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212-TRC-95-004
301-TRC-95-004

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

Chrysler Corporation
1995 Chrysler New Yorker
NHTSA Number: CS0307
TRC Test Number: 941216

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



January 3, 1995

Final Report

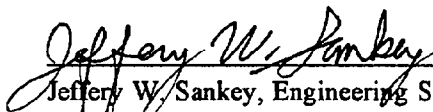
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400 Seventh Street, S.W., Room No. 6115
Washington, DC 20590

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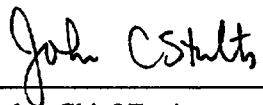
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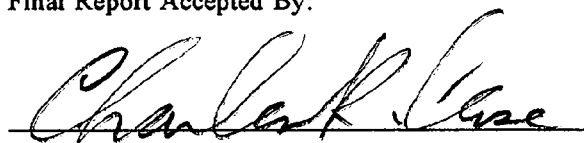
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16. Abstract A 30 mph flat frontal barrier impact test was conducted on a 1995 Chrysler New Yorker, NHTSA No. CS0307, at Transportation Research Center Inc. on December 16, 1994. This test was conducted to determine compliance with Federal Motor Vehicle Safety Standards: FMVSS 208, "Occupant Crash Protection"; 212, "Windshield Mounting"; 219 (partial), "Windshield Zone Intrusion"; and 301 "Fuel System Integrity." The barrier impact velocity was 29.6 mph. The vehicle's maximum static crush was 18.9 inches. The ambient temperature was 72° F. The driver's head injury criteria (HIC) was 525. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 47.8 g. The driver's chest maximum deflection was 0.7 inches. The driver's left and right femur maximum axial forces were 1379 pounds and 1487 pounds, respectively. The passenger's HIC was 370. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 51.8 g. The passenger's chest maximum deflection was 0.7 inch. The passenger's left and right femur maximum axial forces were 1402 pounds and 1730 pounds, respectively. The vehicle appears to comply with the applicable requirements of FMVSS 208, 212, 219 (partial), and 301.			
17. Key Words Frontal Impact 30 mph Vehicle Safety Compliance Testing: FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Mounting" FMVSS 219 (partial), "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity"		18. Distribution Statement Available from: NHTSA Technical Reference Division Room 5108, (NAD-52) 400 Seventh Street, S.W. Washington, DC 20590 Attn: Mr. Robert Hornickle	
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METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft ³	cubic feet	0.03	cubic meters	m ³
yd ³	cubic yards	0.76	cubic meters	m ³
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

* 1 in = 2.54 exactly. For other exact conversions, see more detailed tables, see NIST Mon., Publ. 286, Units of Weights and Measures, Price \$2.25, SO Labeled, No. C13.10.286.

Approximate Conversions from Metric Measures

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

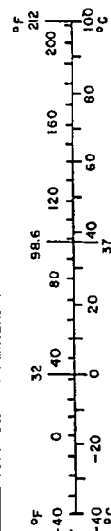


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Section 1.0

Purpose and Test Procedure

Purpose

This 30 mph flat frontal barrier impact test is part of the Federal Motor Vehicle Safety Standards (FMVSS) 208, 212, 219 (partial), and 301 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by the Transportation Research Center Inc. (TRC) under Contract No. DTNH22-93-D-01089. The purpose of this test was to determine if the subject vehicle, a 1995 Chrysler New Yorker 4-door sedan, NHTSA No. CS0307, meets the performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219 (partial), "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity," in the flat frontal barrier impact mode.

Test Procedure

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

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

The test vehicle contained two (2) Part 572 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 C of the Laboratory Test Procedure.

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations, and with left and right femur load cells to measure axial forces. Each Part 572 E dummy's instrumentation also included a chest potentiometer to measure longitudinal deflection.

The twenty-six (26) data channels were multiplexed and recorded on a 14-track tape drive. The data was digitally sampled at 12,500 samples per second and processed per Sections 11.13 through 11.15 of the Laboratory Test Procedure.

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

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

Section 2.0

Frontal Barrier Impact Test Summary

Test Results Summary

This flat frontal barrier test was conducted at TRC on December 16, 1994.

The test vehicle, a 1995 Chrysler New Yorker 4-door sedan, NHTSA No. CS0307, appeared to comply with the performance requirements of FMVSS 208, 212, 219 (partial), and 301 in the flat frontal barrier impact mode. The Head Injury Criteria (HIC) calculations were less than 1000, the chest resultant accelerations did not exceed 60 g's, and the compressive forces transmitted through the upper legs did not exceed 2,250 pounds as measured by Part 572 E dummies seated in the front outboard designated seating positions. For each Part 572 E dummy the chest deflection did not exceed 3.0 inches. The vehicle's restraint system met the applicable comfort and convenience requirements. The windshield periphery retention was 100 percent. There was no penetration into any portion of the windshield. No fluid spilled from the vehicle's fuel system following the impact or during the static rollover test.

The test vehicle was equipped with airbags at the driver's and right front passenger's seating positions. The vehicle's test weight was 3978 pounds. The vehicle's impact speed was 29.6 mph. The vehicle's maximum static crush was 18.9 inches.

The driver's HIC was 525. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 47.8 g. The driver's chest maximum deflection was 0.7 inches. The driver's left and right femur maximum compressive forces were 1379 pounds and 1487 pounds, respectively.

The right front passenger's HIC was 370. The right front passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 51.8 g. The right front passenger's chest maximum deflection was 0.7 inches. The right front passenger's left and right femur maximum compressive forces were 1402 pounds and 1730 pounds, respectively.

There was no loss of windshield periphery retention and no penetration through the windshield. Following the impact, no fluid spilled from the vehicle's fuel system prior to the static rollover test or during any portion of the static rollover test.

Data Acquisition Explanations

The left brake caliper X-axis accelerometer, BCLXG1, lost data from 70 to 89 milliseconds as a result of the vehicle's crush pinching the accelerometer cable.

The engine bottom X-axis accelerometer, ENGXG2, lost data from 73 to 75 milliseconds as a result of vehicle components striking the accelerometer cable during the vehicle's crush.

Table 1 Crash Test Summary

NHTSA number:	CS0307
Test type:	Frontal barrier impact
Test date:	12/16/94
Test time:	1500
Ambient temperature at impact area:	72° F
Vehicle year/make/ model/body style:	1995/Chrysler/New Yorker/4-door sedan
Vehicle test weight:	3978 lb
Impact angle ¹ :	0°
Impact velocity ² :	
Primary:	29.6 mph
Secondary:	29.6 mph
Maximum static crush:	18.9 in
Average rebound:	16.4 in
Number of cameras:	
Real-time:	2
High-speed:	14
Door opening data:	
Left-front:	Easy
Right-front:	Easy
Left-front:	Easy
Right-front:	Easy

¹ With respect to tow track centerline.

² Speed trap measurement ($\pm$.05 mph accuracy)

Table 1 Crash Test Summary, Cont'd.

Dummies:	<u>Driver #229</u>	<u>Passenger #230</u>
Type:	Part 572 E	Part 572 E
Location:	Left front	Right front
Restraint:	Airbag	Airbag
Number of data channels:	9	9
Front seat data:		
Seat track failure:	None	None
Seat back failure:	None	None
Visible dummy contact points:		
Head:	Airbag, Visor, Head	Airbag, Visor, Head
Chest:	Airbag	Airbag
Abdomen:	None	None
Left knee:	Instrument panel	Instrument panel
Right knee:	Instrument panel	Instrument panel

Table 2 Test Vehicle Information

Vehicle year/make/
model/body style: 1995/Chrysler/New Yorker/4-door sedan

Color: Black

VIN: 2C3HC46F2SH551448

NHTSA number: CS0307

Engine data:

Placement: Longitudinal/inline

Cylinders: 6

Displacement: 3.5 liters

Transmission data: 4 speed, manual, X automatic, X overdrive

Final drive: X fwd, rwd, 4wd

Date vehicle received: 11/23/94

Odometer reading: 45

Dealer's name
and address: Brandeberry Chrysler Plymouth Dodge
955 North Main Street
Urbana, OH 43078

Accessories:

Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	Yes
Power seats	Yes	Tilting steering wheel	Yes
Power windows	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	Yes
Clock	Yes	Rear window defroster	Yes
Power door locks	Yes	Other	Aluminum wheels

Certification data from vehicle's label:

Vehicle manufactured by: Chrysler Corporation

Date of manufacture: 10/94

VIN: 2C3HC46F2SH551448

GVWR: 4693 lb

GAWR: Front: 2652 lb

Rear: 2091 lb

Table 2 Test Vehicle Information, Cont'd.

Size of tires on vehicle: P225/60R16

Tire pressure with maximum
capacity vehicle load:

Front: 44 psi

Rear: 44 psi

Spare tire: Space saver

Type of front seats: Bench

Tire & capacity data from vehicle's label:

Recommended tire size: P205/70R15

Recommended cold tire pressure:

Front: 30 psi

Rear: 30 psi

Designated seating capacity:

Front 3

Rear 3

Total 6

Vehicle capacity weight: 1015 lbs.

Test vehicle attitudes:

Delivered attitude: LF: 29.0 in. RF: 28.9 in LR: 28.9 in RR: 28.7 in

Fully loaded attitude: LF: 28.5 in RF: 28.4 in LR: 27.8 in RR: 27.5 in

Pre-test attitude: LF: 28.5 in RF: 28.5 in LR: 27.8 in RR: 27.5 in

Table 2 Test Vehicle Information, Cont'd.

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

Right front	1126	lb	Right rear	624	lb
Left front	1149	lb	Left rear	647	lb
Total front weight	2275	lb	(64.2% of total vehicle weight)		
Total rear weight	1271	lb	(36.8% of total vehicle weight)		
Total delivered weight	3546	lb			

Calculation of test vehicle's target test weight:

RCLW = Rated Cargo and Luggage Weight

UDW = Unloaded Delivered Weight (3546 lb)

VCW¹ = Vehicle Capacity Weight (1015 lb)

DSC = Designated Seating Capacity (6)

RCLW = VCW - 150 (DSC) = 1015 - 150(6) = 115 lb

Target test weight = UDW + RCLW + (Number of Hybrid III dummies
x 167 lb per dummy)

Target test weight = 3546 + 115 + 334 = 3995 lb

Weight of test vehicle with required dummies and 98 lb of cargo weight:

Right front	1184	lb	Right rear	786	lb
Left front	1203	lb	Left rear	805	lb
Total front weight	2387	lb	(60.0% of total vehicle weight)		
Total rear weight	1591	lb	(40.0% of total vehicle weight)		
Total test weight	3978	lb	(0.4% under target test weight)		

Weight of ballast secured in vehicle cargo area: 60 lb

Components removed to meet target test weight: None

CG rearward of front wheel centerline: 45.4 in

Vehicle Wheelbase: 113.4 in

¹ From vehicle's tire load label

Table 3 Post-Impact Data

Test number: 941216
NHTSA number: CS0307
Test date: 12/16/94
Test time: 1500
Test type: Frontal barrier impact
Impact angle: 0°
Ambient temperature
at impact area: 72° F
Temperature in
occupant compartment: 68° F
Impact velocity:
Primary: 29.6 mph
Secondary: 29.6 mph
Specified range: 28.9 to 29.9 mph

Distance from vehicle to barrier:

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

Test vehicle static crush:

Overall length of test vehicle:

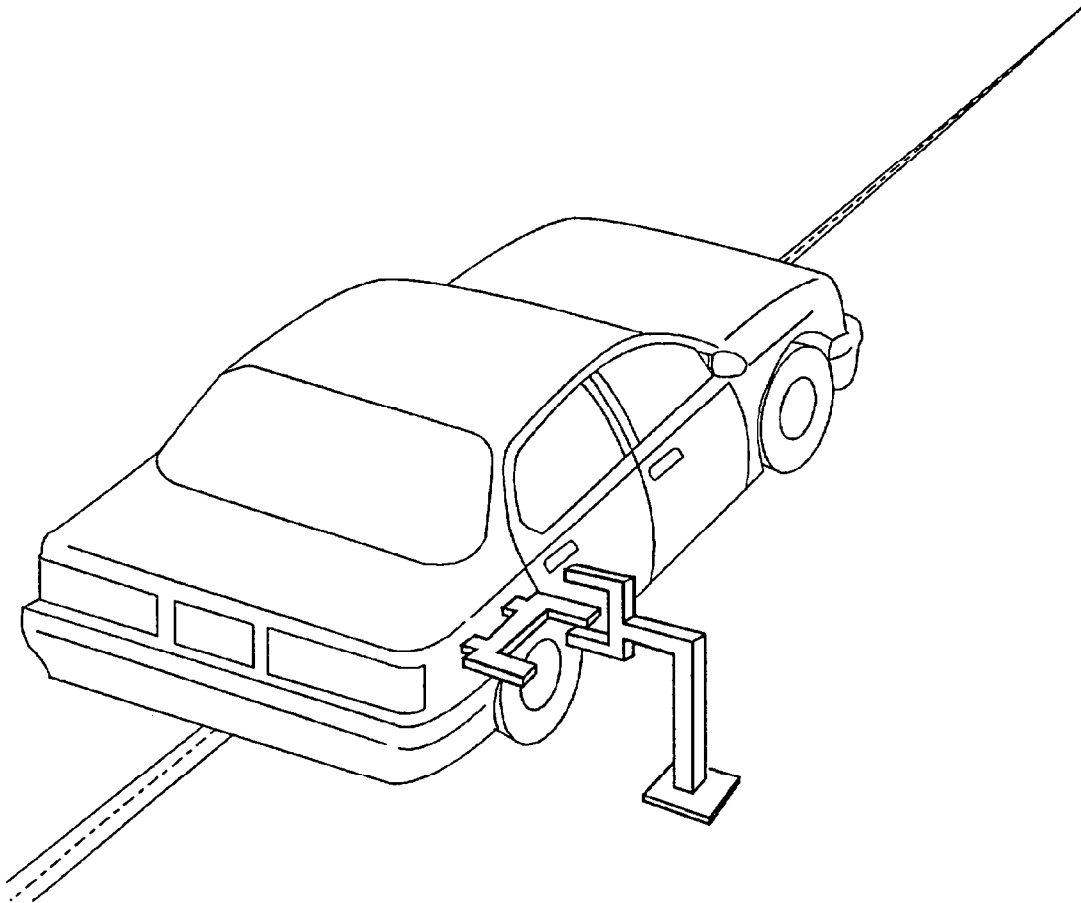
Pre-test:	L:	200.0 in	C:	207.5 in	R:	199.8 in
Post-test:	L:	186.1 in	C:	188.6 in	R:	186.4 in
Total crush:	L:	13.9 in	C:	18.9 in	R:	13.4 in
Average crush:		15.4 in				

Test vehicle rebound from flat barrier:

Distance from test vehicle to barrier:

Post-test:	L:	17.1 in	C:	14.6 in	R:	17.6 in
Average rebound:		16.4 in				

Figure 1 Impact Velocity Measurement System



The final vane clears emitter/receiver two inches before impact.
The vanes have a one-foot spacing.

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

NHTSA number: CS0307
 Test date: 12/16/94
 Vehicle year/make/
 model/body style: 1995/Chrysler/New Yorker/4-door sedan
 Vehicle size category: Large
 VIN: 2C3HC46F2SH551448
 Build date: 10/94
 Test weight: 3978 lb
 Vehicle wheelbase: 113.4 in
 Maximum width: 74.5 in
 Front overhang: 45.5 in

Collision Deformation

Classification (CDC) Code: 12FDEW2

Crush depth
 measurements:

C1:	13.9 in
C2:	16.4 in
C3:	18.5 in
C4:	18.1 in
C5:	16.1 in
C6:	13.4 in

Midpoint of damage: D: Vehicle Longitudinal Centerline

Length of damaged
 region:

L:	60.0 in
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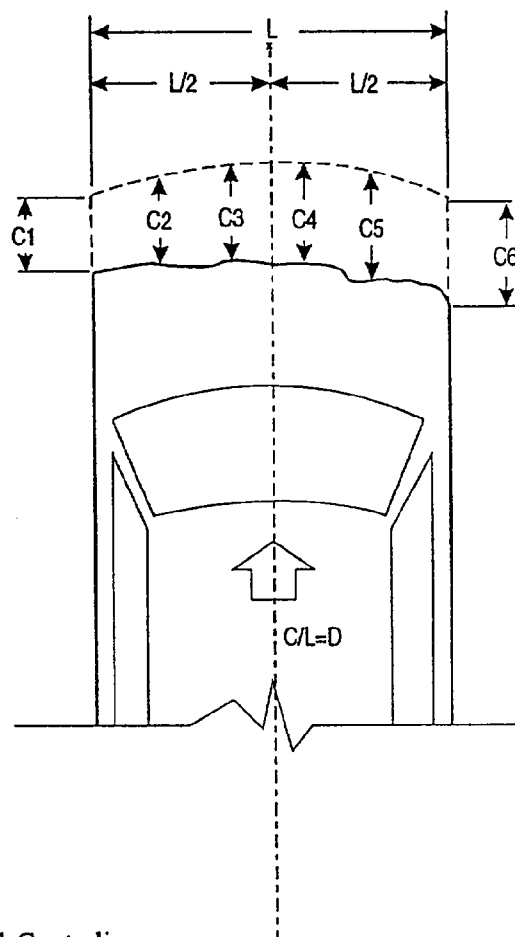


Table 4 Post-test Airbag Data

NHTSA number: CS0307
Test date: 12/16/94
Technician: R. Branham, B. Crabtree
Vehicle year/make/
model/body style: 1995/Chrysler/New Yorker/4-door sedan

A. Number of airbag vent holes:

Driver: 0
Passenger: 0

B. Size of airbag vent holes:

Driver: NA
Passenger: NA

C. Total airbag vent area:

Driver: NA
Passenger: NA

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

Driver:	Length	NA
	Width	NA
	Diameter	20.0 in
Passenger:	Length:	26.0 in
	Width:	21.0 in
	Diameter:	NA

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

E. Is the airbag tethered?

Driver: Yes

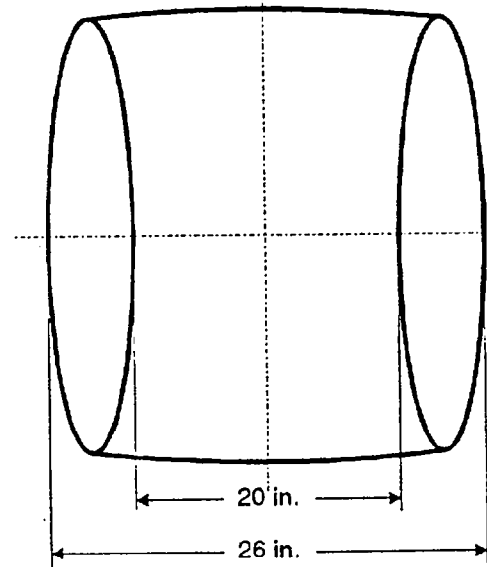
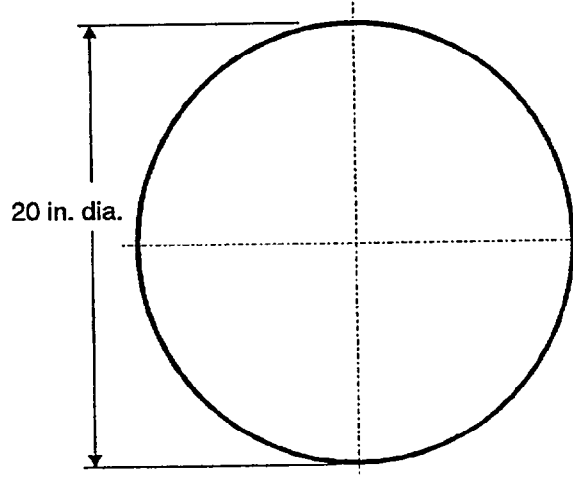
If yes, record length of tether: 7.0 inches

Passenger: Yes

If yes, record length of tether: 13 inches

Driver's airbag:

Passenger's airbag:

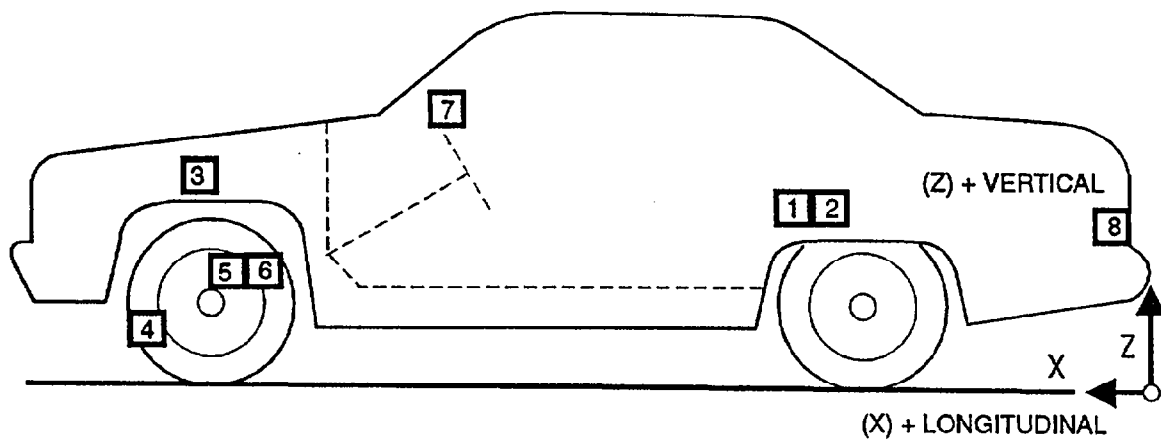


F. Airbag and gas generator part numbers and manufacturer's names.

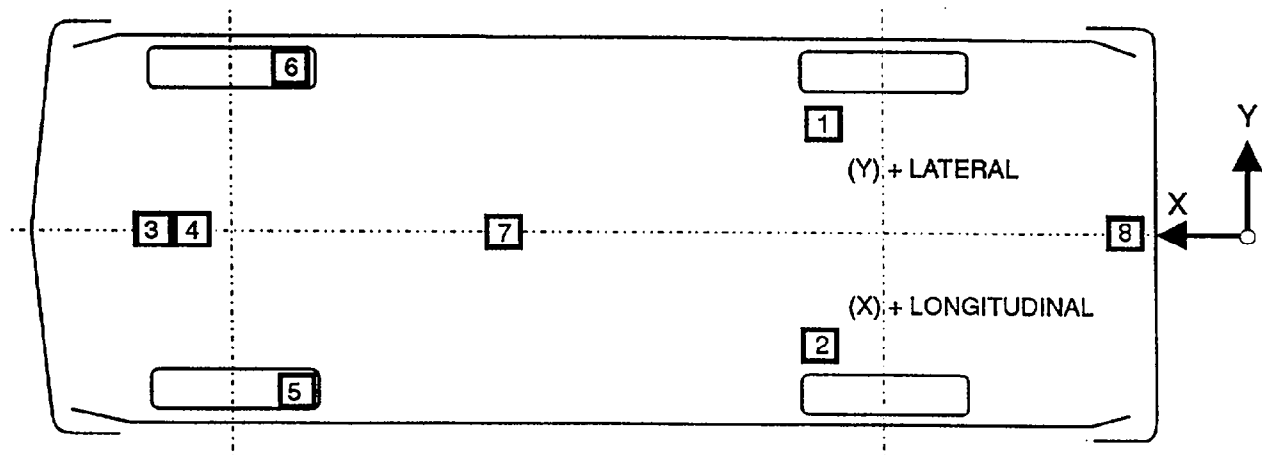
Driver: Mfr.: NA; Airbag: PUT123324-016; Gen: CBF9E9U3ZBXM

Passenger: Mfr.: NA; Airbag: 0464901438657E; Gen: CDZE9E2HAHS

Figure 3 Vehicle Accelerometer Placement



SIDE VIEW



BOTTOM VIEW

Table 5 Vehicle Accelerometer Locations and Data Summary

TEST NUMBER: CS0307 No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 LEFT REAR SEAT CROSSMEMBER LONGITUDINAL	PRE 83.0 in POST 83.6 in	22.6 in 21.2 in	14.1 in 16.0 in	1.3 g @ 133.8 ms	29.0 g @ 57.3 ms
2 RIGHT REAR SEAT CROSSMEMBER LONGITUDINAL	PRE 83.4 in POST 83.6 in	-23.4 in -24.2 in	13.8 in 16.0 in	1.7 g @ 143.1 ms	27.8 g @ 58.0 ms
3 ENGINE TOP LONGITUDINAL	PRE 179.0 in POST 169.8 in	-10.4 in -10.8 in	28.9 in 32.6 in	35.9 g @ 50.8 ms	110.8 g @ 38.6 ms
4 ENGINE BOTTOM LONGITUDINAL ¹	PRE 176.3 in POST 169.2 in	0.3 in 0.0 in	7.0 in 9.6 in	---	---
5 RIGHT BRAKE CALIPER LONGITUDINAL	PRE 165.5 in POST 160.8 in	-26.5 in -27.0 in	11.7 in 11.2 in	30.8 g @ 76.0 ms	65.4 g @ 56.7 ms
6 LEFT BRAKE CALIPER LONGITUDINAL ¹	PRE 165.9 in POST 161.2 in	26.5 in 26.5 in	11.5 in 11.1 in	---	---
7 INSTRUMENT PANEL CENTER LONGITUDINAL	PRE 144.2 in POST 144.9 in	0.0 in 0.0 in	37.6 in 41.2 in	68.1 g @ 41.2 ms	53.6 g @ 37.4 ms
8 VEHICLE REAR CENTER VERTICAL	PRE 11.4 in POST 11.4 in	0.0 in 0.0 in	17.0 in 19.2 in	11.7 g @ 29.1 ms	21.5 g @ 34.8 ms

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

¹See DATA ACQUISITION EXPLANATIONS

Section 3.0

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

Table 6 Dummy Injury Criteria

Maximum Acceleration							
	Head				Chest		
	X	Y	Z	R	X	Y	Z
Driver	-70.1 g	-15.8 g	23.5 g	71.2 g	-48.6 g	-8.0 g	-10.6 g
Passenger	-55.5 g	-9.8 g	-26.1 g	55.7 g	-51.8 g	-2.8 g	-18.4 g

Maximum Femur Compressive Force		
	Left Femur	Right Femur
Driver	1379 lbf	1487 lbf
Passenger	1402 lbf	1730 lbf

Head Injury Criteria ¹			
	HIC	Time t_1	Time t_2
Driver	525	70.2 ms	98.1 ms
Passenger	370	71.8 ms	107.8 ms

Chest Maximum Resultant Acceleration ²			
	Accelerometer	Time t_1	Time t_2
Driver	47.8 g	85.1 ms	88.2 ms
Passenger	51.8 g	80.6 ms	83.6 ms

Maximum Chest Deflection	
Driver	0.7 in
Passenger	0.7 in

¹ As defined in FMVSS No. 208

² Defined as equal to or exceeding 0.003 sec. duration

Dummy Kinematic Summary

Driver Dummy

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

Right Front Passenger Dummy

Upon impact, the right front passenger dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's head rotated rearward as the dummy was restrained by the passenger's airbag. The dummy's head rotated forward as the dummy rebounded into the seat back and head restraint. The dummy came to rest seated in the right front passenger's seat.

Table 7 FMVSS 208 Seat Belt Comfort and Convenience Test Summary

Front Outboard Designated Seating Positions

NHTSA number: CS0307

Vehicle model year/make/model/body style: 1995/Chrysler/New Yorker/4-door sedan

Date of comfort/convenience check: 12/16/94

Technician performing check: Sankey

GVWR: 4693 lb

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

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

Vehicle Equipment:

The vehicle's front outboard seating positions were equipped with manual type 2 seat belts which must comply with the dynamic test requirements of S5.1. - 7.4.2, 7.4.3, 7.4.4, 7.4.5, and 7.4.6.

Convenience Hooks (S7.4.1):

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

Table 7 FMVSS 208 Seat Belt Comfort and Convenience Test Summary
Front Outboard Designated Seating Positions, Cont'd.

NHTSA number: CS0307

Vehicle model year/make/model/body style: 1995/Chrysler/New Yorker/4-door sedan

Date of comfort/convenience check: 12/16/94

Technician performing check: Sankey

GVWR: 4693 lb

Webbing Tension-Relieving Device (S7.4.2):

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

Belt Contact Force (S7.4.3):

The belt contact force on the chest of the test dummy is 0.5 pounds.

Latchplate Access (S7.4.4):

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

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

Retraction (S7.4.5):

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

Table 7 FMVSS 208 Seat Belt Comfort and Convenience Test Summary

Front Outboard Designated Seating Positions, Cont'd.

NHTSA number: CS0307

Vehicle model year/make/model/body style: 1995/Chrysler/New Yorker/4-door sedan

Date of comfort/convenience check: 12/16/94

Technician performing check: Sankey

GVWR: 4693 lb

Seat Belt Guides and Hardware (S7.4.6):

The seat cushion is not removable so the seat back serves a function other than seating.

The seat is not removable.

The seat is not movable so the space formerly occupied by the seat can be used for a secondary function.

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

The restraint system does not provide guides.

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

Table 8 FMVSS 208 Equipment Data

FMVSS 208 Seat Belt Warning System Data

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

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

NOTE: the audible warning should not operate.

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

Table 8 FMVSS 208 Equipment Data, Cont'd.

FMVSS 208 Labeling and Driver's Manual Data

The labels which describe the manufacturer's maintenance or replacement schedule for the crash-deployed occupant protection system were located on the driver's and passenger's sun visors.

Have vehicle checked by an authorized dealer if airbag readiness light does not come on when vehicle is started, stays on, or comes on when driving.

Appropriate instructions concerning maintenance and/or replacement of this system were provided in the owner's manual on pages 25 and 57.

A description of the functional operation of the system was provided in the owner's manual on pages 24, 25, and 27.

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

An owner's manual was provided.

The owner's manual contained appropriate information concerning maintenance and/or replacement and a description of the functional operation of the systems on pages 25, 27, and 57.

Table 8 FMVSS 208 Equipment Data, Cont'd.

FMVSS 208 Readiness Indicator Data

The vehicle contained a crash-deployed occupant protection system which was not totally mechanical. The readiness indicator was a light stating "airbag" located on the lower left portion of the instrument cluster.

The readiness indicator was clearly visible to the driver.

A list of the elements in the occupant restraint system, being monitored by the readiness indicator was provided in the owner's manual on page 26.

All rear outboard seating positions had Type 2 seat belts.

Figure 4 FMVSS 212 Test Data

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

Plastic trim around outer perimeter and adhesive around inner perimeter.

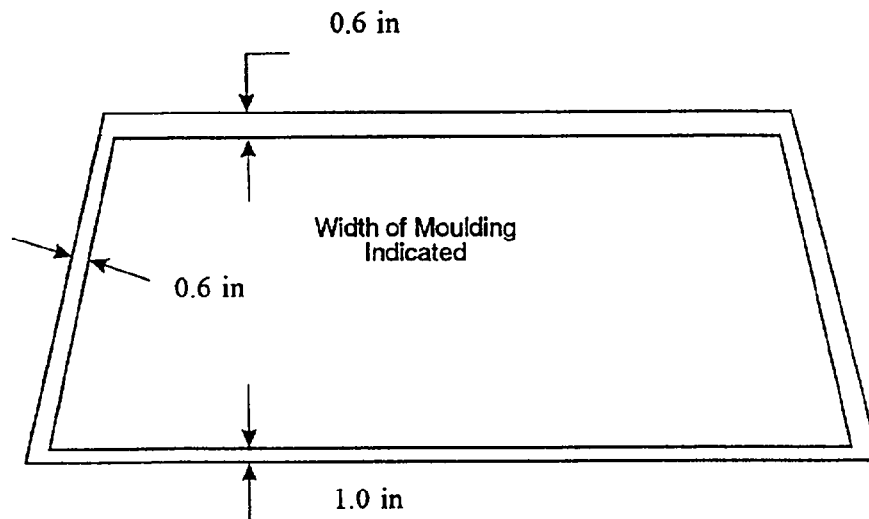
Clips or brackets used to retain windshield: None

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

Windshield periphery measurements:

	Pre-test	Post-test	Percent Retention
Right side	89.6 in	89.6 in	100.0
Left side	89.6 in	89.6 in	100.0
Total	179.2 in	179.2 in	100.0

Pre-test windshield mounting material temperature: 68° F



Front view of windshield¹

Loss of windshield retention lengths: None

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

Figure 5 FMVSS 219 Test Data

Protected zone lower edge requirement:

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

Windshield measurements:

A: 49.2 in

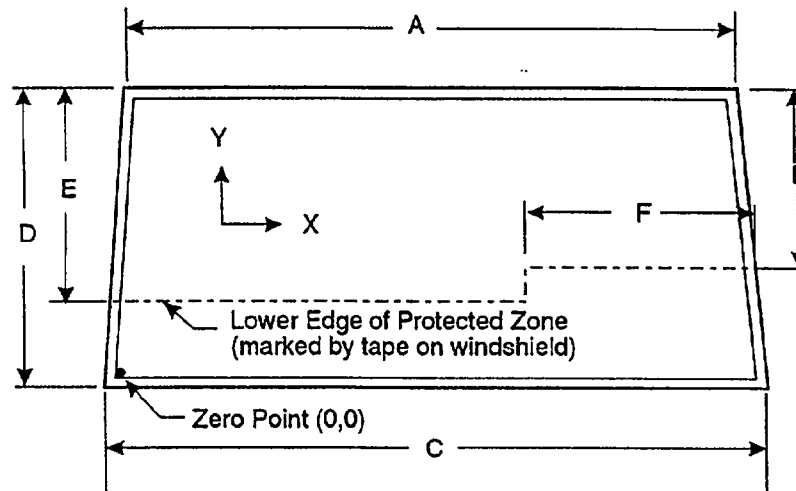
B: 18.0 in

C: 69.2 in

D: 32.1 in

E: 19.9 in

F: 27.1 in



FRONT VIEW

Method of adhering protected zone template to windshield:

NA

Areas of windshield template penetration greater than 0.25 in:

NA

Coordinates

X Y

- 1.
- 2.
- 3.

