V2320

Report Number TRC-96-N02

New Car Assessment Program (NCAP)

Frontal Barrier Impact Test

Chrysler Corporation

1996 Dodge Neon

4-door sedan

NHTSA Number: MT0301

TRC Test Number: 951026

Prepared By:

Transportation Research Center Inc.

10820 State Route 347

East Liberty, Ohio 43319

November 16, 1995

Final Report

Prepared For:

U. S. Department Of Transportation

National Highway Traffic Safety Administration

Office Of Market Incentives

Room No. 5313 (NRM-22)

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16. Abstract

A 56 kph (35 mph) frontal load cell barrier impact test was conducted on a 1996 Dodge Neon 4-door sedan, NHTSA No. MT0301, at Transportation Research Center Inc. on October 26, 1995. This test was conducted to obtain new car assessment and research data indicant of FMVSS 208, 212, 219 (partial), and 301 performance. The barrier impact velocity was 56.5 kph. The vehicle's maximum static crush was 512 millimeters. The ambient temperature was 23° C.

The driver's Head Injury Criteria (HIC) was 610. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 54.3 g. The driver's maximum chest deflection was 40 mm. The driver's left and right femur maximum axial forces were 5982 N and 6859 N, respectively.

The passenger's HIC was 531. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 53.5 g. The passenger's maximum chest deflection was 36 mm. The passenger's left and right femur maximum axial forces were 6091 N and 5308 N, respectively.

17. Key Words	18. Distribution Statement
56 kph (35 mph) Frontal Barrier Impact Test: New Car Assessment Program (NCAP) FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Retention" FMVSS 219, "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity"	Copies of this report are available from: National Highway Traffic Safety Admin. Technical Reference Division Nassif Building, Room 5108 400 Seventh Street, S.W. Washington, DC 20590

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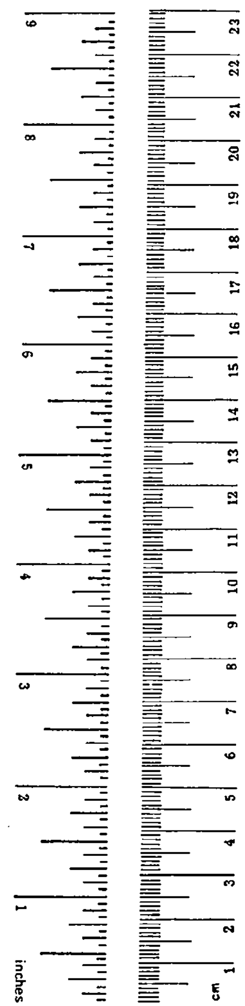
METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

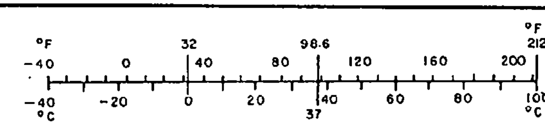
Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	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 and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.



Approximate Conversions from Metric Measures

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



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Section 1.0

Purpose and Test Procedure

Purpose

This 56 kph (35 mph) frontal barrier impact test is part of the New Car Assessment Program (NCAP) conducted for the National Highway Traffic Safety Administration's (NHTSA) Office of Market Incentives by Transportation Research Center Inc. (TRC) under Contract Number DTNH22-90-D-22121.

The purpose of this test was to obtain new car assessment and research data for vehicle crashworthiness and occupant restraint system performance for the subject vehicle, a 1996 Dodge Neon 4-door sedan, NHTSA Number MT0301, at an impact speed in excess of the current 48 kph (30 mph) FMVSS 208 requirements.

Test Procedure

This test was conducted in accordance with NHTSA's Laboratory Indicant Test Procedure, New Car Assessment Program, dated January 1, 1990. Data was obtained indicant of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity," performance.

The test vehicle was instrumented with nine (9) accelerometers to measure longitudinal axis accelerations. The driver's and passenger's restraint systems were instrumented with load cells to measure lap and shoulder belt forces and potentiometers to measure shoulder belt stretch and spoolout. The vehicle impacted a frontal load cell barrier instrumented with thirty-six (36) barrier face load cells. The vehicle's specified impact velocity range was 55.5 to 57.1 kph.

The test vehicle contained two (2) Part 572E 50th percentile adult male anthropomorphic test devices (dummies). The dummies were positioned in the front outboard designated seating positions according to the dummy placement procedures specified in Appendices VII and VIII of the Laboratory Indicant Test Procedure. This test was the second use of the driver dummy and the passenger dummy.

Both dummies were instrumented with primary and redundant head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations, and with left and right femur load cells to measure axial forces. The dummies were also instrumented with neck moment and force load cells, chest deflection potentiometers, and foot accelerometers to measure longitudinal and vertical axis accelerations. In addition, the driver dummy's lower legs were instrumented with upper and lower tibia load cells to measure forces and moments.

The one-hundred-ten (110) data channels were digitally sampled and recorded at 12,500 samples per second and processed per section IP11 of the Laboratory Indicant Test Procedure.

The crash event was recorded by one (1) real-time panning motion picture camera and sixteen (16) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera.

The vehicle, occupant, and load cell barrier data are presented in Section 2.0. The occupant, camera, and vehicle measurements are presented in Section 3.0. Appendix A contains the still photographic prints. Appendix B contains the dummy, vehicle, and load cell barrier data plots. Appendix C contains the dummy certification data. Appendix D contains miscellaneous test information. Appendix E contains the restraint system instructions from the owner's manual.

Section 2.0

Frontal Barrier Impact Test Summary

Test Results Summary

This frontal load cell barrier test was conducted at TRC on October 26, 1995.

The test vehicle, a 1996 Dodge Neon 4-door sedan, NHTSA Number MT0301, was equipped with a 2.0-liter transverse engine, automatic transmission, power steering, and power brakes. The vehicle's test weight was 1354 kg. The vehicle's impact speed was 56.5 kph. The vehicle sustained 512 mm of static crush during the impact.

The driver's Head Injury Criteria (HIC) was 610. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 54.3 g. The driver's maximum chest deflection was 40 mm. The driver's left and right femur maximum axial forces were 5982 N and 6859 N, respectively.

The right front passenger's HIC was 531. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 53.5 g. The passenger's maximum chest deflection was 36 mm. The passenger's left and right femur maximum axial forces were 6091 N and 5308 N, respectively.

There was loss of windshield periphery retention along the lower edge from 0 to 398 mm, 778 to 954 mm, 1280 to 1317, and 1432 to 1574 as measured from the lower right corner of the windshield.

There was no penetration through the windshield.

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

Data Acquisition Explanations

The driver's neck moment about Z-axis data channel, NEKZM1, recorded questionable data from approximately 71 to 101 milliseconds and 170 to 235 milliseconds because the device's connector was damaged during the impact event.

The driver's left lower tibia Z-axis force data channel, ANLZF1, exceeded its full scale output at approximately 41 milliseconds.

The driver's left foot Z-axis acceleration at toe data channel, FTLZT1, exceeded its full scale output at approximately 46 milliseconds.

The driver's left foot at heel Z-axis acceleration data channel, FTLZH1, was not used because the device stopped functioning.

The driver's right foot Z-axis acceleration at toe data channel, FTRZT1, exceeded its full scale output at approximately 54 milliseconds.

The right front passenger's neck moment about Z-axis data channel, NEKZM2, stopped recording data after approximately 65 milliseconds because the device's connector disconnected from the data acquisition system.

The vehicle's left brake caliper X-axis acceleration data channel, BCLXG1, stopped recording data after approximately 50 milliseconds because the device's cable was cut by vehicle crush. Summary information presented in Table 4 for the vehicle's left brake caliper longitudinal axis acceleration was obtained prior to 50 milliseconds.

Table 1 Crash Test Summary

NHTSA number:	MT0301	
Test type:	Frontal Load Cell Barrier	
Test date:	10/26/95	
Test time:	1616	
Ambient temperature:	23° C	
Vehicle year/make/ model/body style:	1996/Dodge/Neon/4-door sedan	
Vehicle test weight:	1354 kg	
Impact angle[1]:	0°	
Impact velocity[2]:	Primary = 56.5 kph Secondary = NA[3]	
Maximum static crush:	512 mm	
Average rebound:	315 mm	
Dummies:	Driver #192	Passenger #142
Type:	Part 572 E	Part 572 E
Location:	Left front	Right front
Restraint:	Airbag and 3-point unibelt	Airbag and 3-point unibelt
Number of data channels:	110	
Number of cameras:	High-speed 16 Real-time 2	

[1] With respect to tow track centerline.
[2] Speed trap measurement (± .08 kph accuracy)
[3] The secondary light trap failed.

Table 2 Test Vehicle Information

Vehicle year/make/ model/body style:	1996/Dodge/Neon/4-door sedan
Color:	White
VIN:	1B3ES47C7TD521089
NHTSA number:	MT0301
Engine data:	
Placement:	transverse
Cylinders:	4
Displacement	2.0 liters
Transmission data:	_3_ speed, __manual, _X_ automatic, __overdrive
	_X_ FWD, __RWD, __4WD
Date vehicle received:	10/23/95
Odometer reading:	75
Dealer's name and address:	Trader Bud's Westside Dodge 4000 West Broad Street Columbus, OH 43228

Accessories:

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

Certification data from vehicle's label:

Vehicle manufactured by:	Chrysler Corporation
Date of manufacture:	09/95
VIN:	1B3ES47C7TD521089
GVWR:	1584 kg
GAWR: Front:	887 kg
Rear:	731 kg

Table 2 Test Vehicle Information, Cont'd.

Size of tires:	P185/65R14
Tire pressure with maximum capacity vehicle load:	
Front:	300 kPa
Rear:	300 kPa
Spare tire:	Temporary
Type of front seats:	Bucket

Tire & capacity data from vehicle's label:

Recommended tire size:	P165/80R13
Recommended cold tire pressure:	
Front:	220 kPa
Rear:	220 kPa
Designated seating capacity:	
Front	2
Rear	3
Total	5
Vehicle capacity weight:	392 kg
Luggage weight:	52 kg

Test vehicle attitude:

Delivered attitude:	LF 661 mm;	RF 659 mm;	LR 677 mm;	RR 676 mm
Pre-test attitude:	LF 644 mm;	RF 640 mm;	LR 648 mm;	RR 651 mm
Post-test attitude:	LF 754 mm;	RF 782 mm;	LR 643 mm;	RR 630 mm

Table 2 Test Vehicle Information Cont'd

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

Right front	368	kg	Right rear	200	kg
Left front	377	kg	Left rear	210	kg
Total front weight	745	kg	(64.5% of total vehicle weight)		
Total rear weight	410	kg	(35.5% of total vehicle weight)		
Total delivered weight	1155	kg			

Calculation of test vehicle's target test weight:

RCLW = Rated cargo and luggage weight

UDW = Unloaded delivered weight (1155 kg)

VCW[1] = Vehicle capacity weight (392 kg)

DSC = Designated seating capacity (5)

RCLW = VCW - 68 (DSC) = 392 - 68(5) = 52 kg

Target test weight = UDW + RCLW + (Number of Hybrid III dummies x 76 kg/dummy)

Target test weight = 1155 + 52 + 152

Target test weight = 1359 kg

Weight of test vehicle with required dummies and 47 kg of cargo weight:

Right front	411	kg	Right rear	255	kg
Left front	419	kg	Left rear	269	kg
Total front weight	830	kg	(61.3% of total vehicle weight)		
Total rear weight	524	kg	(38.7% of total vehicle weight)		
Total test weight	1354	kg	(0.4% under target test weight)		

Weight of ballast secured in vehicle: 0 kg

Components removed to meet target test weight: Rear bumper skin, tail lights, rear bumper foam,back seat, rear deck, and trunk seal

CG rearward of front wheel centerline: 1022 mm

Vehicle wheelbase: 2642 mm

[1] From the vehicle's recommended tire pressure label.

Table 3 Post-Impact Data

Test number:	951026
NHTSA number:	MT0301
Test date:	10/26/95
Test time:	1616
Test type:	Frontal load cell barrier
Impact angle:	0°
Ambient temperature at impact area:	23° C
Temperature in occupant compartment:	21° C
Impact velocity:	
Primary	56.5 kph
Secondary	NA[1]
Specified range	55.5 to 57.1 kph

Distance from vehicle to barrier:

Entering velocity trap	356 mm
Exiting velocity trap	51 mm

Test vehicle static crush:

Overall length of test vehicle:

Pre-test:	L	4131 mm;	C	4355 mm;	R	4136 mm
Post-test:	L	3762 mm;	C	3858 mm;	R	3774 mm
Total crush:	L	369 mm;	C	497 mm;	R	362 mm
Average crush:	409 mm					

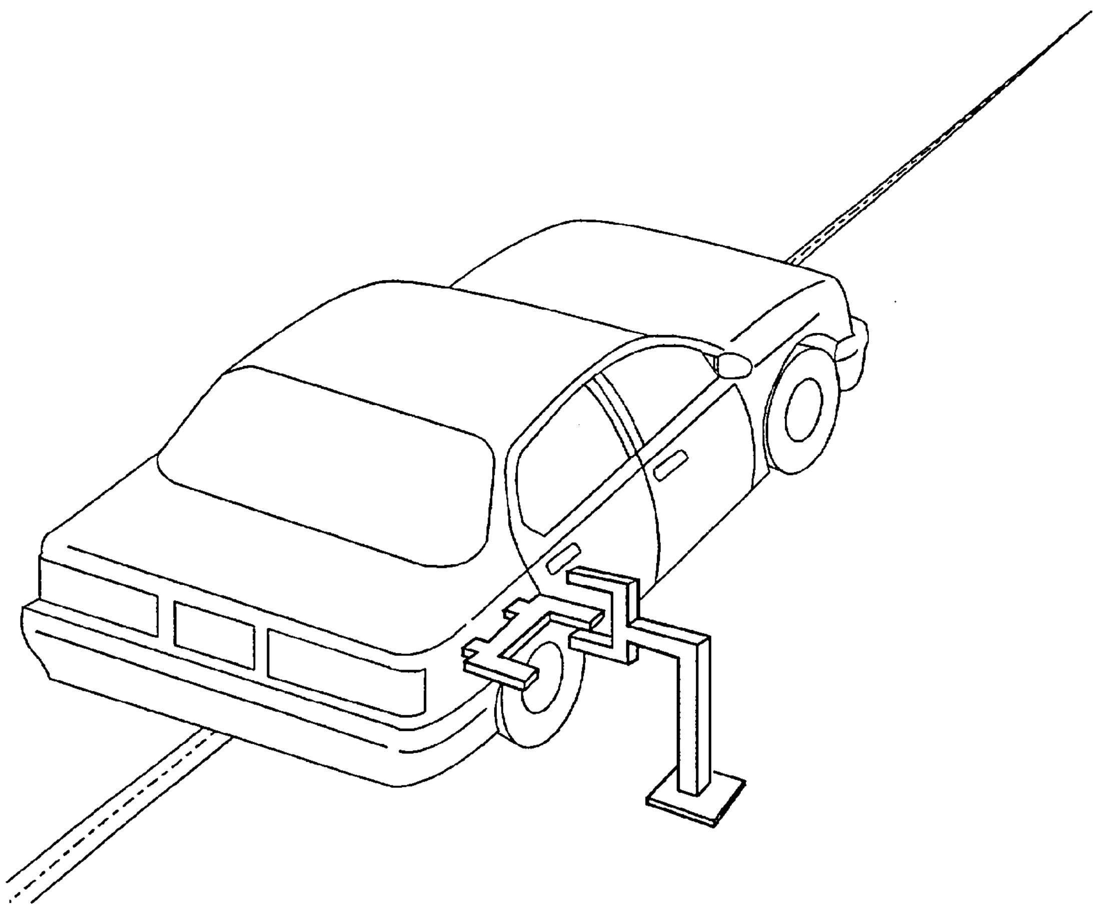
Test vehicle rebound from flat barrier:

Distance from test vehicle to barrier:

Post-test:	L	295 mm;	C	315 mm;	R	344 mm
Average rebound	318 mm					

[1] Secondary light trap failed.

Figure 1 Impact Velocity Measurement System

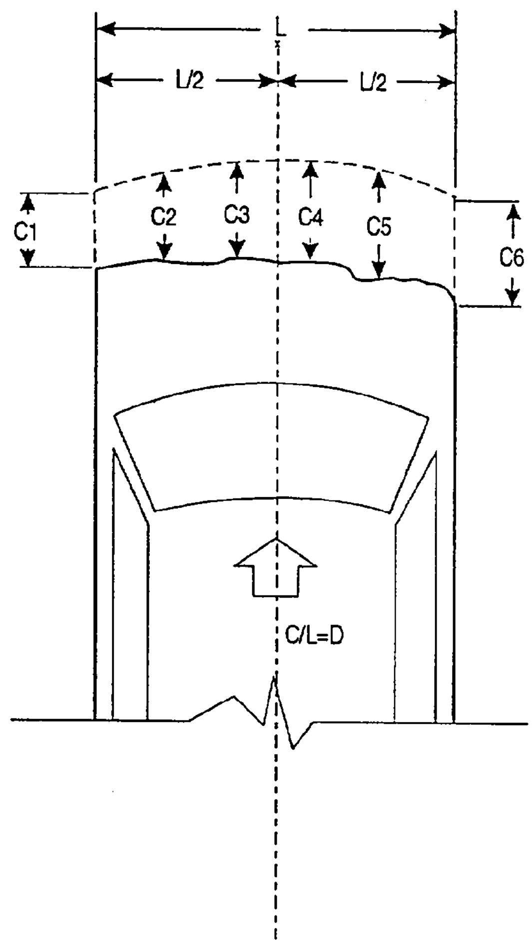


The final vane clears the final emitter/receiver pair 51 millimeters before impact.

The vanes have 305-millimeter spacing.

Figure 2 Accident Investigation Division Data
for 56 kph (35 mph) Frontal Barrier Impact

NHTSA number:	MT0301
Test date:	10/26/95
Vehicle year/make/ model/body style:	1996/Dodge/Neon/4-door sedan
Vehicle size category:	Compact
VIN:	1B3ES47C7TD521089
Build date:	09/95
Test weight:	1354 kg
Vehicle wheelbase:	2642 mm
Maximum width:	1707 mm
Front overhang:	880 mm



Collision Deformation Classification (CDC) code: 12FDEW3

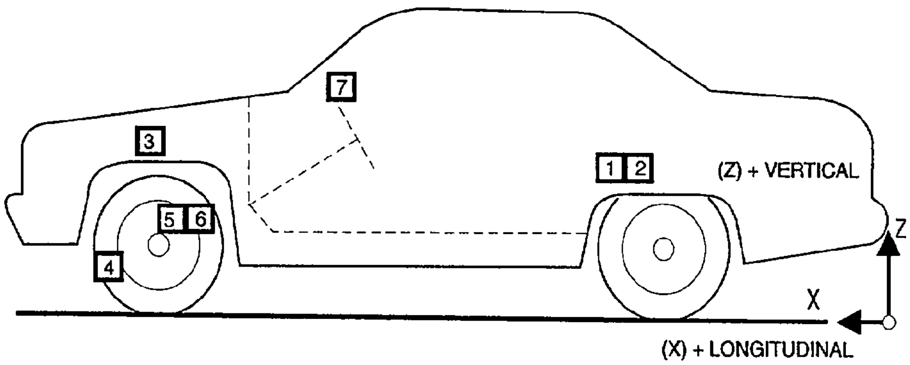
Crush depth measurements:

C1 = 369 mm
C2 = 457 mm
C3 = 512 mm
C4 = 498 mm
C5 = 456 mm
C6 = 362 mm

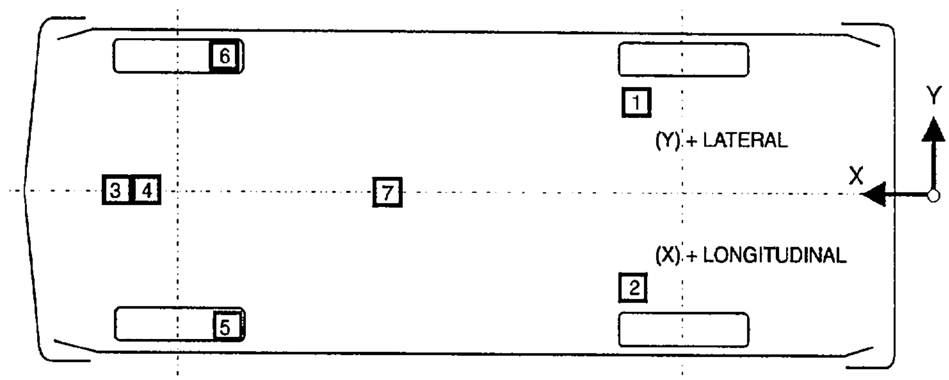
Midpoint of damage: D: Vehicle Longitudinal Centerline

Length of damaged region: L: 1525 mm

Figure 3 Vehicle Accelerometer Placement



SIDE VIEW



BOTTOM VIEW

Table 4 Vehicle Accelerometer Locations and Data Summary

TEST NUMBER: 951026

No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
1 LEFT REAR SEAT CROSSMEMBER	2795 mm	525 mm	324 mm				
LONGITUDINAL				3.9 g	@ 114.9 ms	35.3 g	@ 53.2 ms
REDUNDANT				4.0 g	@ 114.8 ms	35.2 g	@ 53.2 ms
2 RIGHT REAR SEAT CROSSMEMBER	2765 mm	-525 mm	328 mm				
LONGITUDINAL				2.8 g	@ 118.6 ms	35.7 g	@ 36.5 ms
REDUNDANT				2.9 g	@ 118.7 ms	35.5 g	@ 36.6 ms
3 ENGINE TOP	694 mm	-216 mm	768 mm				
LONGITUDINAL				55.0 g	@ 43.0 ms	168.0 g	@ 31.8 ms
4 ENGINE BOTTOM	722 mm	82 mm	222 mm				
LONGITUDINAL				23.0 g	@ 35.7 ms	172.5 g	@ 23.7 ms
5 RIGHT BRAKE CALIPER	765 mm	-636 mm	282 mm				
LONGITUDINAL				40.7 g	@ 68.0 ms	101.6 g	@ 50.7 ms
6 LEFT BRAKE CALIPER	770 mm	636 mm	282 mm				
LONGITUDINAL[1]				0.4 g	@ 2.0 ms	144.7 g	@ 40.7 ms
7 INSTRUMENT PANEL CENTER	1400 mm	21 mm	880 mm				
LONGITUDINAL				14.0 g	@ 31.5 ms	65.2 g	@ 35.0 ms

* ALL MEASUREMENTS OF ACCELEROMETER LOCATIONS ARE IN MILLIMETERS. X-AXIS LOCATIONS ARE MEASURED REARWARD FROM THE FRONT BUMPER.

REFERENCE: X: + FORWARD ACCELERATION
Y: + LEFT FROM VEHICLE CENTERLINE
Z: + UP FROM GROUND LEVEL

[1] See DATA ACQUISITION EXPLANATIONS

Table 5 Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	Driver #192	Passenger #142
Head	Airbag	Airbag
Chest	Airbag	Airbag
Abdomen	None	None
Left knee	Instrument panel	Instrument panel
Right knee	Instrument panel	Instrument panel

Door Opening:

	Left	Right
Front	Tools required	Tools required
Rear	Easy	Easy

Seat Movement:

	Seat Back Failure	Seat Shift
Front	None	None
Rear	NA	NA

Glazing Damage: The entire windshield cracked from the bottom edge.

Other Notable Impact Effects: None

Table 6 FMVSS 208 Data Summary

Vehicle year/make/ model/body style: 1996/Dodge/Neon/4-door sedan

Vehicle NHTSA number: MT0301

Test date: 10/26/95

	Driver Dummy #192		Passenger Dummy #142	
Maximum Accelerations:				
Head X-axis	-57.7	g	-55.3	g
Head Y-axis	6.5	g	-8.2	g
Head Z-axis	-29.3	g	-26.9	g
Head resultant	62.8	g	59.8	g
Chest X-axis	-53.1	g	-53.0	g
Chest Y-axis	6.8	g	-6.5	g
Chest Z-axis	-16.2	g	-14.1	g
Chest resultant[1]	54.3	g	53.5	g
Chest resultant time interval[2]	.003	sec	.003	sec
Head Injury Criteria (HIC) Values:				
HIC[2]	610		531	
HIC starting time	.051	sec	.052	sec
HIC ending time	.085	sec	.088	sec
Avg. head resultant accel. during HIC time interval	50.5	g	46.5	g
Maximum Chest Deflections:				
Chest X-axis	-40	mm	-36	mm
Maximum chest deflection time	.076	sec	.076	sec
Maximum Compressive Femur Forces:				
Left femur	5982	N	6091	N
Right femur	6859	N	5308	N
Maximum Seat Belt Forces:				
Lap belt	4674	N	4576	N
Shoulder belt	5762	N	6331	N

Note: All values listed must be occurring during primary impact event.
(Head accelerations listed must be during HIC time interval.)

1 0.003 Sec. Minimum duration.

2 The maximum HIC time interval is 36 milliseconds.

Table 7 Hybrid III Data Summary

Vehicle year/make/
model/body style: 1996/Dodge/Neon/4-door sedan

Vehicle NHTSA number: MT0301

Test date: 10/26/95

	Driver Dummy #192	Passenger Dummy #142
Maximum Forces		
Neck X-axis shear force	-738 N	376 N
Neck Y-axis shear force	-229 N	202 N
Neck Z-axis axial force	2060 N	2383 N
Maximum Moments		
Neck moment about X-axis	22.0 N·m	18.6 N·m
Neck moment about Y-axis	75.2 N·m	31.8 N·m
Neck moment about Z-axis[1]	NA	NA
Maximum Accelerations:		
Pelvis X-axis	-62.0 g	-76.1 g
Pelvis Y-axis	22.3 g	-12.3 g
Pelvis Z-axis	16.4 g	16.6 g
Pelvis resultant	64.8 g	76.3 g

[1] See data acquisition explanations.

Table 7 Hybrid III Data Summary, Cont'd.

Vehicle year/make/ model/body style:	1996/Dodge/Neon/4-door sedan
Vehicle NHTSA number:	MT0301
Test date:	10/26/95

	Driver Dummy #192	Passenger Dummy #142
Left upper tibia moment about X-axis	-92.9 N·m	NA
Left upper tibia moment about Y-axis	324.3 N·m	NA
Right upper tibia moment about X-axis	-77.2 N·m	NA
Right upper tibia moment about Y-axis	278.5 N·m	NA
Left lower tibia X-axis force	-2568 N	NA
Left lower tibia Z-axis force[1]	-11135 N	NA
Left lower tibia moment about Y-axis	-201.1 N·m	NA
Right lower tibia X-axis force	-2436 N	NA
Right lower tibia Z-axis force	-5805 N	NA
Right lower tibia moment about Y-axis	-352.3 N·m	NA
Left foot X-axis acceleration	-169.9 g	-120.5 g
Left foot Z-axis acceleration at heel[1]	NA	115.3 g
Left foot Z-axis acceleration at toe[1]	-403.8 g	139.8 g
Right foot X-axis acceleration	-210.6 g	-173.4 g
Right foot Z-axis acceleration at heel	-221.2 g	150.4 g
Right foot Z-axis acceleration at toe[1]	-400.3 g	224.3 g

Note: All values listed must be occurring during primary impact event

[1] See data acquisition explanations.

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 and chest impacted the airbag. The dummy was restrained by the airbag and three-point unibelt. The dummy rebounded rearward into the seat back with the dummy's head rotating rearward contacting the head restraint. The driver dummy came to rest seated in the driver's seat, restrained by the three-point unibelt.

Right Front Passenger Dummy

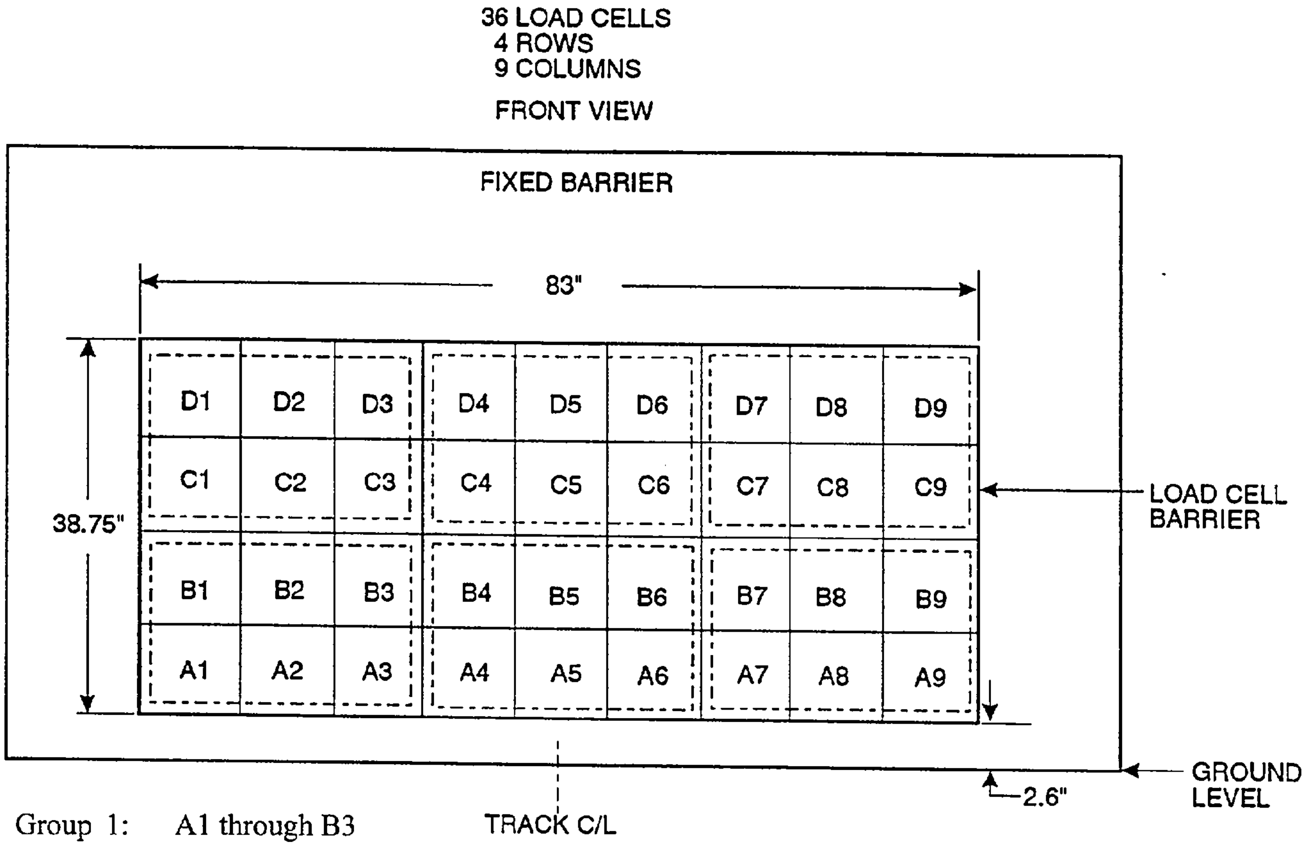
Upon impact, the right front passenger dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's head and chest impacted the airbag as the dummy's head rotated slightly forward. The dummy was restrained by the passenger's airbag and the three-point unibelt. The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

Table 8 Seat Belt Performance Assessment Test Data

	Driver	Passenger
Belt length data:		
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	2690 mm	2690 mm
Shoulder belt length as measured on Part 572 dummy.	809 mm	790 mm
Lap belt length as measured on Part 572 dummy.	729 mm	705 mm
Shoulder belt spool-off length:		
As determined by film analysis	NA[1]	NA[1]
As determined mechanically	98 mm	132 mm
As determined electronically	141 mm	140 mm
Belt stretch length:		
As measured mechanically	12 mm/m	0 mm/m
As measured electronically	0 mm/m	182 mm/m
Retractor lock-up time:		
As determined by shoulder belt spool-off	NA[1]	NA[1]

[1] Onboard cameras were not used so target test weight could be obtained.

Figure 4 Load Cell Barrier Configuration



Group 1:	A1 through B3
Group 2:	A4 through B6
Group 3:	A7 through B9
Group 4:	C1 through D3
Group 5:	C4 through D6
Group 6:	C7 through D9

Table 9 Load Cell Barrier Data Summary

Location	Positive direction					Negative direction				
Total group 1	1.0	kN	@	3.8	ms	66.4	kN	@	22.6	ms
Total group 2	0.3	kN	@	183.4	ms	232.6	kN	@	28.2	ms
Total group 3	0.9	kN	@	2.5	ms	102.0	kN	@	22.7	ms
Total group 4	0.2	kN	@	7.5	ms	67.4	kN	@	35.1	ms
Total group 5	0.7	kN	@	5.8	ms	58.1	kN	@	27.4	ms
Total group 6	0.1	kN	@	2.6	ms	51.7	kN	@	34.2	ms
Total load cell force	0.3	kN	@	238.3	ms	472.1	kN	@	27.0	ms

Tension is positive
Compression is negative

<u>Section 3.0</u>

FMVSS 212, 219 (partial), and 301 Data

Figure 5 FMVSS 212 Test Data

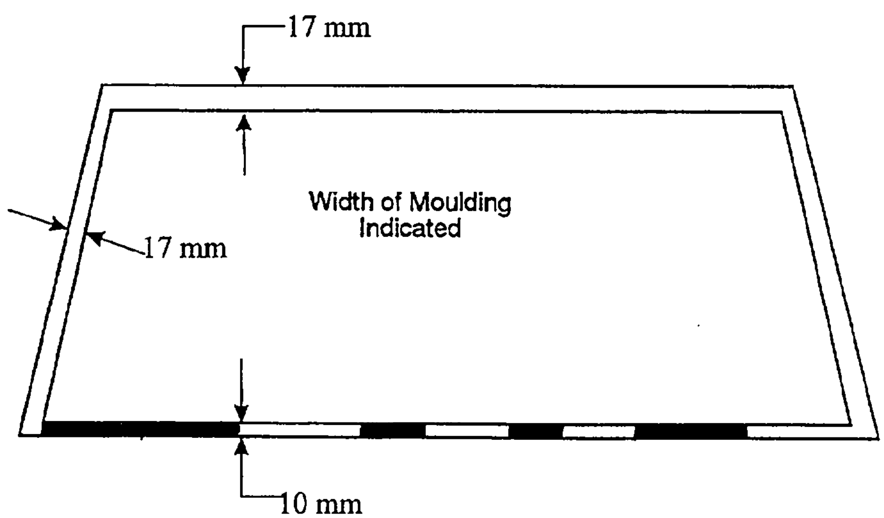
Details of windshield mounting such as retention method, trim type, etc.:
Plastic trim around outer perimeter, adhesive around inner perimeter.

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	2025 mm	1618 mm	79.9
Left side	2025 mm	1679 mm	82.9
Total	4050 mm	3297 mm	81.4

Pre-test windshield mounting material temperature: 21° C



Front view of windshield[1]

Loss of windshield retention lengths:
Retention was lost along the lower perimeter from 0 to 398 mm, 778 to 954 mm, 1280 to 1317 mm, and 1432 to 1574 mm as measured across the bottom edge from the lower right corner.

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

Figure 6 FMVSS 219 Test Data

Protected zone lower edge requirement:

The lower edge of the protected zone is determined by placing a 165-millimeter diameter rigid sphere weighing 6.8 kg 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 13 millimeters 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 = 1106 mm

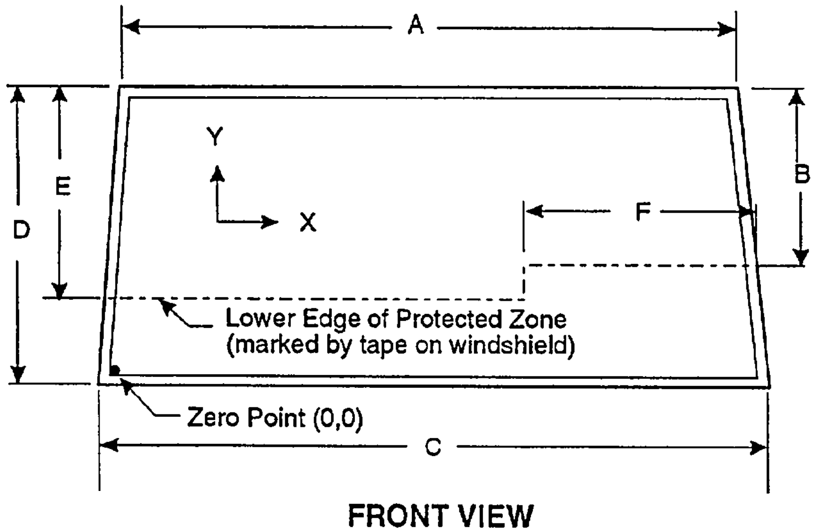
B = 455 mm

C = 1622 mm

D = 741 mm

E = 535 mm

F = 541 mm



Method of adhering protected zone template to windshield: NA

Areas of windshield template penetration greater than 6 mm: 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 10 Fuel System Data

Vehicle year/make/ model/body style:	1996/Dodge/Neon/4-door sedan
NHTSA number:	MT0301
Fuel system capacity:	47.5 liters (from owner's manual)
Usable capacity:	42.4 liters (furnished by COTR)
Test volume range:	39.0 liters to 39.9 liters (92-94% of usable)
Actual test volume:	39.4 liters (with entire fuel system filled)
Test fluid type:	Stoddard solvent
Specific gravity:	0.764
Kinematic viscosity:	0.99 centistoke
Test fluid color:	Purple
Did electric fuel pump operate with ignition switch "on" and the engine not operating.	No
Details of fuel system:	The fuel tank was located in front of the rear axle. The fuel filler neck was located on the right side. The fuel lines ran along the right side to the front.

Table 11 FMVSS 301 Post-Impact Test Data

NHTSA number:	MT0301
Test date:	10/26/95
Vehicle year/make/ model/body style:	1996/Dodge/Neon/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:

_x_ Frontal (_56_ kph)

___ Oblique (48 kph) with __° barrier face first contacting ___ (driver/pass.) side

___ Rear moving barrier (48 kph)

___ Lateral moving barrier (32 kph)

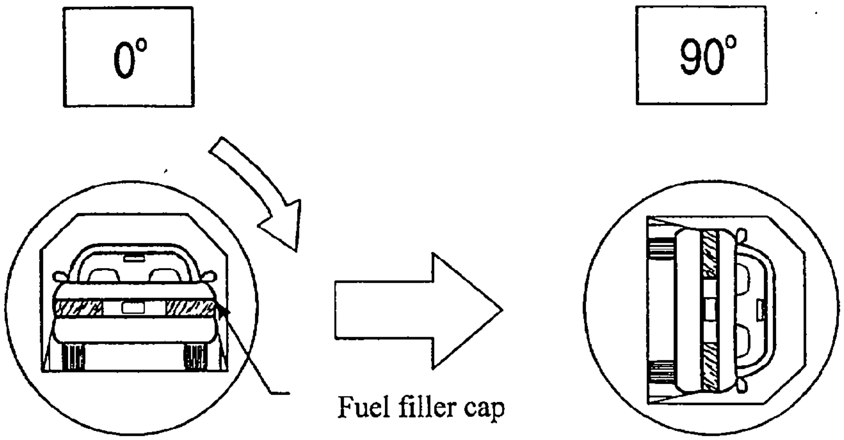
Fuel system fluid spillage measurements:

	Test Results	Maximum Allowable
1. From impact until vehicle motion ceases	0 g	28 g
2. 5-minute period after vehicle motion ceases	0 g	142 g
3. Next 25 minutes after 5-minute period	0 g	28 g/min

Fuel system fluid spillage location(s): None

Figure 7 FMVSS 301 Static Rollover Test Data

NHTSA number: MT0301
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		

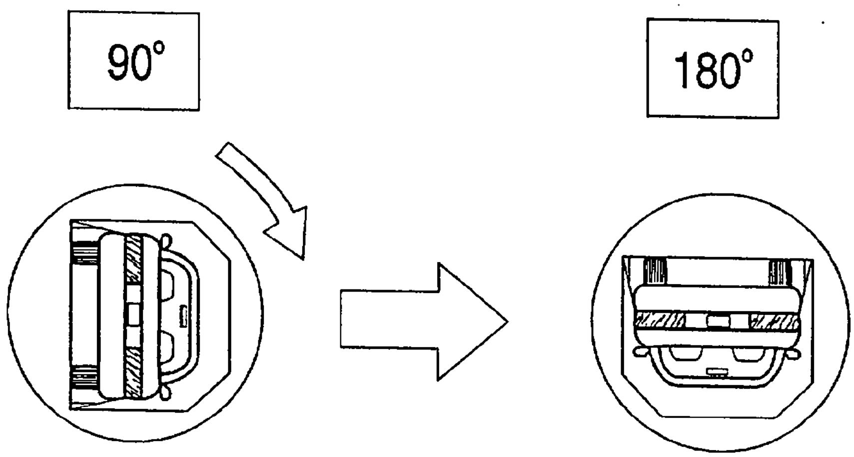
Fuel system fluid spillage measurements:

0° to 90° rotation (fuel filler cap down)	Test Results	Maximum Allowable
1. First five minutes from onset of rotation	0 g	142 g
2. Sixth minute from onset of rotation	0 g	28 g
3. Seventh minute from onset of rotation	0 g	28 g

Fuel system fluid spillage location(s): None

Figure 7 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		

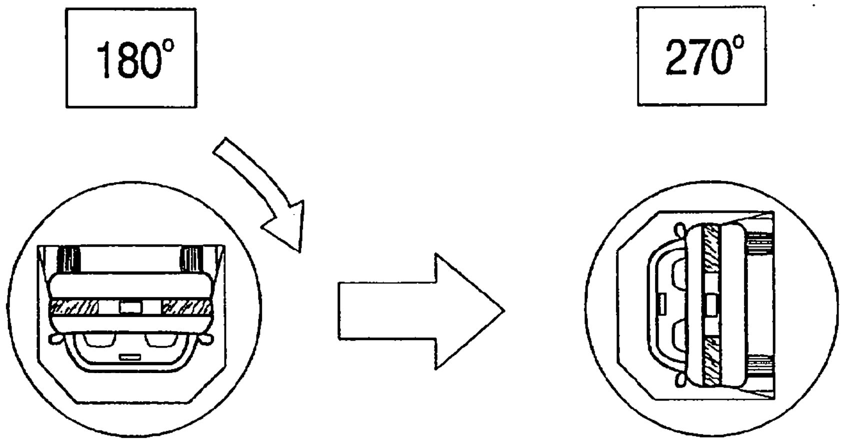
Fuel system fluid spillage measurements:

90° to 180° rotation	Test Results	Maximum Allowable
1. First five minutes from onset of rotation	0 g	142 g
2. Sixth minute from onset of rotation	0 g	28 g
3. Seventh minute from onset of rotation	0 g	28 g

Fuel system fluid spillage location(s): None

Figure 7 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		

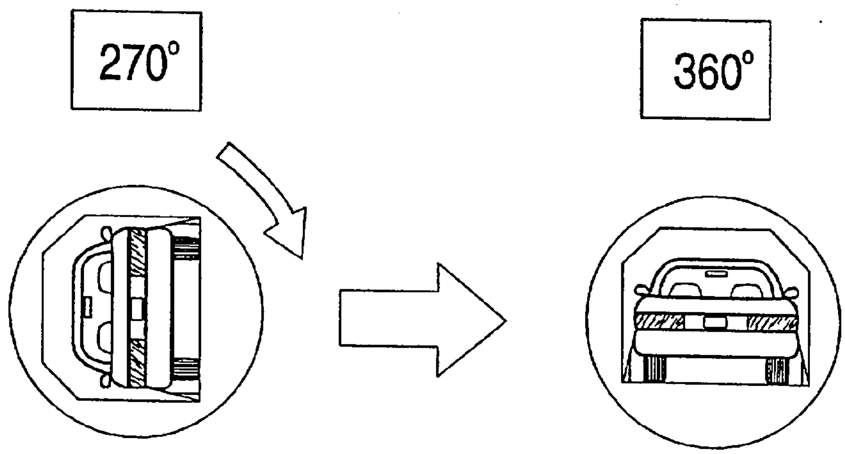
Fuel system fluid spillage measurements:

180° to 270° rotation	Test Results	Maximum Allowable
1. First five minutes from onset of rotation	0 g	142 g
2. Sixth minute from onset of rotation	0 g	28 g
3. Seventh minute from onset of rotation	0 g	28 g

Fuel system fluid spillage location(s): None

Figure 7 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 g	142 g
2. Sixth minute from onset of rotation	0 g	28 g
3. Seventh minute from onset of rotation	0 g	28 g

Fuel system fluid spillage location(s): None

Section 4.0

Occupant, Camera, and Vehicle Information

Figure 8 Dummy Measurement Locations for Front Seat Occupants

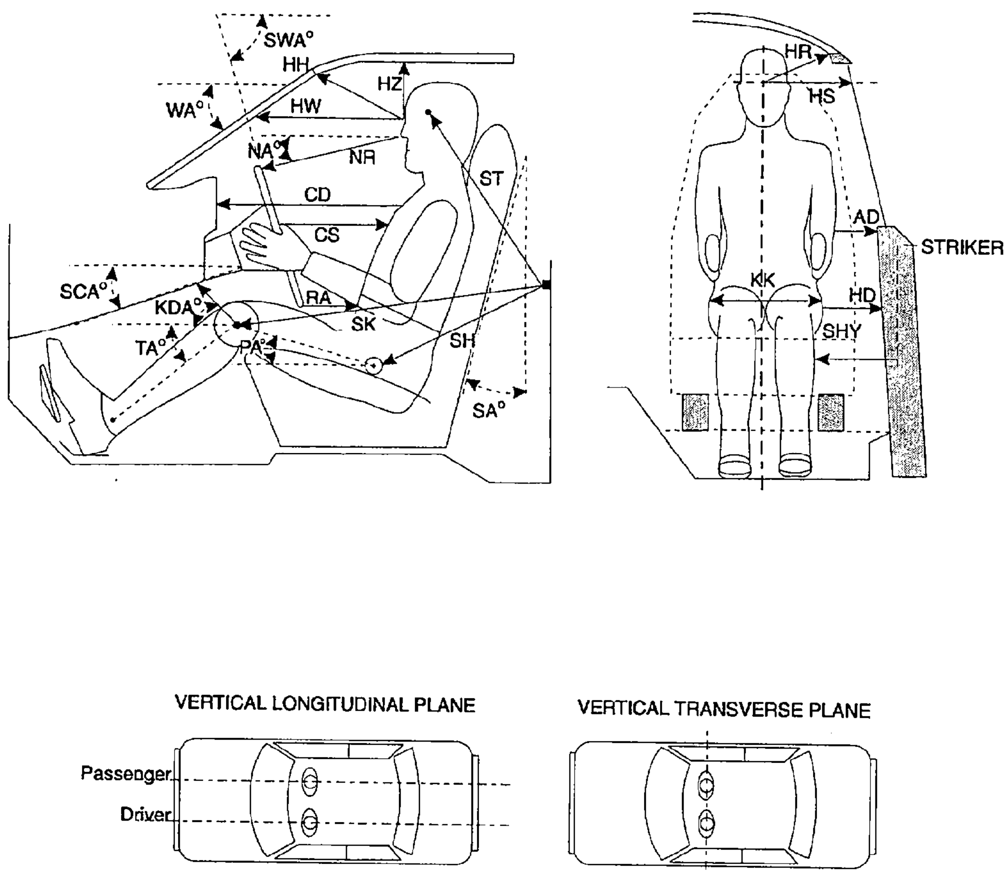


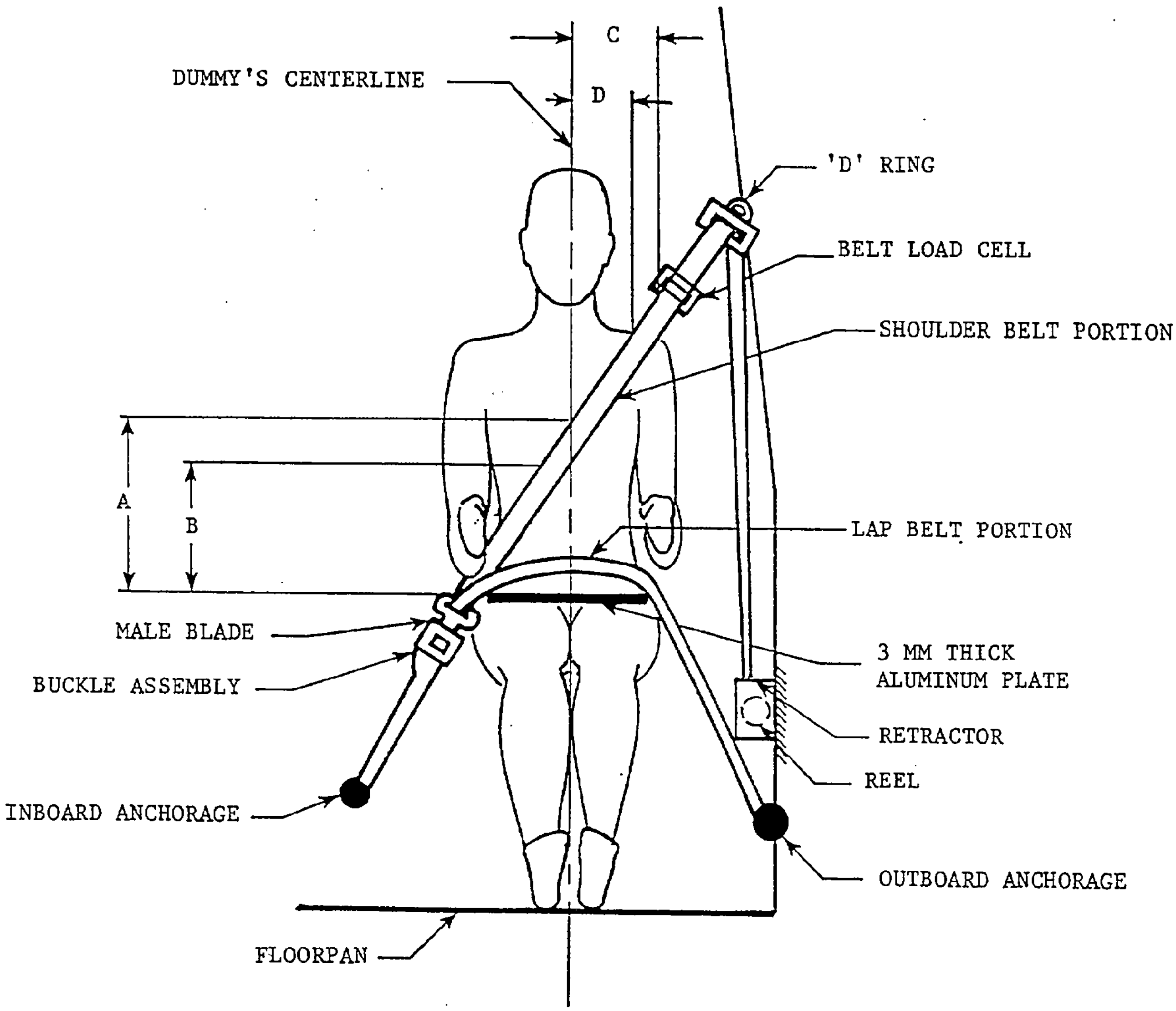
Table 12 Dummy Measurement Data For Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #192)	Passenger (Serial #142)
WA	Windshield angle	26°	NA
SWA	Steering wheel angle	70°	NA
SCA	Steering column angle	20°	NA
SA	Seat back angle	18°	18°
HZ	Head to roof	185 mm	198 mm
HH	Head to header	285 mm	292 mm
HW	Head to windshield	492 mm	499 mm
HR	Head to side header	197 mm	199 mm
NR	Nose to rim	320 mm	NA
NA	Nose to rim angle	16°	NA
CD	Chest to dash	498 mm	452 mm
CS	Steering wheel to chest	274 mm	NA
RA	Rim to abdomen	164 mm	NA
KDL	Left knee to dash	156 mm	145 mm
KDR	Right knee to dash	148 mm	141 mm
KDA	Outboard knee to dash angle	48°	36°
PA	Pelvic angle	20°	24°
TA	Tibial angle	37°	38°
KK	Knee to knee	260 mm	263 mm
ST[1]	Striker to head	547 mm	531 mm
	Striker to head angle	-78°	-81°
SK[1]	Striker to knee	575 mm	574 mm
	Striker to knee angle	-1°	-1°
SH[1]	Striker to H-point	221 mm	231 mm
	Striker to H-point angle	35°	25°
SHY	Striker to H-point (Y dir.)	246 mm	230 mm
HS	Head to side window	285 mm	295 mm
HD	H-point to door	185 mm	171 mm
AD	Arm to door	42 mm	86 mm

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 above the striker.

Figure 9 Seat Belt Positioning Data



		Driver	Passenger
A	Top surface of aluminum plate to belt upper edge	384 mm	344 mm
B	Top surface of aluminum plate to belt lower edge	320 mm	260 mm
C	Dummy centerline to outer edge of belt at chest flesh top	79 mm	96 mm
D	Dummy centerline to inner edge of belt at chest flesh top	38 mm	41 mm
Lap belt tension		18 N	18 N
Shoulder belt tension		16 N	13 N
Position of adjustable belt anchorage		4th	4th

Figure 10 Camera Positions

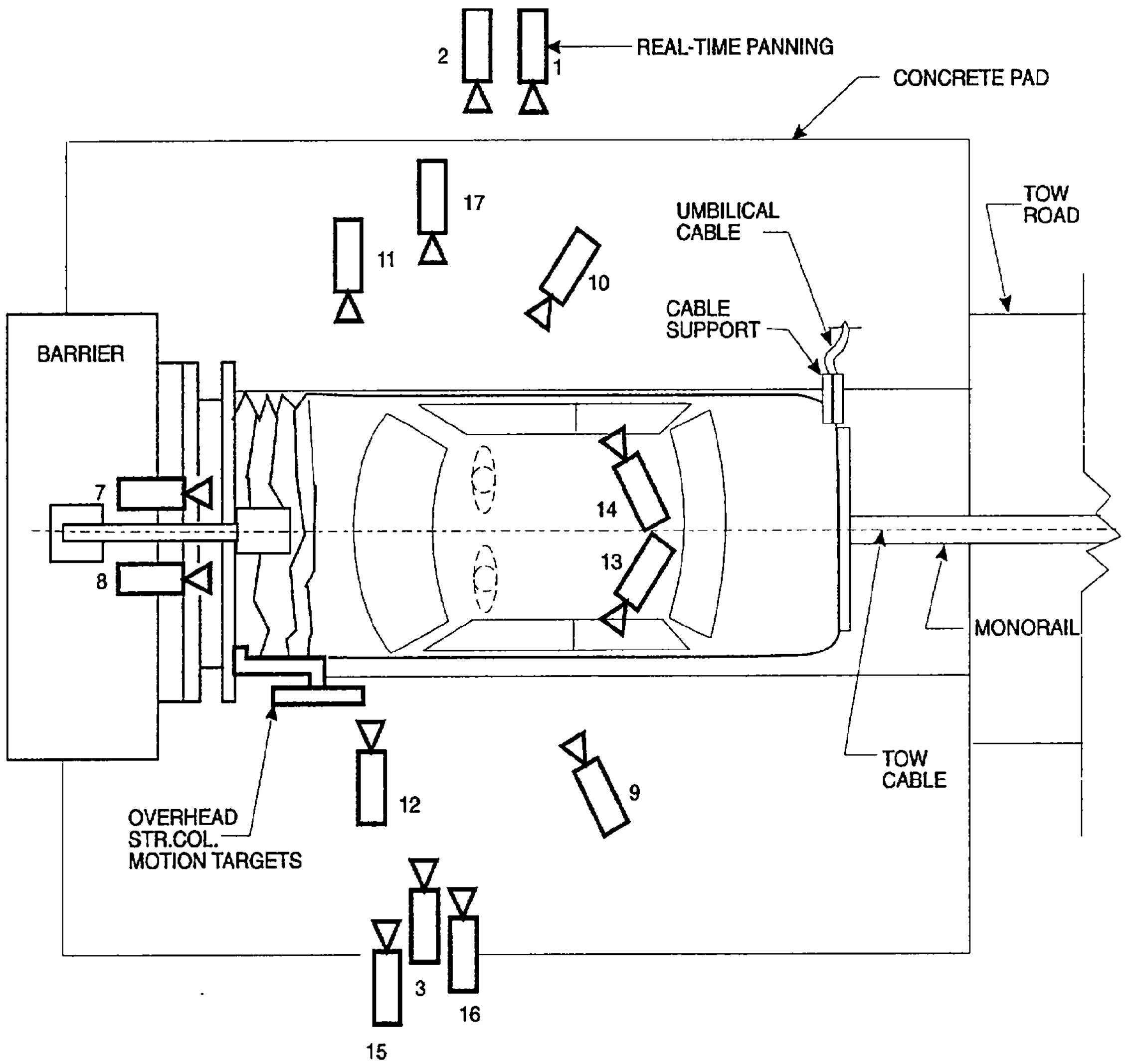


Figure 10 Camera Positions, Cont'd.

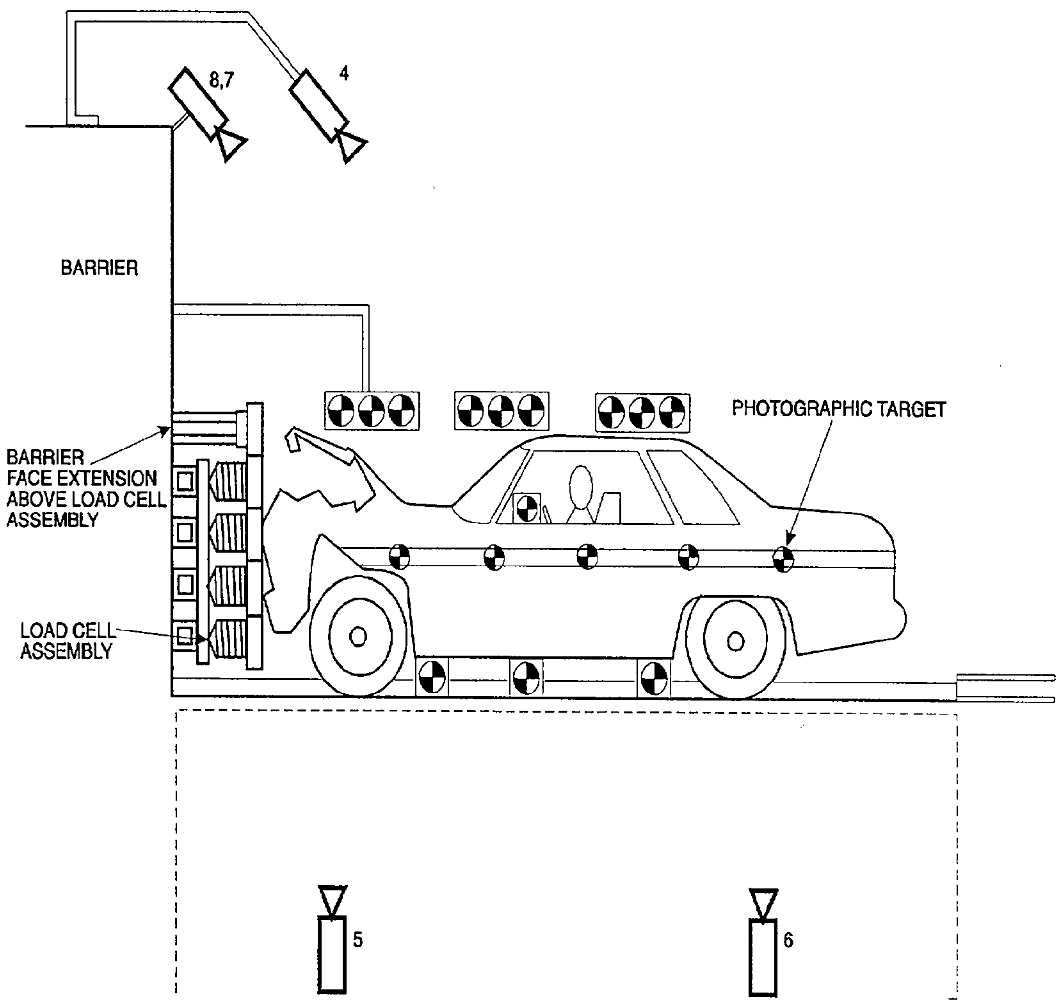


Table 13 Motion Picture Camera Locations

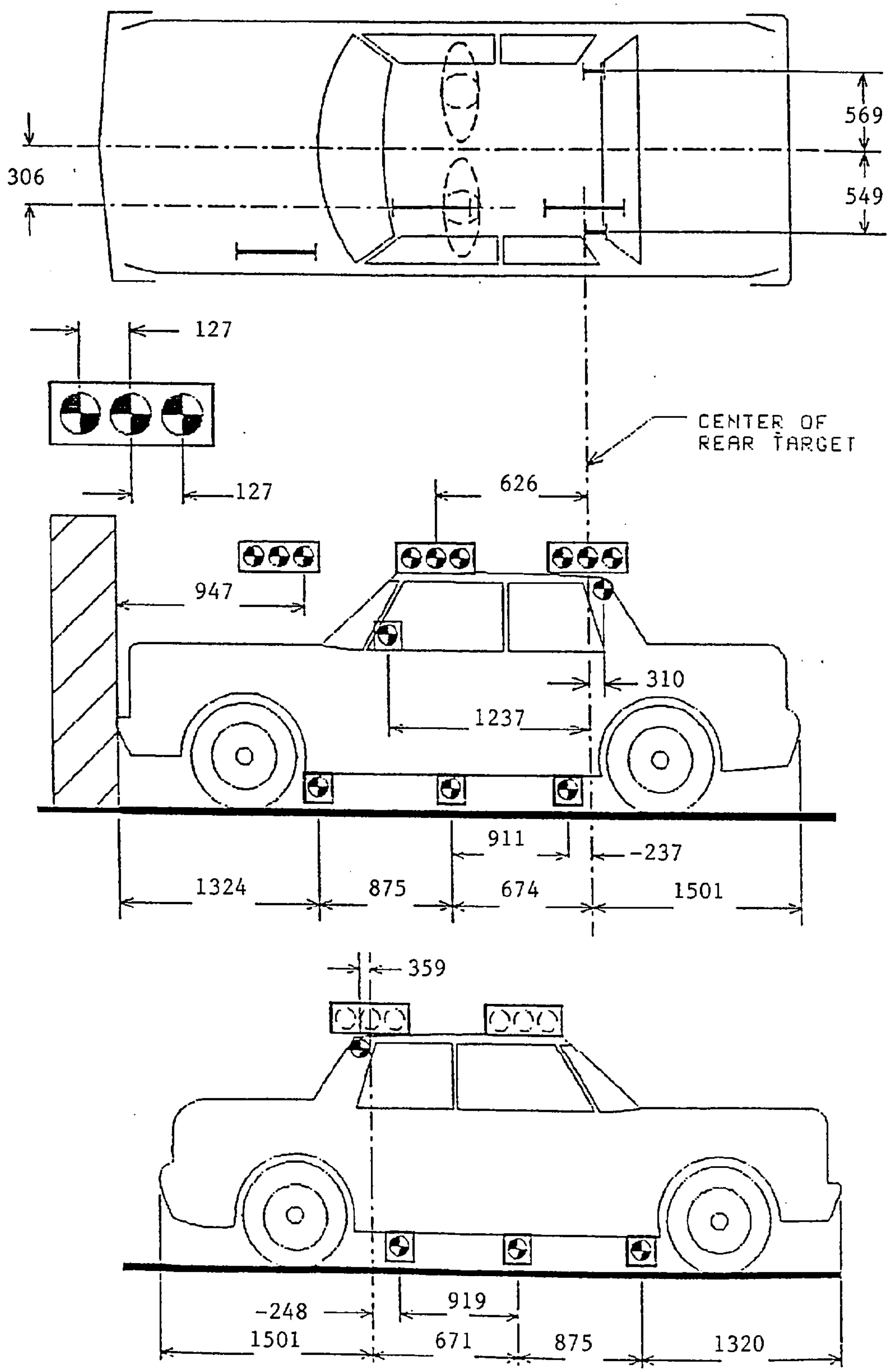
Test Number: 951026

Vehicle year/make/model/body style: 1996/Dodge/Neon/4-door sedan

Camera Number	View	Camera Positions[1] X	Y	Z	Angle[2]	Film Plane to Head Target	Lens	Film Speed
1	Real-time panning	-3607 mm	-2802 mm	1549 mm	NA	NA mm	16 mm	24 frames/s
2	Vehicle crush	-2065 mm	-6767 mm	942 mm	-2°	NA mm	13 mm	1020 frames/s
3	Dummy kinematics	-1054 mm	7493 mm	1118 mm	-12°	5715 mm	25 mm	1012 frames/s
4	Windshield damage	-925 mm	0 mm	2489 mm	-40°	NA mm	13 mm	512 frames/s
5	Crush & fluid spillage	-1283 mm	0 mm	-2347 mm	90°	NA mm	13 mm	1002 frames/s
6	Fluid spillage	-2522 mm	0 mm	-2515 mm	90°	NA mm	13 mm	995 frames/s
7	Passenger kinematics	-114 mm	-351 mm	2159 mm	-40°	NA mm	17 mm	498 frames/s
8	Driver kinematics	-173 mm	368 mm	2159 mm	-41°	NA mm	17 mm	505 frames/s
9	Driver kinematics	-4572 mm	1854 mm	2591 mm	-27°	2489 mm	25 mm	988 frames/s
10	Passenger kinematics	-4674 mm	-1880 mm	2540 mm	-26°	2718 mm	25 mm	980 frames/s
11	Windshield intrusion	-968 mm	-7775 mm	1118 mm	0°	NA mm	50 mm	512 frames/s
12	Windshield intrusion	-1346 mm	7859 mm	1074 mm	0°	NA mm	50 mm	1005 frames/s
13	Driver seat belt movement	-2032 mm	NA	NA	NA	NA mm	NA mm	NA[3] frames/s
14	Passenger seat belt movement	-2032 mm	NA	NA	NA	NA mm	NA mm	NA[3] frames/s
15	Column movement	-2134 mm	7264 mm	2616 mm	-14°	NA mm	25 mm	500 frames/s
16	Column movement	-2134 mm	7264 mm	1908 mm	-9°	NA mm	25 mm	483 frames/s
17	Passenger kinematics	-986 mm	-5354 mm	1151 mm	7°	5969 mm	25 mm	998 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
[3] Onboard cameras were not used to achieve test weight.

Figure 11 Vehicle Target Locations



All measurements are in millimeters.

Figure 12 Pre-Test And Post-Test Measurement Points

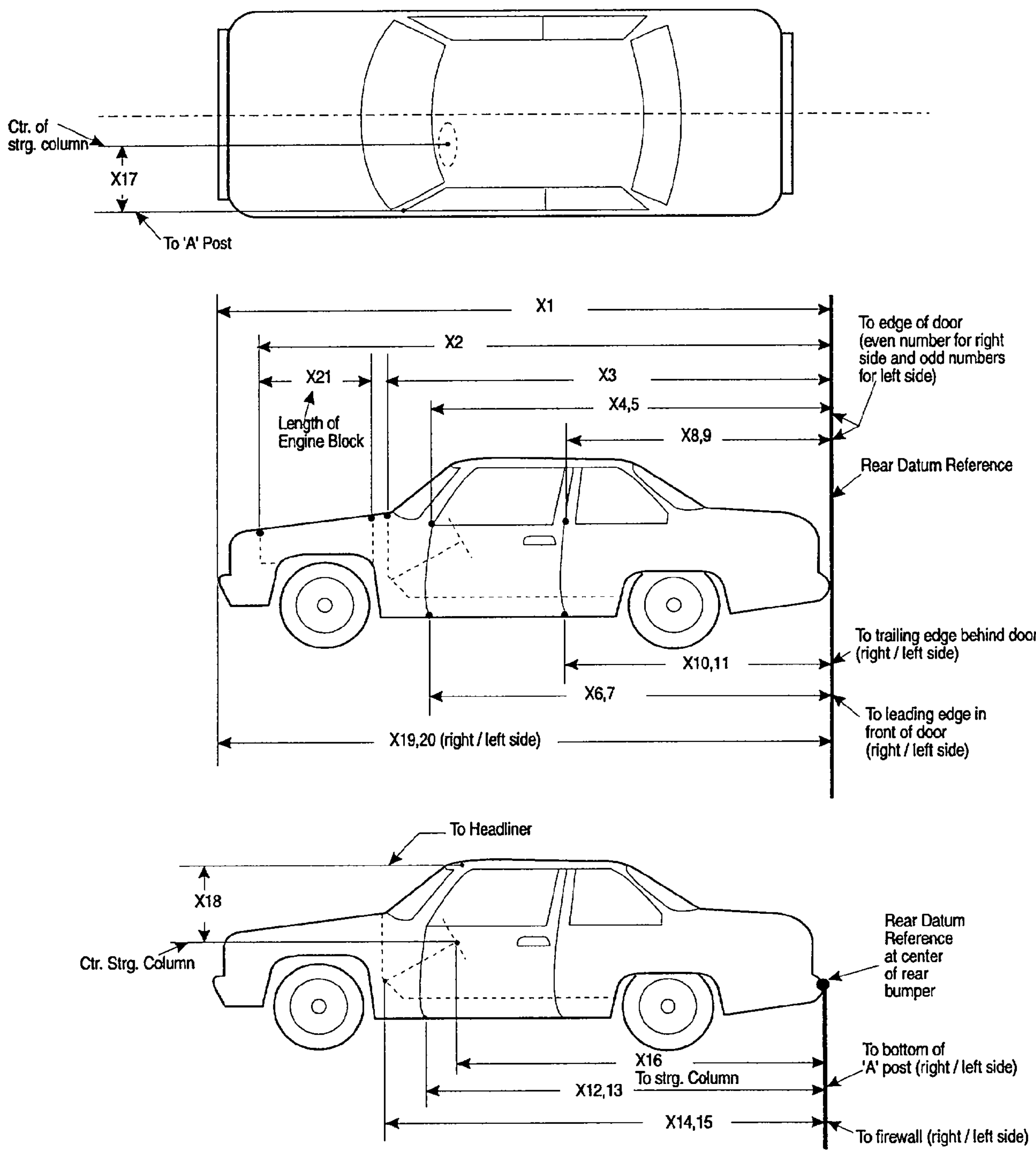


Table 14 Impacted Vehicle Measurements

Vehicle Make/Model: Dodge/Neon   Test Number: 951026

No.	Type of measurement	Pre-test	Post-test	Diff.
X1	Total length of vehicle at centerline	4355 mm	3858 mm	497 mm
X2	Rear surface of vehicle to front of engine block	3875 mm	3528 mm	347 mm
X3	Rear surface of vehicle to firewall	3365 mm	3293 mm	72 mm
X4	Rear surface of vehicle to upper leading edge of right door	2966 mm	2970 mm	-4 mm
X5	Rear surface of vehicle to upper leading edge of left door	2975 mm	2956 mm	19 mm
X6	Rear surface of vehicle to lower leading edge of right door	3022 mm	3040 mm	-18 mm
X7	Rear surface of vehicle to lower leading edge of left door	3028 mm	3023 mm	5 mm
X8	Rear surface of vehicle to upper trailing edge of right door	1946 mm	1962 mm	-16 mm
X9	Rear surface of vehicle to upper trailing edge of left door	1955 mm	1936 mm	19 mm
X10	Rear surface of vehicle to lower trailing edge of right door	1945 mm	1974 mm	-29 mm
X11	Rear surface of vehicle to lower trailing edge of left door	1956 mm	1955 mm	1 mm
X12	Rear surface of vehicle to bottom of "A" post on right side	2972 mm	2960 mm	12 mm
X13	Rear surface of vehicle to bottom of "A" post on left side	2962 mm	2926 mm	36 mm
X14	Rear surface of vehicle to firewall - right side	3291 mm	3225 mm	66 mm
X15	Rear surface of vehicle to firewall - left side	3268 mm	3190 mm	78 mm
X16	Rear surface of vehicle to steering wheel center	2562 mm	2533 mm	29 mm
X17	Center of steering column to "A" post	285 mm	315 mm	-30 mm
X18	Center of steering column to headliner	428 mm	479 mm	-51 mm
X19	Rear surface of vehicle to right side of front bumper	4136 mm	3774 mm	362 mm
X20	Rear surface of vehicle to left side of front bumper	4131 mm	3762 mm	369 mm
X21	Length of engine block	450 mm	450 mm	0 mm

