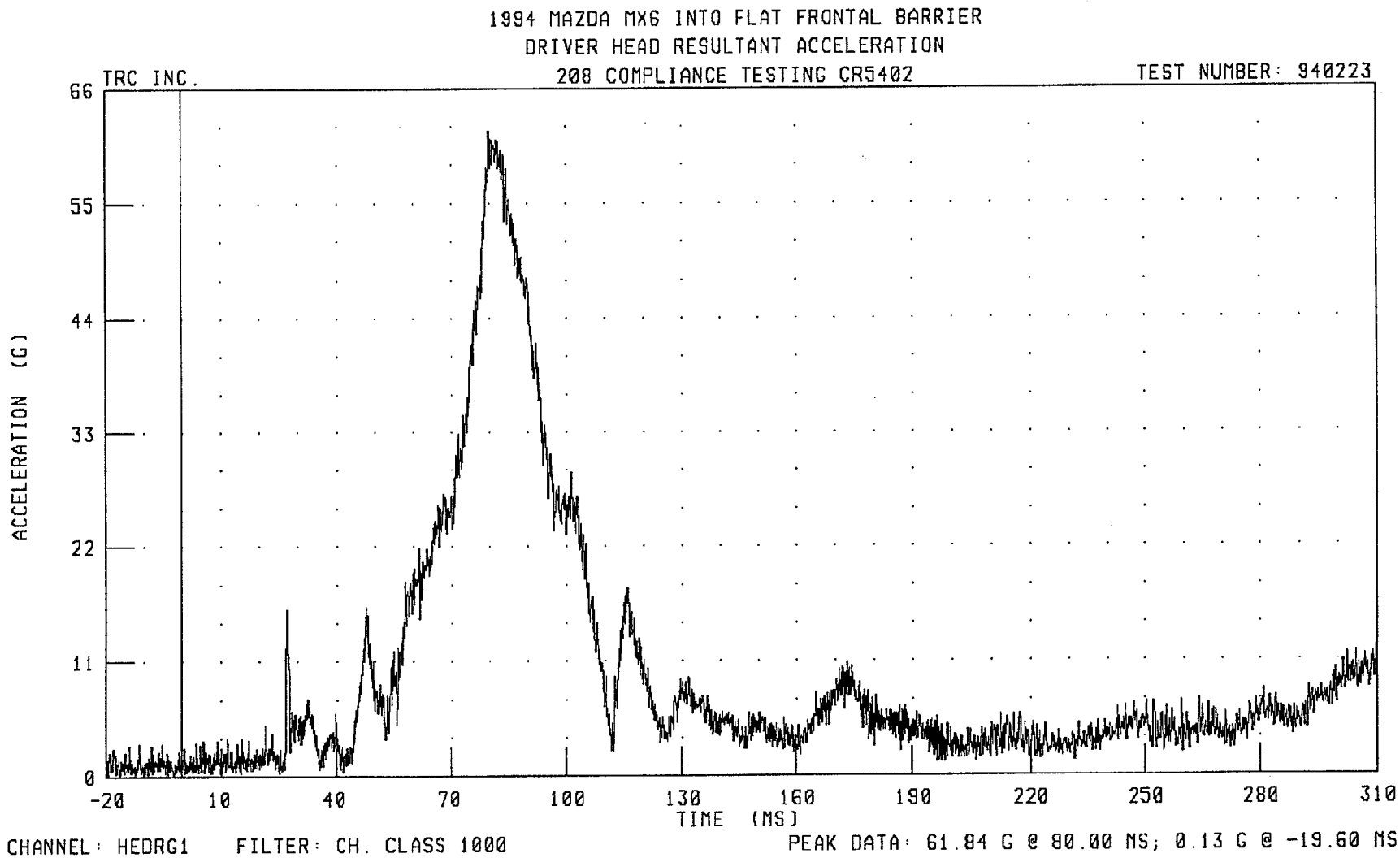
8-2

940223

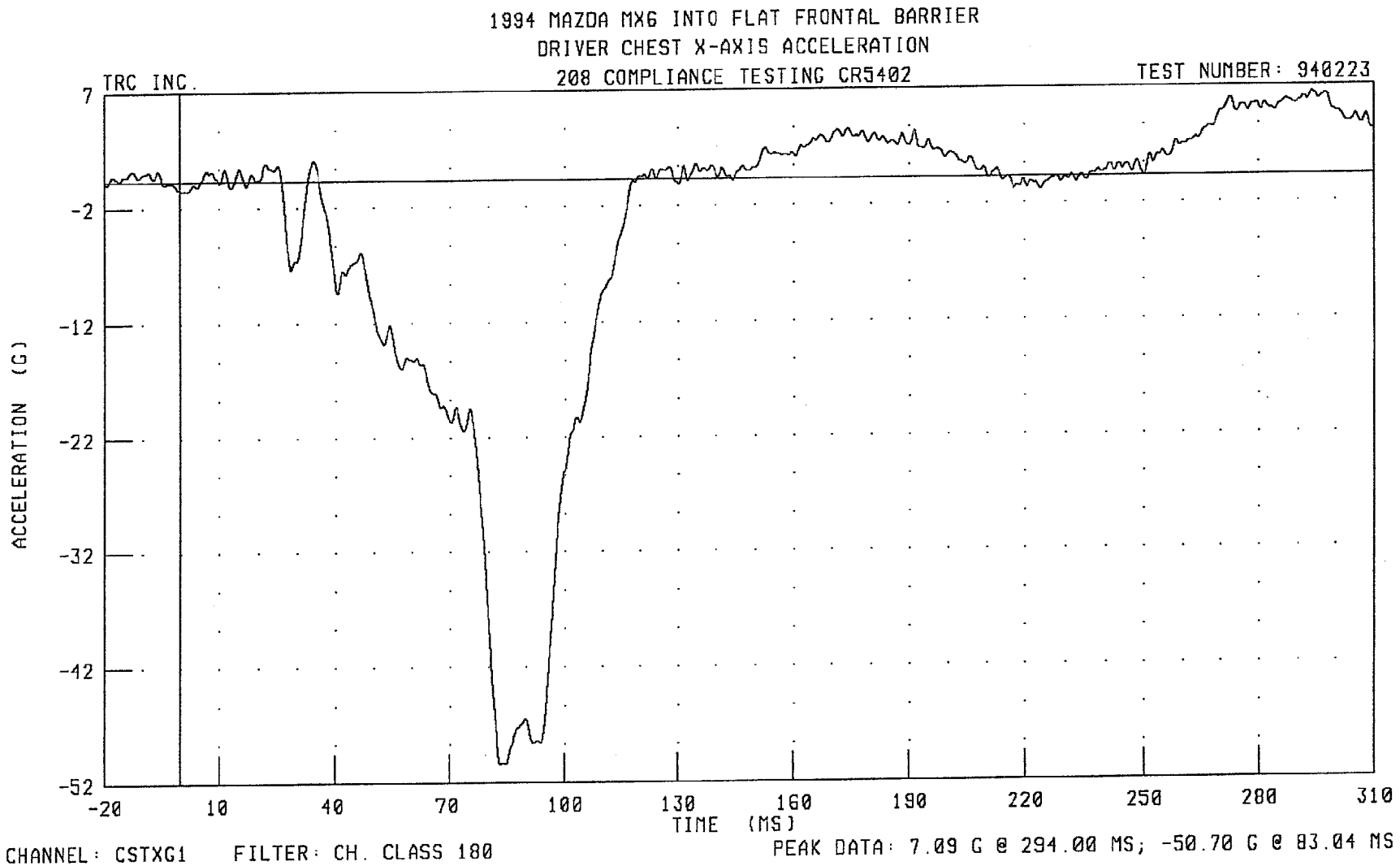

1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER HEAD Y-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
ACCELERATION (G X 10-1)
161
120
79
38
-3
-44
-85
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDYG1
FILTER: CH. CLASS 1000
PEAK DATA: 14.98 G @ 27.44 MS; -7.75 G @ 79.44 MS


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER HEAD Z-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
ACCELERATION (G)
27
17
7
-3
-13
-23
-33
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDZG1
FILTER: CH. CLASS 1000
PEAK DATA: 25.39 G @ 101.36 MS; -30.35 G @ 80.00 MS

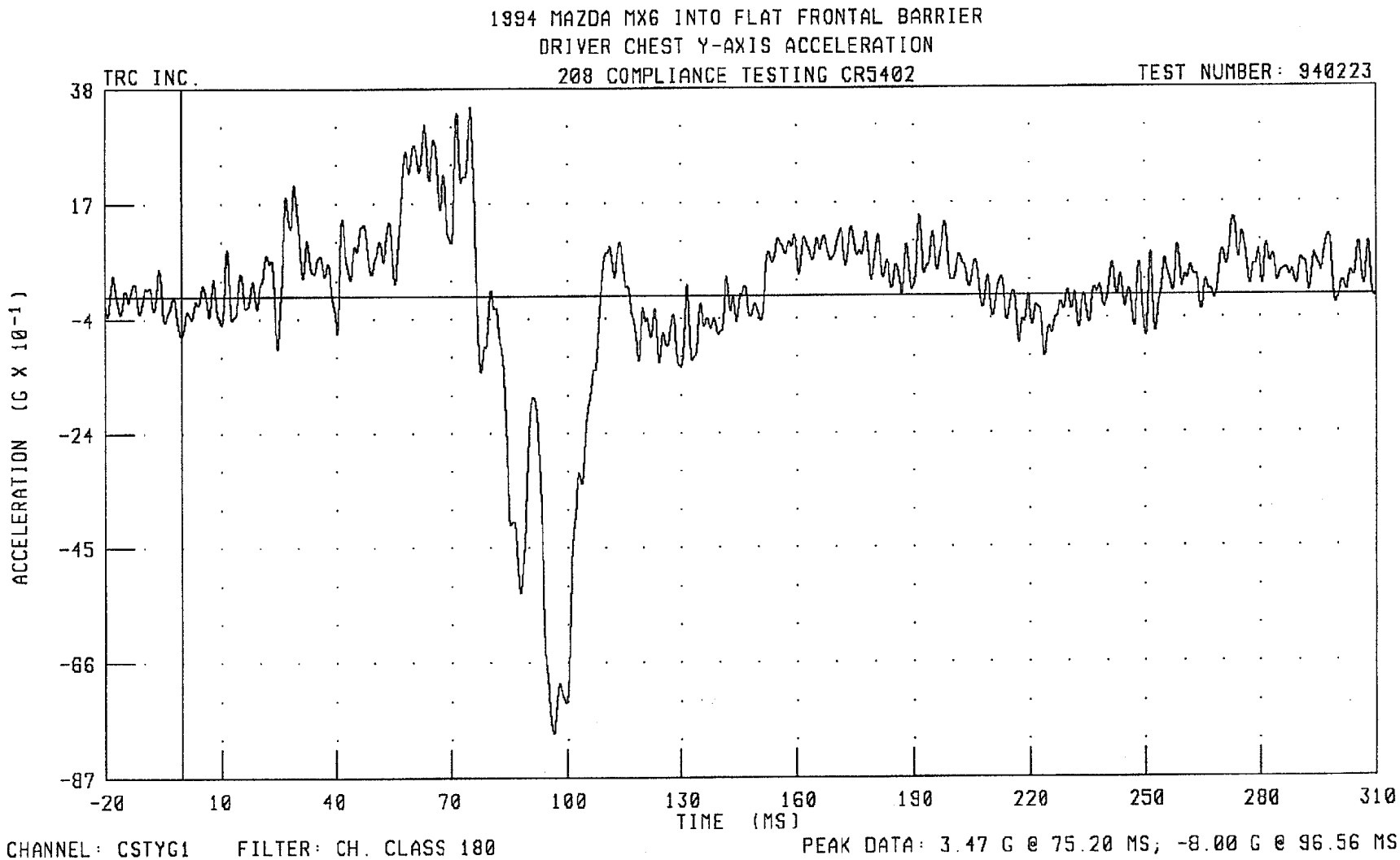
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER HEAD RESULTANT ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
ACCELERATION (G)
66
55
44
33
22
11
0
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDRG1
FILTER: CH. CLASS 1000
PEAK DATA: 61.84 G @ 80.00 MS; 0.13 G @ -19.60 MS

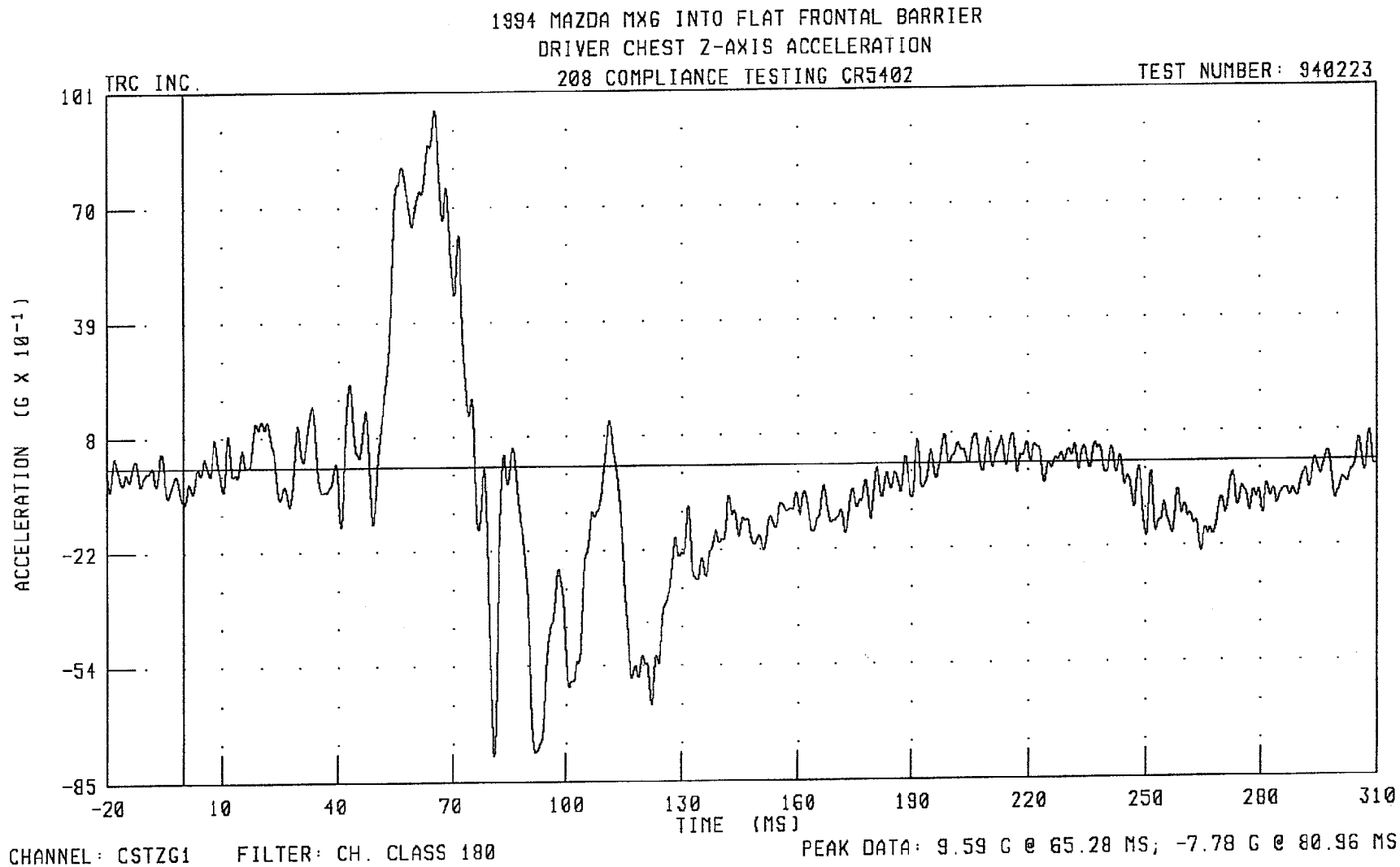
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER CHEST X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
ACCELERATION (G)
7
-2
-12
-22
-32
-42
-52
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTXG1
FILTER: CH. CLASS 180
PEAK DATA: 7.09 G @ 294.00 MS; -50.70 G @ 83.04 MS

