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V-4179

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212-TRC-02-001
219-TRC-02-001
301-TRC-02-001

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

Isuzu Motors Ltd.

2002 Isuzu Rodeo 4-door MPV

NHTSA Number: C25703

TRC Inc. Test Number: 020312

Transportation Research Center Inc.
10820 State Route 347
East Liberty, OH 43319

March 22, 2002

Final Report

Prepared For:

U. S. Department of Transportation
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance (Mail Code: NSA-30)
400 Seventh Street, S.W., Room 6115
Washington, DC 20590

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16 Abstract

Compliance tests were conducted on the subject vehicle, a 2002 Isuzu Rodeo 4-door MPV in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedure No TP-208-10 and OVSC instructions for the determination of FMVSS 208 compliance in the 25 mph unbelted test mode Test failures were identified as follows

None

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Purpose and Test Procedure

Purpose

This 25 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 Inc) under Contract No DTNH22-98-D-01055 The purpose of this test was to determine if the subject vehicle, a 2002 Isuzu Rodeo 4-door MPV, NHTSA No C25703, meets the performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention", 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-208-10 dated January 15, 1998 and instructions from OVSC for the 25 mph unbelted test mode Data was obtained relative to FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; 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 23 7 to 24 7 mph. The vehicle impacted a flat frontal barrier

The test vehicle contained two (2) Part 572 E 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 The dummies were not restrained by seat belts

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations; chest deflection potentiometers; left and right femur load cells to measure axial forces; and 6-axis upper neck load cells to measure forces and moments

The thirty-eight (38) data channels were 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 Appendix A contains the still photographic prints Appendix B contains the dummy and vehicle data plots Appendix C contains the manufacturer's vehicle information. Appendix D contains miscellaneous test information including transducer information.

Section 2.0

Frontal Barrier Impact Test Summary

Test Results Summary

This flat frontal barrier test was conducted by TRC Inc on March 12, 2002

The test vehicle, a 2002 Isuzu Rodeo 4-door MPV, NHTSA No C25703, was equipped with a 2 2 liter engine, 5-speed transmission power steering and power brakes The total test weight of the vehicle with dummies and cargo ballast weight was 4242 6 lbs The test vehicle was equipped with airbags at the driver and right front passenger's seating positions The vehicle's impact speed was 24 2 mph The vehicle's maximum static crush was 12 8 inches

The vehicle does appear to comply with the performance requirements of FMVSS 208, as measured by Hybrid III 50th percentile male dummies in the 25 mph frontal impact mode

	FMVSS 208 Max Allowable Injury Assessment Values	Driver	Passenger
HIC-15	700	289	86
Chest g	60 g	44 4	34 5
Chest Displacement	2 5 inches	1 5	0 9
Left Femur	2250 lbs	1452	1380
Right Femur	2250 lbs	1814	1203
Neck Tension	4170 N	557	545
Neck Compression	4000 N	705	1923
NTE	1 00	0 08	0 17
NTF	1 00	0 13	0 22
NCE	1 00	0 23	0 52
NCF	1 00	0 18	0 34

The subject vehicle, a 2002 Isuzu Rodeo, NHTSA No C25703, appears to meet the other FMVSS 208 requirements for which it was tested These results are shown in the data sheets that are included in this report

The subject vehicle does appear to comply with FMVSS 212, 219 (partial) and 301 in the flat frontal barrier impact mode 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

Data Acquisition Explanations

The passenger dummy's neck load cell data channels recorded a questionable data spike which was noticeable on three of the channels at approximately 1 millisecond. The affected channels are:

NEKYF2, passenger dummy's neck Y-axis force
NEKXM2, passenger dummy's neck moment about the X-axis
NEKZM2, passenger dummy's neck moment about the Z-axis

The vehicle's rear trunk centerline Z-axis accelerometer, TFCZG1, exceeded its full-scale value at approximately 19 milliseconds.

Table 1 Crash Test Summary

Vehicle NHTSA number:	C25703	
Test mode	Frontal barrier impact	
Test date:	03/12/02	
Test time·	1207	
Ambient temperature at impact area	71° F	
Vehicle year/make/ model/body style·	2002/Isuzu/Rodeo/4-door MPV	
Vehicle test weight·	4242 6 lbs	
Vehicle/barrier impact angle[1]·	0°	
Impact velocity[2]		
Primary	24 2 mph	
Secondary·	24 1 mph	
Maximum static crush·	12 8 in	
Average vehicle rebound·	17 3 in	
Dummies	Driver	Passenger
Dummy type·	Part 572 E	Part 572 E
Serial number·	339	230
Restraint·	Airbag, supplemental	Airbag, supplemental
Number of data channels·	15	15
Number of cameras		
Real-time	1	
High-speed·	14	
Door opening data·		
Left front·	Easy	
Right front	Easy	
Front seat data·	Driver	Passenger
Seat track failure	None	Moved 2 notches forward
Seat back failure·	None	None
Visible dummy contact points·	Driver	Passenger
Head:	Airbag, sun visor, head restraint, and header	Airbag, sun visor, and header
Chest:	Airbag	Airbag
Abdomen:	None	Airbag
Left knee·	Knee bolster	Knee bolster
Right knee·	Knee bolster	Knee bolster

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

Table 2 General Test and Vehicle Parameter Data

Vehicle year/make/ model/body style:	2002/Isuzu/Rodeo/4-door MPV
NHTSA number:	C25703
VIN:	4S2CK58D524305263
Color:	Alpine white
Engine data:	
Cylinders:	4
Displacement:	2 2 liters
Placement:	inline
Transmission data:	5 speed, X manual, automatic, X overdrive
Final drive:	fwd, X rwd, 4wd
Date vehicle received.	02/21/02
Odometer reading:	86
Dealer's name and address:	Moorman Isuzu 400 Shoup Mill Road Dayton, OH 45415

Accessories:

Power steering	Yes	Automatic transmission	No
Power brakes	Yes	Automatic speed control	No
Power seats	No	Tilting steering wheel	No
Power windows	No	Telescoping steering wheel	No
Air conditioning	Yes	Anti-skid brake	Yes
Rear window defroster	Yes	Power door locks	No
Other:	Center console, center armrest, child seat anchorage		

Certification data from vehicle's label:

Vehicle manufactured by:		Isuzu Motors LTD
Date of manufacture:		08/2001
VIN:		4S2CK58D524305263
GVWR:		4750 lbs.
GAWR:	Front:	2500 lbs.
	Rear:	2900 lbs.

Table 2 General Test and Vehicle Parameter Data, Cont'd

Size of tires on vehicle	P225/75R16
Tire capacity with max capacity vehicle load	
Front	29 psi
Rear	29 psi
Spare tire	P225/75R16

Tire & capacity data from vehicle's label

Recommended tire size	P225/75R16 psi
Recommended cold tire pressure	
Front	29 psi
Rear	29 psi
Designated Seating Capacity (from seat belt count, not on tire label)	
Front	2
2nd Row	3
Total	5
Vehicle Capacity Weight	N/A

Test vehicle attitudes

Delivered attitude	LF	33 1 in	RF	33 3 in	LR	34 0 in	RR	34 1 in
Fully loaded attitude	LF	32 8 in	RF	32 9 in	LR	32 2 in	RR	32 3 in
Pre-test attitude	LF	32 9 in	RF	32 9 in	LR	32 5 in	RR	32 6 in
Post-test attitude	LF	32 9 in	RF	32 4 in	LR	32 7 in	RR	32 7 in

Table 2 General Test and Vehicle Parameter Data, Cont'd

Weight of test vehicle as received (with maximum fluids)

Right front	905 0	lbs	Right rear	886 2 lbs
Left front	961 2	lbs	Left rear	869 7 lbs
Total front weight	1866 2	lbs	(51 5 % of total vehicle weight)	
Total rear weight	1755 9	lbs	(48 5 % of total vehicle weight)	
Total delivered weight	3622 1	lbs		

Calculation of test vehicle's target test weight

RCLW[1] = Rated Cargo and Luggage Weight

UDW = Unloaded Delivered Weight (3622 1 lbs)

DSC = Designated Seating Capacity (5)

RCLW[1] = GVWR - UDW - 150 (DSC) = 377 9 lbs > 300 lbs

Target test weight = UDW + RCLW[1] + (No of Hybrid III dummies x 167 lbs per dummy)

Target test weight = 3622 1 + 300[1] + 334 = 4256 1 lbs

Weight of test vehicle with required dummies and 286 5 lbs of cargo weight

Right front	1022 9	lbs	Right rear	1086 9 lbs
Left front	1019 0	lbs	Left rear	1113 8 lbs
Total front weight	2041 9	lbs	(48 1 % of total vehicle weight)	
Total rear weight	2200 7	lbs	(51 9 % of total vehicle weight)	
Total test weight	4242 6	lbs	(0 3 % under target test weight)	

Weight of ballast secured in vehicle cargo area 285 3 lbs

Components removed to meet target test weight Driver side rear view mirror

Vehicle Wheelbase 106 4 in

CG rearward of front wheel centerline 55 2 in

[1] RCLW is set at a maximum of 300 lbs for target test weight determination

Table 3 Post-Impact Data

Test type·	Frontal barrier impact
Impact angle·	0°
Test date·	03/12/02
Test time·	1207
Ambient temperature at impact area	71° F
Temperature in occupant compartment	70° F
NHTSA number	C25703
VIN	4S2CK58D524305263
Required impact velocity·	23 7 mph to 24 7 mph
Barrier impact velocity·	
Primary	24 2 mph
Secondary·	24 1 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·

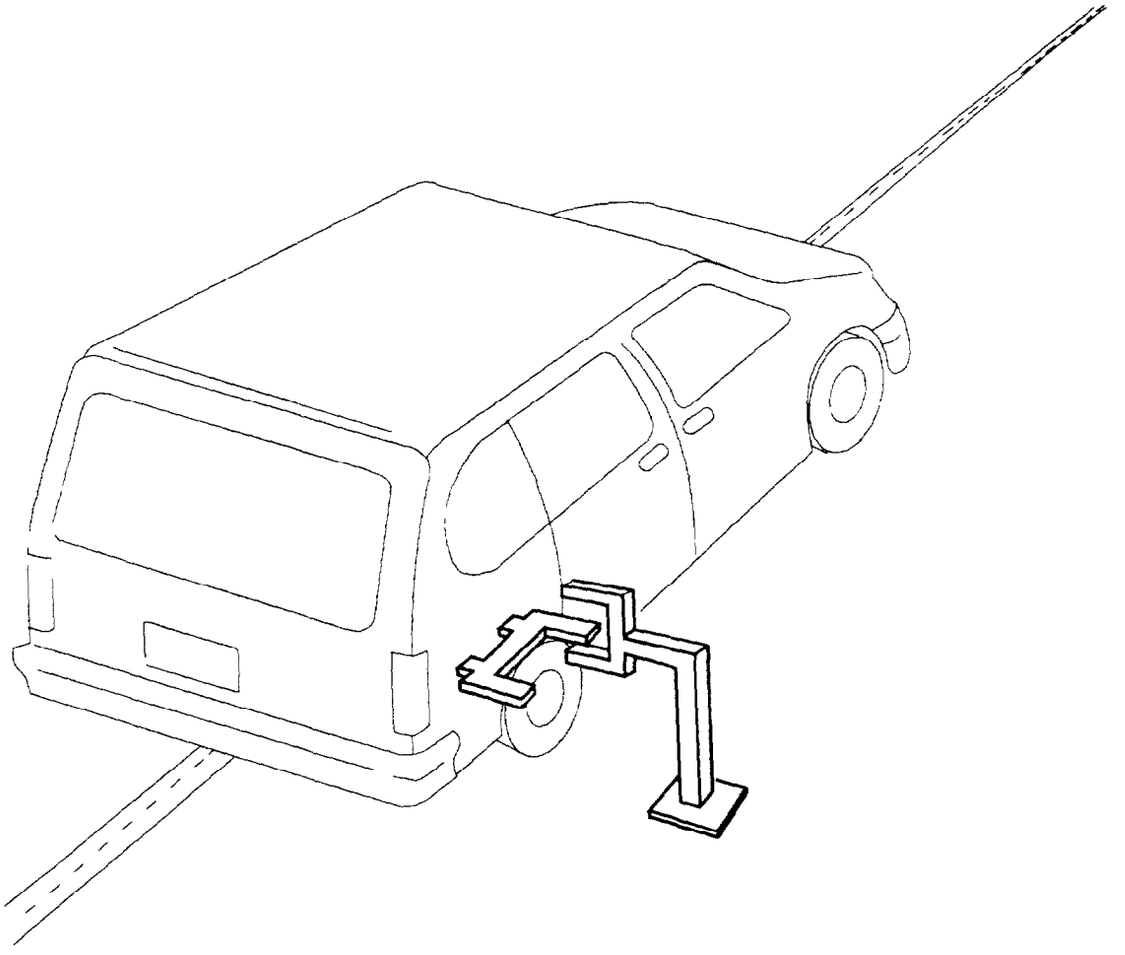
Pre-test:	L	192.9 in.	C:	198.4 in	R	193 3 in
Post-test	L.	183 3 in	C·	185 6 in	R:	183 3 in
Total crush	L·	9 6 in	C·	12 8 in	R:	10 0 in
Average crush·	10 8 in					

Test vehicle rebound from flat barrier:

Distance from test vehicle to barrier·

Post-test	L·	17 7 in	C	16 1 in.	R.	18 0 in
Average rebound	17 3 in					

Figure 1 Impact Velocity Measurement System

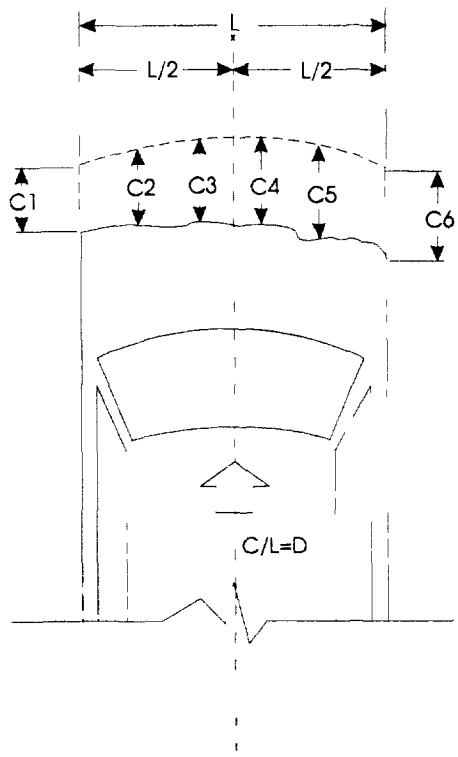


The final vane clears the final emitter/receiver pair two inches before impact

The vanes have a one-foot spacing

Figure 2 Accident Investigation Division Data

Vehicle year/make/ model/body style·	2002/Isuzu Motors Ltd /Rodeo/4-door MPV
Vehicle NHTSA number·	C25703
VIN·	4S2CK58D524305263
Wheelbase·	106 4 in
Build date	08/2001
Test date·	03/12/02
Vehicle size category·	N/A
Test weight·	4242 6 lbs.
Front overhang	30 7 in
Maximum width·	67 3 in
Impact speed·	24 2 mph
Collision Deformation Classification (CDC) code·	12FDEW1



Crush depth measurements·

C1·	9 6 in
C2	11 2 in
C3	12 6 in
C4·	12 8 in
C5·	11 2 in
C6	10 0 in

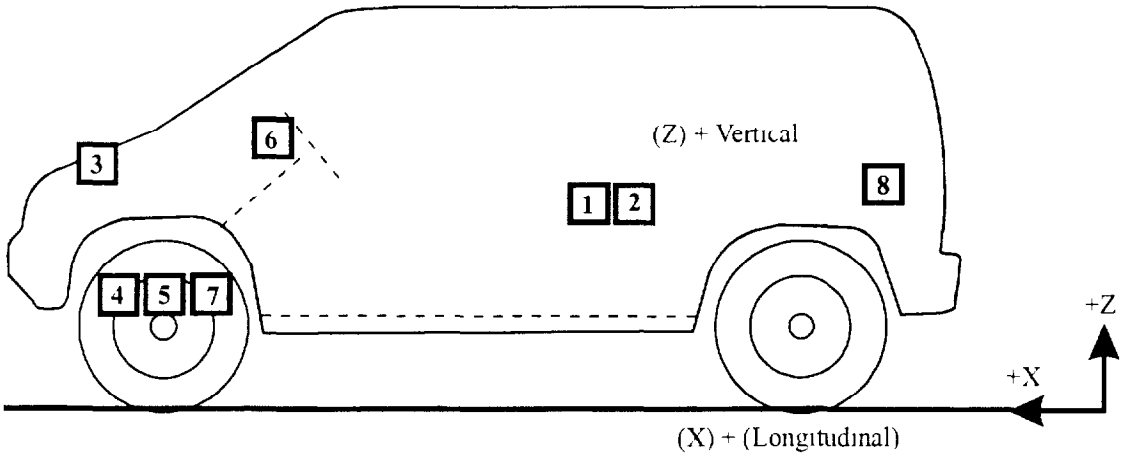
Midpoint of damage·

D·	0 in (Vehicle Longitudinal Centerline)

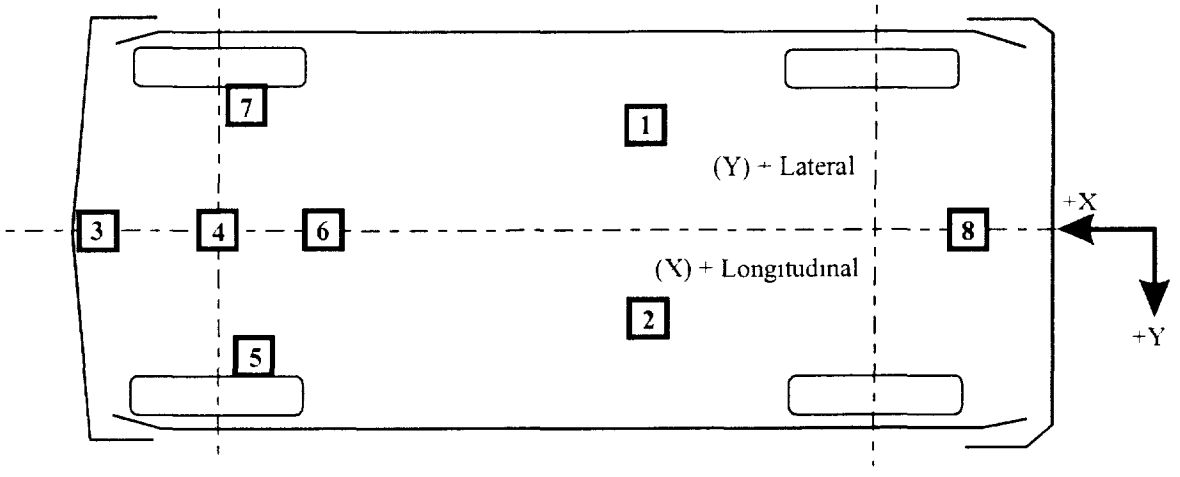
Length of damaged region

L	67 3 in

Figure 3 Vehicle Accelerometer Placement



Side View



Bottom View

Table 4 Vehicle Accelerometer Locations and Data Summary

TEST NUMBER: 020312 No. LOCATION		X	Y	POSITIVE[1] DIRECTION		NEGATIVE[1] DIRECTION	
1 LEFT REAR SEAT CROSSMEMBER	PRE	67.7 in	-19.7 in				
	POST	67.9 in	-19.7 in				
LONGITUDINAL				2.0 g	@ 164.4 ms	49.4 g	@ 19.4 ms
2 RIGHT REAR SEAT CROSSMEMBER	PRE	67.7 in	19.7 in				
	POST	67.9 in	19.7 in				
LONGITUDINAL				2.1 g	@ 164.6 ms	46.7 g	@ 19.4 ms
3 ENGINE TOP	PRE	147.2 in	2.5 in				
	POST	144.1 in	2.5 in				
LONGITUDINAL				12.2 g	@ 103.5 ms	74.3 g	@ 35.9 ms
4 ENGINE BOTTOM	PRE	139.8 in	0.8 in				
	POST	140.6 in	0.8 in				
LONGITUDINAL				10.4 g	@ 69.1 ms	51.6 g	@ 40.5 ms
5 RIGHT FRONT BRAKE CALIPER	PRE	140.7 in	24.8 in				
	POST	139.4 in	24.8 in				
LONGITUDINAL				46.8 g	@ 37.2 ms	137.2 g	@ 18.8 ms

Table 4 Vehicle Accelerometer Locations and Data Summary, Cont'd

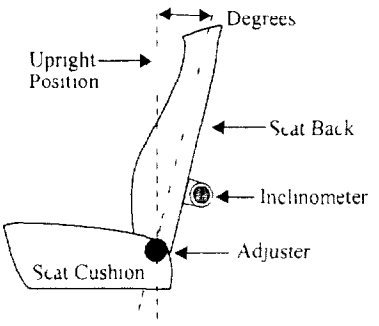
TEST NUMBER: 020312 No. LOCATION		X	Y	POSITIVE[1] DIRECTION			NEGATIVE[1] DIRECTION		
6 INSTRUMENT PANEL	PRE	117.9 in	0.0 in						
CENTER	POST	119.7 in	0.0 in						
LONGITUDINAL				12.4 g	@	86.6 ms	55.5 g	@	29.9 ms
7 LEFT FRONT BRAKE	PRE	140.7 in	-24.8 in						
CALIPER	POST	139.1 in	-24.8 in						
LONGITUDINAL				52.1 g	@	48.2 ms	128.9 g	@	18.3 ms
8 REAR TRUNK CENTERLINE	PRE	14.1 in	0.0 in						
	POST	13.3 in	0.0 in						
VERTICAL[2]				21.7 g	@	18.6 ms	35.6 g	@	22.9 ms

LOCATION REFERENCE: X: + FORWARD FROM VEHICLE REAR BUMPER
Y: + RIGHTWARD FROM VEHICLE CENTERLINE

[1] Sign convention per SAEJ211 March 1995.
[2] See Data Acquisition Explanations.

Table 5 Seat and Steering Column Positioning Data

Vehicle 2002/Isuzu/Rodeo/4-door MPV NHTSA No C25703



Front Seat Assembly
Left Side View

Nominal Design Riding Position

Driver Seat — Seat Back Angle = 8 6° Manual

The seat back was adjusted to the 5th latch position rearward with the upright position counted as the 1st latch position per manufacturer's instructions This resulted in a back angle of 8 6° when measured by an inclinometer on the seatback frame with fabric cut away

Passenger Seat — Seat Back Angle = 8 4° Manual

The seat back was adjusted to the 5th latch position rearward with the upright position counted as the 1st latch position per manufacturer's instructions This resulted in a back angle of 8 4° when measured by an inclinometer on the seatback frame with fabric cut away

Seat Fore and Aft Positions

Driver Seat — Mid position

The seat was set in the 11th locking notch (center) of 21 locking positions

Passenger — Mid position

The seat was set in the 11th locking notch (center) of 21 locking positions

Steering Column Adjustments

The steering column was non-adjustable

Section 3.0

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

Figure 4 Dummy Measurement Locations for Front Seat Occupants

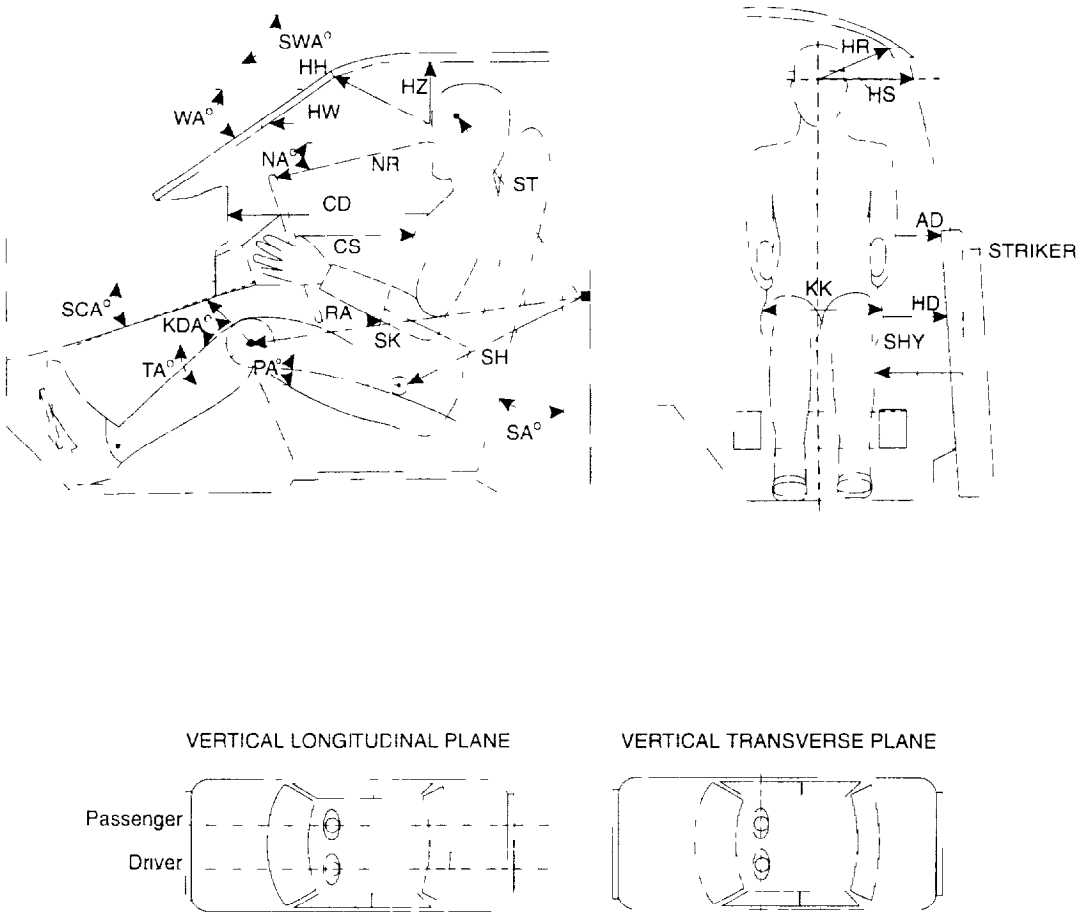


Table 6 Dummy Measurement Data for Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #339)	Passenger (Serial #230)
WA	Windshield angle	35 5°	NA
SWA	Steering wheel angle	63 6°	NA
SCA	Steering column angle	26 4°	NA
SA	Seat back angle	8 6°	8 4°
HZ	Head to roof	7 0 in	6 8 in
HH	Head to header	14 0 in	14 3 in
HW	Head to windshield	20 1 in	19 3 in
HR	Head to side header	9 3 in	9 5 in
NR	Nose to rim	15 8 in	NA
NA	Nose to rim angle	15 9°	NA
CD	Chest to dash	20 3 in	22 0 in
CS	Steering wheel to chest	13 2 in	NA
RA	Rim to abdomen	7 2 in	NA
KDL	Left knee to dash	6 4 in	5 6 in
KDR	Right knee to dash	6 4 in	5 7 in
KDA	Outboard knee to dash angle	67 9°	74 2°
PA	Pelvis angle	24 3°	23 4°
TA	Tibia angle	40 4°	48 4°
KK	Knee to knee	12 6 in	10 6 in
ST1	Striker to head	23 3 in	23 4 in
	Striker to head angle[1]	-71 6°	-71 2°
SK[1]	Striker to knee	26 0 in	27 0 in
	Striker to knee angle[1]	-1.1°	-2 2°
SH[1]	Striker to H-point	11 0 in.	11 1 in
	Striker to H-point angle[1]	21 0°	25 7°
SHY	Striker to H-point (Y dir)	7 8 in	9 1 in
HS	Head to side window	10 4 in	9 8 in
HD	H-point to door	5 2 in	4 8 in
AD	Arm to door	4 6 in	4 4 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

Descriptions of Dummy Measurements

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed

The following measurements are to be made within a vertical longitudinal plane.

* HH Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header

* HW Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield Use a level

HZ Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it Use a level

* CS Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest Use a level

* CD Chest to Dash, place a tape measure on the tip of the dummy's chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy's chest Then measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement See diagram

RA Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy Use a level

NR Nose to Rim, taken from the tip of the dummy's nose to the closest point on the top of the steering wheel rim Also indicate the angle this line makes with respect to the horizontal (NA)

Measurement used in Data Tape Reference Guide

*[1] KDL,
KDR Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA) See diagram

SH,
SK,
ST Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of the H-point, outer knee bolt, and head target When taking this measurement a firm device that can be rigidly connected to the striker should be used Use a level The angles of these measurements with respect to the horizontal should also be recorded The measurement in the Y (transverse) direction from the striker to the H-point should also be taken (SHY) See diagram

The following measurements are to be made within a vertical transverse plane.

HS Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window In order to make this measurement, roll the window down to the exact height which allows a level measurement Use a level See diagram

* AD Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door In the case of a Hybrid III dummy, measure from the bolt on the outer biceps When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso

* HD H-point to Door, taken from the H-point on the dummy to the closest point on the door Use a level

* HR Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy

* Measurement used in Data Tape Reference Guide
[1] Only outboard measurement is referenced in Data Tape Reference Guide

SHY Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point Use a level See diagram

KK Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces (This measurement may not be exactly transverse)

Angles

SA Seat Back Angle, find this angle using the instructions provided by the manufacturer If the manufacturer doesn't provide clear instructions contact the COTR

PA Pelvis or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid II dummy with respect to the horizontal, to find the femur angle

SWA Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane Then measure the acute angle of the straight edge with respect to the horizontal

SCA Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column

NA Measure the angle made when taking the measurement NR with respect to the horizontal

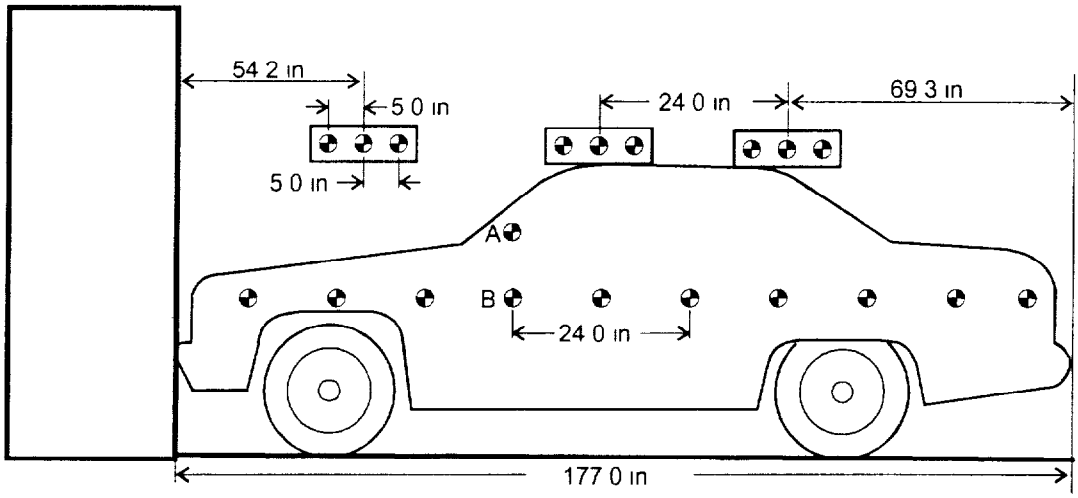
KDA Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal Only get this angle for the outboard knee See diagram

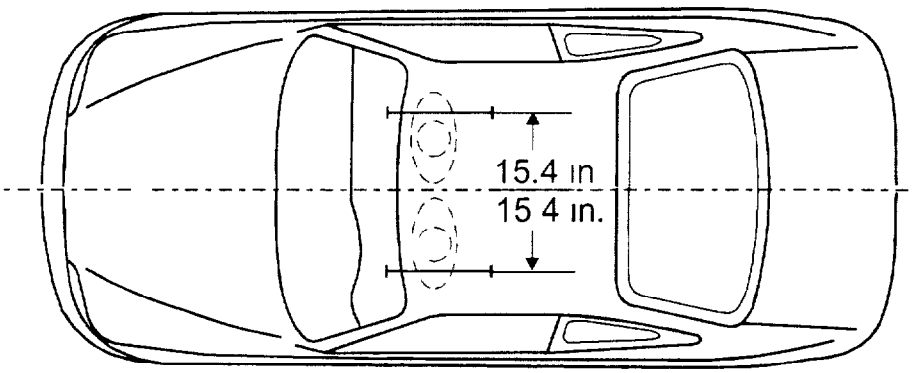
WA Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal)

TA Tibia Angle, use a straight edge to connect the dummy's knee and ankle bolts Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal

* Measurement used in Data Tape Reference Guide

Figure 5 Vehicle Target Locations





Lateral distance from steering column target (A) to target line on door (B) = 18 8 in.

Figure 6 Camera Positions

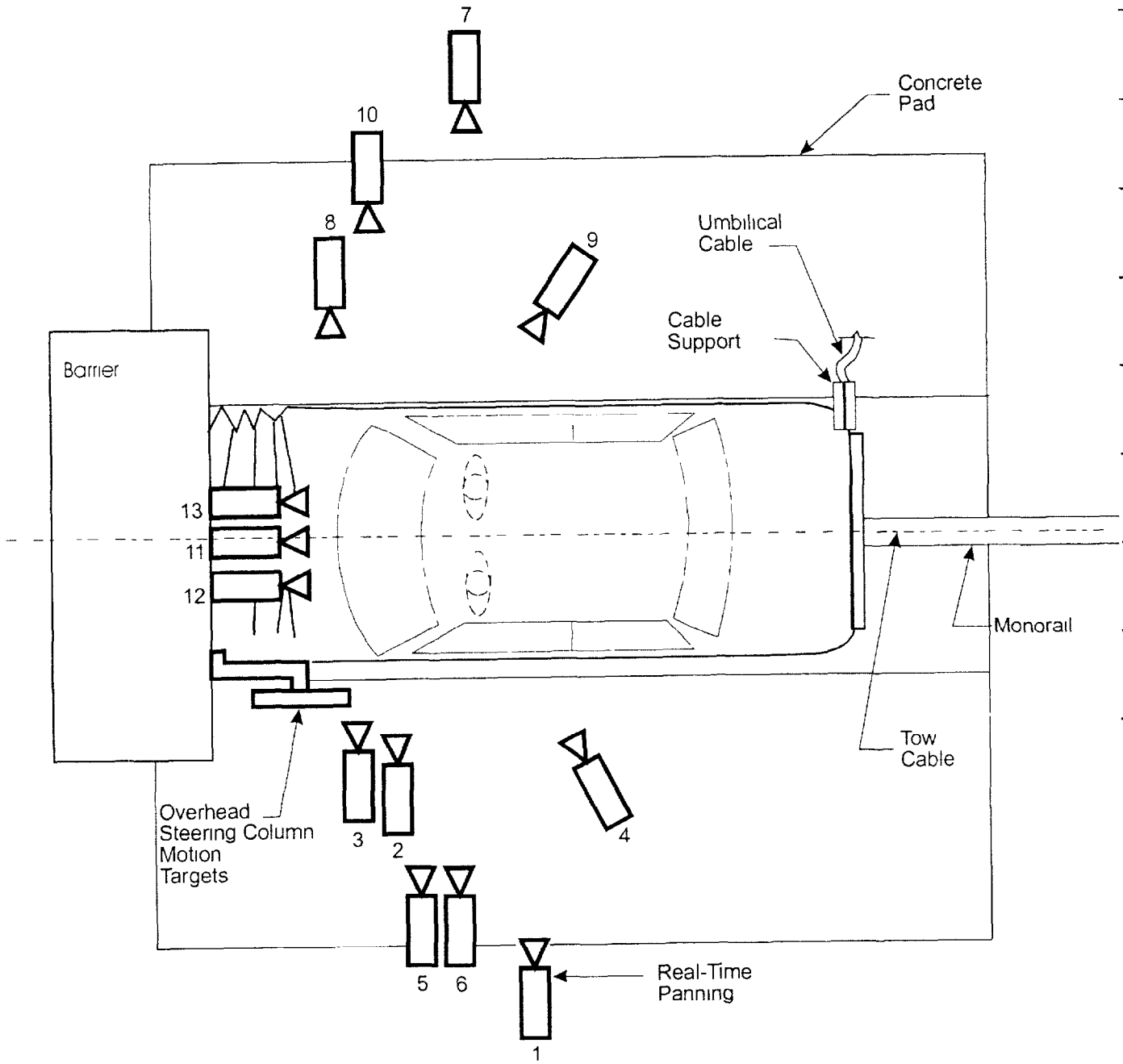


Figure 6 Camera Positions, Cont'd

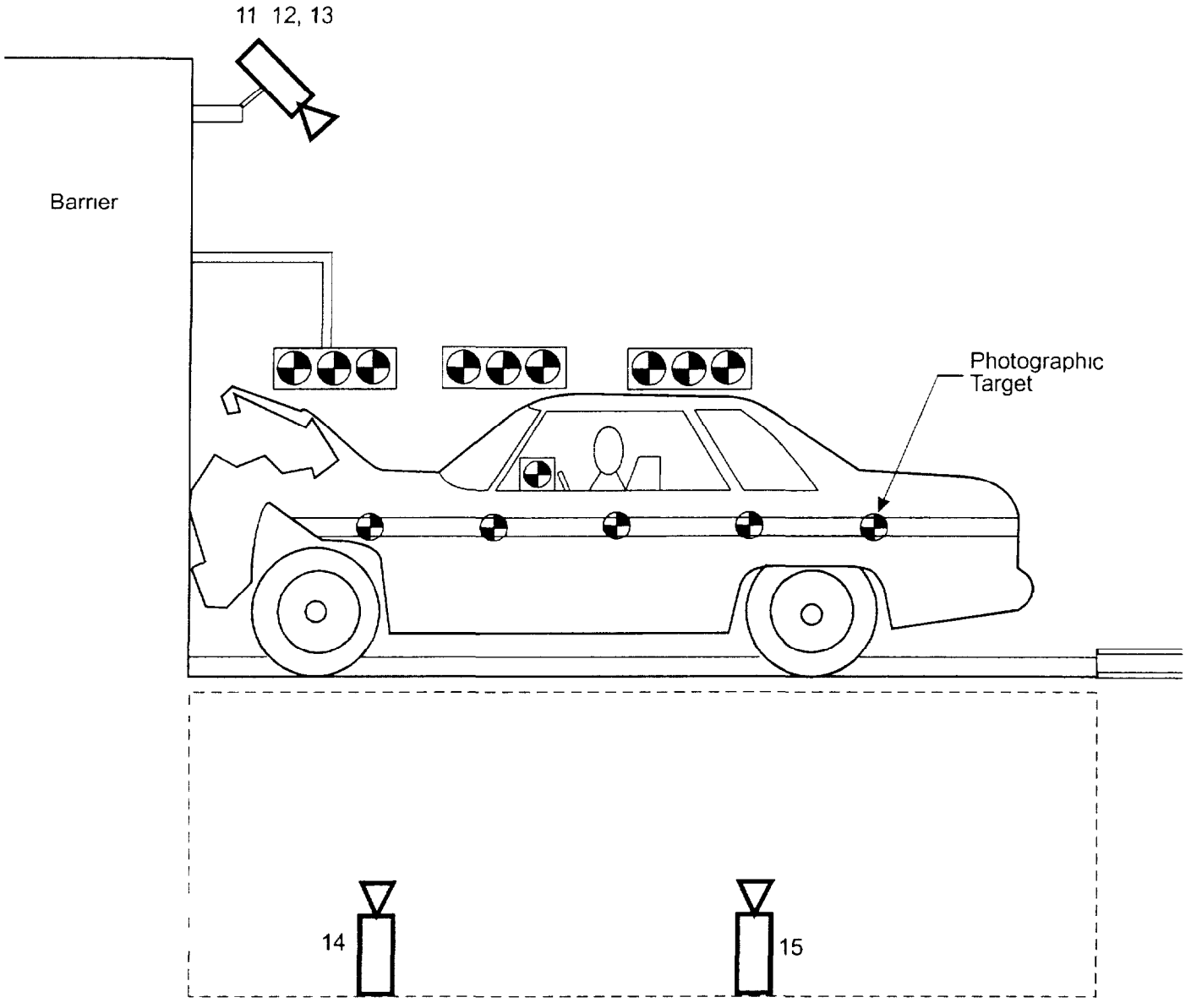


Table 7 Motion Picture Camera Locations

Vehicle year/make/model/body style 2002/Isuzu Motors Ltd /Rodeo/4-door MPV

Test number 020312

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				N/A	N/A	16 mm	24 frames/s
2	Left vehicle crush	55 in	280 in	60 in	-5°	270 in	25 mm	997 frames/s
3	Left windshield intrusion	48 in	252 in	49 in	0°	240 in	25 mm	1010 frames/s
4	Driver over shoulder	180 in	100 in	87 in	-15°	156 in	25 mm	1005 frames/s
5	Steering column motion-upper	78 in	348 in	98 in	N/A	243 in	25 mm	997 frames/s
6	Steering column motion-lower	78 in	348 in	65 in	-3°	243 in	25 mm	997 frames/s
7	Right overall	85 in	300 in	45 in	-4°	293 in	13 mm	1015 frames/s
8	Right windshield intrusion	43 in	196 in	51 in	0°	181 in	25 mm	815 frames/s
9	Passenger over shoulder	189 in	132 in	84 in	-12°	171 in	25 mm	1015 frames/s
10	Passenger kinematics	57 in	264 in	62 in	-6°	259 in	25 mm	985 frames/s
11	Windshield front view	192 in	0 in	102 in	-60°	52 in	8 5 mm	1015 frames/s
12	Driver - front view	192 in	168 in	102 in	-54°	52 in	17 mm	1010 frames/s
13	Passenger - front view	192 in	168 in	102 in	-65°	52 in	17 mm	1005 frames/s
14	Pit - front view of crush	24 in	0 in	N/A	90°	N/A	17 mm	1005 frames/s
15	Pit - rear view of tank	78 in	0 in	N/A	90°	N/A	13 mm	1002 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

Table 8 FMVSS 208 Occupant Injury Data

Vehicle 2002/Isuzu/Rodeo/4-door MPV NHTSA No C25703 Date 03/12/02

Maximum Acceleration Values (g's) [1]	Driver Dummy #339	Passenger Dummy #230
Head Channel X	-63 2	48 3
Head Channel Y	-4 5	-7 5
Head Channel Z	15 8	21 9
HEAD RESULTANT	64 1	52 7
Chest Channel X	-42 7	-33 9
Chest Channel Y	5 1	-5 2
Chest Channel Z	14 4	-14 1
CHEST RESULTANT	45 1	34 8

15 ms Head Injury Criteria (HIC) Values

HIC	289	86
t_1 = (ms)	66 56	71 60
t_2 = (ms)	81 60	86 64

[The maximum time interval from t_1 to t_2 is 15 milliseconds]

Chest Injury Criteria (Clip) Values (g's)

CLIP	44 4	34 5
t^1 = (ms)	73 434	78 870
t^2 = (ms)	76 394	81 830
Chest Deflection (in)	1 5	0 9

[1] Sign Convention per SAEJ211, March 1995

Table 8 FMVSS 208 Occupant Injury Data, Cont'd

Vehicle 2002/Isuzu/Rodeo/4-door MPV NHTSA No C25703 Date 03/12/02

Max Compressive Femur Forces (lbs)	Driver Dummy #339	Passenger Dummy #230
Left Side (lbs)	1452	1380
Right Side (lbs)	1814	1203

Neck Injury Criteria (axial force and NIJ's)	Driver Dummy #339	Passenger Dummy #230
Peak Axial Tension (N)	557	545
Peak Axial Compression (N)	705	1923
NTE (tension-extension)	0 08	0 17
NTF (tension-flexion)	0 13	0 22
NCE (compression-extension)	0 23	0 52
NCF (compression-flexion)	0 18	0 34

Figure 7 FMVSS 212 Test Data

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

adhesive plastic trim

Clips or brackets used to retain windshield unknown

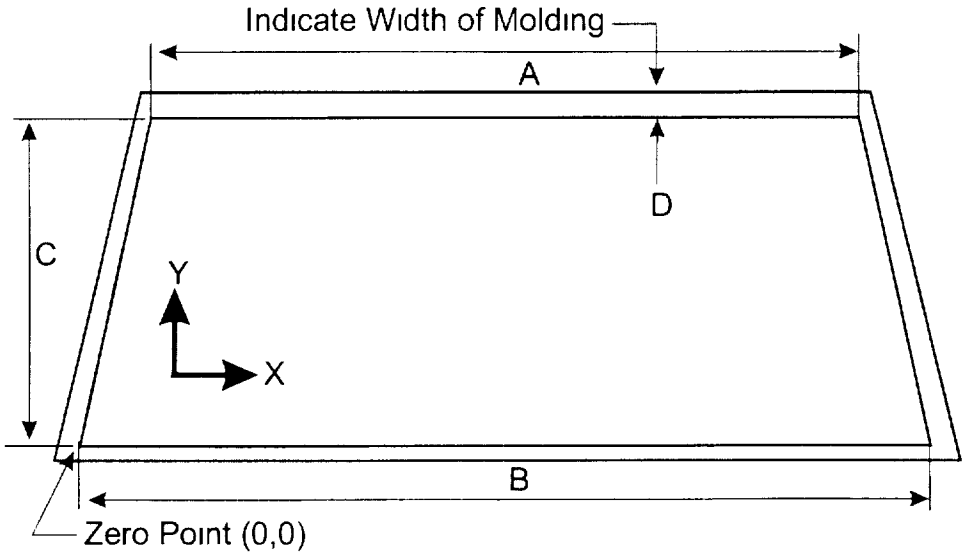
FMVSS 212 requirements The post-test periphery retention amount must be at least 75% of the pre-test periphery measurement for vehicles not equipped with occupant passive restraints, and 50% for each side of the windshield for vehicles which are equipped with occupant passive restraints

Windshield periphery measurements

	Pre-test	Post-test	Percent Retention
Right side	80 1 in	80 1 in	100 0 %
Left side	80 1 in	80 1 in	100 0 %
Total	160 2 in	160 2 in	100 0 %

Pre-test windshield mounting material temperature N/A

A = 46 5 in
B = 56 7 in
C = 28 5 in
D = 0 4 in



Front view of windshield[1]

Loss of windshield retention lengths None

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

Figure 8 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 = 46 5 in

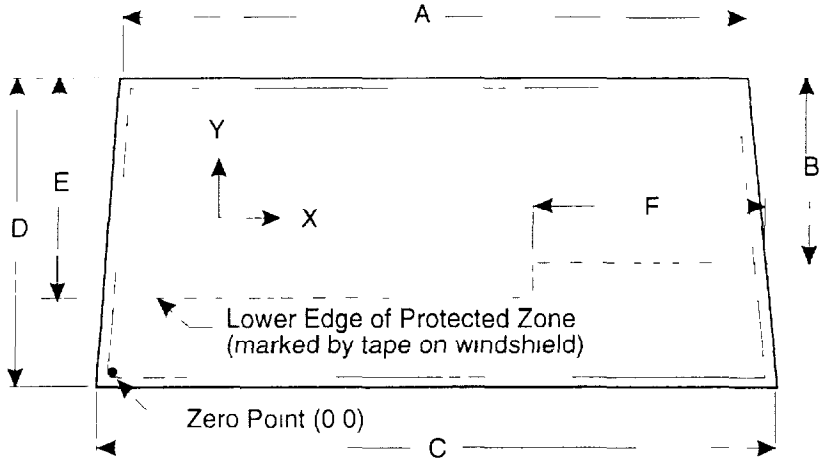
B = 14 8 in

C = 56 7 in

D = 28 5 in

E = 16 6 in

F = 20 2 in



FRONT VIEW

Method of adhering protected zone template to windshield None

Areas of windshield template penetration greater than 0 25 in None

	Coordinates X	Y
1		
2		
3		

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

	Coordinates X	Y
1		
2		
3		

Table 9 Fuel System Data

Vehicle year/make/ model/body style	2002/Isuzu Motors Ltd /Rodeo/4-door MPV
NHTSA number	C25703
Fuel system capacity	19 5 gallons (from owner's manual)
Usable capacity	18 9 gallons (furnished by COTR)
Test volume range	17 4 gallons to 17 8 gallons (92-94% of usable)
Actual test volume	17 7 gallons (with entire fuel system filled)
Test fluid type	Stoddard solvent
Specific gravity	0 764
Kinematic viscosity	0 99 centistoke
Test fluid color	purple
Type of fuel pump	Electric
Did the electric fuel pump operate with ignition switch "on" and the engine not operating?	No
Details of fuel system	The fuel system is located on the left side forward of the rear axle The fuel filler neck enters the top of the tank on the left and forward of the rear axle The fuel filler cap at the end of the neck opens just above and rearward of the left rear wheelwell The fuel lines run from the top of the tank forward along the inside of the left frame rail

Table 10 FMVSS 301 Post-Impact Test Data

Vehicle NHTSA number	C25703
Test date	03/12/02
Vehicle year/make/ model/body style	2002 Isuzu Motors Ltd /Rodeo/4-door MPV

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

Type of impact

_X_ Frontal (25 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

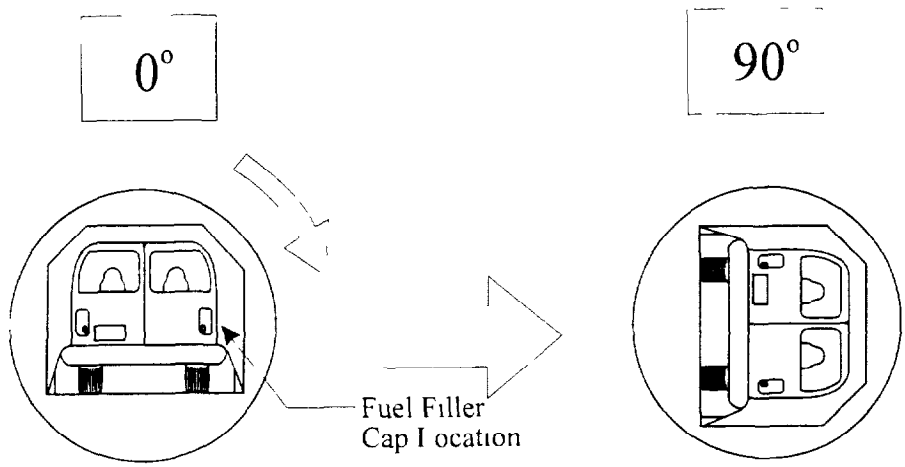
		Test Results	Maximum Allowable
1	From impact until vehicle motion ceases	0 oz	1 oz
2	5-minute period after vehicle motion ceases	0 oz	5 oz
3	Next 25 minutes after 5-minute period	0 oz	1 oz /1 min

Fuel system fluid spillage location(s) None

Figure 9 FMVSS 301 Static Rollover Test Data

NHTSA number C25703

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	

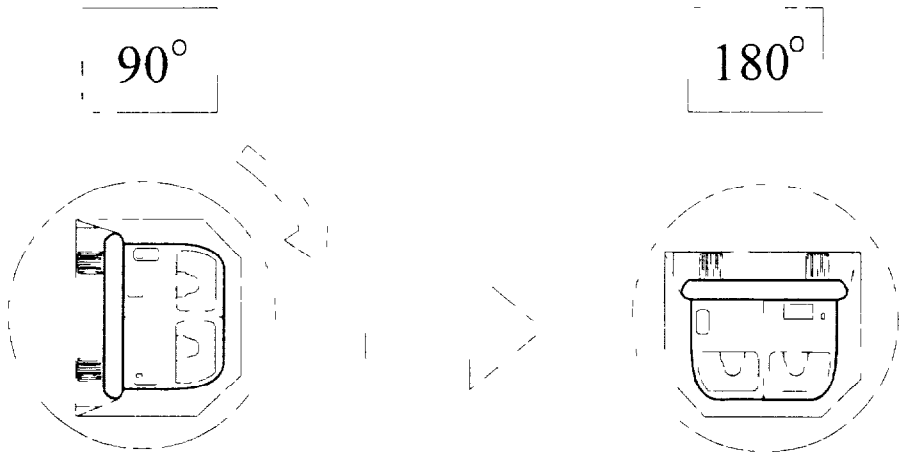
Fuel system fluid spillage measurements:

	0° to 90° rotation (fuel filler cap down)	Test Results	Maximum Allowable
1	First five 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 9 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	

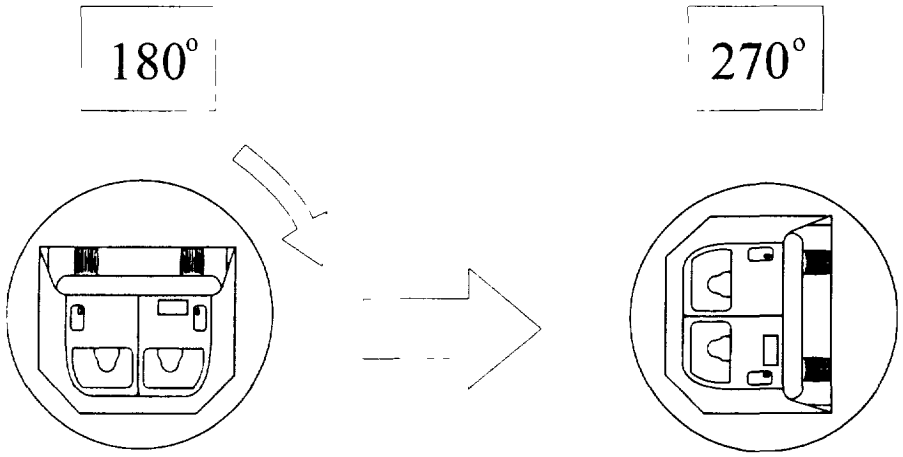
Fuel system fluid spillage measurements

90° to 180° rotation		Test Results	Maximum Allowable
1	First five 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 9 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	

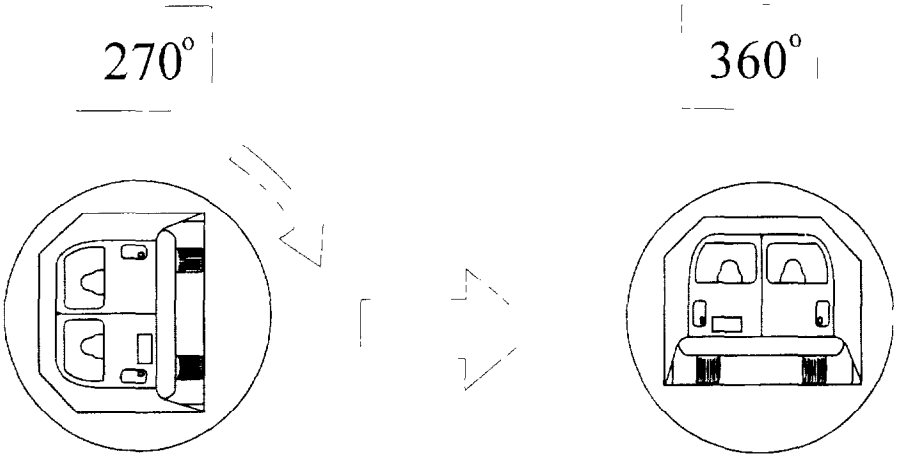
Fuel system fluid spillage measurements

	180 to 270° rotation	Test Results	Maximum Allowable
1	First five 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 9 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 five 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

Table 11 FMVSS 208 Seat Belt Warning System Check

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No.: C25703 Technician: Steve Bell Date: 03/06/2002

Complete the following to determine which seat belt warning system option (S7 3(a)(1) or S7.3(a)(2)) is used (Manufacturers may use either option)

A With occupant in driver's position and lap belt in stowed position and ignition switch placed in "Start/On" position:

A 1 S7 3(a)(1)
Time duration of audible warning signal = 6 seconds
(4 to 8 seconds)

Time duration of reminder light operation = remains on
(no less than 60 seconds)

A 2 S7.3(a)(2)
Time duration of audible warning signal = seconds
(4 to 8 seconds) (see 49 USCS @ 30124)

Time duration of reminder light operation = seconds
(4 to 8 seconds)

B With occupant in driver's position and lap belt in use and the ignition switch placed in "Start/On" position:

B 1 S7 3(a)(1)
Time duration of audible warning signal = 0 seconds
(audible warning should not operate)

Time duration of reminder light operation = 0 seconds
(reminder light does not operate)

B.2 S7 3(a)(2)
Time duration of audible warning signal = seconds
(audible warning should not operate)

Time duration of reminder light operation = seconds
(4 to 8 seconds)

C. Note wording of visual warning:
Fasten Seat Belt —
Fasten Belt
Symbol 101 ☒

Table 12 FMVSS 208 Readiness Indicator

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No : C25703 Technician Steve Bell Date: 03/06/2002

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator A totally mechanical system is exempt from this requirement (11/8/94 legal interpretation)

Is the system totally mechanical? ☐ Yes, No

Describe the location of the readiness indicator: top left corner of instrument panel

Is the readiness indicator clearly visible to the driver? ☒ Yes, ☐ No

Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided? ☒ Yes, ☐ No

Table 13 FMVSS 208 Air Bag Labels

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No : C25703 Technician: Steve Bell Date: 03/06/2002

1 Air Bag Maintenance Label and Owner's Manual Instructions:

1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?

☐ Yes (Go to 1.2)

☒ No (Go to 2)

1.2 Does the Vehicle have a maintenance or replacement label?

☐ Yes-Pass ☐ **No-Fail**

1.3 Does the label contain one of the following? ☐ Yes-Pass ☐ **No-Fail**

☐ Schedule on label specifies month and year

☐ Schedule on label specifies vehicle mileage

☐ Schedule on label specifies interval measured from date on certification label

1.4 Is the label permanently affixed within the passenger compartment?

☐ Yes-Pass ☐ **No-Fail**

1.5 Is the label lettered in English?

☐ Yes-Pass ☐ **No-Fail**

1.6 Is the label in block capitals and numerals?

☐ Yes-Pass ☐ **No-Fail**

1.7 Are the letters and numerals at least 3/32 inch high?

☐ Yes-Pass ☐ **No-Fail**

1.8 Does the owner's manual set forth the recommended schedule for maintenance or replacement? ☐ Yes-Pass ☐ **No-Fail**

2 Does the owner's manual: (S4.5.1 (f))

2.1 Include a description of the vehicle's air bag system in an easily understandable format? ☒ Yes ☐ **No-Fail**

2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating positions?

☒ Yes ☐ **No-Fail**

2 3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions? ☒ Yes ☐ **No-Fail**

2 4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?
☒ Yes ☐ **No-Fail**

2 5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to insure maximum safety protection for those occupants?
☒ Yes ☐ **No-Fail**

2 6 Explain that no objects should be place over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?
☒ Yes ☐ **No-Fail**

3 Does the Vehicle:

3 1 Provide an automatic means to ensure that the air bag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard seat? ☐ Yes ☒ No

3 2 Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which it might have an adverse effect on infants in rear-facing child seat, and unbelted or improperly belted children? ☐ Yes ☒ No

3 3 Have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children? ☐ Yes ☒ No

If yes to 3.1, or 3.2, or 3.3, the vehicle is not required to have a Sun Visor Warning Label (S4 5 1(b)), an air bag alert label (S4 5 1(c)) or a label on the dash (S4 5 1(e)) and **this check sheet is complete. (S4.5.1) If no to 3.1, 3.2, and 3.3, go to 4.**

Table 13 FMVSS 208 Air Bag Labels, Cont'd.

4 Sun Visor Warning Label

4.1 Is the label permanently affixed (may be permanent marking or molding) to either side of the sun visor at each front outboard seating position with an air bag?

Driver side	☒ Yes-Pass	☐ **No-Fail**
Passenger side	☒ Yes-Pass	☐ **No-Fail**

4.2 Does the label conform in content **(vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children.")** (S4.5.1(b)(2)(v)) to the label shown in either Figure 6a or 6b as appropriate at each front outboard seating position with an air bag? (S4.5.1(b)(2))

4.2.1 Dual air bags

Driver side	☒ Yes-Pass	☐ **No-Fail**
Passenger side	☒ Yes-Pass	☐ **No-Fail**

4.2.2 Vehicles with driver air bag ONLY - either 4.2.1 or 4.2.2 is applicable, not both. (S4.5.1(b)(2)(iv))

4.2.2.1 Does the label conform on content to the label shown in either Figure 6a or 6b as appropriate?

		☒ N/A
Driver side	☐ Yes-Pass	☐ **No-Fail**

4.2.2.2 Does the label conform in content to the label shown in Figure 6a where the label can be modified to omit the pictogram and the message may read

DEATH or SERIOUS INJURY can occur

- Sit as far back as possible from the air bag
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS.
- The BACK SEAT is the SAFEST place for children

		☒ N/A
Driver side	☐ Yes-Pass	☐ **No-Fail**

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

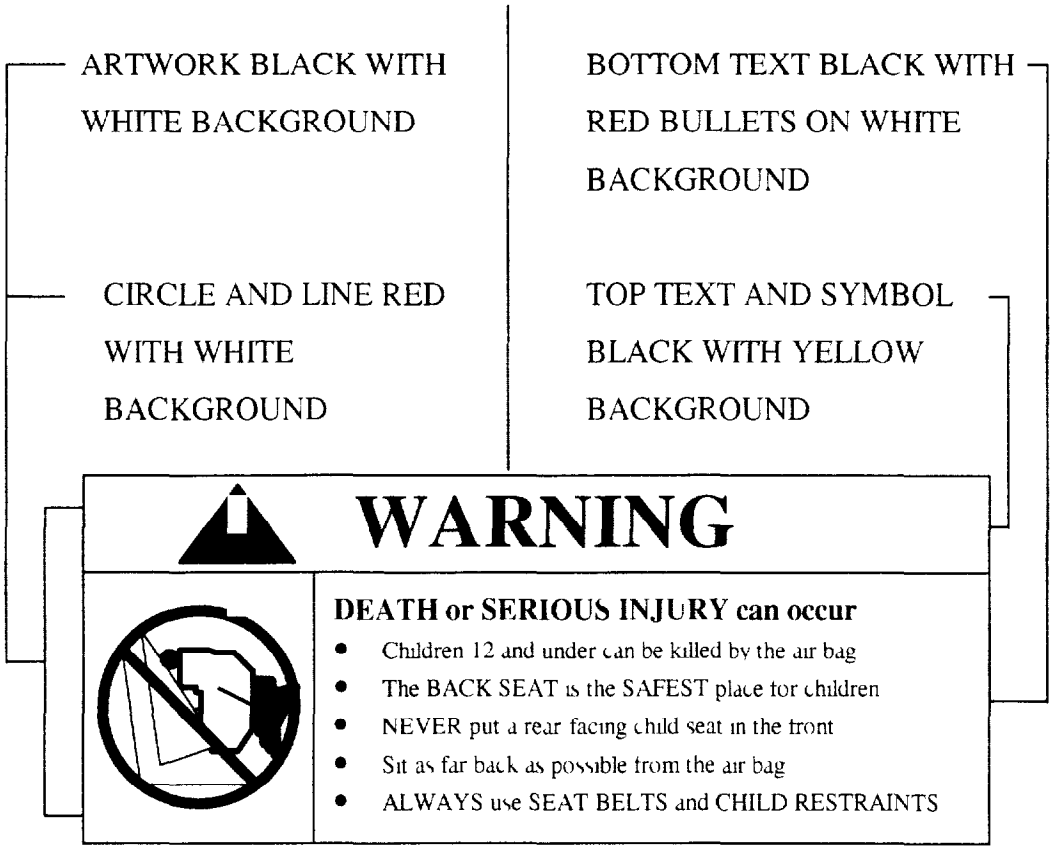


Figure 6a
(S4.5.1(b)(2))

Table 13 FMVSS 208 Air Bag Labels, Cont'd.

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

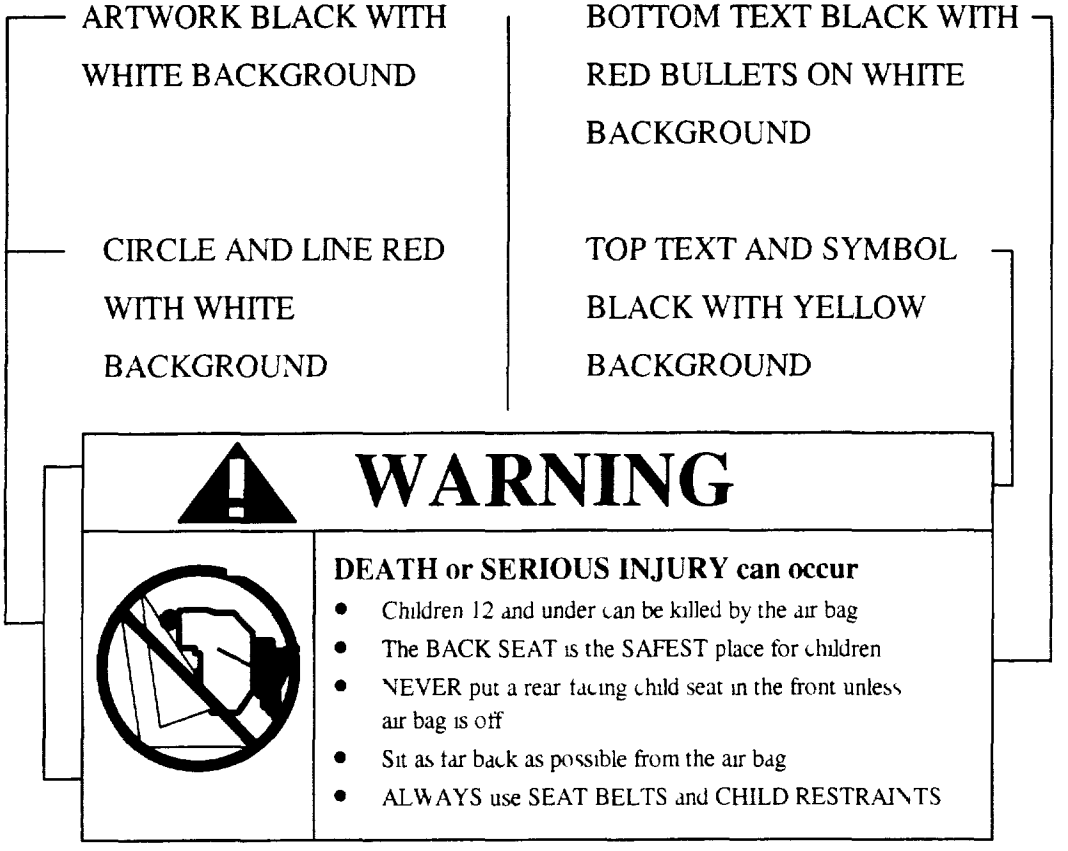


Figure 6b
(S4.5.1(b)(2))

4.3 Is the driver side label heading area yellow with the word "warning" and the alert symbol in black? (S4.5.1 (b)(2)(i))

	Driver side	☒ Yes-Pass	☐ **No-Fail**
	Passenger side	☒ Yes-Pass	☐ **No-Fail**

4.4 Is the message white with black text? (S4.5.1 (b)(2)(ii))

	Driver side	☒ Yes-Pass	☐ **No-Fail**
Passenger side	☐ No air bag	☒ Yes-Pass	☐ **No-Fail**

4.5 Is the message area at least 30 cm^2? (S4.5.1(b)(2)(ii))

Actual message area, driver side **32.0** cm^2

Actual message area, passenger side **32.0** cm^2

	Driver side	☒ Yes-Pass	☐ **No-Fail**
Passenger side	☐ No air bag	☒ Yes-Pass	☐ **No-Fail**

4 6 Is the pictogram black with a red circle and slash on a white background? (S4 5 1(b)(2)(iii)) & (S4 5 1(b)(2)(iv))

For vehicles with driver side air bag ONLY			☐ N/A
Driver side		☒ Yes-Pass	☐ **No-Fail**
Passenger side	☐ No air bag	☒ Yes-Pass	☐ **No-Fail**

4 7 Is the pictogram at least 30 mm in diameter? (S4 5 1(b)(2)(iii))
Actual diameter, driver side **30** mm
Actual diameter, passenger side **30** mm

For vehicles with driver side air bag ONLY			☐ N/A
Driver side		☒ Yes-Pass	☐ **No-Fail**
Passenger side	☐ No air bag	☒ Yes-Pass	☐ **No-Fail**

4 8 Is the same side of the sun visor to which the sun visor label is affixed free of other information with the exception of an air bag maintenance label? (S4 5 1(b)(3)) and/or a rollover warning label specified in 49CFR Part 575 (S575 105)?

Driver side		☒ Yes-Pass	☐ **No-Fail**
Passenger side	☐ No air bag	☒ Yes-Pass	☐ **No-Fail**

4 9 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label or the utility vehicle label?

Driver side		☒ Yes-Pass	☐ **No-Fail**
Passenger side	☐ No air bag	☒ Yes-Pass	☐ **No-Fail**

5 Air Bag Alert Label

5 1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?

Driver	☒ Yes	☐ No
Passenger	☒ Yes	☐ No

If yes, go to 6

5 2 Does the label conform in content to the label shown in Figure 6c? (S4 5.1(c)(2)) ☐ Yes-Pass ☐ **No-Fail**

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION

Circle and Line Red with White Background

Artwork Black with White Background

Text Yellow with Black Background

Figure 6c
(S4 5 1(c)(2))

5.3 Is the message area black with yellow text? (S4.5.1(c)(2)(i))

☐ Yes-Pass ☐ **No-Fail**

5 4 Is the message area at least 20 cm^2? (S4.5 1(c)(2)(i))

Actual message area **N/A** cm^2 ☐ Yes-Pass ☐ **No-Fail**

5 5 Is the pictogram black with a red circle and slash on a white background? (S4.5 1(c)(2)(ii))

For vehicles with driver side air bag ONLY ☐ N/A

☐ Yes-Pass ☐ **No-Fail**

5 6 Is the pictogram at least 20 mm in diameter? (S4 5 1(c)(2)(ii))
Actual diameter is **N/A** mm

For vehicles with driver side air bag ONLY ☐ N/A

☐ Yes-Pass ☐ **No-Fail**

6 Label On the Dash

6 1 Does the vehicle have a passenger air bag?

☒ Yes ☐ No

If no, this check list is complete.

6 2 Does the vehicle have a label on the dash or steering wheel hub? (S4 5 1(e))

☒ Yes-Pass ☐ **No-Fail**

6 3 Does the label conform in content **(vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under.")** (S4 5 1(e)(iii)) to the label shown in Figure 7? (S4 5.1(e))

☒ Yes-Pass ☐ **No-Fail**

Figure 7
(S4 5 1(e))

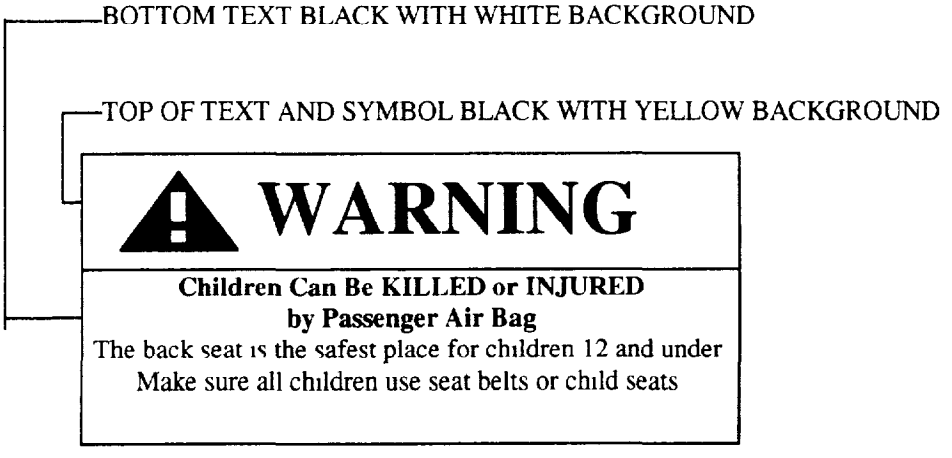


Table 13 FMVSS 208 Air Bag Labels, Cont'd

6 4 Is the heading area yellow with the word "warning" and the alert symbol in black? (S4 5 1(e)(i))

☒ Yes-Pass ☐ **No-Fail**

6 5 Is the message white with black text? (S4 5 1(e)(ii))

☒ Yes-Pass ☐ **No-Fail**

6 6 Is the message area at least 30 cm^2? (S4 5 1(e)(ii))
Actual message area **30** cm^2 ☒ Yes-Pass ☐ **No-Fail**

Table 14 FMVSS 208 Rear Outboard Seating Position Seat Belts

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No.: C25703 Technician: Mike Postle Date: 03/12/02

Do all rear outboard seating positions have type 2 seat belts?

☒ Yes; ☐ No; ☐ N/A (No Back Seat)

If No, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 belt was not installed.

N/A

Table 15 FMVSS 208 Lap Belt Lockability

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less (S7 1 1 5)

Complete one of these forms for **each** designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing **and** that has seat belt retractors that are not automatic retractors (S7 1 1 5(c))

Vehicle Model Year/Make/Model/Body Style 2002/Isuzu/Rodeo/4-door MPV

NHTSA No C25703 Technician Steve Bell Date: 03/07/2002

Designated Seating Position: Right Front

☒1 Record test seat position: Mid
(S7 1 1 5(c)(1)) (Any position is acceptable)

☒2 Buckle the seat belt (S7 1.1 5(c)(1))

☒3 Complete any procedures recommended in the vehicle owner's manual to activate any locking feature (S7 1 1 5(c)(1))

☒4 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part to the vehicle? (S7 1 1 5(a)) ☒ Yes-Pass ☐ **No-Fail**

☒5 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing? (S7 1 1 5(a)) ☒ Yes-Pass ☐ **No-Fail**

☒6 Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?

If yes, go to 6 1 If no, go to 7 ☒ Yes ☐ No

6 1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system (S7.1.1 5(b)) ☒ Yes-Pass ☐ **No-Fail**

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No.: C25703 Technician: Steve Bell Date: 03/07/2002

Designated Seating Position: Right Front

☒7. Locate a reference point A on the seat belt buckle (S7.1.1.5(c)(2))

☒8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly (S7 1 1.5(c)(2))

☒9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system (S7.1 1 5(c)(2))

☒10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly (S7.1 1 5(c)(2)) Measured distance between A and B **48.0** inches.

☒11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1 1 5(c)(3))

☒12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in figure 5 Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7 1 1.5(c)(4)) Measured force application angle **10** degrees (Spec 5~15 degrees)

☒13 Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4)) Measured distance between A and B **21.7** inches.

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No : C25703 Technician: Steve Bell Date: 03/07/2002

Designated Seating Position: Right Front

☒14 Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds Measure and record the distance between points A and B along the longitudinal centerline of the webbing (S7.1.1.5(c)(5))

Record onset rate **25** lbs/sec (spec 10 ~50 lb/sec)

The measured distance between A and B is **22.0** inches (S7.1.1.5(c)(6))

☒15 Subtract the measurement in 13 from the measurement in 14 Is the difference 2 inches or less? (S7.1.1.5.(c)(7))

14-13= **0.3** inches ☒ Yes-Pass ☐ **No-Fail**

☒16 Subtract the measurement in 14 from the measurement in 10 Is the difference 3 inches or more? (S7.1.1.5(c)(8))

10-14= **26.0** inches ☒ Yes-Pass ☐ **No-Fail**

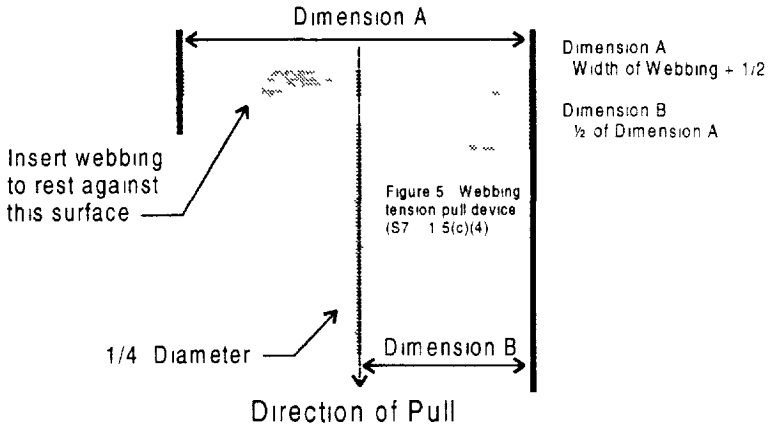


Figure 5 Webbing tension pull device (S7.1.5(c)(4))

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less (S7 1 1 5)

Complete one of these forms for **each** designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing **and** that has seat belt retractors that are not automatic retractors. (S7 1 1.5(c))

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No · C25703 Technician: Steve Bell Date· 03/07/2002

Designated Seating Position· Right Rear

☒1 Record test seat position: Fixed (S7 1 1 5(c)(1)) (Any position is acceptable)

☒2 Buckle the seat belt (S7 1.1 5(c)(1))

☒3 Complete any procedures recommended in the vehicle owner's manual to activate any locking feature (S7 1 1 5(c)(1))

☒4 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part to the vehicle? (S7 1 1.5(a)) ☒ Yes-Pass ☐ **No-Fail**

☒5 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing? (S7.1.1 5(a)) ☒ Yes-Pass ☐ **No-Fail**

☒6 Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?