<u>Appendix A</u>

Photographs

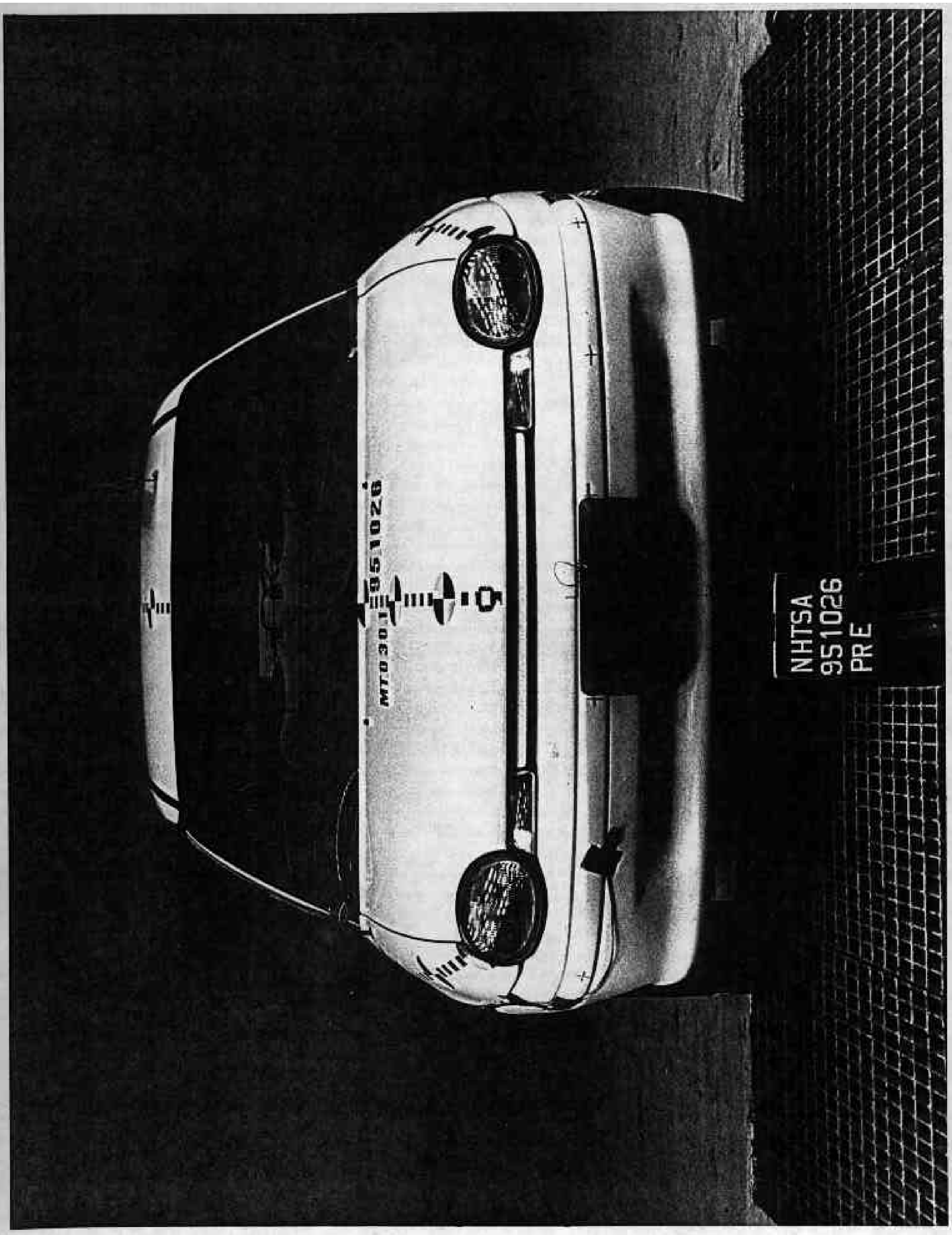


Figure A-1. Pre-Test Front View

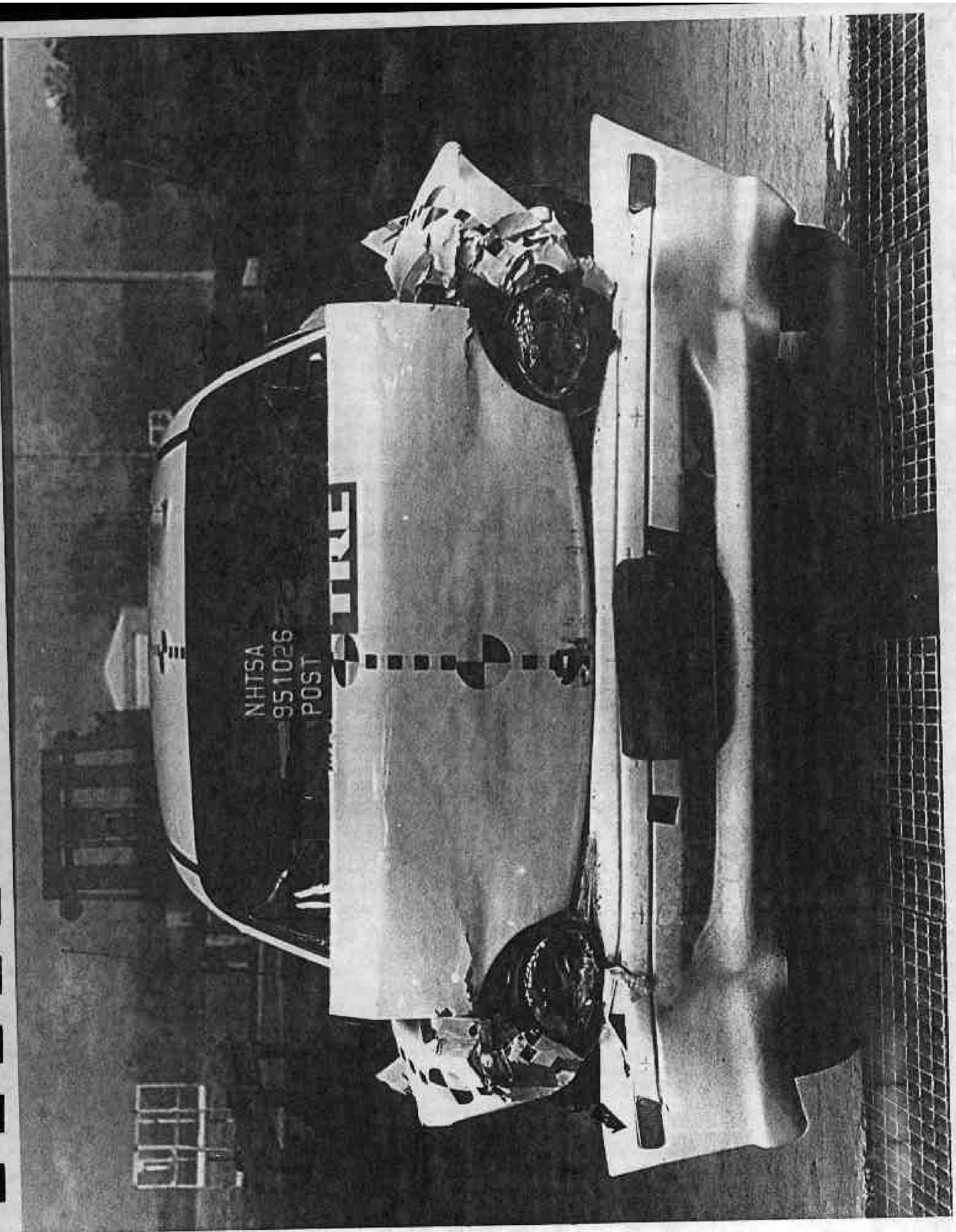


Figure A-2. Post-Test Front View

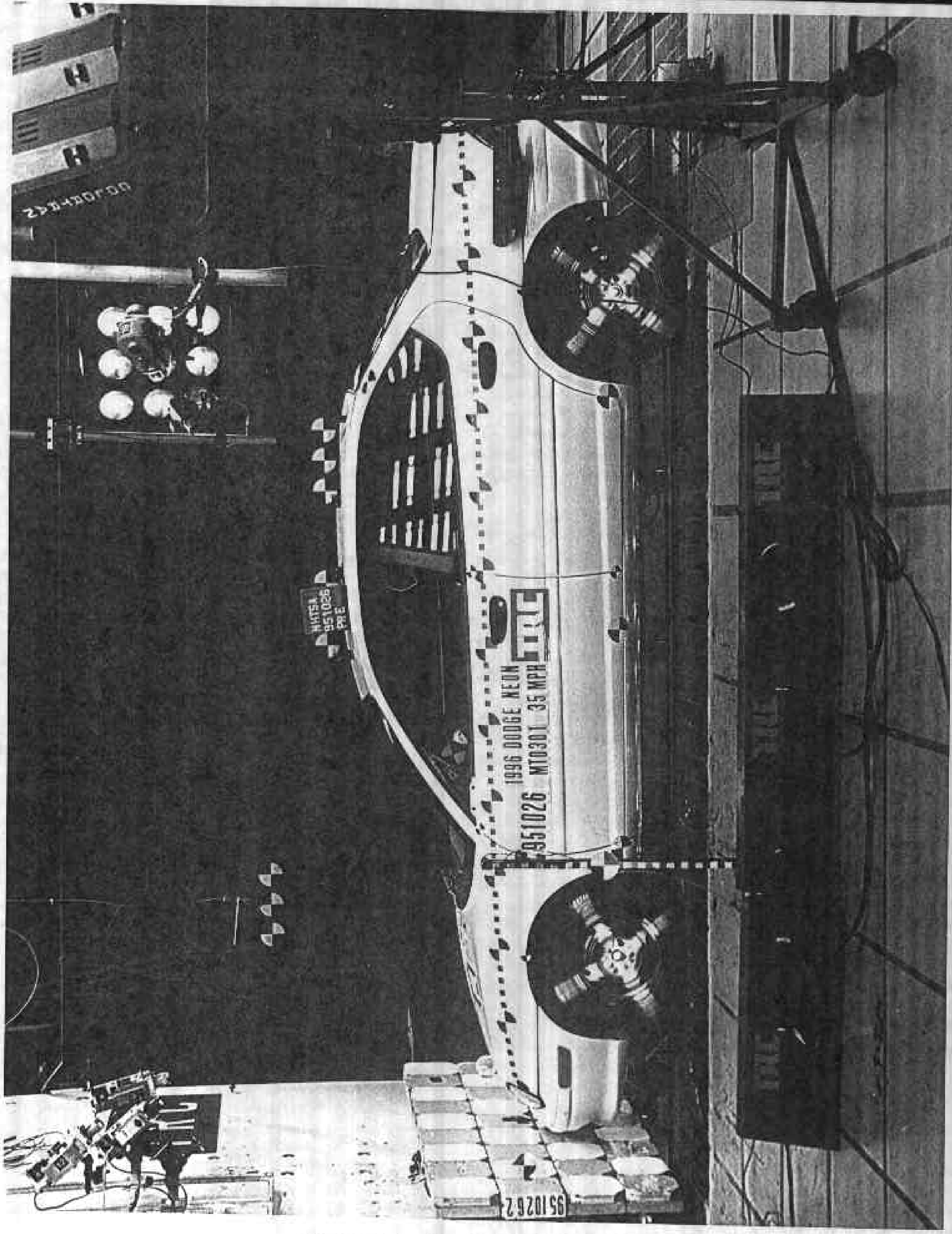


Figure A-3. Pre-Test Left Side View

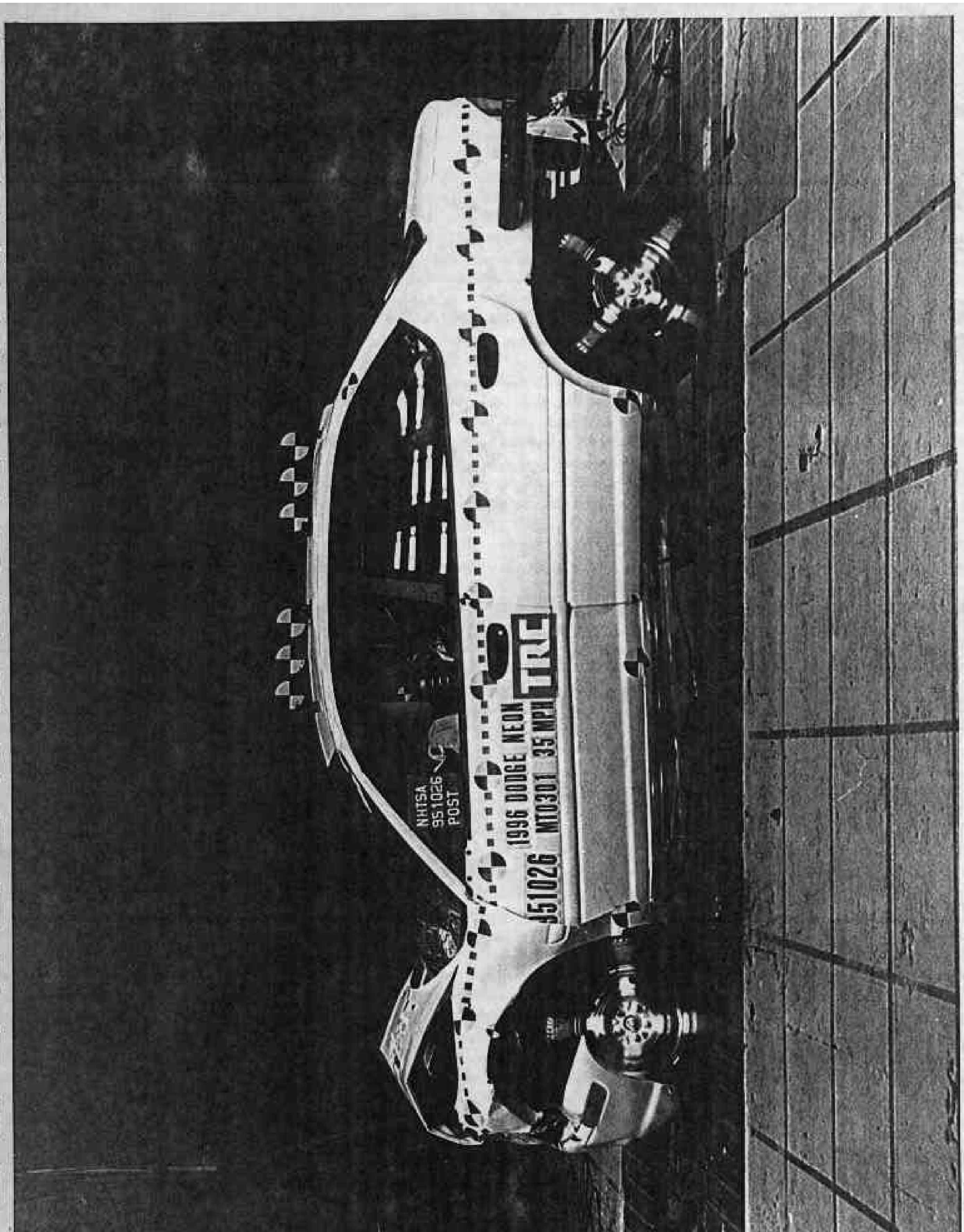


Figure A-4. Post-Test Left Side View

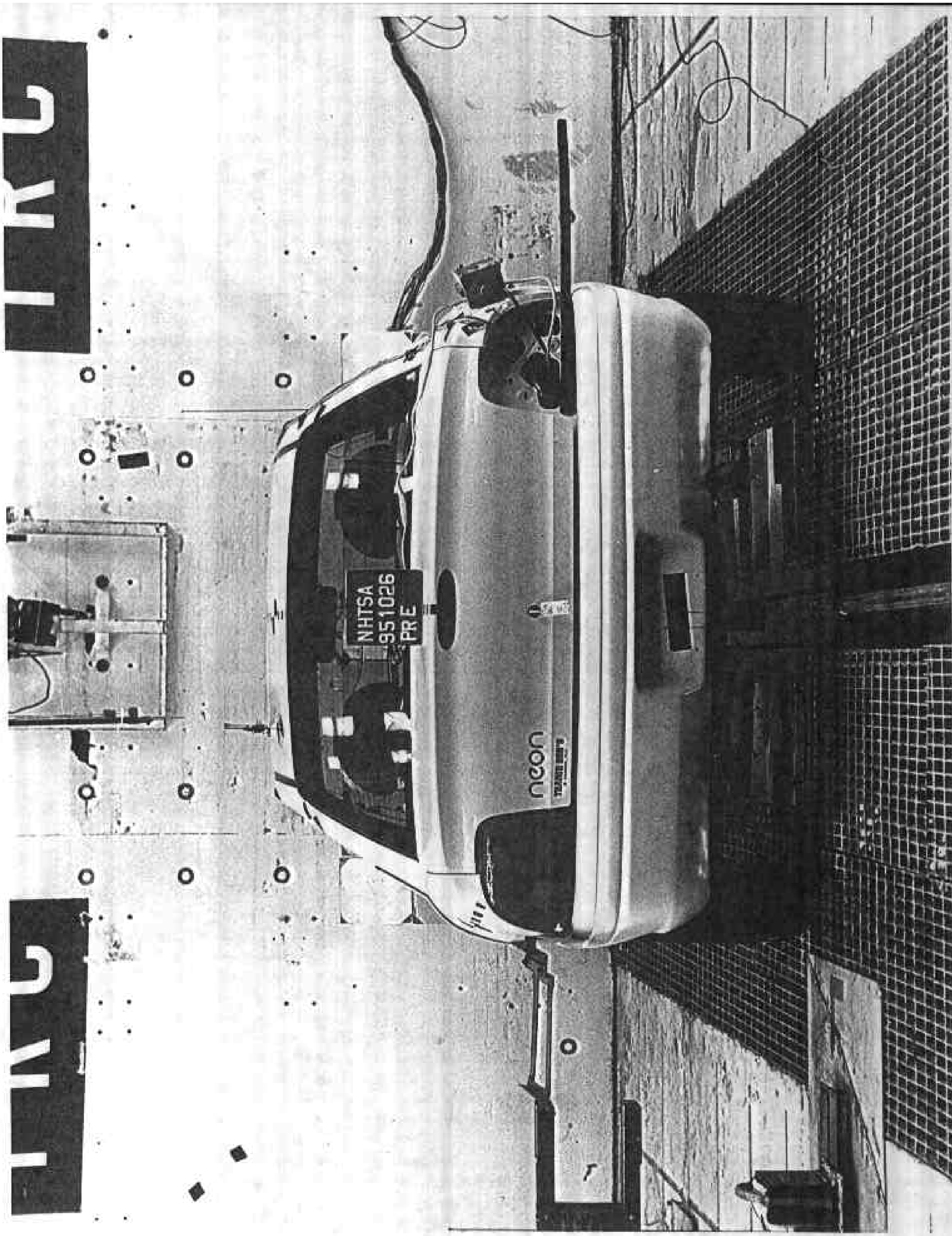


Figure A-5. Pre-Test Rear View

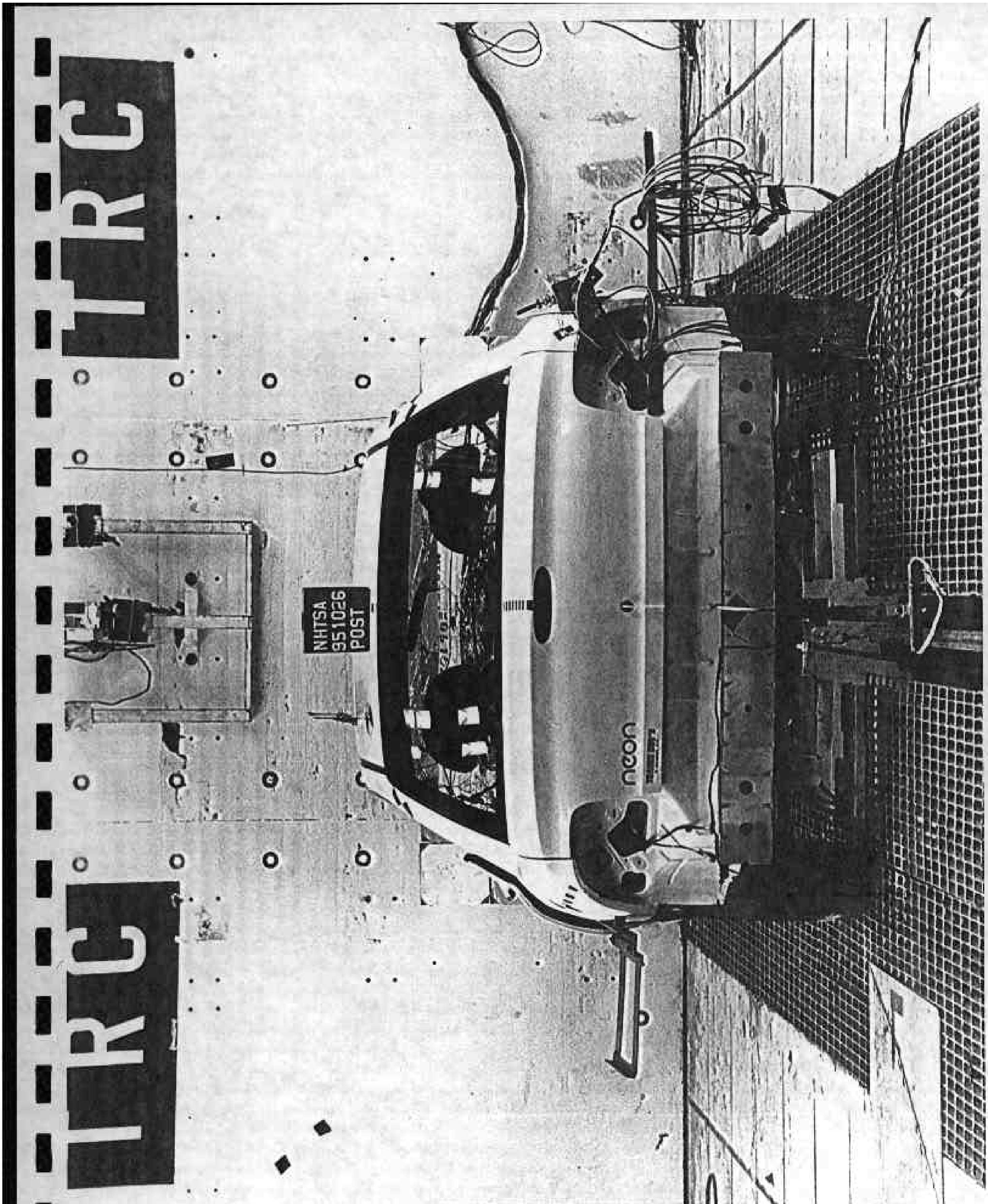


Figure A-6. Post-Test Rear View

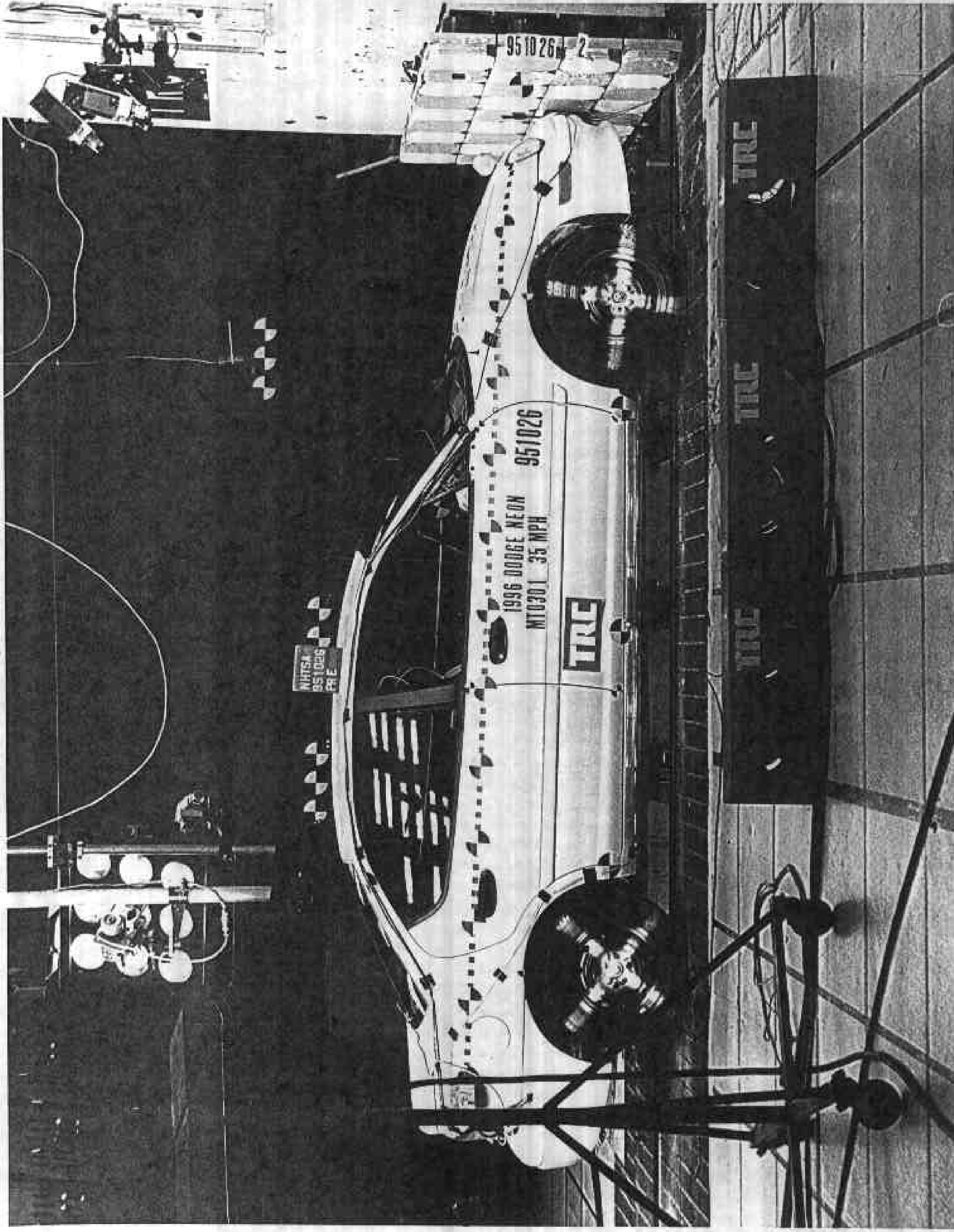


Figure A-7. Pre-Test Right Side View

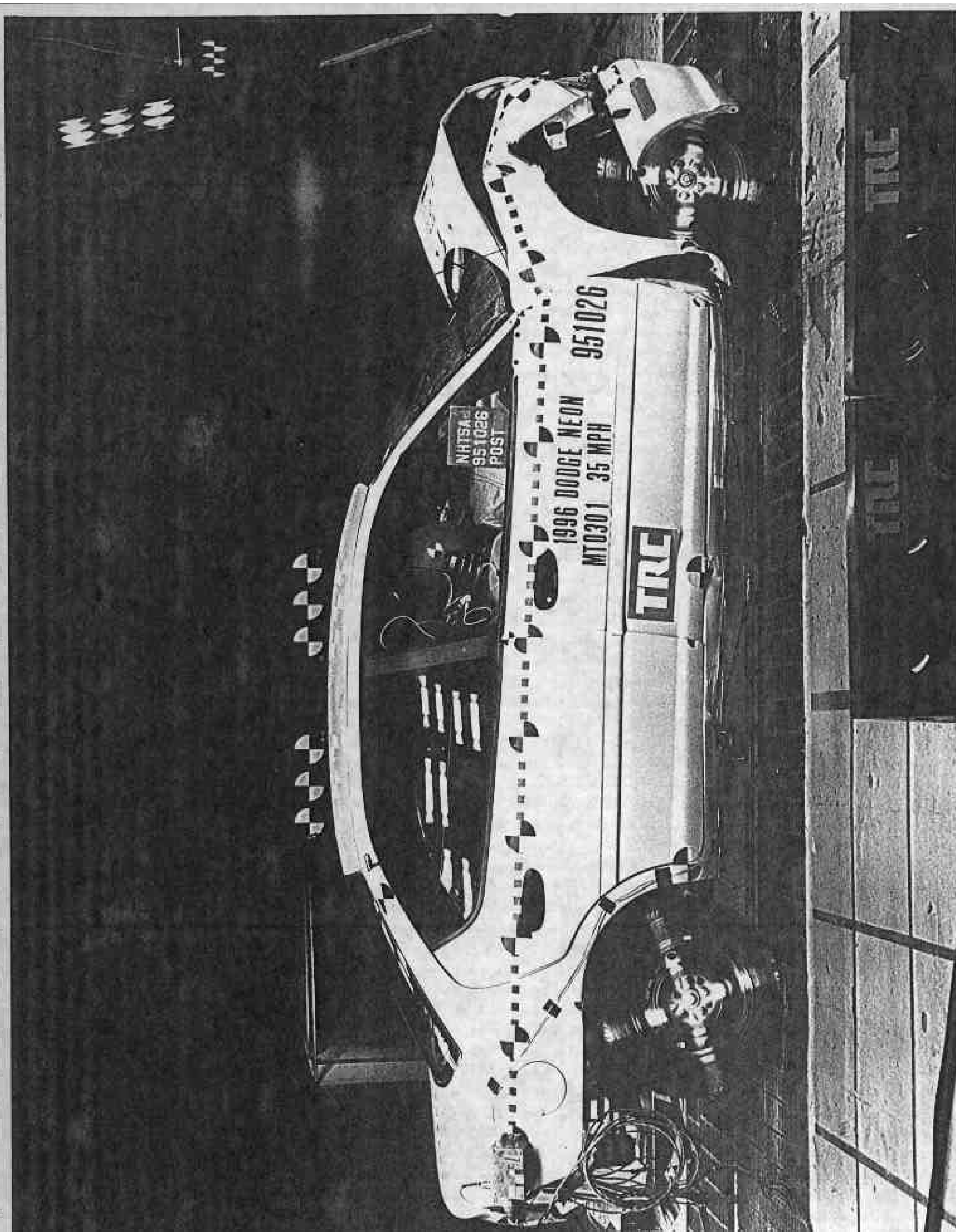


Figure A-8. Post-Test Right Side View

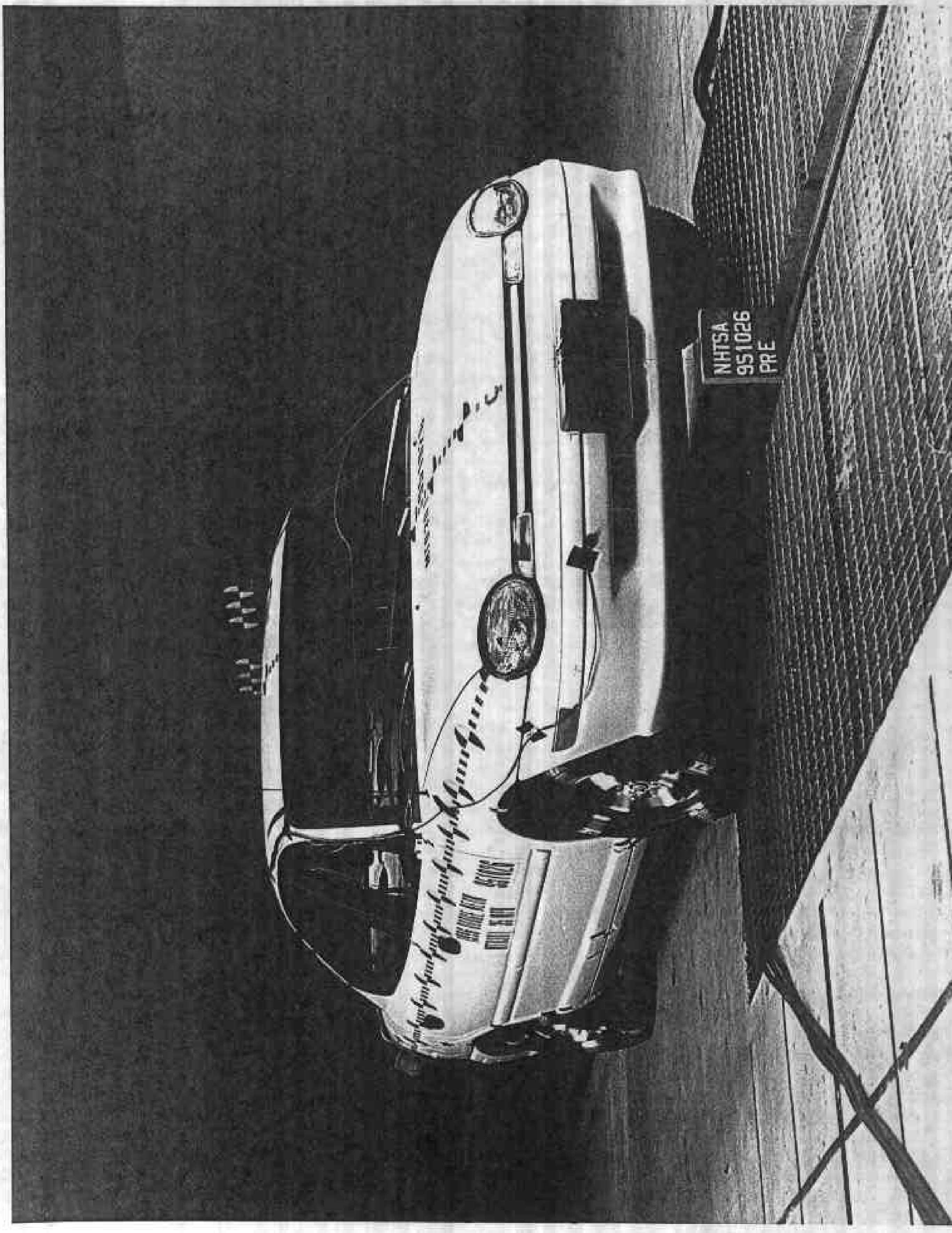


Figure A-9. Pre-Test Right Front Three-Quarter View

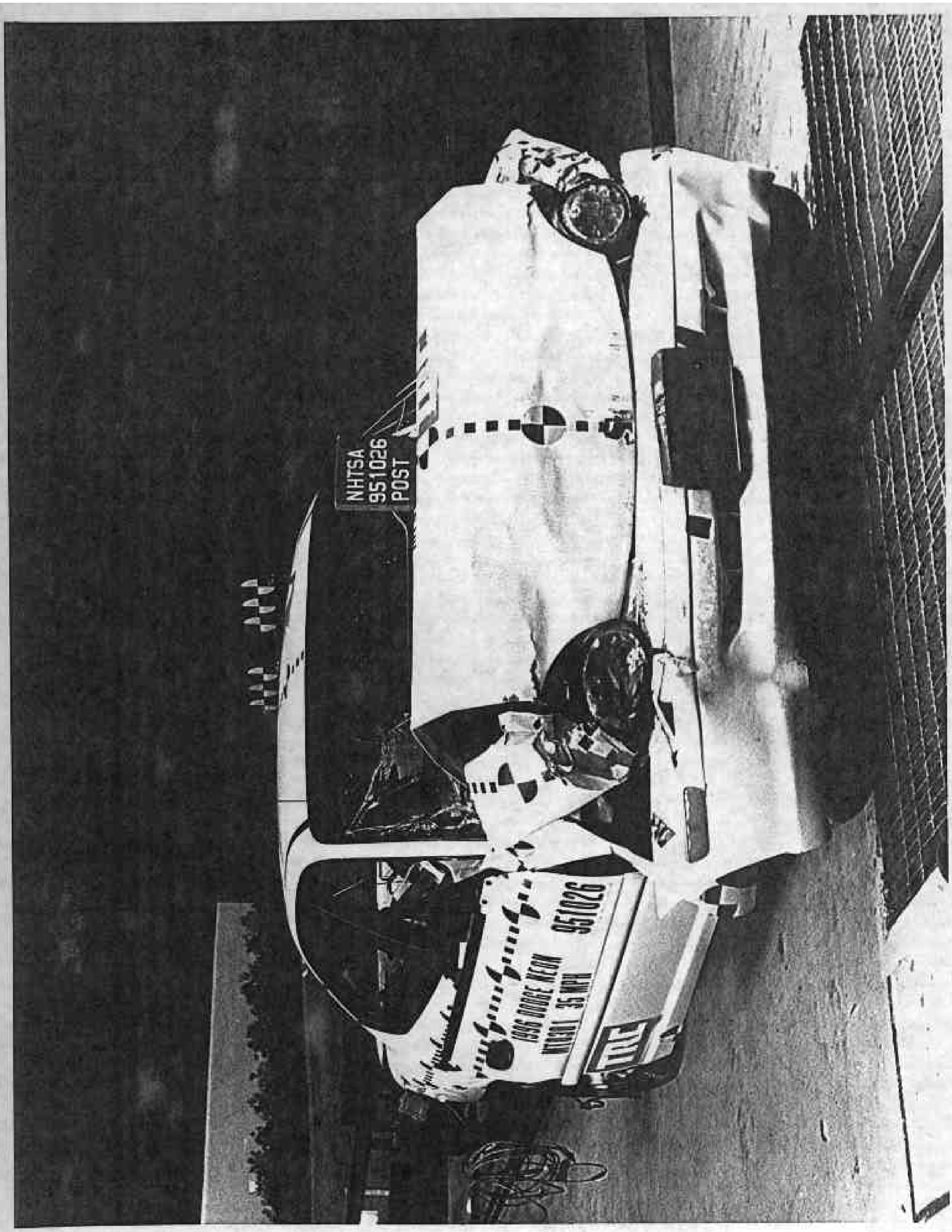


Figure A-10. Post-Test Right Front Three-Quarter View

Figure A-11. Pre-Test Left Rear Three-Quarter View

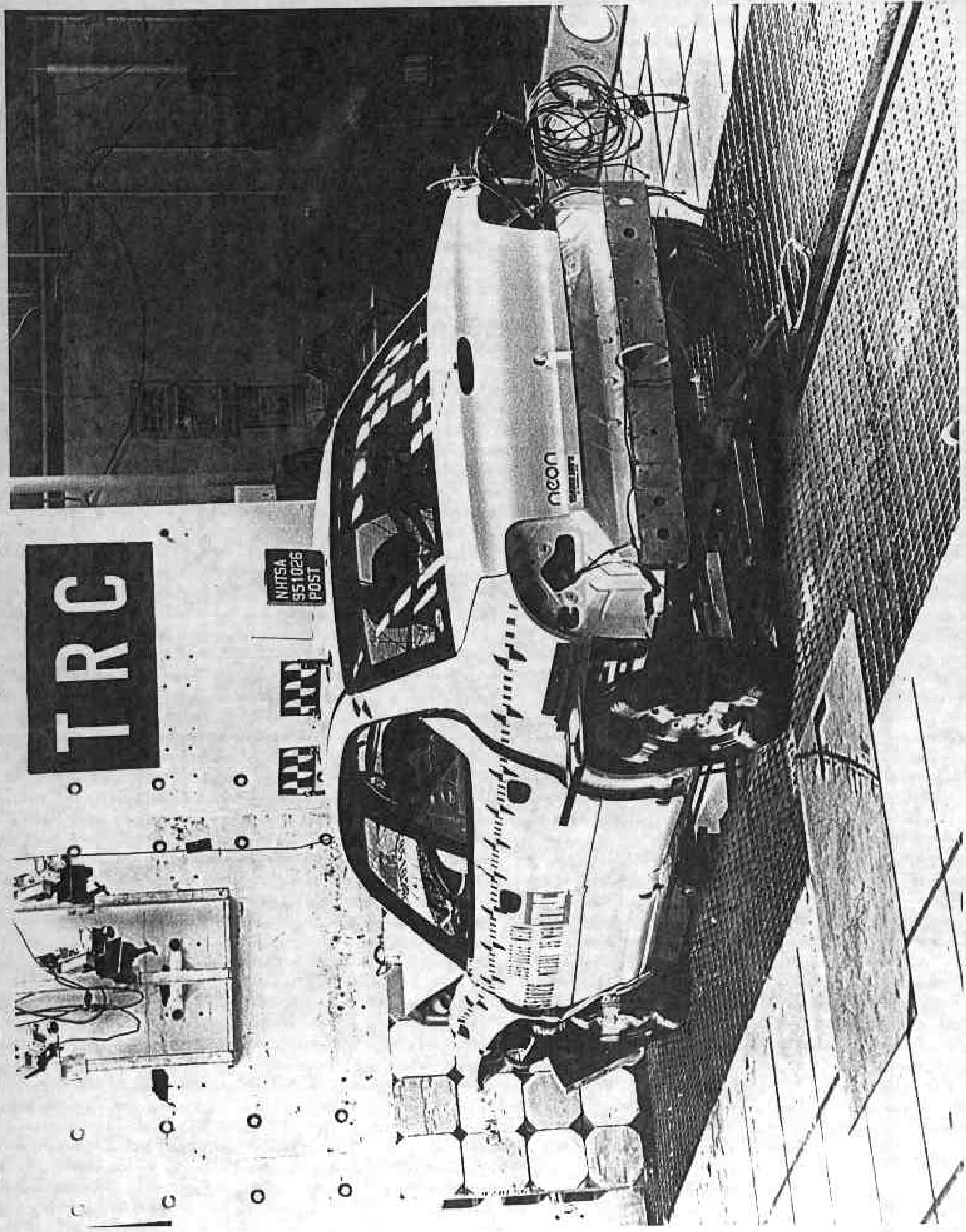


Figure A-12. Post-Test Left Rear Three-Quarter View

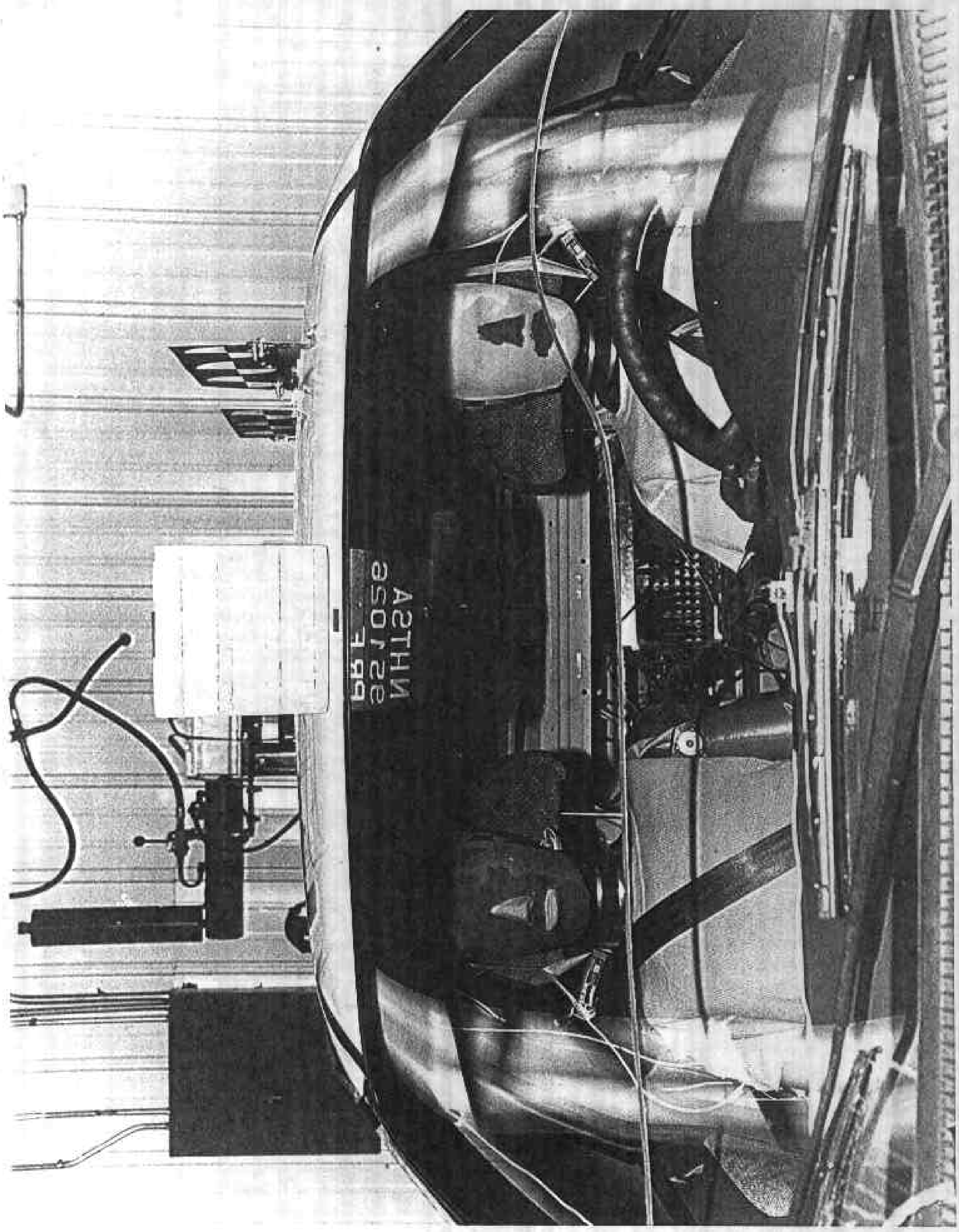


Figure A-13. Pre-Test Windshield View

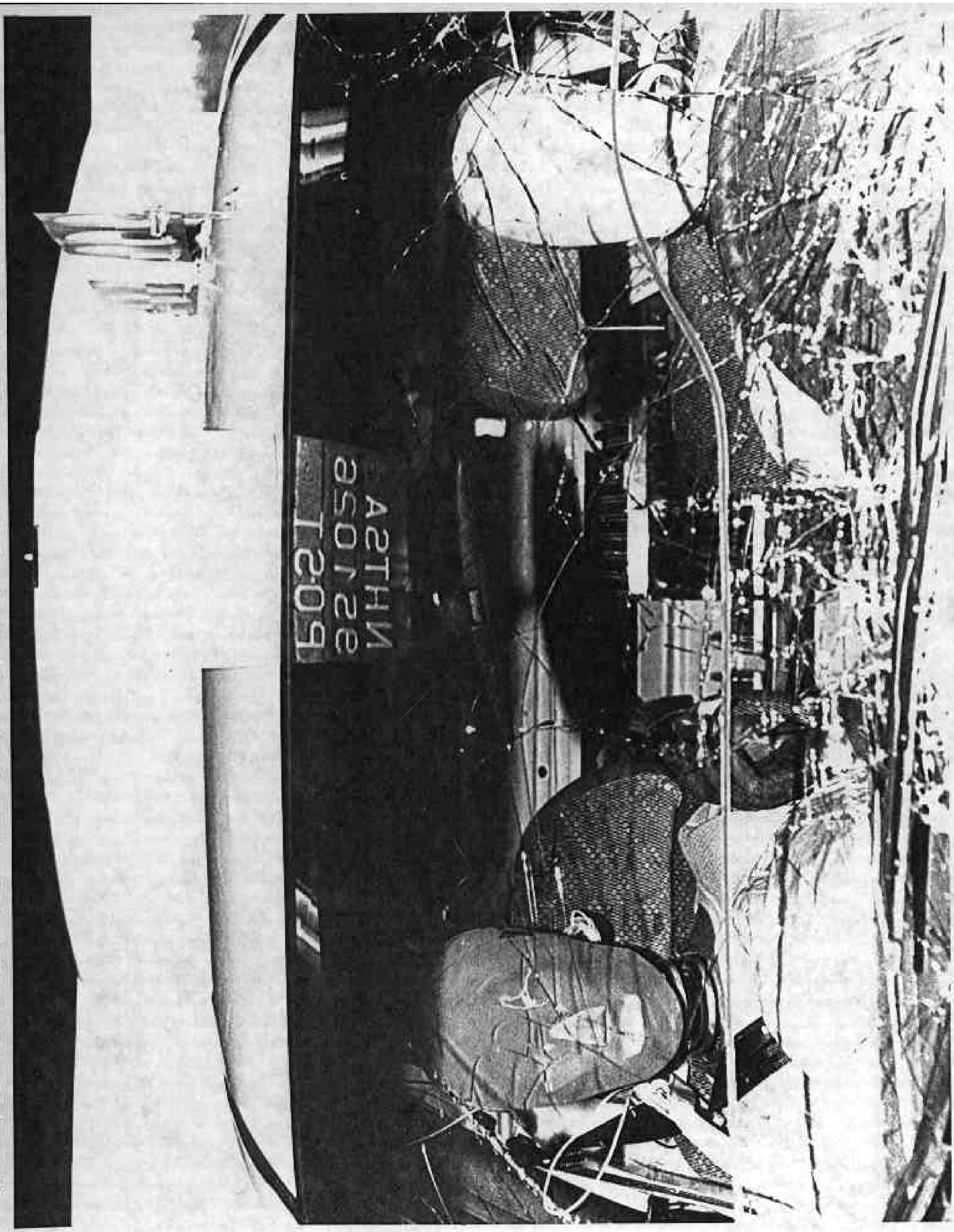


Figure A-14. Post-Test Windshield View

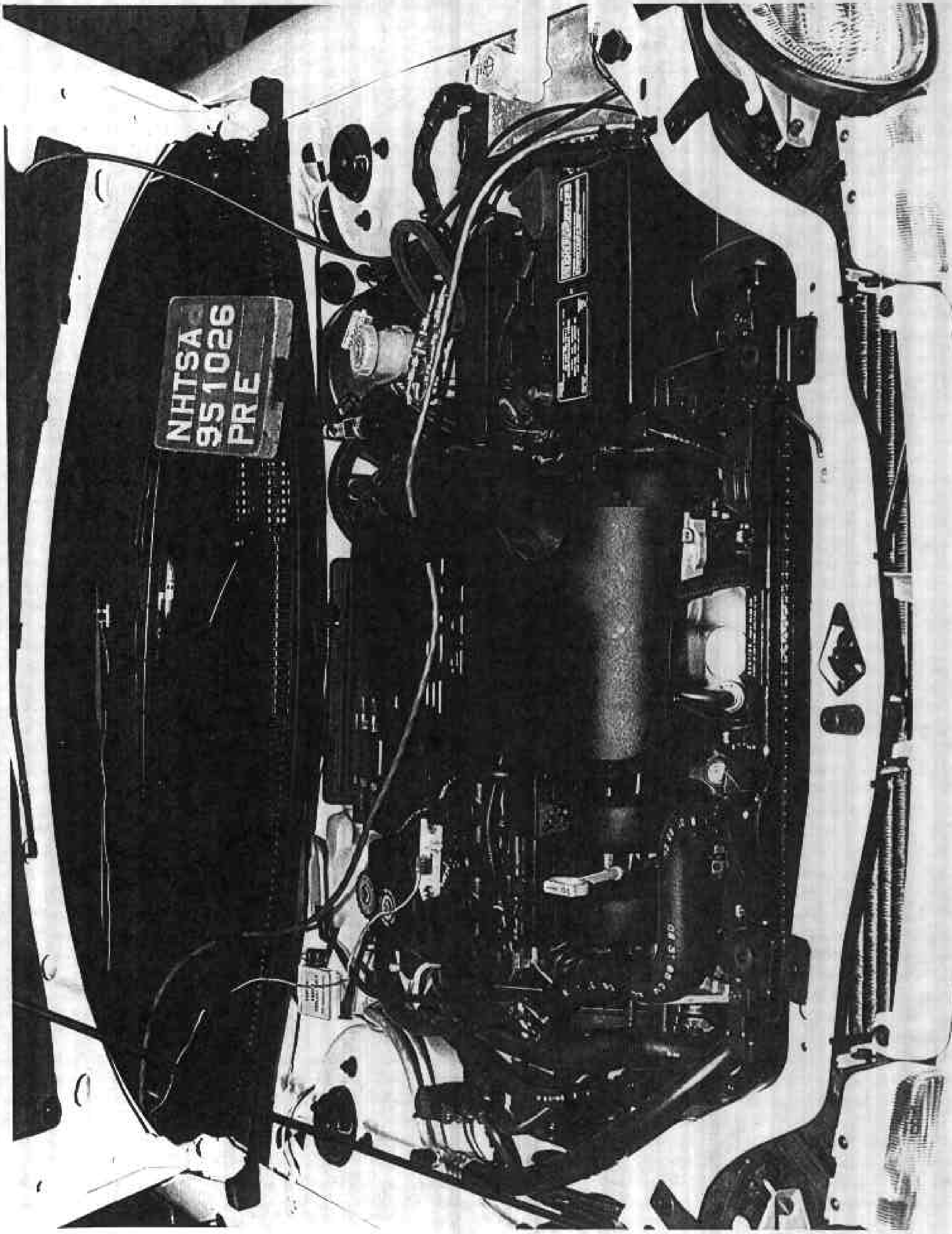


Figure A-15. Pre-Test Engine Compartment View

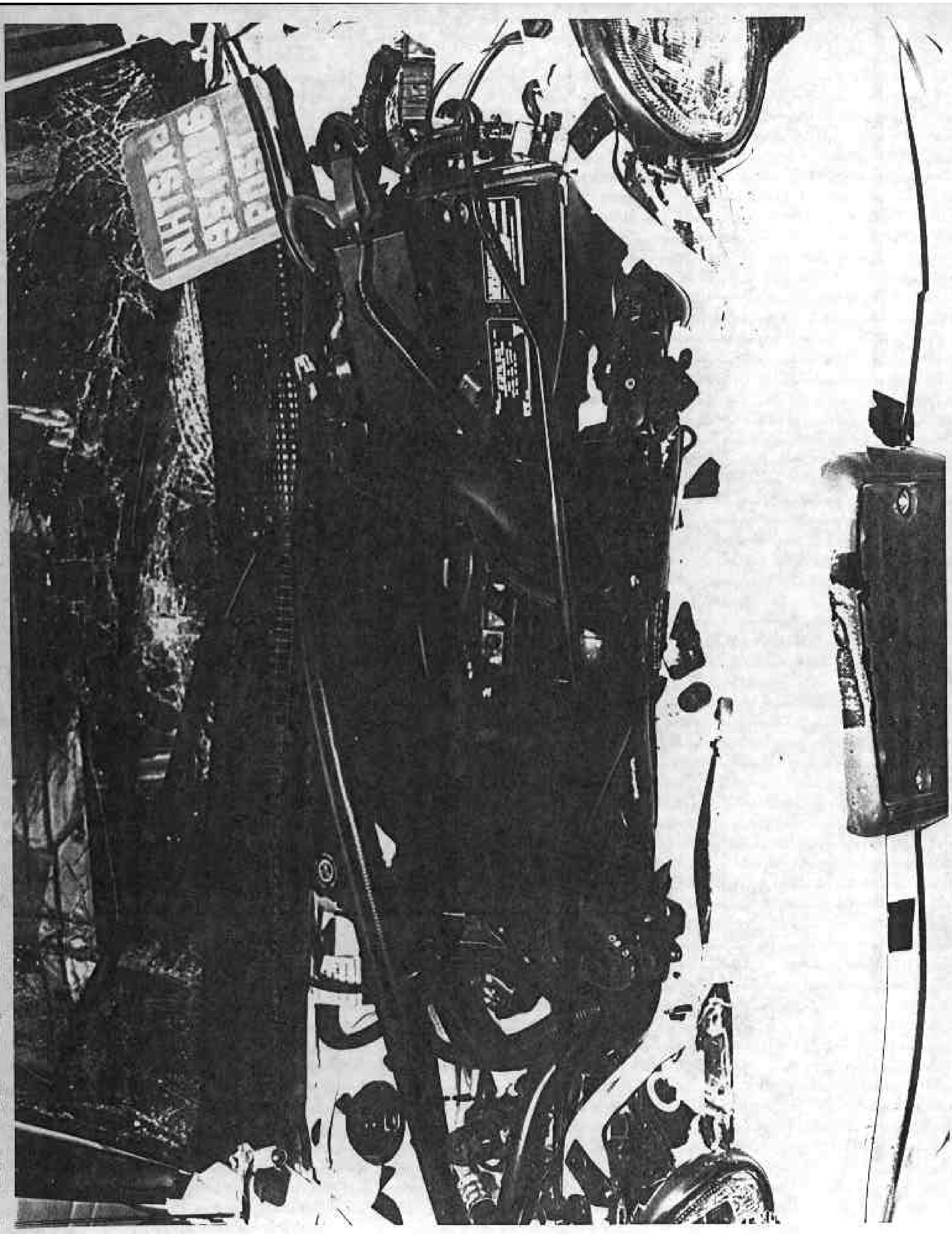


Figure A-16. Post-Test Engine Compartment View

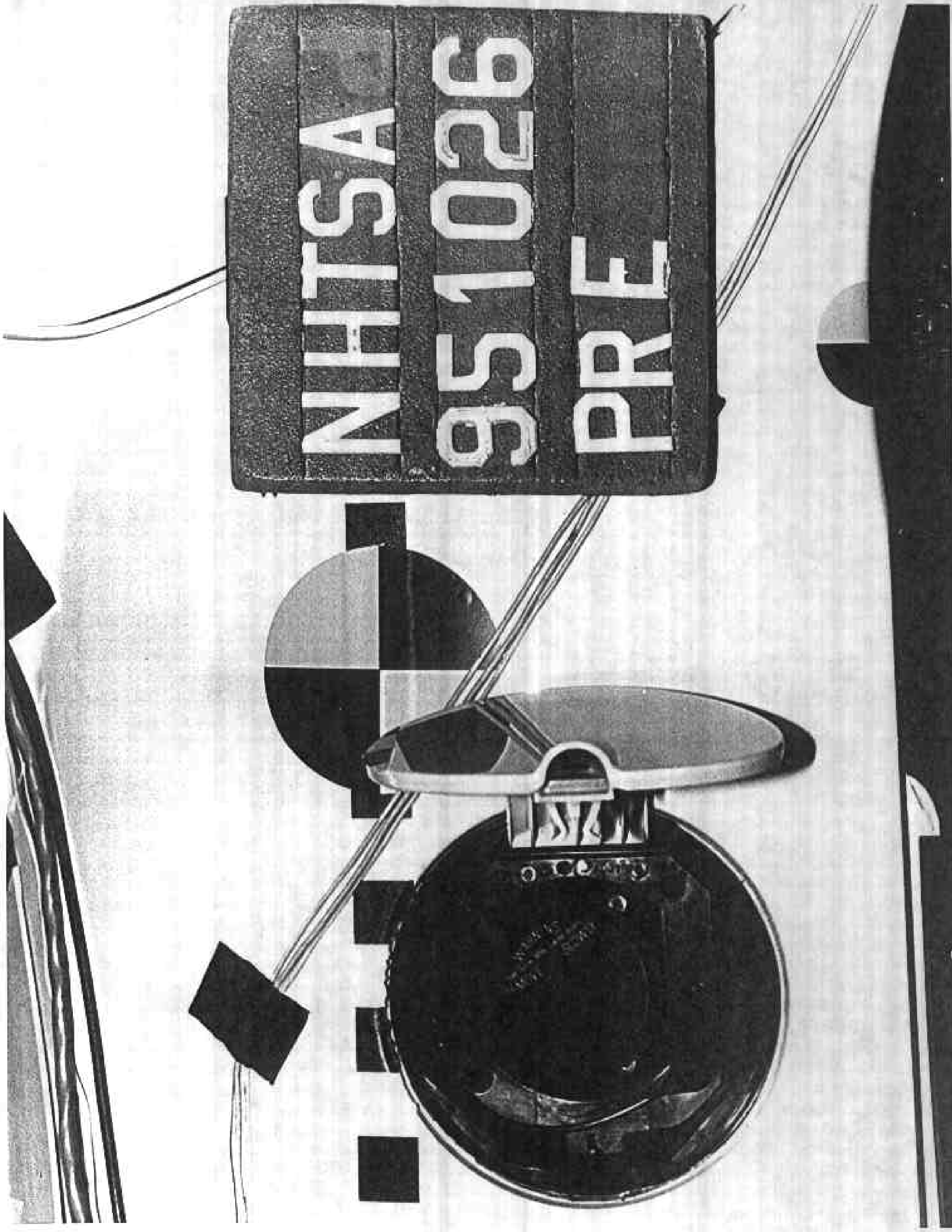


Figure A-17. Pre-Test Fuel Filler Cap View

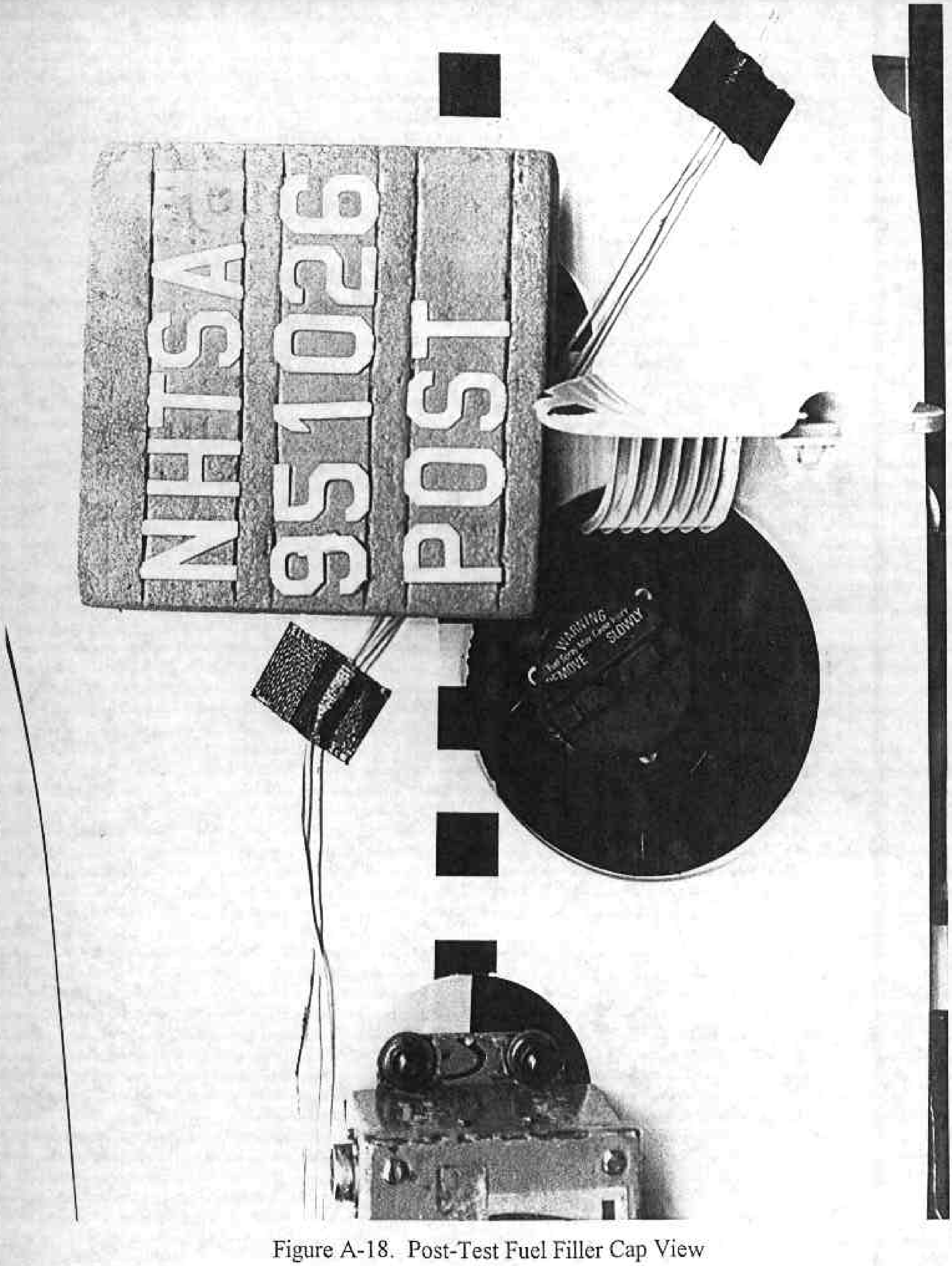


Figure A-18. Post-Test Fuel Filler Cap View

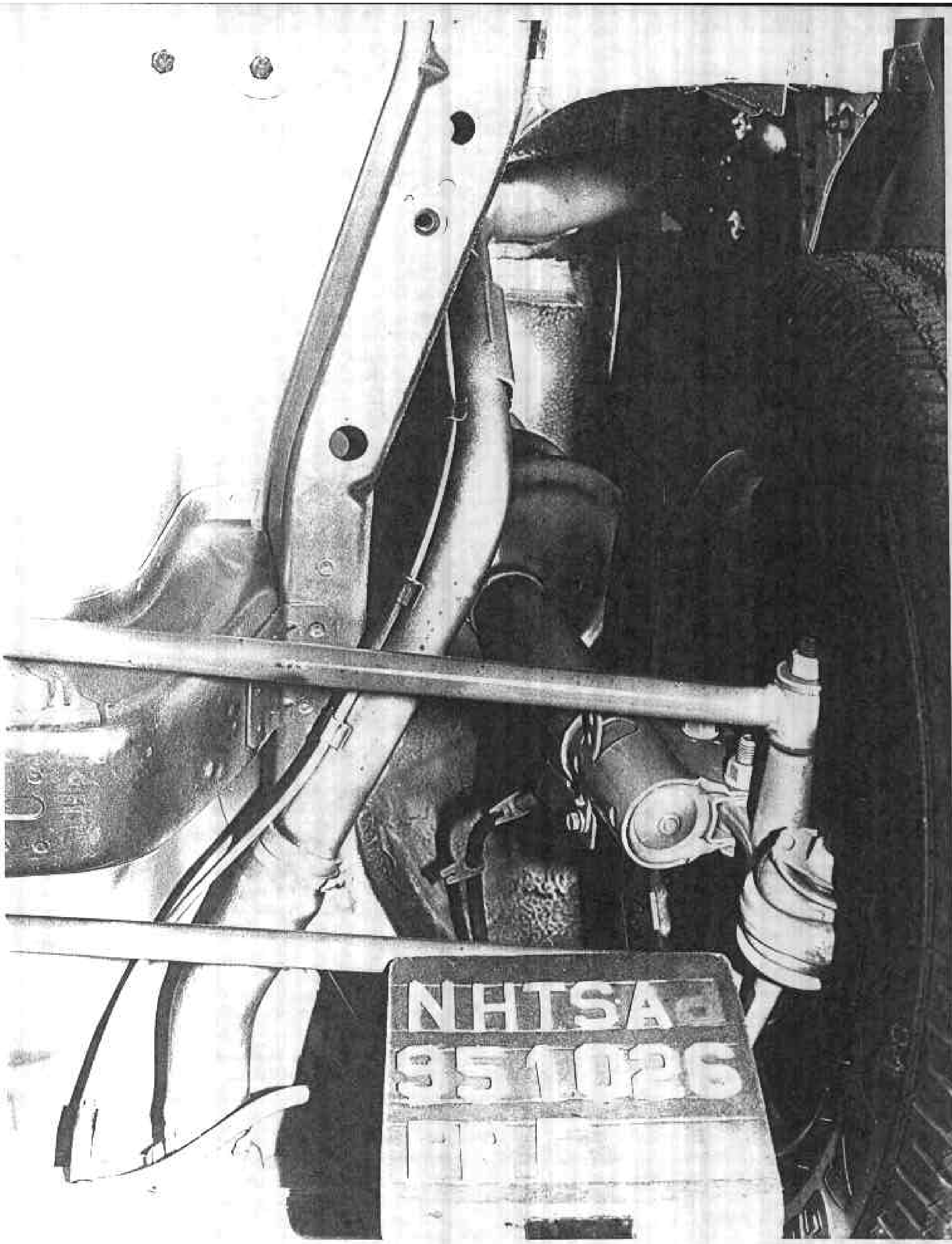


Figure A-19. Pre-Test Fuel Filler Neck View

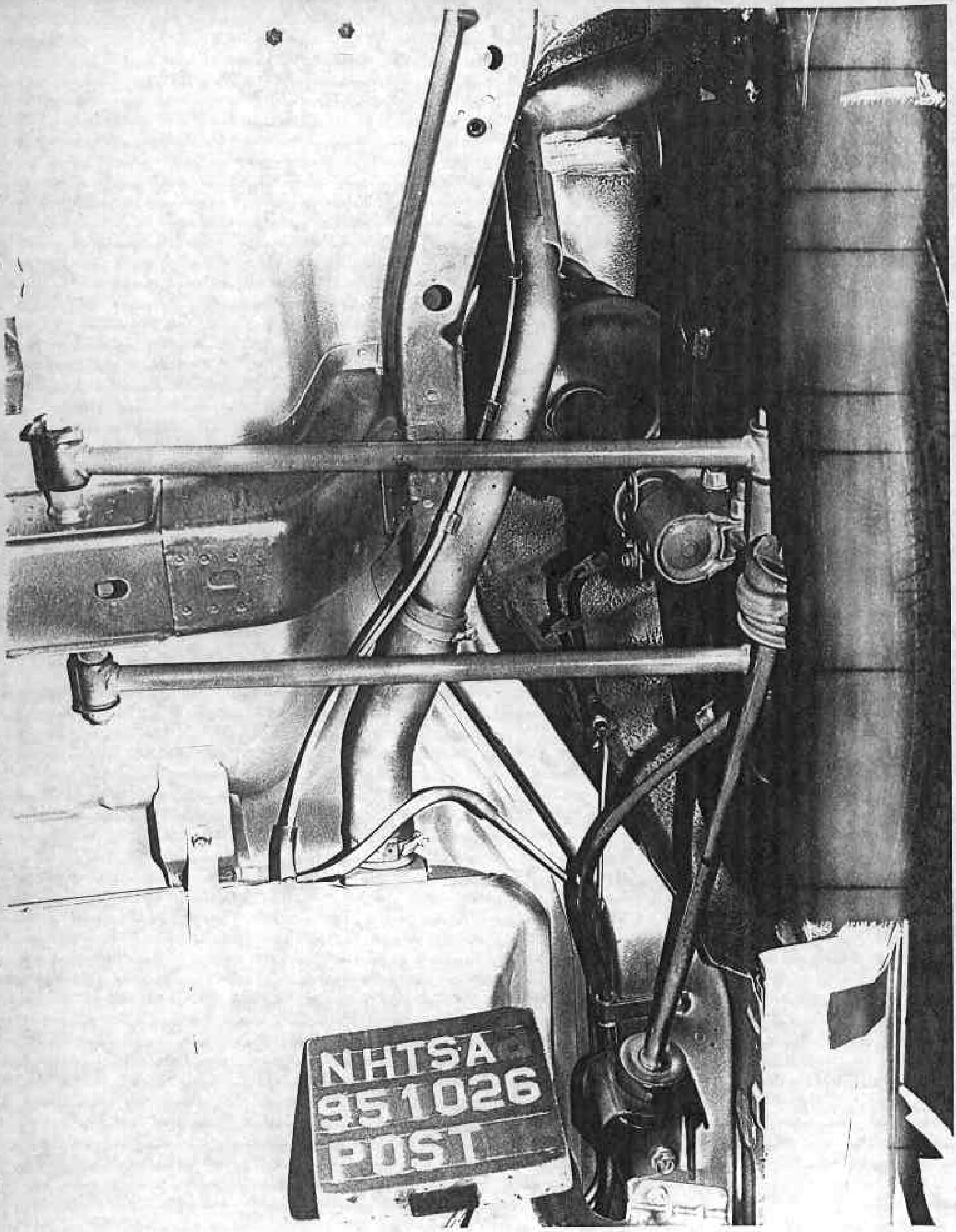


Figure A-20. Post-Test Fuel Filler Neck View

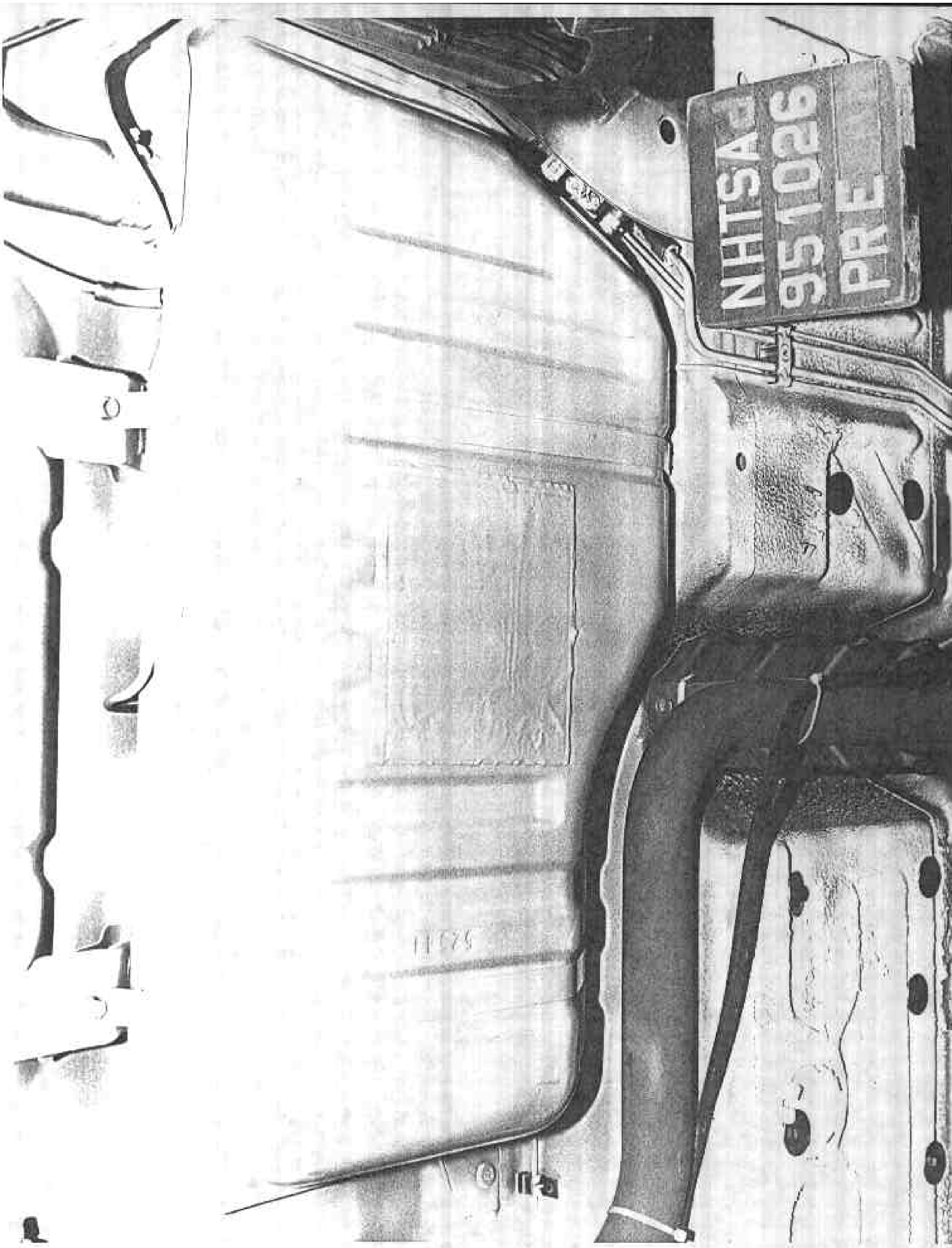


Figure A-21. Pre-Test Fuel Tank View

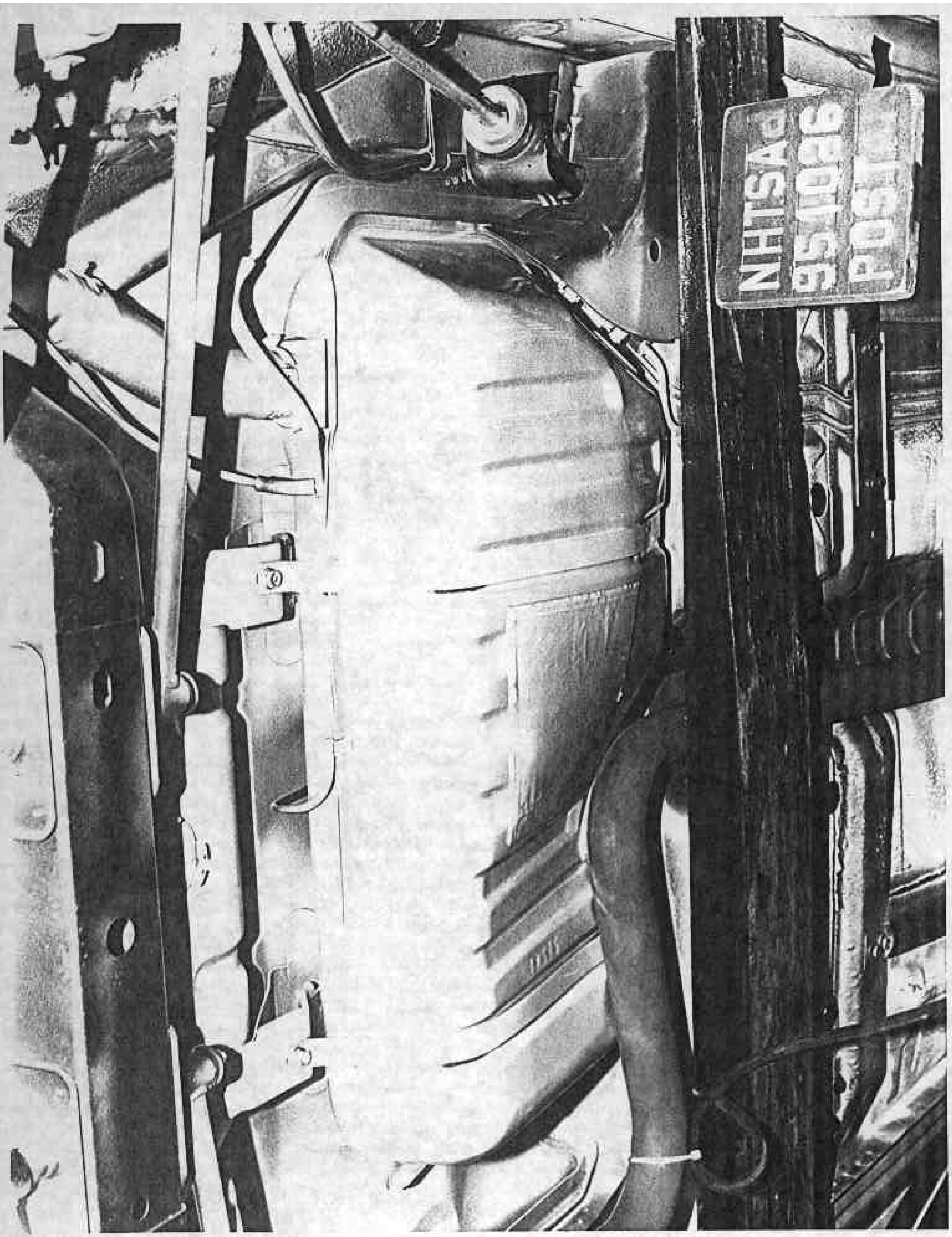


Figure A-22. Post-Test Fuel Tank View

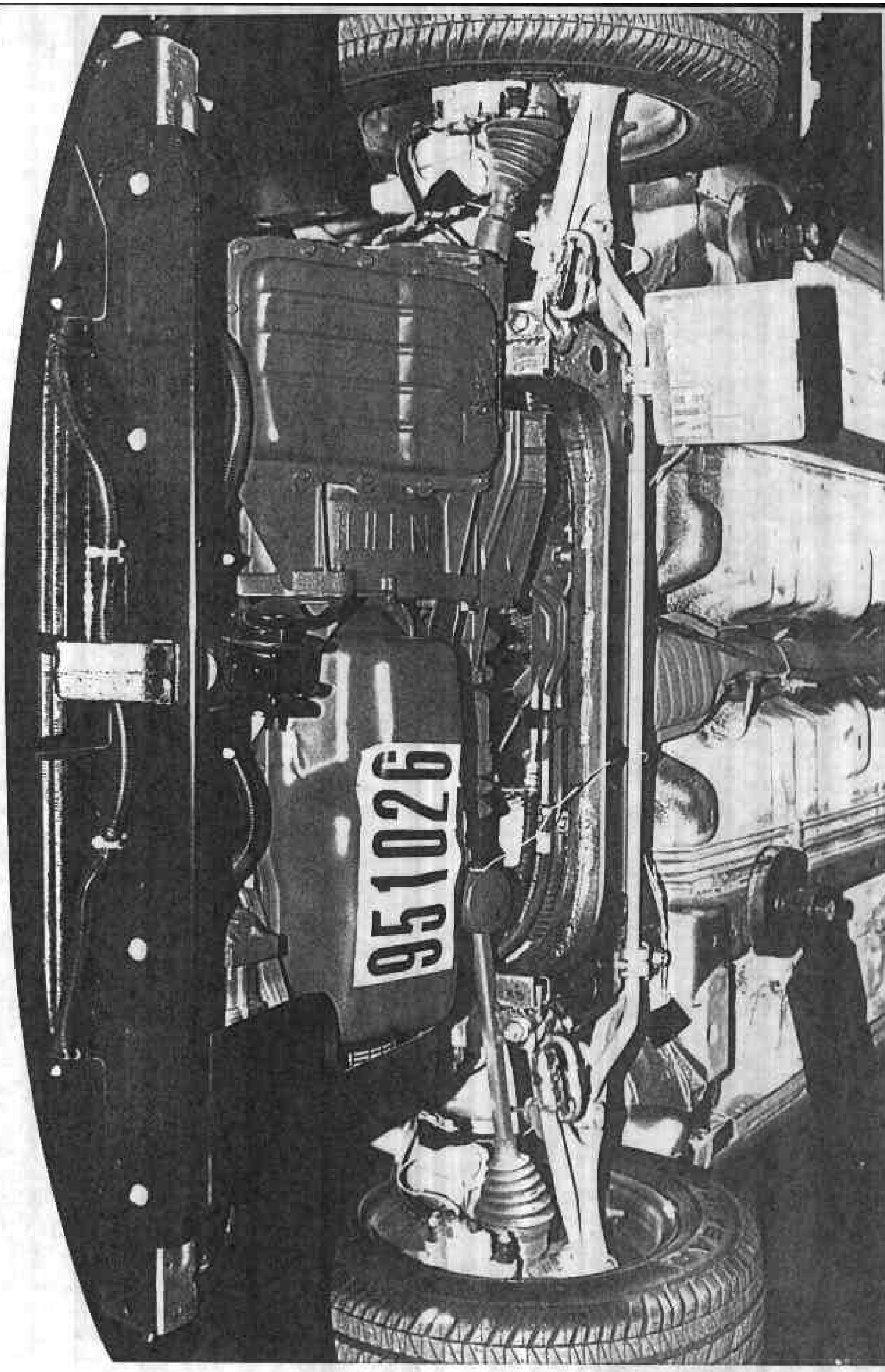


Figure A-23. Pre-Test Front Underbody View

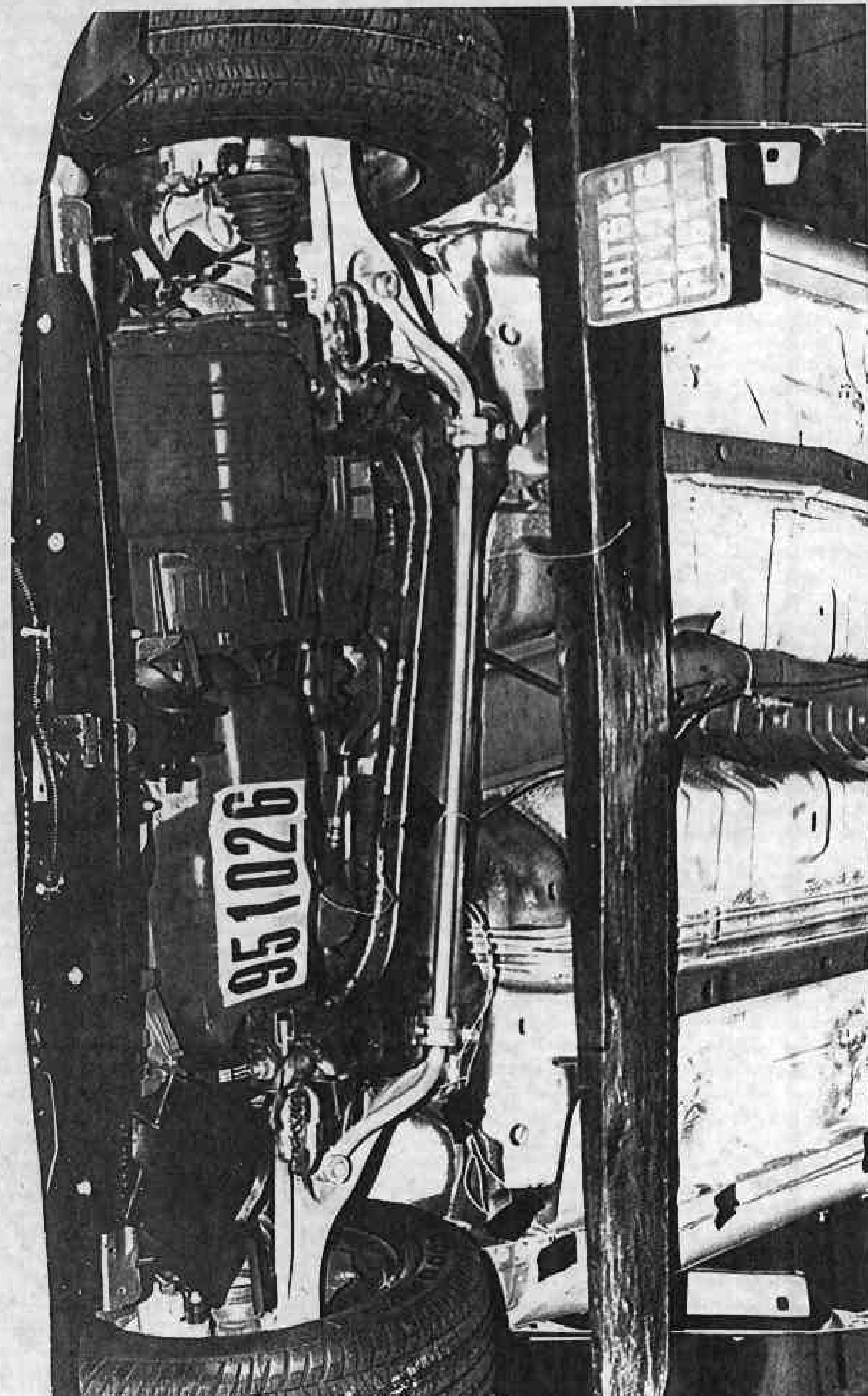


Figure A-24. Post-Test Front Underbody View

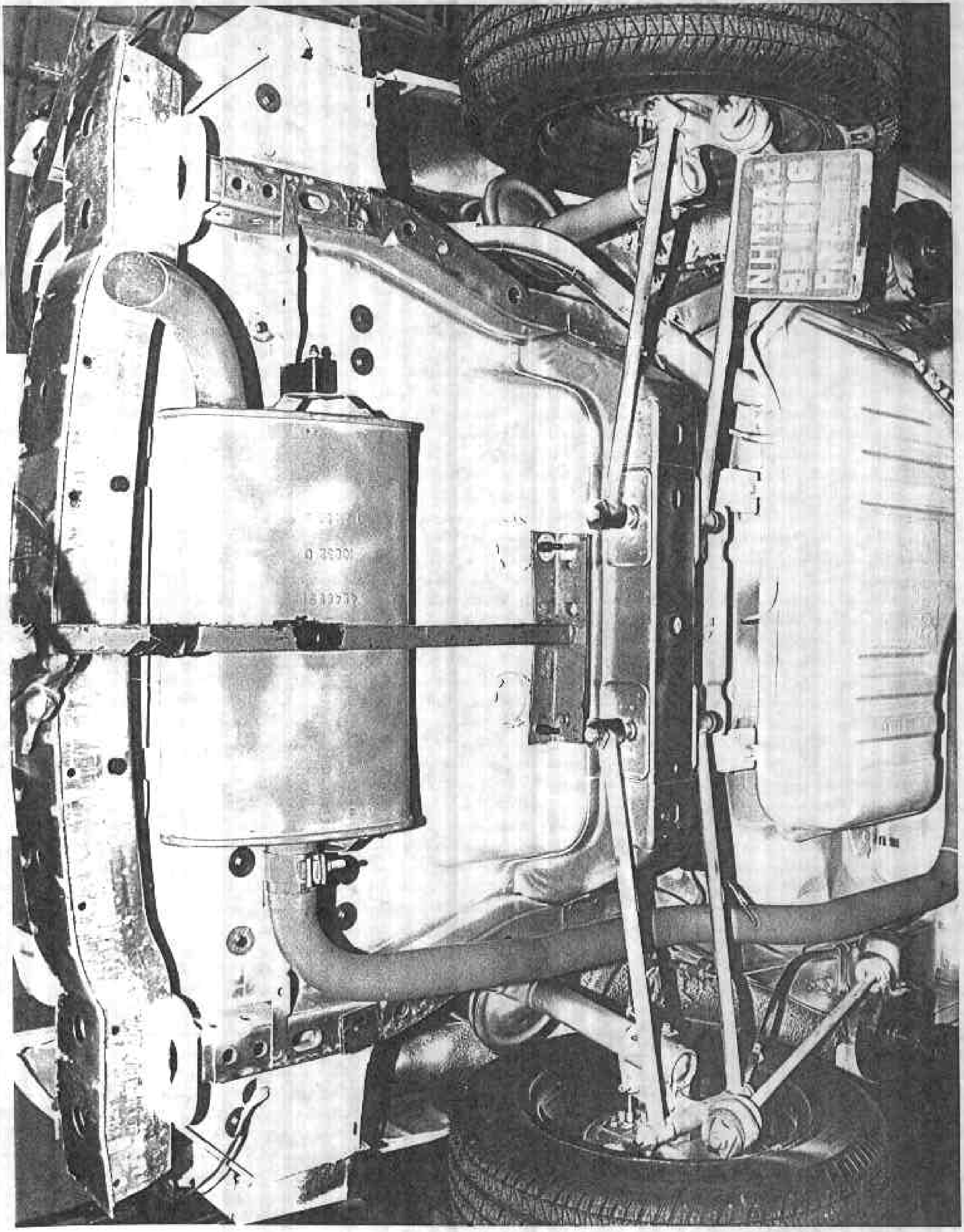


Figure A-25. Pre-Test Rear Underbody View

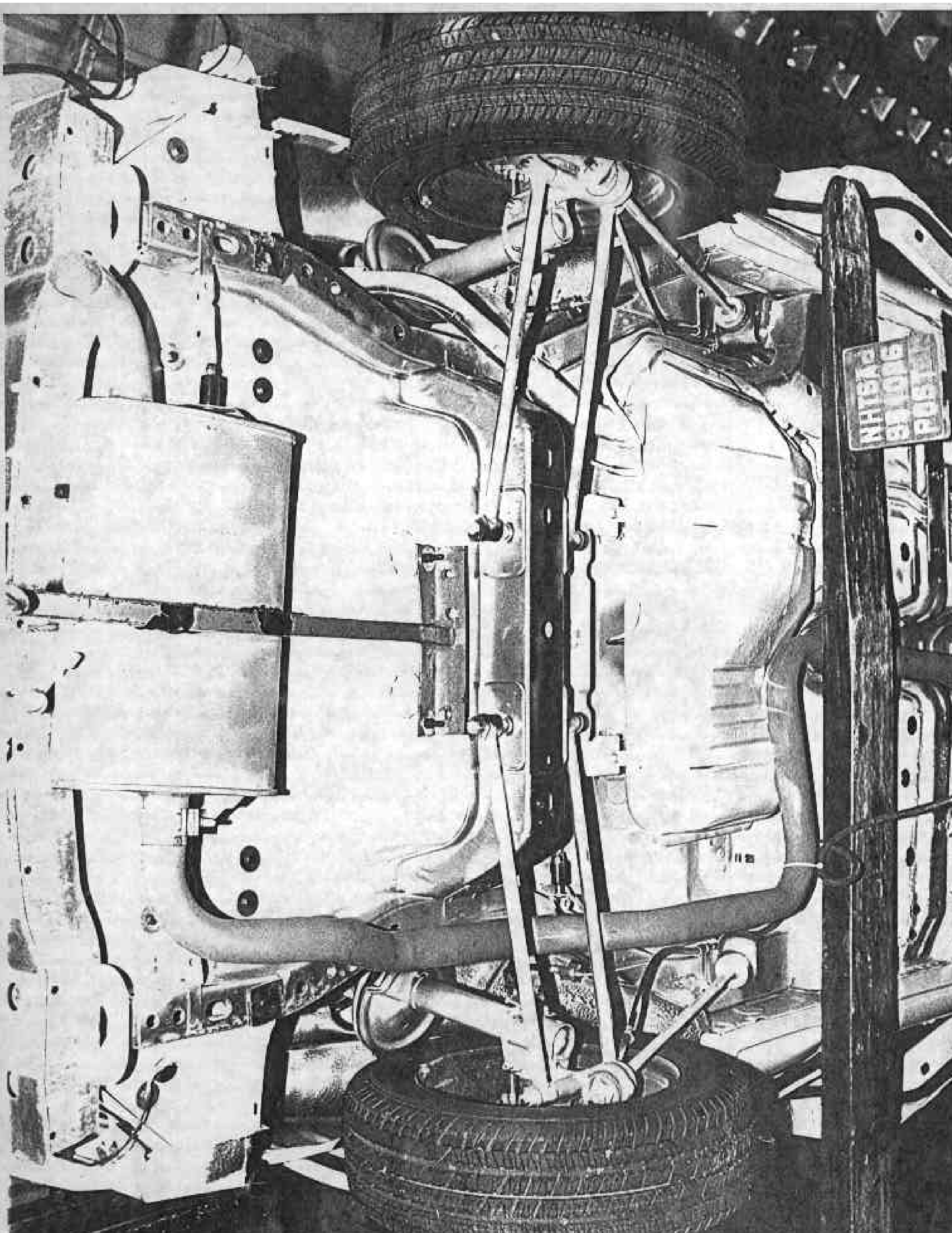


Figure A-26. Post-Test Rear Underbody View

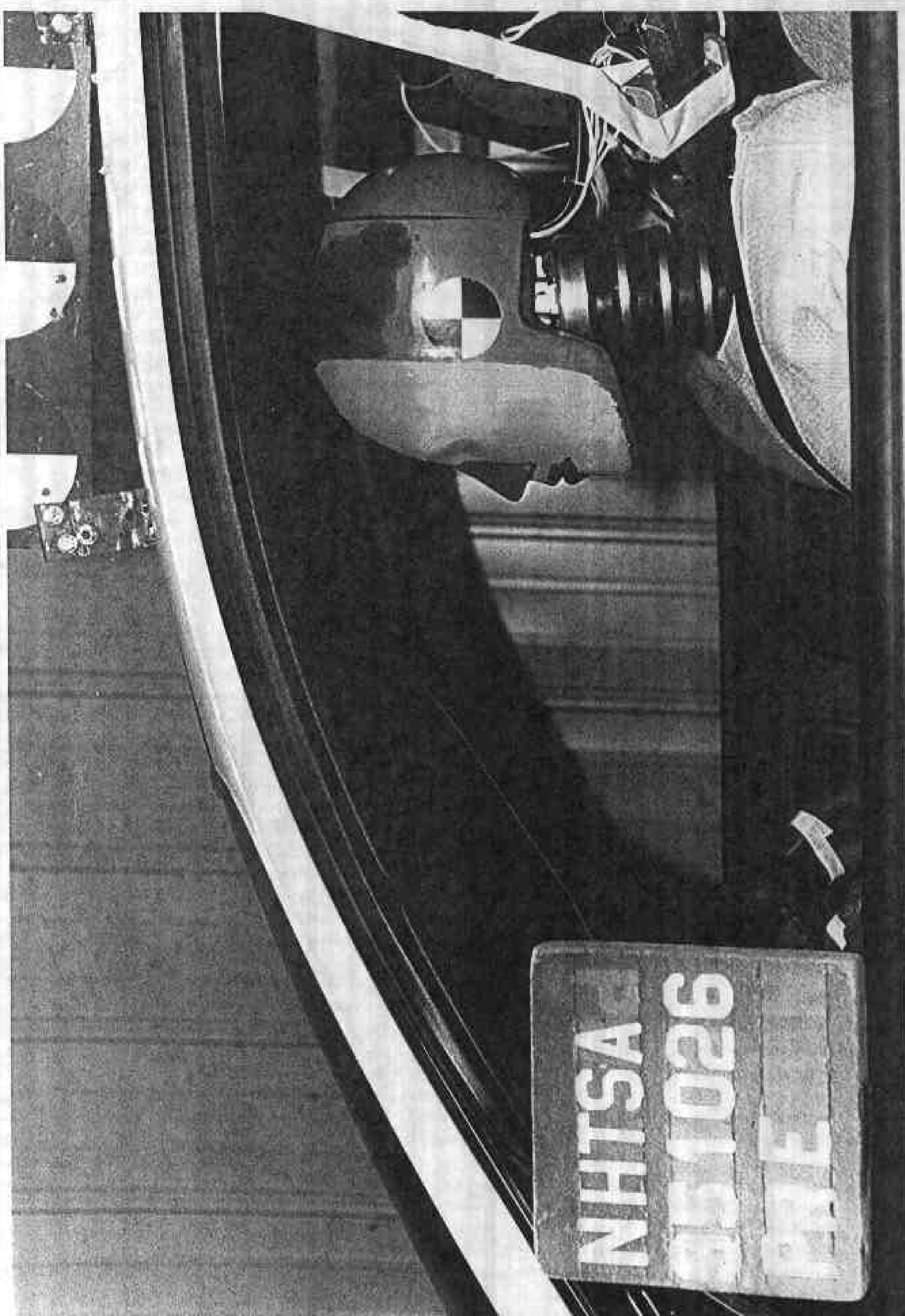


Figure A-27. Pre-Test Driver Dummy Position View

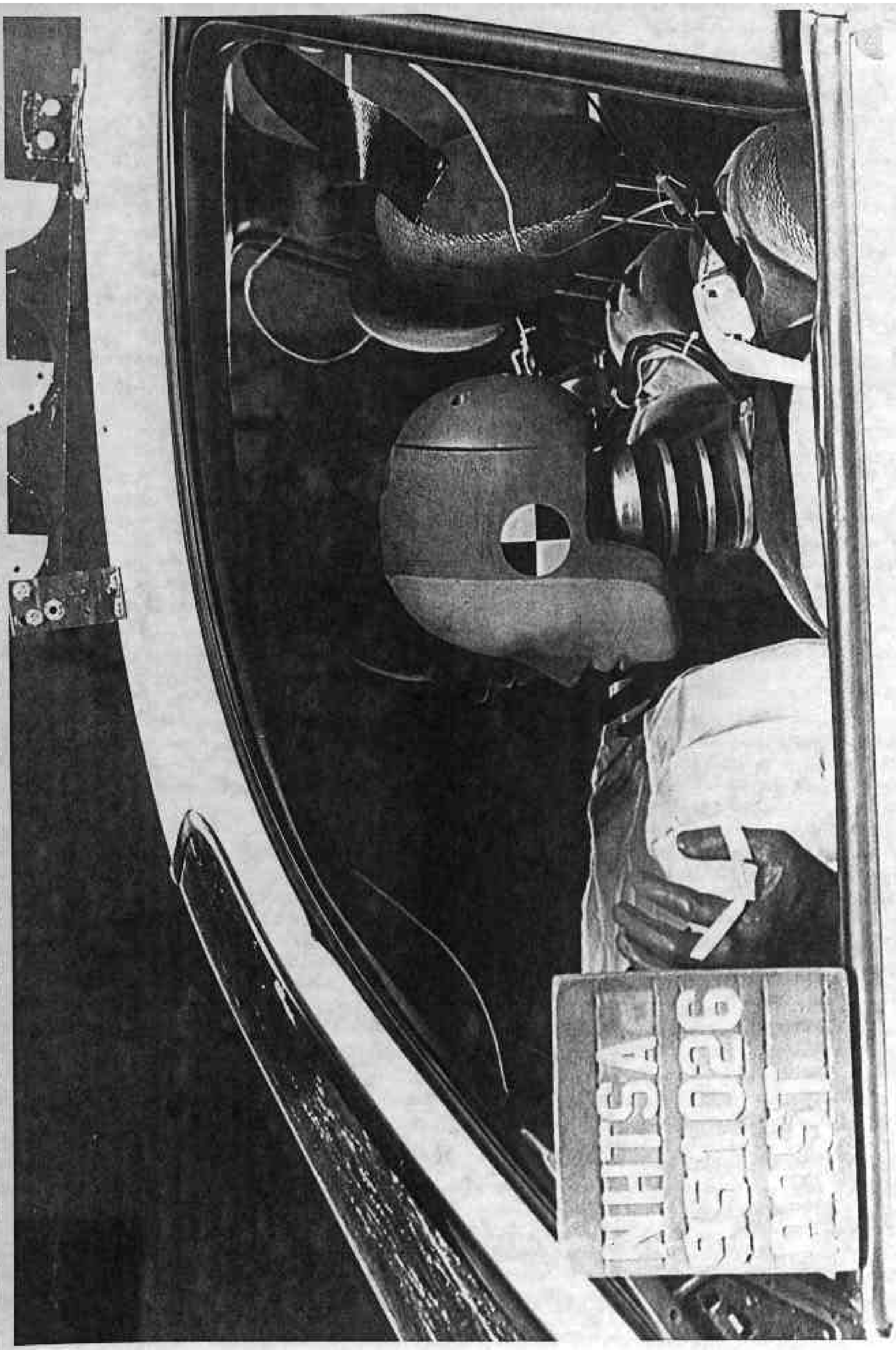


Figure A-28. Post-Test Driver Dummy Position View

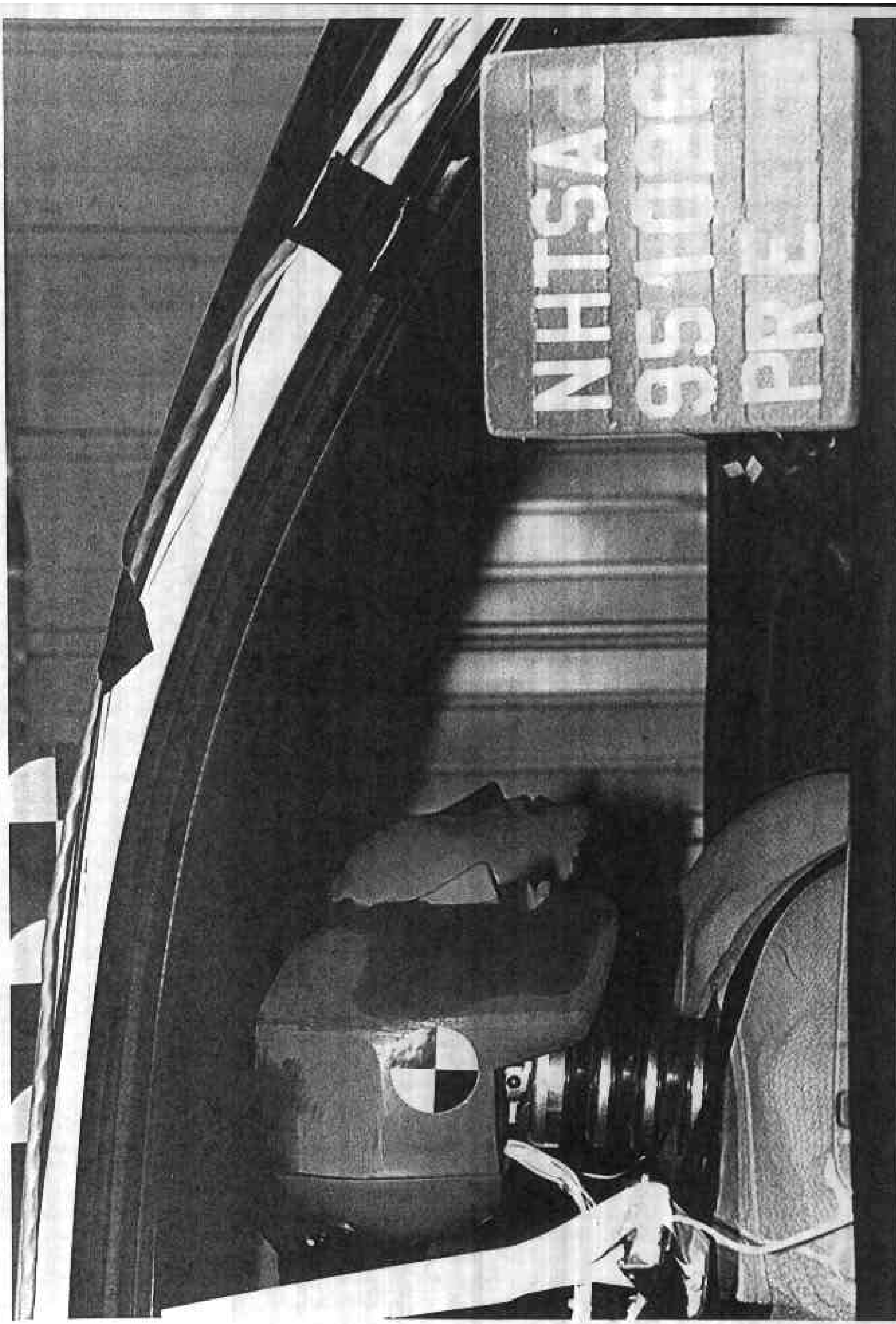


Figure A-29. Pre-Test Passenger Dummy Position View

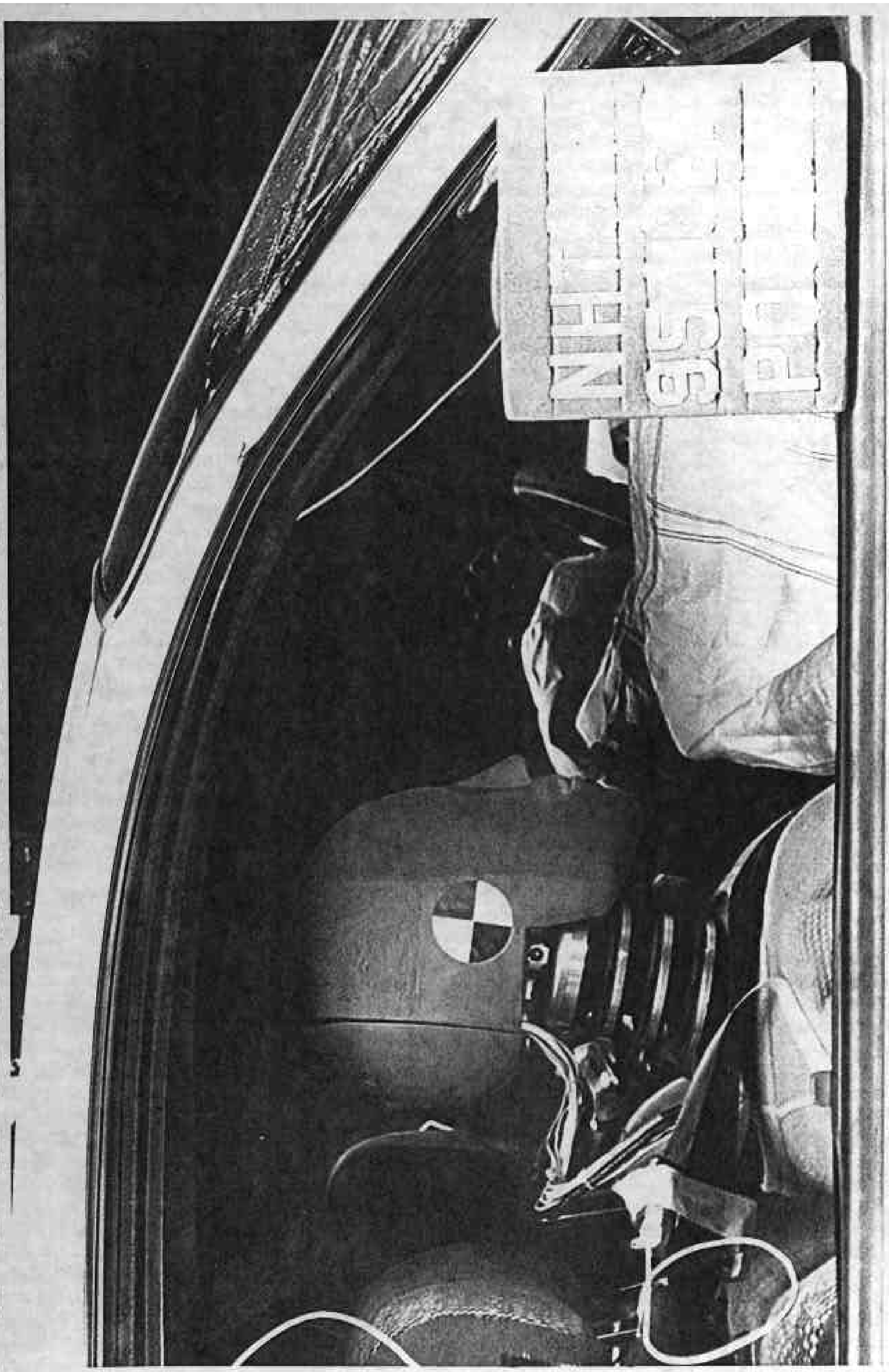


Figure A-30. Post-Test Passenger Dummy Position View

Figure A-31. Pre-Test Driver Dummy & Vehicle Interior - View 1

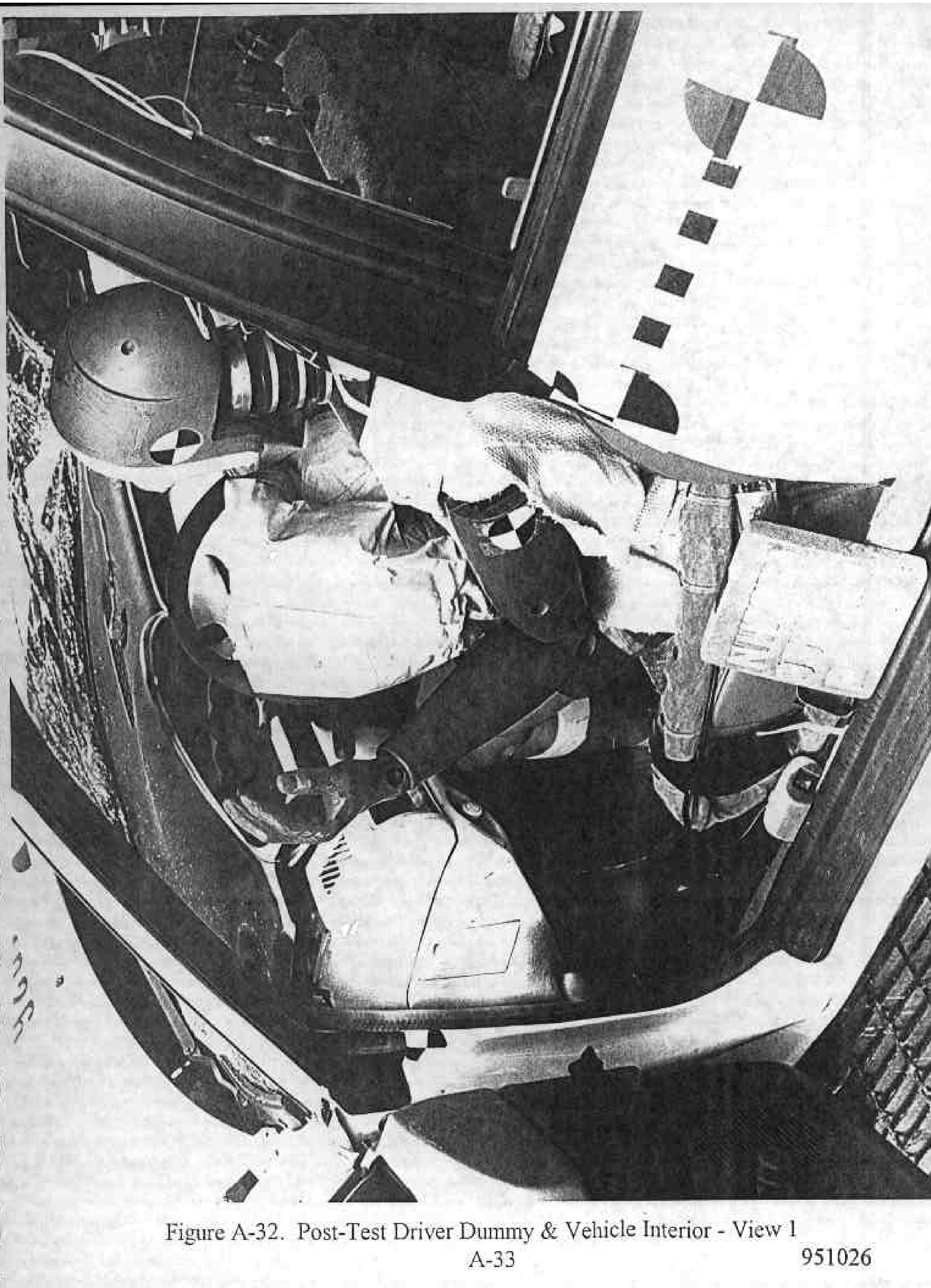


Figure A-32. Post-Test Driver Dummy & Vehicle Interior - View 1

Figure A-33. Pre-Test Driver Dummy & Vehicle Interior - View 2

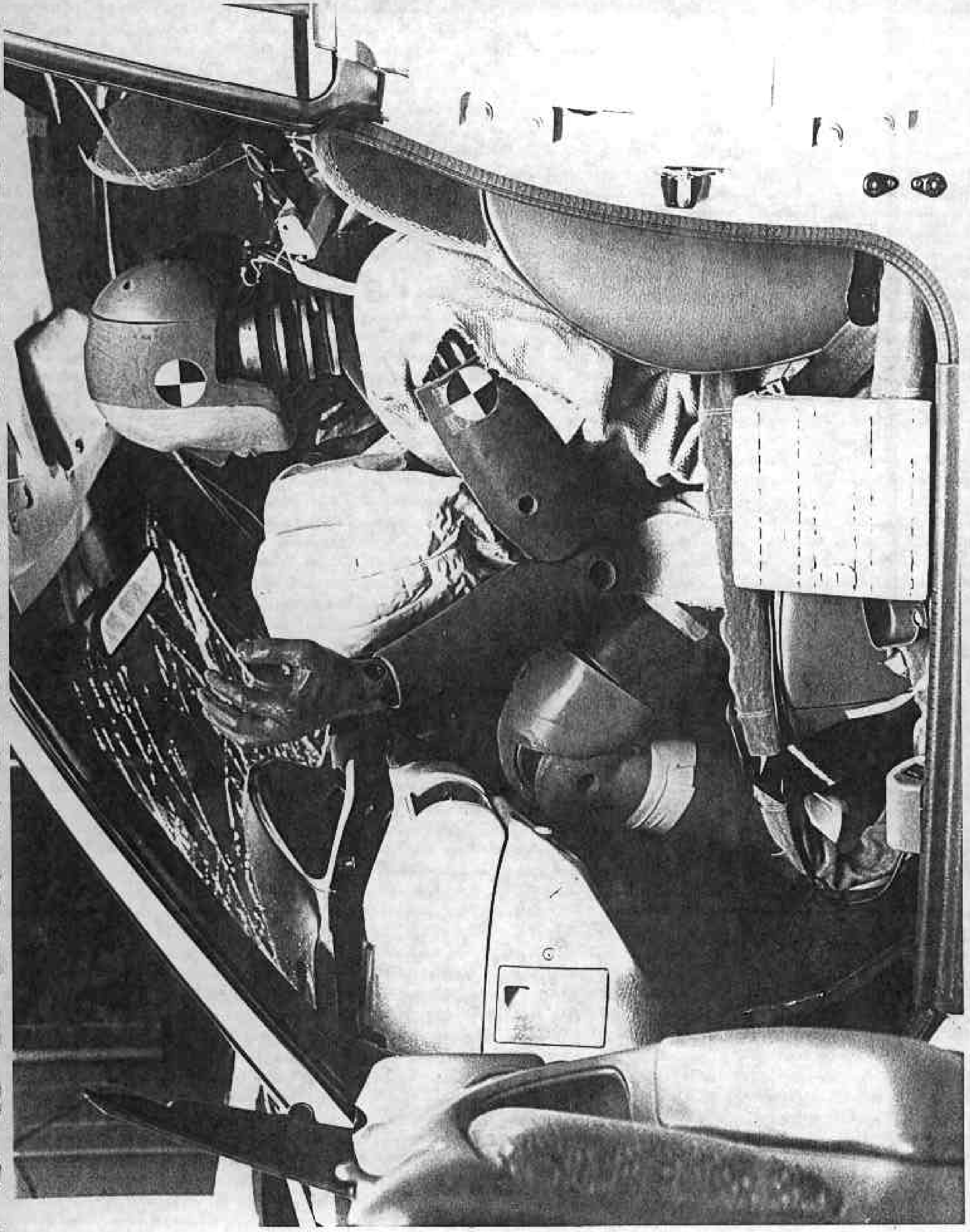


Figure A-34. Post-Test Driver Dummy & Vehicle Interior - View 2

Figure A-35. Pre-Test Passenger Dummy & Vehicle Interior - View 1

Figure A-36. Post-Test Passenger Dummy & Vehicle Interior - View 1

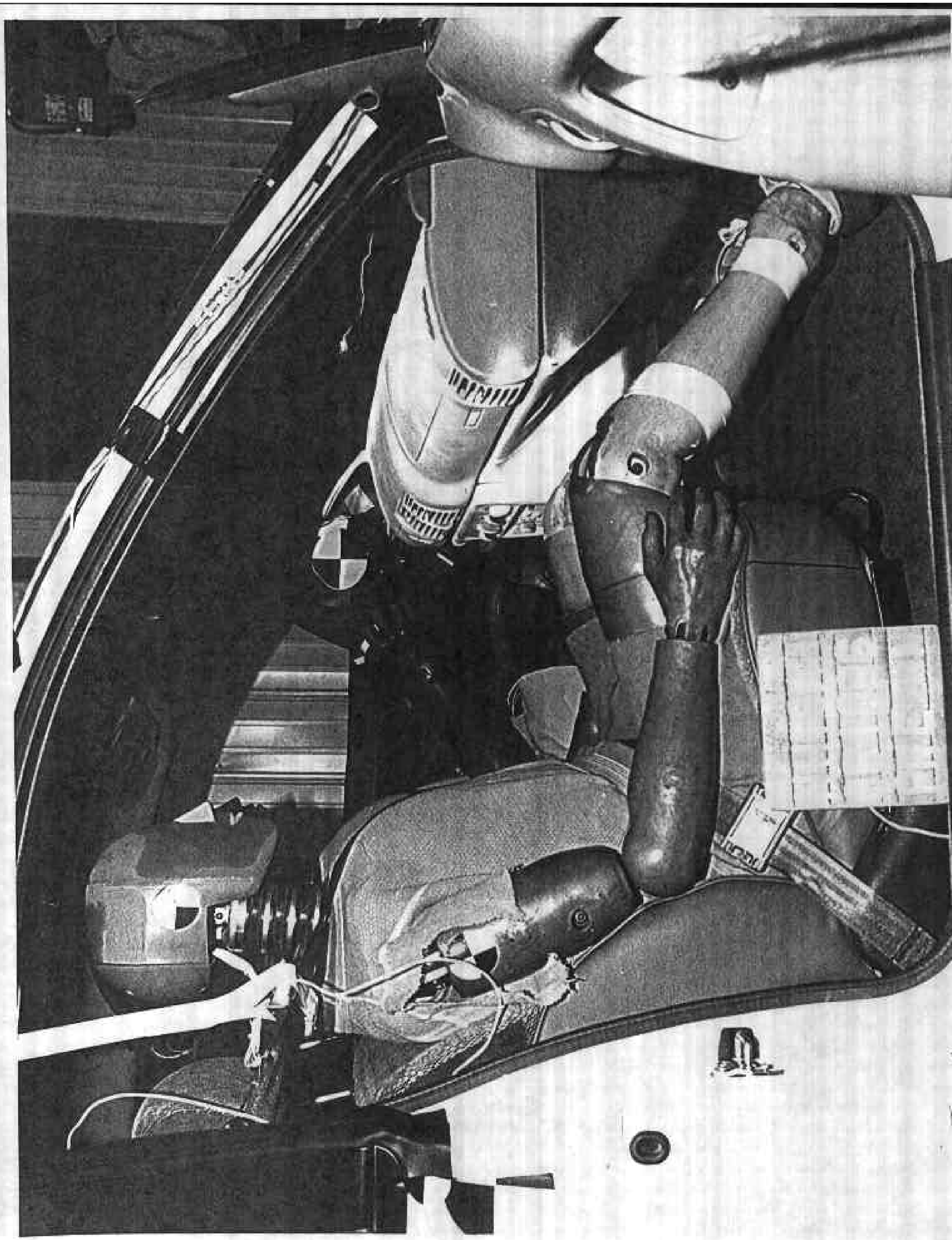


Figure A-37. Pre-Test Passenger Dummy & Vehicle Interior - View 2

Figure A-38. Post-Test Passenger Dummy & Vehicle Interior - View 2

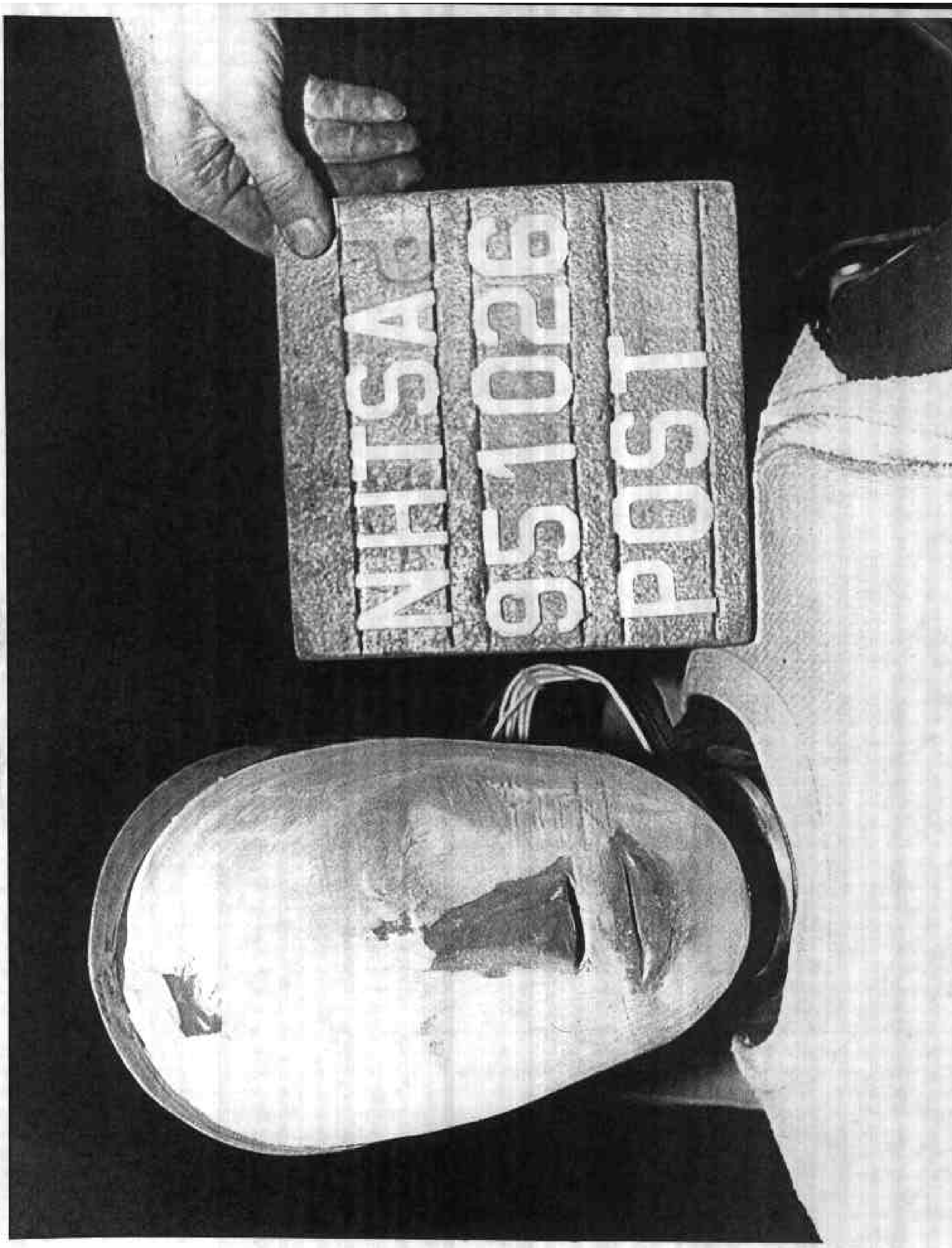


Figure A-39. Post-Test Driver Dummy Head Contact - View 1