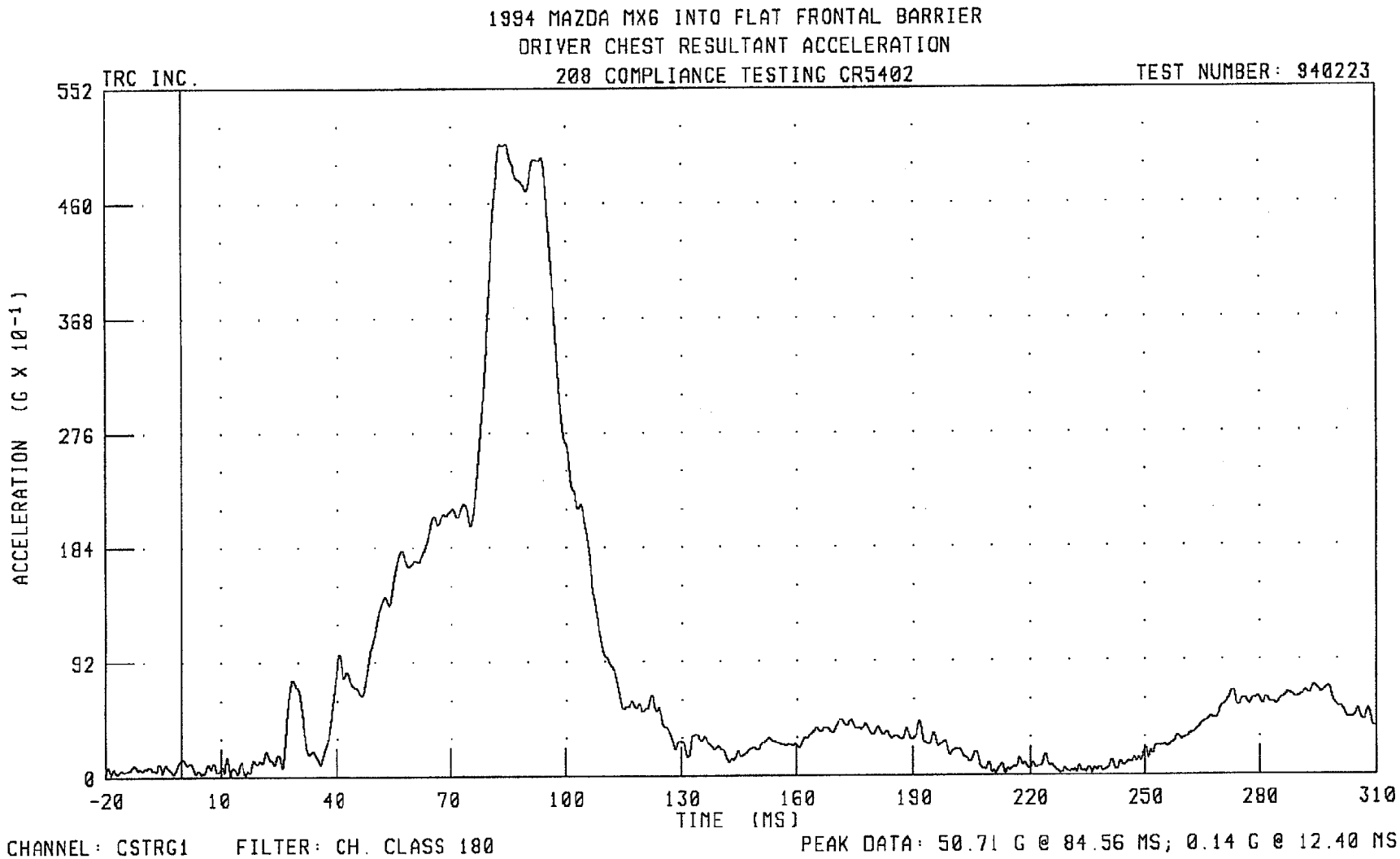
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER CHEST Y-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
38
17
-4
-24
-45
-66
-87
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTYG1
FILTER: CH. CLASS 180
PEAK DATA: 3.47 G @ 75.20 MS; -8.00 G @ 96.56 MS

940223

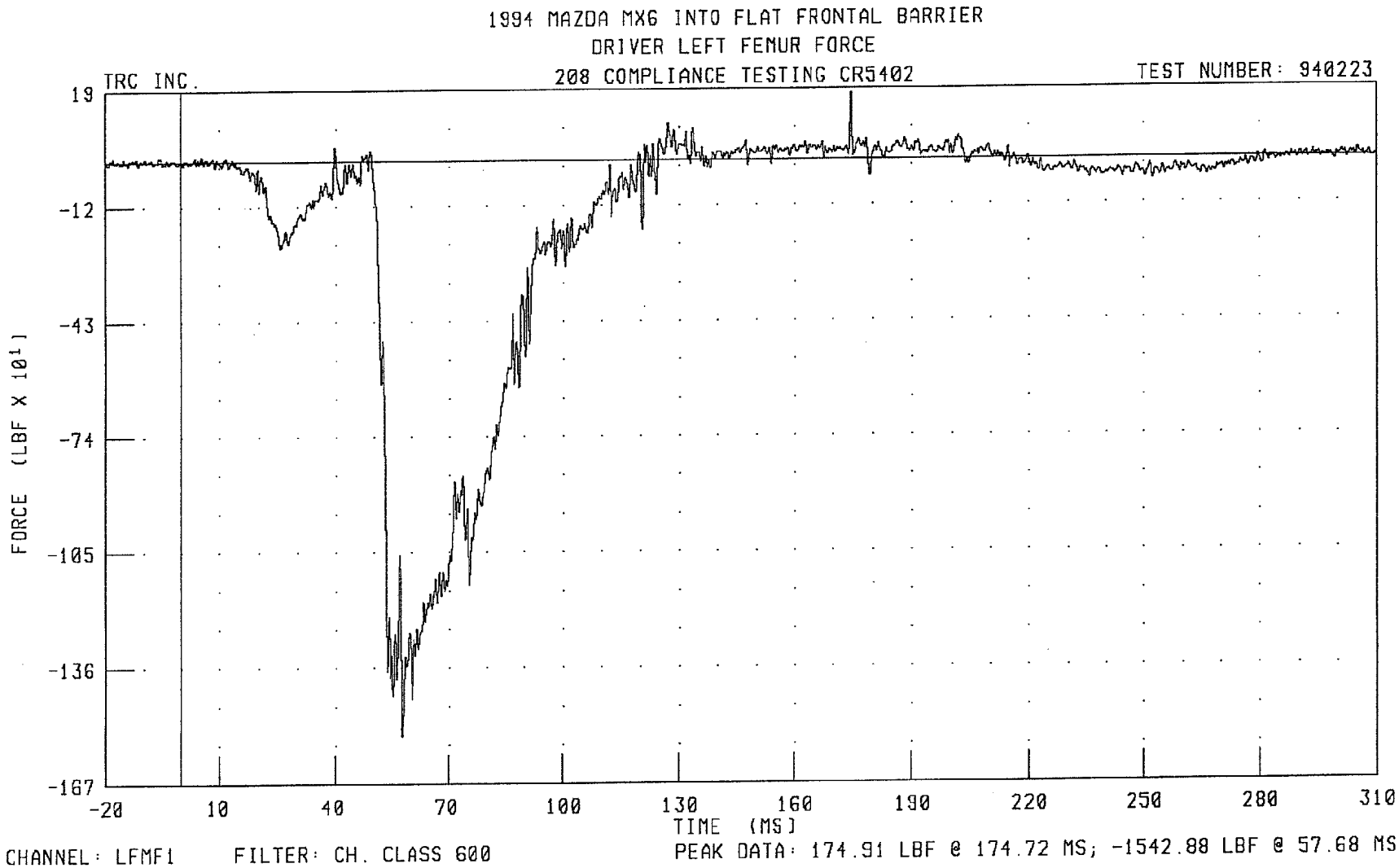

1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER CHEST Z-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
ACCELERATION (G X 10-1)
101
70
39
8
-22
-54
-85
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTZG1
FILTER: CH. CLASS 180
PEAK DATA: 9.59 G @ 65.28 MS; -7.78 G @ 80.96 MS

940223

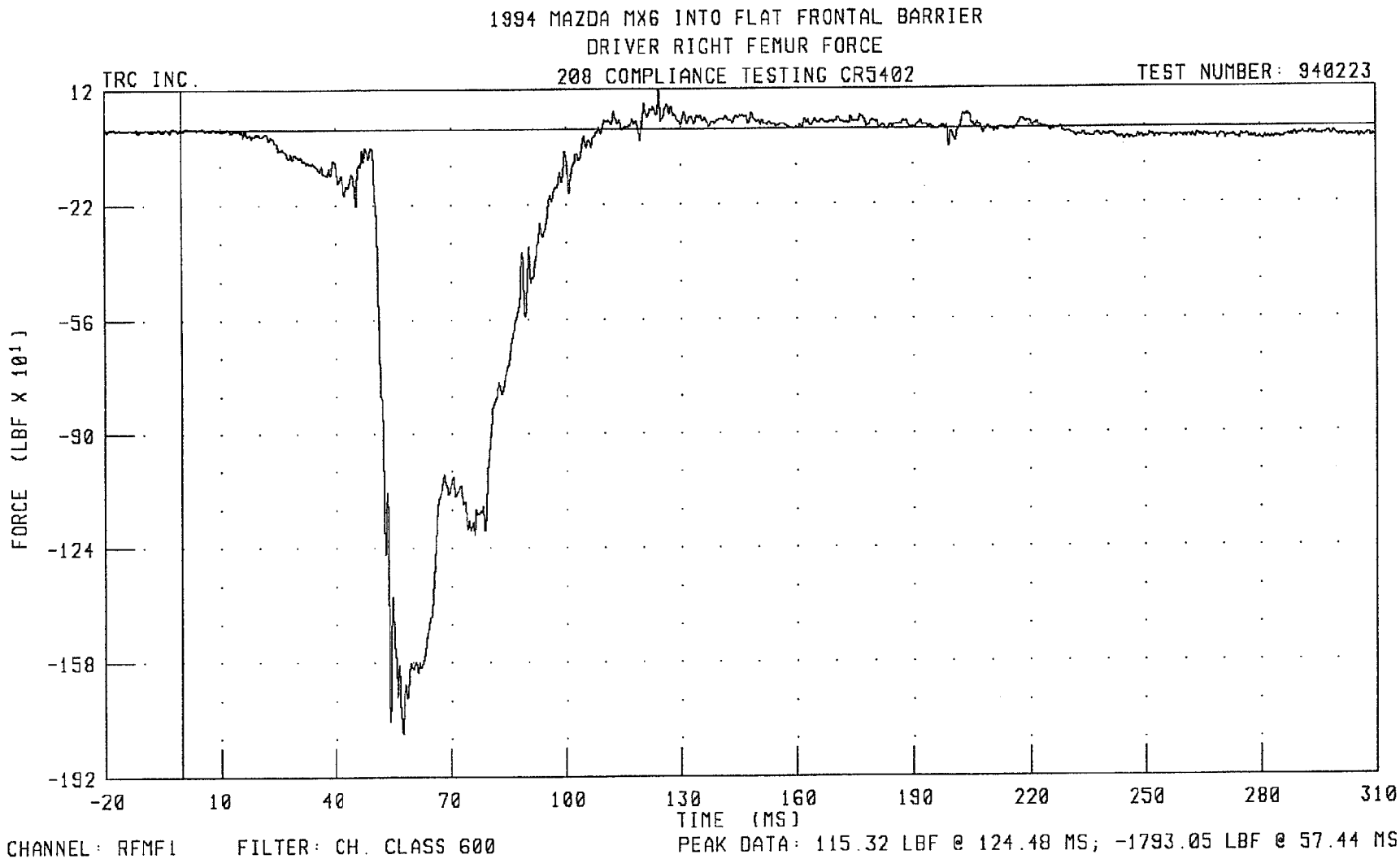

1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER CHEST RESULTANT ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
552
460
368
276
184
92
0
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTRG1
FILTER: CH. CLASS 180
PEAK DATA: 50.71 G @ 84.56 MS; 0.14 G @ 12.40 MS

B-9

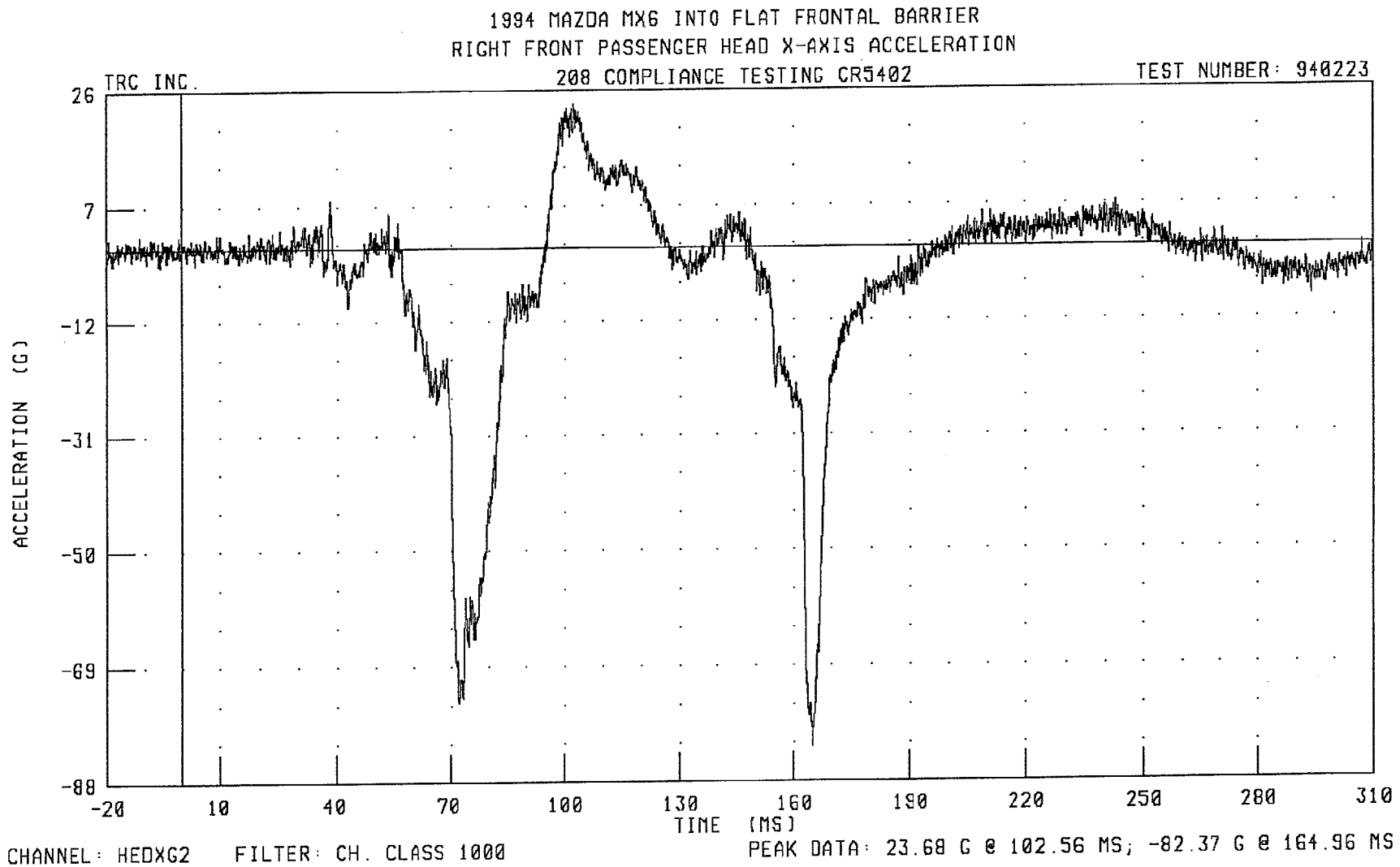
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER LEFT FEMUR FORCE
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
19
-12
-43
-74
-105
-136
-167
FORCE (LBF X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: LFMF1
FILTER: CH. CLASS 600
PEAK DATA: 174.91 LBF @ 174.72 MS; -1542.88 LBF @ 57.68 MS