If yes, go to 6.1. If no, go to 7. ☒ Yes ☐ No

6 1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system (S7.1.1.5(b)) ☒ Yes-Pass ☐ **No-Fail**

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No · C25703 Technician: Steve Bell Date 03/07/2002

Designated Seating Position: Right Rear

☒7 Locate a reference point A on the seat belt buckle (S7 1 1 5(c)(2))

☒8 Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly (S7 1.1 5(c)(2))

☒9 Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system (S7 1 1 5(c)(2))

☒10 Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly (S7 1 1 5(c)(2)) Measured distance between A and B **57.9** inches

☒11 Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing (S7 1 1 5(c)(3))

☒12 To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in figure 5 Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal (S7 1 1 5(c)(4)) Measured force application angle **10** degrees. (Spec 5~15 degrees)

☒13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied (S7 1 1 5(c)(4)) Measured distance between A and B **26.0** inches

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No. C25703 Technician: Steve Bell Date: 03/07/2002

Designated Seating Position: Right Rear

☒14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds Measure and record the distance between points A and B along the longitudinal centerline of the webbing (S7 1 1 5(c)(5))

Record onset rate **25** lbs/sec (spec 10 ~50 lb/sec)

The measured distance between A and B is **26.2** inches (S7.1.1 5(c)(6))

☒15 Subtract the measurement in 13 from the measurement in 14 Is the difference 2 inches or less? (S7 1.1 5 (c)(7))

14-13= **0.2** inches ☒ Yes-Pass ☐ **No-Fail**

☒16 Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more? (S7 1 1 5(c)(8))

10-14= **31.7** inches ☒ Yes-Pass ☐ **No-Fail**

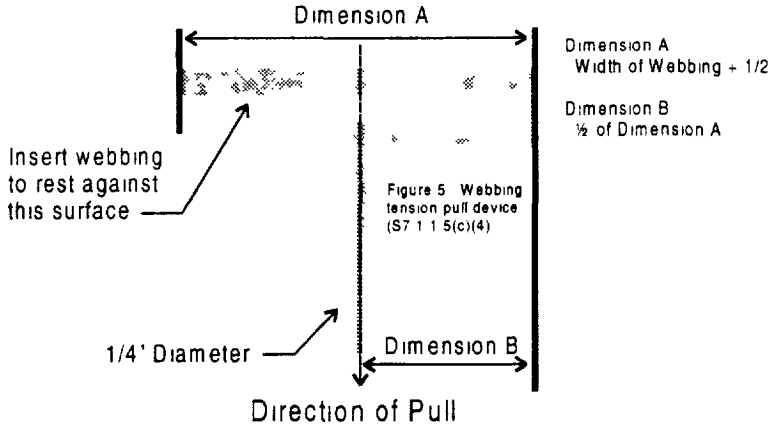


Figure 5 Webbing tension pull device (S7 1 1 5(c)(4)

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less (S7 1 1 5)

Complete one of these forms for **each** designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing **and** that has seat belt retractors that are not automatic retractors (S7 1 1 5(c))

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No . C25703 Technician: Steve Bell Date: 03/07/2002

Designated Seating Position: Left Rear

☒1 Record test seat position Fixed (S7 1 1 5(c)(1)) (Any position is acceptable)

☒2 Buckle the seat belt (S7 1 1 5(c)(1))

☒3 Complete any procedures recommended in the vehicle owner's manual to activate any locking feature (S7 1 1 5(c)(1))

☒4 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part to the vehicle? (S7 1 1 5(a)) ☒ Yes-Pass ☐ **No-Fail**

☒5 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing? (S7 1 1.5(a)) ☒ Yes-Pass ☐ **No-Fail**

☒6 Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?

If yes, go to 6 1 If no, go to 7 ☒ Yes ☐ No

6 1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system (S7.1 1 5(b)) ☒ Yes-Pass ☐ **No-Fail**

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No.: C25703 Technician: Steve Bell Date: 03/07/2002

Designated Seating Position: Left Rear

☒7. Locate a reference point A on the seat belt buckle (S7 1 1 5(c)(2))

☒8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1 1 5(c)(2))

☒9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1 1 5(c)(2))

☒10 Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7 1 1 5(c)(2)) Measured distance between A and B **57.9** inches

☒11 Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1 5(c)(3))

☒12 To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal (S7 1 1.5(c)(4)) Measured force application angle **10** degrees (Spec. 5~15 degrees)

☒13 Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied (S7.1.1.5(c)(4)) Measured distance between A and B **26.0** inches

Table 15 FMVSS 208 Lap Belt Lockability, Cont'd

Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV

NHTSA No. C25703 Technician: Steve Bell Date: 03/07/2002

Designated Seating Position: Left Rear

☒14 Increase the load to 50 pounds at a rate of no more than 50 pounds per second Attain the load in not more than 5 seconds (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer) Maintain the load for at least 5 seconds Measure and record the distance between points A and B along the longitudinal centerline of the webbing (S7 1 1 5(c)(5))

Record onset rate **25** lbs/sec (spec 10 ~50 lb/sec)

The measured distance between A and B is **26.2** inches (S7.1 1 5(c)(6))

☒15 Subtract the measurement in 13 from the measurement in 14 Is the difference 2 inches or less? (S7 1.1 5 (c)(7))

14-13= **0.2** inches ☒Yes-Pass ☐**No-Fail**

☒16 Subtract the measurement in 14 from the measurement in 10 Is the difference 3 inches or more? (S7 1 1 5(c)(8))

10-14= **31.7** inches. ☒Yes-Pass ☐**No-Fail**

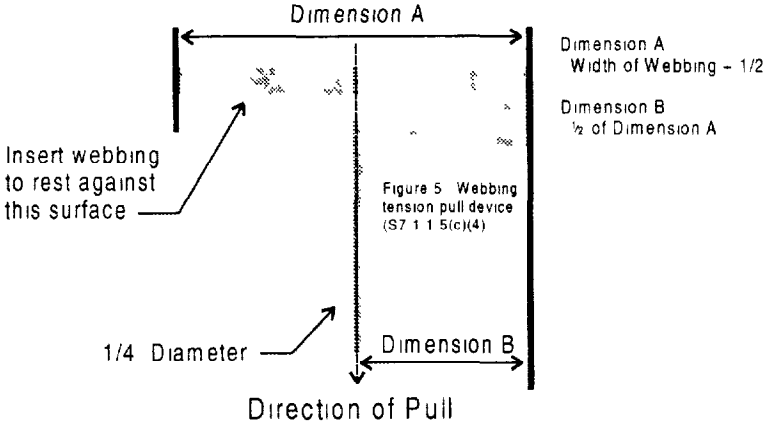


Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test
Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 03/07/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1 Does the vehicle incorporate a webbing tension-relieving device?

☐ Yes-go to latchplate access
☒ No-continue with this check sheet

2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1 2)

☒ Check
☐ N/A

3. If separately adjustable in a vertical direction, the seats are at the lowest position

☐ Check
☒ N/A

4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

☒ Check
☐ N/A

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR

☒ Check
☐ N/A

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Belt Contact Force (S7 4 3)

6 Place each adjustable head restraint in its highest adjustment position

☒ Check
☐ N/A

7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8 1 3)

☐ Check
☒ N/A

8 Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure

☒ Check

9 Fasten the seat belt latch Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest (S10 8) Measure the contact force exerted by the belt webbing on the dummy's chest Contact the COTR if the contact force exceeds 0 7 pounds Contact force is **0.5** pounds

☒ 0 0 to 0 7 pounds - Pass
☐ **greater than 0.7 pounds - FAIL***

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No : C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Right Front
Date of Comfort and Convenience Check: 03/07/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars Complete a form for each applicable seat belt

1 Does the vehicle incorporate a webbing tension-relieving device?

☐ Yes-go to latchplate access
☒ No-continue with this check sheet

2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used (S8 1.2)

☒ Check
☐ N/A

3 If separately adjustable in a vertical direction, the seats are at the lowest position

☐ Check
☒ N/A

4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer

☒ Check
☐ N/A

5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.

☒ Check
☐ N/A

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Belt Contact Force (S7 4 3)

6 Place each adjustable head restraint in its highest adjustment position

☒ Check
☐ N/A

7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8 1 3)

☐ Check
☒ N/A

8 Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure

☒ Check

9 Fasten the seat belt latch Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest (S10 8) Measure the contact force exerted by the belt webbing on the dummy's chest Contact the COTR if the contact force exceeds 0 7 pounds Contact force is **0.5** pounds

☒ 0 0 to 0 7 pounds - Pass
☐ **greater than 0.7 pounds - FAIL***

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Left Rear
Date of Comfort and Convenience Check: 03/07/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars Complete a form for each applicable seat belt.

1. Does the vehicle incorporate a webbing tension-relieving device?

☐ Yes-go to latchplate access
☒ No-continue with this check sheet

2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used (S8 1 2)

☐ Check
☒ N/A

3 If separately adjustable in a vertical direction, the seats are at the lowest position

☐ Check
☒ N/A

4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

☒ Check
☐ N/A

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant This information will be furnished by the COTR

☒ Check
☐ N/A

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Belt Contact Force (S7.4 3)

6 Place each adjustable head restraint in its highest adjustment position

☒ Check
☐ N/A

7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1 3)

☐ Check
☒ N/A

8 Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure

☒ Check

9 Fasten the seat belt latch Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest (S10 8) Measure the contact force exerted by the belt webbing on the dummy's chest Contact the COTR if the contact force exceeds 0 7 pounds Contact force is **0.6** pounds

☒ 0.0 to 0 7 pounds - Pass
☐ **greater than 0.7 pounds - FAIL***

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Right Rear
Date of Comfort and Convenience Check: 03/07/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1 Does the vehicle incorporate a webbing tension-relieving device?

☐ Yes-go to latchplate access
☒ No-continue with this check sheet

2. Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8 1.2)

☐ Check
☒ N/A

3 If separately adjustable in a vertical direction, the seats are at the lowest position

☐ Check
☒ N/A

4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

☒ Check
☐ N/A

5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR

☒ Check
☐ N/A

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Belt Contact Force (S7.4 3)

6 Place each adjustable head restraint in its highest adjustment position.

☒ Check
☐ N/A

7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8 1 3)

☐ Check
☒ N/A

8 Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure

☒ Check

9 Fasten the seat belt latch Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest (S10 8) Measure the contact force exerted by the belt webbing on the dummy's chest Contact the COTR if the contact force exceeds 0 7 pounds Contact force is **0.6** pounds

☒ 0 0 to 0.7 pounds - Pass
☐ **greater than 0.7 pounds - FAIL***

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Latchplate Access (S7.4.4)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 03/06/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt

1 Position the seat in its forward most adjustment position. ☒ Check

2 Position the test dummy using the procedures in Appendix B of the Laboratory Test Procedure (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.) ☒ Check

3. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant. ☒ Check

4. Attach the inboard and outboard reach string following the instructions on Figure 1C of the Laboratory Test Procedure ☒ Check

5. Place the latch plate in the stowed position ☒ Check

6. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms. Is the latchplate within the reach envelope?

☒ Yes-Pass; ☐ **No-Fail**

7. Using the clearance test block, specified in Figure 2C of the Laboratory Test Procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle.

☒ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Latchplate Access (S7 4.4)

Test Vehicle NHTSA No : C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Right Front
Date of Comfort and Convenience Check: 03/06/2002
Technician Performing Check Steve Bell
GVWR: 4750 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars Complete a form for each applicable seat belt

1 Position the seat in its forward most adjustment position ☒ Check

2 Position the test dummy using the procedures in Appendix B of the Laboratory Test Procedure (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position) ☒ Check

3 Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant ☒ Check

4 Attach the inboard and outboard reach string following the instructions on Figure 1C of the Laboratory Test Procedure ☒ Check

5 Place the latch plate in the stowed position ☒ Check

6 Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms Is the latchplate within the reach envelope?

☒ Yes-Pass; ☐ **No-Fail**

7 Using the clearance test block, specified in Figure 2C of the Laboratory Test Procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle

☒ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Retraction (S7.4.5)

Test Vehicle NHTSA No : C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 03/06/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars Complete a form for each applicable seat belt.

1 Is the vehicle a passenger car or walk-in van-type vehicle? ☐ Yes ☒ No

If yes, go to seat belt guides and hardware.

2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used (S8.1.2) ☒ Check

3. If separately adjustable in a vertical direction, the seats are at the lowest position. ☒ Check

4 Place any adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer ☒ Check

5. Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR. ☒ Check

6. Place each adjustable head restraint in its highest adjustment position ☒ Check

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Retraction (S7 4 5)

7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8 1 3) ☒ Check

8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B of the Laboratory Test Procedure ☒ Check

9 Restrain the dummies using the belt systems for the position being tested ☒ Check

10 Stow outboard armrests that are capable of being stowed ☒ Check

11 Check the statement that applies to this test vehicle

(A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latchplate is released ☒ Pass

(B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released ☒ Pass

(C) Neither A or B apply ☐ **Fail**

12. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?

☒ Yes-Pass; ☐ **No-Fail**

13 If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?

☒ N/A

☐ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Retraction (S7.4.5)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Right Front
Date of Comfort and Convenience Check: 03/06/2002
Technician Performing Check Steve Bell
GVWR· 4750 pounds

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt

1 Is the vehicle a passenger car or walk-in van-type vehicle? ☐ Yes ☒ No

If yes, go to seat belt guides and hardware

2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used (S8 1 2) ☒ Check

3 If separately adjustable in a vertical direction, the seats are at the lowest position. ☒ Check

4. Place any adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer. ☒ Check

5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR. ☒ Check

6 Place each adjustable head restraint in its highest adjustment position. ☒ Check

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Retraction (S7 4 5)

7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8 1 3) ☒ Check

8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B ☒ Check

9 Restrain the dummies using the belt systems for the position being tested ☒ Check

10 Stow outboard armrests that are capable of being stowed ☒ Check

11 Check the statement that applies to this test vehicle:

(A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latchplate is released ☒ Pass

(B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released ☒ Pass

(C) Neither A or B apply ☐ **Fail**

12 With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?

☒ Yes-Pass; ☐ **No-Fail**

13 If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated? ☒ N/A

☐ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Seat Belt Guides And Hardware (S7 4.6)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Left Front
Date of Comfort and Convenience Check: 03/06/2002
Technician Performing Check: Steve Bell
GVWR. 4750 pounds

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

A Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7 4 6 1(b))

B. Seats which are removable.

C Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function

If the seats in this vehicle are different than the criteria above, determine the following:

1. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?
   ☐ Yes: go to 2
   ☒ No: this form is complete

2 Does one of the following three parts, the seat belt latchplate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?
   ☐ Yes-Pass; ☐ **No-Fail**

3 Are the remaining two seat belt parts accessible under normal conditions?
   ☐ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Seat Belt Guides And Hardware (S7 4 6)

4 The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched ☐ Check

(B) The seat is moved to any position to which it is designed to be adjusted ☐ Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position. ☐ Check

☐ Yes-Pass; ☐ **No-Fail**

5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)? ☐ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Seat Belt Guides And Hardware (S7.4 6)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Right Front
Date of Comfort and Convenience Check: 03/06/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars Complete a form for each applicable seat belt

The requirements for accessibility **DO NOT APPLY** to:

A Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7 4 6 1(b))

B Seats which are removable

C Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function

If the seats in this vehicle are different than the criteria above, determine the following:

1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

☐ Yes: go to 2.
☒ No: this form is complete

2 Does one of the following three parts, the seat belt latchplate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

☐ Yes-Pass; ☐ **No-Fail**

3 Are the remaining two seat belt parts accessible under normal conditions?

☐ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Seat Belt Guides And Hardware (S7 4 6)

4 The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched ☐ Check

(B) The seat is moved to any position to which it is designed to be adjusted ☐ Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position ☐ Check

☐ Yes-Pass; ☐ **No-Fail**

5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)? ☐ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.
Seat Belt Guides And Hardware (S7.4 6)

Test Vehicle NHTSA No.: C25703
Vehicle Model Year/Make/Model/Body Style: 2002/Isuzu/Rodeo/4-door MPV
Designated Seating Position Tested: Left Rear, Center Rear, Right Rear-does not apply for reason C below
Date of Comfort and Convenience Check: 03/06/2002
Technician Performing Check: Steve Bell
GVWR: 4750 pounds

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt

The requirements for accessibility **DO NOT APPLY** to:

A Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4 6 1(b))

B Seats which are removable

C Seats that are movable so that the space formerly occupied by the seat can be used for a secondary function

If the seats in this vehicle are different than the criteria above, determine the following:

1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

☐ Yes: go to 2
☐ No: this form is complete.

2 Does one of the following three parts, the seat belt latchplate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

☐ Yes-Pass; ☐ **No-Fail**

3 Are the remaining two seat belt parts accessible under normal conditions?

☐ Yes-Pass; ☐ **No-Fail**

Table 16 FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd
Seat Belt Guides And Hardware (S7 4 6)

4. The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

   (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched

   ☐ Check

   (B) The seat is moved to any position to which it is designed to be adjusted

   ☐ Check

   (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position

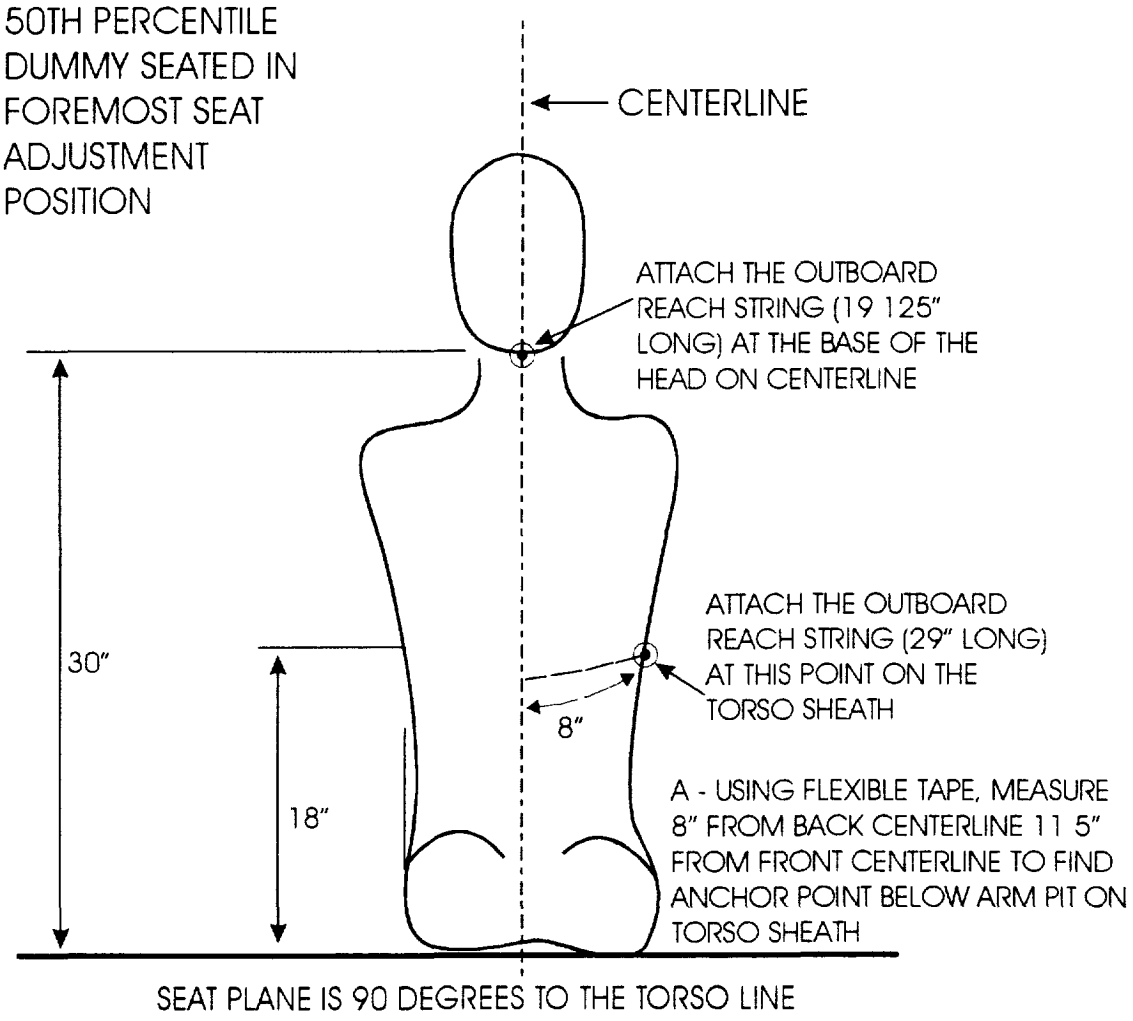
   ☐ Check

   ☐ Yes-Pass; ☐ **No-Fail**

5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)? ☐ Yes-Pass, ☐ **No-Fail**