Figure A-40. Post-Test Driver Dummy Head Contact - View 2

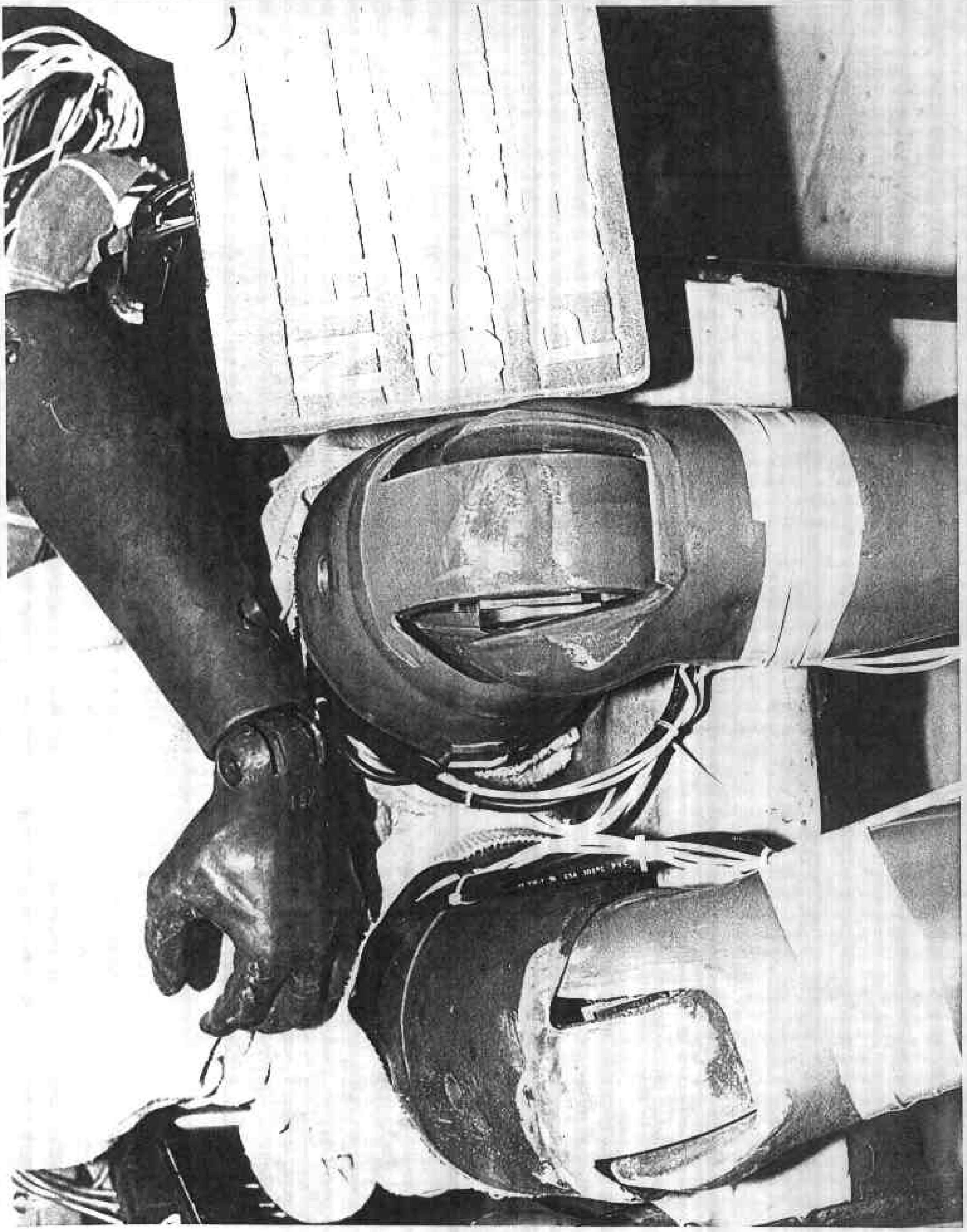


Figure A-41. Post-Test Driver Dummy Knee Contact - View 1

Figure A-42. Post-Test Driver Dummy Knee Contact - View 2

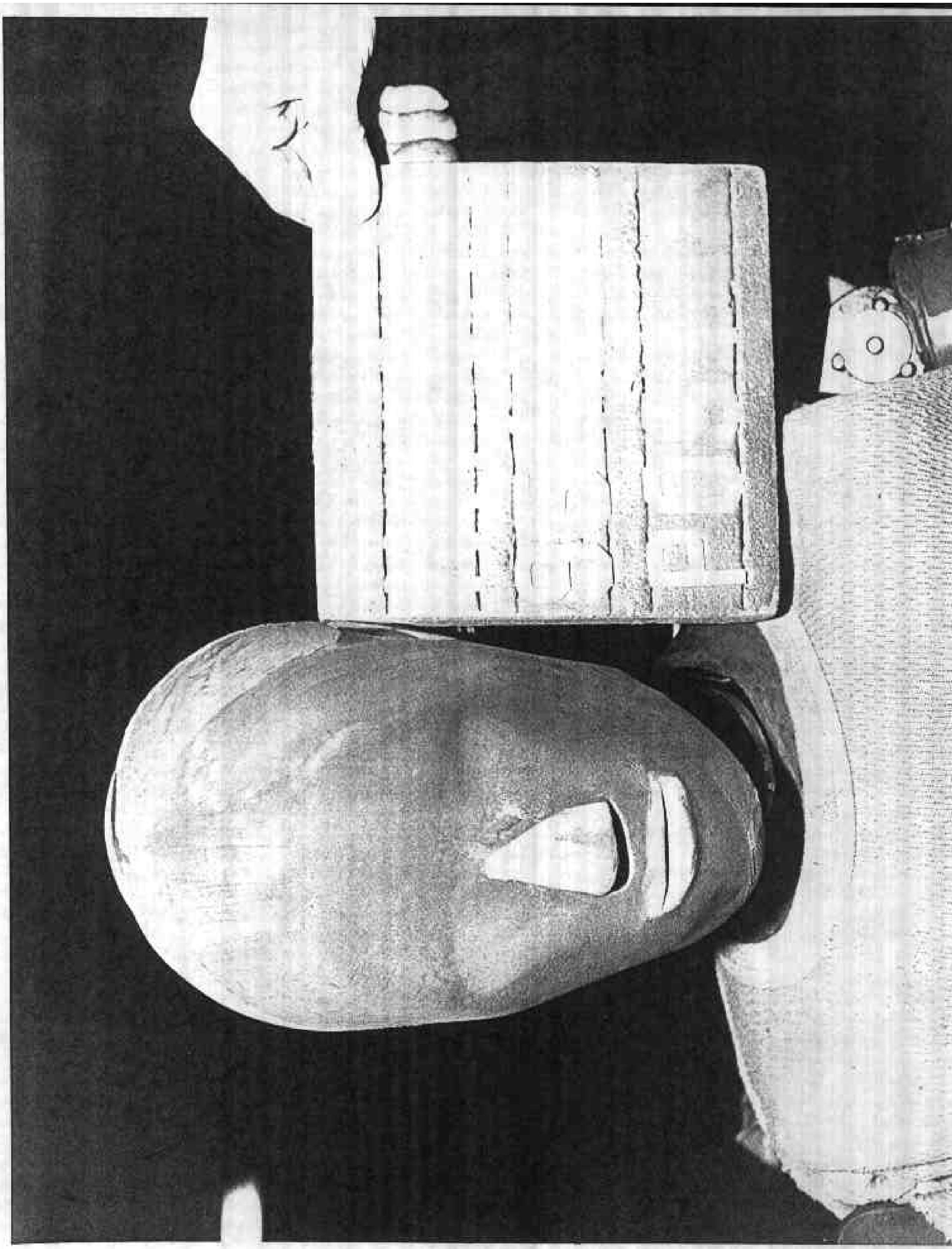


Figure A-43. Post-Test Passenger Dummy Head Contact - View 1

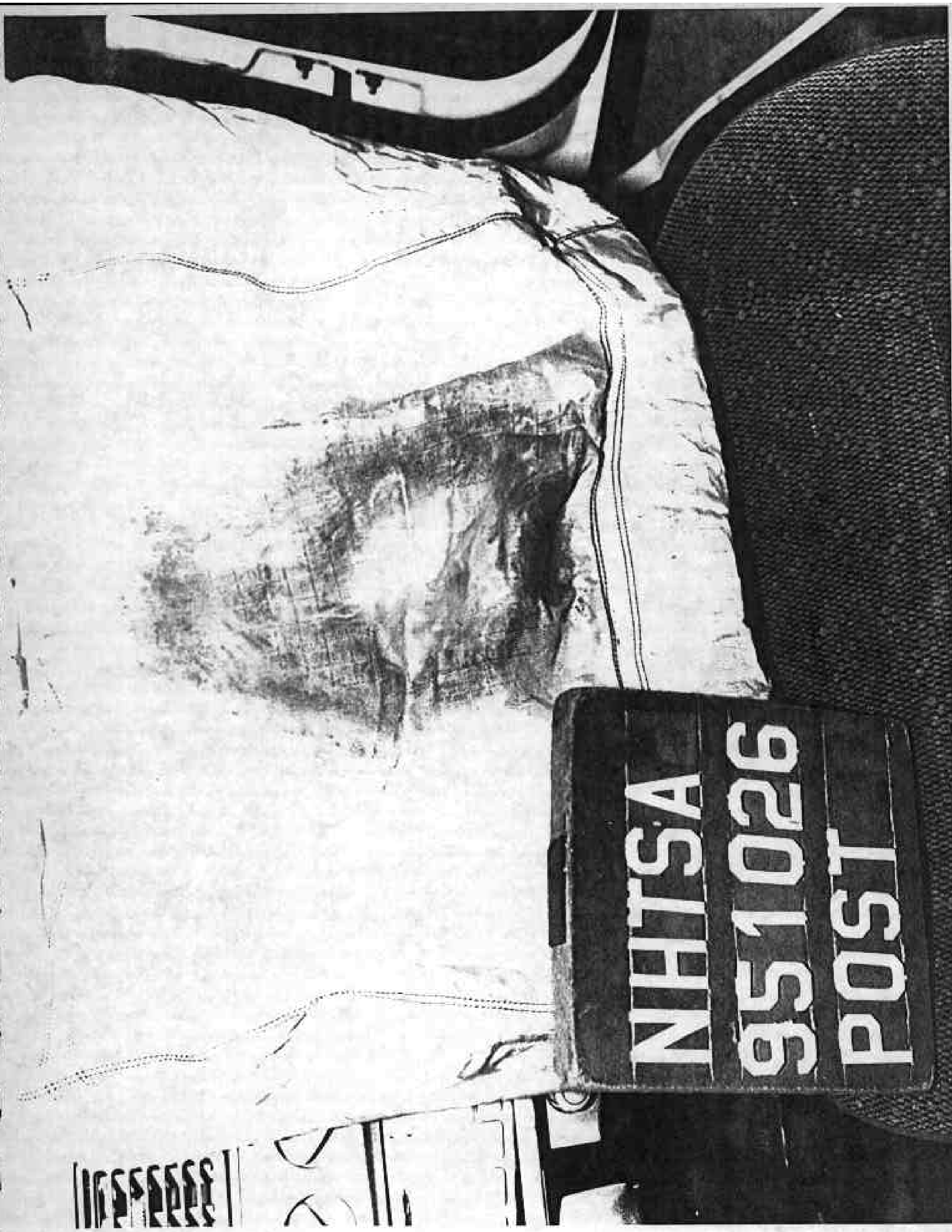


Figure A-44. Post-Test Passenger Dummy Head Contact - View 2

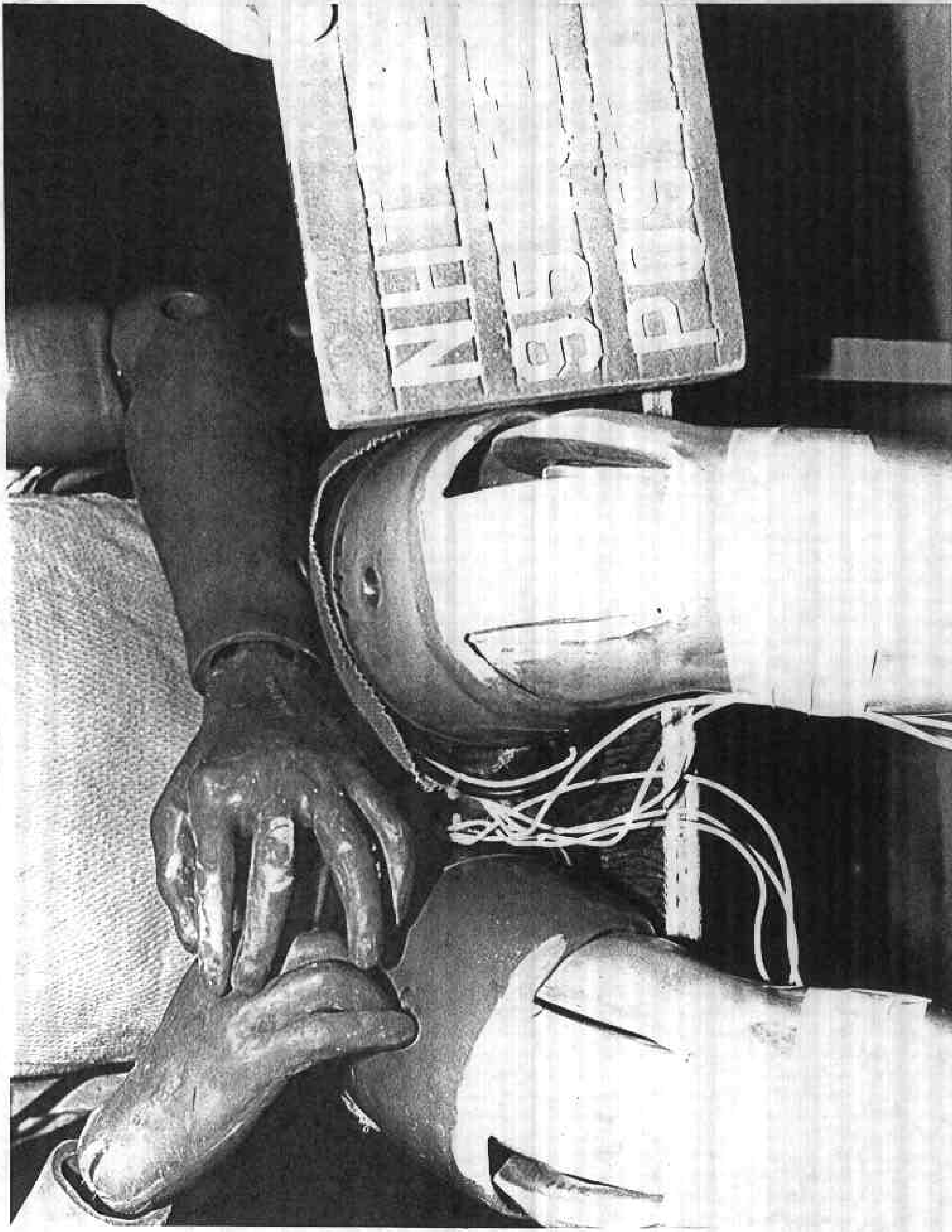


Figure A-45. Post-Test Passenger Dummy Knee Contact - View 1

Figure A-46. Post-Test Passenger Dummy Knee Contact - View 2

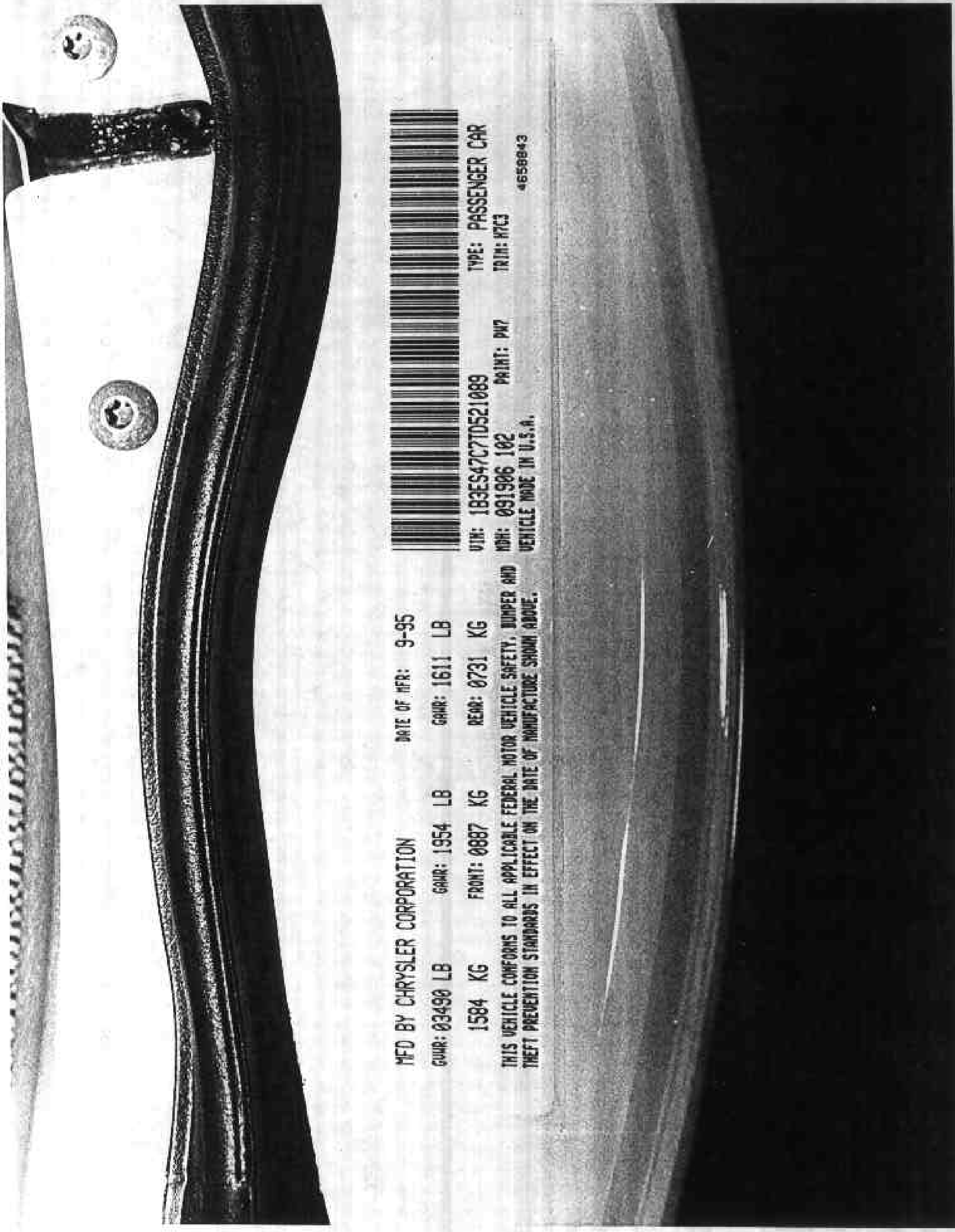


Figure A-47. Pre-Test Vehicle Certification Label View

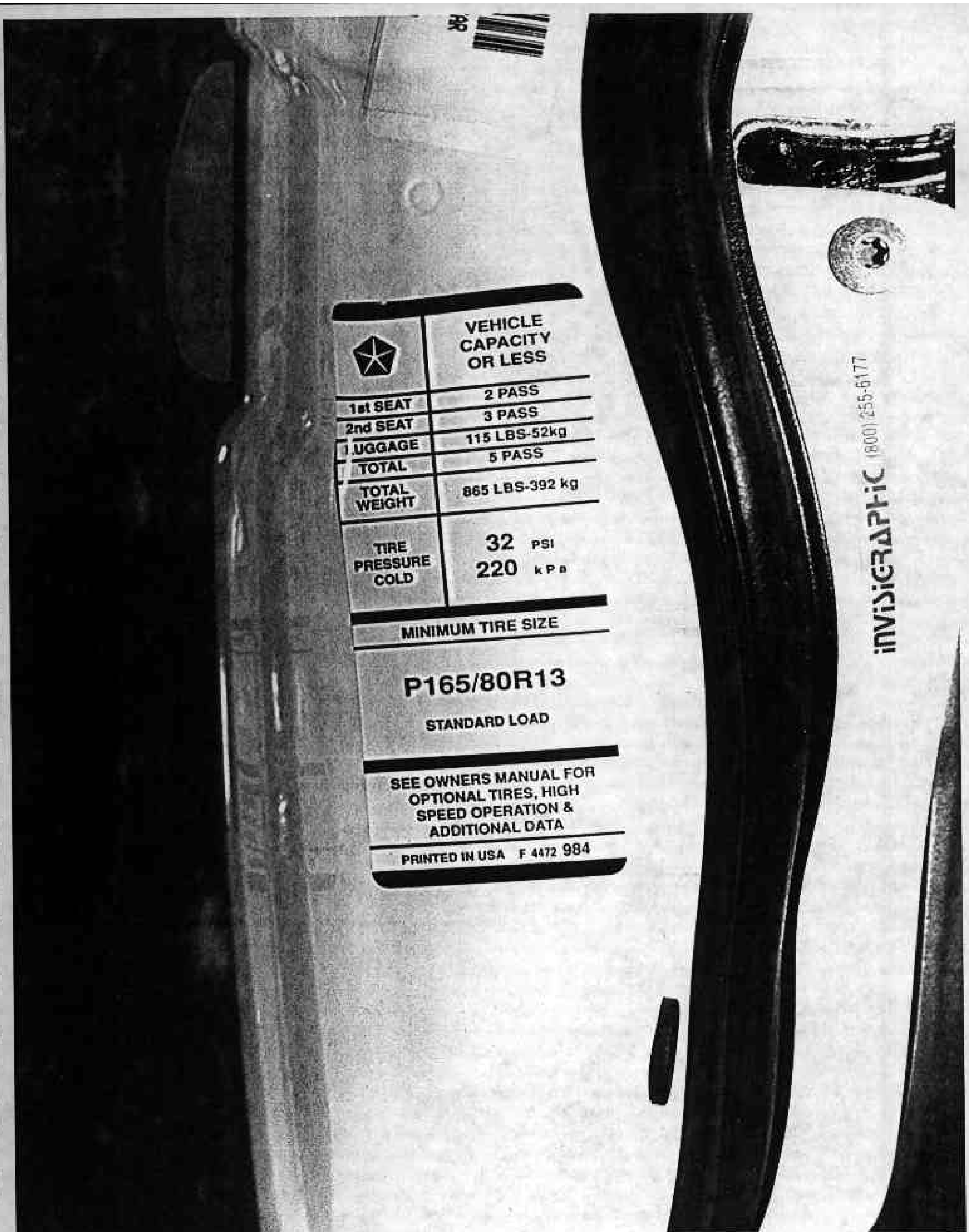


Figure A-48. Pre-Test Recommended Tire Pressure Label View

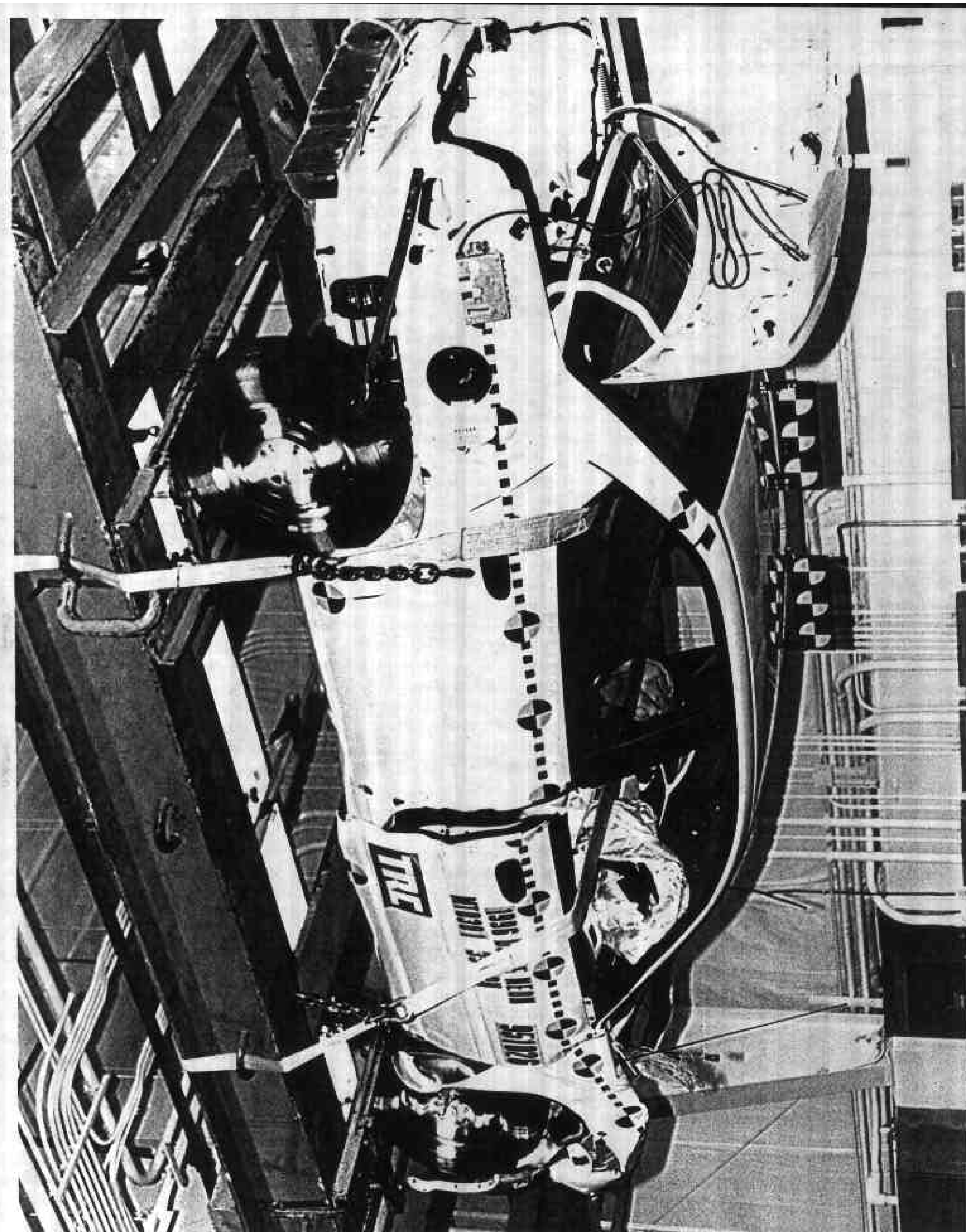


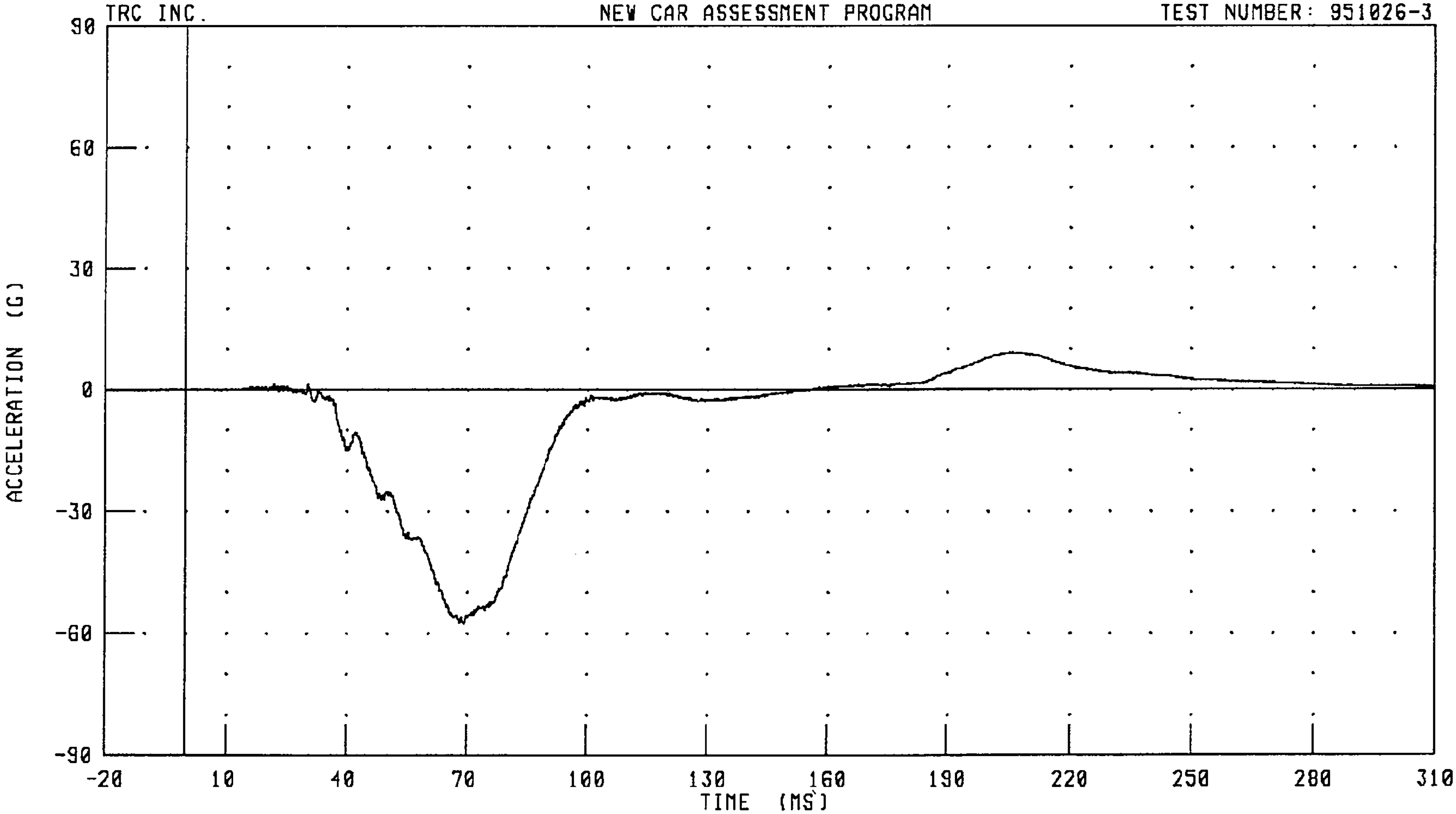
Figure A-49. Post-Test Vehicle on Static Rollover Machine View

Appendix B

Data Plots

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3

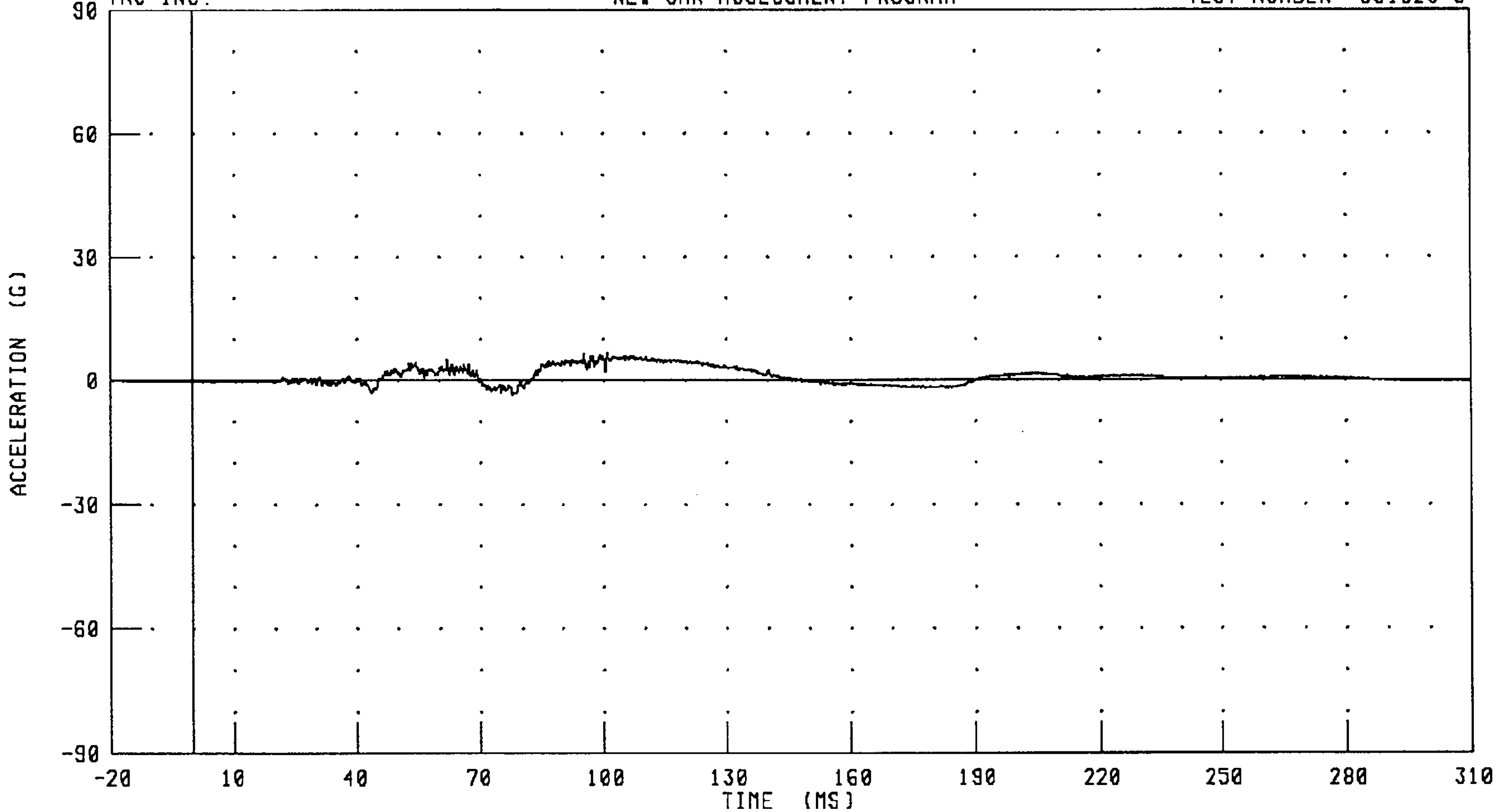


CHANNEL: HEDXG1 FILTER: CH. CLASS 1000 PEAK DATA: 9.10 G @ 205.36 MS; -57.69 G @ 69.12 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD Y-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

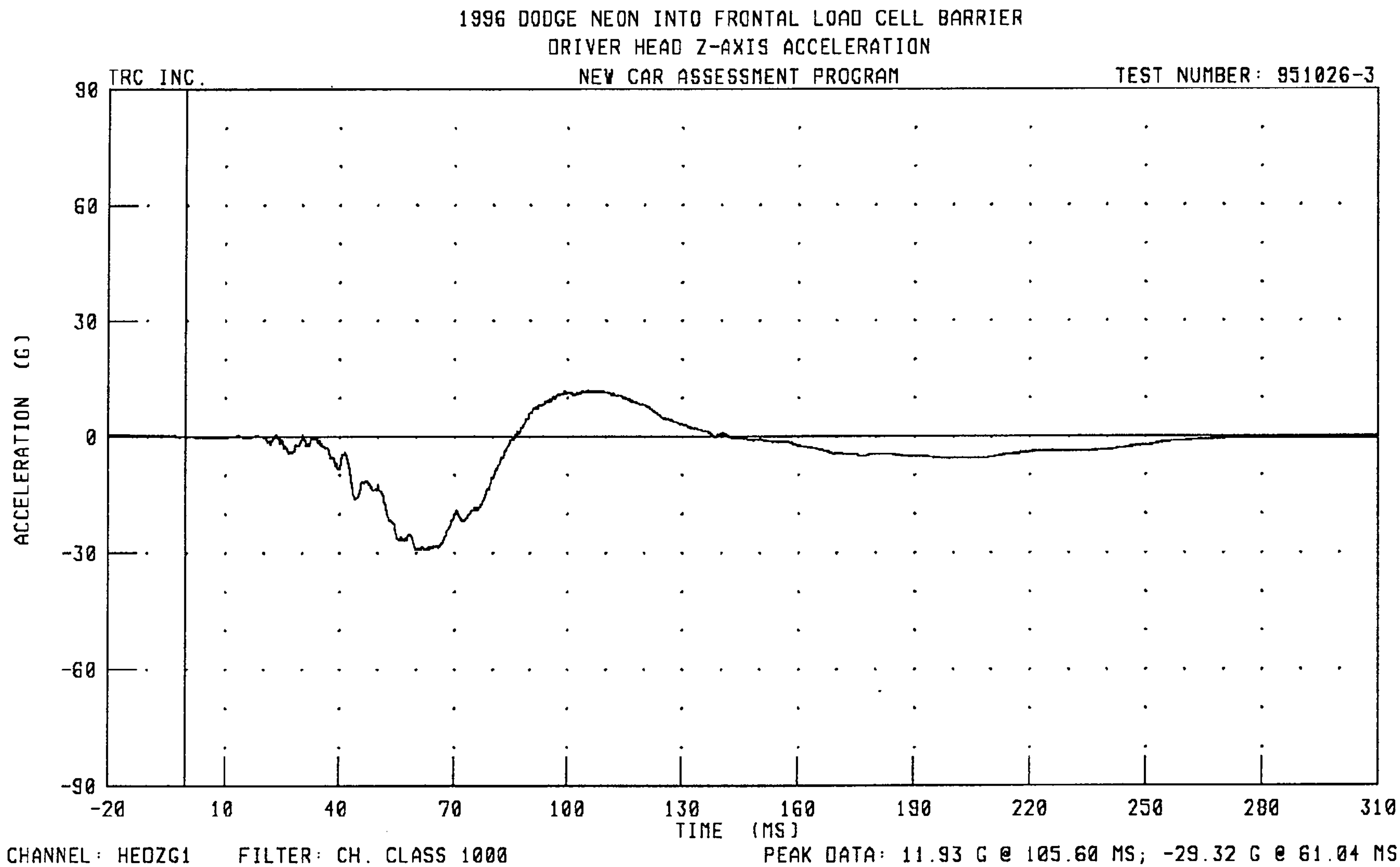
TRC INC.

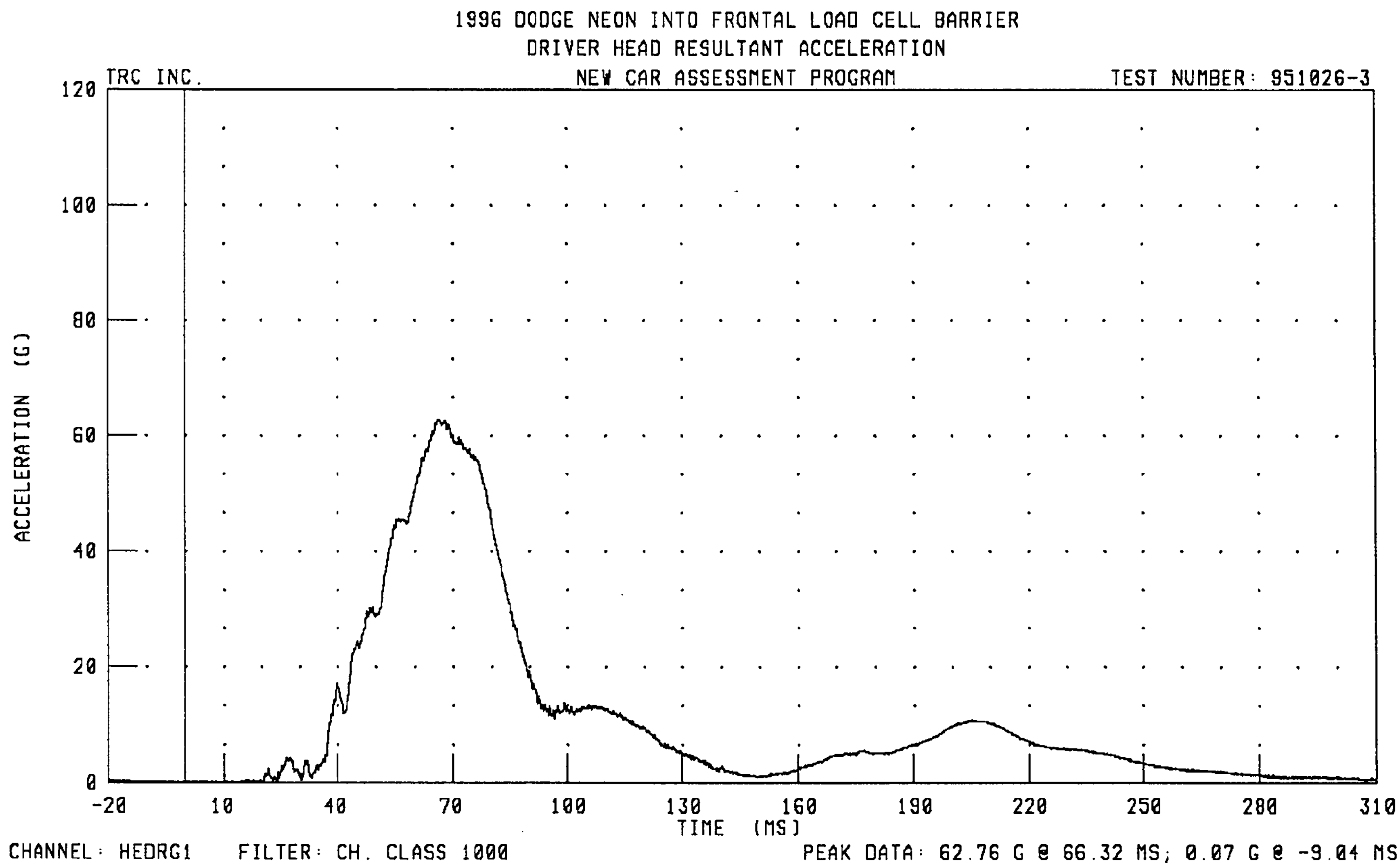
TEST NUMBER: 951026-3

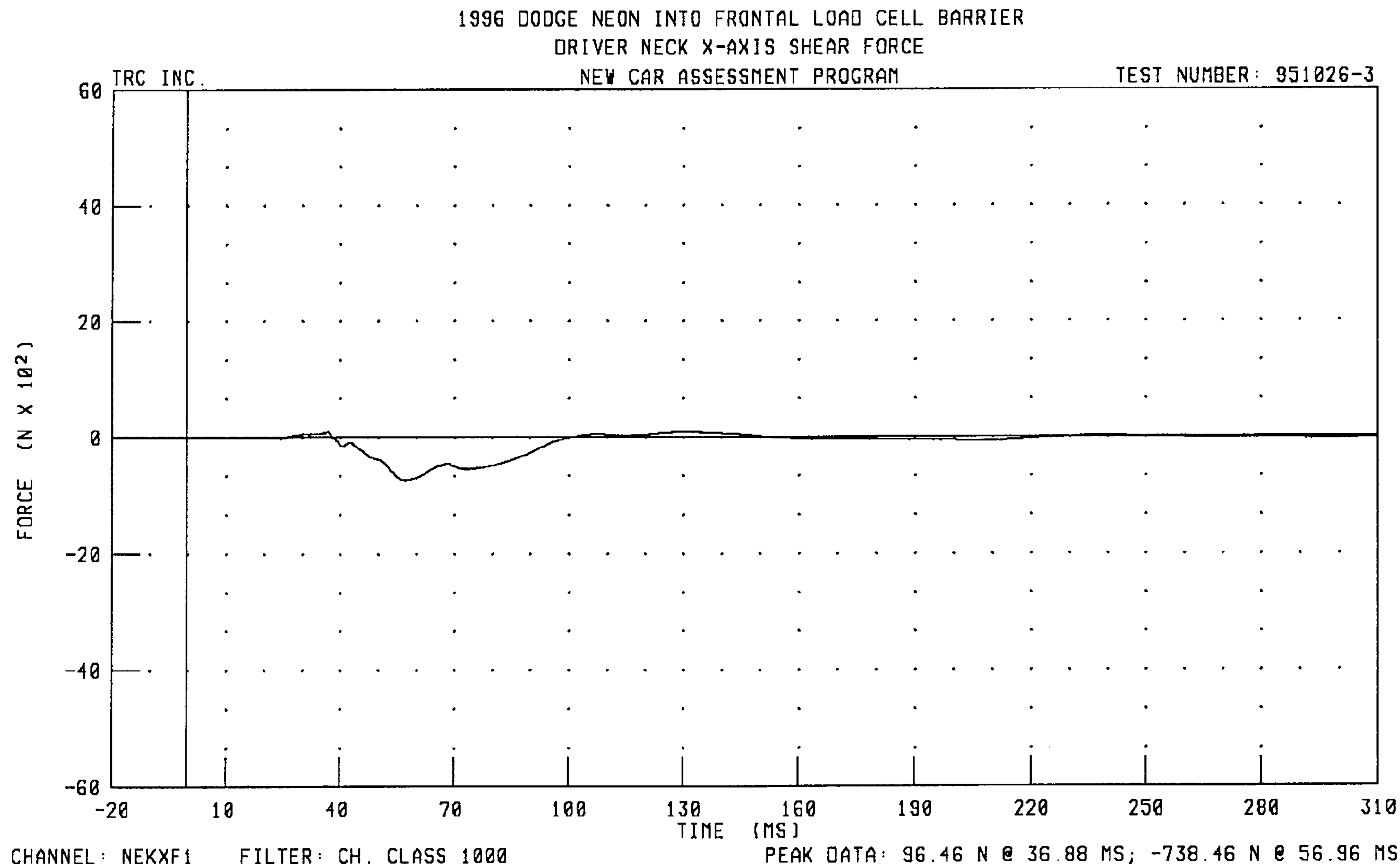


CHANNEL: HEDYG1   FILTER: CH. CLASS 1000

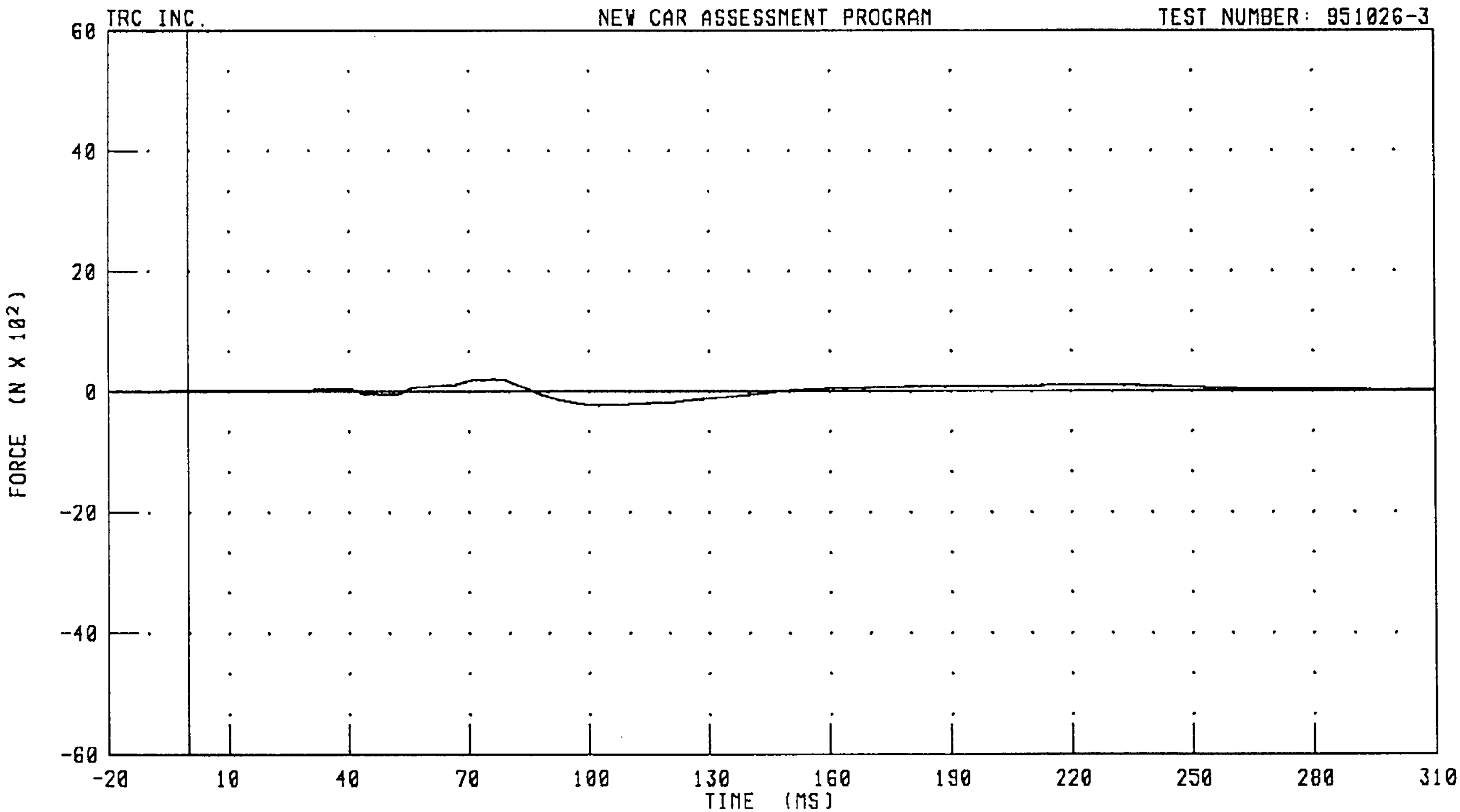
PEAK DATA: 6.52 G @ 100.96 MS; -3.53 G @ 77.84 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD Z-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
ACCELERATION (G)
90
60
30
0
-30
-60
-90
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDZG1
FILTER: CH. CLASS 1000
PEAK DATA: 11.93 G @ 105.60 MS; -29.32 G @ 61.04 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD RESULTANT ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
ACCELERATION (G)
120
100
80
60
40
20
0
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDRG1
FILTER: CH. CLASS 1000
PEAK DATA: 62.76 G @ 66.32 MS; 0.07 G @ -9.04 MS

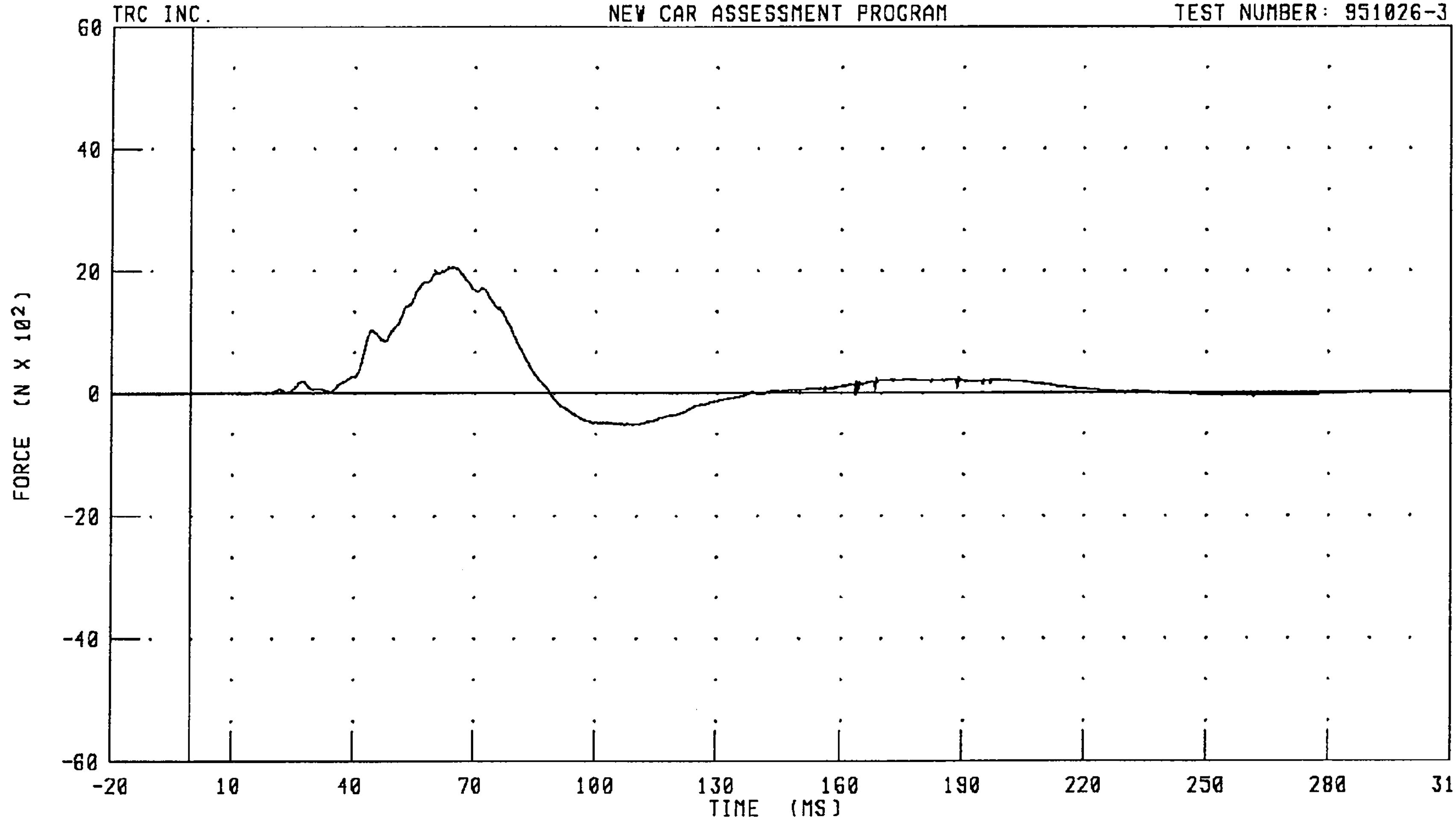

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER NECK X-AXIS SHEAR FORCE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
FORCE (N X 10²)
60
40
20
0
-20
-40
-60
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: NEKXF1
FILTER: CH. CLASS 1000
PEAK DATA: 96.46 N @ 36.88 MS; -738.46 N @ 56.96 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER NECK Y-AXIS SHEAR FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000 PEAK DATA: 196.97 N @ 75.84 MS; -228.77 N @ 102.64 MS

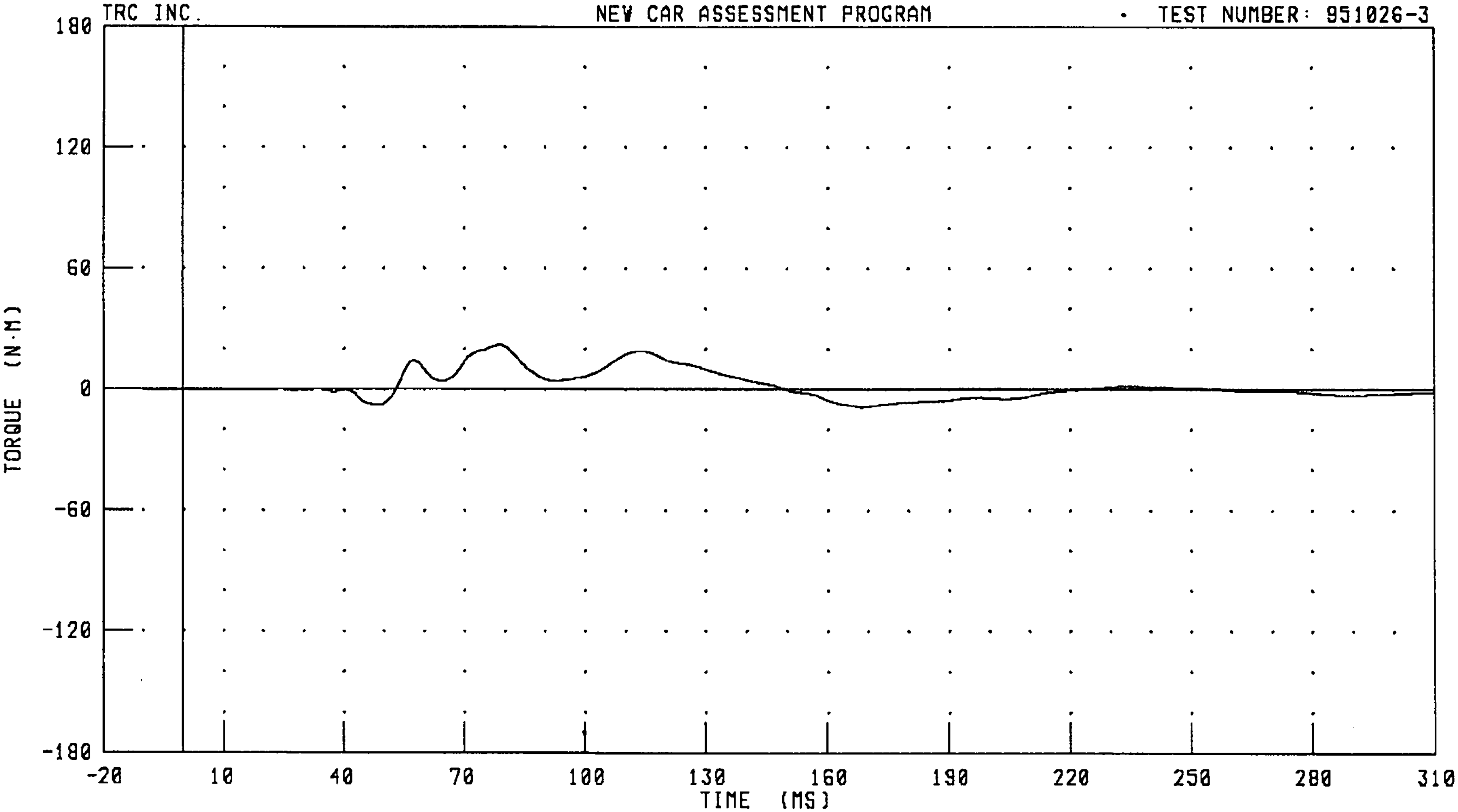
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER NECK Z-AXIS AXIAL FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: NEKZF1 FILTER: CH. CLASS 1000 PEAK DATA: 2059.54 N @ 63.52 MS; -516.74 N @ 107.20 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER NECK MOMENT ABOUT X AXIS
NEW CAR ASSESSMENT PROGRAM

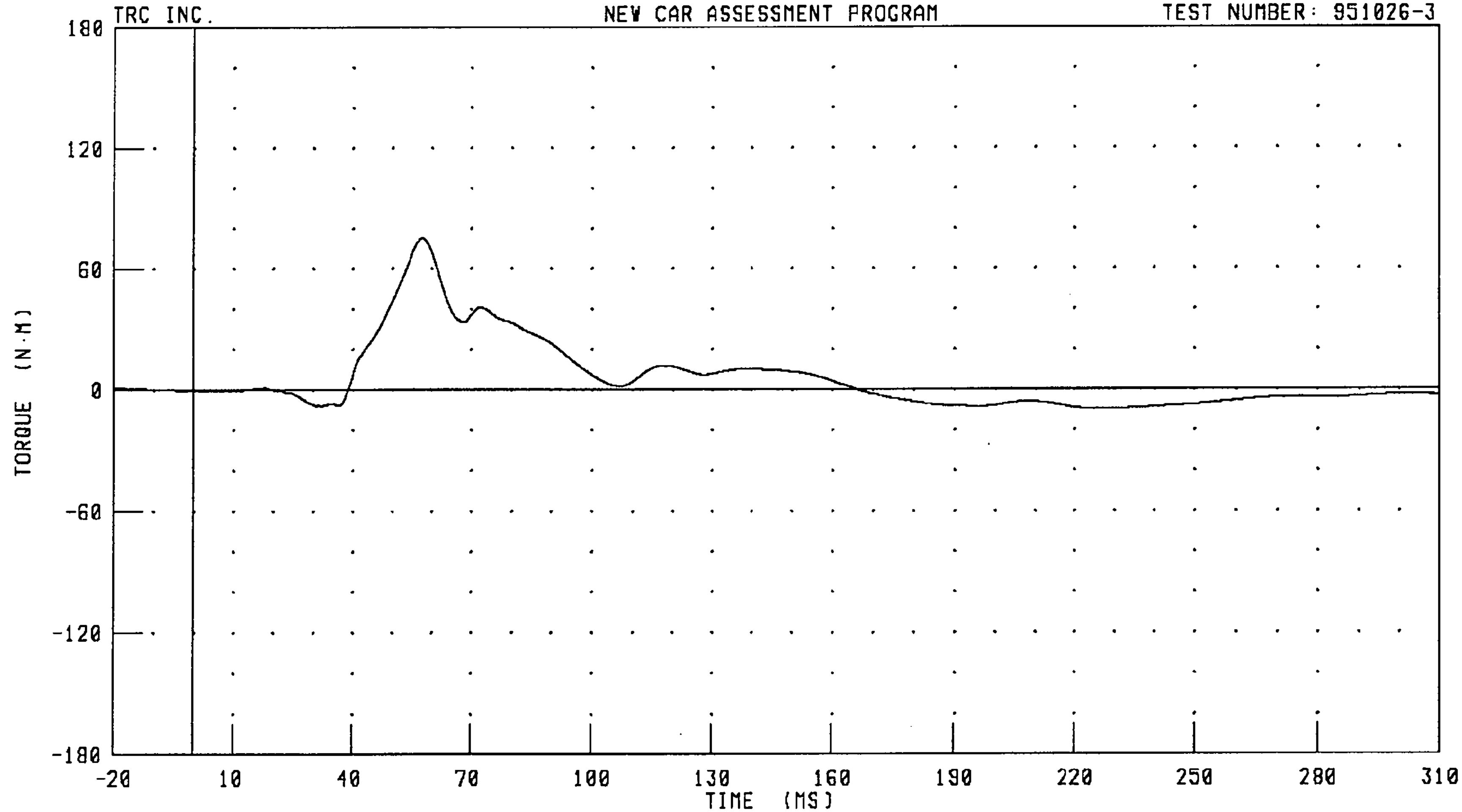
TRC INC. TEST NUMBER: 951026-3



CHANNEL: NEKXM1 FILTER: CH. CLASS 600 PEAK DATA: 22.00 N·M @ 79.04 MS; -9.00 N·M @ 168.56 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER NECK MOMENT ABOUT Y AXIS
NEW CAR ASSESSMENT PROGRAM