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield:

None

- 1.
- 2.
- 3.

Table 9 Fuel System Data

Vehicle year/make/ model/body style:	1995/Chrysler/New Yorker/4-door sedan
NHTSA number:	CS0307
Fuel system capacity:	18.0 gal (from owner's manual)
Usable capacity:	18.0 gal (furnished by COTR)
Test volume range:	16.6 gal to 16.9 gal (92-94% of usable)
Actual test volume:	16.7 gal (with entire fuel system filled)
Test fluid type:	Stoddard solvent
Specific gravity:	0.764
Kinematic viscosity:	0.99 centistokes
Test fluid color:	purple
Type of fuel pump:	electric

The electric fuel pump does not operate with ignition switch "on" and the engine not operating.

Details of fuel system:

The fuel tank is located in front of the rear axle. The fuel filler neck is located on the right side.

Table 10 FMVSS 301 Post-Impact Test Data

NHTSA number: CS0307
Test date: 12/16/94
Vehicle year/make/
model/body style: 1995/Chrysler/New Yorker/4-door sedan

Test requirements:

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

Test vehicle impact type:

- ☒ Frontal (30 mph)
☐ Oblique (30 mph) with ___° barrier face first contacting (driver's/passenger's) side
☐ Rear moving barrier (30 mph)
☐ Lateral moving barrier (20 mph)

Fuel system fluid spillage measurements:

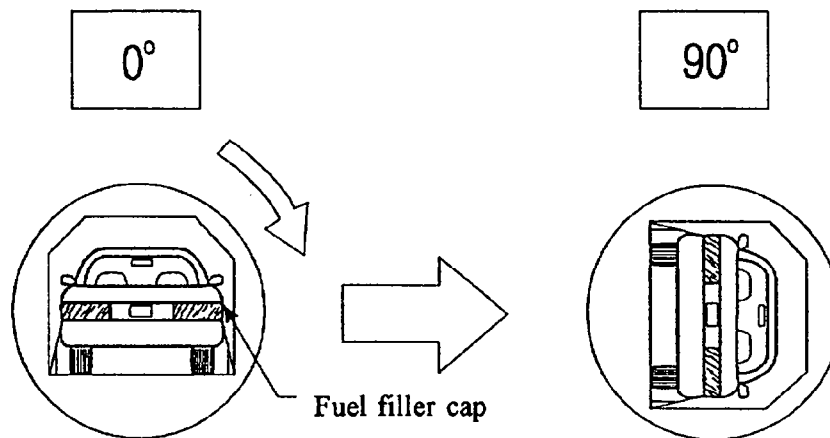
	Test Results	Maximum Allowable
1. From impact until vehicle motion ceases	0 oz	1 oz
2. 5-Minute period after vehicle motion ceases	0 oz	5 oz
3. Next 25 minutes after 5-minute period	0 oz	1 oz/1 min

Fuel system fluid spillage location(s): None

Figure 6 FMVSS 301 Static Rollover Test Data

NHTSA number: CS0307

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

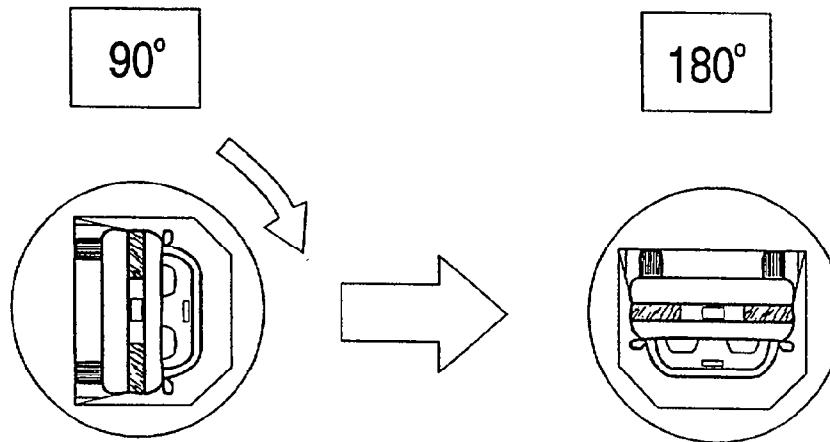
Fuel system fluid spillage measurements:

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

Fuel system fluid spillage location(s): None

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

Test phase



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

Time required for machine to rotate 90° = 2 minutes, 0 seconds

FMVSS 301 position hold time = 5 minutes, 0 seconds

Total = 7 minutes, 0 seconds

Next whole minute interval = 14 minutes

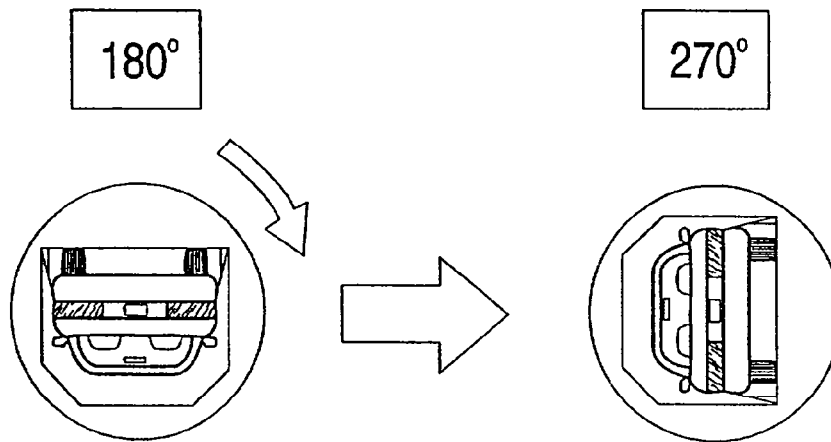
Fuel system fluid spillage measurements:

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

Fuel system fluid spillage location(s): None

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

Test phase



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

Time required for machine to rotate 90° = 2 minutes, 0 seconds

FMVSS 301 position hold time = 5 minutes, 0 seconds

Total = 7 minutes, 0 seconds

Next whole minute interval = 21 minutes

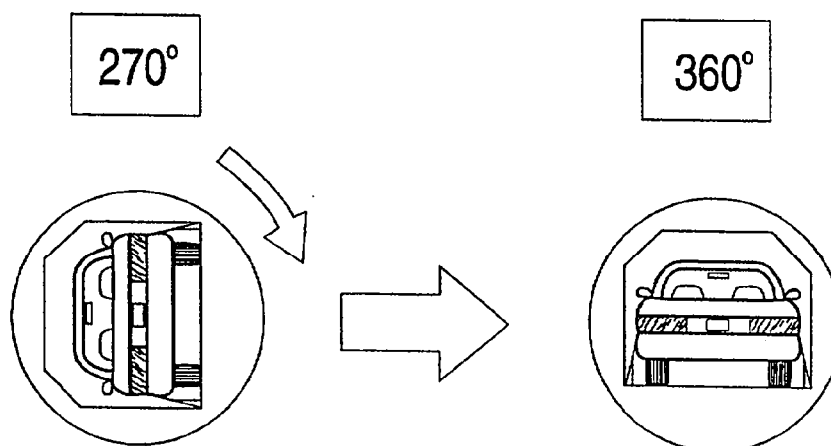
Fuel system fluid spillage measurements:

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

Fuel system fluid spillage location(s): None

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

Test phase



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

Time required for machine to rotate 90° = 2 minutes, 0 seconds

FMVSS 301 position hold time = 5 minutes, 0 seconds

Total = 7 minutes, 0 seconds

Next whole minute interval = 28 minutes

Fuel system fluid spillage measurements:

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

Fuel system fluid spillage location(s): None

Section 4.0

Vehicle, Occupant, and Camera Measurements

Figure 7 Pre-test and Post-test Measurement Points

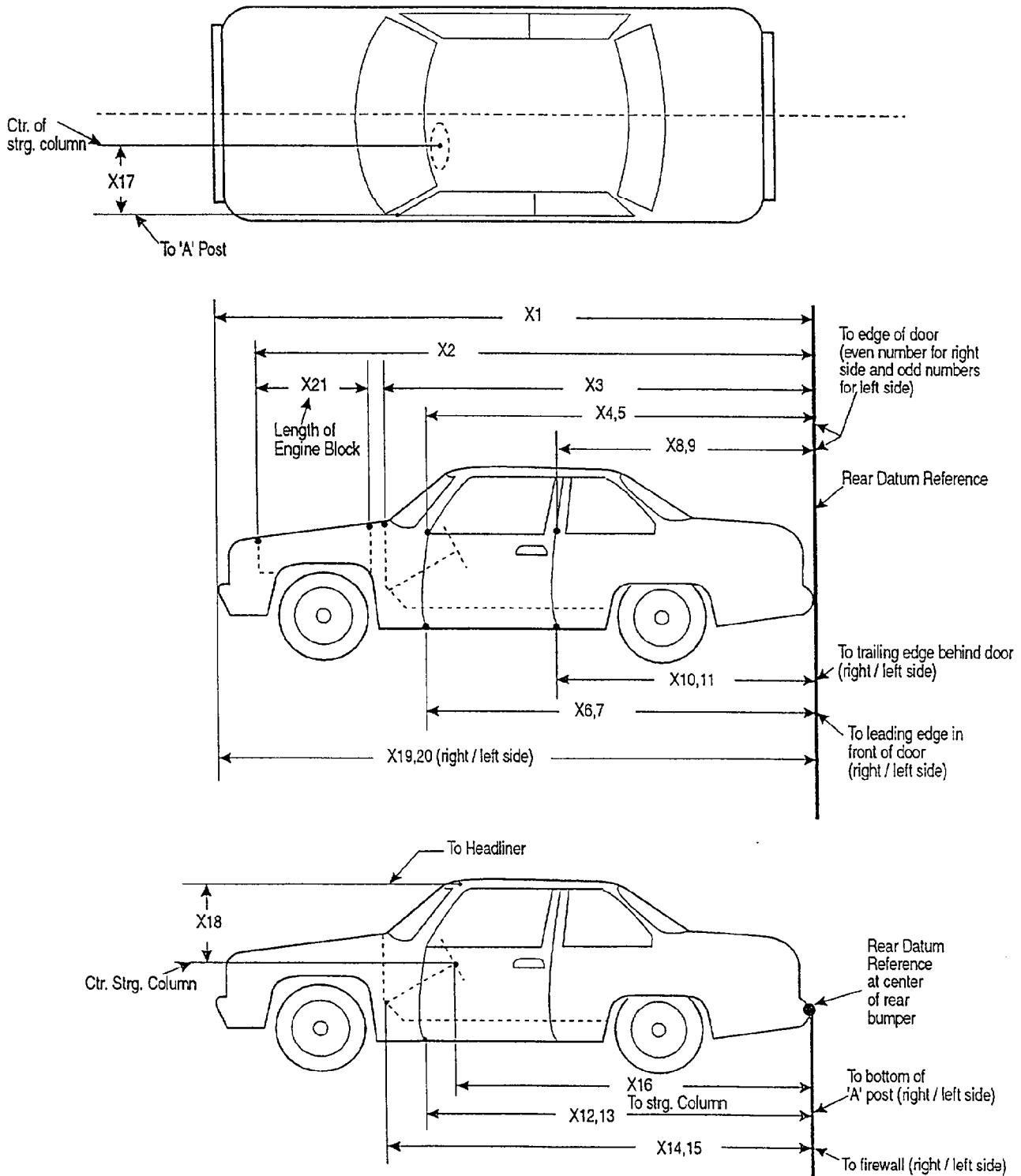


Table 11 Impacted Vehicle Measurements

Vehicle year/model/body style: 1995/Chrysler/New Yorker/4-door sedan

Test number: 941216

No.	Type of Measurement	Pre-test	Post-test	Difference
X1	Total length of vehicle at centerline	207.5 in	188.6 in	18.9 in
X2	Rear surface of vehicle to front of engine block	181.5 in	172.2 in	9.3 in
X3	Rear surface of vehicle to firewall	162.4 in	160.6 in	1.8 in
X4	Rear surface of vehicle to upper leading edge of right door	143.5 in	143.1 in	0.4 in
X5	Rear surface of vehicle to upper leading edge of left door	143.2 in	142.9 in	0.3 in
X6	Rear surface of vehicle to lower leading edge of right door	140.6 in	140.5 in	0.1 in
X7	Rear surface of vehicle to lower leading edge of left door	140.8 in	140.5 in	0.3 in
X8	Rear surface of vehicle to upper trailing edge of right door	99.5 in	99.1 in	0.4 in
X9	Rear surface of vehicle to upper trailing edge of left door	99.4 in	99.1 in	0.3 in
X10	Rear surface of vehicle to lower trailing edge of right door	99.0 in	98.9 in	0.1 in
X11	Rear surface of vehicle to lower trailing edge of left door	99.0 in	98.8 in	0.2 in
X12	Rear surface of vehicle to bottom of "A" post on right side	141.0 in	140.5 in	0.5 in
X13	Rear surface of vehicle to bottom of "A" post on left side	140.4 in	139.9 in	0.5 in
X14	Rear surface of vehicle to firewall - right side	166.3 in	165.0 in	1.3 in
X15	Rear surface of vehicle to firewall - left side	166.5 in	164.2 in	2.3 in
X16	Rear surface of vehicle to steering wheel center	124.2 in	124.2 in	0.0 in
X17	Center of steering column to "A" post	12.8 in	12.6 in	0.2 in
X18	Center of steering column to headliner	16.4 in	13.2 in	3.2 in
X19	Rear surface of vehicle to right side of front bumper	199.8 in	186.4 in	13.4 in
X20	Rear surface of vehicle to left side of front bumper	200.0 in	186.1 in	13.9 in
X21	Length of engine block	23.0 in	23.0 in	0.0 in

Figure 8 Vehicle Target Locations

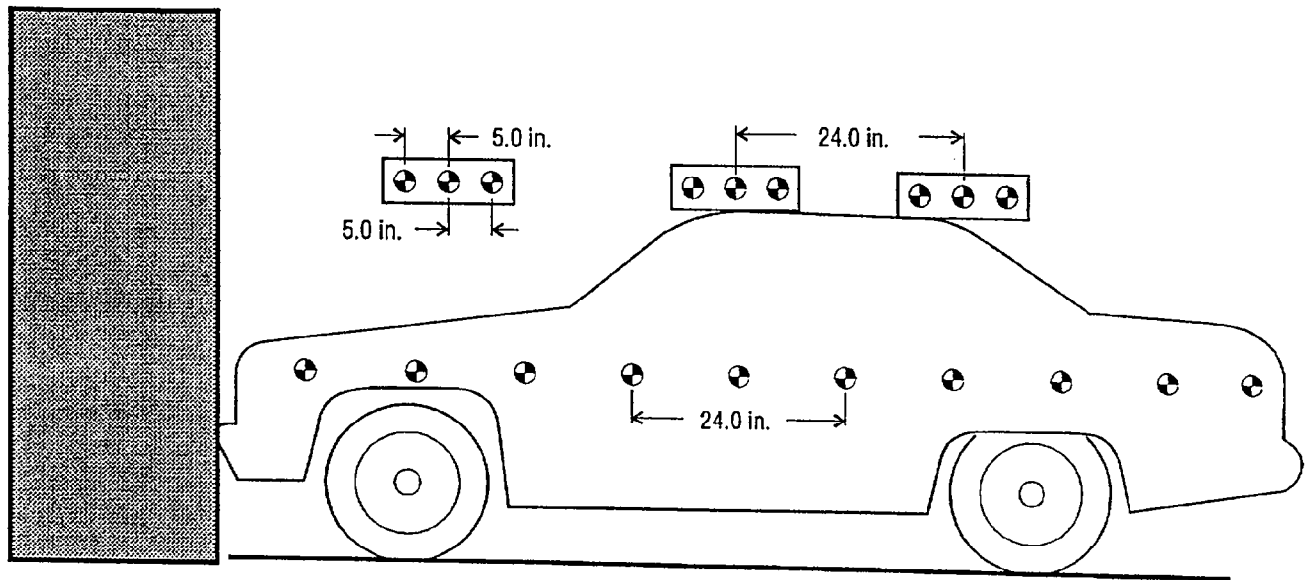


Figure 9 Dummy Measurement Locations for Front Seat Occupants

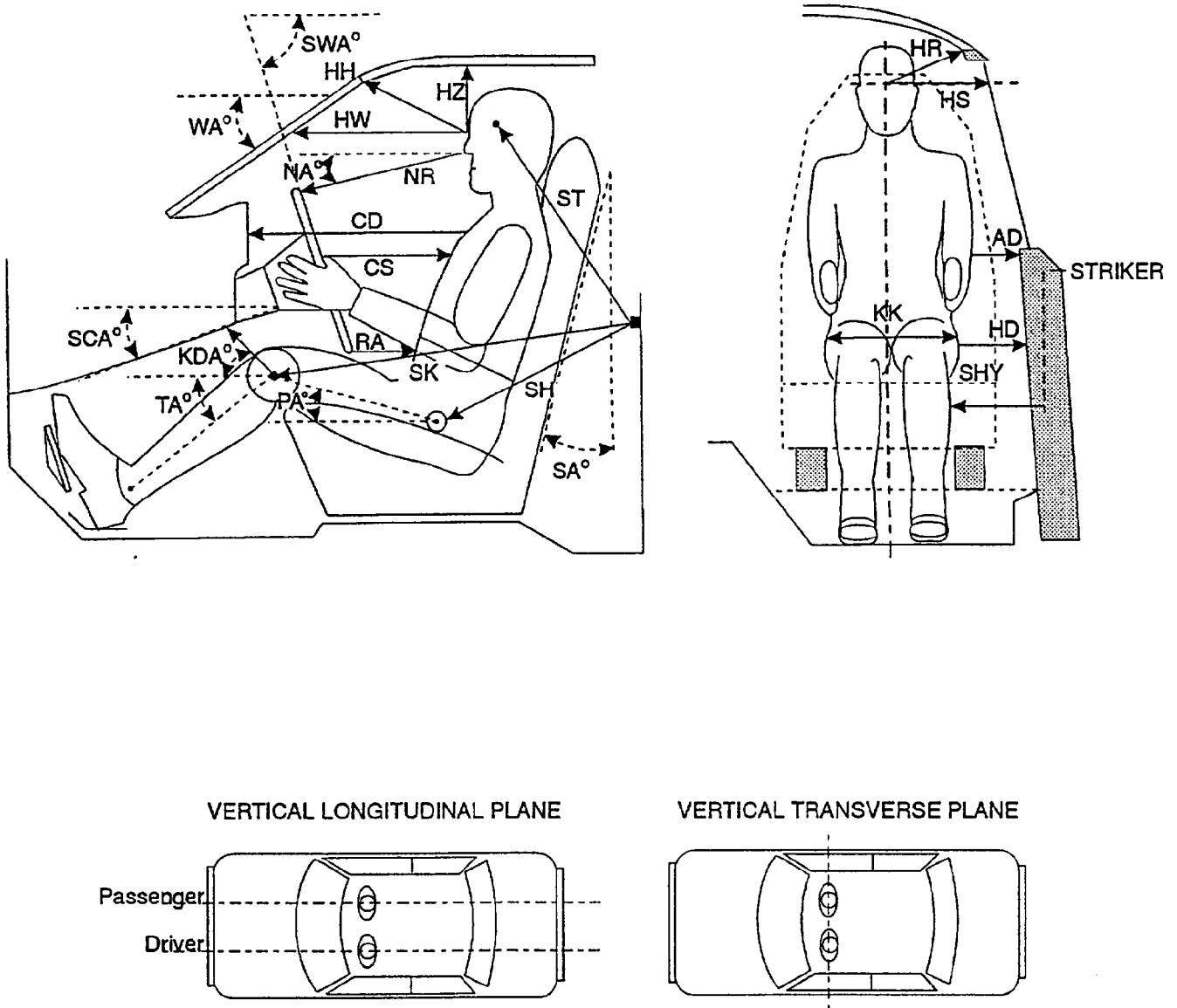


Table 12 Dummy Measurement Data for Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #229)	Passenger (Serial #230)
WA	Windshield angle	24°	24°
SWA	Steering wheel angle	23°	NA
SCA	Steering column angle	67°	NA
SA	Seat back angle	15.5°	15.5°
HZ	Head to roof	7.1 in	6.8 in
HH	Head to header	14.4 in	14.8 in
HW	Head to windshield	25.9 in	23.8 in
HR	Head to side header	7.9 in	6.5 in
NR	Nose to rim	14.6 in	NA
NA	Nose to rim angle	12°	NA
CD	Chest to dash	20.6 in	19.4 in
CS	Steering wheel to chest	11.8 in	NA
RA	Rim to abdomen	7.0 in	NA
KDL	Left knee to dash	6.2 in	5.4 in
KDR	Right knee to dash	6.6 in	5.9 in
KDA	Outboard knee to dash angle	35°	45°
PA	Pelvic angle	23°	23°
TA	Tibial angle	36°	40°
KK	Knee to knee	12.0 in	11.0 in
ST ¹	Striker to head	20.7 in	21.4 in
	Striker to head angle	-79°	-81°
SK ¹	Striker to knee	22.7 in	22.4 in
	Striker to knee angle	-2°	-5°
SH ¹	Striker to H-point	9.6 in	10.3 in
	Striker to H-point angle	34°	30°
SHY	Striker to H-point (Y dir.)	10.0 in	10.0 in
HS	Head to side window	13.1 in	13.1 in
HD	H-point to door	8.9 in	6.9 in
AD	Arm to door	4.8 in	5.2 in

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

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

Figure 10 Camera Positions

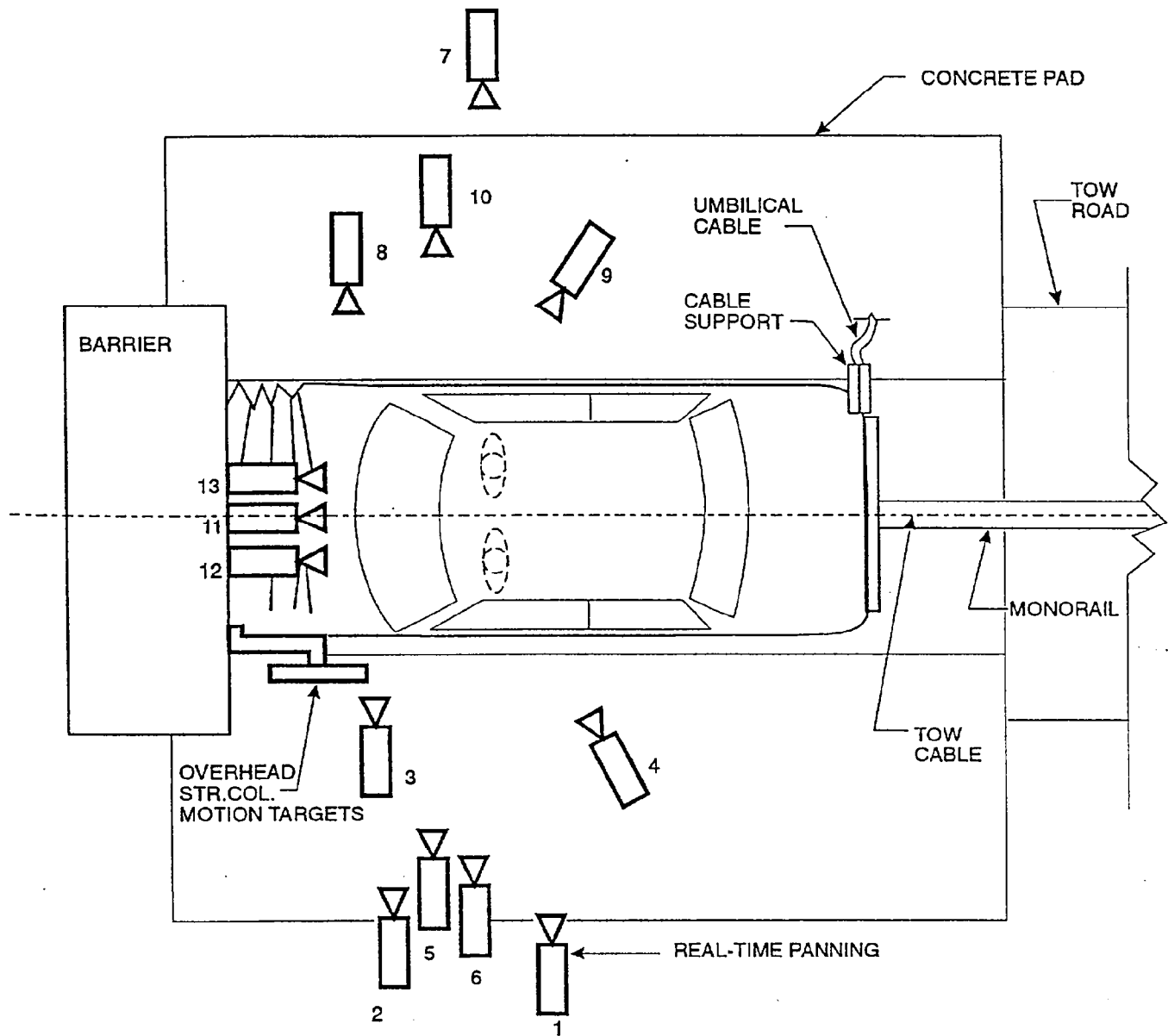


Figure 10 Camera Positions, Cont'd.

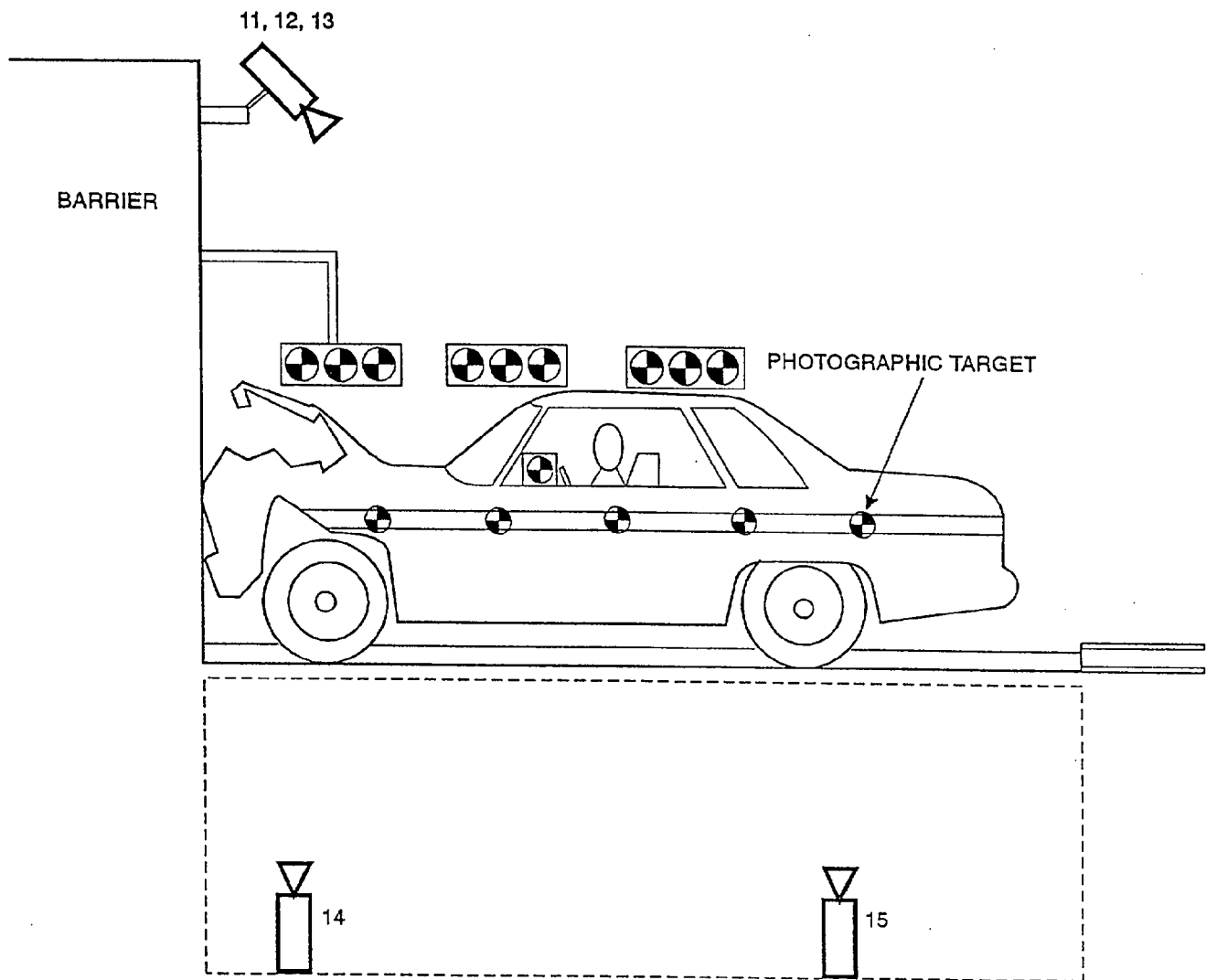


Table 13 Motion Picture Camera Locations

Vehicle year/make/model/body style: 1995/Chrysler/New Yorker/4-door sedan

Test number: 941216

Camera Number	View	Camera Positions ¹			Camera Angle ²	Film Plane to Head Target	Camera Lens	Film Speed
		X	Y	Z				
1	Real-time panning	-142.0 in	504.0 in	61.0 in	NA	NA	16 mm	24 frames/s
2	Left vehicle crush	-41.5 in	295.0 in	44.0 in	-4°	336.0 in	25 mm	992 frames/s
3	Left windshield intrusion	-53.0 in	309.4 in	42.3 in	0°	NA	50 mm	1005 frames/s
4	Driver kinematics	-157.3 in	116.0 in	87.0 in	-27°	86.0 in	25 mm	1000 frames/s
5	Steering column motion	-72.0 in	286.0 in	103.0 in	-14°	NA	25 mm	1002 frames/s
6	Steering column motion	-72.0 in	286.0 in	75.1 in	-9°	NA	25 mm	1002 frames/s
7	Right overall	-81.3 in	-266.4 in	37.1 in	-2°	NA	13 mm	998 frames/s
8	Right windshield intrusion	-38.1 in	-306.1 in	44.0 in	0°	NA	50 mm	1005 frames/s
9	Passenger kinematics	-152.1 in	-116.0 in	87.0 in	-26°	92.0 in	25 mm	1000 frames/s
10	Passenger kinematics	-38.8 in	-293.0 in	45.3 in	-4°	216.0 in	25 mm	992 frames/s
11	Windshield front view	-6.0 in	0.0 in	85.0 in	-40°	NA	13 mm	1000 frames/s
12	Driver - front view	-6.8 in	14.5 in	93.0 in	-50°	NA	17 mm	1002 frames/s
13	Passenger - front view	-4.5 in	-13.8 in	93.0 in	-50°	NA	17 mm	1005 frames/s
14	Pit - front position	-50.5 in	0.0 in	-92.4 in	90°	NA	13 mm	1000 frames/s
15	Pit - rear position	-99.3 in	0.0 in	-99.0 in	90°	NA	13 mm	1000 frames/s
16	Real-time documentation	NA	NA	NA	NA	NA	12-120 mm	24 frames/s