LOCATION OF ANCHORING POINTS FOR LATCHPLATE REACH LIMITING CHAINS OR STRINGS TO TEST FOR LATCHPLATE ACCESSIBILITY

PART 572E DUMMY



REAR VIEW

Figure 10 Laboratory Test Procedure Figure 1C

USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

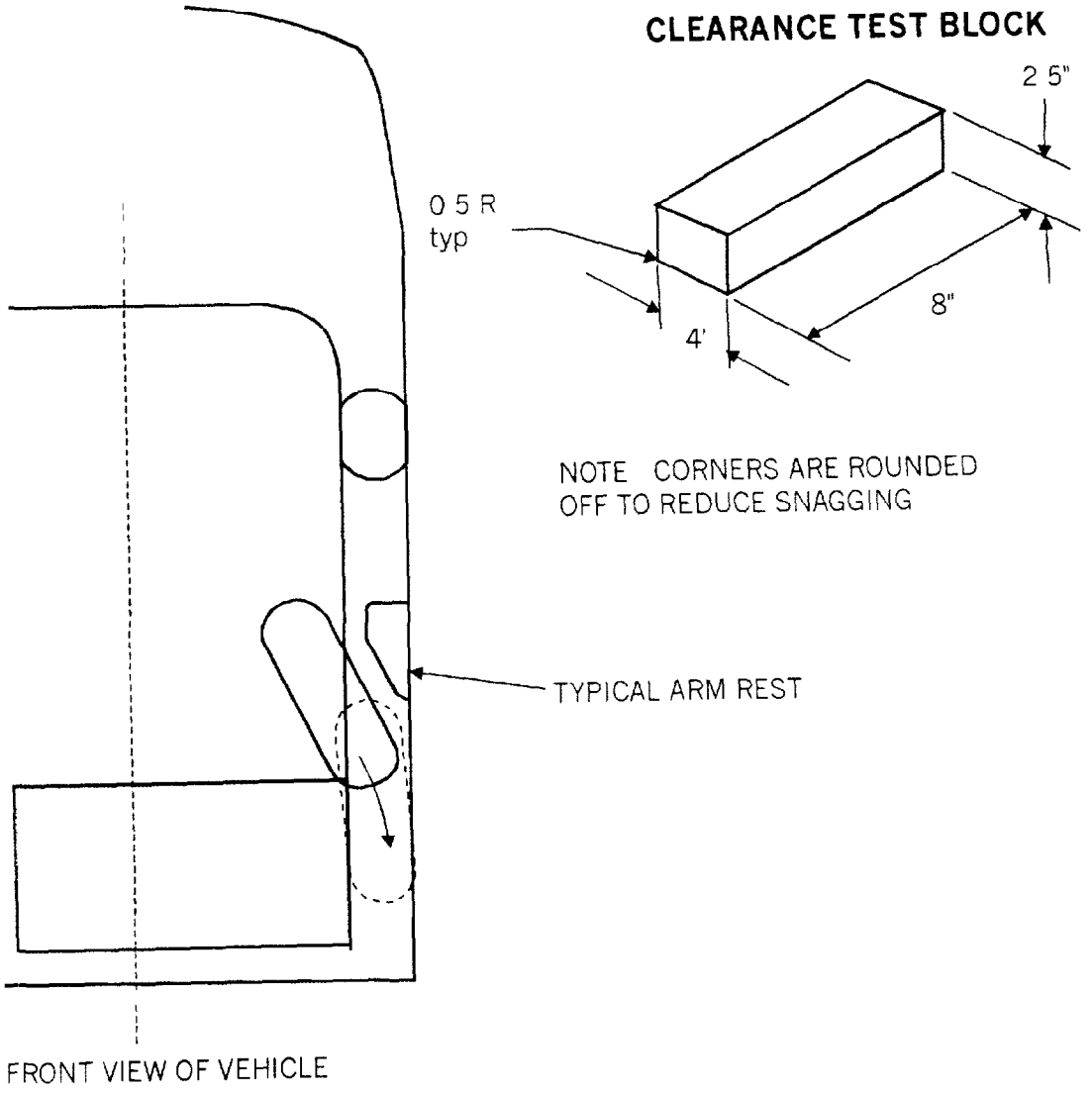


Figure 11 Laboratory Test Procedure Figure 2C

Appendix A

Photographs

Figure A-1 Pre-Test Front View

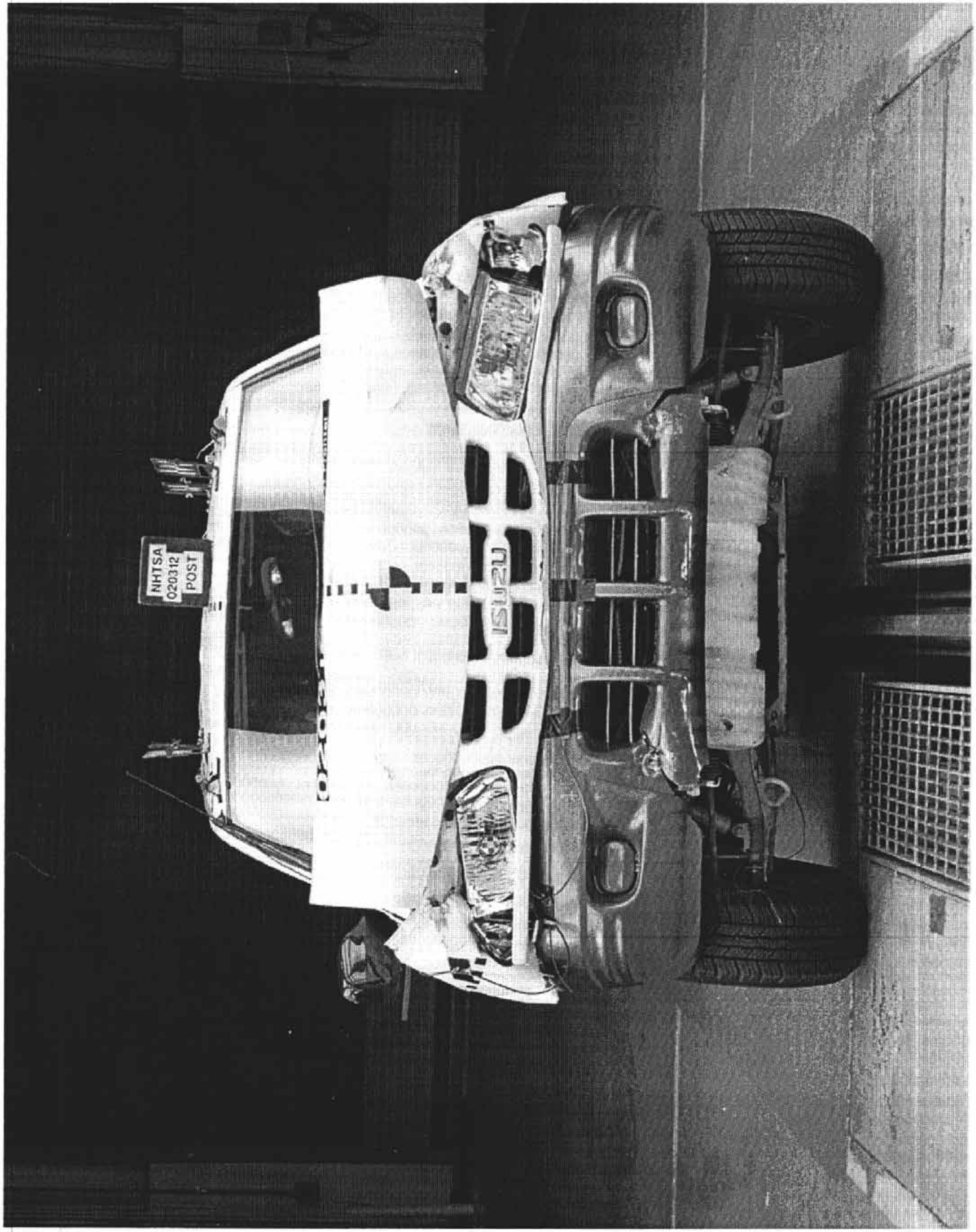


Figure A-2 Post Test Front View

Figure A-3 Pre Test Left Side View

Figure A-4 Post Test Left Side View

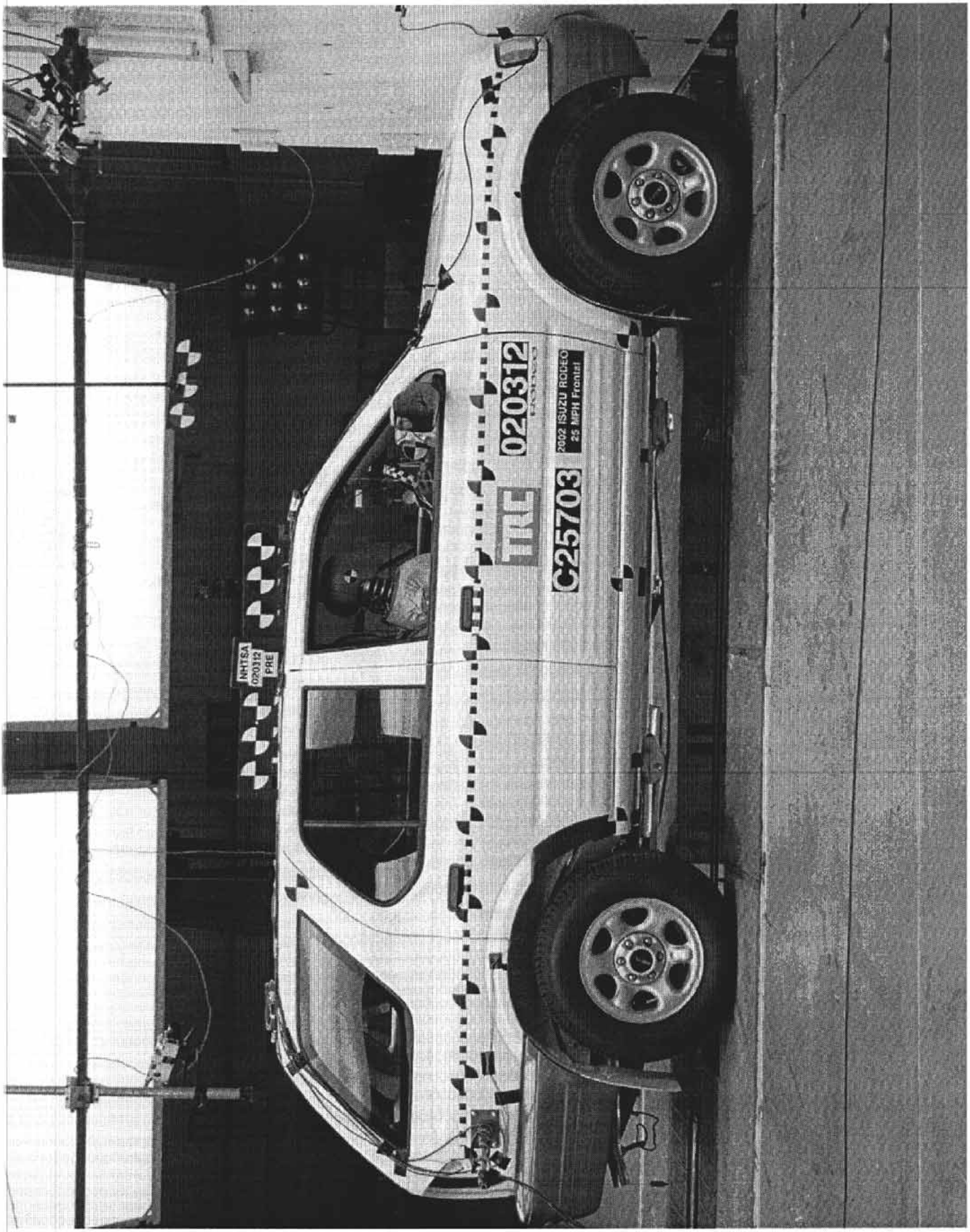


Figure A-5 Pre-Test Right Side View

Figure A-6 Post-Test Right Side View

Figure A-7 Post-Test Right Front Three-Quarter View

Figure A-8 Pre-Test Left Rear Three-Quarter View

Figure A-9 Post-Test Left Rear Three-Quarter View

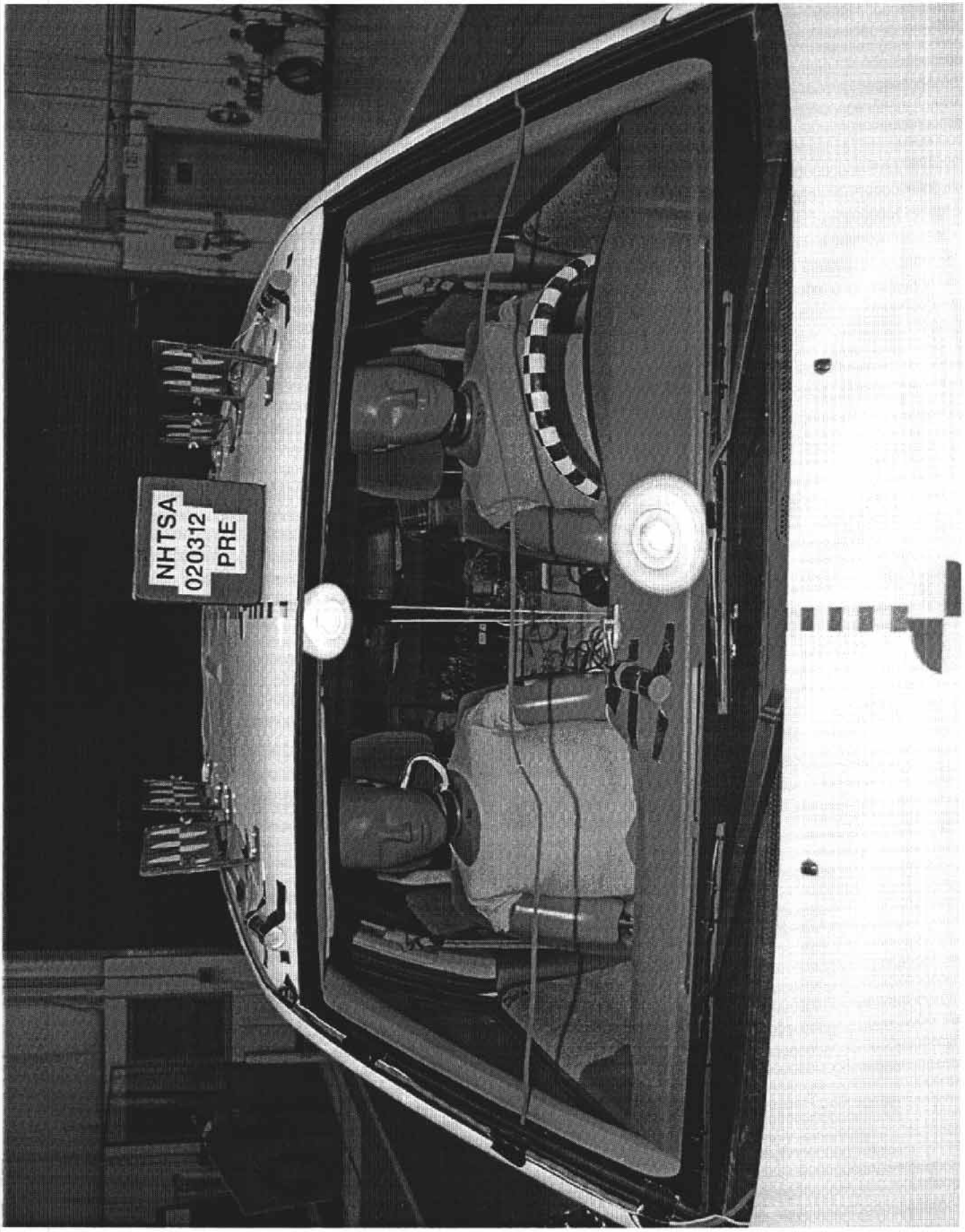


Figure A-10 Pre-Test Windshield View

Figure A-11 Post-Test Windshield View

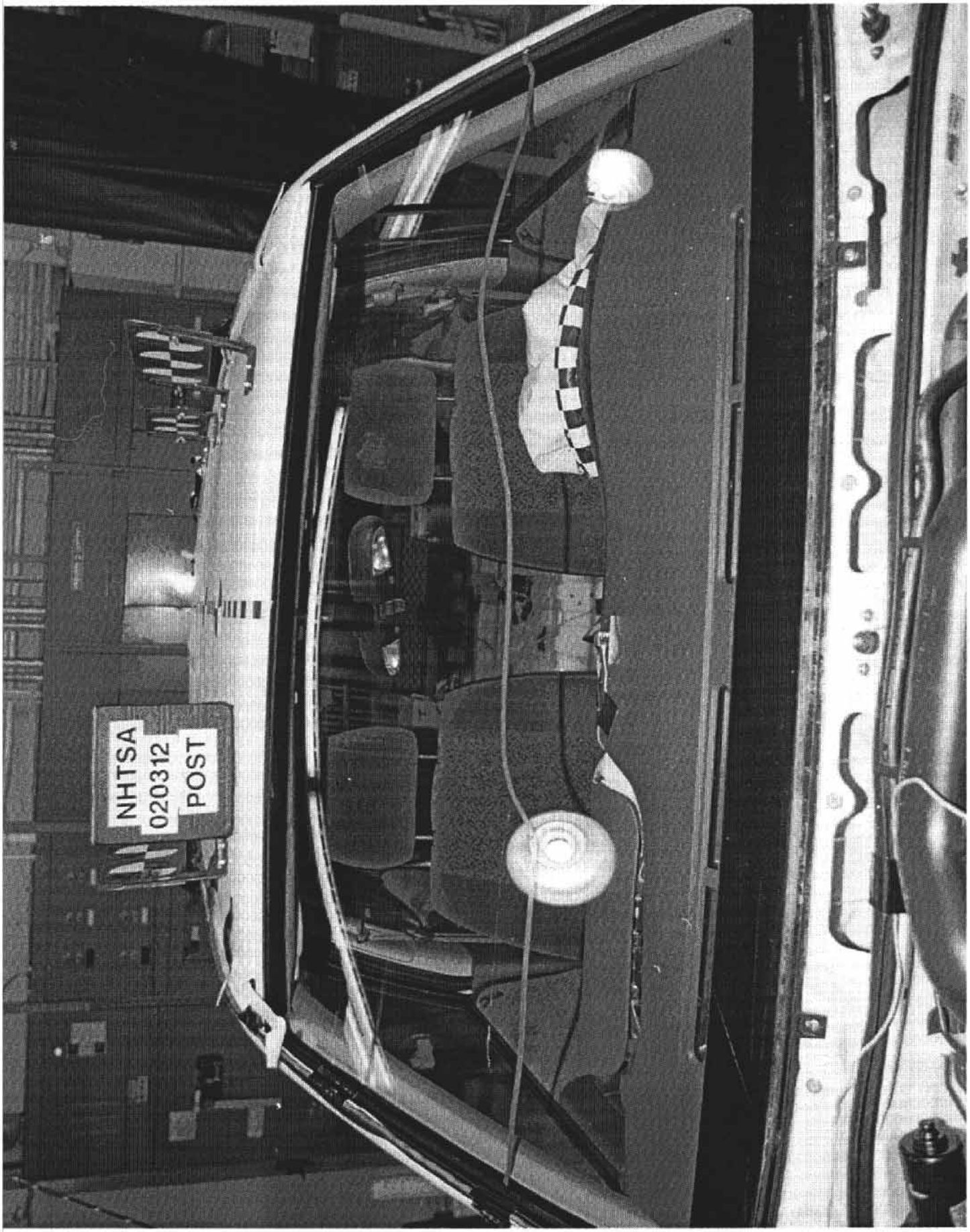


Figure A-12 Post-Test Windshield View with Cowl Removed

Figure A-13 Post-Test Left Windshield View with Cowl Removed

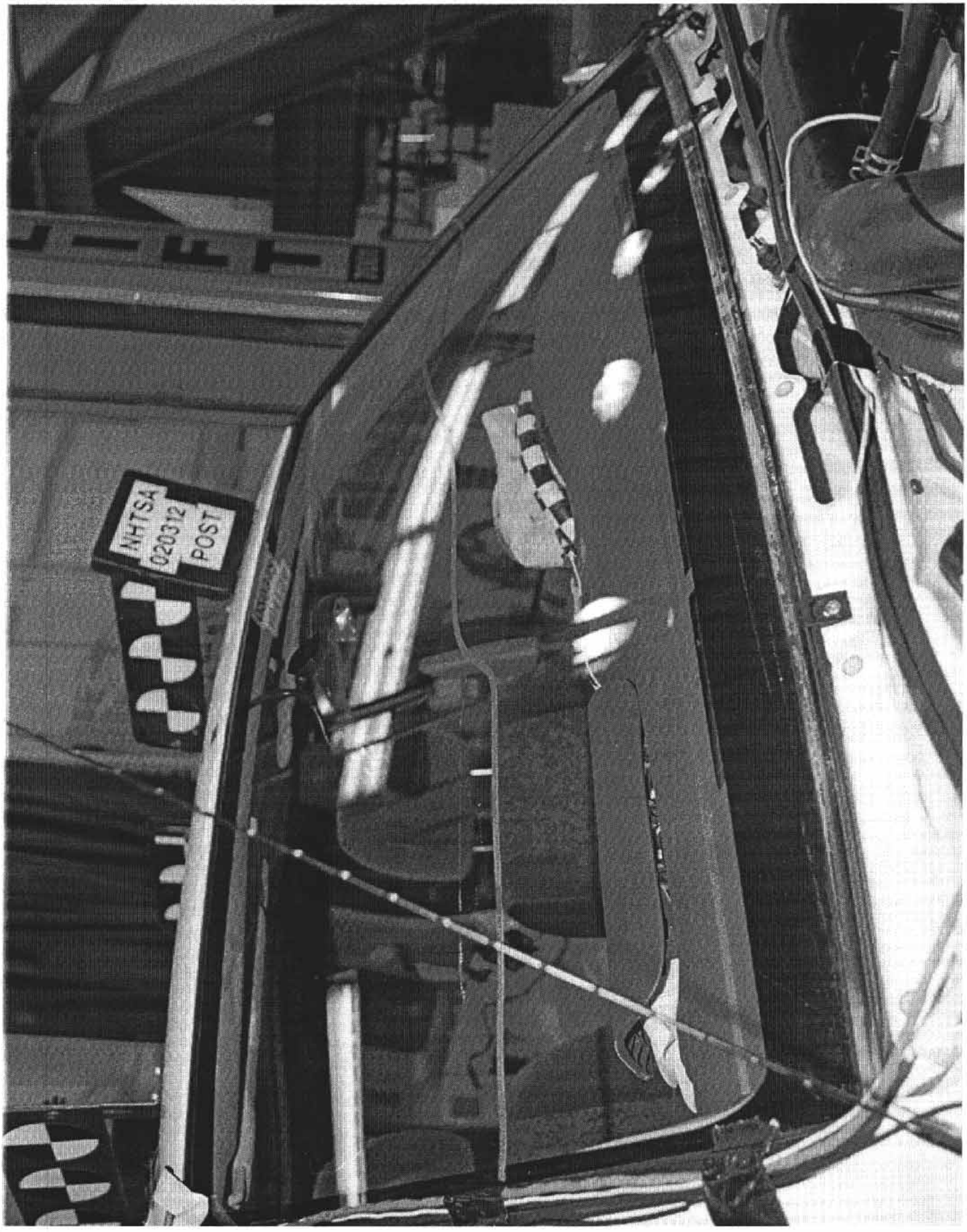


Figure A-14 Post-Test Right Windshield View with Cowl Removed

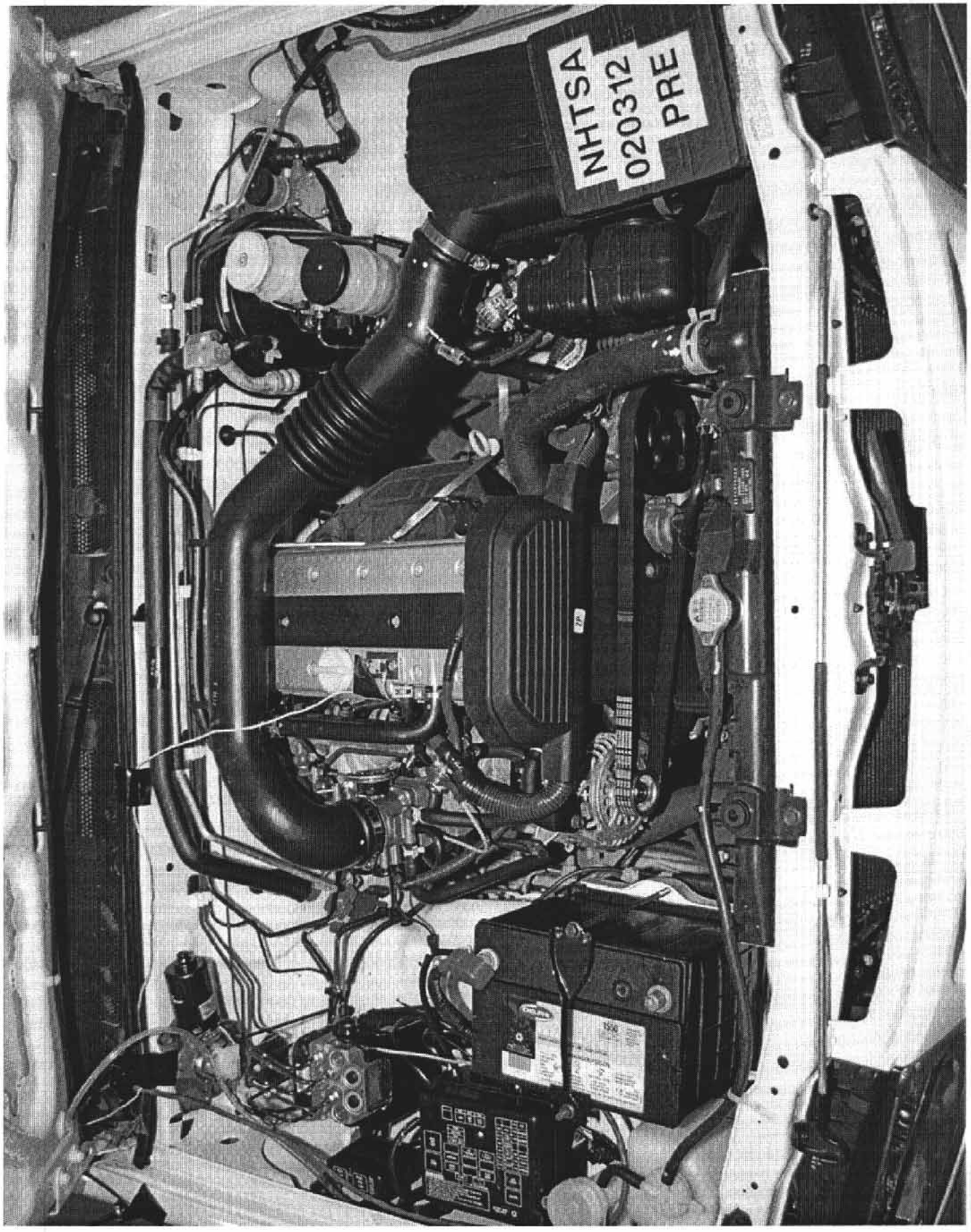


Figure A-15 Pre-Test Engine Compartment View

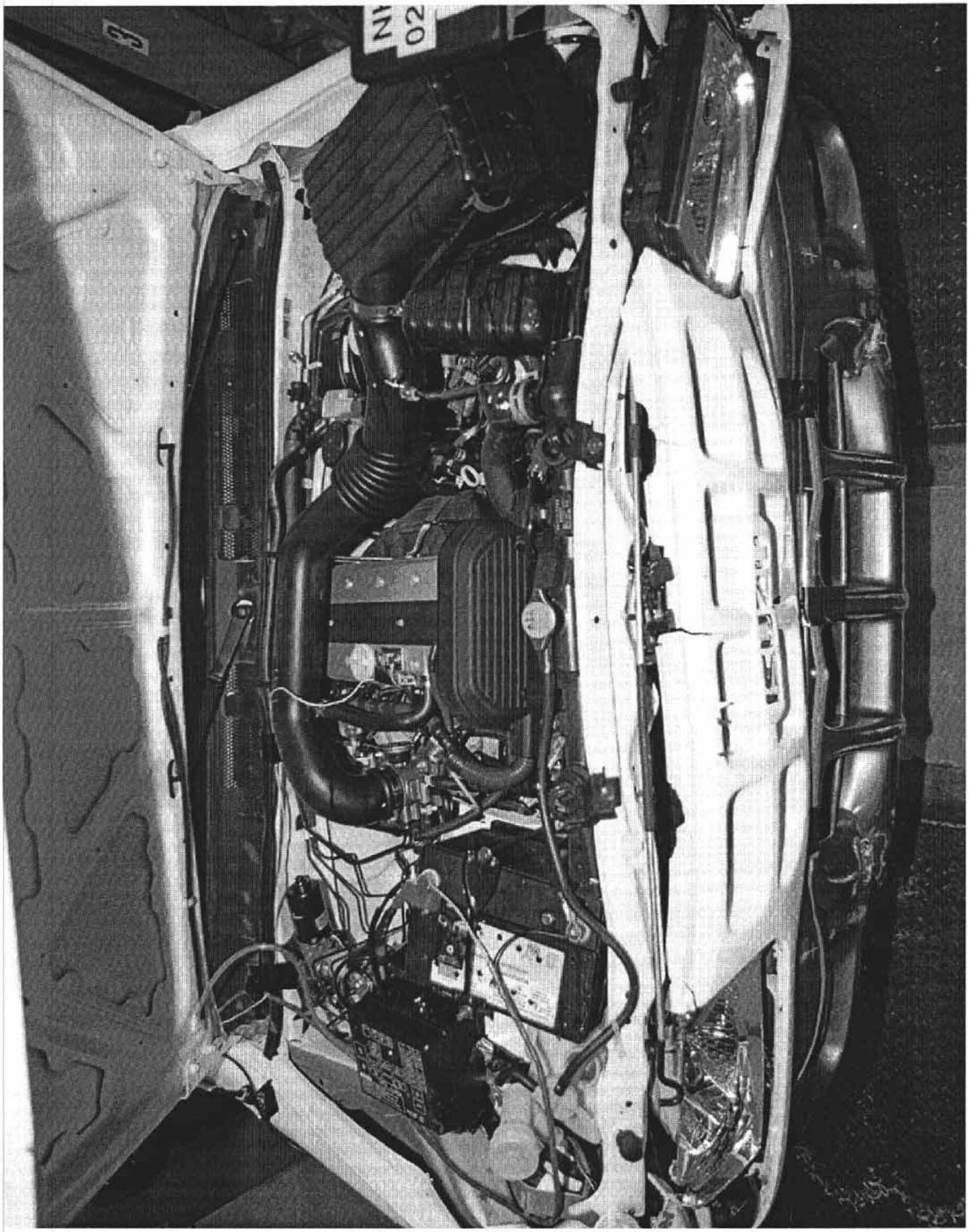


Figure A-16 Post-Test Engine Compartment View

Figure A-17 Pre-Test Fuel Filler Cap View

Figure A-18 Post-Test Fuel Filler Cap View

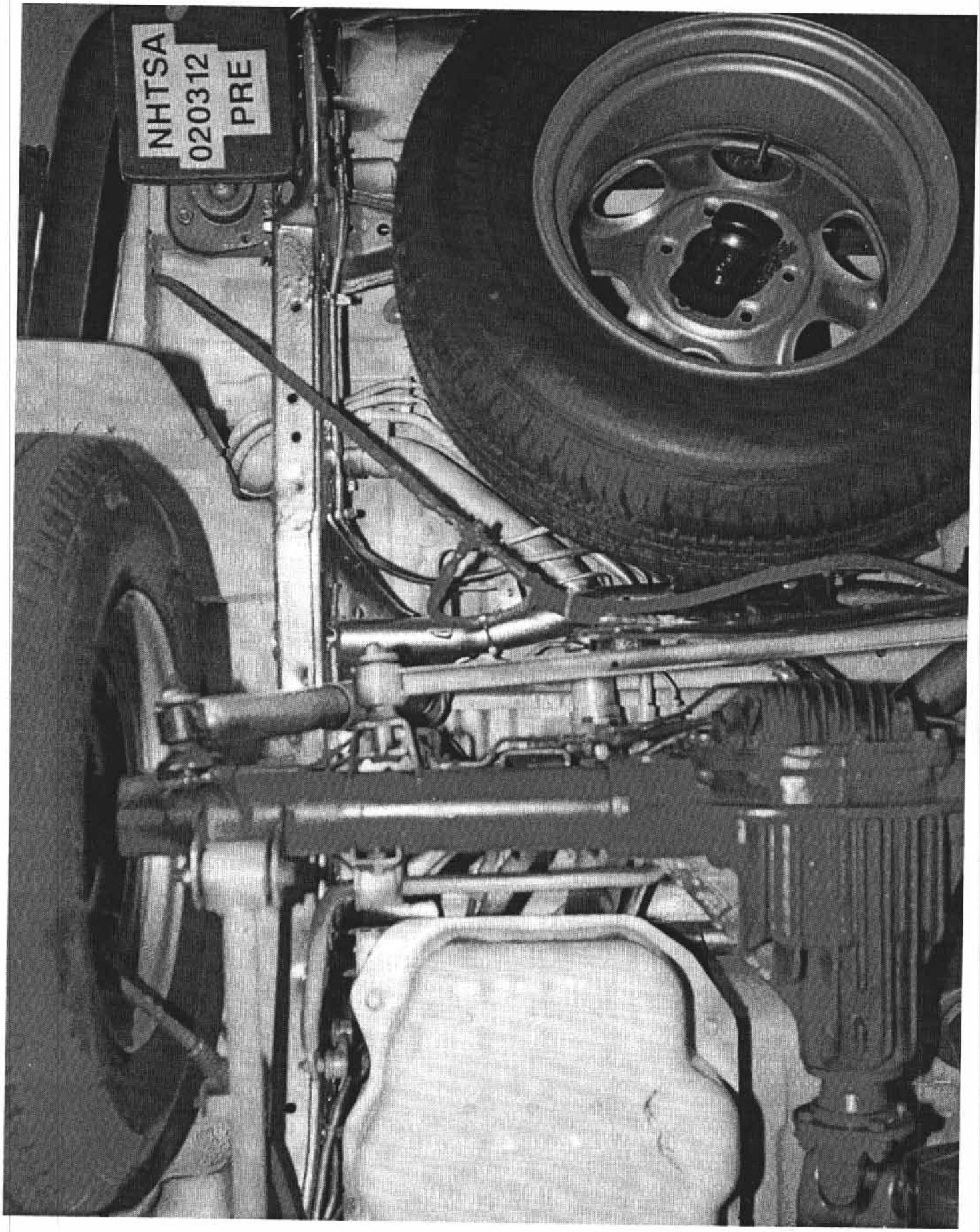


Figure A-19 Pre-Test Fuel Filler Neck View

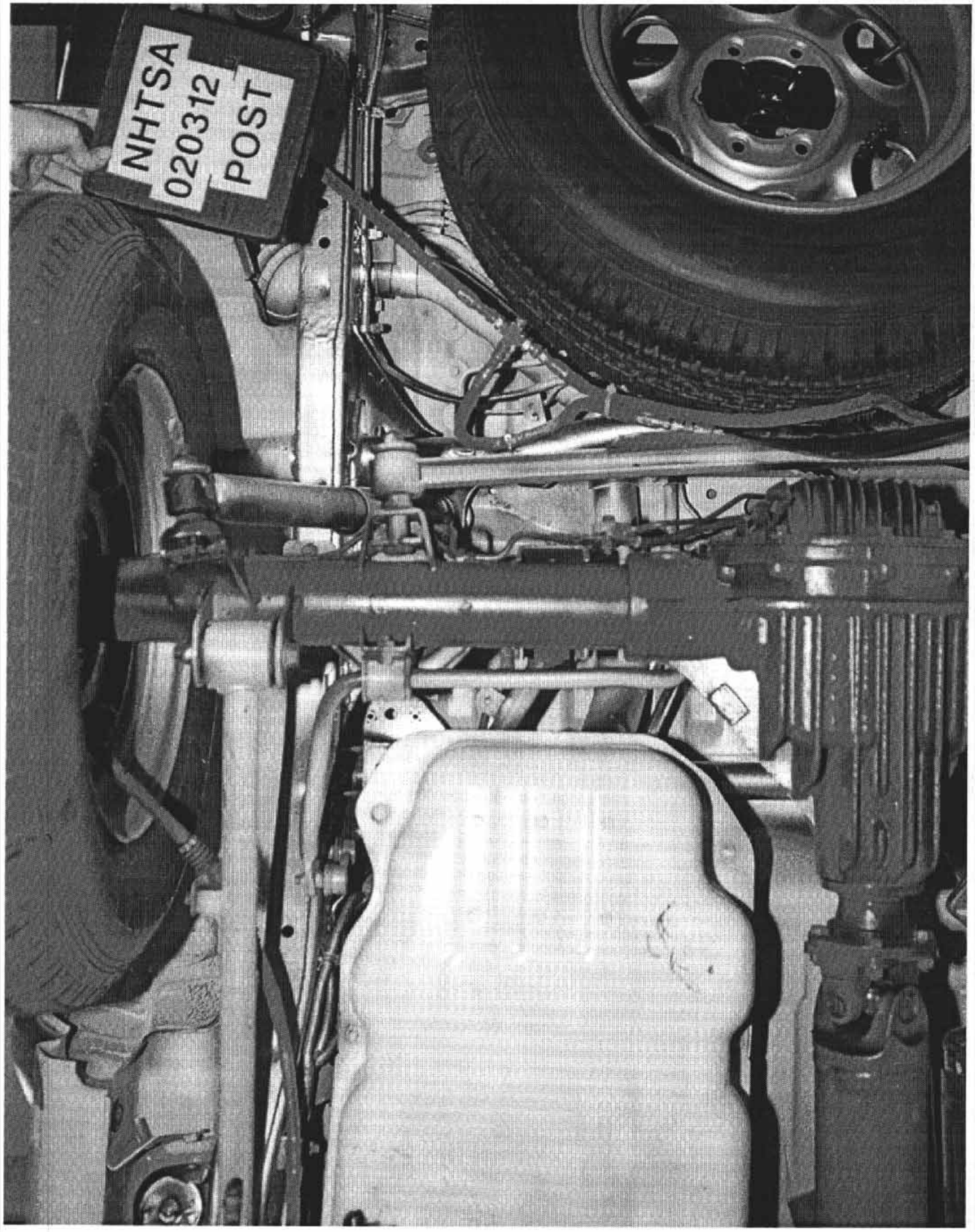


Figure A-20 Post-Test Fuel Filler Neck View

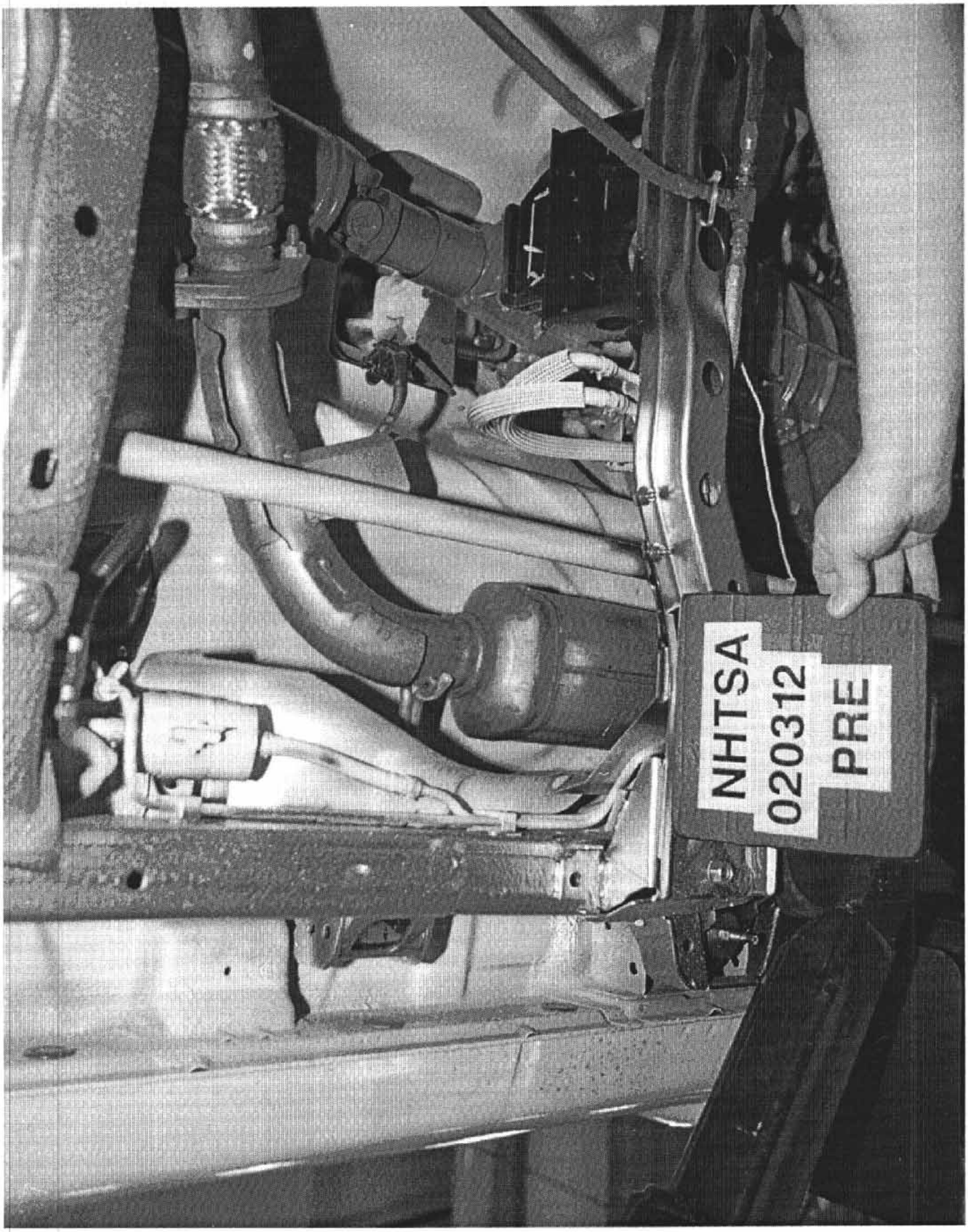


Figure A-21 Pre-Test Fuel Lines View

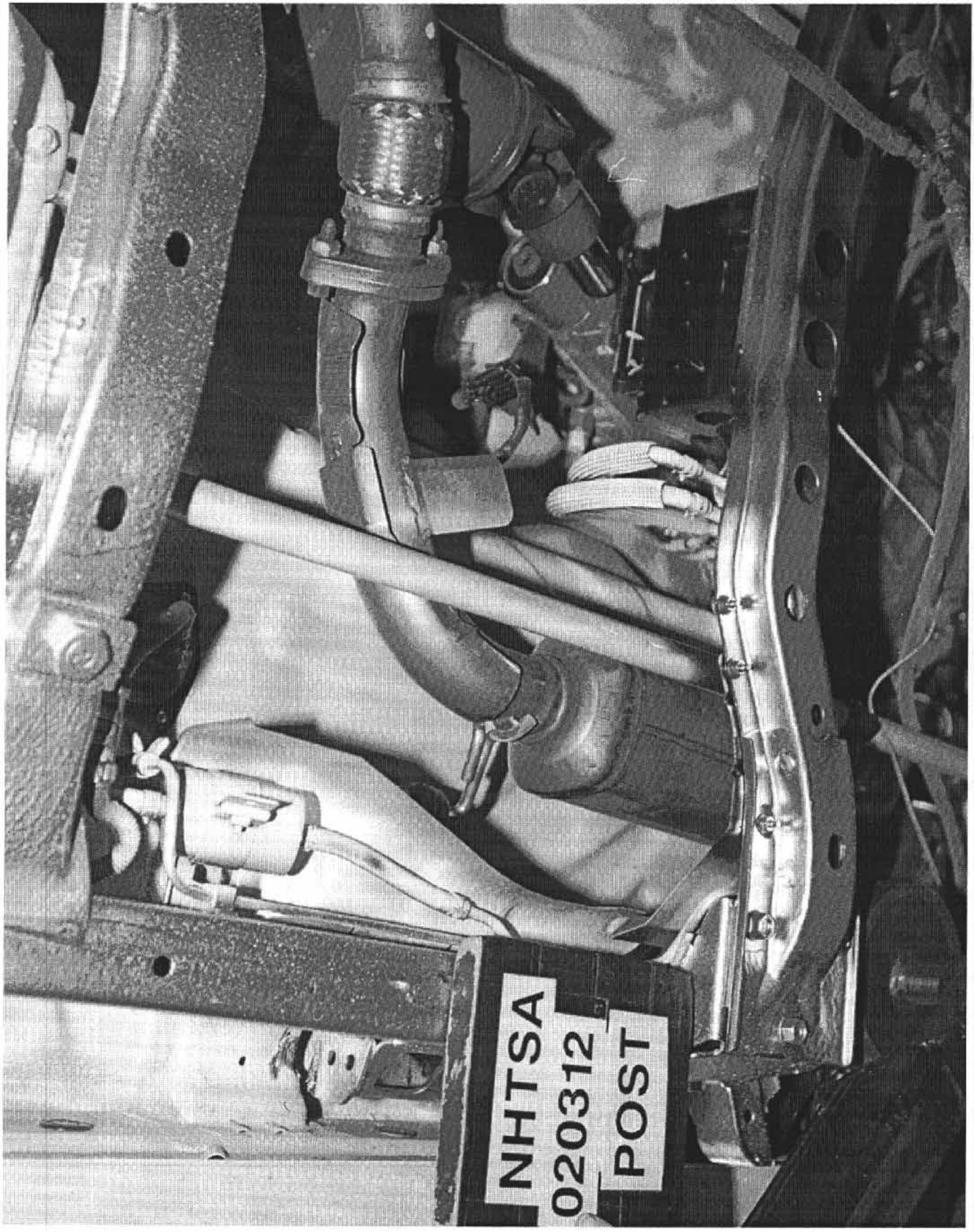


Figure A-22 Post-Test Fuel Lines View

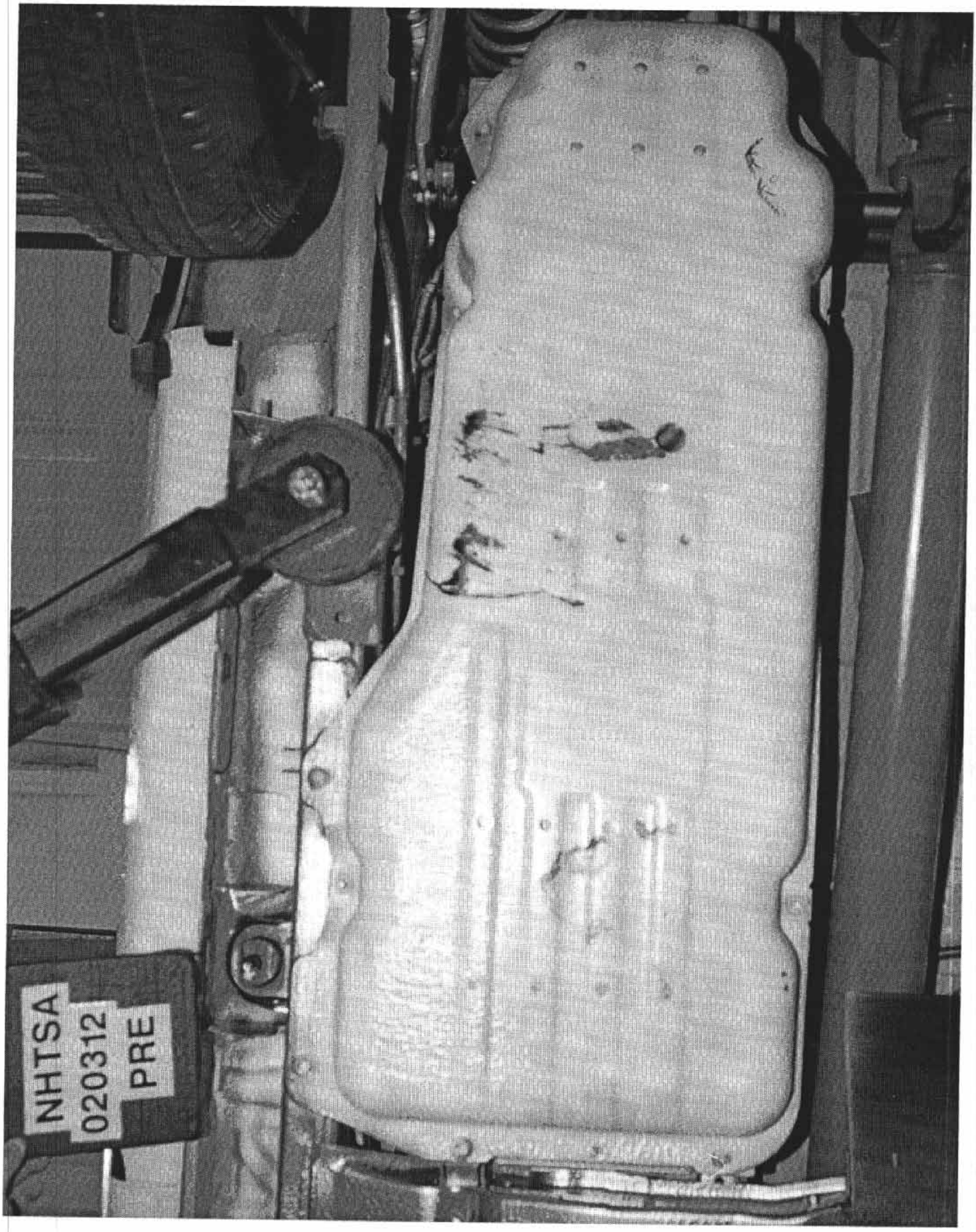


Figure A-23 Pre-Test Fuel Tank View

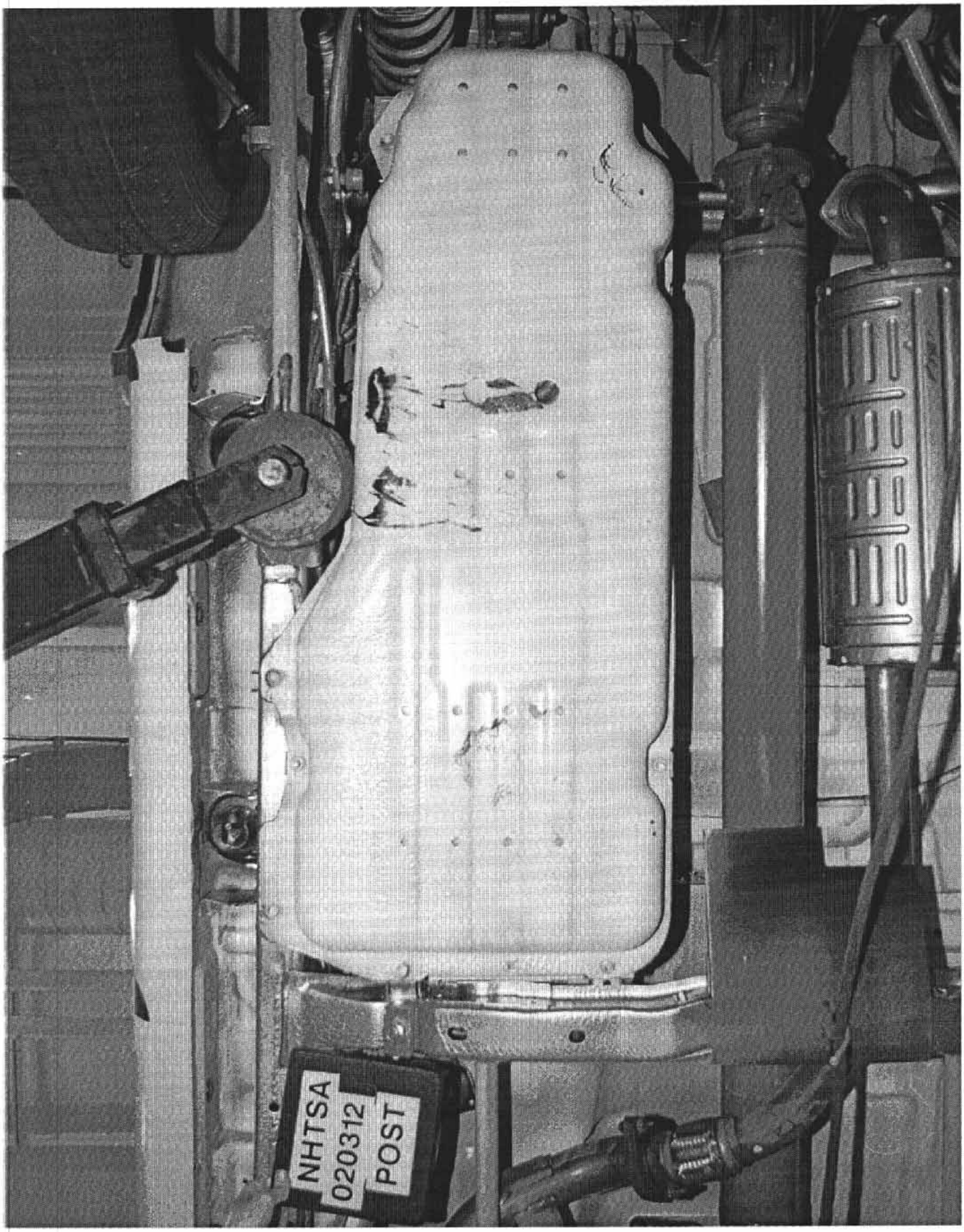


Figure A-24 Post-Test Fuel Tank View

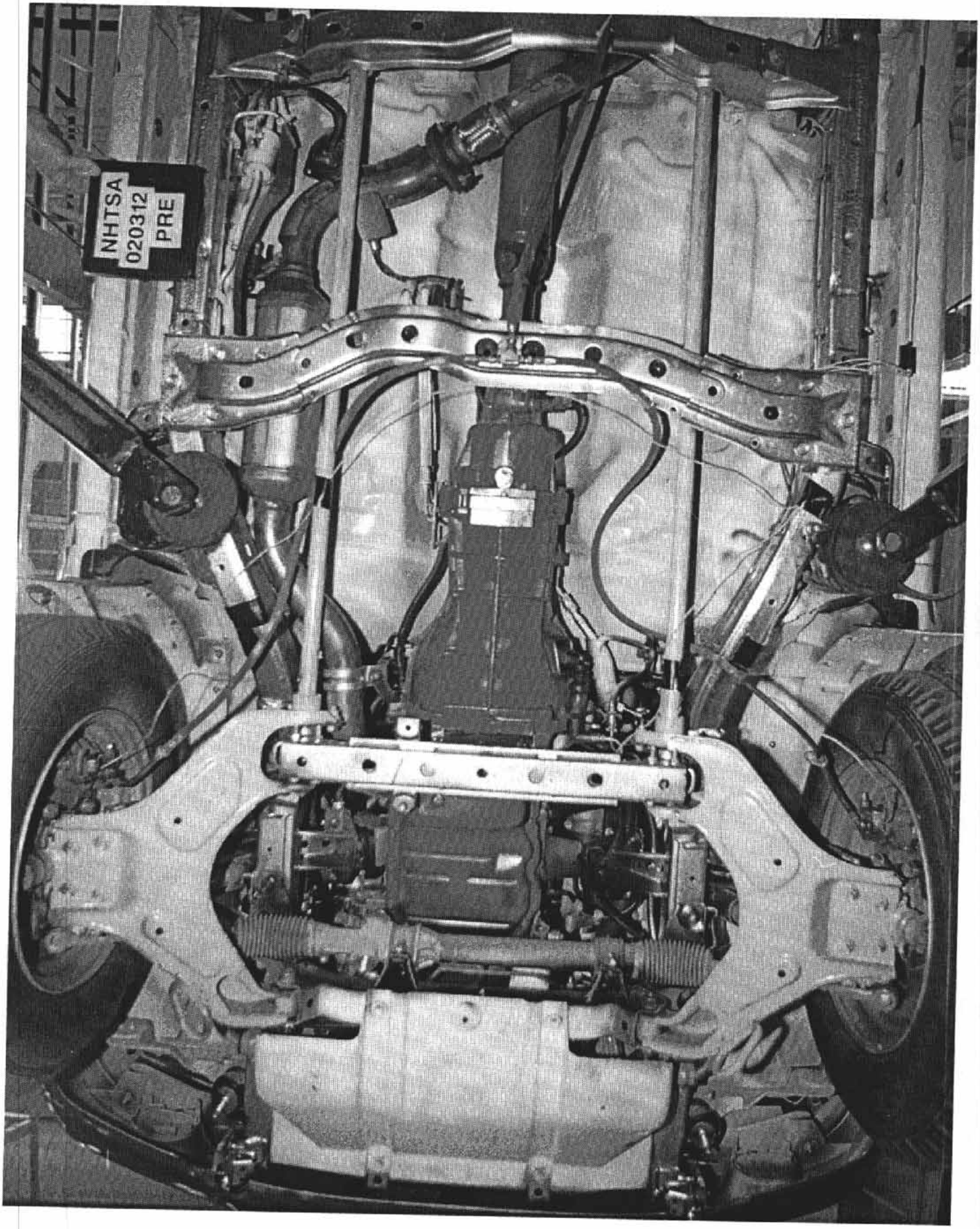


Figure A-25 Pre-Test Front Underbody View

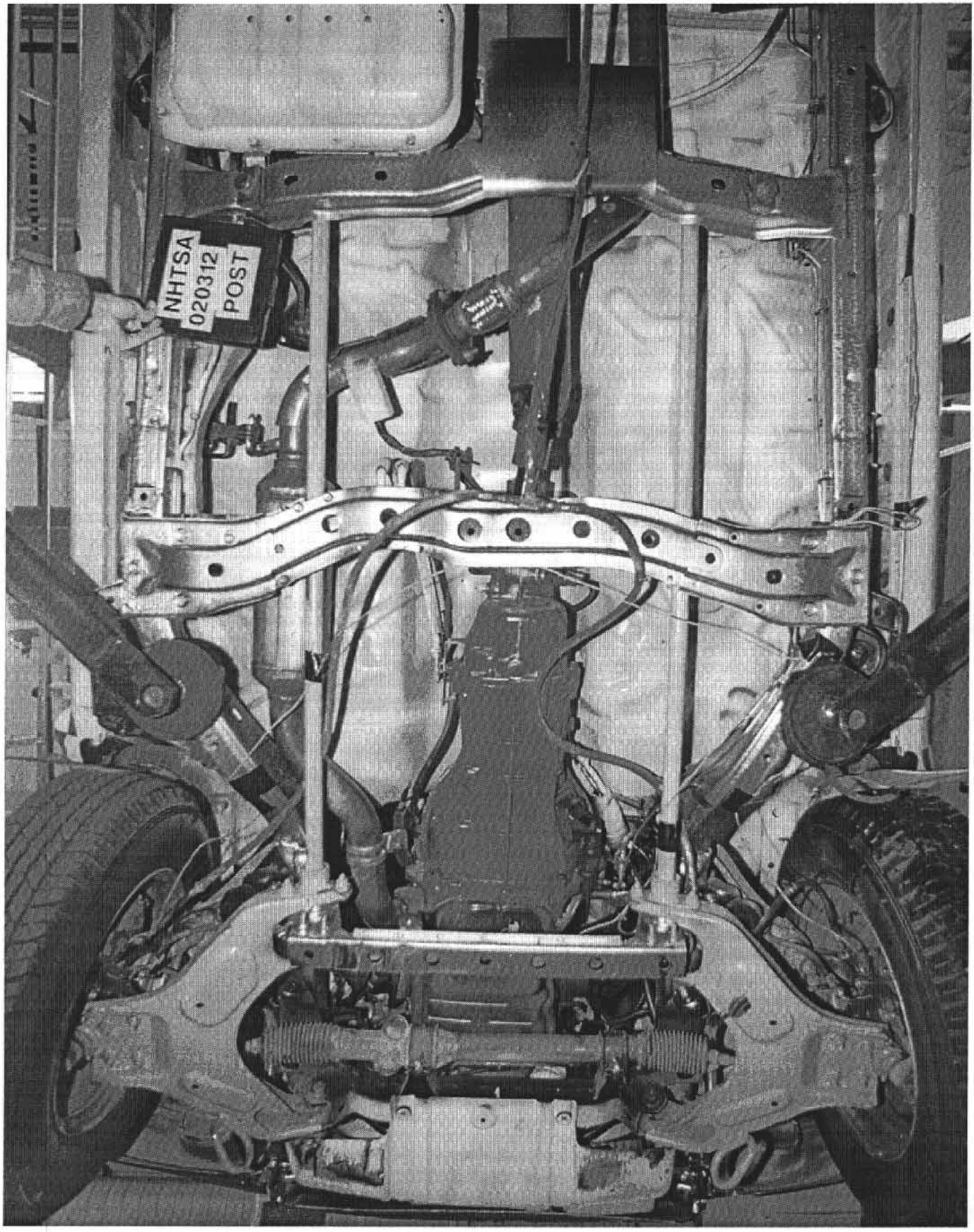


Figure A-26 Post-Test Front Underbody View

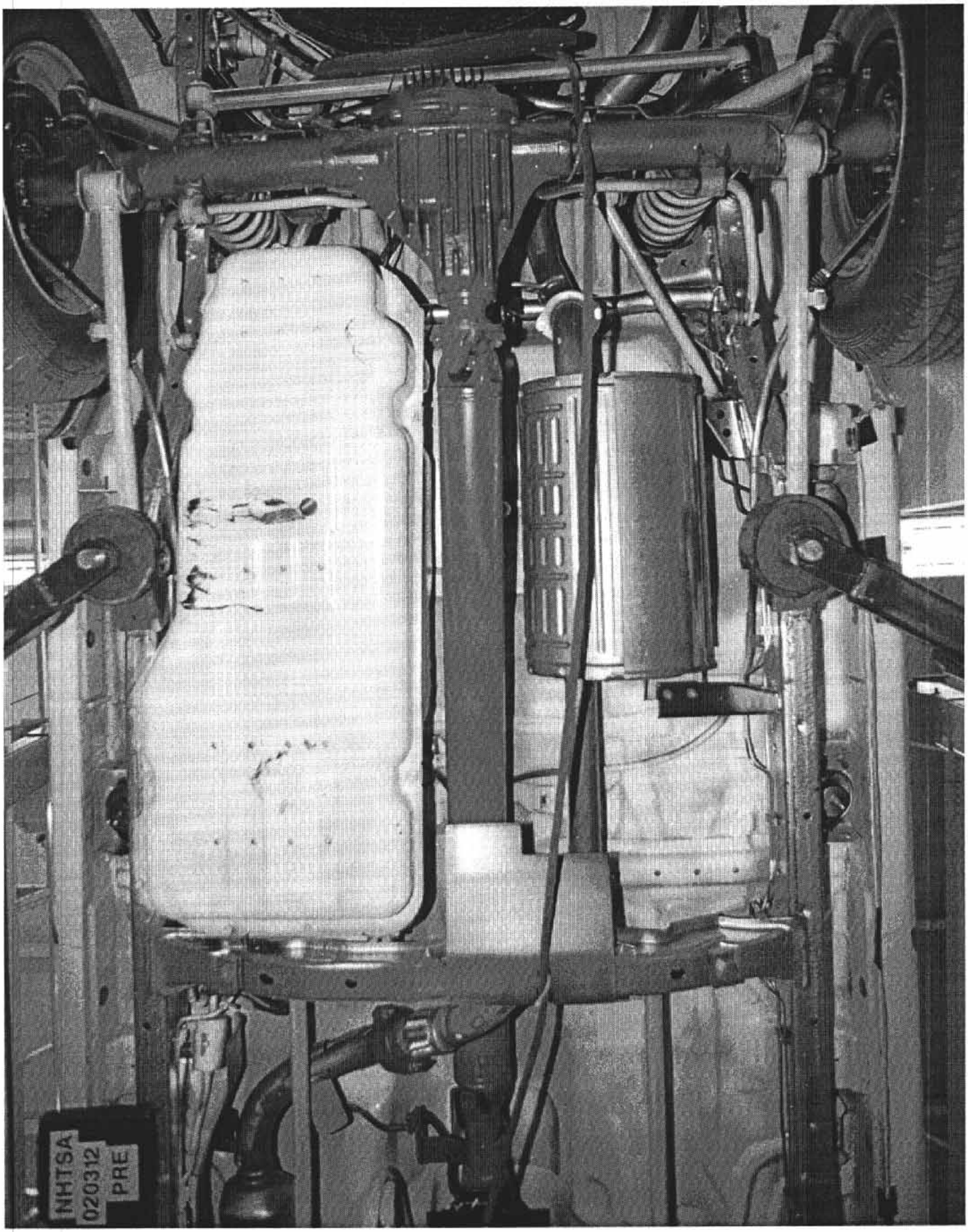


Figure A-27 Pre-Test Rear Underbody View

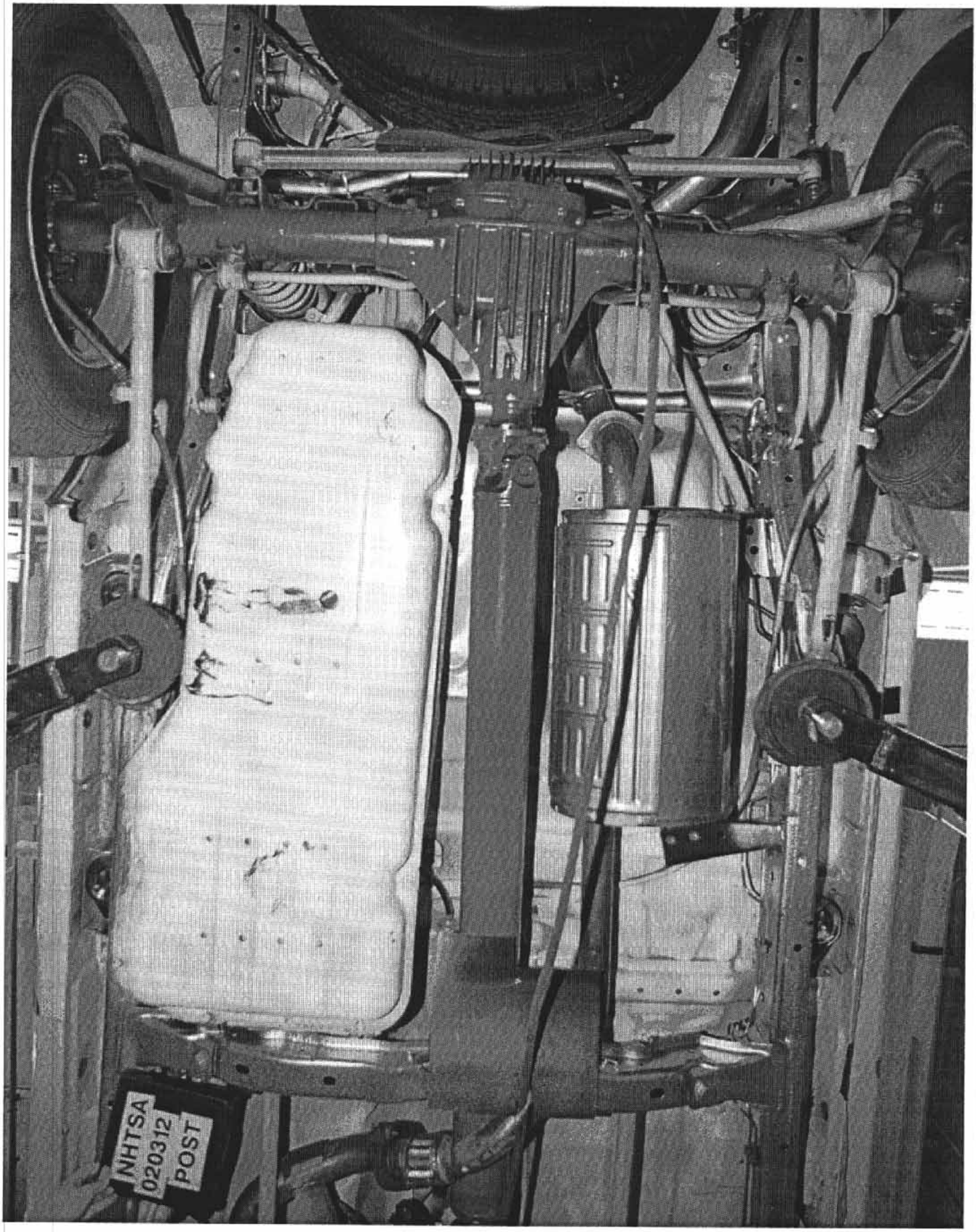


Figure A-28 Post-Test Rear Underbody View

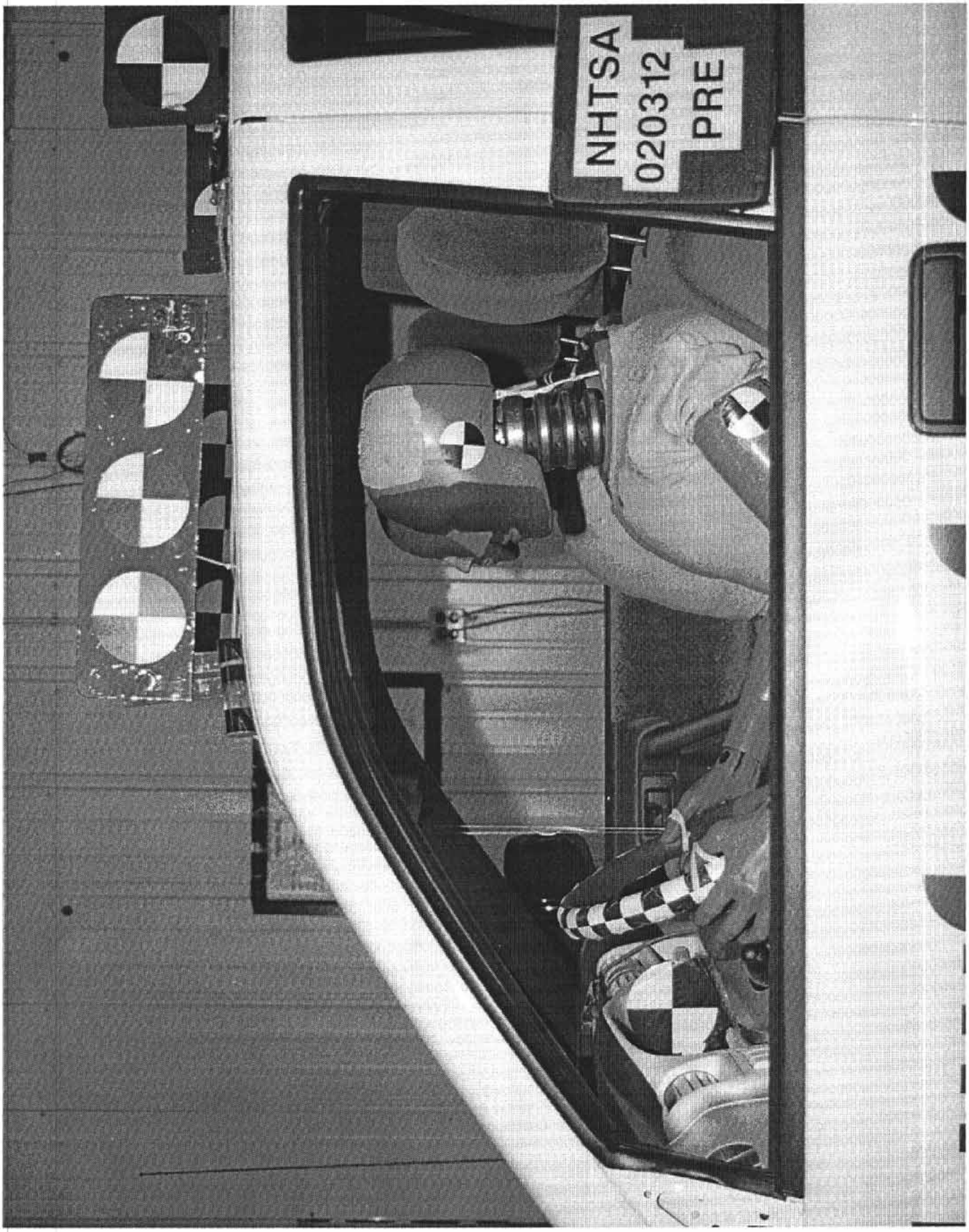


Figure A-29 Pre-Test Driver Dummy Position View

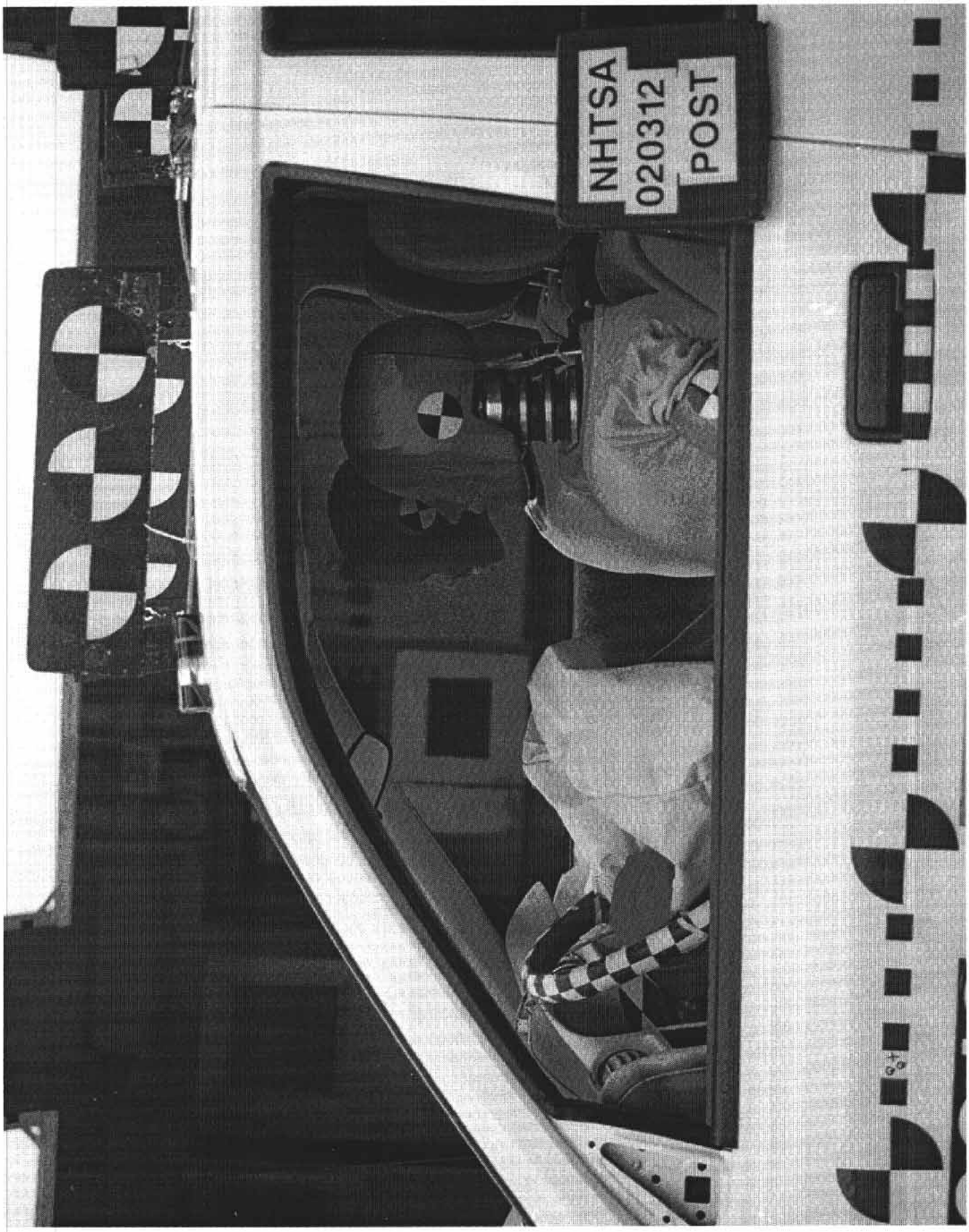


Figure A-30 Post-Test Driver Dummy Position View

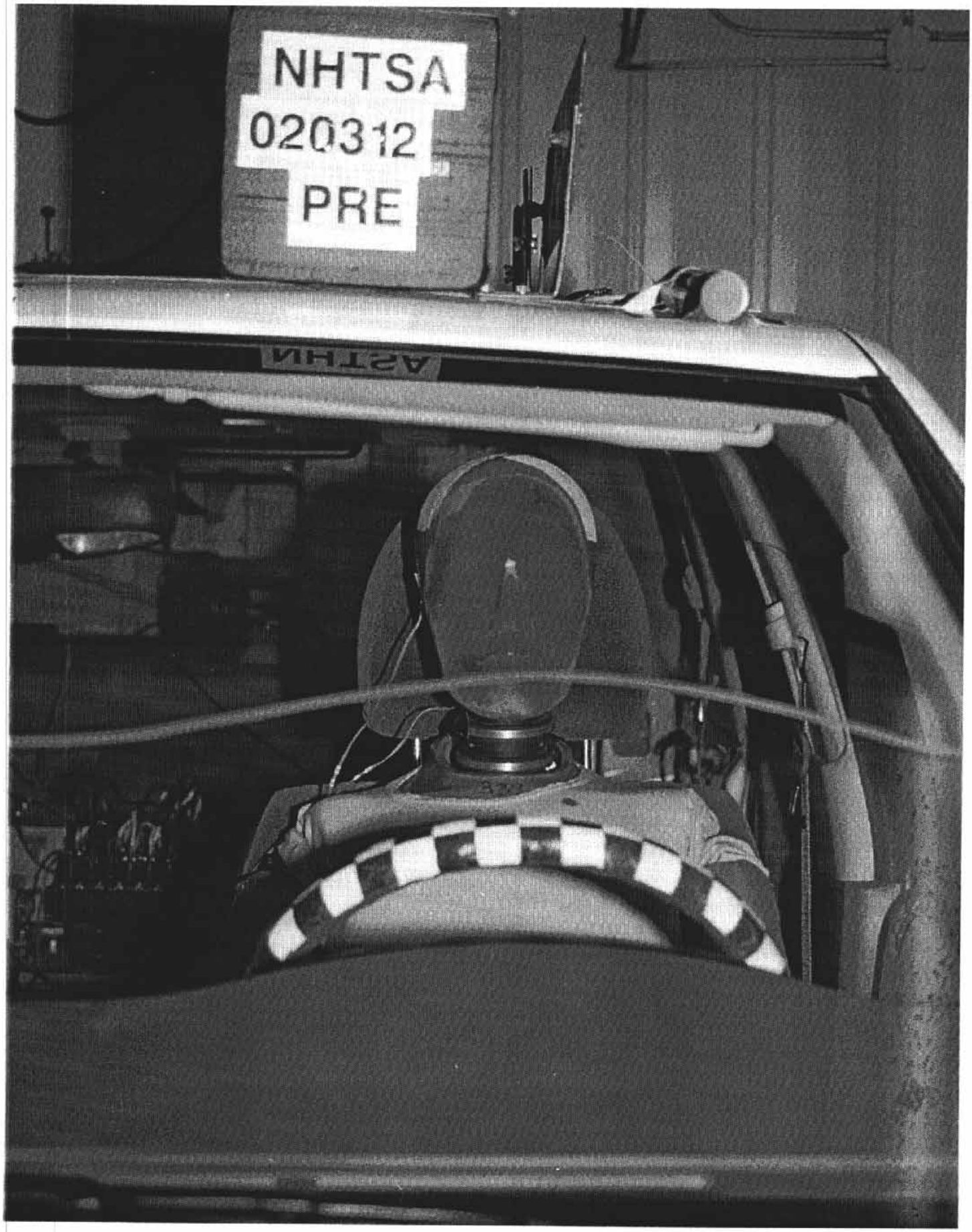


Figure A-31 Pre-Test Driver Dummy Front View

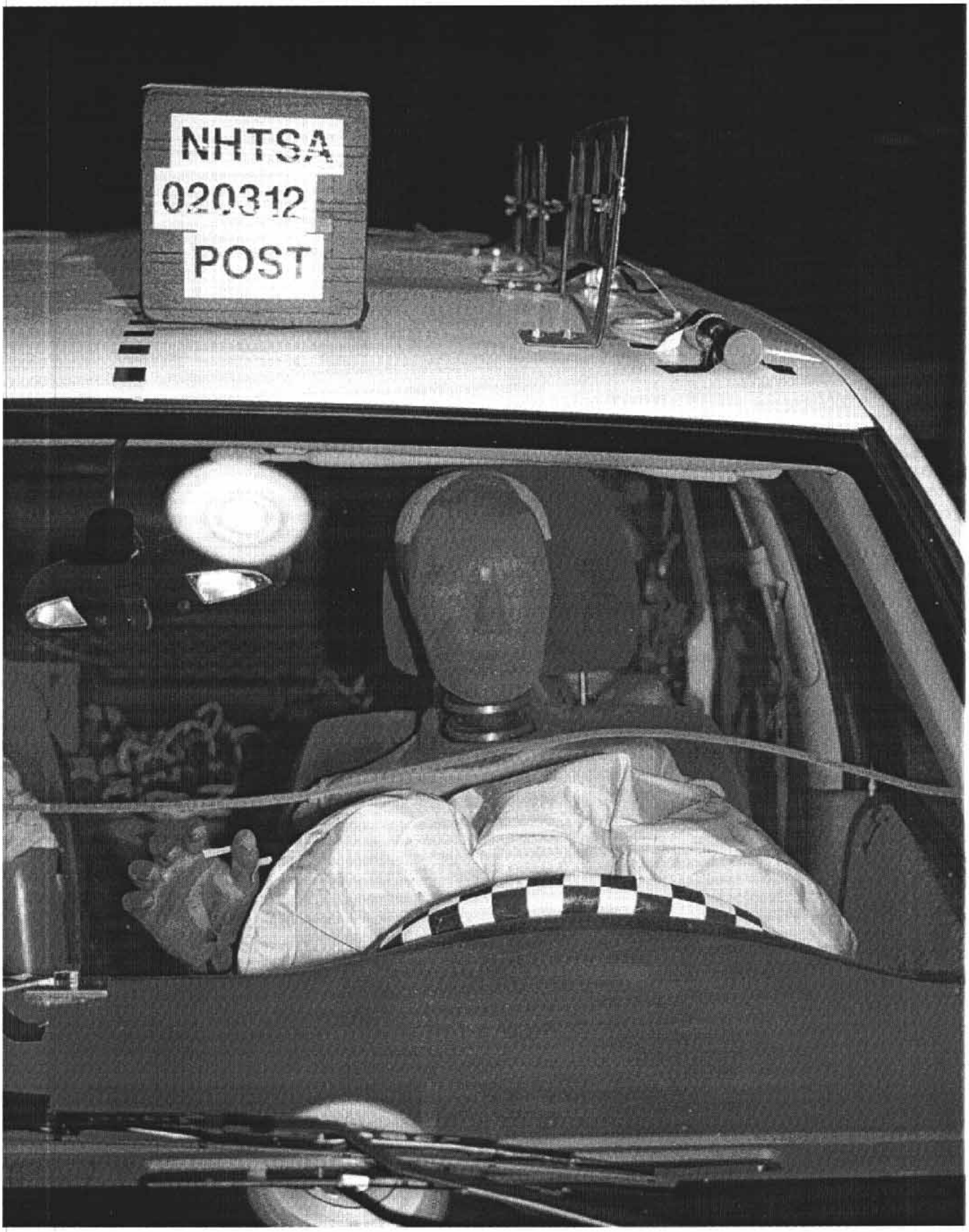


Figure A-32 Post-Test Driver Dummy Front View

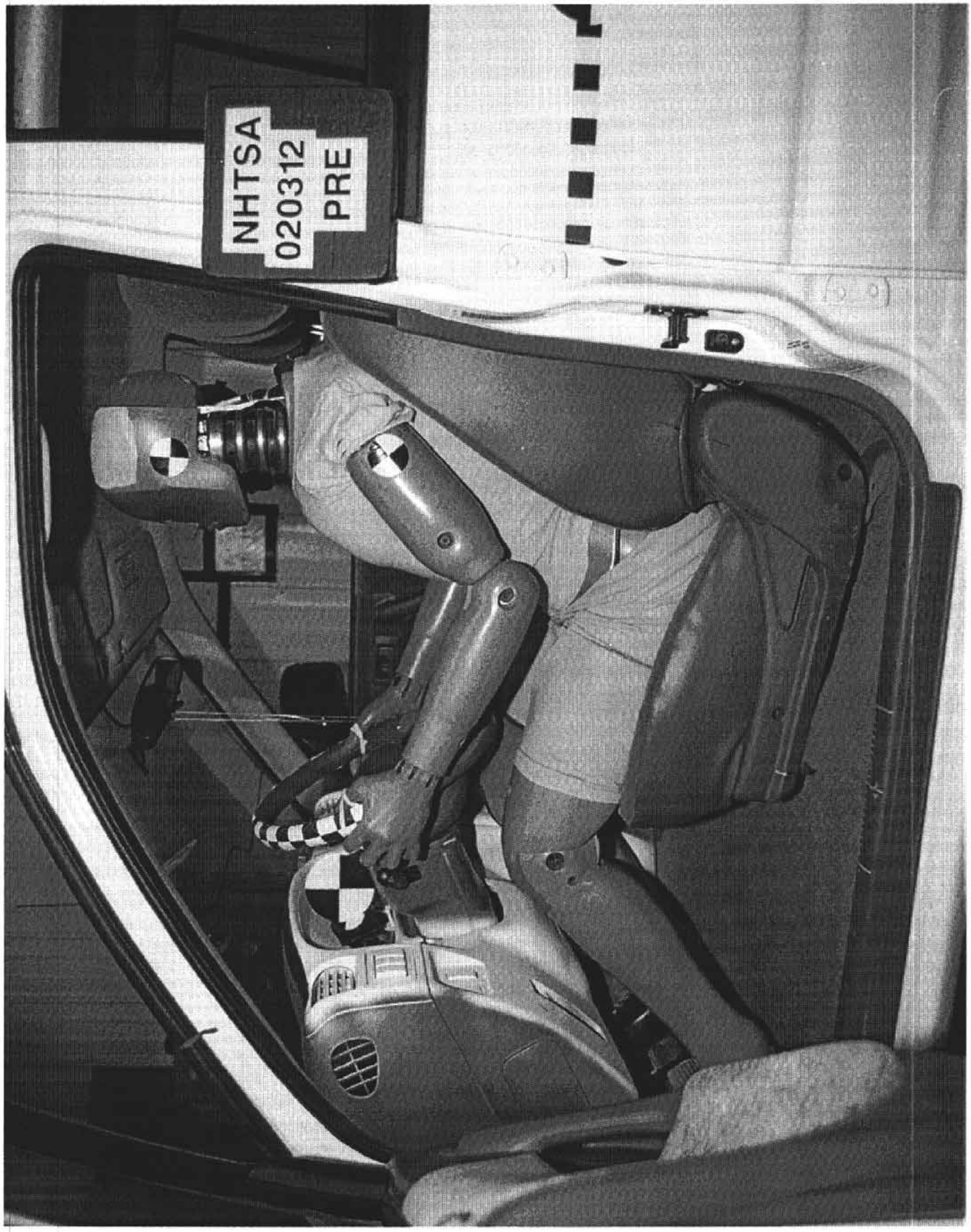


Figure A-33 Pre-Test Driver Dummy & Vehicle Interior - View 1

Figure A-34 Post-Test Driver Dummy & Vehicle Interior - View 1

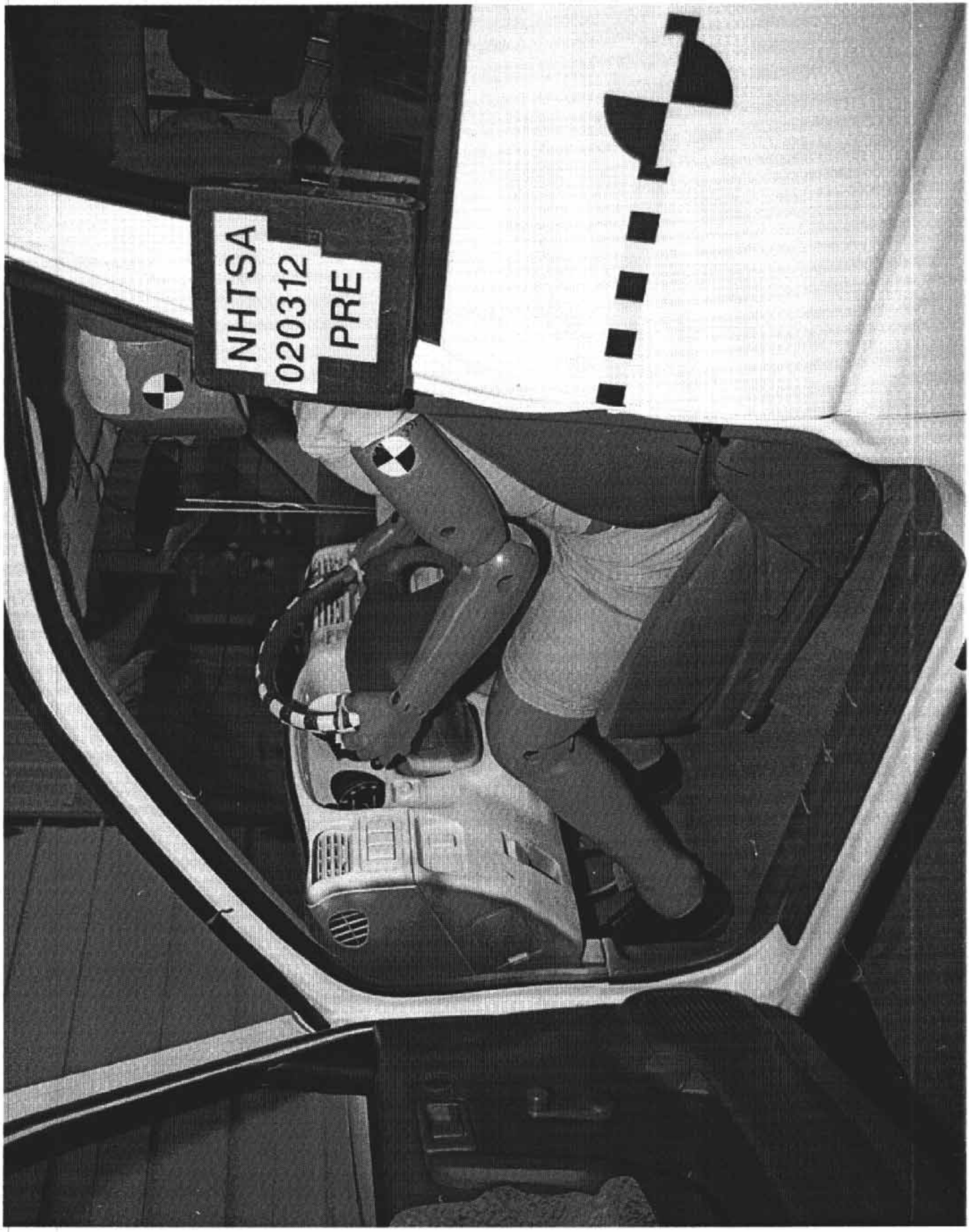


Figure A-35 Pre-Test Driver Dummy & Vehicle Interior - View 2

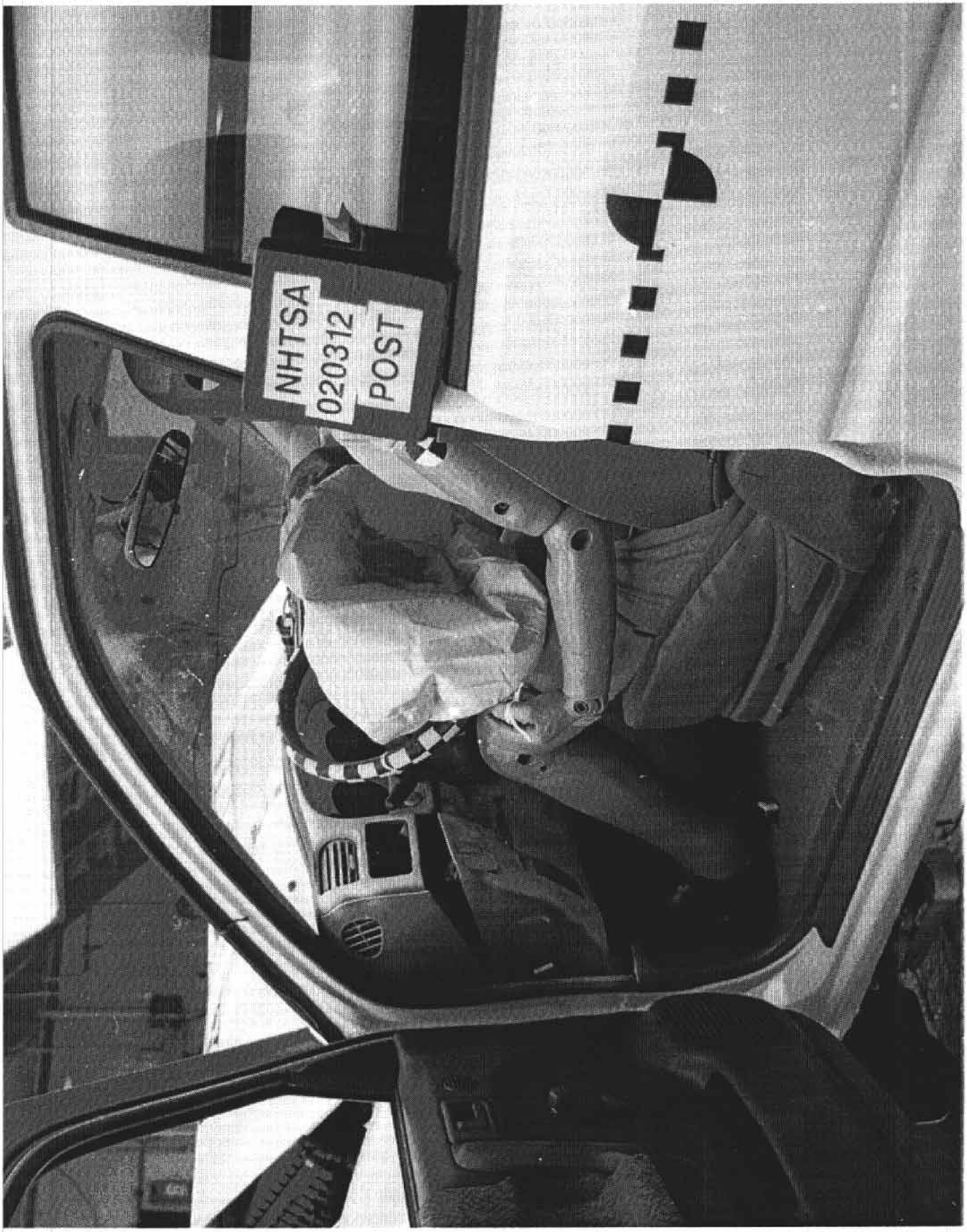


Figure A-36 Post-Test Driver Dummy & Vehicle Interior - View 2

Figure A-37 Pre-Test Driver Dummy Seat Track Postion View

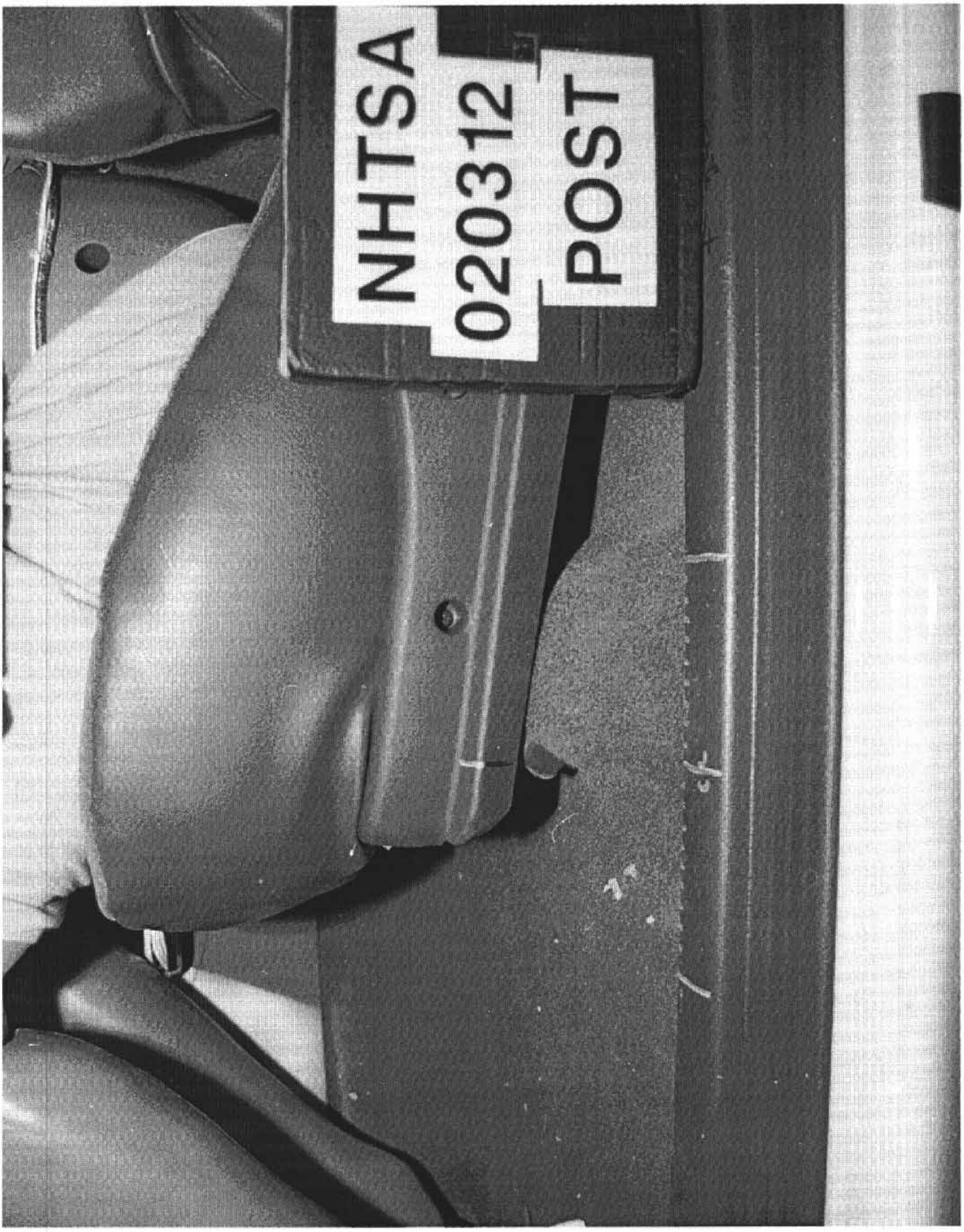


Figure A-38 Post-Test Driver Dummy Seat Track Position View

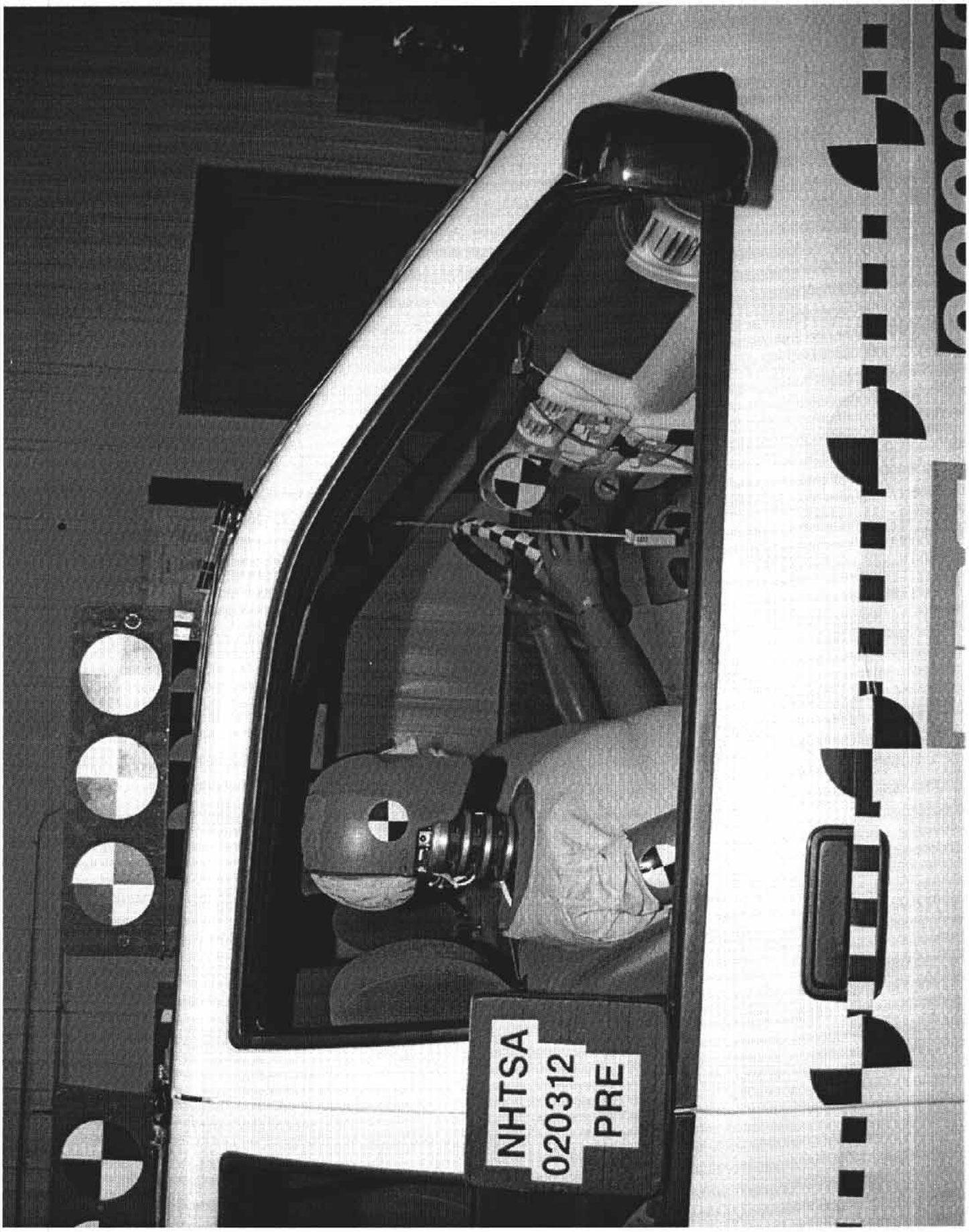


Figure A-39 Pre-Test Passenger Dummy Postion View

Figure A-40 Post-Test Passenger Dummy Position View

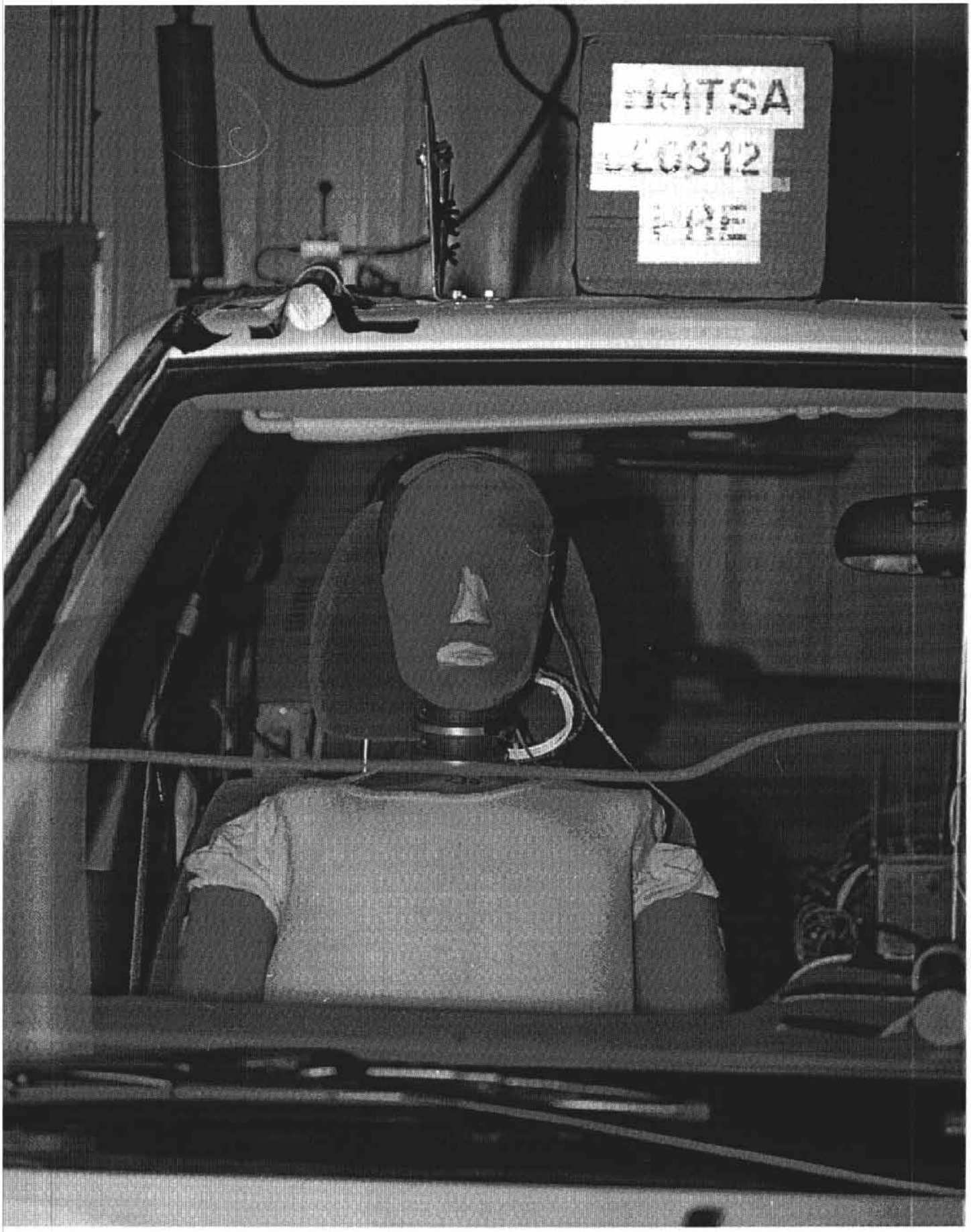


Figure A-41 Pre-Test Passenger Dummy Front View

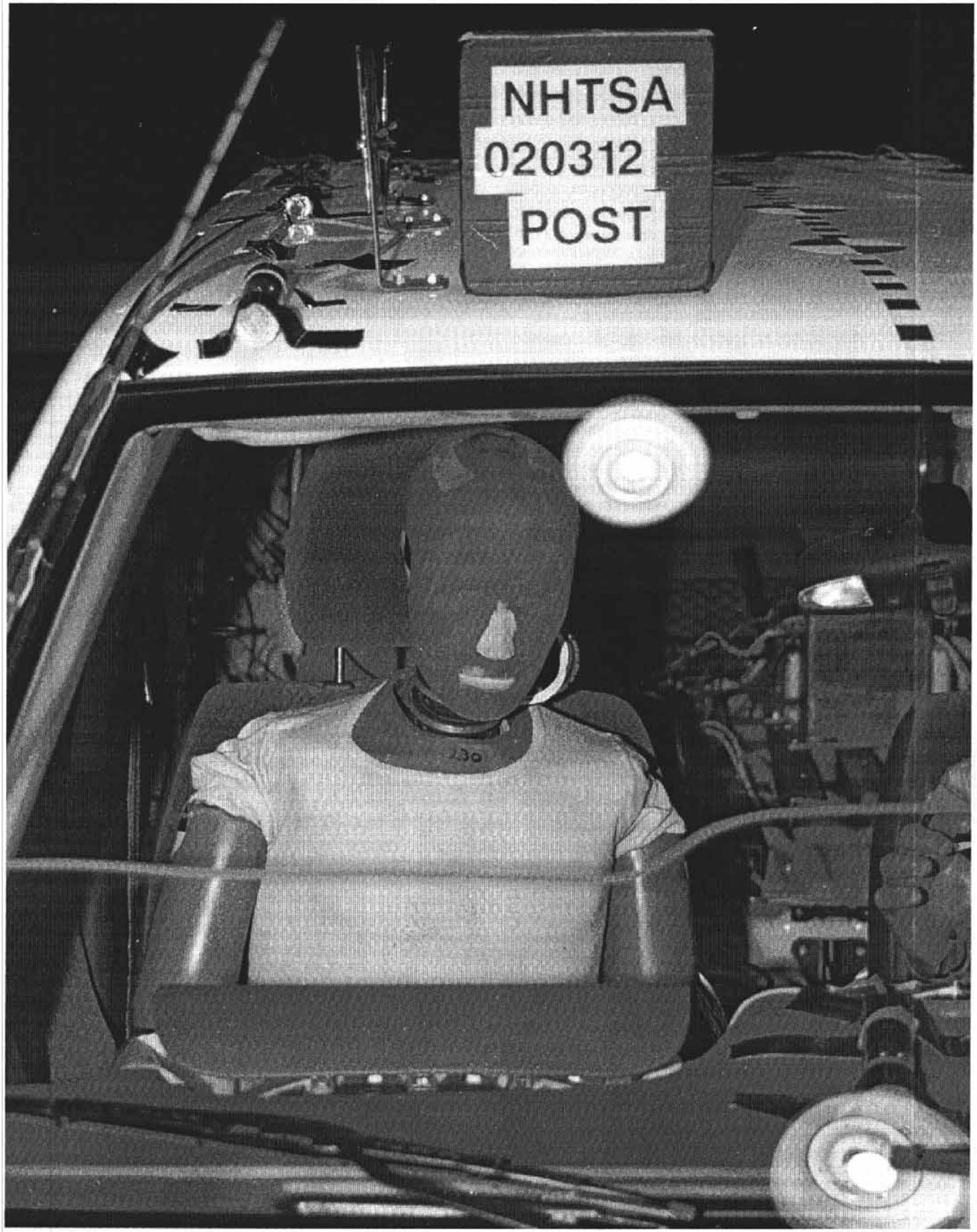


Figure A-42 Post-Test Passenger Dummy Front View

Figure A-43 Pre-Test Passenger Dummy & Vehicle Interior - View 1

Figure A-44 Post-Test Passenger Dummy & Vehicle Interior - View 1

Figure A-45 Pre-Test Passenger Dummy & Vehicle Interior - View 2

Figure A-46 Post-Test Passenger Dummy & Vehicle Interior - View 2

Figure A-47 Pre-Test Passenger Dummy Seat Track Position View

Figure A-48 Post-Test Passenger Dummy Seat Track Position View

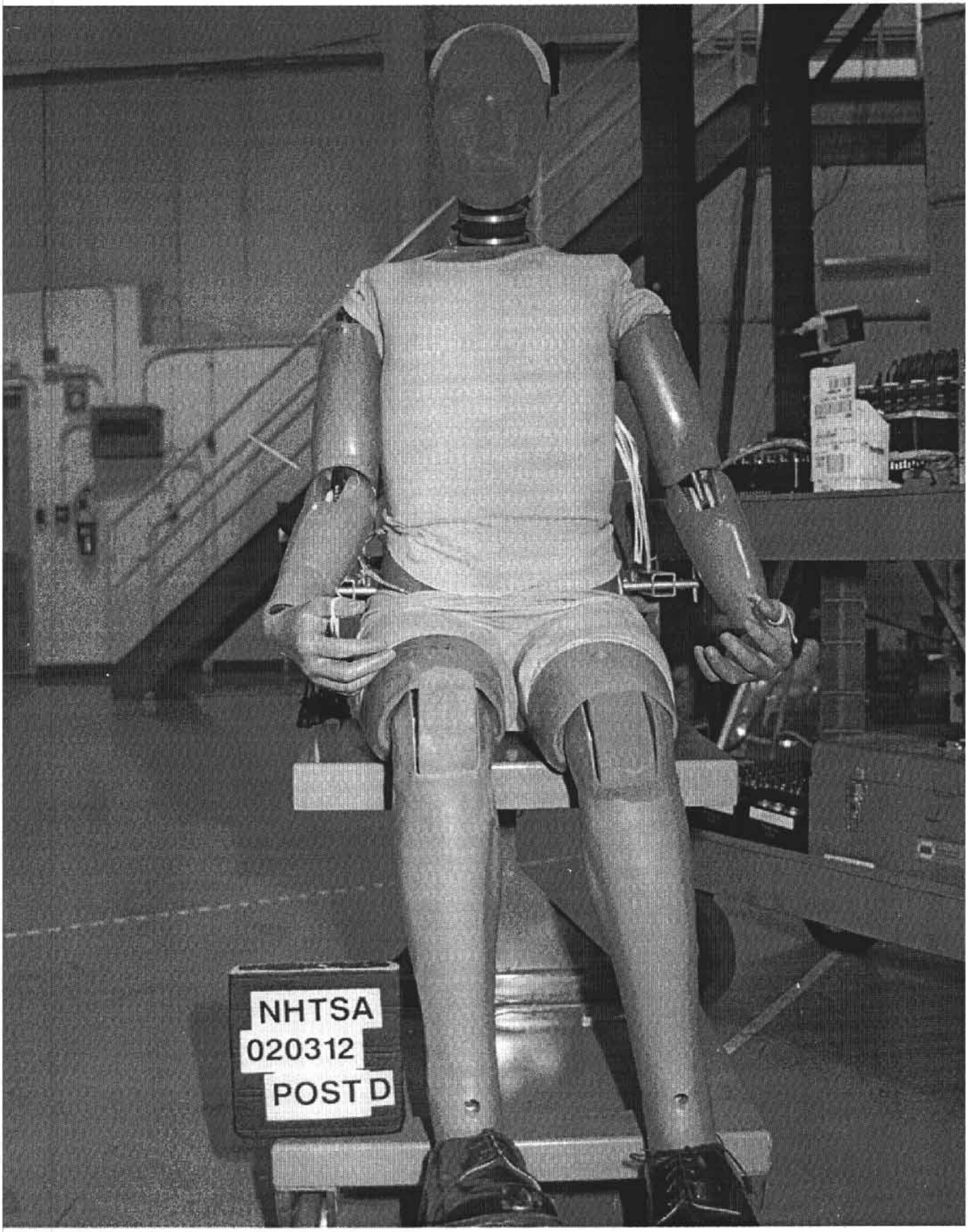


Figure A-49 Post-Test Driver Dummy View

Figure A-50 Post-Test Driver Dummy Head Contact - View 1