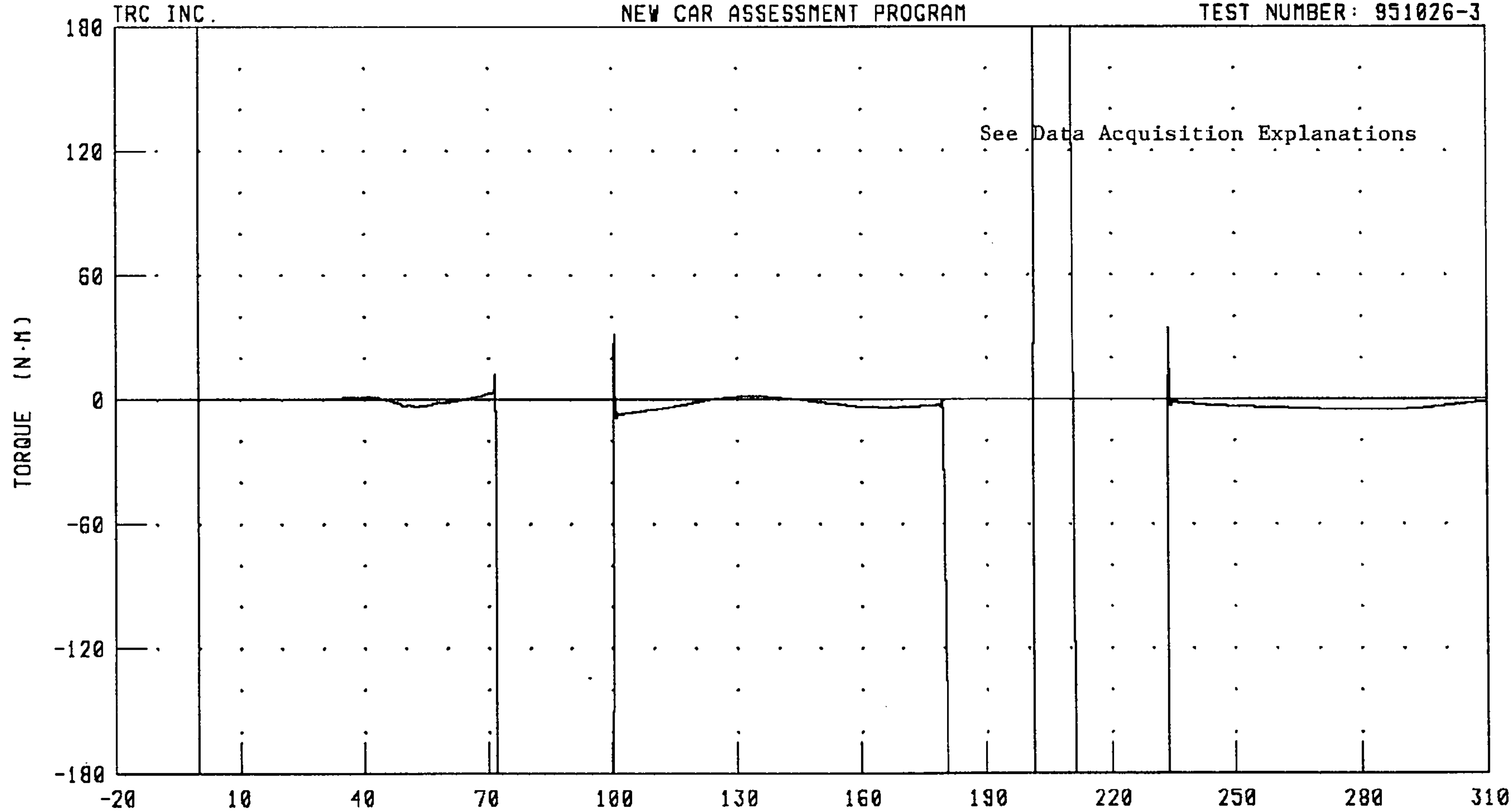
TRC INC. TEST NUMBER: 951026-3



CHANNEL: NEKYM1 FILTER: CH. CLASS 600 PEAK DATA: 75.17 N·M @ 57.52 MS; -9.69 N·M @ 226.16 MS

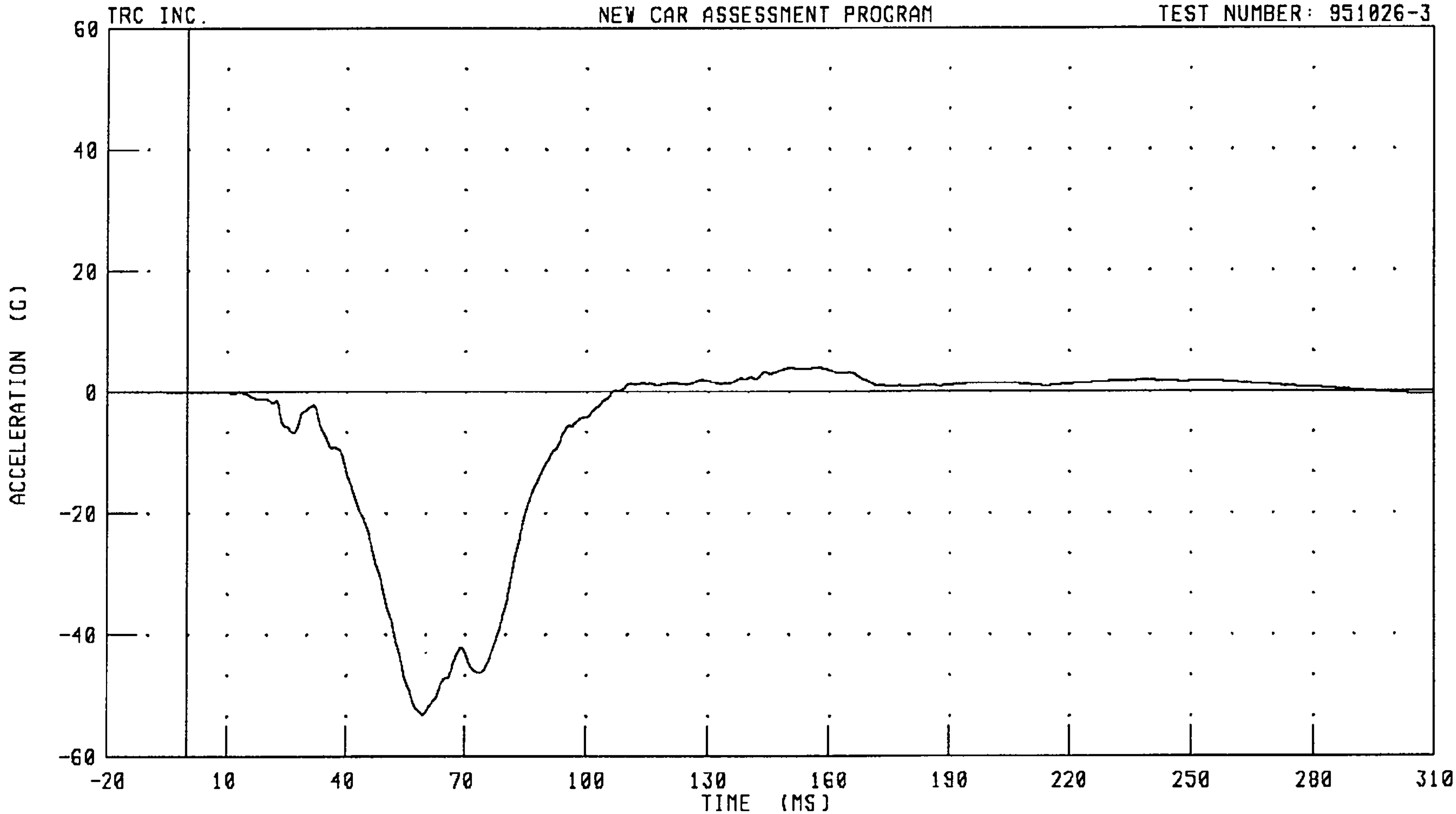
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER NECK MOMENT ABOUT Z AXIS
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



CHANNEL: NEKZM1 FILTER: CH. CLASS 600 PEAK DATA: 287.88 N·M @ 202.16 MS; -296.07 N·M @ 233.36 MS

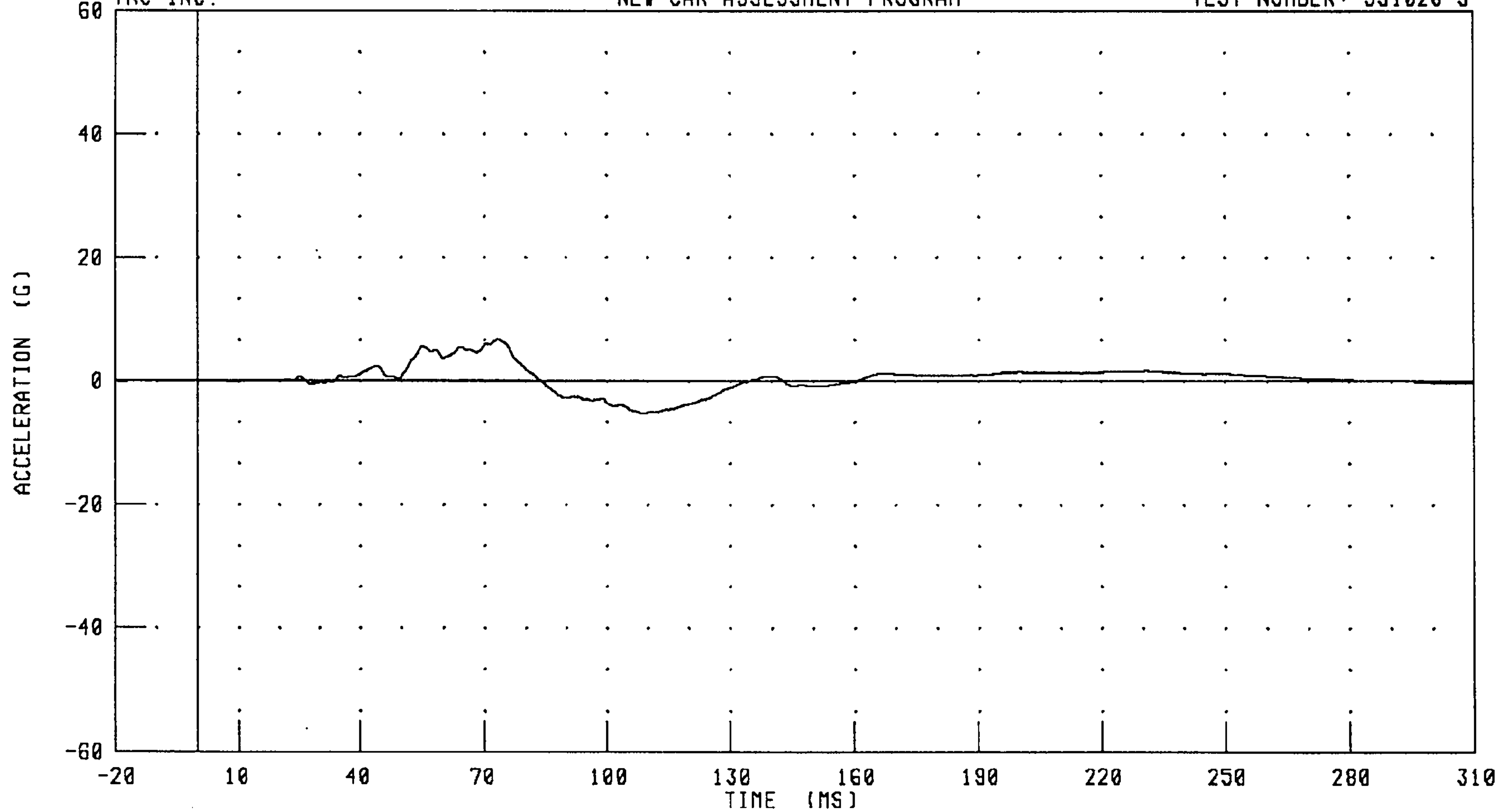
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



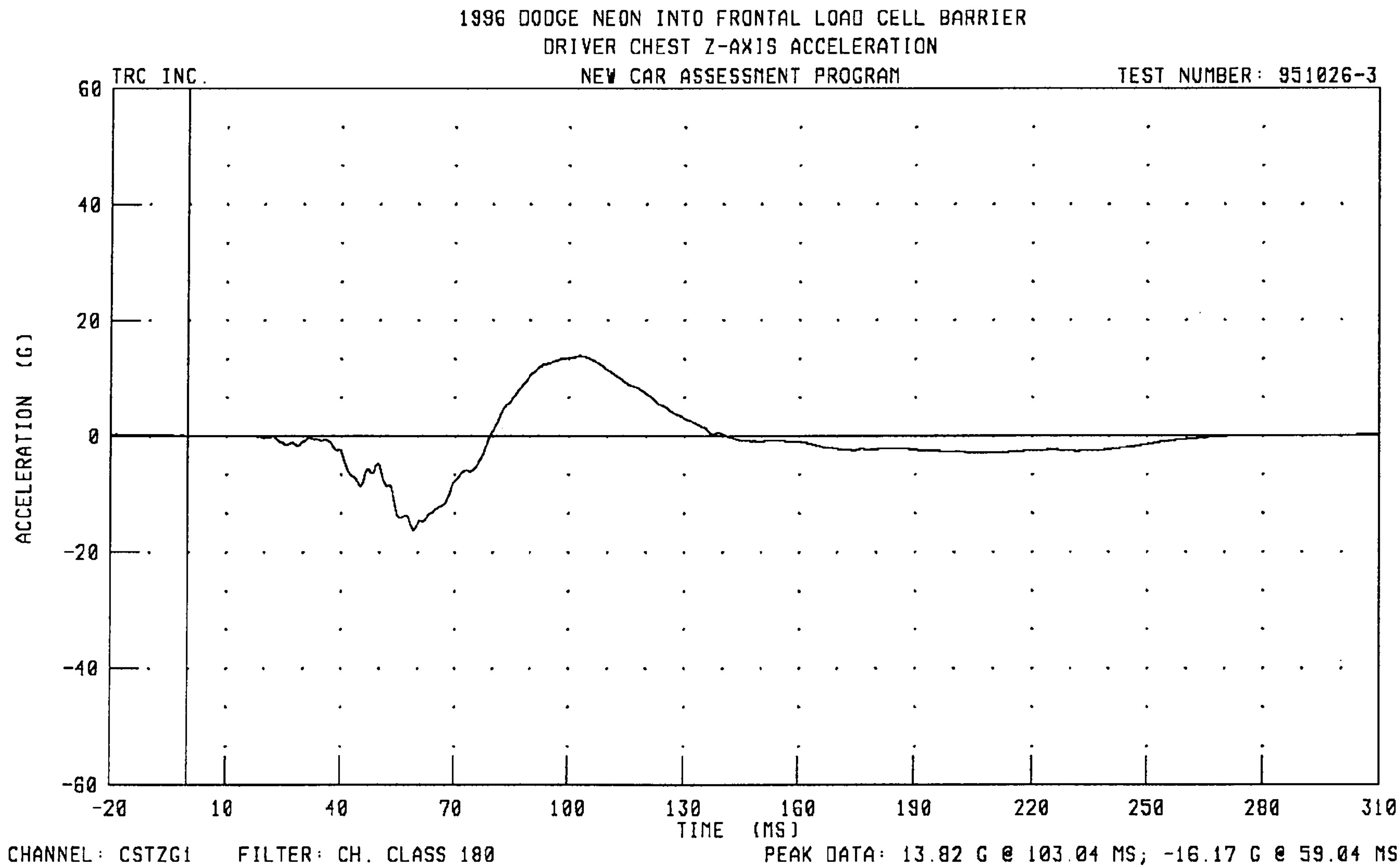
CHANNEL: CSTXG1 FILTER: CH. CLASS 180 PEAK DATA: 3.93 G @ 157.04 MS; -53.11 G @ 59.28 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST Y-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



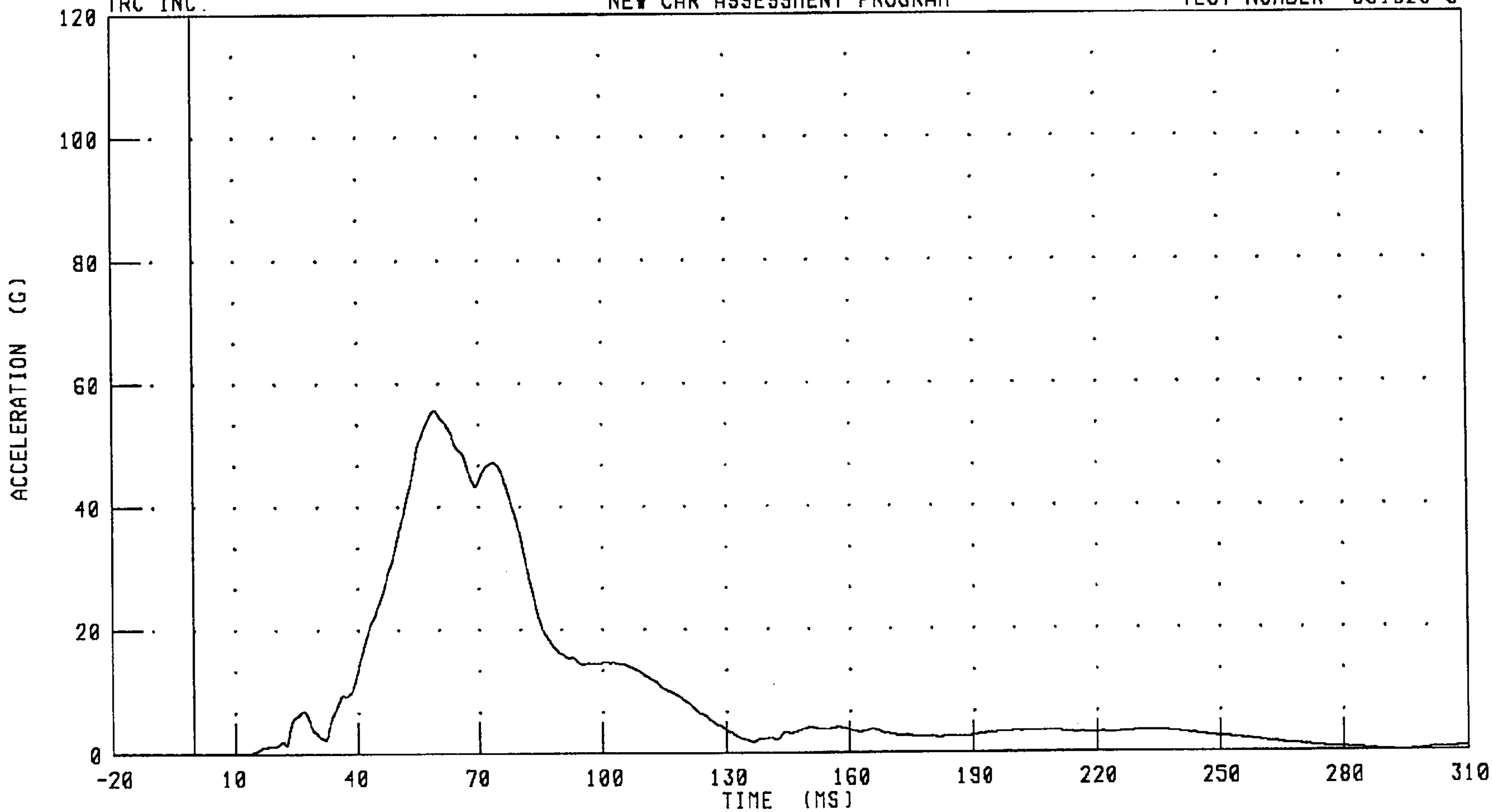
CHANNEL: CSTYG1 FILTER: CH. CLASS 180 PEAK DATA: 6.77 G @ 73.52 MS; -5.28 G @ 108.96 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST Z-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
ACCELERATION (G)
60
40
20
0
-20
-40
-60
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTZG1
FILTER: CH. CLASS 180
PEAK DATA: 13.82 G @ 103.04 MS; -16.17 G @ 59.04 MS

951026

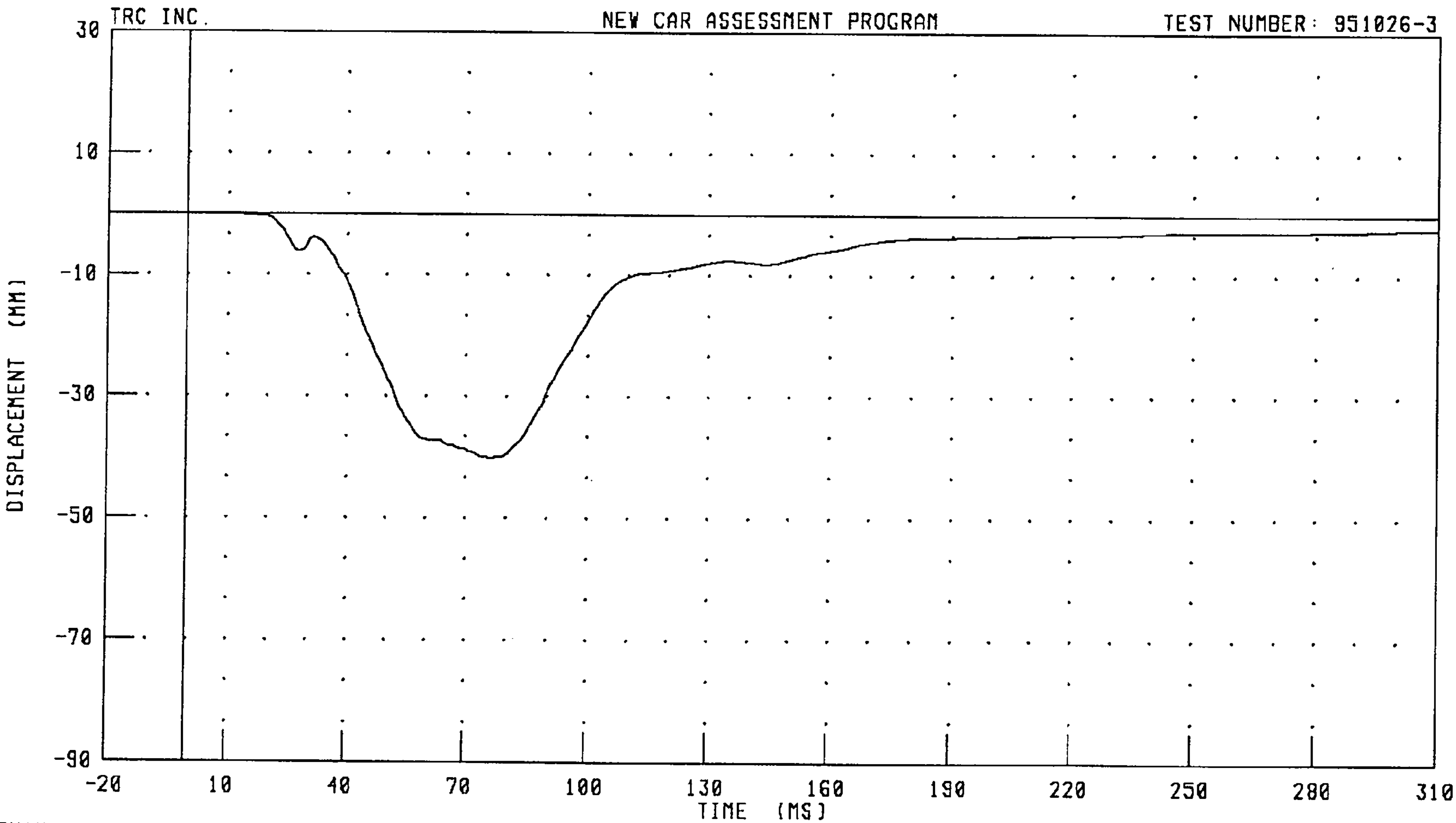
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST RESULTANT ACCELERATION
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3

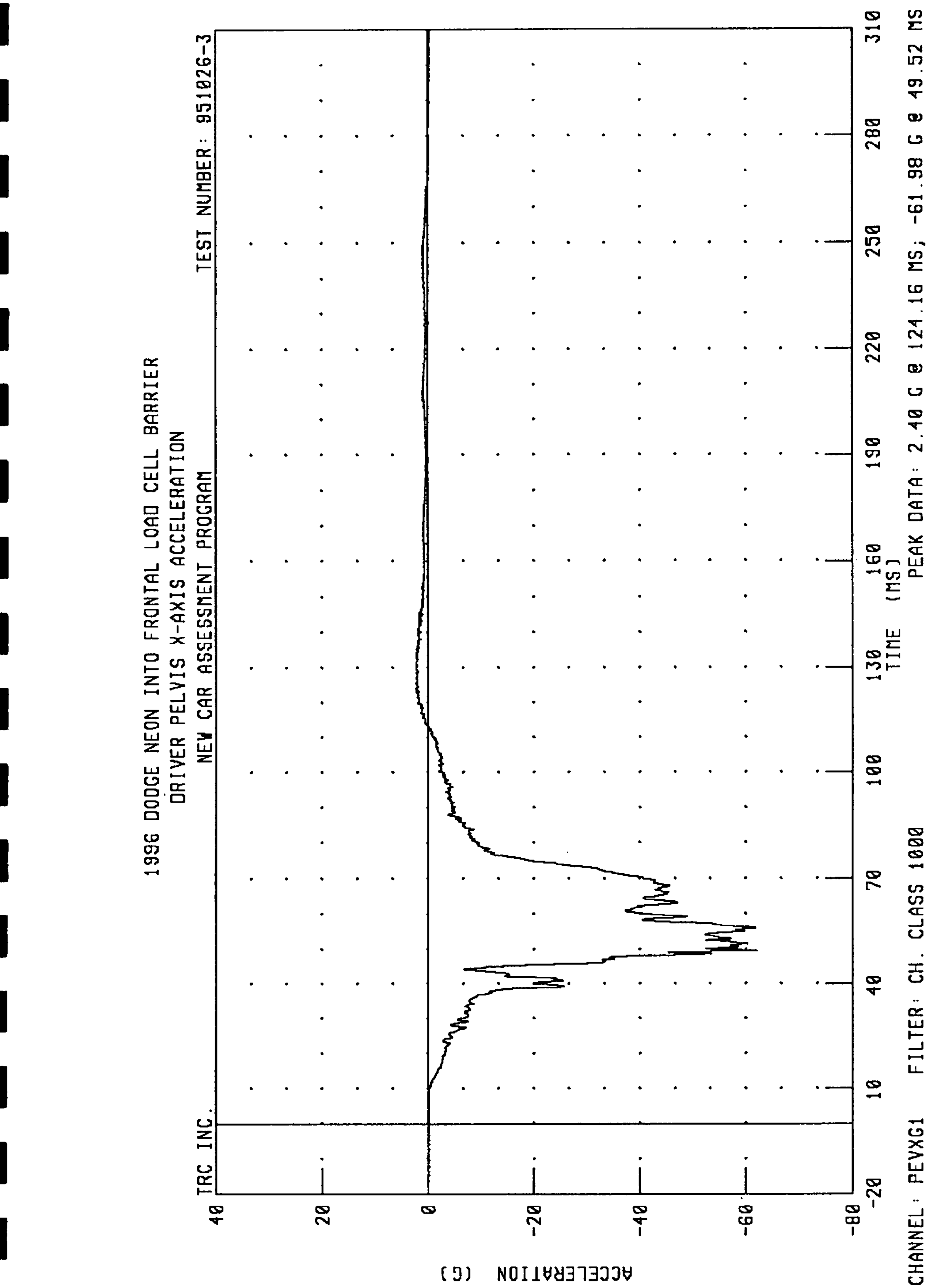


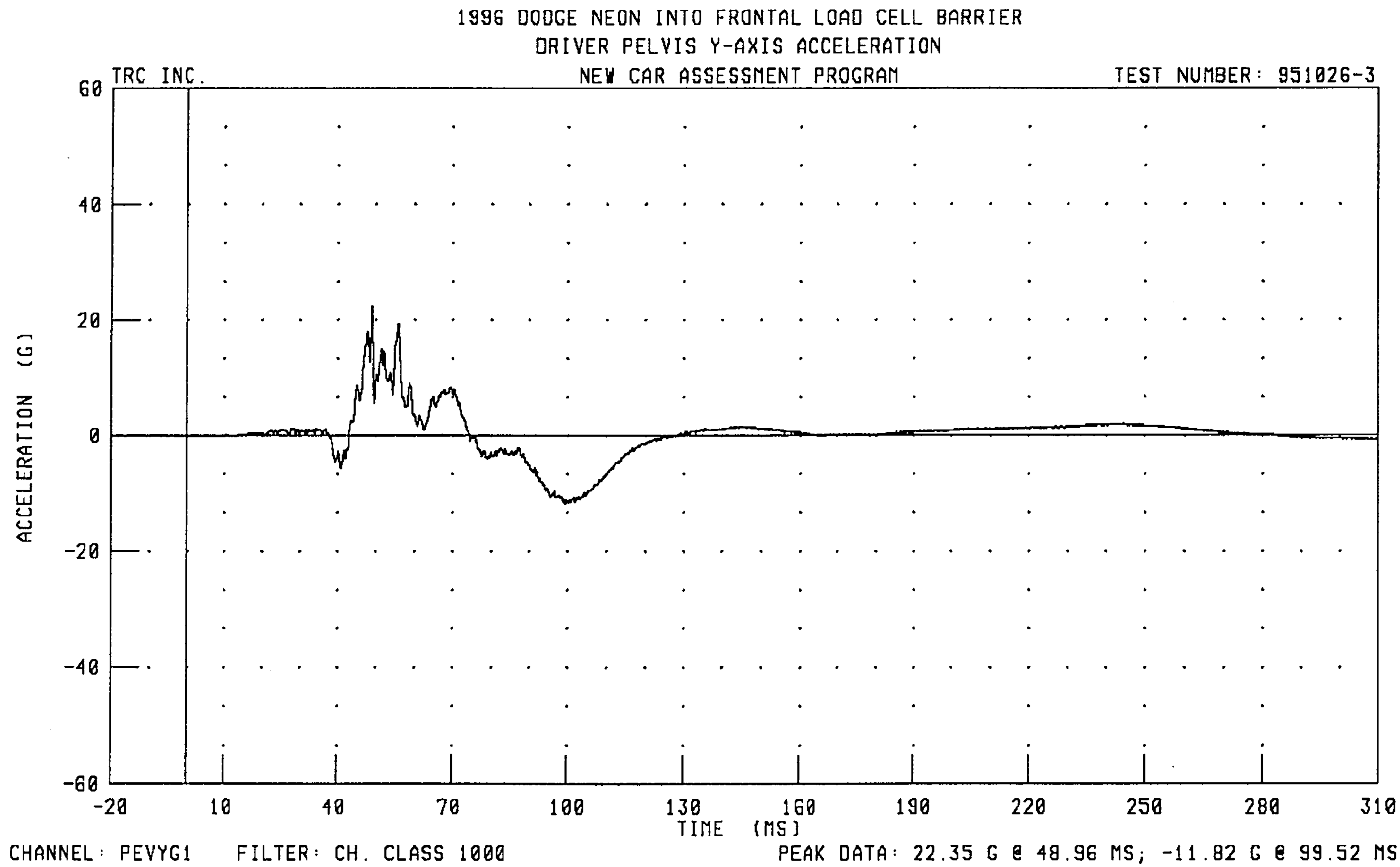
CHANNEL: CSTRG1 FILTER: CH. CLASS 180 PEAK DATA: 55.67 G @ 59.12 MS; 0.01 G @ -20.00 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST DEFLECTION
NEW CAR ASSESSMENT PROGRAM



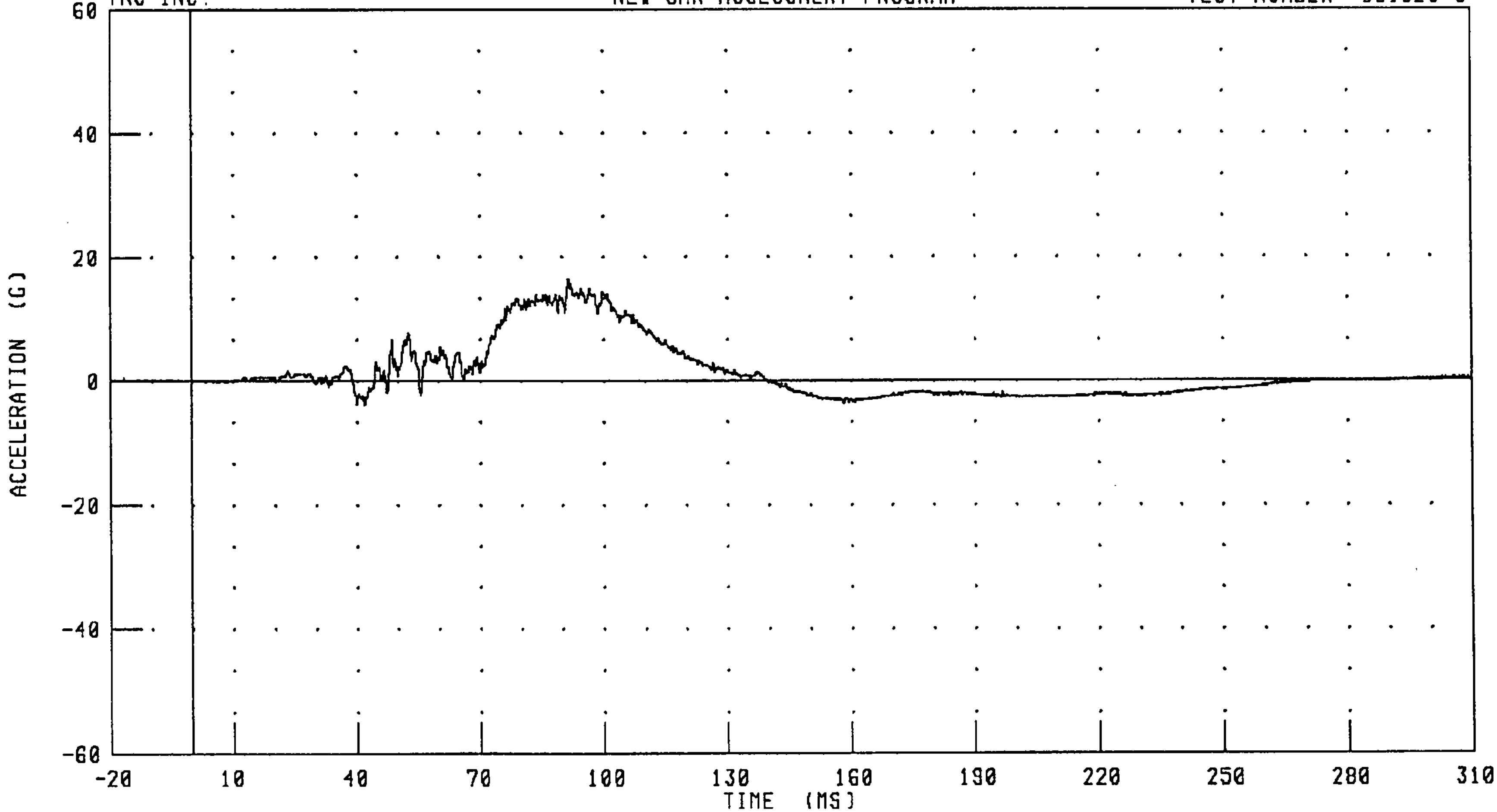
CHANNEL: CSTXD1 FILTER: CH. CLASS 180 PEAK DATA: 0.02 MM @ 7.92 MS; -40.11 MM @ 76.32 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER PELVIS X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TEST NUMBER: 951026-3
TRC INC.
ACCELERATION (G)
40
20
0
-20
-40
-60
-80
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: PEVXG1
FILTER: CH. CLASS 1000
PEAK DATA: 2.40 G @ 124.16 MS; -61.98 G @ 49.52 MS

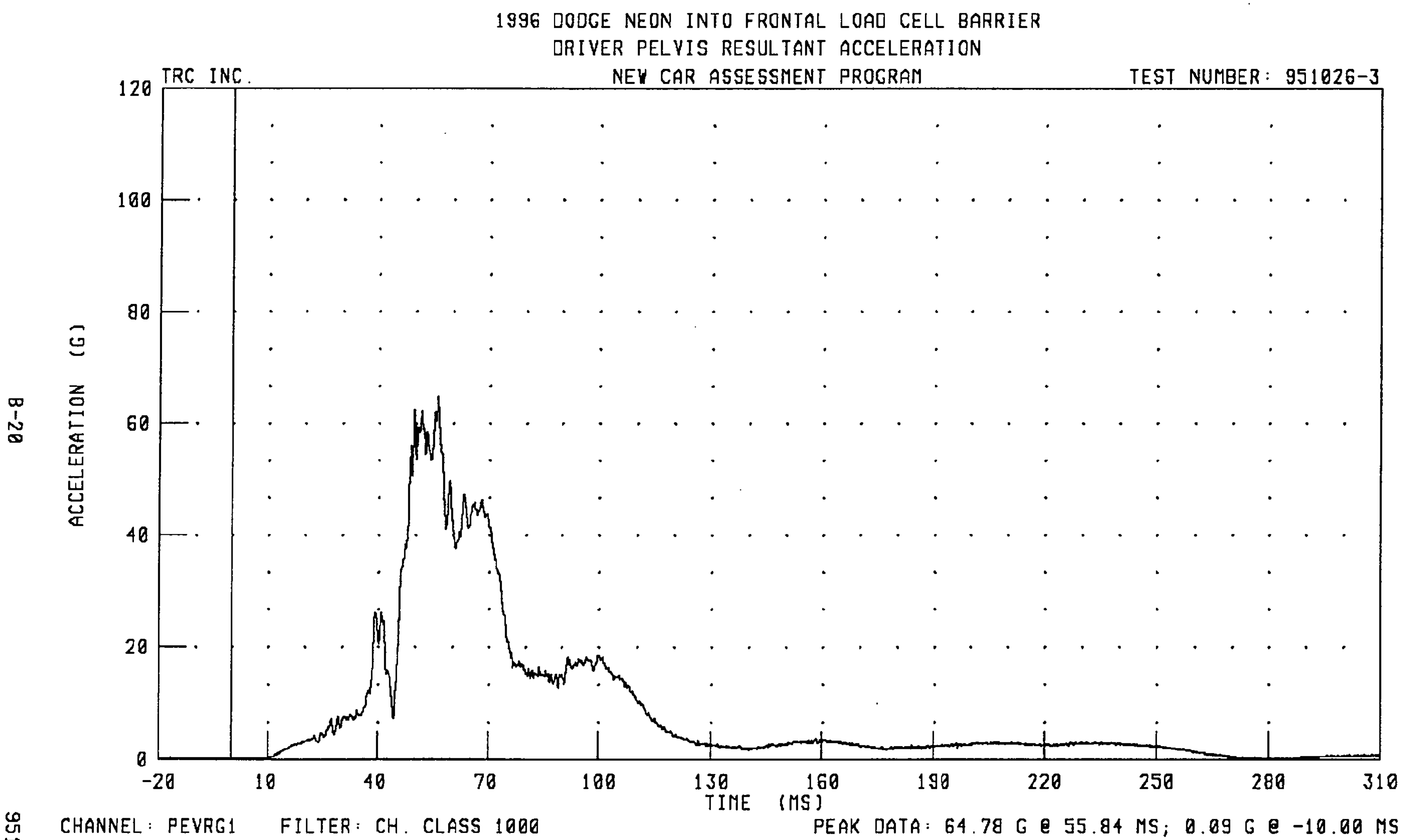

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER PELVIS Y-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
60
40
20
0
-20
-40
-60
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: PEVYG1
FILTER: CH. CLASS 1000
PEAK DATA: 22.35 G @ 48.96 MS; -11.82 G @ 99.52 MS

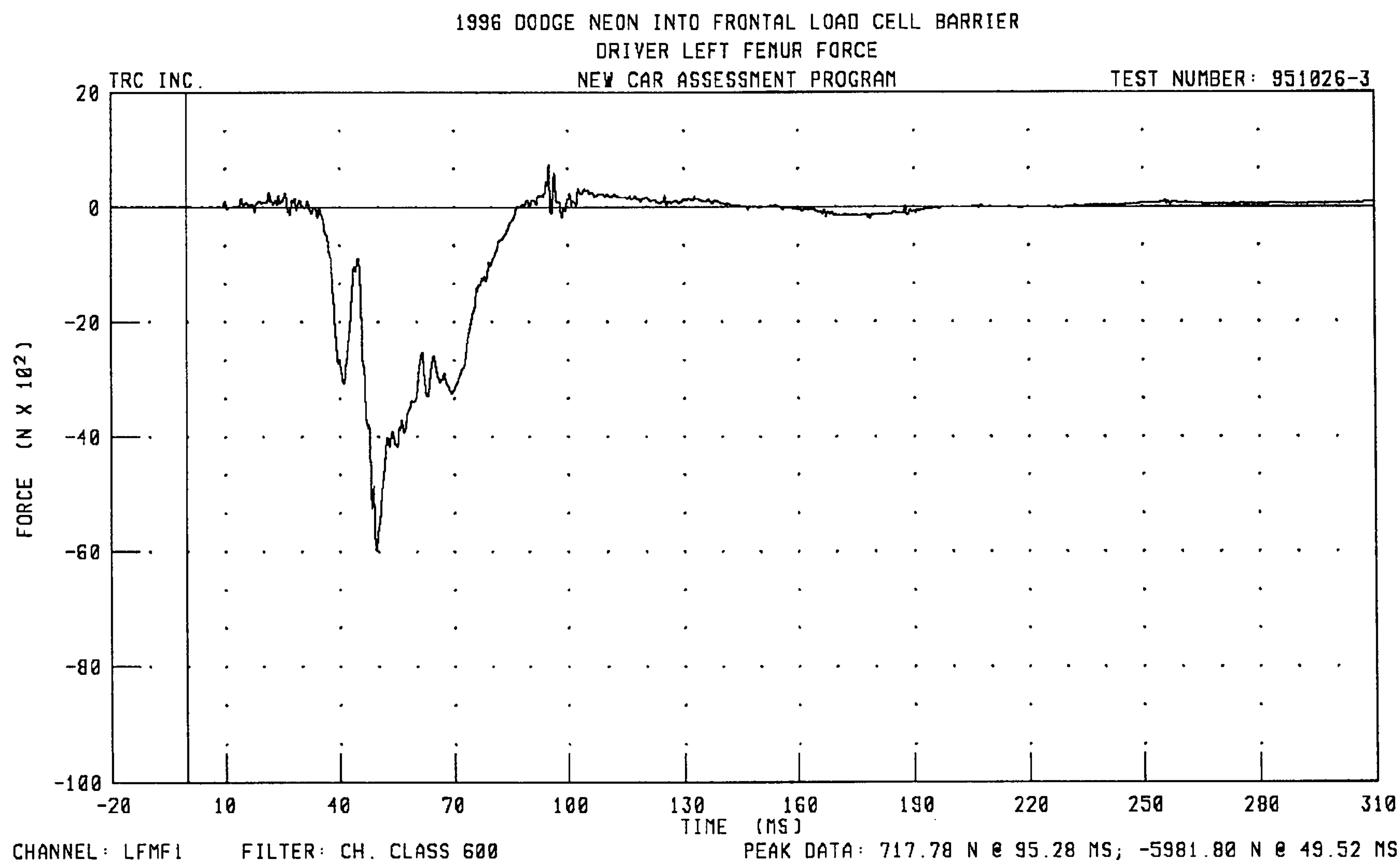
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER PELVIS Z-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



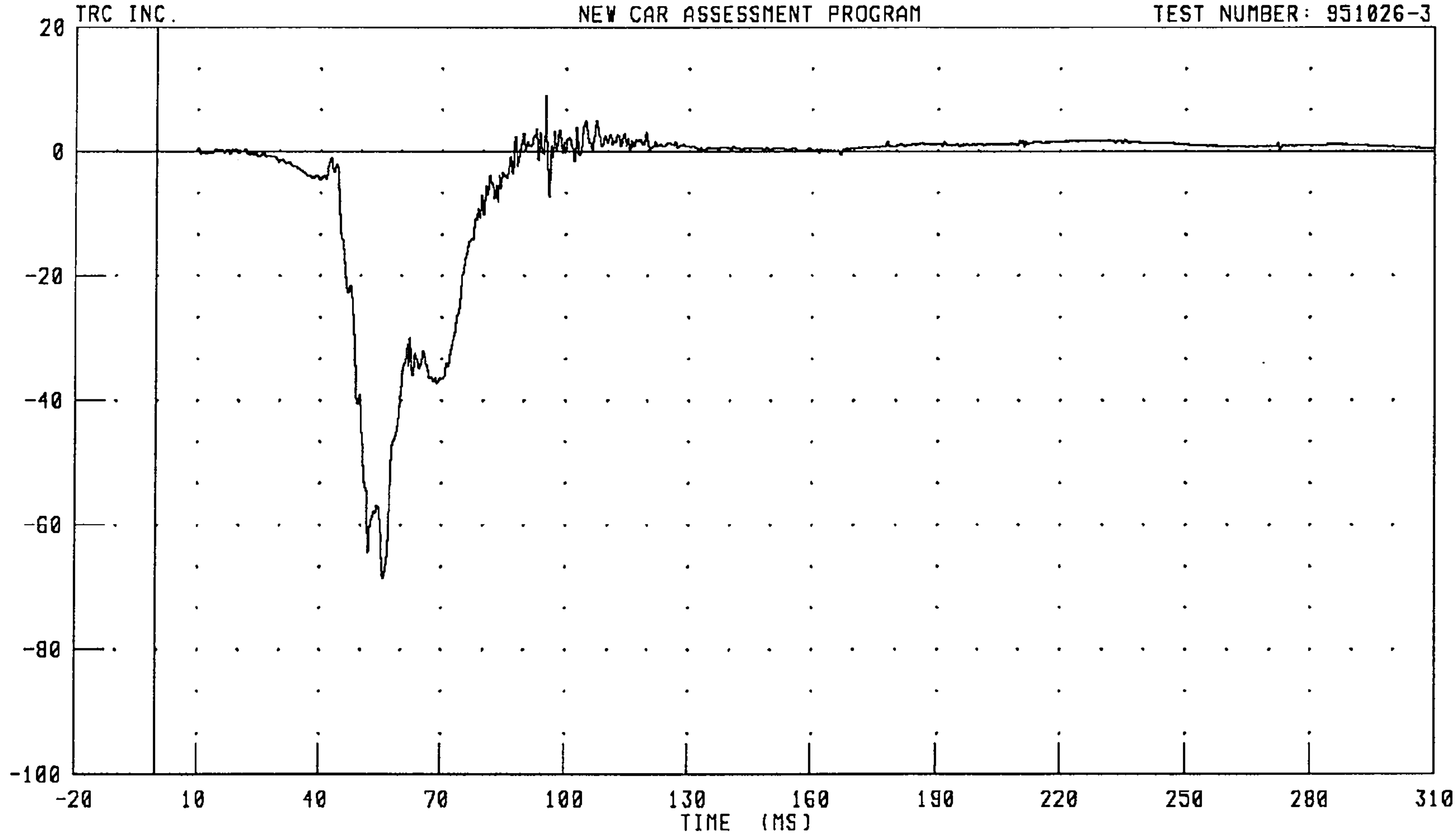
CHANNEL: PEVZG1 FILTER: CH. CLASS 1000 PEAK DATA: 16.40 G @ 91.68 MS; -3.88 G @ 42.00 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER PELVIS RESULTANT ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
ACCELERATION (G)
120
100
80
60
40
20
0
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: PEVRG1
FILTER: CH. CLASS 1000
PEAK DATA: 64.78 G @ 55.84 MS; 0.09 G @ -10.00 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT FEMUR FORCE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
FORCE (N X 10²)
20
0
-20
-40
-60
-80
-100
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: LFMF1
FILTER: CH. CLASS 600
PEAK DATA: 717.78 N @ 95.28 MS; -5981.80 N @ 49.52 MS

951026

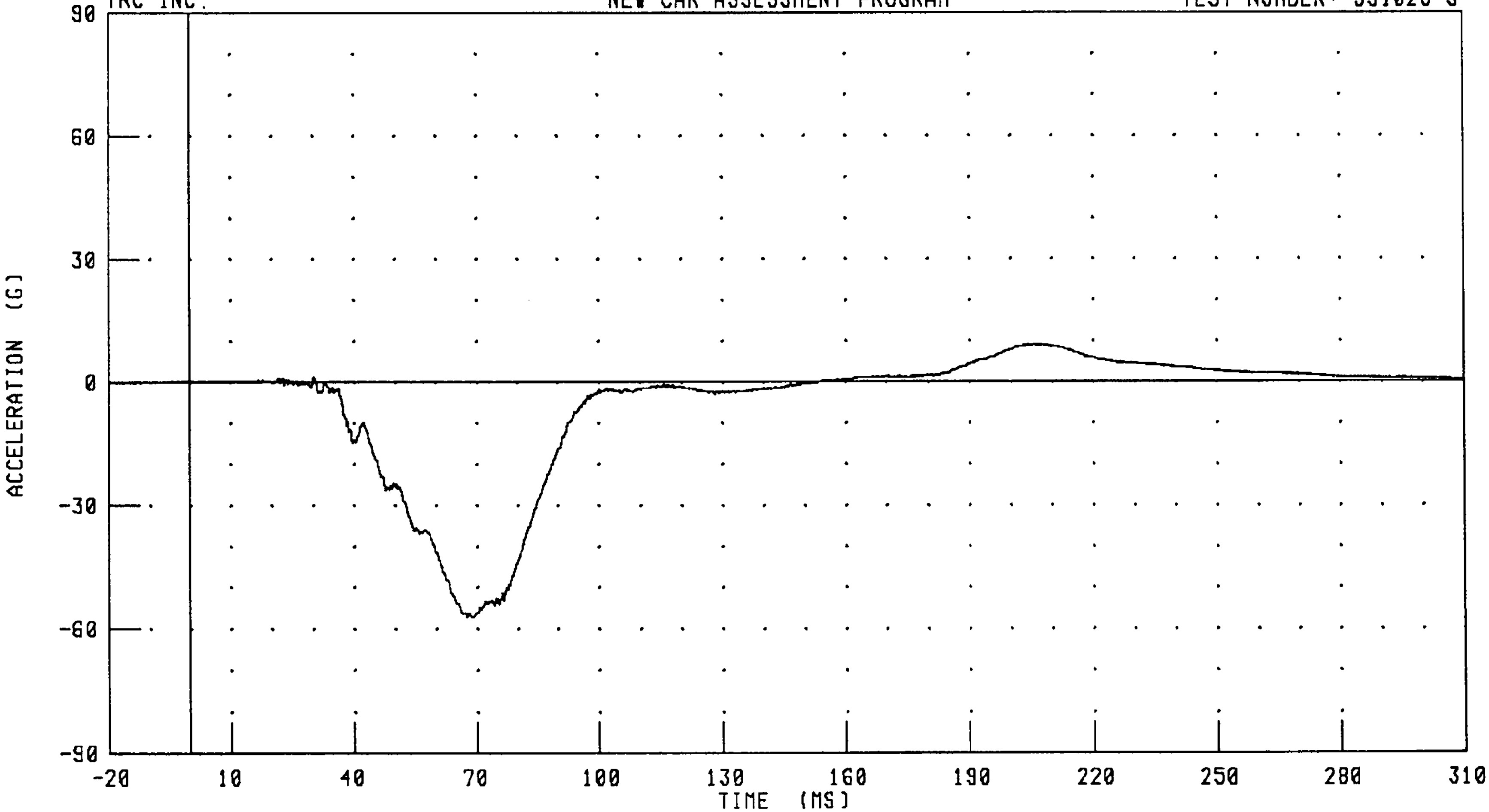
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT FEMUR FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: RFMF1 FILTER: CH. CLASS 600 PEAK DATA: 894.02 N @ 95.20 MS; -6858.73 N @ 55.76 MS

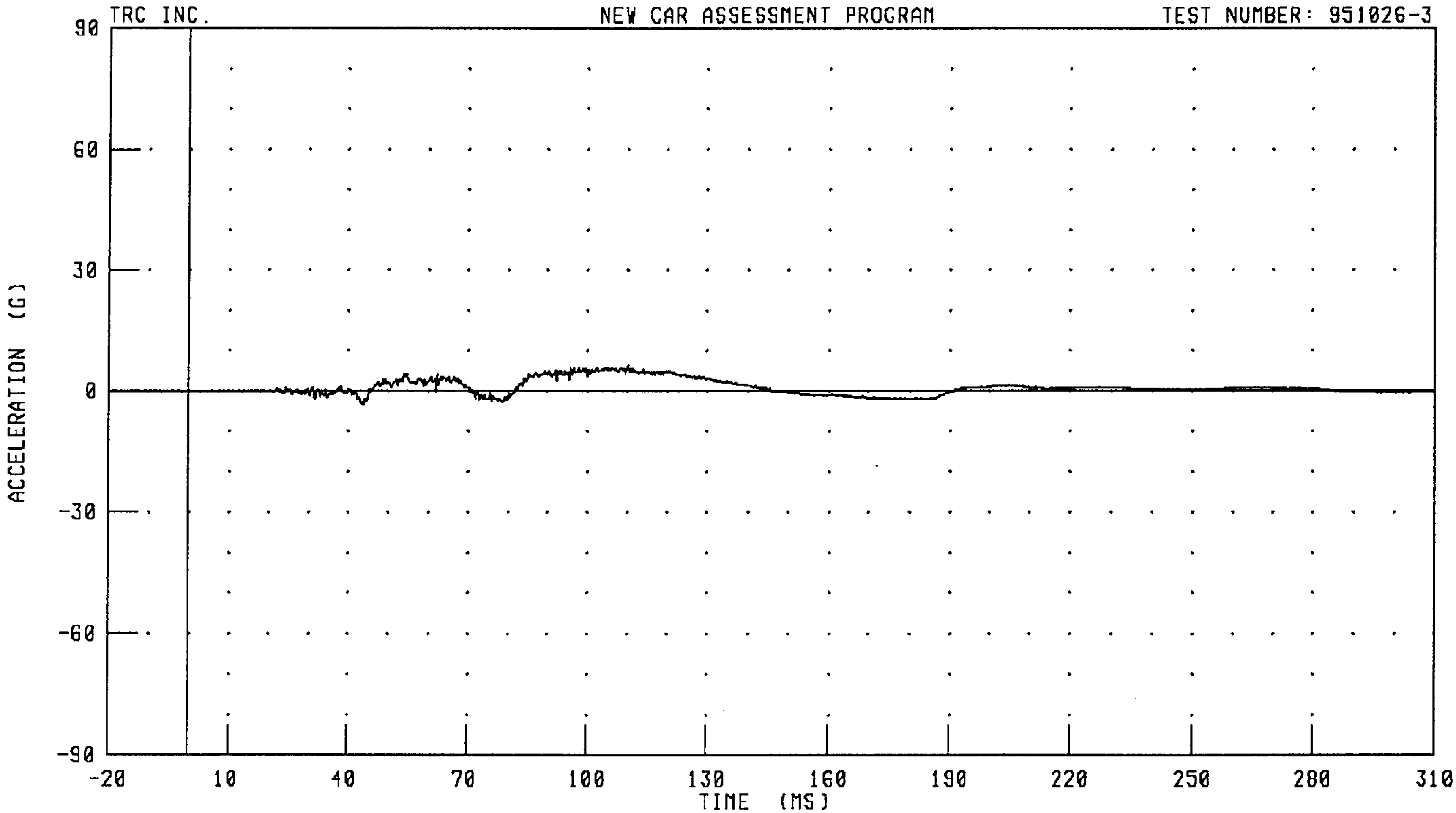
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD X-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM

TRC INC.   TEST NUMBER: 951026-3



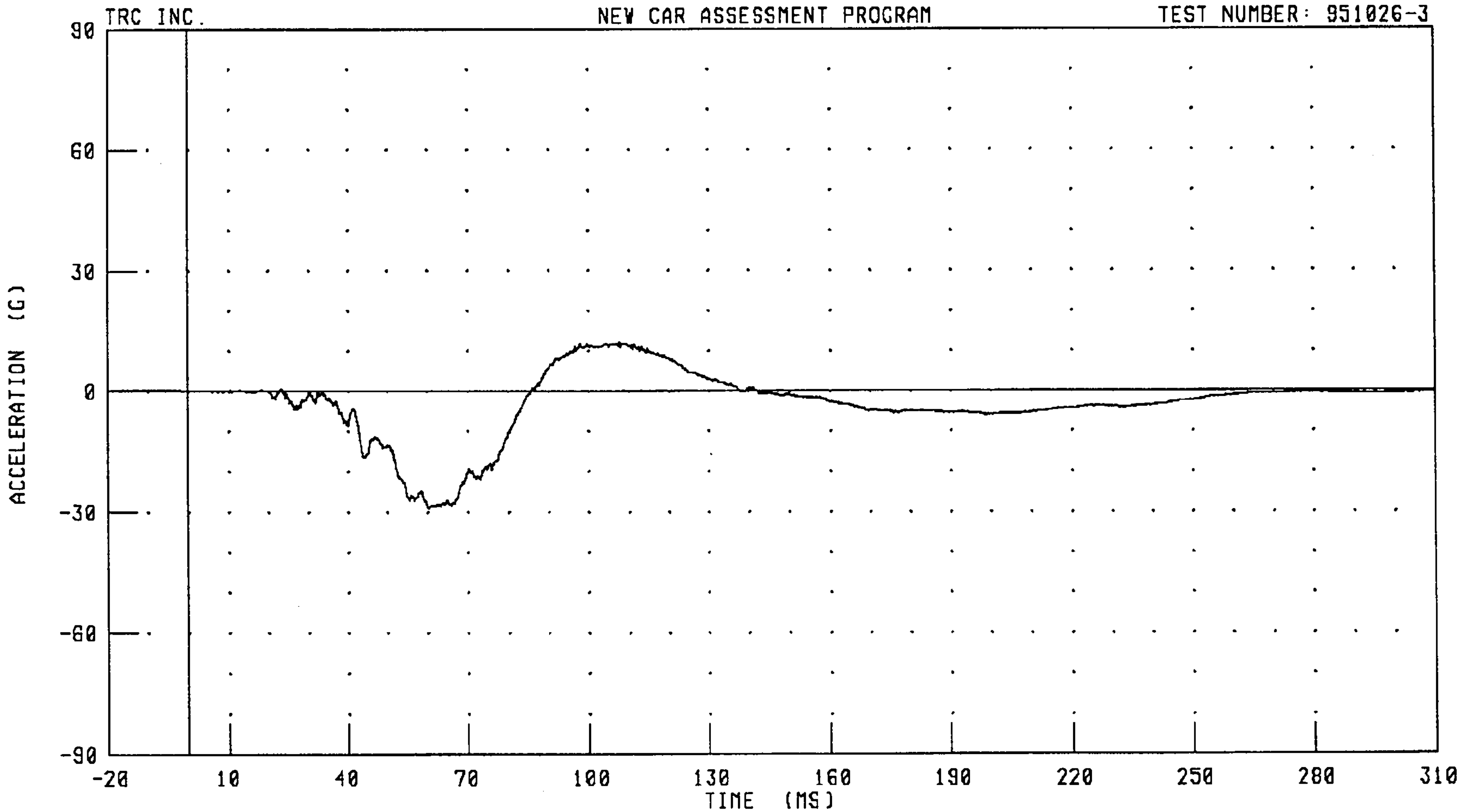
CHANNEL: HEDXR1   FILTER: CH. CLASS 1000   PEAK DATA: 9.16 G @ 204.48 MS; -57.24 G @ 68.96 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD Y-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



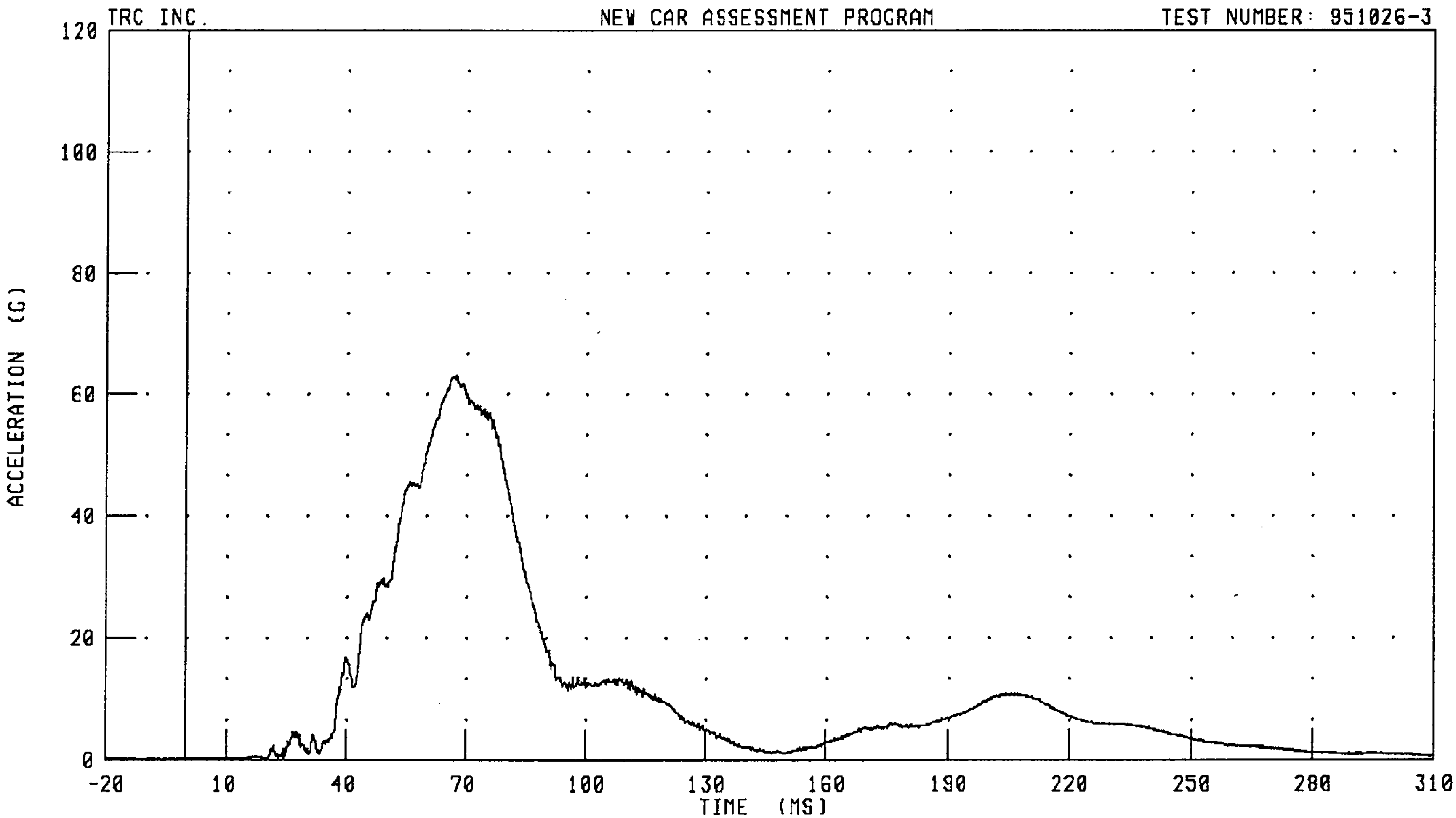
CHANNEL: HEDYR1 FILTER: CH. CLASS 1000 PEAK DATA: 6.31 G @ 110.32 MS; -3.65 G @ 43.76 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD Z-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: HEDZR1 FILTER: CH. CLASS 1000 PEAK DATA: 12.21 G @ 107.60 MS; -29.26 G @ 60.48 MS

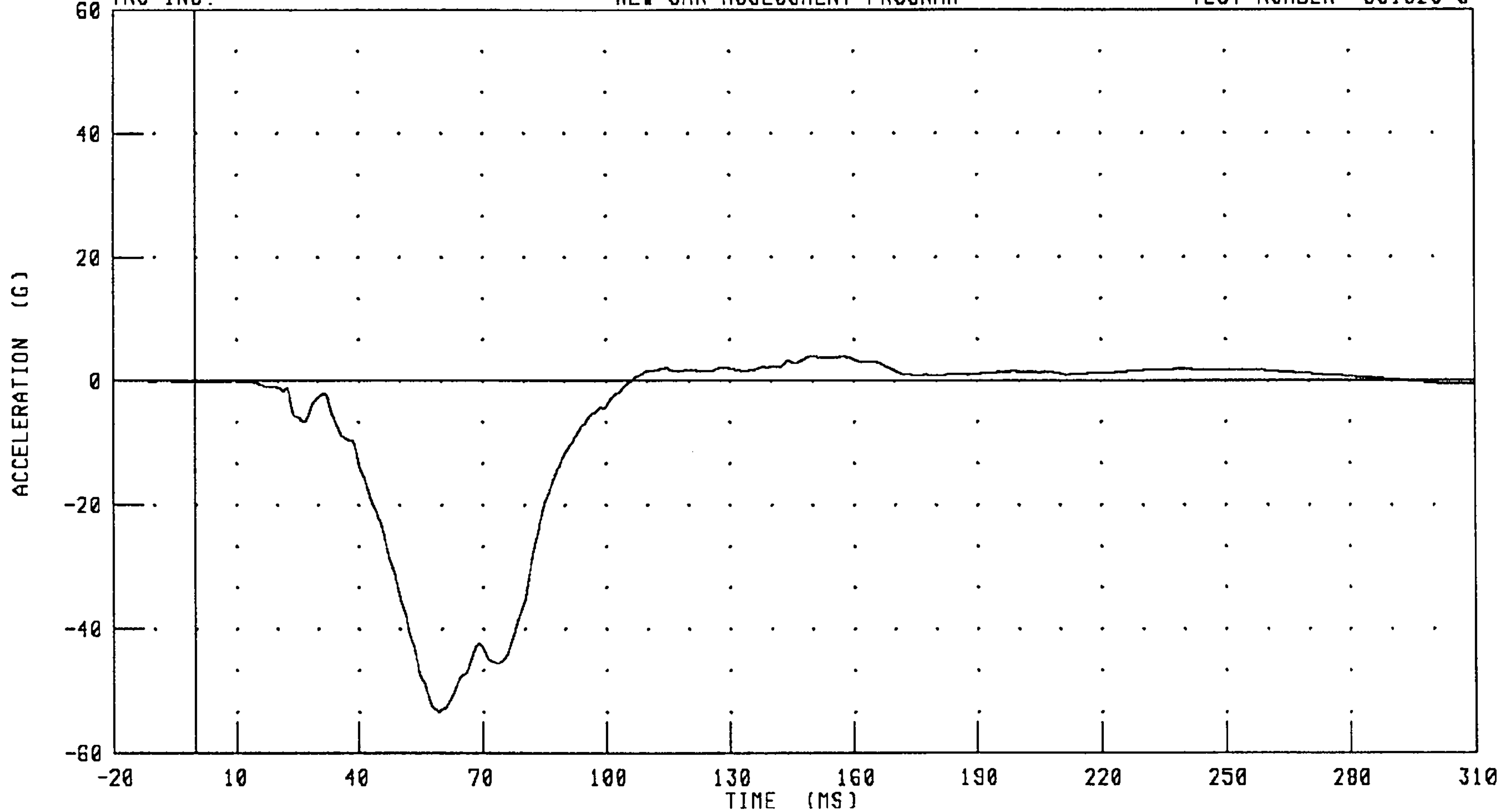
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER HEAD RESULTANT ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: HEDRR1 FILTER: CH. CLASS 1000 PEAK DATA: 63.05 G @ 67.44 MS; 0.14 G @ -6.08 MS

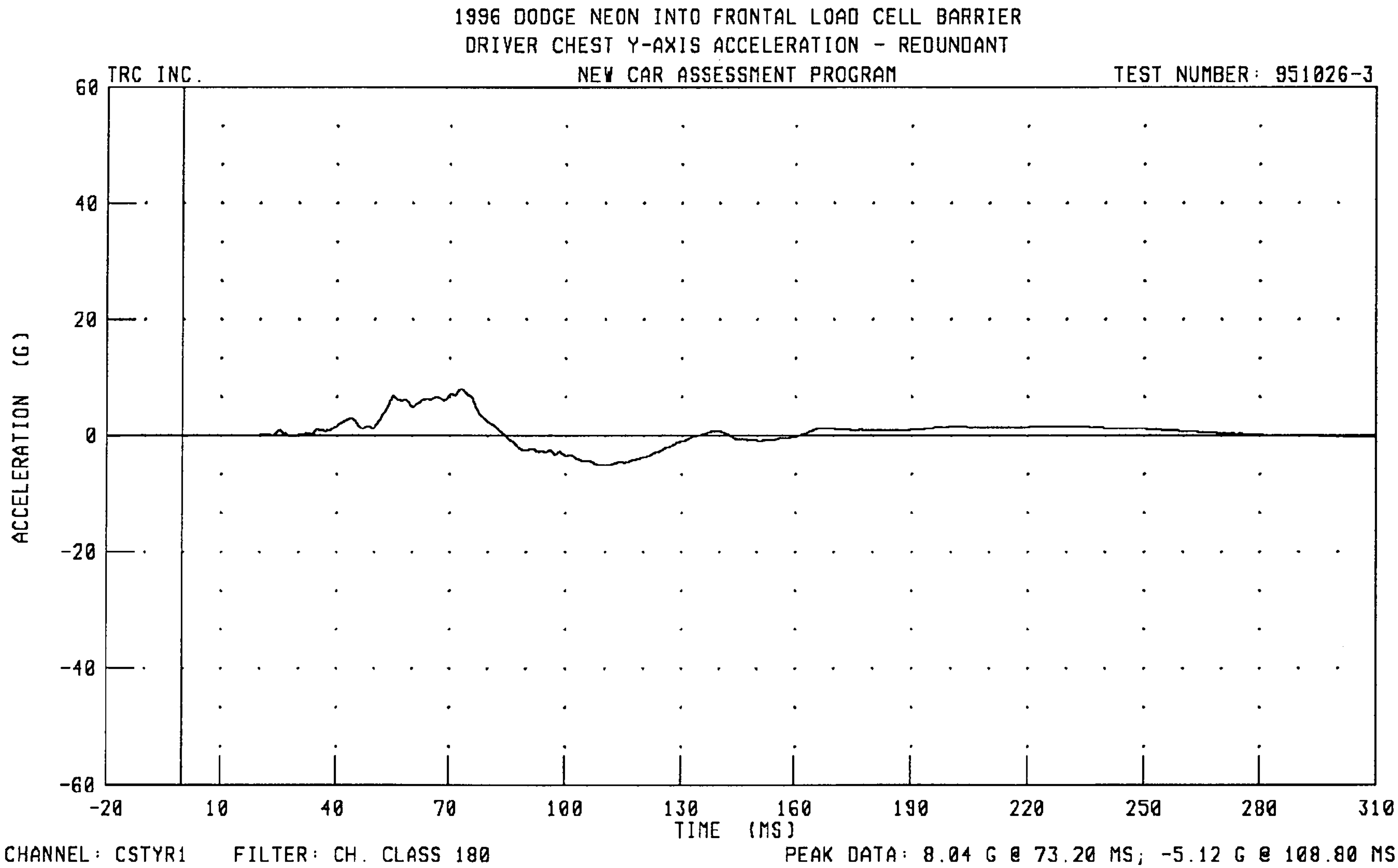
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST X-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3

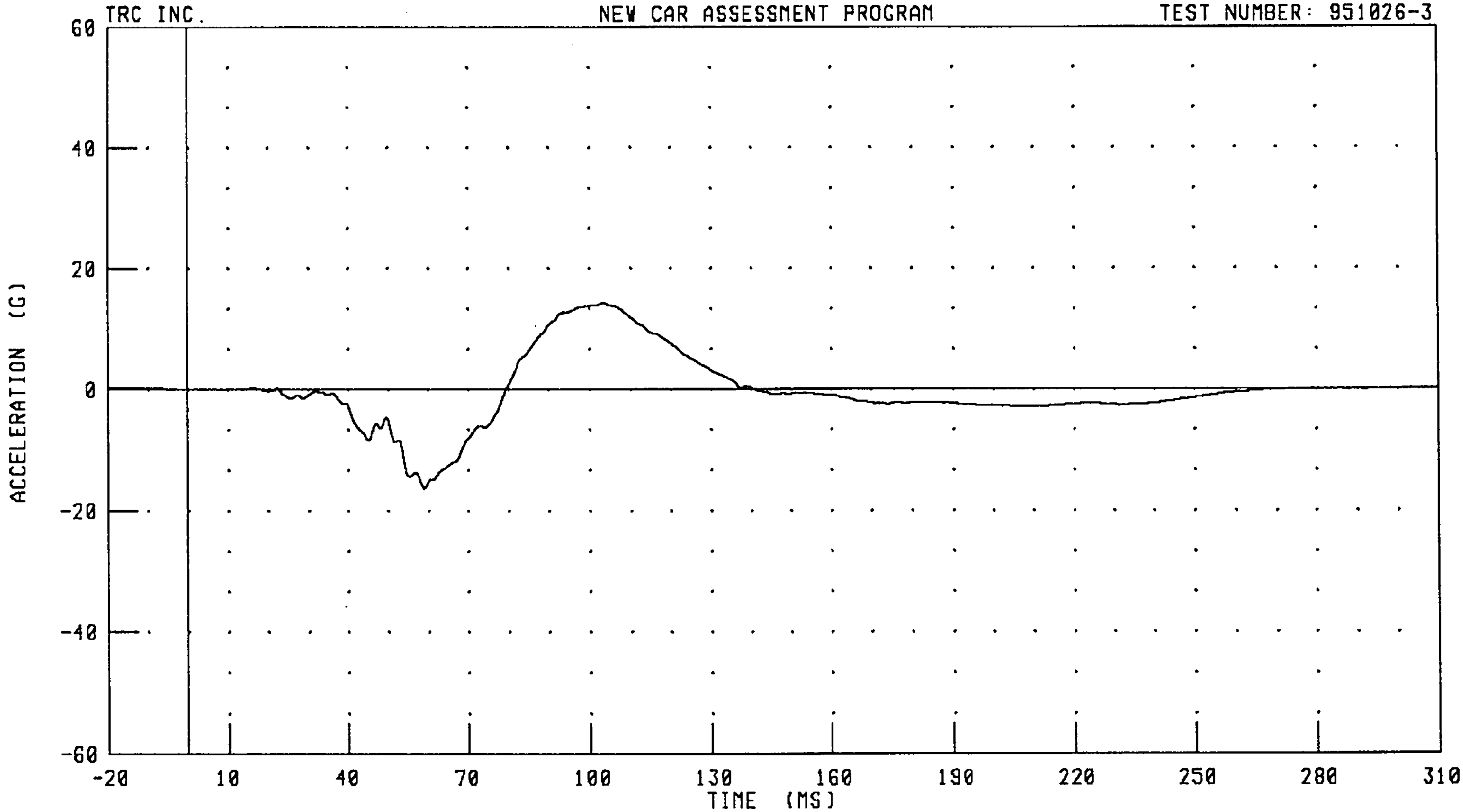


CHANNEL: CSTXR1 FILTER: CH. CLASS 180 PEAK DATA: 3.90 G @ 149.92 MS; -53.29 G @ 59.28 MS

951026

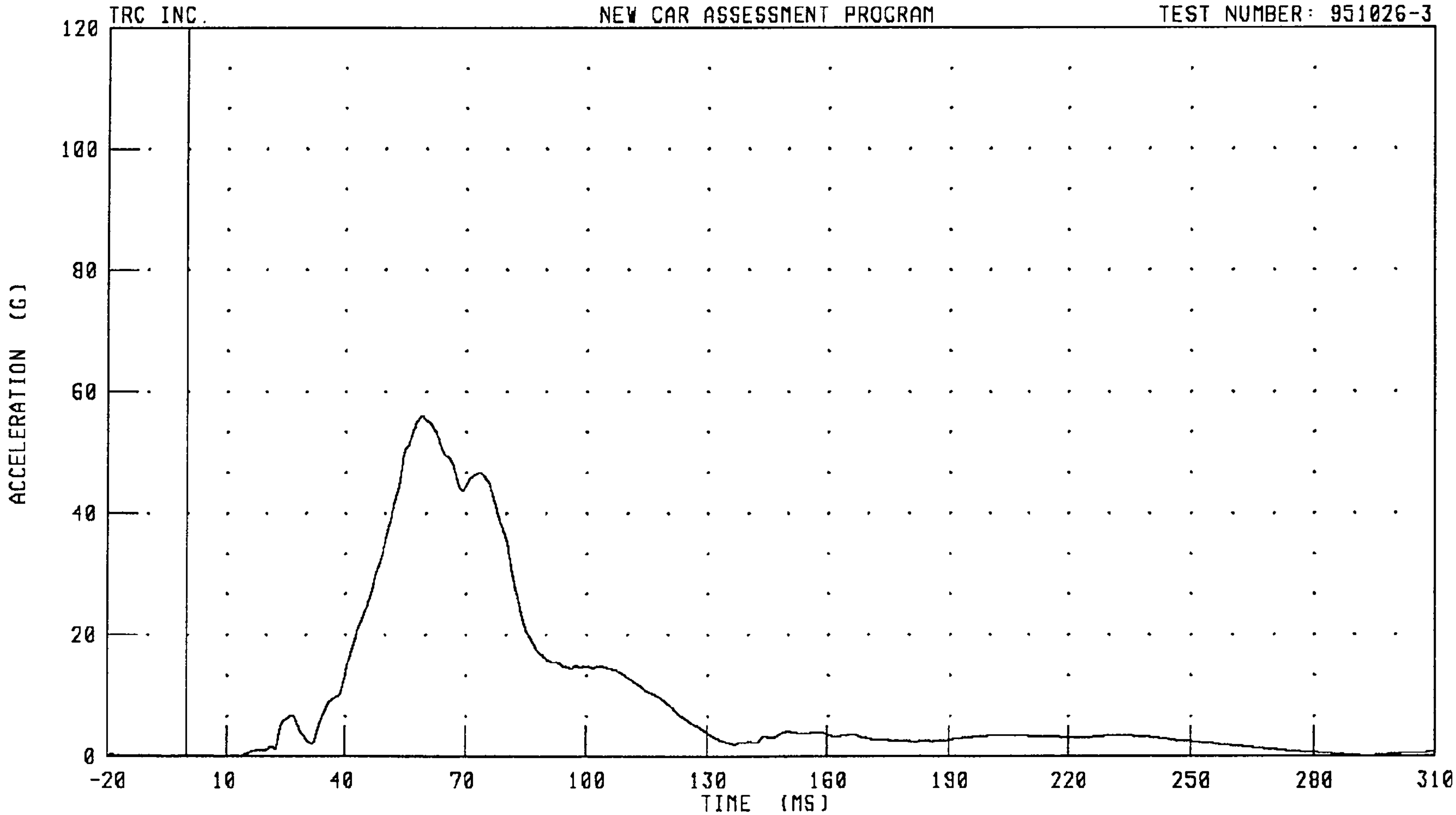

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST Y-AXIS ACCELERATION - REDUNDANT
TRC INC.
NEW CAR ASSESSMENT PROGRAM
TEST NUMBER: 951026-3
60
40
20
0
-20
-40
-60
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTYR1
FILTER: CH. CLASS 180
PEAK DATA: 8.04 G @ 73.20 MS; -5.12 G @ 108.80 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST Z-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



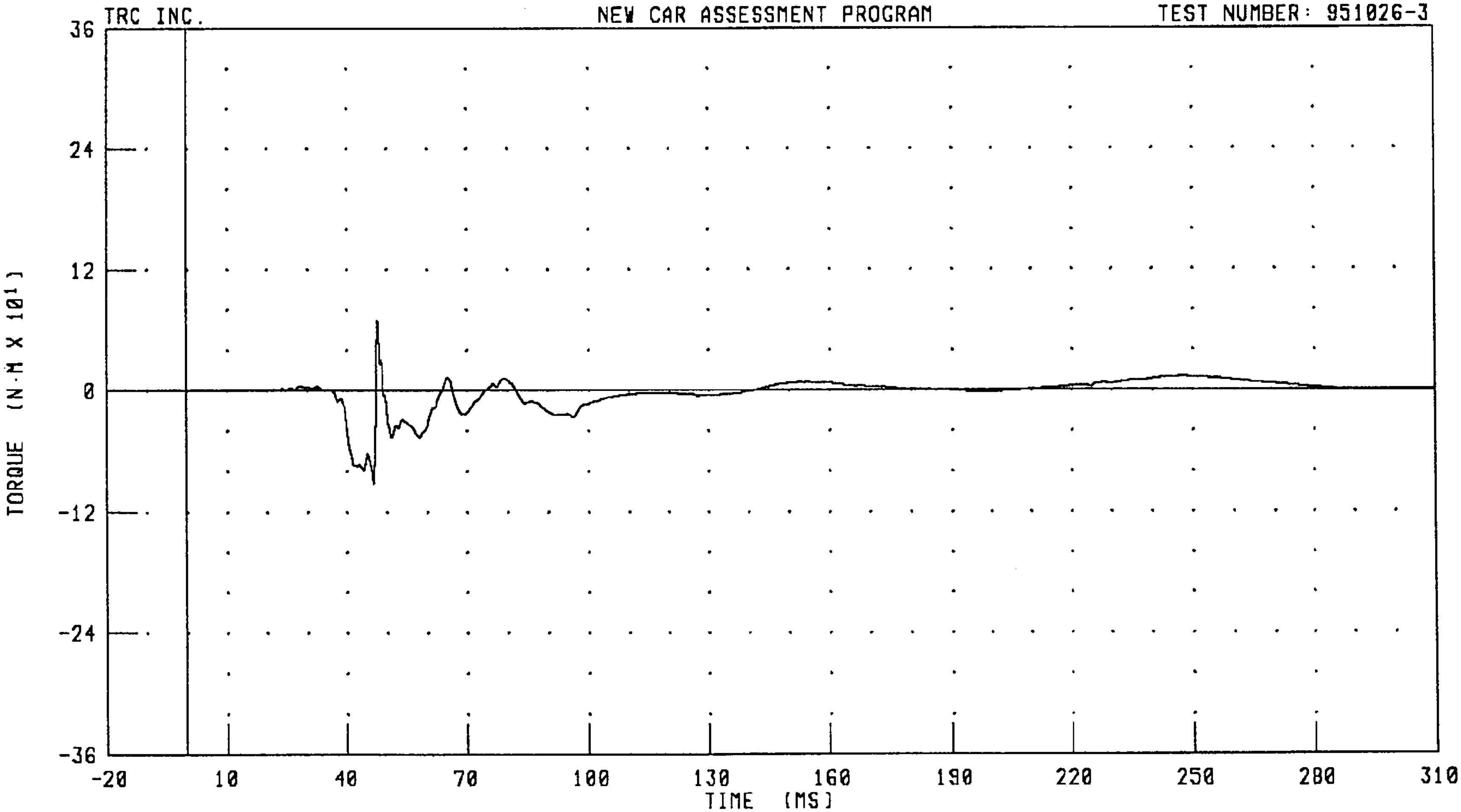
CHANNEL: CSTZR1   FILTER: CH. CLASS 180   PEAK DATA: 14.19 G @ 103.52 MS; -16.34 G @ 59.04 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER CHEST RESULTANT ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: CSTRR1 FILTER: CH. CLASS 180 PEAK DATA: 56.01 G @ 59.12 MS; 0.03 G @ -20.00 MS

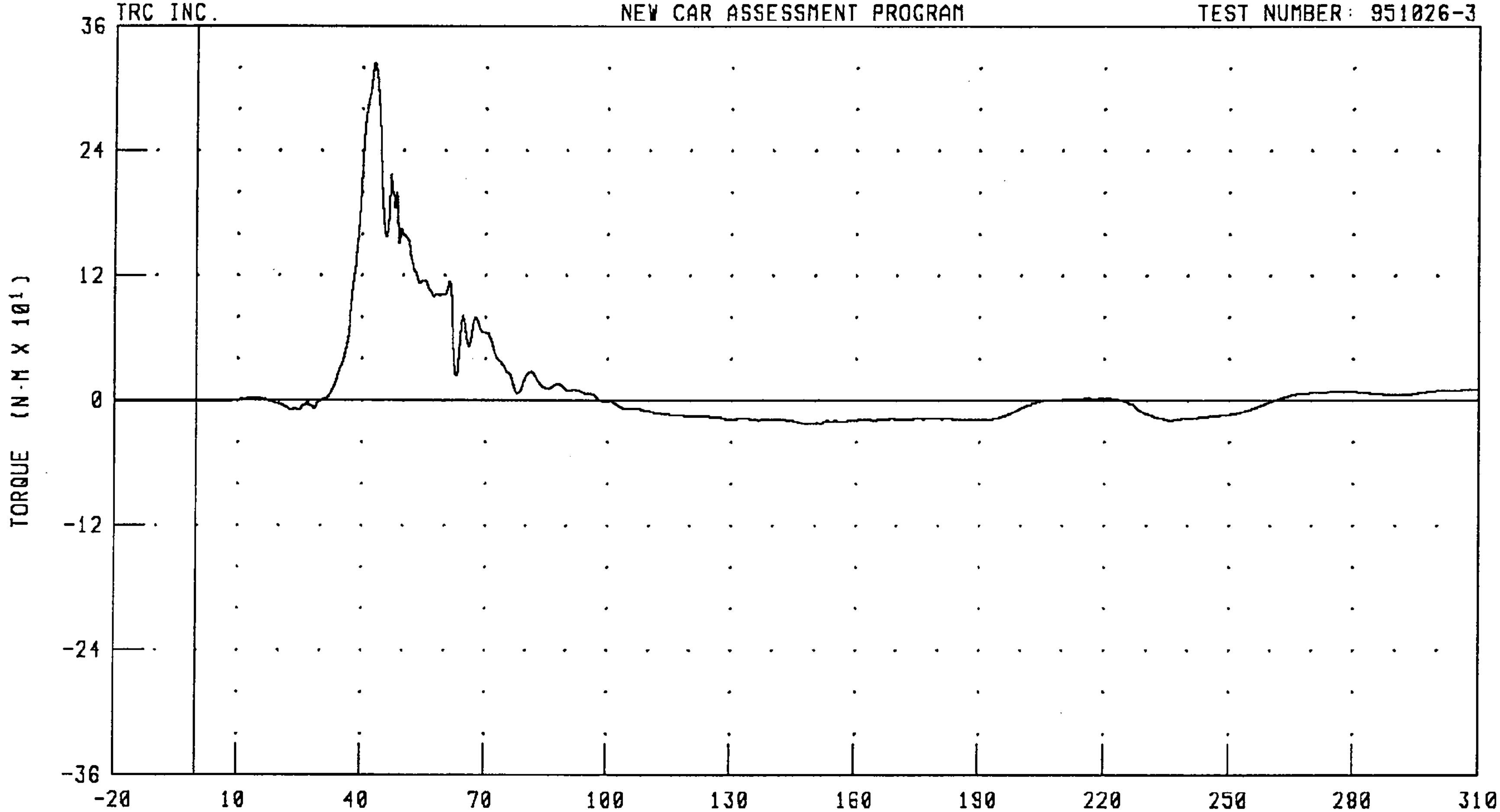
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT UPPER TIBIA MOMENT ABOUT X AXIS
NEW CAR ASSESSMENT PROGRAM



CHANNEL: TBLXM1 FILTER: CH. CLASS 600 PEAK DATA: 68.74 N·M @ 47.68 MS; -92.86 N·M @ 46.64 MS

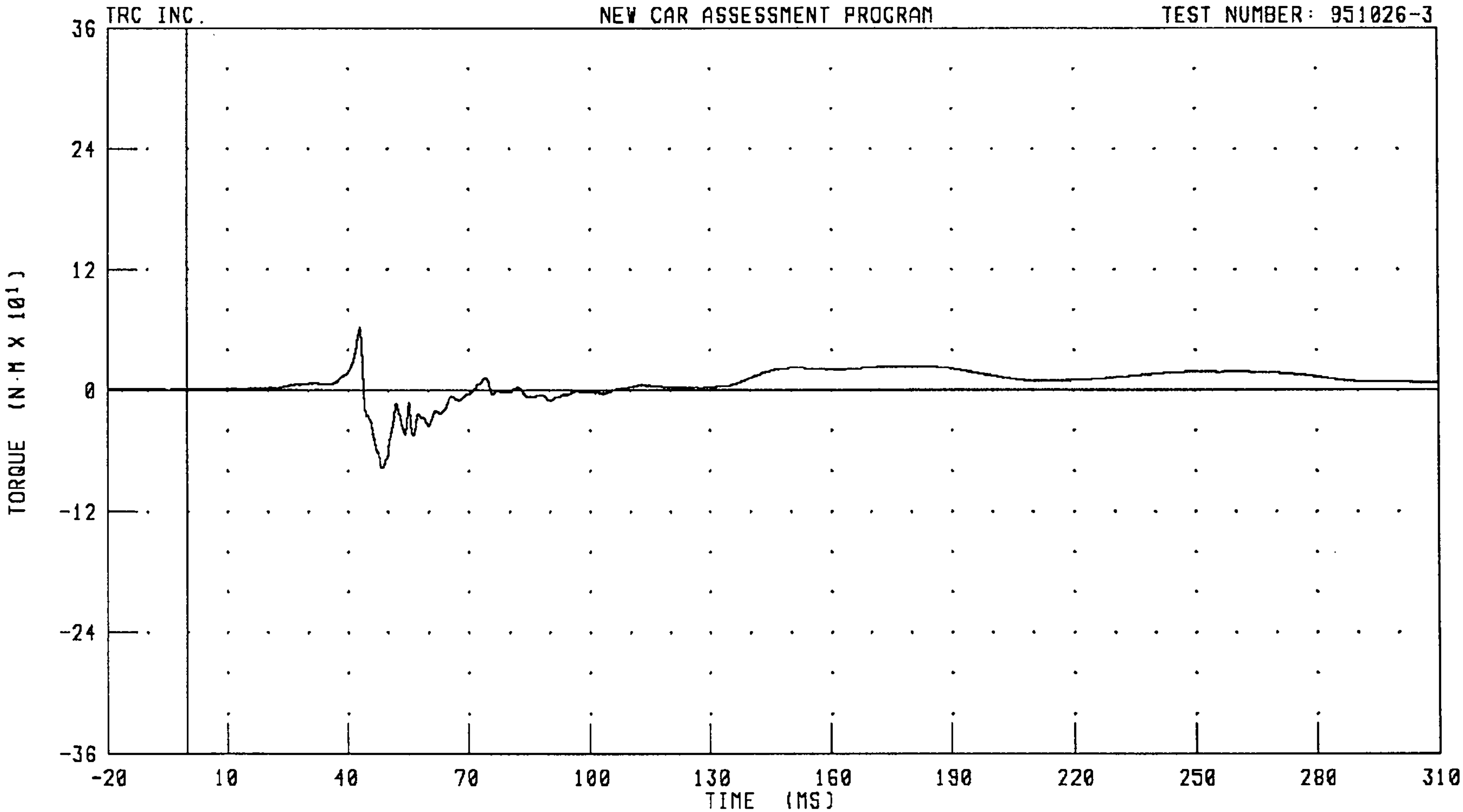
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT UPPER TIBIA MOMENT ABOUT Y AXIS
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3