¹ +X: Film plane forward of barrier face

+Y: Film plane to left of monorail centerline

+Z: Film plane above ground level

² +Angle: Film plane angled upward from horizontal plane

Appendix A

Photographs

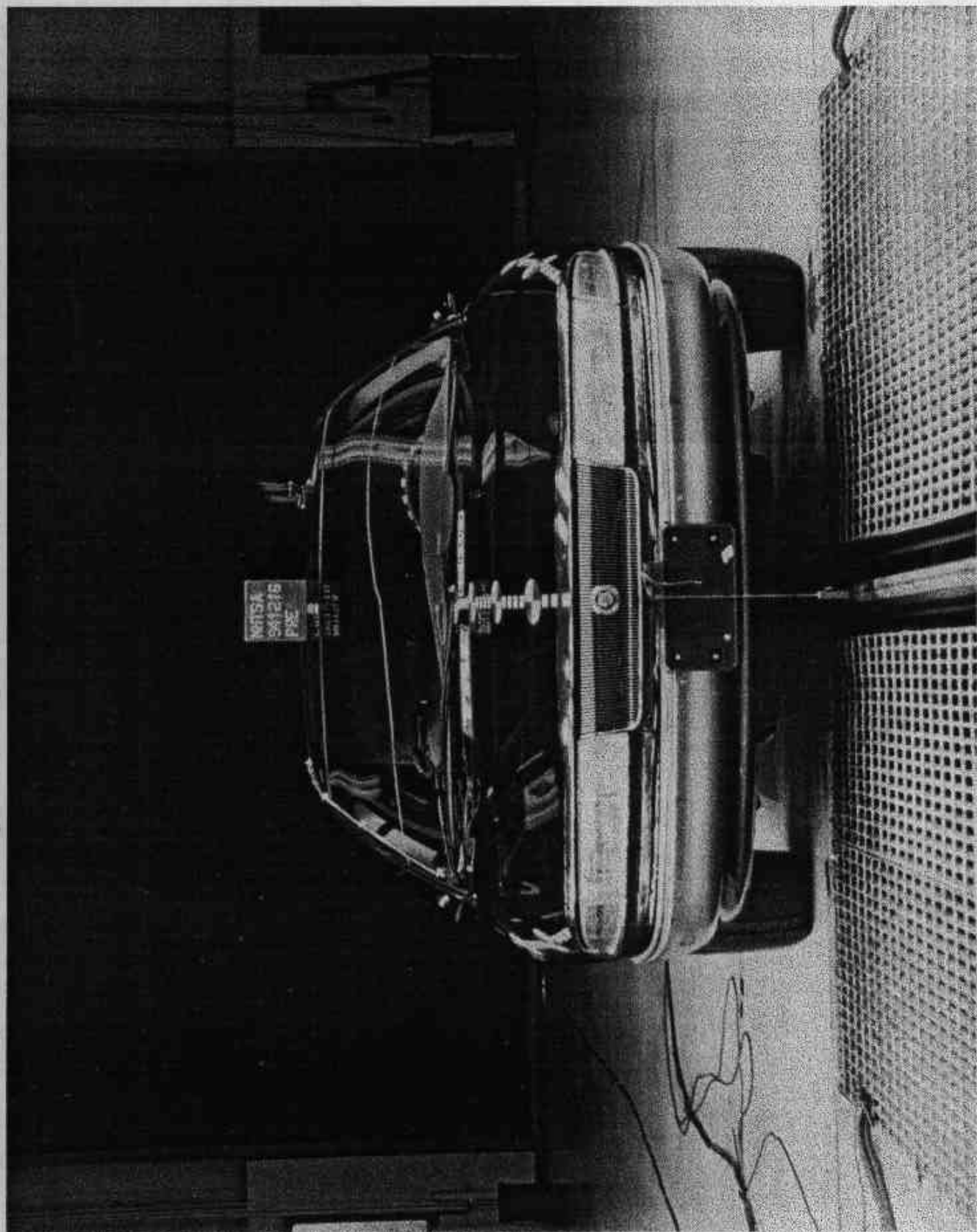


Figure A-1. Pre-Test Front View
A-2

941216

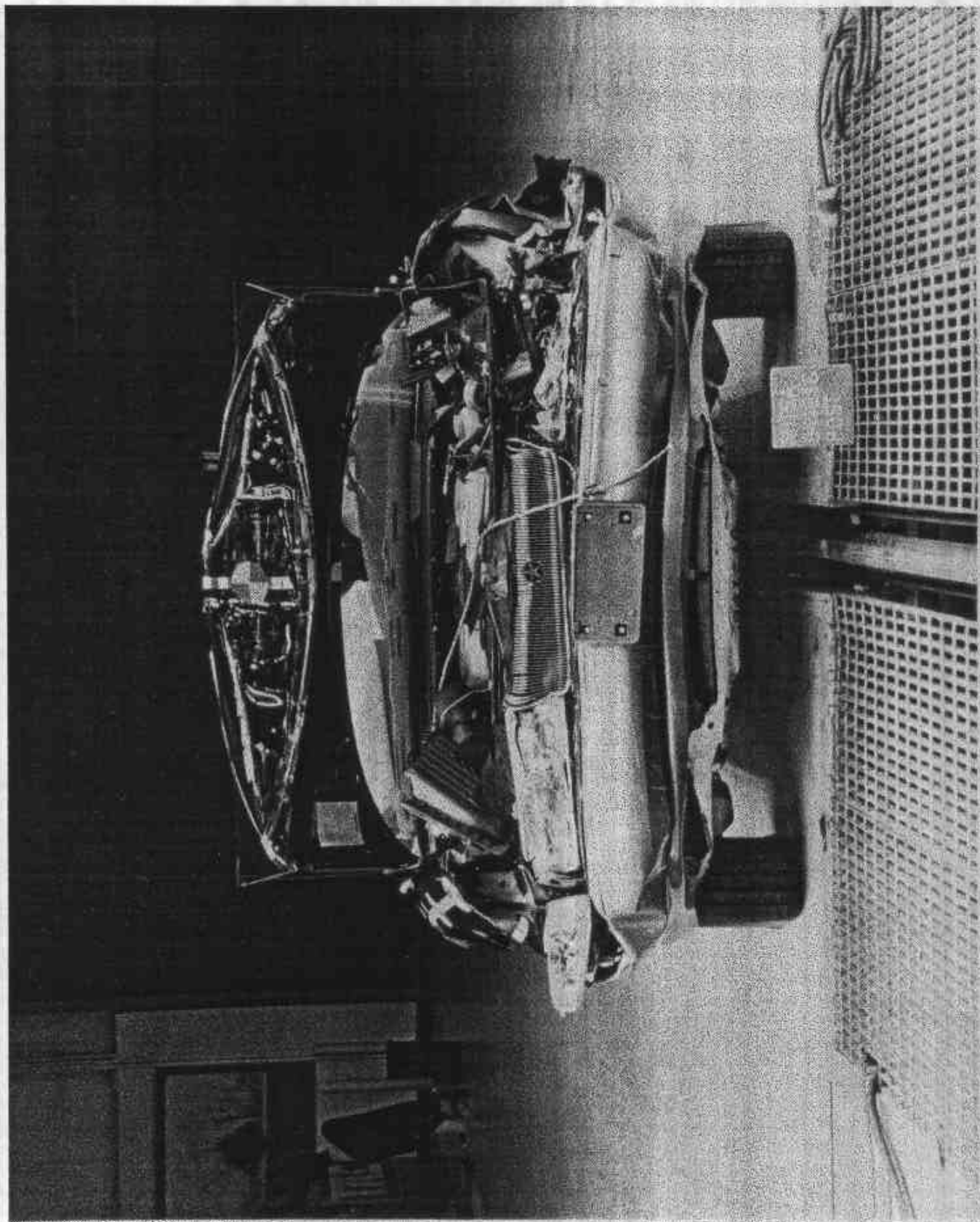


Figure A-2. Post-Test Front View
A-3

941216

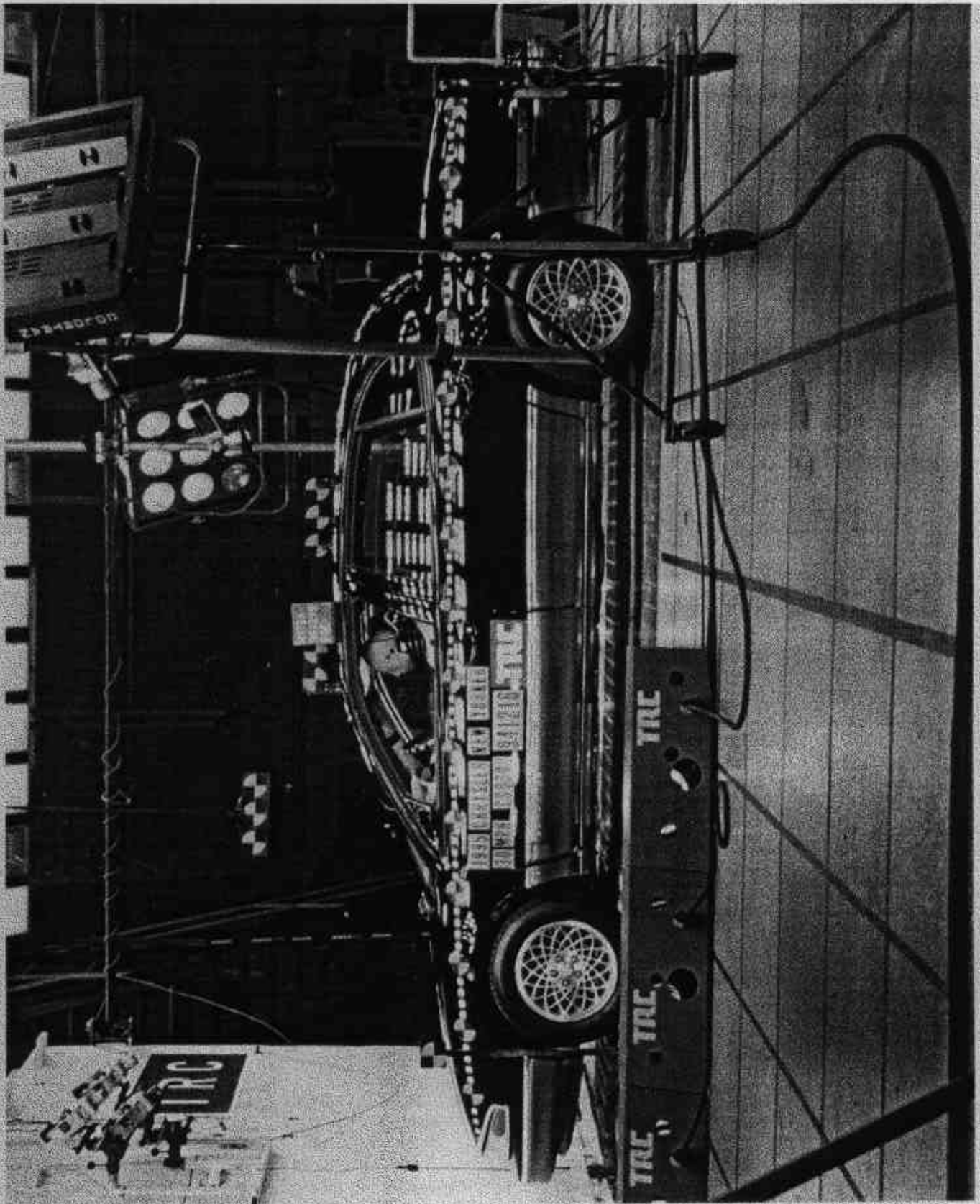


Figure A-3. Pre-Test Left Side View
A-4

941216

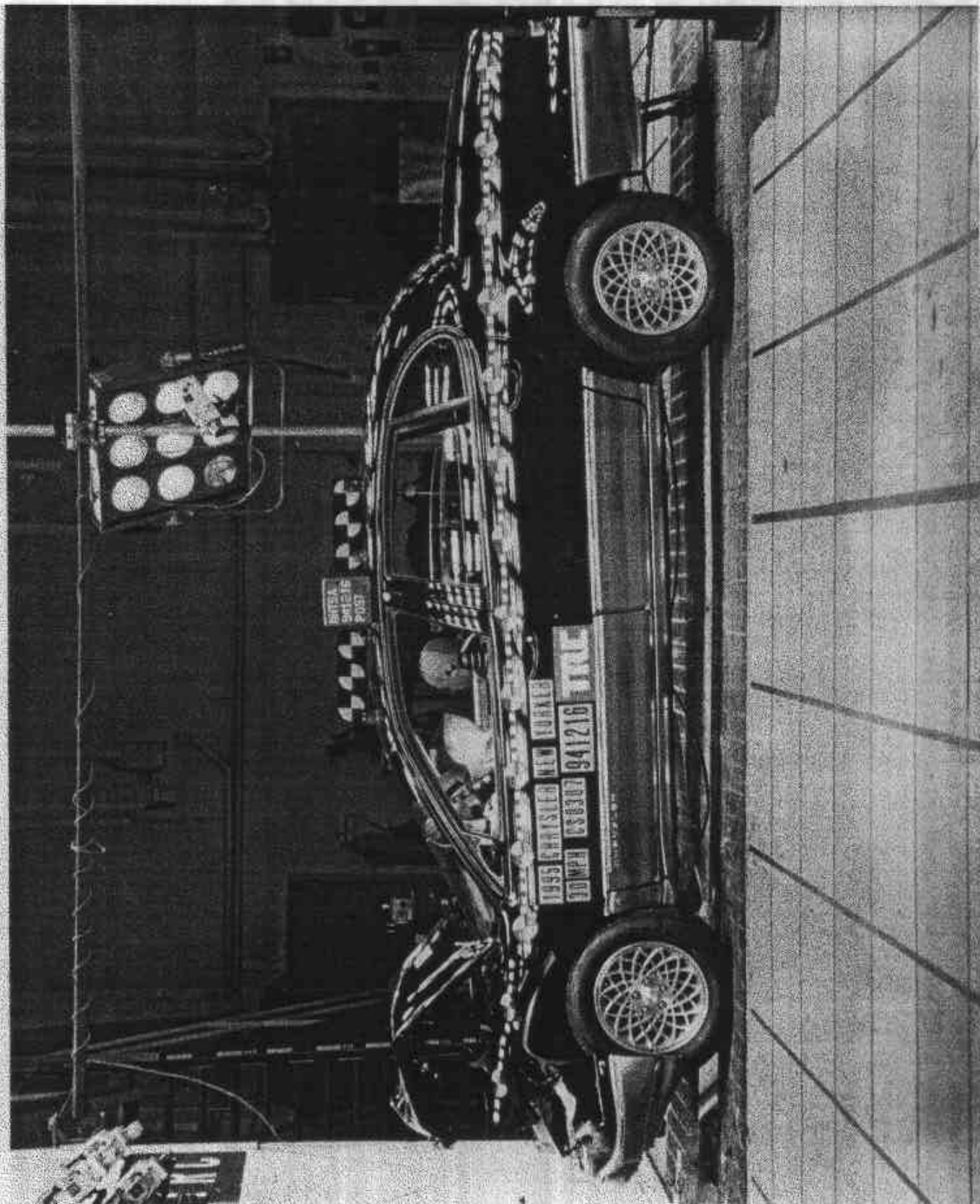


Figure A-4. Post-Test Left Side View

A-5

941216

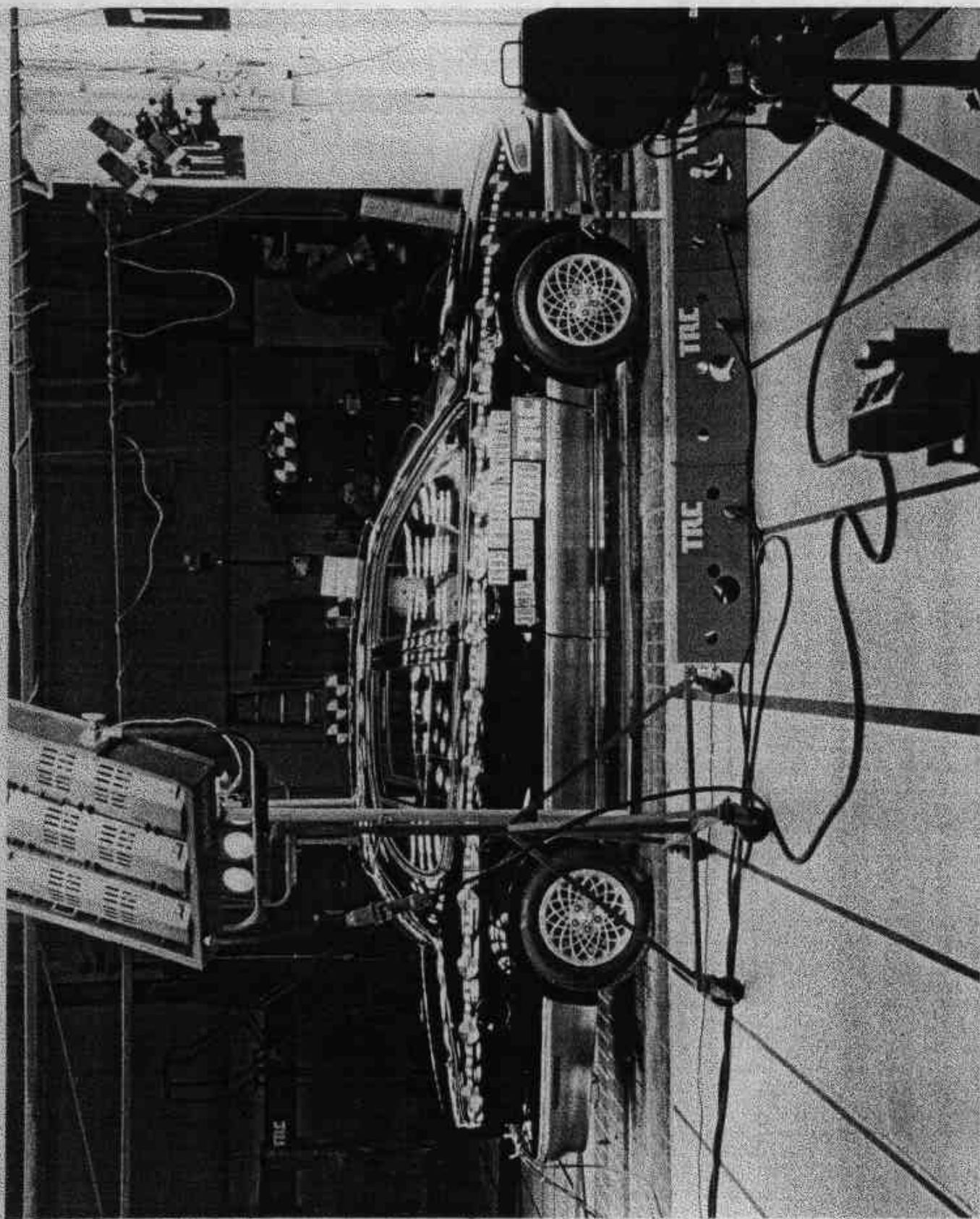


Figure A-5. Pre-Test Right Side View

A-6

941216

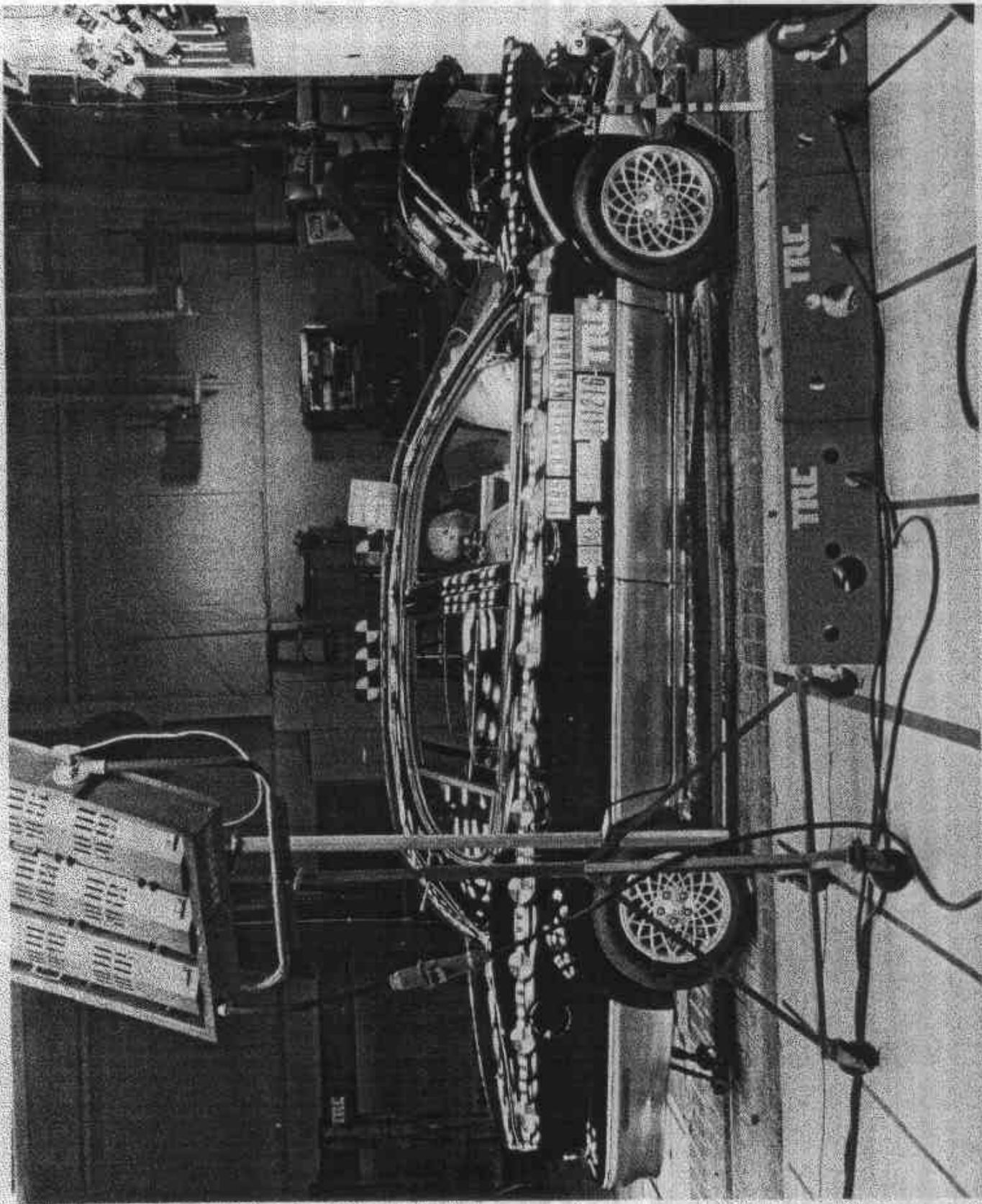


Figure A-6. Post-Test Right Side View

A-7

941216

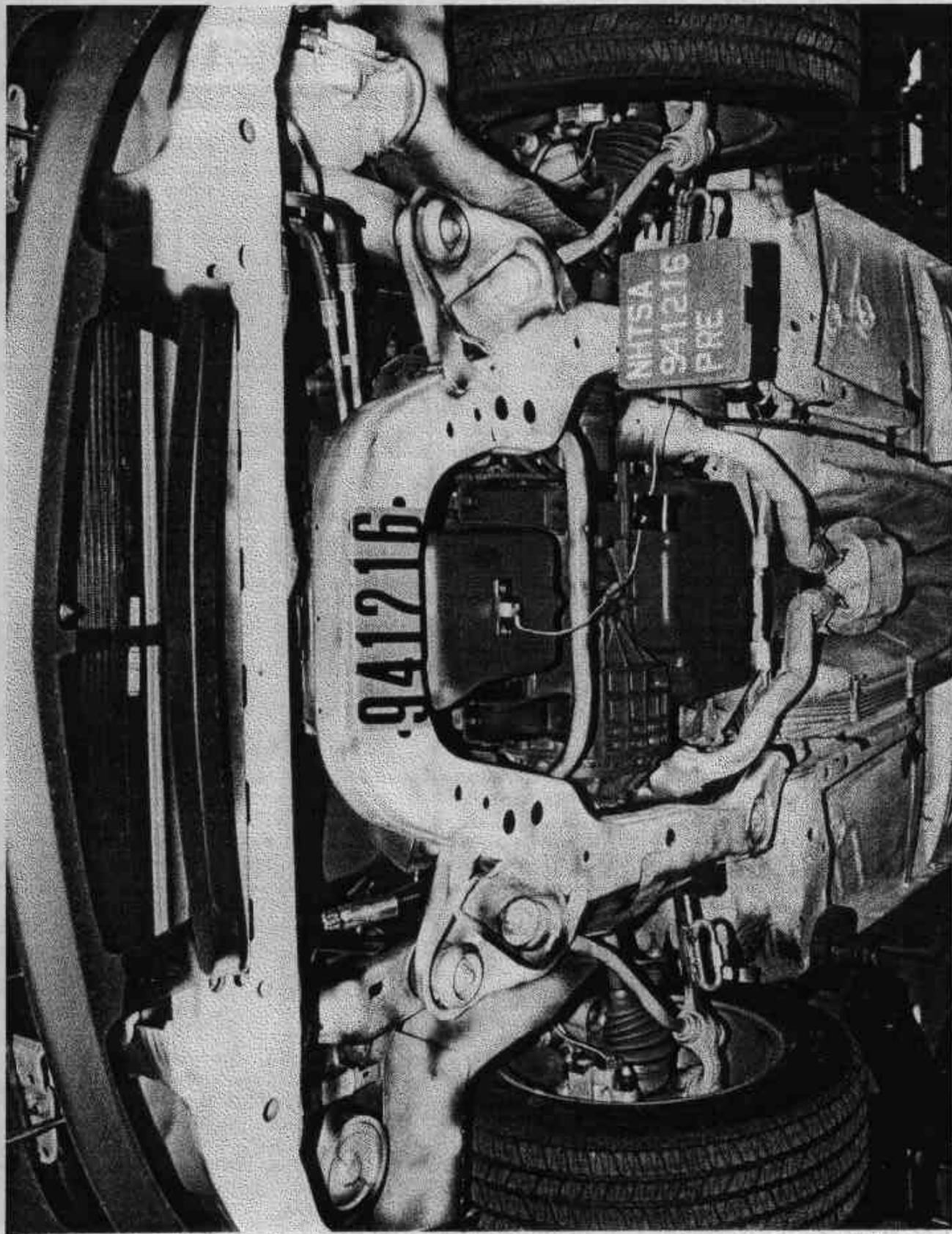


Figure A-7. Pre-Test Front Underbody View

A-8

941216

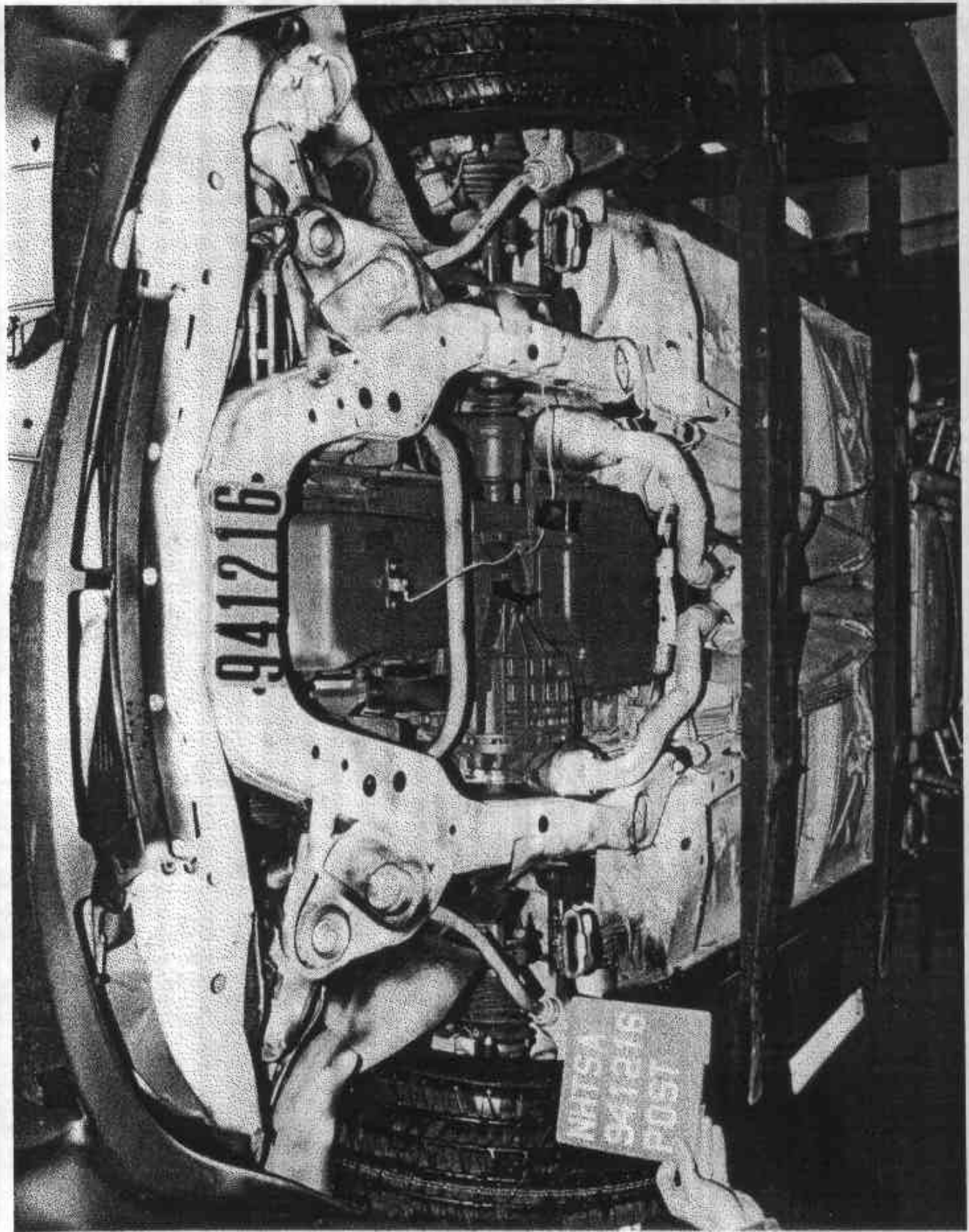


Figure A-8. Post-Test Front Underbody View
A-9

941216

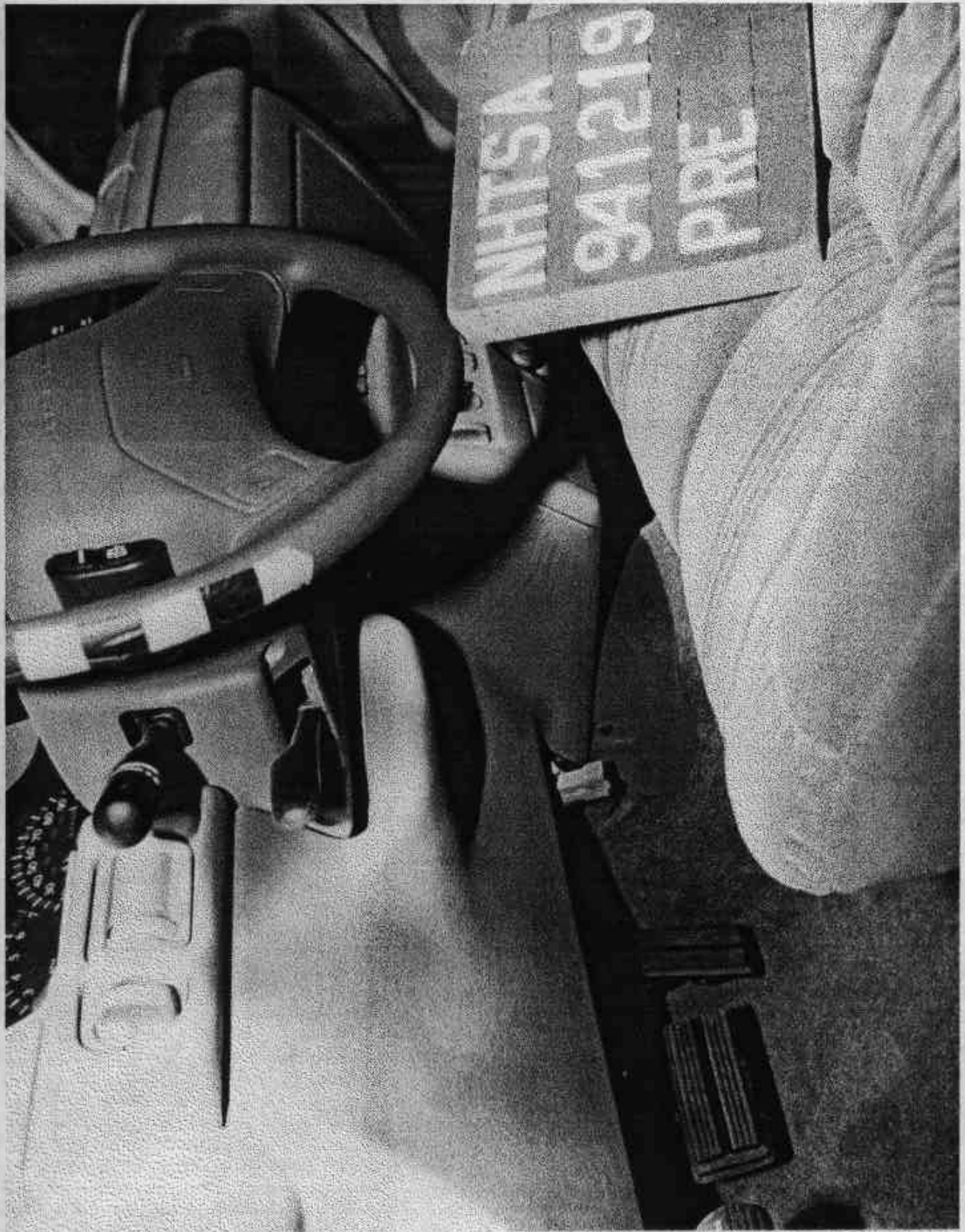


Figure A-9. Pre-Test Driver's Knee Bolster View
A-10

941216

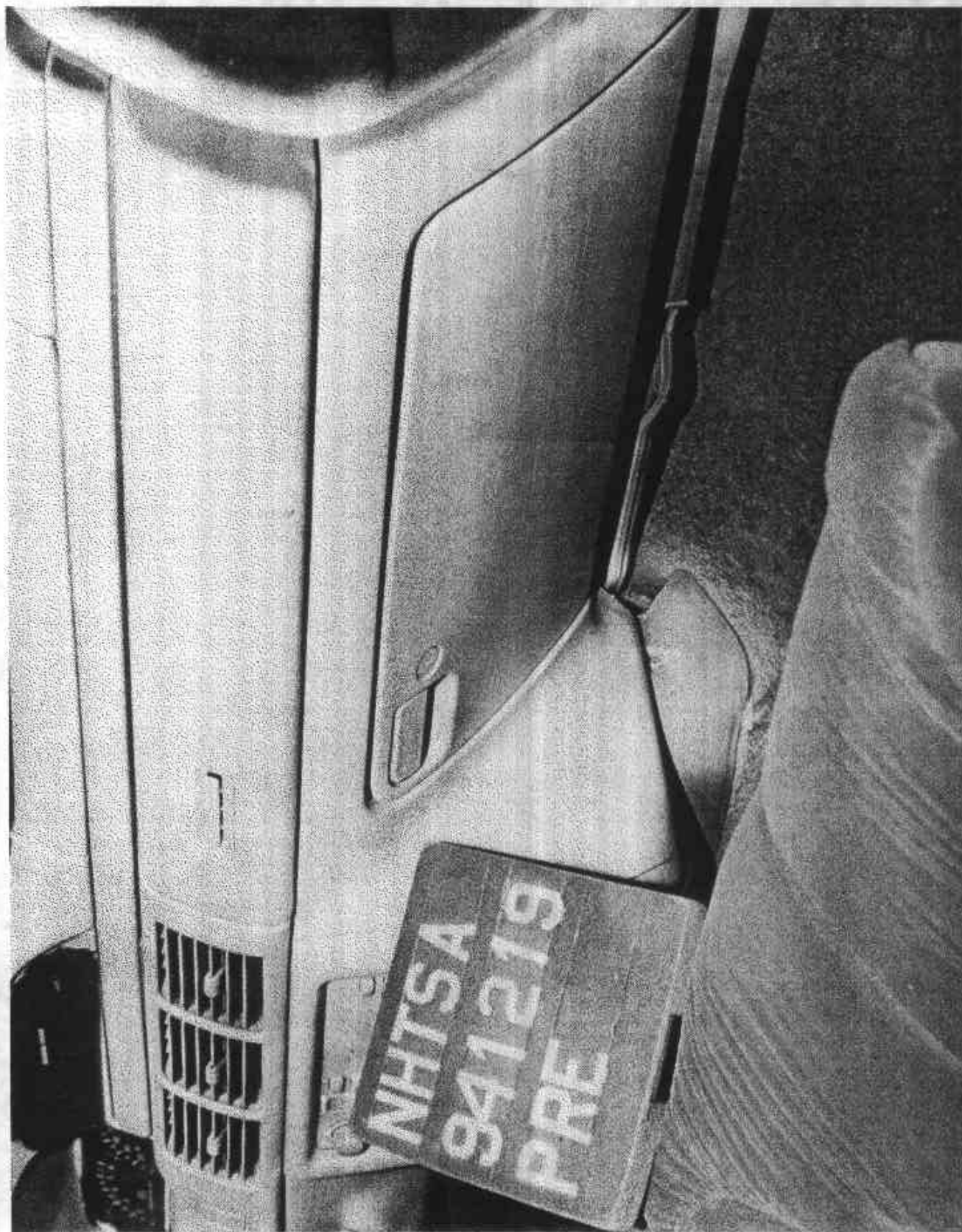


Figure A-10. Pre-Test Passenger's Knee Bolster View
A-11

941216

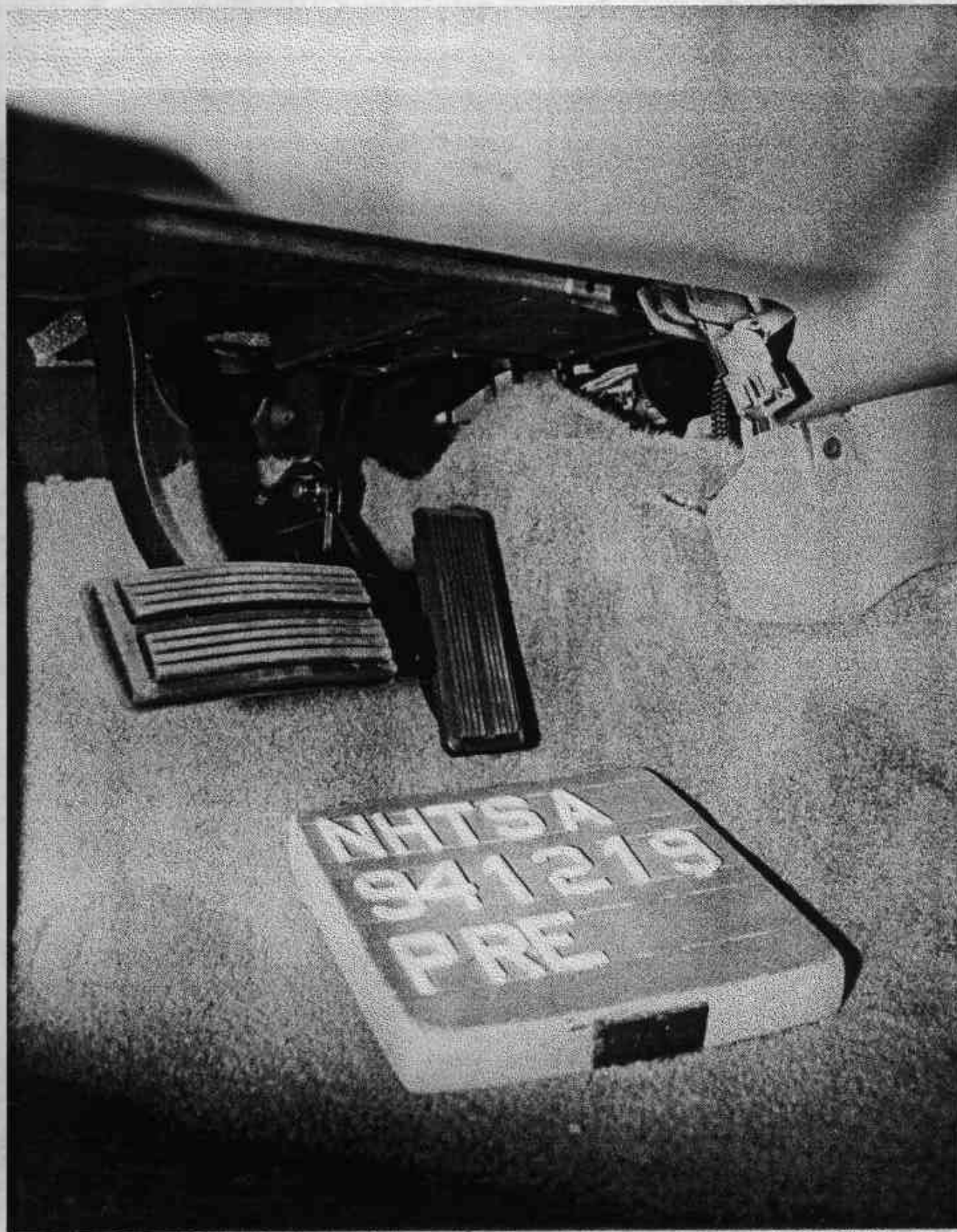


Figure A-11. Pre-Test Steering Column at Firewall View - Interior
A-12

941216



Figure A-12. Pre-Test Steering Column at Firewall View - Exterior

A-13

941216

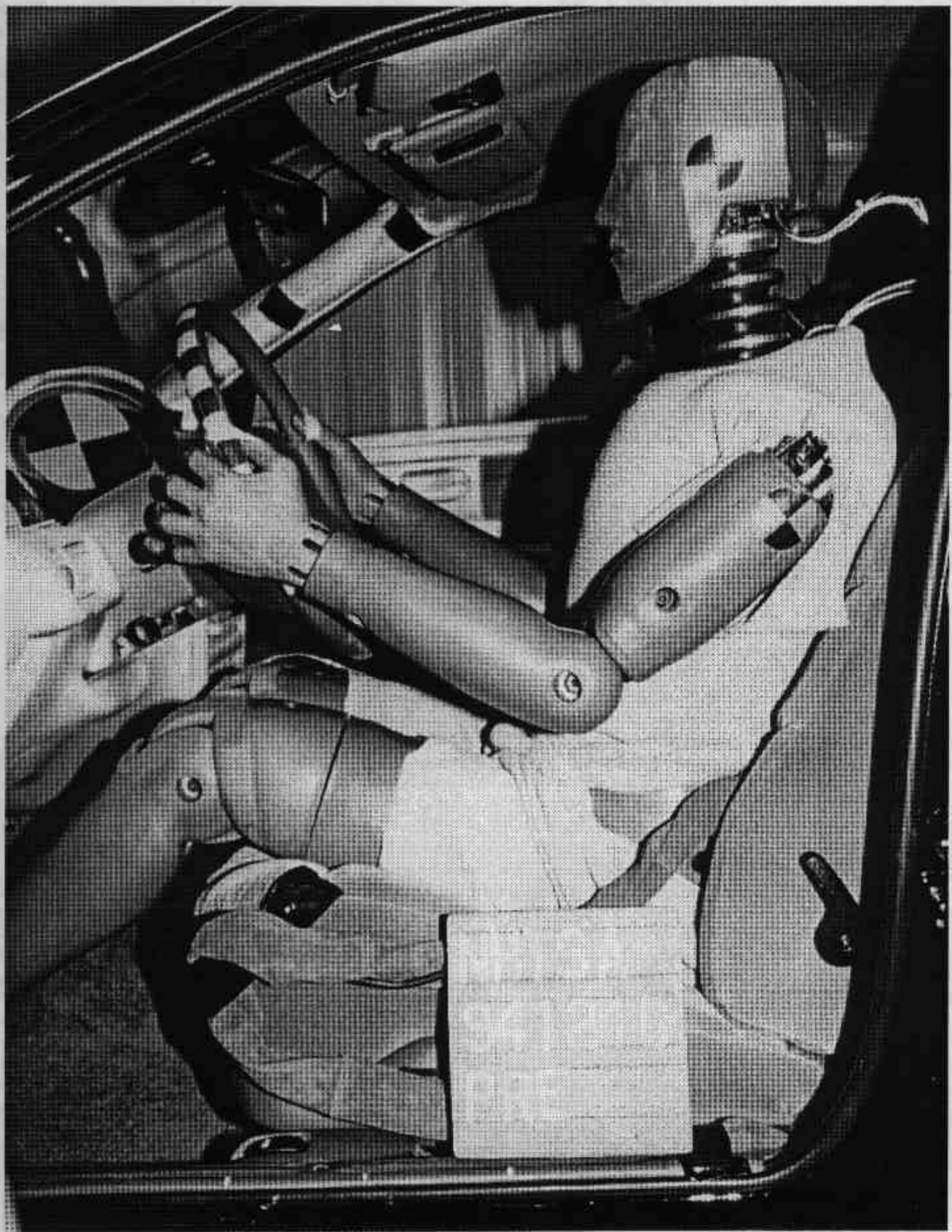