Figure A-51 Post-Test Driver Dummy Head Contact - View 2

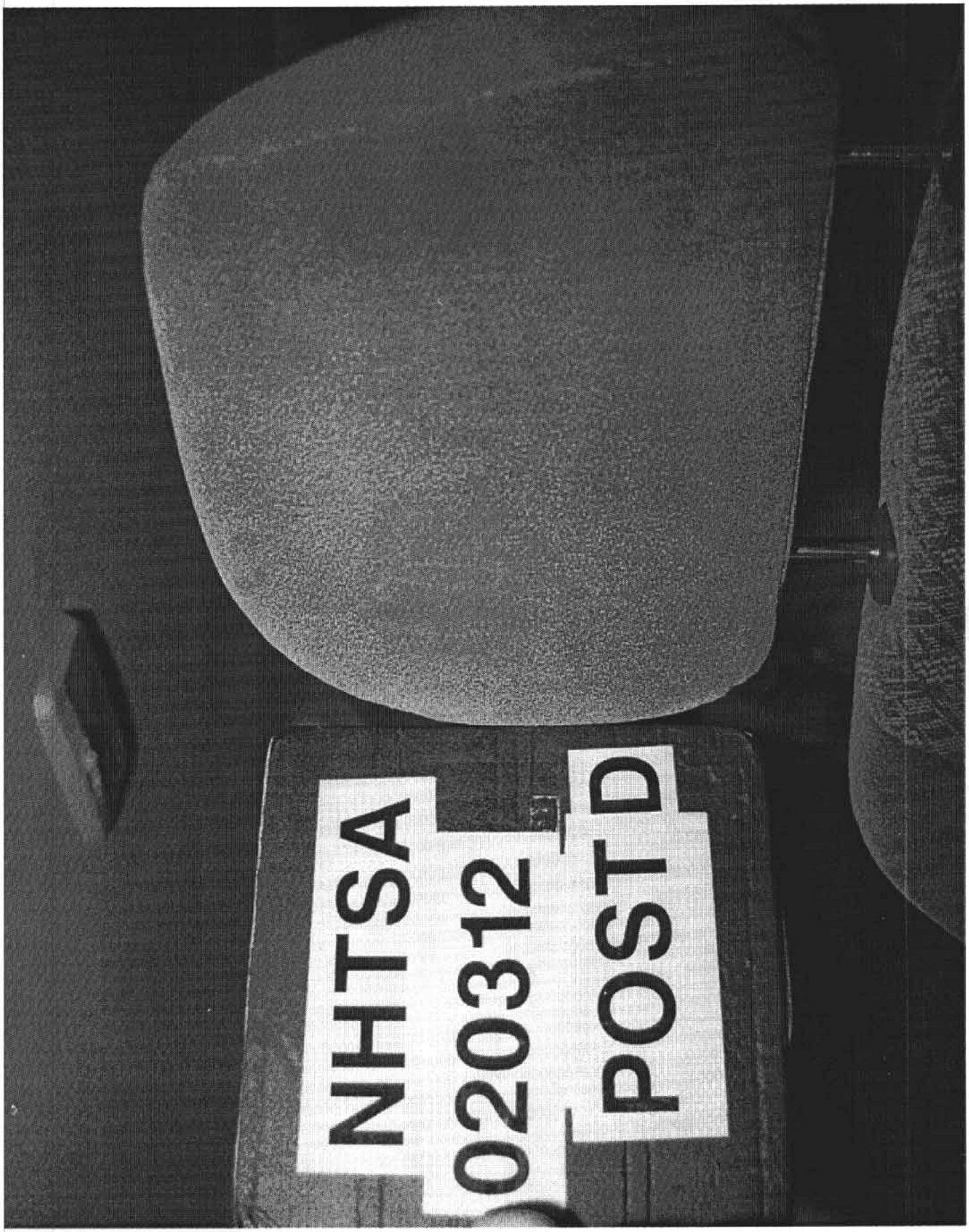


Figure A-52 Post-Test Driver Dummy Head Contact - View 3

Figure A-53 Pre-Test Driver Knee Bolster View

Figure A-54 Post-Test Driver Dummy Knee Contact View

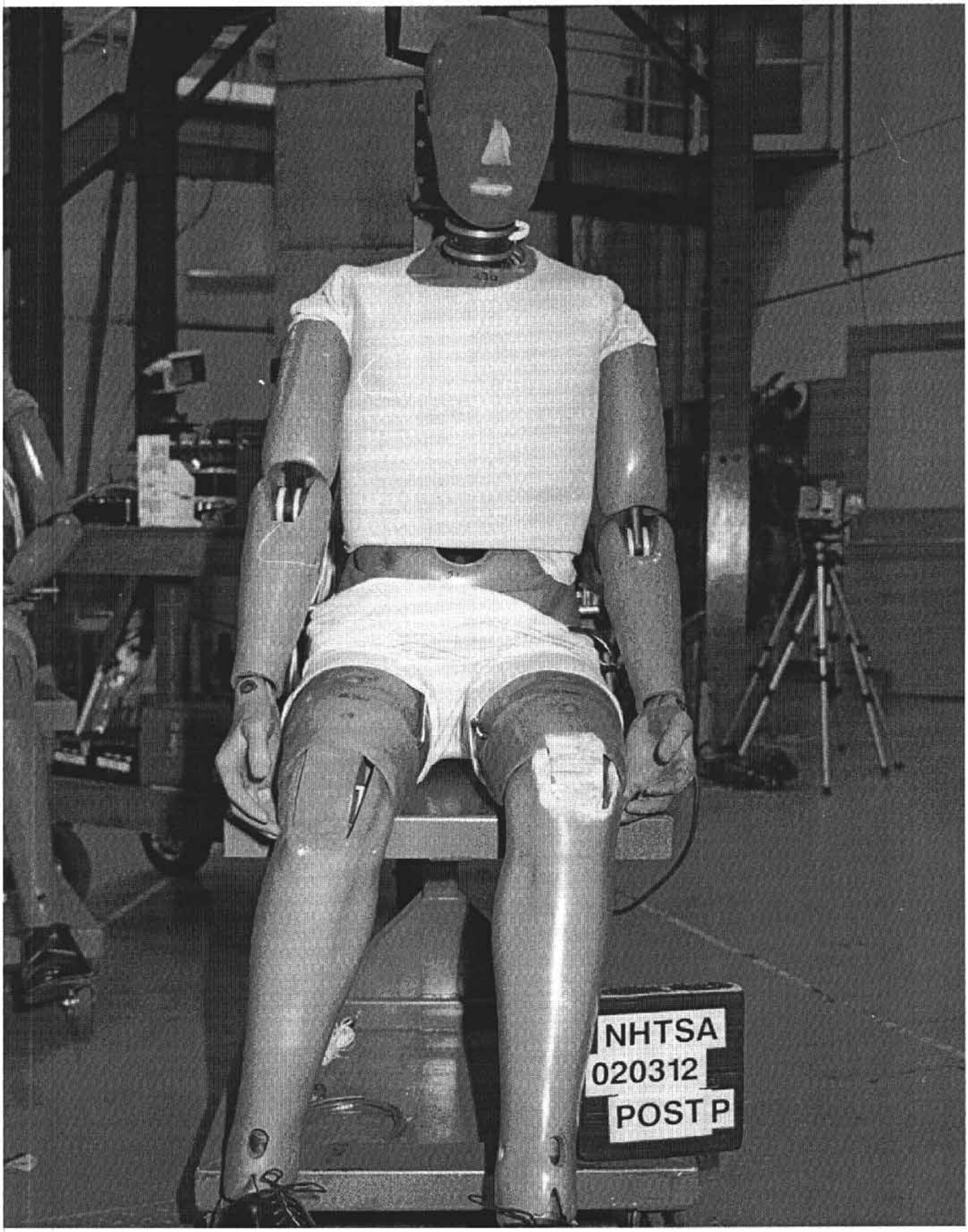


Figure A-55 Post-Test Passenger Dummy View

Figure A-56 Post-Test Passenger Dummy Head Contact - View 1

Figure A-57 Post-Test Passenger Dummy Head Contact - View 2

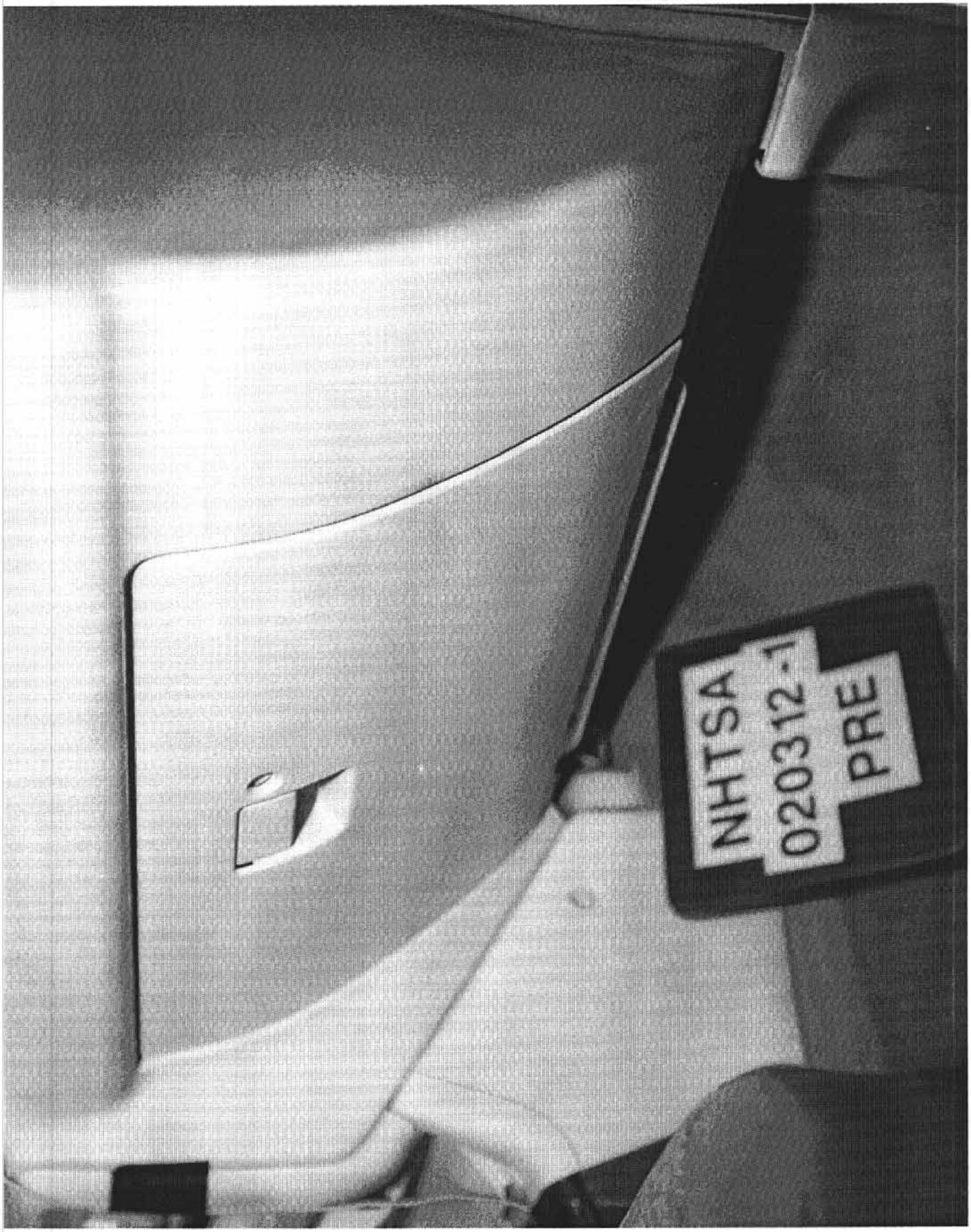


Figure A-58 Pre-Test Passenger Knee Bolster View

Figure A-59 Post-Test Passenger Dummy Knee Contact View

Figure A-60 Pre-Test Steering Column & Firewall - Interior View

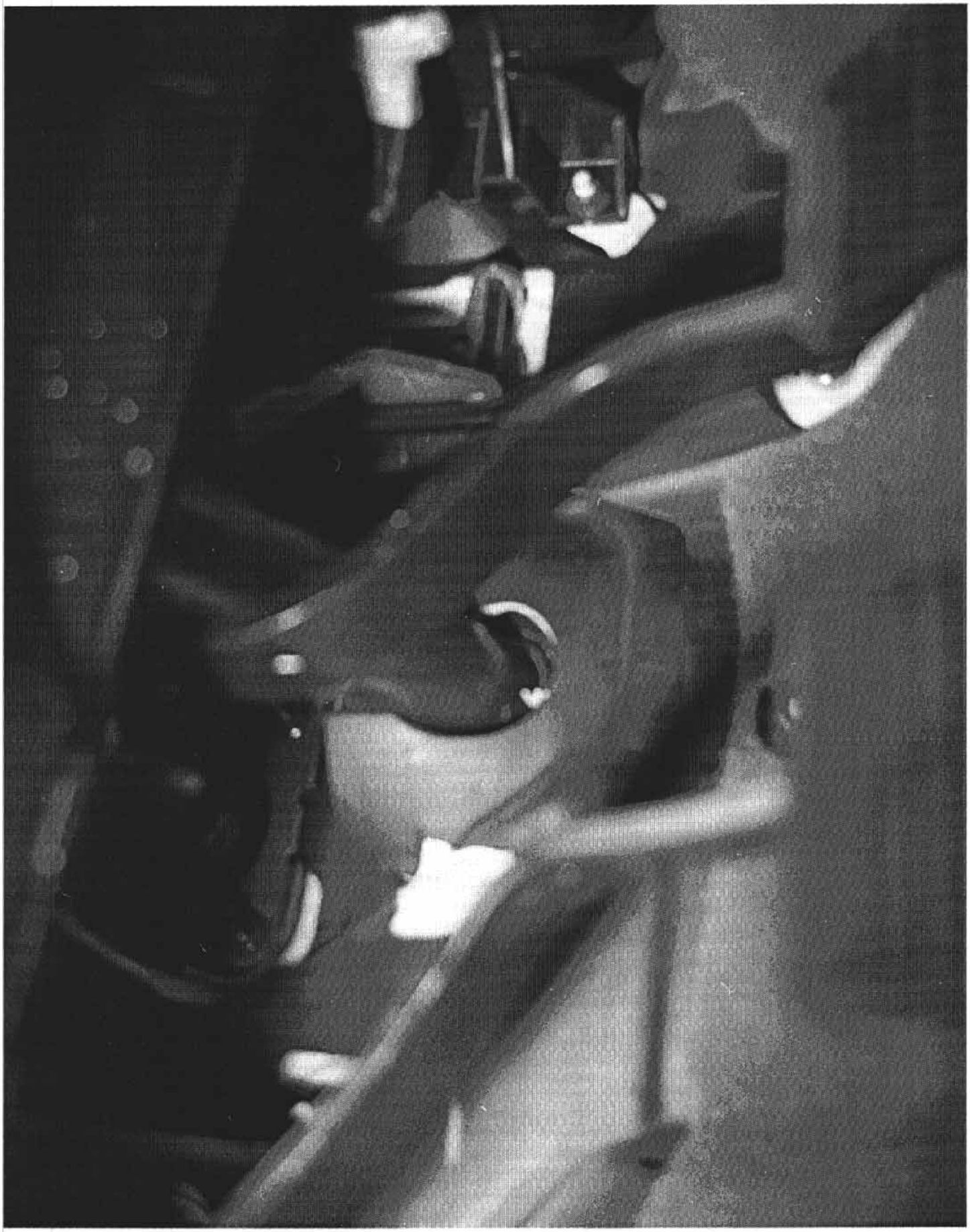


Figure A-61 Post-Test Steering Column & Firewall - Interior View

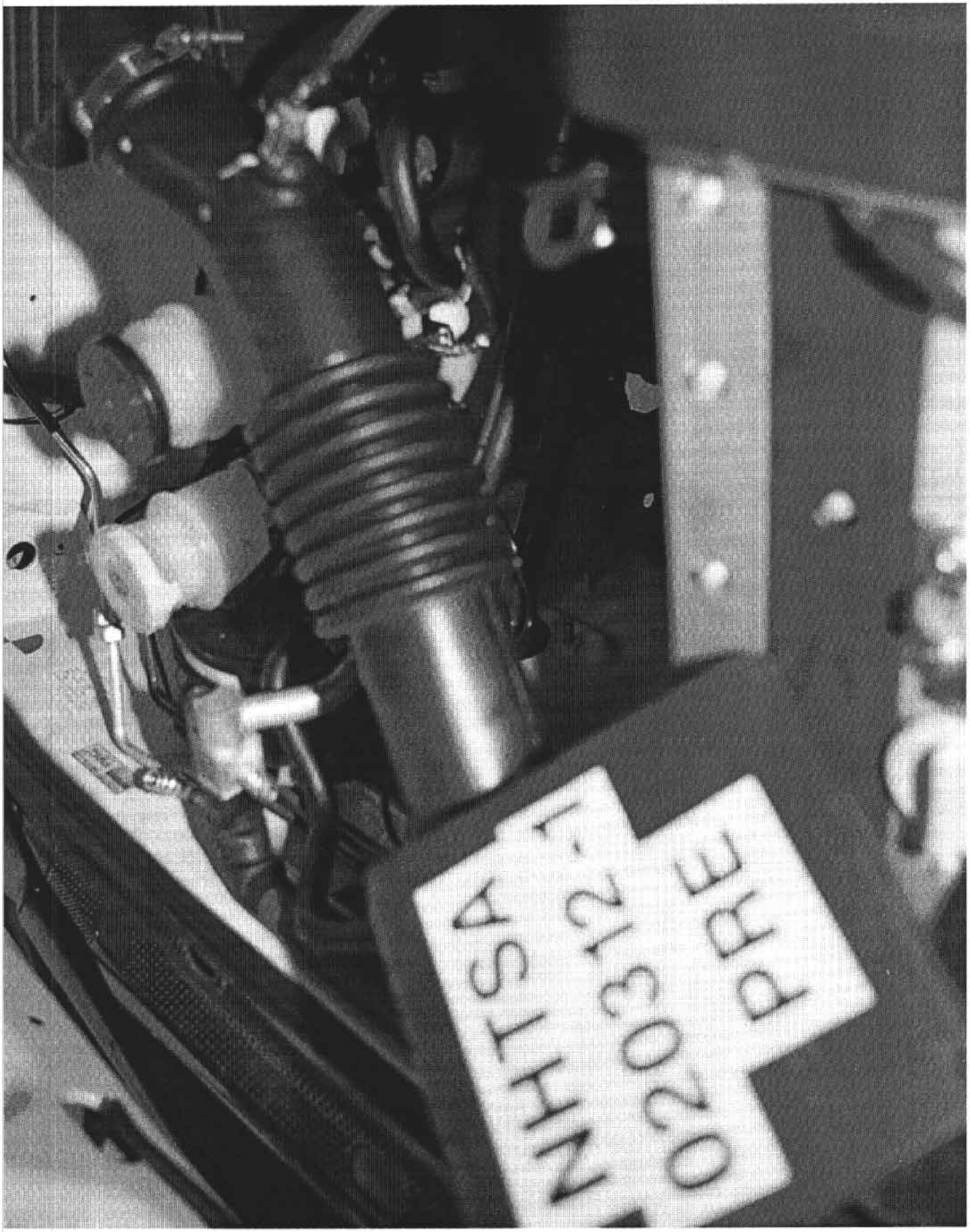


Figure A-62 Pre-Test Steering Column Under Hood View

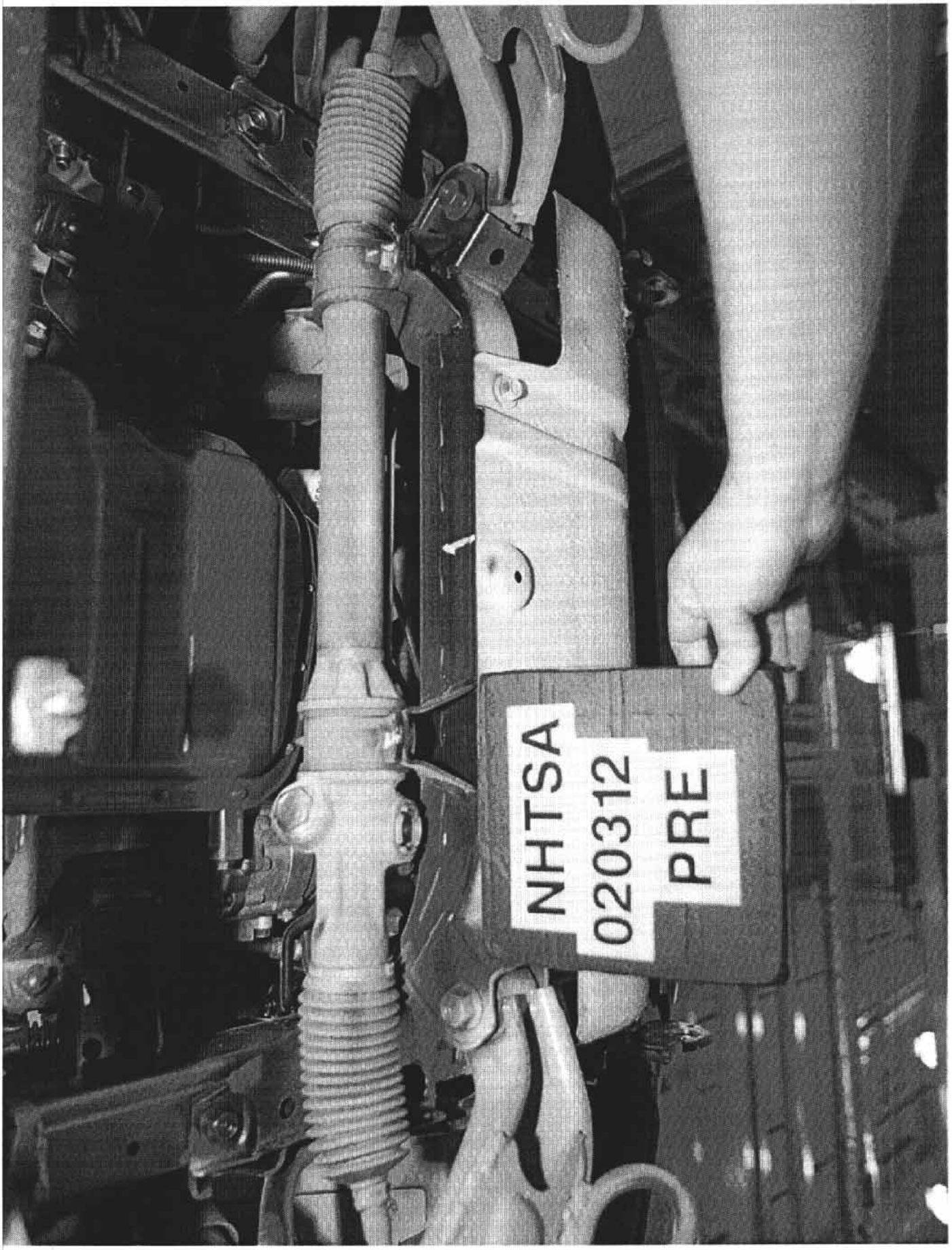


Figure A-63 Pre-Test Steering Box View

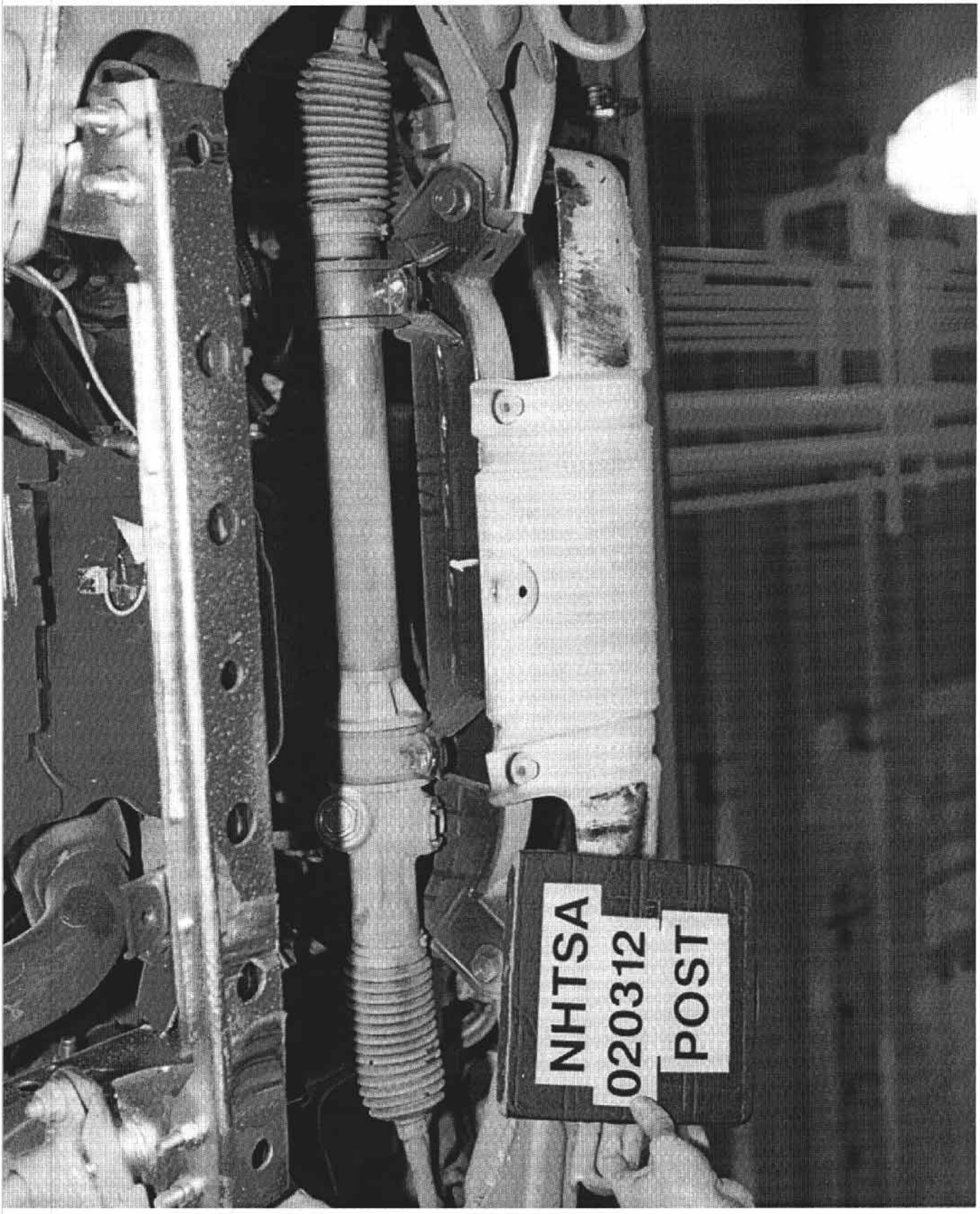


Figure A-64 Post-Test Steering Box View

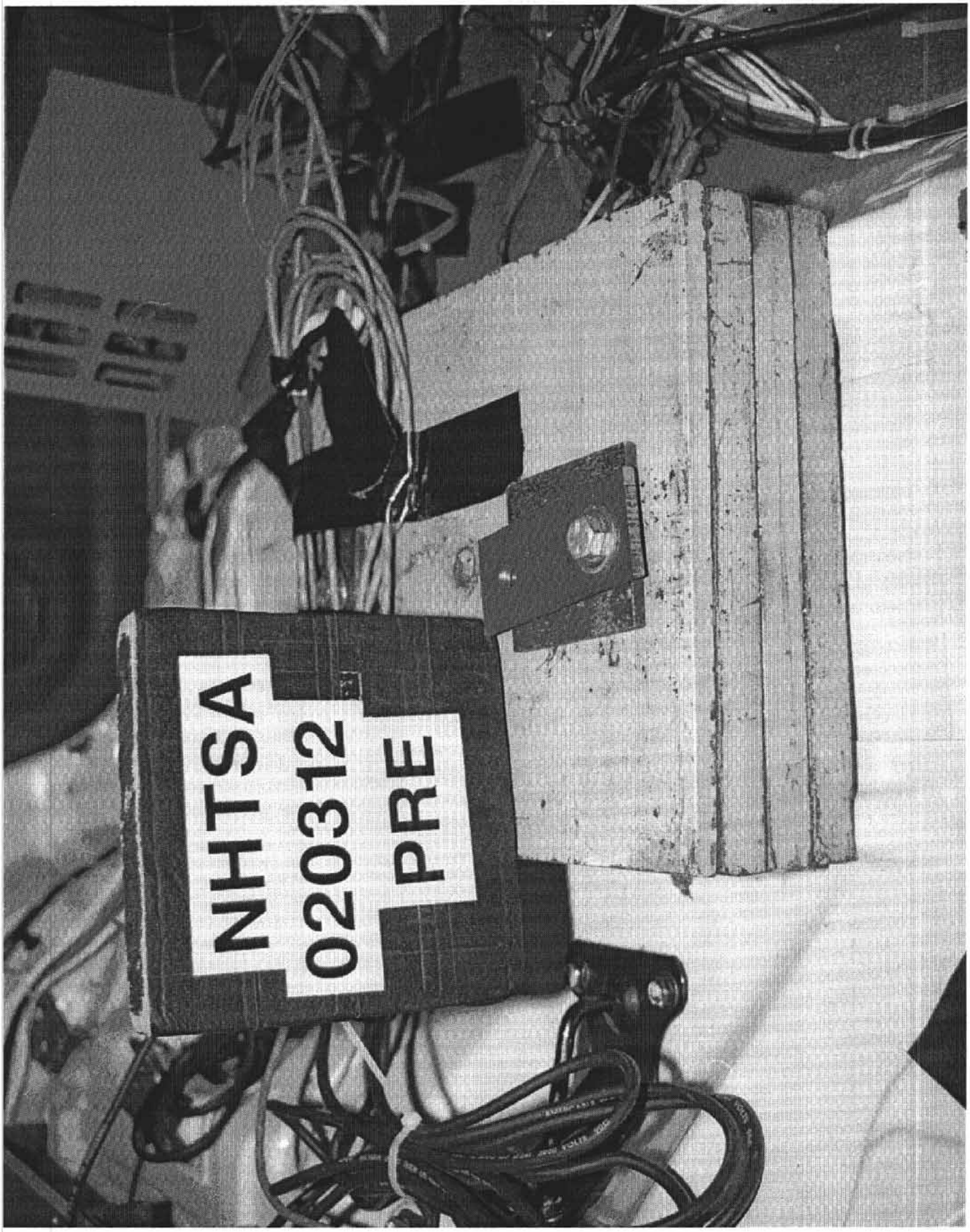


Figure A-65 Pre-Test Vehicle Ballast View

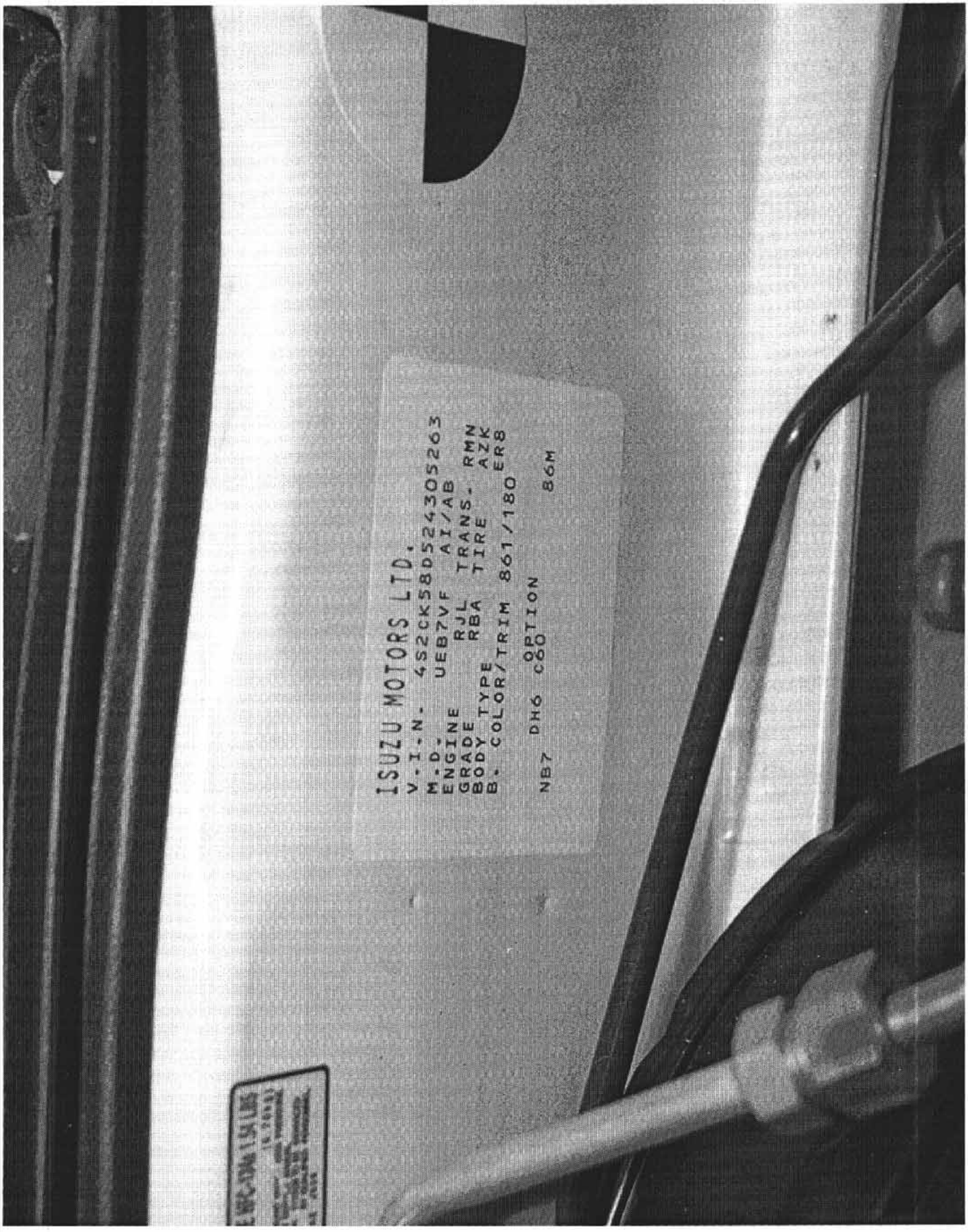


Figure A-66 Pre-Test Vehicle Certification Label View

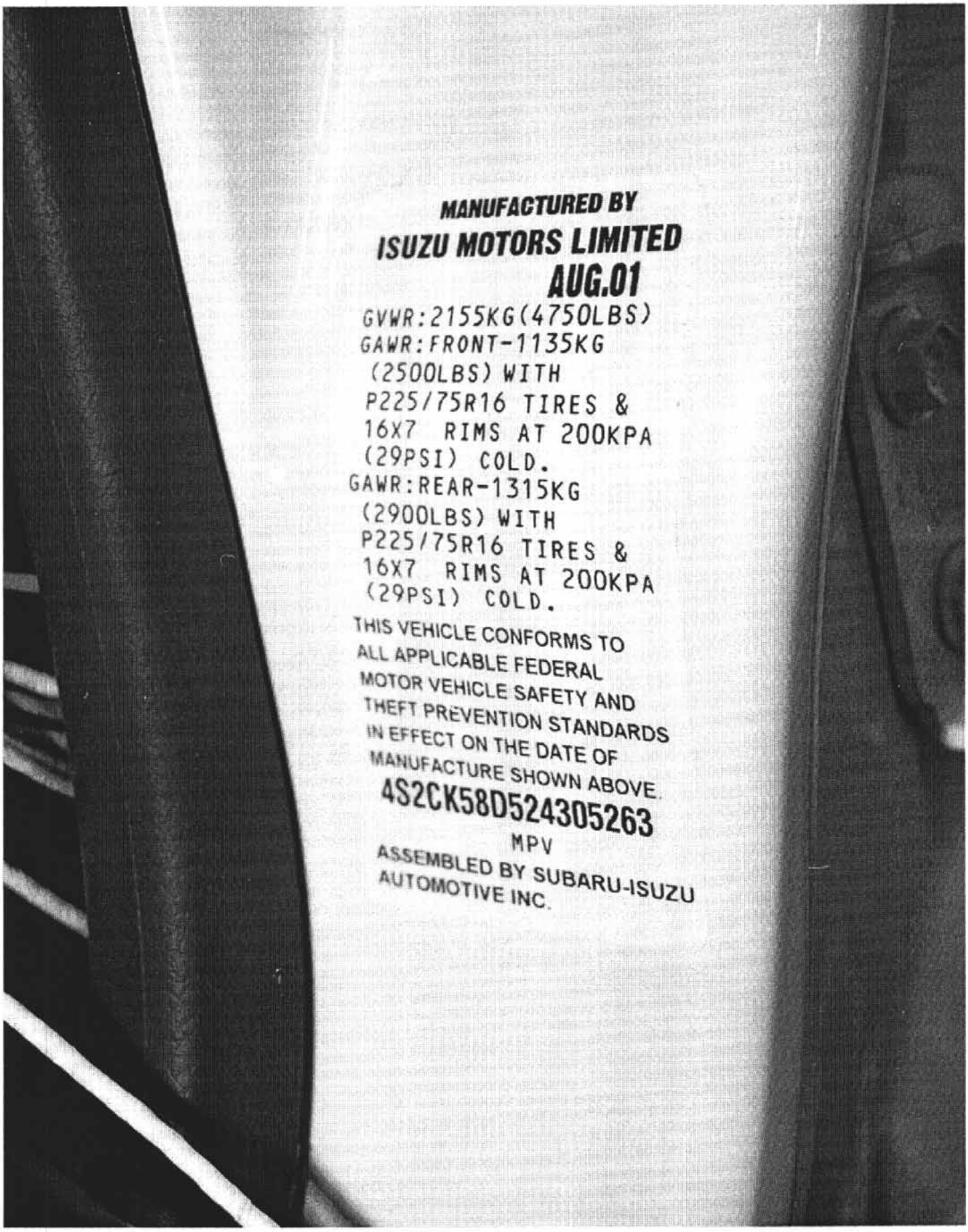


Figure A-67 Pre-Test Vehicle Recommended Tire Pressure Label View

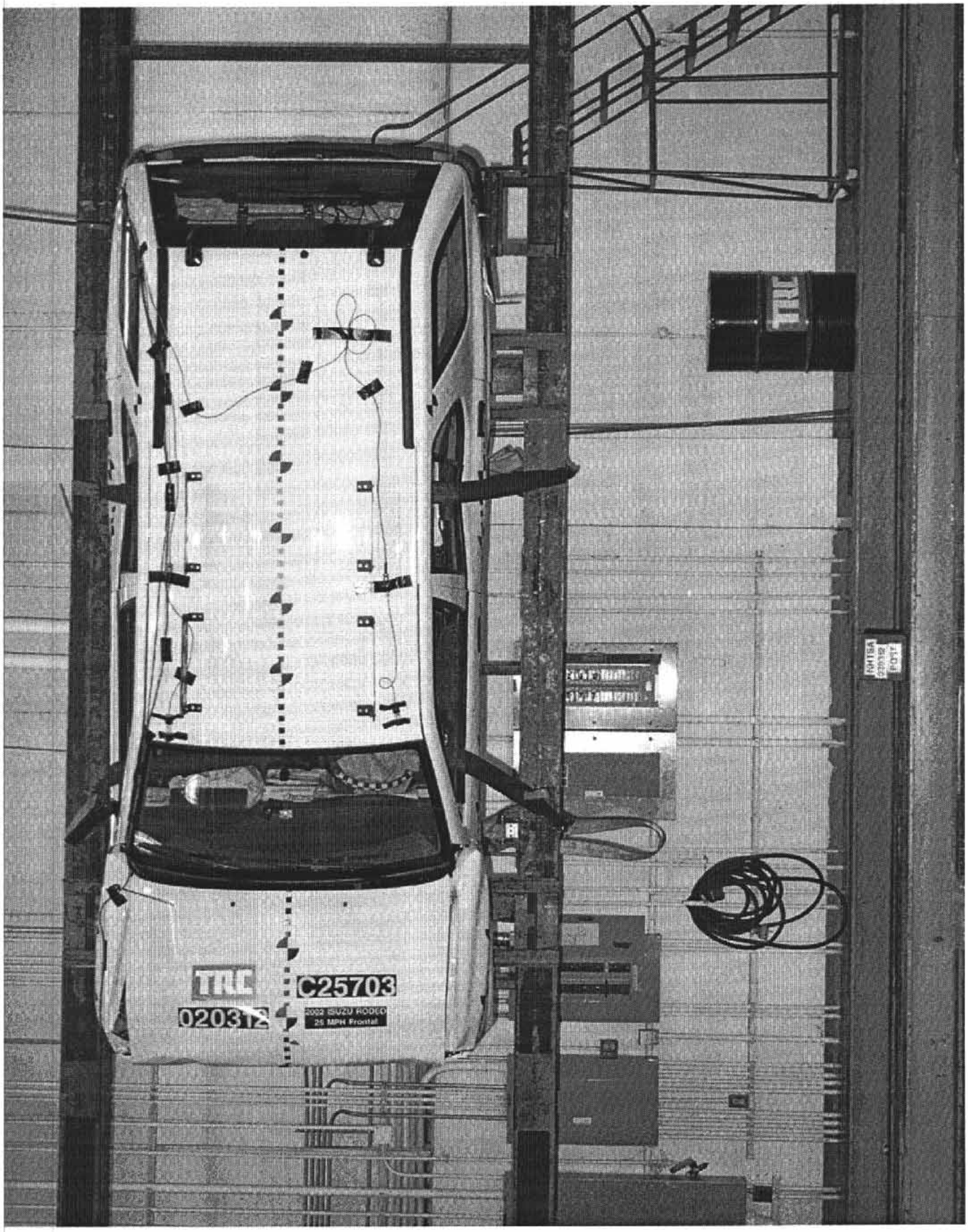
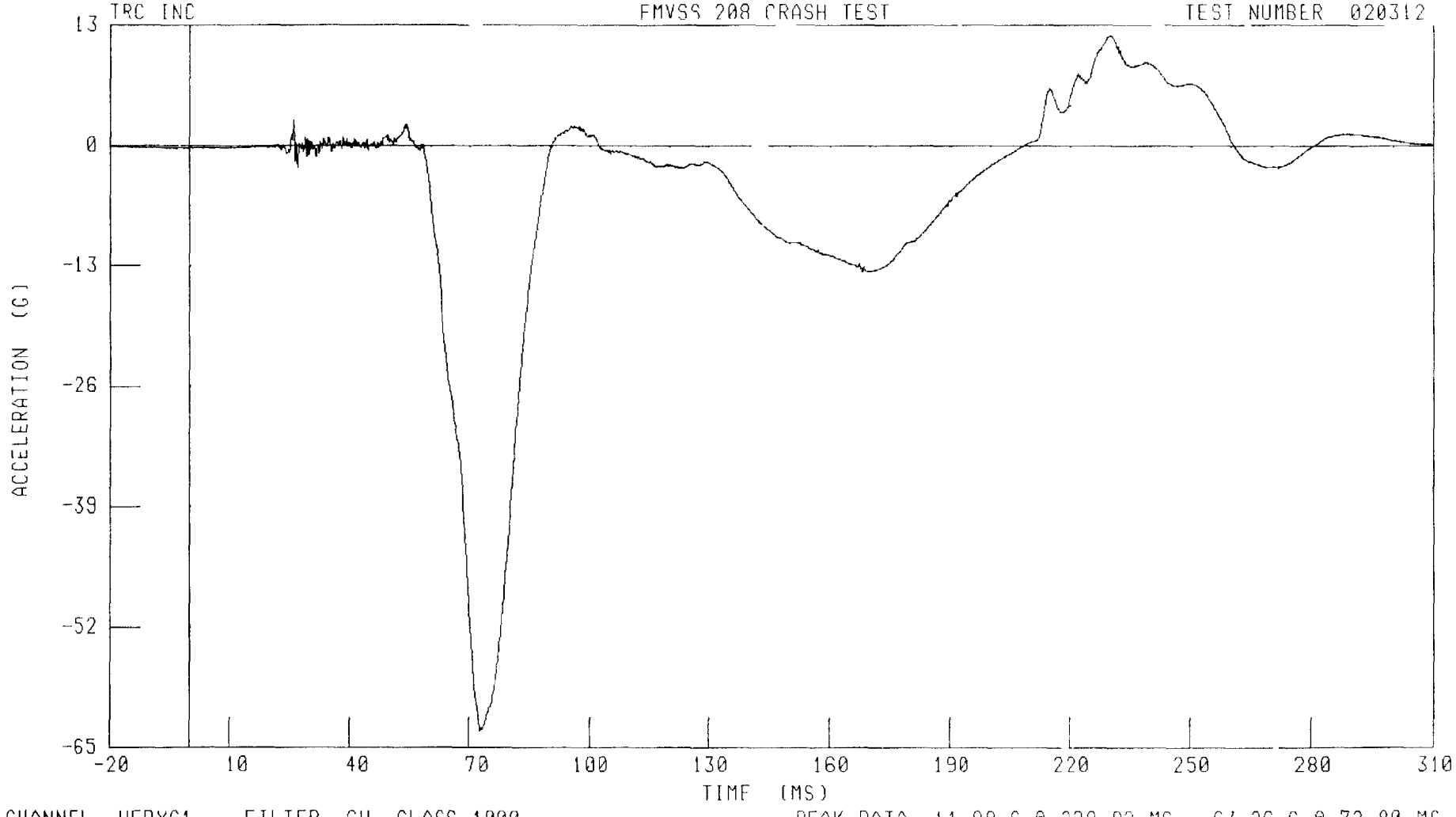


Figure A-68 Post-Test Vehicle on Static Rollover Device View

Appendix B

Data Plots

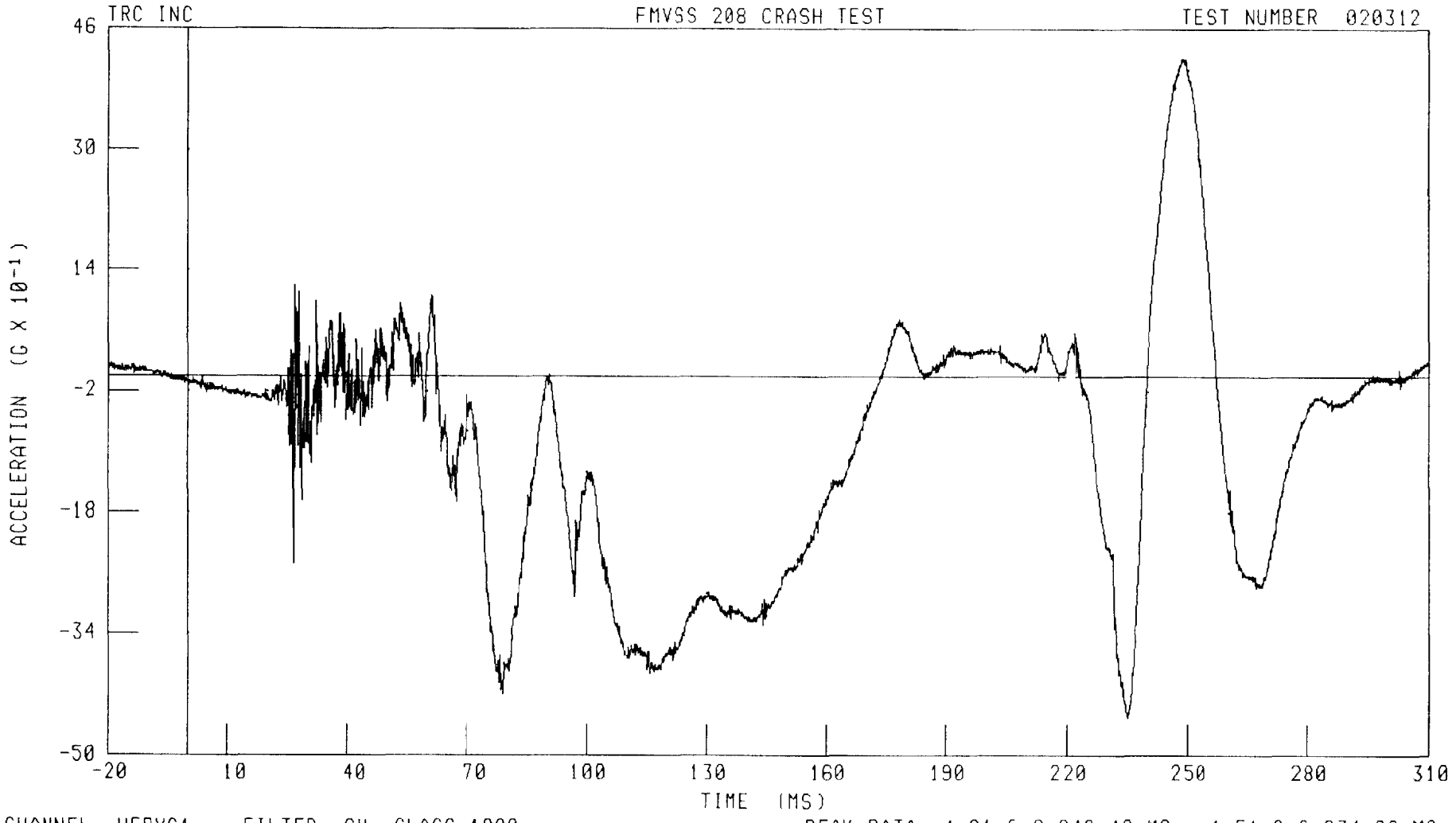
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER HEAD X-AXIS ACCELERATION



CHANNEL HEDXG1 FILTER CH CLASS 1000 PEAK DATA 11 88 G @ 229 92 MS, -63 26 G @ 72 80 MS

020312

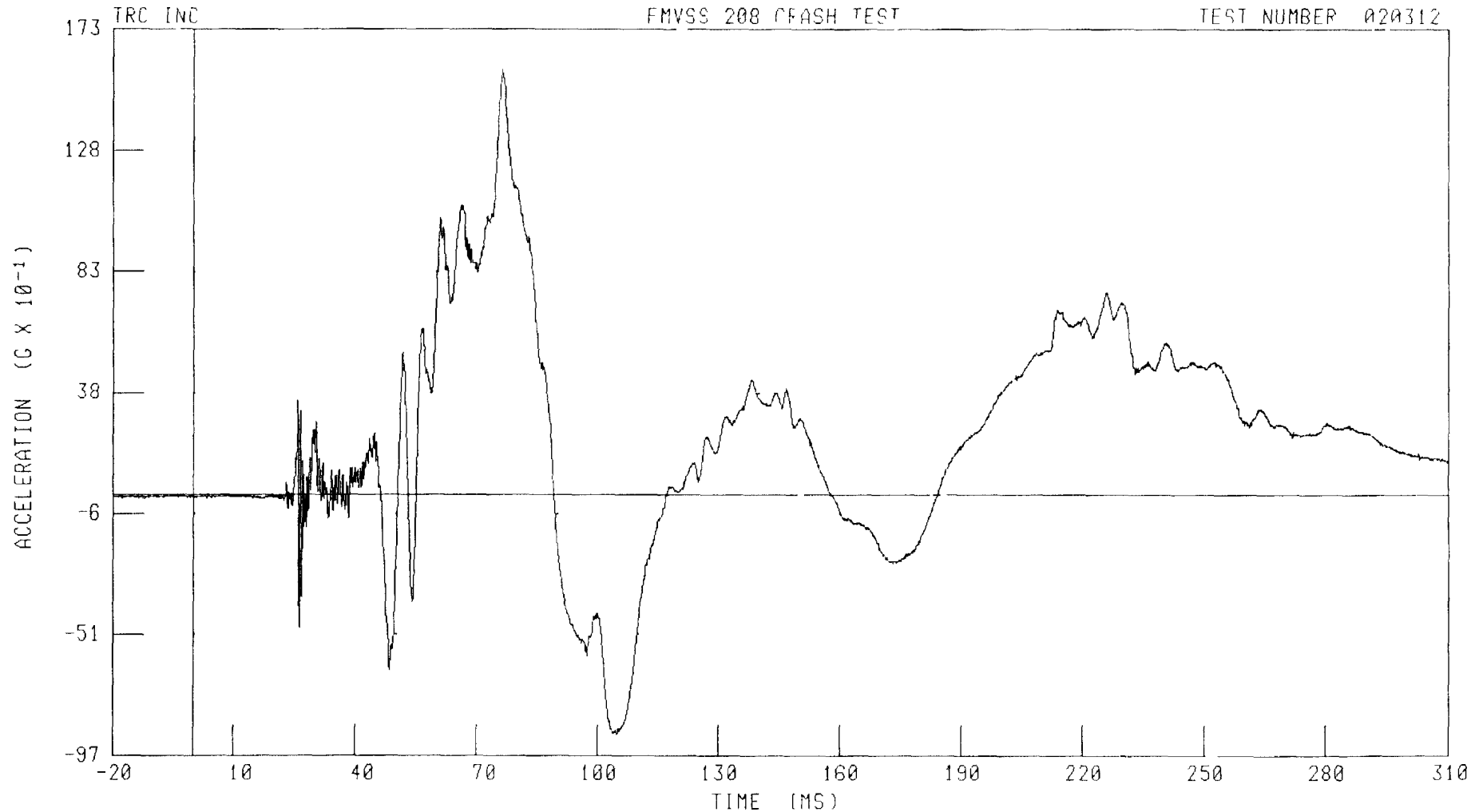
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER HEAD Y-AXIS ACCELERATION



CHANNEL HEDYG1 FILTER CH CLASS 1000
PEAK DATA 4 21 G @ 248 48 MS, -4 51 G @ 234 88 MS

020312

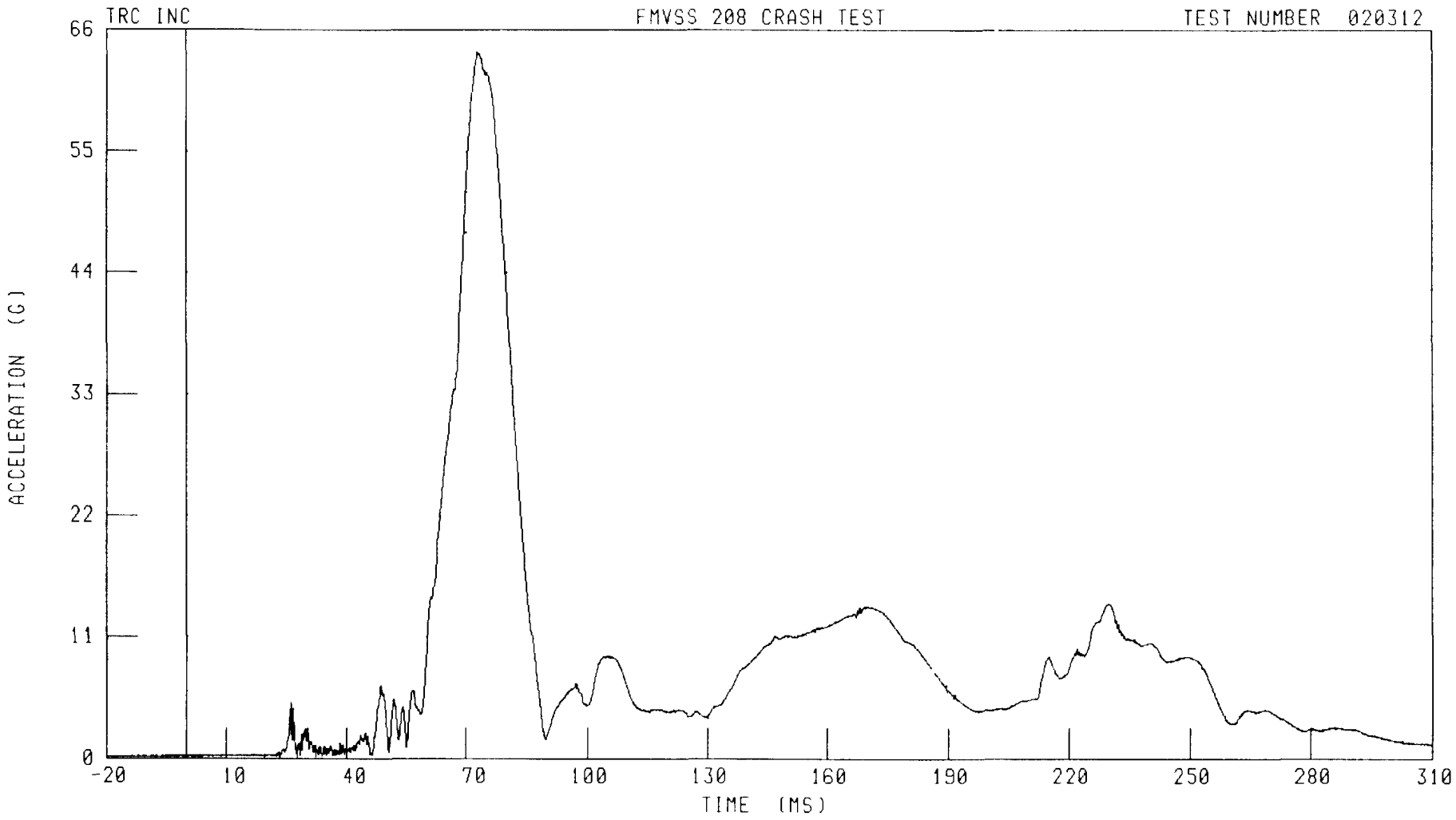
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER HEAD Z-AXIS ACCELERATION



CHANNEL HEDZG1 FILTER CH CLASS 1000 PEAK DATA 15 81 G @ 76 24 MS, -8 90 G @ 105 04 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER HEAD RESULTANT ACCELERATION



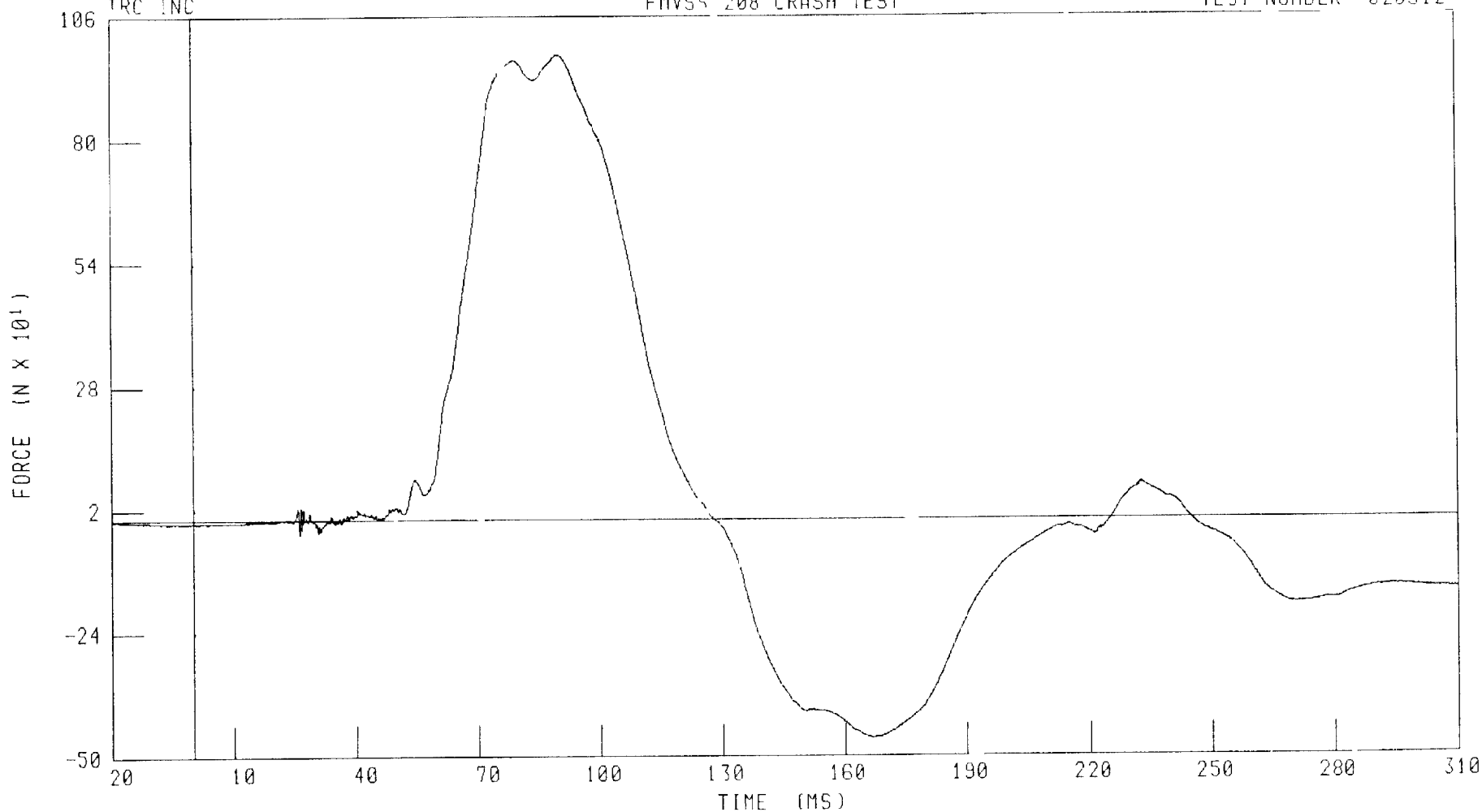
CHANNEL HEDRC1 FILTER CH CLASS 1000 PEAK DATA 64 09 G @ 72 80 MS, 0 09 G @ 3 60 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NECK X-AXIS SHEAR FORCE
FMVSS 208 CRASH TEST

TRC INC

TEST NUMBER 020312



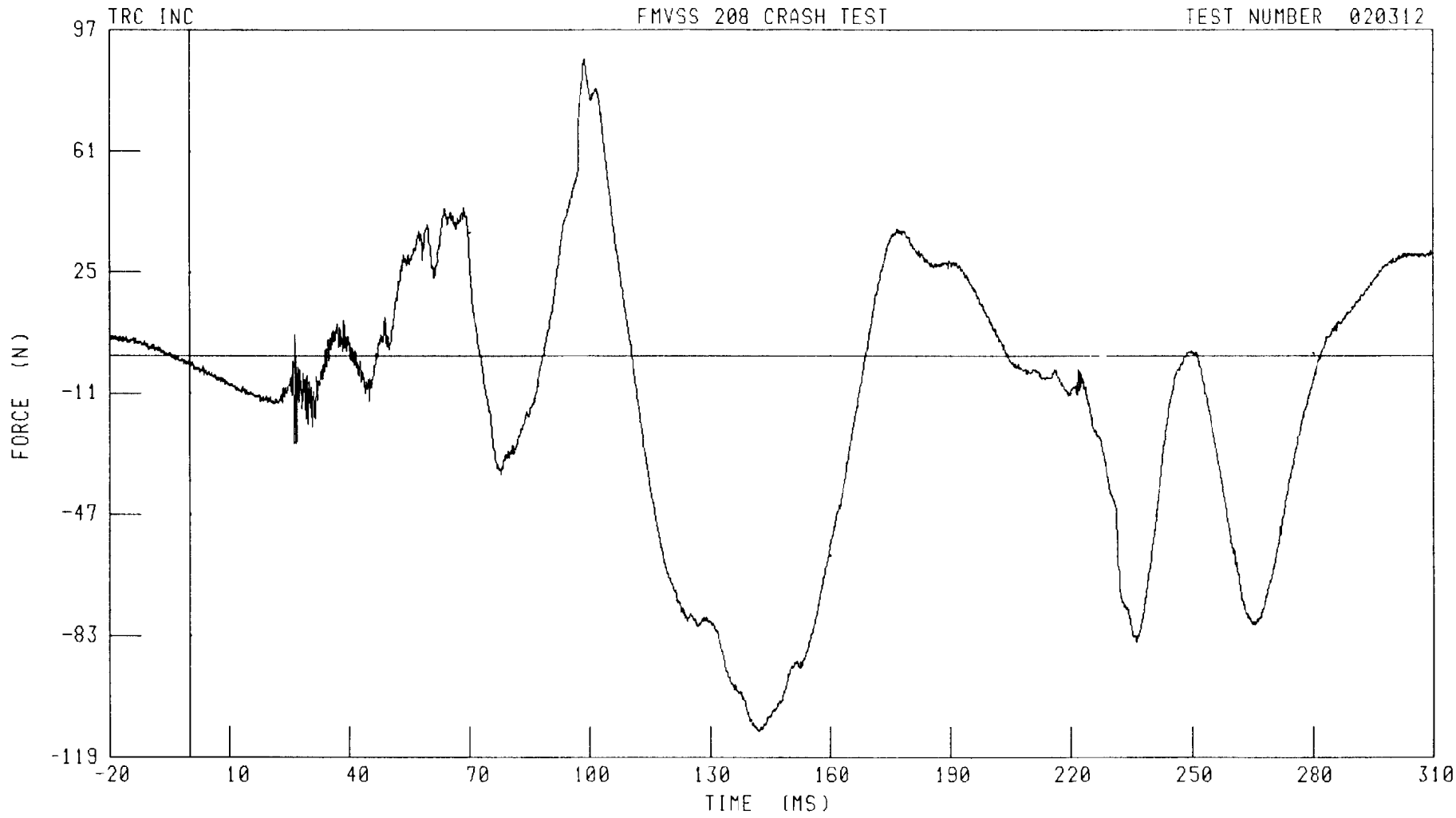
CHANNEL NEKXF1 FILTER CH CLASS 1000

PEAK DATA 979.69 N @ 89.76 MS, -462.85 N @ 166.96 MS

B-6

020312

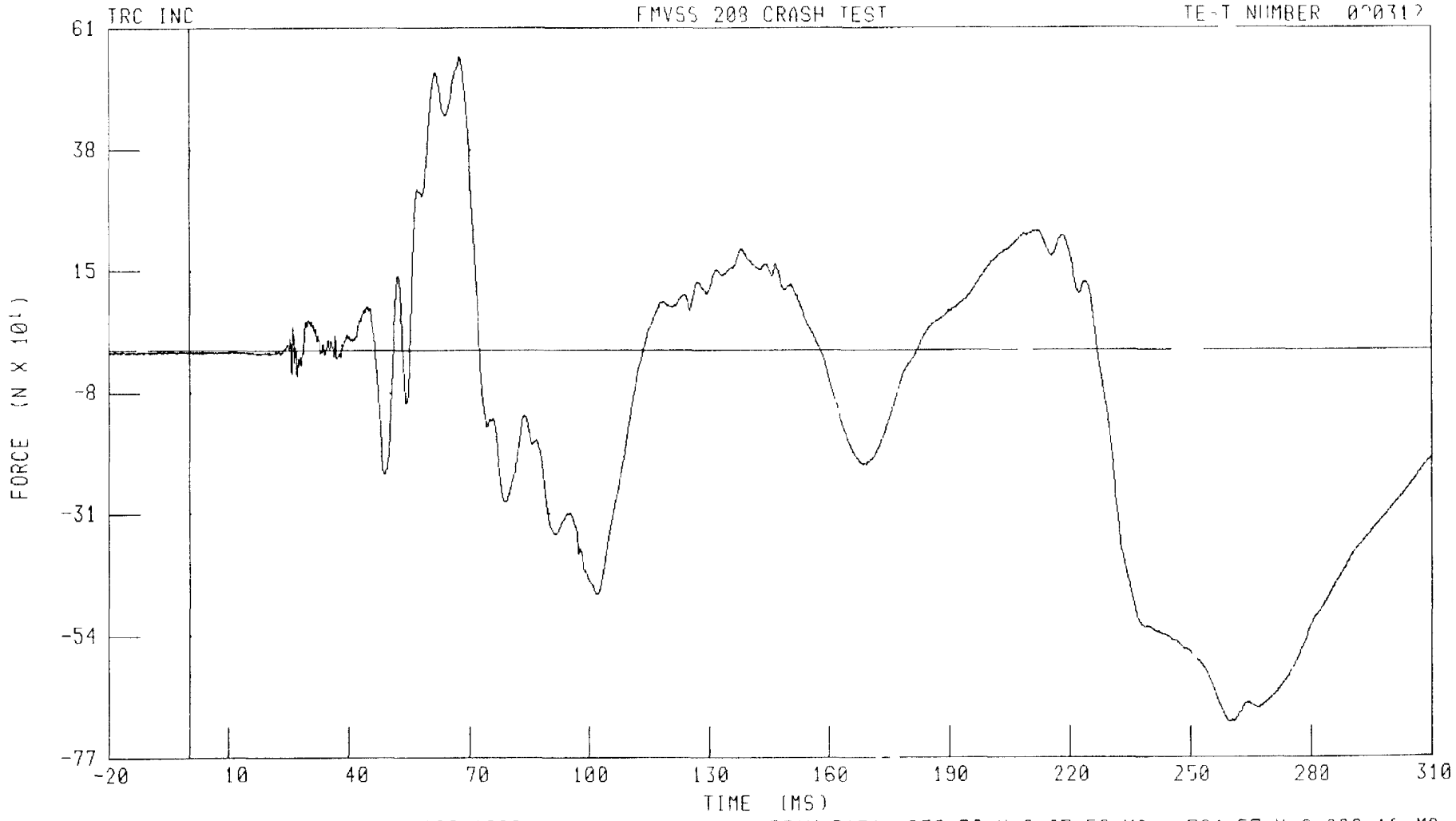
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NECK Y-AXIS SHEAR FORCE



CHANNEL NEKYF1 FILTER CH CLASS 1000
PEAK DATA 88 50 N @ 99 04 MS, -111 35 N @ 142 32 MS

020312

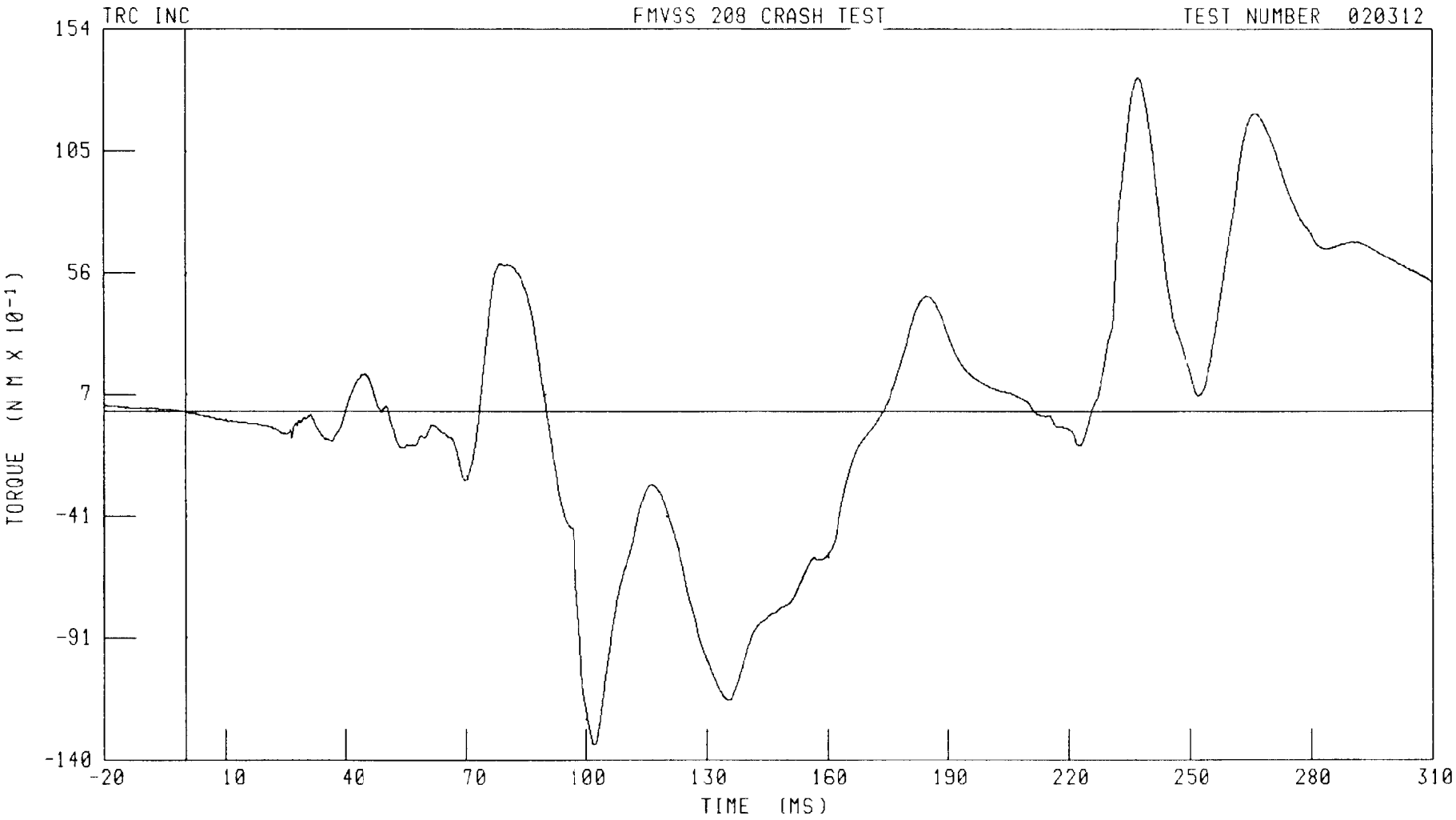
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NECK Z-AXIS AXIAL FORCE



CHANNEL NEKZF1 FILTER CH CLASS 1000 PEAK DATA 556 72 N @ 67 52 MS, -704 57 N @ 260 16 MS

020312

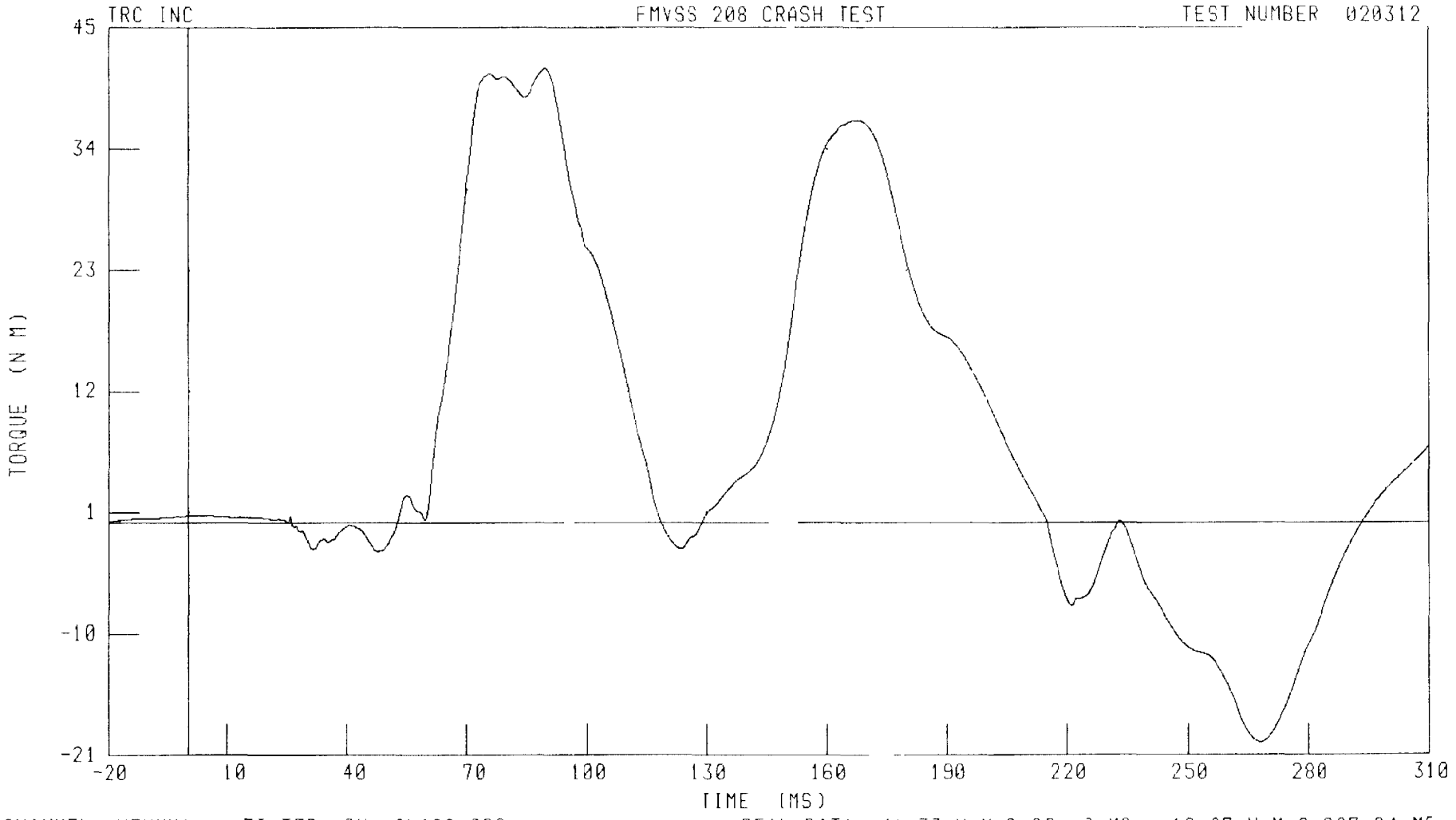
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NECK MOMENT ABOUT X AXIS



CHANNEL NEKXM1 FILTER CH CLASS 600 PEAK DATA 13 46 N M @ 237 44 MS, -13 40 N M @ 102 24 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NECK MOMENT ABOUT Y AXIS

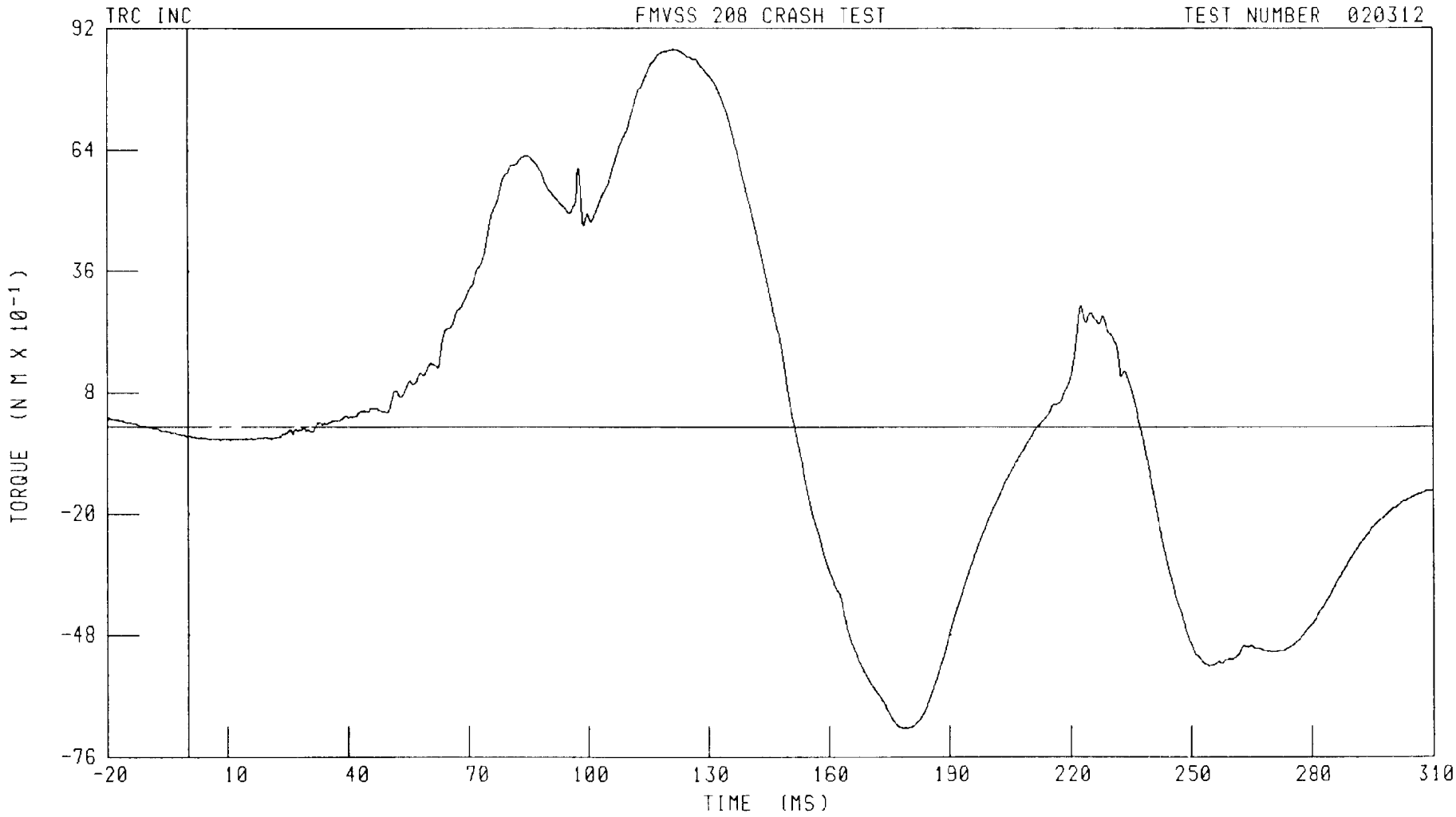


CHANNEL NEKYM1 FILTER CH CLASS 600
PEAK DATA 41 33 N M @ 89 60 MS, -19 87 N M @ 267 84 MS

B-10

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NECK MOMENT ABOUT Z AXIS

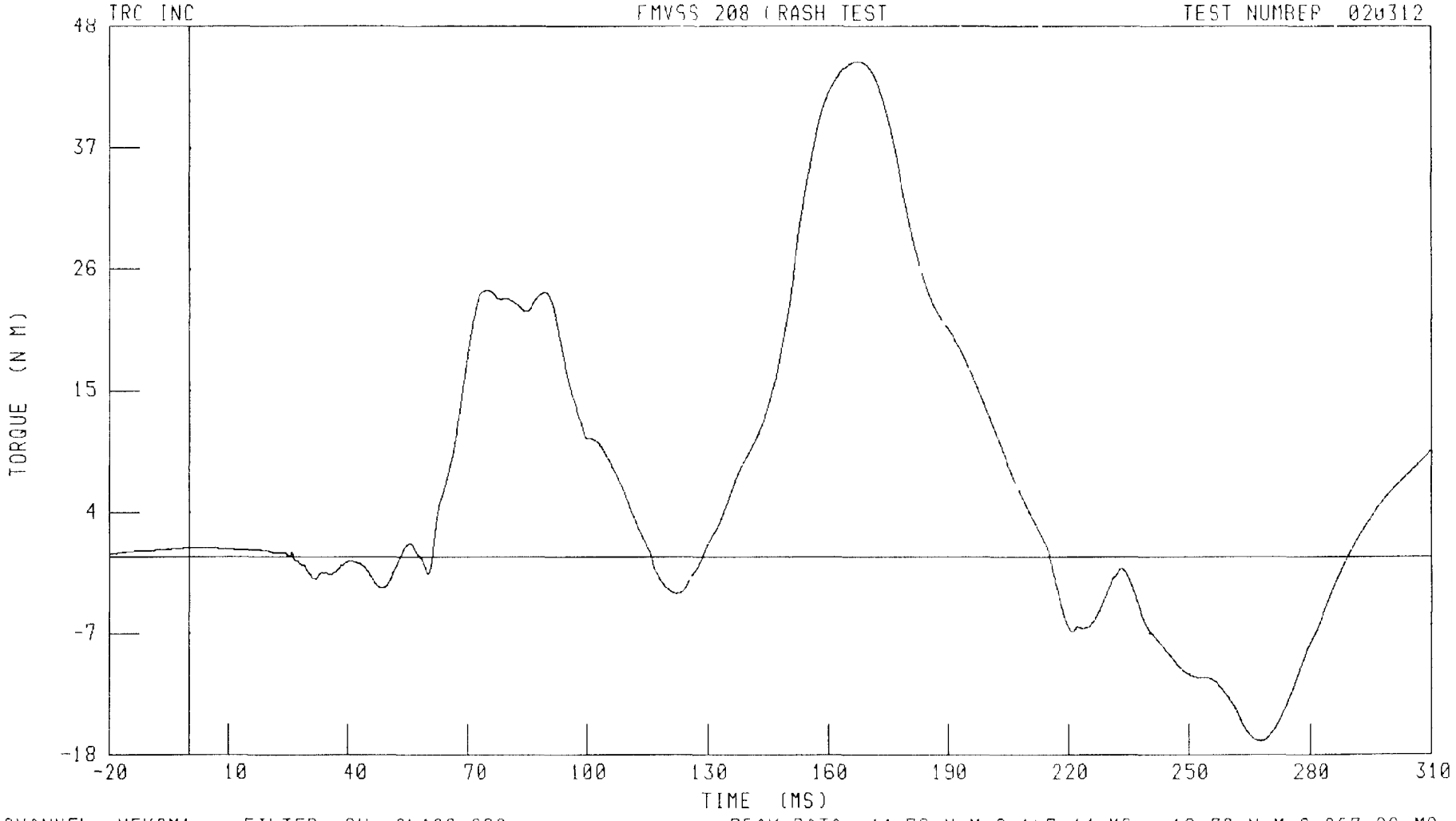


CHANNEL NEKZM1 FILTER CH CLASS 600

PEAK DATA 8 72 N M @ 121 60 MS, -6 93 N M @ 178 72 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NECK MOMENT OCCIPITAL CONDYLE ABOUT Y AXIS

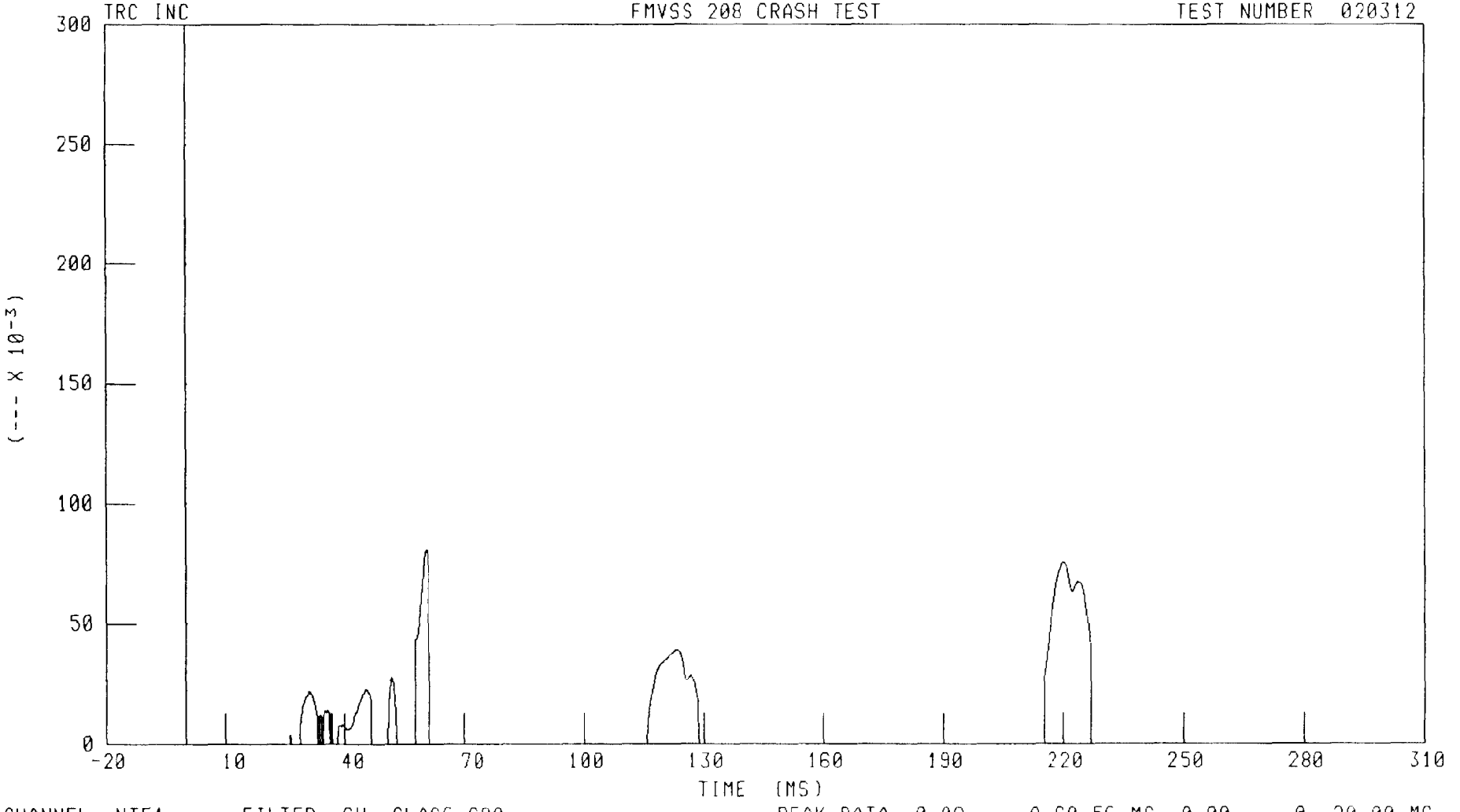


CHANNEL NEKOM1 FILTER CH CLASS 600 PEAK DATA 44 76 N M @ 167 44 MS -16 76 N M @ 267 68 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NIJ TENSION/EXTENSION

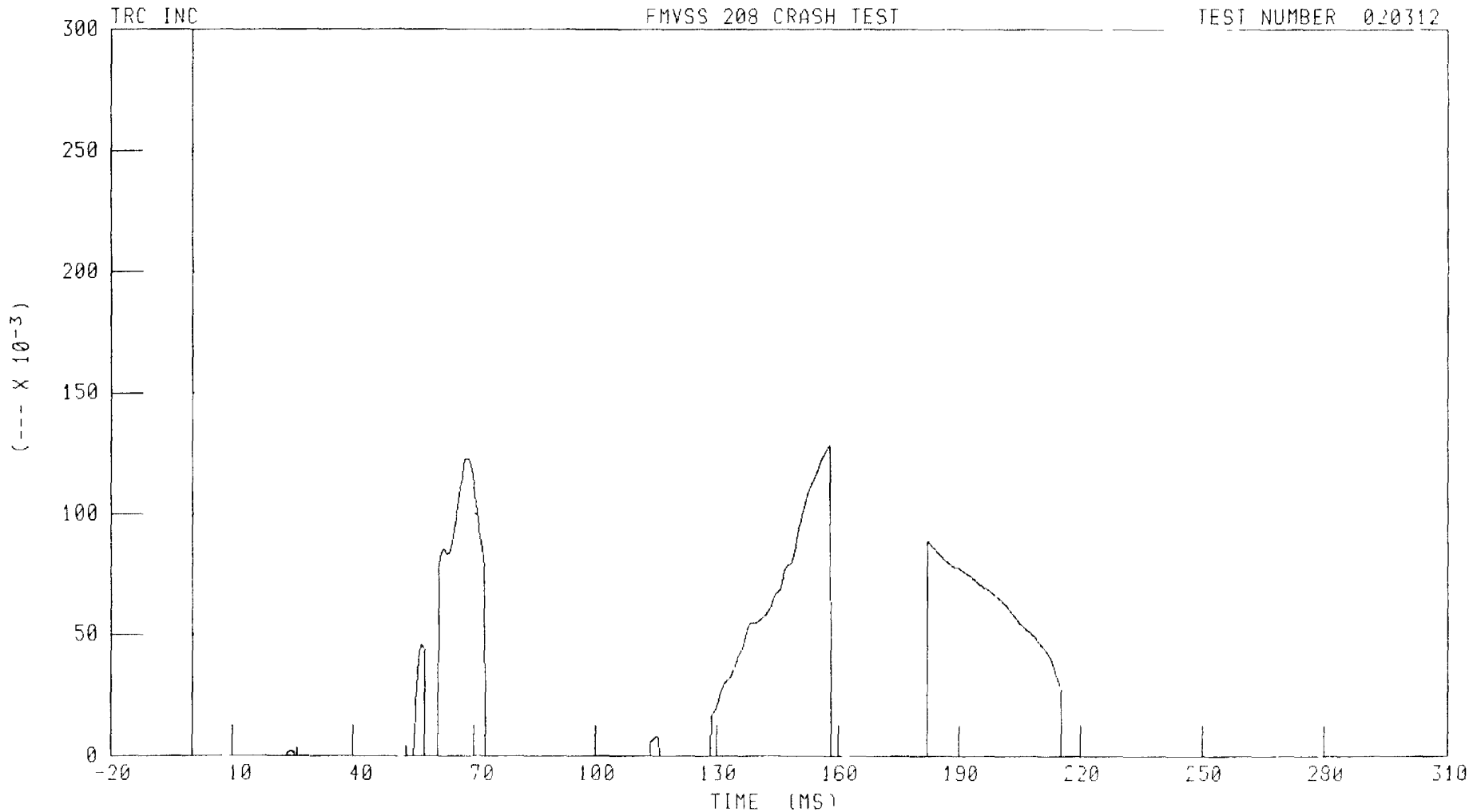
TRC INC FMVSS 208 CRASH TEST TEST NUMBER 020312