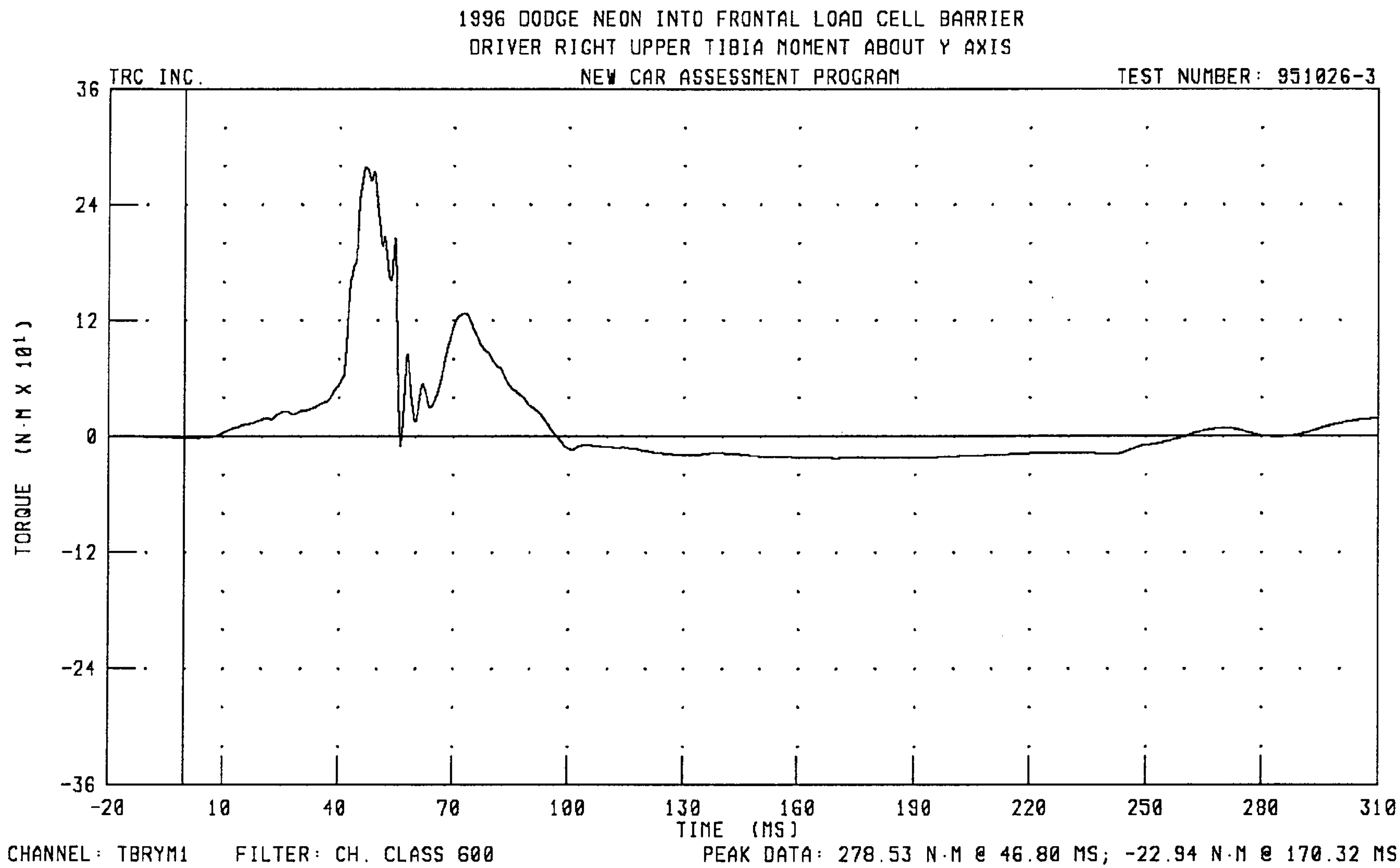


CHANNEL: TBLYM1 FILTER: CH. CLASS 600 PEAK DATA: 324.32 N·M @ 43.04 MS; -22.40 N·M @ 151.52 MS

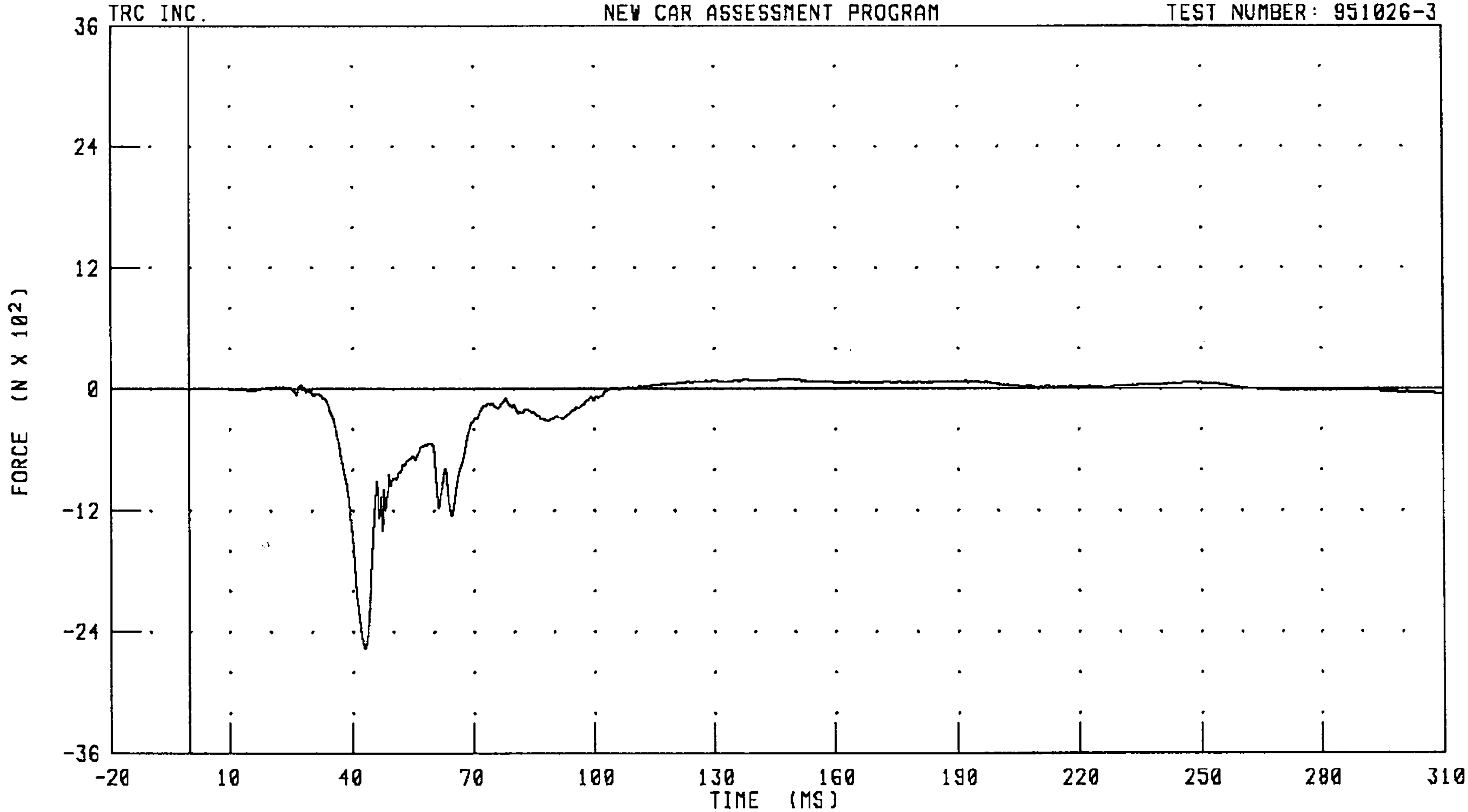
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT UPPER TIBIA MOMENT ABOUT X AXIS
NEW CAR ASSESSMENT PROGRAM



CHANNEL: TBRXM1 FILTER: CH. CLASS 600 PEAK DATA: 62.71 N·M @ 43.12 MS; -77.24 N·M @ 48.80 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT UPPER TIBIA MOMENT ABOUT Y AXIS
TRC INC.
NEW CAR ASSESSMENT PROGRAM
TEST NUMBER: 951026-3
36
24
12
0
-12
-24
-36
TORQUE (N·M X 10¹)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: TBRYM1
FILTER: CH. CLASS 600
PEAK DATA: 278.53 N·M @ 46.80 MS; -22.94 N·M @ 170.32 MS

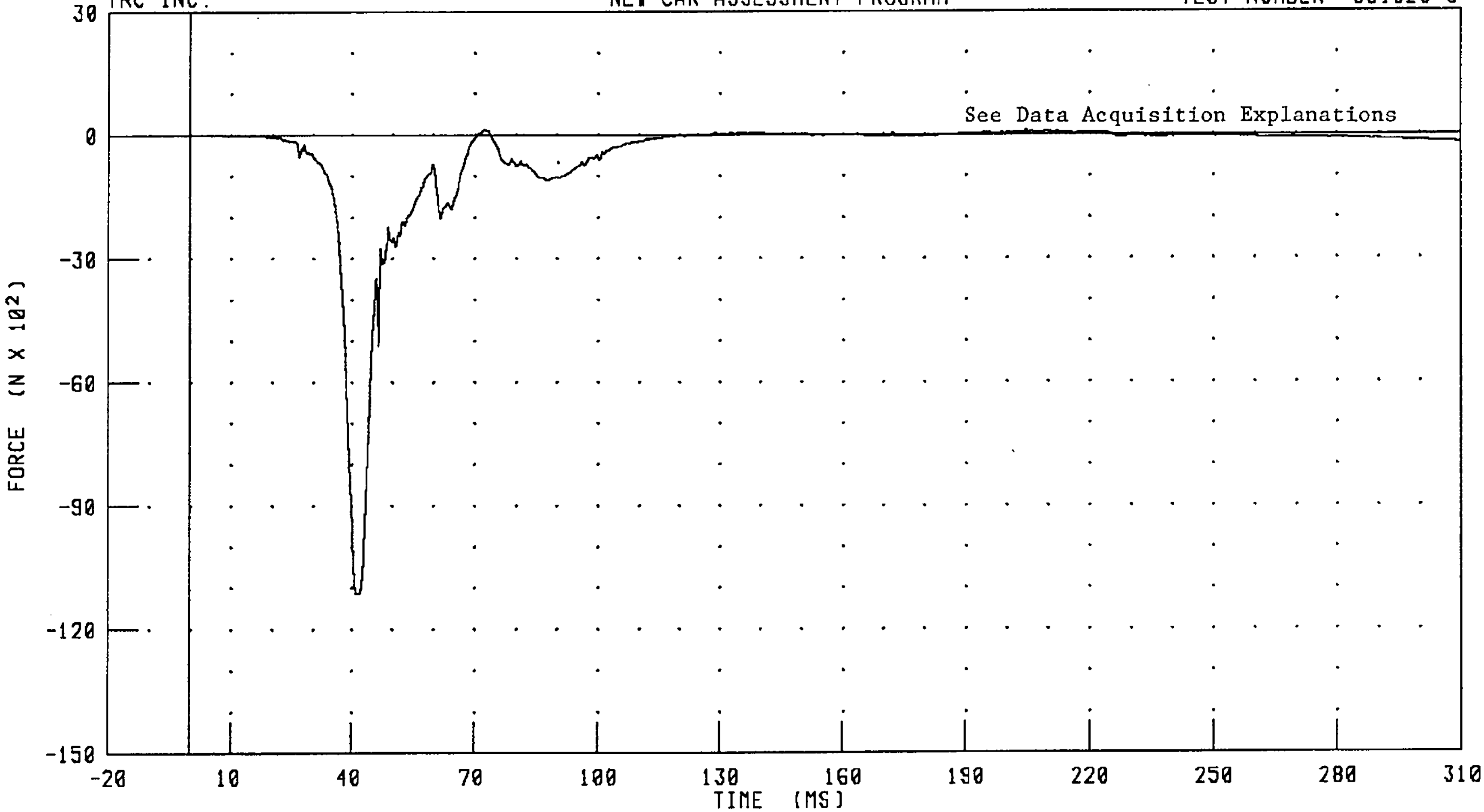
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT LOWER TIBIA X-AXIS FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: ANLXF1 FILTER: CH. CLASS 600 PEAK DATA: 95.49 N @ 147.04 MS; -2567.97 N @ 43.04 MS

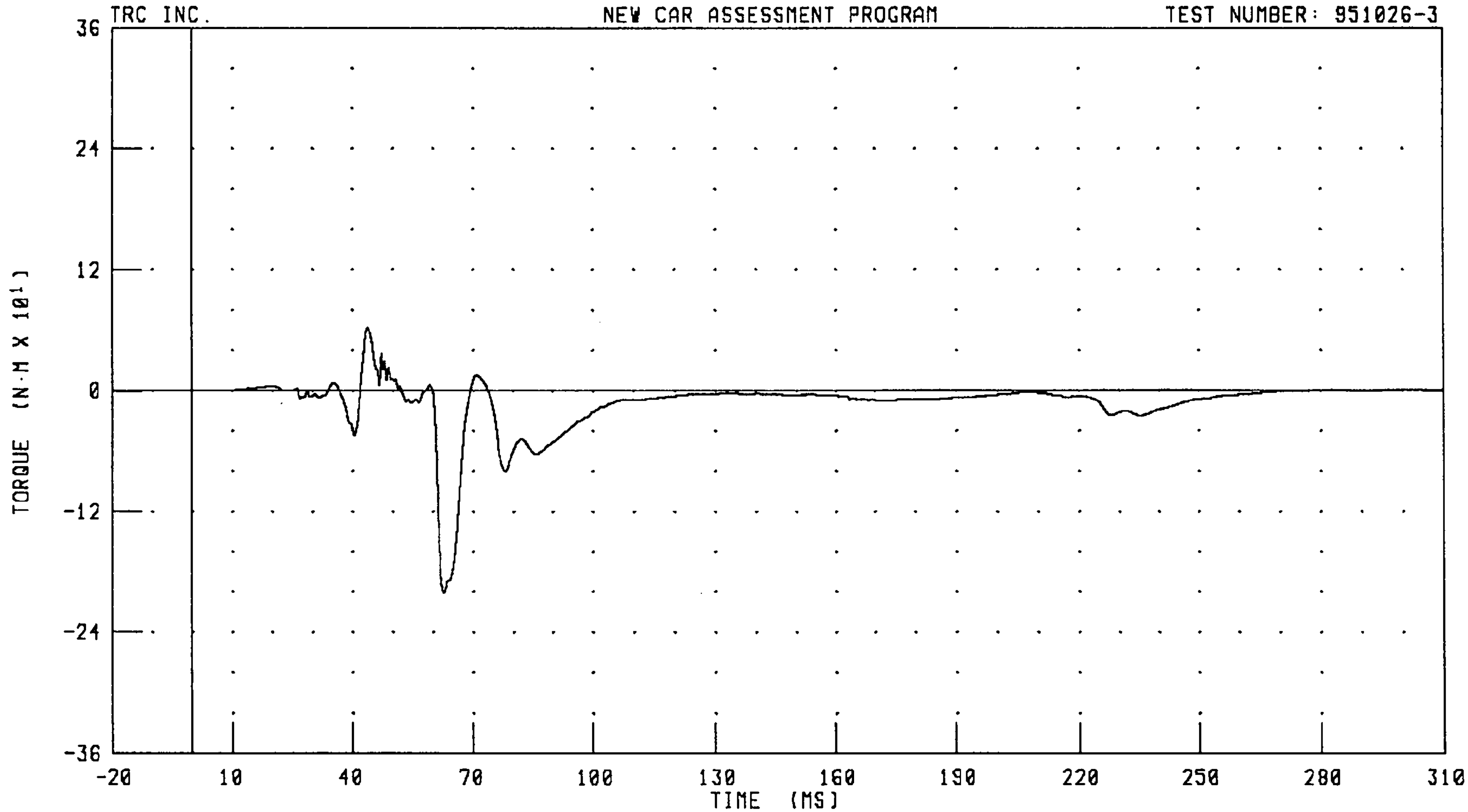
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT LOWER TIBIA Z-AXIS FORCE
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



CHANNEL: ANLZF1 FILTER: CH. CLASS 600 PEAK DATA: 120.60 N @ 72.48 MS; -11134.99 N @ 41.20 MS

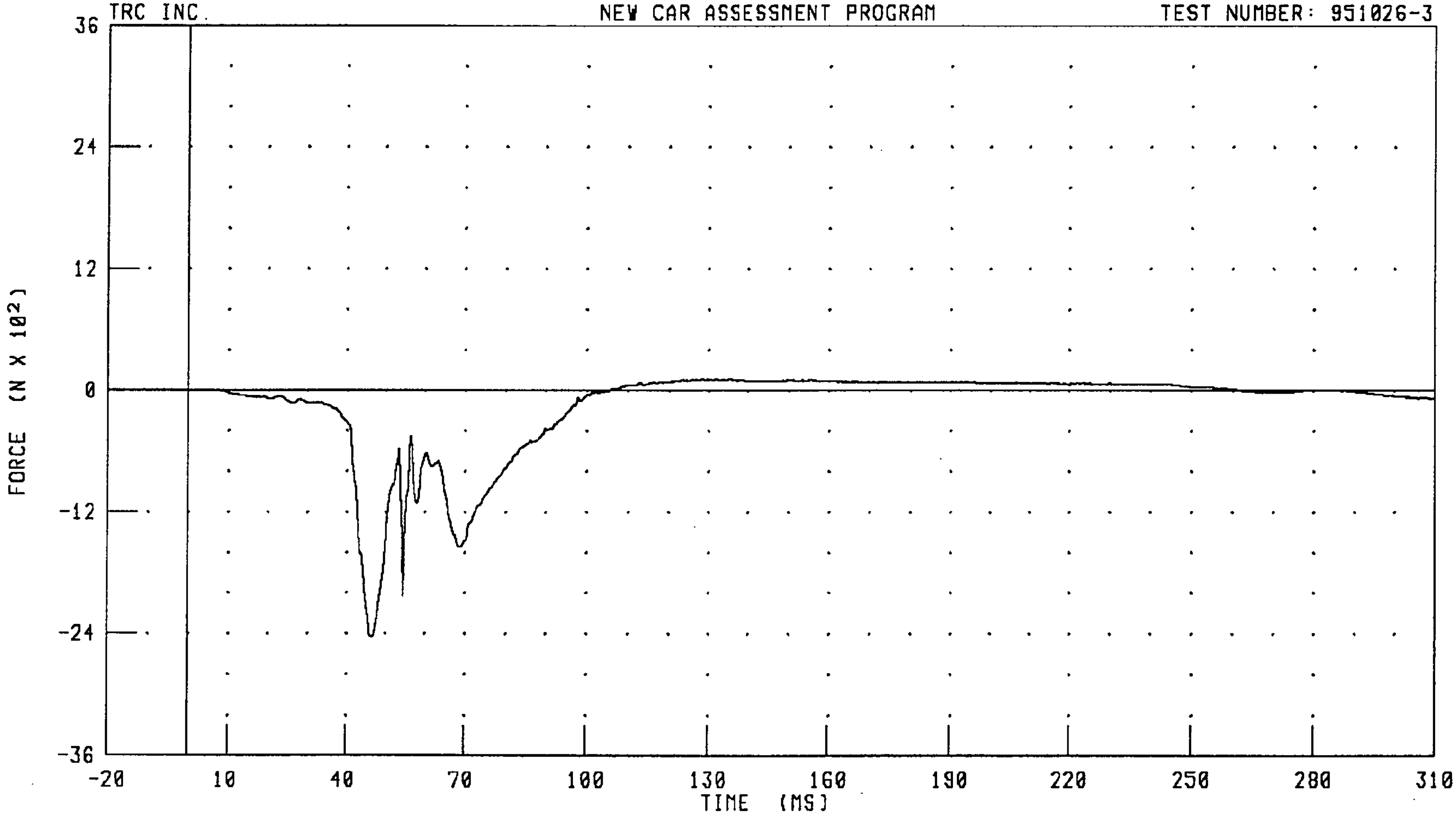
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT LOWER TIBIA MOMENT ABOUT Y AXIS



CHANNEL: ANLYM1 FILTER: CH. CLASS 600 PEAK DATA: 61.91 N·M @ 43.84 MS; -201.09 N·M @ 62.72 MS

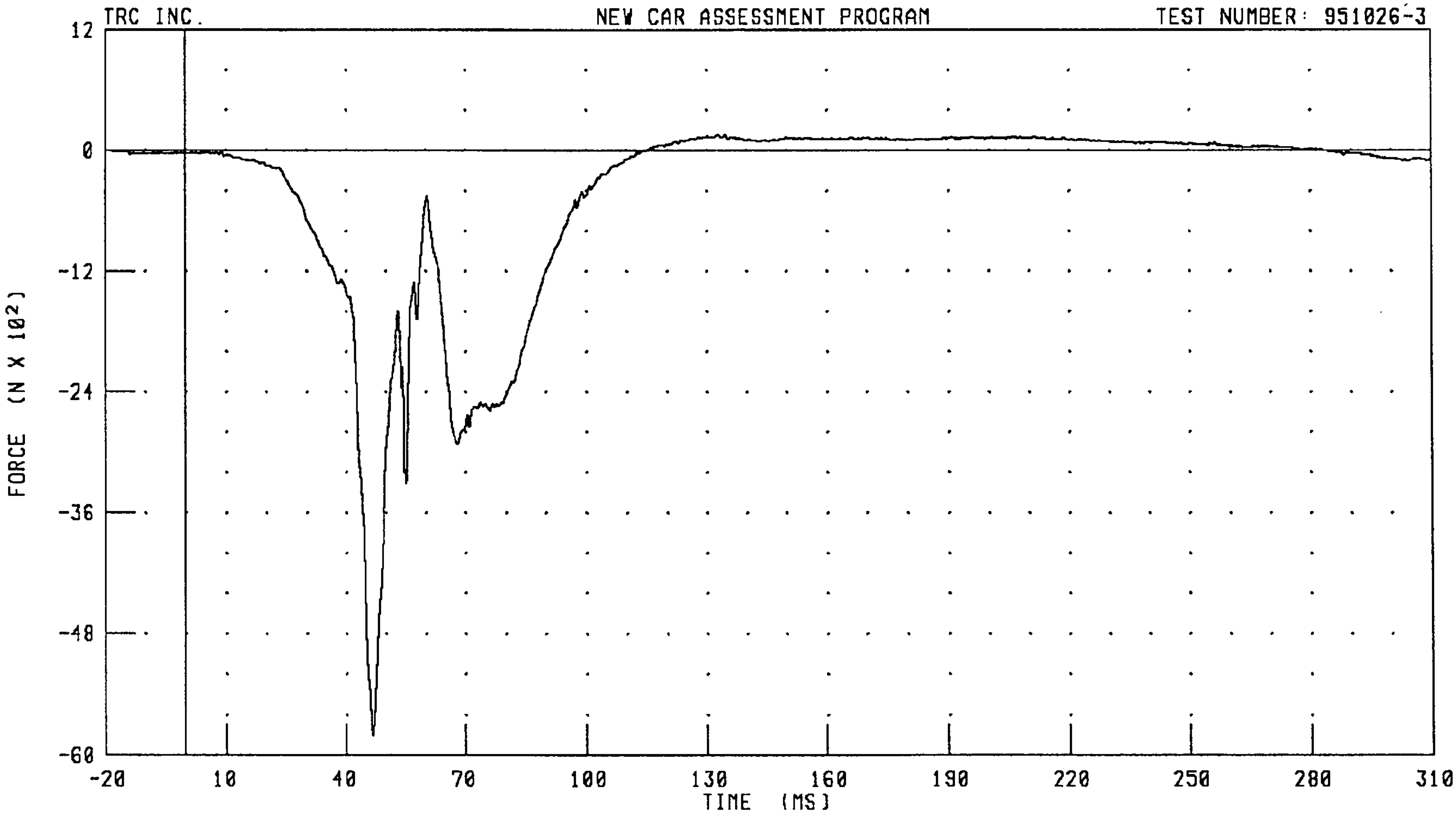
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT LOWER TIBIA X-AXIS FORCE
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



CHANNEL: ANRXF1 FILTER: CH. CLASS 600 PEAK DATA: 114.46 N @ 135.28 MS; -2435.96 N @ 46.64 MS

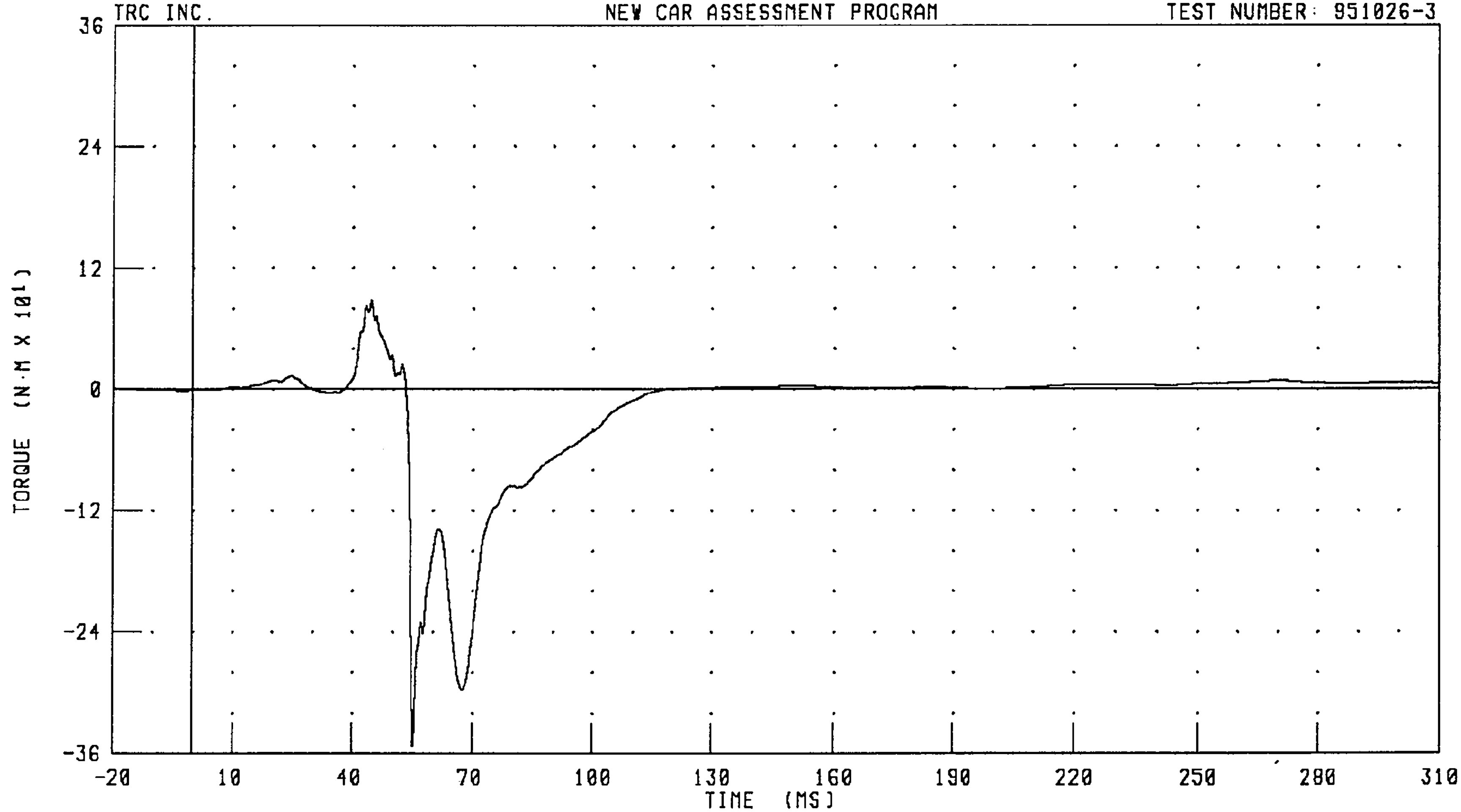
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT LOWER TIBIA Z-AXIS FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: ANRZF1 FILTER: CH. CLASS 600 PEAK DATA: 149.26 N @ 134.80 MS; -5805.09 N @ 46.64 MS

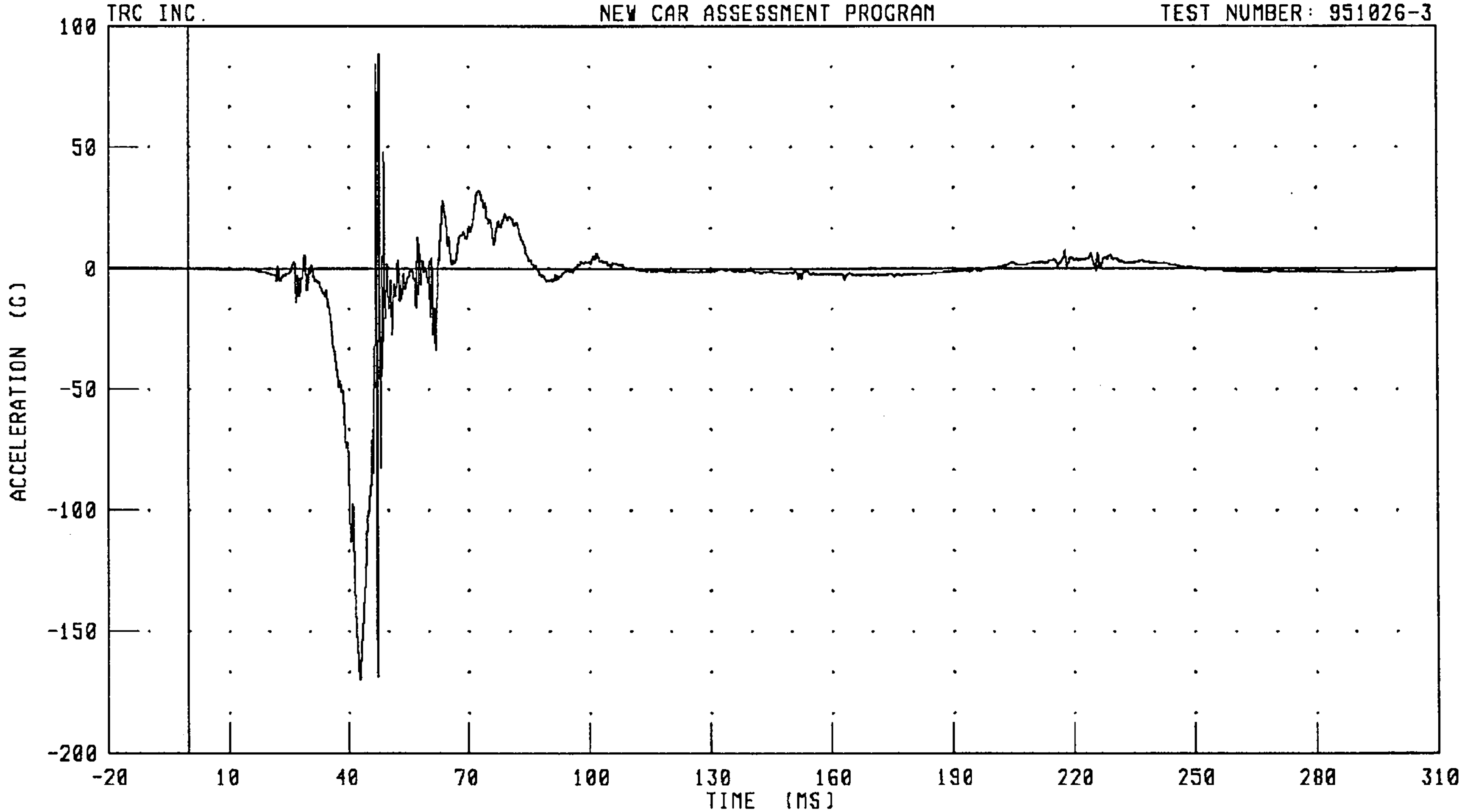
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT LOWER TIBIA MOMENT ABOUT Y AXIS
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



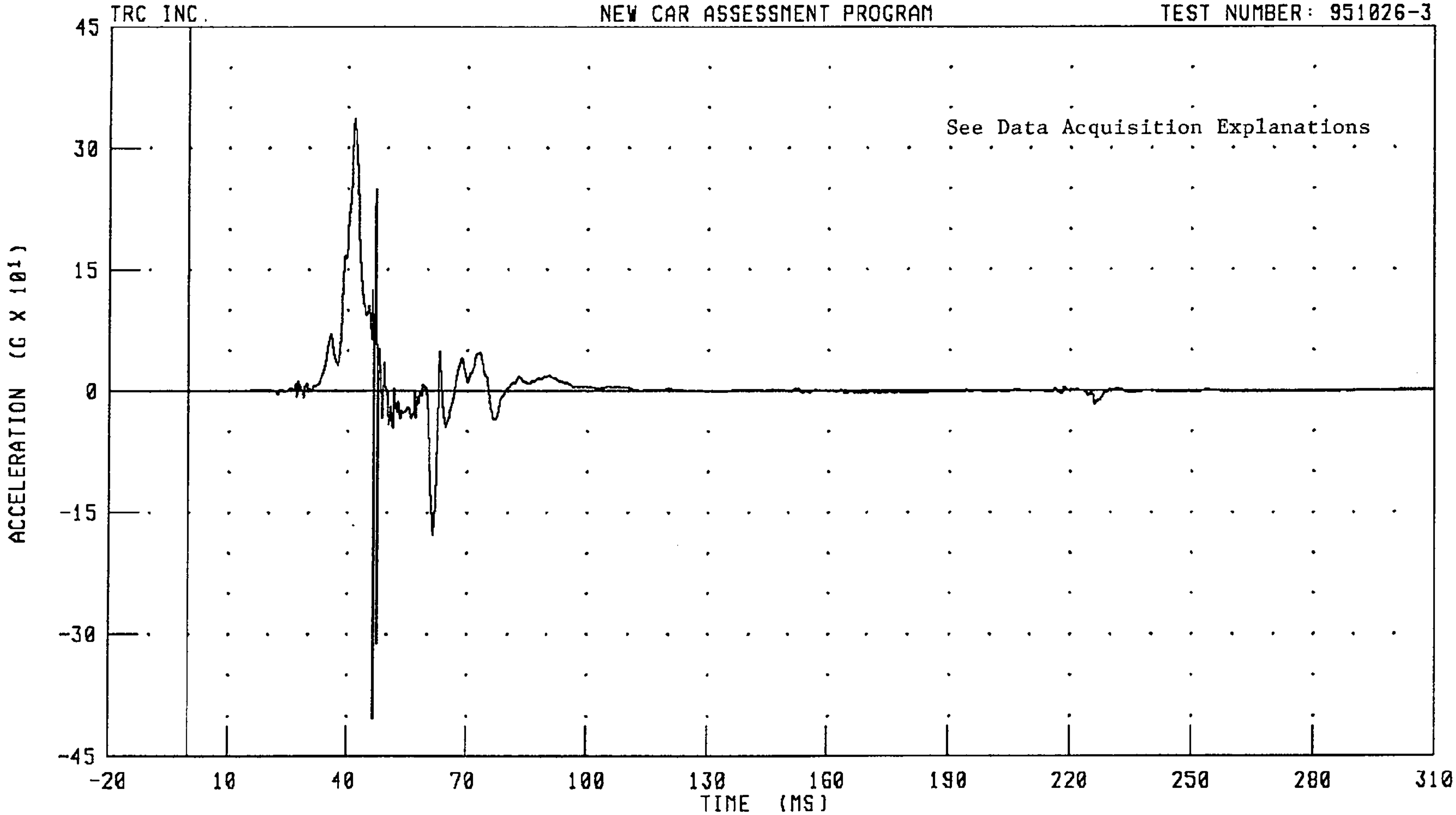
CHANNEL: ANRYM1 FILTER: CH. CLASS 600 PEAK DATA: 87.95 N·M @ 44.64 MS; -352.30 N·M @ 55.12 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT FOOT X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

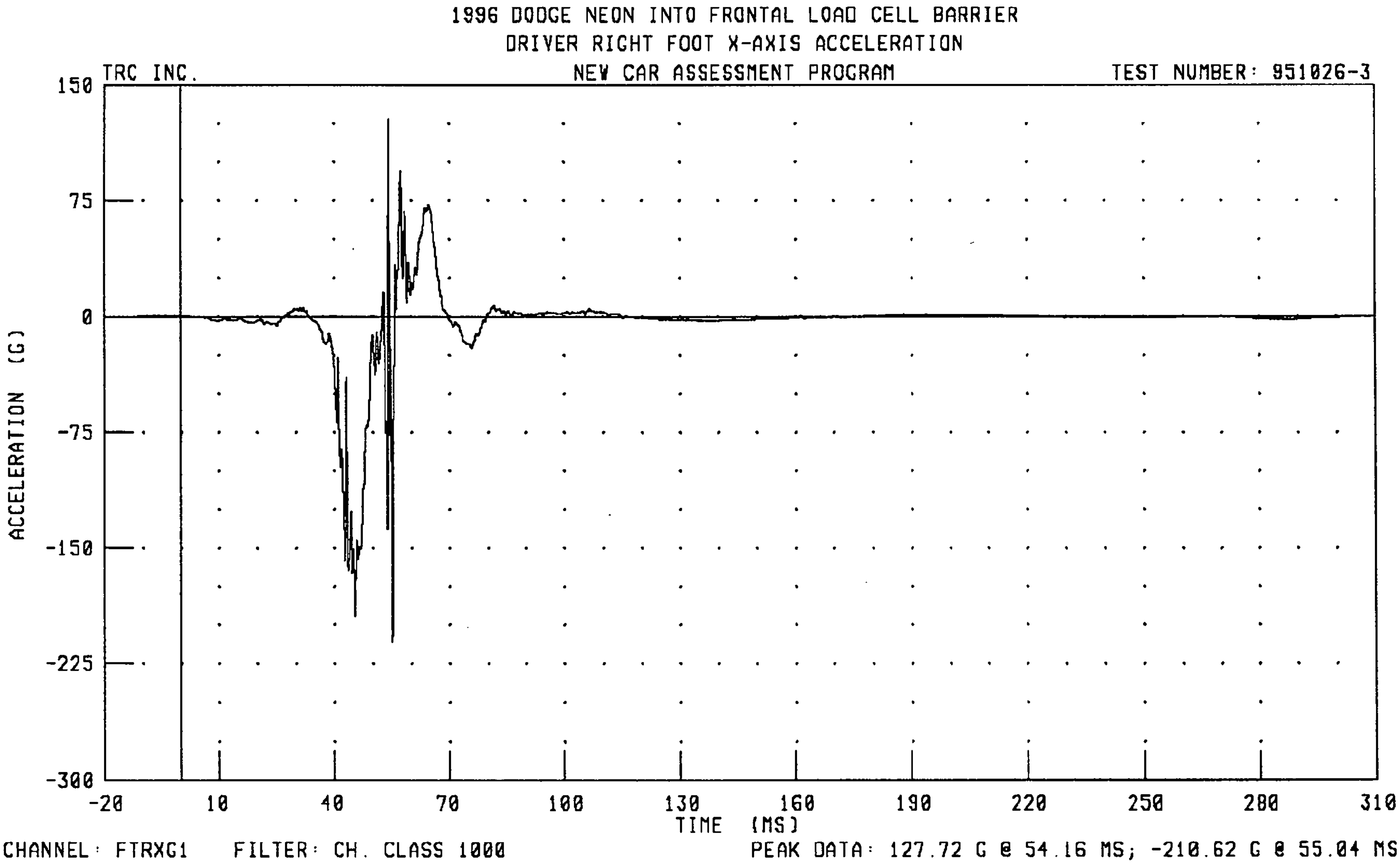


CHANNEL: FTLXG1 FILTER: CH. CLASS 1000 PEAK DATA: 88.52 G @ 47.76 MS; -169.92 G @ 42.88 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LEFT FOOT Z-AXIS ACCELERATION AT TOE
NEW CAR ASSESSMENT PROGRAM

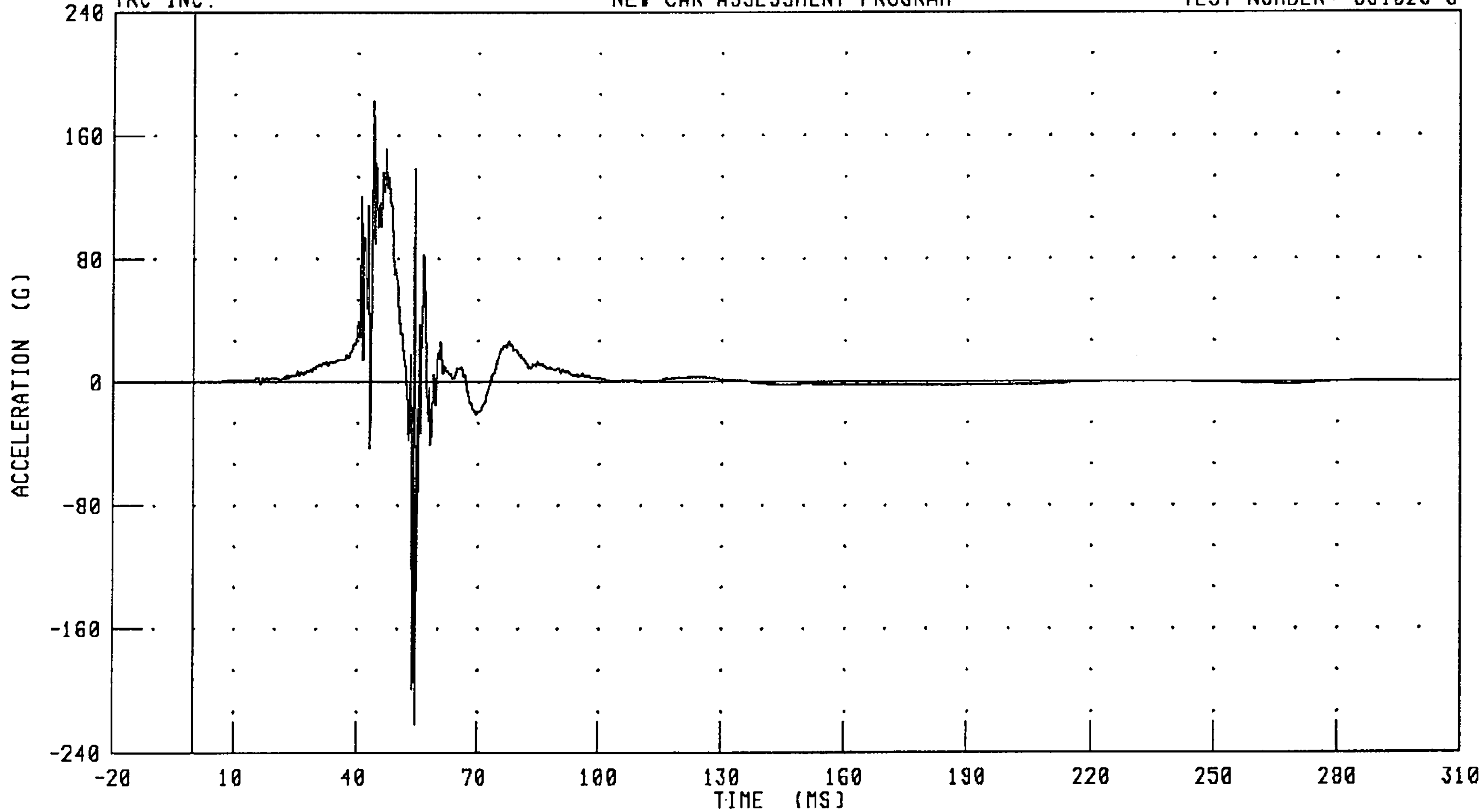


CHANNEL: FTLZT1 FILTER: CH. CLASS 1000 PEAK DATA: 335.17 G @ 41.92 MS; -403.82 G @ 46.64 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT FOOT X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
150
75
0
-75
-150
-225
-300
ACCELERATION (G)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: FTRXG1
FILTER: CH. CLASS 1000
PEAK DATA: 127.72 G @ 54.16 MS; -210.62 G @ 55.04 MS

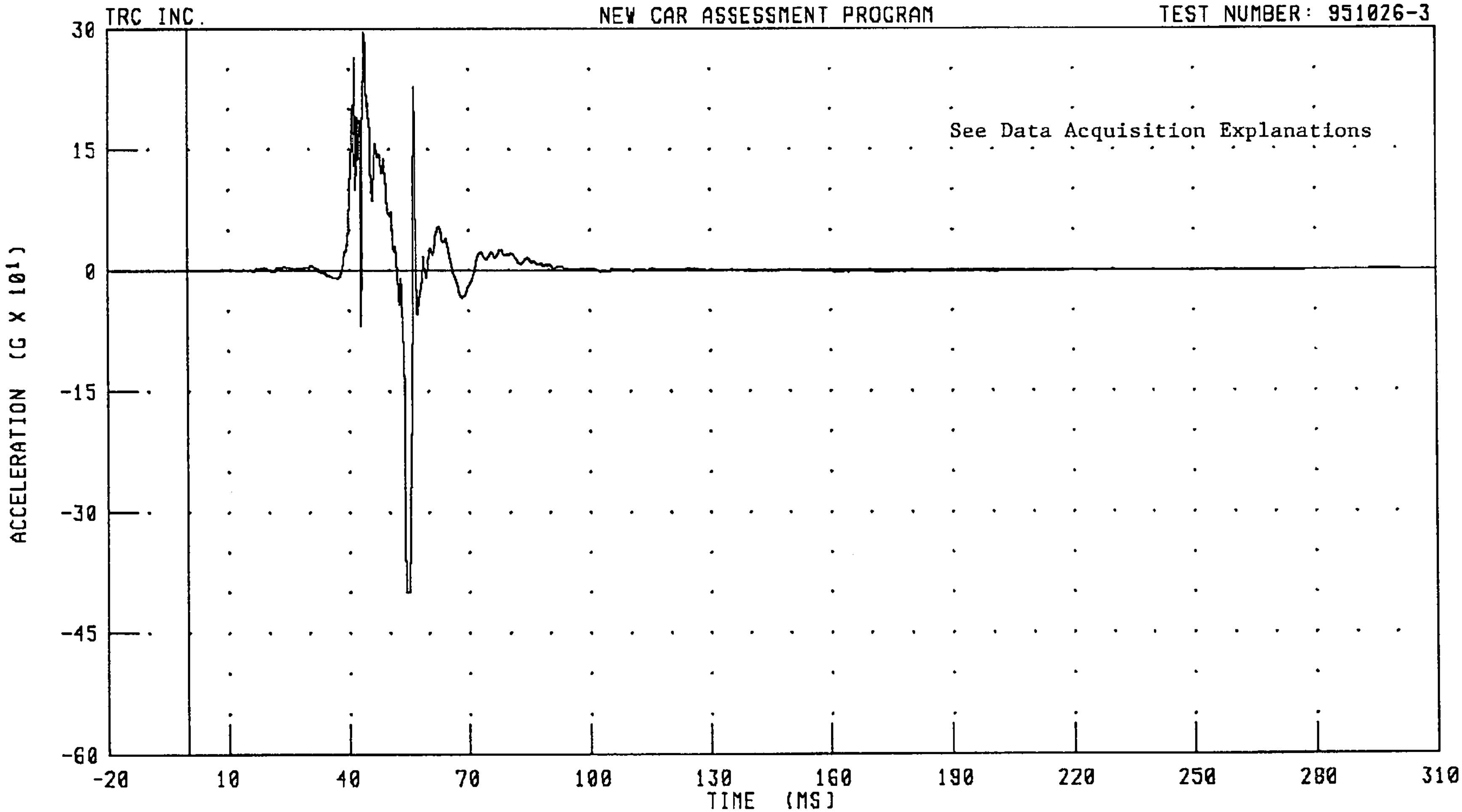
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT FOOT Z-AXIS ACCELERATION AT HEEL
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



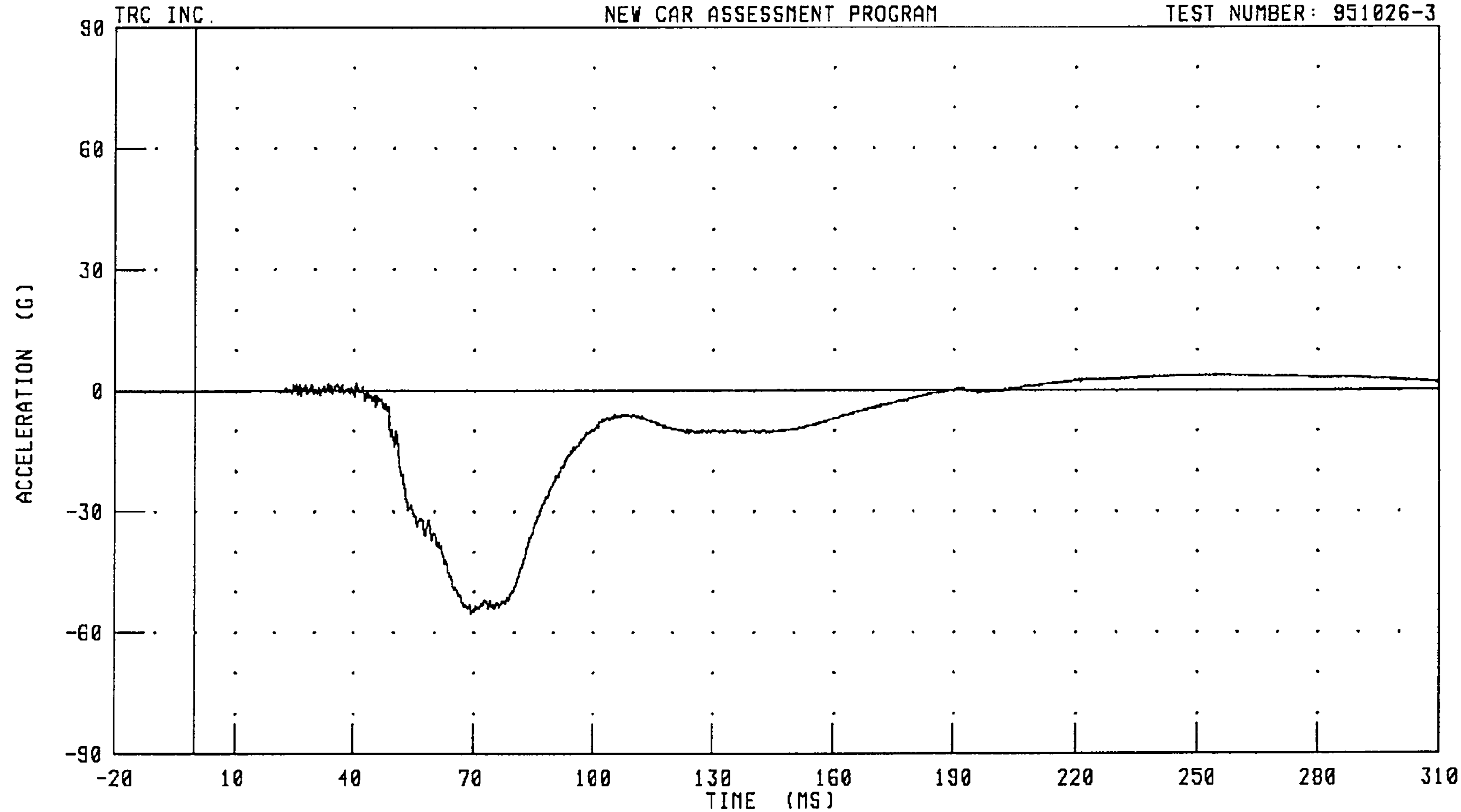
CHANNEL: FTRZH1 FILTER: CH. CLASS 1000 PEAK DATA: 182.18 G @ 43.84 MS; -221.20 G @ 54.48 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER RIGHT FOOT Z-AXIS ACCELERATION AT TOE
NEW CAR ASSESSMENT PROGRAM



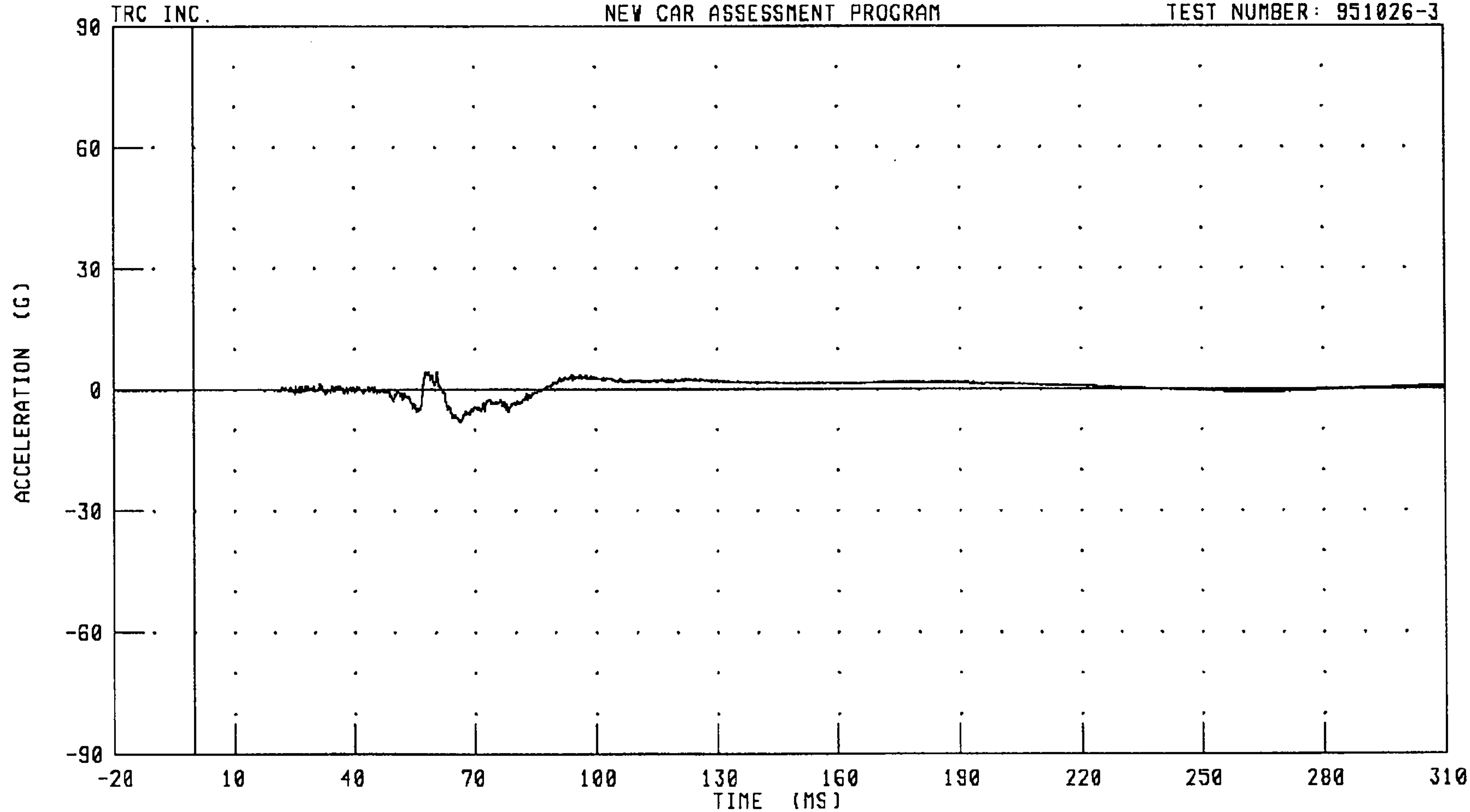
CHANNEL: FTRZT1 FILTER: CH. CLASS 1000 PEAK DATA: 295.69 G @ 43.84 MS; -400.26 G @ 54.16 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

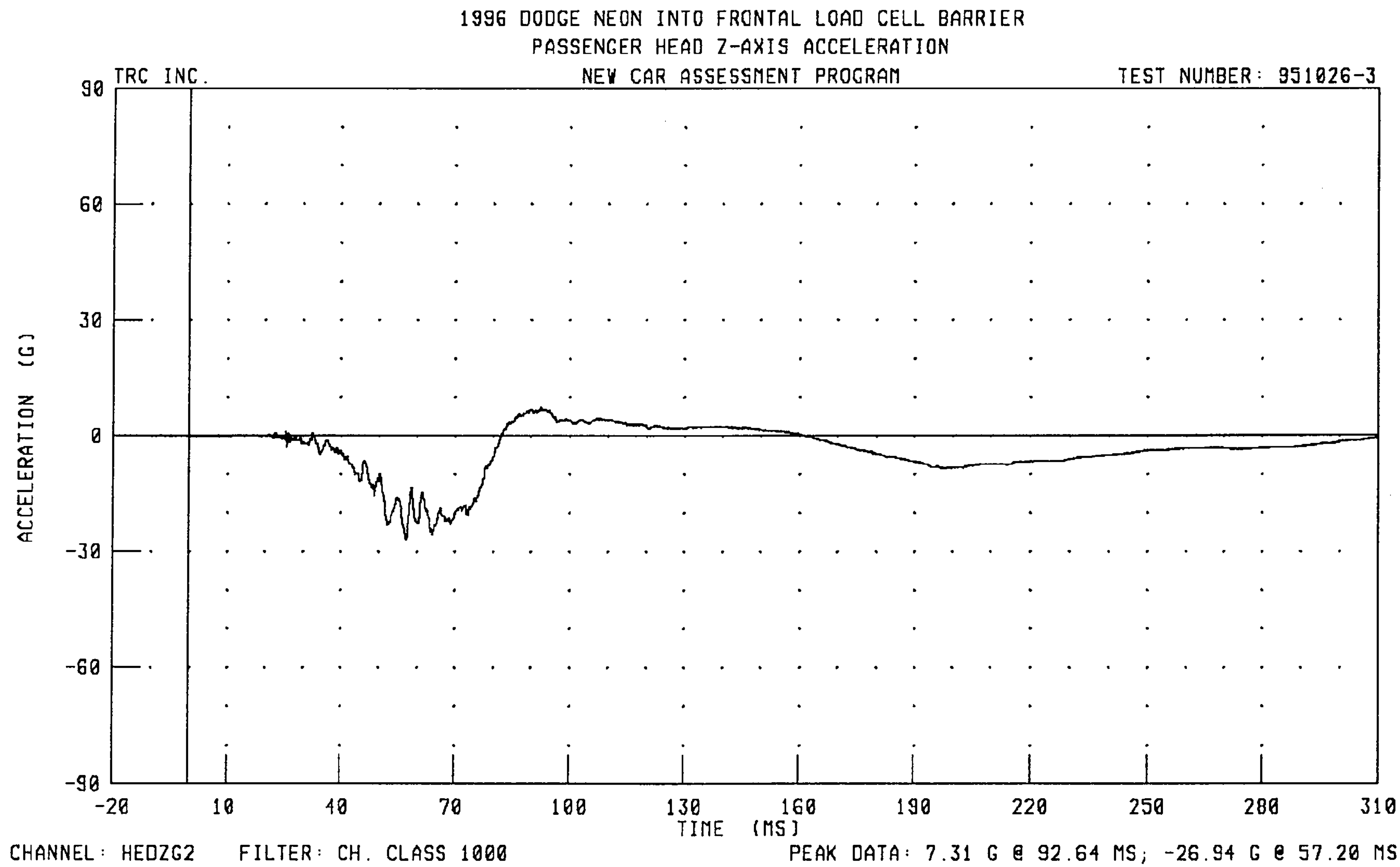


CHANNEL: HEDXG2   FILTER: CH. CLASS 1000   PEAK DATA: 3.86 G @ 250.48 MS; -55.34 G @ 69.36 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD Y-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



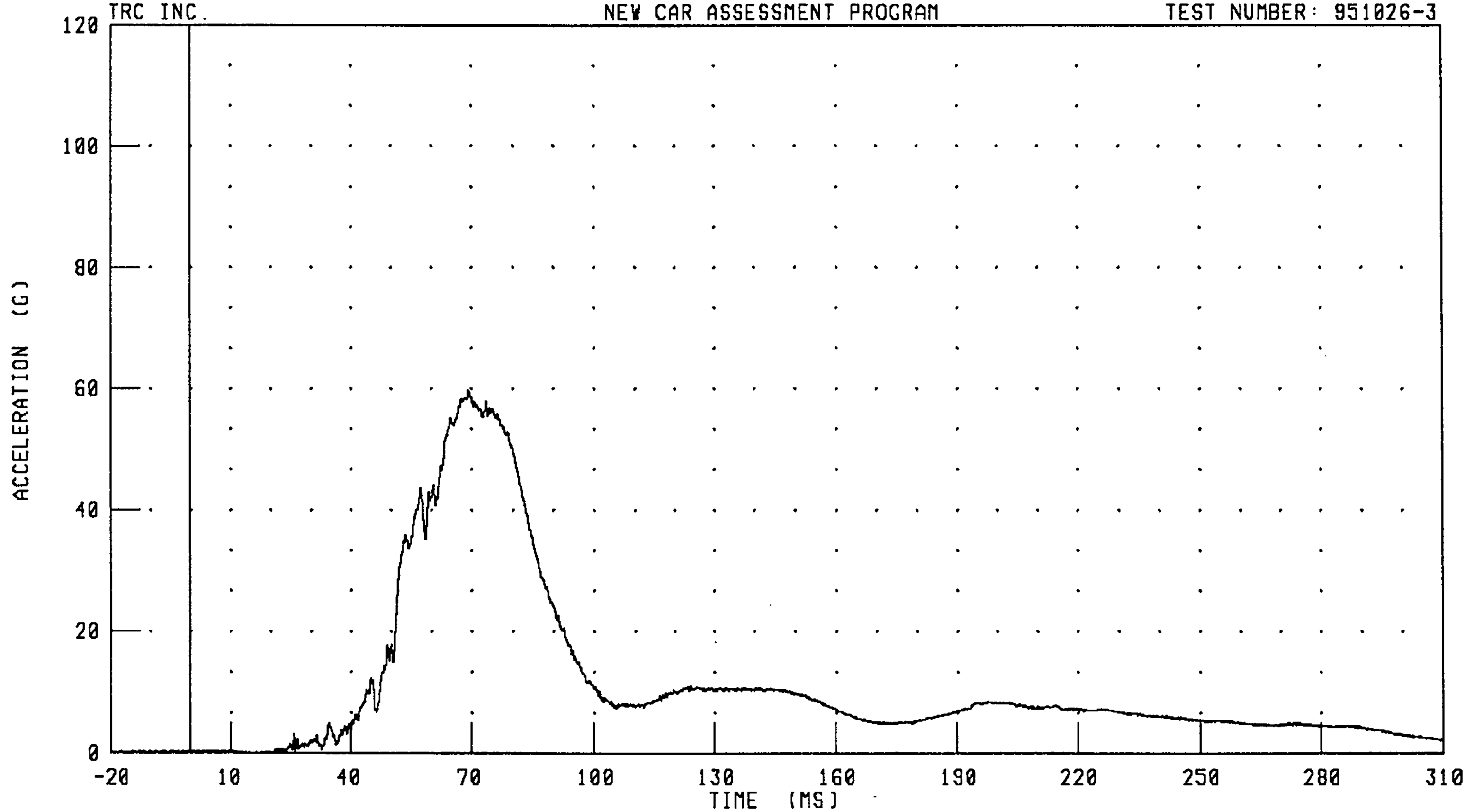
CHANNEL: HEDYG2 FILTER: CH. CLASS 1000 PEAK DATA: 4.45 G @ 58.48 MS; -8.17 G @ 66.56 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD Z-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
ACCELERATION (G)
90
60
30
0
-30
-60
-90
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDZG2
FILTER: CH. CLASS 1000
PEAK DATA: 7.31 G @ 92.64 MS; -26.94 G @ 57.20 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD RESULTANT ACCELERATION
NEW CAR ASSESSMENT PROGRAM

TRC INC.

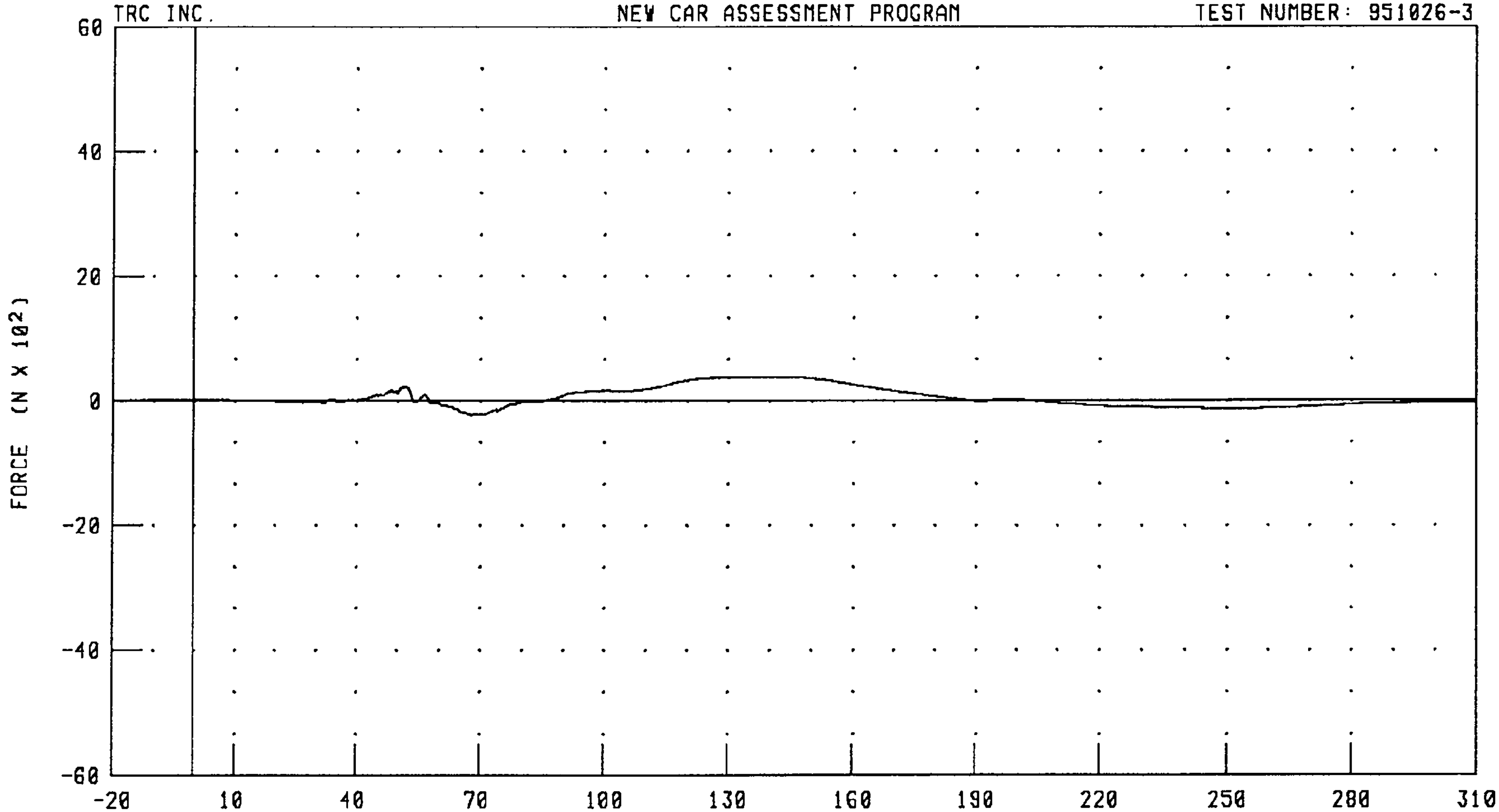
TEST NUMBER: 951026-3



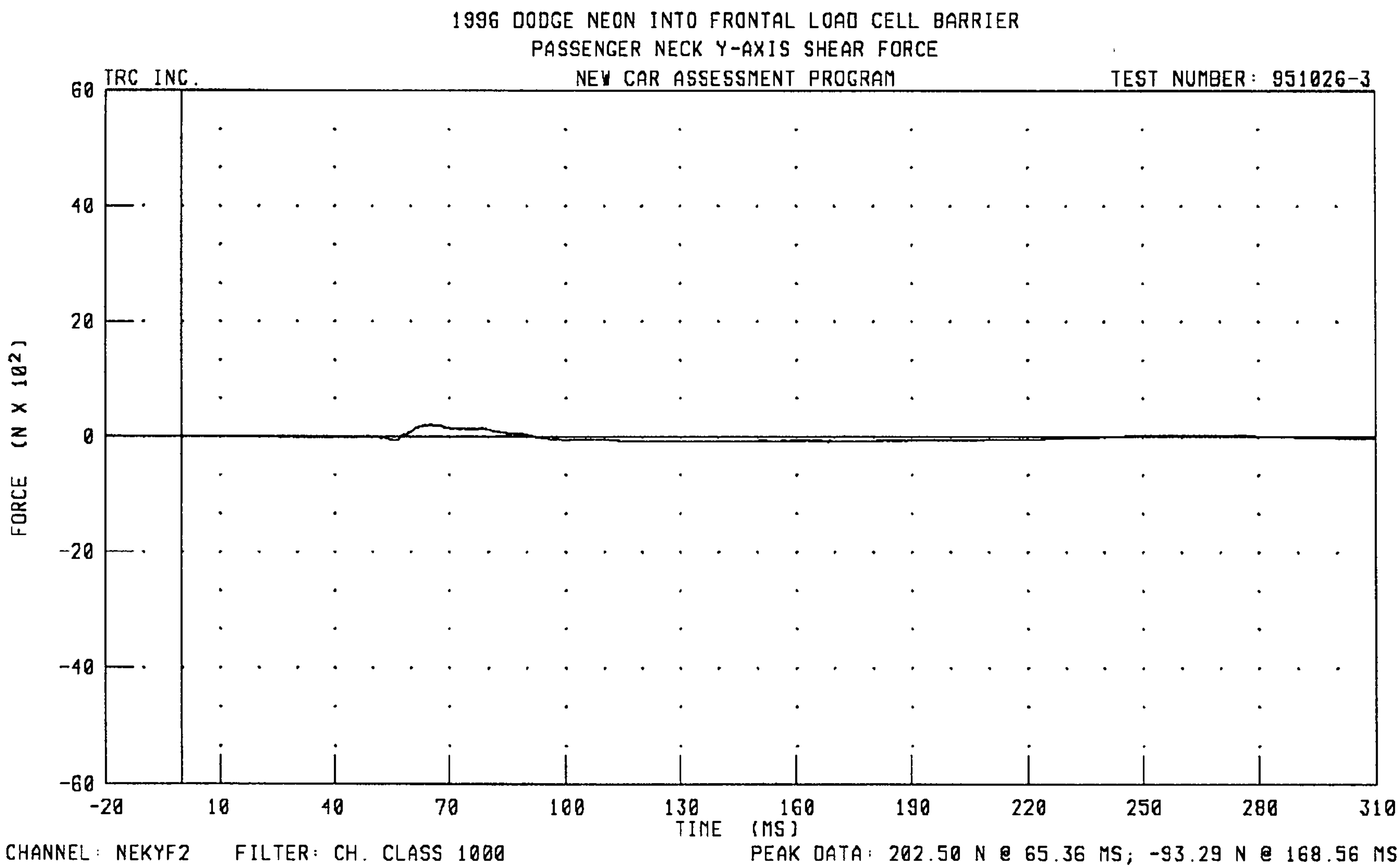
CHANNEL: HEDRG2 FILTER: CH. CLASS 1000 PEAK DATA: 59.75 G @ 69.36 MS; 0.11 G @ -20.00 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER NECK X-AXIS SHEAR FORCE
NEW CAR ASSESSMENT PROGRAM

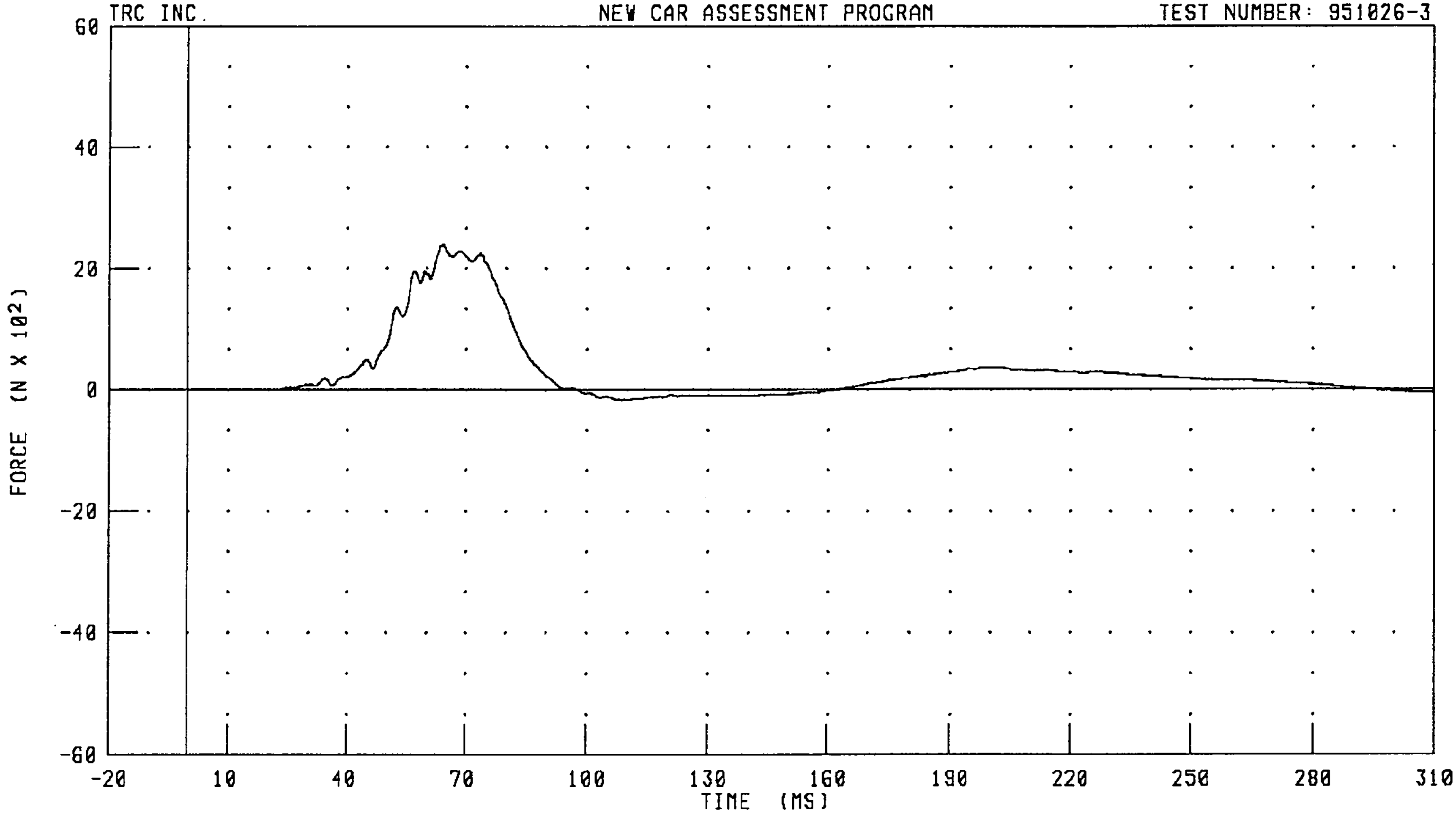
TRC INC. TEST NUMBER: 951026-3



CHANNEL: NEKXF2 FILTER: CH. CLASS 1000 PEAK DATA: 376.50 N @ 139.04 MS; -227.75 N @ 67.68 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER NECK Y-AXIS SHEAR FORCE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
FORCE (N X 10²)
60
40
20
0
-20
-40
-60
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: NEKYF2
FILTER: CH. CLASS 1000
PEAK DATA: 202.50 N @ 65.36 MS; -93.29 N @ 168.56 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER NECK Z-AXIS AXIAL FORCE
NEW CAR ASSESSMENT PROGRAM

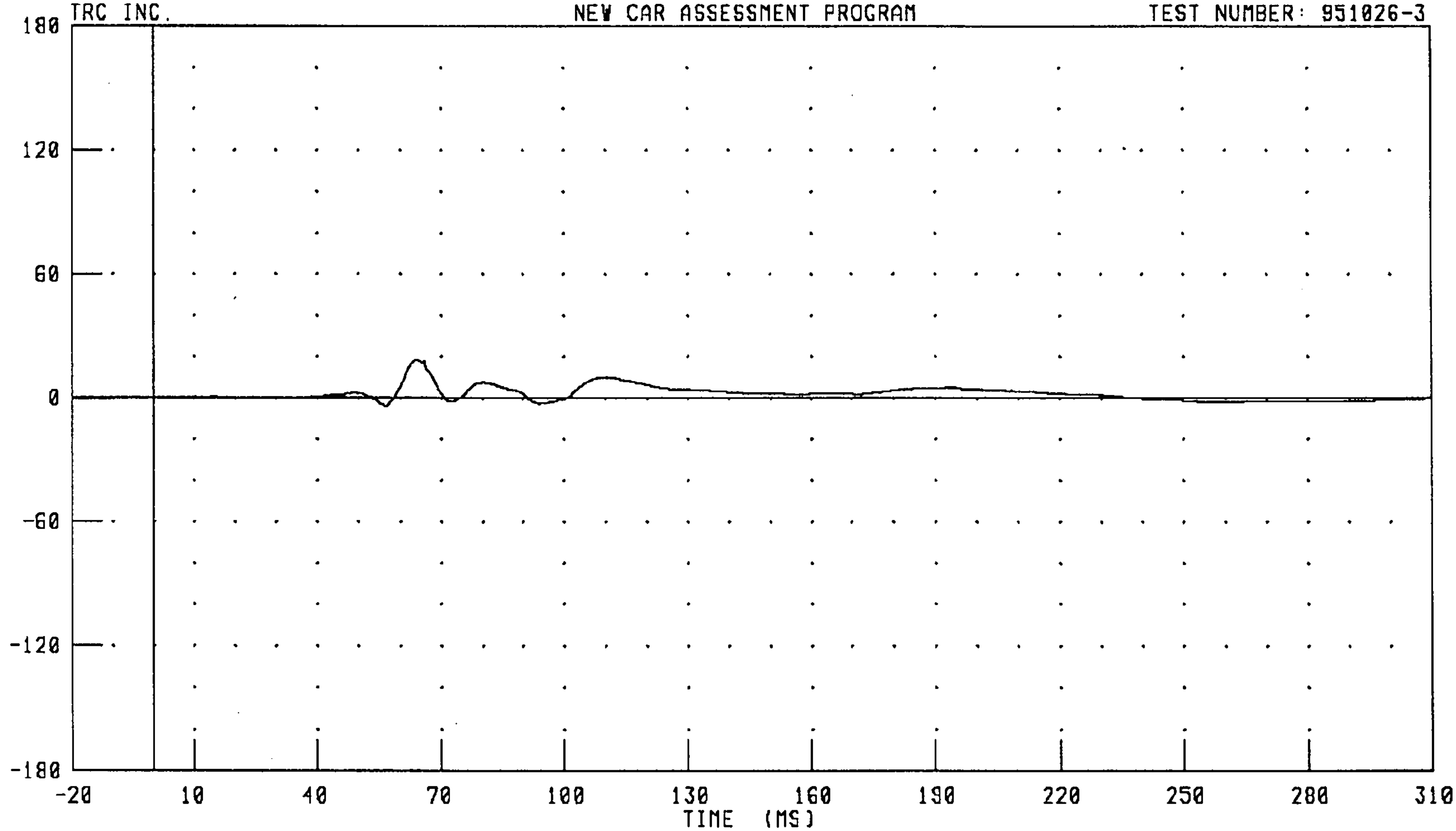


CHANNEL: NEKZF2 FILTER: CH. CLASS 1000 PEAK DATA: 2383.44 N @ 64.16 MS; -173.07 N @ 108.56 MS

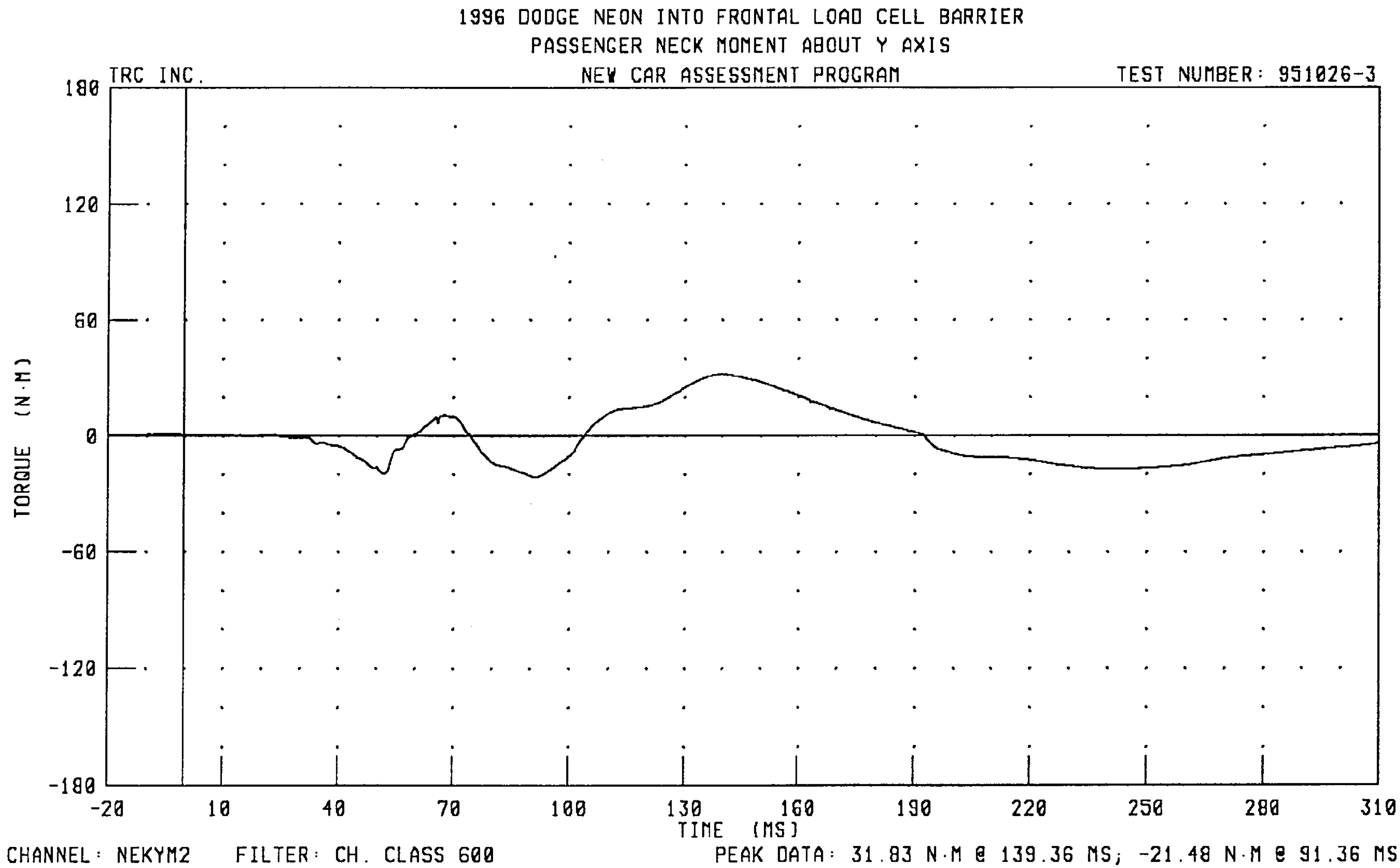
951026

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER NECK MOMENT ABOUT X AXIS

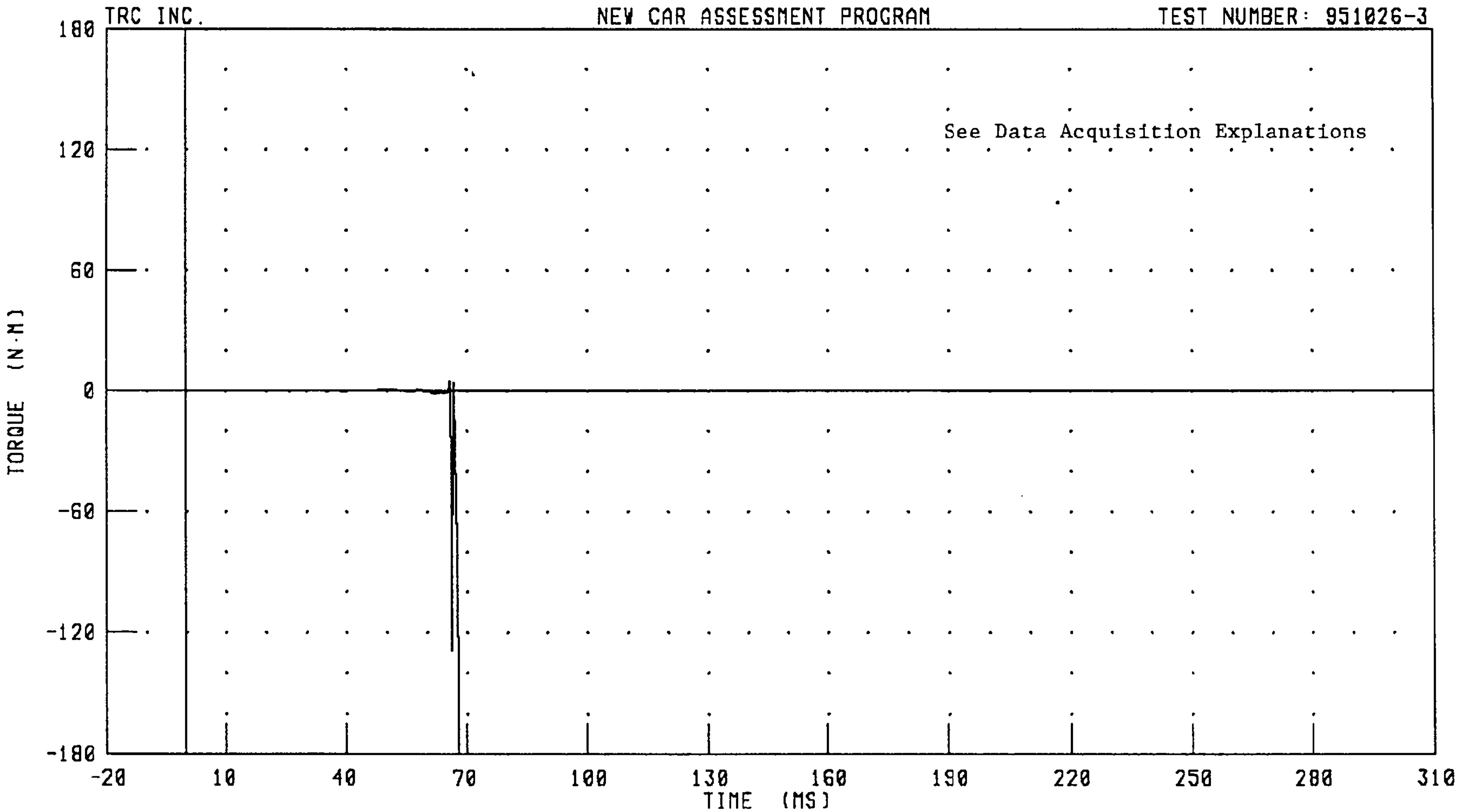
TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3