Figure A-13. Pre-Test Driver Dummy & Vehicle Interior View
A-14

941216



Figure A-14. Post-Test Driver Dummy & Vehicle Interior View
A-15

941216



Figure A-15. Pre-Test Passenger Dummy & Vehicle Interior View

A-16

941216



Figure A-16. Post-Test Passenger Dummy & Vehicle Interior View

A-17

941216

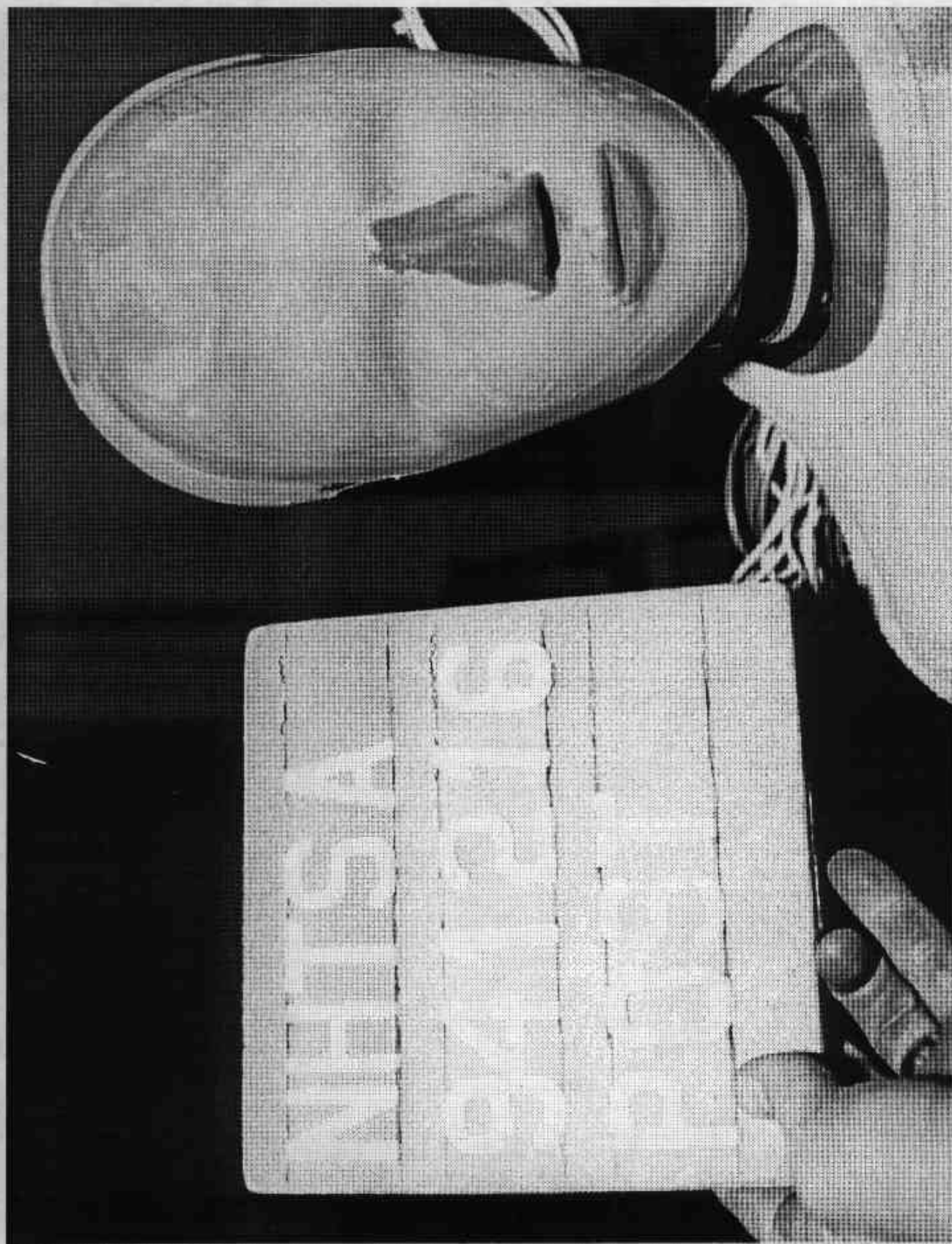


Figure A-17. Post-Test Driver Dummy Head Contact - View 1
A-18

941216

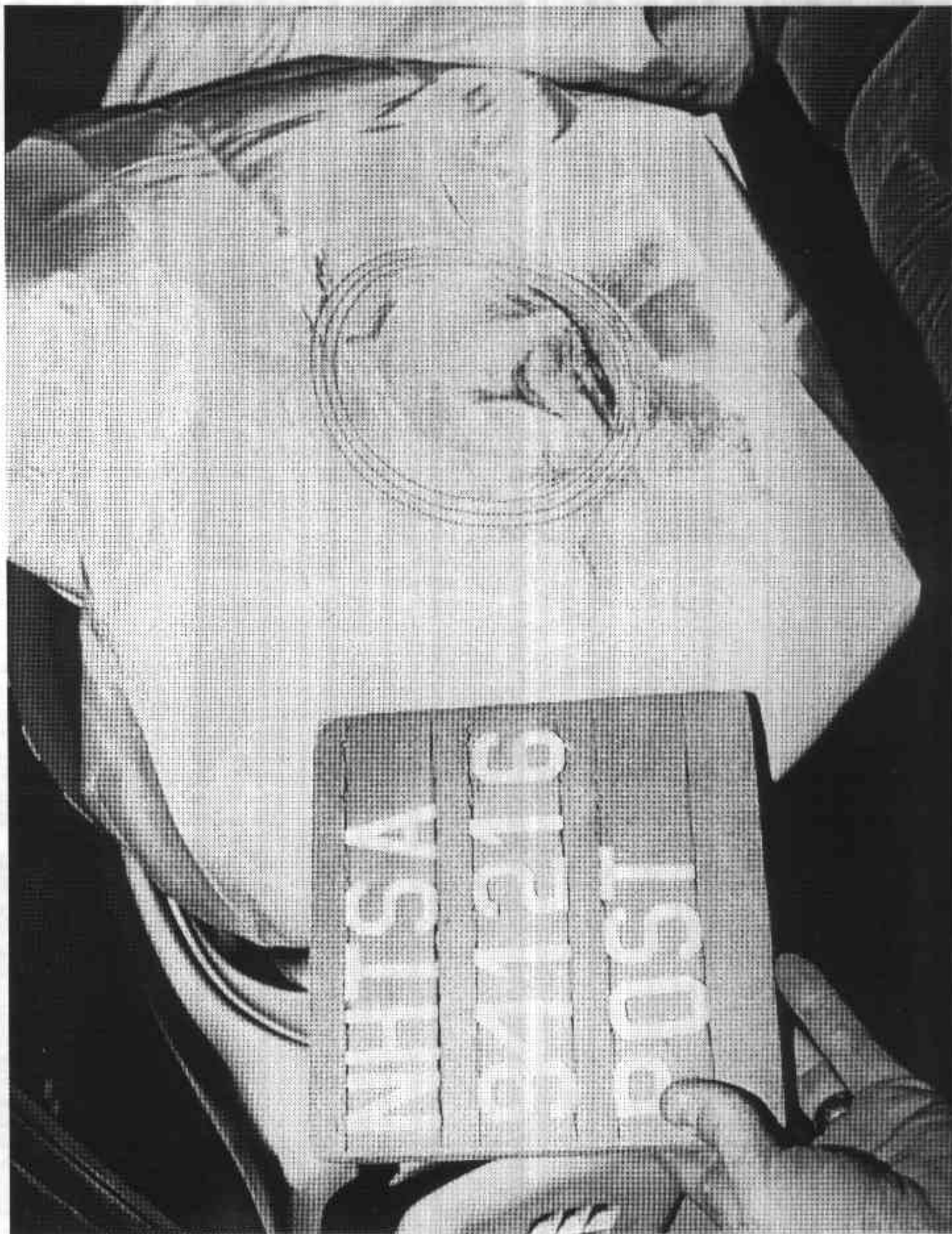


Figure A-18. Post-Test Driver Dummy Head Contact - View 2
A-19

941216



Figure A-19. Post-Test Driver Dummy Head Contact - View 3

A-20

941216

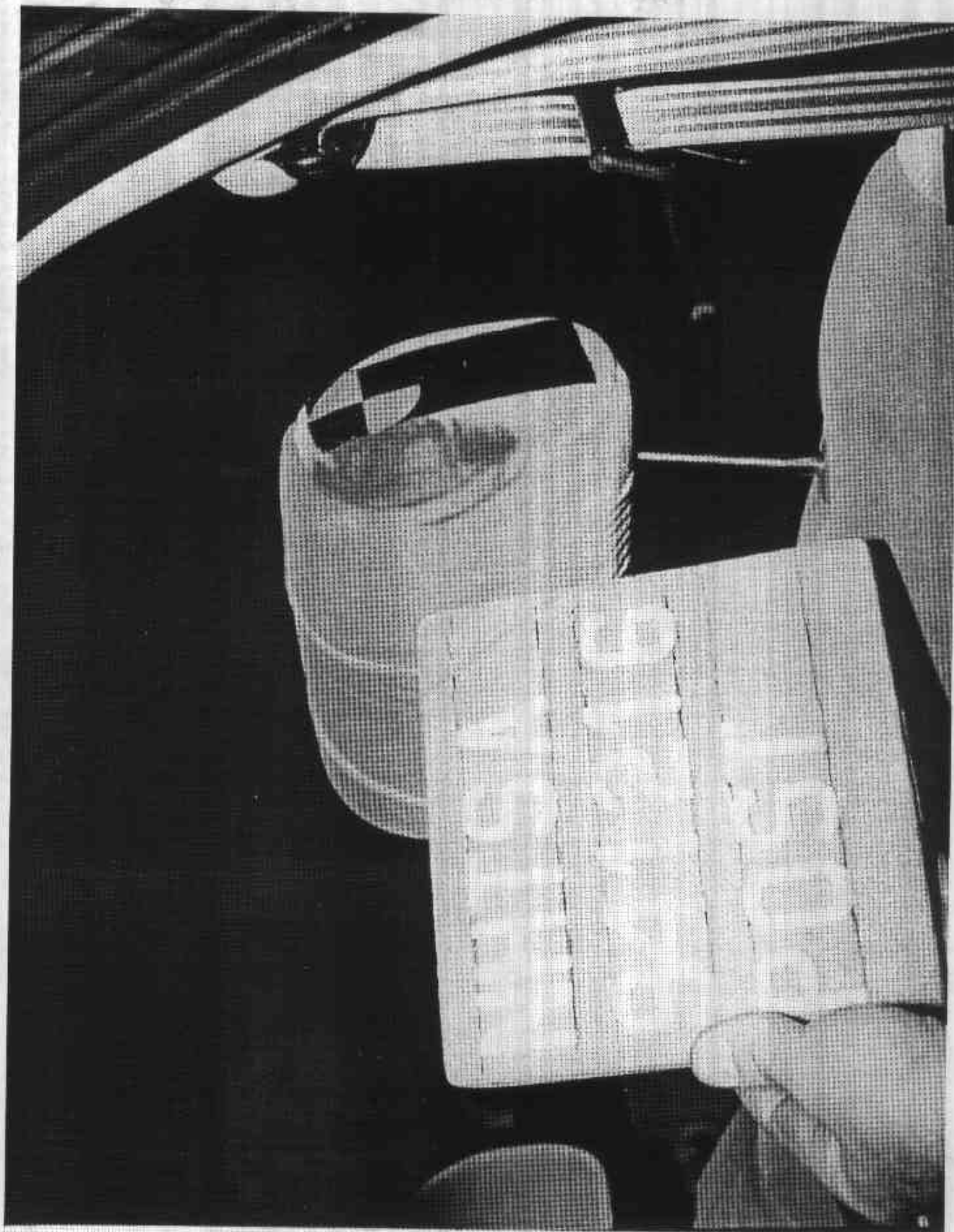


Figure A-20. Post-Test Driver Dummy Head Contact - View 4

A-21

941216



Figure A-21. Post-Test Driver Dummy Knee Contact - View 1
A-22

941216



Figure A-22. Post-Test Driver Dummy Knee Contact - View 2

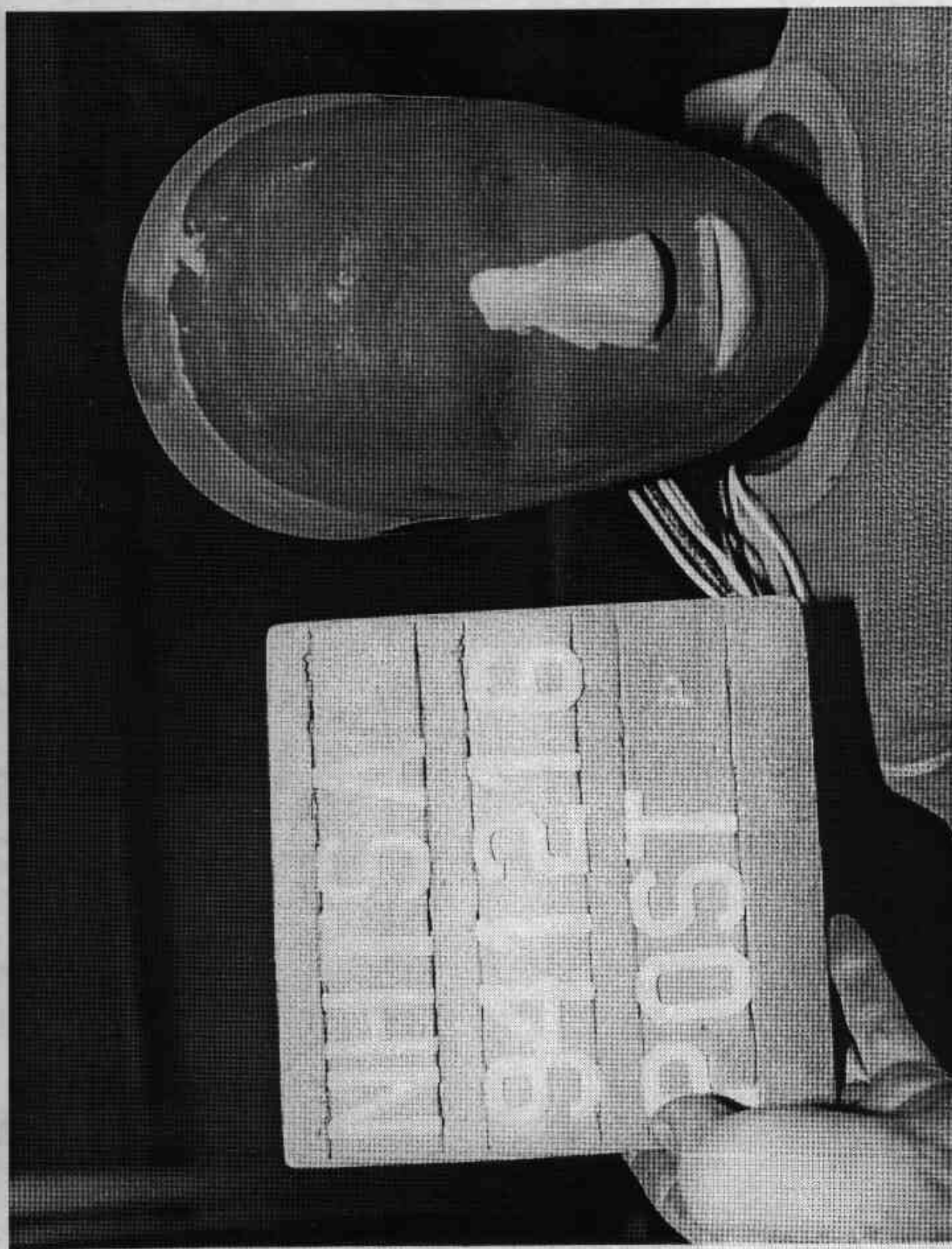


Figure A-23. Post-Test Passenger Dummy Head Contact - View 1

A-24

941216



Figure A-24. Post-Test Passenger Dummy Head Contact - View 2

A-25

941216



Figure A-25. Post-Test Passenger Dummy Head Contact - View 3

A-26

941216



Figure A-26. Post-Test Passenger Dummy Head Contact - View 4

A-27

941216



Figure A-27. Post-Test Passenger Dummy Knee Contact - View 1
A-28

941216

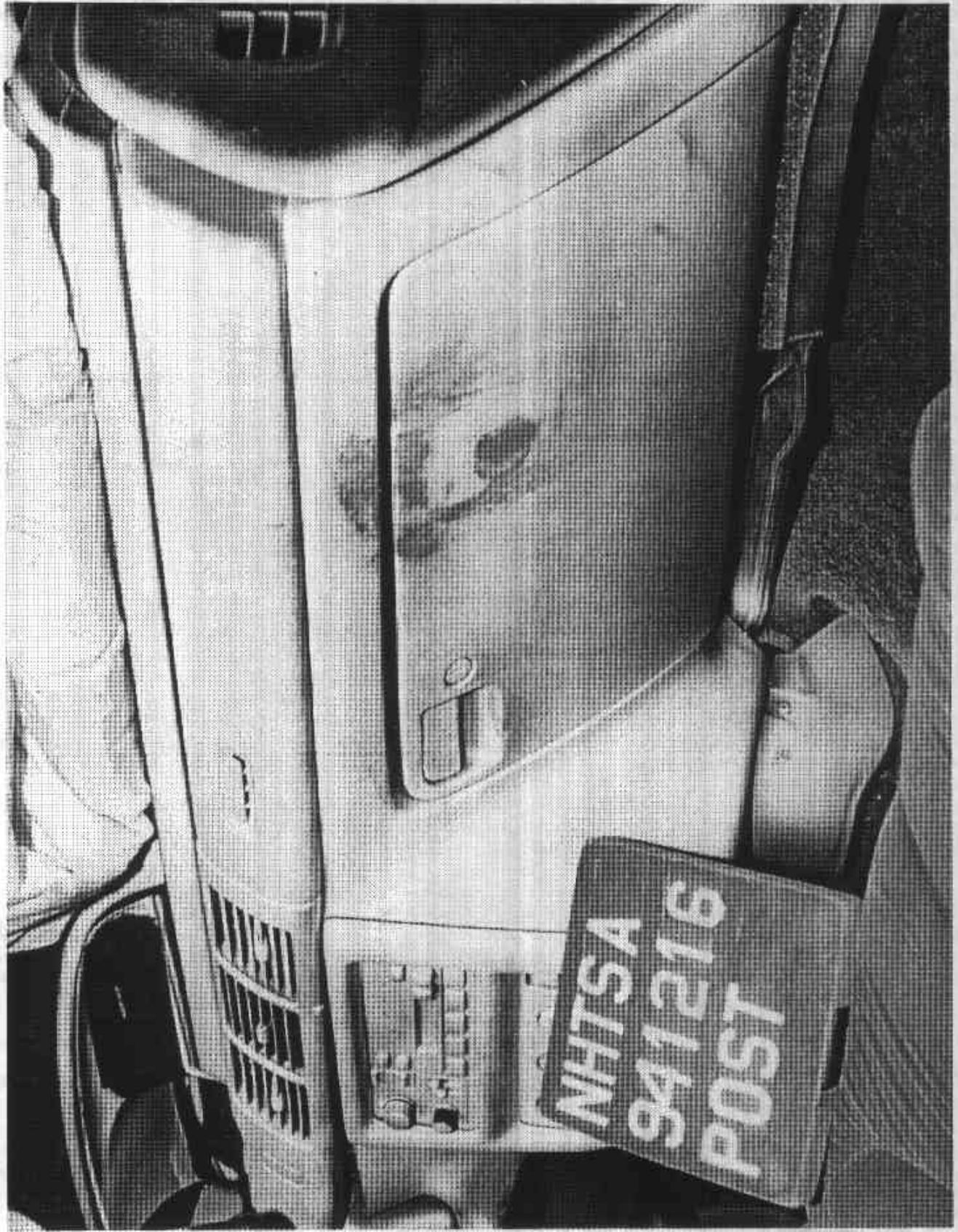


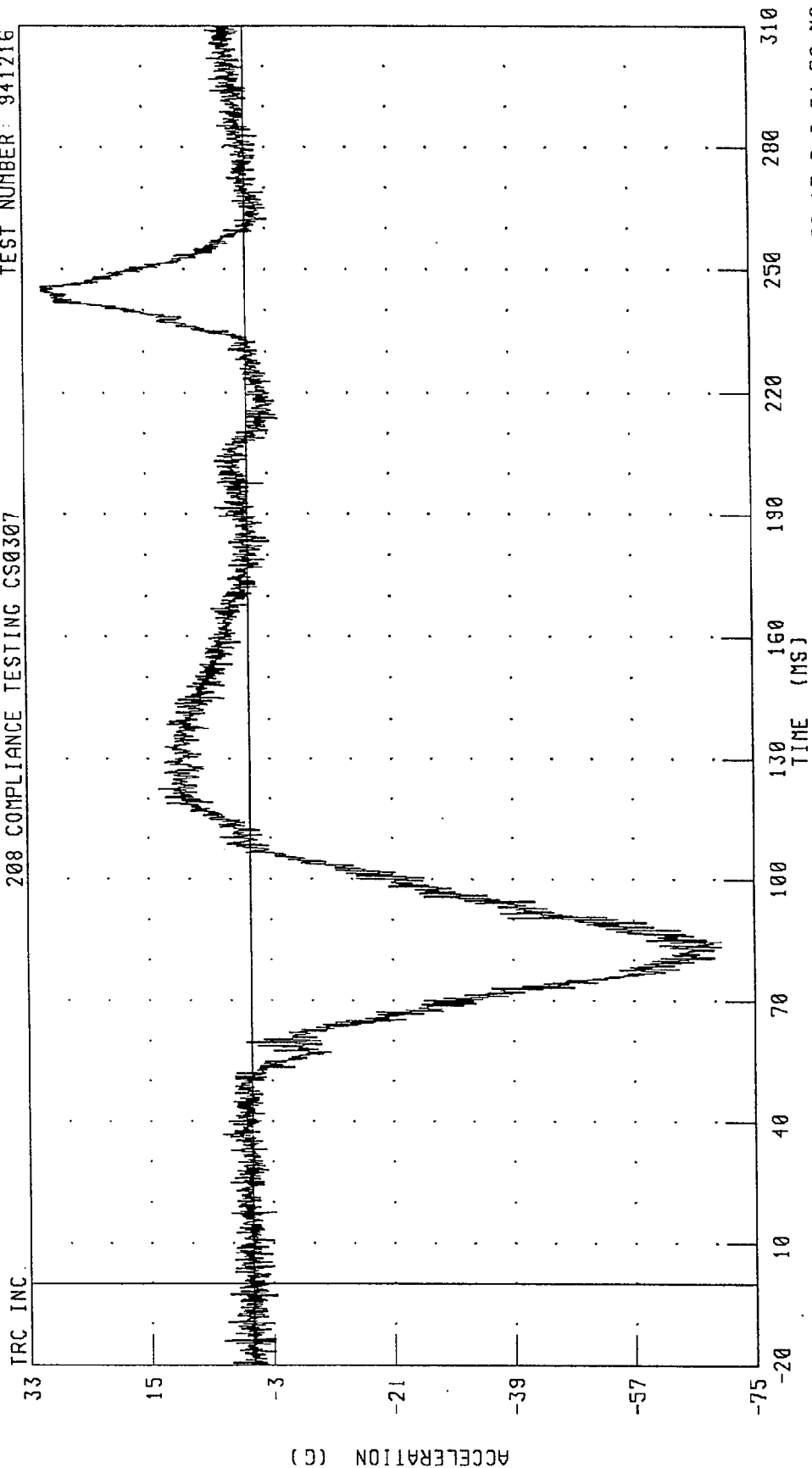
Figure A-28. Post-Test Passenger Dummy Knee Contact - View 2