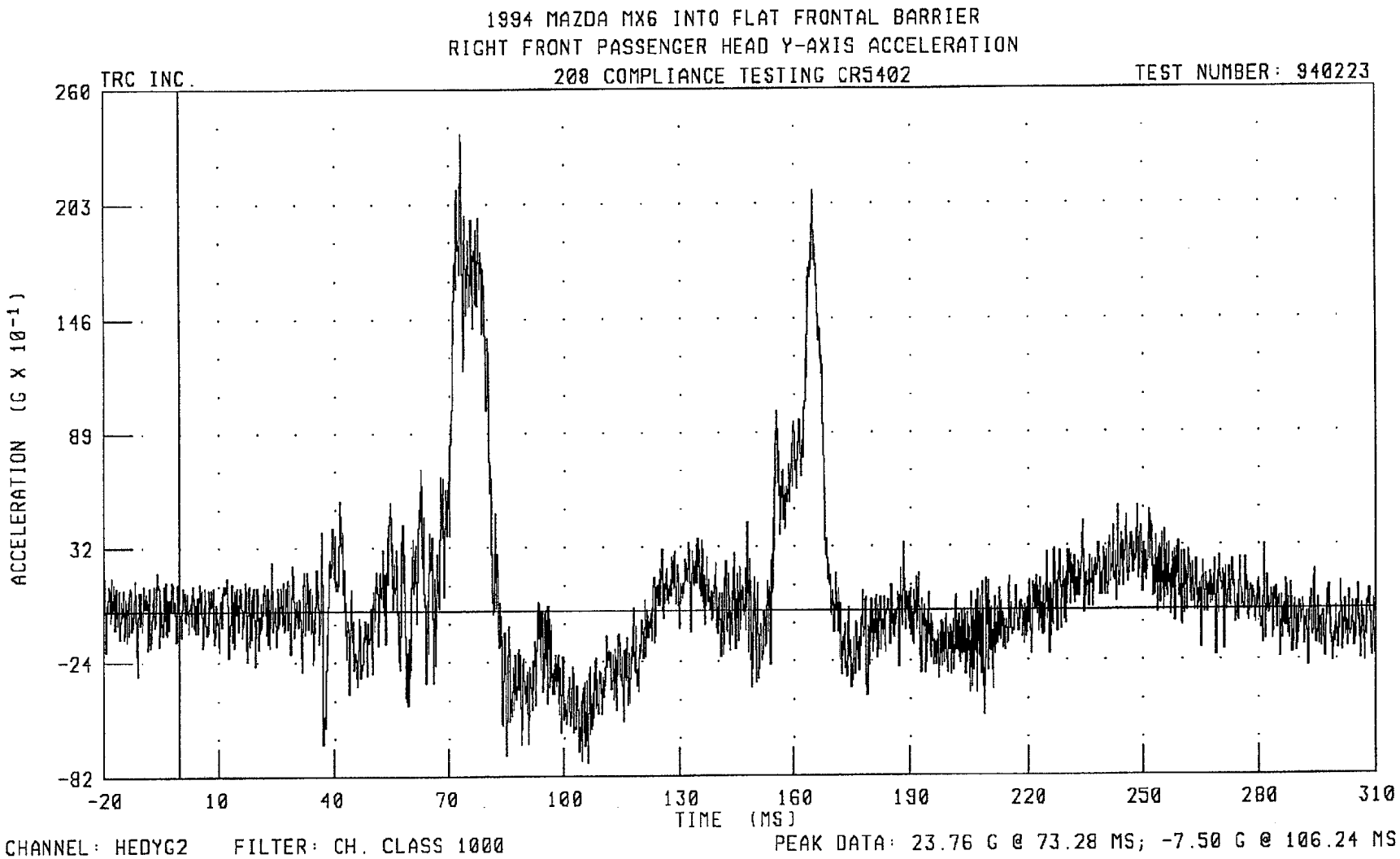
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DRIVER RIGHT FEMUR FORCE
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
12
-22
-56
-90
-124
-158
-192
FORCE (LBF X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: RFMF1
FILTER: CH. CLASS 600
PEAK DATA: 115.32 LBF @ 124.48 MS; -1793.05 LBF @ 57.44 MS

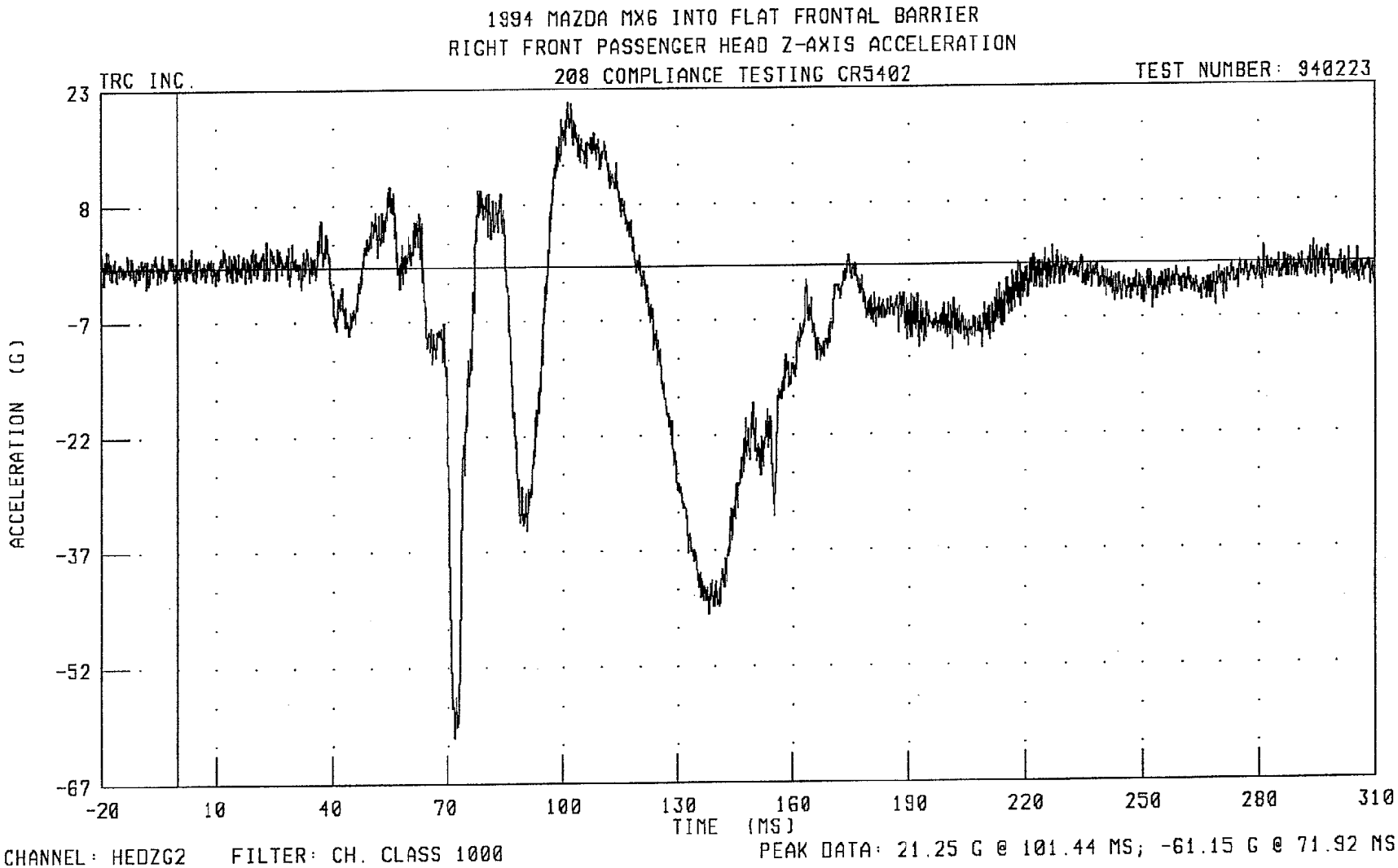
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER HEAD X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
26
7
-12
-31
-50
-69
-88
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDXG2
FILTER: CH. CLASS 1000
PEAK DATA: 23.68 G @ 102.56 MS; -82.37 G @ 164.96 MS

940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
260
203
146
89
32
-24
-82
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDYG2
FILTER: CH. CLASS 1000
PEAK DATA: 23.76 G @ 73.28 MS; -7.50 G @ 106.24 MS

940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER HEAD Z-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
23
8
-7
-22
-37
-52
-67
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDZG2
FILTER: CH. CLASS 1000
PEAK DATA: 21.25 G @ 101.44 MS; -61.15 G @ 71.92 MS