CHANNEL: NEKXM2 FILTER: CH. CLASS 600 PEAK DATA: 18.56 N·M @ 64.08 MS; -4.04 N·M @ 56.72 MS

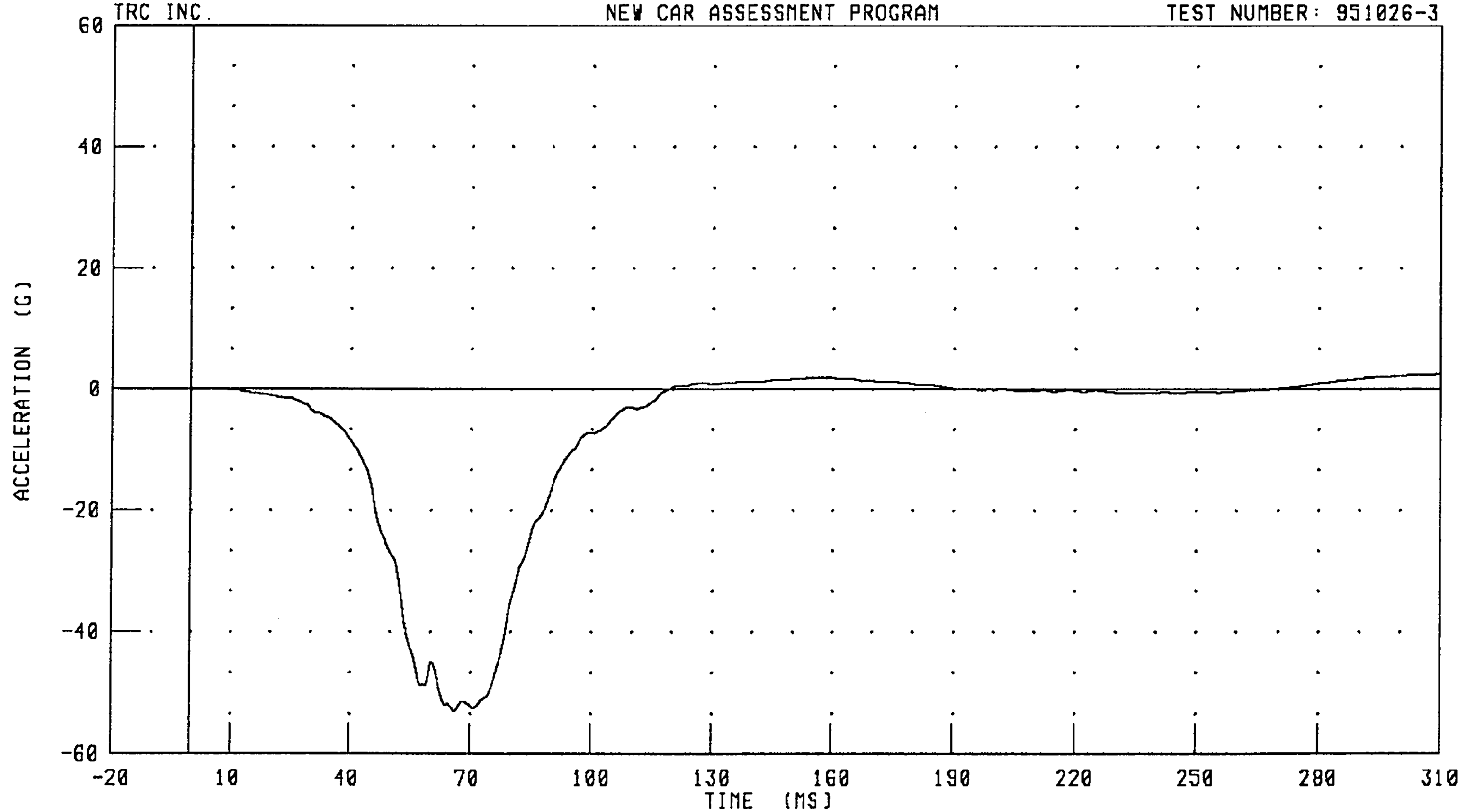

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER NECK MOMENT ABOUT Y AXIS
TRC INC.
NEW CAR ASSESSMENT PROGRAM
TEST NUMBER: 951026-3
180
120
60
0
-60
-120
-180
TORQUE (N·M)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: NEKYM2
FILTER: CH. CLASS 600
PEAK DATA: 31.83 N·M @ 139.36 MS; -21.48 N·M @ 91.36 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER NECK MOMENT ABOUT Z AXIS
NEW CAR ASSESSMENT PROGRAM



CHANNEL: NEKZM2 FILTER: CH. CLASS 600 PEAK DATA: 4.78 N·M @ 65.76 MS; -288.79 N·M @ 68.48 MS

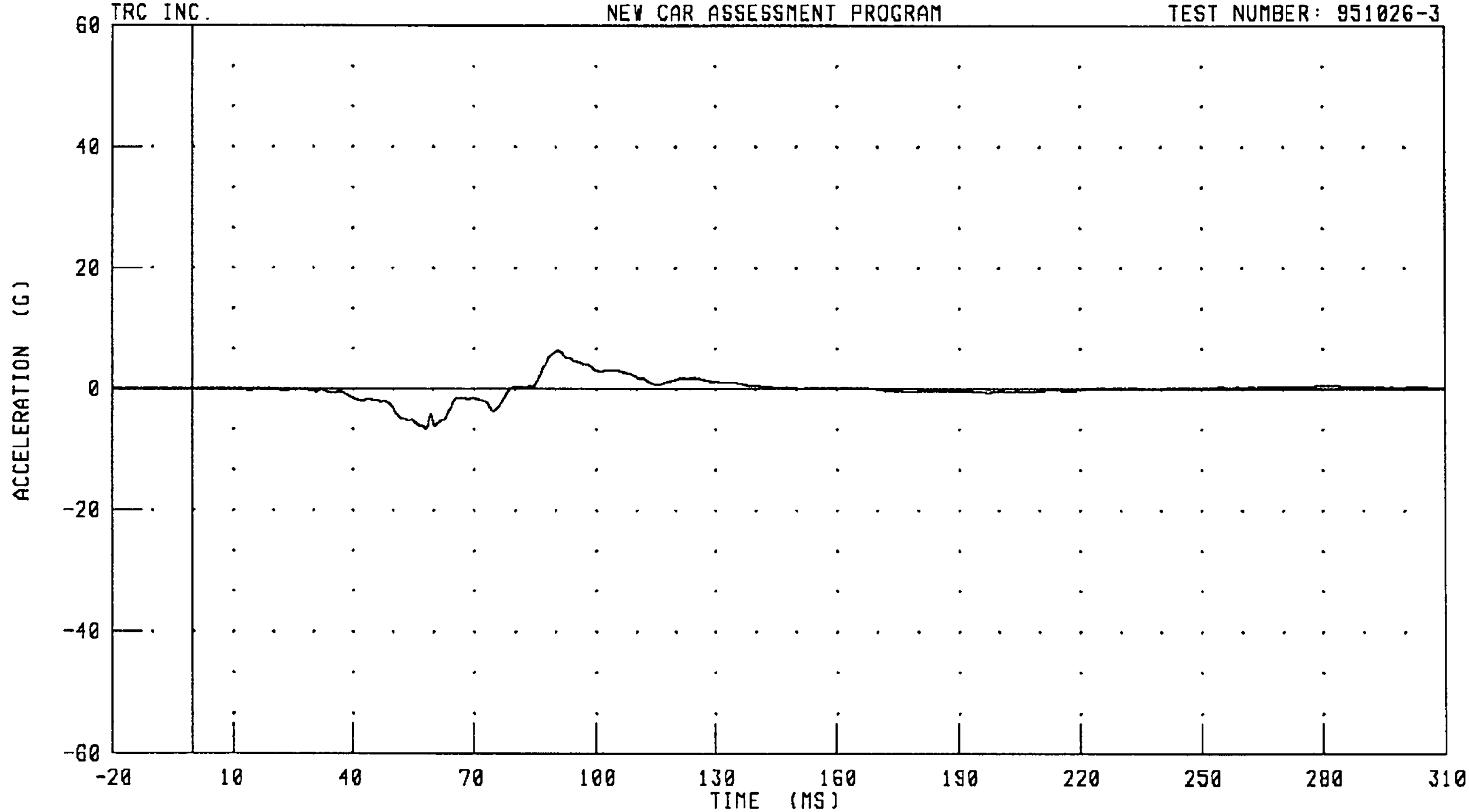
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: CSTXG2   FILTER: CH. CLASS 180   PEAK DATA: 2.49 G @ 309.52 MS; -53.04 G @ 66.16 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST Y-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

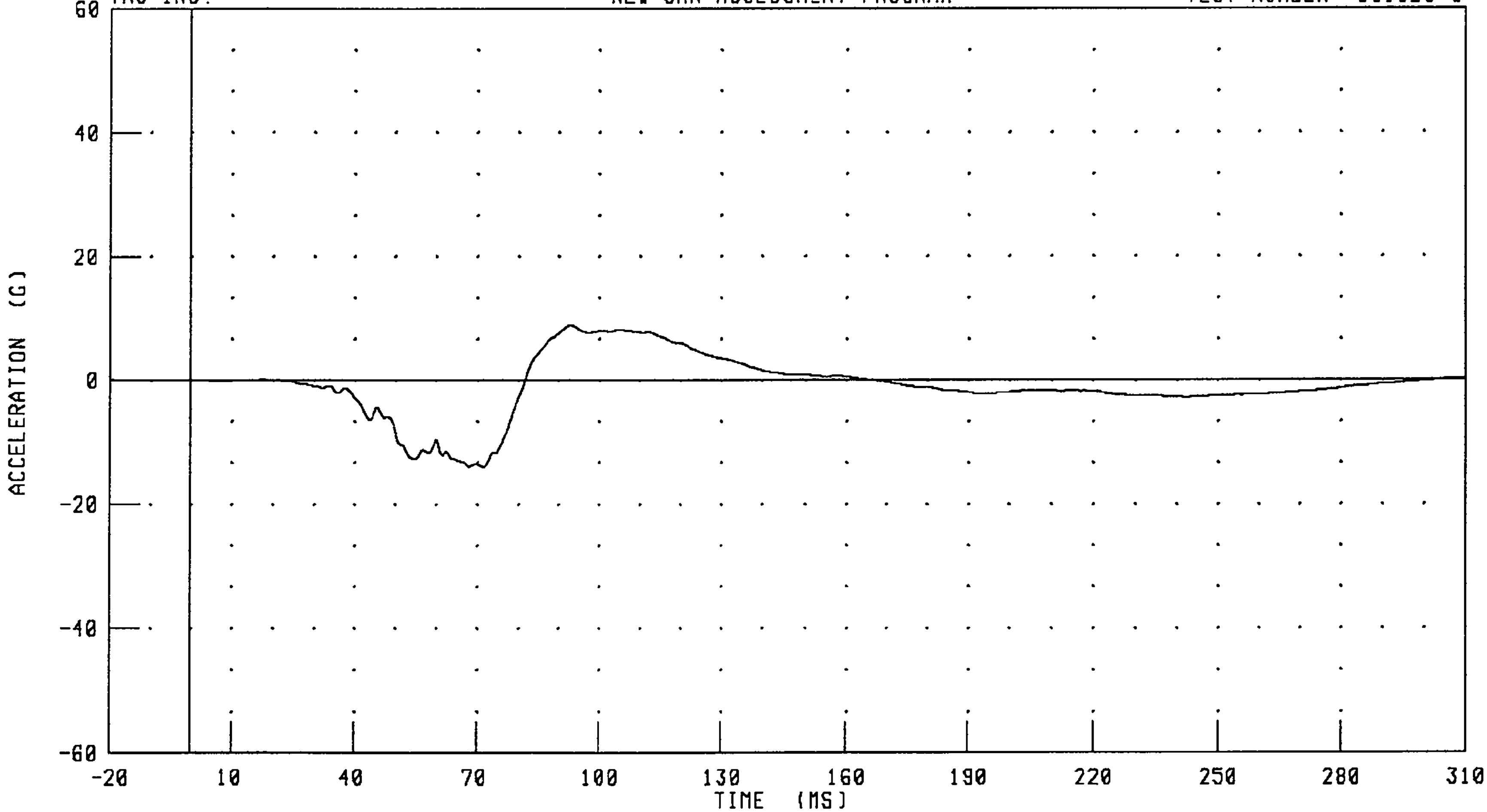
TRC INC. TEST NUMBER: 951026-3



CHANNEL: CSTYG2 FILTER: CH. CLASS 180 PEAK DATA: 6.30 G @ 90.64 MS; -6.54 G @ 58.24 MS

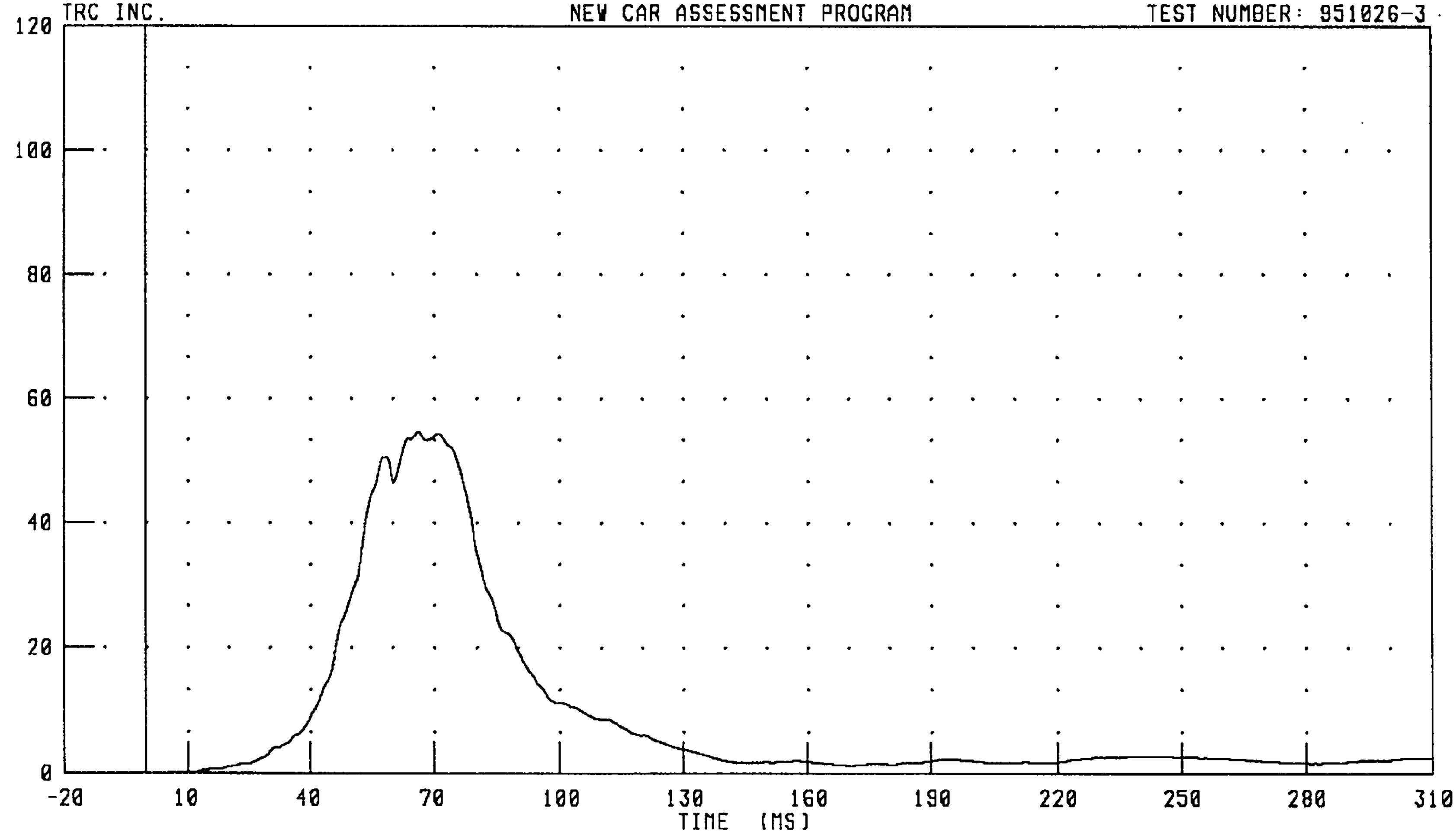
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST Z-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



CHANNEL: CSTZG2 FILTER: CH. CLASS 180 PEAK DATA: 8.80 G @ 93.04 MS; -14.10 G @ 71.68 MS

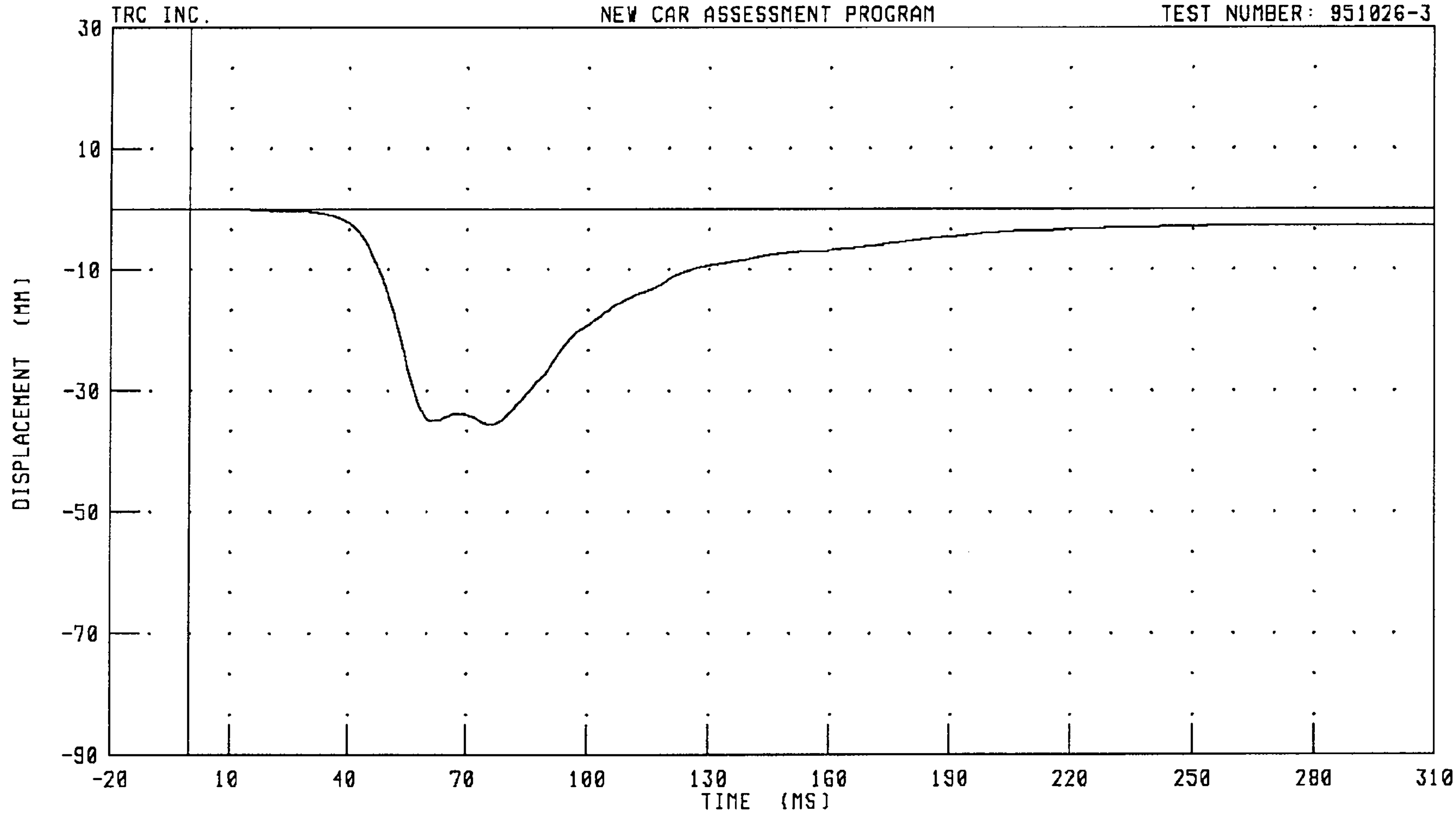
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST RESULTANT ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: CSTRG2 FILTER: CH. CLASS 180 PEAK DATA: 54.66 G @ 66.16 MS; 0.01 G @ -20.00 MS

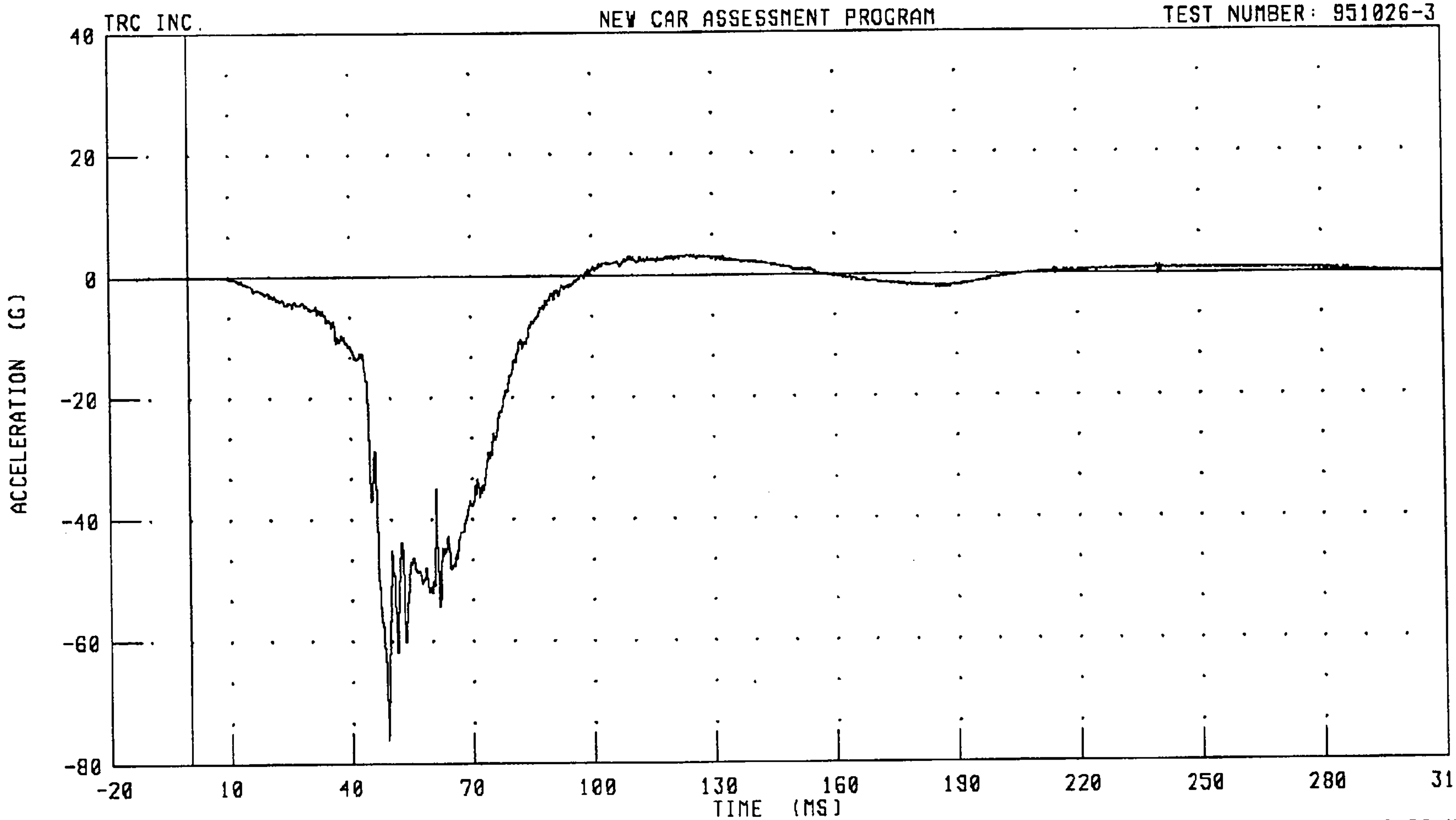
951026

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST DEFLECTION
NEW CAR ASSESSMENT PROGRAM

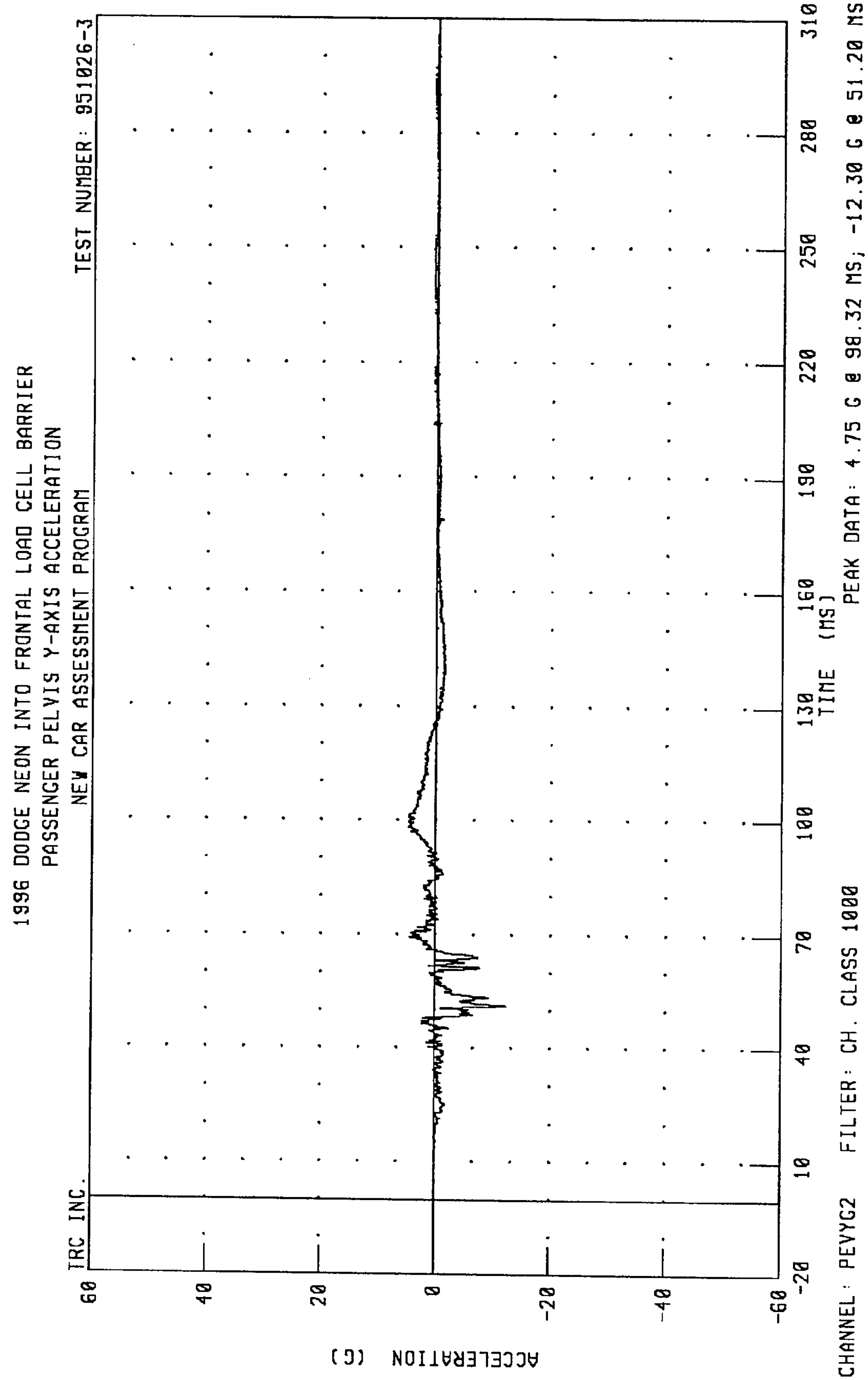


CHANNEL: CSTXD2 FILTER: CH. CLASS 180 PEAK DATA: 0.01 MM @ -9.92 MS; -35.64 MM @ 76.00 MS

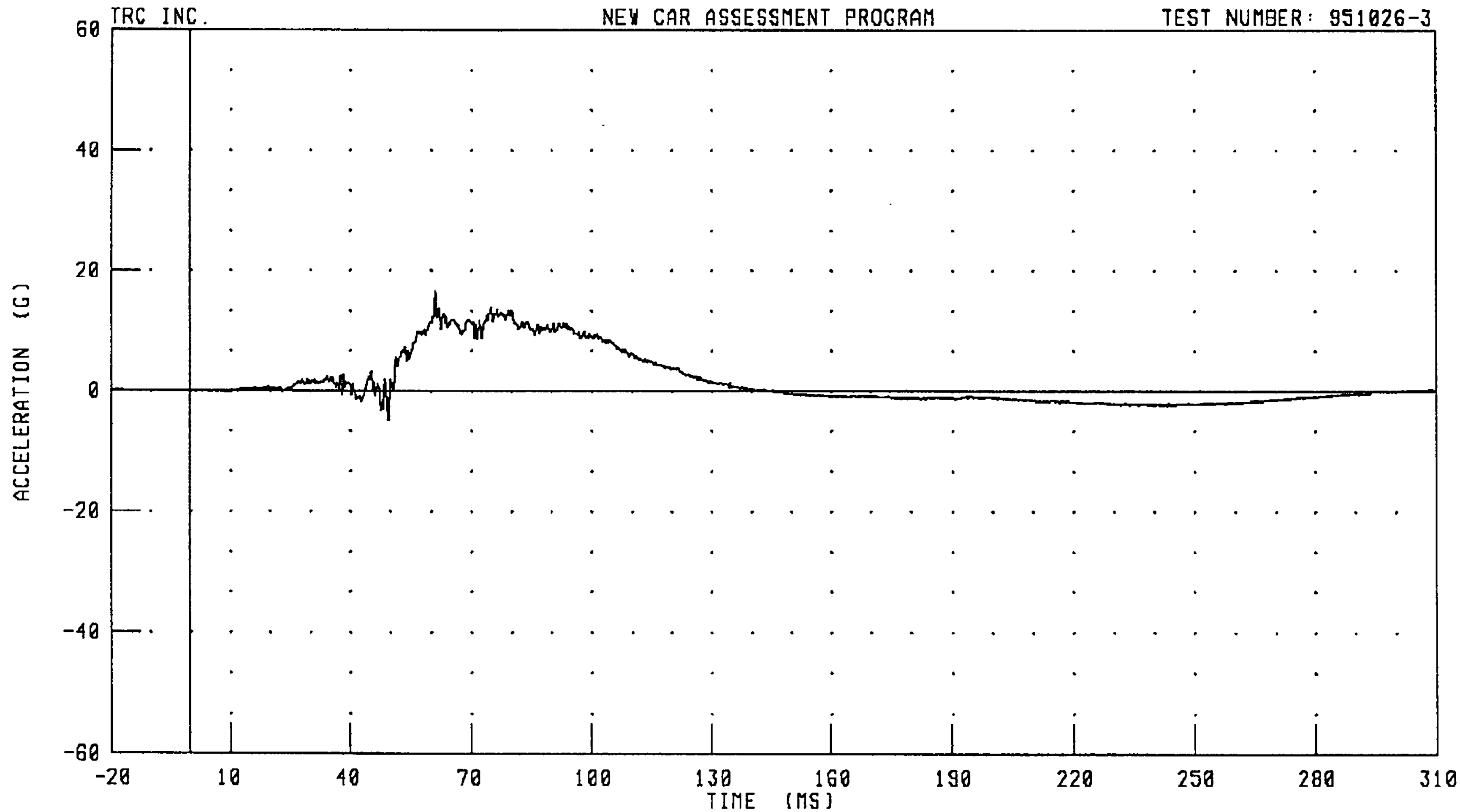
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER PELVIS X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: PEVXG2 FILTER: CH. CLASS 1000 PEAK DATA: 3.35 G @ 123.52 MS; -76.07 G @ 48.96 MS

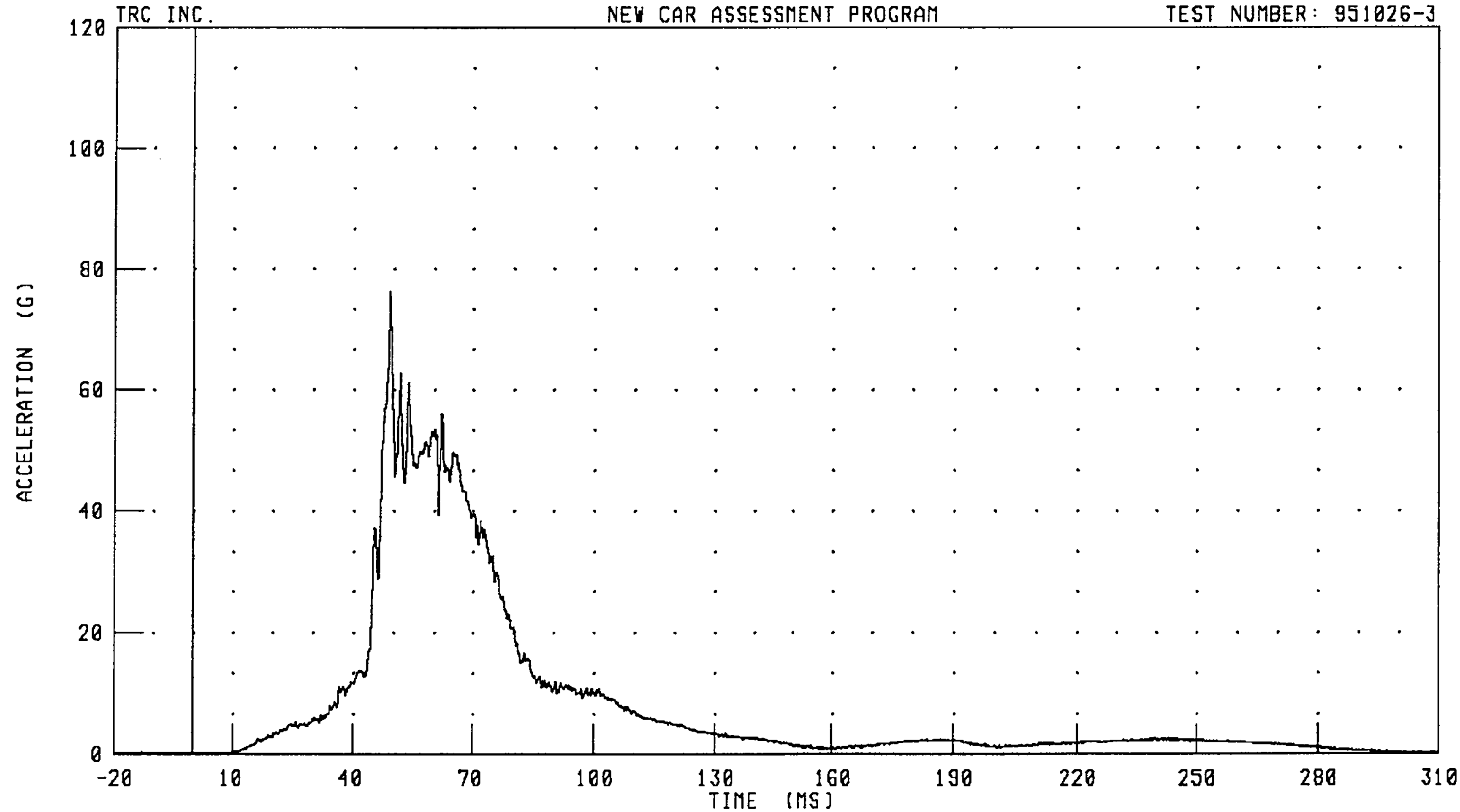

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER PELVIS Y-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM
TEST NUMBER: 951026-3
TRC INC.
ACCELERATION (G)
60
40
20
0
-20
-40
-60
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: PEVYG2
FILTER: CH. CLASS 1000
PEAK DATA: 4.75 G @ 98.32 MS; -12.30 G @ 51.20 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER PELVIS Z-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



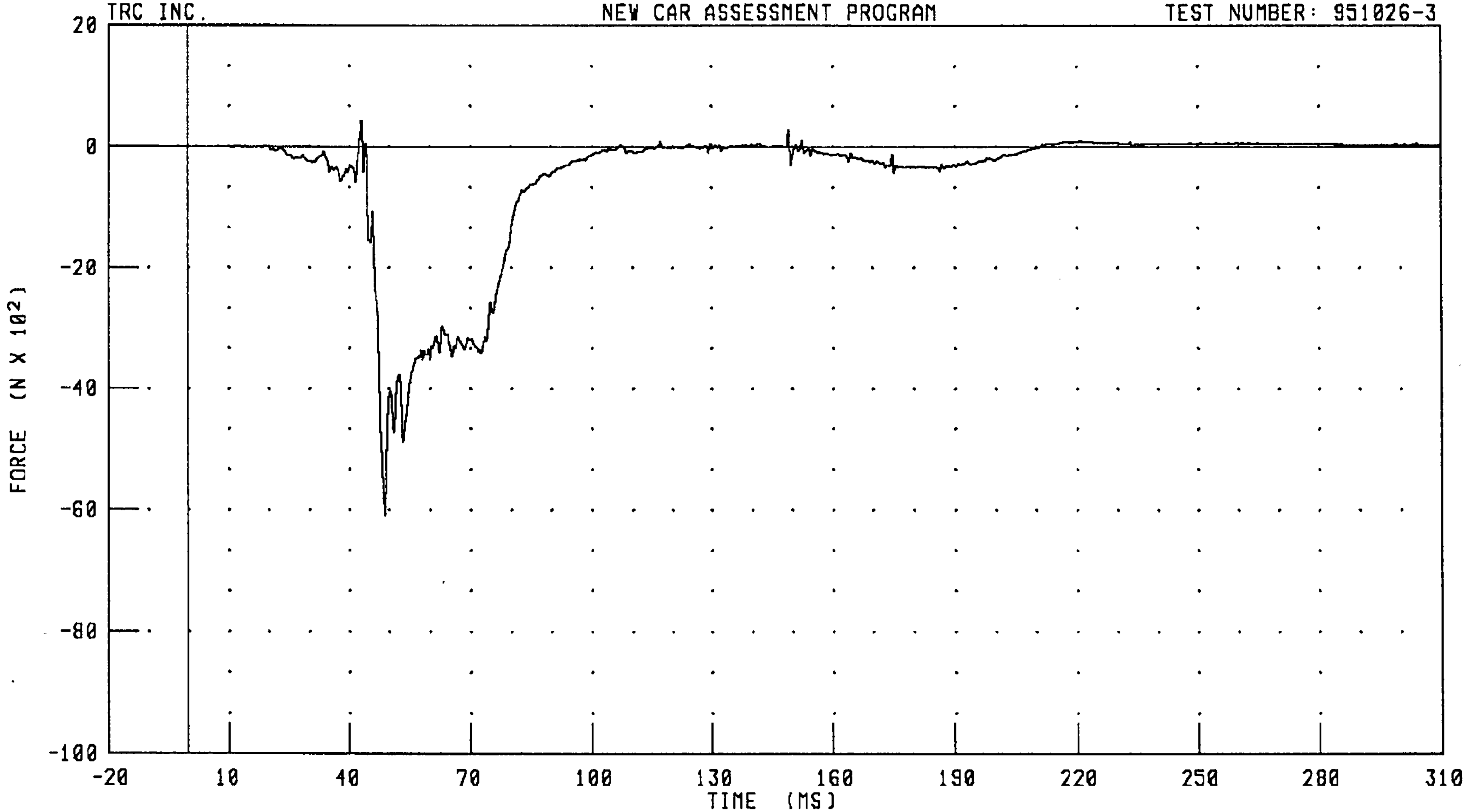
CHANNEL: PEVZG2 FILTER: CH. CLASS 1000 PEAK DATA: 16.63 G @ 61.12 MS; -4.92 G @ 49.44 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER PELVIS RESULTANT ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: PEVRG2 FILTER: CH. CLASS 1000 PEAK DATA: 76.31 G @ 48.96 MS; 0.06 G @ -19.04 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER LEFT FEMUR FORCE
NEW CAR ASSESSMENT PROGRAM

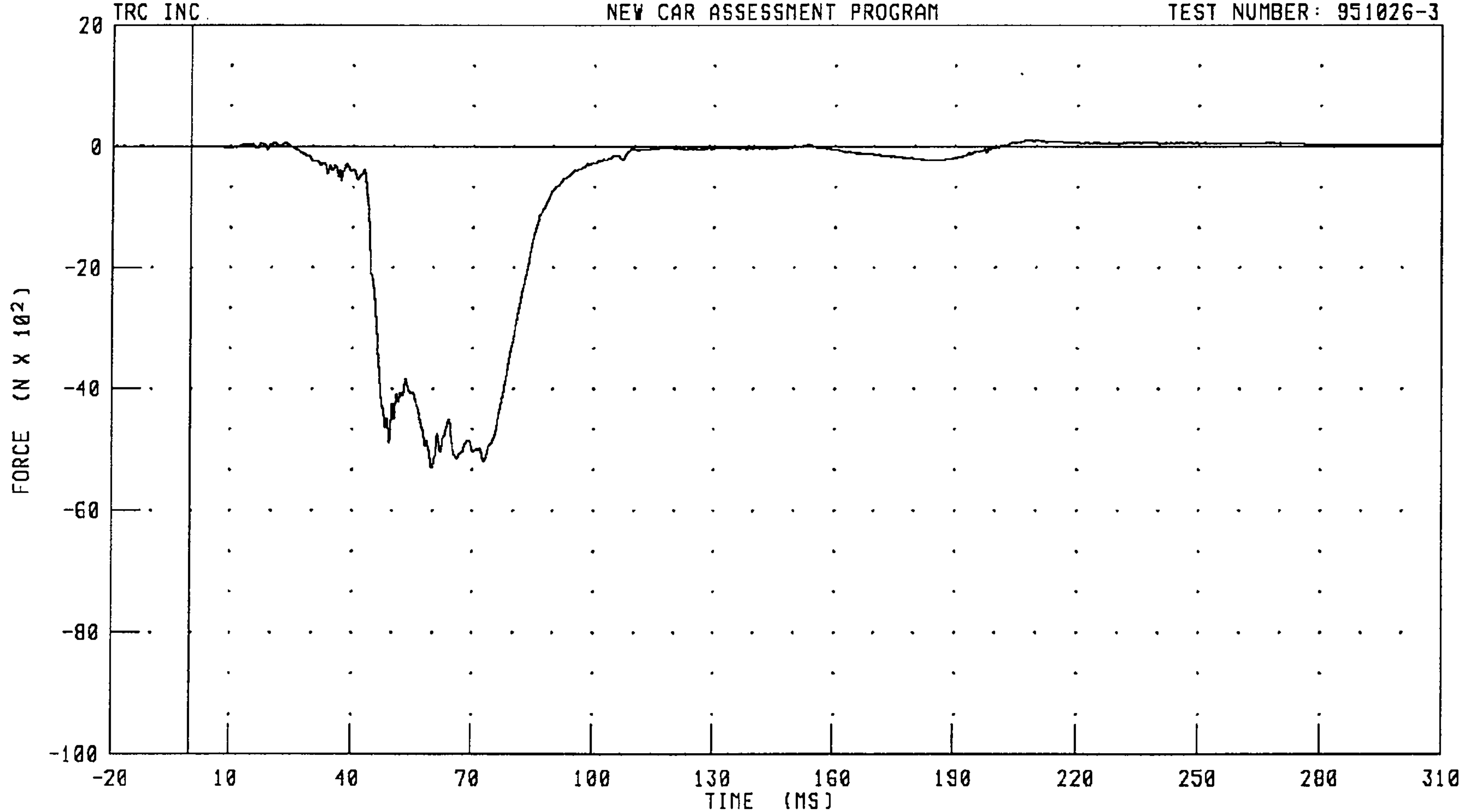


CHANNEL: LFMF2 FILTER: CH. CLASS 600 PEAK DATA: 420.83 N @ 43.20 MS; -6090.99 N @ 49.04 MS

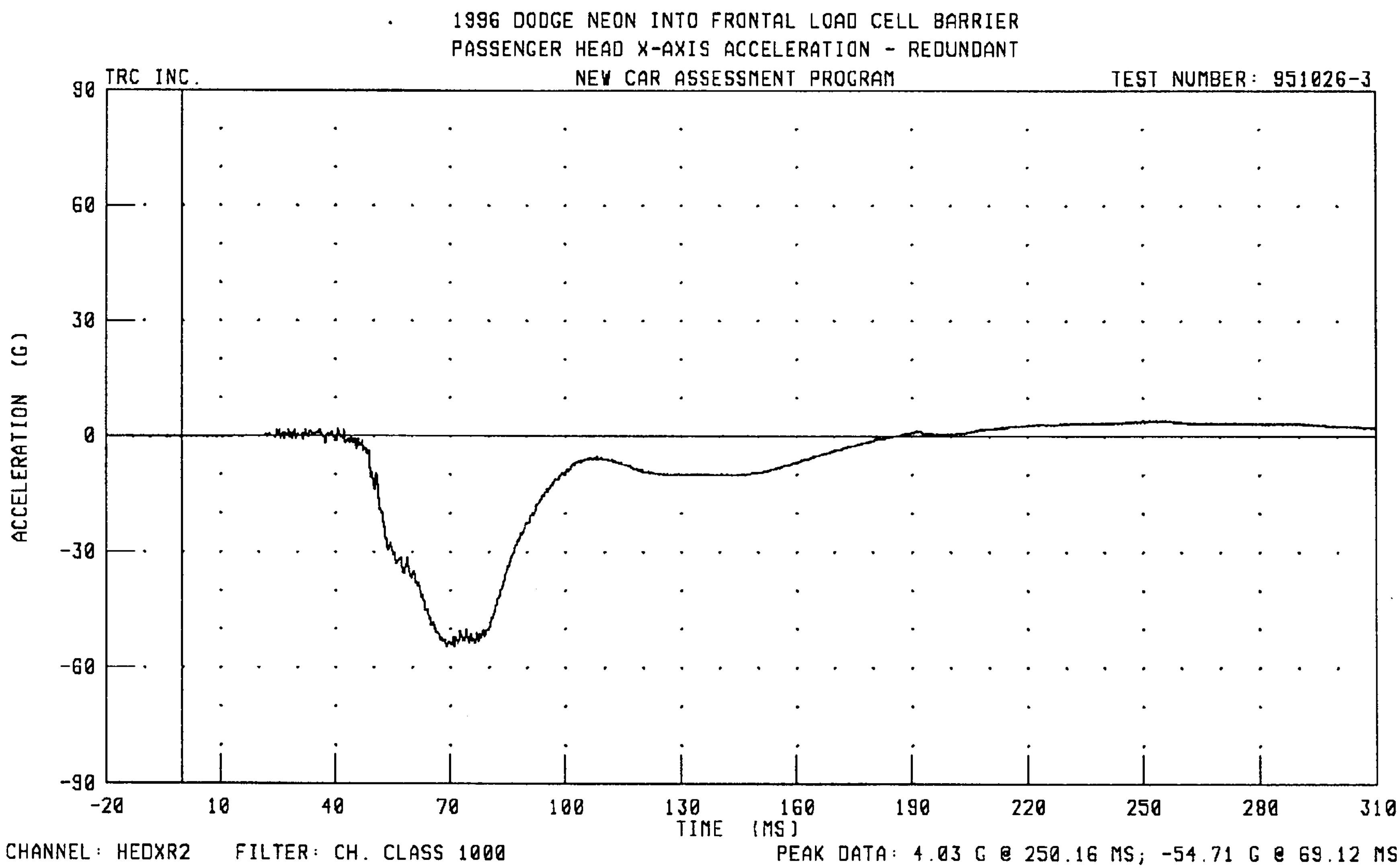
951026

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER RIGHT FEMUR FORCE
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3

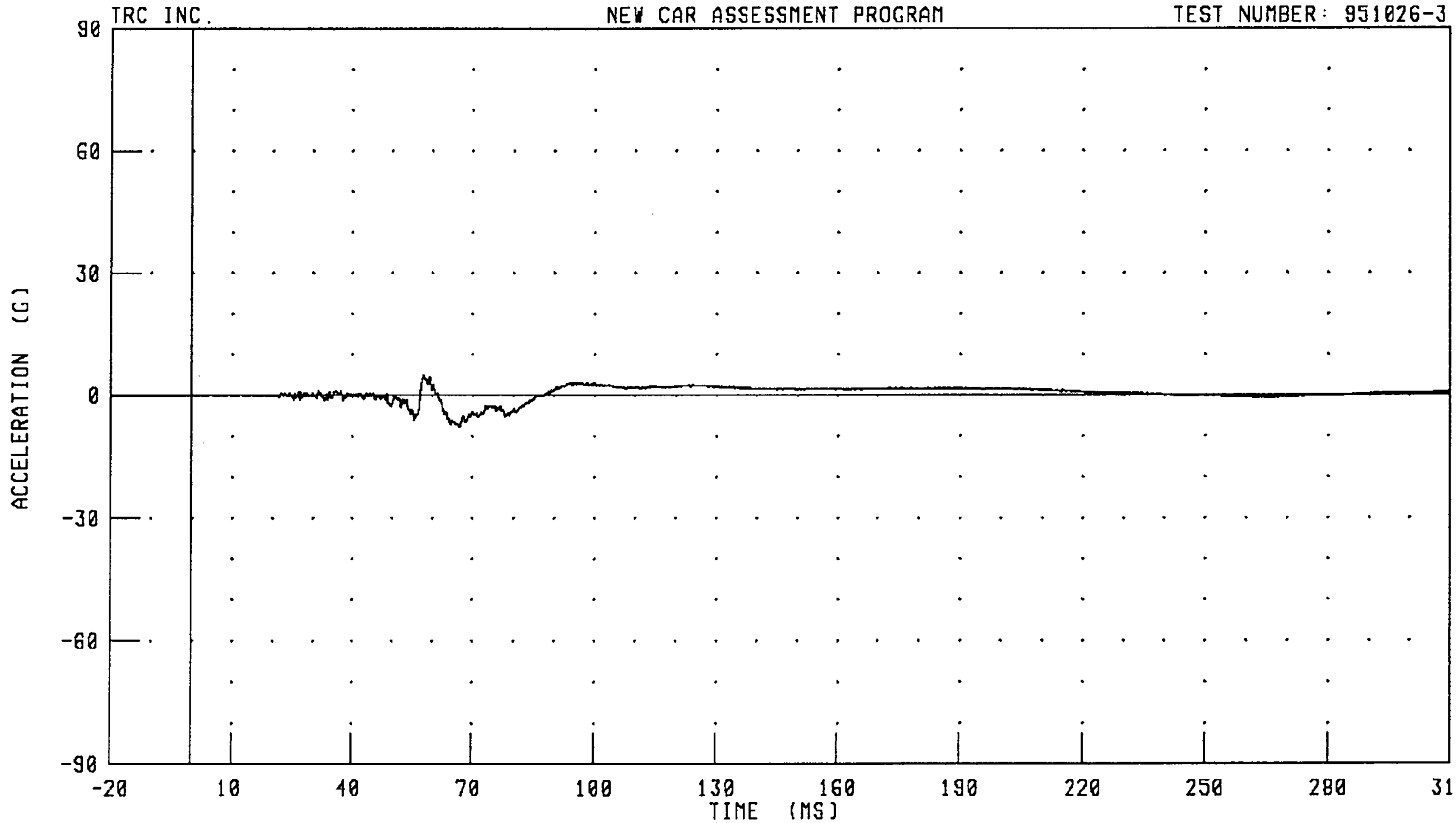


CHANNEL: RFMF2 FILTER: CH. CLASS 600 PEAK DATA: 101.49 N @ 208.48 MS; -5307.76 N @ 59.84 MS



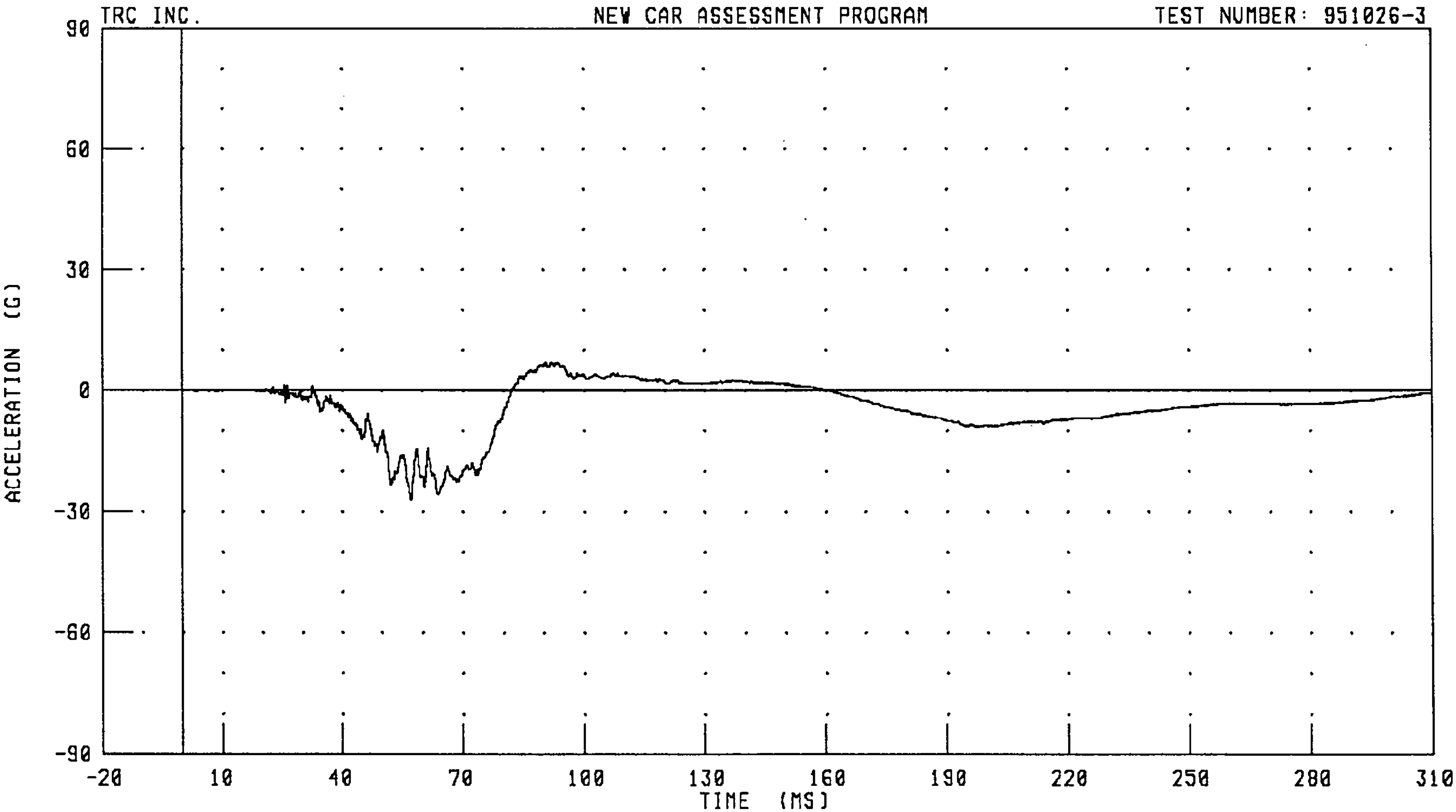
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD X-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
ACCELERATION (G)
90
60
30
0
-30
-60
-90
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: HEDXR2
FILTER: CH. CLASS 1000
PEAK DATA: 4.03 G @ 250.16 MS; -54.71 G @ 69.12 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD Y-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: HEDYR2 FILTER: CH. CLASS 1000 PEAK DATA: 4.73 G @ 57.92 MS; -7.78 G @ 66.88 MS

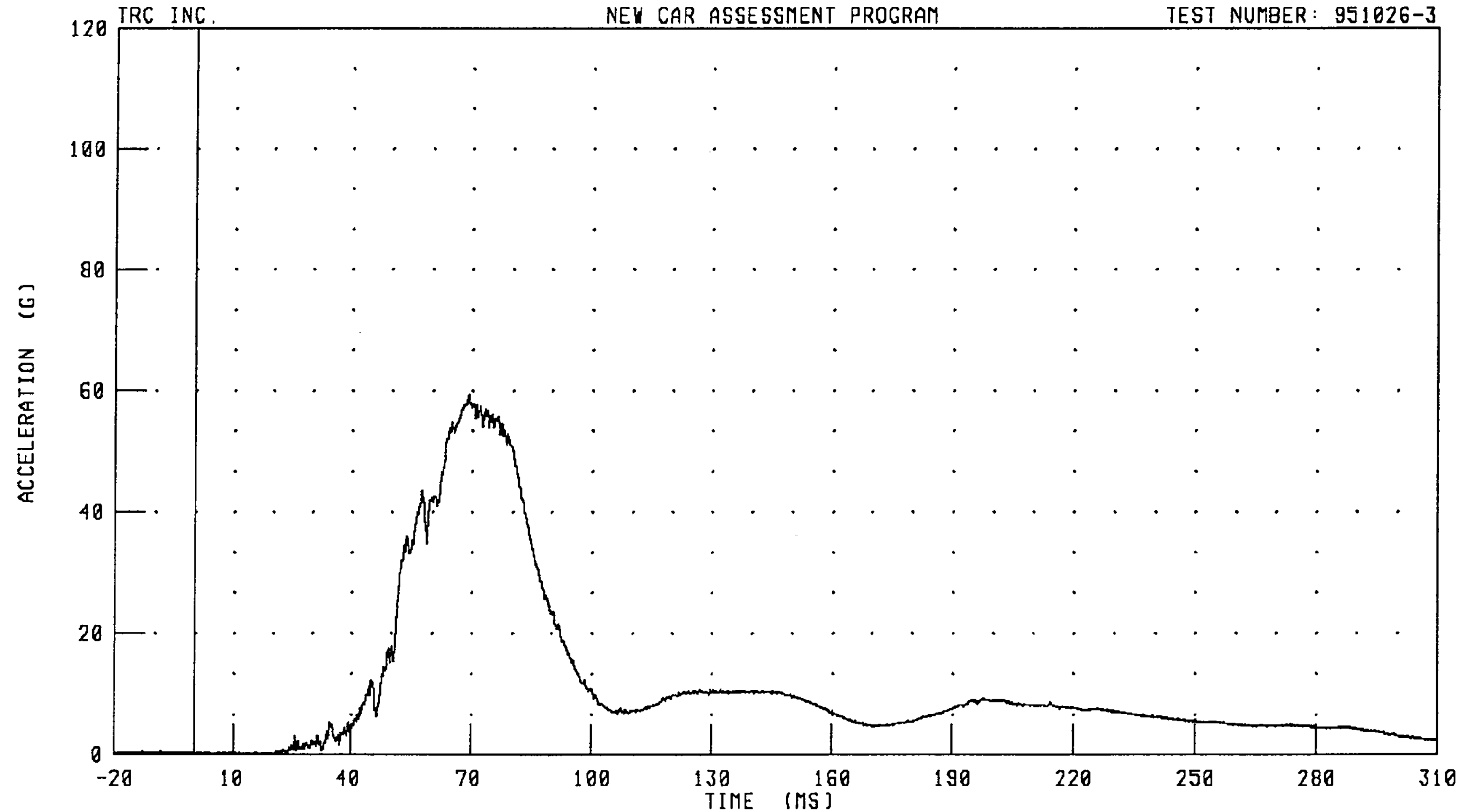
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD Z-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



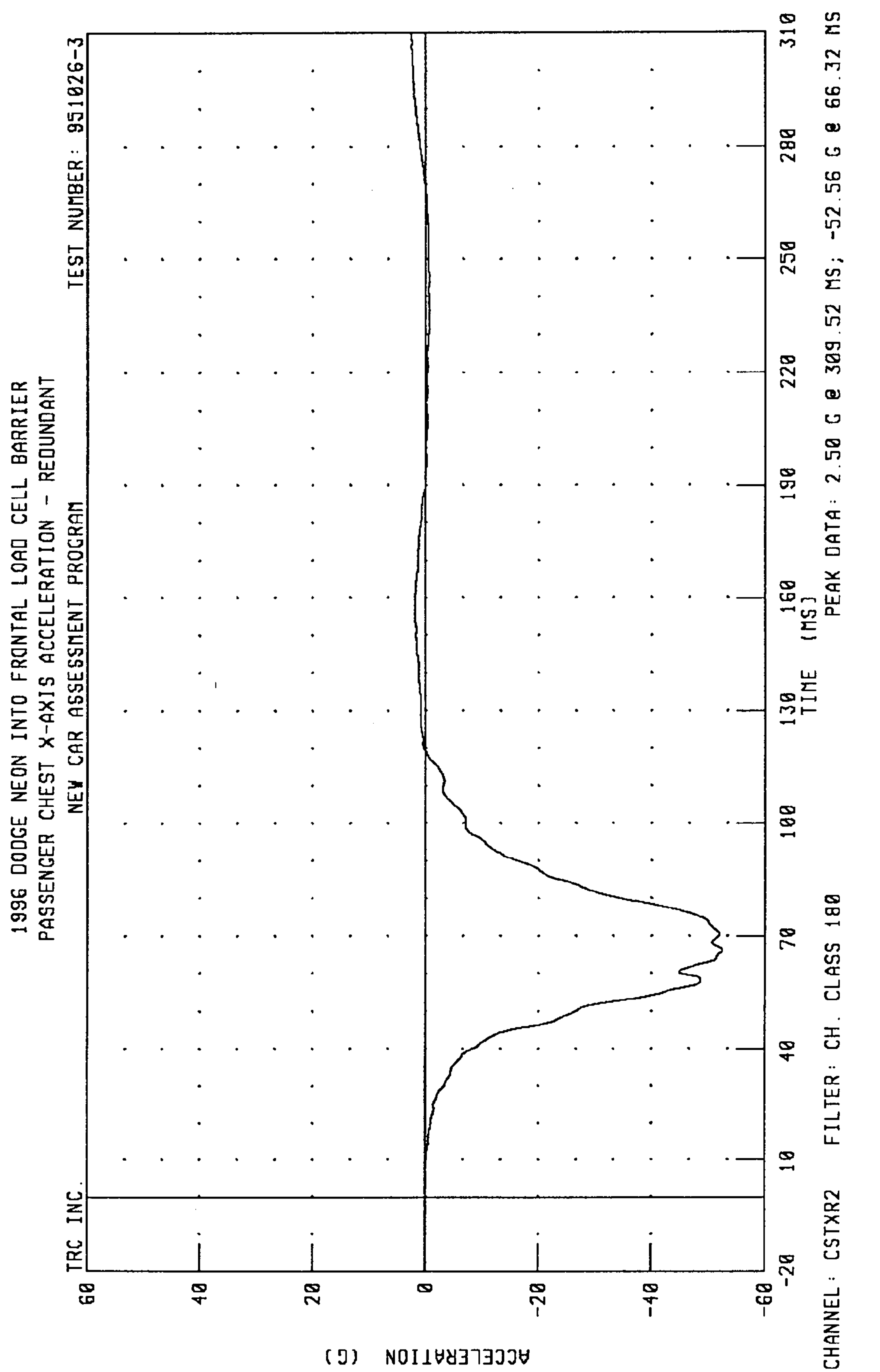
CHANNEL: HEDZR2 FILTER: CH. CLASS 1000 PEAK DATA: 6.98 G @ 92.00 MS; -27.26 G @ 57.20 MS

951026

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER HEAD RESULTANT ACCELERATION - REDUNDANT

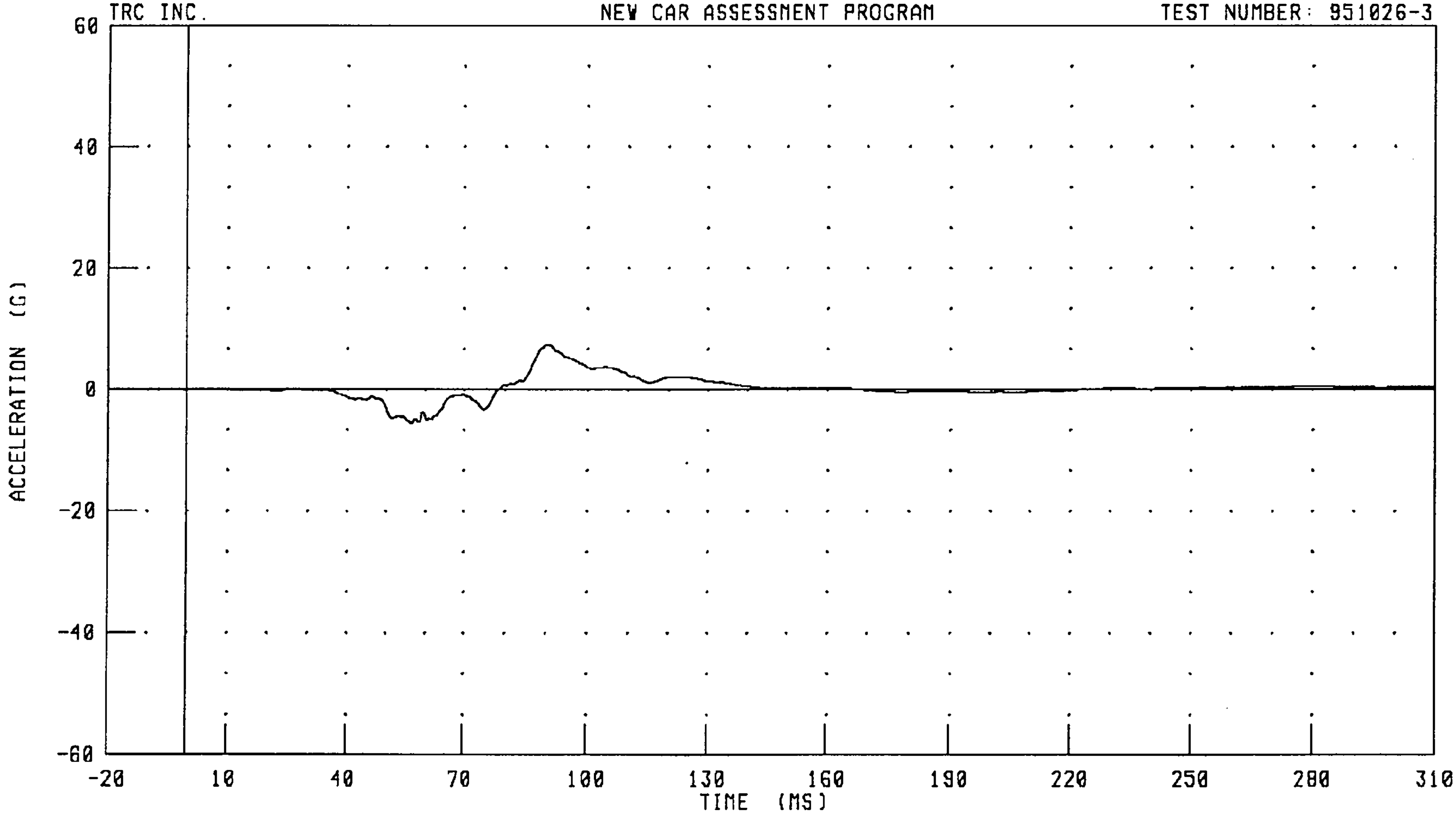


CHANNEL: HEDRR2 FILTER: CH. CLASS 1000 PEAK DATA: 59.41 G @ 69.12 MS; 0.11 G @ -6.88 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST X-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM
TEST NUMBER: 951026-3
TRC INC.
ACCELERATION (G)
60
40
20
0
-20
-40
-60
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: CSTXR2
FILTER: CH. CLASS 180
PEAK DATA: 2.50 G @ 309.52 MS; -52.56 G @ 66.32 MS

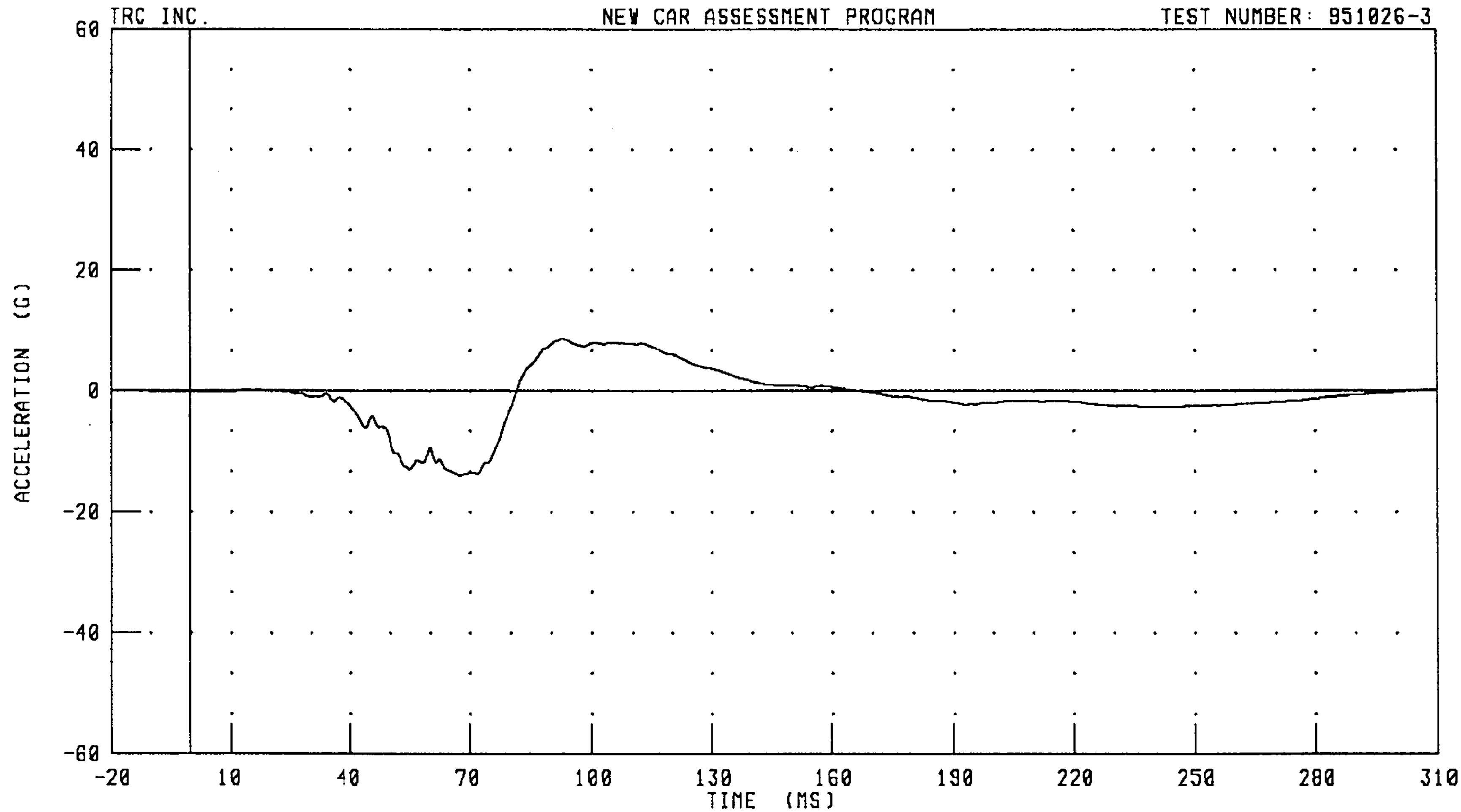
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST Y-AXIS ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



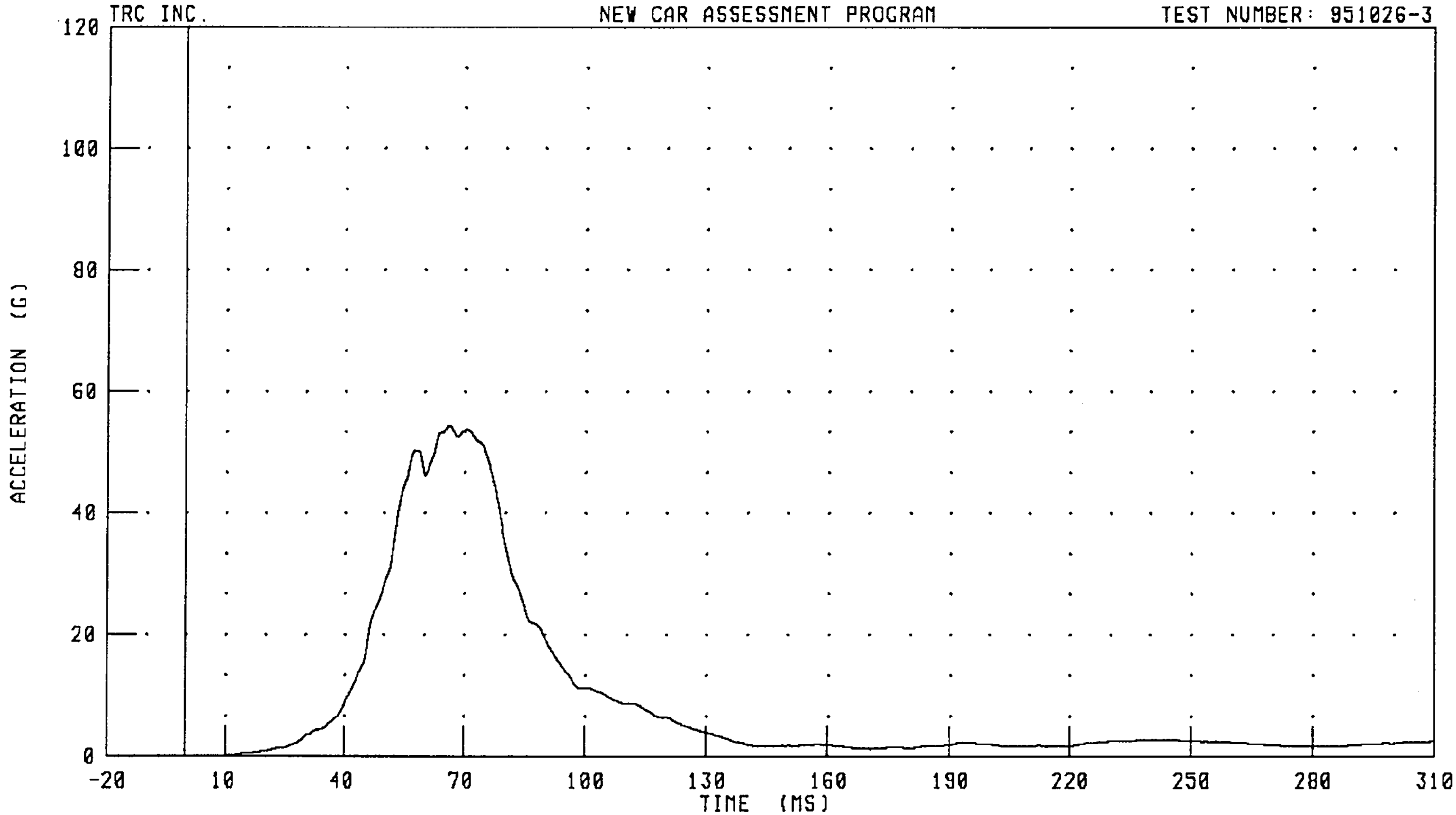
CHANNEL: CSTYR2 FILTER: CH. CLASS 180 PEAK DATA: 7.36 G @ 90.64 MS; -5.56 G @ 56.56 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST Z-AXIS ACCELERATION - REDUNDANT



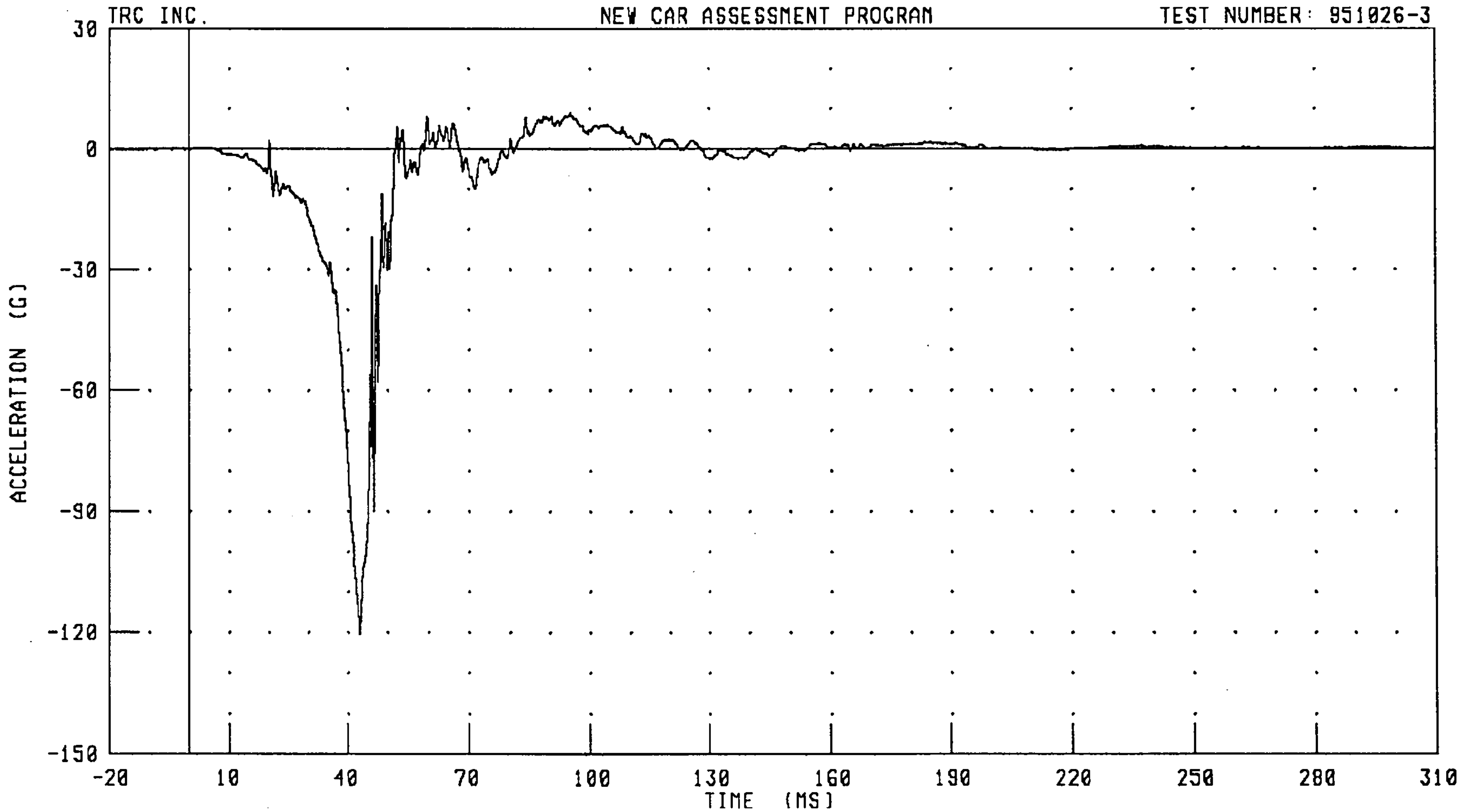
CHANNEL: CSTZR2 FILTER: CH. CLASS 180 PEAK DATA: 8.61 G @ 92.96 MS; -13.98 G @ 67.76 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER CHEST RESULTANT ACCELERATION - REDUNDANT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: CSTRR2   FILTER: CH. CLASS 180   PEAK DATA: 54.31 G @ 66.32 MS; 0.01 G @ -20.00 MS

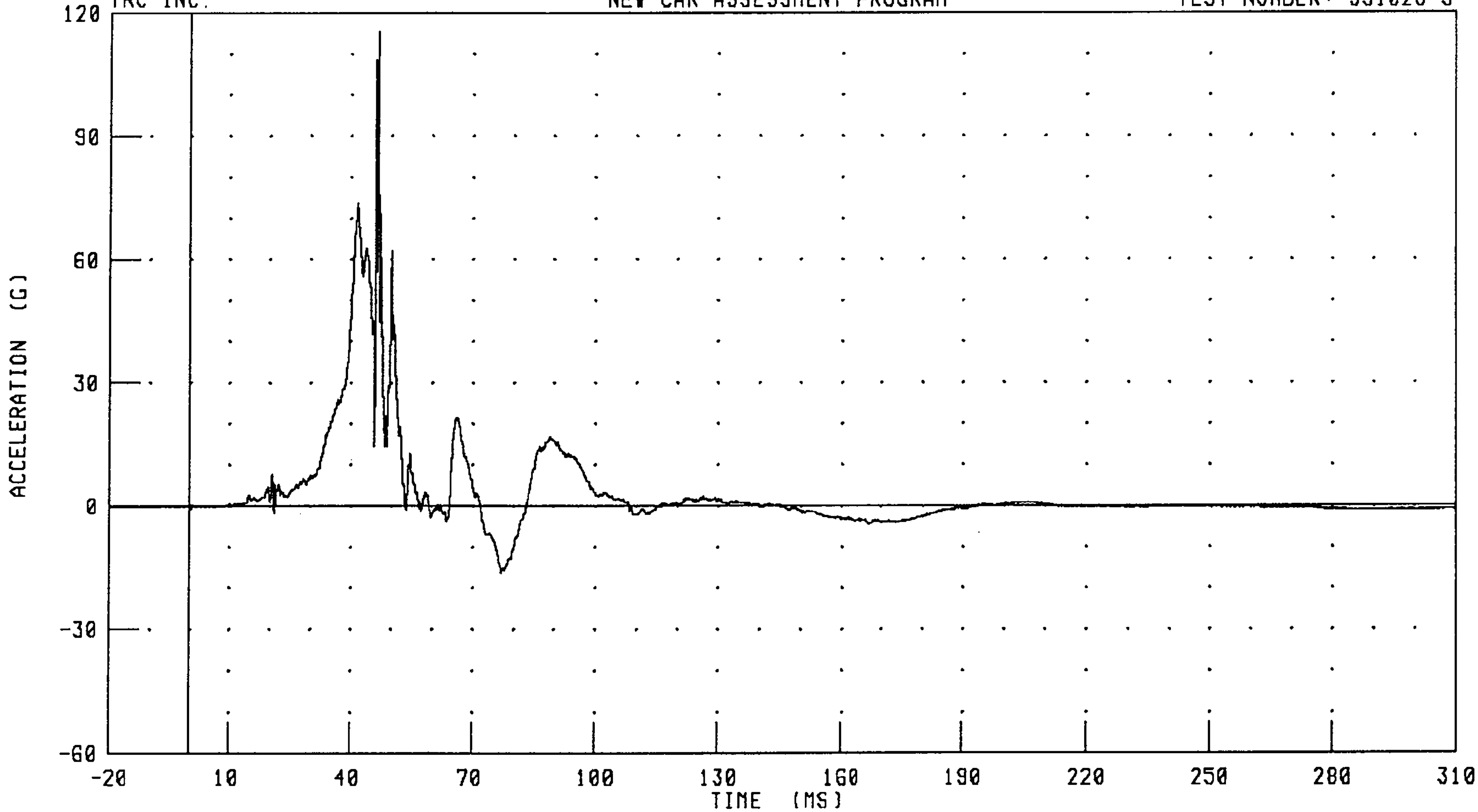
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER LEFT FOOT X-AXIS ACCELERATION



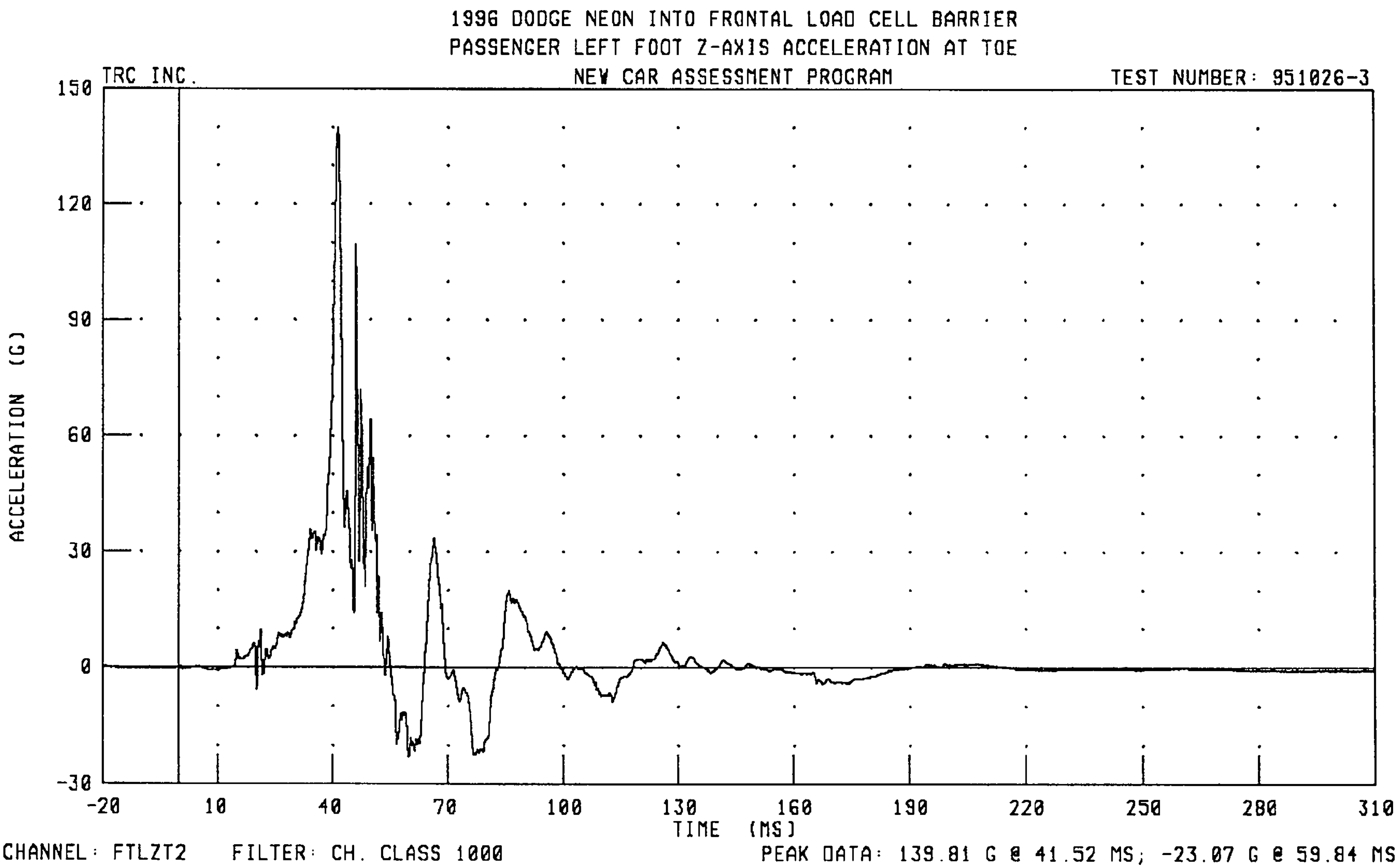
CHANNEL: FTLXG2 FILTER: CH. CLASS 1000 PEAK DATA: 8.99 G @ 95.28 MS; -120.51 G @ 42.88 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER LEFT FOOT Z-AXIS ACCELERATION AT HEEL

TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3

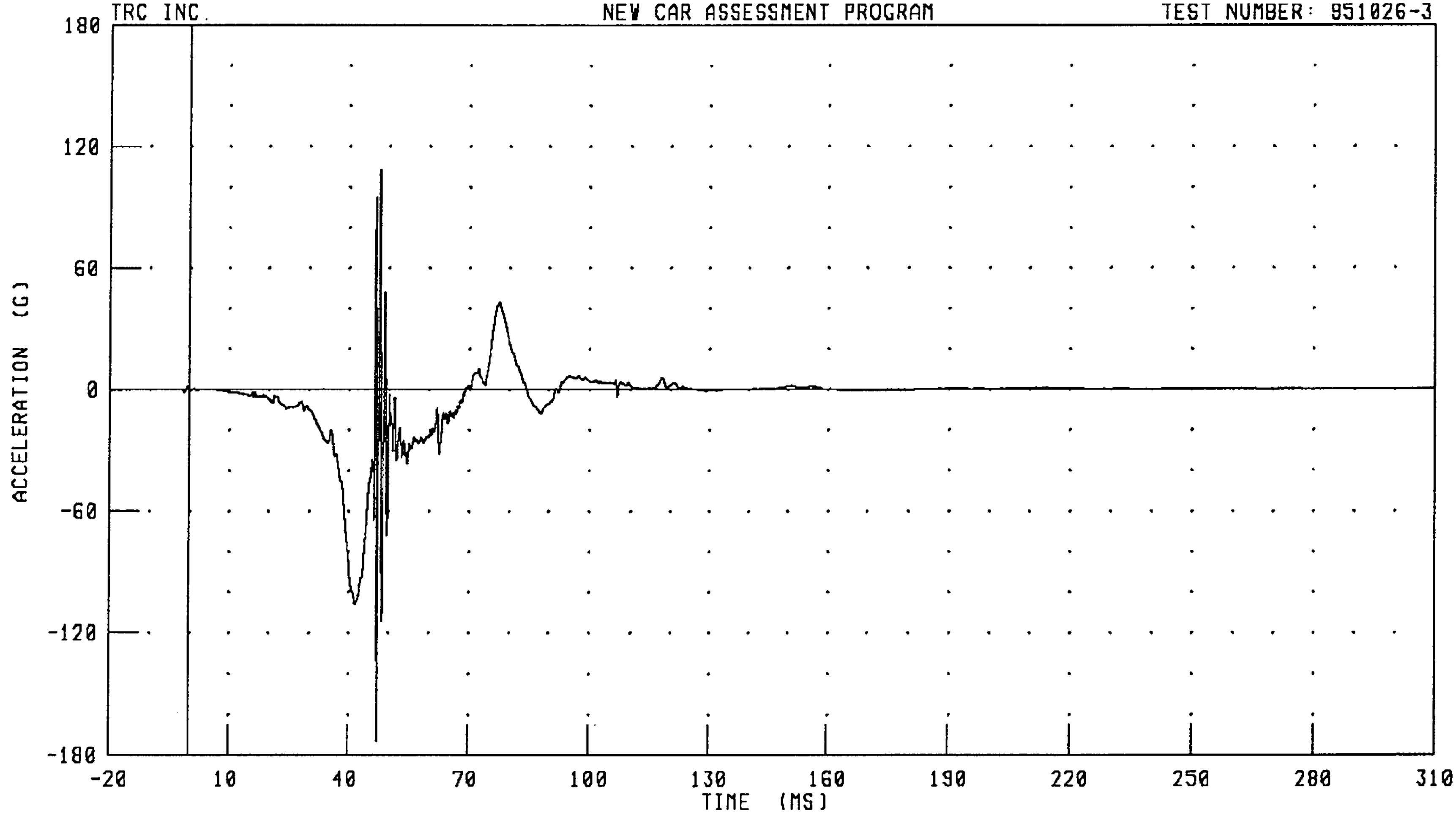


CHANNEL: FTLZH2 FILTER: CH. CLASS 1000 PEAK DATA: 115.26 G @ 46.80 MS; -16.39 G @ 77.04 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER LEFT FOOT Z-AXIS ACCELERATION AT TOE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
ACCELERATION (G)
150
120
90
60
30
0
-30
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: FTLZT2
FILTER: CH. CLASS 1000
PEAK DATA: 139.81 G @ 41.52 MS; -23.07 G @ 59.84 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER RIGHT FOOT X-AXIS ACCELERATION

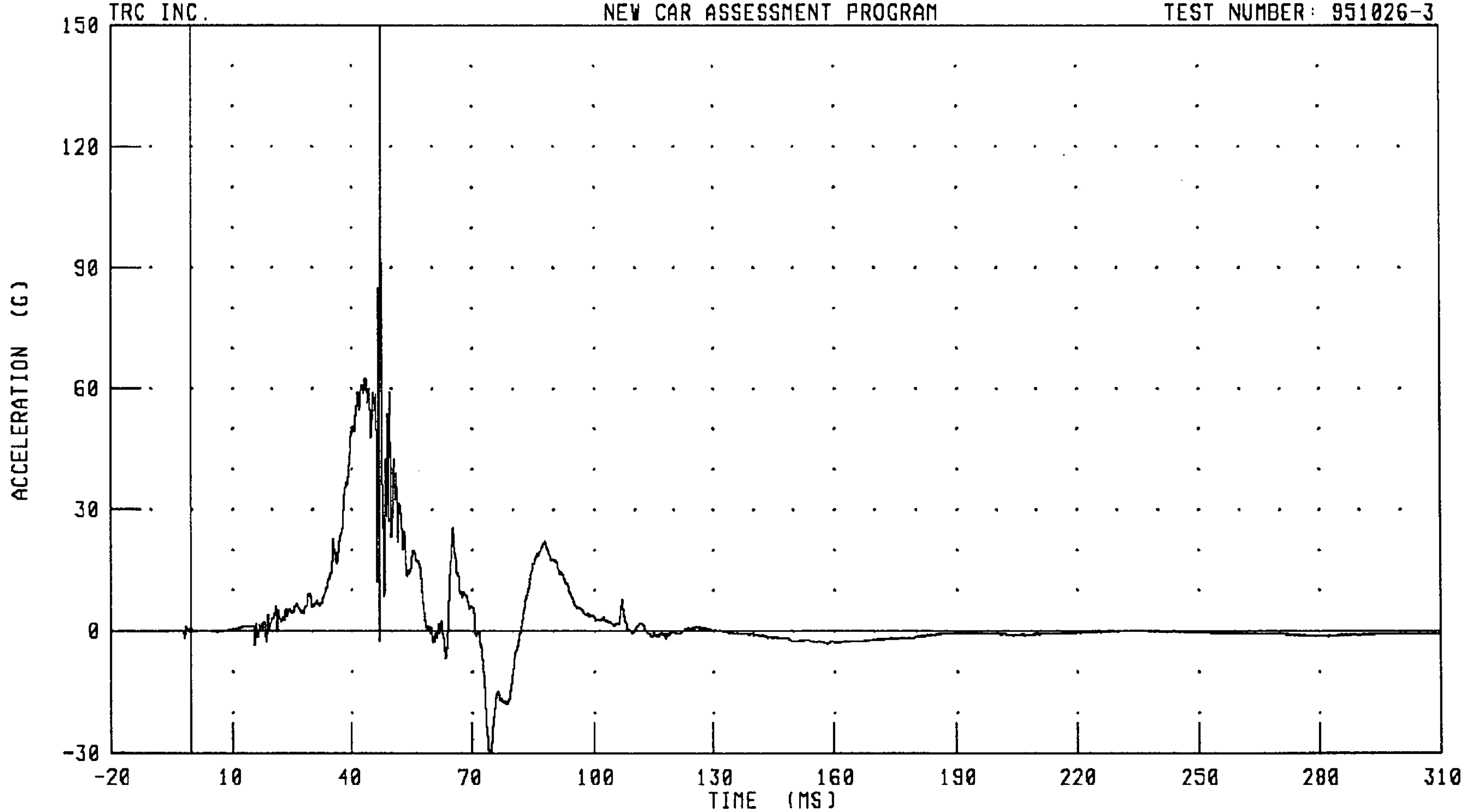
TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3



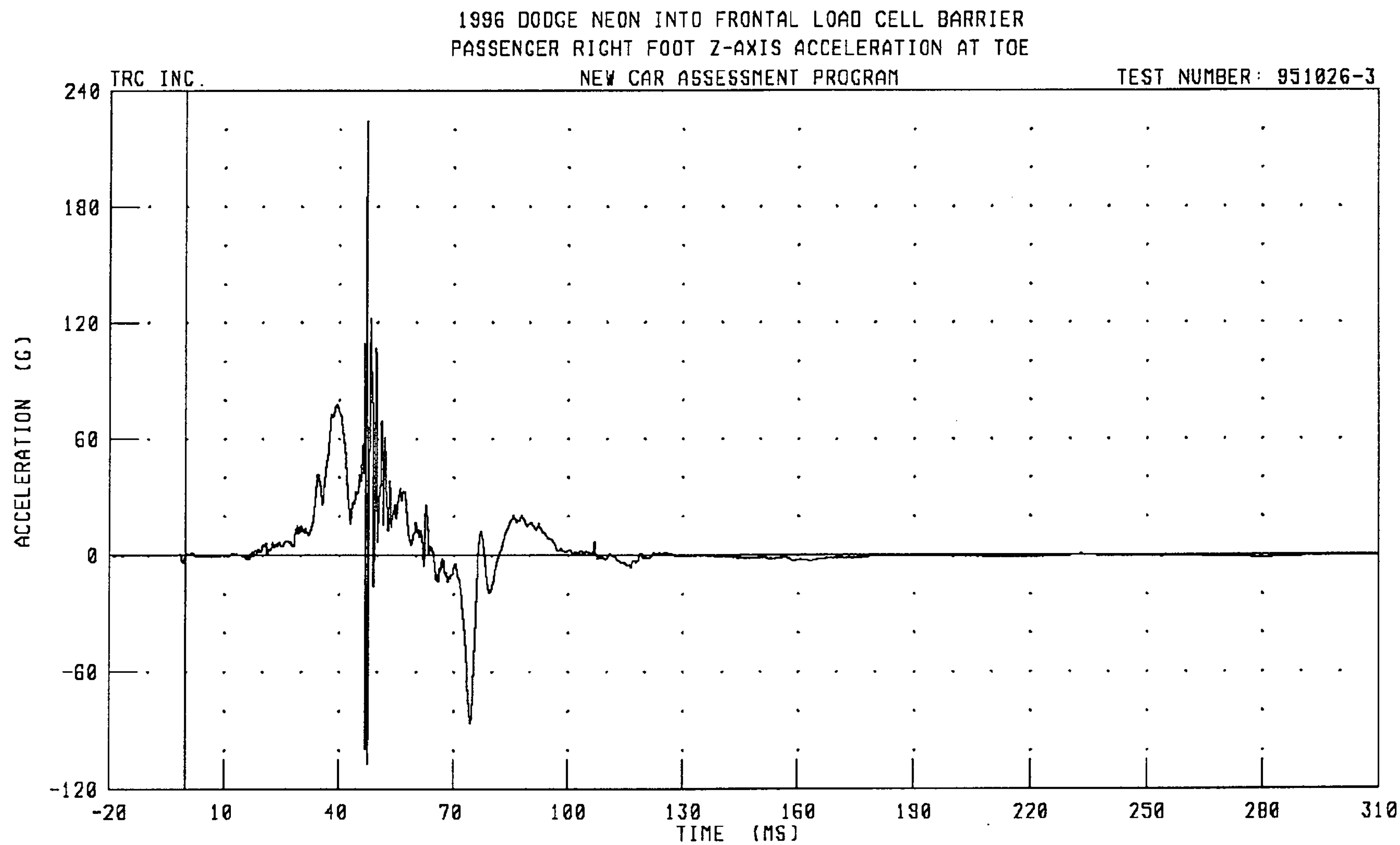
CHANNEL: FTRXG2 FILTER: CH. CLASS 1000 PEAK DATA: 108.19 G @ 47.76 MS; -173.42 G @ 47.28 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER RIGHT FOOT Z-AXIS ACCELERATION AT HEEL

TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3

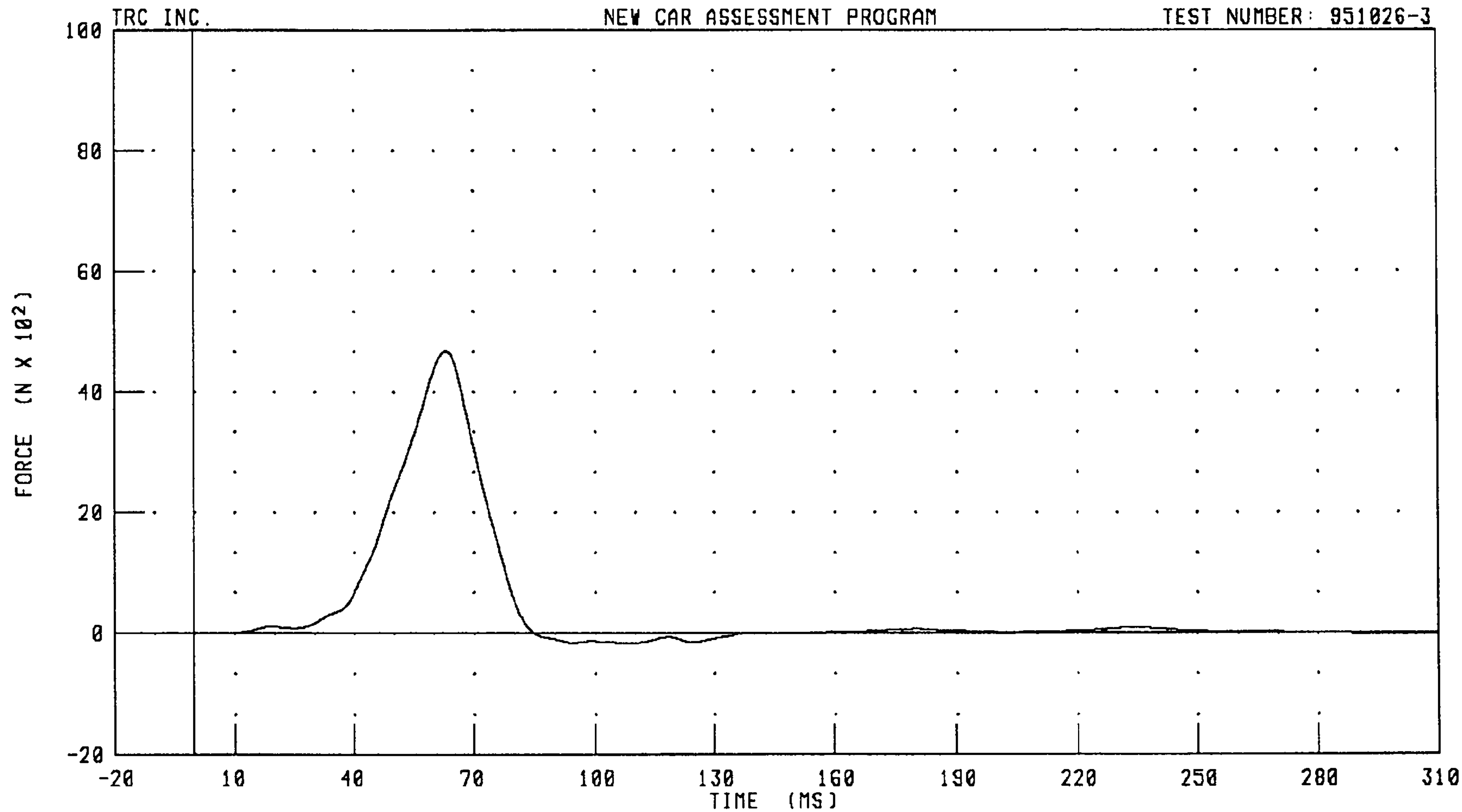


CHANNEL: FTRZH2 FILTER: CH. CLASS 1000 PEAK DATA: 150.40 G @ 47.36 MS; -29.87 G @ 74.32 MS



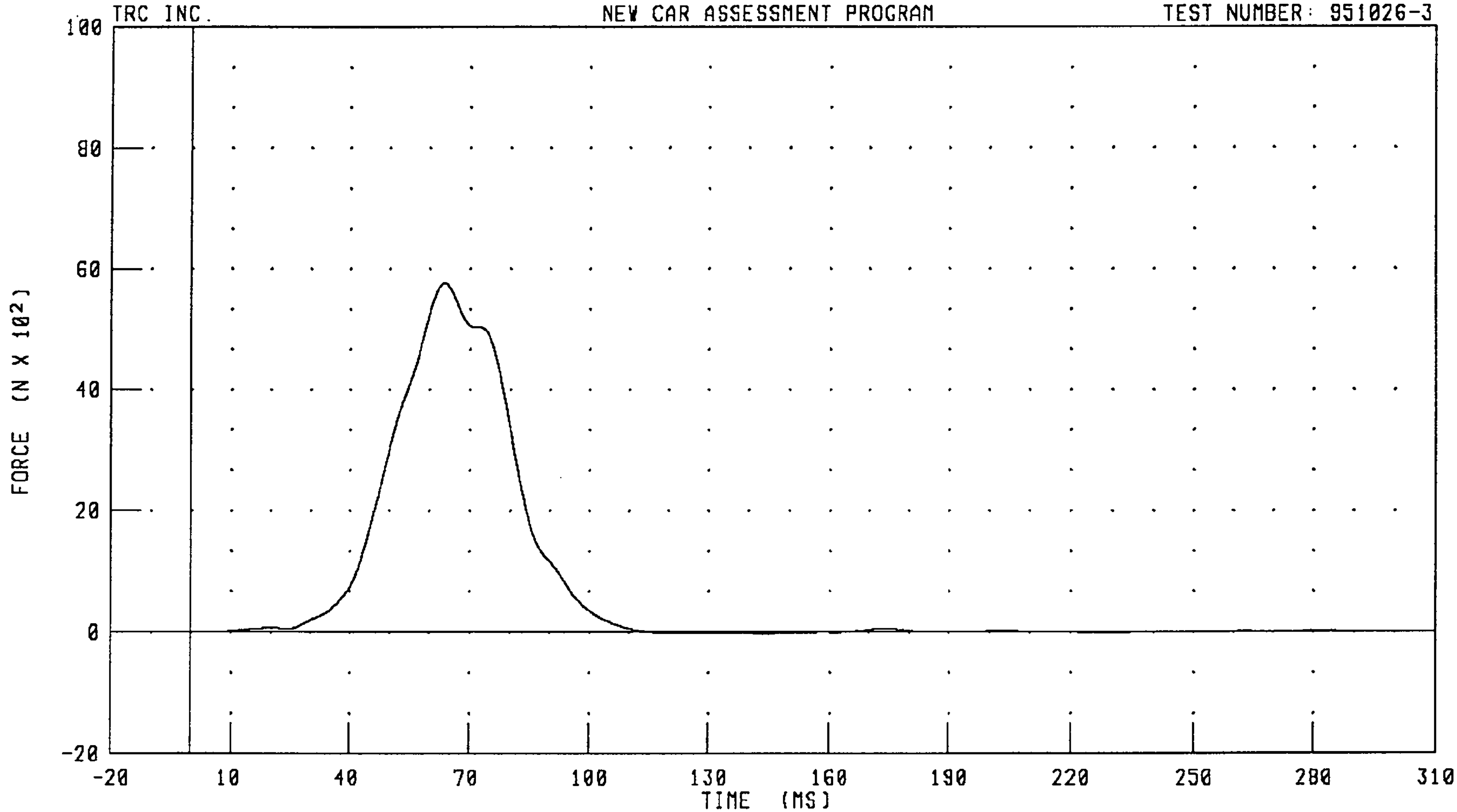
CHANNEL: FTRZT2 FILTER: CH. CLASS 1000 PEAK DATA: 224.28 G @ 47.28 MS; -107.26 G @ 47.68 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER LAP BELT OUTBOARD FORCE
NEW CAR ASSESSMENT PROGRAM



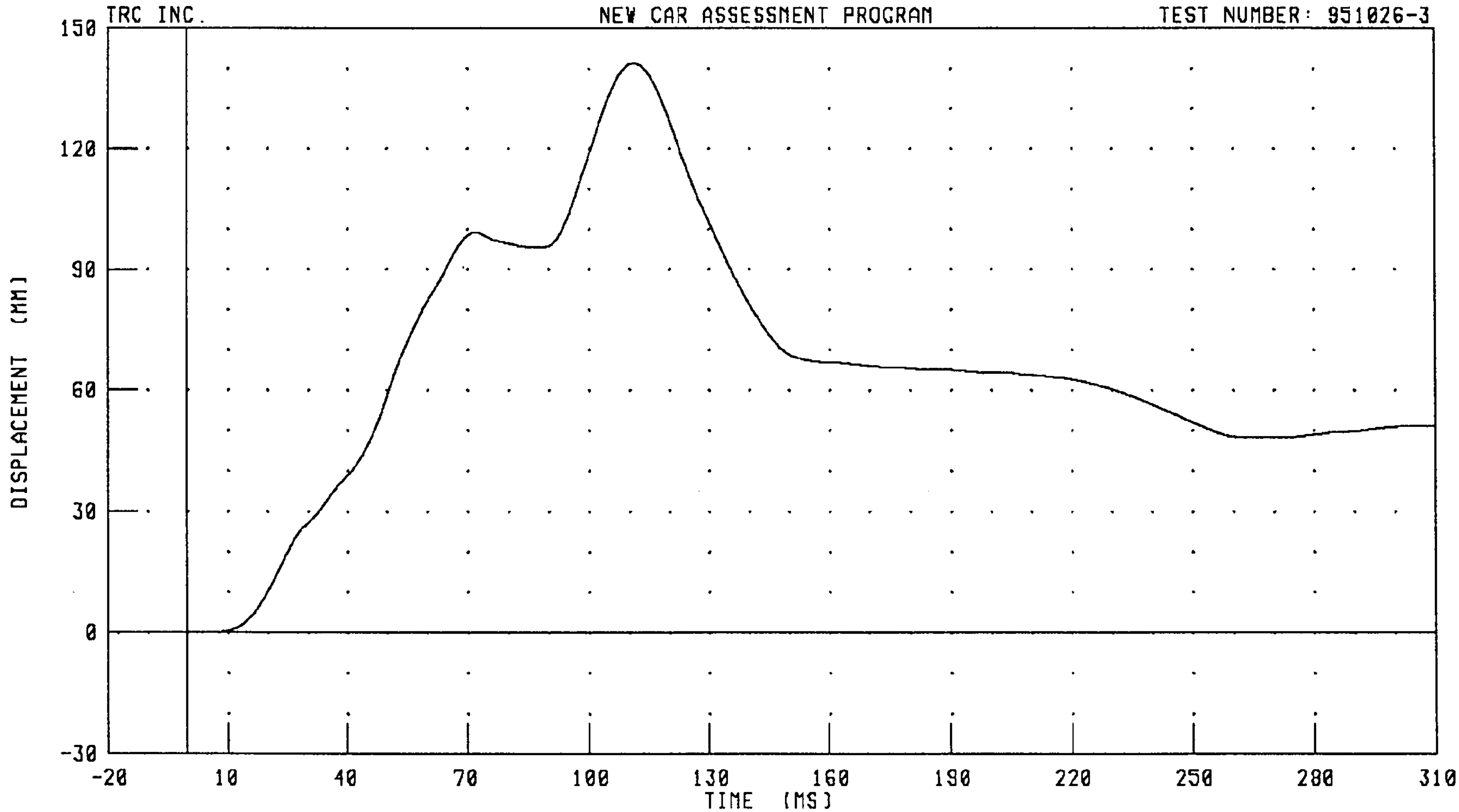
CHANNEL: LBOF1 FILTER: CH. CLASS 60 PEAK DATA: 4673.78 N @ 63.20 MS; -164.14 N @ 94.40 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER SHOULDER BELT FORCE
NEW CAR ASSESSMENT PROGRAM



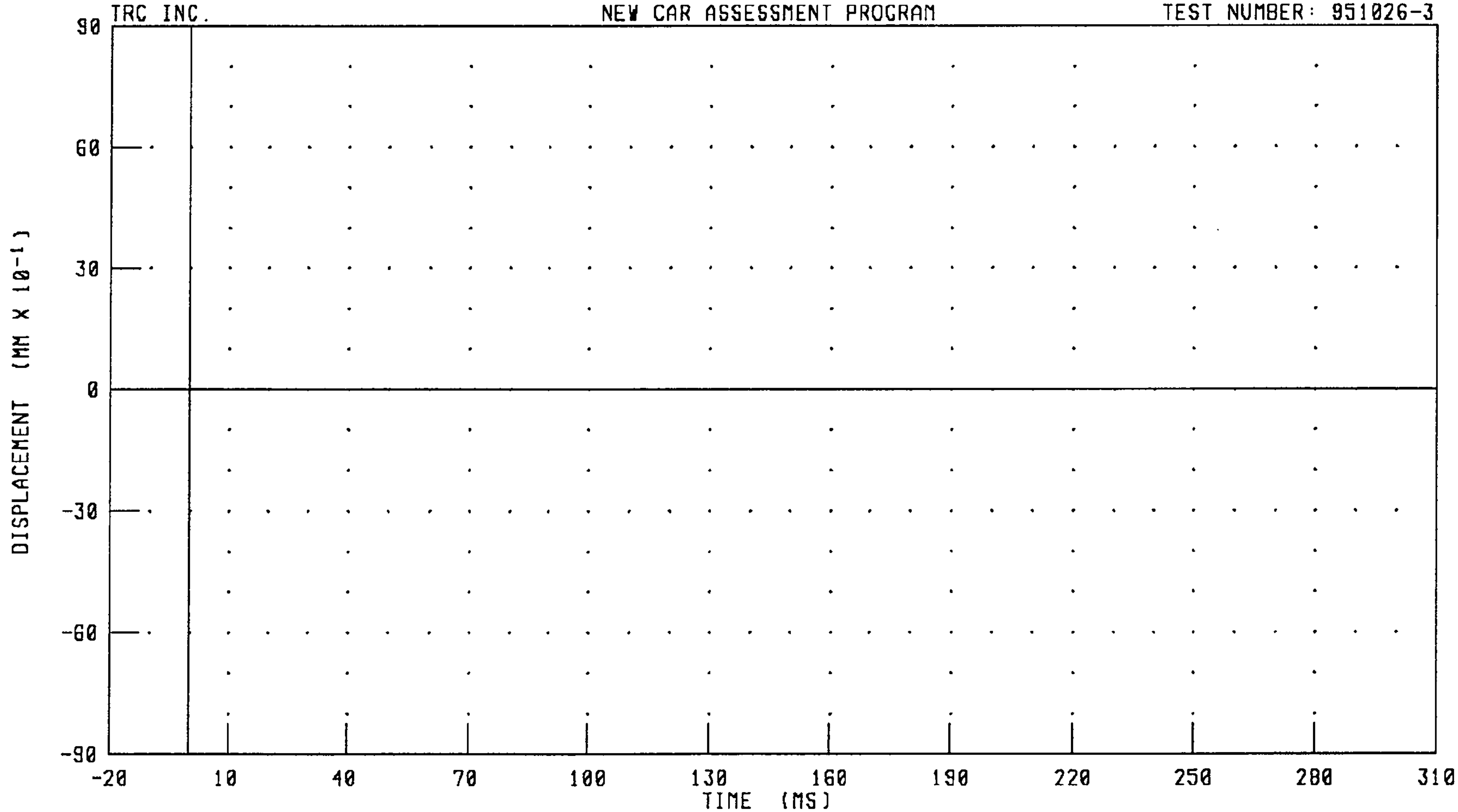
CHANNEL: SHBF1 FILTER: CH. CLASS 60 PEAK DATA: 5762.40 N @ 63.76 MS; -21.70 N @ 143.52 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER SHOULDER BELT DISPLACEMENT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: SHB01 FILTER: CH. CLASS 60 PEAK DATA: 141.27 MM @ 111.20 MS; -0.06 MM @ -17.36 MS

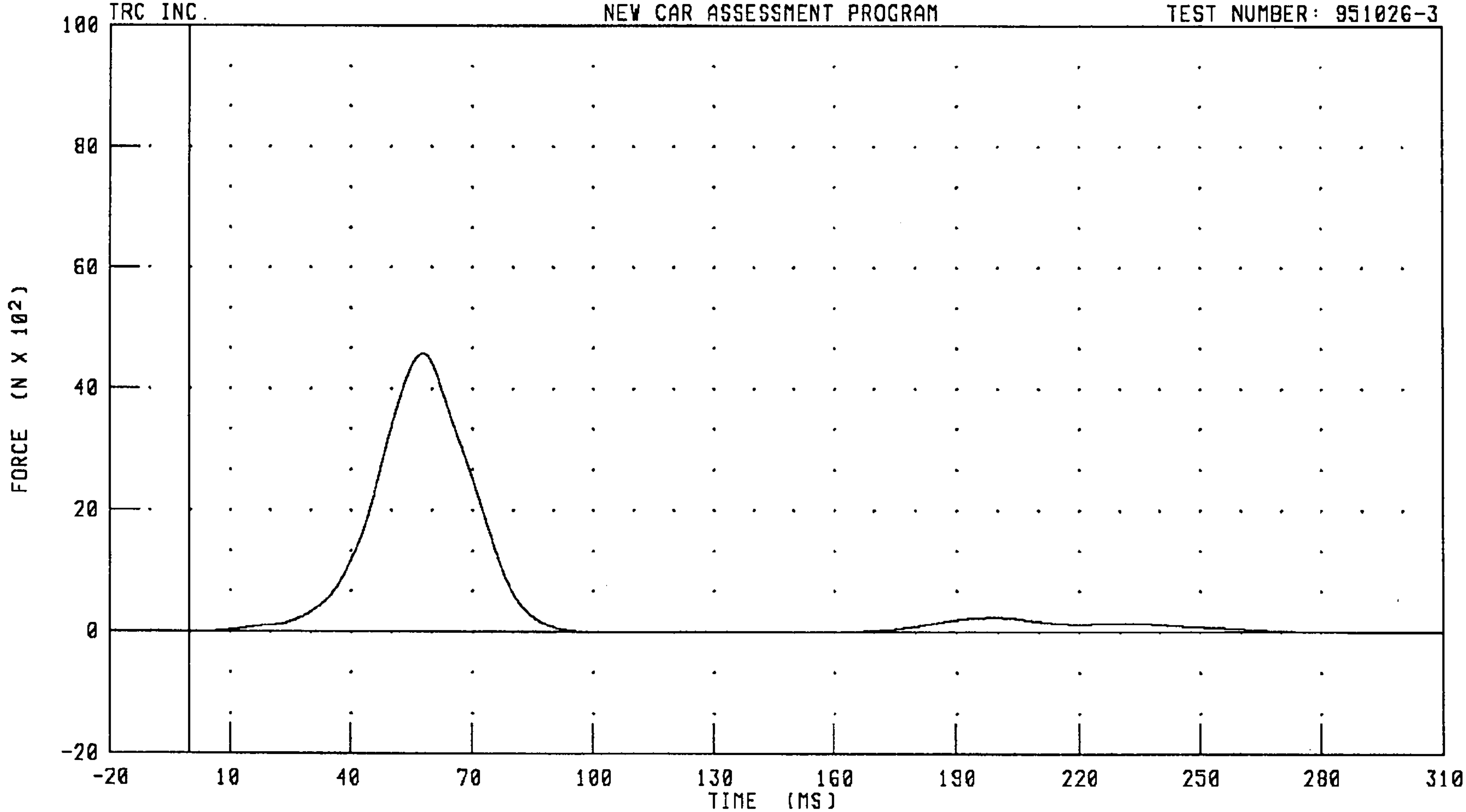
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
DRIVER SEAT BELT EXTENSION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: SBED1 FILTER: CH. CLASS 60 PEAK DATA: 0.00 MM @ 279.84 MS; 0.00 MM @ 78.40 MS

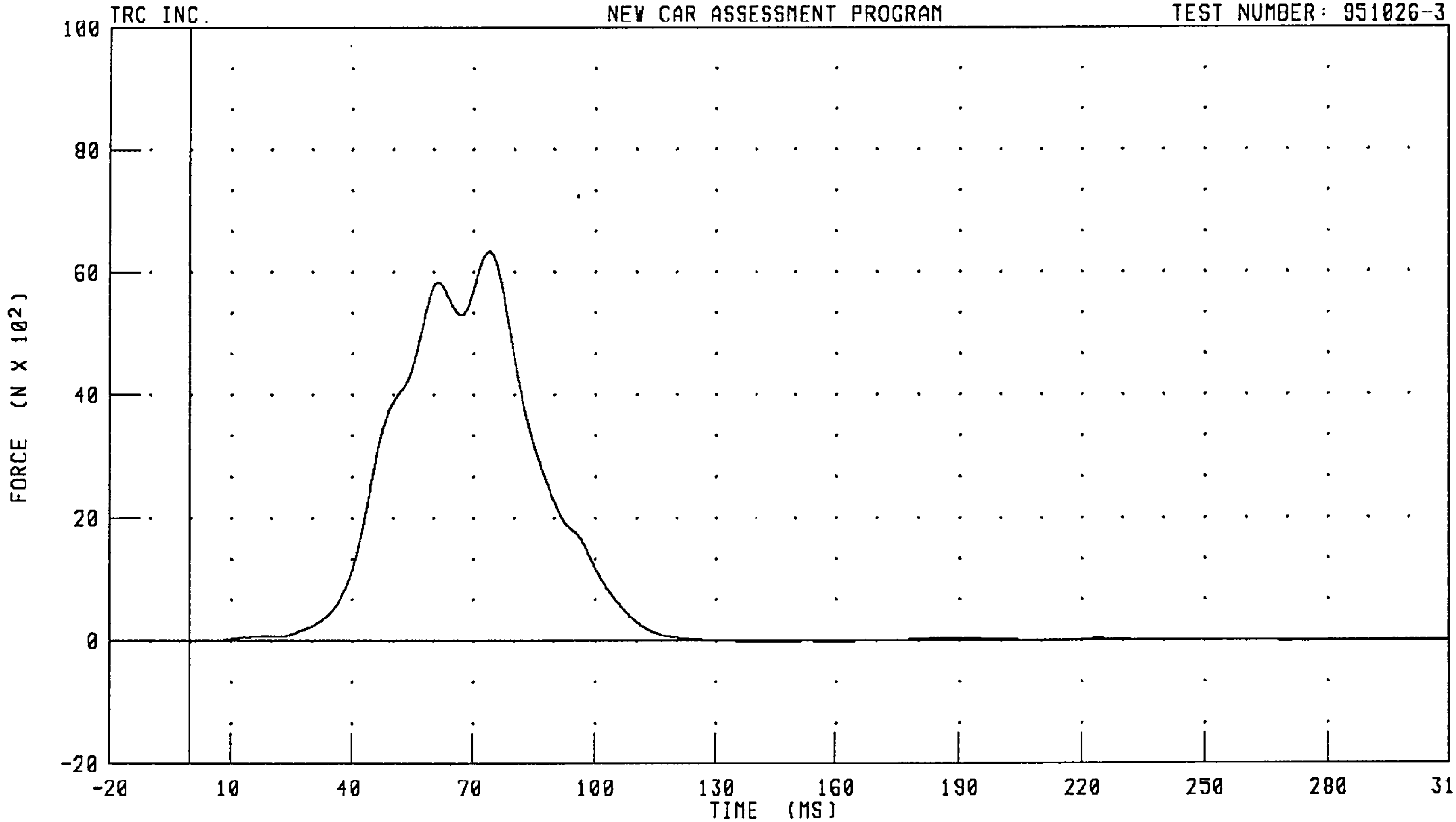
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER LAP BELT OUTBOARD FORCE
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



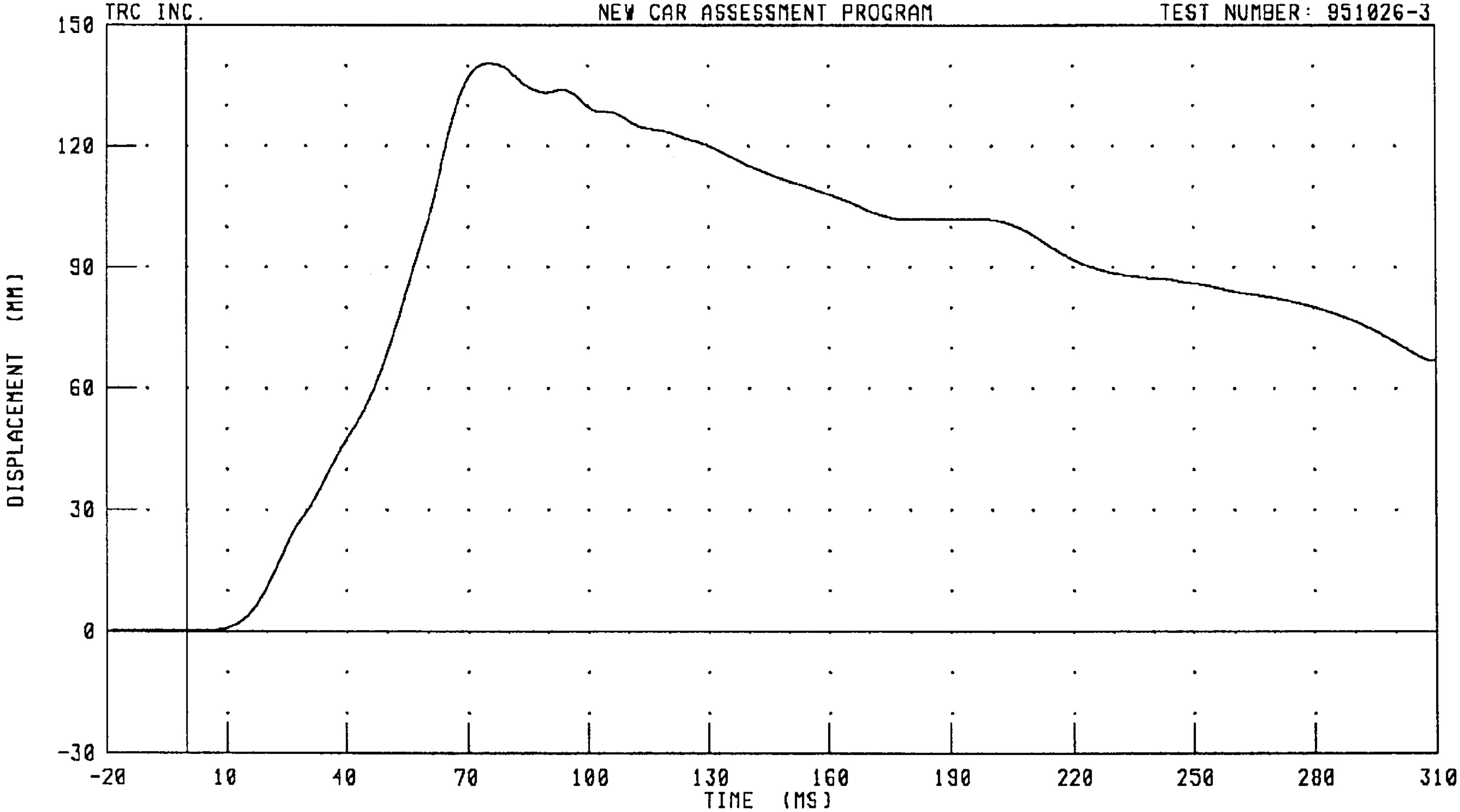
CHANNEL: LBOF2 FILTER: CH. CLASS 60 PEAK DATA: 4575.77 N @ 57.84 MS; -20.29 N @ 104.48 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER SHOULDER BELT FORCE
NEW CAR ASSESSMENT PROGRAM



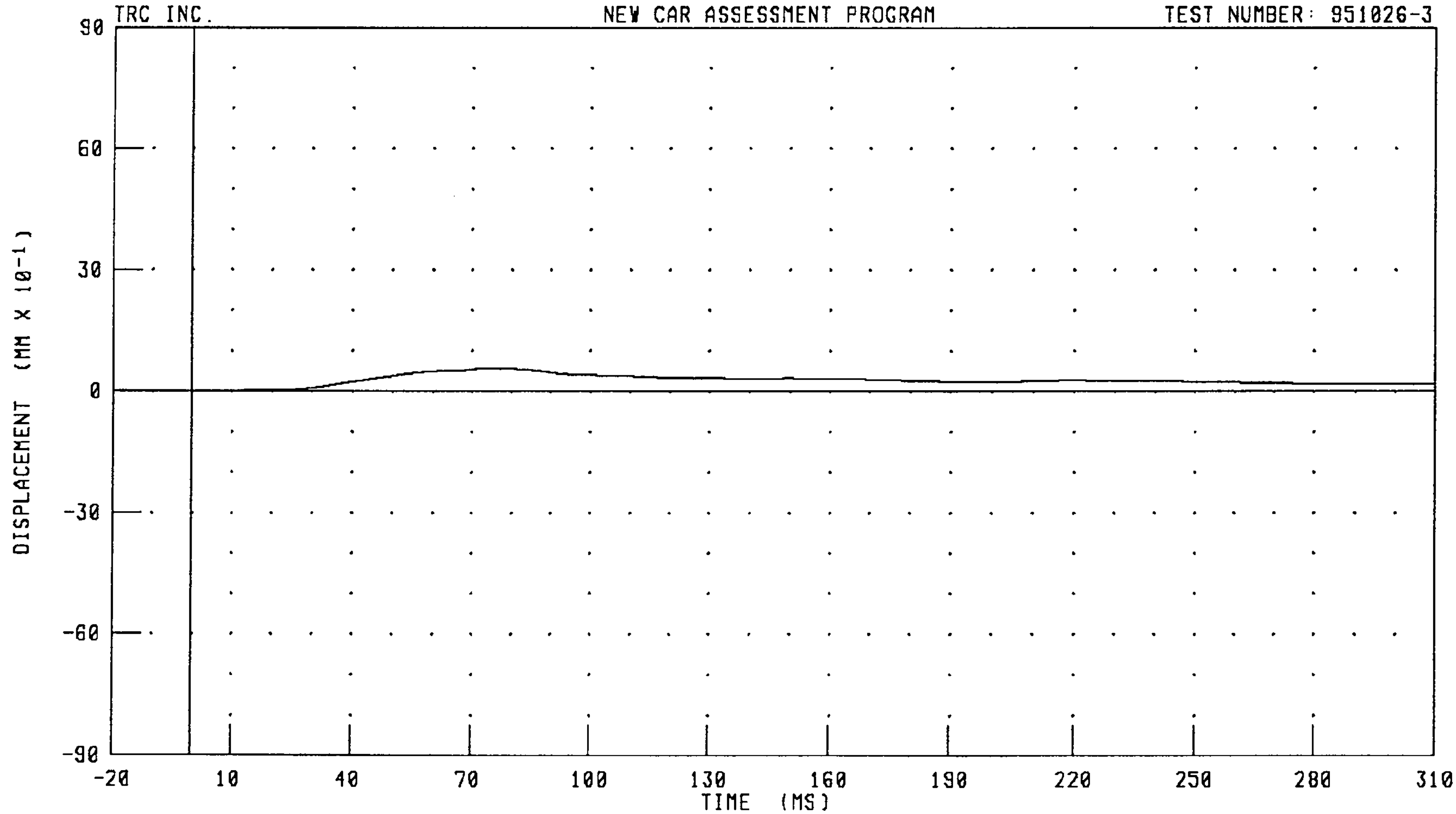
CHANNEL: SHBF2 FILTER: CH. CLASS 60 PEAK DATA: 6331.29 N @ 74.00 MS; -8.21 N @ 139.28 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER SHOULDER BELT DISPLACEMENT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: SHB02 FILTER: CH. CLASS 60 PEAK DATA: 140.45 MM @ 75.28 MS; 0.05 MM @ -20.00 MS

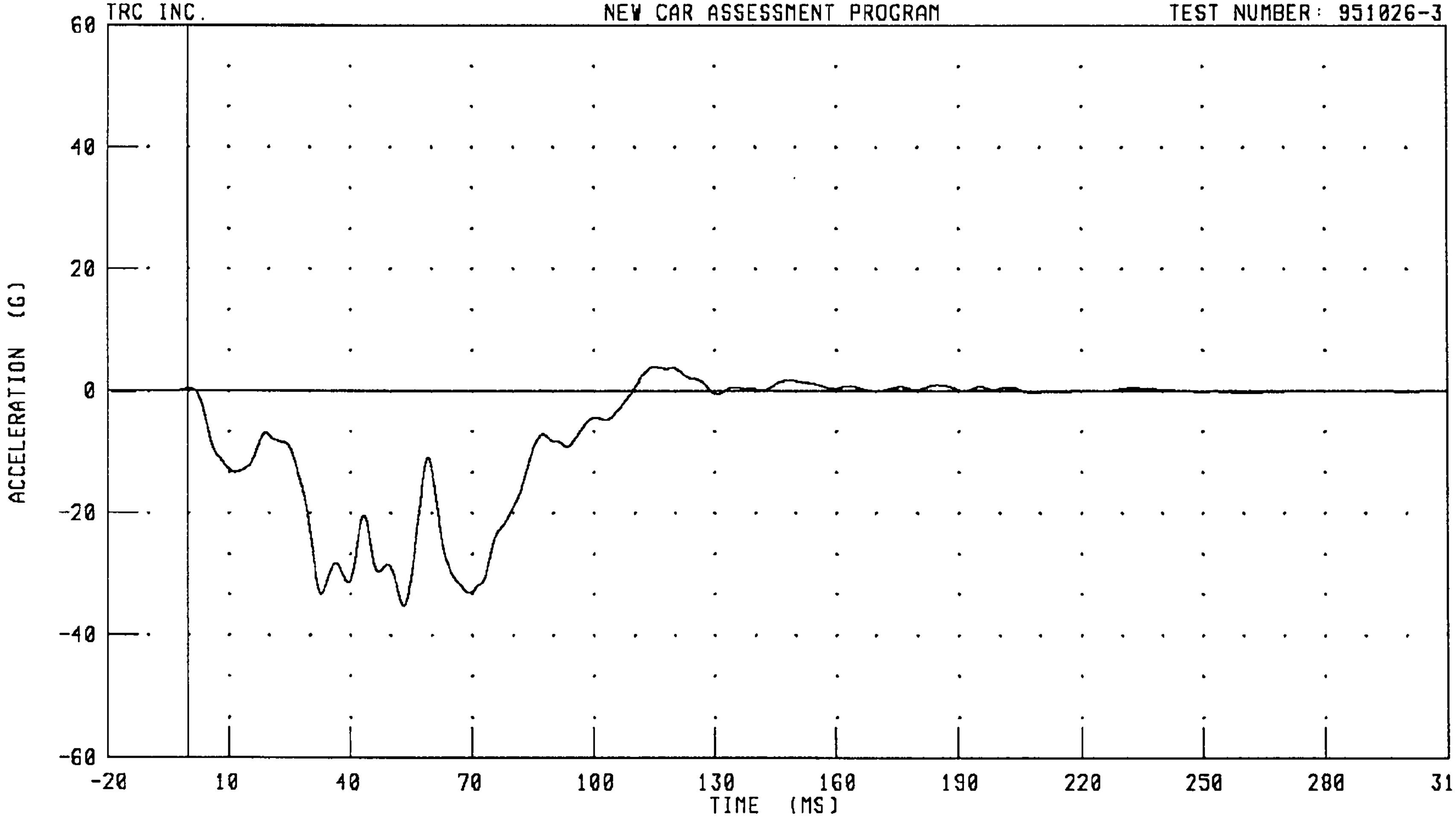
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
PASSENGER SEAT BELT EXTENSION



CHANNEL: SBED2 FILTER: CH. CLASS 60 PEAK DATA: 0.57 MM @ 74.64 MS; 0.00 MM @ 7.12 MS

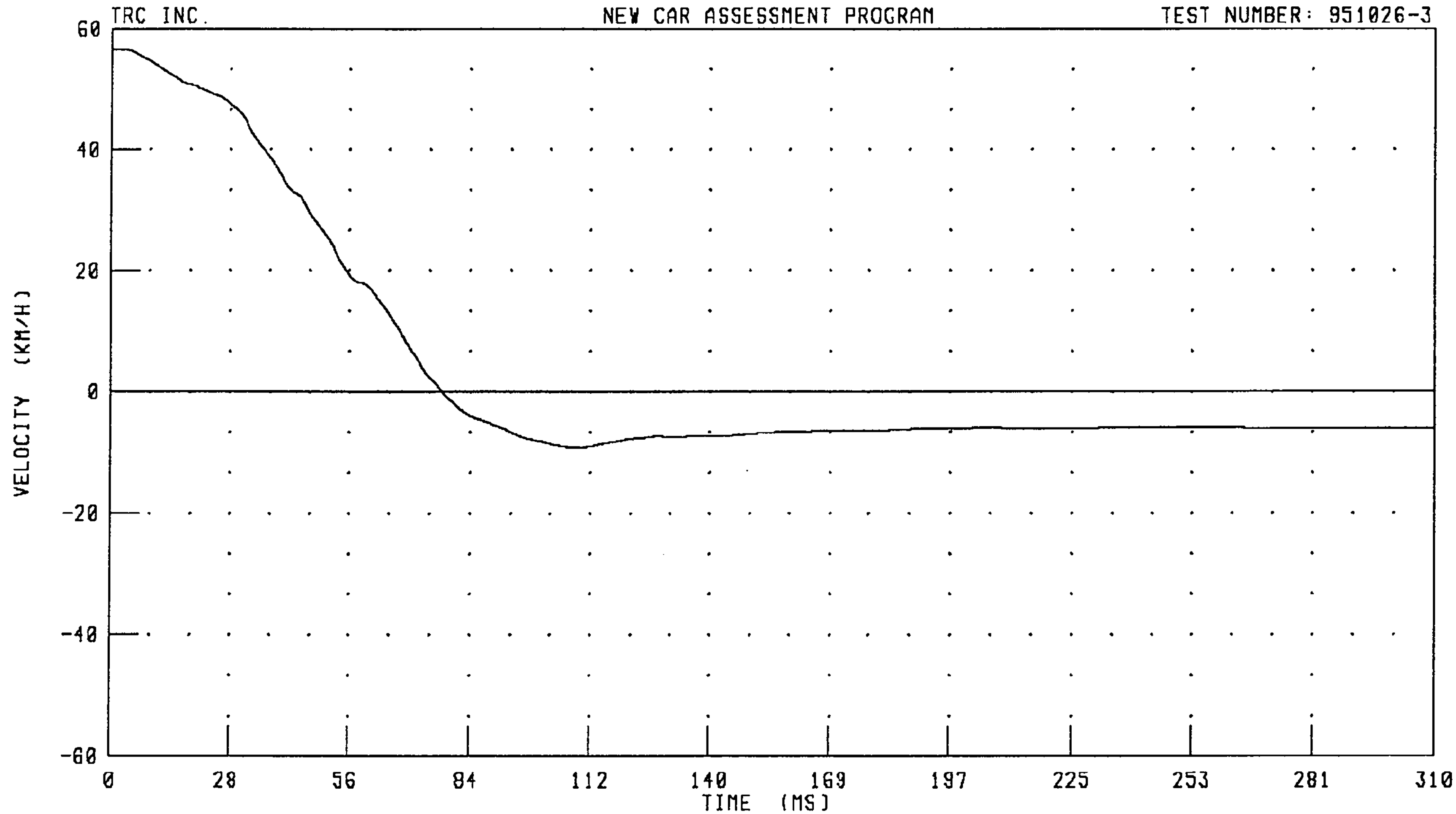
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LEFT REAR SEAT X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



CHANNEL: TLRXG1 FILTER: CH. CLASS 60 PEAK DATA: 3.91 G @ 114.88 MS; -35.27 G @ 53.20 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LEFT REAR SEAT X-AXIS VELOCITY
NEW CAR ASSESSMENT PROGRAM

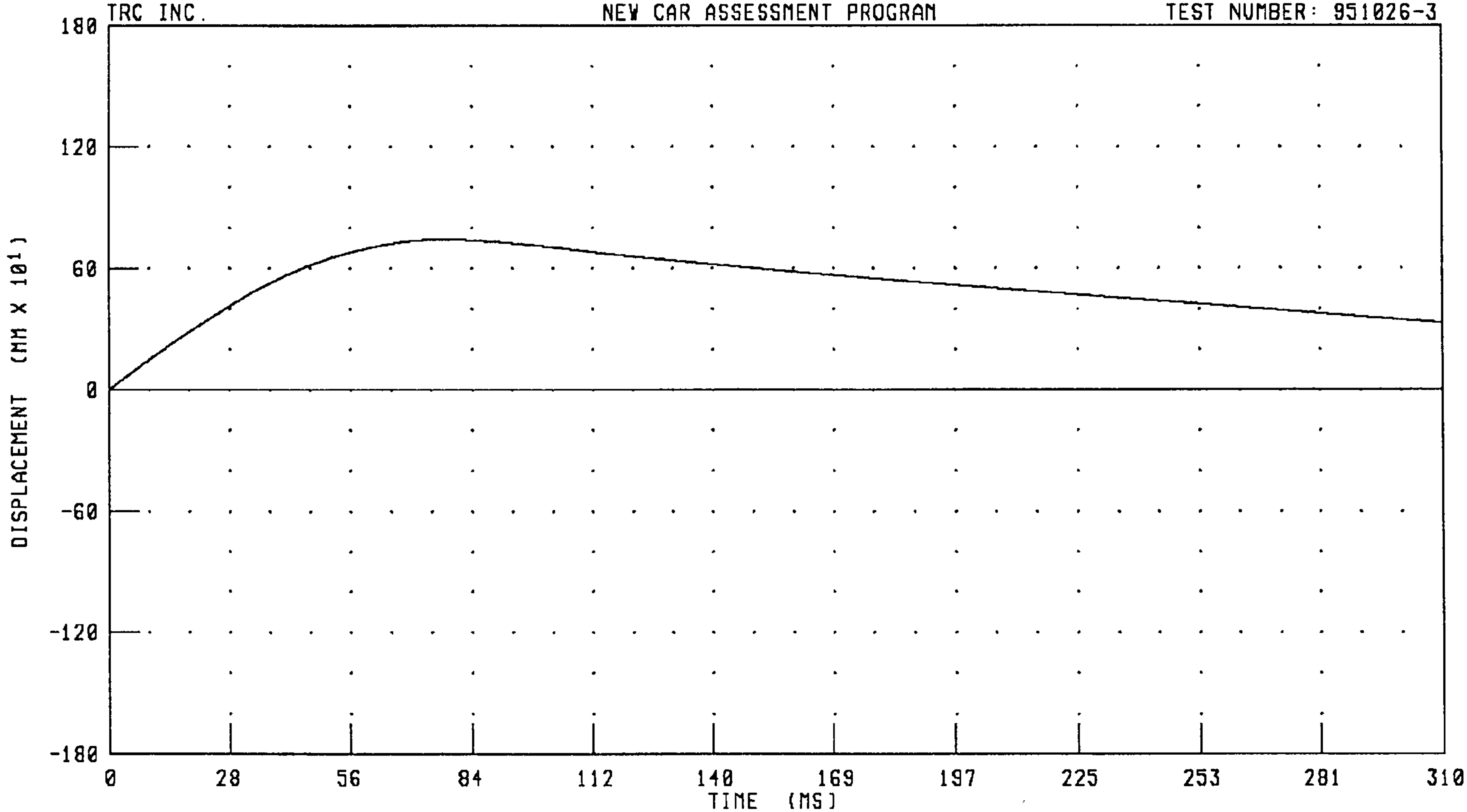


CHANNEL: TLRXV1 FILTER: CH. CLASS 180 PEAK DATA: 56.50 KM/H @ 3.44 MS; -9.16 KM/H @ 110.32 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LEFT REAR SEAT X-AXIS DISPLACEMENT
NEW CAR ASSESSMENT PROGRAM

TRC INC.

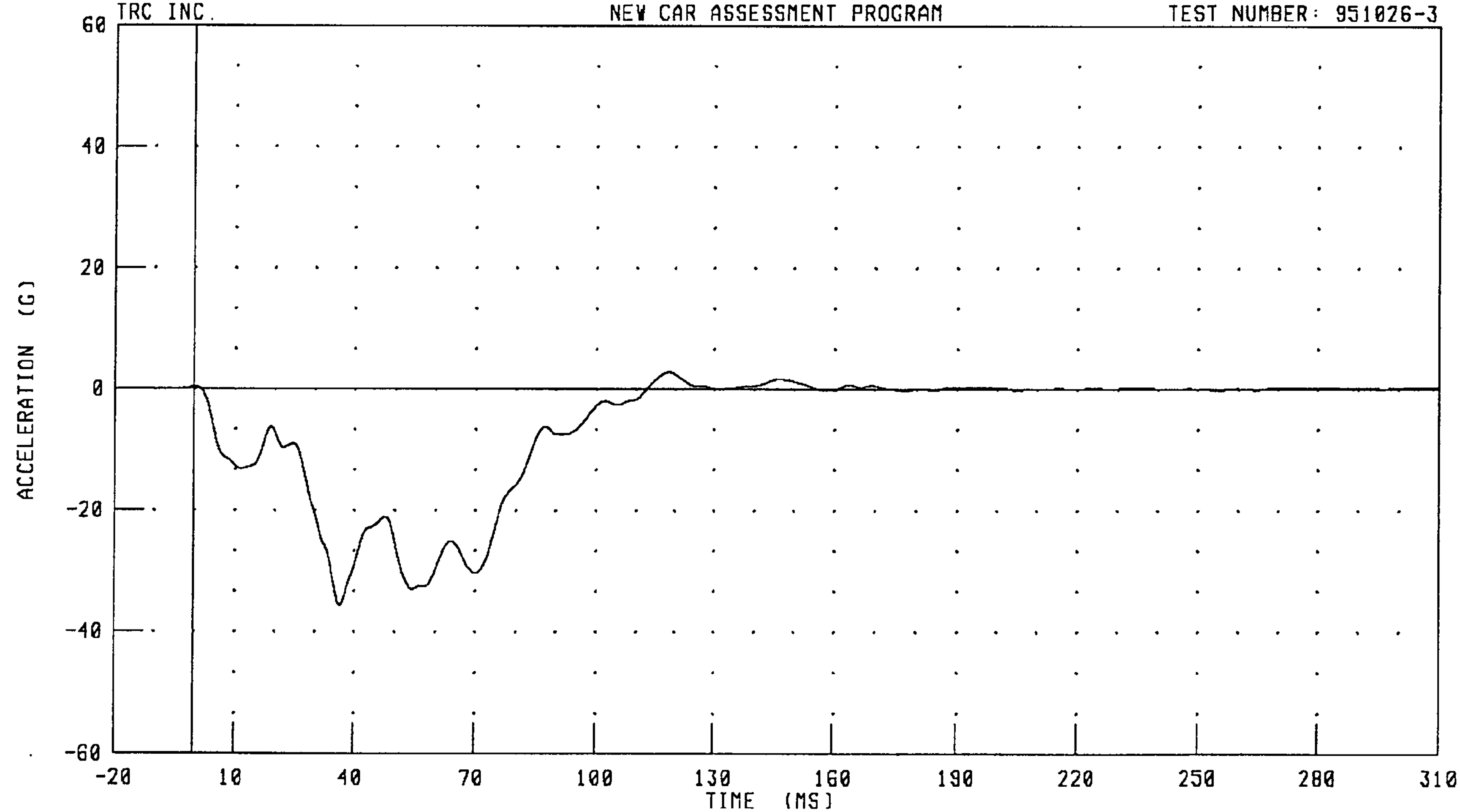
TEST NUMBER: 951026-3



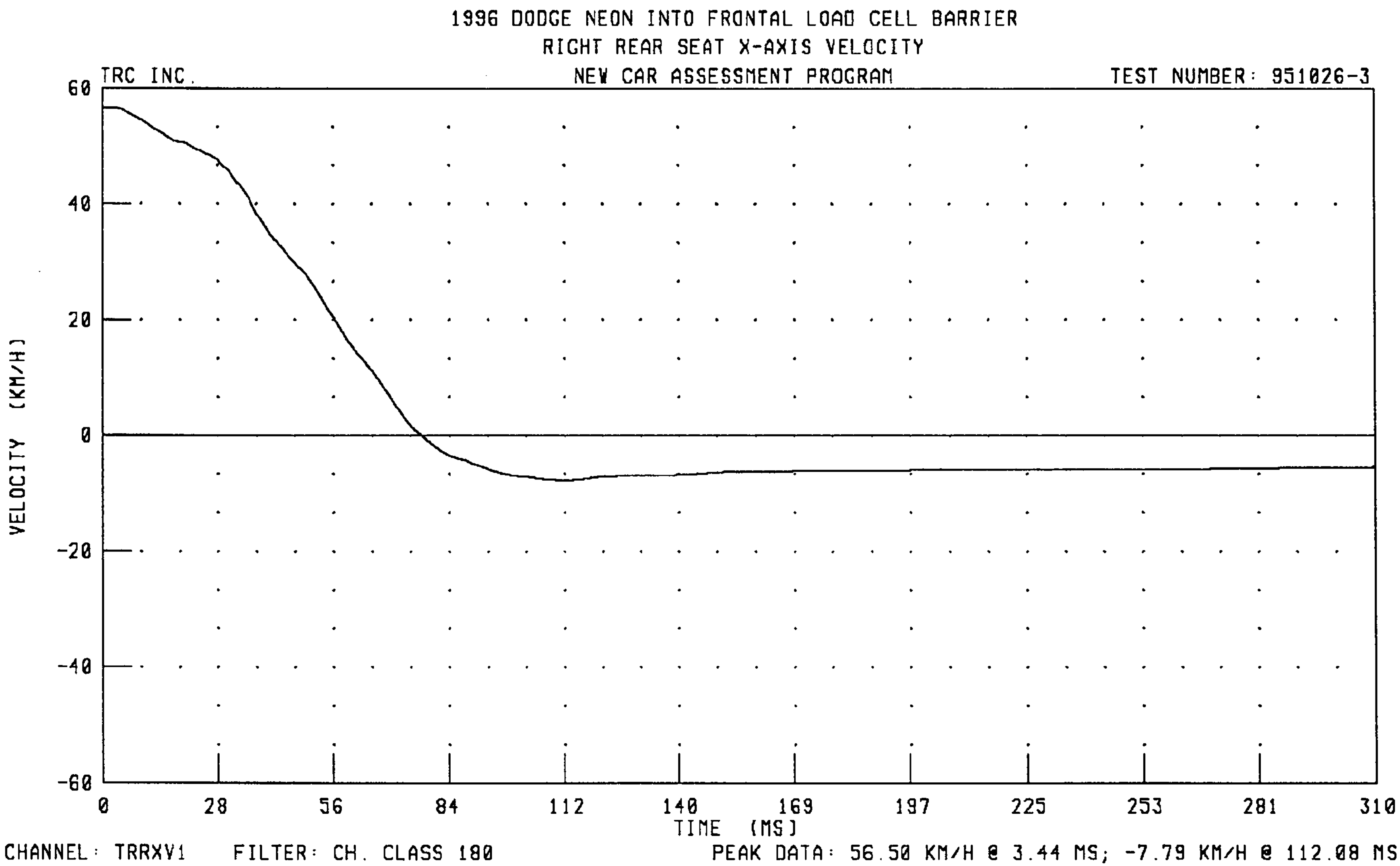
CHANNEL: TLRXD1 FILTER: CH. CLASS 180 PEAK DATA: 742.01 MM @ 78.08 MS; 0.00 MM @ 0.00 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
RIGHT REAR SEAT X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM

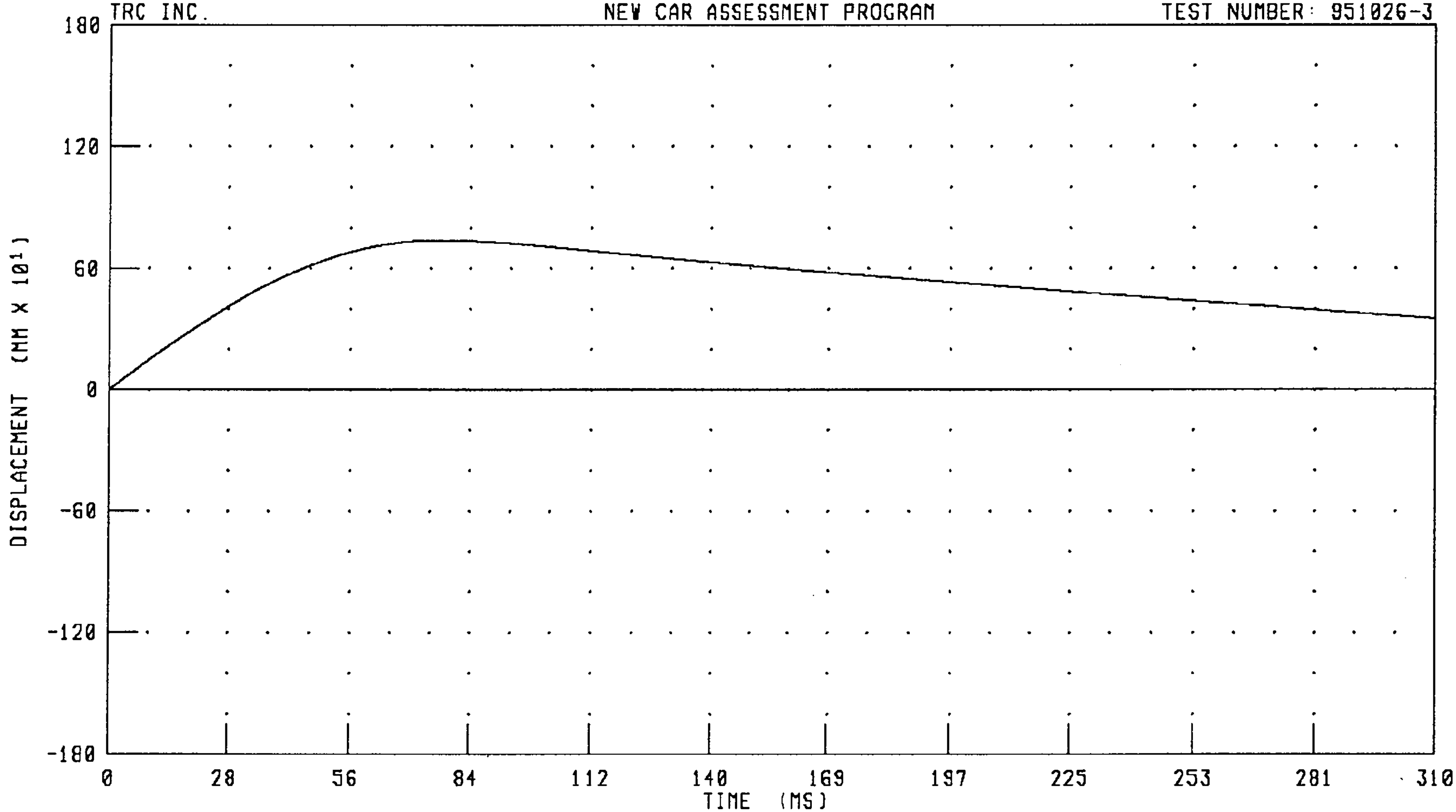
TEST NUMBER: 951026-3



CHANNEL: TRRXG1   FILTER: CH. CLASS 60   PEAK DATA: 2.84 G @ 118.64 MS; -35.67 G @ 36.48 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
RIGHT REAR SEAT X-AXIS VELOCITY
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
VELOCITY (KM/H)
60
40
20
0
-20
-40
-60
0
28
56
84
112
140
169
197
225
253
281
310
TIME (MS)
CHANNEL: TRRXV1
FILTER: CH. CLASS 180
PEAK DATA: 56.50 KM/H @ 3.44 MS; -7.79 KM/H @ 112.08 MS

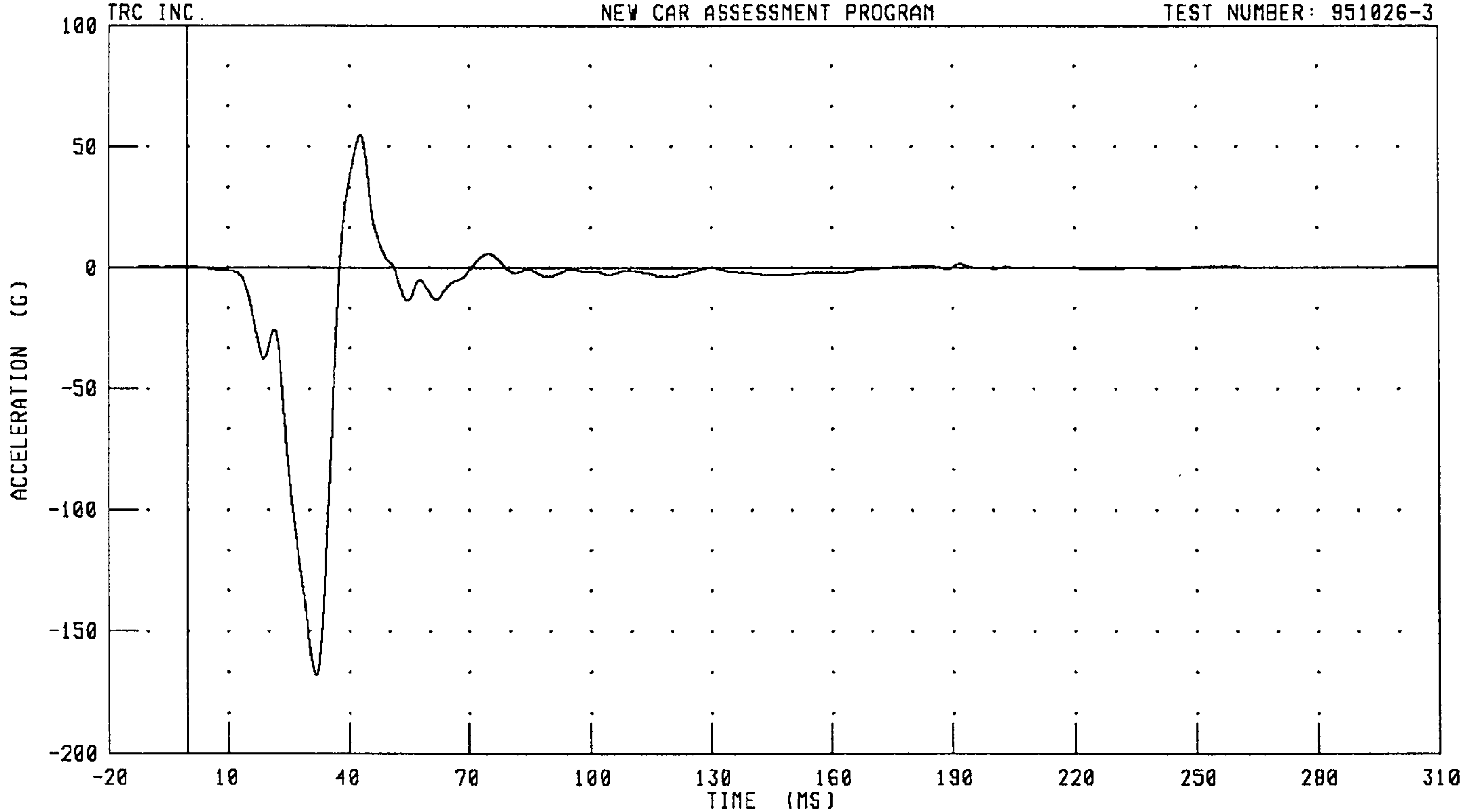
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
RIGHT REAR SEAT X-AXIS DISPLACEMENT
NEW CAR ASSESSMENT PROGRAM



CHANNEL: TRRXD1 FILTER: CH. CLASS 180 PEAK DATA: 739.29 MM @ 77.84 MS; 0.00 MM @ 0.00 MS

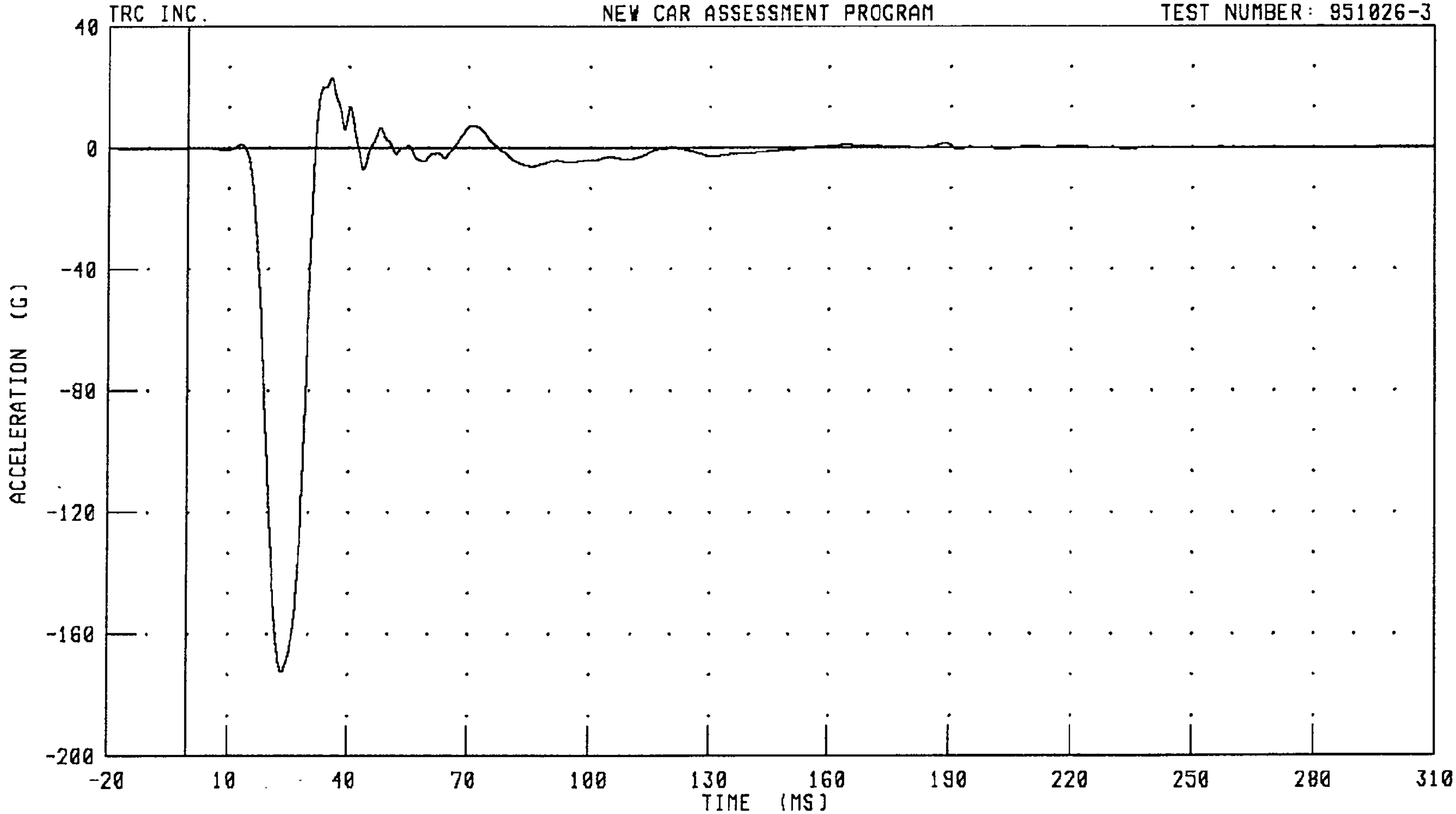
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
ENGINE TOP X-AXIS ACCELERATION

TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3



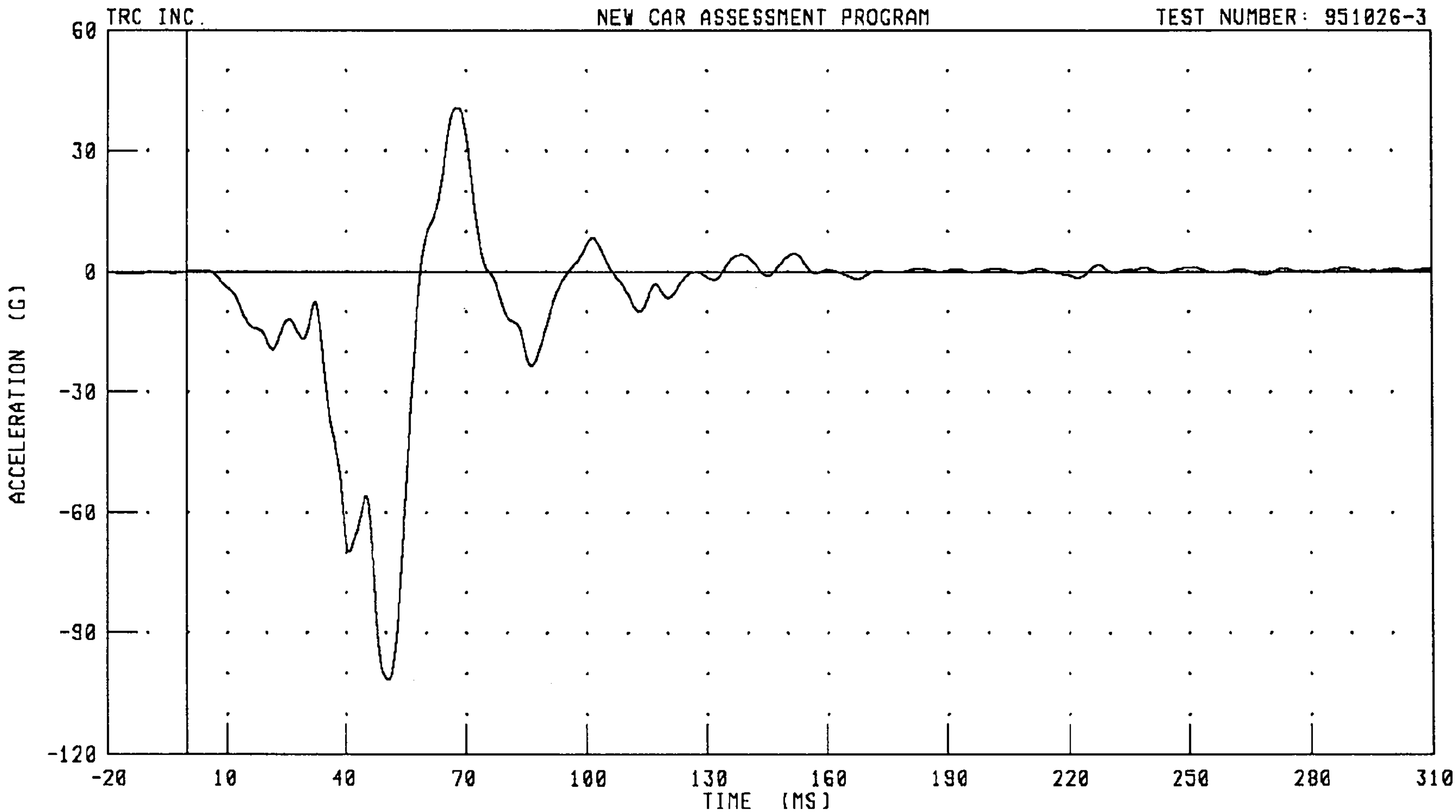
CHANNEL: ENGXG1 FILTER: CH. CLASS 60 PEAK DATA: 55.04 G @ 42.96 MS; -168.03 G @ 31.76 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
ENGINE BOTTOM X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



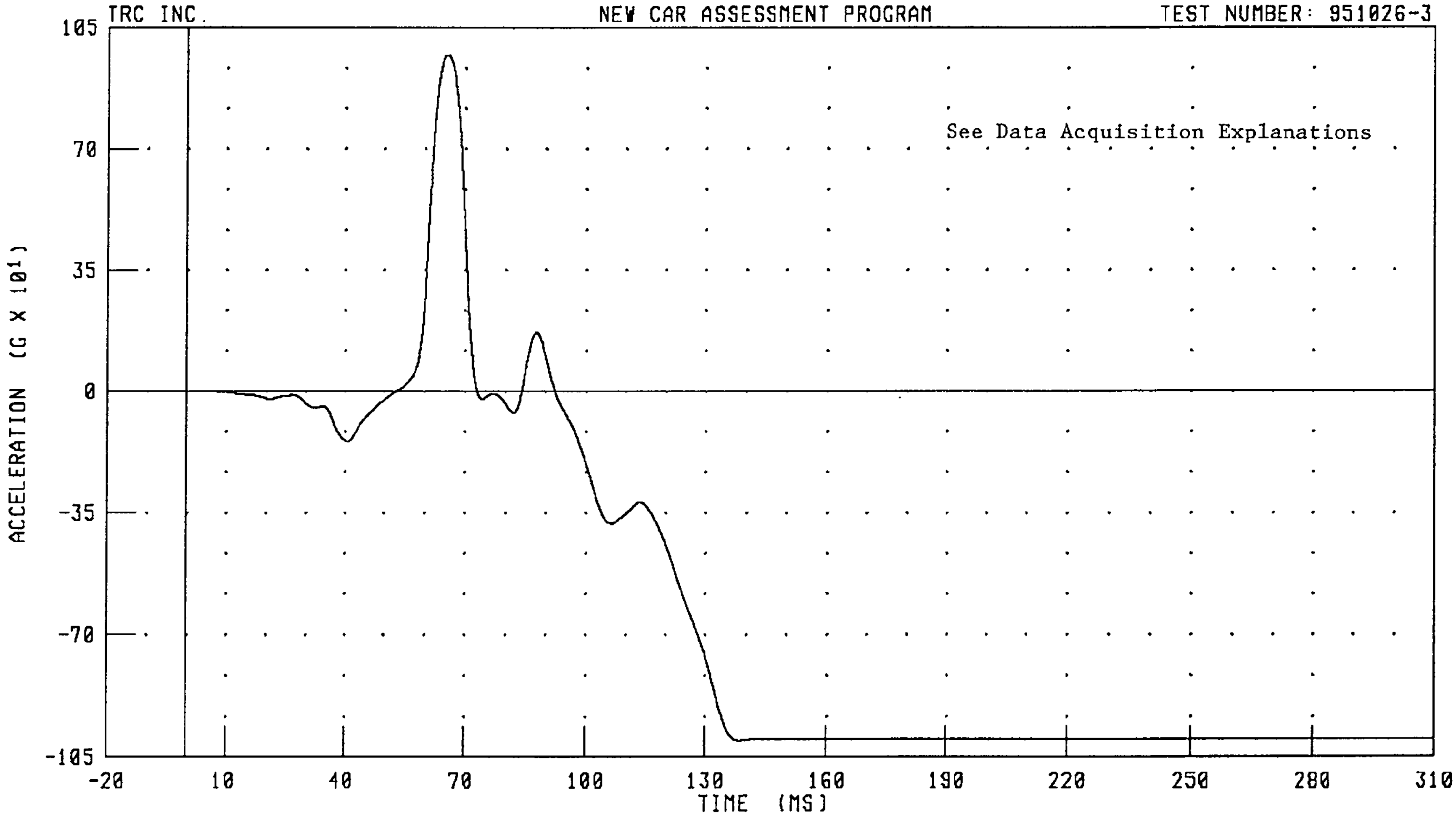
CHANNEL: ENGXG2   FILTER: CH. CLASS 60   PEAK DATA: 23.03 G @ 35.68 MS; -172.53 G @ 23.68 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
RIGHT BRAKE CALIPER X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: BCRXG1 FILTER: CH. CLASS 60 PEAK DATA: 40.66 G @ 68.00 MS; -101.65 G @ 50.72 MS

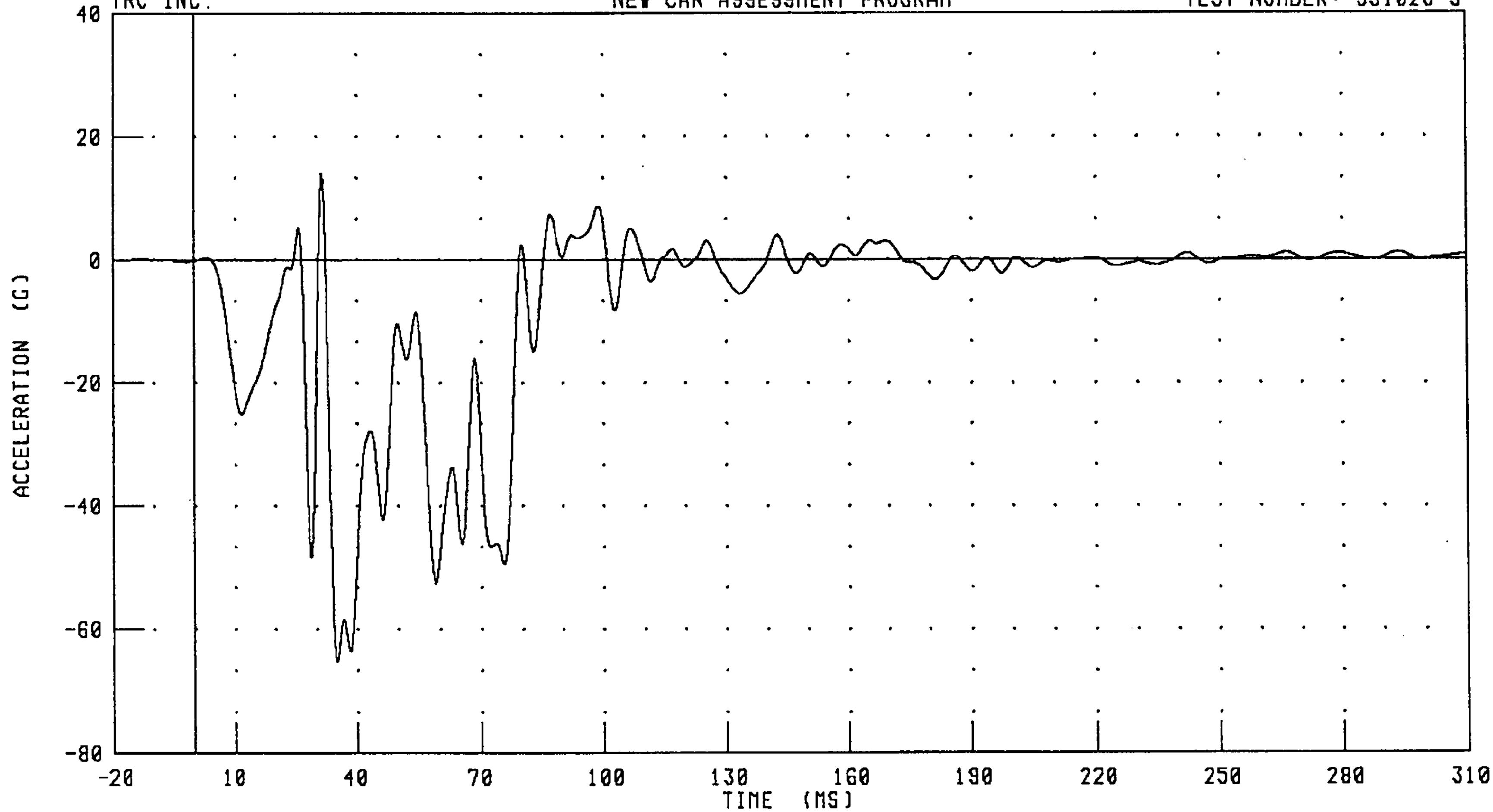
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LEFT BRAKE CALIPER X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: BCLXG1 FILTER: CH. CLASS 60 PEAK DATA: 970.63 G @ 65.60 MS; -1003.20 G @ 138.40 MS