Appendix B

Data Plots

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
DRIVER HEAD X-AXIS ACCELERATION
208 COMPLIANCE TESTING CS0307

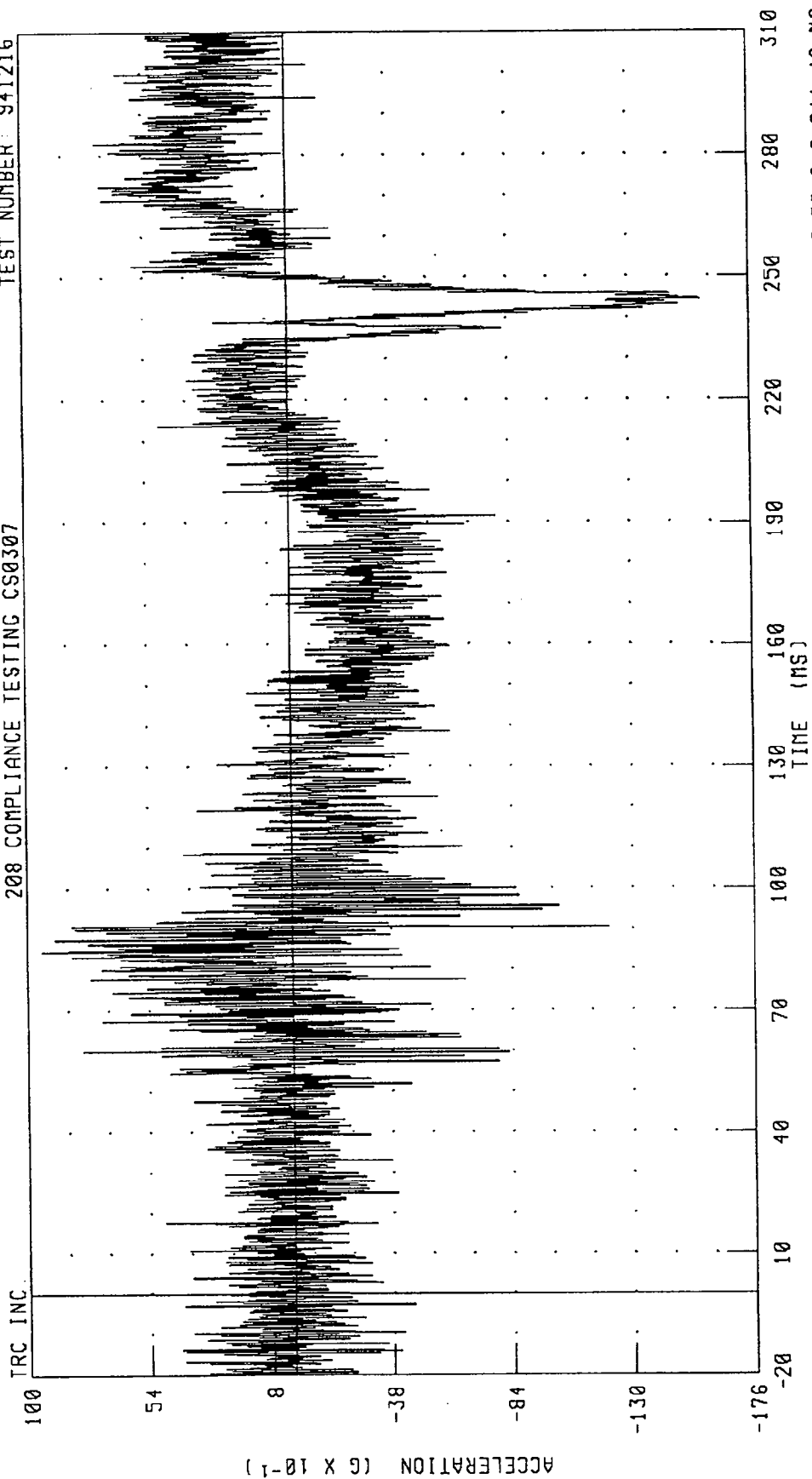
TEST NUMBER: 341216



CHANNEL: HEDXG1 FILTER: CH. CLASS 1000

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 DRIVER HEAD Y-AXIS ACCELERATION
 208 COMPLIANCE TESTING CS0307

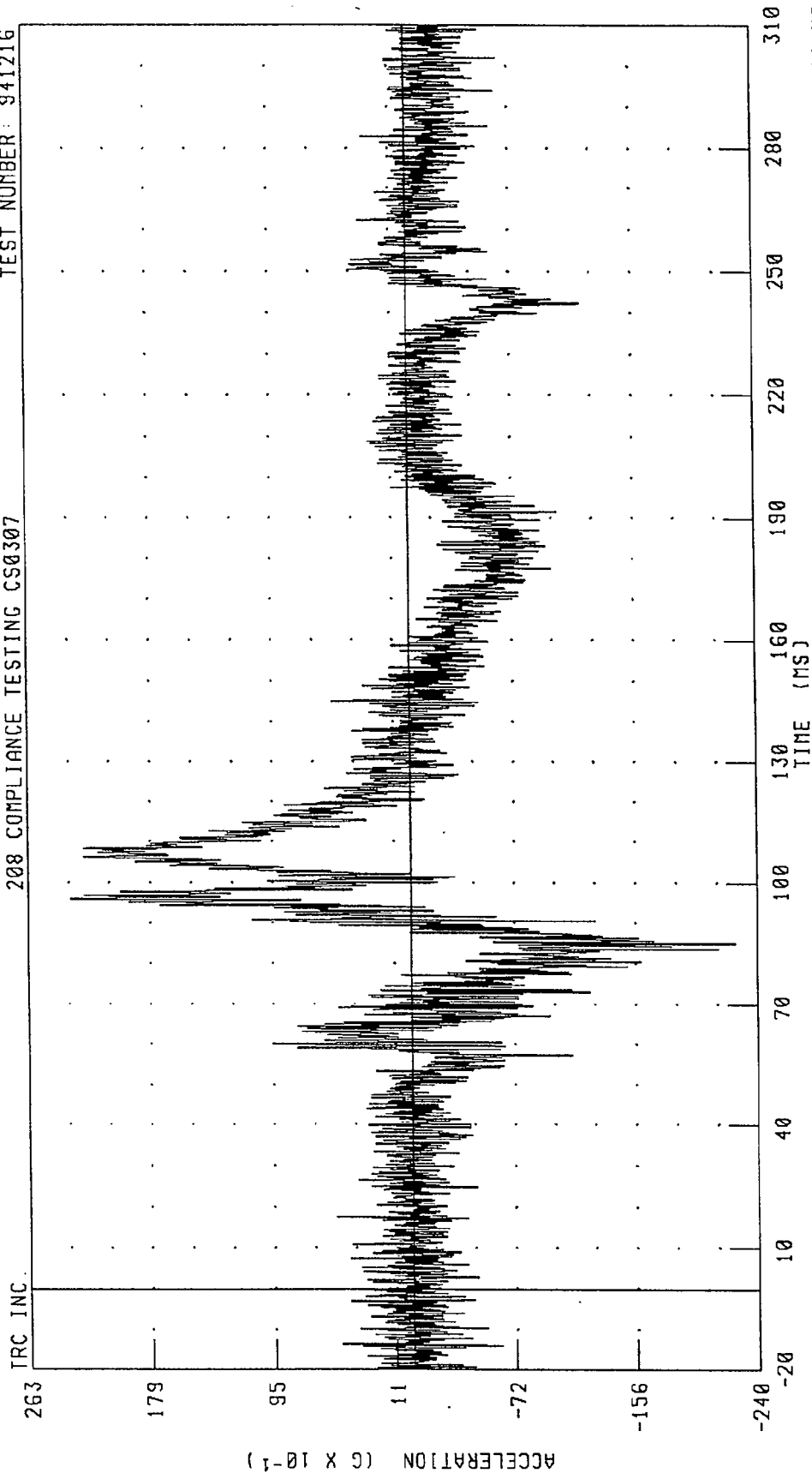
TEST NUMBER: 941216



CHANNEL: HEDYG1 FILTER: CH. CLASS 1000

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 DRIVER HEAD Z-AXIS ACCELERATION
 208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216

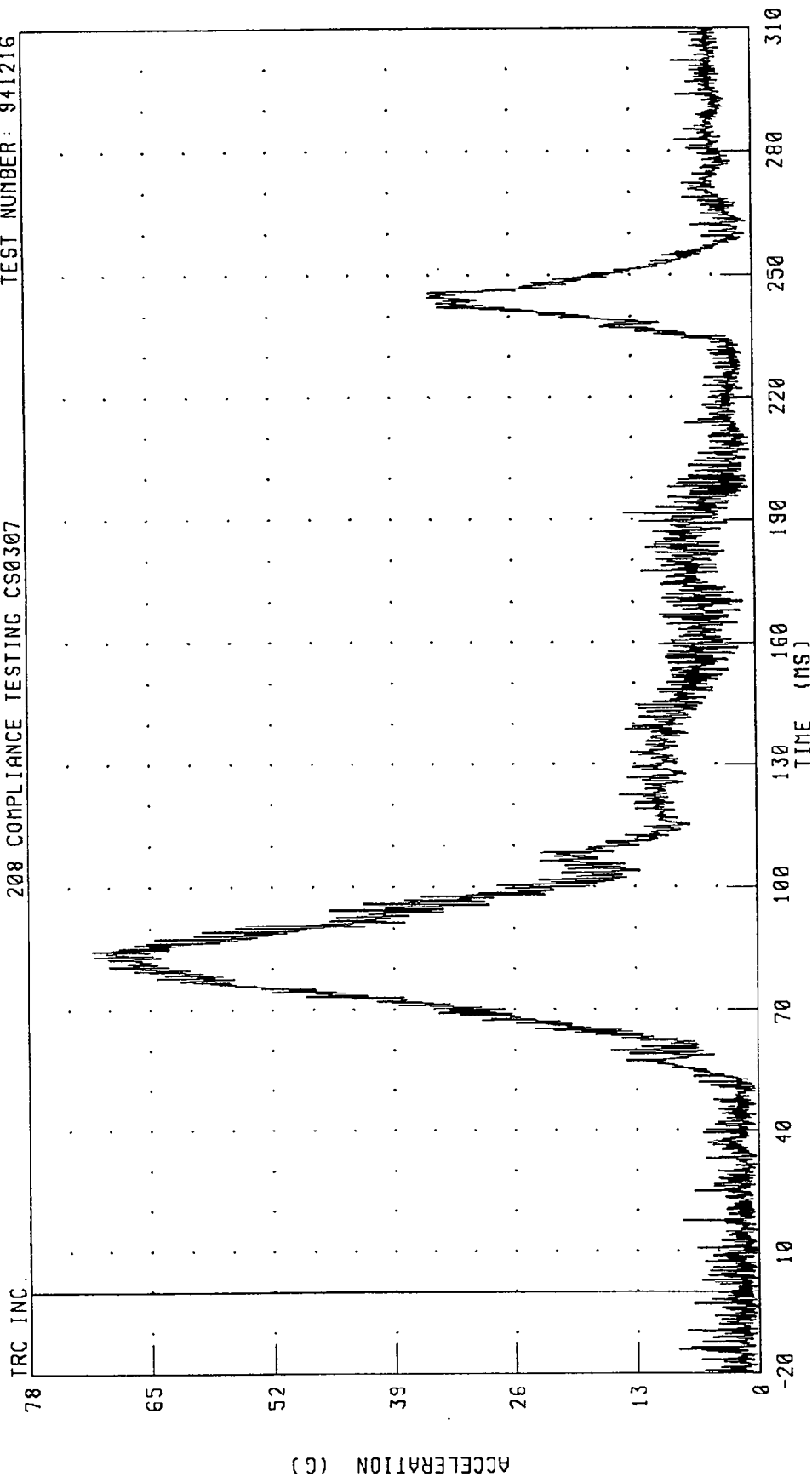


PEAK DATA: 23.46 G @ 96.00 MS; -22.49 G @ 85.12 MS

CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 DRIVER HEAD RESULTANT ACCELERATION
 208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216

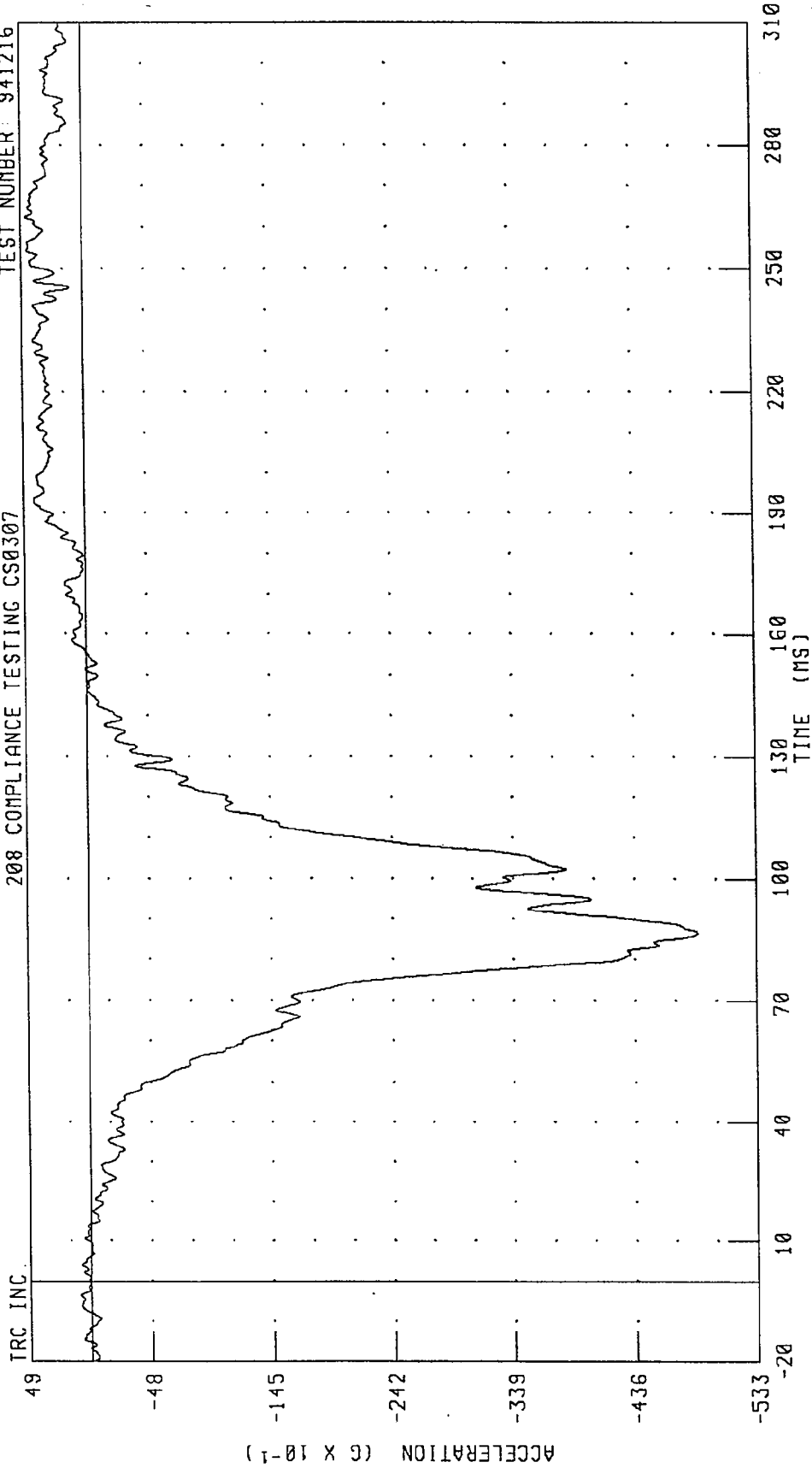


CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

941216

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 DRIVER CHEST X-AXIS ACCELERATION
 208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216

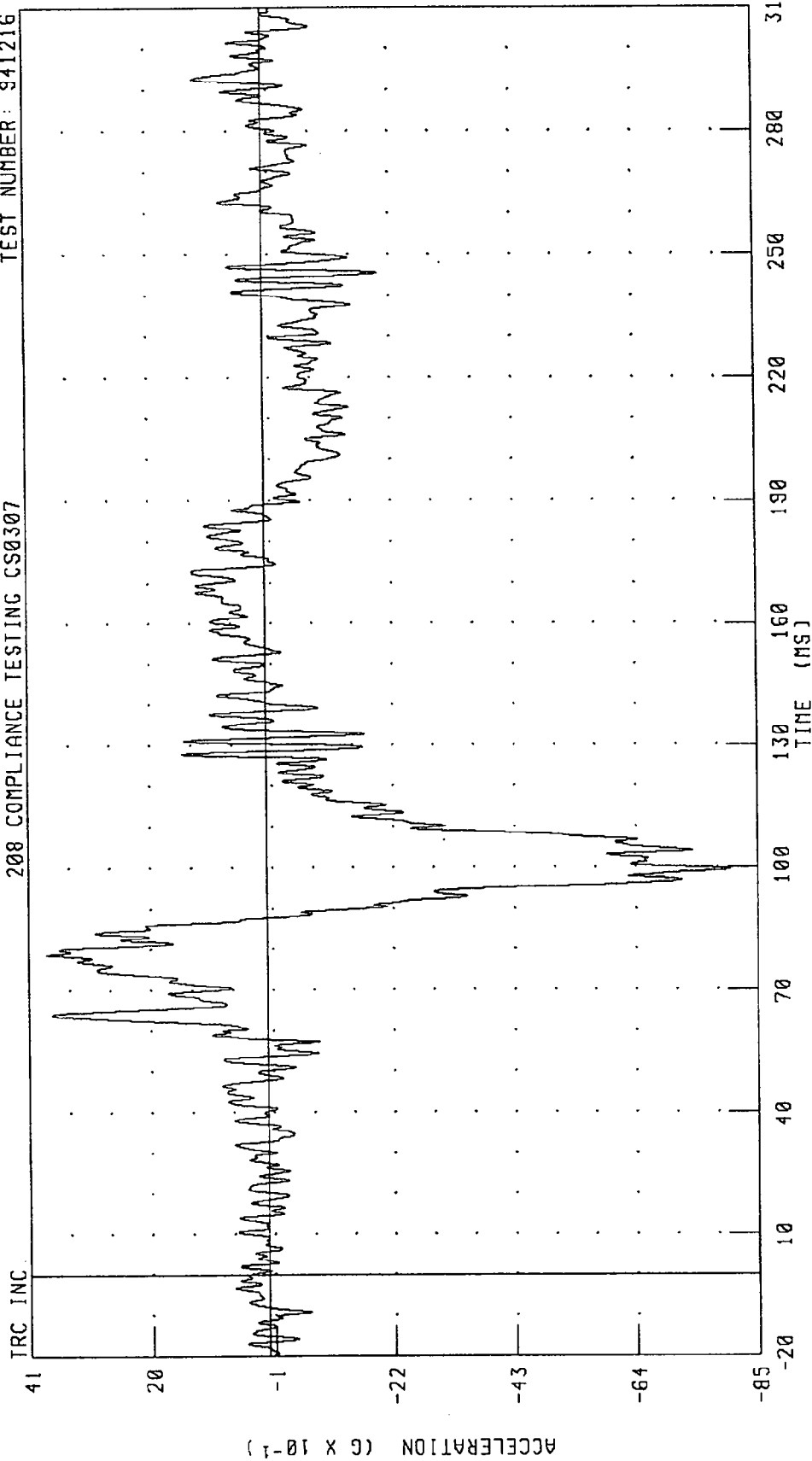


PEAK DATA: 4.52 G @ 262.40 MS, -48.63 G @ 86.48 MS

CHANNEL: CSTXG1 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 DRIVER CHEST Y-AXIS ACCELERATION
 200 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216

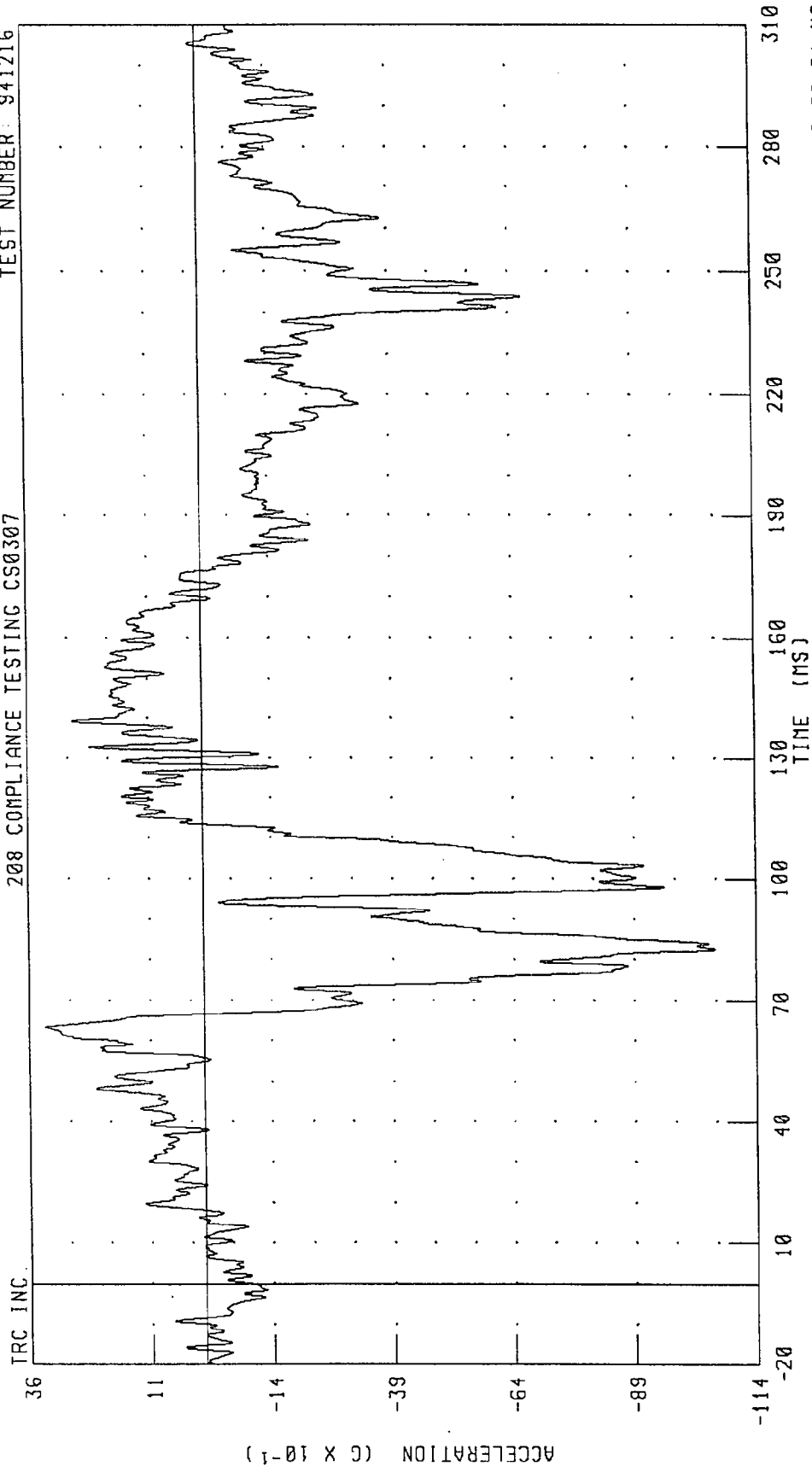


PEAK DATA: 3.78 G @ 78.80 MS; -8.03 G @ 99.44 MS

CHANNEL: CSTYG1 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 DRIVER CHEST Z-AXIS ACCELERATION
 208 COMPLIANCE TESTING CS0307

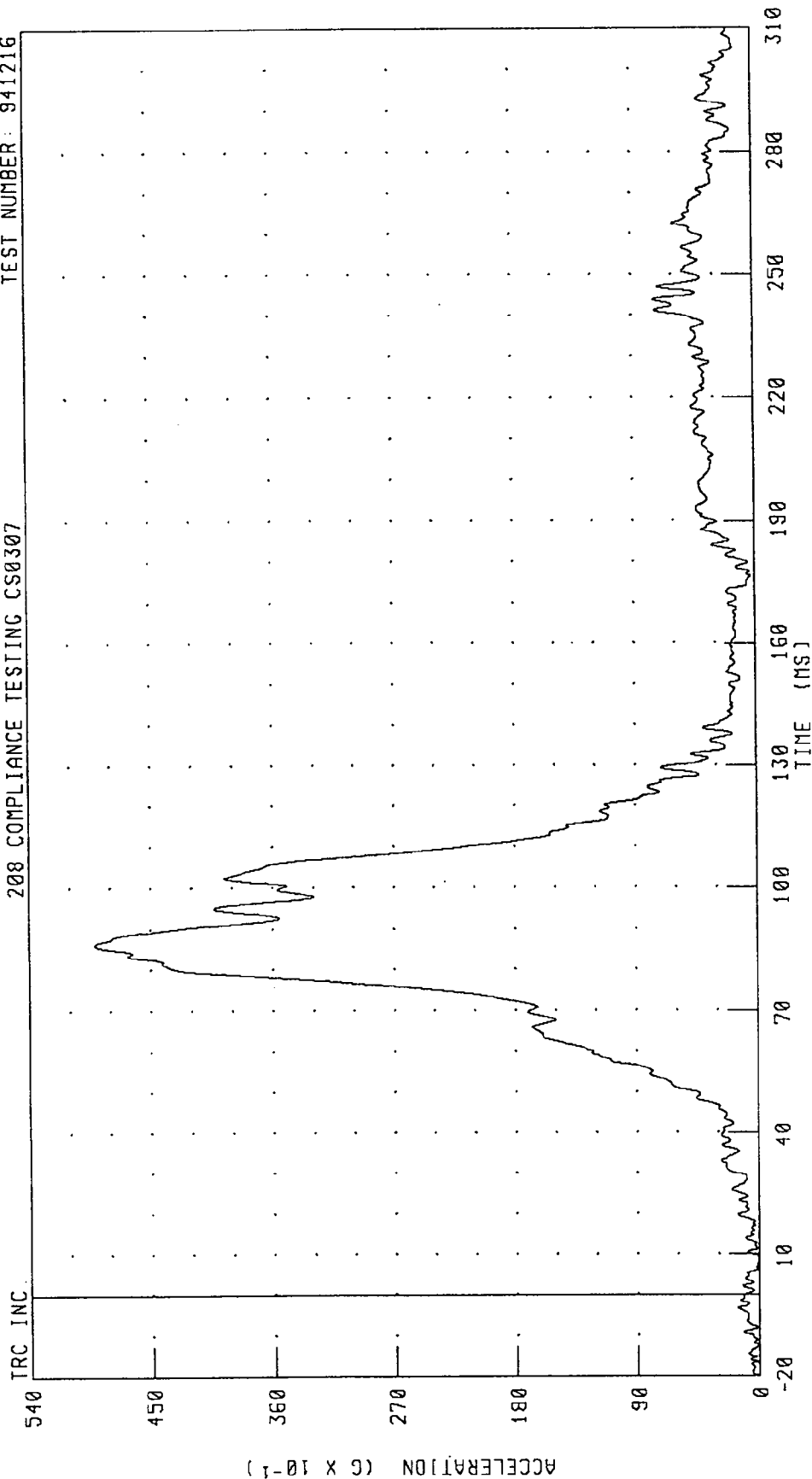
TEST NUMBER: 941216



CHANNEL: CSTZG1 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 DRIVER CHEST RESULTANT ACCELERATION
 208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216



PEAK DATA: 49.18 G @ 86.32 MS; 0.06 G @ 9.44 MS

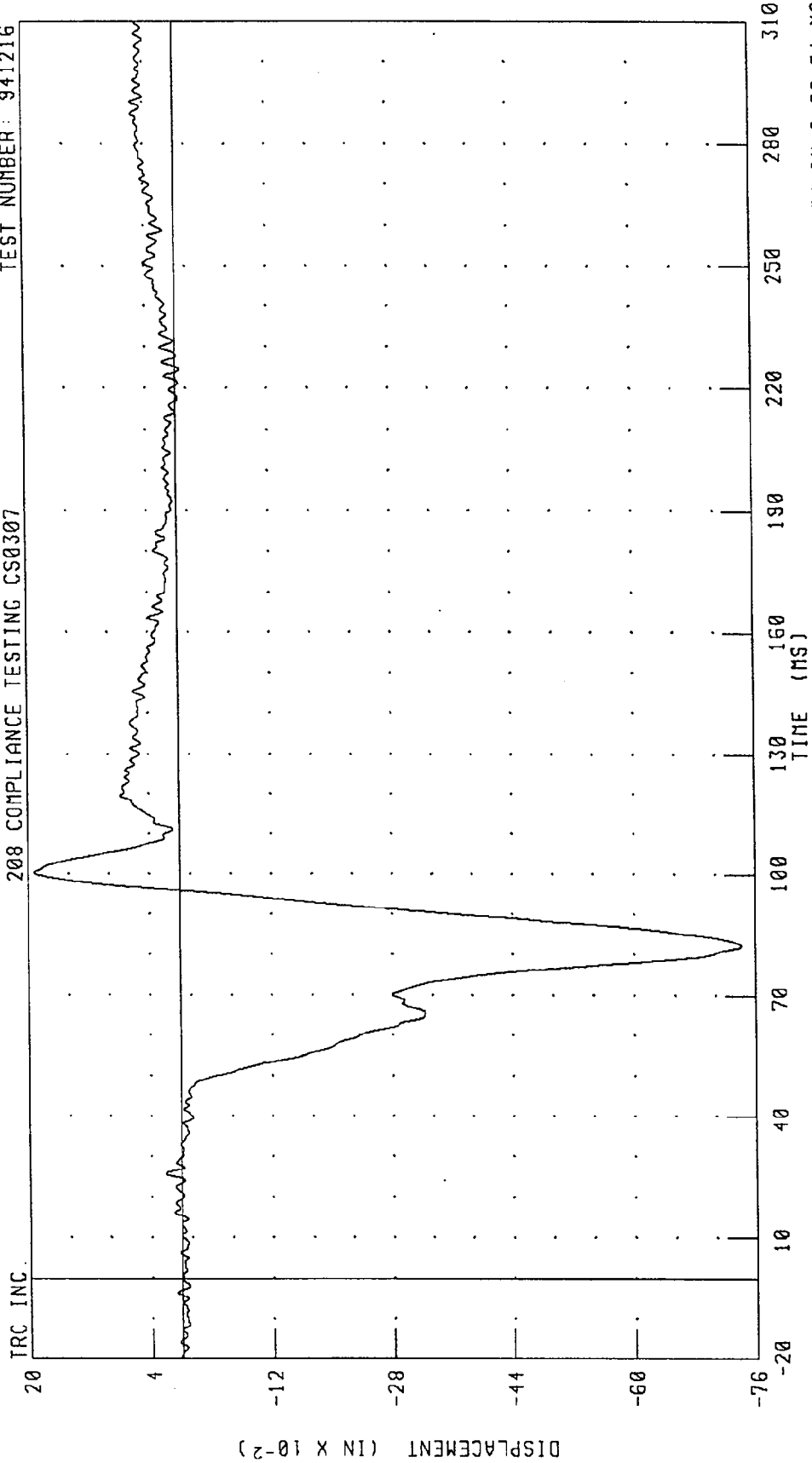
CHANNEL: CSTRG1 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER