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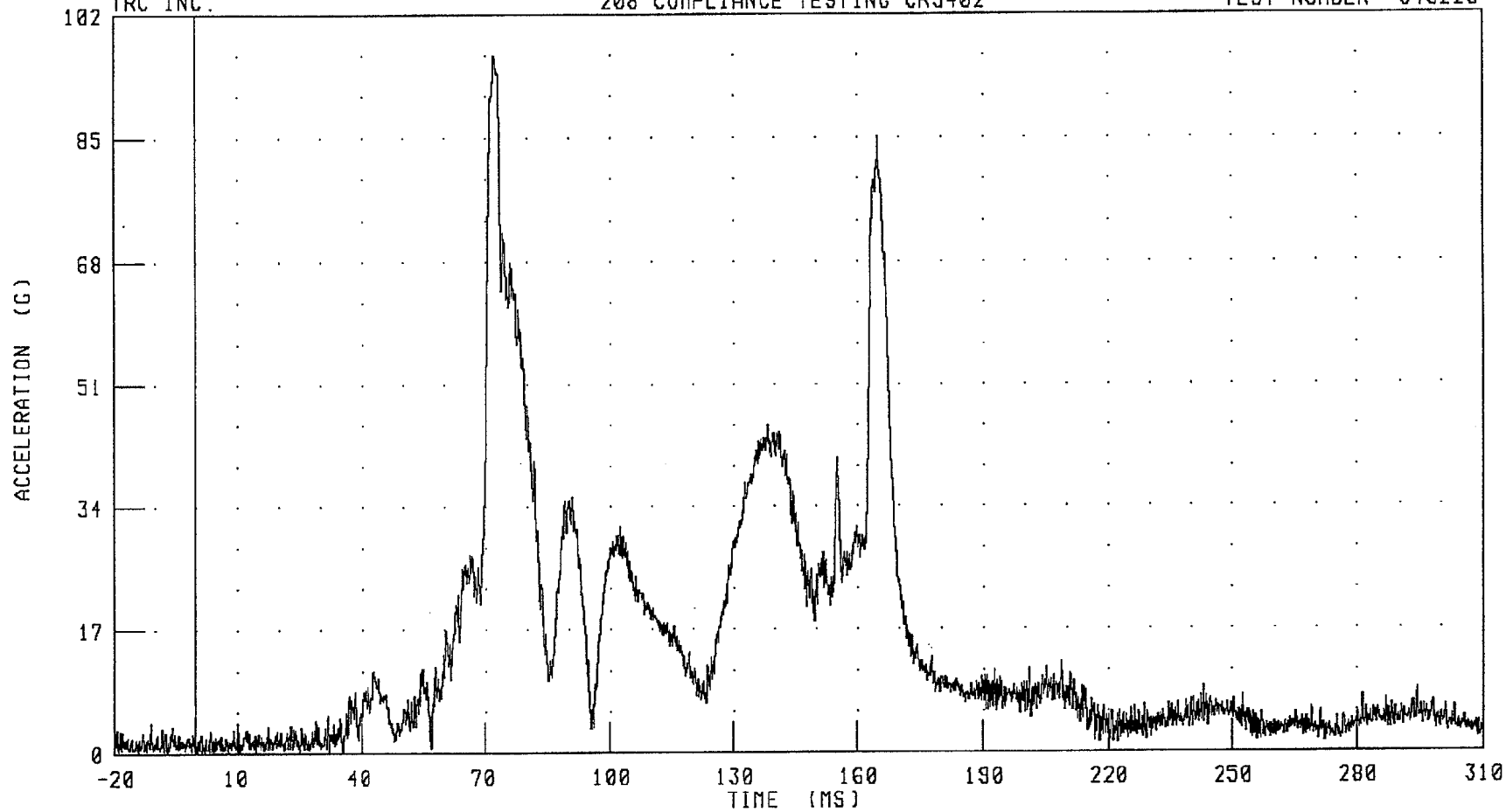
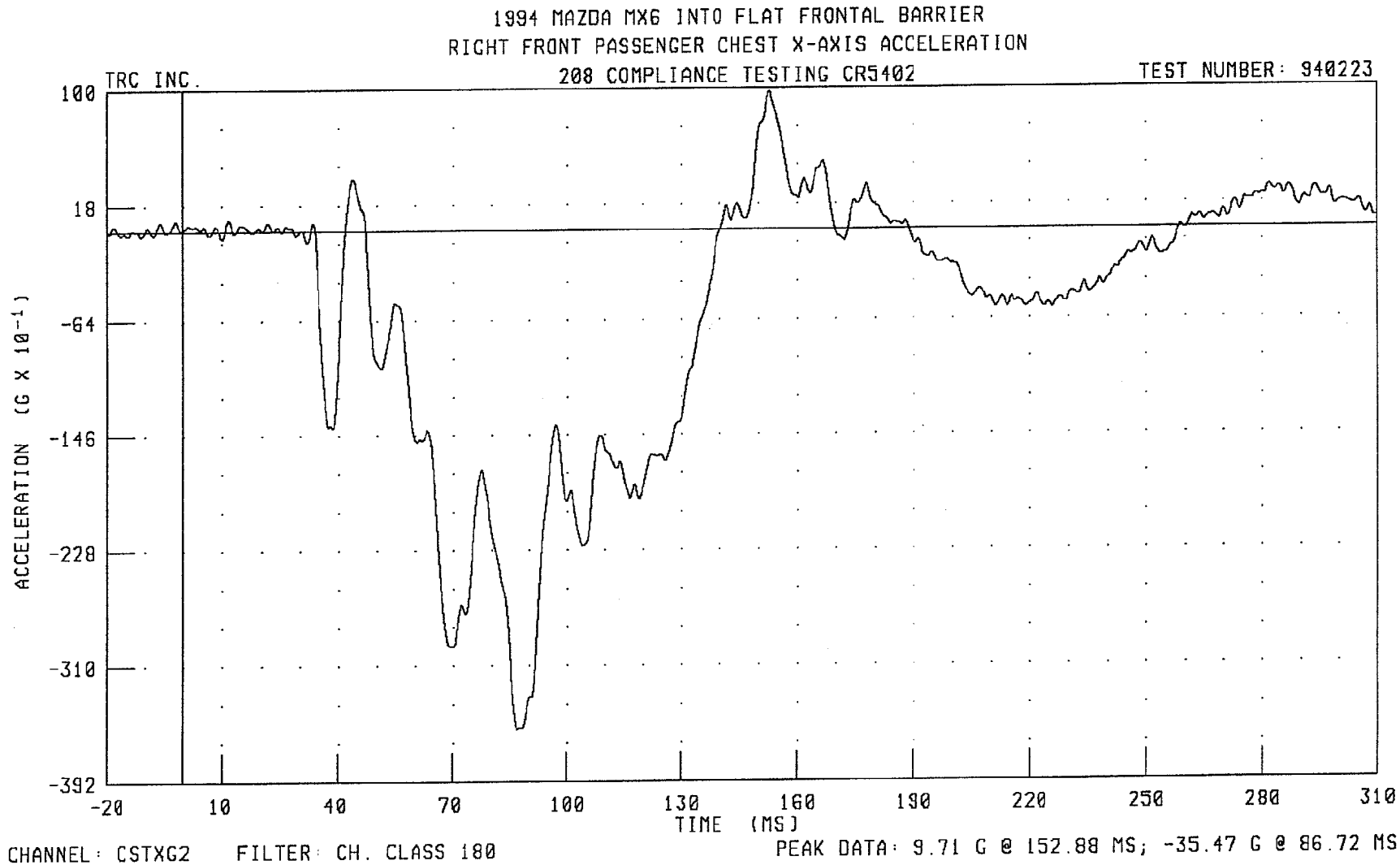
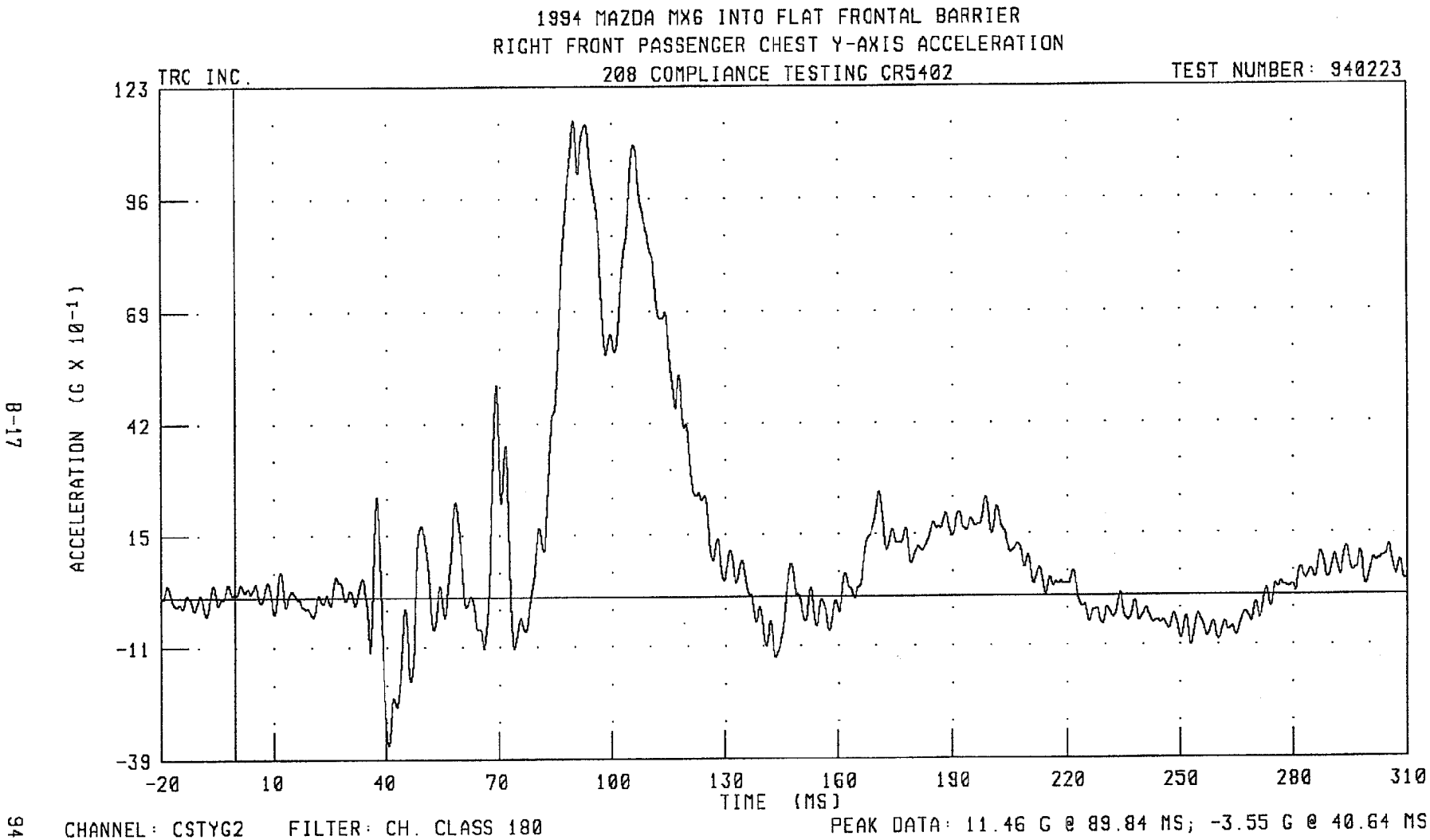
1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER HEAD RESULTANT ACCELERATION
208 COMPLIANCE TESTING CR5402

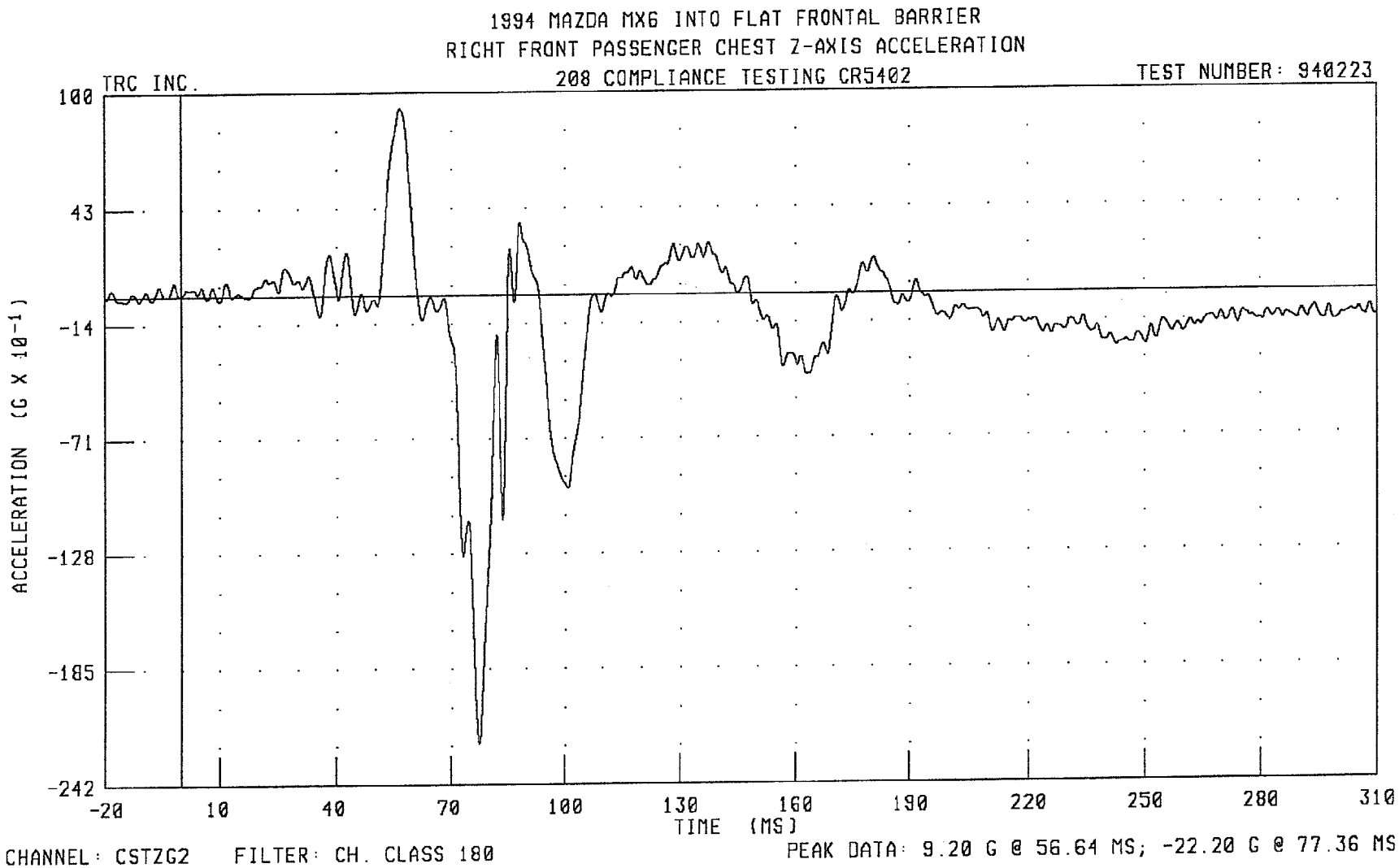


CHANNEL: HEDRG2 FILTER: CH. CLASS 1000 PEAK DATA: 96.42 G @ 72.16 MS; 0.14 G @ 7.68 MS

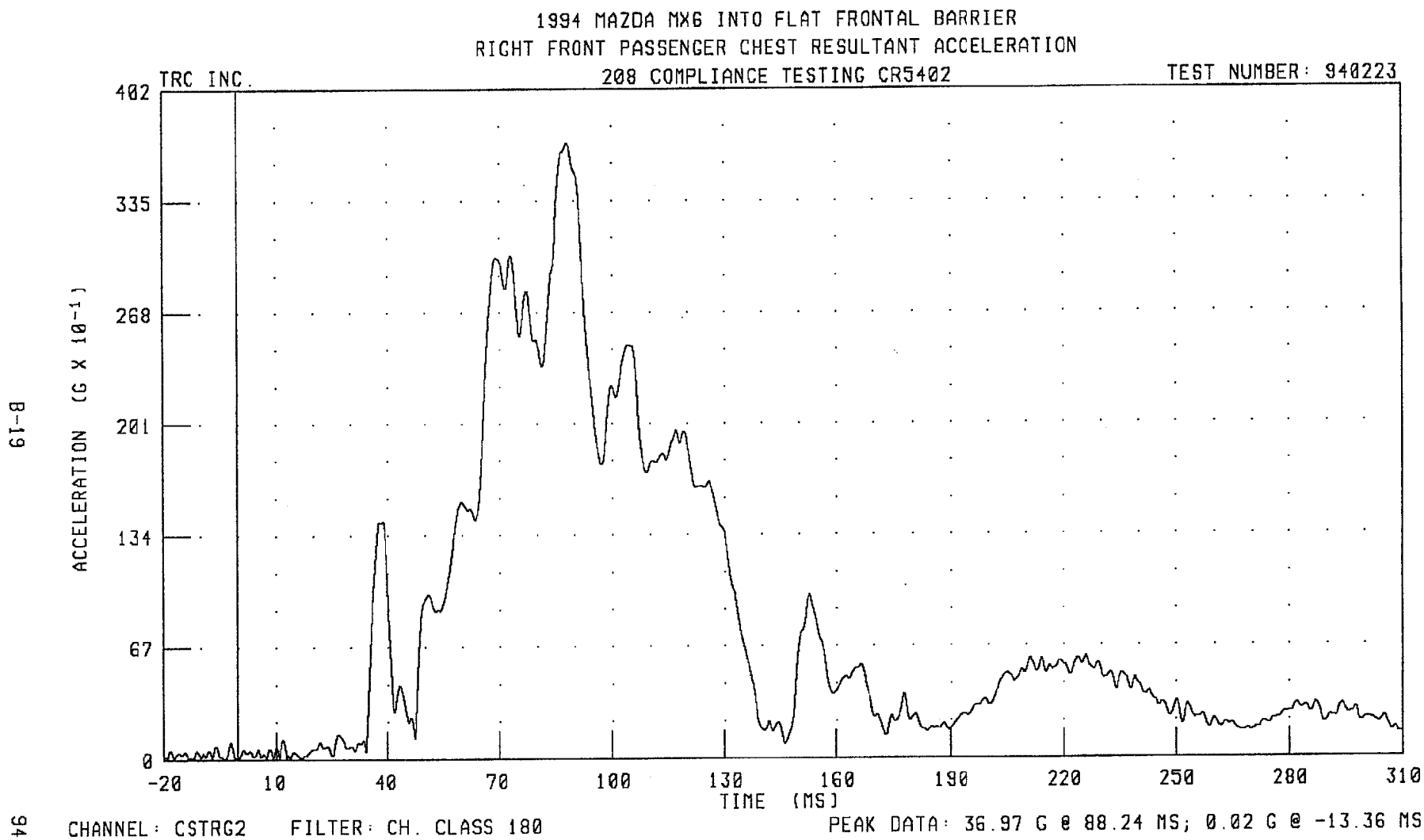

1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
100
18
-64
-146
-228
-310
-392
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTXG2
FILTER: CH. CLASS 180
PEAK DATA: 9.71 G @ 152.88 MS; -35.47 G @ 86.72 MS