CHANNEL NTE1 FILTER CH CLASS 600 PEAK DATA 0 08 --- 0 60 56 MS, 0 00 --- 0 -20 00 MS

020312

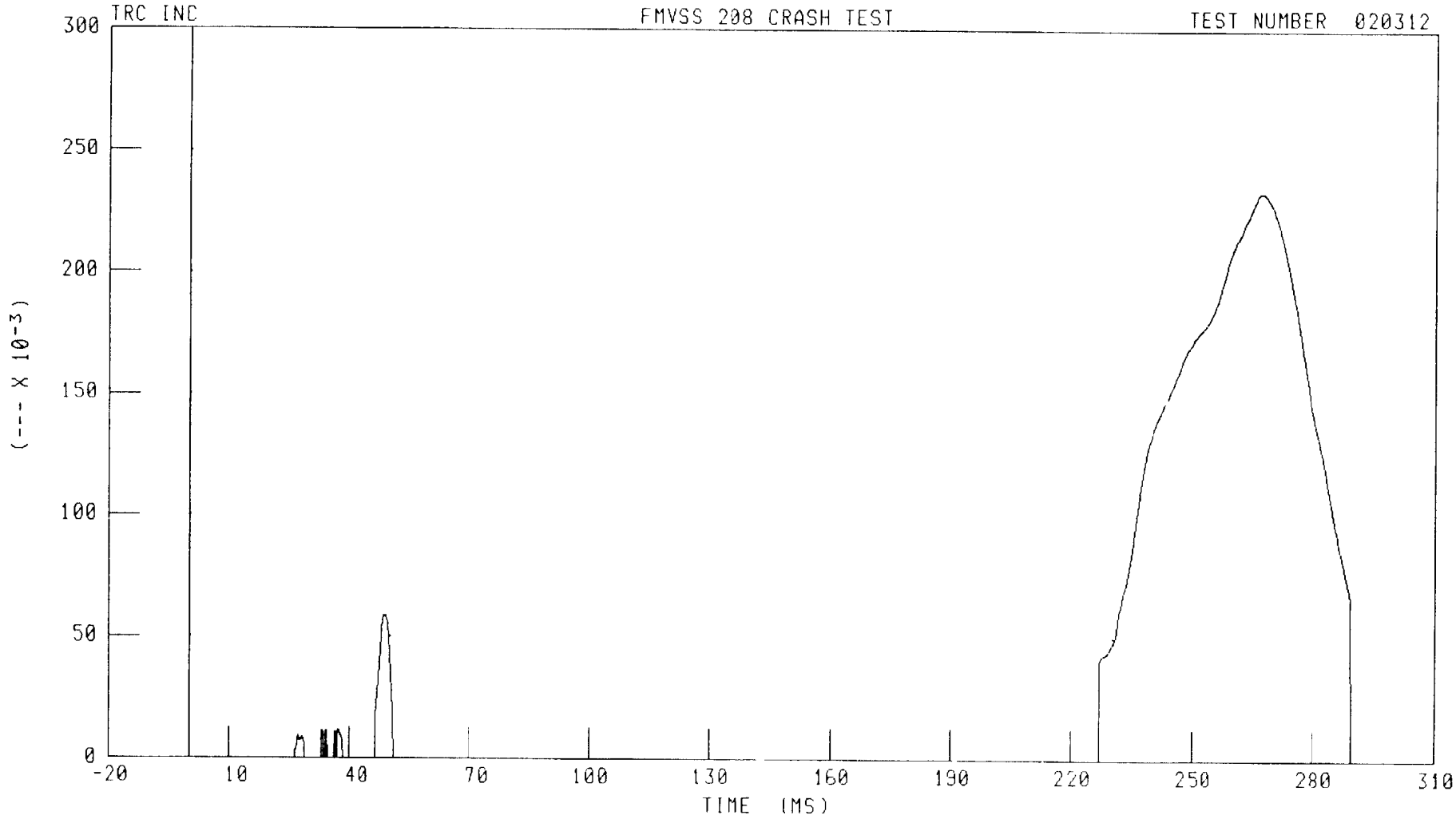
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NIJ TENSION/FLEXION



CHANNEL NTF1 FILTER CH CLASS 60H PEAK DATA @ 15 --- @ 158.88 MS, 0.00 --- @ -20.00 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NIJ COMPRESSION/EXTENSION
FMVSS 208 CRASH TEST

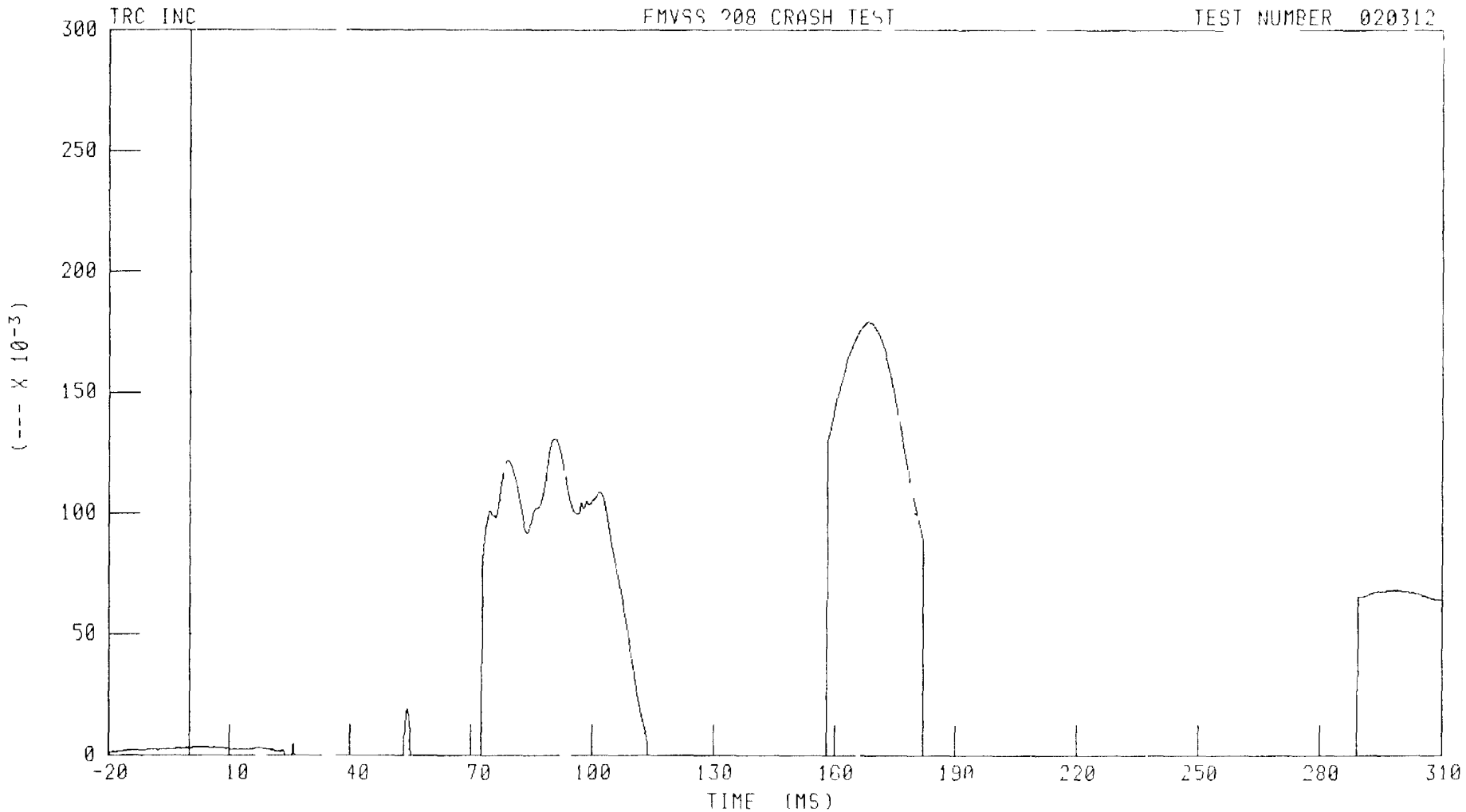


CHANNEL NCE1 FILTER CH CLASS 600 PEAK DATA 0 23 --- 0 267 12 MS, 0 00 --- 0 -20 00 MS

B-15

020312

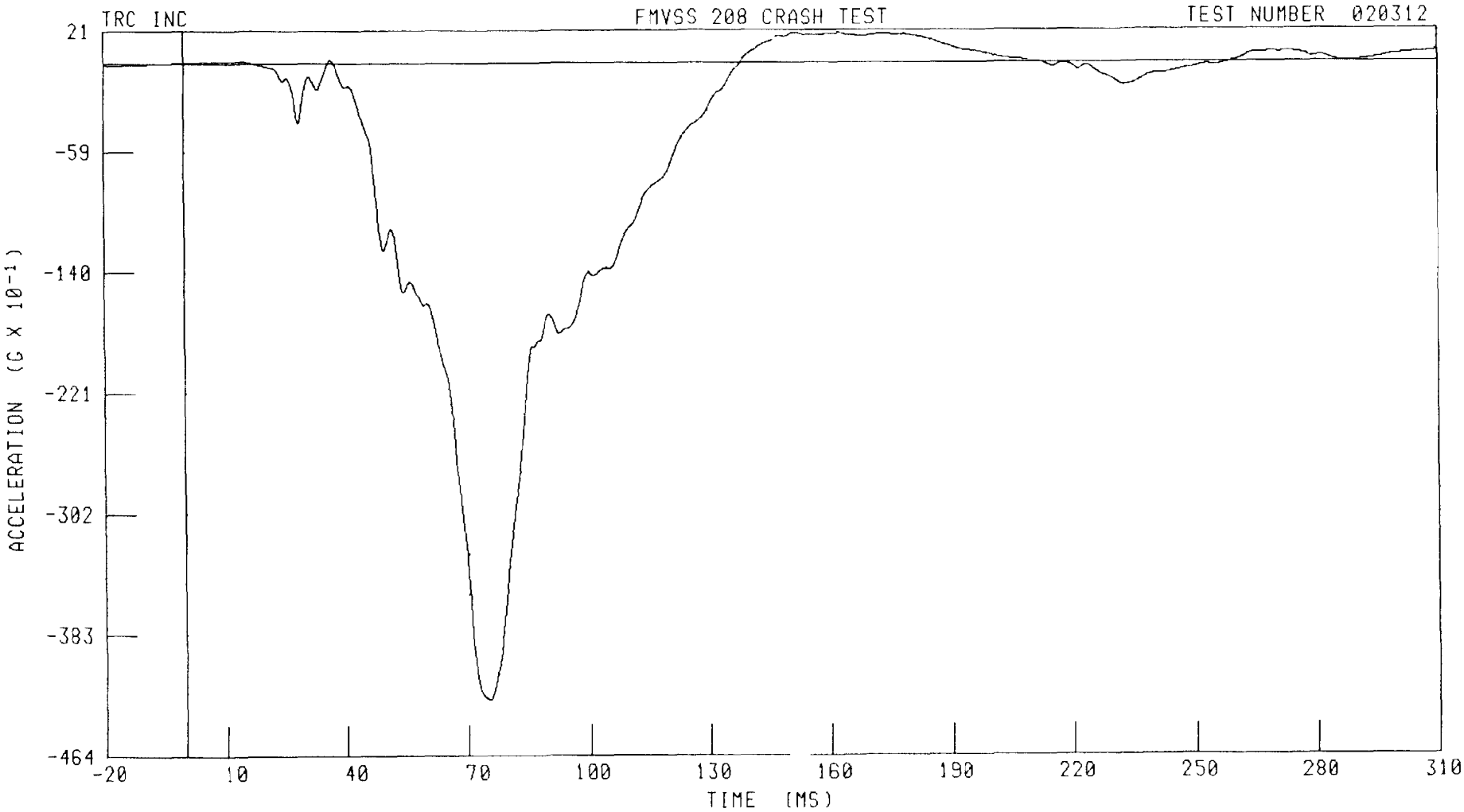
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER NIJ COMPRESSION FLEXION



CHANNEL NCF1 FILTER CH CLASS 600 PEAK DATA 0.18 --- 0.168 56 MS 0.00 -- 0.23 78 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER CHEST X-AXIS ACCELERATION

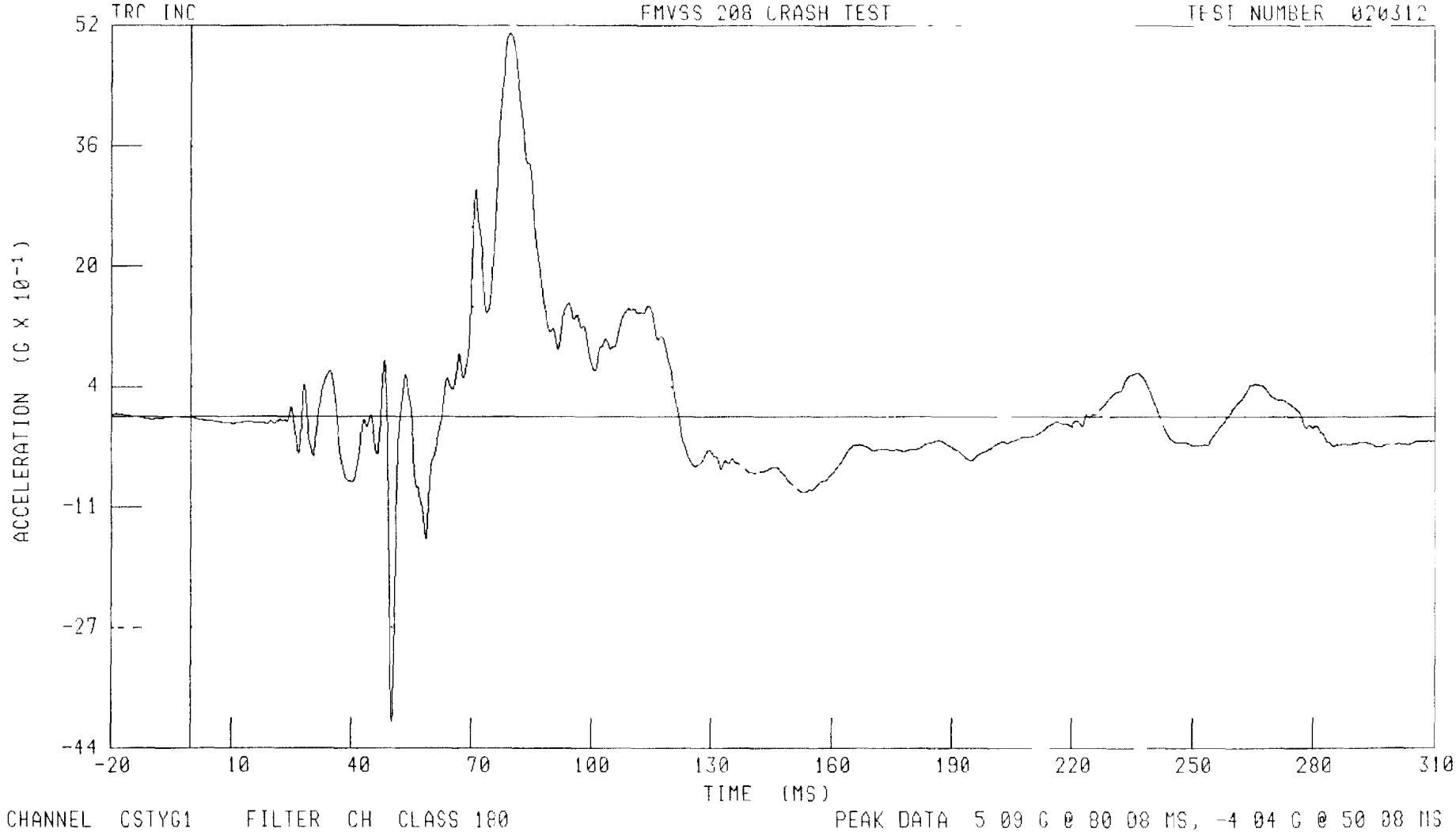


CHANNEL CSTXG1 FILTER CH CLASS 180

PEAK DATA 2 03 G @ 151 60 MS, -42 69 G @ 75 20 MS

020312

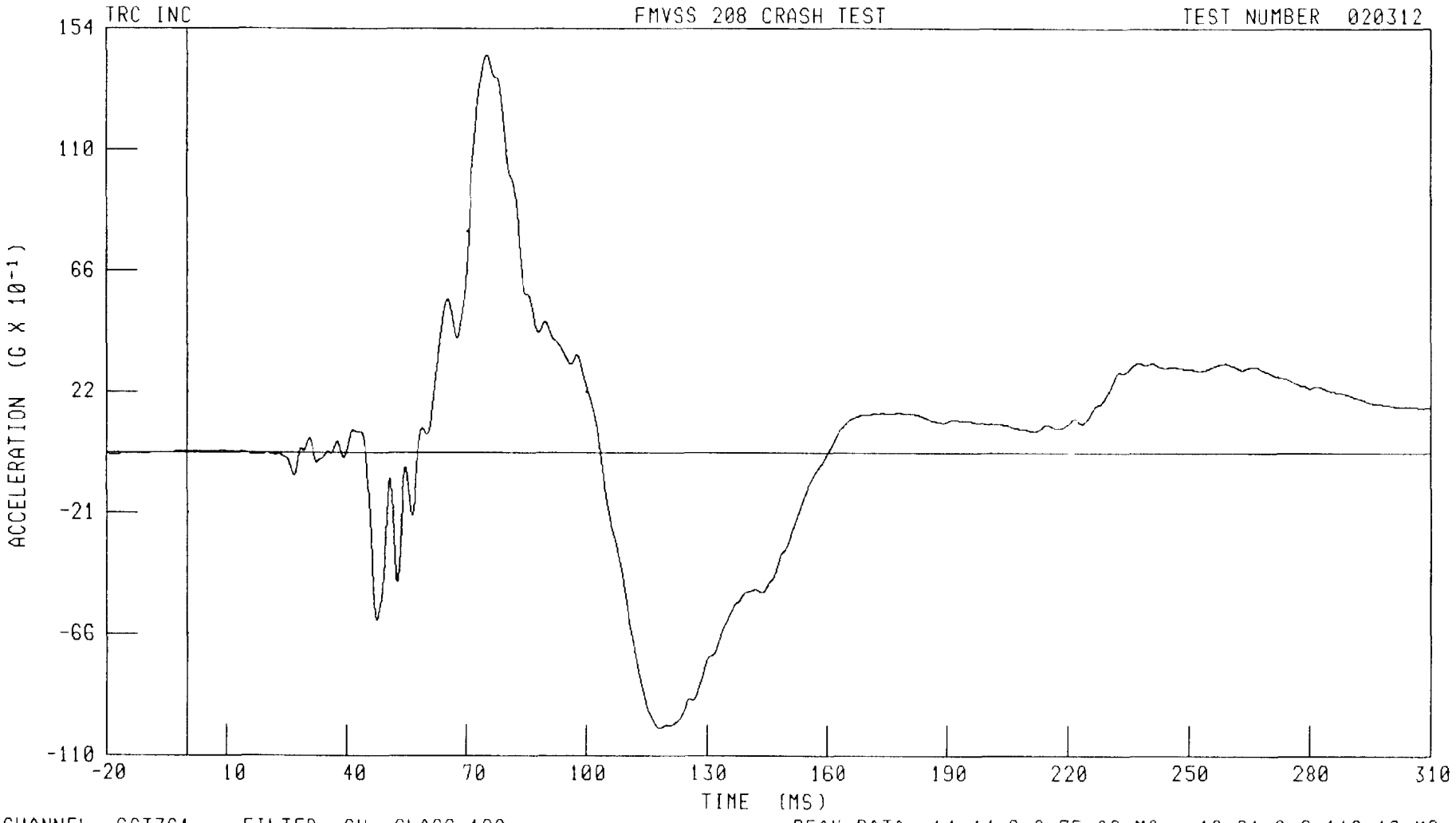
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER CHEST Y-AXIS ACCELERATION



CHANNEL CSTYG1 FILTER CH CLASS 180 PEAK DATA 5 09 G @ 80 08 MS, -4 04 G @ 50 08 MS

020312

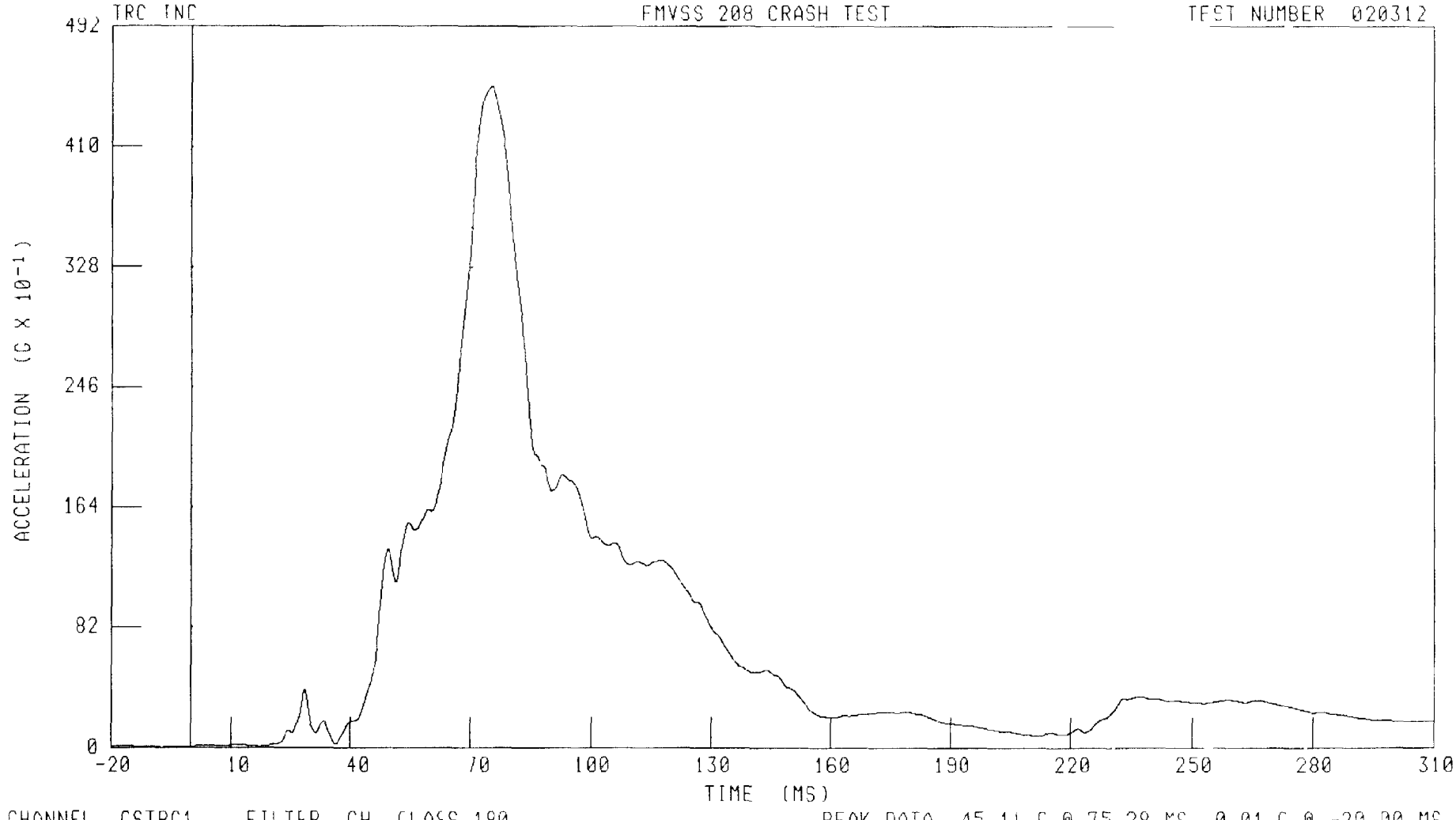
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER CHEST Z-AXIS ACCELERATION



CHANNEL CSTZC1 FILTER CH CLASS 180 PEAK DATA 14 44 G @ 75 28 MS, -10 01 G @ 118 16 MS

020312

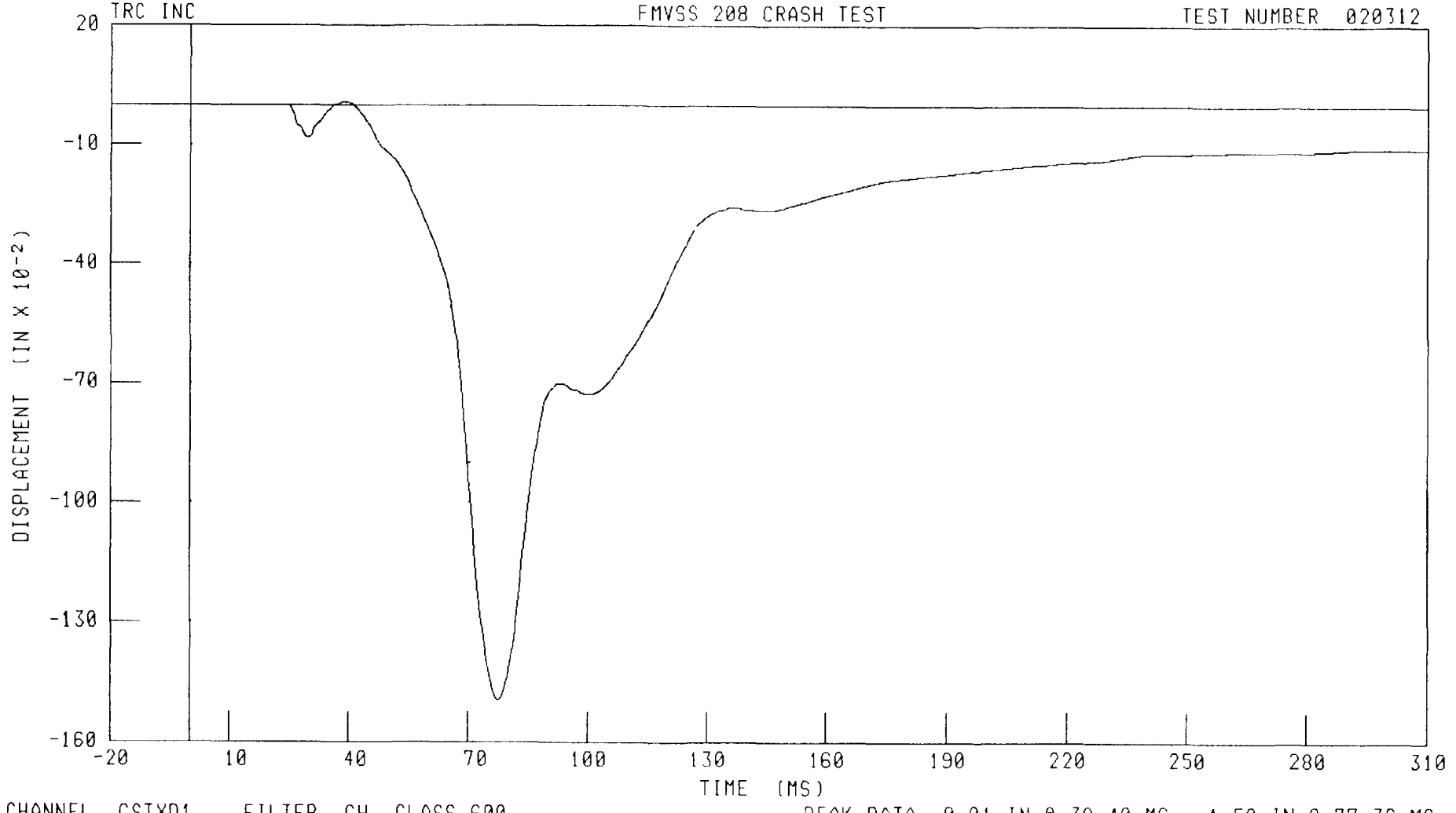
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER CHEST RESULTANT ACCELERATION



CHANNEL CSTRC1 FILTER CH CLASS 180 PEAK DATA 45 11 G @ 75 28 MS, 0 01 G @ -20 00 MS

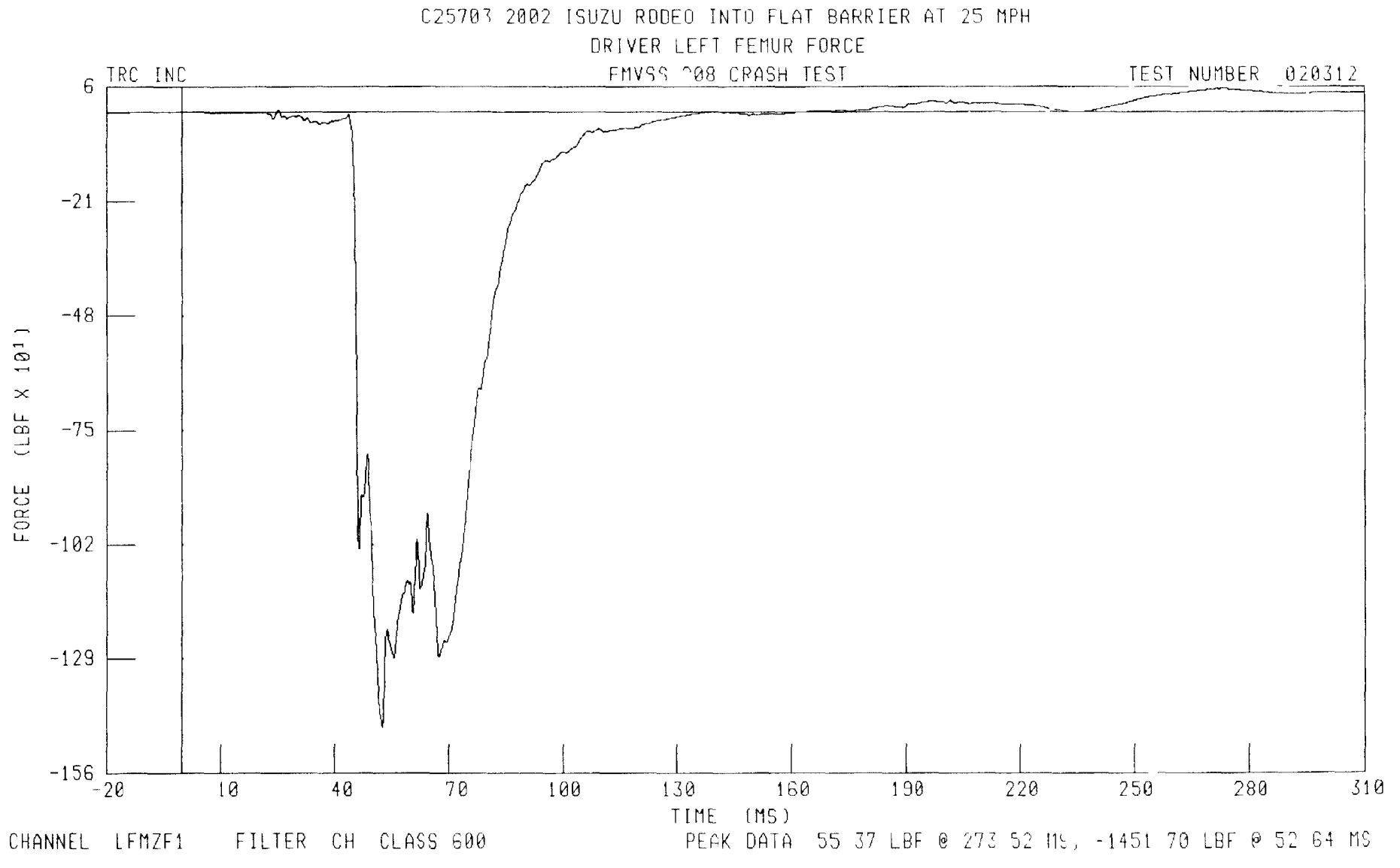
020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER CHEST DEFLECTION

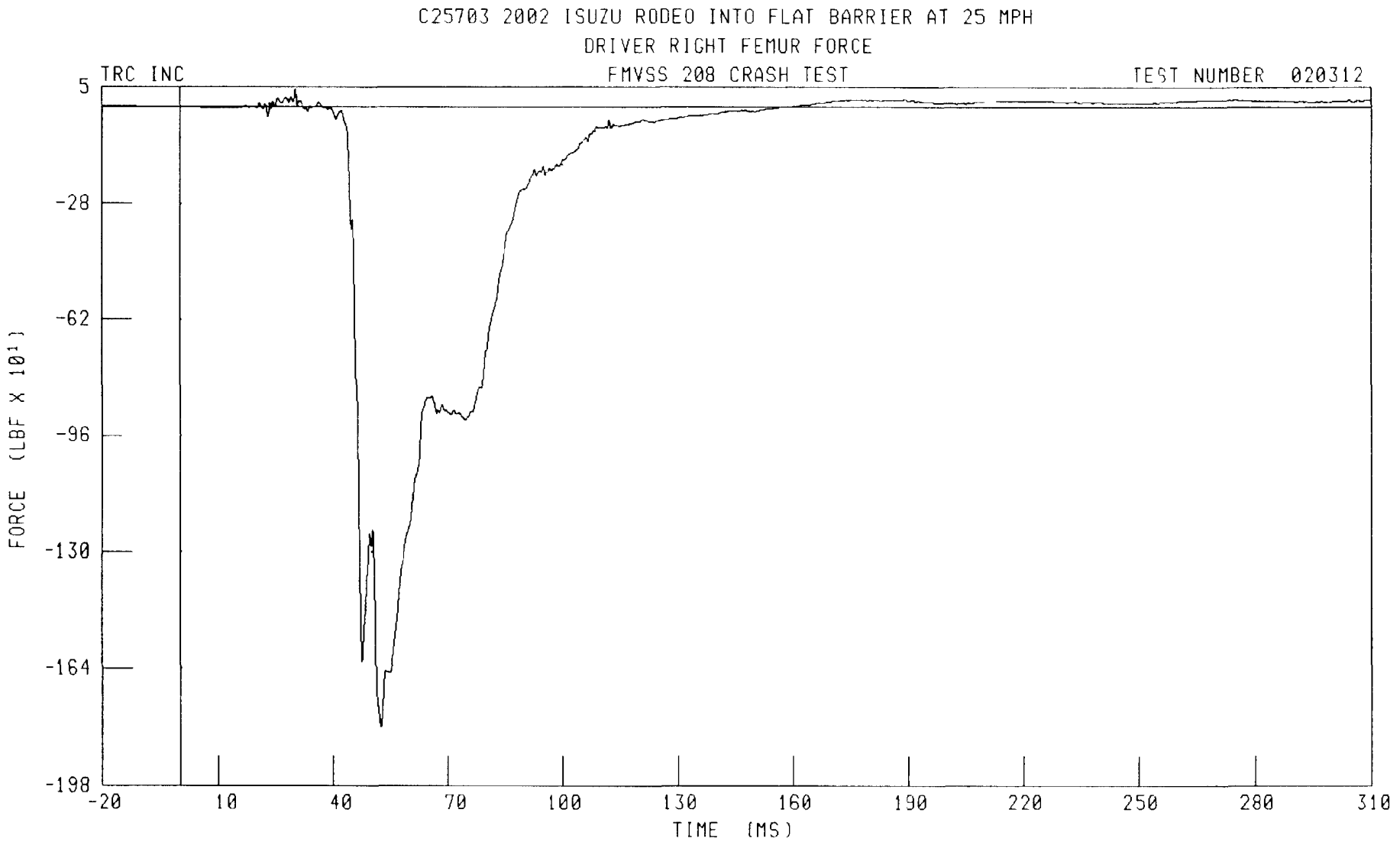


CHANNEL CSTXD1 FILTER CH CLASS 600 PEAK DATA 0 01 IN @ 38 40 MS, -1 50 IN @ 77 36 MS

020312

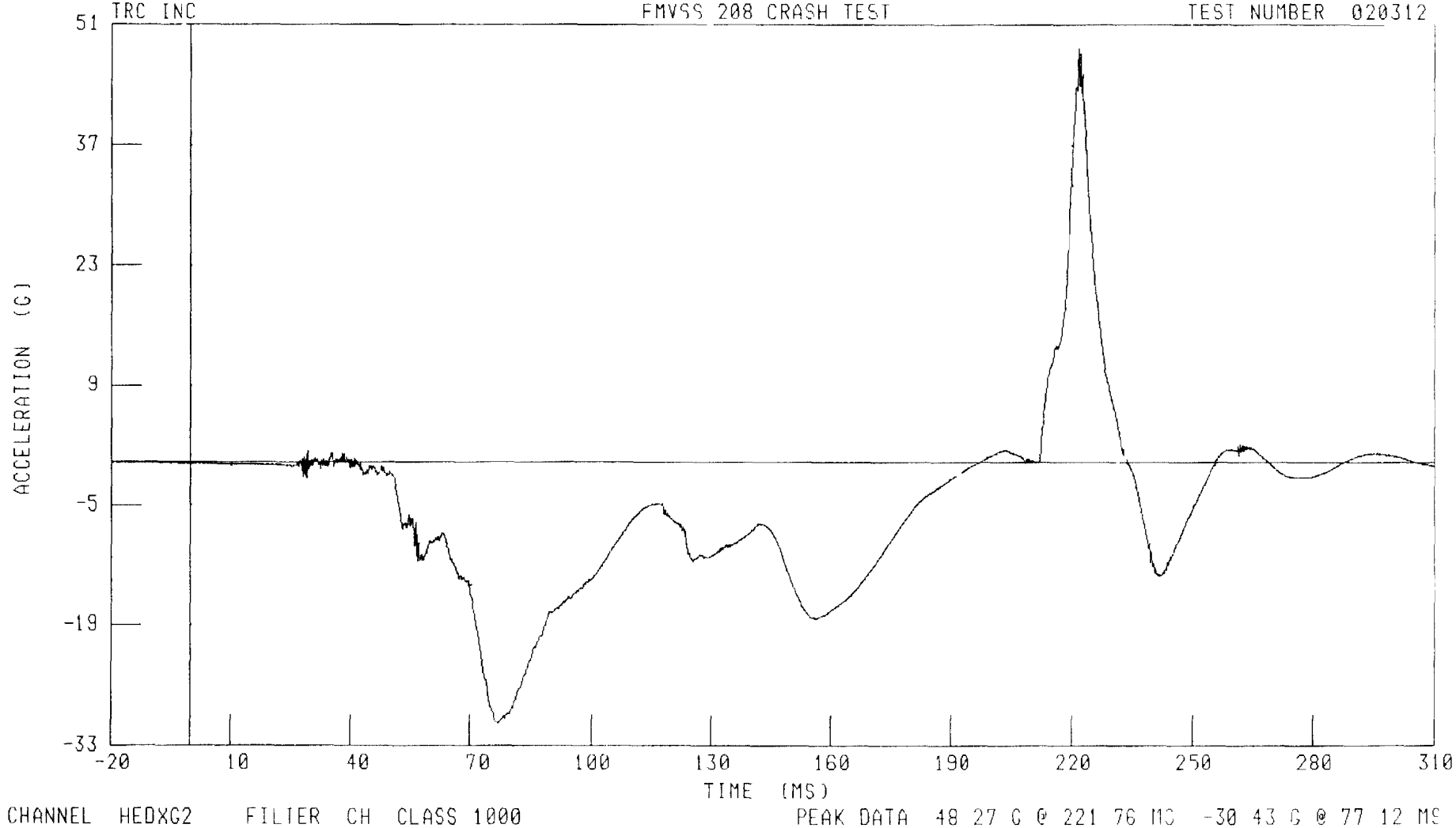

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER LEFT FEMUR FORCE
TRC INC
FMVSS 208 CRASH TEST
TEST NUMBER 020312
6
-21
-48
-75
-102
-129
-156
FORCE (LBF X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL LFMZF1 FILTER CH CLASS 600
PEAK DATA 55.37 LBF @ 273.52 MS, -1451.70 LBF @ 52.64 MS

020312


C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
DRIVER RIGHT FEMUR FORCE
TRC INC
FMVSS 208 CRASH TEST
TEST NUMBER 020312
5
-28
-62
-96
-130
-164
-198
FORCE (LBF X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL RFMZF1 FILTER CH CLASS 600
PEAK DATA 51 94 LBF @ 30 16 MS, -1814 35 LBF @ 52 40 MS

020312

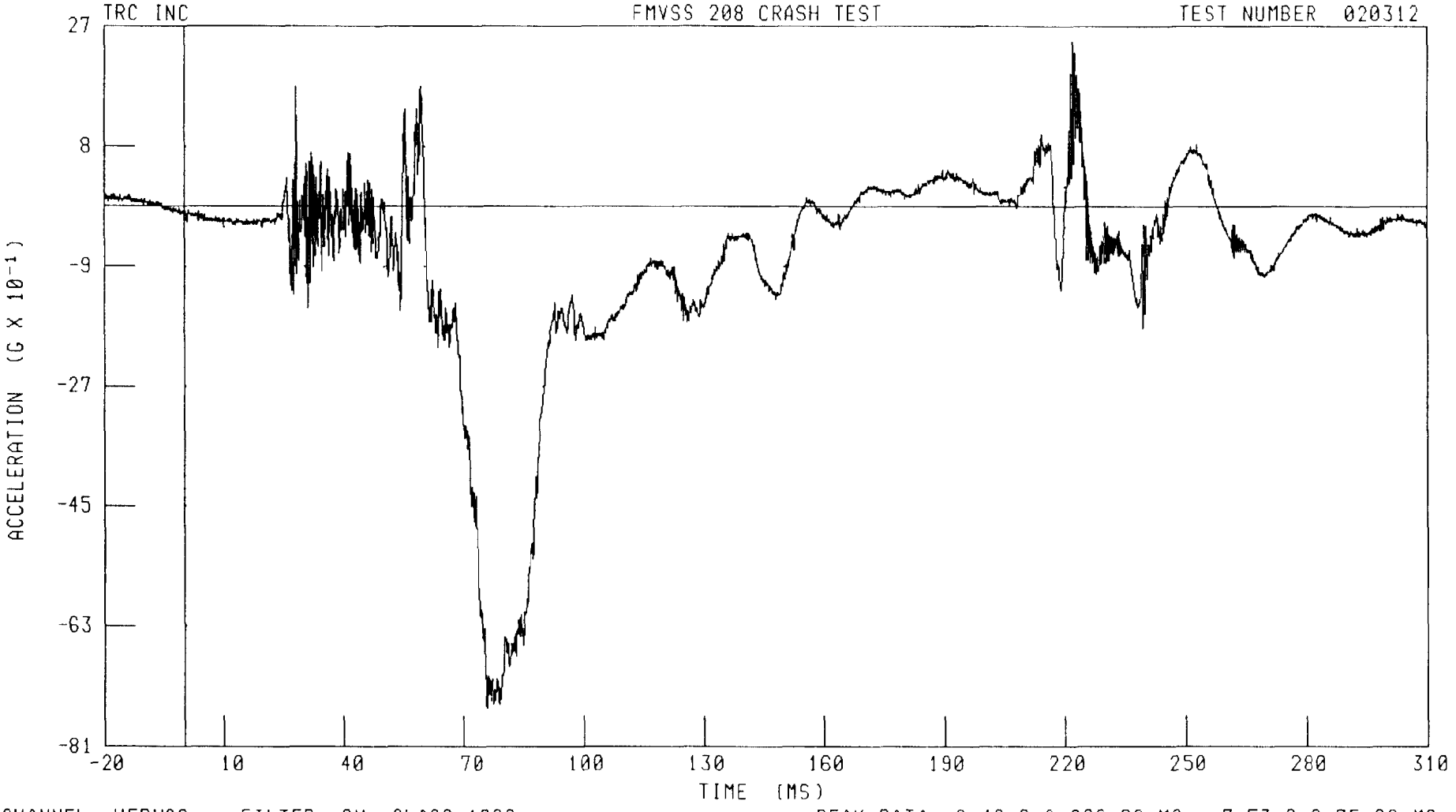
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER HEAD X-AXIS ACCELERATION



CHANNEL HEDXG2 FILTER CH CLASS 1000 PEAK DATA 48.27 G @ 221.76 MS -30.43 G @ 77.12 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION

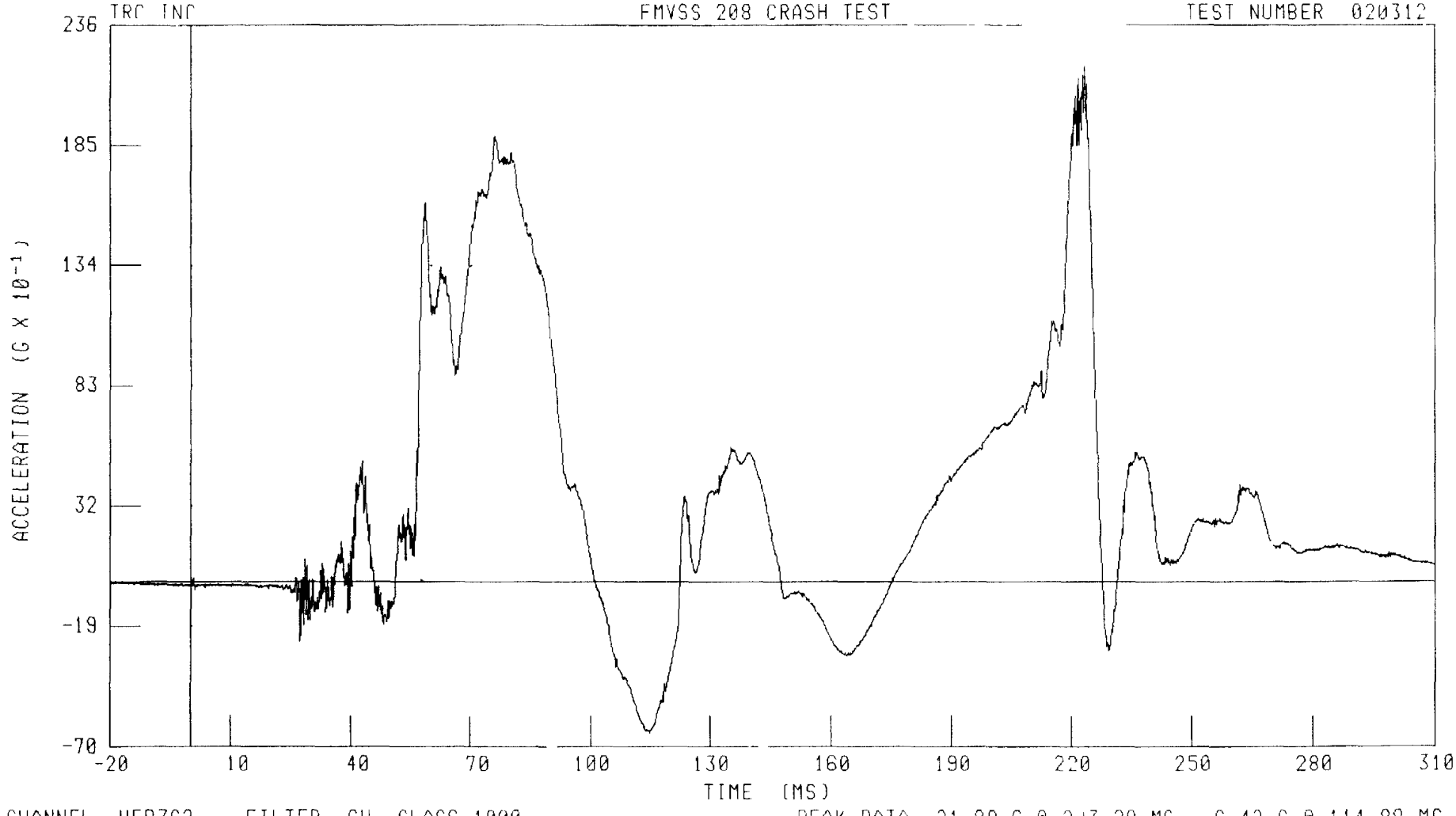


CHANNEL HEDYG2 FILTER CH CLASS 1000 PEAK DATA 2 48 G @ 222 08 MS, -7 53 G @ 75 92 MS

B-25

020312

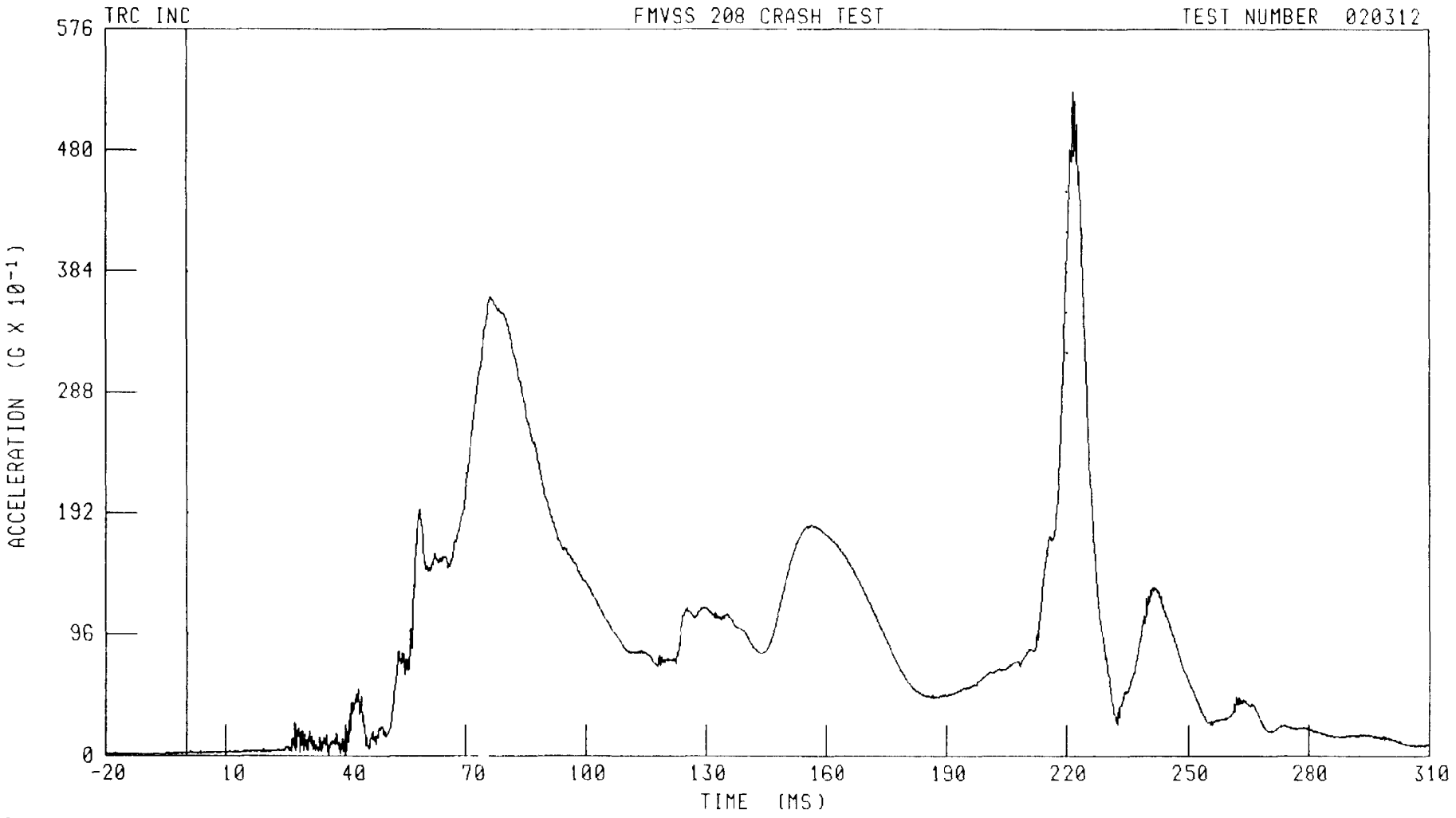
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER HEAD Z-AXIS ACCELERATION



CHANNEL HEDZG2 FILTER CH CLASS 1000 PEAK DATA 21 89 G @ 223 28 MS, -6 42 G @ 114 88 MS

020312

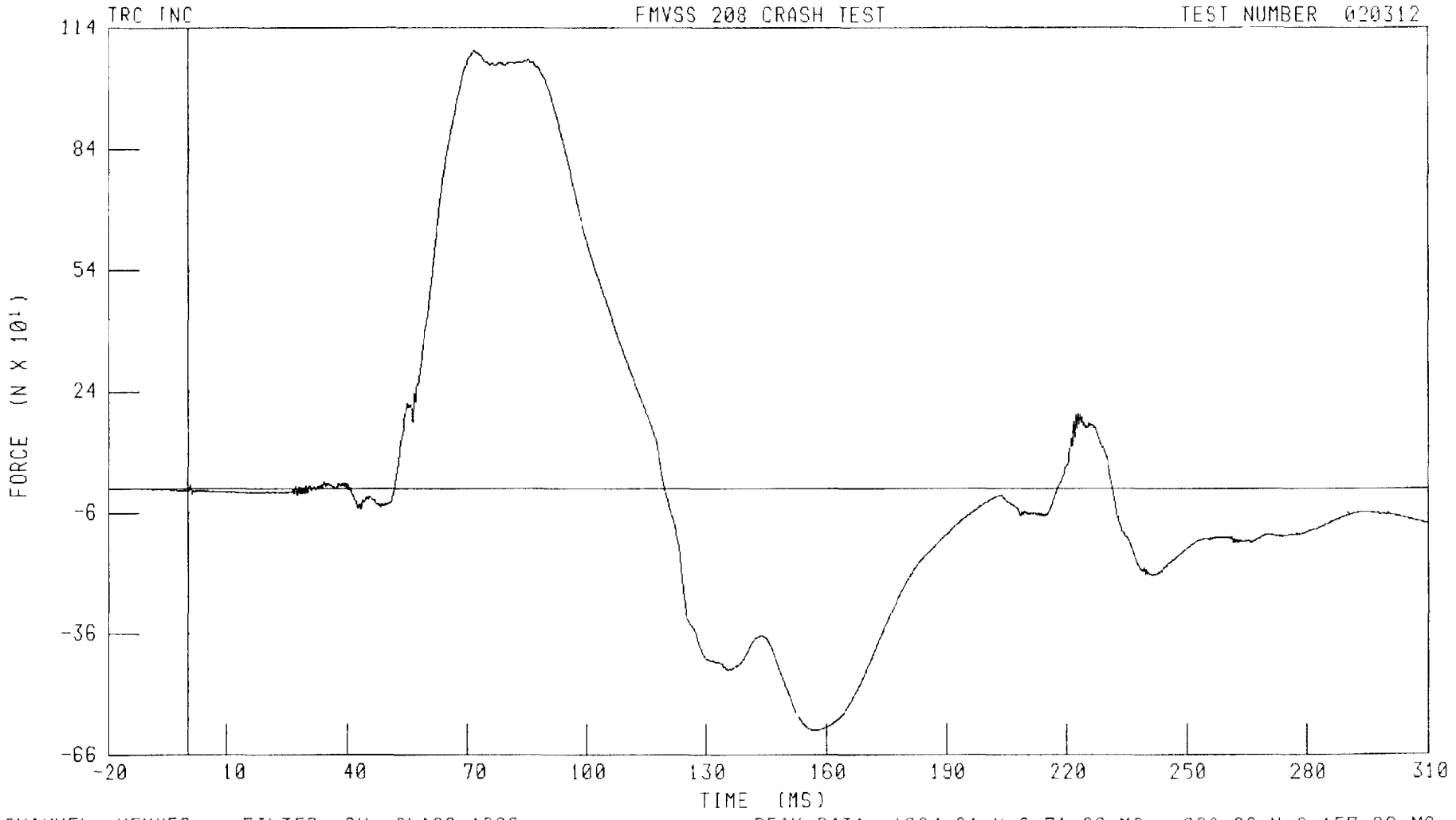
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER HEAD RESULTANT ACCELERATION



CHANNEL HEDRG2 FILTER CH CLASS 1000 PEAK DATA 52 74 G @ 221 68 MS, 0 07 G @ -10 48 MS

020312

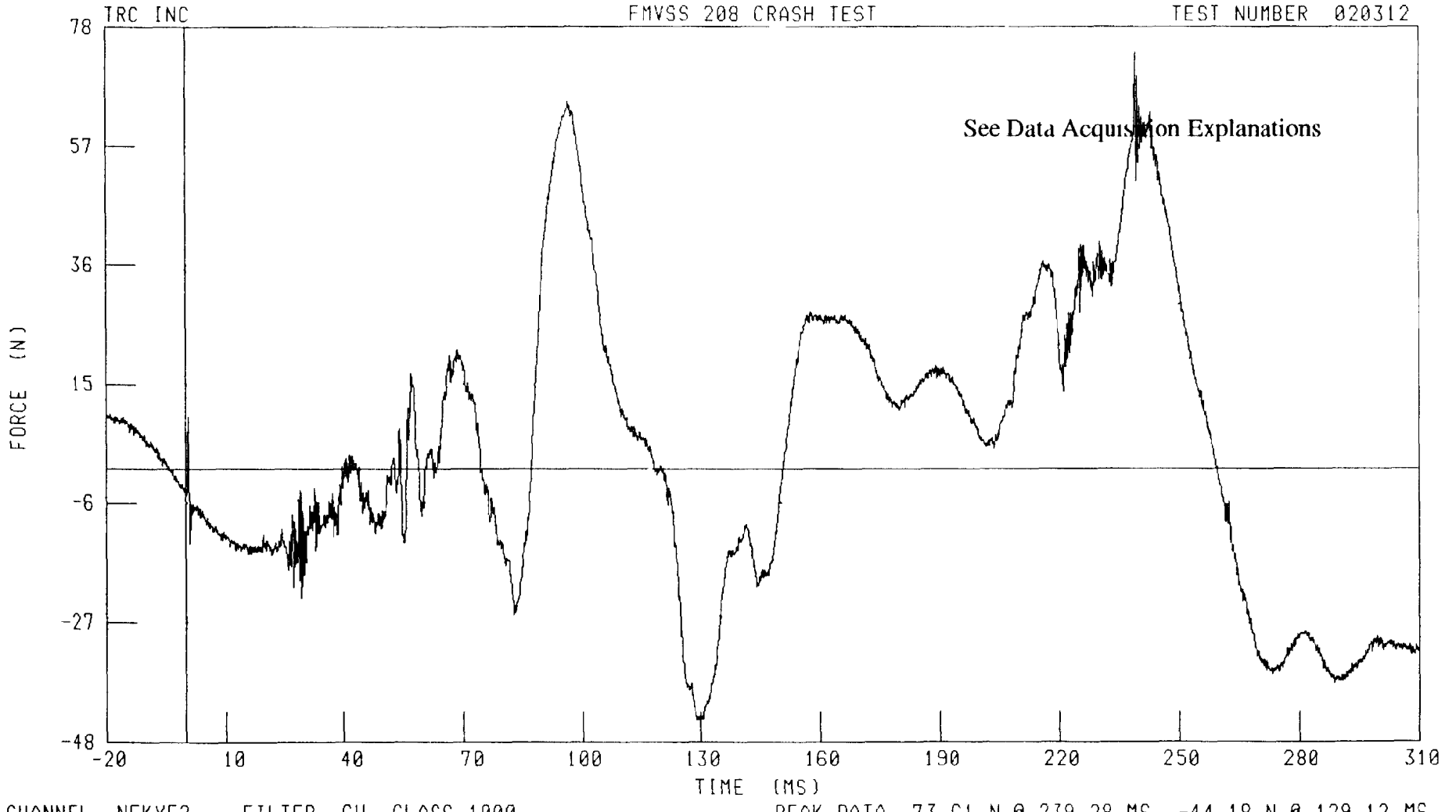
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NECK X-AXIS SHEAR FORCE



CHANNEL NEKXF2 FILTER CH CLASS 1000 PEAK DATA 1084 81 N @ 71 60 MS, -600 00 N @ 157 28 MS

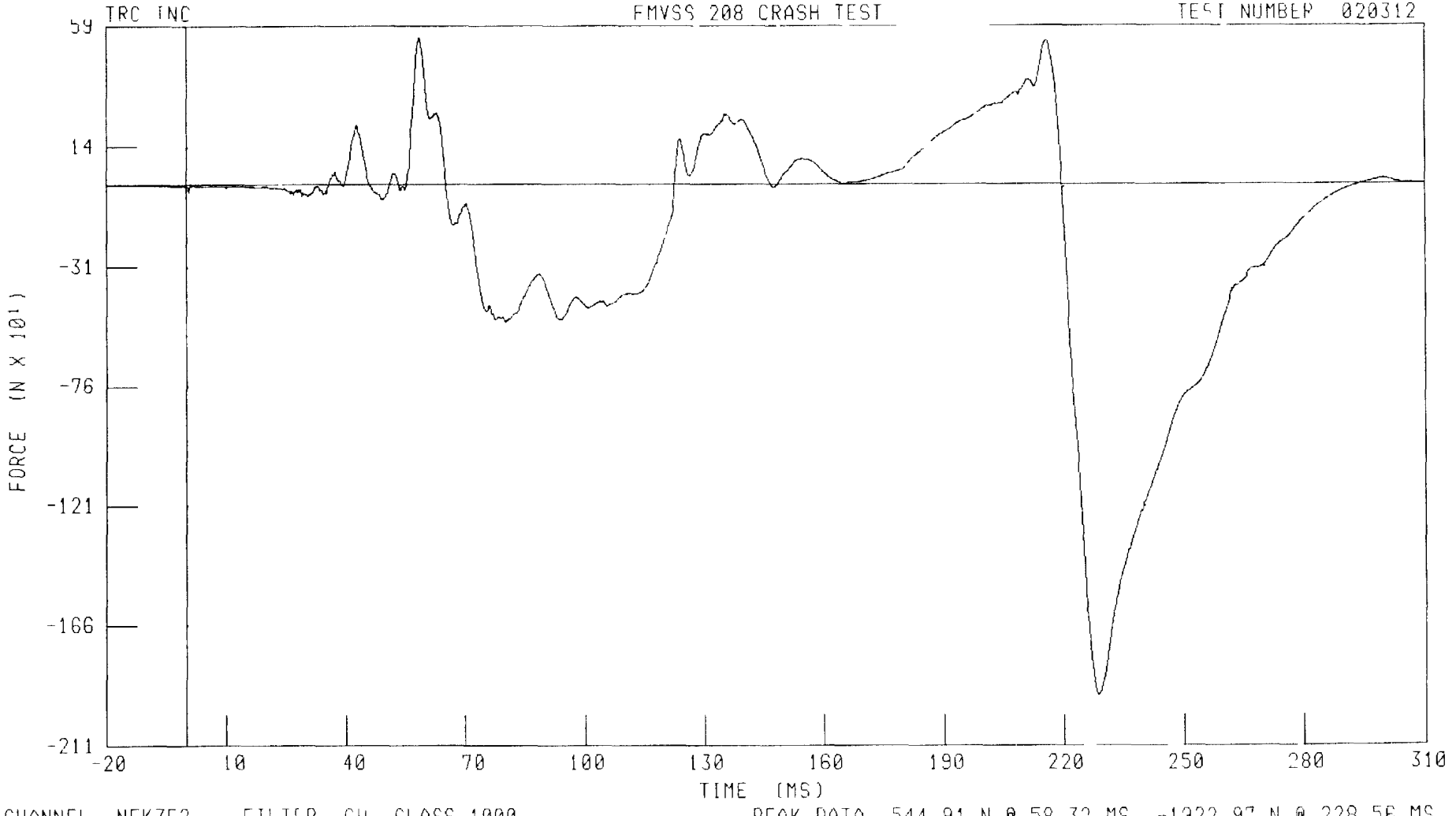
020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NECK Y-AXIS SHEAR FORCE



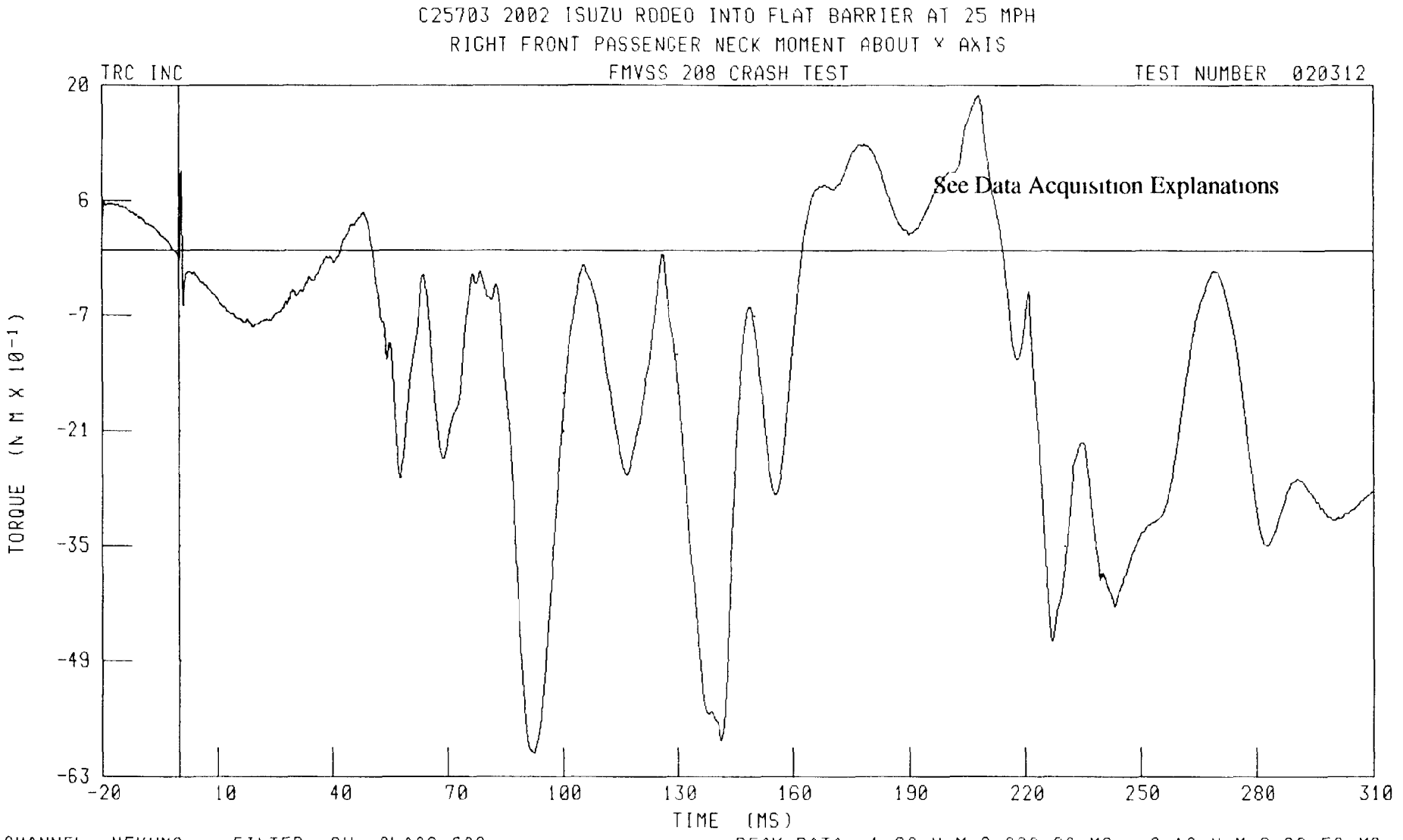
CHANNEL NEKYF2 FILTER CH CLASS 1000
PEAK DATA 73 61 N @ 239 28 MS, -44 18 N @ 129 12 MS

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NECK Z-AXIS AXIAL FORCE



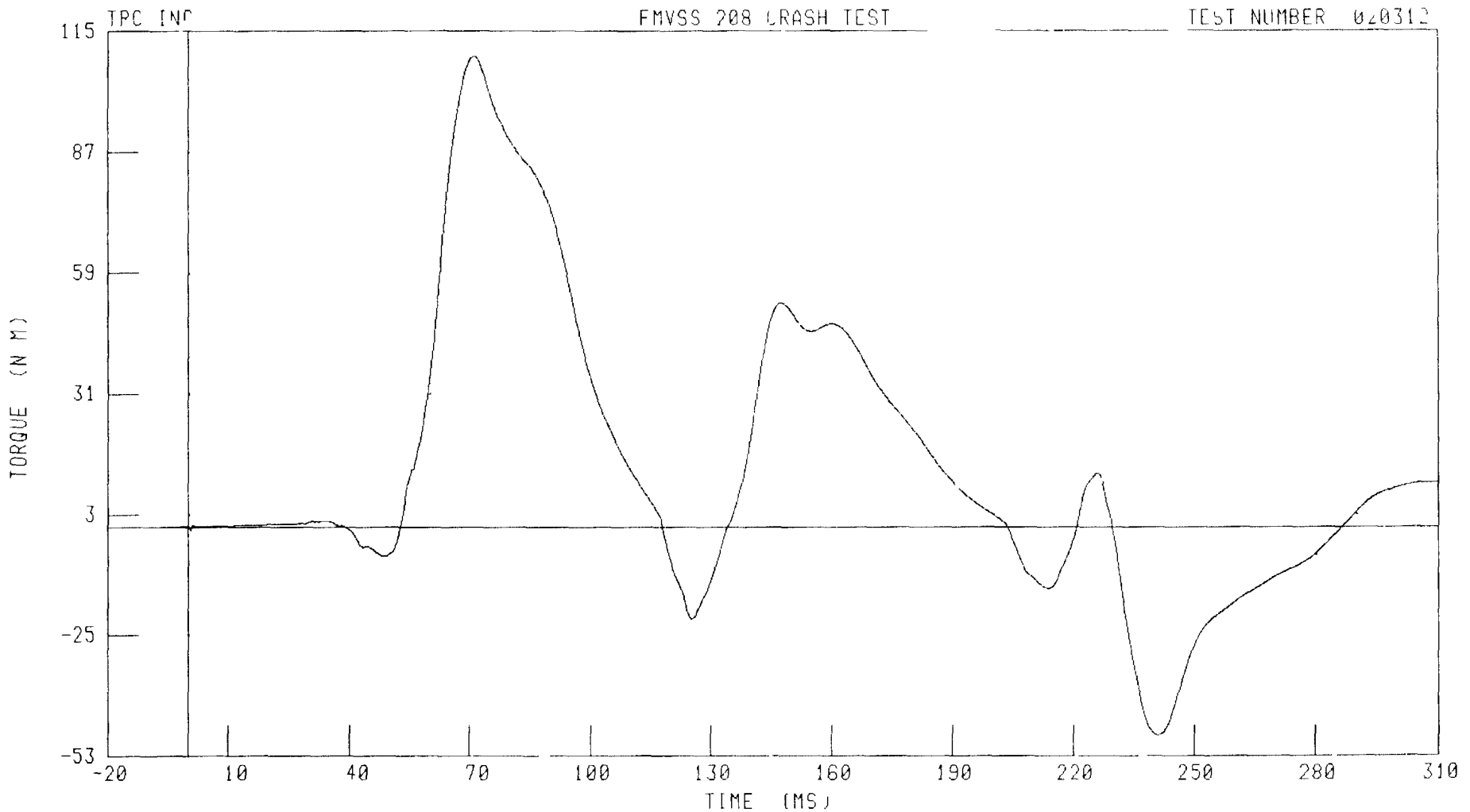
CHANNEL NEKZF2 FILTER CH CLASS 1000
PEAK DATA 544.91 N @ 58.32 MS, -1322.97 N @ 228.56 MS

B-30
020312


C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS
TRC INC
FMVSS 208 CRASH TEST
TEST NUMBER 020312
See Data Acquisition Explanations
TORQUE (N M X 10-1)
20
6
-7
-21
-35
-49
-63
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL NEKXM2 FILTER CH CLASS 600
PEAK DATA 1 88 N M @ 208 08 MS, -6 12 N M @ 92 56 MS

020312

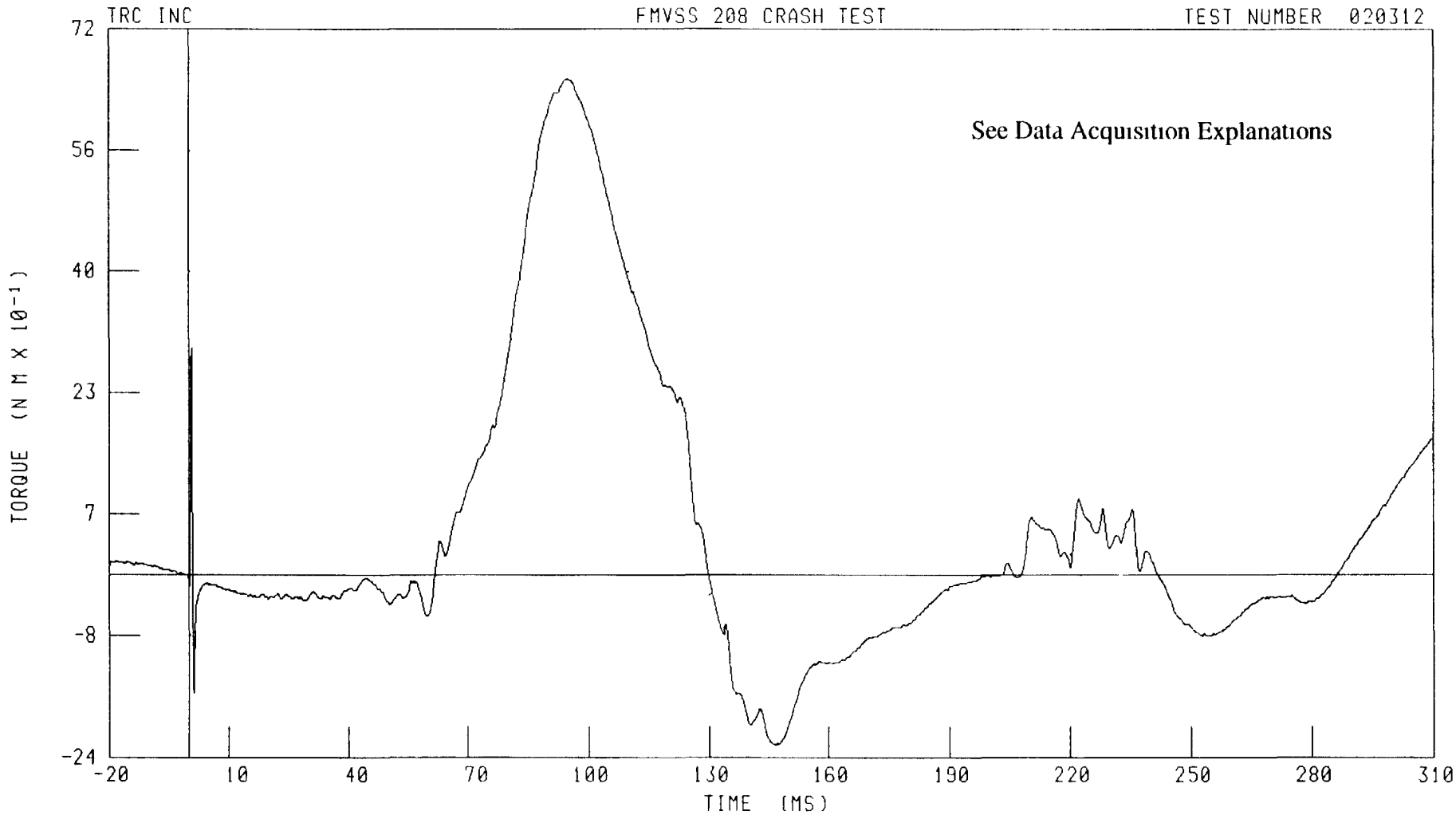
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS



CHANNEL NEKYM2 FILTER CH CLASS 600 PEAK DATA 109 14 N M @ 71 28 MS -48 27 N M @ 241 04 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Z AXIS