DRIVER CHEST DEFLECTION

208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216



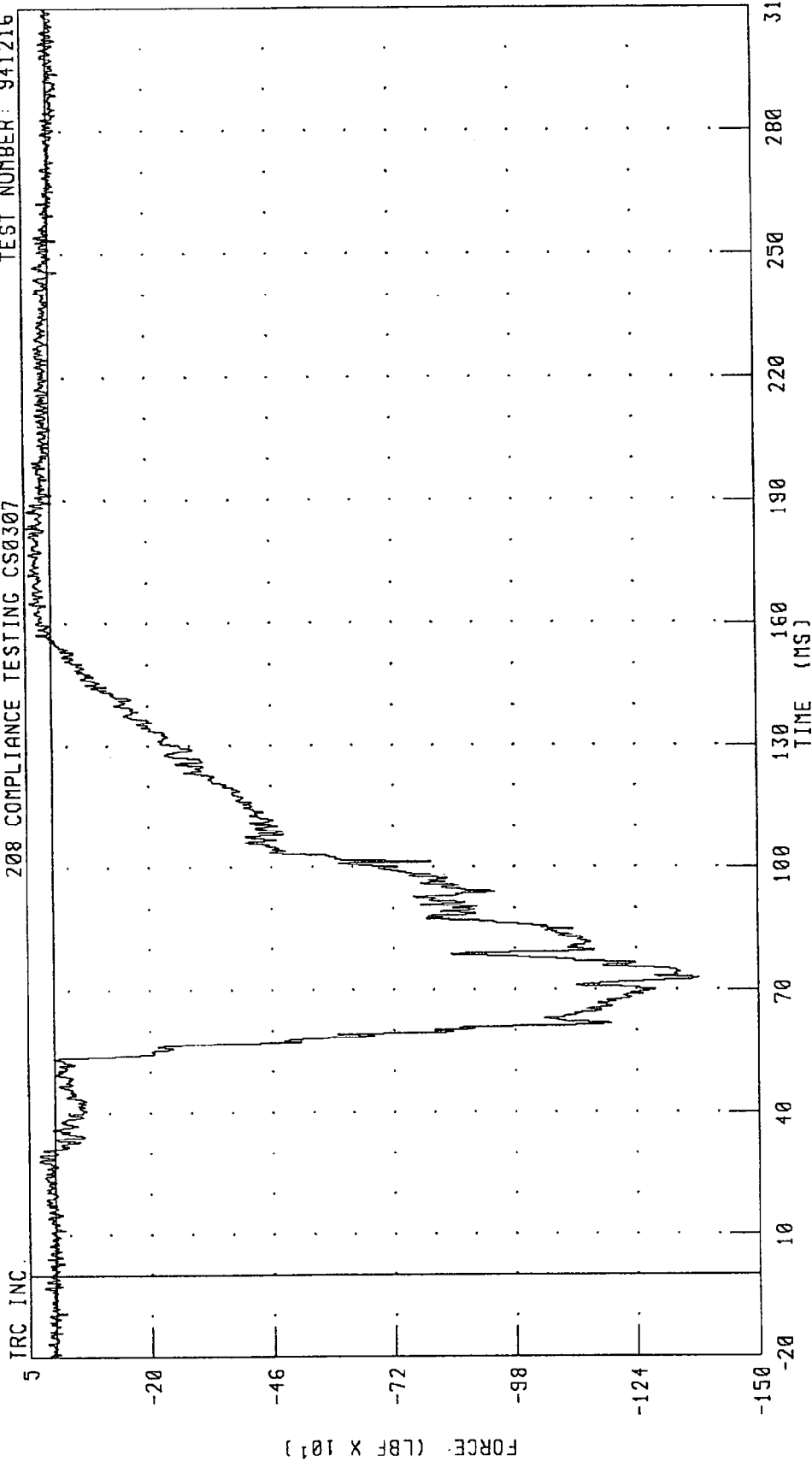
CHANNEL: CSTXD1 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER

DRIVER LEFT FEMUR FORCE

208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216



CHANNEL: LFMF1 FILTER: CH CLASS 600

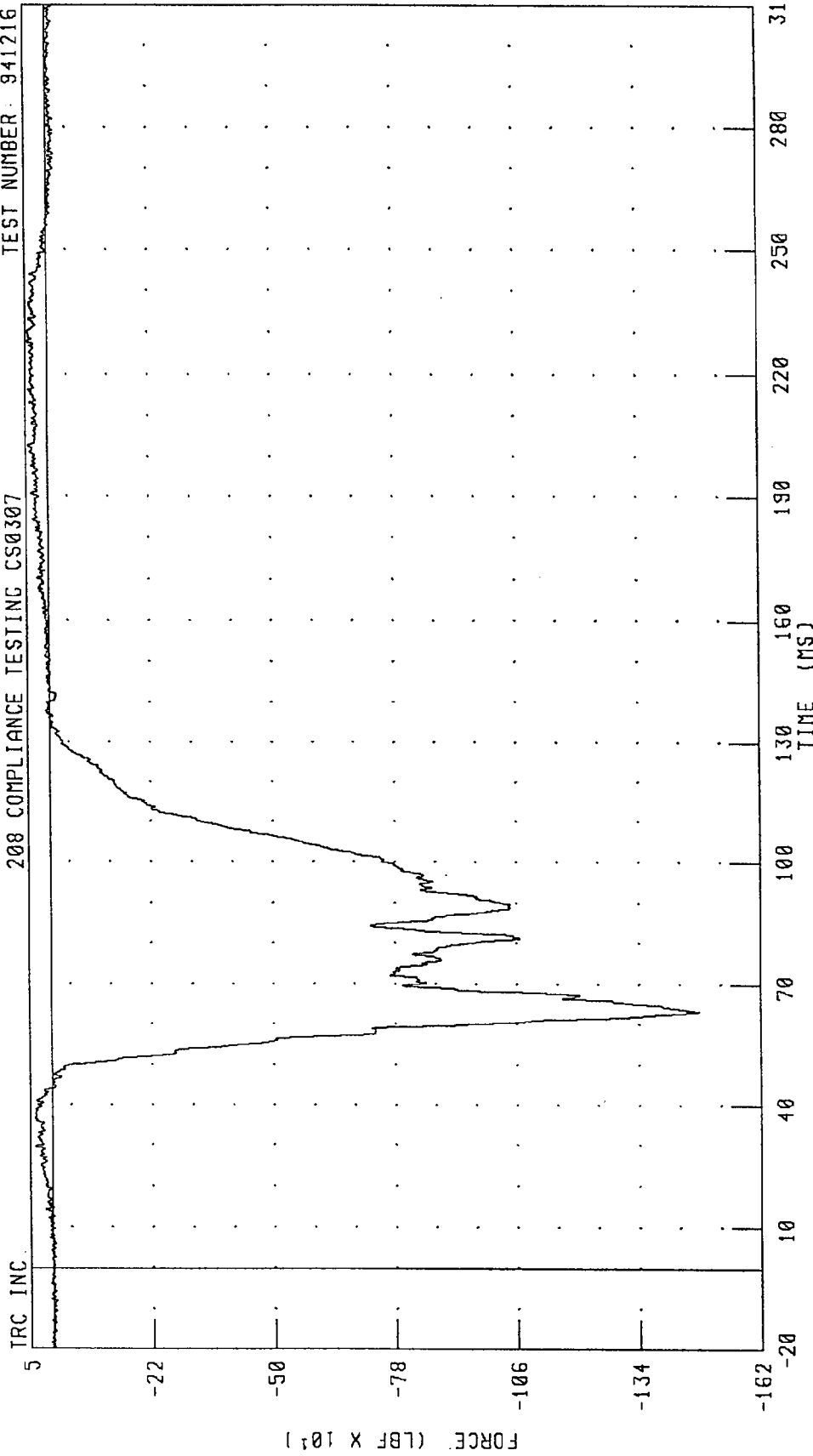
PEAK DATA: 50.75 LBF @ 183.44 MS; -1379.30 LBF @ 72.96 MS

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER

DRIVER RIGHT FEMUR FORCE

208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216



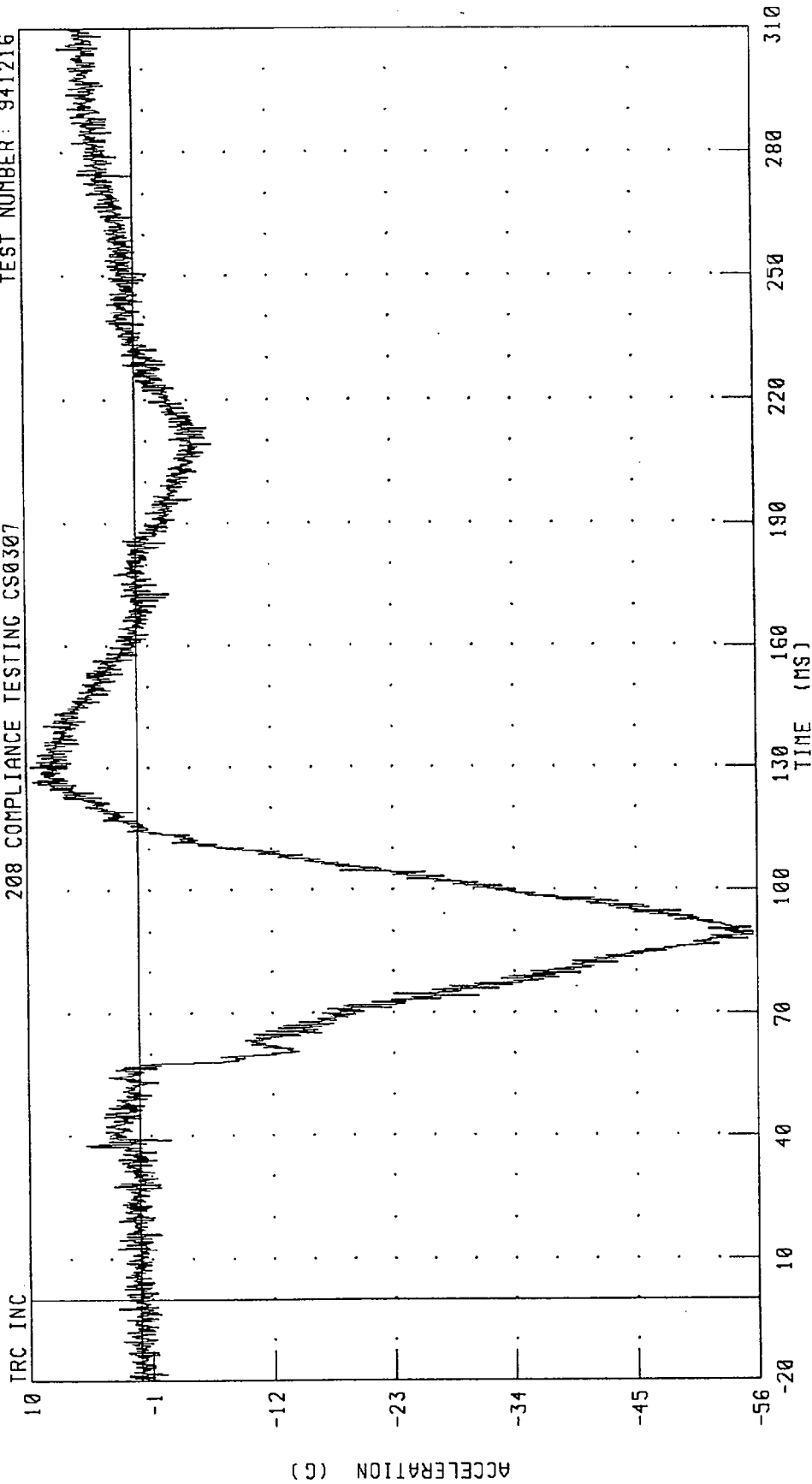
PEAK DATA: 46.57 LBF @ 227.76 MS; -1487.27 LBF @ 63.28 MS

CHANNEL: RFMF1 FILTER: CH. CLASS 600

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER HEAD X-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

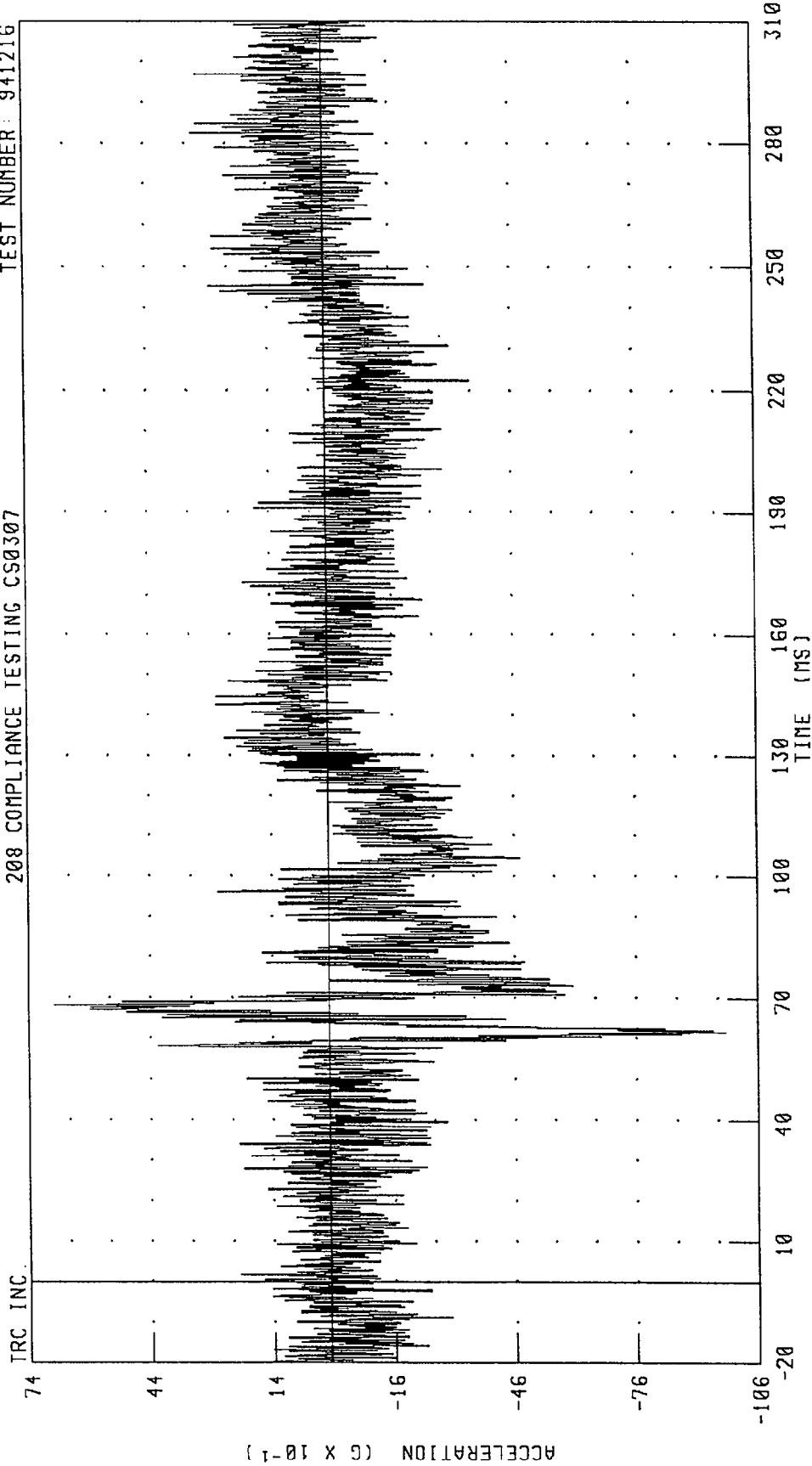


CHANNEL: HEDXC2 FILTER: CH. CLASS 1000

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307



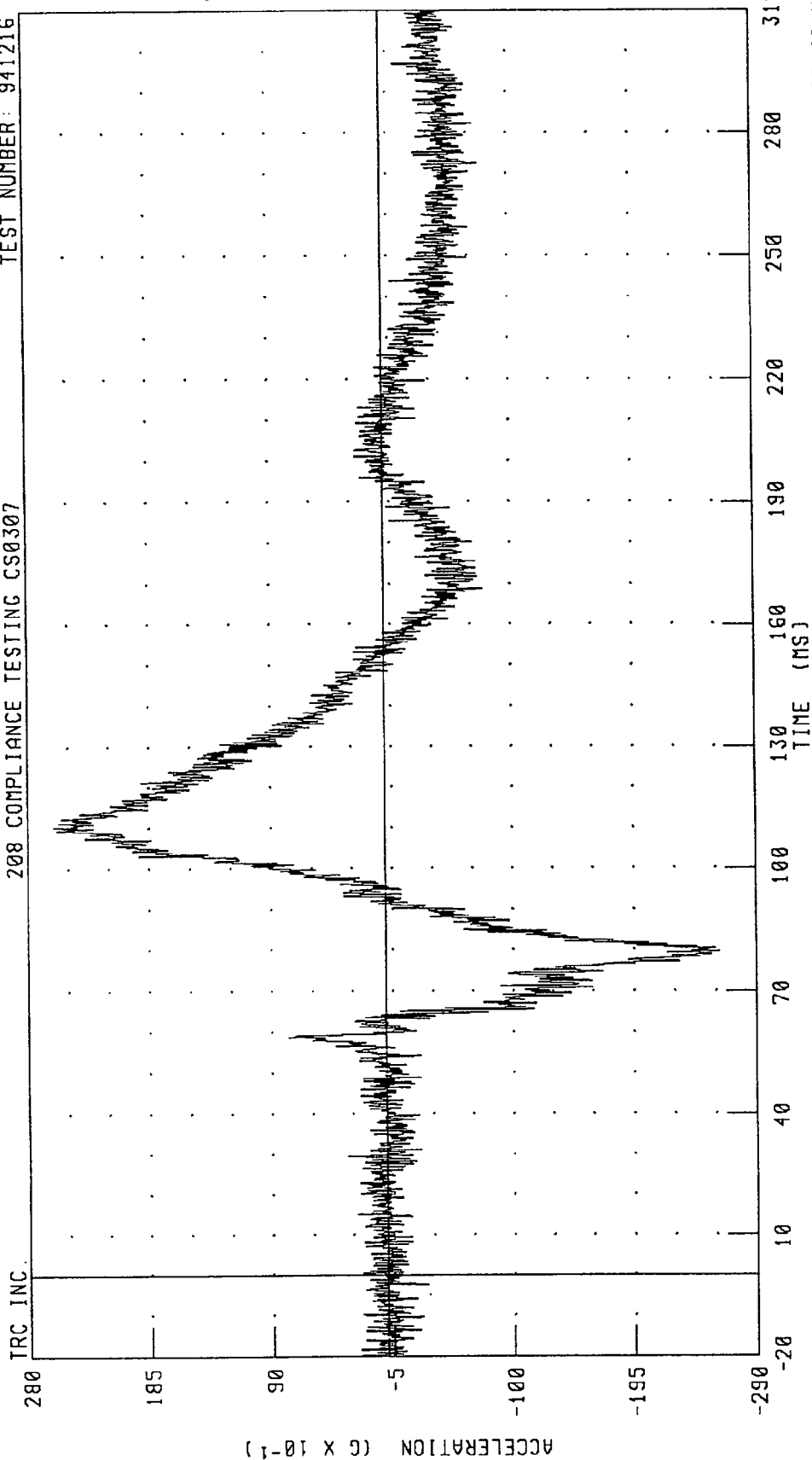
CHANNEL: HEDYG2 FILTER: CH. CLASS 1000

PEAK DATA: 6.78 G @ 68.24 MS; -9.79 G @ 61.52 MS

1985 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER HEAD Z-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

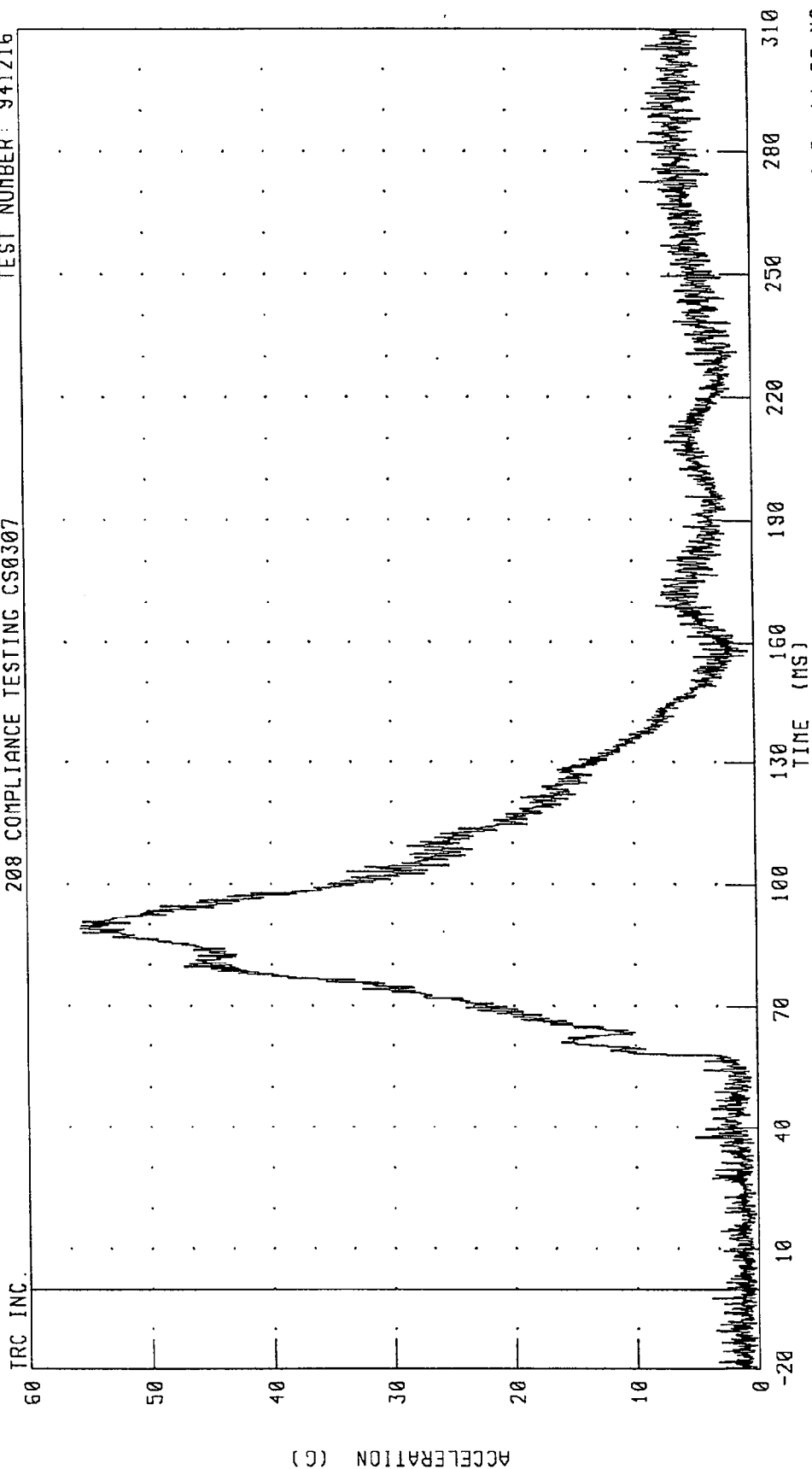


CHANNEL: HEDZG2 FILTER: CH CLASS 1000

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 RIGHT FRONT PASSENGER HEAD RESULTANT ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

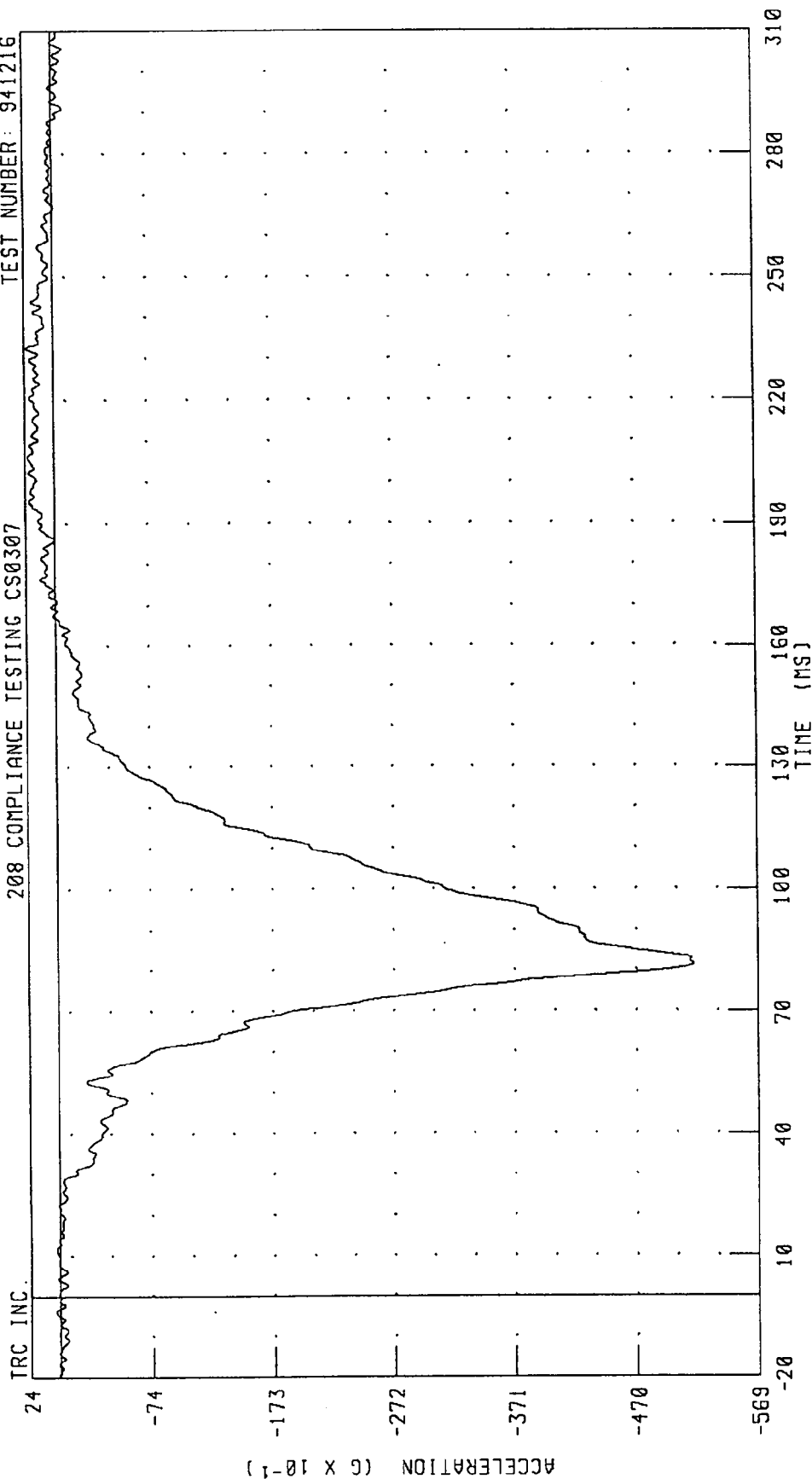


CHANNEL: HEDRG2 FILTER: CH. CLASS 1000

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST X-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

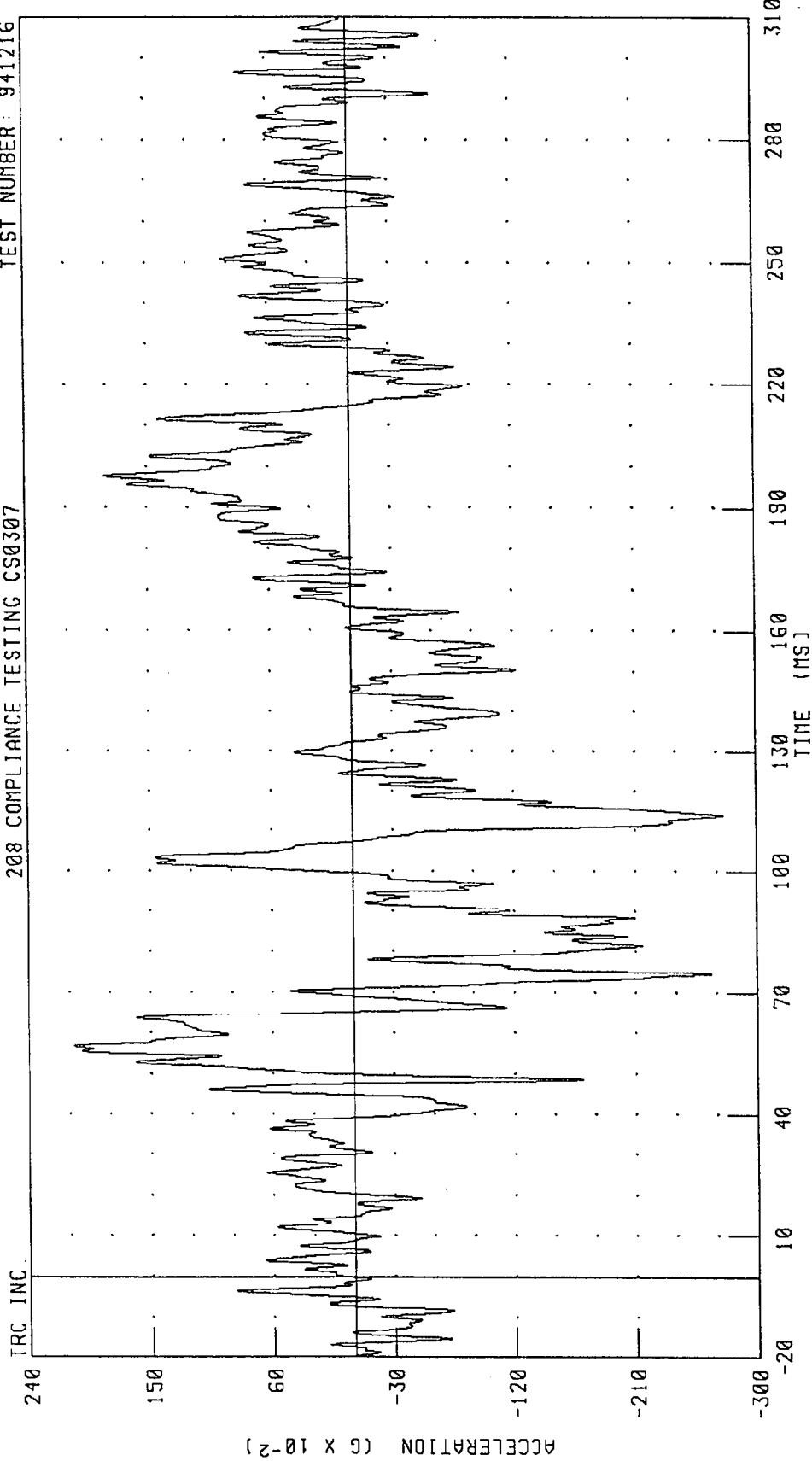


CHANNEL: CSTXG2 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST Y-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