940223

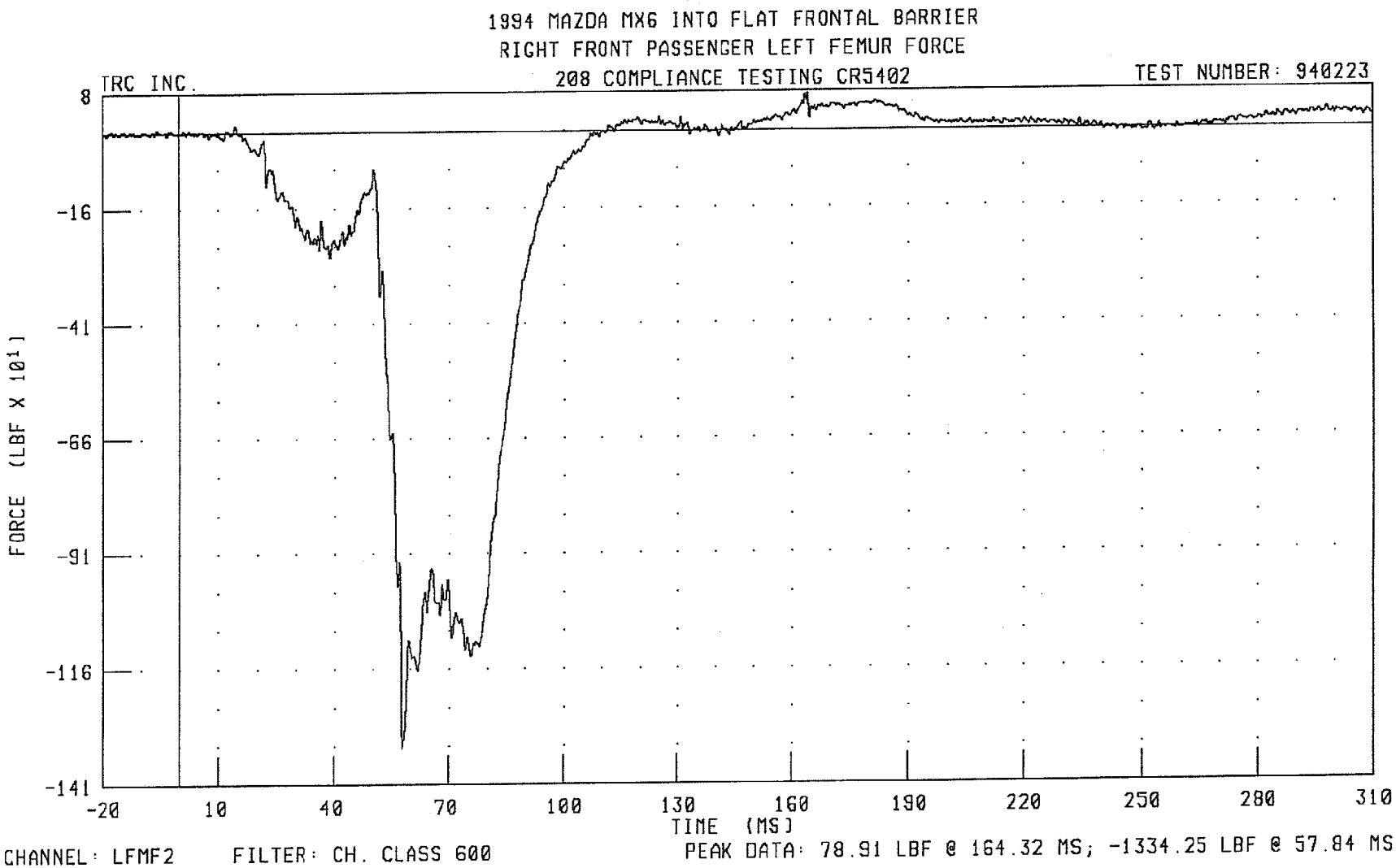

1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST Y-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
123
96
69
42
15
-11
-39
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTYG2
FILTER: CH. CLASS 180
PEAK DATA: 11.46 G @ 89.84 MS; -3.55 G @ 40.64 MS


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST Z-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
100
43
-14
-71
-128
-185
-242
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTZG2
FILTER: CH. CLASS 180
PEAK DATA: 9.20 G @ 56.64 MS; -22.20 G @ 77.36 MS

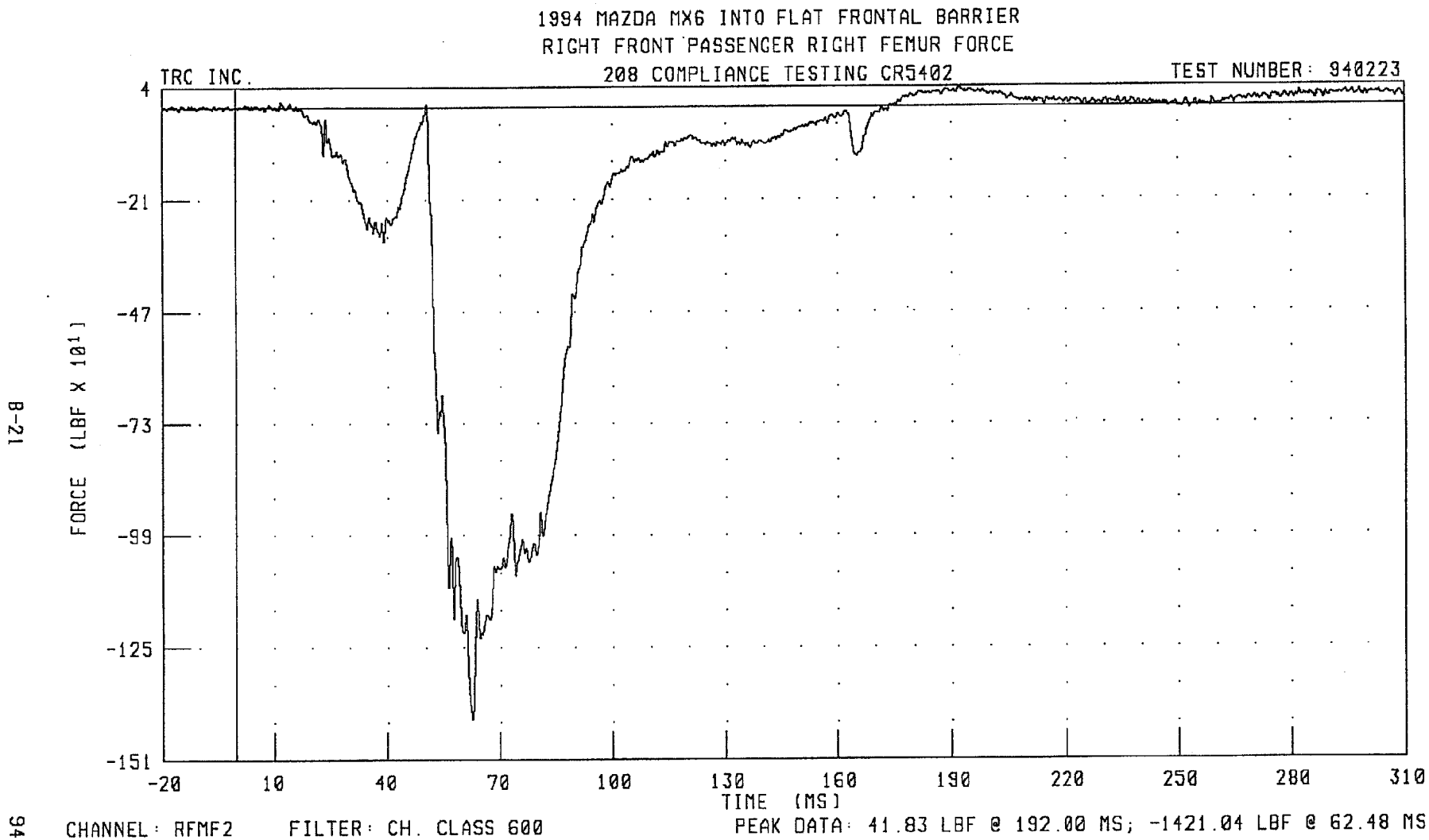
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST RESULTANT ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
ACCELERATION (G X 10-1)
402
335
268
201
134
67
0
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTRG2
FILTER: CH. CLASS 180
PEAK DATA: 36.97 G @ 88.24 MS; 0.02 G @ -13.36 MS

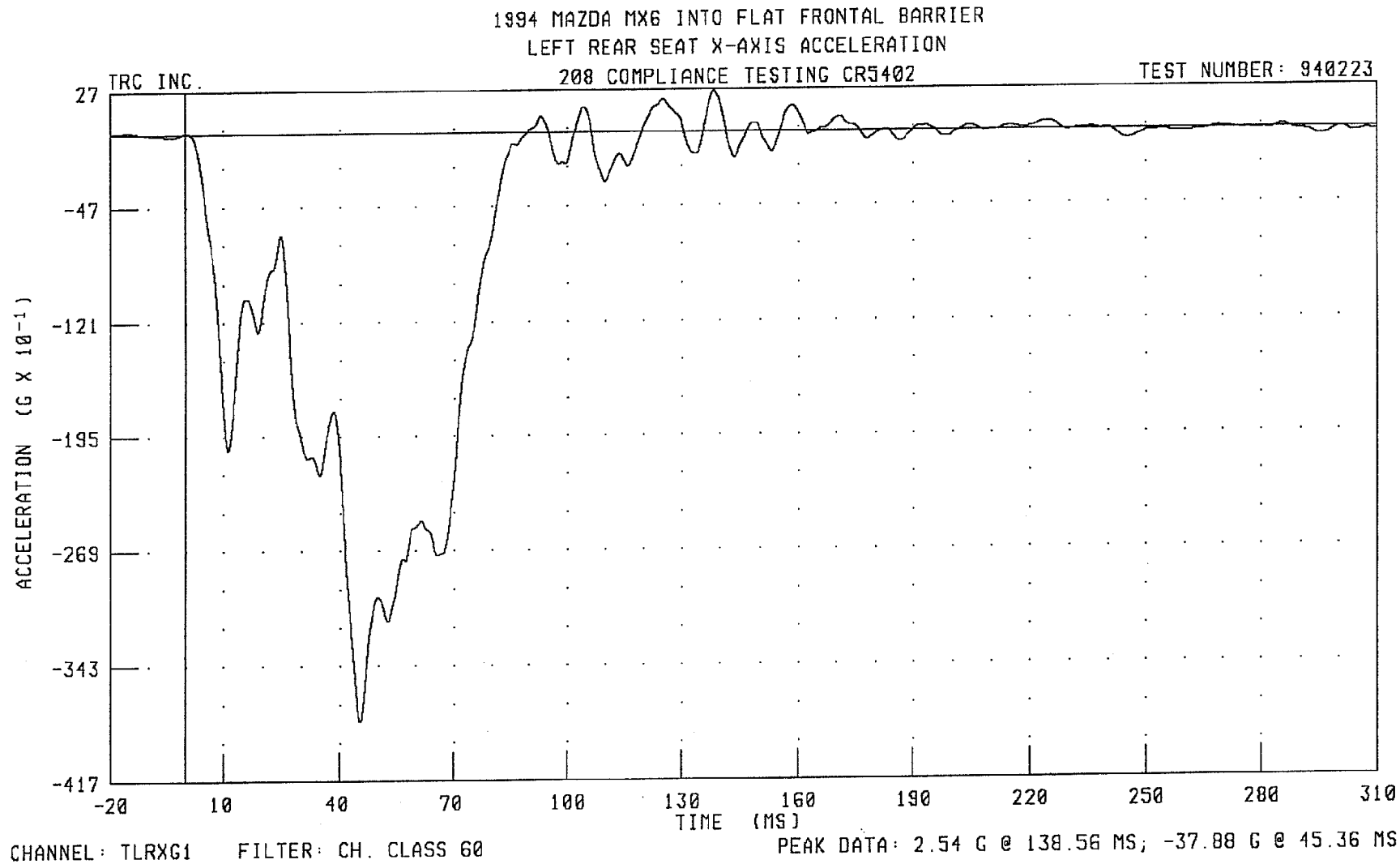
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER LEFT FEMUR FORCE
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
8
-16
-41
-66
-91
-116
-141
FORCE (LBF X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: LFMF2
FILTER: CH. CLASS 600
PEAK DATA: 78.91 LBF @ 164.32 MS; -1334.25 LBF @ 57.84 MS

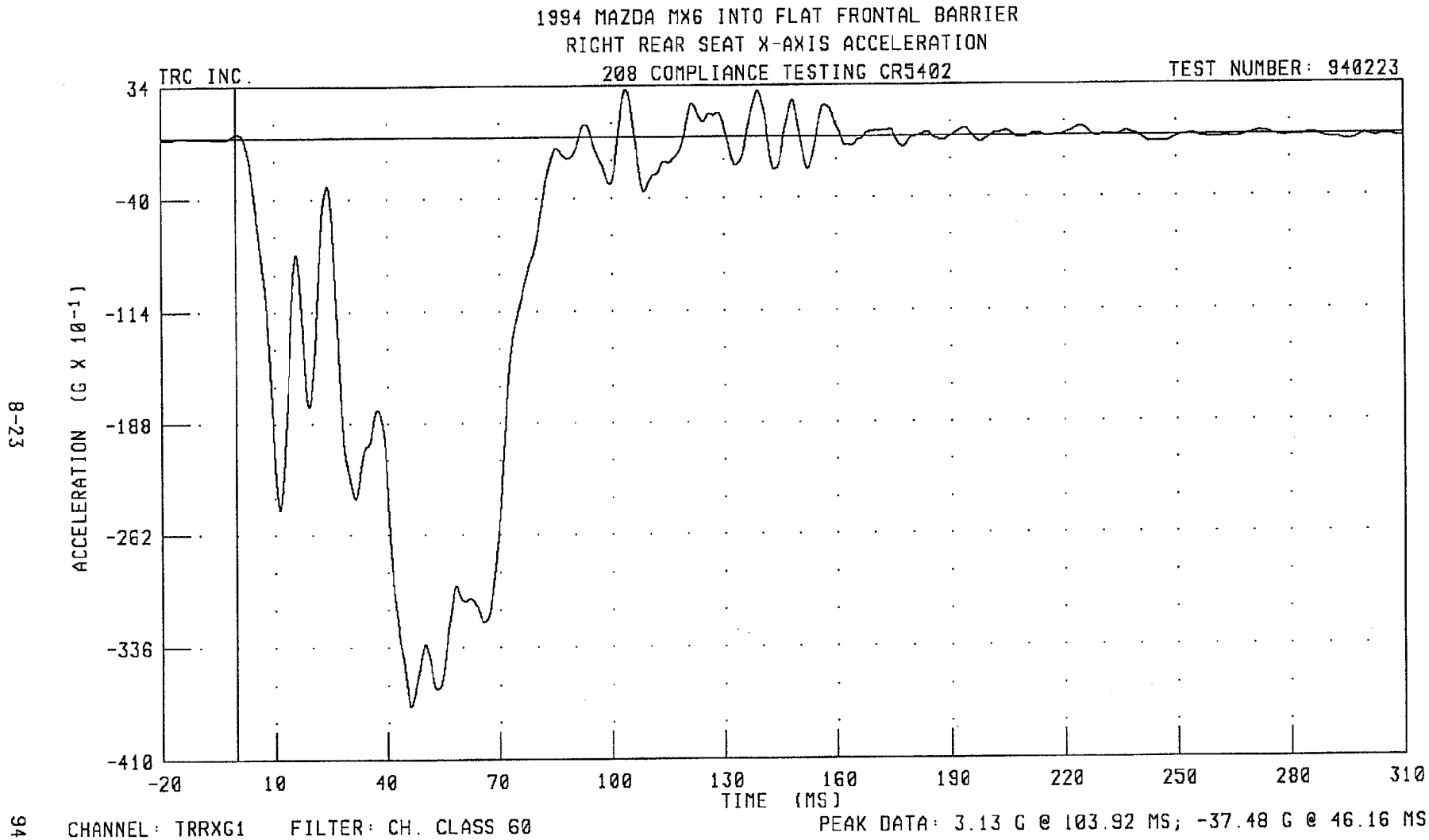
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER RIGHT FEMUR FORCE
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
4
-21
-47
-73
-99
-125
-151
FORCE (LBF X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: RFMF2
FILTER: CH. CLASS 600
PEAK DATA: 41.83 LBF @ 192.00 MS; -1421.04 LBF @ 62.48 MS