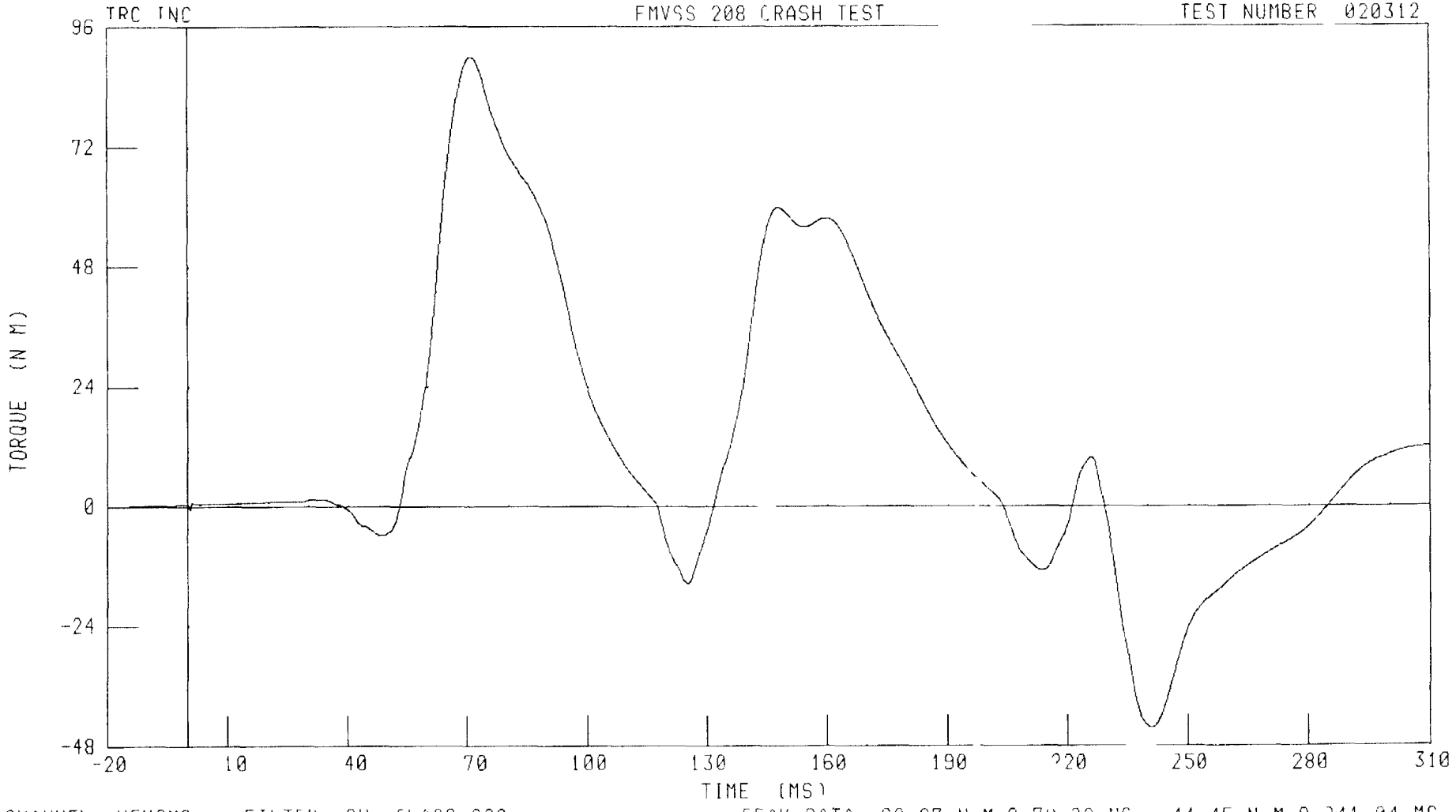


CHANNEL NEKZM2 FILTER CH CLASS 600

PEAK DATA 6 55 N M @ 95 04 MS, -2 24 N M @ 146 80 MS

020312

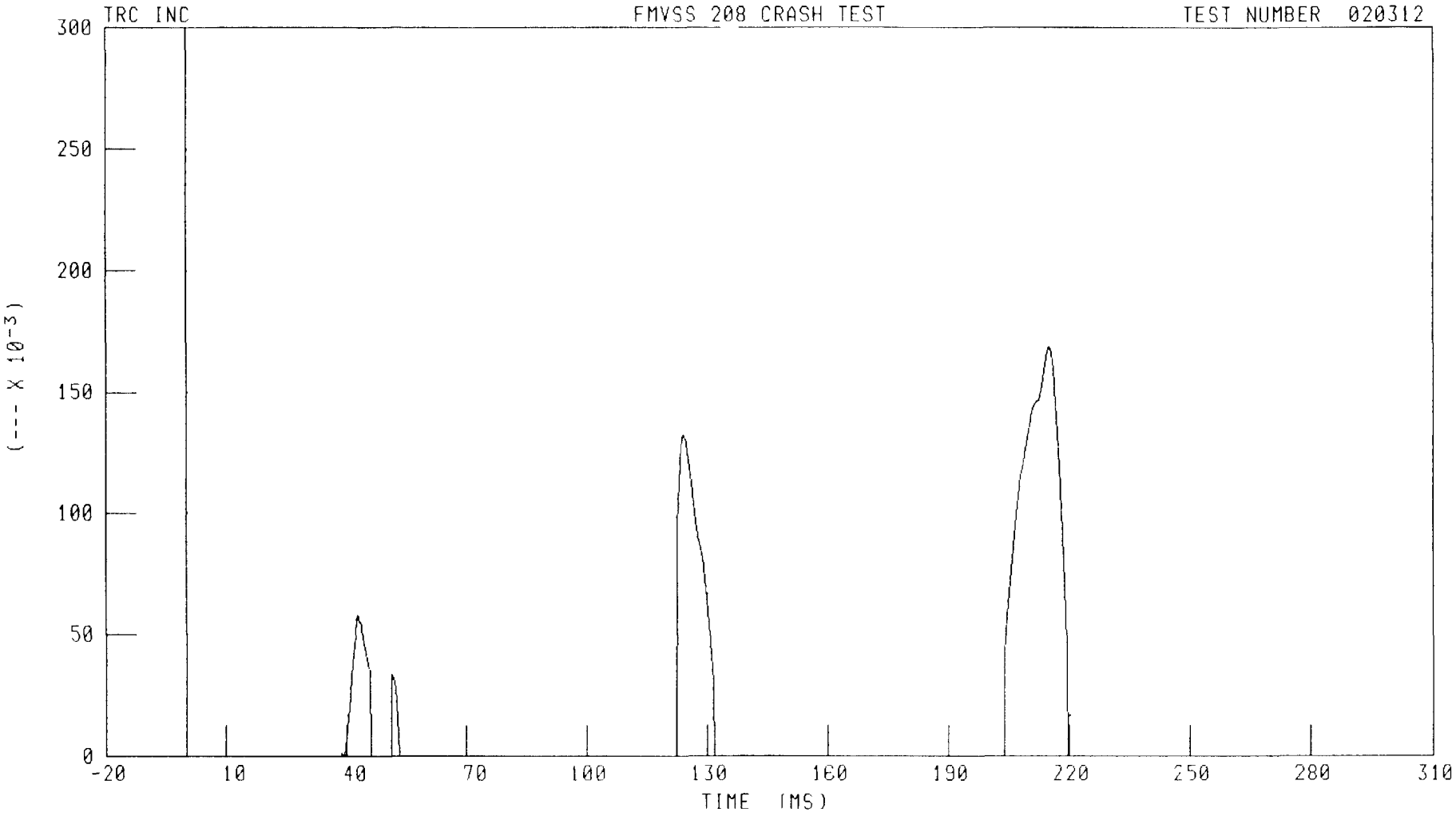
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NECK MOMENT OCCIPITAL CONDYLE ABOUT Y AXIS



CHANNEL NEKOM2 FILTER CH CLASS 600 PEAK DATA 89 97 N M @ 70 38 MS, 44 45 N M @ 241 04 MS

020312

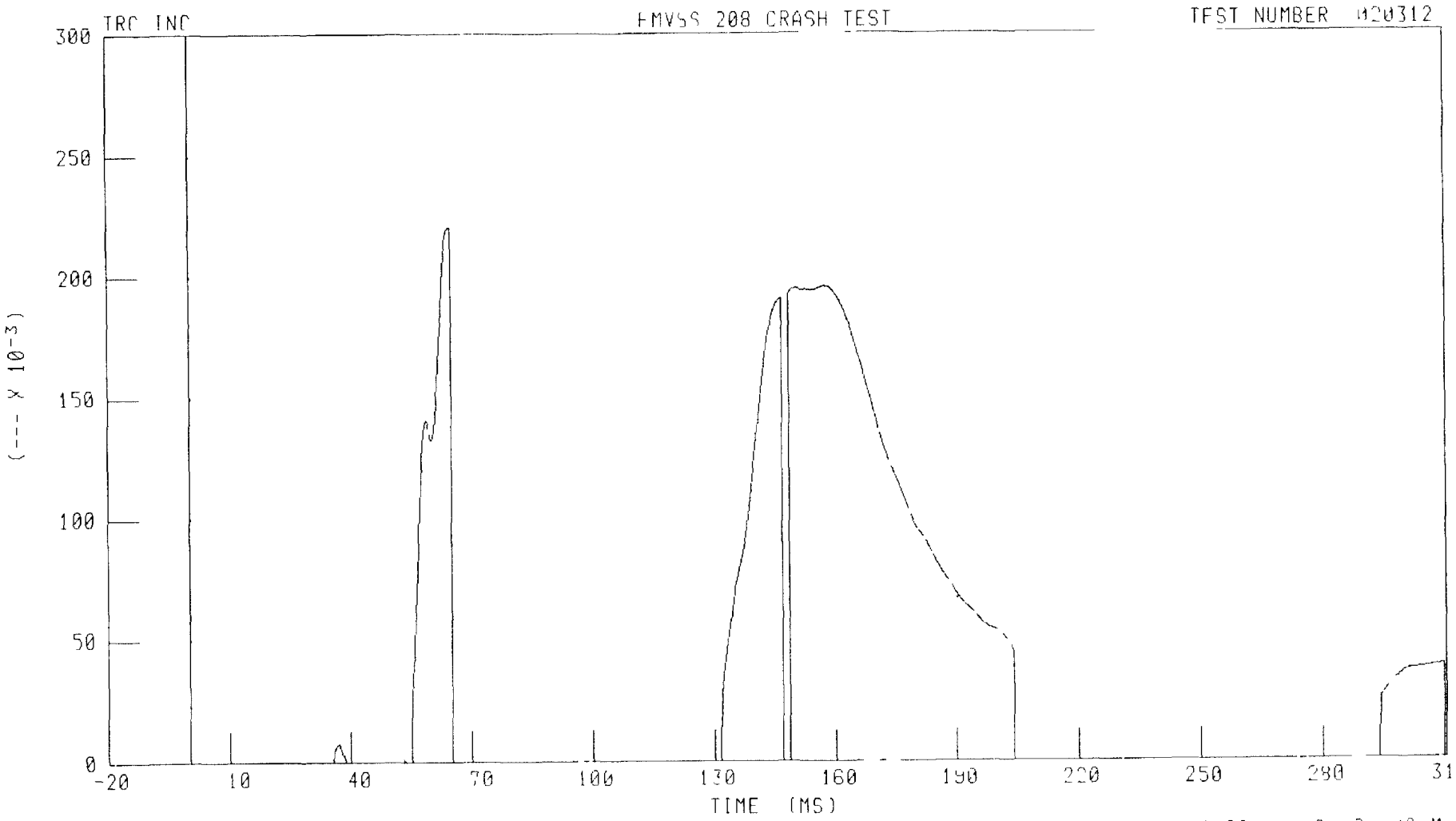
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NIJ TENSION/EXTENSION



CHANNEL NTE2 FILTER CH CLASS 600 PEAK DATA 0 17 --- 0 215 12 MS, 0 00 --- 0 -20 00 MS

020312

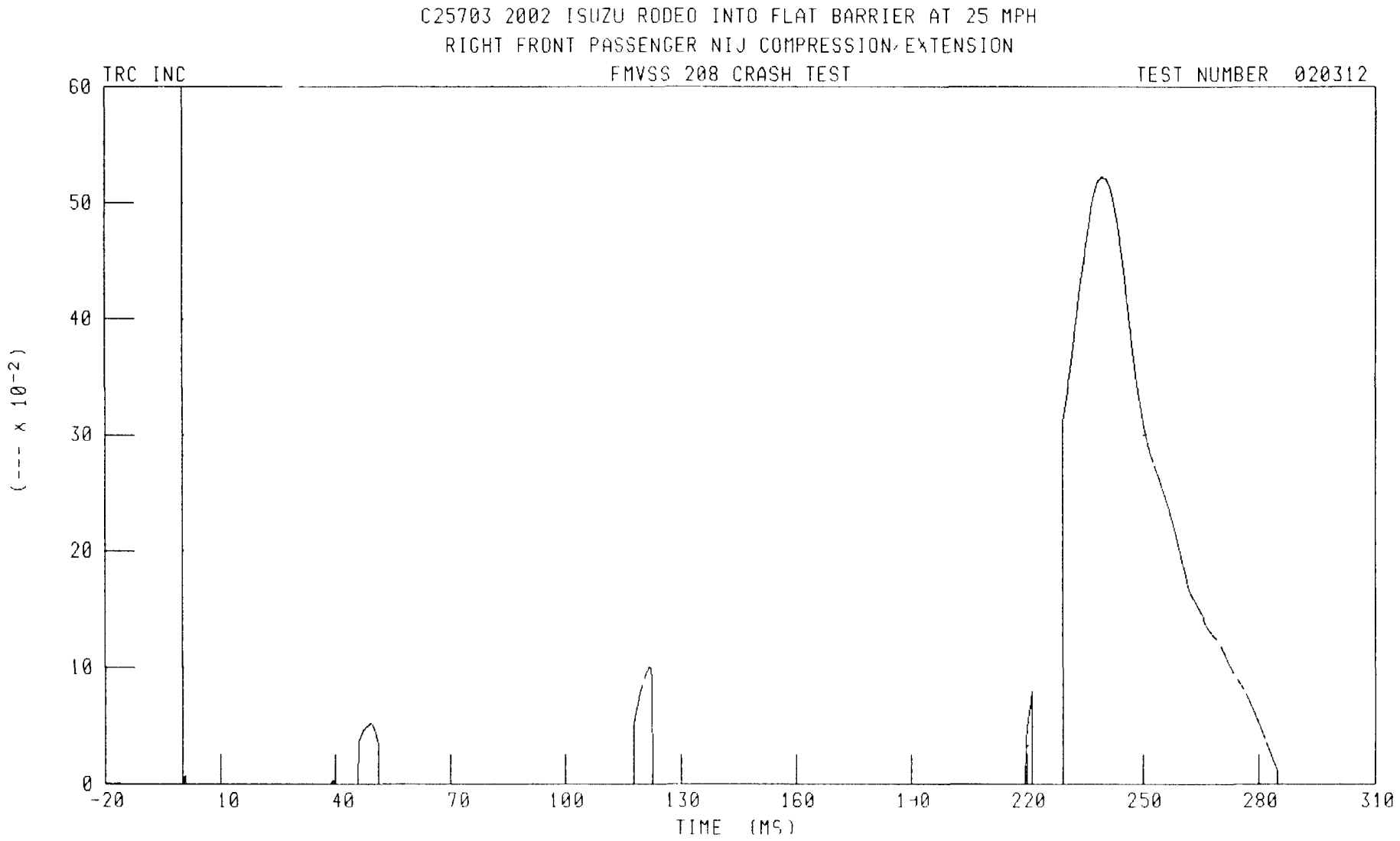
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NIJ TENSION/FLEXION
FMVSS 208 CRASH TEST



CHANNEL NTF2 FILTER CH CLASS 600 PEAK DATA M 22 @ 64.04 MS, 0.00 - 0 -20.00 M,

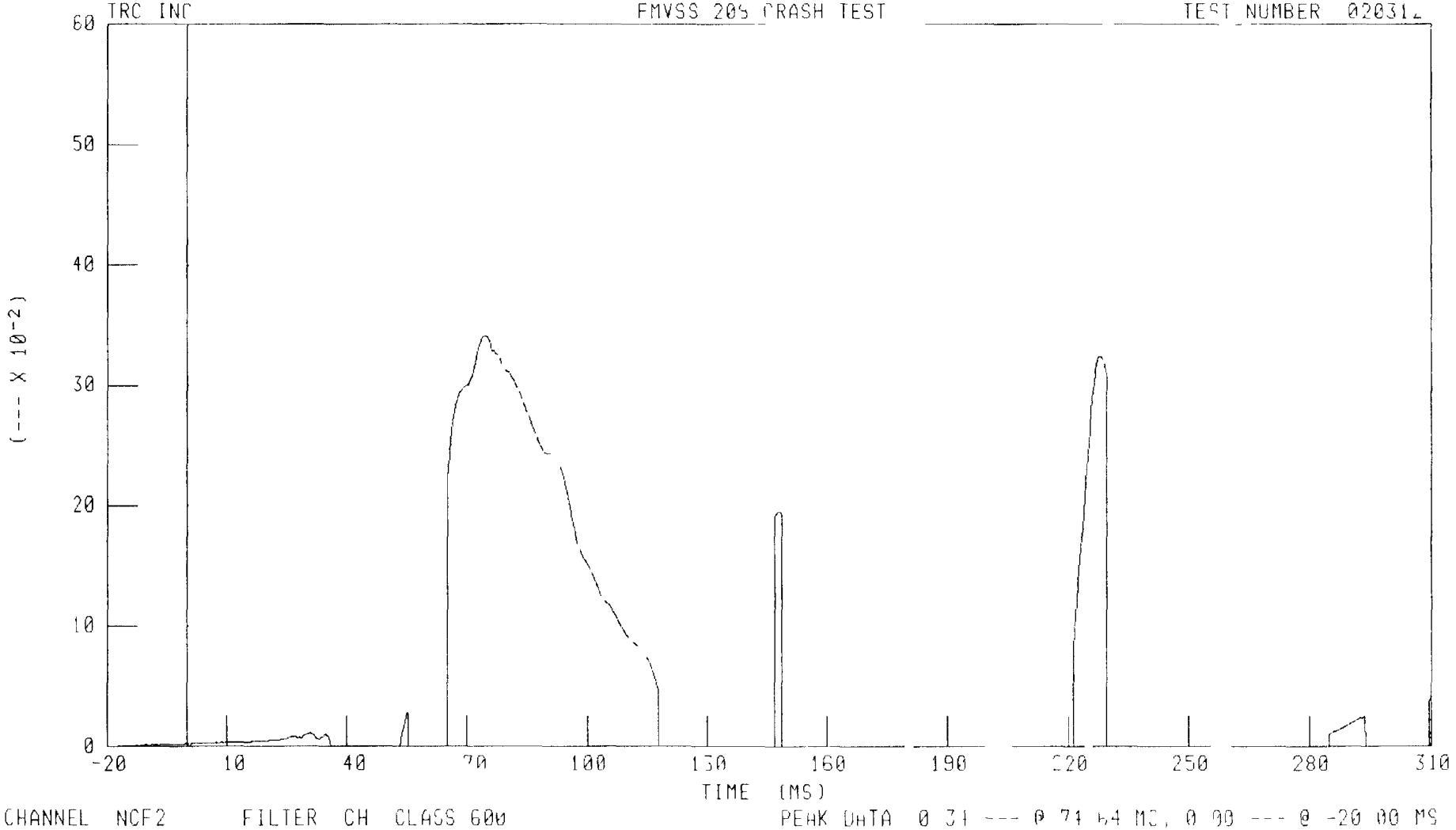
B-36

020312


C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NIJ COMPRESSION/EXTENSION
TRC INC
FMVSS 208 CRASH TEST
TEST NUMBER 020312
60
50
40
30
20
10
0
(--- x 10-2)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL NCE2
FILTER CH CLASS 600
PEAK DATA 0 52 --- 0 239 60 MS 0 00 --- 0 -17 28 MS

020312

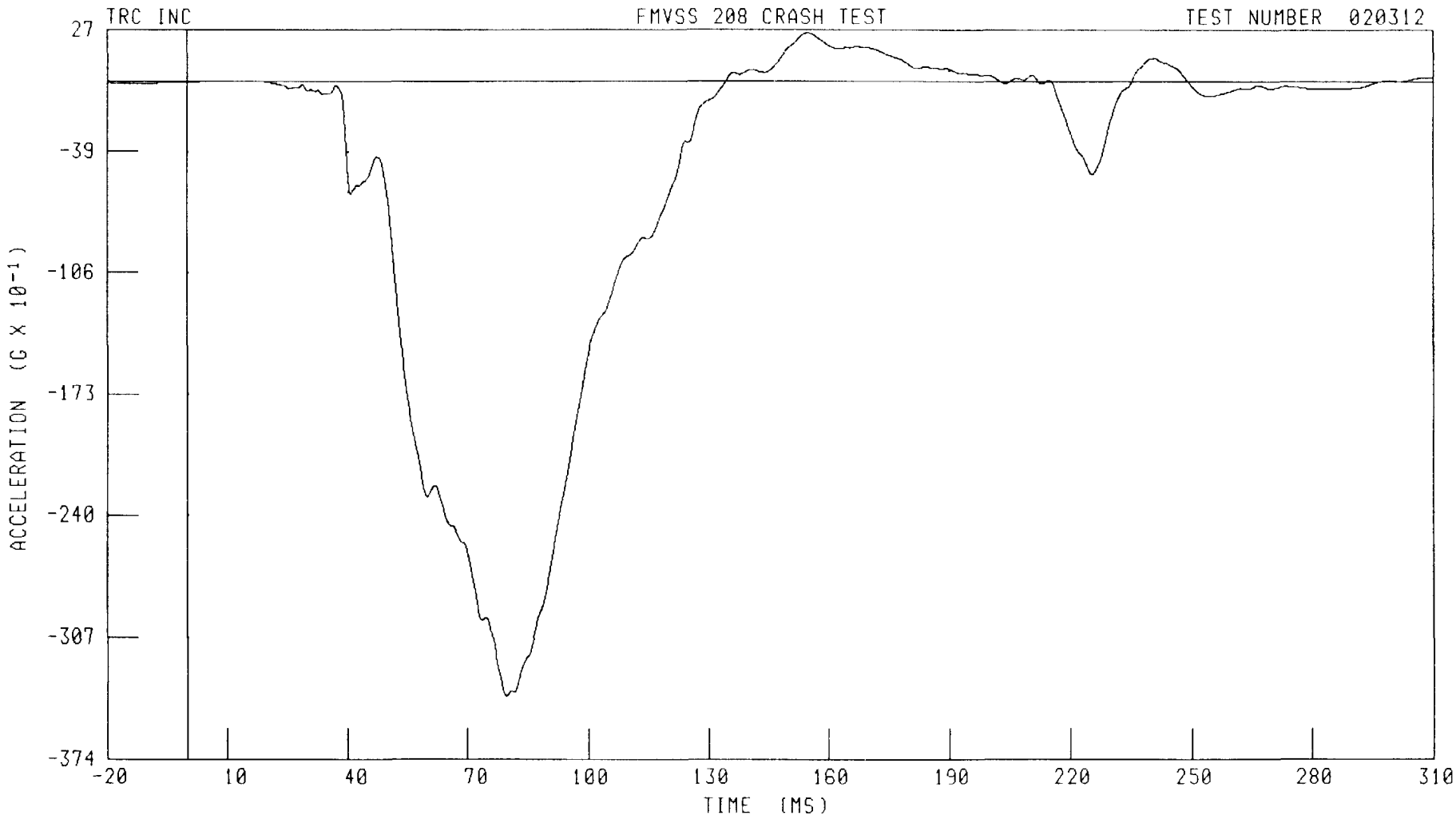
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER NIJ COMPRESSION/FLEXION



CHANNEL NCF2 FILTER CH CLASS 600 PEAK DATA 0.31 --- @ 71.64 MS, 0.00 --- @ -20.00 MS

020312

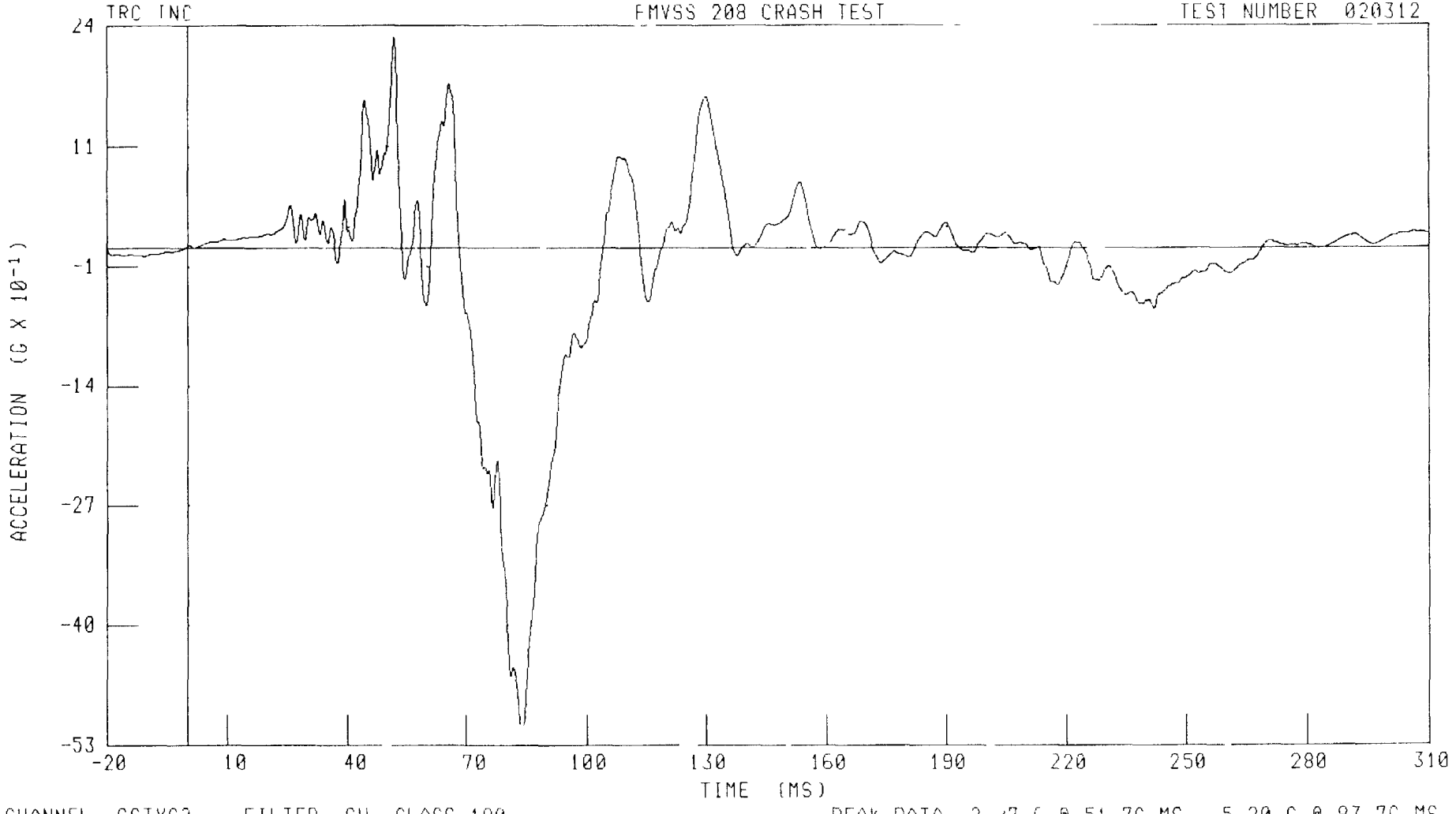
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER CHEST X-AXIS ACCELERATION



CHANNEL CSTXG2 FILTER CH CLASS 180 PEAK DATA 2 63 G @ 155 28 MS, -33 95 G @ 79 68 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RICHT FRONT PASSENGER CHEST Y-AXIS ACCELERATION

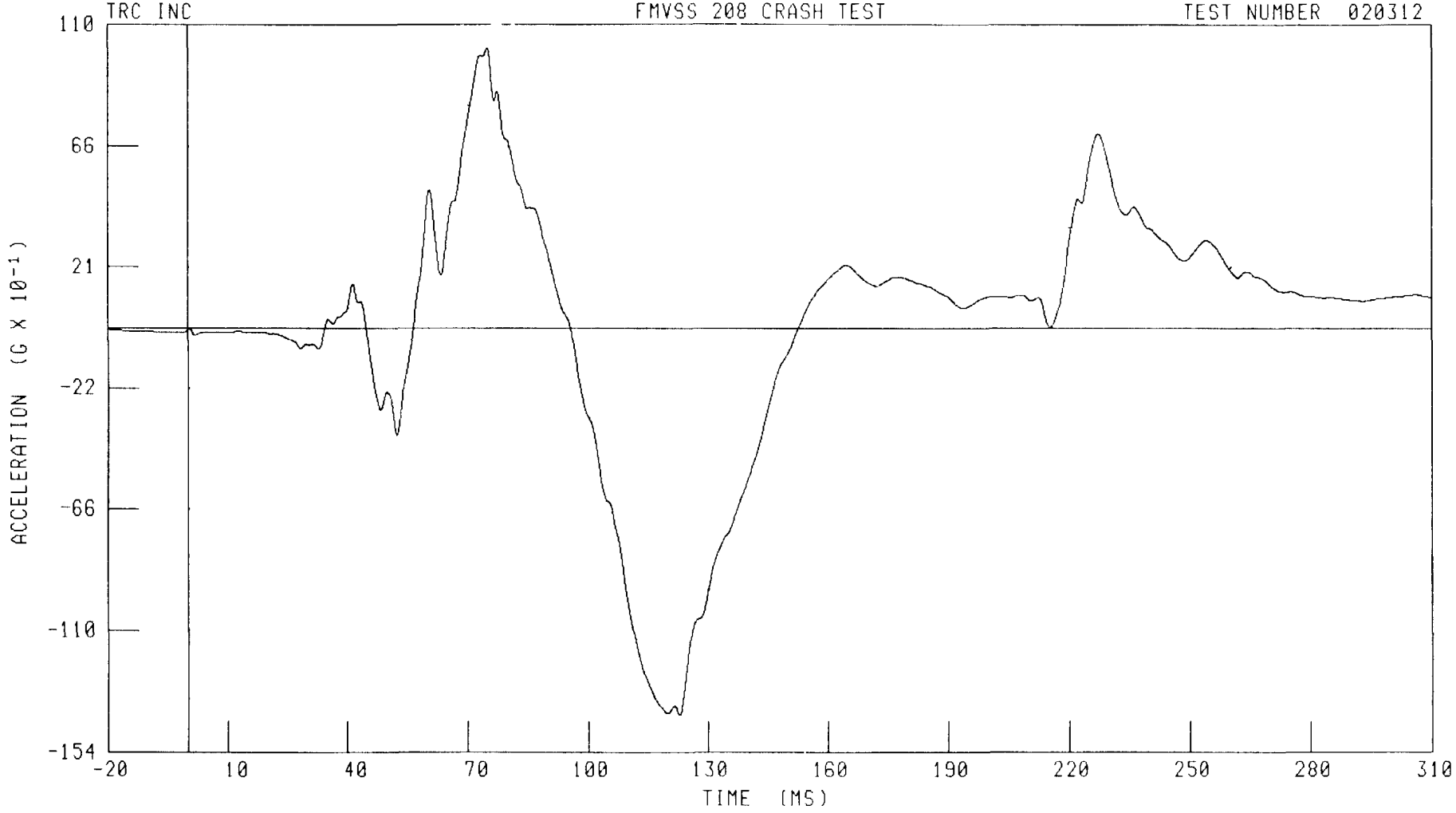


CHANNEL CSTYG2 FILTER CH CLASS 180 PEAk DATA 2 27 G @ 51 76 MS, 5 20 G @ 83 76 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER CHEST Z-AXIS ACCELERATION

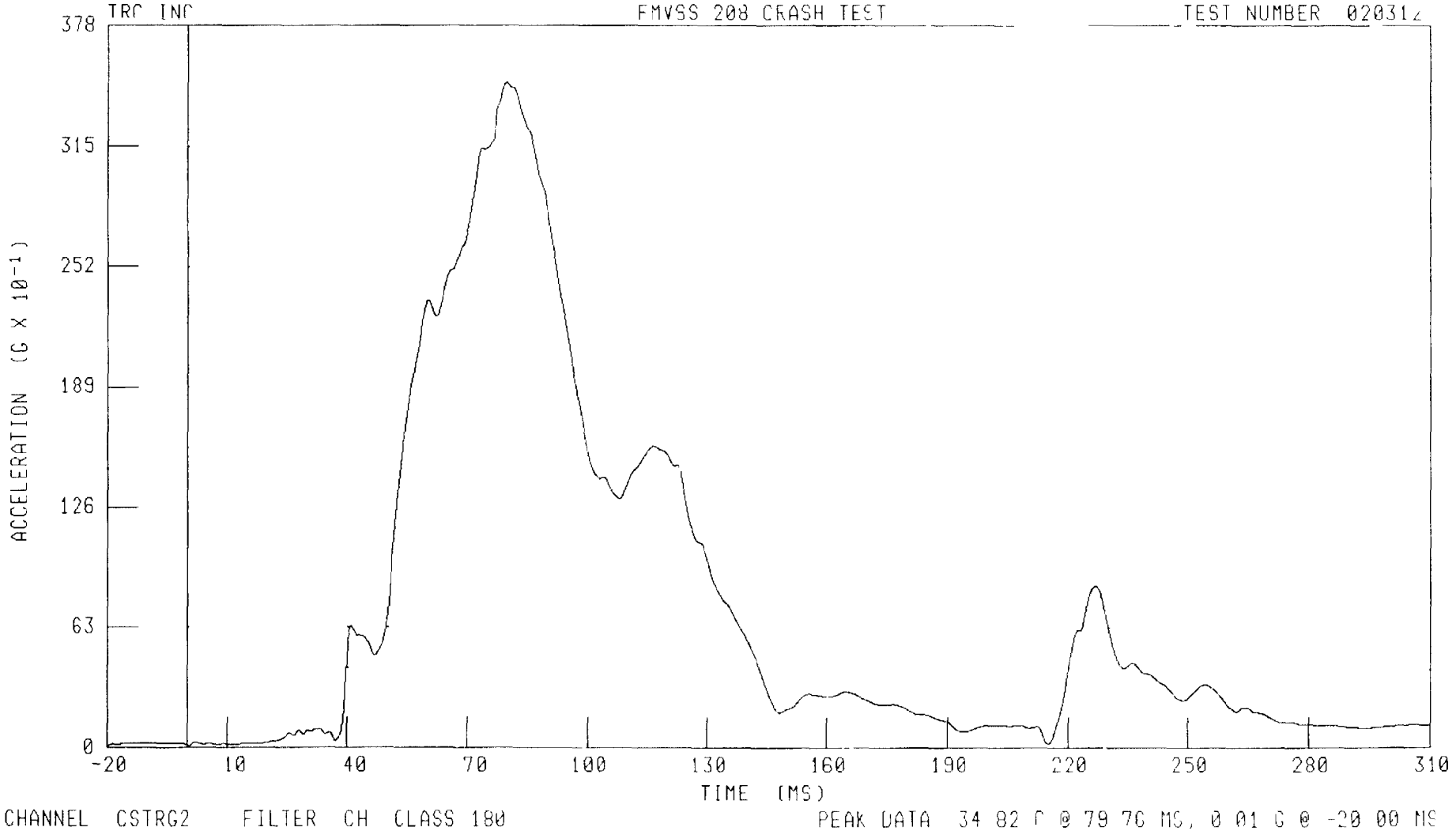
TRC INC FMVSS 208 CRASH TEST TEST NUMBER 020312



CHANNEL CSTZG2 FILTER CH CLASS 180 PEAK DATA 10 15 G @ 74 88 MS, -14 08 G @ 122 88 MS

020312

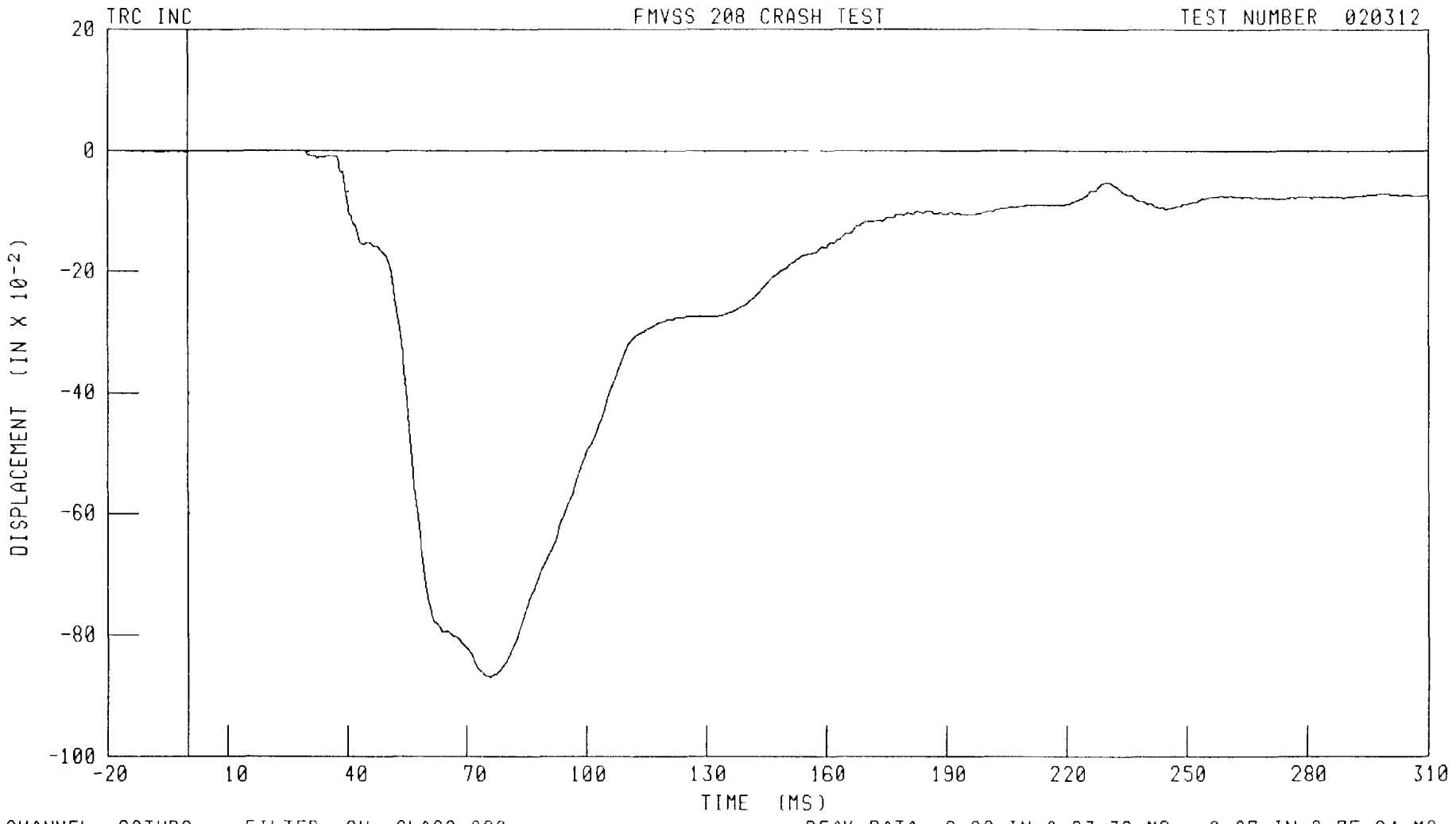
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER CHEST RESULTANT ACCELERATION



CHANNEL CSTRG2 FILTER CH CLASS 180 PEAK DATA 34 82 G @ 79 76 MS, 0 01 G @ -20 00 MS

020312

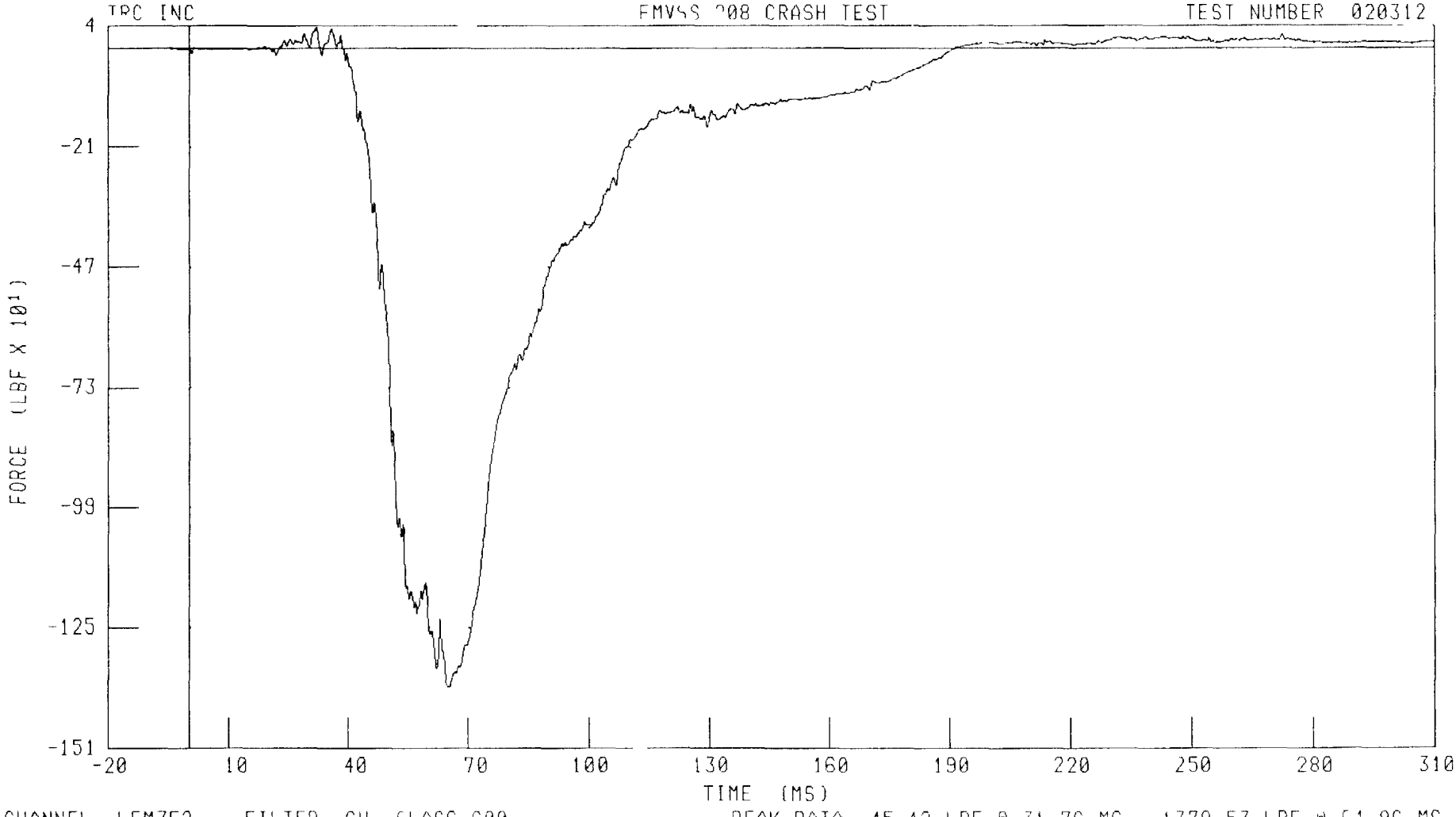
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER CHEST DEFLECTION



CHANNEL CSTXD2 FILTER CH CLASS 600 PEAK DATA 0 00 IN @ 23 36 MS, -0 87 IN @ 75 84 MS

020312

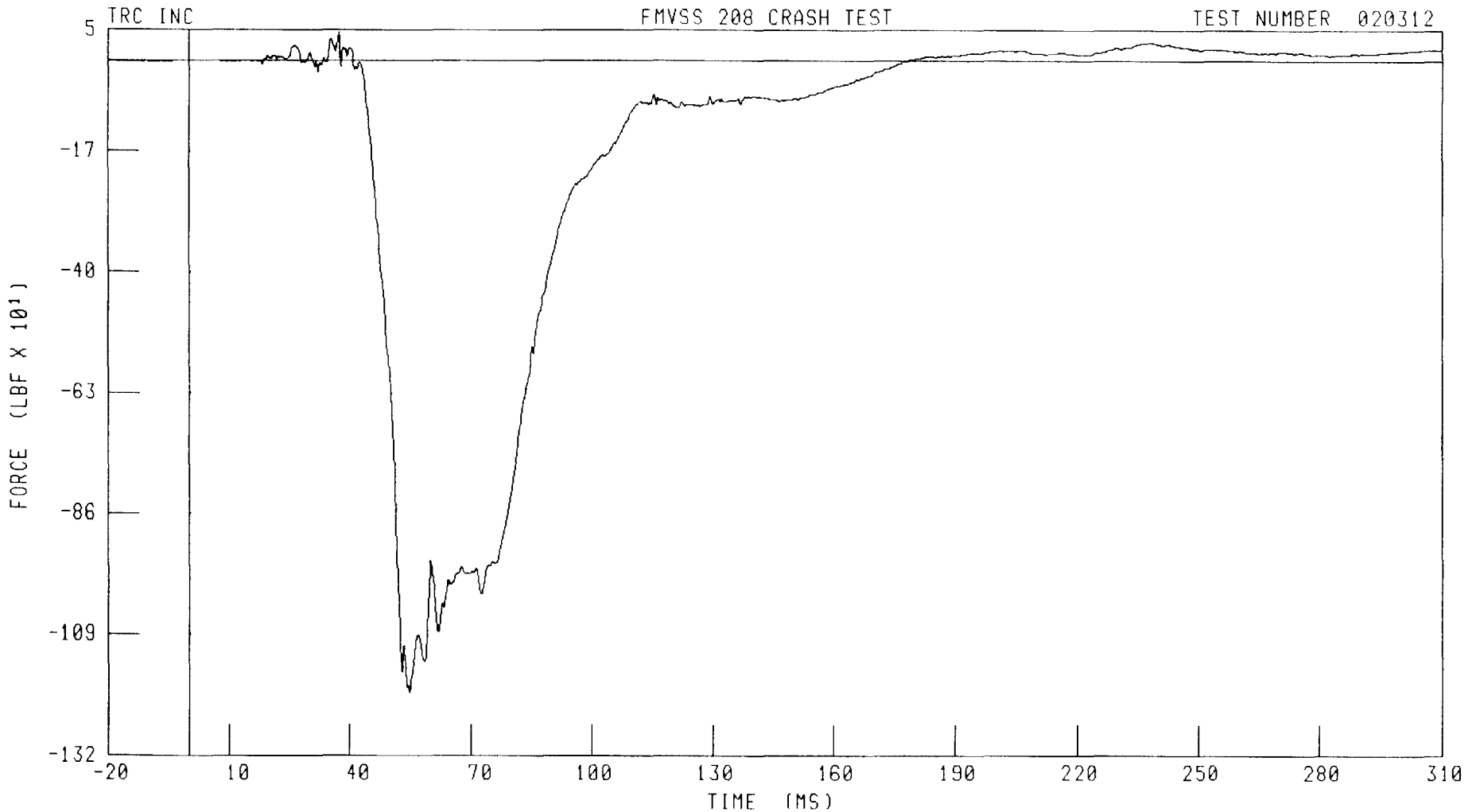
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER LEFT FEMUR FORCE



CHANNEL LFMZF2 FILTER CH CLASS 600 PEAK DATA 45 42 LBF @ 31 76 MS, -1379 53 LBF @ 64 96 MS

020312

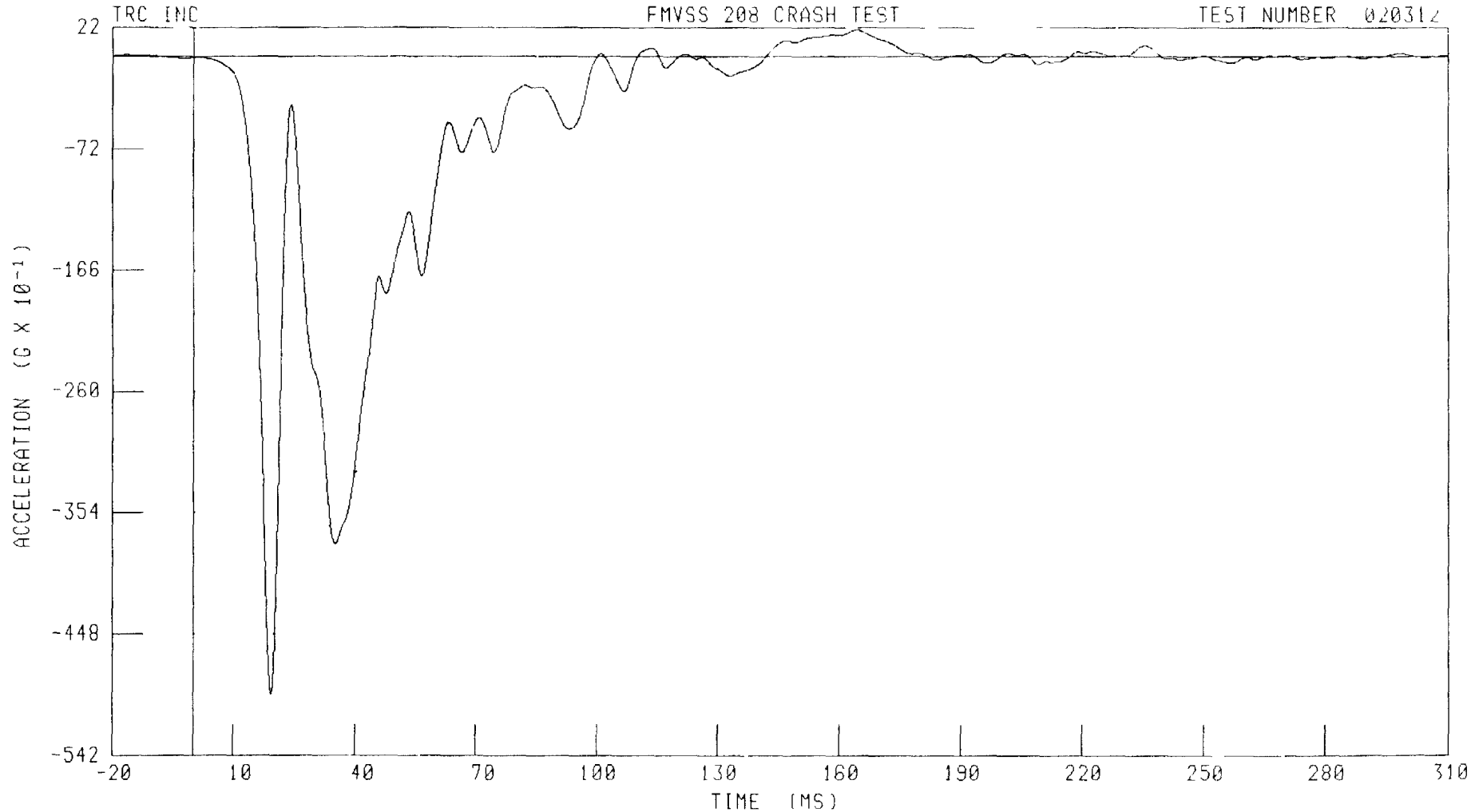
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT PASSENGER RIGHT FEMUR FORCE



CHANNEL RFMZF2 FILTER CH CLASS 600
PEAK DATA 53 60 LBF @ 37 36 MS, -1203 22 LBF @ 54 64 MS

020312

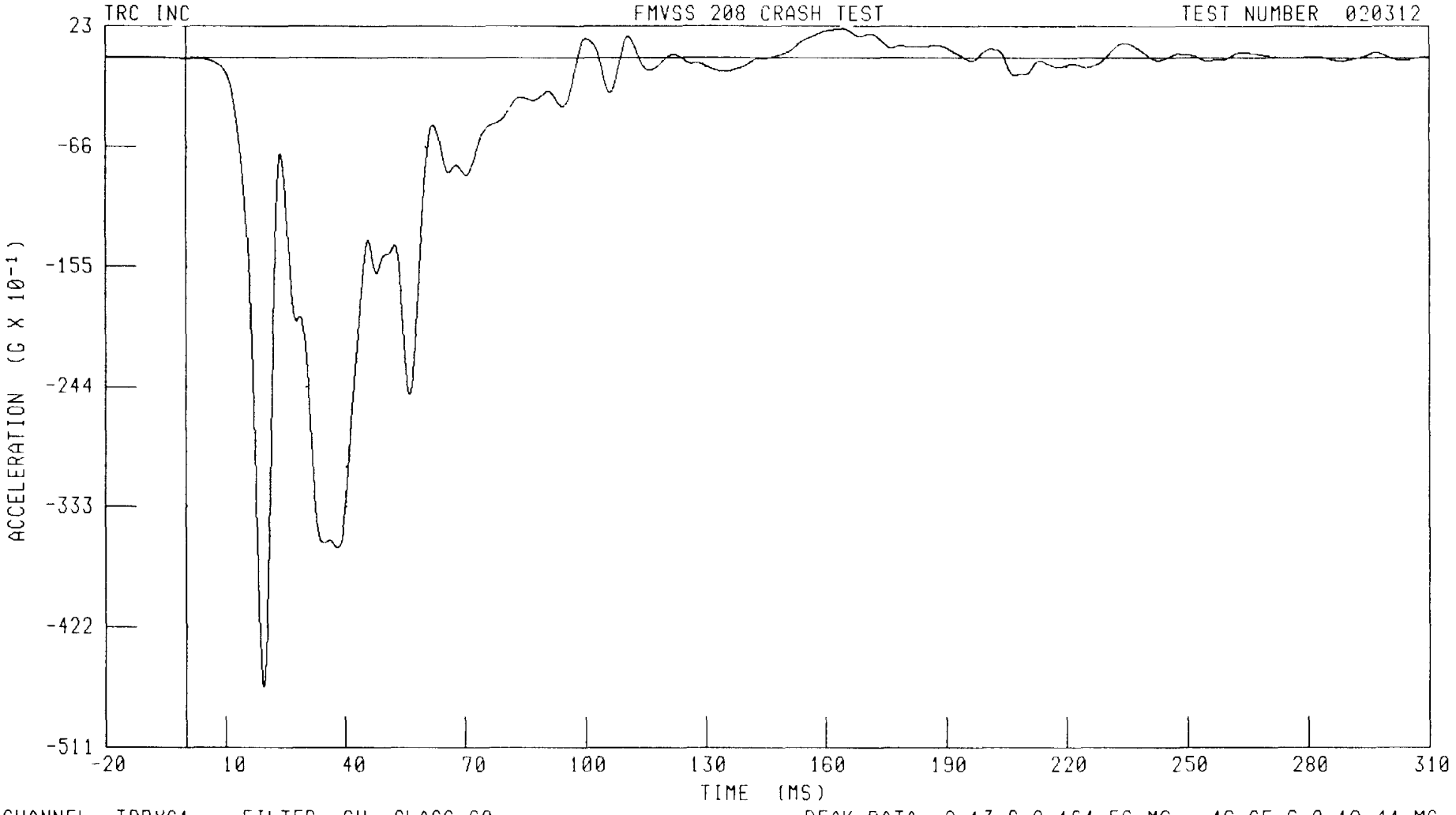
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
LEFT REAR SEAT CROSSMEMBER X-AXIS ACCELERATION



CHANNEL TLRXG1 FILTER CH CLASS 60 PEAK DATA 2 04 G @ 164 40 MS -49 44 G @ 19 44 MS

020312

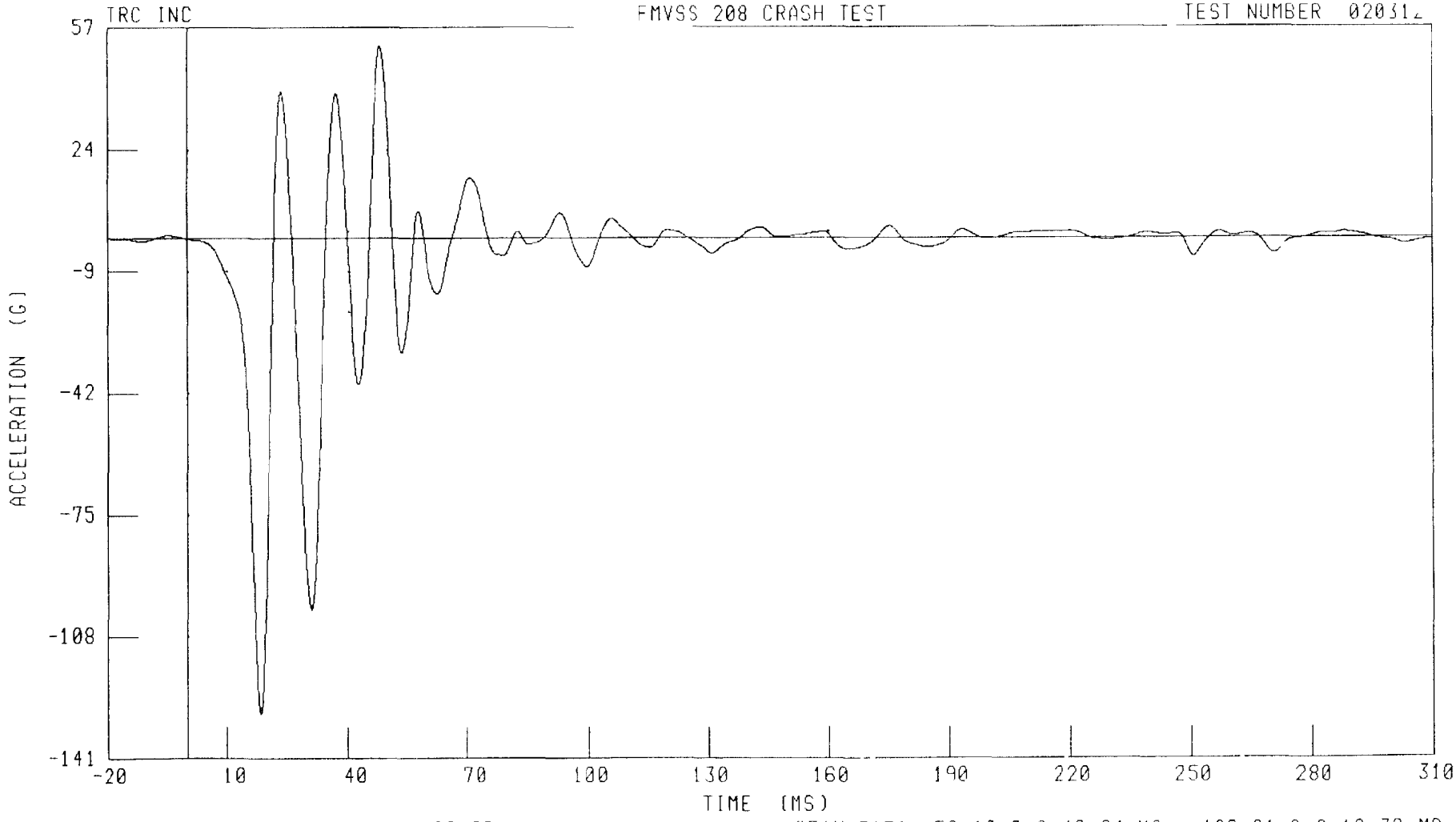
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT REAR SEAT CROSSMEMBER X-AXIS ACCELERATION



CHANNEL TRRXG1 FILTER CH CLASS 60 PEAK DATA 2 13 G @ 164 56 MS, -46 65 G @ 19 44 MS

020312

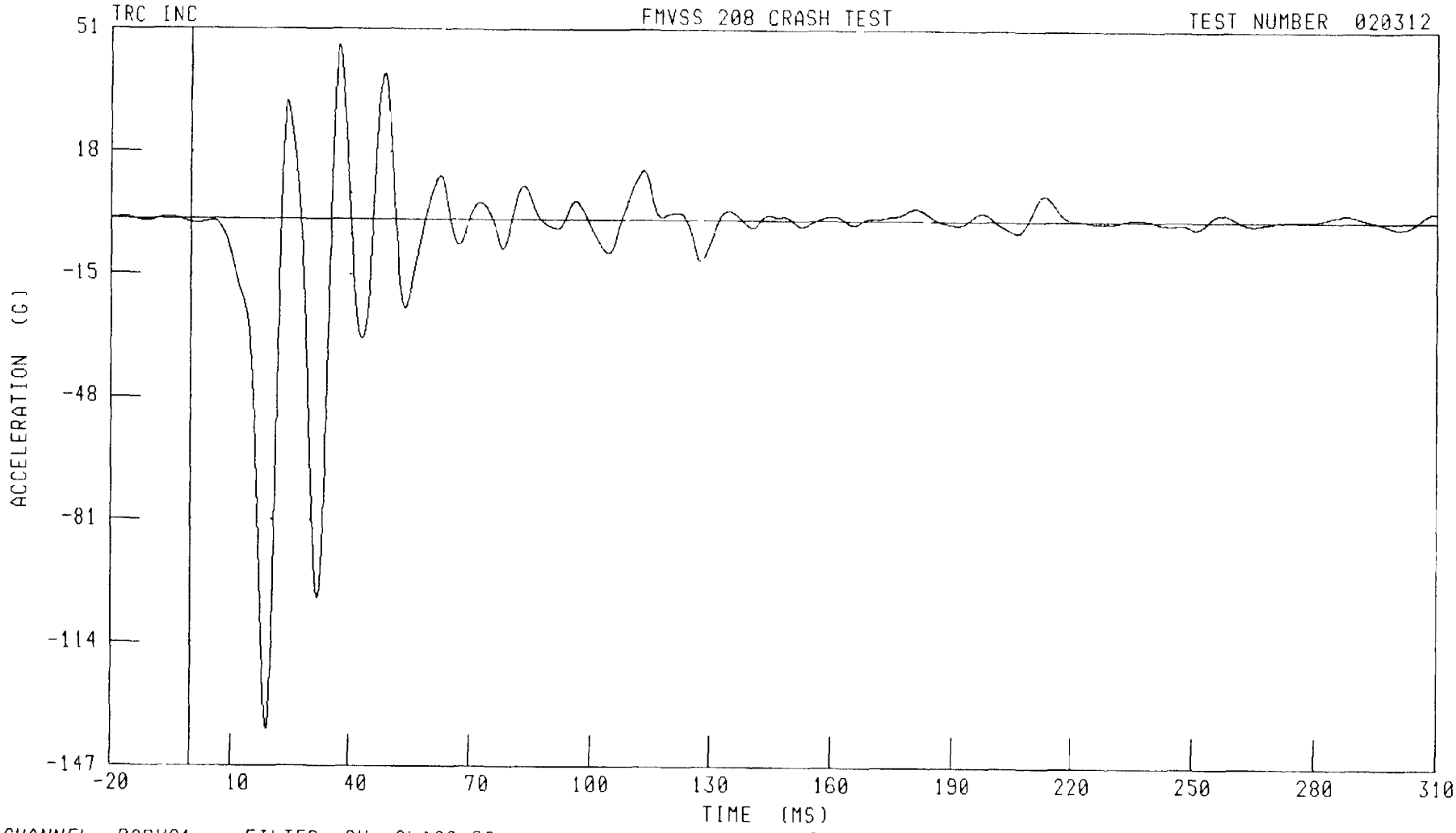
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
LEFT FRONT BRAKE CALIPER X-AXIS ACCELERATION



CHANNEL BCLXG1 FILTER CH CLASS 60 PEAK DATA 52 12 G @ 48 24 MS, -128 91 G @ 18 32 MS

020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
RIGHT FRONT BRAKE CALIPER X-AXIS ACCELERATION
FMVSS 208 CRASH TEST

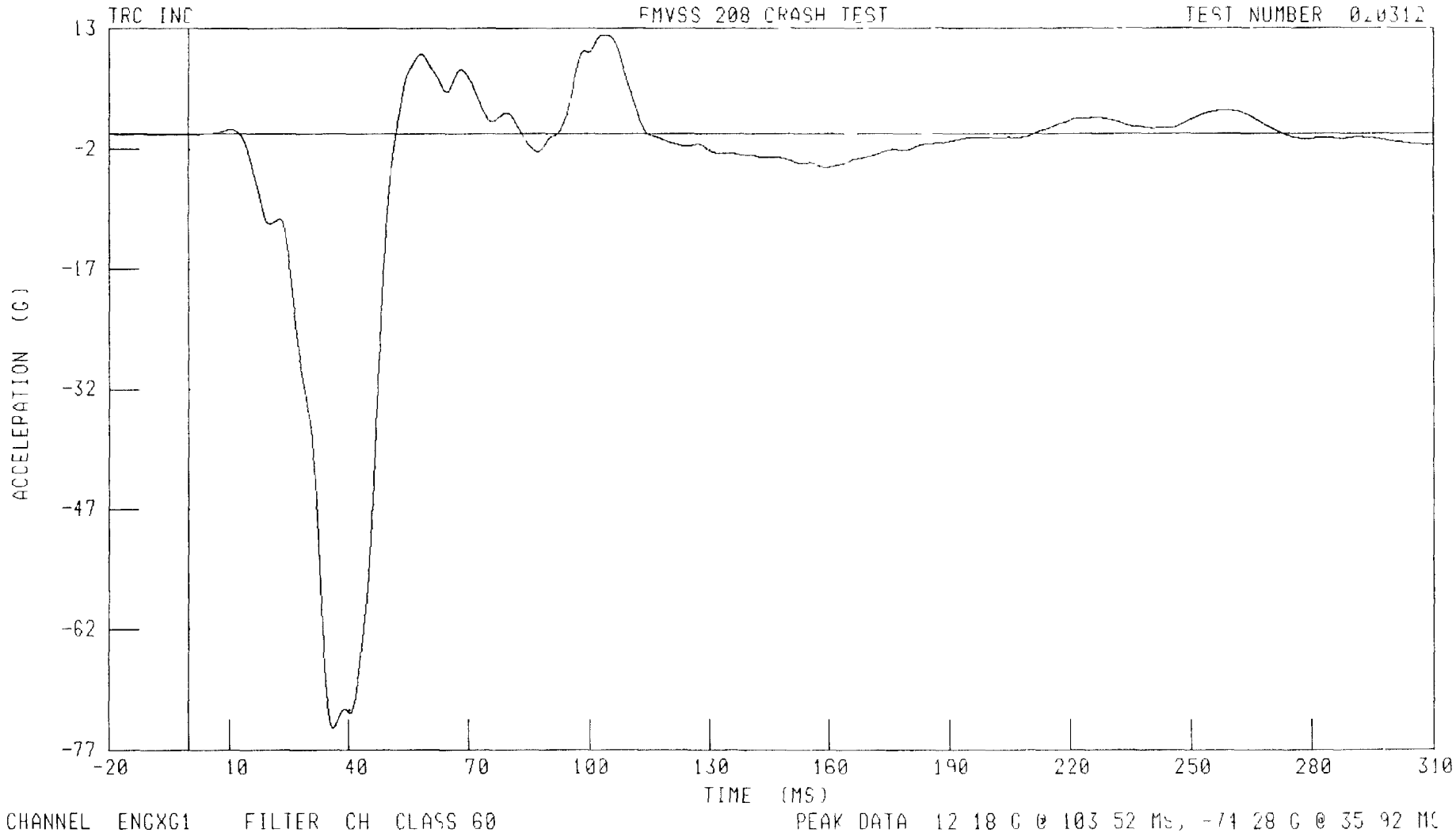


CHANNEL BCRXG1 FILTER CH CLASS 60

PEAK DATA 46 76 G @ 37 20 MS, -137 19 G @ 18 80 MS

020312

C25703 2002 ISUZU RODEO INTO FIAT BARRIER AT 25 MPH
ENGINE TOP X-AXIS ACCELERATION

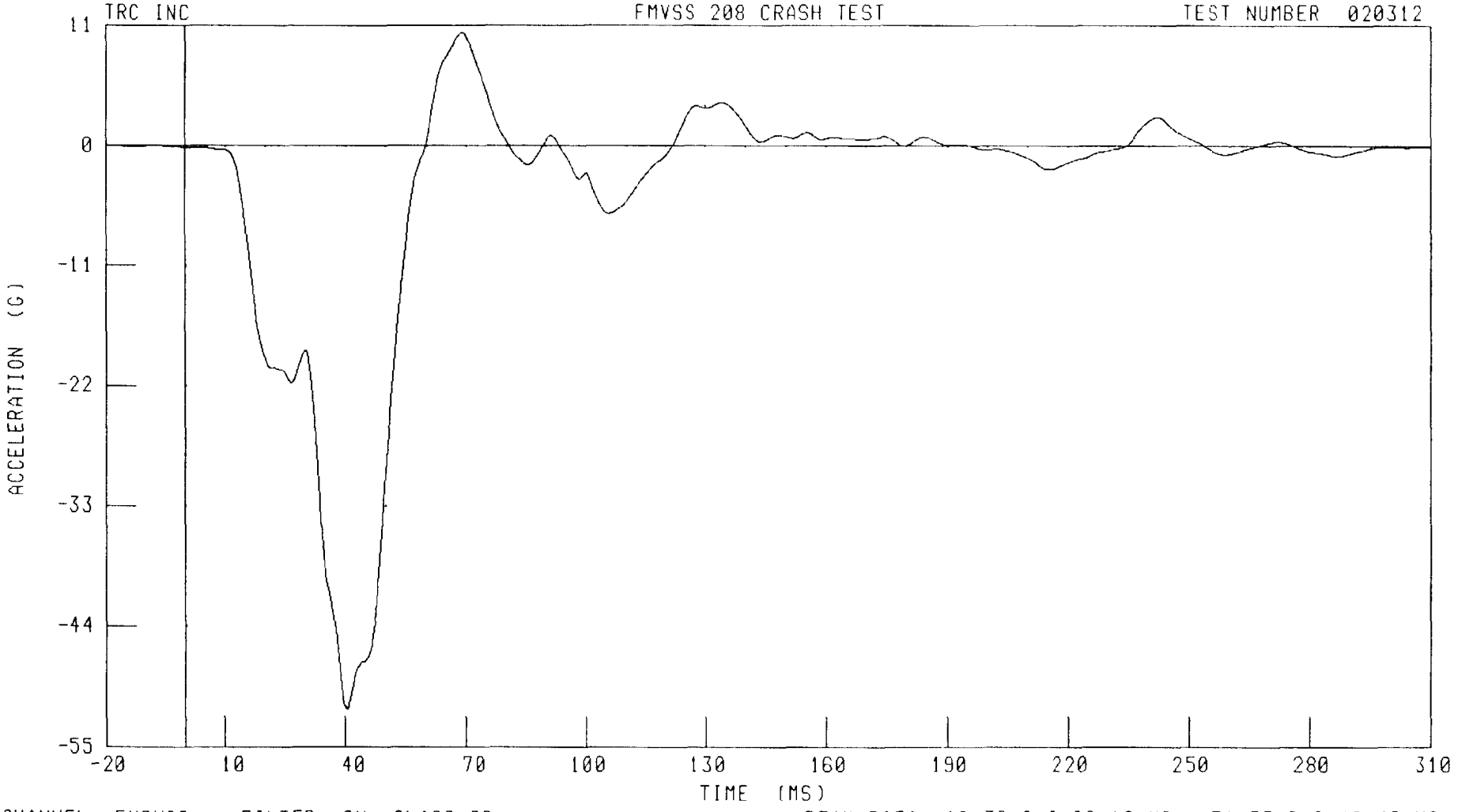


CHANNEL ENGXG1 FILTER CH CLASS 60 PEAK DATA 12 18 G @ 103 52 MS, -71 28 G @ 35 92 MS

B-50

020312

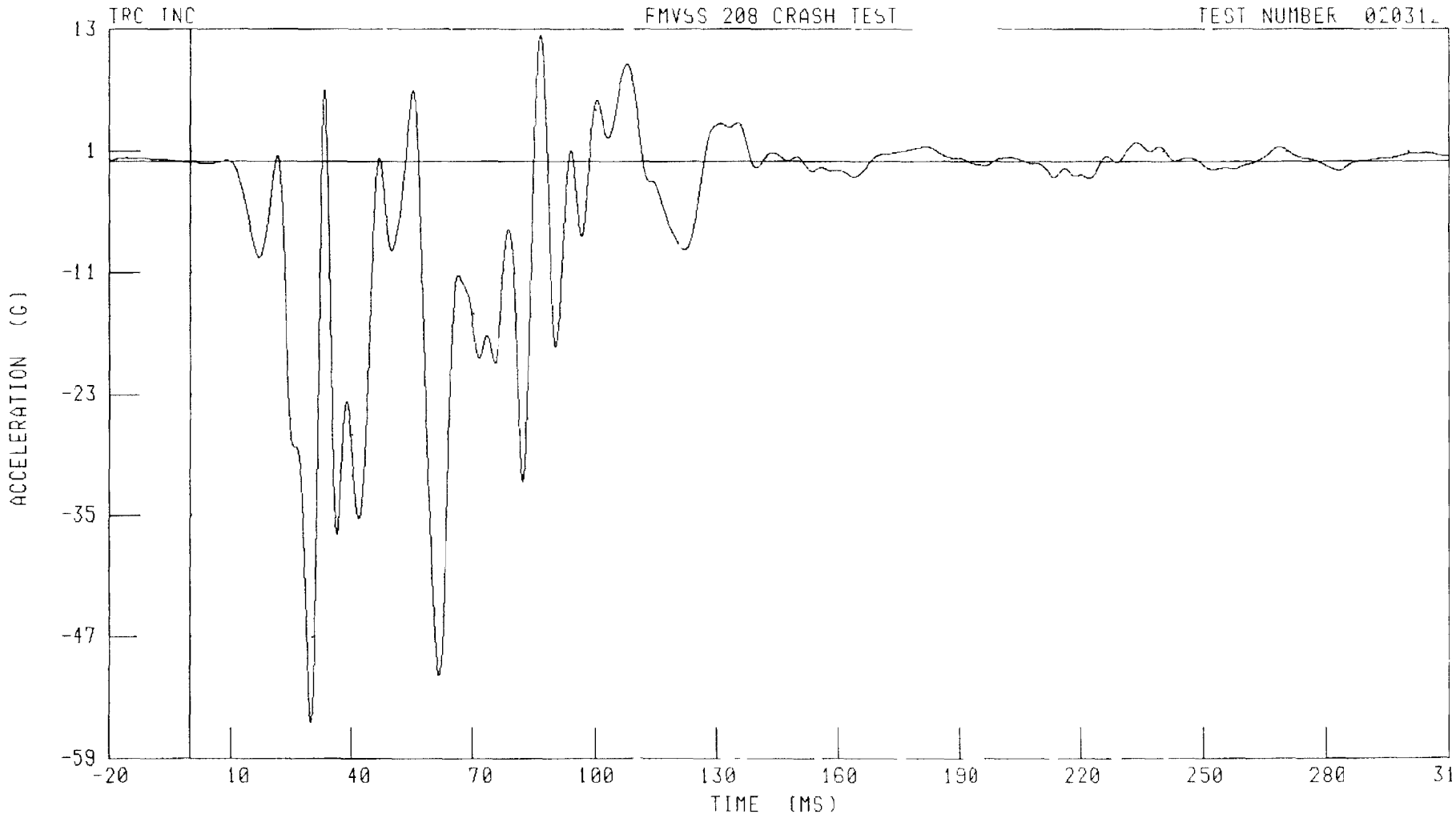
C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
ENGINE BOTTOM X-AXIS ACCELERATION



CHANNEL ENGXG2 FILTER CH CLASS 60 PEAK DATA 10 36 G @ 69 12 MS, -51 55 G @ 40 48 MS

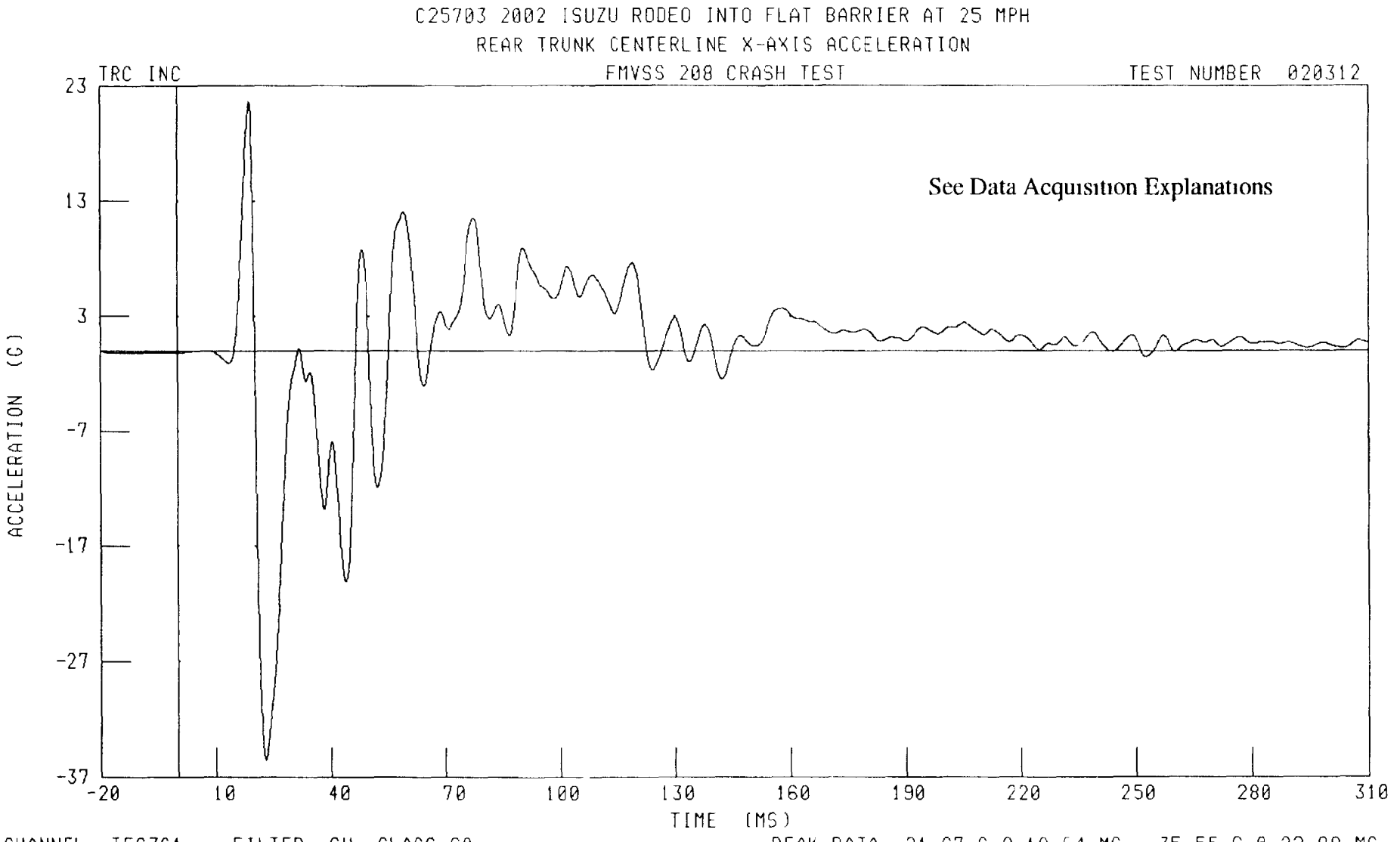
020312

C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
INSTRUMENT PANEL CENTERLINE X-AXIS ACCELERATION



CHANNEL DPCXG1 FILTER CH CLASS 60 PEAK DATA 12 43 G @ 86 61 MS, -55 45 G @ 29 92 MS

020312


C25703 2002 ISUZU RODEO INTO FLAT BARRIER AT 25 MPH
REAR TRUNK CENTERLINE X-AXIS ACCELERATION
TRC INC
FMVSS 208 CRASH TEST
TEST NUMBER 020312
See Data Acquisition Explanations
ACCELERATION (G)
23
13
3
-7
-17
-27
-37
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL TFCZG1 FILTER CH CLASS 60
PEAK DATA 21 67 G @ 18 64 MS, -35 55 G @ 22 88 MS

020312

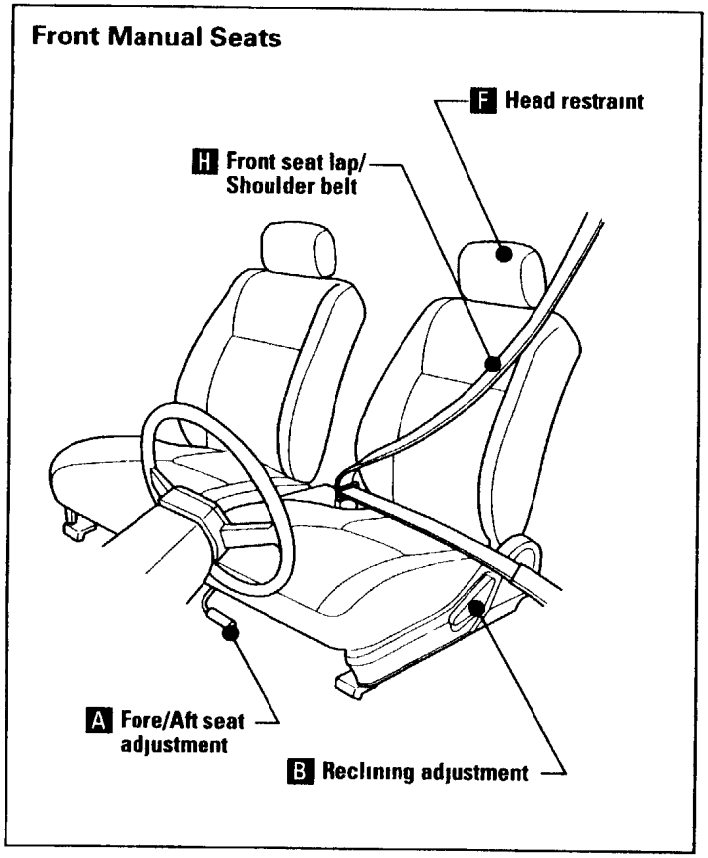
Appendix C

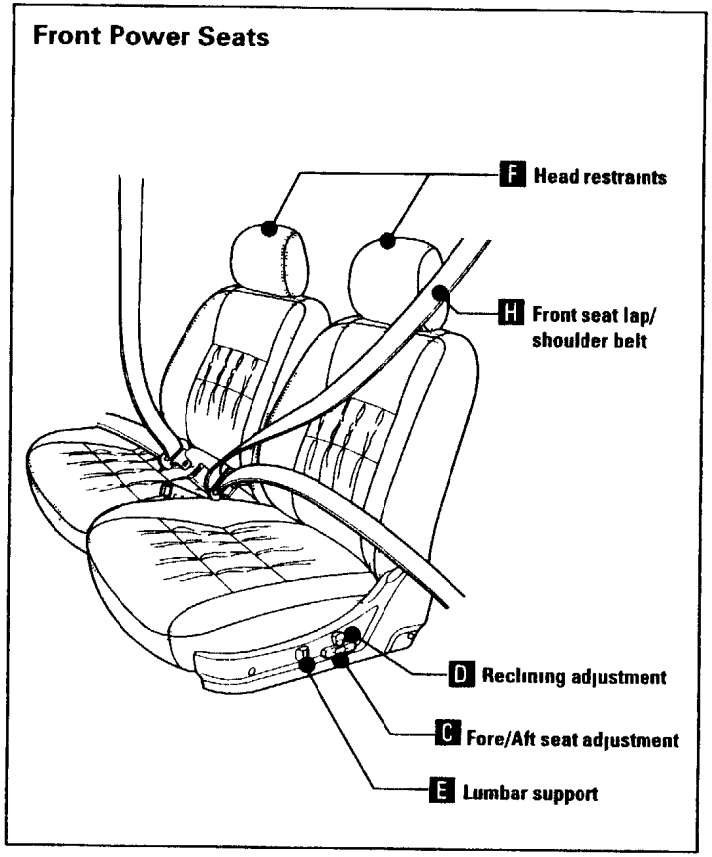
Manufacturer's Vehicle Information

3 Seats, Seat Belts, Child Restraint and Air Bags

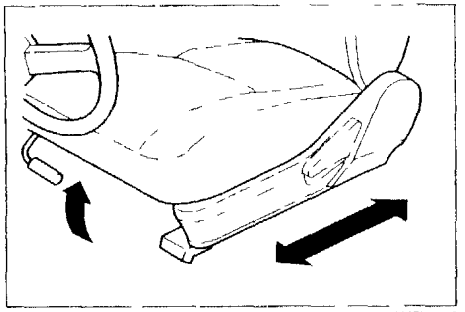
Please read this section carefully. It provides important information on the seats, seat belts and air bags. To help protect you and your passengers, you must know how to use the seat belts in your vehicle.