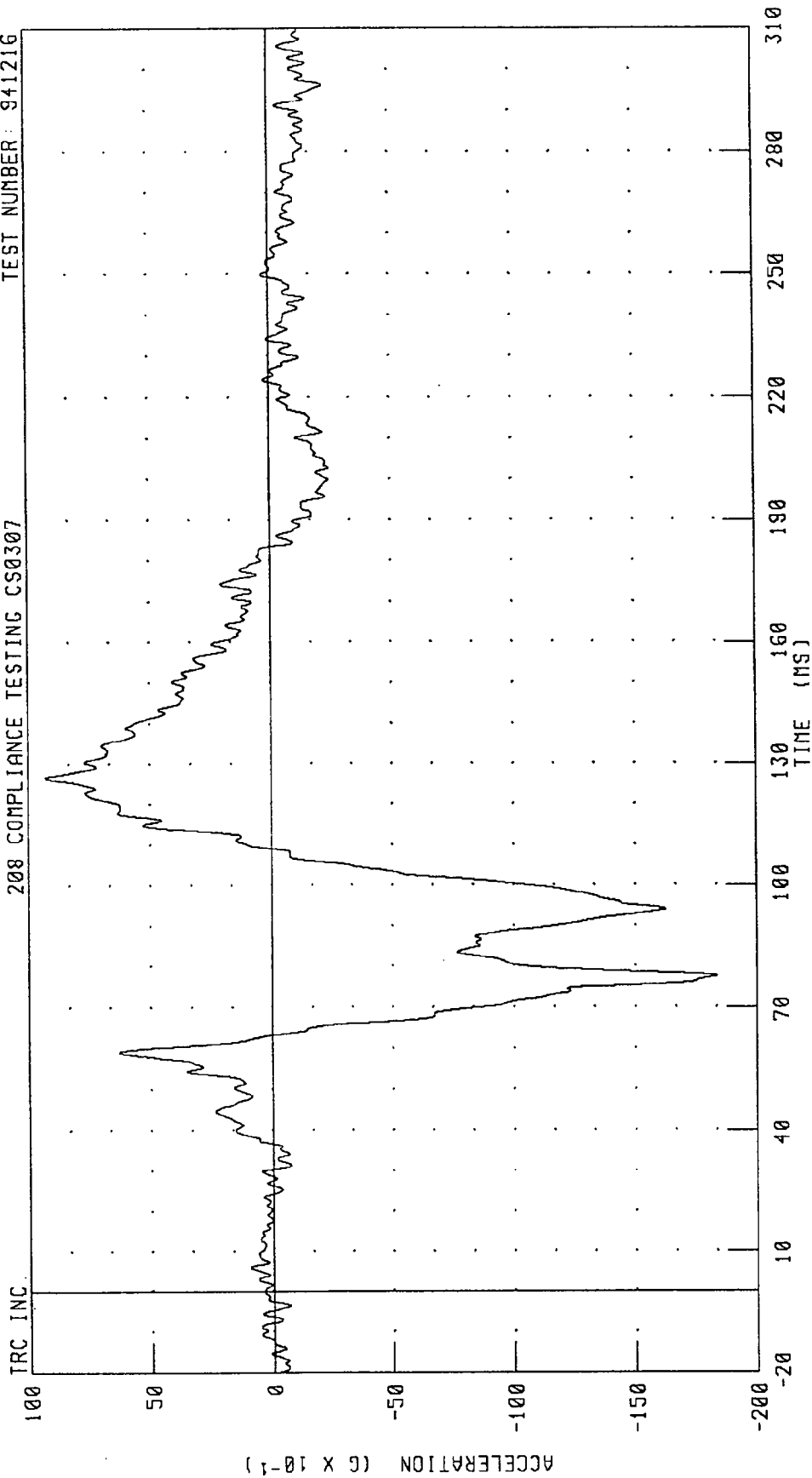


CHANNEL: CSTYG2 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST Z-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307



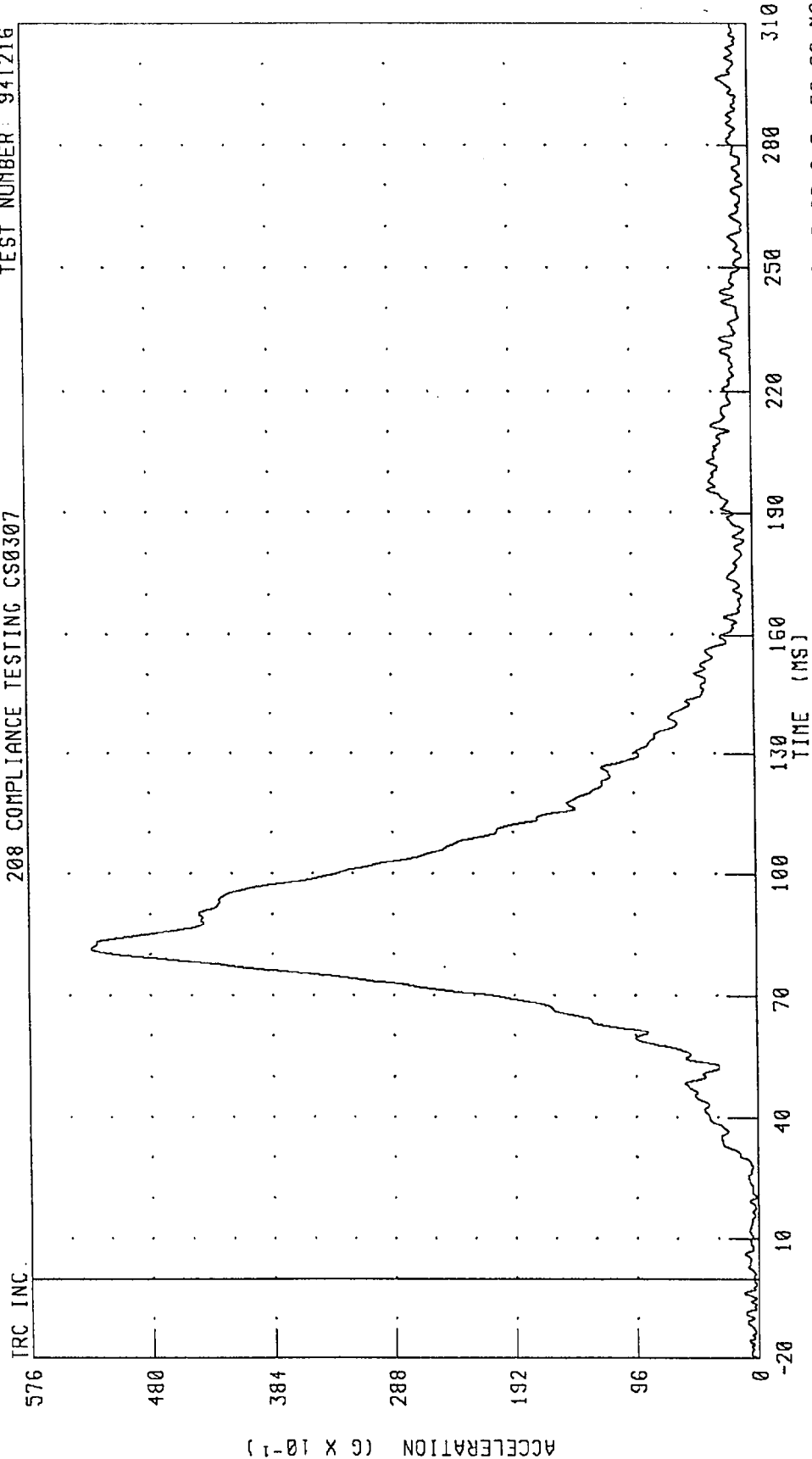
PEAK DATA: 9.26 G @ 126.64 MS; -18.36 G @ 77.60 MS

CHANNEL: CSTZG2 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
RIGHT FRONT PASSENGER CHEST RESULTANT ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

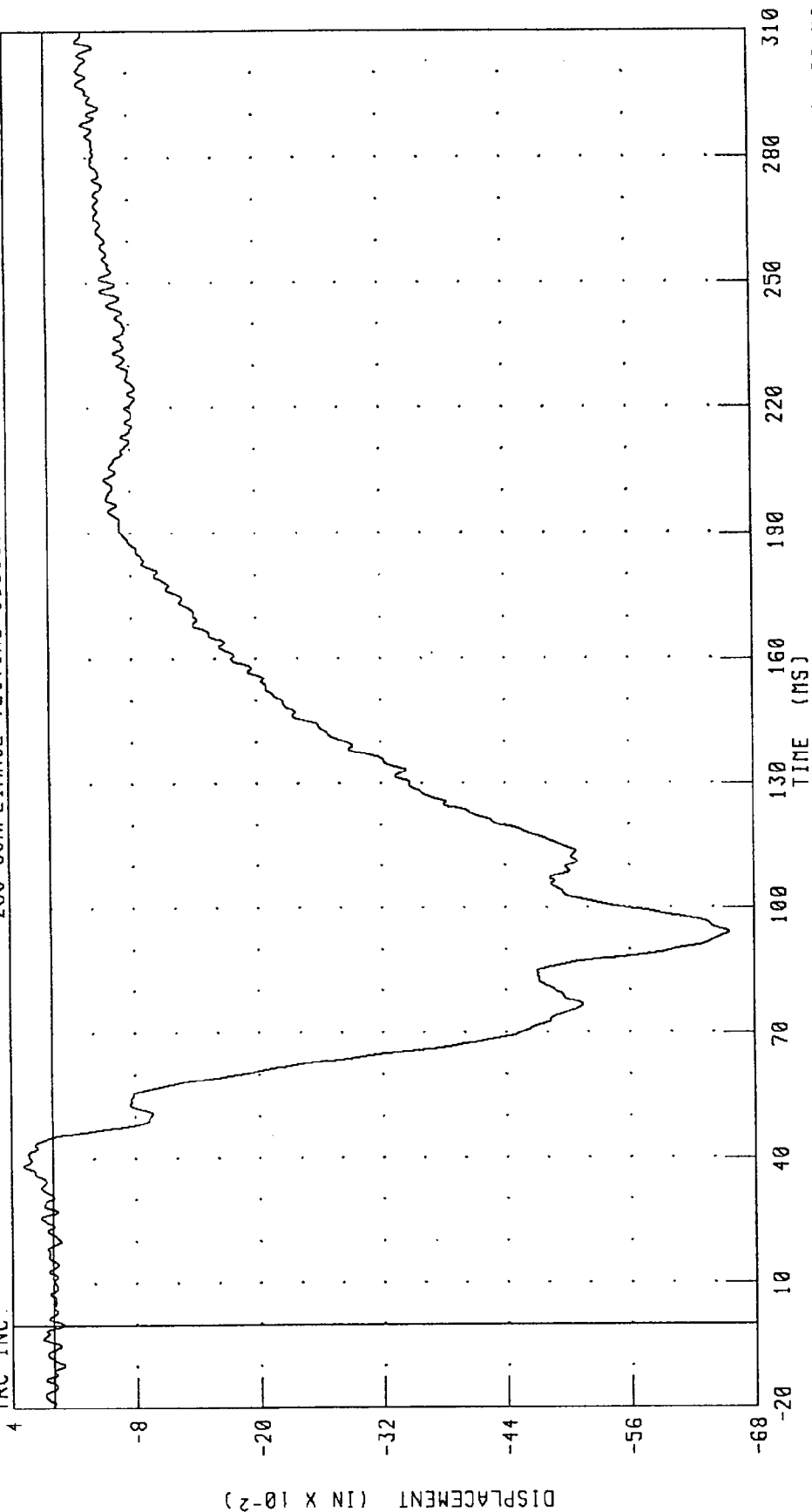


CHANNEL: CSTRG2 FILTER: CH. CLASS 180

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 RIGHT FRONT PASSENGER CHEST DEFLECTION
 208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216

IRC INC.

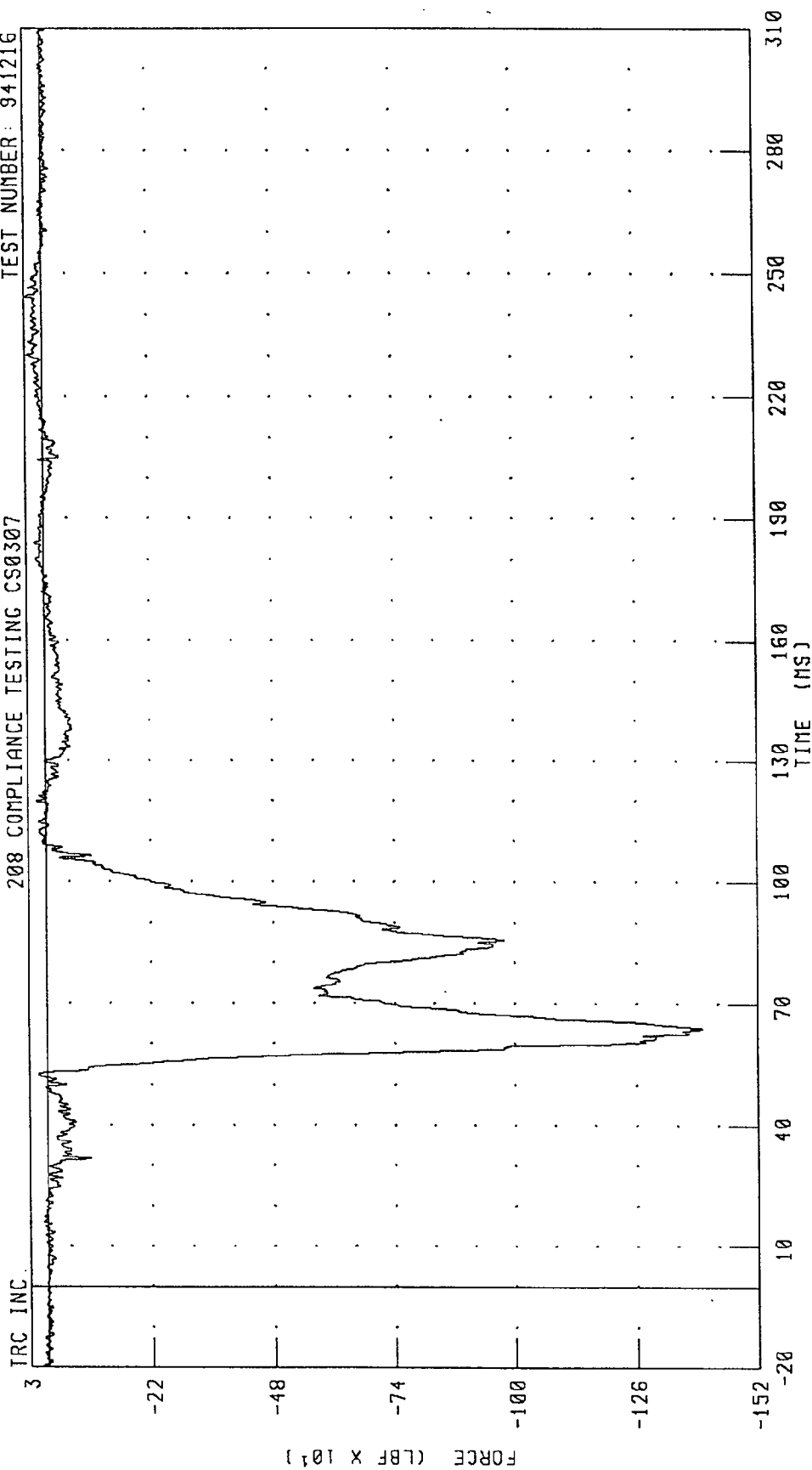


CHANNEL: CSTX02 FILTER: CH. CLASS 180

PEAK DATA: 0.03 IN @ 38.32 MS; -0.66 IN @ 94.08 MS

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 RIGHT FRONT PASSENGER LEFT FEMUR FORCE
 208 COMPLIANCE TESTING CS0307

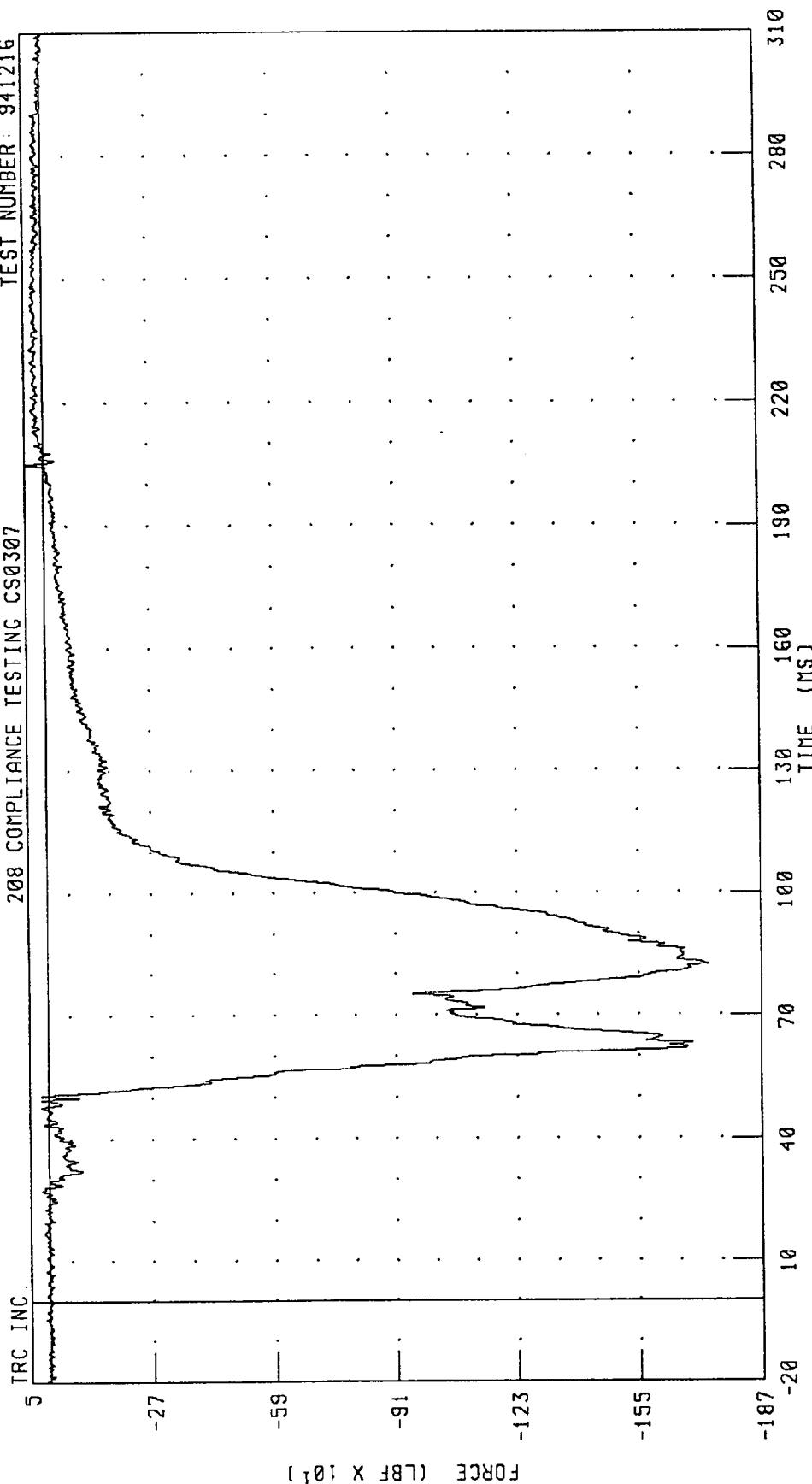
TEST NUMBER: 941216



CHANNEL: LFMF2 FILTER: CH CLASS 600 PEAK DATA: 35.77 LBF @ 244.16 MS; -1401.68 LBF @ 63.92 MS

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 RIGHT FRONT PASSENGER RIGHT FEMUR FORCE
 208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216



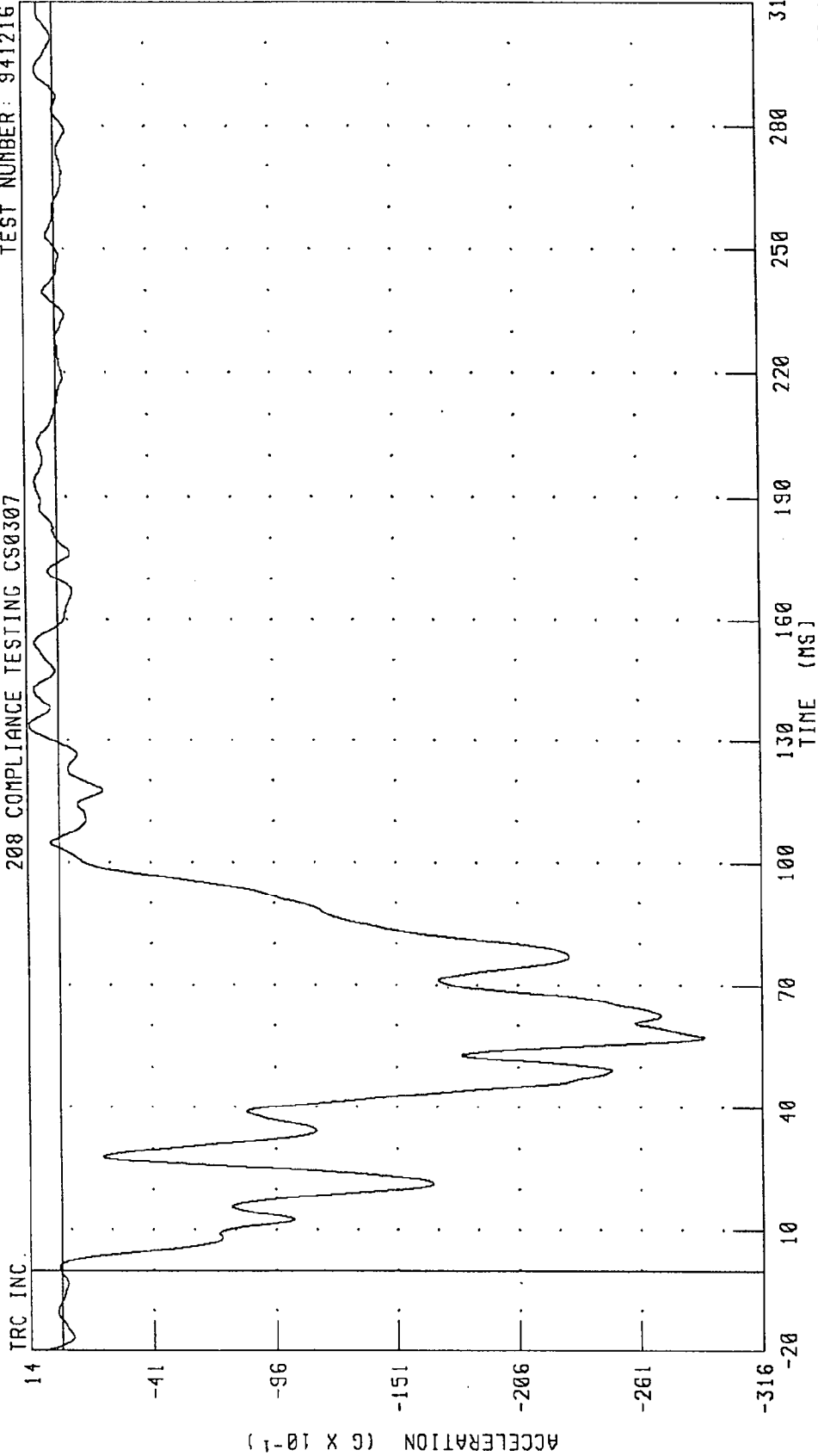
PEAK DATA: 45.55 LBF @ 204.96 MS; -1729.67 LBF @ 82.56 MS

CHANNEL: RFMF2 FILTER: CH. CLASS 600

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
LEFT REAR SEAT X-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

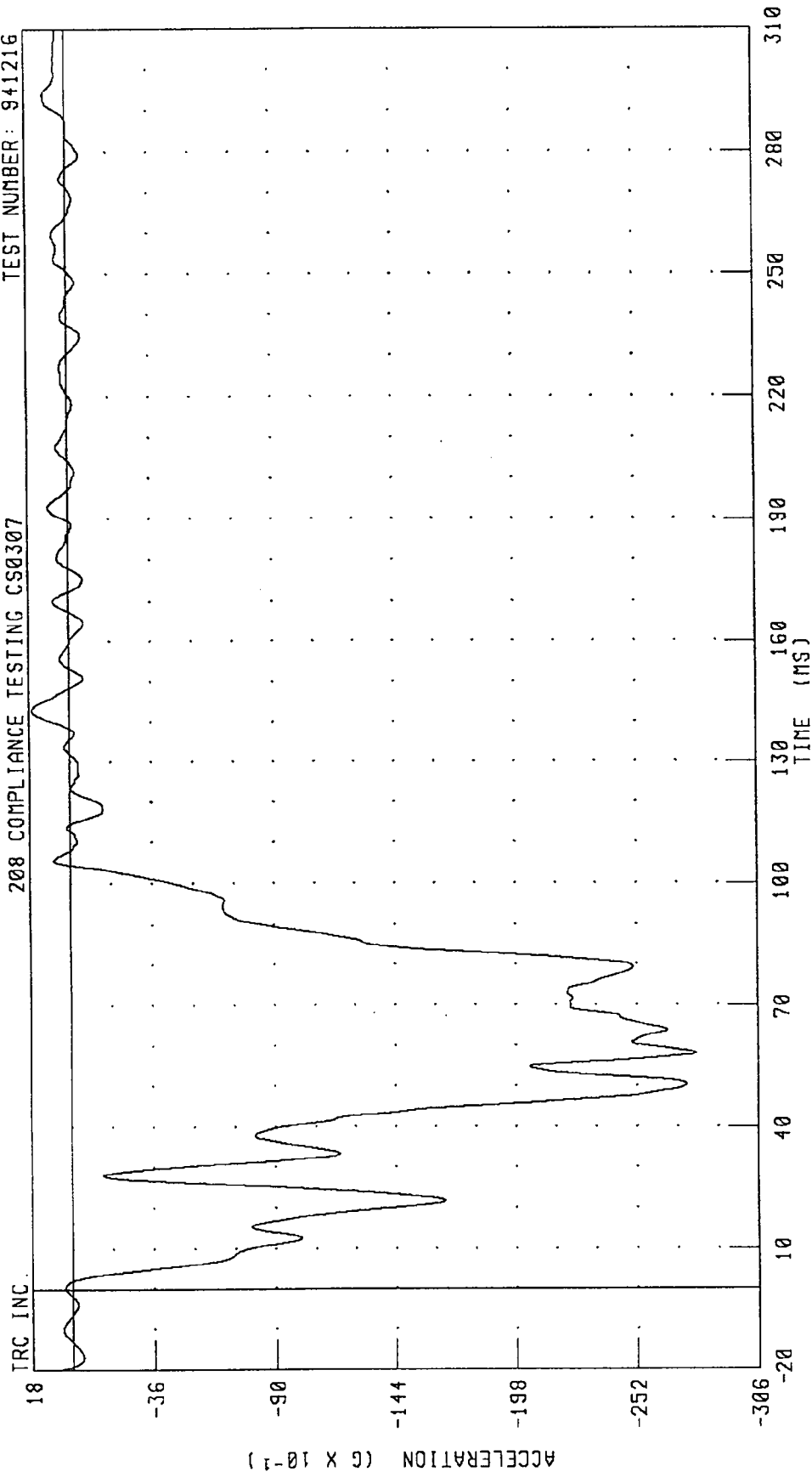


PEAK DATA: 1.31 G @ 133.76 MS; -28.98 G @ 57.28 MS

CHANNEL: TLRXG1 FILTER: CH. CLASS 60

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 RIGHT REAR SEAT X-AXIS ACCELERATION
 208 COMPLIANCE TESTING CS0307

TEST NUMBER: 941216

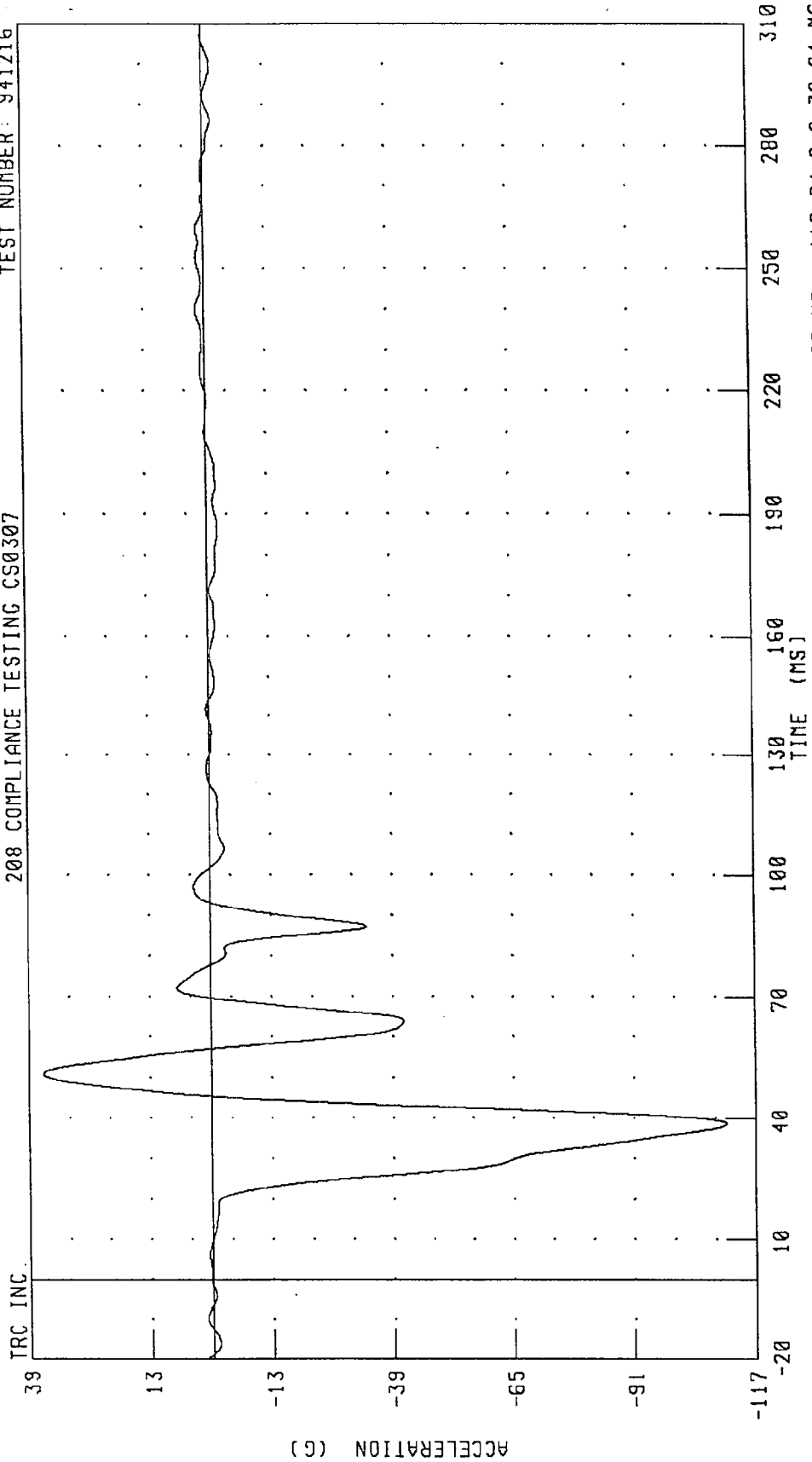


CHANNEL: TRRXG1 FILTER: CH. CLASS 60

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
ENGINE UPPER BLOCK X-AXIS ACCELERATION

208 COMPLIANCE TESTING CS0307

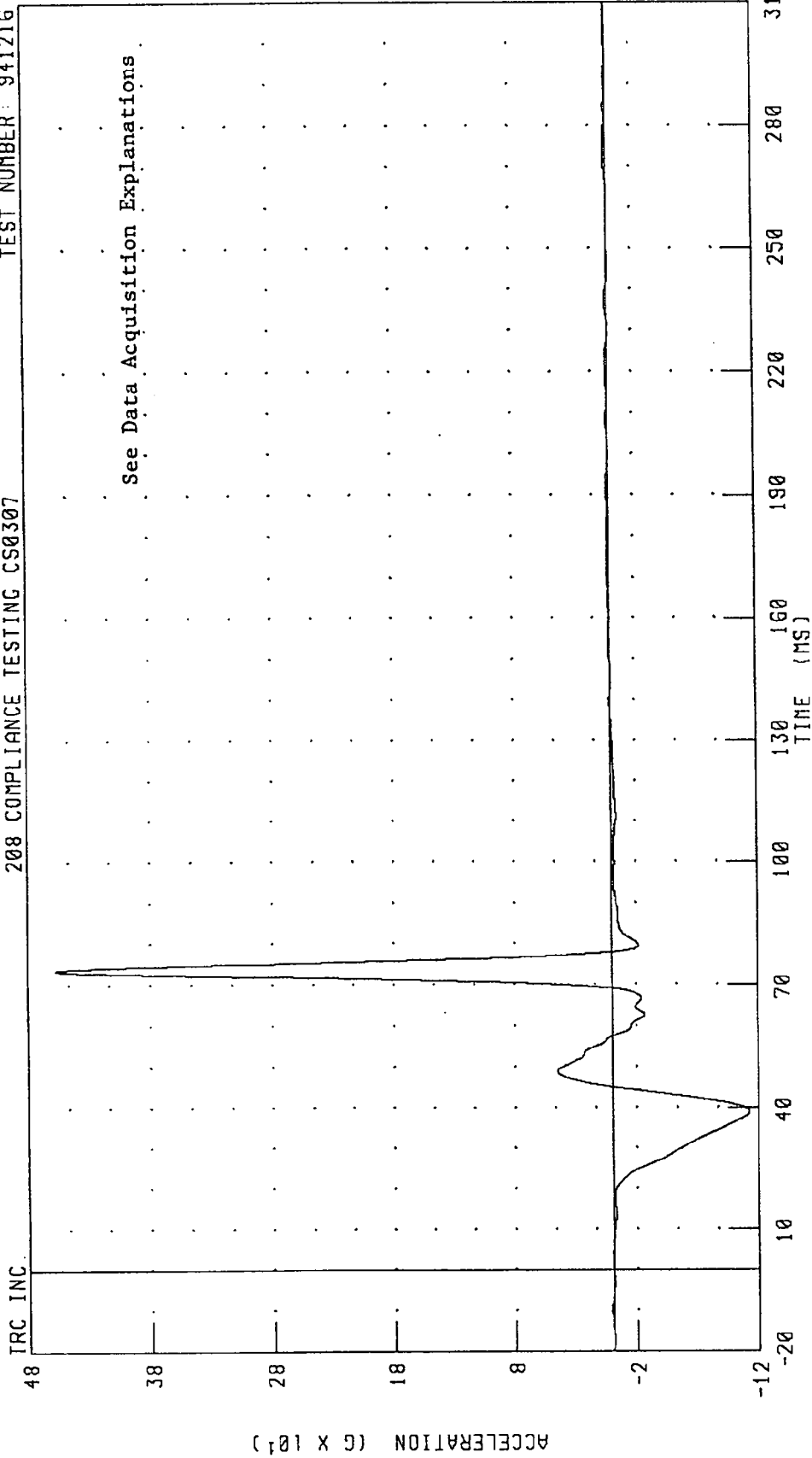
TEST NUMBER: 941216



CHANNEL: ENGCG1 FILTER: CH. CLASS 60

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
ENGINE BOTTOM BLOCK X-AXIS ACCELERATION