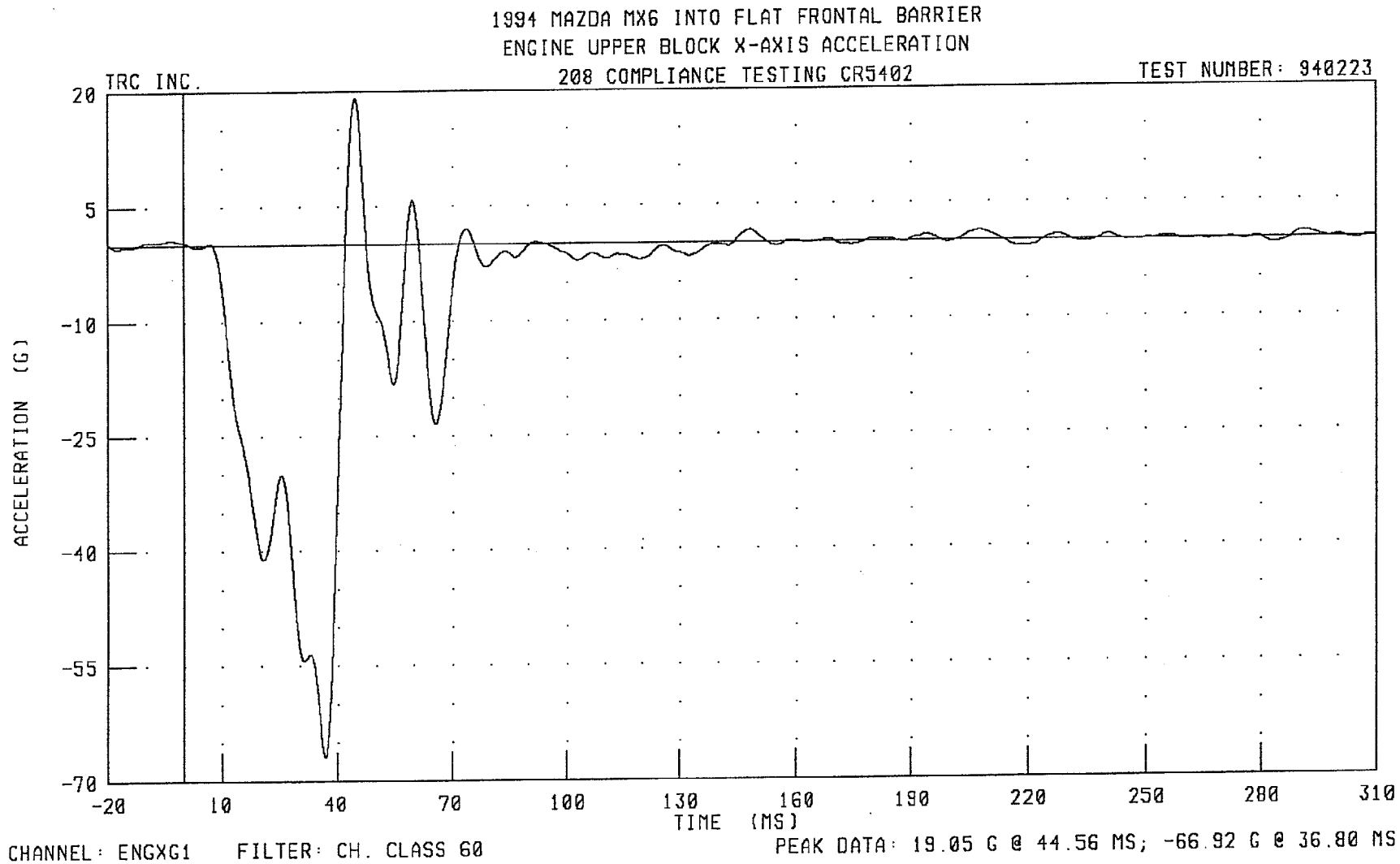
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
LEFT REAR SEAT X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
27
-47
-121
-195
-269
-343
-417
ACCELERATION (G X 10⁻¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: TLRXG1
FILTER: CH. CLASS 60
PEAK DATA: 2.54 G @ 138.56 MS; -37.88 G @ 45.36 MS

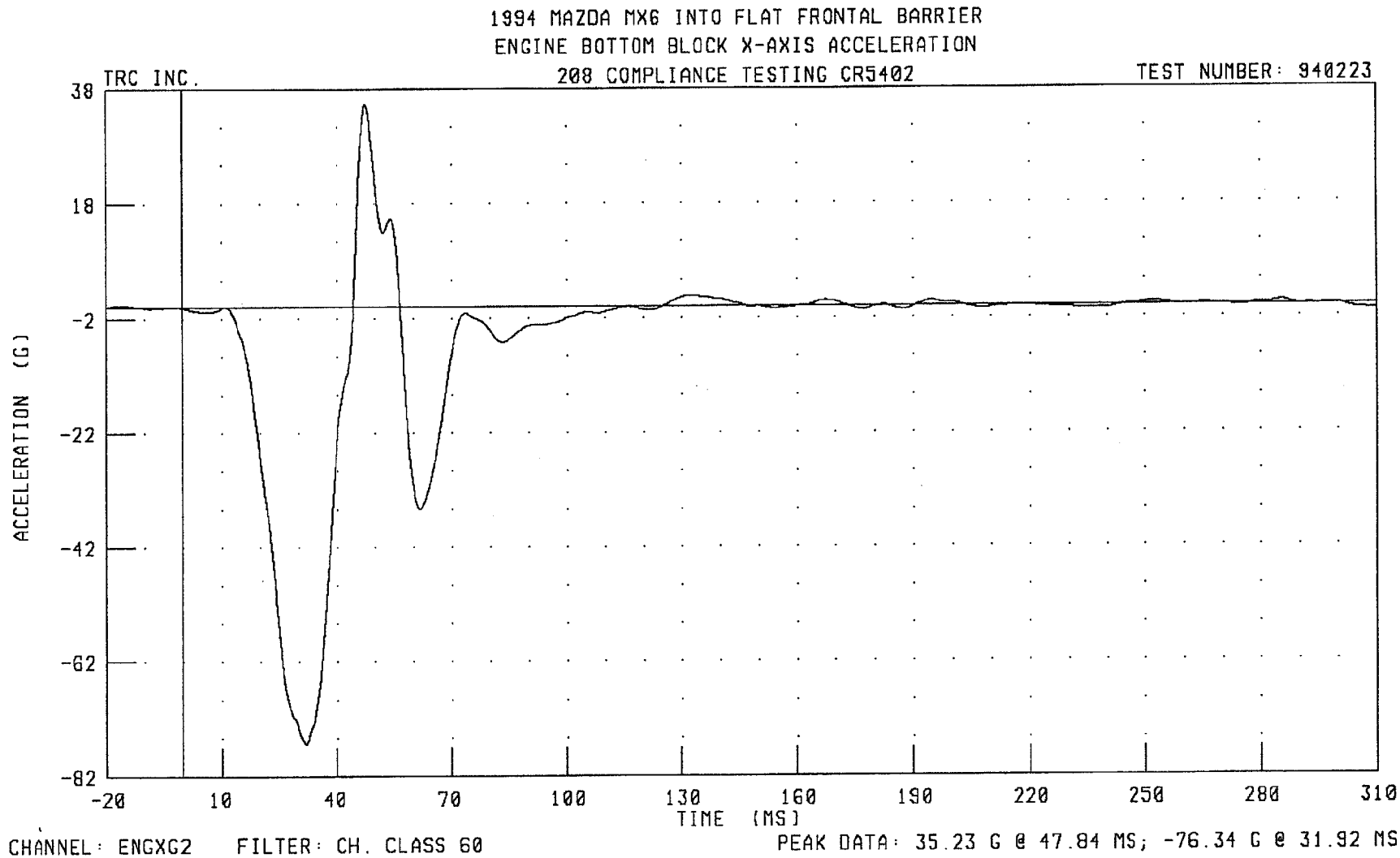
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT REAR SEAT X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
34
-40
-114
-188
-262
-336
-410
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: TRRXG1
FILTER: CH. CLASS 60
PEAK DATA: 3.13 G @ 103.92 MS; -37.48 G @ 46.16 MS

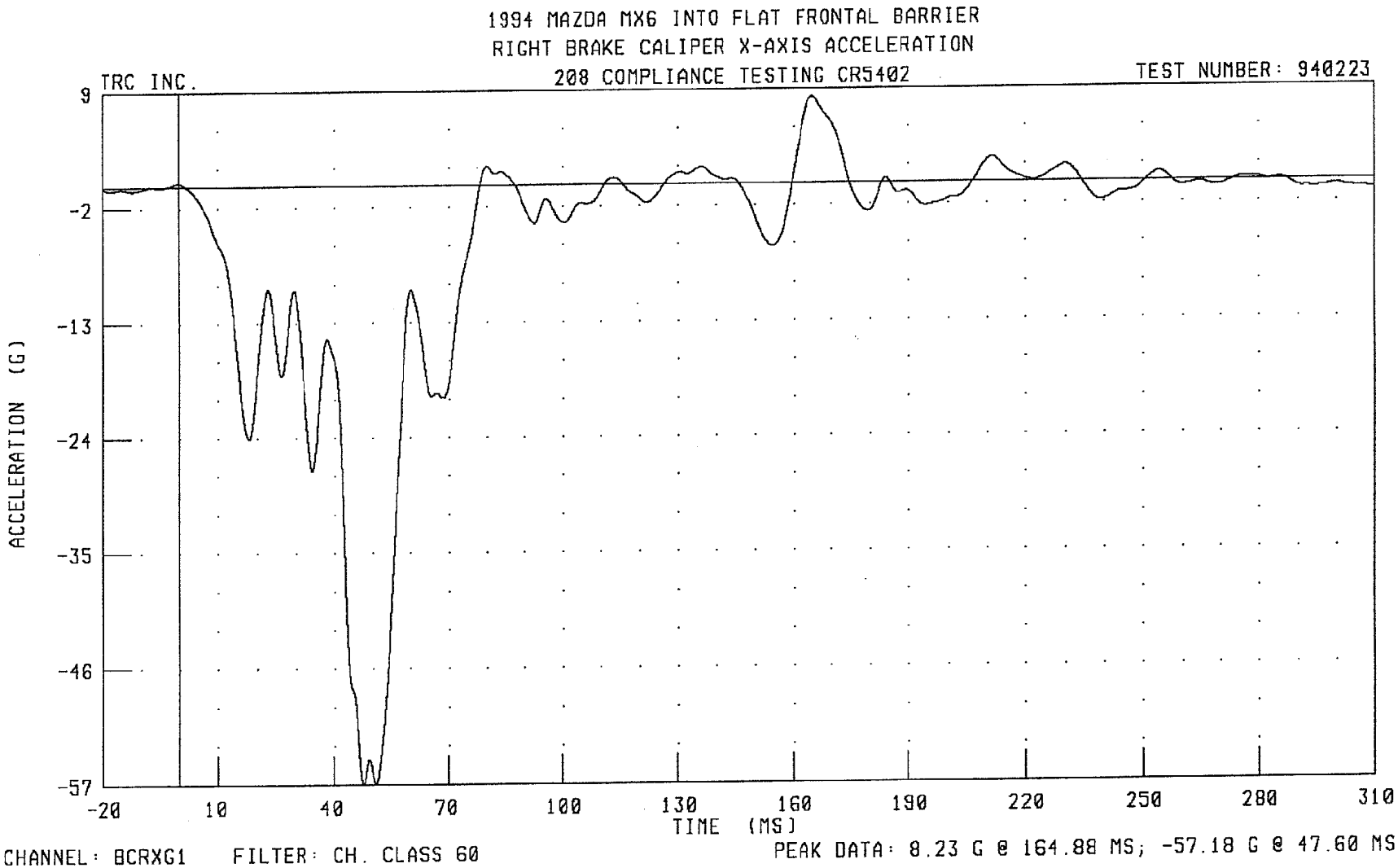
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
ENGINE UPPER BLOCK X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
20
5
-10
-25
-40
-55
-70
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: ENGXG1
FILTER: CH. CLASS 60
PEAK DATA: 19.05 G @ 44.56 MS; -66.92 G @ 36.80 MS

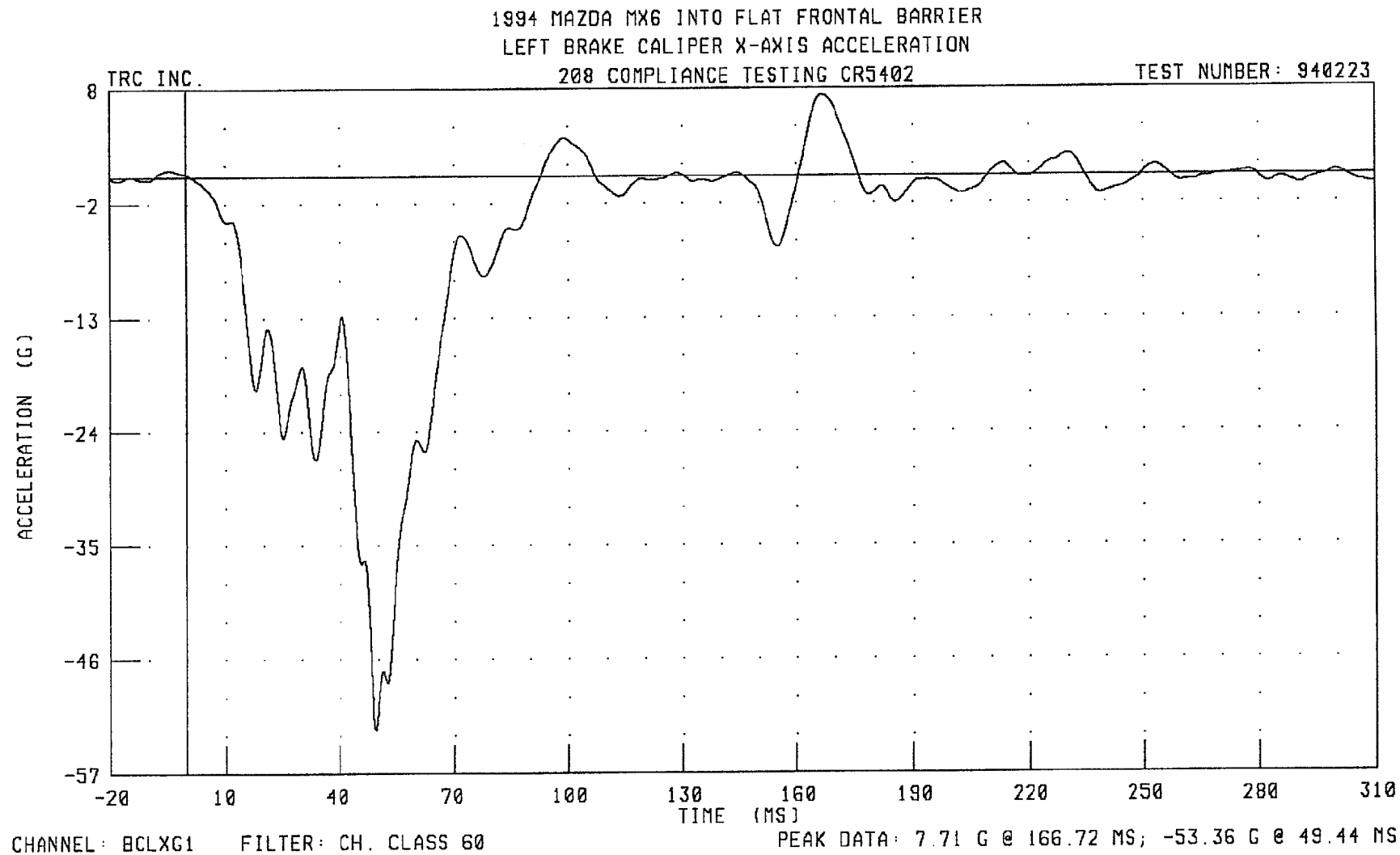
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
ENGINE BOTTOM BLOCK X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
38
18
-2
-22
-42
-62
-82
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: ENGXG2
FILTER: CH. CLASS 60
PEAK DATA: 35.23 G @ 47.84 MS; -76.34 G @ 31.92 MS