3. *Seat, Seat Belts, Child Restraints and Air Bags*





A FORE/AFT SEAT ADJUSTMENT (Manual Seats)



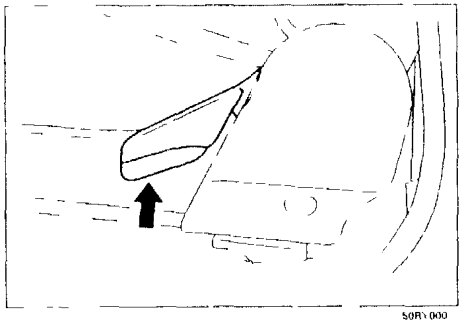
The front seats may be adjusted forward or backward by pulling up the lever at the front of the seat and then using body pressure to move the seat to the desired position. Let go of the lever and the seat will lock into the desired position.

WARNING

•After adjusting a manually operated seat, always use body weight to push forward and backward on the seat to be sure the seat adjusters have latched. Movement of the seat indicates that at least one latch did not engage. This could increase the chance of injury and/or the degree of injury in an accident. Take the vehicle to your Isuzu Dealer for service if you find that your seat adjusters do not latch.

• Do not attempt to adjust the driver's seat while the vehicle is in motion. The seat could move suddenly, causing you to lose control of your vehicle.

B RECLINING ADJUSTMENT (Manual Seats)



Front seatbacks can be tilted backward if so desired, using the lever on the door side of each front seat. Raise the lever and use body pressure to move the seatback to the desired position.
Let go of the lever and the seatback will lock into the desired position.
Keep seat belt webbing and latch clear of the seat parts when you tilt the folding seats forward or backward. This helps to prevent damage to the seat belt system.

WARNING

⚠ **•To reduce the risk of injury and to ensure maximum seat belt effectiveness during a collision or a sudden stop, the seat should not be reclined any more than needed for comfort. The seatback and seat belts work best only when the occupant is sitting well back and straight up in the seat. If the seat is reclined, you may slide under the lap belt, causing force to be applied to your abdomen, or you may not be fully restrained, depending on the nature of the accident, increasing the likelihood of injuries.**

• Do not adjust the driver's seatback while the vehicle is in motion. The seatback could move unexpectedly and cause the driver to lose control of the vehicle.

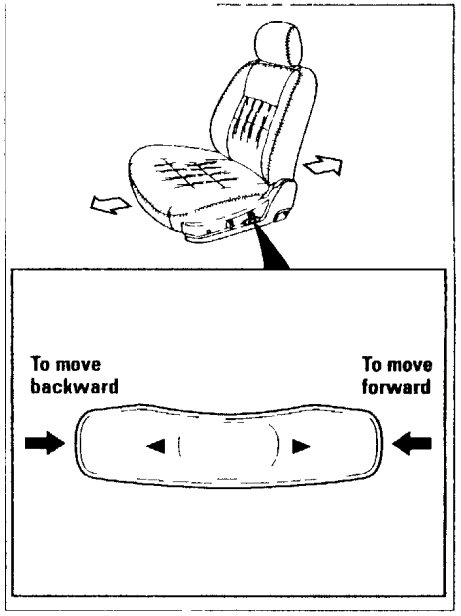
C FORE/AFT SEAT ADJUSTMENT (Power Seats)

The front seats can be moved forward or backward to desired positions by moving the switch on the door side of each front seat. The seat will move (within its range) as long as the switch is held, it will stop when the switch is released.

WARNING

⚠ **•When adjusting the seat, make sure all occupants keep their hands and feet clear of the seat. If they get caught in the seat, it could result in injuries.**

• Do not attempt to adjust the driver's seat while the vehicle is in motion since movement of the seat could cause you to lose control of your vehicle.



CAUTION

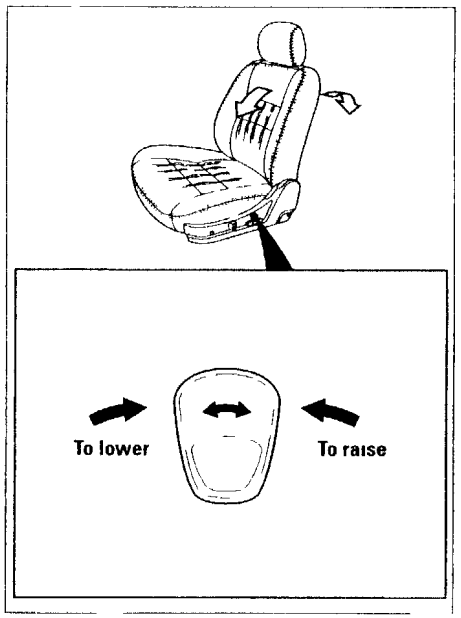
- **The seats continue to move, even if they interfere with anything, while the switch is operated (within the movable range). To avoid damage to the seats, avoid the application of unusual force to any parts of the seats when they are being adjusted.**
  Seat adjustment is possible even when the ignition switch is in any position. However, because seat adjustment requires considerable electrical power, we recommend that you adjust the seat with the engine running whenever possible. This avoids putting a heavy load on the battery.

D RECLINING ADJUSTMENT (Power Seats)

The seatback will move (within its range) as long as the switch is held, it will stop when the switch is released

WARNING

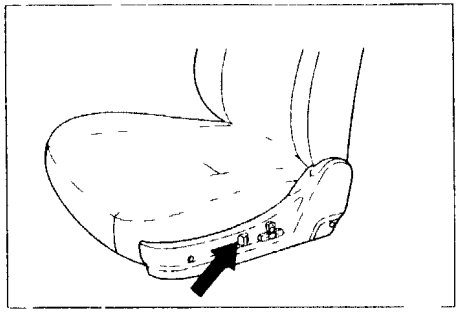
- **To reduce the risk of injury and to ensure maximum seat belt effectiveness during a collision or a sudden stop, the seat should not be reclined any more than needed for comfort The seatback and seat belts work best only when the occupant is sitting well back and straight up in the seat. If the seat is reclined, you may slide under the lap belt, causing force to be applied to your abdomen, or you may not be fully restrained, depending on the nature of the accident, increasing the likelihood of injuries.**
- **Do not adjust the driver's seatback while the vehicle is in motion. The seatback could move unexpectedly and cause the driver to lose control of the vehicle**
- **When adjusting the seat, make sure all occupants keep their hands and feet clear of the seat. If they get caught in the seat, it could result in injuries.**



CAUTION

- **The seats continue to move, even if they interfere with anything, while the switch is operated (within the movable range) To avoid damage to the seats, avoid the application of unusual force to any parts of the seats when they are being adjusted**
  Seat adjustment is possible even when the ignition switch is in the any position. However, because seat adjustment requires considerable electrical power, we recommend that you adjust the seat with the engine running whenever possible. This avoids putting a heavy load on the battery.

E LUMBAR SUPPORT (Driver's Seat with Power Seats)



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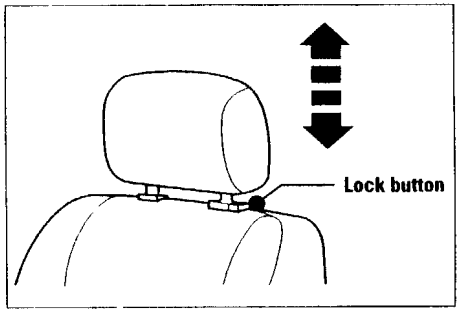
The lumbar support can be adjusted between soft and firm settings Push the switch forward for a firmer setting Push the switch backward for a softer setting

F HEAD RESTRAINT



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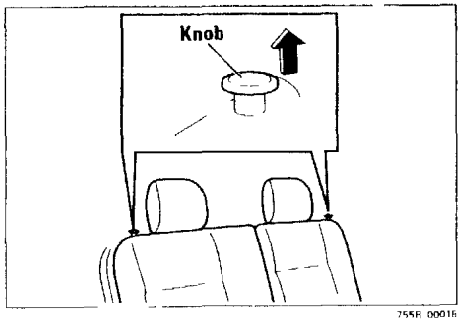
Head restraints are designed to help reduce the risk of neck injuries Head restraint height is adjustable (3-positions) Choose the position which places the top of the head restraint closest to the top of your ears
To raise the head restraint, press and hold the lock button toward the head restraint and lift the head restraint To lower the head restraint, press and hold the lock button and allow the head restraint to drop

WARNING

•Do not attempt to adjust the driver's head restraint while the vehicle is in motion. A sudden movement could cause you to lose control of the vehicle.
• Do not operate the vehicle with the head restraint removed, since it will increase the risk of neck injury in the event of an accident.

G REAR SEAT

RECLINING



From the upright position pull the seatback release knob located on the seatback With the knob pulled, push the seatback to the rear until it is in the desired position Releasing the knob locks the seat in position

WARNING

•To reduce the risk of injury and to ensure maximum seat effectiveness during a collision or a sudden stop, the seat should not be reclined any more than needed for comfort. The seatback and seat belts work best only when the occupant is sitting well back and straight up in the seat. If the seat is reclined, the occupant may slide under the belt, causing force to be applied to the occupant's abdomen, or the occupant may not be fully restrained, depending on the nature of the accident, increasing the likelihood of injuries.

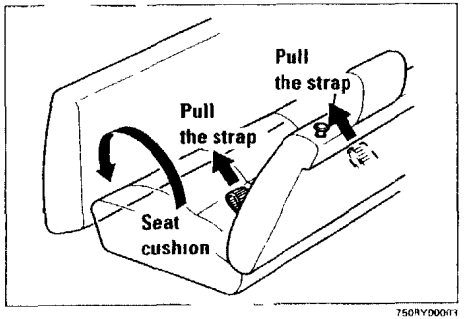
FOLDING

WARNING

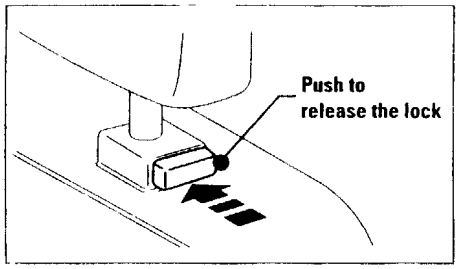
•To avoid injury, keep your hands and feet clear of the rear seat when folding and unfolding the seat.
Carefully follow the instructions below.

The rear seat can be folded forward to provide additional cargo area

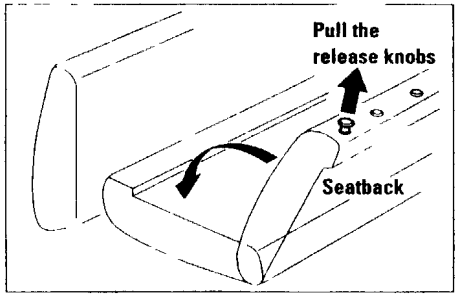
1 • Pull the strap forward and fold the seat cushion (right and/or left) up



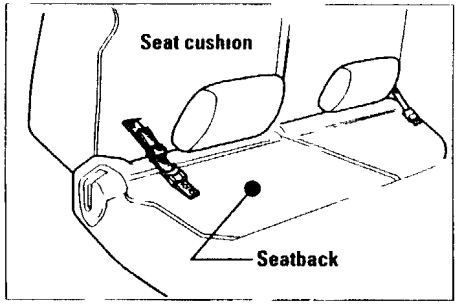
2 To remove the head restraints by pressing the release knob and pulling up on the restraint



3 Pull the seatback release knobs on both the right and left, and pull the seatback forward to fold it down



4 Attach the band on the bottom of the cushion to the clasp on the back of the seatback (right and/or left)
5 Insert the head restraints between seatback and seat cushion



WARNING

•When the rear seats are folded in the down position, the head restraints should always be properly secured between the seatback and seat cushion to prevent them from becoming a hazard in the event of a sudden stop or an accident.

UNFOLDING

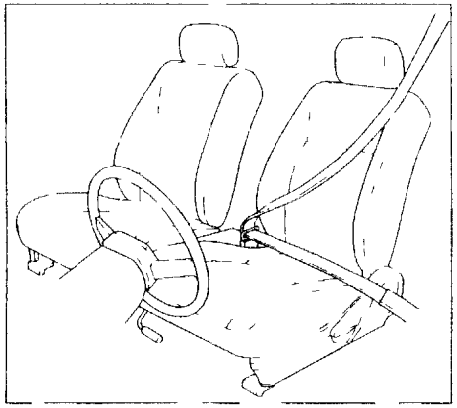
1 Remove the head restraint(s) from its stowed position
2 Release the band(s) used to secure the bottom cushion
3 Raise the seatback to the locked upright position
4 Latch the rear seat cushion to the floor, by pushing the cushion down with enough force to lock it
5 Reinstall the head restraint(s) to its original position on top of the rear seatback

WARNING

•Do not permit anyone to ride in the cargo area or on a rear seat while it is folded down during vehicle operation. Rear seat occupants should be seated in the seat only in its locked upright position and properly restrained at all the times.
- **Always check to see that both the seatback latches are engaged.**
- **Failure to lock the rear seat securely to the floor and engage the seatback latches could increase the risk of personal injury in an accident.**
- **Failure to properly route the seat belts could result in damage to belts, reducing their**

effectiveness in case of an accident.

FRONT AND REAR SEAT LAP/SHOULDER BELTS



Seat Belt/Air Bag Relationship

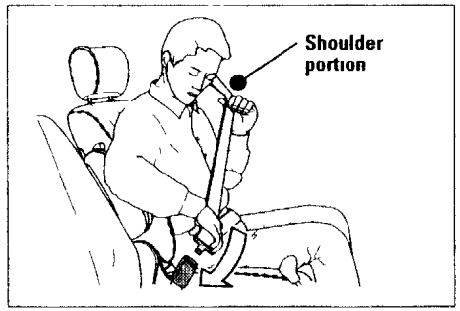
The Air Bag is formally called a Supplemental Restraint System (SRS) Both the driver and the right front passenger must always use the seat belts even though the vehicle is equipped with front seat air bags This is because seat belts are designed to lessen the risk of injury not only in frontal and near-frontal crashes, but in other types of collisions as well

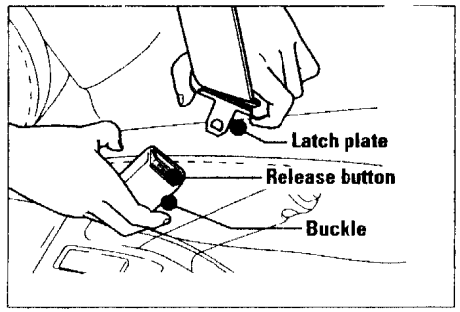
WARNING

•To help lessen the chance of injury in accidents or sudden stops, people riding in the vehicle must be properly restrained at all times, using the seat belts provided This includes children and pregnant women. See the following pages for use of restraints by children and pregnant women.

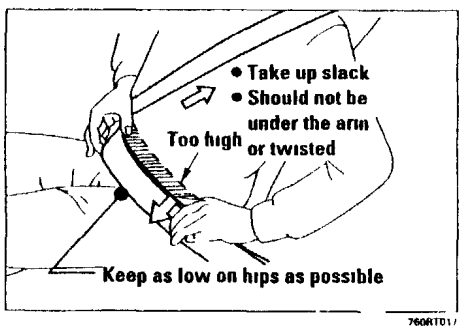
To Fasten the Seat Lap/Shoulder Belt

1 Adjust the front seat as needed Sit up straight and well back in the seat
2 Grasp the latch plate and
- Pull the lap-shoulder belt webbing across the body
- At the same time, slide the latch along the belt until it reaches the buckle
- Push the latch plate into the buckle until it clicks
- Pull up on the shoulder belt webbing to confirm that the latch plate has latched into the buckle completely



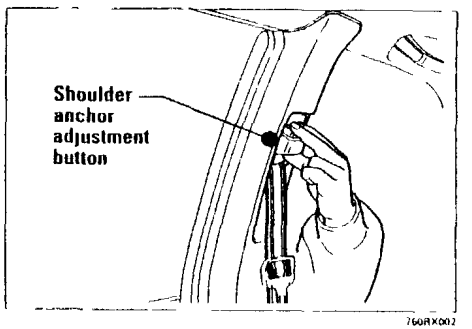


3 Position the "lap" portion of the belt across the lap as LOW ON THE HIPS as possible



Shoulder Belt Height Adjustment

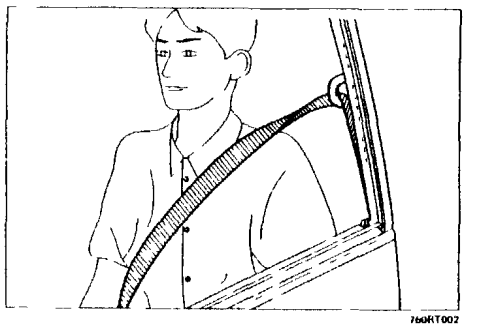
4 With the shoulder anchor adjustment button pushed, move it up and down to adjust the position of the shoulder belt so that it comes right onto the shoulder There are five adjustment positions for the front seat shoulder anchors and three positions for the rear seat shoulder anchors



5 Then, adjust to a SNUG FIT by holding the "shoulder" portion of the front seat belt and pulling it UPWARD through the latch plate until the lap portion is snug across the lap This reduces the risk of sliding under the belt during an accident

To Unfasten Seat Lap/Shoulder Belt

6 To unfasten the belt push in the button on the buckle The belt should retract when the buckle is unlatched but hold the latch plate until the belt is fully retracted to keep it from hitting people or nearby objects To help prevent damage to the safety belt and interior trim, before closing the door be sure the belt is fully retracted and the latch plate is out of the way



WARNING

•A snug fit with the lap belt positioned low on the hips is necessary to lessen the chance of injury and/or the degree of injury in an accident. This spreads the force of the lap belt over the pelvic bone instead of across the abdomen.

- **Never use the same seat belt for more than one person at a time A seat belt worn by more than one person will not provide adequate protection in the event of a collision.**
- **Be sure to untwist seat belts**

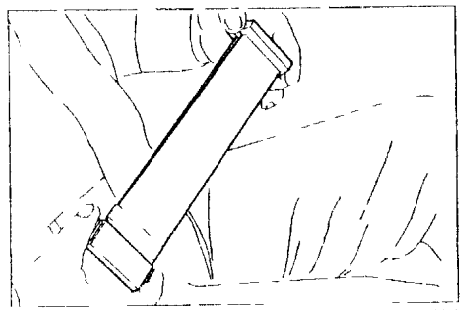
before putting them on
- **Be very careful not to damage seat belts or seat belt buckles by pinching them in the seat or the door**
- **Too much slack can increase the chance and/or degree of injury because the belt may not be able to properly restrain you in an accident DO NOT wear the shoulder belt under the arm or out of position. Such use could increase the chance of injury and/or the degree of injury in an accident.**
- **According to Federal accident statistics, children are safest when properly restrained in rear seating positions**
  It is advisable to have children seated in the rear center seat and restrained with the vehicle's safety belt
  Children who have outgrown child restraint systems should use the vehicle's safety belts and sit in the rear seat.
- **If the child's seating position has a shoulder belt which is on or very close to the face or neck, position the child so that the belt is properly positioned**

NOTE

- *The retractor will lock the belt only during a sudden stop or on impact.*
- *The lap/shoulder seat belts for the passenger seats have an additional locking mechanism designed for securing child seats When the belt is pulled all the way out, the locking mechanism will only permit the belt to retract Do not pull the belt all the way out except when using it to secure a child seat If the belt is inadvertently pulled all the way out (other than for securing a child seat), let the belt fully retract before using it*

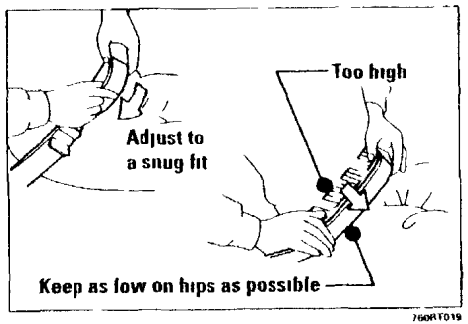
REAR CENTER SEAT LAP BELTS (Non-retractor type)

1 Sit up straight and well back in the seat
2 Hold the rear center seat lap belt latch plate and pull it out in front of you and straighten the belt
Then pull it slowly across your lap and push the latch plate into the buckle until it clicks



3 Position the belt across the lap as LOW ON THE HIPS as possible
Then adjust to SNUG FIT by holding the free end of the webbing and pulling it through the latch plate until the belt is snug across the lap This reduces the risk of sliding under the belt during an accident

4 To unfasten the belt, push in the button on the buckle



J SEAT BELT EXTENDER

If the vehicle's seat belt will fasten around you, you should use it
But if a seat belt isn't long enough to fasten around you, your dealer will order you an extender When you go in to order it, take the heaviest coat you will wear, so the extender will be long enough for you The extender will be just for you, and just for the seat in your vehicle that you choose Don't let someone else use it, and use it only for the seat it is made to fit To wear it, just attach it to the regular seat belt

K SEAT BELT INSPECTION

- Occasionally check that the belts, buckles, latch plates, retractors, reminder systems, guide loops, and anchors work properly Also check for damage that could keep the restraint system from doing its job
- Keep sharp edges and damaging objects away from the belts and other parts of the restraint system
- Replace belts if cut, weakened, or frayed Also, have belts replaced if they have been worn in a collision
- If there is any doubt, have all related parts including belts replaced
- Keep belts clean and dry

WARNING

•Do not bleach or dye the belts since it may severely weaken them
In the event of an accident or a sudden stop, the belts may not adequately restrain the occupants. Clean the seat belts only with mild soap and luke warm water

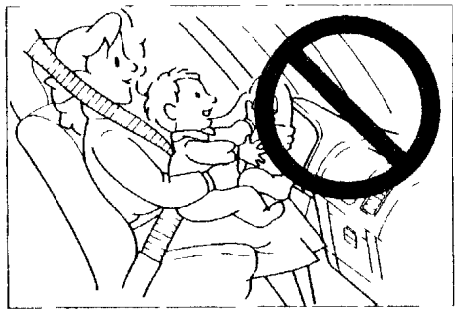
L RESTRAINT OF PREGNANT WOMEN

It is recommended that pregnant women use seat belts Check with your doctor for specific recommendations The lap belt should be snug and positioned as low as possible around the hips Do not position the lap belt around the waist This can be very dangerous in the event of an accident or sudden stop

CHILD RESTRAINT

Children in vehicles should be restrained to help lessen the chance and/or severity of injuries in the event of an accident or a sudden stop Never let a child of any age stand or kneel on any seat Use of infant or child restraint systems which conform to Federal motor vehicle safety standards and which are installed according to their manufacturer s instructions is the safest way of minimizing the risk of injury to young passengers Older children should be placed on a seat and restrained with the seat belts provided with your vehicle Both lap and shoulder belts should be used

The use of infant or child restraint systems may be required by the laws of your state You should check with the appropriate state authorities to ensure that you are in compliance with these laws



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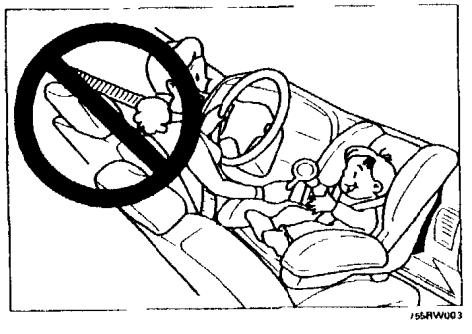
WARNING

⚠ •For effective protection in automobile accidents and sudden stops, children should not be transported unrestrained The preferred restraint for small children is a child restraint system Children should be placed in the rear seat and restrained with a seat belt if they are old enough to sit alone

- **Holding a child in your arms is dangerous In an accident, a child held in a person's arms can be struck or crushed by any unrestrained occupant. An unrestrained child can be killed or seriously injured by an inflating air bag or by being ejected from the vehicle in an accident.**
- **All child restraint systems are designed to be secured in vehicle seats by lap belts or the lap portion of a lap-shoulder belt.**
- **Children could be injured in a collision or sudden stop if the child restraint is not properly secured in your vehicle. An unsecured safety seat could also injure other passengers in the vehicle**
- **According to Federal accident statistics, children are safest when properly restrained in rear seating positions.**
- **It is recommended that children or infants be restrained in an appropriate child or infant restraint secured in the rear seat.**
- **Children 12 and under can be killed or seriously injured by inflation of the front passenger's air bag**
- **Do not install rearward-facing**

child seats in the front passenger seat position.

- **When installing a rear-facing child restraint system in the rear seat, be sure that it does not prevent the front seats or seatbacks from locking into place. This could cause severe injury to the child and front passengers in case of sudden braking or a collision.**
- **Children should not ride in the cargo area.**



WARNING

- **Do not install a rear-facing child restraint system in the front passenger seat. In the event the front passenger's air bag inflates, it can cause death or serious injurie to the child.**
- **If it is absolutely necessary to put a child in a front facing child restraint in the front passenger seat, the passenger seat should be moved as far back as possible.**

CHILD SEAT INSTALLATION

The use of infant or child restraint systems which conform to Federal motor vehicle safety standards and which are installed according to their instructions is the safest way of minimizing the risk of injury to young passengers

Tips for selecting a child seat

Seat belts are designed primarily for adults and large children, not for infants or small children

In order to select a child seat of the type and size to effectively accommodate your child, be sure to take into consideration your child's weight, height and physical size

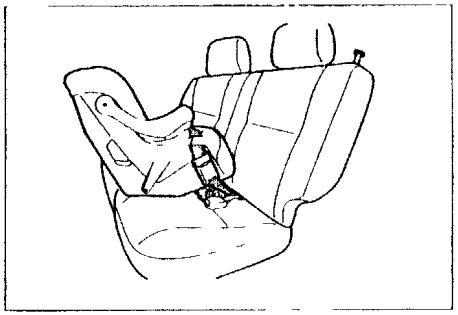
Infants up to one year require adequate head, back and neck support and therefore should only be restrained using a rear-facing child seat

Infants or toddlers old enough (over one year) to sit upright may be restrained in a front facing child seat

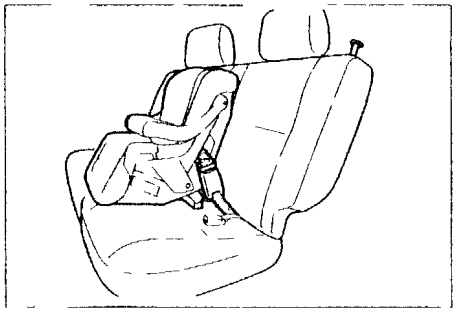
There are two standard types of child seats One is a "cradle type" child seat designed for use as a rear facing child seat only The other is a 'seat type' child seat designed for use as both a front-

facing and a rear-facing child seat When using a seat type child seat, you should use the rear facing position for as long as possible

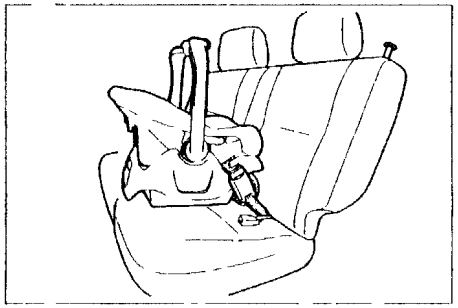
- **Seat type child seat (Rear-facing)**



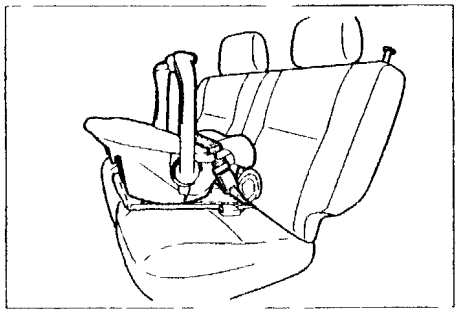
- **Seat type child seat (Front-facing)**



- **Cradle type child seat (With Base)**



- **Cradle type child seat (Without Base)**



CHILD SEAT INSTALLATION POSITIONS

Prior to installation of the child seat, complete the following preparations

- Be sure to read pages 3-13 through 3-48 of this manual thoroughly

When you install a child seat in your RODEO be sure to install it in the back seat using the seat belt. If it is absolutely necessary to put a child in a forward-facing child restraint in the front passenger seat, the passenger seat should be moved as far back as possible

WARNING

•Whenever possible, install the child seat in the center of the rear seat. When this is not possible (e.g., if the split seat is folded), the child seat can be installed in one of the rear side seats, behind either the driver or the front seat passenger.

REAR SEAT CENTER INSTALLATION

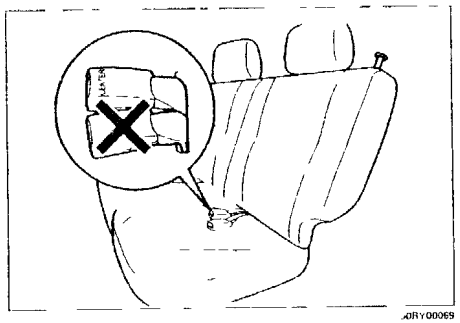
There are two standard types of child seats. One is a "cradle type" child seat designed for use as a rear-facing child seat only, which can be installed with or without a base. The other is a "seat type" child seat designed for use as both a front facing or rear-facing child seat. Be sure to read this manual thoroughly prior to installation.

WARNING

•Before beginning installation of the child seat, ensure that the vehicle is parked in a safe location with the engine turned off.

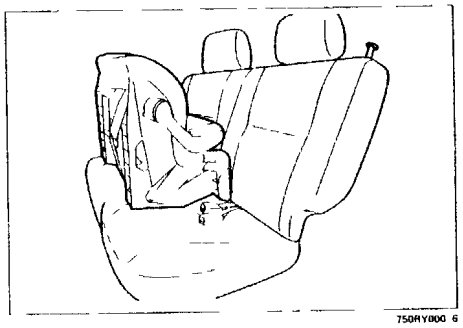
NOTE

- *The installation procedures provided in this manual apply to the RODEO.*
- *To allow for adequate installation space, adjust the front seat and seatback as needed.*
- *In order to ensure that the latch plate locks into place when buckling the seat belt, be sure to select the buckle inscribed with the word "CENTER". Buckles without this inscription are intended for side use only and therefore cannot be locked into place.*

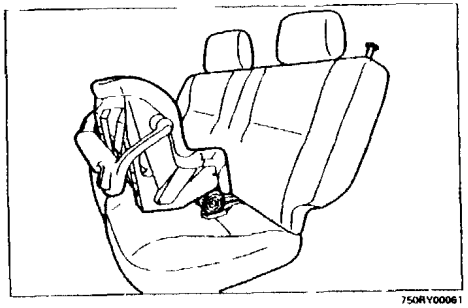


INSTALLING A REAR-FACING CHILD SEAT (SEAT TYPE)

- Be sure to read pages 3-13 through 3-48 of this manual thoroughly.



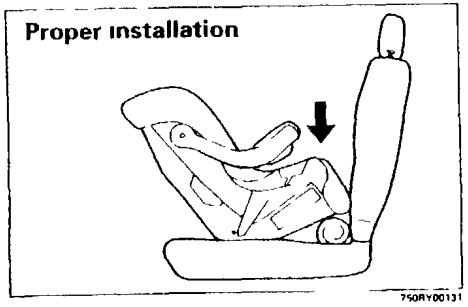
(1) Make sure that the seatback is in the upright position.
(2) Place the child seat in the center of the rear seat.



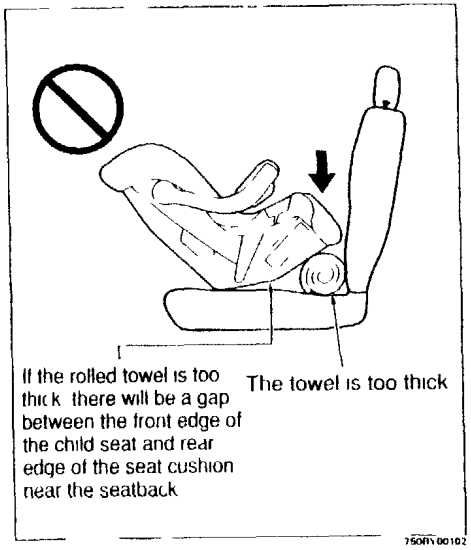
(3) Follow the illustration below and roll a towel tightly and place it between the base of the child seat and rear seat cushion

NOTE

- *The length of the rolled towel should be slightly longer than the width of the child seat base*

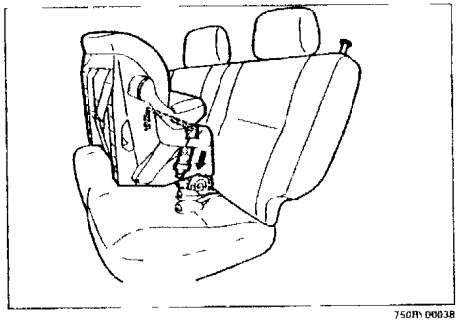


(4) Confirm that the rolled towel supports the child seat properly by making sure the base of the child seat is resting flat against the seat cushion



WARNING

•Be sure to check that the bottom of the child seat fits snugly to the surface of the seat cushion when pressing firmly down on the child seat.



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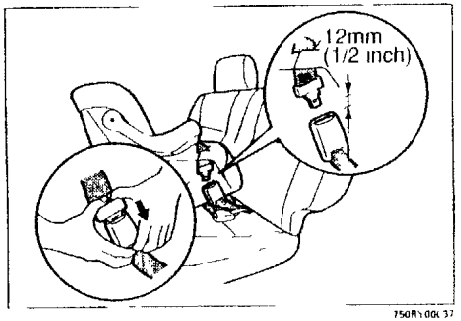
(5) Adjust the length of the seat belt by using the attached metal fitting and run the seat belt through the side slots of the child seat



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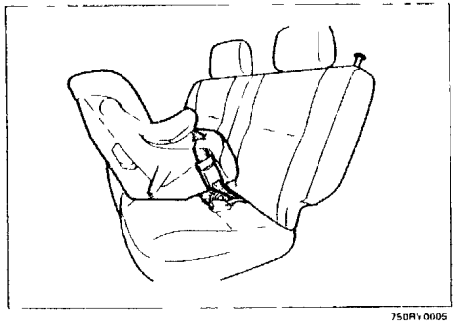
(6) Adjust the length of the seat belt to within approximately 1/2 inch (12 mm) of the outstretched center buckle The length is appropriate if the latch plate appears ready to slip from the side slot of the child seat when you are pressing down firmly on the child seat

(7) Fasten the latch plate into the buckle



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NOTE

- *Make sure that the child seat is secured properly by rocking it forwards, backwards and side to side If the child seat is easily tipped over or inches forward, repeat this entire procedure from step one*

WARNING

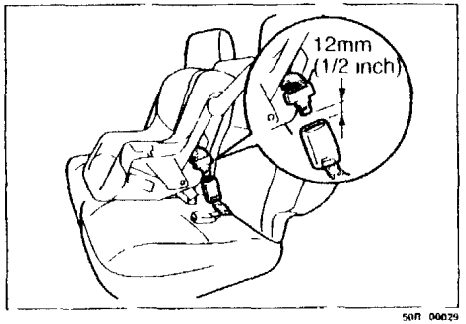
- **Prior to operation (driving) of the vehicle, confirm that the child seat is secured properly by rocking it forward, backward and side to side.**
- **When traveling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.**
- **If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.**

INSTALLING A FRONT-FACING CHILD SEAT (SEAT TYPE)

(1) Make sure that the seatback is locked in the upright position
(2) Place the child seat in the rear center seat

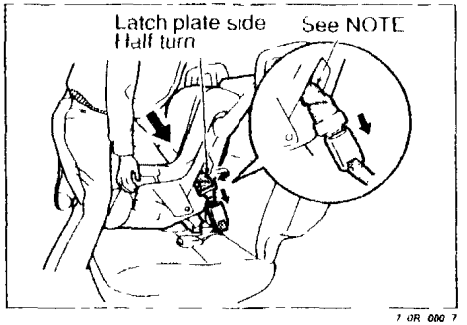
WARNING

•Be sure to check that the bottom of the child seat fits closely to the surface of the seat cushion.

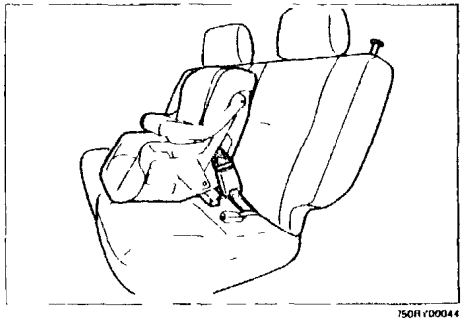


(3) Run the seat belt through the side slots of the child seat

Adjust the length of the seat belt to within approximately 1/2 inch (12 mm) of the outstretched center buckle
(4) The length is appropriate if the latch plate appears ready to slip from the side slot of the child seat when you are pressing down firmly on the child seat



(5) Twist the latch plate over a half turn and fasten it into the buckle



NOTE

- *Make sure that the child seat is secured properly by rocking it forward, backward and side to side*
  If the child seat is easily tipped over or inches forward, repeat this entire procedure from step one

WARNING

⚠ •Prior to operation (driving) of the vehicle, confirm that the child seat is secured properly by rocking it forward, backward and side to side.

- When traveling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.
- If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.
- When the child seat is removed, the seat belt should be returned to its normal position.

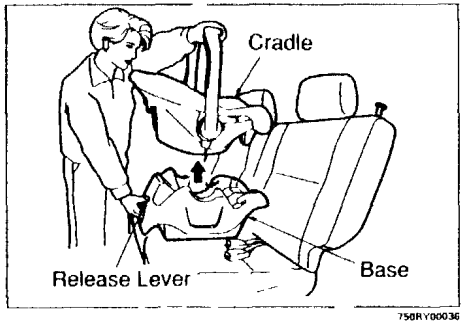
INSTALLING A CHILD SEAT (CRADLE TYPE) WITH BASE

Prior to installation of the child seat, complete the following preparations

- Be sure to read pages 3-13 through 3-48 of this manual thoroughly

WARNING

⚠ **•Be sure to position a cradle type child seat in the rear-facing position only.**

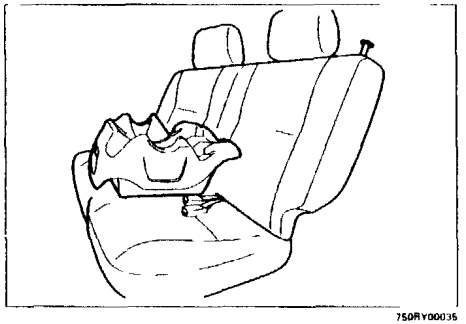


① Make sure that the seatback is locked in the upright position

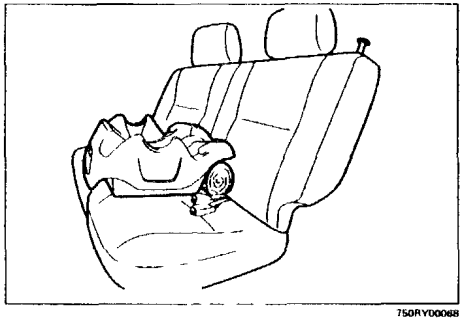
② Remove the cradle from the base

NOTE

- *Generally a cradle type child seat consists of a cradle and a base Refer to the manual that comes with the child seat for instructions on how to remove the base*



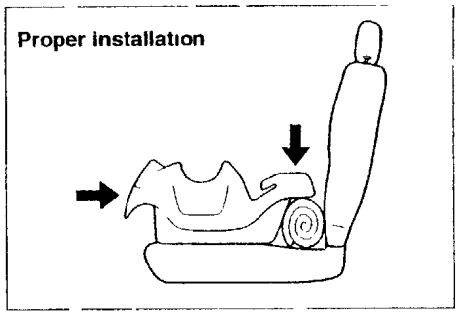
③ Place the base of the child seat in the center of the rear seat



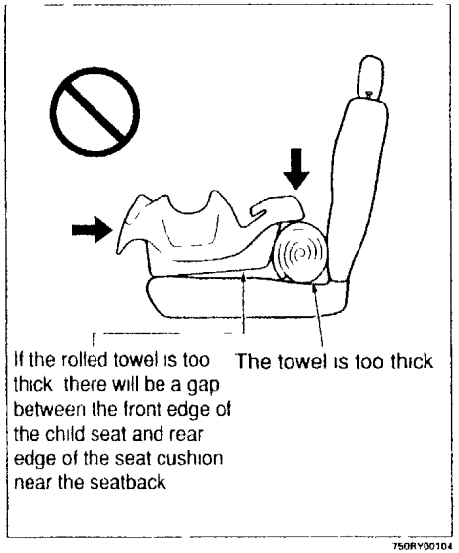
④ Roll a towel and place it between the base of the child seat and the rear seat cushion

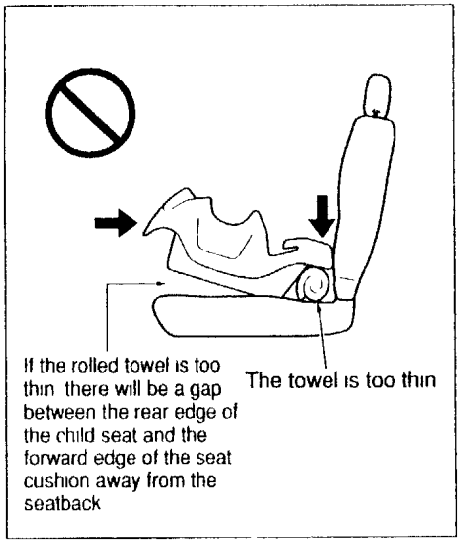
NOTE

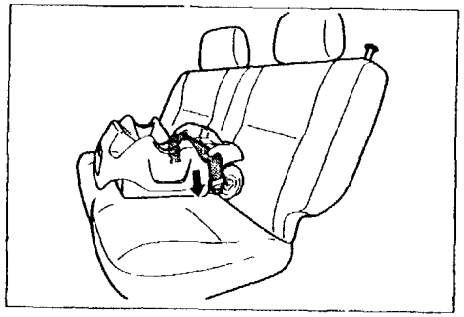
- *Roll the towel so that it is a little thicker than the clearance between the base and seat cushion*
- *The length of the rolled towel should be slightly longer than the width of the child seat base*



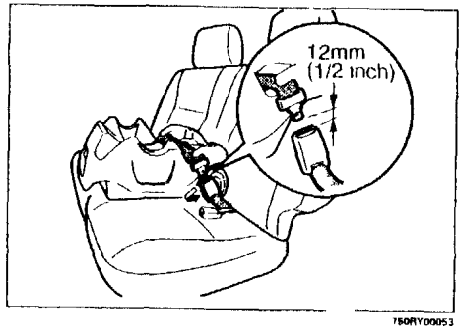
⑤ Make sure that the rolled towel supports the base properly



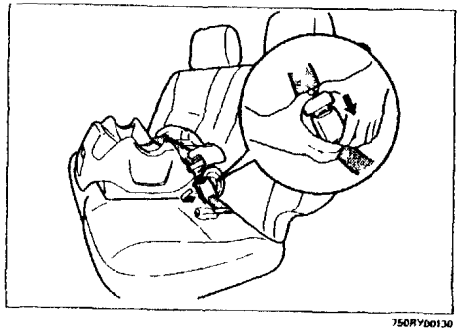




⑥ Adjust the length of the seat belt using the attached metal fitting and run the seat belt through the side slots of the child seat base



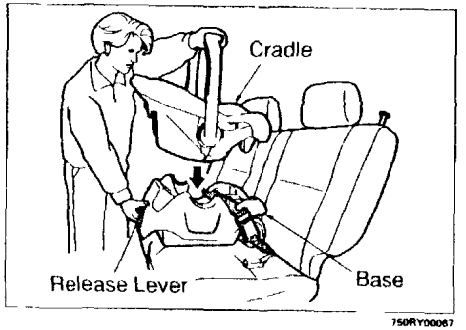
⑦ Adjust the length of the seat belt to within approximately 1/2 inch (12 mm) of the outstretched center buckle The length is appropriate if the latch plate appears ready to slip from the side slot of the child seat base when you are pressing down firmly on the child seat



⑧ Twist the buckle twice or more and fasten the latch plate into the buckle

NOTE

- *Avoid contact between the child seat and buckle. Twist the buckle until child seat and buckle contact is no longer present.*



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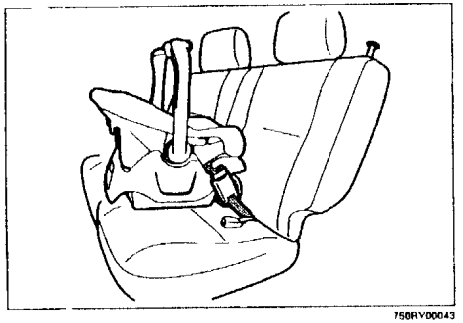


⑨ Make sure that the child seat base is secured properly by rocking it forwards, backwards and side to side If the child seat is easily tipped over or inches forward, repeat this entire procedure from step one

⑩ Attach the cradle of the child seat to the base according to the manufacturer instructions provided with the child seat If the child seat cradle is equipped with a level indicator, use it to confirm the cradle position is correct The above illustration shows the completed installation

WARNING

•Prior to operation (driving) of the vehicle, make sure that the child seat is secured properly by rocking it forwards, backwards and side to side.
• When travelling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.
• If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.
• When the child seat is removed, untwist the seat belt to its normal position.

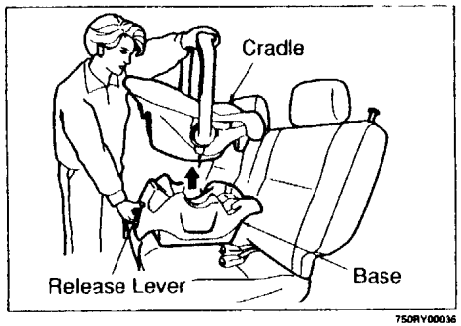
INSTALLING A CHILD SEAT (CRADLE TYPE) WITHOUT BASE

Prior to installation of the child seat, complete the following preparations

- Be sure to read pages 3-13 through 3-48 of this manual thoroughly

WARNING

⚠ **•Be sure to position a cradle type child seat in the rear-facing position only.**

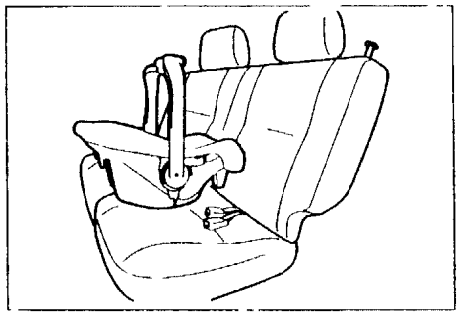


(1) Make sure that the seatback is locked in the upright position

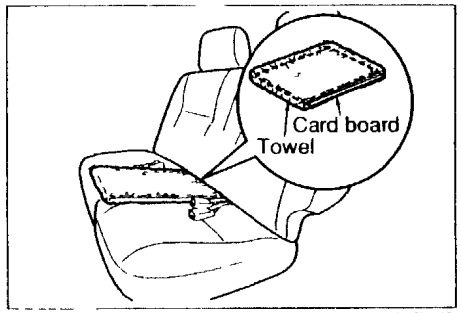
(2) Remove the cradle from the base

NOTE

- *Generally a cradle type child seat consists of a cradle and a base Refer to the manual that comes with the child seat for instructions on how to remove the base*



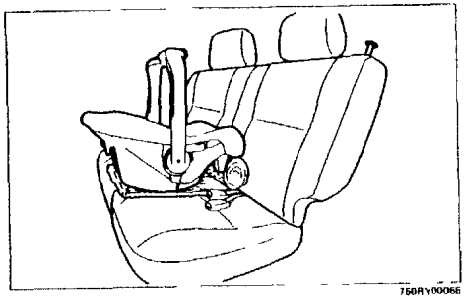
(3) Place the cradle of the child seat in the center of the rear seat



WARNING

⚠ **•Place a piece of cardboard or similar material wrapped with a towel on the seat cushion in the position where the child seat is to be installed. Be sure the size of the cardboard is the same size as the base of the child seat cradle.**

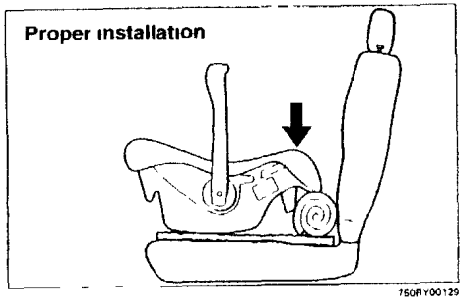
- **Refer to the illustration for an example of how to use the cardboard.**



(4) Follow the above illustration and roll a towel tightly and place it between the base of the child seat and the rear seat cushion

NOTE

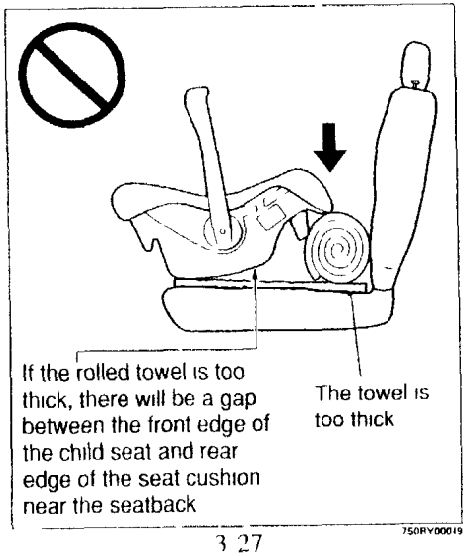
- *The length of the rolled towel should be slightly longer than the width of the child seat base.*

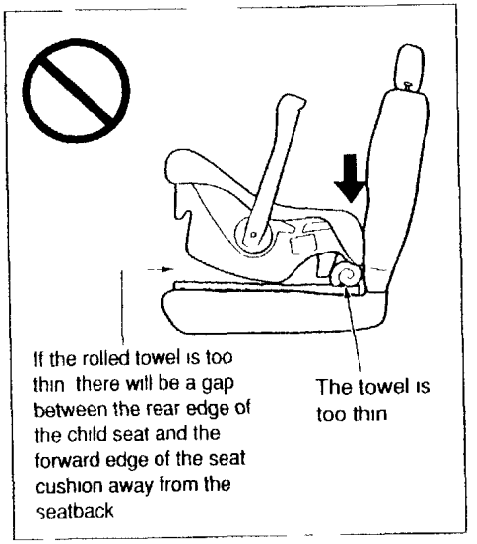


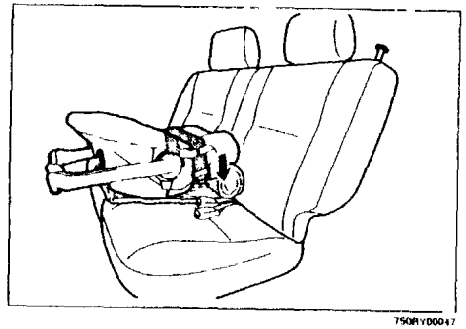
(5) Make sure that the rolled towel supports the top of the cradle when you press firmly on the child seat

WARNING

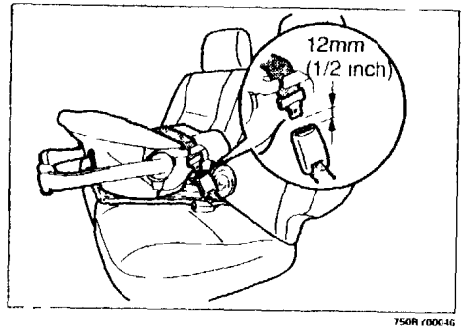
⚠ **•Be sure to check that the legs of the cradle fit properly to the surface of the back seat when you press down the cradle.**



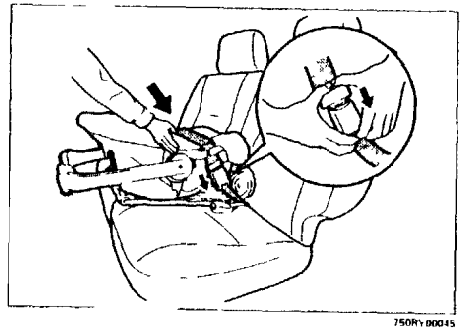




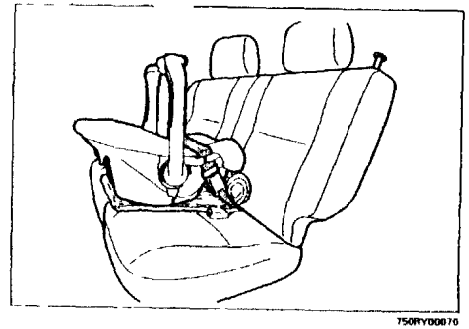
(6) Adjust the length of the seat belt by using the attached metal fitting and run the seat belt through the side slots of the child seat cradle



(7) Adjust the length of the seat belt to within approximately 1/2 inch (12 mm) from the outstretched center buckle
The length is appropriate if the latch plate appears ready to slip from the side slot of the child seat base when you are pressing down firmly on the child seat



(8) Fasten the latch plate into the buckle



(9) Make sure that the child seat cradle is secured properly by rocking it forwards, backwards and side to side If the child seat cradle is easily tipped over or inches forward, repeat this entire procedure from step one If the child seat cradle is equipped with a level indicator use it to confirm the cradle position is correct The above illustration shows the completed installation

WARNING

⚠ **•Prior to operation (driving) of the vehicle, make sure that the child seat is secured properly by rocking it forward, backward and side to side.**
- **When traveling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.**
- **If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.**

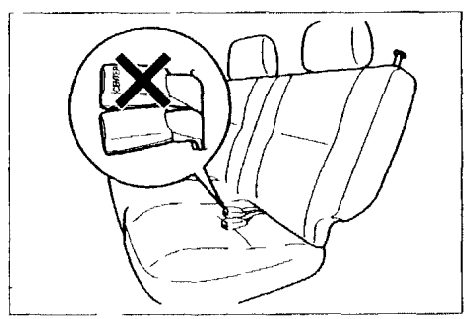
REAR SEAT SIDE INSTALLATION

WARNING

⚠ **•Before beginning installation of the child seat, ensure that the vehicle is parked in a safe location with the engine turned off**
- **Whenever possible, install the child seat in the center of the rear seat.**
  When this is not possible (e.g , if the split seat is folded), the child seat can be installed in one of the rear side seats, behind either the driver or the front seat passenger.
- **Before beginning installation of the child seat, ensure that the seatback is in the upright position.**
- **Set the shoulder anchor to the lowest position by pressing in the shoulder anchor knob while adjusting the shoulder anchor**

NOTE

- *The installation procedures provided in this manual apply to the RODEO*
- *To allow for adequate installation space, adjust the front seat and seatback as needed*
- *In order to ensure that the latch plate fastens into place when buckling the seat belt, be sure to select the correct buckle for the side belt Select a buckle without the inscription "Center" on it*



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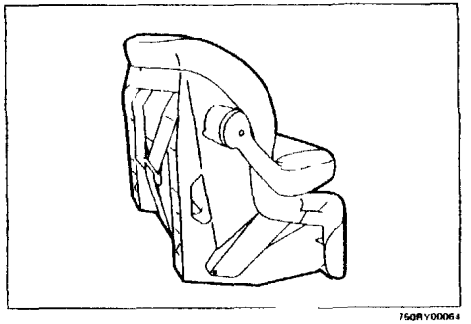
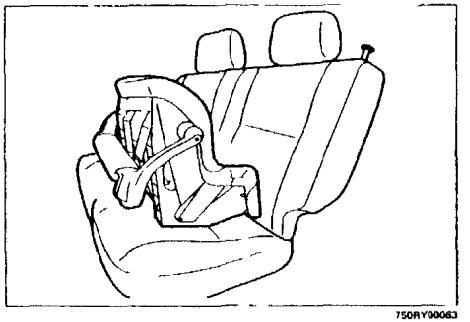
INSTALLATION OF A REAR-FACING CHILD SEAT (SEAT TYPE) IN A REAR SIDE SEAT

Prior to installation of the child seat, complete the following preparations

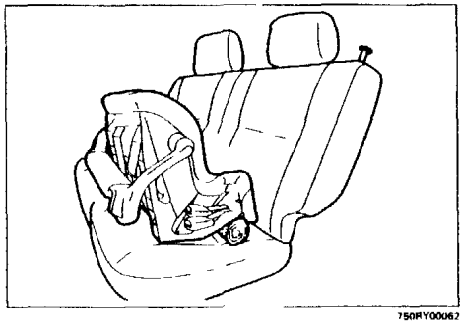
- Be sure to read pages 3-13 through 3-48 of this manual thoroughly



- If the child seat is equipped with a retractable stand, ensure that the stand is fully retracted



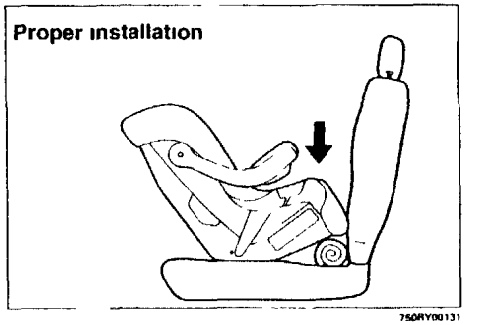
① Place the child seat in the selected rear seat installation position



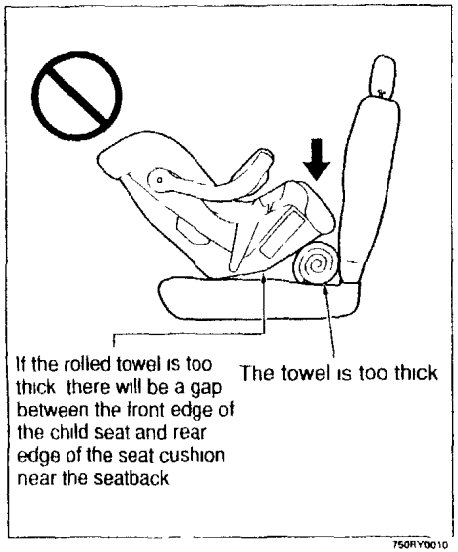
② Follow the illustration above and roll a towel tightly and place it between the base of the child seat and the rear seat cushion

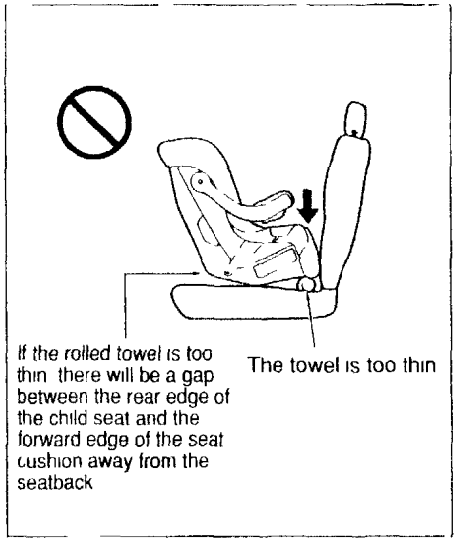
NOTE

- *Roll the towel so that it is a little thicker than the clearance between the child seat and rear seat*
- *The length of the rolled towel should be slightly longer than the width of the child seat base.*



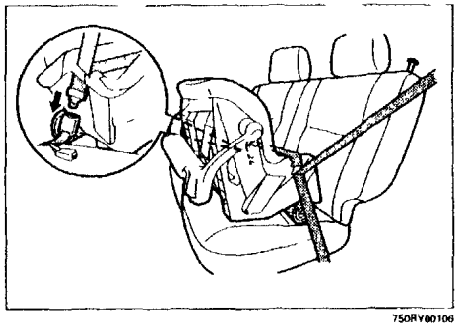
③ Confirm that the rolled towel supports the child seat properly by checking the base of the child seat is resting flat against the seat cushion





WARNING

•Be sure to check that the bottom of the child seat fits snugly to the surface of the seat cushion when pressing down firmly on the child seat.

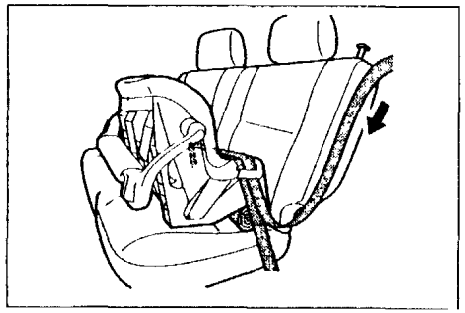


④ Grasp the seat belt and run the "lap" belt webbing through the side slot of the child seat closest to the door Then run both the "lap ' and "shoulder" belt webbing through the opposite side slot of the child seat and fasten the latch plate into the buckle

NOTE

- *Take care not to twist the seat belt webbing*
- *Do not pull the belt all the way out of the retractor until after you have fastened the latch plate into the buckle. Doing so activates the automatic locking mechanism which could prevent the latch plate from being able to reach the buckle If the belt is inadvertently*

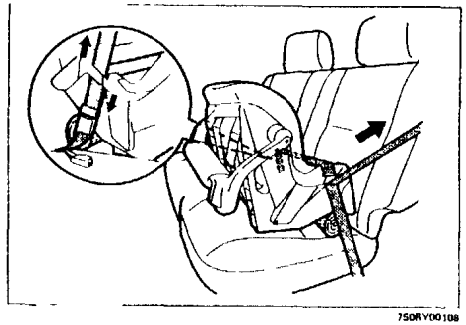
pulled all the way out too soon, let the belt fully retract to release the automatic locking mechanism and return to step 4 above



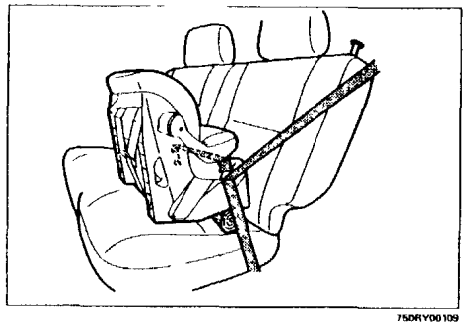
⑤ After the latch plate is fastened into the buckle, pull the seat belt out all the way and let the belt slowly retract

NOTE

- *When the belt is pulled all the way out, the locking mechanism will only permit the belt to retract Use this feature to remove any slack in the belt to secure the child seat properly*



⑥ Ensure that the child seat is secured properly by pressing down on the child seat while retracting the belt to remove any slack



NOTE

- *Make sure that the child seat is secured properly by rocking it forward, backward and side to side If the child seat is easily tipped over or inches forward, repeat this entire procedure from step one*

WARNING

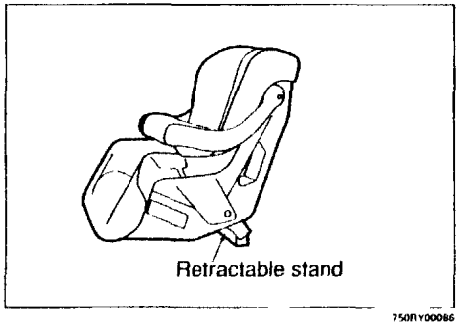
⚠ •Prior to operation (driving) of the vehicle, make sure that the child seat is secured properly by *rocking it forward, backward* and side to side.

- When traveling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.
- If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.

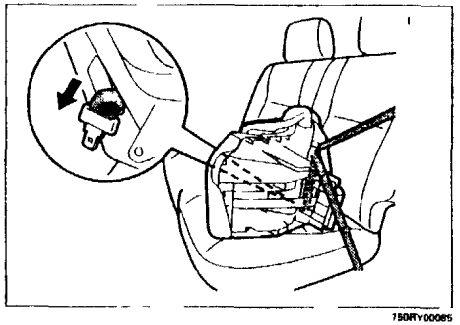
INSTALLATION OF A FRONT-FACING CHILD SEAT (SEAT TYPE) IN A REAR SIDE SEAT

Prior to installation of the child seat, complete the following preparations

- Be sure to read pages 3-13 through 3-48 of this manual thoroughly



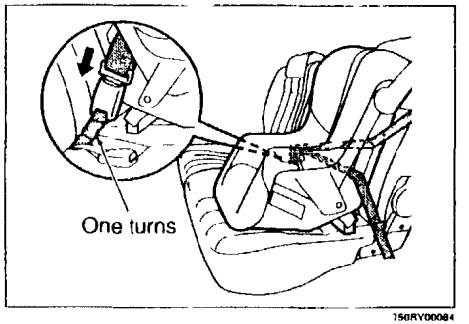
- If the child seat is equipped with a retractable stand, ensure that the stand is fully extended



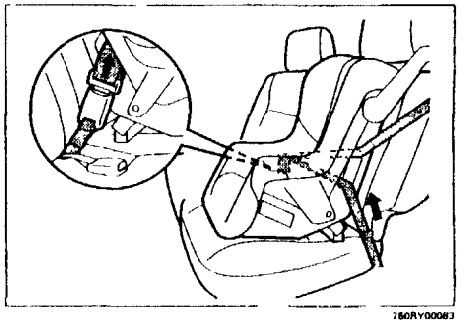
① Lay the child seat sideways on the rear seat cushion and run the belt webbing through the slot on the bottom of the child seat

NOTE

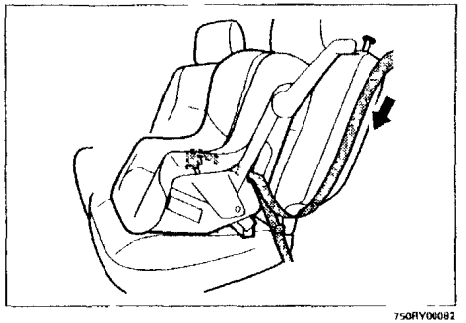
- *Take care not to twist the seat belt webbing*
- *Do not pull the belt all the way out of the retractor until after you have fastened the latch plate into the buckle (step 4) Doing so activates the automatic locking mechanism If the belt is inadvertently pulled all the way out too soon, let the belt fully retract to release the automatic locking mechanism before using it*



② Twist the buckle once and fasten the latch plate into the buckle



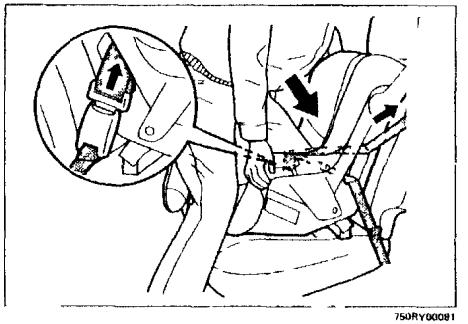
③ Pull on the "shoulder" belt webbing to remove any slack in the belt



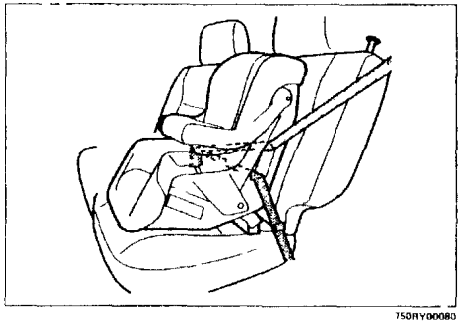
④ Pull the seat belt out all the way and let the belt slowly retract

NOTE

- *When the belt is pulled all the way out, the locking mechanism will only permit the belt to retract Use this feature to remove any slack in the belt to secure the child seat properly*



⑤ Ensure that the child seat is secured properly by pressing down on the child seat while retracting the belt to remove any slack



NOTE

- *Make sure that the child seat is secured properly by rocking it forward, backward and side to side*
  If the child seat is easily tipped over or inches forward, repeat this entire procedure from step one

WARNING

- Prior to operation (driving) of the vehicle, make sure that the child seat is secured properly by rocking it forward, backward and side to side.
- When traveling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.
- If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.

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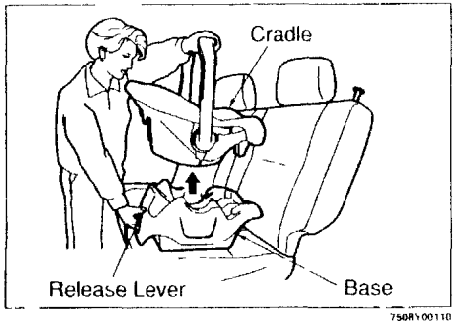
INSTALLATION OF A CHILD SEAT (CRADLE TYPE) WITH BASE IN A REAR SIDE SEAT

Prior to installation of the child seat complete the following preparations

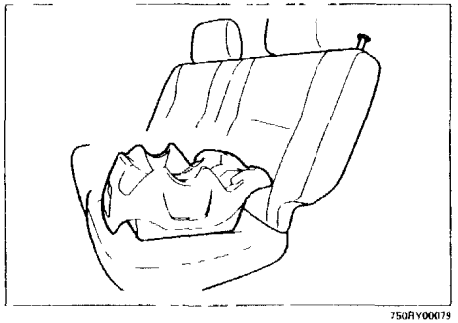
- Be sure to read pages 3-13 through 3-48 of this manual thoroughly



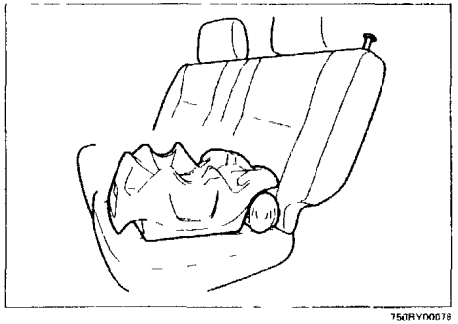
(1) Remove the cradle from the base

NOTE

- *Generally a cradle type child seat consists of a cradle and a base Refer to the manual that comes with the child seat for instructions on how to remove the base*



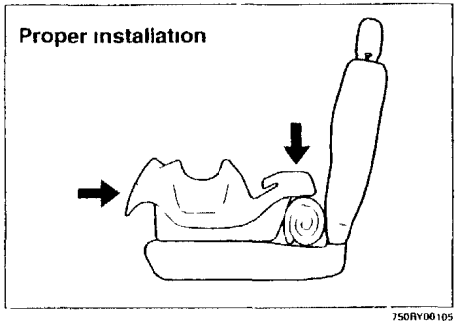
(2) Place the base of the child seat in the selected rear seat installation position



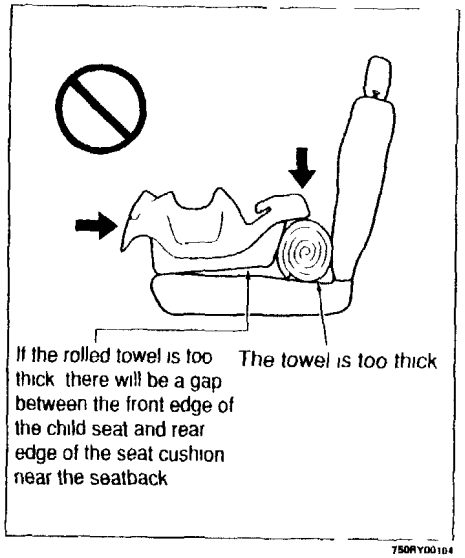
(3) Roll a towel tightly and place it between the base of the child seat and the rear seat cushion as shown in the above illustration

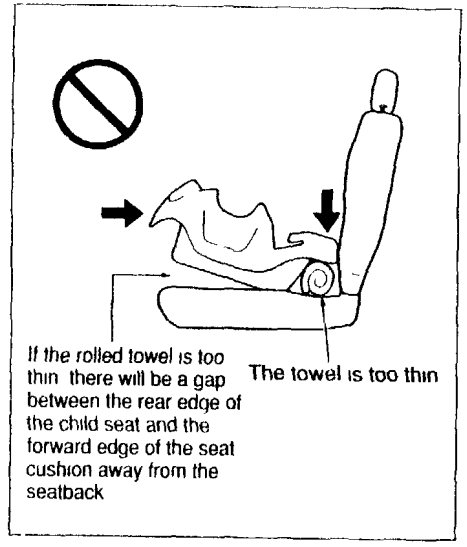
NOTE

- *Roll the towel so that it is a little thicker than the clearance between the base and seat cushion*
- *The length of the rolled towel should be slightly longer than the width of the child seat base*



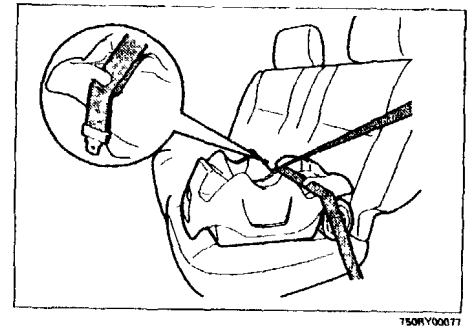
(4) Confirm that the rolled towel supports the child seat properly by making sure the base of the child seat is resting flat against the seat cushion





WARNING

•Be sure to check that the bottom of the base fits snugly to the surface of the seat cushion by pressing down on the base.