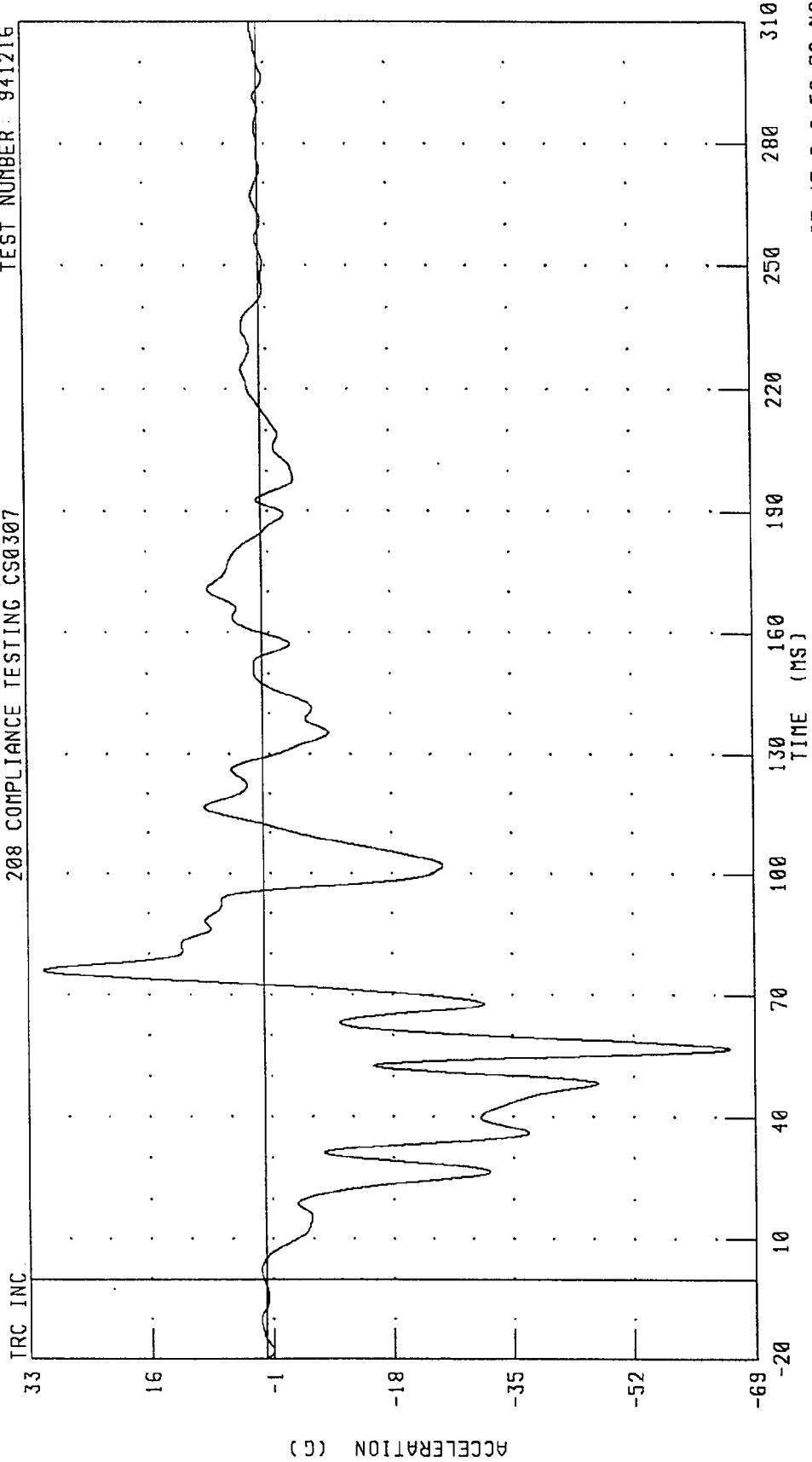
208 COMPLIANCE TESTING CS0307 TEST NUMBER: 941216



CHANNEL: ENGXC2 FILTER: CH. CLASS 60

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
 RIGHT BRAKE CALIPER X-AXIS ACCELERATION
 208 COMPLIANCE TESTING CS0307

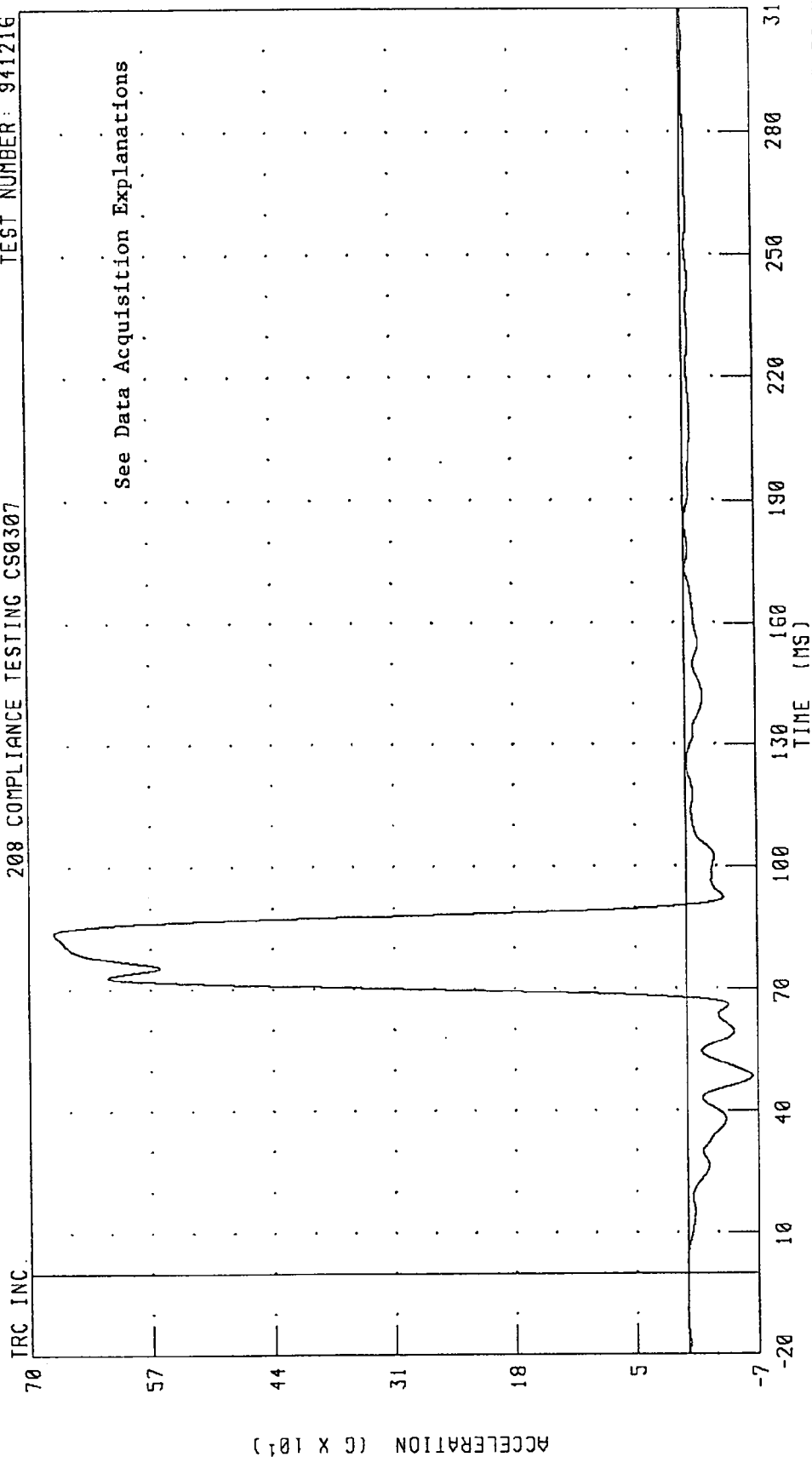
TEST NUMBER: 941216



CHANNEL: BCRXG1 FILTER: CH. CLASS 60

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
LEFT BRAKE CALIPER X-AXIS ACCELERATION

208 COMPLIANCE TESTING CS0307 TEST NUMBER: 941216



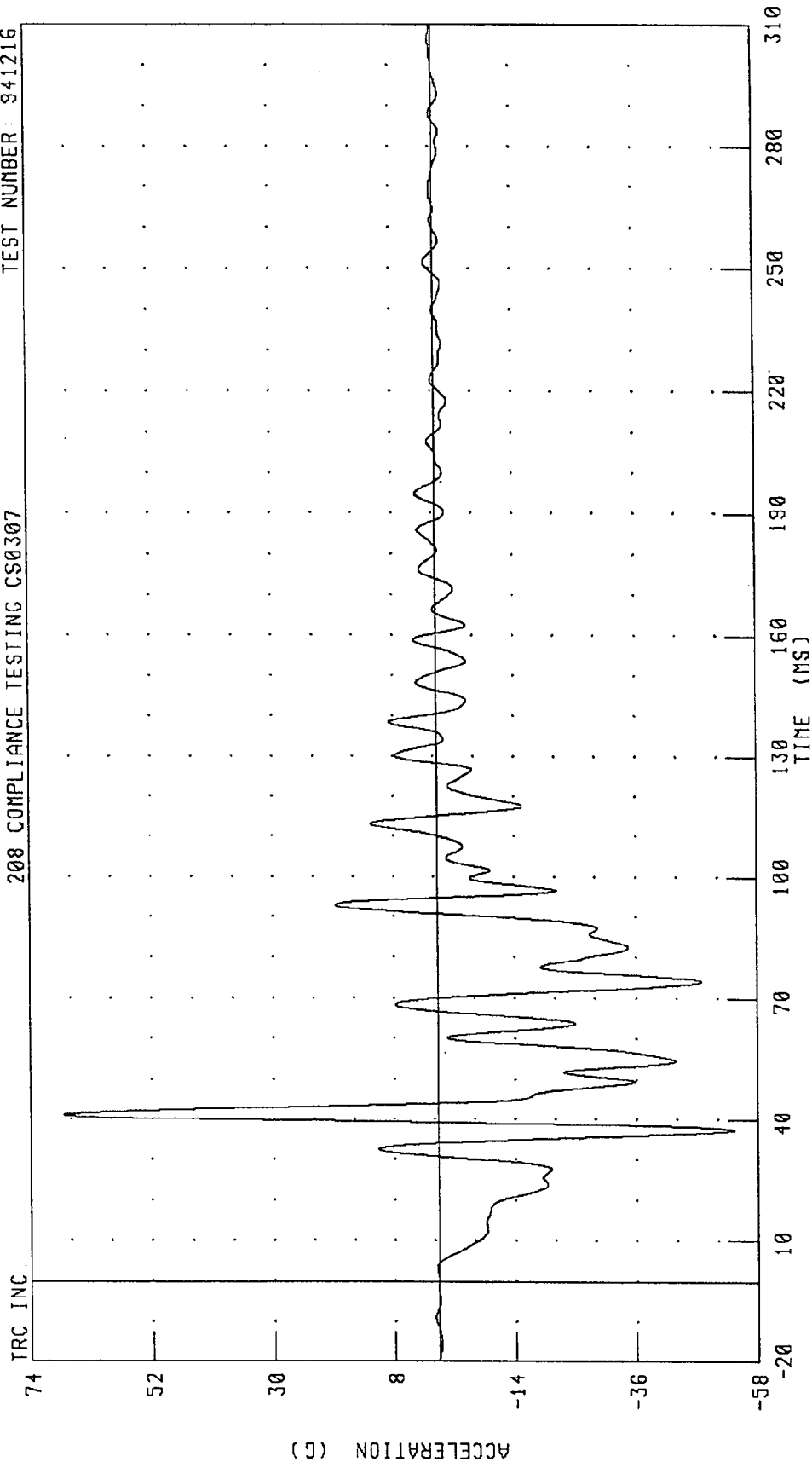
CHANNEL: BCLXG1 FILTER: CH. CLASS 60

PEAK DATA: 678.11 G @ 83.84 MS; -68.58 G @ 48.32 MS

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
DASH PANEL CENTER X-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307

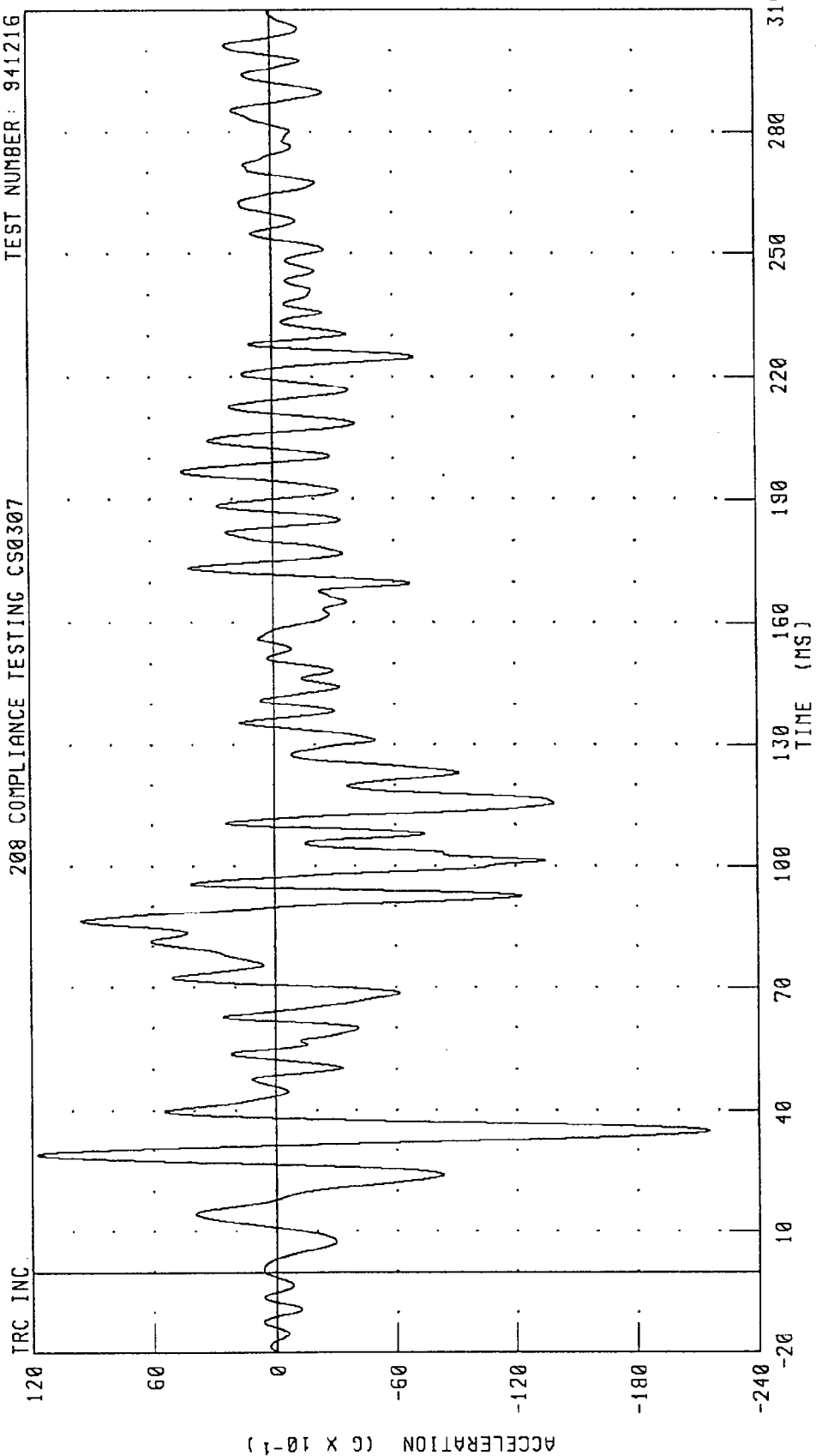


CHANNEL: DPCXG1 FILTER: CH. CLASS 60

1995 CHRYSLER NEW YORKER INTO FLAT FRONTAL BARRIER
VEHICLE REAR CENTER Z-AXIS ACCELERATION

TEST NUMBER: 941216

208 COMPLIANCE TESTING CS0307



CHANNEL: TFCZG1 FILTER: CH. CLASS 60

PEAK DATA: 11.72 G @ 29.12 MS; -21.52 G @ 34.80 MS

Appendix C

Manufacturer's Vehicle Information



Dale E Dawkins
Director - Vehicle Compliance and
Safety Affairs

August 30, 1994

Mr. Robert F. Hellmuth, Director
Office of Vehicle Safety Compliance
National Highway Traffic Safety Administration
U.S. Department of Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590

Dear Mr. Hellmuth:

Reference: NEF-31CCa IR 1512; FMVSS 208 -- 1995 CHRYSLER NEW YORKER

The following is provided in response to your July 19, 1994 information request.

- Q1.** Please inform OVSC whether the air bag automatic restraint system provided at the driver's and passenger's seating positions in your vehicle is certified to meet the requirements of S4.1.2.1.(c)(1) or S4.1.2.1.(c)(2) for FMVSS No. 208.
- A1.** The air bag automatic restraint system provided at the driver and passenger seating positions was installed to meet the requirements of S4.1.2.1(c)(2).
- Q2.** If the automatic restraint system provided at the driver's and passenger's seating positions in the subject vehicle was installed to meet the requirements of S4.1.2.1.(c)(1), please provide a copy of the certification test reports for each of the test configurations required by that section of the standard (i.e., moving barrier lateral impact and dynamic rollover) and a copy of the certification reports for the frontal/angular barrier impact test required by S4.1.2.1.
- A2.** As indicated in our response to Question #1, the automatic restraint system provided at the driver and passenger seating positions was installed to meet the requirements of S4.1.2.1.(c)(2).

Mr. Robert H. Hellmuth
NEF-31CCa; IR 1512
August 30, 1994
Page 2 of 7

- Q3.** If a manual 3-point safety belt is provided with the driver's and passenger's automatic restraint system in order to meet the requirements of S4.1.2.1(c)(2), please provide a copy of the certification test reports for each of the test configurations required by that section of the standard (i.e., frontal/angular barrier impact test of the automatic restraint system with the manual safety belt unfastened and frontal/angular barrier impact test of the automatic restraint system with the manual safety belt fastened).
- A3.** All pertinent test reports are summarized and included in Attachment 1. Based on previous test history, compliance for belted angular impact performance was based on engineering judgement.
- Q4.** If the manual safety belt provided at the driver's and passenger's seating positions was not installed to meet the requirements of S4.1.2.1(c)(2), please provide a copy of a crash test report or engineering analysis showing that the use of the manual safety belt with the automatic restraint system does not affect the ability of the vehicle to meet the requirements of FMVSS No. 208.
- A4.** As indicated in our response to Question #3, the manual 3-point driver and passenger safety belt was installed in order to meet the requirements of S4.1.2.1(c)(2).
- Q5.** If the vehicle uses a pressure vessel to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements of S9.1.
- A5.** Attachment 2 contains the compliance report for a pressure vessel device used to inflate the passenger side airbag.
- Q6.** If the vehicle uses an explosive device to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements of S9.2.
- A6.** An explosive device is used to inflate the driver and passenger air bags. Information demonstrating that these devices meet all requirements of S9.2 is provided in Attachment 3.

Mr. Robert H. Hellmuth
NEF-31CCa; IR 1512
August 30, 1994
Page 3 of 7

Q7. State, for any safety belt system in this vehicle, whether or not it is equipped with a tension-relieving device. Provide a copy of the information furnished in accordance with S7.4.2, if the tension-relieving device is used.

A7. No tension-relieving device is available.

Q8. FMVSS No. 208, S8.1.5 allows the manufacturer the option of having movable vehicle windows and vents placed in the closed position. State whether the vehicle's movable windows and vents were opened or closed for the certification tests.

A8. Our certification tests were conducted with movable windows in the open position.

Q9. FMVSS No. 208, S5.1 provides a manufacturer with the option of using either a Part 572(B) or Part 572(E) test dummy. Please inform OVSC which test dummy was used in each seat for each certification test. Submit dummy placement measurements, including diagrams or photographs which show exactly where measurements were taken. Enclosed is a diagram of some of OVSC's dummy measurements. Where possible, use the dimension shown in the diagram to provide the individual placement measurements.

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

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

A9. The Part 572(E) test dummy was used in both front outboard designated seating positions for all compliance tests. Attachment 4 contains typical dummy placement measurements, including a diagram.

Mr. Robert H. Hellmuth
NEF-31CCa; IR 1512
August 30, 1994
Page 4 of 7

The vehicle has a foot rest for the driver and can be equipped with a split front bench seat. The driver dummy was located so that the midsagittal plane was centered on the steering wheel rim. The passenger dummy was located so that the midsagittal plane was centered the same distance from the longitudinal centerline of the vehicle as the driver dummy.

Q10. Provide the seat positioning, steering column positioning, and fuel tank data on the enclosed form. If more than one front seating configuration, steering column or fuel tank are available on this vehicle, provide separate information for each.

A10. See Attachment 5.

Q11. If the vehicle is equipped with adjustable seat belt anchorages, provide the manufacturer's nominal design position for a 50th percentile adult male occupant.

A11. Adjustable turning loops are standard on each B-pillar, with 5 positions. The nominal design position for a 50th percentile adult male is located three positions down from the upper most position.

Q12. Provide the speed at impact, vehicle test weight, and resulting injury criteria (i.e., HIC, chest acceleration, chest compression for the Part 572(E) dummy and femur loads) recorded for all certification tests conducted to meet the requirements of S4.1.2.1.

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

- 12.1 Driver and passenger knee contact with the knee bolster
- 12.2 Collapse of the driver and passenger knee bolsters
- 12.3 Steering column stroke (when it starts and when it ends)
- 12.4 Driver: Contact of the head with the air bag, steering wheel, hub, windshield, header and any other contact points

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Passenger: Contact of the head with the air bag, instrument panel, windshield, header and any other contact points

- 12.5 Contact of the driver's torso with the air bag, steering wheel and hub
- 12.6 Time during event when each air bag starts to deploy and when it is fully deployed
- 12.7 Mark on the plots any unexpected events, like steering wheel fracture, windshield contact, windshield header contact, that affected the normal loading characteristics.

A12. See Attachment 1 for all certification test information. See Attachment 6 for marked data traces regarding questions 12.1, 12.2, 12.4, 12.5, and 12.6. For question 12.3, steering column stroke will typically start at approximately 40 milliseconds after barrier contact and will typically end at approximately 60 milliseconds after barrier contact. In response to question 12.7, there were no unexpected events in the tests.

Q13. When vehicle components must be removed to obtain the proper test weight, what components do you recommend for removal and in what priority order do you recommend removal?

A13. If vehicle components must be removed to obtain the proper test weight, the following priority order should be utilized:

Trunk carpeting, spare tire and jack, rear fascia, rear bumper beam, decklid, rear window (backlight), rear seat, rear seat belt systems, C-pillar trim, carpet (aft of B-pillar), headliner (aft of B-pillar), rear door trim panels, rear door glass, rear door hardware (lock/latch/window mechanisms). Removal of any components other than mentioned above may compromise test results.

Q14. Please provide FMVSS No. 204, "Steering Control Rearward Displacement" certification data. Include a copy of the test report and any engineering analysis forming the basis of the certification. The report should document the vehicle test weight, impact velocity, and the horizontal and vertical displacements of the steering control. Pre and post test photographs are also requested.

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

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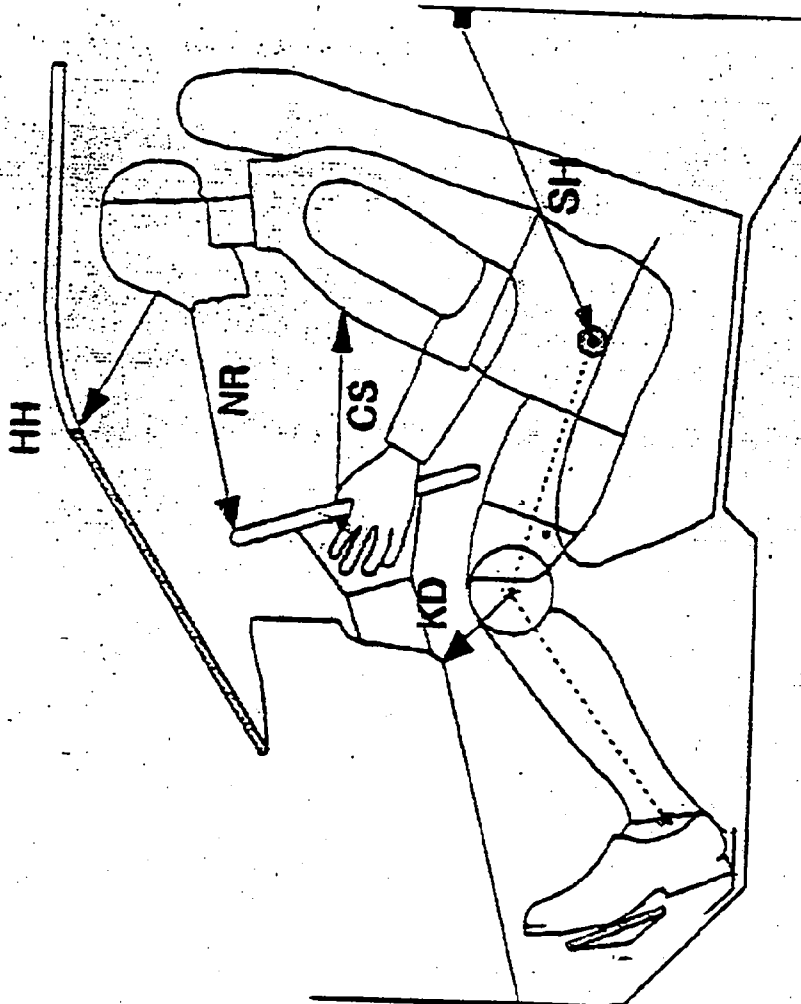
ATTACHMENT #4

RESPONSE TO QUESTION #9

SUMMARY OF DUMMY

PLACEMENT MEASUREMENTS

DUMMY MEASUREMENTS FOR FRONT SEAT PASSENGERS



HH = Head to Header = N/A

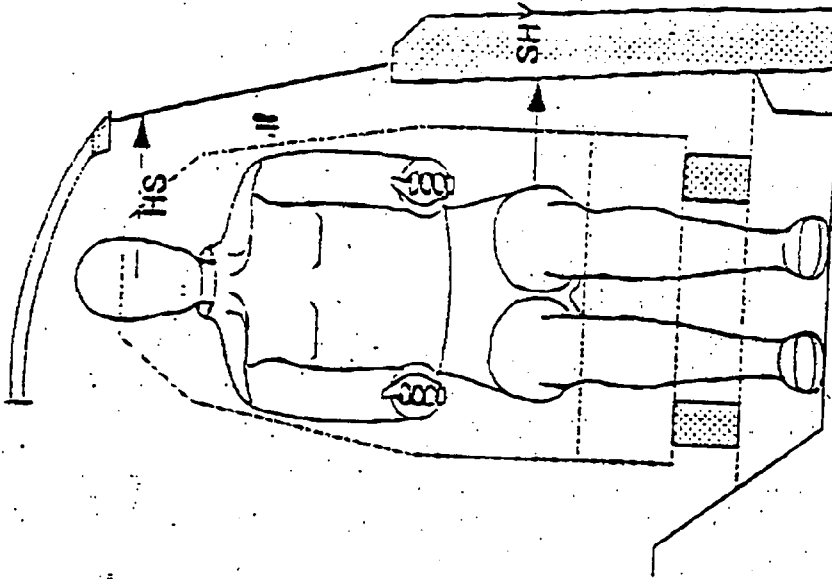
NR = Nose to Rim = 14.8"

CS = Steering Wheel to Chest = 11.2"

KDL/KDR = Knee to Dash = *4.0"

SH = Striker to H-Point = N/A

(*Note this value differs from the OVSC dimension, OVSC measures from kneeblocker to knee pivot point, Chrysler measures from kneeblocker to knee exterior)



SHY = Striker to H-Point (Ydir.) = N/A

HS = Head to Side Window = N/A

Per FMVSS section S10.1, Dummy located by placing the test dummy's torso against the seat back and its upper legs against the seat cushion to the extent permitted by placement of the test dummy's feet in accordance with the appropriate paragraph of S10. Center the test dummy on the seat cushion of the bucket seat and set its midsagittal plane so that it is vertical and parallel to the centerline of the seat cushion.

FMVSS 208**1995 CHRYSLER NEW YORKER****NEF-31CCa; IR 1512****ATTACHMENT #5****RESPONSE TO QUESTION #10****SELECTED VEHICLE DATA**

FORM NO. 1

TEST VEHICLE INFORMATION

Vehicle Model Year & Make: 1995 Chrysler NewYorker
 Vehicle Model & Body Style: 4 Door

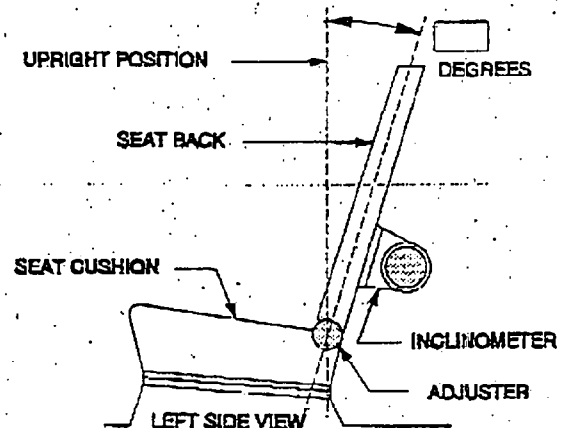
1. NOMINAL DESIGN RIDING POSITION - -

For adjustable driver and passenger seat backs.
 Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent if applicable.

Seat back angle for driver's seat = 15.5 degrees.

Measurement Instructions:

1) Adjust head restraint to full-up position. 2) For seats equipped with manual seat adjusters, adjust the seat tracks to a position where the front of the upper track most closely aligns with the front of lower stationary track section. 3) For seats equipped with power adjusters, position the seat track full upward and down. Move seat forward 110 mm. 4) Adjust the seat back angle such that the head restraint posts are 15.5 degrees from a vertical plane perpendicular to the ground.



Seat back angle for passenger's seat = degrees.

Measurement Instructions:

Same as above

2. SEAT FORE & AFT POSITIONS - -

Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, provide information to locate the detent in which the seat track is to be locked.

Positioning of the driver's seat:

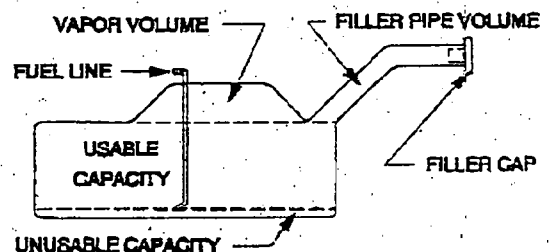
See above

Positioning of the passenger's seat (if applicable):

See above

3. FUEL TANK CAPACITY DATA - -

- 3.1 A. "Usable Capacity" of standard equipment fuel tank = 18 gallons.
 B. "Usable Capacity" of optional equipment fuel tank = N/A gallons.
 C. Capacity used when certification testing to requirements of FMVSS 301 = 17.1 gallons.



VEHICLE FUEL TANK ASSEMBLY

Operational Instructions:

- 3.2 Amount of Stoddard solvent added to vehicle for certification test = 17.1 gallons

- 3.3 Is vehicle equipped with electric fuel pump? x YES NO
 If YES, does pump normally operate when vehicle's electrical system is activated? x YES NO

FORM NO. 1 Continued

FUEL PUMP WILL RUN IN EITHER THE "IGNITION START" OR "IGNITION RUN" KEY POSITIONS.
NOTE: PUMP STOPS IF ENGINE DOES NOT RUN FOR ONE SECOND.

TEST VEHICLE INFORMATION

4. STEERING COLUMN ADJUSTMENTS --

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions.

If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions:

Tilt adjustable steering columns are provided as standard equipment on all model of the 1995 Chrysler New Yorker. For testing, the adjustable steering wheel is positioned one detent from its lowest position.