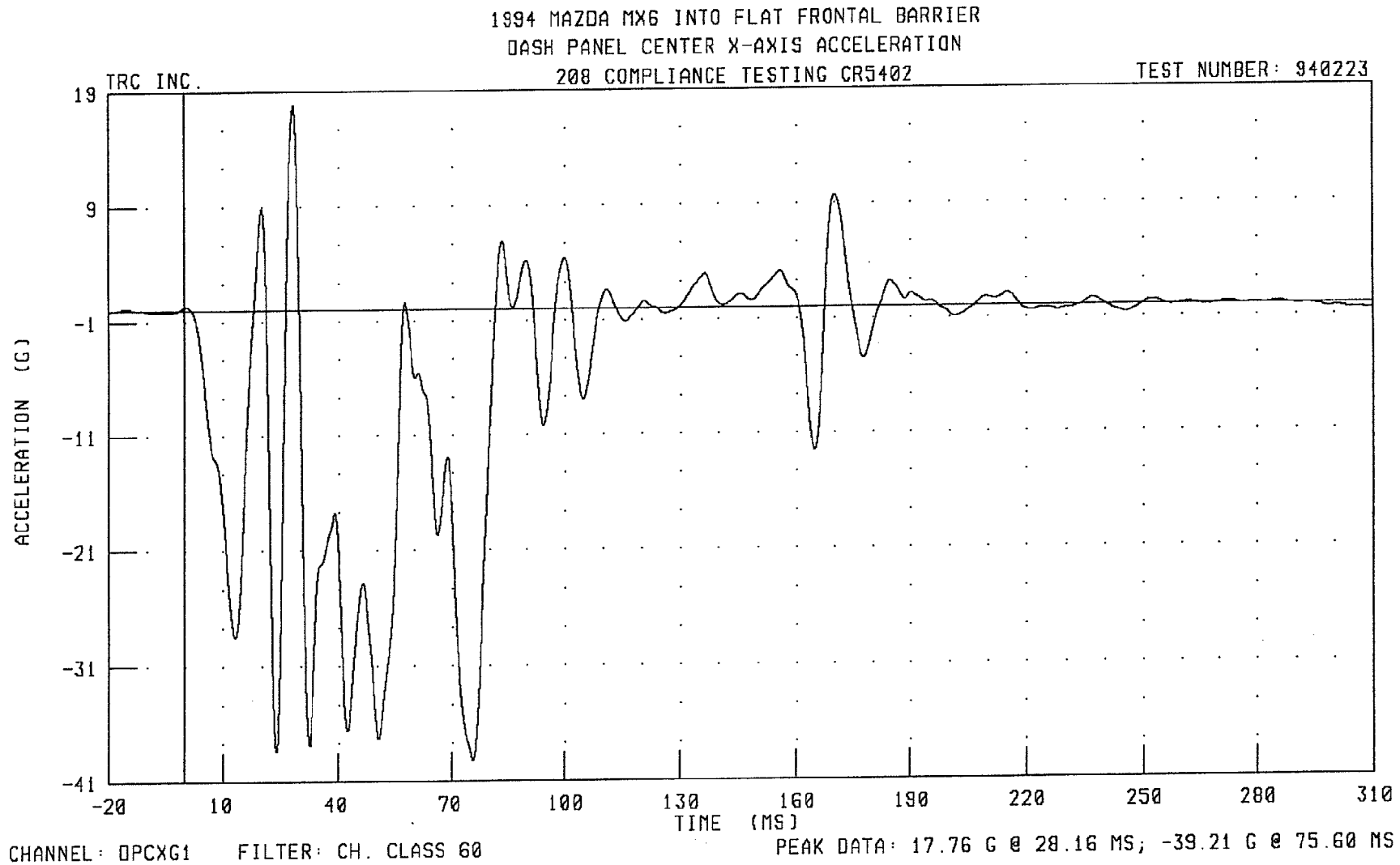
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
RIGHT BRAKE CALIPER X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
9
-2
-13
-24
-35
-46
-57
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: BCRXG1
FILTER: CH. CLASS 60
PEAK DATA: 8.23 G @ 164.88 MS; -57.18 G @ 47.60 MS

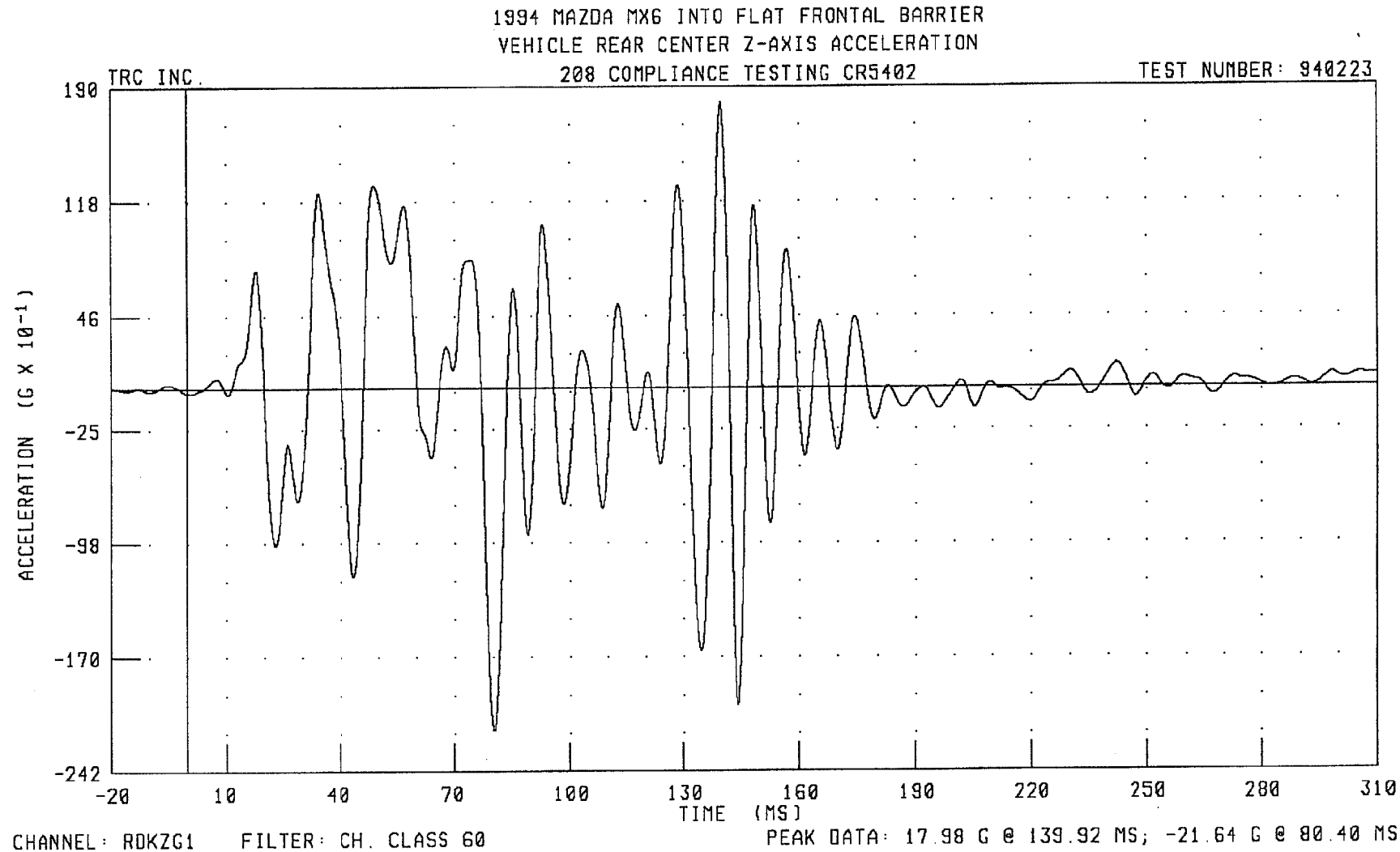
940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
LEFT BRAKE CALIPER X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
8
-2
-13
-24
-35
-46
-57
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: BCLXG1
FILTER: CH. CLASS 60
PEAK DATA: 7.71 G @ 166.72 MS; -53.36 G @ 49.44 MS

940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
DASH PANEL CENTER X-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
19
9
-1
-11
-21
-31
-41
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: DPCXG1
FILTER: CH. CLASS 60
PEAK DATA: 17.76 G @ 28.16 MS; -39.21 G @ 75.60 MS

940223


1994 MAZDA MX6 INTO FLAT FRONTAL BARRIER
VEHICLE REAR CENTER Z-AXIS ACCELERATION
208 COMPLIANCE TESTING CR5402
TRC INC.
TEST NUMBER: 940223
190
118
46
-25
-98
-170
-242
ACCELERATION (G X 10-1)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: RDKZG1
FILTER: CH. CLASS 60
PEAK DATA: 17.98 G @ 139.92 MS; -21.64 G @ 80.40 MS

940223

Appendix C

Manufacturer's Vehicle Information

1. *Please inform OVSC whether the air bag automatic restraint system provided at the driver's and passenger's seating positions in your vehicle is certified to meet the requirements of S4.1.2.1 (c)(1) or S4.1.2.1 (c)(2) for FMVSS No. 208.*

   The air bag automatic restraint system provided at the driver's and passenger's seating positions in 1994MY Mazda MX-6 is certified to meet the requirements of S4.1.2.1 (c)(2).

2. *If the automatic restraint system provided at the driver;s and passenger's seating positions in the subject vehicle was installed to meet the requirements of S4.1.2.1 (c)(1), please provide a copy of the certification test reports for each of the test configurations required by that section of the standard (i.e., moving barrier lateral impact and dynamic rollover) and a copy of the certification reports for the frontal/angular barrier impact test required by S4.1.2.1.*

   Not applicable.

3. *If a manual 3-point safety belt is provided with the driver's and passenger's automatic restraint system in order to meet the requirements of S4.1.2.1 (c)(2), please provide a copy of the certification test reports for each of the test configurations required by that section of the standard (i.e., frontal/angular barrier impact test of the automatic restraint system with the manual safety belt unfastened and frontal/angular barrier impact test of the automatic restraint system with the manual safety belt fastened).*

   Please see Attachment 01.

4. *If the manual safety belt provided at the driver's and passenger's seating positions was not installed to meet the requirements of S4.1.2.1 (c)(2), please provide a copy of a crash test report or engineering analysis showing that the use of the manual safety belt with the automatic restraint system does not affect the ability of the vehicle to meet the requirements of FMVSS No. 208.*

   Not applicable.

5. *If the vehicle uses a pressure vessel to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements of S9.1.*

   Not applicable.

6. *If the vehicle uses an explosive device to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements of S9.2.*

   Please see Attachment 02.

7. *State, for any automatic safety belt system in this vehicle, whether or not it is equipped with a tension-relieving device. Provide a copy of the information furnished in accordance with S7.4.2, if the tension-relieving device is used.*

   Any automatic safety belt system in this vehicle is not equipped with a tension-relieving device.

8. *FMVSS No. 208, S8.1.5 allows the manufacturer the option of having movable vehicle windows and vents placed in the closed position. State whether the vehicle's movable windows and vents were opened or closed for the certification tests.*

   Please see Attachment 01.

9. *FMVSS No. 208, S5.1 provides a manufacturer with the option of using either a Part 572(B) or Part 572(E) test dummy. Please inform OVSC which test dummy was used in each seat for each certification test. Submit dummy placement measurements, including diagrams or photographs which show exactly where measurements were taken. Enclosed is a diagram of some of OVSC's dummy measurements. Where possible, use the dimension shown in the diagram to provide the individual dummy placement measurements.*

   A Part 572 (B) test dummy (Hybrid II) was used for the certification test of this vehicle. Regarding the dummy placement measurements, please see Attachment 03.

   State whether the vehicle has a foot rest for the driver.

   * This vehicle has a foot rest for the driver.

   If the vehicle can be equipped with a split front bench seat, state whether the driver dummy was located so that the midsagittal plane was centered on the steering wheel rim or the center of the seat cushion. Also, state whether the passenger dummy was located so that the midsagittal plane was centered the same distance from the longitudinal centerline of the vehicle as the driver dummy or in the center of the seat cushion.

   Not applicable.

10. *Provide the seat positioning, steering column positioning, and fuel tank data on the enclosed form.*

    Please see Attachment 04.

11. *If the vehicle is equipped with adjustable seat belt anchorages, provide the manufacturer's nominal design position for a 50th percentile adult male occupant.*

    Not applicable.

12. *provide the speed at impact, vehicle test weight, and resulting injury criteria (i.e., HIC, chest acceleration, chest compression for the Part 572(E) dummy and femur loads) recorded for all certification tests conducted to meet the requirements of S4.1.2.1.*

Please see Attachment 01.

In addition, include each dummy's head and chest acceleration versus time plots and femur load versus time plots for the full frontal barrier impact tests. Mark these plots to indicate when the following and any other significant events occur:

12.1 Driver and passenger knee contact with the knee bolster
12.2 Collapse of the driver and passenger knee bolsters
12.3 Steering column stroke (when it starts and when it ends)
12.4 Driver: Contact of the head with the air bag, steering wheel, hub, windshield, header and any other contact points
Passenger: Contact of the head with the air bag, instrument panel, windshield, header and any other contact points
12.5 Contact of the driver's torso with the air bag, steering wheel and hub
12.6 Time during event when each air bag starts to deployed when it is fully deployed
12.7 Mark on the plots any unexpected events, like steering wheel fracture, windshield contact, windshield header contact, that affected the normal loading characteristics.

Please see Attachment 05.

13. *When vehicle components must be removed to obtain the proper test weight, what components do you recommend for removal and in what priority order do you recommend removal?*

Mazda doesn't have any recommendation in this regard.

14. *Please provide FMVSS No 204, "Steering Control Rearward Displacement" certification data. Include a copy of the test report and any engineering analysis forming the basis of the certification. The report should document the vehicle test weight, impact velocity, and the horizontal and vertical displacements of the steering control. Pre and post test photographs are also requested.*

Please see Attachment 06.

Discuss the test procedure detailing the vehicle preparation and the measurement technique used to determine the steering control rearward displacement.