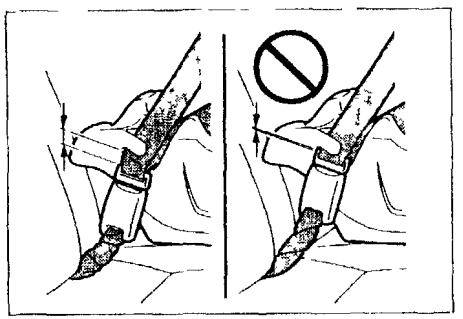


⑤ Grasp the seat belt and run the "lap" belt webbing through the side slot of the child seat base closest to the door Then run both the "lap" and "shoulder' belt webbing through the opposite side slot of the child seat and fasten the latch plate into the buckle

NOTE

- *Take care not to twist the seat belt webbing*
- *Do not pull the belt all the way out of the retractor until after you have fastened the latch plate into the buckle. Doing so activates the automatic locking mechanism which could prevent the latch plate from being able to reach the buckle If the belt is inadvertently*

pulled all the way out too soon, let the belt fully retract to release the automatic locking mechanism and return to step 5 above



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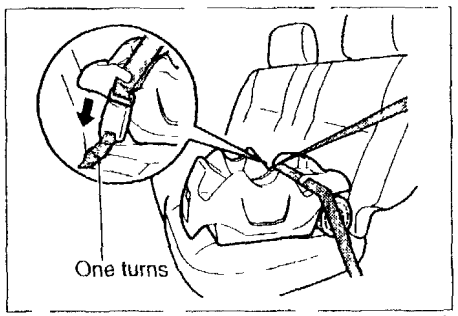


7 0RY00071

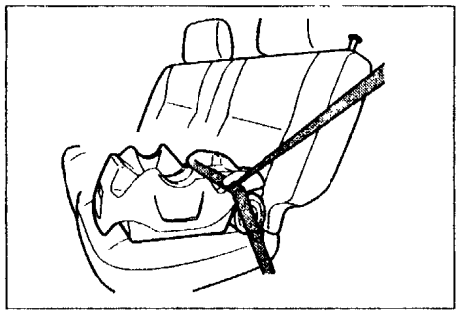
(6) Twist the buckle once or more and fasten the latch plate into the buckle

WARNING

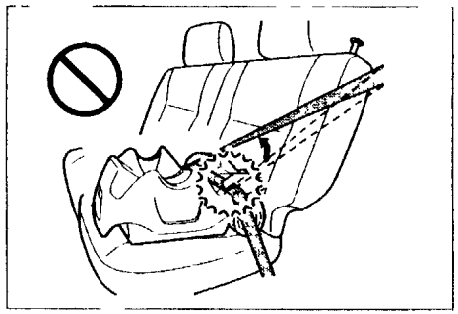
•When the latch plate is buckled, be sure that the buckle does not interfere with the child seat base slot. If it does, confirm that the towel is the appropriate size. If the towel is appropriately sized, twist the buckle a few more twists to correct the interference.
• When the child seat is removed, untwist the seat belt to its original position.

NOTE

• Avoid contact between the child seat and buckle Twist the buckle until child seat and buckle contact is no longer present

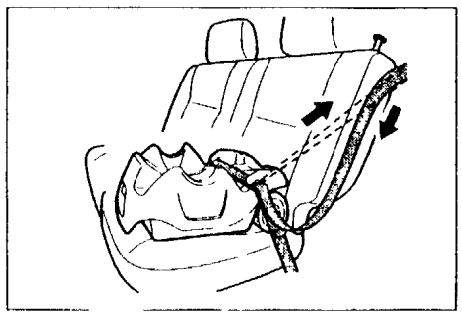


⑦ Run the "shoulder" belt webbing back through the side slot of the child seat base closest to the door



WARNING

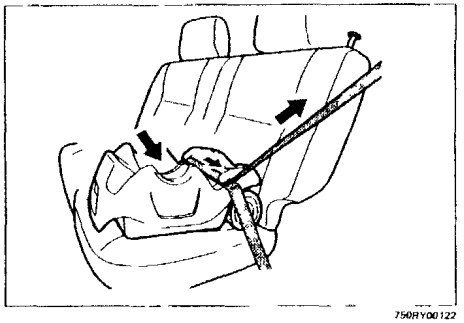
•If the slot of the child seat base is not wide enough to accommodate the seat belt webbing, the belt may become easily dislodged from the slot. To prevent this from happening, only install the child seat in the center position.



⑧ Pull the seat belt out all the way and let the belt slowly retract

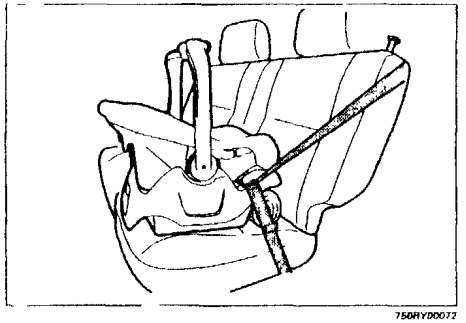
NOTE

- *When the belt is pulled all the way out, the locking mechanism will only permit the belt to retract Use this feature to remove any slack in the belt to secure the child seat properly*



(9) Press down on the child seat while removing slack from the belt. Ensure that the child seat base is secured properly by pressing down on the belt over the child seat while retracting.

(10) Make sure that the child seat is secured properly by rocking it forward, backward and side to side. If the child seat is easily tipped over or inches forward, repeat this entire procedure from step one.



(11) Attach the cradle to the base and confirm that the cradle installation position is appropriate. Use the level indicator (if equipped), to check the angle position.
If the angle is not appropriate, repeat the procedure from step 1.
The above illustration shows the completed installation.

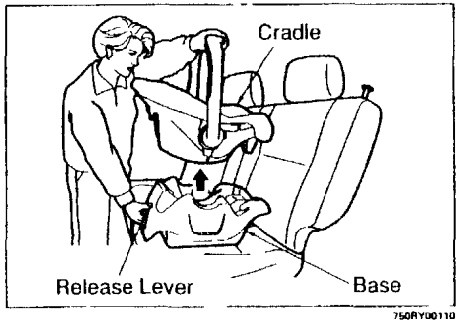
WARNING

•Prior to operating (driving) the vehicle, *confirm that the child* seat is secured properly by rocking it forward, backward and side to side.
• When traveling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.
• If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.

INSTALLATION OF A CHILD SEAT (CRADLE TYPE) WITHOUT BASE IN A REAR SIDE SEAT

Prior to installation of the child seat, complete the following preparations

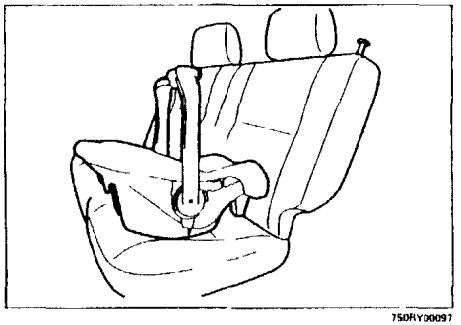
- Be sure to read pages 3-13 through 3-48 of this manual thoroughly



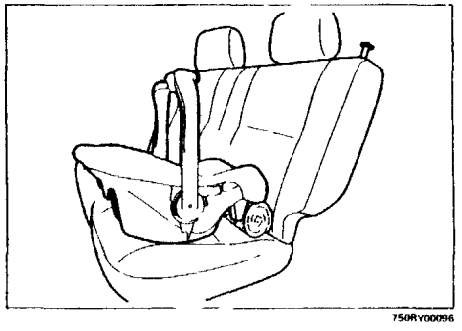
① Make sure that the seatback is locked in the upright position
② Remove the cradle from the base

NOTE

- *Generally a cradle type child seat consists of a cradle and a base Refer to the manual that comes with the child seat for instructions on how to remove the base*



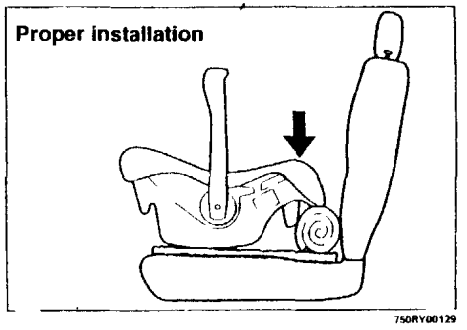
③ Place the cradle of the child seat in the selected rear seat installation position



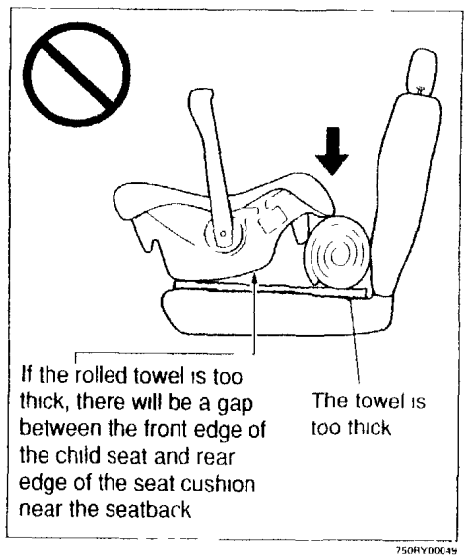
④ Roll a towel tightly and place it between the base of the child seat and the rear seat cushion

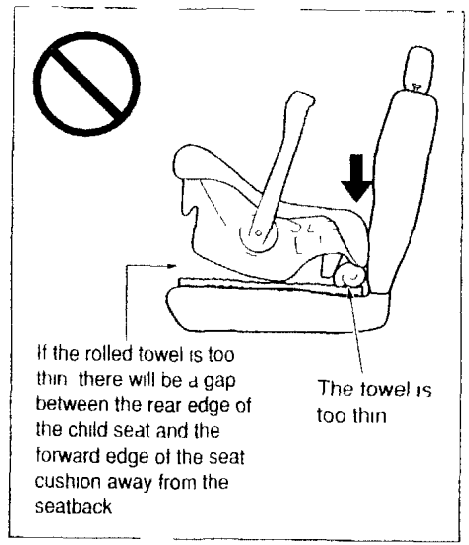
NOTE

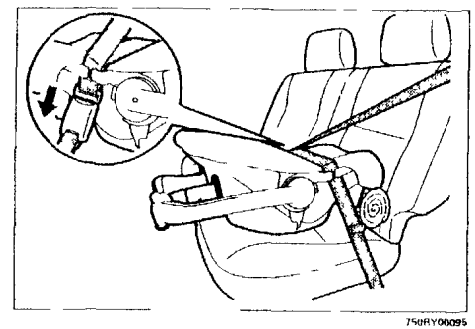
- *Roll the towel so that it is a little thicker than the clearance between the base and seat cushion*
- *The length of the rolled towel should be slightly longer than the width of the child seat base.*



⑤ Make sure that the rolled towel supports the top of cradle when you press it





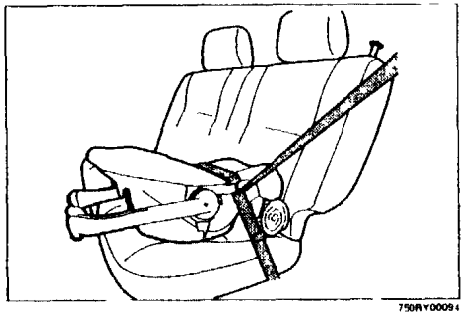


(6) Grasp the seat belt and run the "lap" belt webbing through the side slot of the child seat cradle closest to the door Then run both the "lap" and shoulder" belt webbing through the opposite side slot of the child seat and fasten the latch plate into the buckle

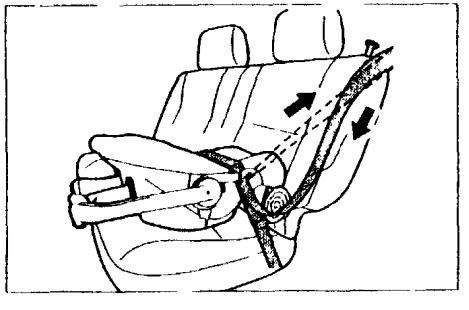
NOTE

- *Do not twist the seat belt webbing*
- *Do not pull the belt all the way out of the retractor until after you have fastened the latch plate into the buckle Doing so activates the automatic locking mechanism which could prevent the latch plate from being able to reach the buckle If the belt is inadvertently*

pulled all the way out too soon, let the belt fully retract to release the automatic locking mechanism and return to step 6 above



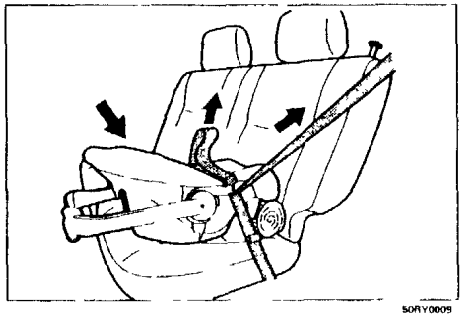
⑦ Run the "shoulder" belt webbing back through the side slot of the child seat cradle closest to the door



⑧ Pull the seat belt out all the way and let the belt slowly retract

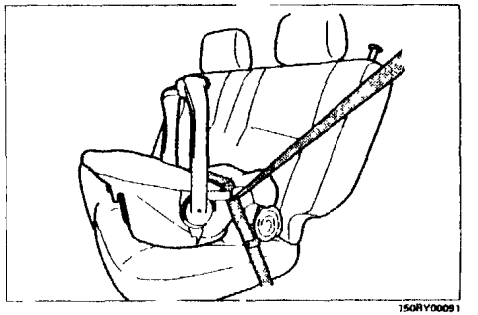
NOTE

- *When the belt is pulled all the way out, the locking mechanism will only permit the belt to retract Use this feature to remove any slack in the belt to secure the child seat properly*
- *The retractor will emit a rattling sound while retracting with the locking mechanism activated*



⑨ Ensure that the child seat cradle is secured properly by pressing down on the child seat cradle while retracting the belt to remove any slack

⑩ Make sure that the child seat cradle is secured properly by rocking it forward, backward and side to side If the child seat is easily tipped over or inches forward, repeat this entire procedure from step one



NOTE

- *Confirm that child seat cradle installation position is appropriate (Example If the child seat cradle is equipped with a level indicator, use it to confirm the cradle installation position is correct)*
  The above illustration shows the completed installation

WARNING

- **Prior to operation (driving) of the vehicle, confirm that the child seat is secured properly by rocking it forward, backward and side to side.**
- **When traveling long distances, occasionally stop to make sure the child seat is secured properly by rocking it forward, backward and side to side.**
- **If the child seat is jolted or loosened in route, be sure to stop in a safe location and repeat this entire procedure from step one.**

REMOVING THE CHILD SEAT

Be sure to read and fully understand this procedure before removing the child seat

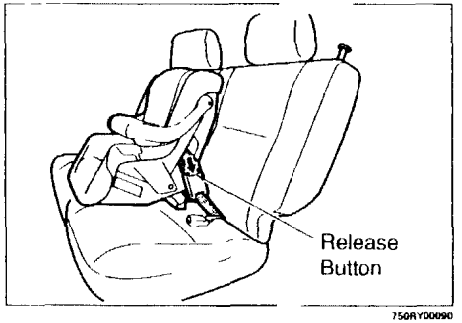
WARNING

•Before beginning removal of the child seat, ensure that the vehicle is parked in a safe location with the engine turned off.

NOTE

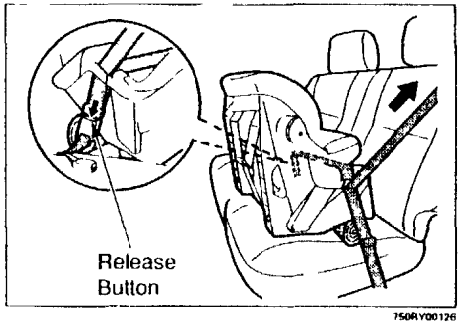
- *To allow for adequate removal space, adjust the front seat and seatback as needed*

REMOVAL FROM THE CENTER POSITION OF THE REAR SEAT



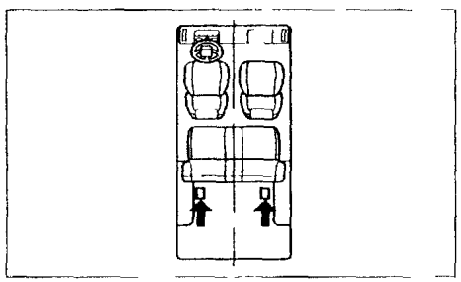
Unbuckle the seat belt by pressing the release button to disengage the latch plate from the belt buckle

REMOVAL FROM THE SIDE POSITION OF THE REAR SEAT

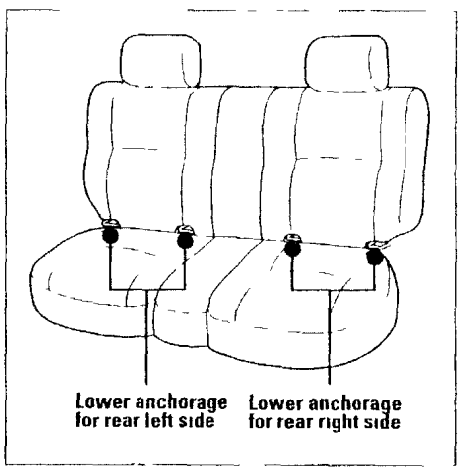


Remove the towel from between the passenger seat and the child seat
Push down on the child seat and press the release button of the seat belt buckle
Remove the latch plate from the buckle
Pull the seat belts free of the child seat

CHILD RESTRAINT LOWER AND TETHER ANCHORAGE

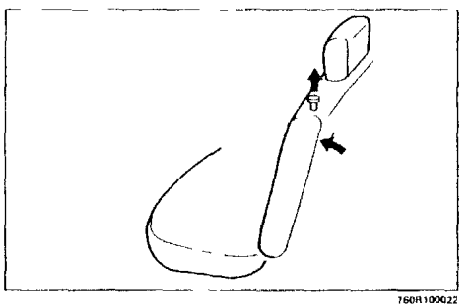


Child restraint tether anchorage brackets are installed on both sides of the luggage compartment floor

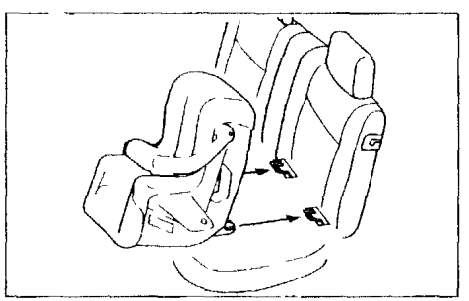


Child restraint lower anchorages are installed in both side seating positions of the rear seat

Anchoring a child seat

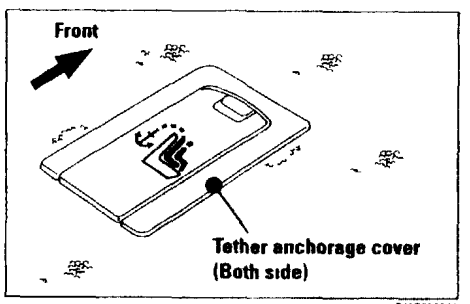


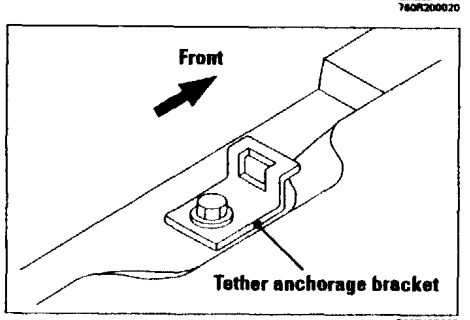
1 Move the seatback to its most vertical position Make sure the seatback is locked in position



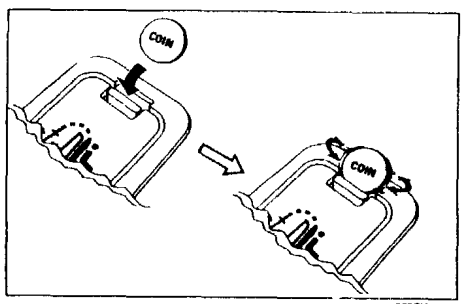
2 Slide the child seat locking portions into the lower anchors Make sure that both lower anchors and the child seat locking portions are latched together

Refer to the Instruction Manual provided by the manufacturer of the child seat for latching instructions

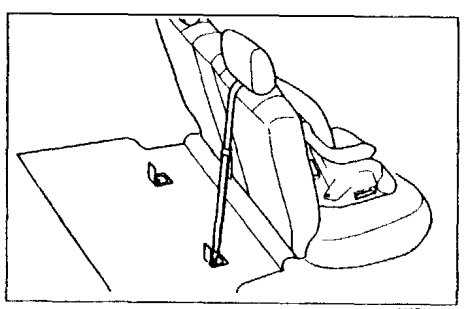




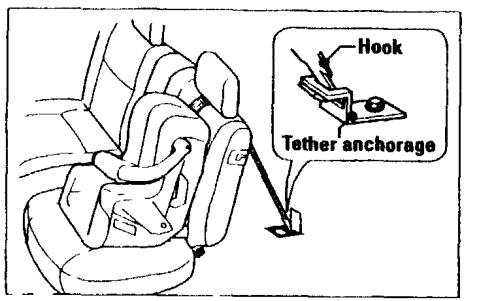
Tether anchors are installed to the luggage compartment floor behind the rear seat



3 Use a coin or similar object to pry open the tether anchor cover



4 Run the tether strap between the upper portion of the seatback and the lower portion of the head restraint

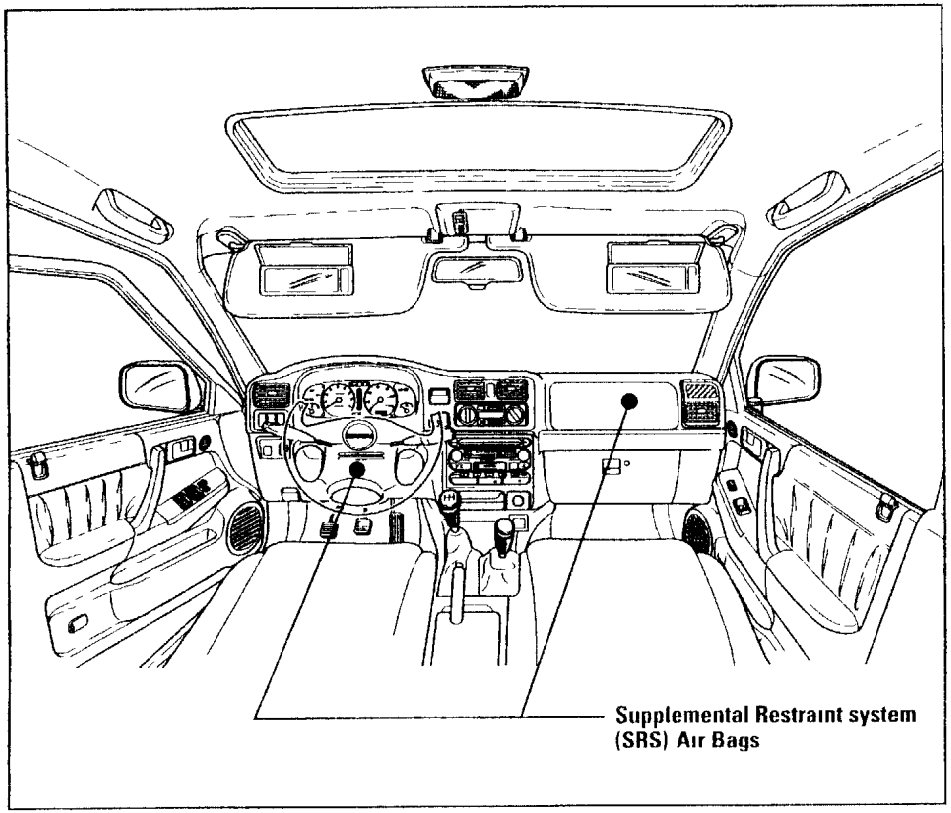


5 Attach the hook of the tether strap to the tether anchorage
6 Adjust the tether strap length to remove all slack from the strap

Refer to the Instruction Manual provided by the manufacturer of the child seat for information on adjusting the length of the tether strap

3. *Seat, Seat Belts, Child Restraints and Air Bags /*

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) - AIR BAGS



3 19

Supplemental Restraint System (SRS)-Air Bags

This section explains the Supplemental Restraint System (SRS) - Air Bags. Your vehicle has air bags for both the driver and the right-front passenger.

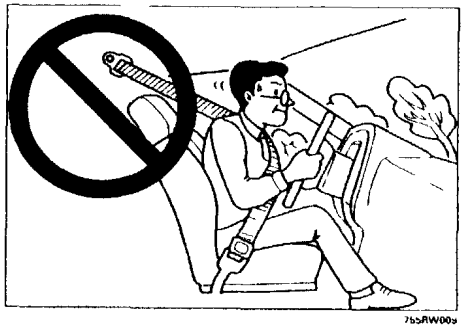
Here's the most important thing to know:

WARNING

•To take full advantage of this system, the driver and right-front passenger must always wear their seat belts. Air bags are not designed to inflate in rollovers or in rear, side or low-speed frontal crashes. You must wear your seat belt to reduce the chance of hitting things inside the vehicle or being ejected from it. Always wear your seat belt, even though your vehicle is equipped with air bags. Also refer to the supplement "Supplemental Restraint System (SRS)-AIR BAG".

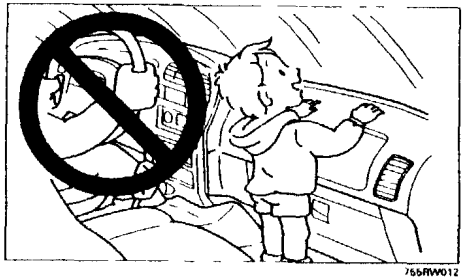
WARNING

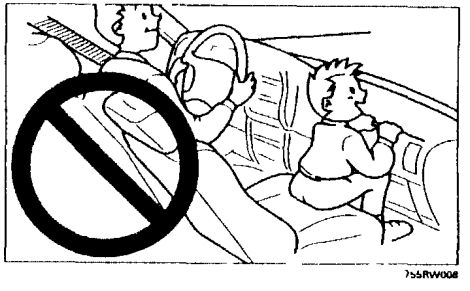
- If you are too close to an inflating air bag, it can kill or seriously injure you, since it inflates with great force, faster than the blink of an eye.
- While the air bag can reduce serious injuries and may even save your life, the air bag might cause facial abrasions or other injuries.
  Seat belts help keep you in position for an air bag inflation in a crash. Always wear your seat belt even though your vehicle is equipped with air bags.
- Children 12 and under can be seriously or even fatally injured by inflation of the front passenger's air bag.



WARNING

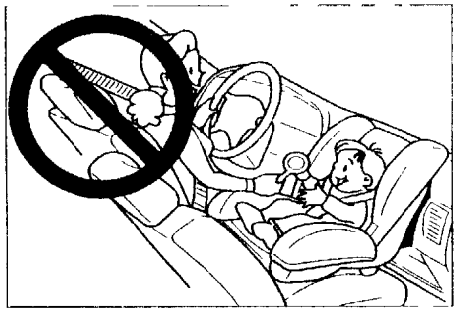
- The driver should sit as far back as possible while still maintaining control of the vehicle and the front passenger should also sit as far back as possible
- If you are sitting too close to the air bag, it can cause death or seriously injure you when it inflates





WARNING

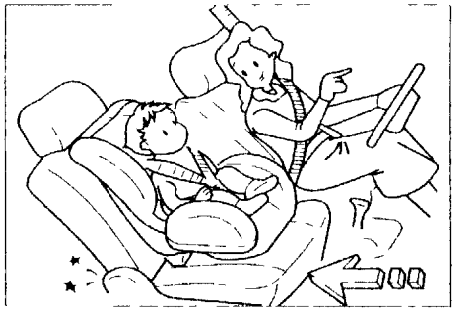
- Always secure children properly in your vehicle. Do not allow a child to stand or kneel on the front passenger's seat. Do not hold a child in your lap or hands. The inflating air bag can cause death or serious injuries to the child



165RW003

WARNING

⚠ **•Do not install rearward-facing child seats in the front passenger seat position.**
In the event the front passenger's air bag inflates, it can cause death or serious injuries to the child.



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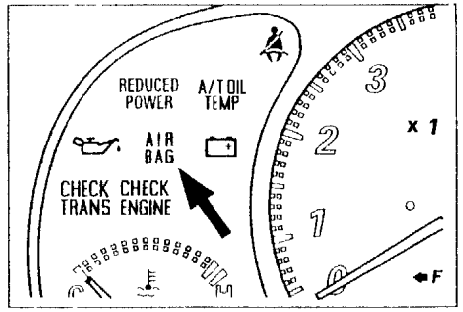
WARNING

⚠ **•Children 12 and under can be seriously or even fatally injured by inflation of the front passenger's air bag**
• A child who is too small for seat belts should be properly secured in a child restraint in the rear seat
If it is absolutely necessary to put a child in a front facing child restraint in the front passenger seat, the passenger seat should be moved as far back as possible

AIR BAG READINESS INDICATOR LIGHT



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There is an air bag readiness indicator light on the instrument panel, which has "AIR BAG" on it. The system checks itself and the light tells you if there is a problem. You will see this light blink 7 times when you turn your ignition to ON or START. Then the light should go out, which means the system is ready.
If the air bag readiness indicator light illuminates at any other time, or the indicator fails to perform properly when you turn your ignition to ON or START, the Air Bag System needs repair. Until it is serviced, the air bags may not inflate in the event of the type of collision in which they would normally activate.

The air bag readiness indicator light monitors itself and the electrical system that connects the air bags and various electronic components and power sources. Your Isuzu Dealer is best qualified to check and repair the system if needed.

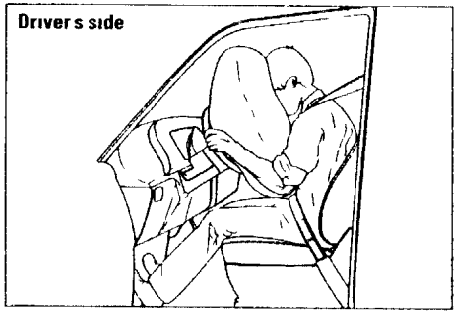
WARNING

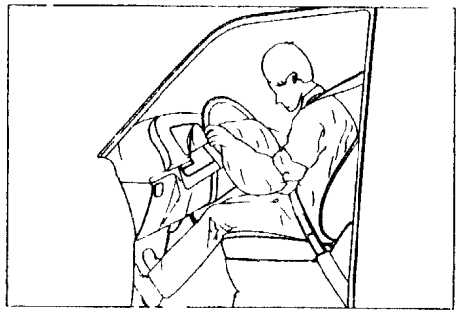
If the air bag readiness indicator light doesn't come on and blink 7 times when you turn your ignition to ON or START, your air bag system may not work properly. Have your vehicle serviced right away at your nearest Isuzu Dealer.

HOW THE AIR BAG SYSTEM WORKS

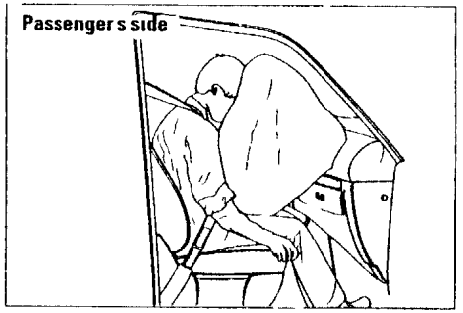
Where are the air bags?

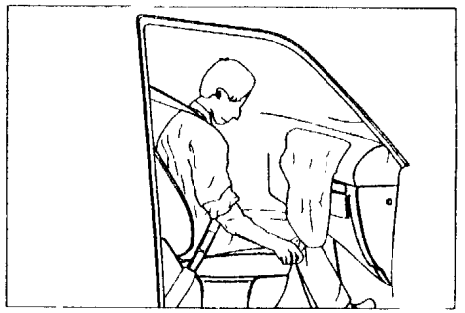
The driver's air bag is in the middle of the steering wheel.





The right-front passenger's air bag is located in the instrument panel on the passenger's side.





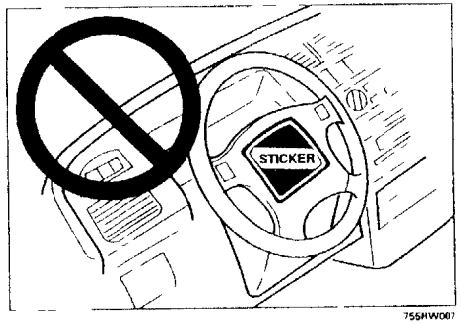
What will you see after an air bag inflation?

After the air bag has inflated, it will then quickly deflate This occurs so quickly that some people may not even realize that the air bag inflated The air bag will not impede the driver's vision or ability to steer the vehicle, nor will it hinder the occupants from exiting the vehicle There will be small amounts of smoke coming from vents in the deflated air bags Some components of the air bag module in the steering wheel hub for the driver's air bag or the instrument panel for the passenger's bag may be hot for a short time

The gas in both driver and front passenger sides used to inflate the air bag will have vented into the passenger compartment and the bag will be deflated within seconds after the collision

As the gas vents from the bag, small particles are also vented into the passenger compartment

In many crashes severe enough to inflate an air bag, windshields are broken by vehicle deformation Additional windshield breakage may occur in vehicles with passenger air bags because the windshield acts as a reaction surface for the inflating air bag



WARNING

•Don't put anything on, or attach anything to, the steering wheel pad or the instrument panel. Also, don't put anything (such as objects or pets) between any occupant and the steering wheel pad or instrument panel. If anything is between the occupant and the air bag, it could affect the performance of the air bag, or, worse, it could cause injuries to the occupants.

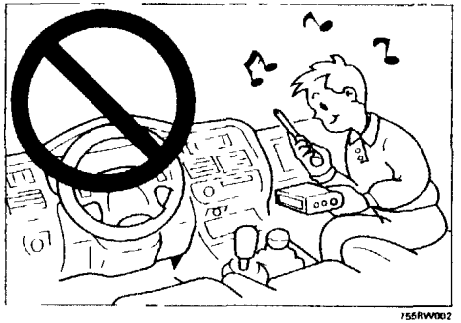
- **The air bags are designed to inflate only once. After they inflate, you'll need some new parts for your air bag system. If the air bag is not replaced, the unrepaired area will increase the risk of injury in a collision. A new system will include air bag modules, control unit; SRS and possibly other parts.**
- **Let only qualified technicians work on your air bag system. Improper service can mean that your air bag system won't work properly See your Isuzu Dealer for service.**

SERVICING YOUR ISUZU WITH THE AIR BAG SYSTEM

Please tell or remind anyone who works on your Isuzu that it has an air bag system There are parts of the air bag system in several places around your vehicle You don't want the system to inflate while someone is working on your vehicle The air bag system does not need regular maintenance Scrapping a damaged vehicle that has an undeployed air bag(s) can be dangerous Ask your authorized Isuzu Dealer for assistance if your involvement in the disposal or the repair of the vehicle is required

WARNING

Do not attempt to repair or service the air bag system by yourself. Tampering with it could cause it to activate, and this could result in serious injuries or death. For service and repairs, have an authorized Isuzu Dealer do the work.



WARNING

•Do not attempt repairs around the steering wheel, instrument panel, center console or dashboard or the installation of stereo equipment etc. If may affect the air bag or cause it to accidentally inflate, resulting the serious injuries or death The air bag system may not function properly when modifications are made to the vehicle, including such things as the installation of a bumper guard, snow plow or altering the frame, the front of the vehicle, the height of the vehicle, etc If you plan to make any of these changes, consult the nearest Isuzu Dealer for advice.

NOTE

Contact your nearest Isuzu Dealer when the steering wheel pad or the cover on the instrument panel for the passenger's air bag is scratched, cracked or damaged If you damage the door for the right-front passenger's air bag, it may not work properly You may have to replace the air bag Don't open or break the air bag door

WARNING

For up to 15 seconds after the ignition key is turned off and the battery disconnected, an air bag can still inflate during improper service. You can be injured or killed if you are close to an air bag when it inflates. Be sure to follow proper service procedures, and make sure the

person performing the work for you is qualified to do so

When is an air bag expected to inflate?

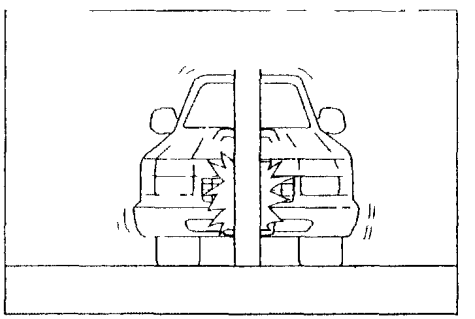
The air bag is designed to inflate in moderate to severe frontal or near-frontal crashes In frontal collisions of sufficient force, the air bags will inflate even though the front passenger seat is unoccupied If the frame or suspension strikes hard against an obstacle on the roadway the air bag may sometimes inflate The threshold level of impact required to cause the air bags to inflate differs depending on the type of collision In the event of a frontal collision straight into a fixed barrier, such as a strong wall that does not move or deform, the air bags will deploy at or above a vehicle collision speed of 7 15 miles per hour The deployment threshold velocity will be higher, however, if the vehicle is in a frontal collision with an object that will move or deform on impact, such as a guardrail or a parked car The air bag is also not designed to inflate in rollovers, side impacts or rear impacts where the inflation would provide no occupant protection benefit In any particular crash, the determination of whether the air bag should have inflated cannot be based solely on the level of damage on the vehicle(s) Inflation is determined by the angle of the impact and the vehicle s deceleration, of which vehicle damage is only one indication Repair cost is not a good indicator of whether an air bag should have deployed

When the air bag may not inflate

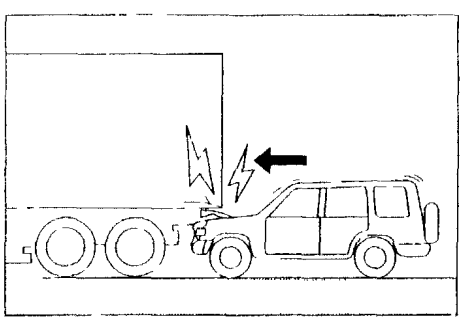
In certain types of accidents, the air bag may not inflate, even though your vehicle may appear severely damaged This does not mean there is a problem with the air bag, but rather the forces of the collision were insufficient to activate the air bag system In other words, the air bag inflates only in collisions of sufficient force to require a supplement to seat belt protection

If the air bag fails to inflate in a frontal collision, have the air bag system inspected as soon as possible by your Isuzu Dealer

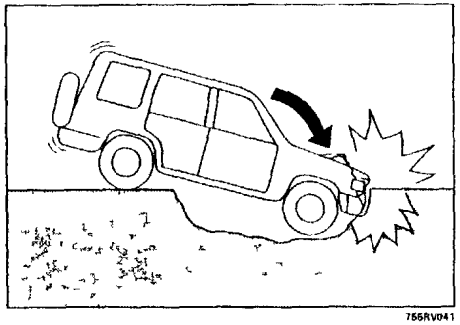
- Depending on the severity of impact, a collision with a pole may or may not activate the air bag



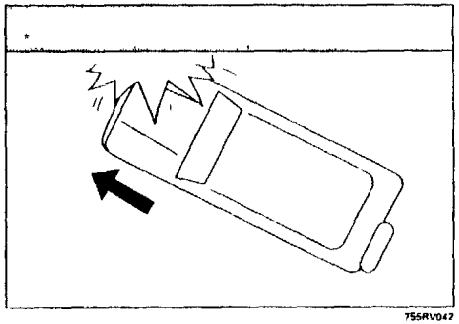
- If your vehicle underrides the bed of a truck, the impact may not be severe enough to activate the system



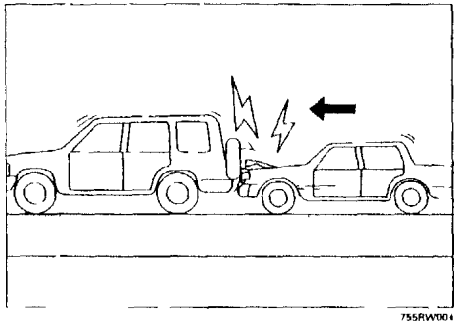
- An impact caused by dropping into a large pothole or depression in the roadway may or may not inflate the air bag



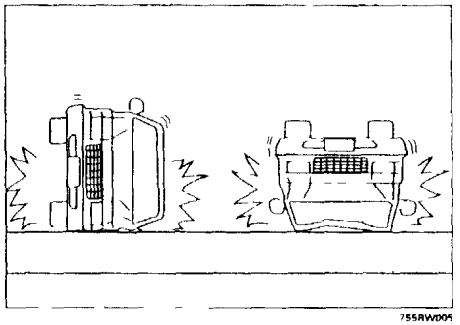
- A frontal angle collision may not inflate the air bag



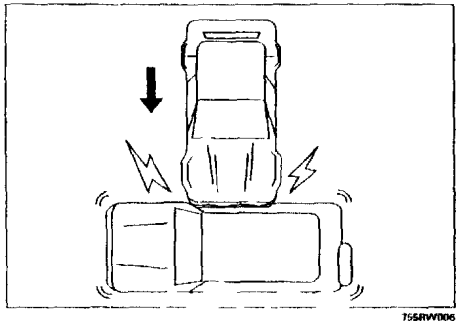
- A rear-end collision may not inflate the air bag



- A rollover may not inflate the air bag



- A side collision may not inflate the air bag



What makes an air bag inflate?
In a frontal or near-frontal impact of sufficient severity, control units strategically located on the vehicle detect that the vehicle is suddenly stopping as a result of a crash The control units complete an electrical circuit, triggering a chemical reaction in the inflator The reaction produces gas in both driver and front passenger sides which inflates a cloth bag The inflator, cloth bag, and related hardware are all part of the air bag inflator modules packed inside the steering wheel and in the instrument panel in front of the passenger

How does an air bag restrain?
In moderate to severe frontal or near-frontal collisions, even belted occupants can contact the steering wheel or the instrument panel The air bag supplements the protection provided by seat belts Air bags distribute the force of the impact more evenly over the occupant's upper body, stopping the occupant more gradually But air bags will not provide protection in many types of collisions, including rollovers and rear and side impacts, primarily because an occupant's motion is not toward the air bag Air bags should never be regarded as anything more than a supplement to seat belt protection in moderate to severe frontal and near-frontal collisions

ISUZU

Supplemental Restraint System (SRS)- Air Bag

C-59

020312

SRS

AIR BAG

What you need to know about air bags

ISUZU

This supplement is a help for you to understand about air bags.
Please refer to the Owner's Manual regarding more detail information.

Supplemental Restraint System [SRS] – Air bag

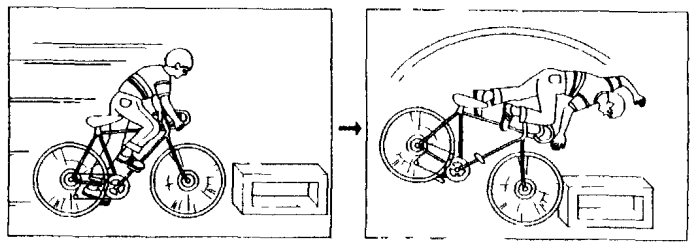
- The SRS – Air bag System – is virtually "supplemental' as the name implies In the event you are involved in a frontal collision, it works together with your seat belts by helping to cushion you and distribute the force of the impact evenly over your head and upper body The SRS will not provide sufficient protection unless you wear a seat belt correctly All occupants must wear seat belts, including the driver
- Traffic accidents occur in various ways The basic system that protects occupants in different types of accidents is a seat belt system
  Be sure to wear your seat belts correctly

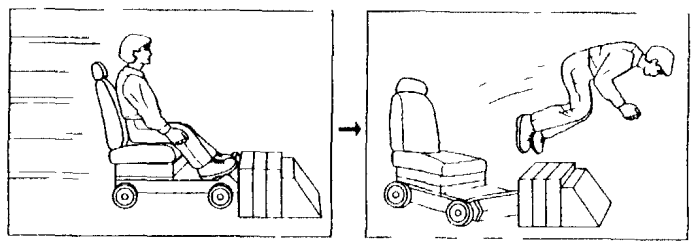
Even when the air bag system works together with the seat belt you wear, the protective effect is still limited

Do not place too much confidence in effectiveness of Air bags Please drive carefully

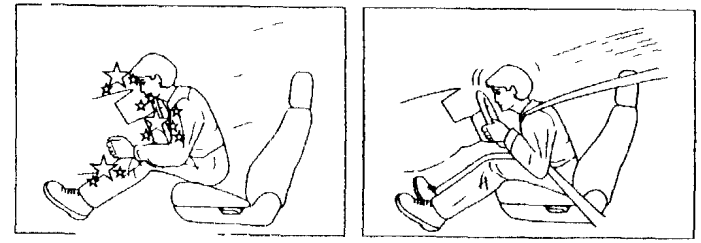
1. Necessity for Seat belt

- As illustrated below, any vehicle moving at high speed comes to a stop when it runs into an obstacle on the road But the rider keeps moving The same applies to automobiles



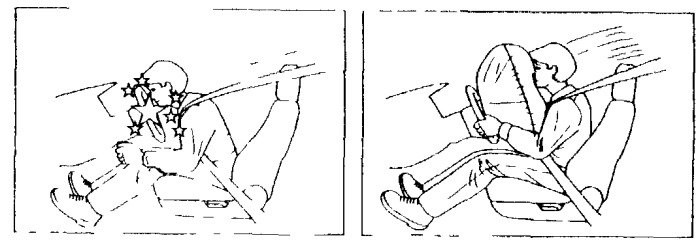


- Left when involved in a collision without wearing a seat belt
  Right when involved in a collision with a seat belt worn



2. Effect of SRS Air bag

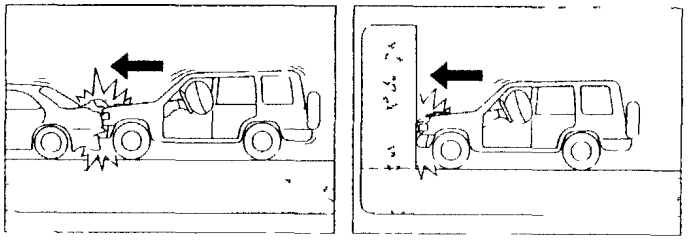
In the event you are involved in a severe frontal collision, even when wearing a seat belt, as illustrated (left), you may hit your face against the steering wheel In such a collision, the SRS Air bag inflates to cushion you, as illustrated (right)



3. When the air bag inflates and does not inflate – You should always wear a seat belt in either case.

(1) When the air bag inflates

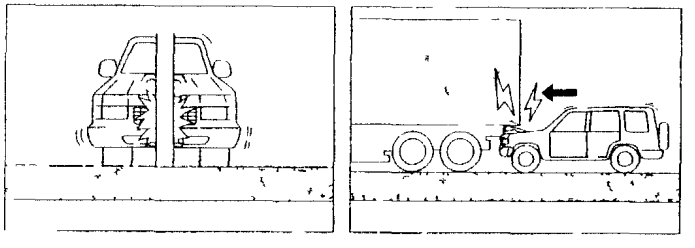
In a frontal collision with either a parked or moving vehicle or certain types of fixed barriers



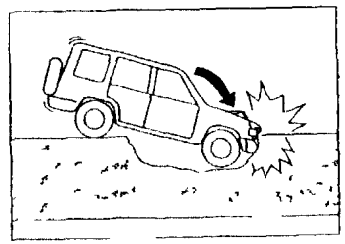
(2) When the air bag may not inflate

In certain types of accidents the air bag may not inflate, even though your vehicle may appear severely damaged This does not mean there is a problem with the air bag, but rather the forces of the collision were insufficient to activate the air bag system In other words, the air bag inflates only in collisions of sufficient force to require a supplement to seat belt protection

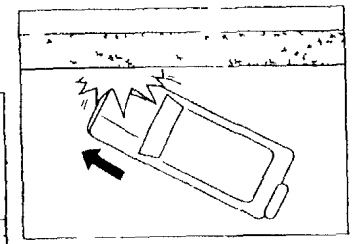
- Depending on the severity of impact a collision with a pole may or may not activate the air bag
- If an automobile underrides the bed of a truck, the impact may not be severe enough to inflate the system



- An impact caused by dropping into a large pothole or depression in the roadway may or may not inflate the air bag

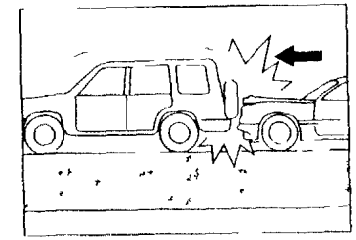


- A frontal angle collision may not inflate the air bag

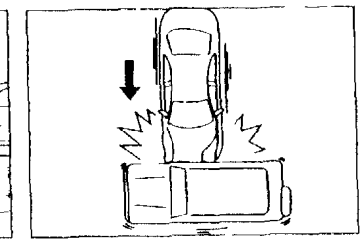


(3) When the air bag does not inflate

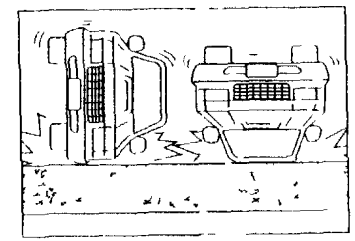
- In a rear-end collision



- In a side collision



- In a rollover

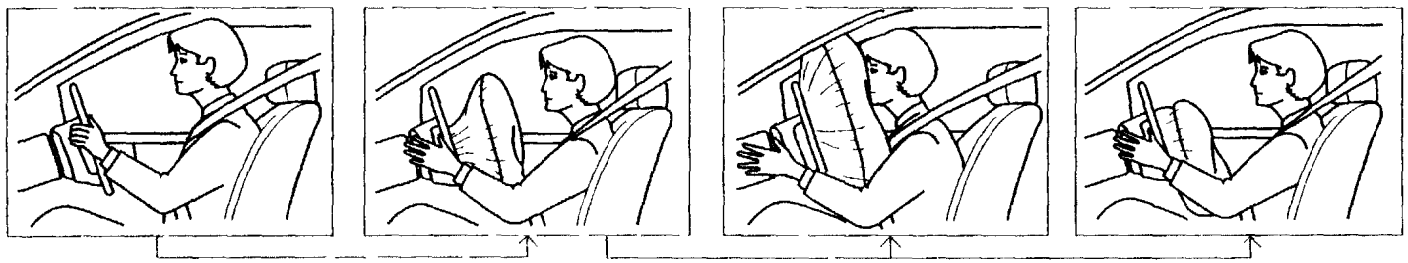


4. When a collision occurs

When a collision occurs, the vehicle rapidly decelerates while its structure absorbs the majority of the crash forces Unbelted occupants continue to move forward at the vehicle's original speed until the vehicle's interior (the steering wheel, instrument panel, windshield, etc) stops their movement Belted occupants come to a more gradual stop by being secured to the vehicle s structure In severe crashes even properly belted occupants may come in contact with the vehicle's interior

Air bags supplement the seat belt by reducing the likelihood that the occupant's head and upper torso will strike some part of the vehicle's interior They also help reduce the risk of serious injury by distributing crash forces more evenly across the occupant's body

When the sensors detect a moderate to severe frontal collision they close an electrical circuit and send a signal to the inflator unit within the air bag module An igniter starts a chemical reaction which produces harmless gas The gas passes through filters and fills the air bag which then bursts through the module cover

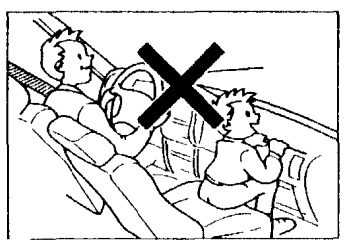


A fraction of a second after sensors in the Supplemental Restraint System [SRS] detect a severe frontal collision the air bag has inflated

As the vehicle decelerates momentum carries the belted driver forward into the waiting air bag which continues to absorb energy as it deflates A moment later, the air bag has deflated

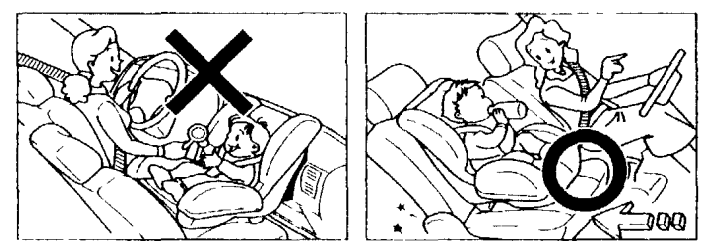
5. Questions and Answers on SRS (Air bag System)

If I have an air bag, do I need to use my seat belt ?
Definitely Although an air bag provides additional protection in certain types of accidents – primarily single frontal collisions – it is still a *supplemental* restraint system It affords no protection in side collisions, repeated collisions or rollovers With both a seat belt and an air bag, you take advantage of all the protection your air bag equipped automobile affords
Always secure children properly in your vehicle
Do not allow a child to stand or kneel on the front passenger's seat Do not hold a child in your lap or hands The inflating air bag could cause serious injuries to the child

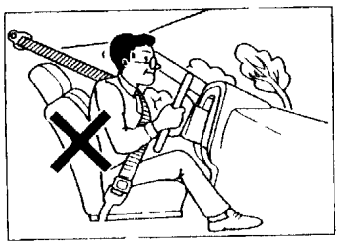


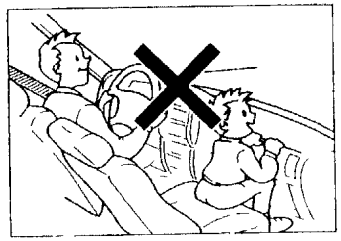
Where there is a passenger's side air bag, does it deploy individually ?
The passenger's side air bag uses the same sensors as the driver s side air bag and an additional sensor of its own However, since it is designed to work only in severe frontal collisions, the same forces that activate the driver's side air bag will also activate the passenger's side air bag

If my vehicle has a passenger's side air bag, do I still have to put my child in a child restraining seat ?
A child who is too small for seat belts should be properly secured in a child restraint However, a child is safer when properly restrained in the rear seat, rather than the front seat Do not put a rear-facing child restraint in the front passenger seat The child could be seriously injured if the air bag deploys If it is absolutely necessary to put a child in a front-facing child restraint in the front passenger seat, the passenger seat should be moved as far back as possible



Can I be injured by the deploying air bag ?
To do its job, the air bag inflates with considerable force So, while it can reduce serious injuries and even save your life, the air bag might cause facial abrasions or other injuries More serious injuries are rare, however, serious or even fatal injuries can occur when a vehicle occupant is very close to, or in direct contact with an air bag module when the air bag deploys Such injuries may be sustained by unconscious passengers who are slumped over the steering wheel unbelted occupants who slide forward in the seat during pre-crash braking, improperly restrained occupants, and even properly restrained drivers who sit very close to the steering wheel





Do my air bags deploy only in an accident which severely damages my vehicle ?
When the frame or suspension of the vehicle strikes an obstacle, resulting in a strong impact the air bag may inflate In any particular crash, the determination of whether the air bag should have inflated cannot be based solely on the level of damage on the vehicle(s) Inflation is determined by the angle of the impact and the vehicle's deceleration, of which vehicle damage is only one indication Repair cost is not a good indictor of whether an air bag should have deployed

What is an air bag made of ?
It is usually made of a strong, but light and compact nylon material

Is there a lot of noise when the air bag deploys ?
Yes, there is a loud noise However many who have been in a collision in which the air bag deployed report not having heard it, probably because the collision itself generates so much noise

Will the noise injure my hearing ?
Detailed air bag investigations have yielded no medical evidence to link air bag deployment to any hearing loss

Can the air bag go off accidentally, e.g., during hard braking, while driving over rough or uneven roads, or by slamming the doors, striking the bumper or pounding on the steering wheel ?
No, the system cannot go off accidentally The sensors that trigger inflation are highly sophisticated and are designed to discriminate between significant frontal impacts and uneven roads, hard braking and less significant impacts

After an air bag deploys, there is smoke in the air Is this harmful ?
No there is no evidence that the smoke and powder are harmful

How many times can an air bag be used ?
Just once After the air bag has been deployed the module must be replaced You must make sure that only an authorized dealer replaces the system

Can I resume driving once the air bag has been deployed ?
The air bag will have deflated and will not be an obstruction, however, a collision severe enough to activate an air bag may also have caused other damage to your vehicle You should have the vehicle inspected, repaired or serviced as soon as possible and the air bag replaced

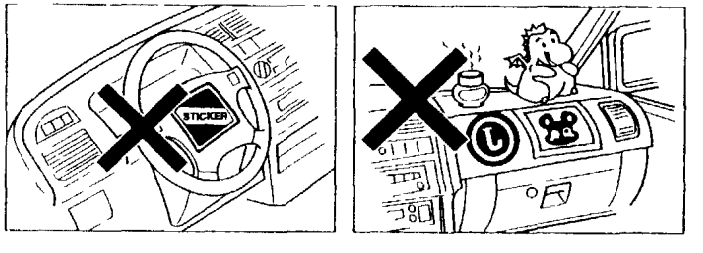
Does the air bag system require any routine maintenance ?
No However, the system should be checked after ten years Otherwise, maintenance or repair is necessary only if the "SRS" indicator light fails to go out a few seconds after you start the vehicle, or the light comes on at some other time If this occurs, consult your Owner's Manual for useful information It may be necessary to go to an authorized dealer for service

Are my air bags effective when my vehicle hits several objects during a collision ?
Air bags are not designed to deploy in side impact, rear or rollover crashes Since air bags deploy only once and begin deflating immediately, they are not likely to be of benefit if a vehicle hits more than one object during the course of a collision Seat belts help reduce the risk of injury in many types of crashes Moreover, they help restrain occupants during the initial collision and any subsequent collision Thus, seat belts should always be worn even in air bag-equipped vehicle

Would it be better to tell anyone who handles my vehicle that mine is an air bag-equipped vehicle ?
Please tell or remind anyone who works on your vehicle that it has the air bag system There are parts of the air bag system in several places around your vehicle You don t want the system to inflate while someone is working on your vehicle The air bag system does not need regular maintenance Your authorized dealer and the Service Manual have information about the air bag system, including repair or disposal

Is there the problem in scrapping the damaged vehicle equipped with air bag(s) ?
Yes, scrapping a damaged vehicle that has an undeployed air bag(s) can be dangerous Ask your authorized Isuzu dealer for assistance if your involvement in the disposal or the repair of the vehicle is required

Will placing any objects on the air bag cover create a problem ?
Yes Don't attach anything to the steering wheel pad or passenger side air bag cover It might injure the occupant if the air bag inflates



Why doesn't the air bag deploy in the minor accident ?

The air bag is designed to inflate only in moderate to severe frontal or near frontal crashes Your seat belt will provide adequate protection in a minor accident Therefore you should always wear your seat belt

What level of an impact is required to activate the air bags ?

It differs depending on the type of collision In the event of a frontal collision with a fixed barrier, such as a strong wall the air bags will deploy at a vehicle speed of 7~15 miles per hour (11~24 Km/h) or higher In the event of a frontal collision with another vehicle or a guardrail (or other energy absorbing materials), the vehicle speed required to activate the air bags is higher than that involving a collision with a fixed barrier (such as a strong wall)

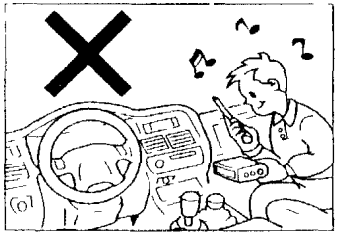
If I add anything to the front of or modify my vehicle, will it have any affect on the air bag system ?

Yes If you add anything to the front of your vehicle (such as a bumper guard or a snow plow) or otherwise modify your vehicle, which changes the frame, the front structure, the front sheet metal or the height of your vehicle, it could prevent the air bag system from working properly Also, the air bag system may not work properly if you remove or relocate any of the air bag sensors

If you have any questions about such modifications to your vehicle, please contact your authorized Isuzu Dealer

WARNING

- For repairs around the steering wheel, instrument panel, or installation of stereo equipment, etc please contact your Isuzu Dealer Such repairs may affect the air bag or cause its accidental inflation, resulting in personal injuries
- The air bag system may not function properly when the vehicle is modified, such as the installation of a bumper guard, snow plow, etc to the front of the vehicle, or altering the frame, front construction, front sheet metal, vehicle height, etc If you plan to make any such modifications, first consult your nearest Isuzu Dealer



seat belt usage

To help lessen the chance of injuries in an accident, all vehicle occupants must be properly restrained at all times during vehicle operation, utilizing the available restraint system. Furthermore, the vehicle is equipped with a Supplemental Restraint System (SRS) - Air Bags - for the driver and right-front passenger to further enhance their safety. This Supplemental Restraint System (SRS) - "Air Bags" may not provide protection for an unbelted driver and right-front passenger. Therefore, always wear your seat belts.
For additional information please review Section 3 (Seats, Seat Belts, Child Restraints and Air Bags).
(Also refer to the supplement, "Supplemental Restraint System (AIR BAG)".

cargo area

Luggage or other cargo should be firmly secured in place. In the event of a sudden stop or an accident, these items could be shifted forward or thrown about, resulting in injuries to the occupants.

Appendix D

Miscellaneous Test Information

Channel Report

3/12/2002 4 14 33 AM

Name of Test 020312 **System** MINIDAU **Name of DAU** DAU8

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal. Date/Status		Group	Mfg.	Model
8001	EVENT	SYNC8	SYNC8		5 12	V	+	11/21/2002	OK	-1	TRC	Event
8002	C13128	HEDYG1	Head Y-Axis Accel	I ft	803 45233	g	-	10/4/2001	OK	339n	Endevco	7231C
8003	C12975	HEDXG1	Head X-Axis Accel	Rwd	804 /2778	g	-	10/4/2001	OK	339n	Endevco	7231C
8004	C14560	HEDZG1	Head Z-Axis Accel	Up	793 76153	g	-	10/4/2001	OK	339n	Endevco	7231C
8005	1716A-1222-FX	NEKXF1	Neck X-Axis Force	Hd Fd	8881 8321	N	-	10/5/2001	OK	339n	Denton	1716A
8006	1716A-1222-FY	NEKYF1	Neck Y-Axis Force	Hd Lt,	8885 9229	N	+	10/5/2001	OK	339n	Denton	1716A
8007	1716A-1222-FZ	NEKZF1	Neck Z-Axis Force	Hd U	13328 002	N	+	10/5/2001	OK	339n	Denton	1716A
8008	1716A-1222-MX	NEKXM1	Neck X-Axis Moment	Rt Ear	282 81553	N m	-	10/5/2001	OK	339n	Denton	1716A
8009	1716A-1222-MY	NEKYM1	Neck Y-Axis Moment	Chn t	282 57832	N m	+	10/5/2001	OK	339n	Denton	1716A
8010	1716A-1222-MZ	NEKZM1	Neck Z-Axis Moment	Chn t	282 74519	N m	+	10/5/2001	OK	339n	Denton	1716A
8011	C14135	CSTXG1	Chest X-Axis Accel	Fwd	398 01304	g	+	10/4/2001	OK	339n	Endevco	7231C
8012	C14317	CSTYG1	Chest Y-Axis Accel	I ft	398 15852	g	-	10/4/2001	OK	339n	Endevco	7231C
8013	C14341	CSTZG1	Chest Z-Axis Accel	Down	398 67627	g	+	10/4/2001	OK	339n	Endevco	7231C
8014	14CB1-2847-339	CSTXD1	Chest Displacement X	Strnm	100 02319	mm	+	10/10/2001	OK	339n	Servo	14CB1-2847
8015	2430T-901	LFMZF1	Left Femur Z-Axis 603	Knee	13351 895	N	+	10/4/2001	OK	339n	GSE	2430T
8016	24301-902	RFMZF1	Right Femur Z-Axis 744	Knee	13353 938	N	+	10/4/2001	OK	339n	GSE	2430T
8017	AD4H9	HFDXG2	Head X-Axis Accel	Rear	806 8583	g		10/4/2001	OK	230n	Endevco	7231C
8018	AD4J7	HEDYG2	Head Y-Axis Accel	Left	788 37152	g	-	10/4/2001	OK	230n	Endevco	7231C
8019	AD4J8	HEDZG2	Head Z-Axis Accel	Up	799 75008	g	-	10/4/2001	OK	230n	Endevco	7231C
8020	1716A-1221-FX	NEKXF2	Neck X-Axis Force	Hd Fd	8908 7889	N	-	10/4/2001	OK	230n	Denton	1716A
8021	1716A-1221-FY	NEKYF2	Neck Y-Axis Force	Hd Lt,	8893 6136	N	+	10/4/2001	OK	230n	Denton	1716A
8022	1716A-1221-FZ	NEKZF2	Neck Z-Axis Force	Hd U	13357 727	N	+	10/4/2001	OK	230n	Denton	1716A
8023	1716A-1221-MX	NEKXM2	Neck X-Axis Moment	Rt Ear	282 12505	N m	-	10/4/2001	OK	230n	Denton	1716A
8024	1716A-1221-MY	NEKYM2	Neck Y-Axis Moment	Chn t	282 44483	N m	+	10/4/2001	OK	230n	Denton	1716A
8025	1716A-1221-MZ	NEKZM2	Neck Z-Axis Moment	Chn t	281 95854	N m	+	10/4/2001	OK	230n	Denton	1716A
8026	ACTR4	CSTXG2	Chest X-Axis Accel	Fwd	399 64095	g	+	10/4/2001	OK	230n	Endevco	7231C
8027	ACTT4	CSTYG2	Chest Y-Axis Accel	Left	400 51316	g	-	10/4/2001	OK	230n	Endevco	7231C
8028	ACTW0	CSTZG2	Chest Z-Axis Accel	Down	399 64095	g	+	10/4/2001	OK	230n	Endevco	7231C
8029	85427-1	CSTXD2	Chest Displacement	Strnm	100 52575	mm	+	10/8/2001	OK	230n	Servo	14CB1-2847
8030	2430T-984	LFMZF2	Left Femur Z-Axis 60	Knee	13332 658	N	+	10/4/2001	OK	230n	GSE	2430T

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8031	2430T-985	RFMZF2	Right Femur Z-Axis 28	Knee	13333 990	N	+	10/4/2001	OK	230n	GSE	2430T
8032	J41117	TLRXG1	LEFT REAR SEAT X-MEMBE	FWD	399 50062	g	+	10/3/2001	OK	-1	Endevco	7264-2000TZ

Channel Report

Name of Test 020312 **System** MINIDAU **Name of DAU** DAU9

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal. Date/Status		Group	Mfg.	Model
9001	AN8Y3	BCLXG1	LEFT FRONT DISC BRAKE C	FWD	1005 0054	g	+	2/19/2002	OK	-1	Endevco	7264-2000TZ
9002	J41118	TRRXG1	RIGHT REAR SEAT X-MEMB	FWD	401 56863	g	+	10/3/2001	OK	-1	Endevco	7264-2000TZ
9003	J29684	BCRXG1	RIGHT FRONT DISC BRAKE	FWD	1007 0810	g	+	12/14/2001	OK	-1	Endevco	7264-2000TZ
9004	J37958	ENGXG1	TOP ENGINE BLOCK	FWD	1023 4883	g	+	11/1/2001	OK	-1	Endevco	7264-2000TZ
9005	J32161	ENGXG2	BOTTOM ENGINE BLOCK	RR	1014 6048	g	-	2/12/2002	OK	-1	Endevco	7264-2000TZ
9006	J41123	DPCXG1	INSTRUMENT PANEL CENTE	FWD	998 75156	g	+	10/3/2001	OK	-1	Endevco	7264-2000TZ
9007	J38775	TRCZG1	REAR TRUNK CENTER LINE	UP	399 57857	g	-	10/23/2001	OK	-1	Endevco	7264 2000TZ

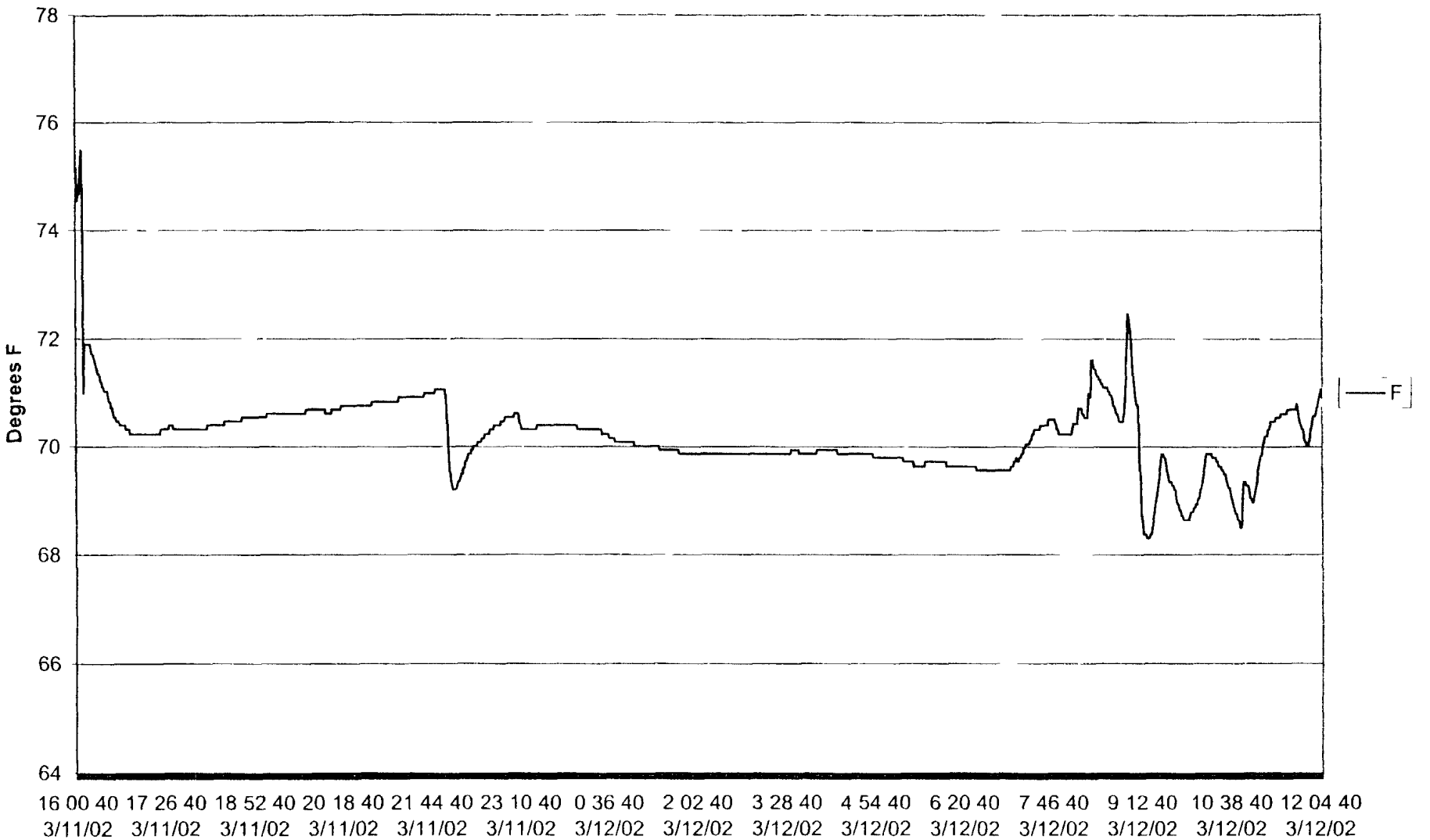
Dummy 339n **Type** HYBRID III 50TH **Description** NHTSA - 339n HYBRID III 50TH CAL DUT 4-3-02 (DKS 10-10-01) J211

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U		Fullscale	Caldate	Pos Output	Flip
HEDXG	Head X Axis Accel	7231C	C12975	Endevco	0 02892	g	750	10/04/2001	Rwd	1
HEDYG	Head Y-Axis Accel	7231C	C13128	Endevco	0 02549	g	750	10/04/2001	Lft	1
HEDZG	Head Z-Axis Accel	7231C	C14560	Endevco	0 02389	g	750	10/04/2001	Up	1
NEKXF	Neck X-Axis Force	1716A	1716A-1222 FX	Denton	0 000197417	N	8896 4	10/05/2001	Hd Fd,Cst Rr	1
NEKYF	Neck Y-Axis Force	1716A	1716A-1222-FY	Denton	0 000191426	N	8896 4	10/05/2001	Hd Lt,Cst Rt	0
NEKZF	Neck Z-Axis Force	1716A	1716A-1222-FZ	Denton	0 00010004	N	13344 6	10/05/2001	Hd Up,Cst Dn	0
NEKXM	Neck X-Axis Moment	1716A	1716A-1222-MX	Denton	0 006116106	N m	282 5	10/05/2001	Rt Ear to Rt Shld	1
NEKYM	Neck Y-Axis Moment	1716A	1716A 1222-MY	Denton	0 006059823	N m	282 5	10/05/2001	Chn to Strnm	0
NEKZM	Neck Z-Axis Moment	1716A	1716A-1222-MZ	Denton	0 008541593	N m	282 5	10/05/2001	Chn to Lt Shld	0
CSTXG	Chest X-Axis Accel	7231C	C14135	Endevco	0 02737	g	750	10/04/2001	Fwd	0
CSTYG	Chest Y-Axis Accel	7231C	C14317	Endevco	0 02736	g	750	10/04/2001	Lft	1
CSTZG	Chest Z-Axis Accel	7231C	C14341	Endevco	0 02335	g	750	10/04/2001	Down	0
CSTXD	Chest Displacement X	14CB1 2847	14CB1 2847-339	Servo	1 137514	mm	100	10/10/2001	Strnm Away Frm Spn	0
LFMZF	Left Femur Z-Axis 603	2430T	2430T-901	GSE	0 000071144	N	13344 7	10/04/2001	Knee Fd,Pel Rr	0
RFMZF	Right Femur Z-Axis 744	2430T	2430T-902	GSE	0 00007035	N	13344 7	10/04/2001	Knee Fd,Pel Rr	0

Dummy 230n **Type** HYBRID III 50TH **Description** NHTSA - 230n HYBRID III 50TH CAL DUE 4-3-02 (DKS 10-10-01) J211

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U		Fullscale	Caldate	Pos Output	Flip
HEDXG	Head X-Axis Accel	7231C	AD4H9	Endevco	0.01983	g	750	10/4/01	Rear	1
HEDYG	Head Y-Axis Accel	7231C	AD4J7	Endevco	0.01968	g	750	10/4/01	Left	1
HEDZG	Head Z Axis Accel	7231C	AD4J8	Endevco	0.0194	g	750	10/4/01	Up	1
NEKXF	Neck X Axis Force	1716A	1716A-1221-FX	Denton	0.000197496	N	8896.4	10/4/01	Hd Fd,Cst Rr	1
NEKYF	Neck Y-Axis Force	1716A	1716A-1221-FY	Denton	0.000191898	N	8896.4	10/4/01	Hd Lt,Cst Rt	0
NEKZF	Neck Z-Axis Force	1716A	1716A-1221-FZ	Denton	0.000100078	N	13344.6	10/4/01	Hd Up Cst Dn	0
NEKXM	Neck X-Axis Moment	1716A	1716A-1221-MX	Denton	0.006151858	N m	282.5	10/4/01	Rt Ear to Rt Shld	1
NEKYM	Neck Y Axis Moment	1716A	1716A-1221-MY	Denton	0.006042478	N m	282.5	10/4/01	Chn to Strnm	0
NEKZM	Neck Z-Axis Moment	1716A	1716A-1221-MZ	Denton	0.008606018	N m	282.5	10/4/01	Chn to Lt Shld	0
CSTXG	Chest X Axis Accel	7231C	ACTR4	Endevco	0.01971	g	750	10/4/01	Fwd	0
CSTYG	Chest Y Axis Accel	7231C	ACTT4	Endevco	0.01908	g	750	10/4/01	Left	1
CSTZG	Chest Z Axis Accel	7231C	ACTW0	Endevco	0.01971	g	750	10/4/01	Down	0
CSTXD	Chest Displacement	140 B1-2847	85427-1	Servo	1.1445444	mm	100	10/8/01	Strnm Away Frm Spn	0
LFMZF	Left Femur Z-Axis 60	2430T	2430T-984	GSE	0.000071512	N	13344	10/4/01	Knee Fd,Pel Rr	0
RFMZF	Right Femur Z-Axis 28	2430T	2430T-985	GSE	0.000069436	N	13344	10/4/01	Knee Fd Pel Rr	0

Occupant Compartment Temperature Data Test No. 020312



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