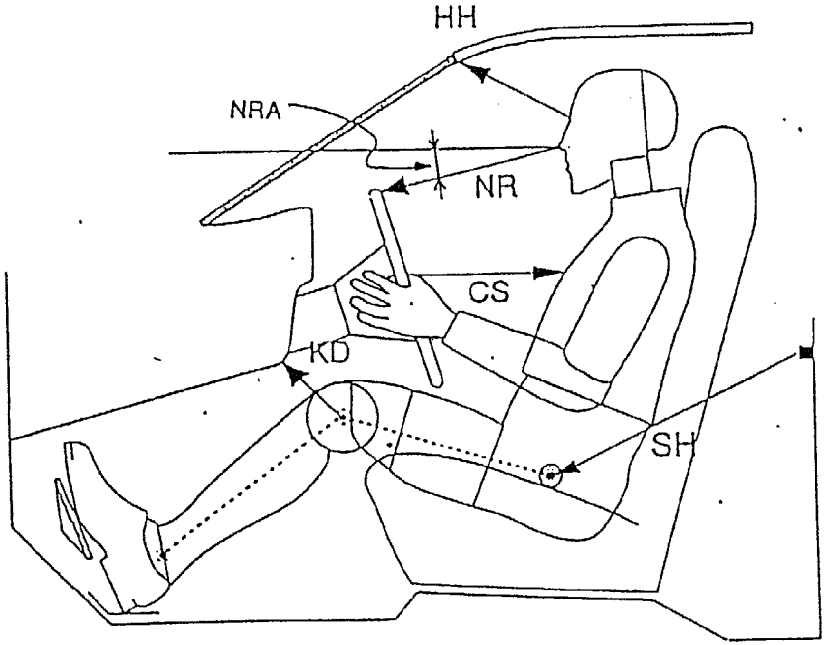
Mazda basically conducts the test according to the test procedure "TP-204" issued by DOT, except that steering displacement is determined by taking a picture by high speed camera and analyzing its film. In order to make film analysis easy, steering bar is attached to the top end of steering shaft (refer to Figure 1) and air bag module is removed throughout the test.

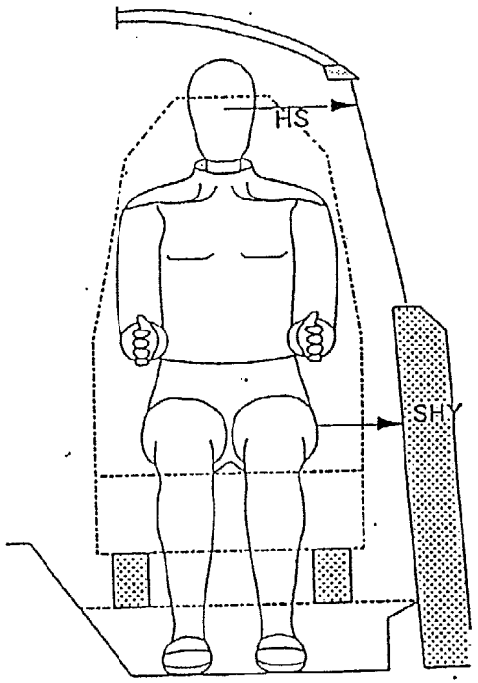
Provide a diagram of the steering control system and describe how the components of the steering control system work to provide energy management in a frontal impact.

Please see Attachment 07.

1994 MY MAZDA MX-6

DUMMY MEASUREMENTS FOR FRONT SEAT PASSENGERS





		Driver	Passenger
HH	: Head to Header	16.1 in.	16.1 in.
NR	: Nose to Rim	16.9 in.	
CS	: Steering Wheel to Chest	15.0 in.	
KD (L/R)	: Knee to Dash	5.5 / 4.5 in.	5.7 / 5.7 in.
SH	: Striker to H-Point	19.5 in.	20.6 in.
NRA		N/D	

	Driver	Passenger
SH : Striker to H-Point (Y Dir.)	9.1 in.	9.1 in.
HS : Head to Side Window	7.5 in.	7.5 in.

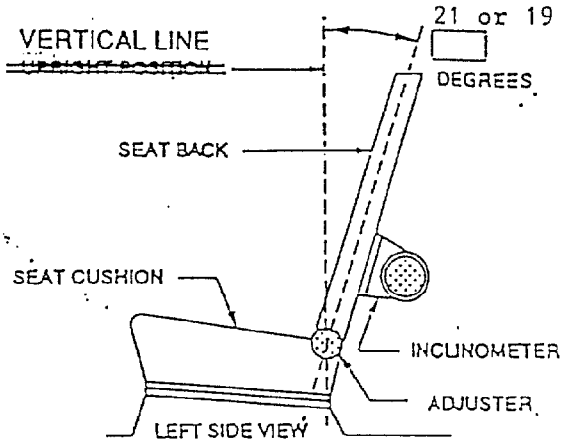
N/D : No data

940223

Attachment 03 (3/3)

Vehicle Model Year & Make : 1994 MY / Mazda Motor Corporation
Vehicle Model & Body Style : MX-6 / 2 Door coupe

1. NOMINAL DESIGN RIDING POSITION
For adjustable driver and passenger sat backs.
Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detents if applicable. Indicate, if applicable, how the detents are numbered (Is the first detent "0" or "1"?).



Seat back angle for driver's seat = *21(fabric), 19(leather)* degrees.
Measurement Instructions:
Seat back angle is measured along rear edge of outer seat back frame. Adjust the seat back to the 6th(fabric) or 5th(leather) latch from the first detent "0".

Seat back angle for passenger's seat = *21(fabric), 19(leather)* degrees.
Same as driver side.

2. SEAT FORE & AFT POSITIONS
Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, indicate how the detents are numbered (Is the first detent "0" or "1"?). Provide information to locate the detent in which the seat track is to be locked.

Positioning of the driver's seat:
Adjust the seat slider to the 12th latch position from the most forward position.
The first detent of the most forward position is "0".

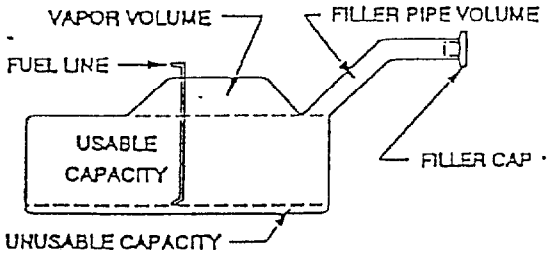
Positioning of the passenger's seat (if applicable):
Adjust the seat slider to the 10th latch position from the most forward position.
The first detent of the most forward position is "0".

3. FUEL TANK CAPACITY DATA

3.1 A. "Usable Capacity" of standard equipment fuel tank = *14.5* gallons.

B. "Usable Capacity" of optional equipment fuel tank = *N/A* gallons.

C. "Usable Capacity" of vehicle(s) used for certification testing to requirements of FMVSS 301 = *14.5* gallons.



VEHICLE FUEL TANK ASSEMBLY

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = *14.68* gallons.

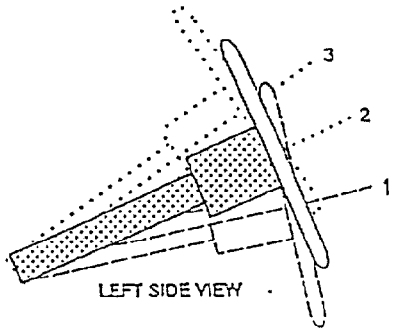
3.3 Is vehicle equipped with electric fuel pump? _X_ YES ___ NO
If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.
Activate the starter or the engine.

Vehicle Model Year & Make : 1994 MY / Mazda Motor Corporation
Vehicle Model & Body Style : MX-6 / 2 Door coupe

4. STEERING COLUMN ADJUSTMENTS

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions.
If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions:
There is no specific procedure.



STEERING COLUMN ASSEMBLY

MVSS208 S5.1; OCCUPANT CRASH PROTECTION REQUIREMENT:
Impact a vehicle traveling longitudinally forward at any speed, up to and including 30mph, into a fixed barrier. And the test dummy placed at each front outboard designated seating position shall meet the injury criteria.

TEST MODE

TARGET IMPACT SPEED	30 MPH
IMPACT DIRECTION	FRONTAL

VEHICLE INFORMATION

TEST VEHICLE NO.		AC 2573	
MODEL YEAR		1994 MY	
BODY TYPE		2 DOOR COUPE	
ENGINE TYPE		KLD	
TRANSMISSION TYPE		4AT	
TEST WEIGHT		3331 LB.	
SEATING CAPACITY		FRONT : 2	REAR : 2
EQUIPMENT	DRIVER SIDE AIR BAG	YES	
	PASSENGER SIDE AIR BAG	YES	
	POWER STEERING	YES	
	AIR CONDITIONING SYSTEM	YES	
	ABS	YES	

TEST CONDITION

	DRIVER SIDE	PASSENGER SIDE
DUMMY TYPE	HYBRID II	HYBRID II
RESTRAINT TYPE	AIR BAG ONLY	AIR BAG ONLY
SEAT BACK ANGLE	21 degrees	21 degrees
WINDOW POSITION	OPEN	CLOSE

TEST RESULT

	REQUIREMENT	DRIVER SIDE	PASSENGER SIDE	JUDGEMENT
HIC	≦1000	577	386	PASS
CHEST G	≦60(G)	47	37	PASS
CHEST DEFLECTION	≦3 inches			
FEMUR LOADS (L/R)	≦2250 lbs	1373/1225	1523/1373	PASS
DUMMY CONTAINMENT	Within vehicle	YES	YES	PASS

1994 MY MAZDA MX-6

MVSS208 S5.1; OCCUPANT CRASH PROTECTION REQUIREMENT:
Impact a vehicle traveling longitudinally forward at any speed, up to and including 30mph, into a fixed barrier. And the test dummy placed at each front outboard designated seating position shall meet the injury criteria.

TEST MODE

TARGET IMPACT SPEED	30 MPH
IMPACT DIRECTION	FRONTAL

VEHICLE INFORMATION

TEST VEHICLE NO.		AC 3124
MODEL YEAR		1994 MY
BODY TYPE		2 DOOR COUPE
ENGINE TYPE		FSD
TRANSMISSION TYPE		5MT
TEST WEIGHT		3022 LB.
SEATING CAPACITY		FRONT : 2 ⋮ REAR : 2
EQUIPMENT	DRIVER SIDE AIR BAG	YES
	PASSENGER SIDE AIR BAG	YES
	POWER STEERING	YES
	AIR CONDITIONING SYSTEM	YES
	ABS	NO

TEST CONDITION

	DRIVER SIDE	PASSENGER SIDE
DUMMY TYPE	HYBRID II	HYBRID II
RESTRAINT TYPE	AIR BAG ONLY	AIR BAG ONLY
SEAT BACK ANGLE	21 degrees	21 degrees
WINDOW POSITION	CLOSE	CLOSE

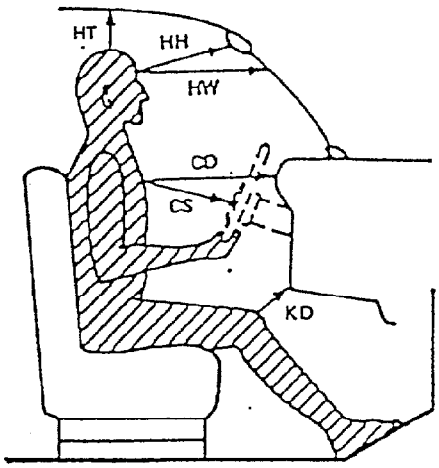
TEST RESULT

	REQUIREMENT	DRIVER SIDE	PASSENGER SIDE	JUDGEMENT
HIC	≦1000	345	190	PASS
CHEST G	≦60(G)	49	30	PASS
CHEST DEFLECTION	≦3 inches			
FEMUR LOADS (L/R)	≦2250 lbs	1411/1552	1331/1265	PASS
DUMMY CONTAINMENT	Within vehicle	YES	YES	PASS

Pre-Test

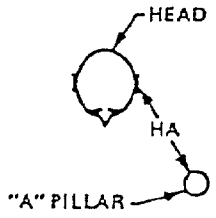
OCCUPANT CLEARANCE DIMENSIONS

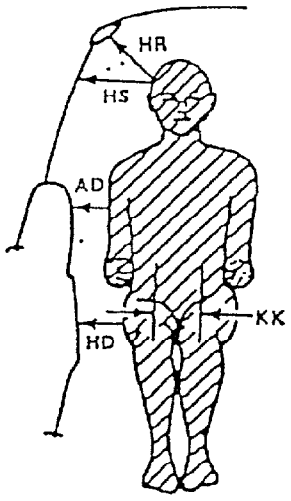
	DRIVER	PASSENGER
HH	15.7 in.	16.1 in.
HW	17.7 in.	21.0 in.
CD	22.7 in.	24.6 in.
CS	15.0 in.	
KDL	5.5 in.	5.7 in.
LDR	4.5 in.	5.7 in.
SA	21 degrees	21 degrees
TA	N/D	N/D
HT	2.1 in.	2.1 in.



HH : Head to Windshield Header
HW : Head to Windshield
CD : Chest to Dash
CS : Chest to Steering Wheel
KD (L/R) : Knee to Dash (Left/Right)
SA : Seat Back Angle
TA : Torso Angle

HA : Head Target to "A" Pillar
HR : Head to Side Roof
HS : Head to Side Window
AD : Arm to Door
HD : Hip to Door
KK : Knee to Knee (Center)
HT : Head Top to Roof



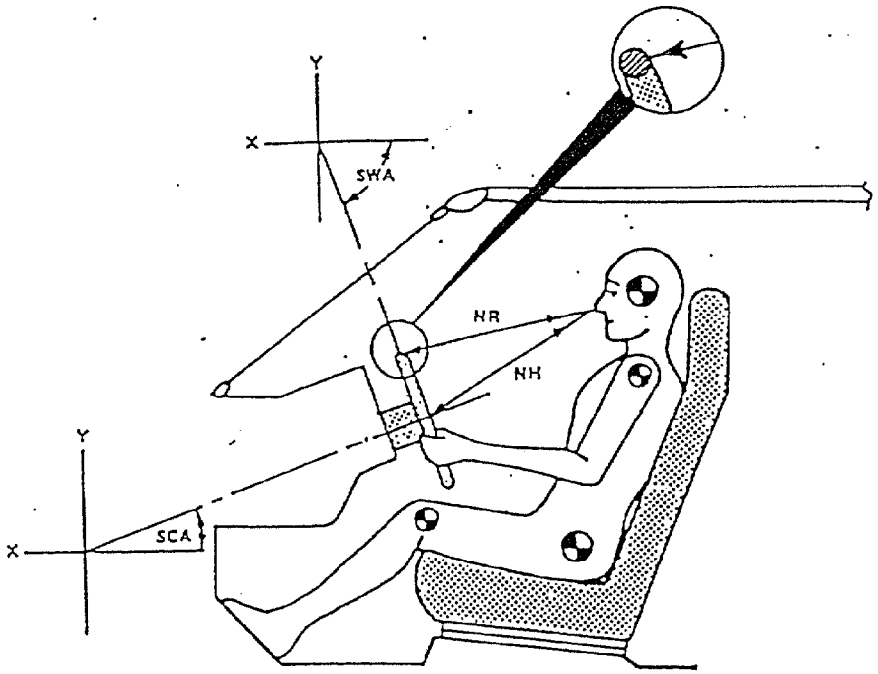


	DRIVER	PASSENGER
HR	5.5 in.	5.5 in.
HS	7.5 in.	7.5 in.
AD	4.3 in.	3.9 in.
HD	4.5 in.	5.5 in.
KK	11.4 in.	7.7 in.
HA	20.1 in.	15.6 in.

N/D : No data

Pre-Test

DRIVER DUMMY TO STEERING COLUMN / WHEEL ASSY. REFERENCE DIMENSIONS



LEFT SIDE VIEW

		MEASUREMENTS	
NR	Distance from tip of dummy's nose to Top Rear surface of steering wheel rim	16.9	Inches
NH	Distance from tip of dummy's nose to center of steering column hub	18.0	Inches
SCA	Angle of steering column relative to the holizontal X axis	N/D	Degrees
SWA	Angle of steering wheel relative to the horizontal X axis	N/D	Degrees