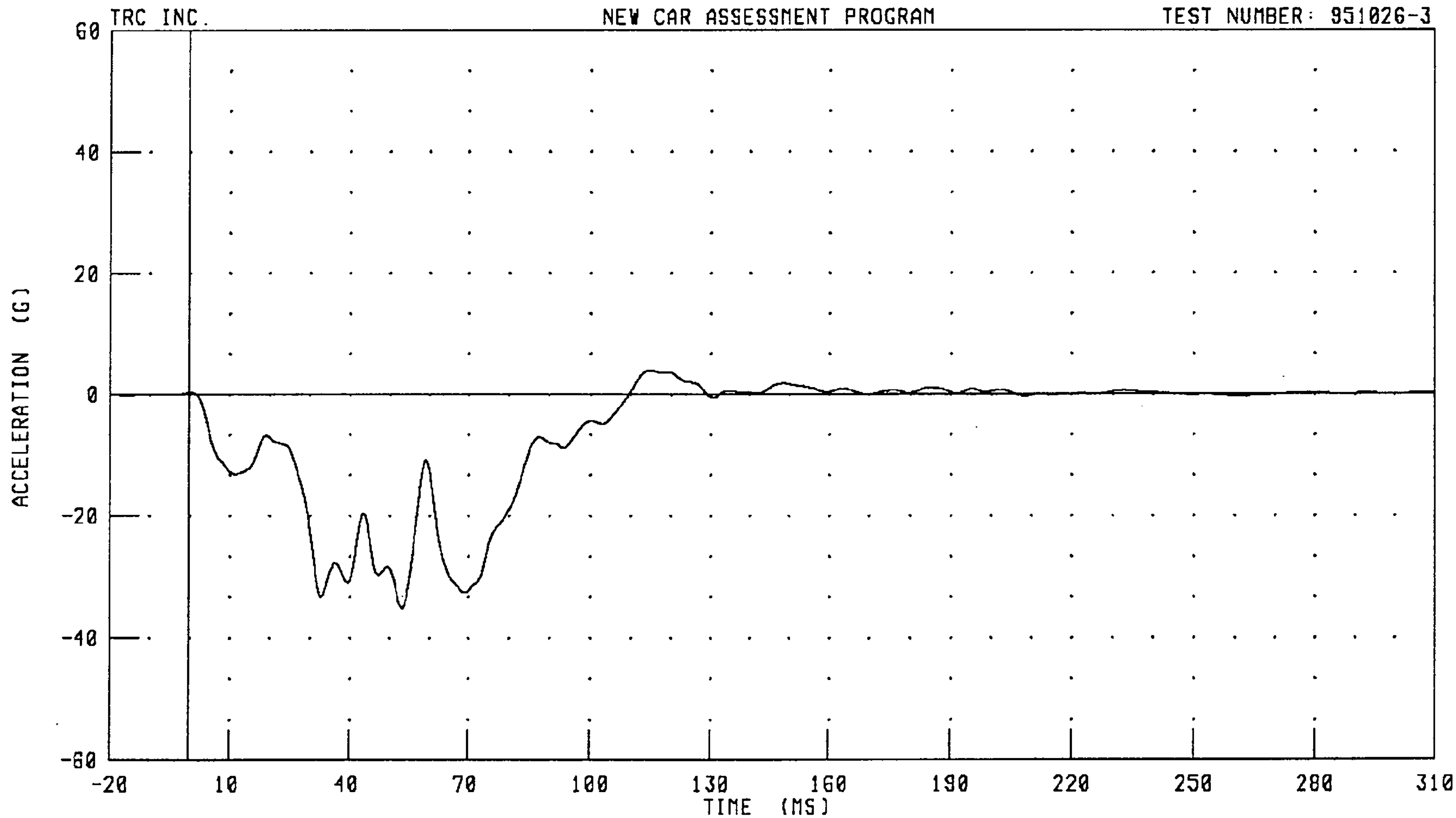
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
INSTRUMENT PANEL CENTER X-AXIS ACCELERATION

TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3



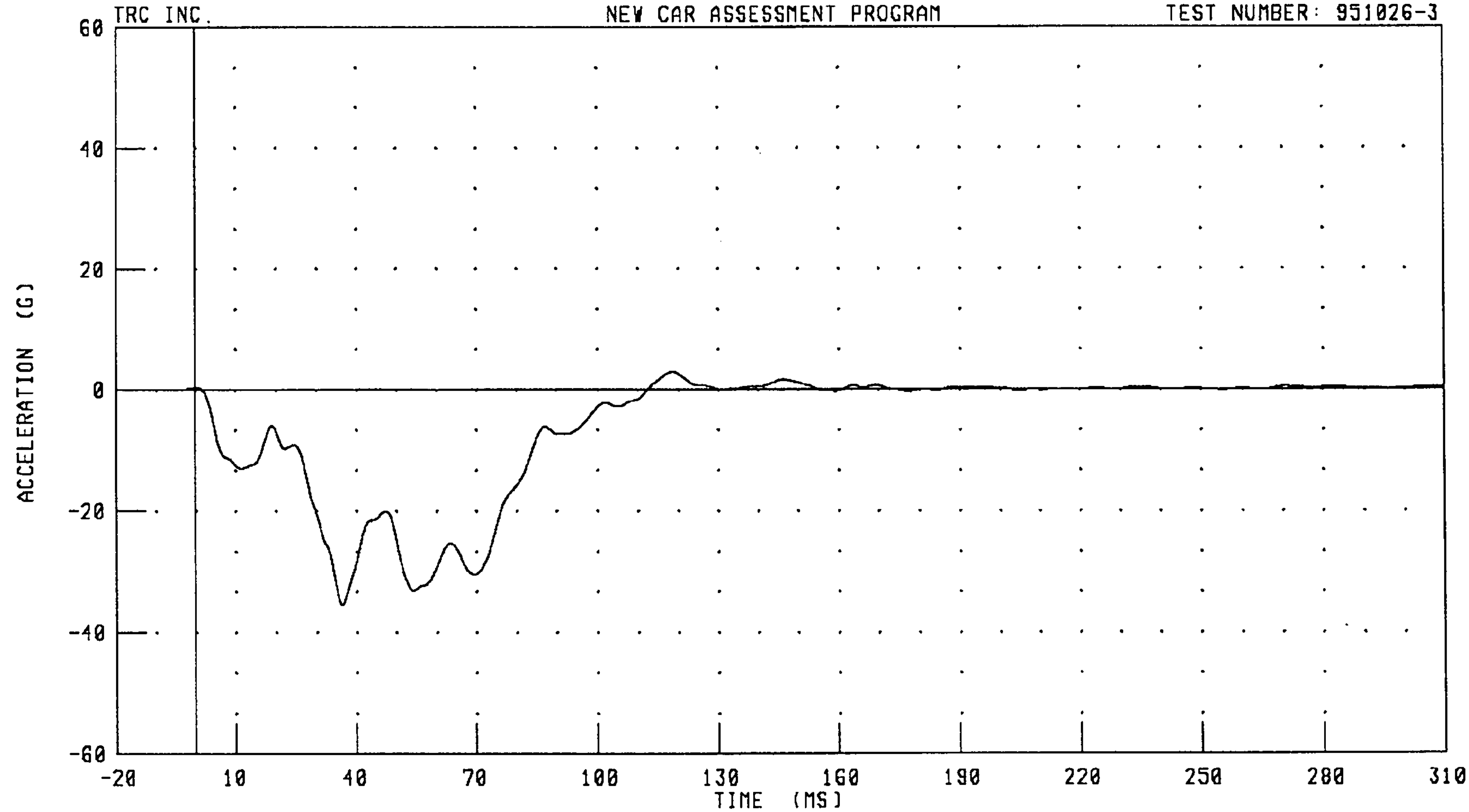
CHANNEL: DPCXG1 FILTER: CH. CLASS 60 PEAK DATA: 13.99 G @ 31.52 MS; -65.21 G @ 35.04 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LEFT REAR SEAT REDUNDANT X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: TLRXGA   FILTER: CH. CLASS 60   PEAK DATA: 3.98 G @ 114.80 MS; -35.17 G @ 53.20 MS

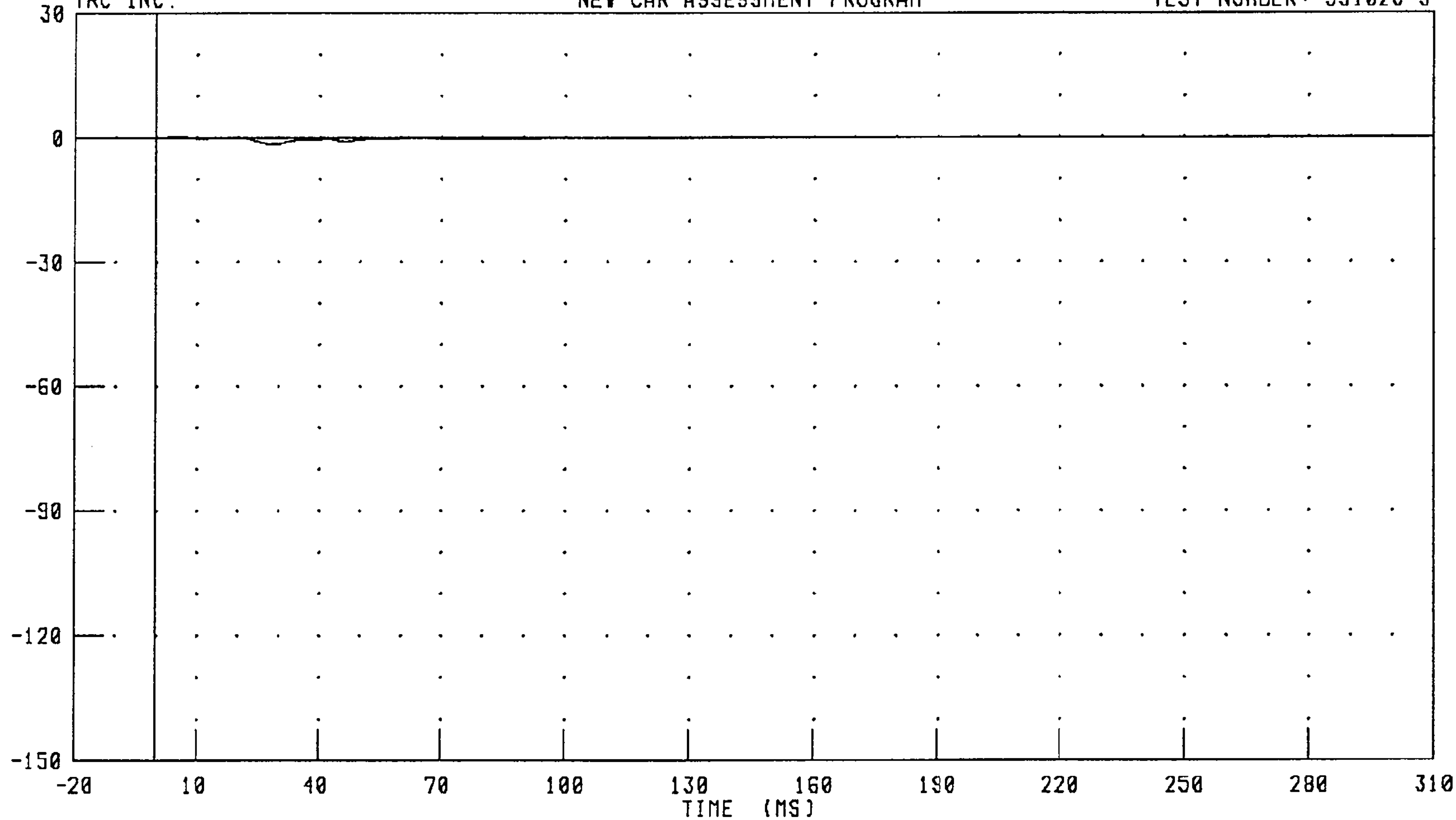
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
RIGHT REAR SEAT REDUNDANT X-AXIS ACCELERATION
NEW CAR ASSESSMENT PROGRAM



CHANNEL: TRRXGA FILTER: CH. CLASS 60 PEAK DATA: 2.87 G @ 118.72 MS; -35.46 G @ 36.56 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION A2 FORCE

TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3

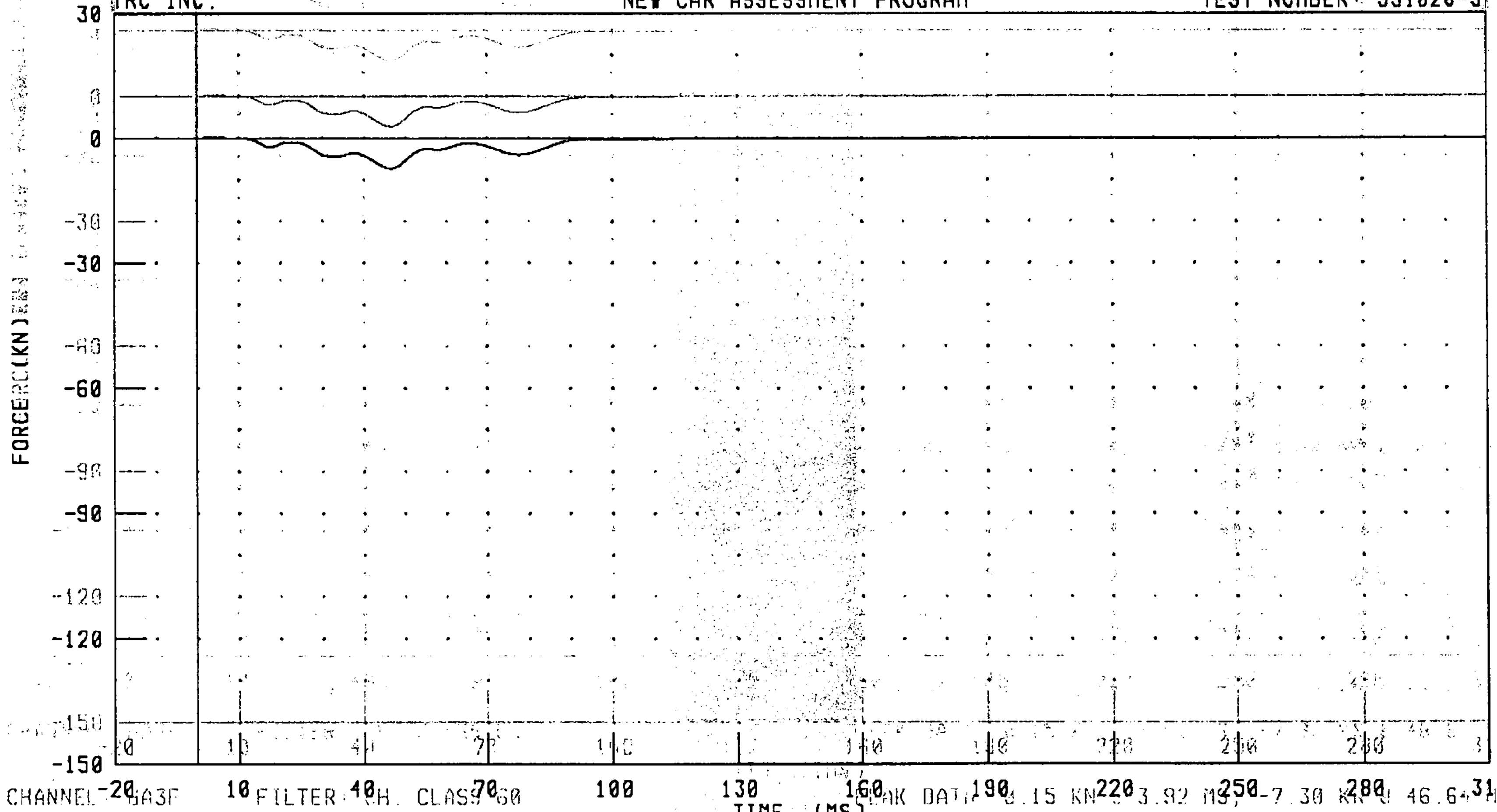


CHANNEL: BA2F FILTER: CH. CLASS 60 PEAK DATA: 0.15 KN @ 5.76 MS; -1.61 KN @ 29.04 MS

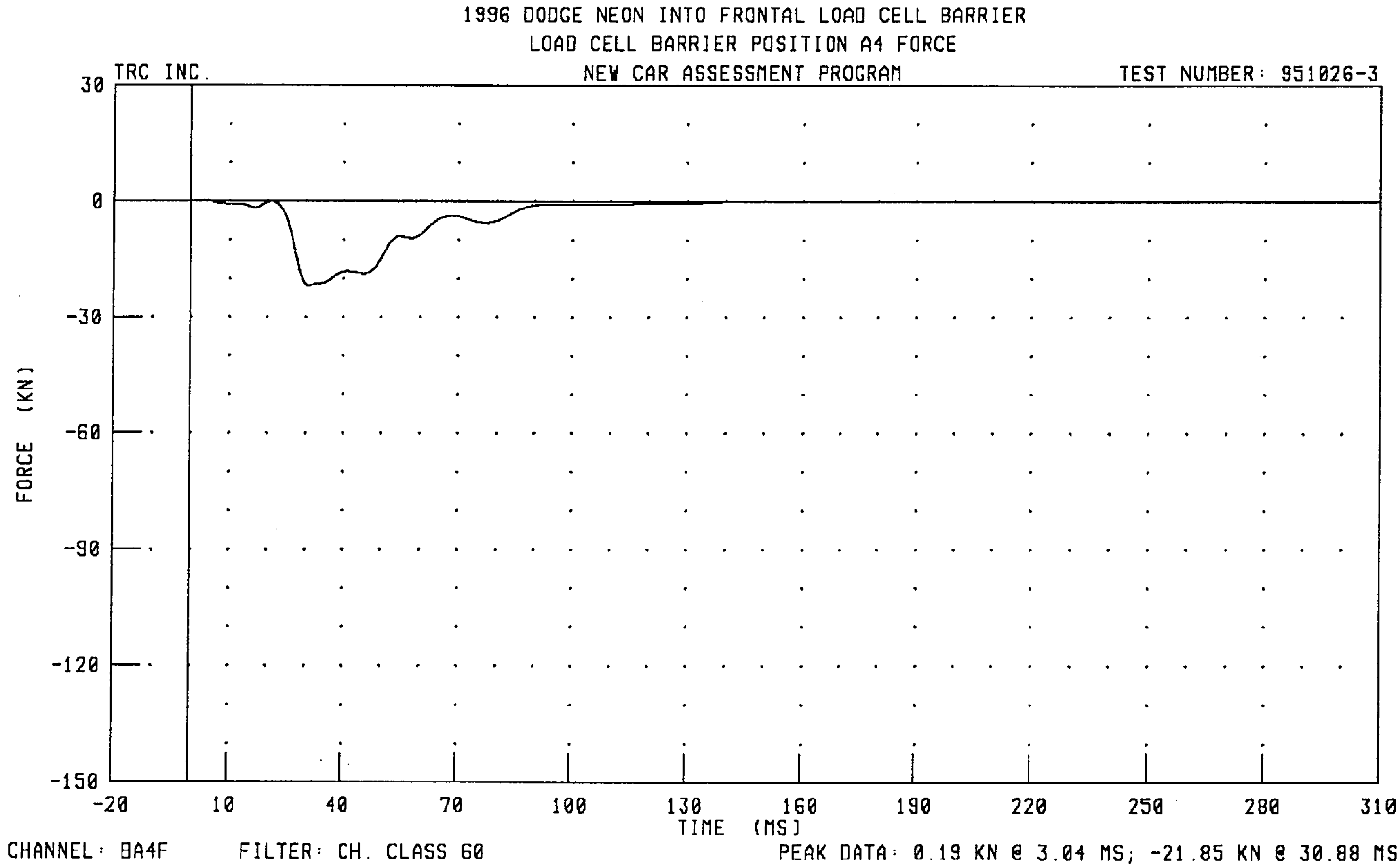
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER

LOAD CELL BARRIER POSITION A3 FORCE

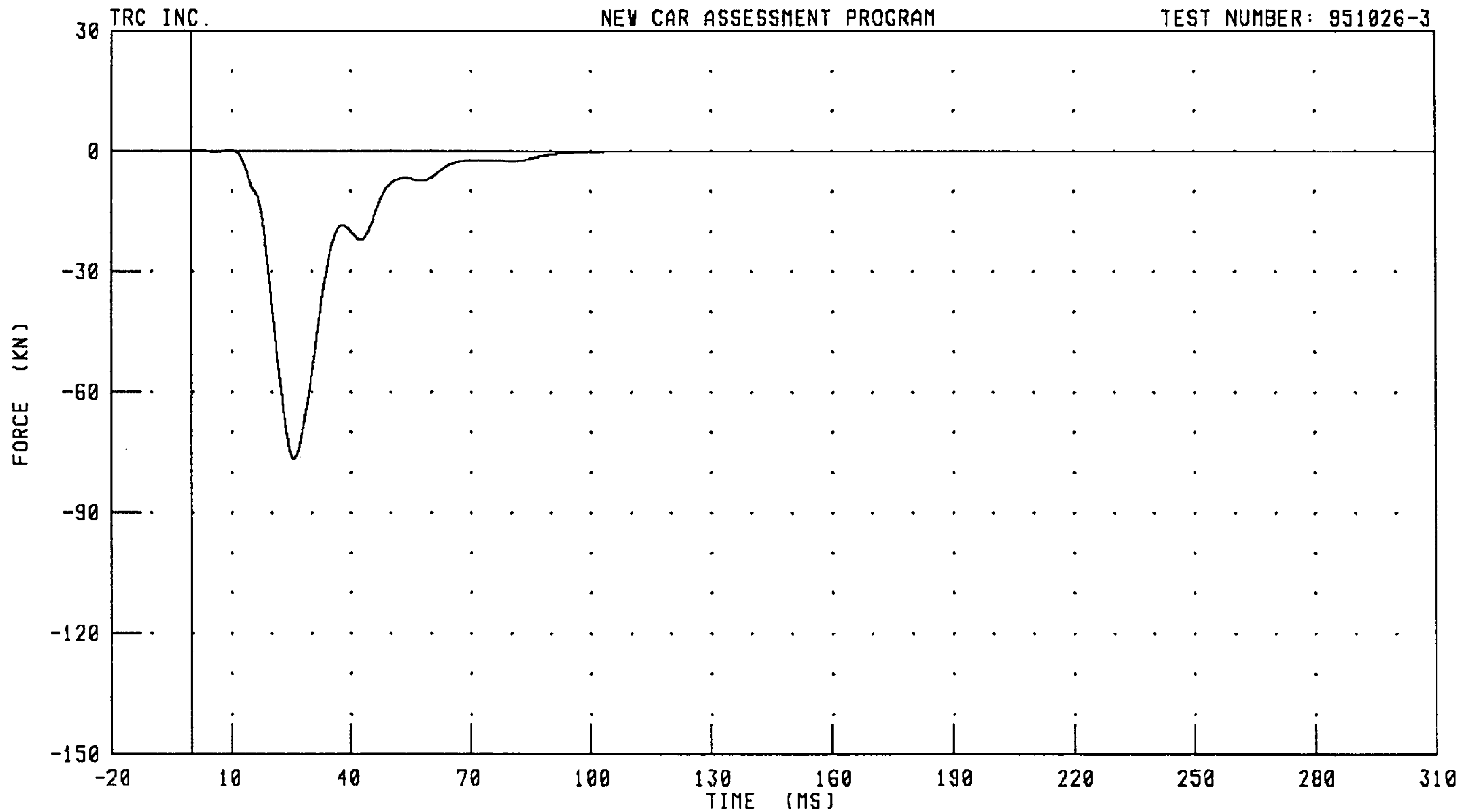
TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3



CHANNEL: BA3F FILTER: CH. CLASS 60 PEAK DATA: 0.15 KN @ 3.92 MS; -7.30 KN @ 46.64 MS

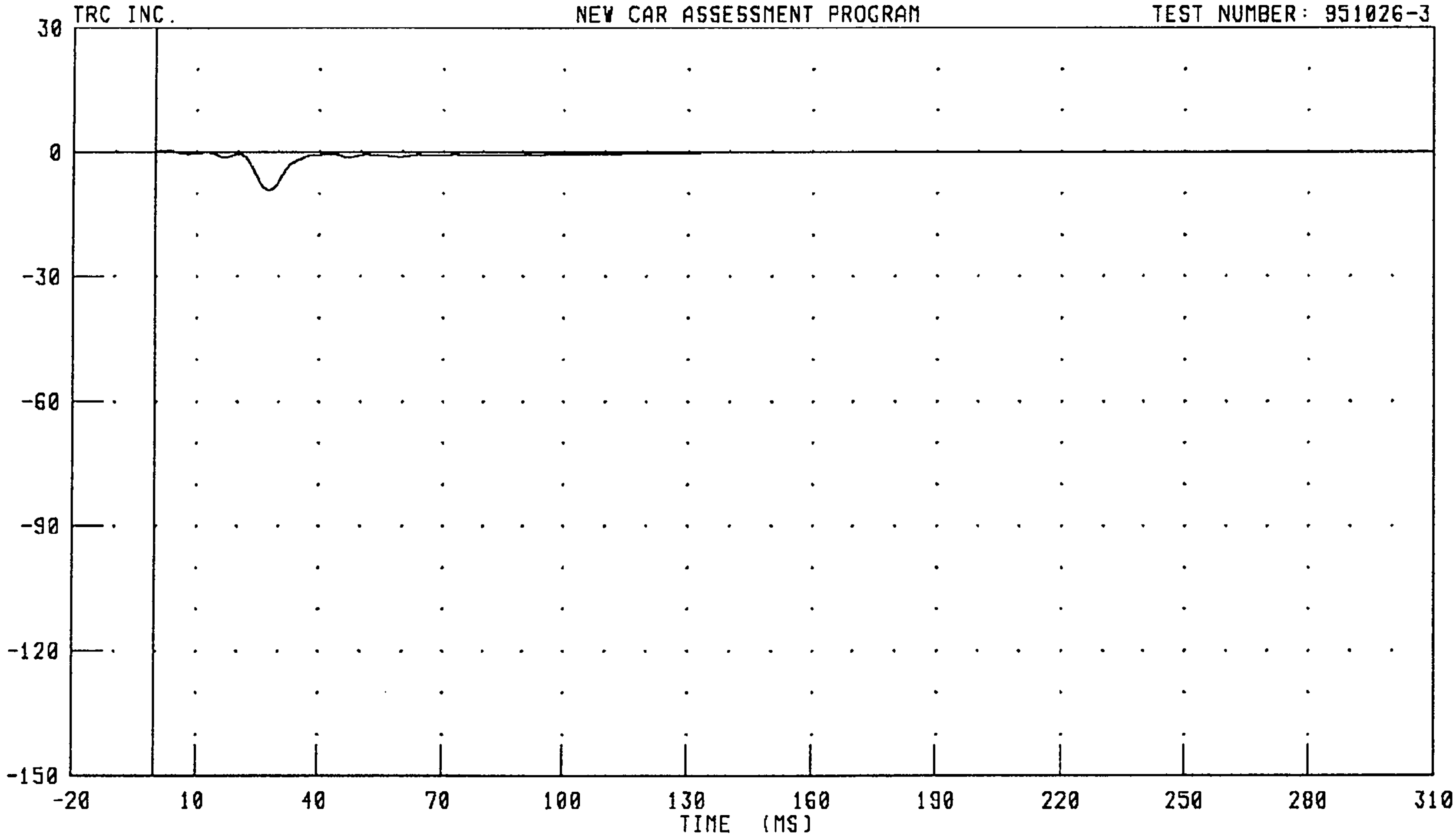

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION A4 FORCE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
30
0
-30
-60
-90
-120
-150
FORCE (KN)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: BA4F
FILTER: CH. CLASS 60
PEAK DATA: 0.19 KN @ 3.04 MS; -21.85 KN @ 30.88 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION A5 FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: BA5F FILTER: CH. CLASS 60 PEAK DATA: 0.21 KN @ 9.68 MS; -76.60 KN @ 25.60 MS

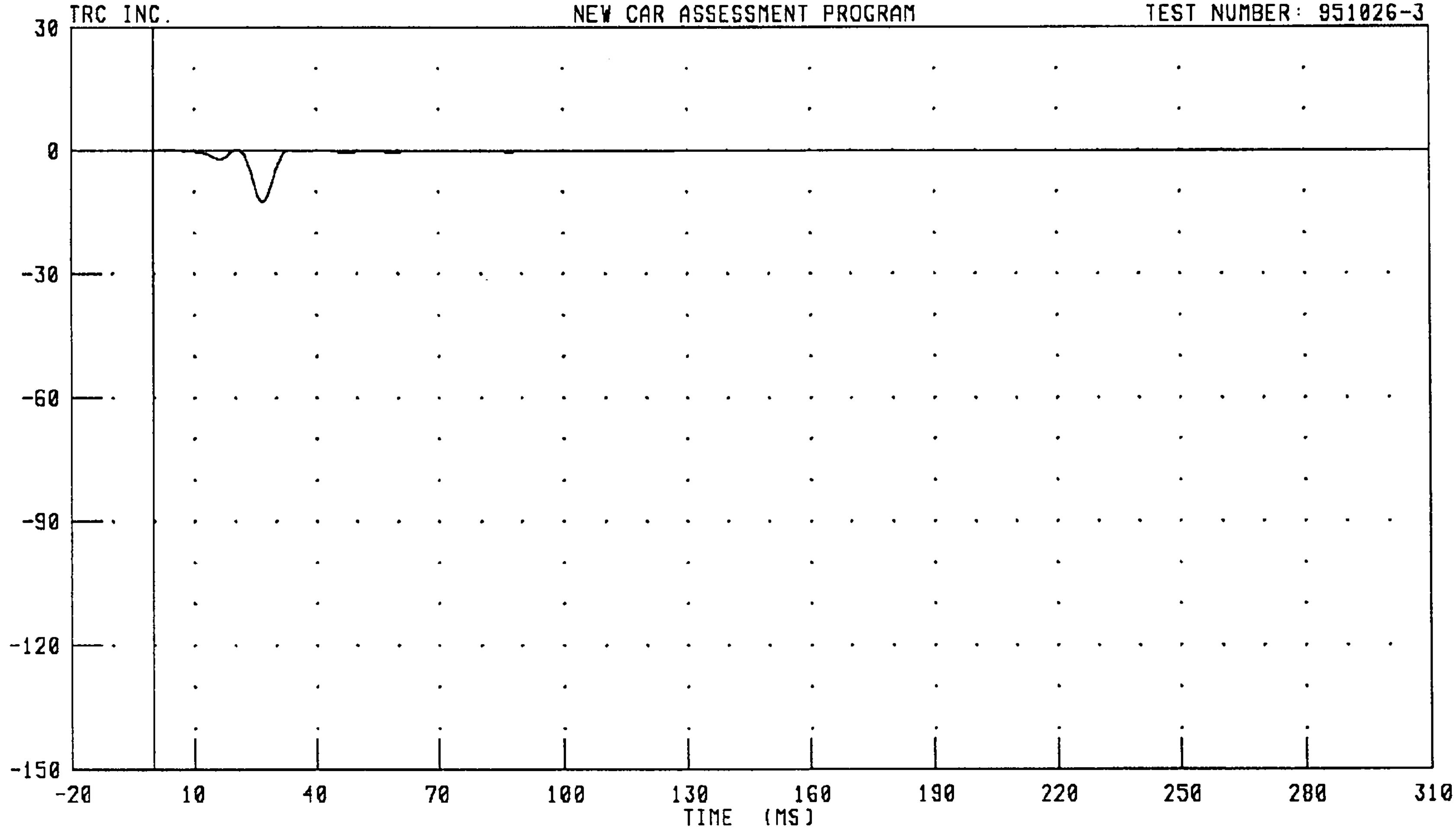
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION A6 FORCE
NEW CAR ASSESSMENT PROGRAM



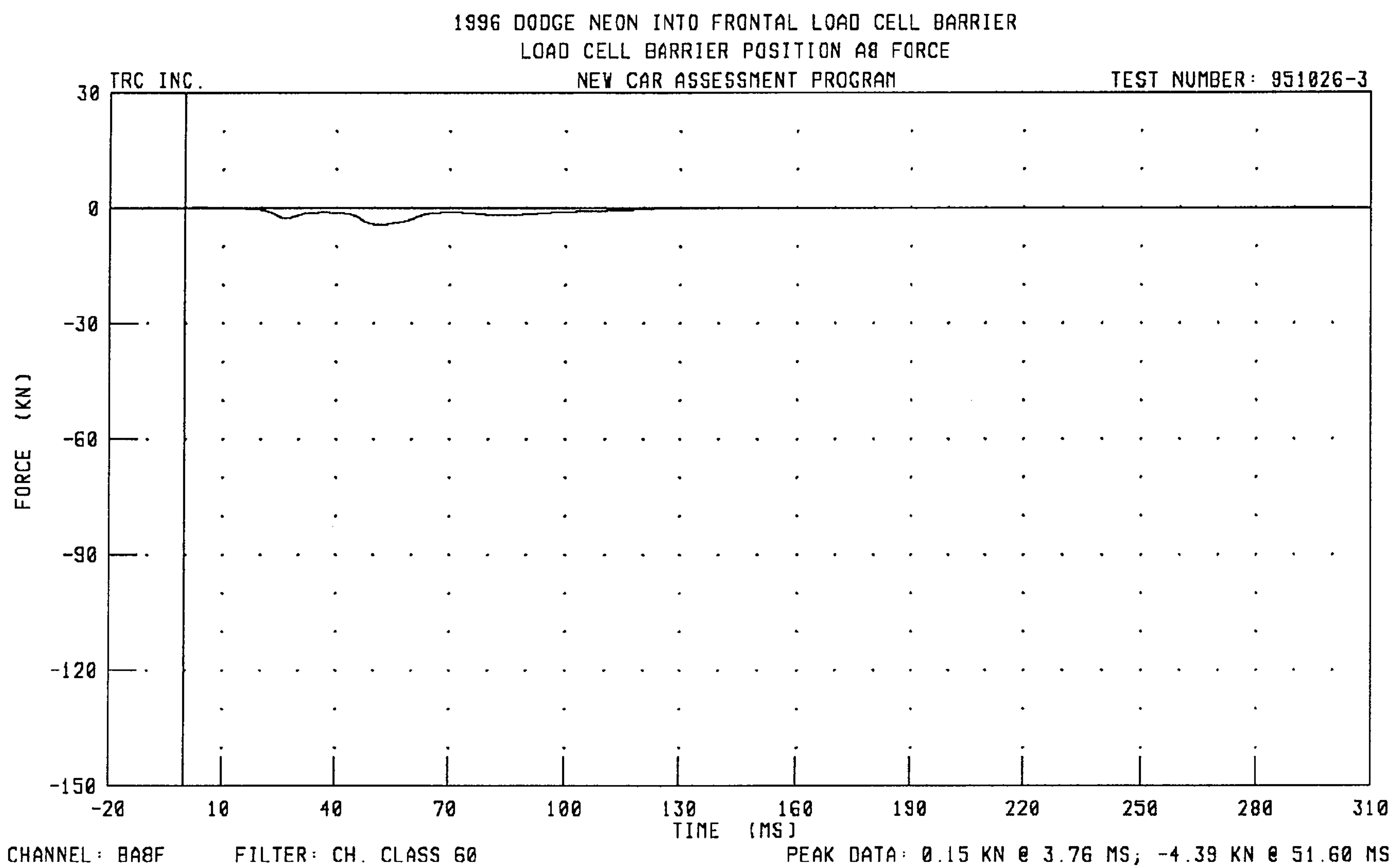
CHANNEL: BA6F FILTER: CH. CLASS 60 PEAK DATA: 0.21 KN @ 2.72 MS; -9.19 KN @ 27.76 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION A7 FORCE
NEW CAR ASSESSMENT PROGRAM

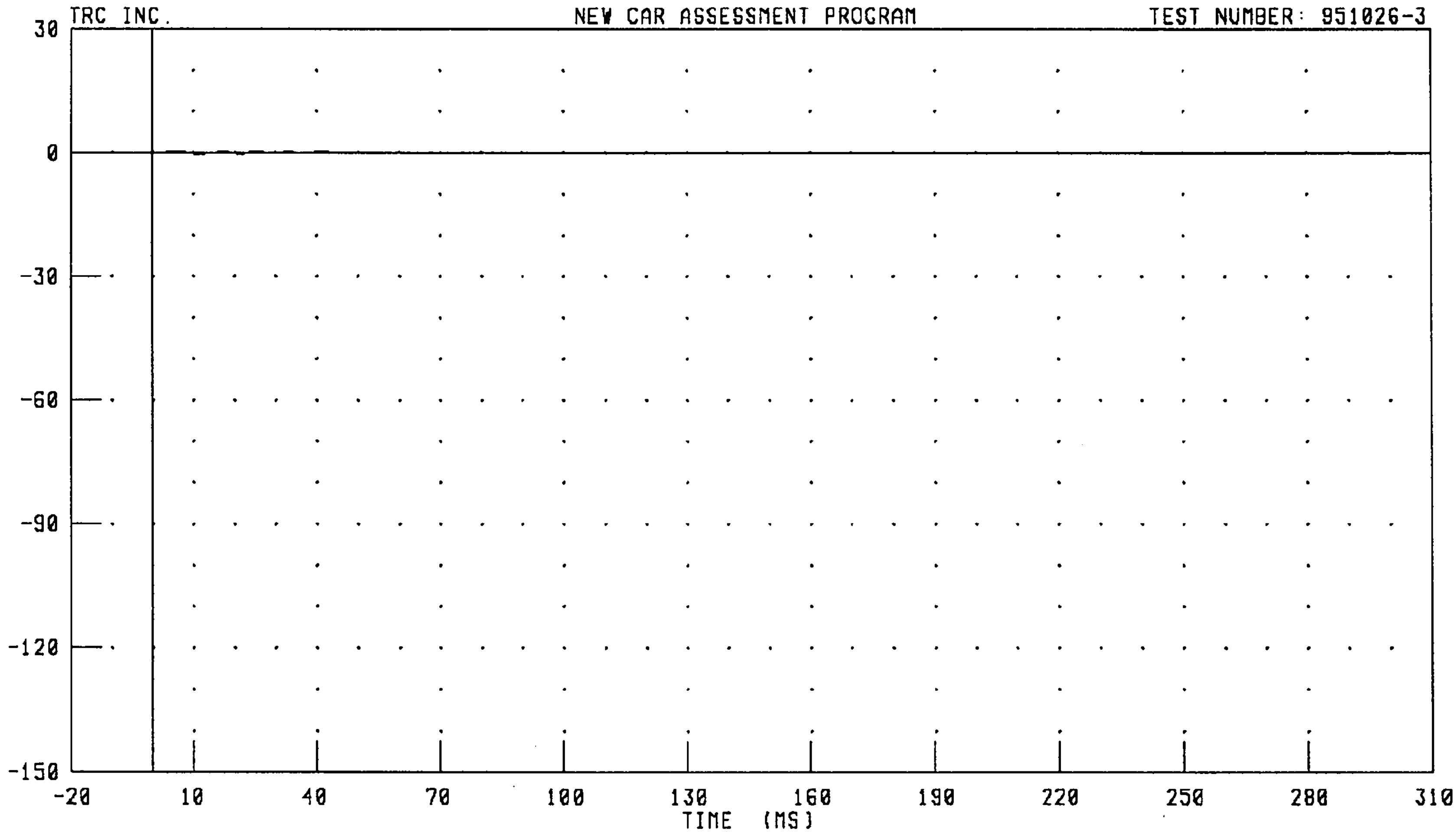
TRC INC. TEST NUMBER: 951026-3



CHANNEL: BA7F FILTER: CH. CLASS 60 PEAK DATA: 0.23 KN @ 20.64 MS; -12.43 KN @ 26.88 MS

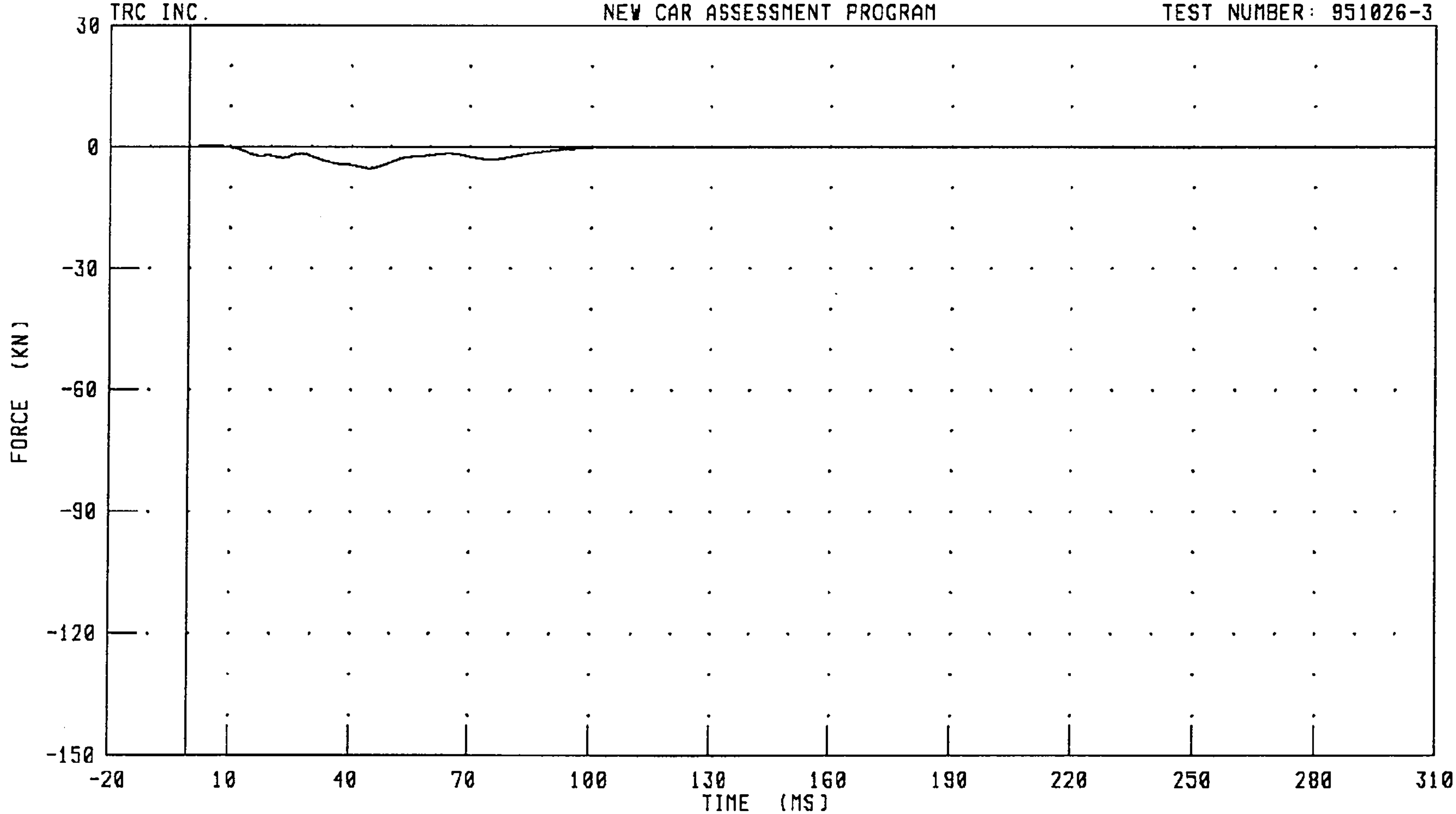

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION A8 FORCE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
30
0
-30
-60
-90
-120
-150
FORCE (KN)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: BA8F
FILTER: CH. CLASS 60
PEAK DATA: 0.15 KN @ 3.76 MS; -4.39 KN @ 51.60 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B1 FORCE
NEW CAR ASSESSMENT PROGRAM

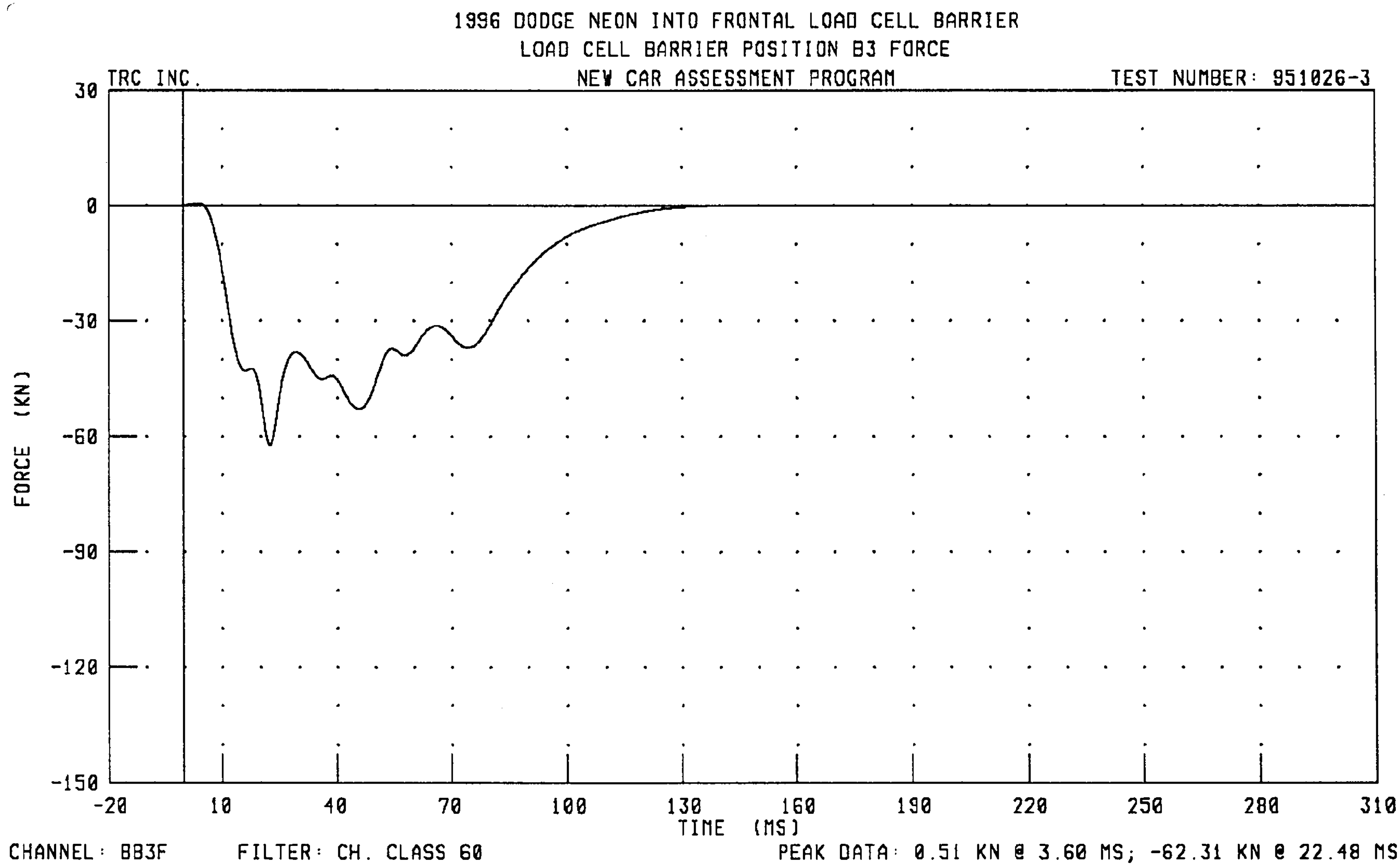


CHANNEL: BB1F FILTER: CH. CLASS 60 PEAK DATA: 0.26 KN @ 25.28 MS; -0.24 KN @ 11.44 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B2 FORCE
NEW CAR ASSESSMENT PROGRAM

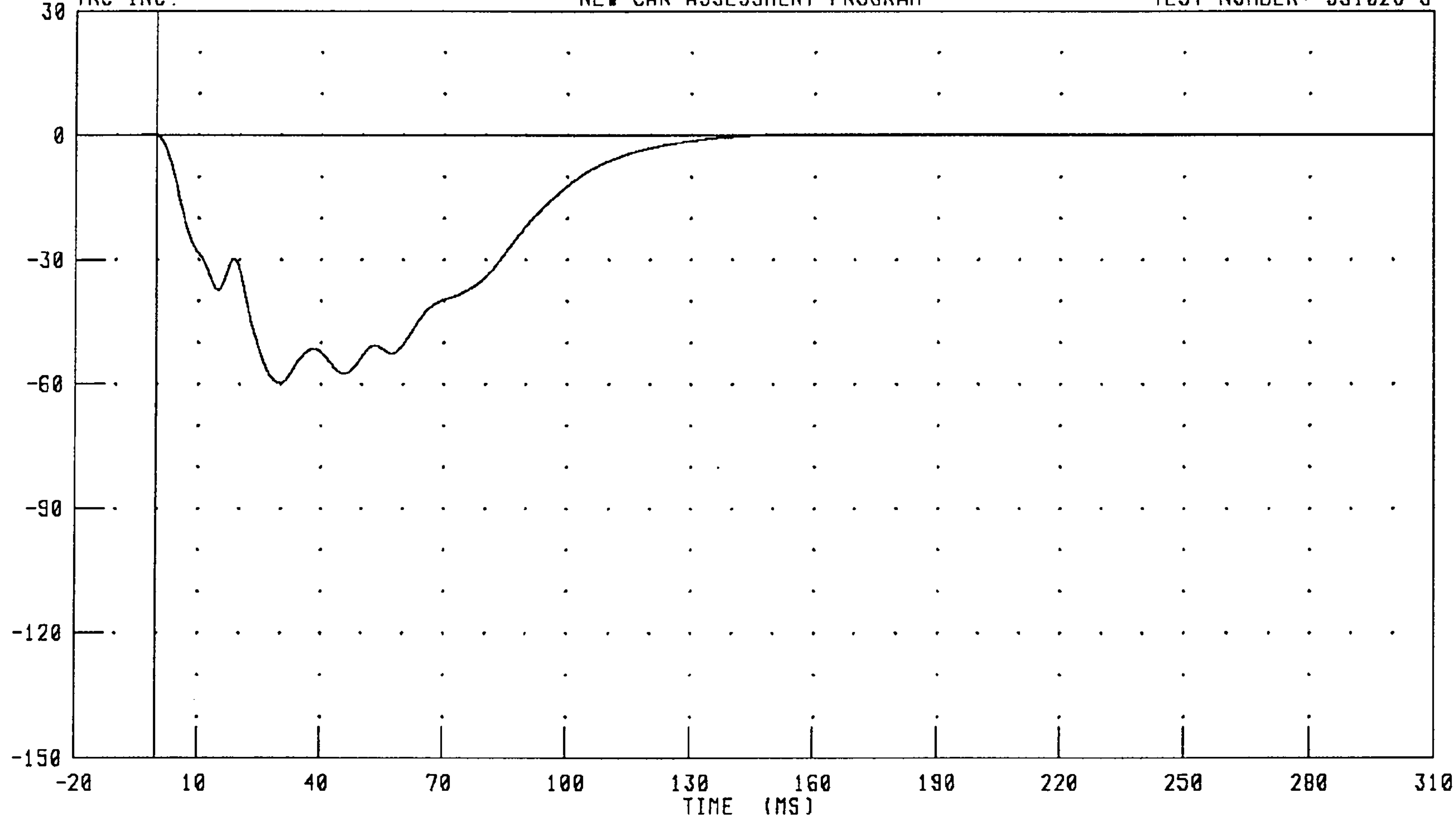


CHANNEL: BB2F FILTER: CH. CLASS 60 PEAK DATA: 0.13 KN @ 6.64 MS; -5.29 KN @ 44.48 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B3 FORCE
TRC INC.
NEW CAR ASSESSMENT PROGRAM
TEST NUMBER: 951026-3
FORCE (KN)
30
0
-30
-60
-90
-120
-150
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: BB3F
FILTER: CH. CLASS 60
PEAK DATA: 0.51 KN @ 3.60 MS; -62.31 KN @ 22.48 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B4 FORCE
NEW CAR ASSESSMENT PROGRAM

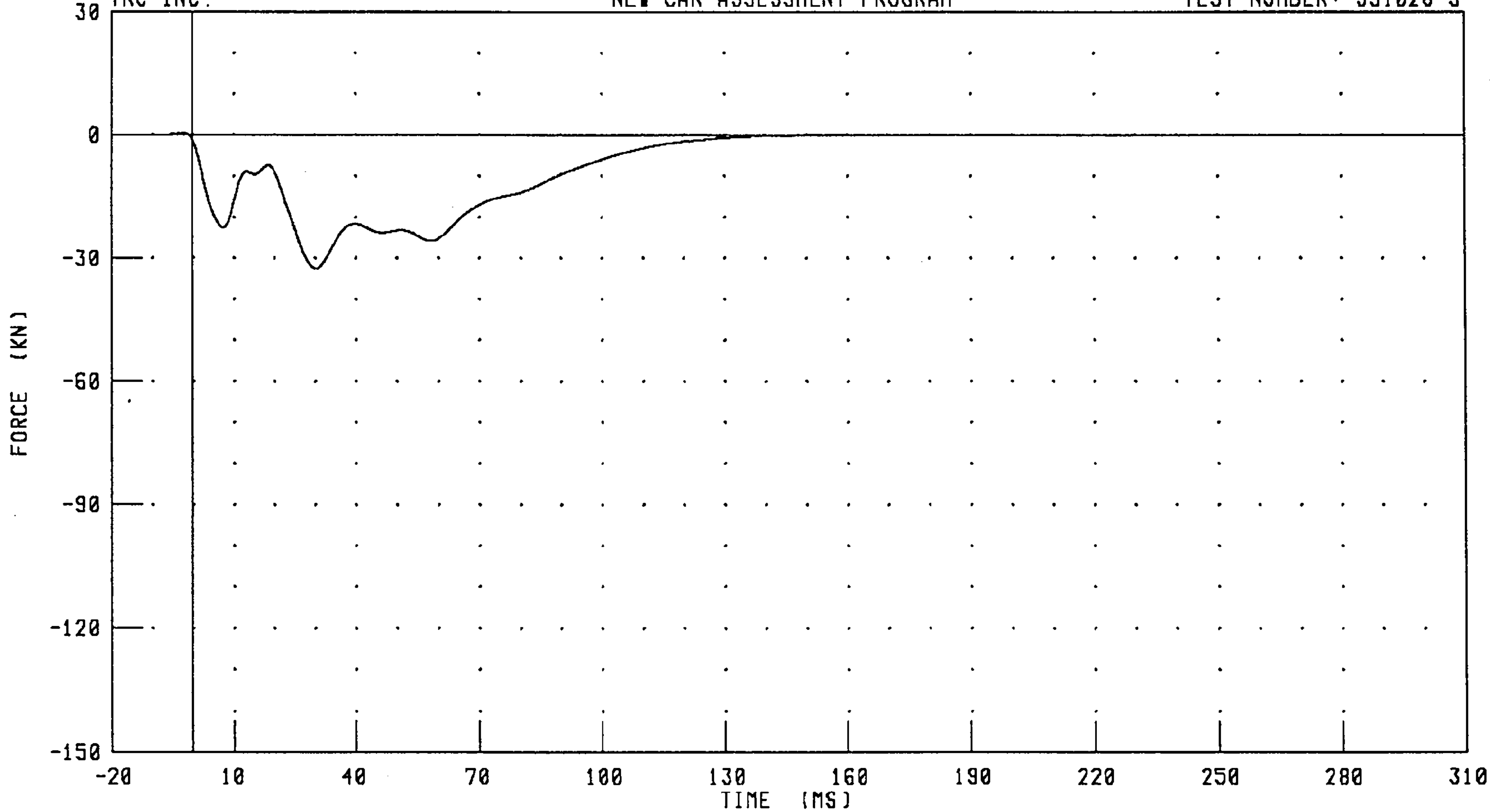
TRC INC. TEST NUMBER: 951026-3



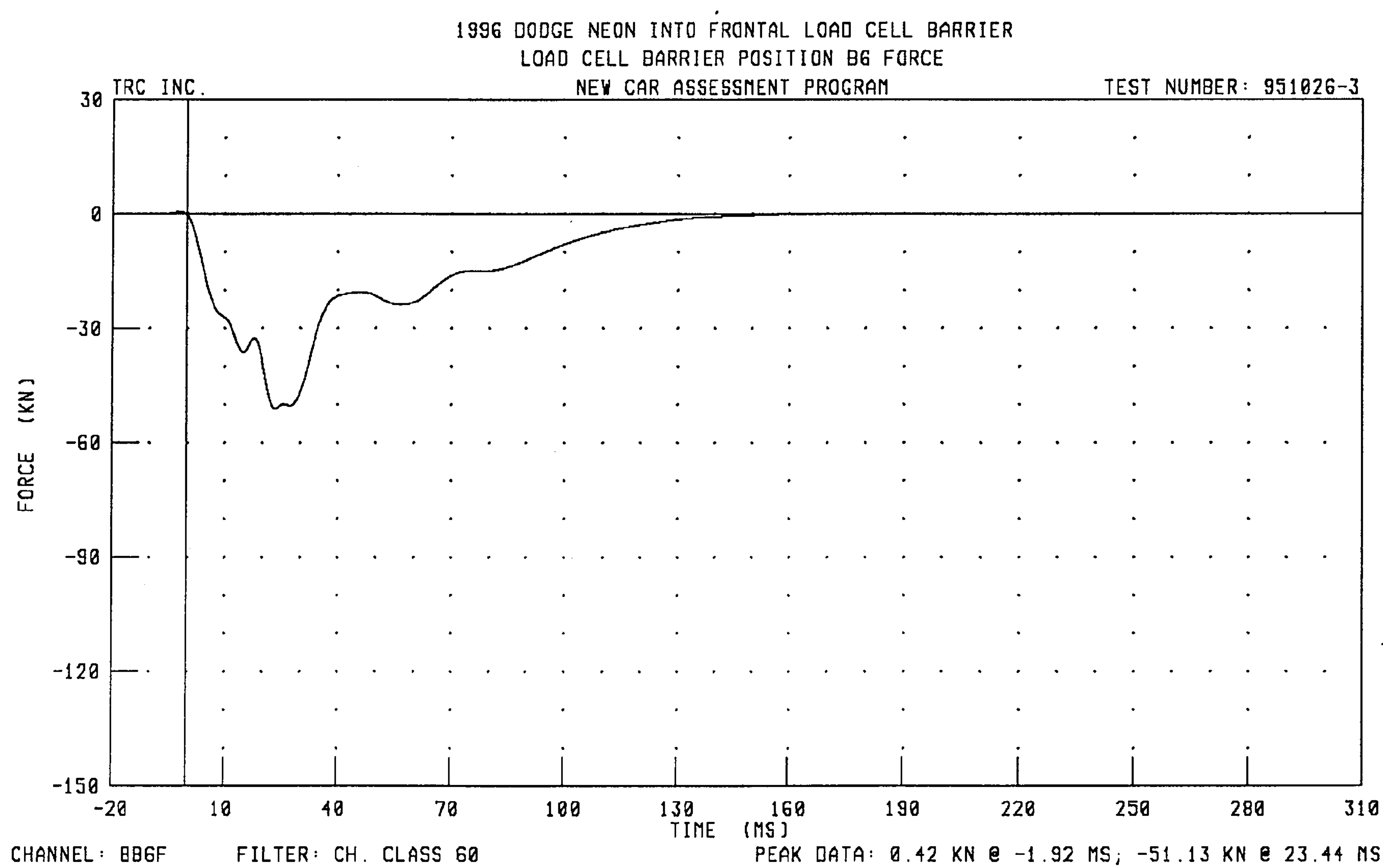
CHANNEL: BB4F FILTER: CH. CLASS 60 PEAK DATA: 0.27 KN @ -1.52 MS; -59.79 KN @ 29.92 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B5 FORCE
NEW CAR ASSESSMENT PROGRAM

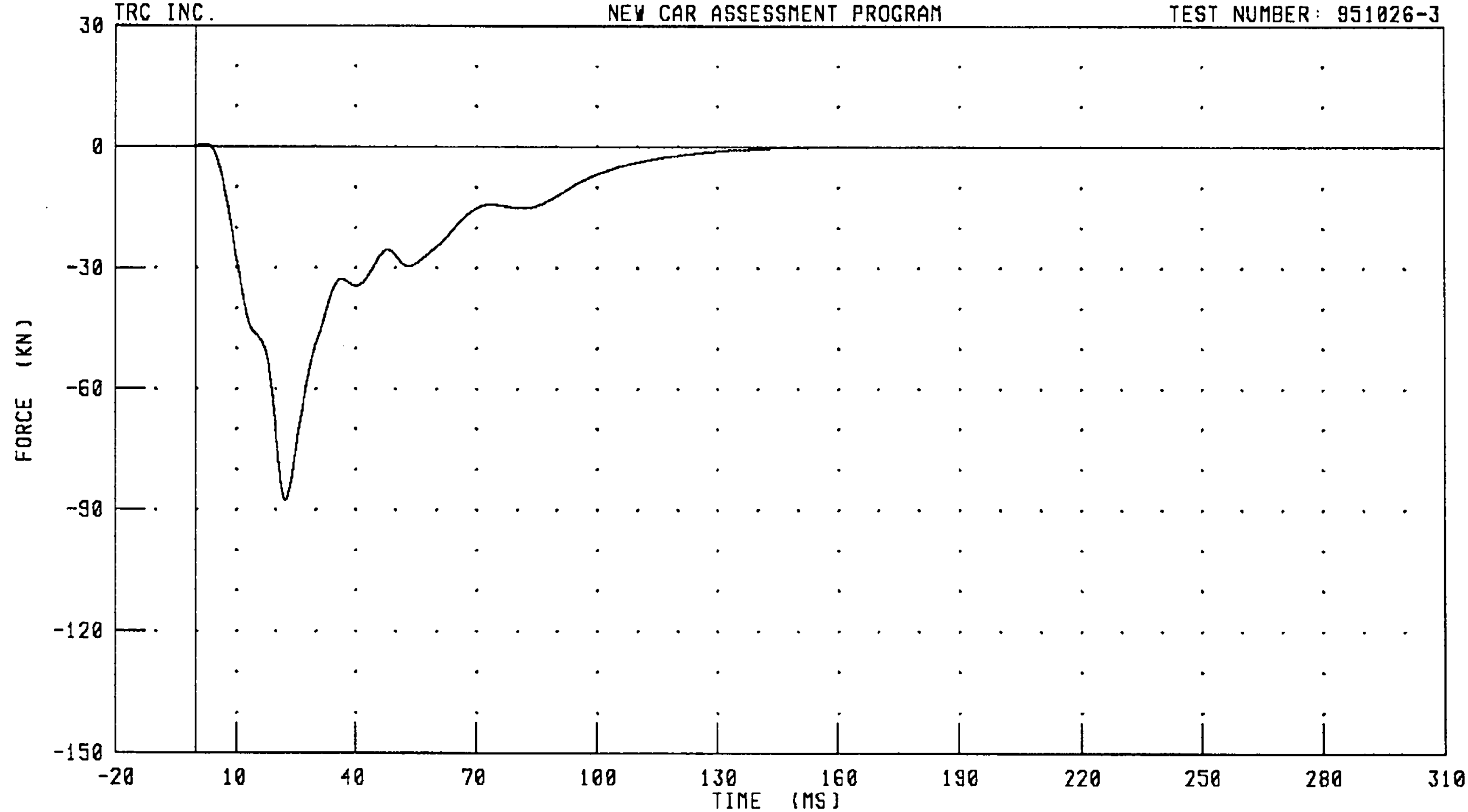
TRC INC. TEST NUMBER: 951026-3



CHANNEL: BB5F FILTER: CH. CLASS 60 PEAK DATA: 0.49 KN @ -2.48 MS; -32.61 KN @ 30.40 MS

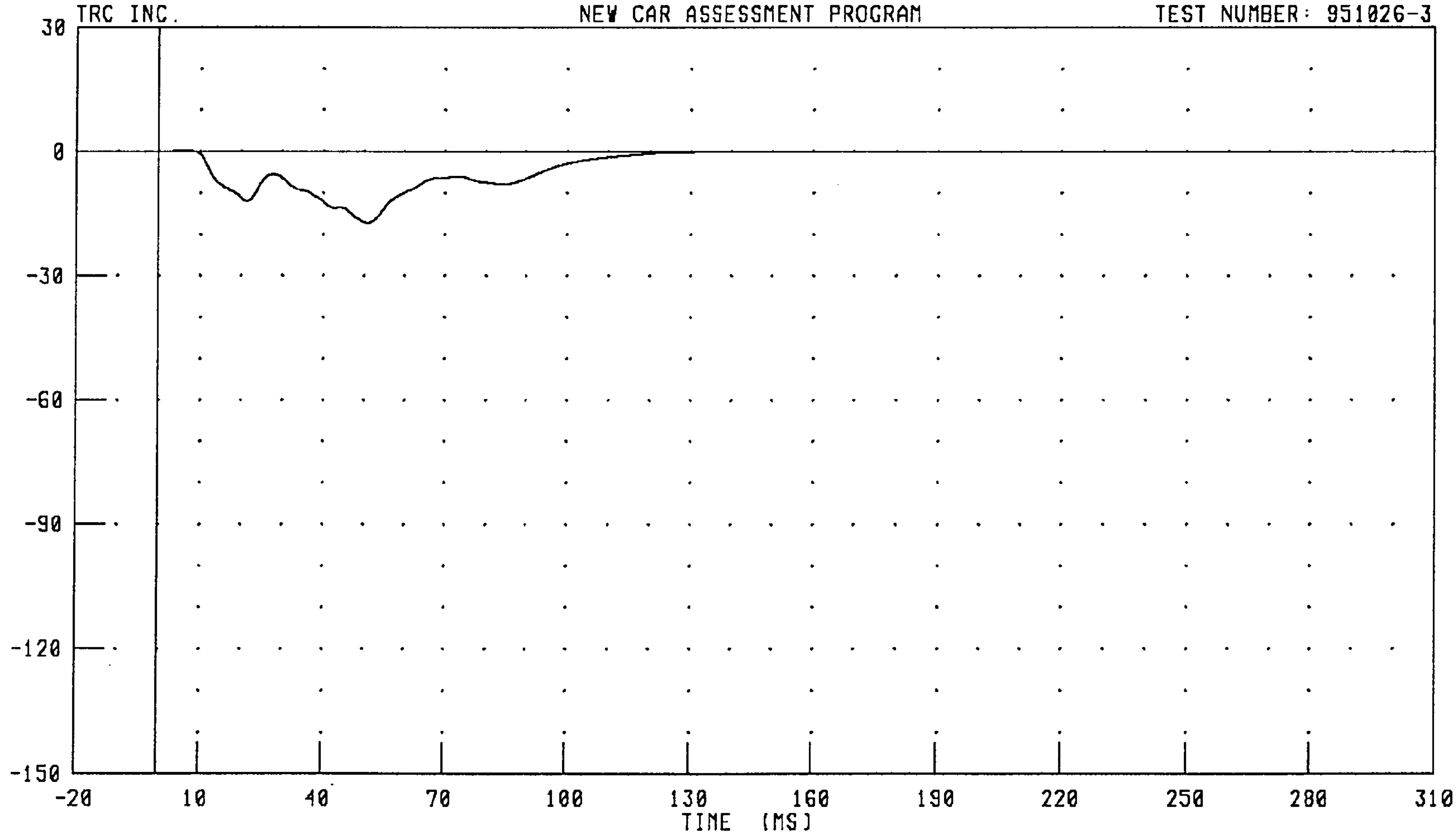

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B6 FORCE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
30
0
-30
-60
-90
-120
-150
FORCE (KN)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: BB6F
FILTER: CH. CLASS 60
PEAK DATA: 0.42 KN @ -1.92 MS; -51.13 KN @ 23.44 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B7 FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: BB7F FILTER: CH. CLASS 60 PEAK DATA: 0.57 KN @ 2.16 MS; -87.73 KN @ 22.48 MS

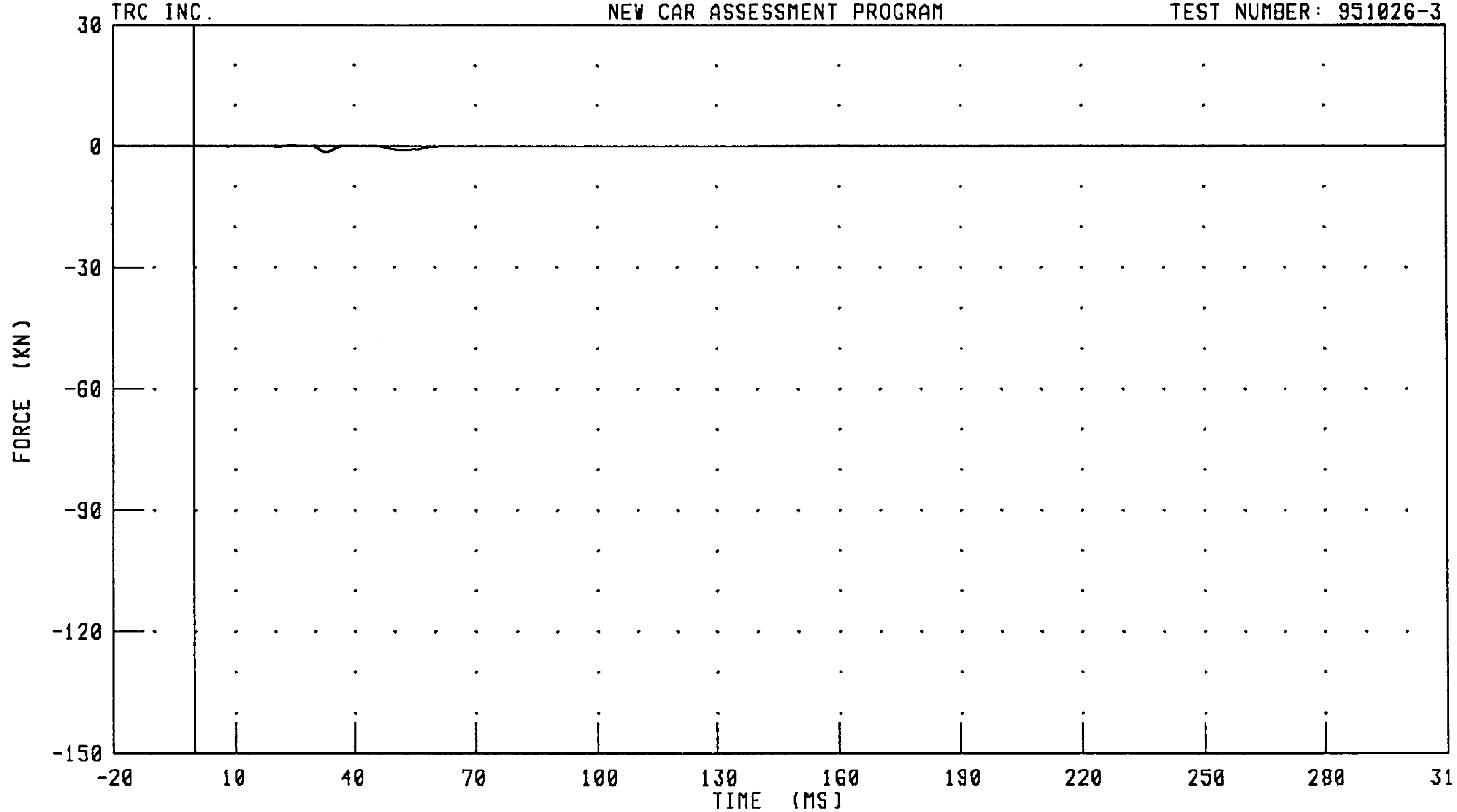
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B8 FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: B8F FILTER: CH. CLASS 60 PEAK DATA: 0.15 KN @ 6.88 MS; -17.23 KN @ 50.96 MS

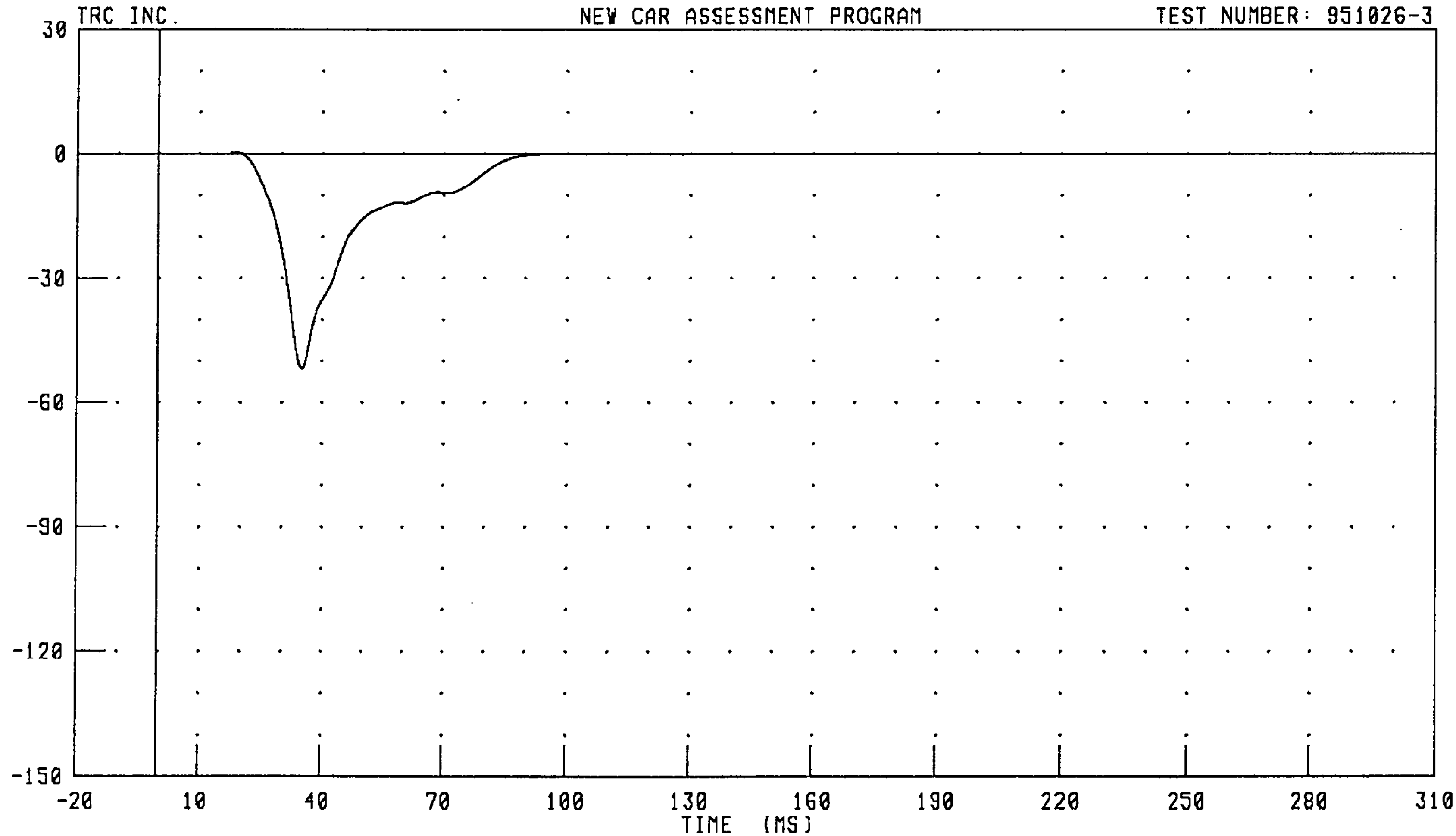
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION B9 FORCE

TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3



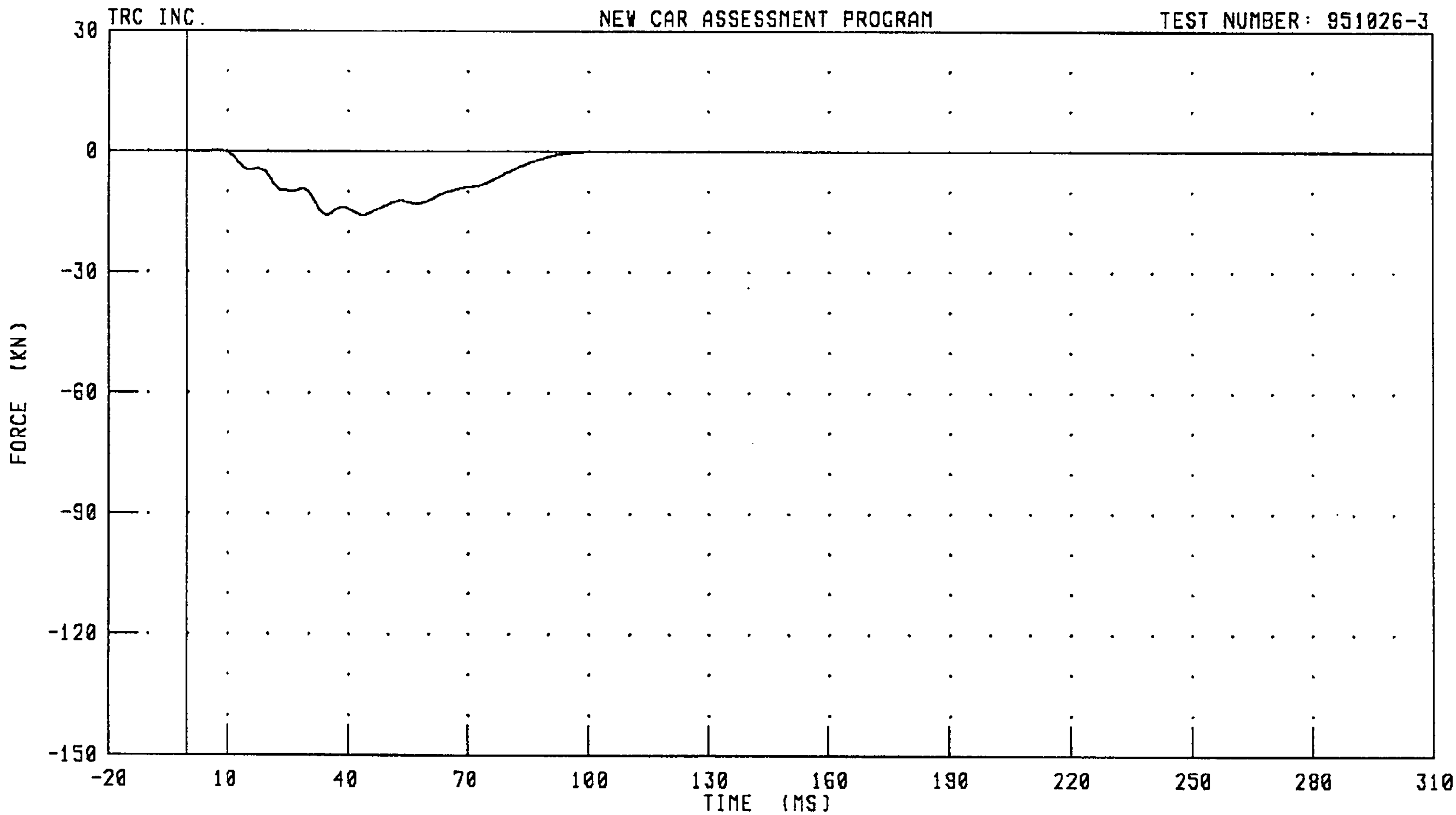
CHANNEL: BB9F FILTER: CH. CLASS 60 PEAK DATA: 0.17 KN @ 24.32 MS; -1.57 KN @ 33.04 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION C2 FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: BC2F FILTER: CH. CLASS 60 PEAK DATA: 0.16 KN @ 18.72 MS; -51.78 KN @ 35.20 MS

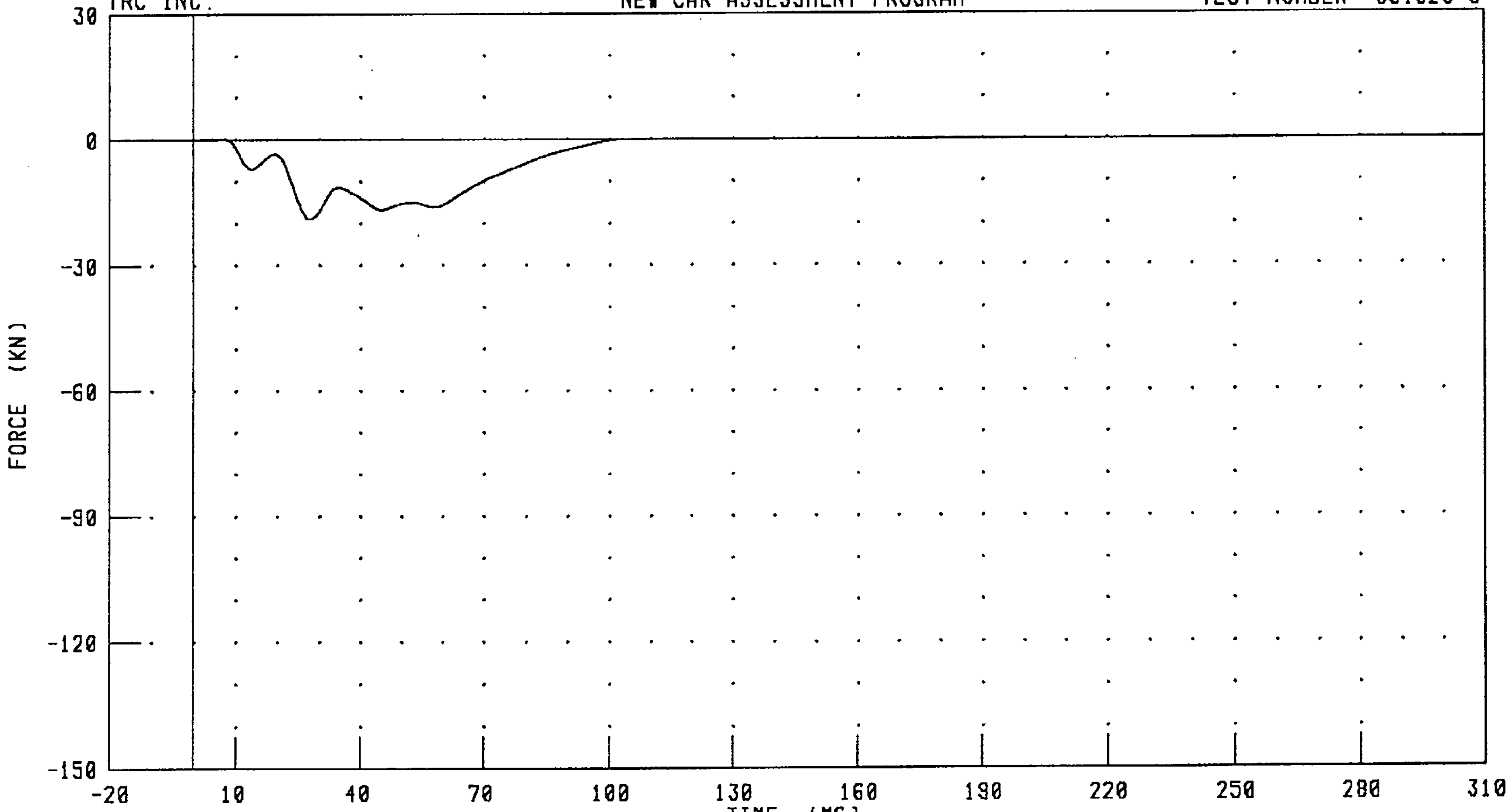
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION C3 FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: BC3F FILTER: CH. CLASS 60 PEAK DATA: 0.14 KN @ 7.68 MS; -15.77 KN @ 43.84 MS

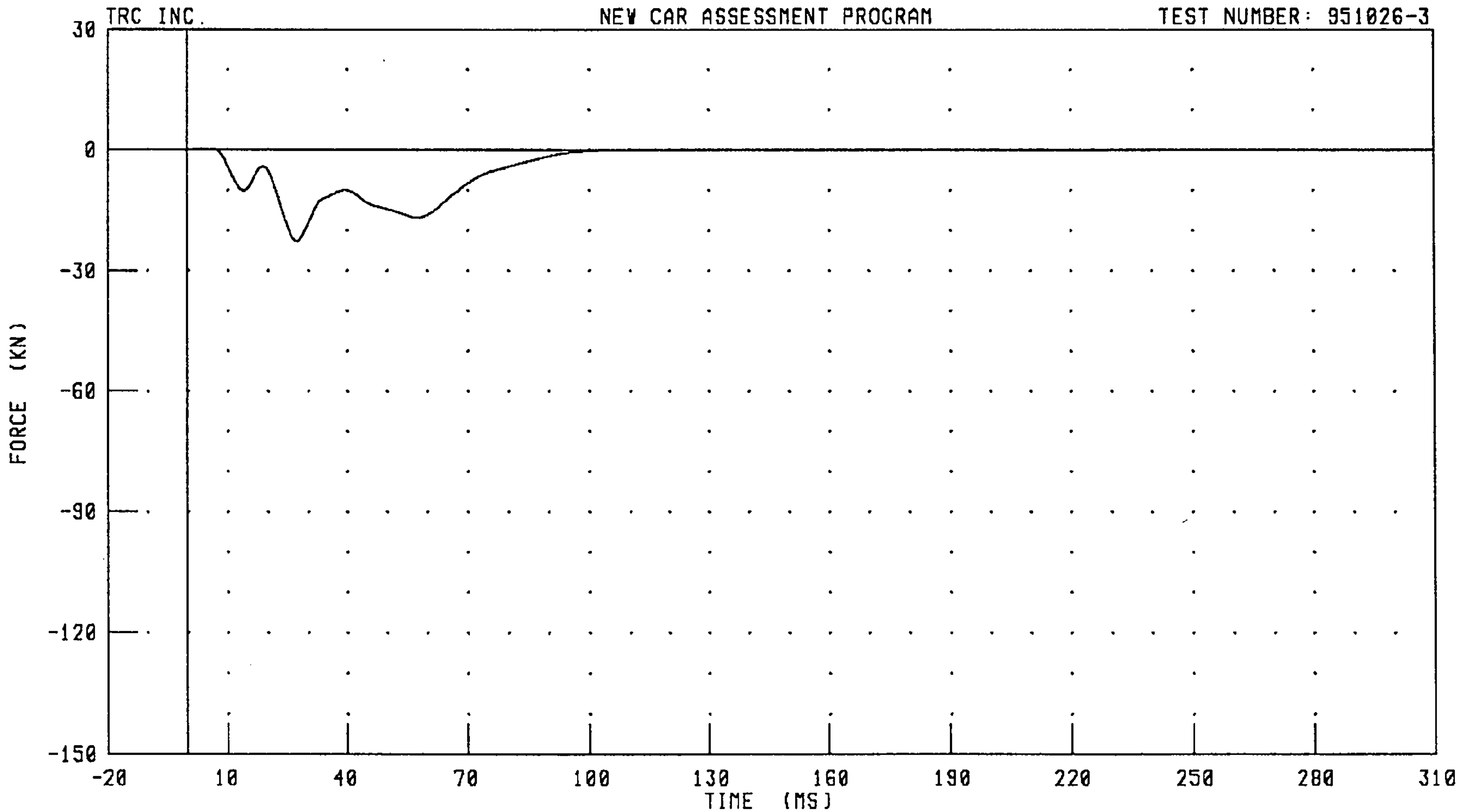
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION C4 FORCE
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3



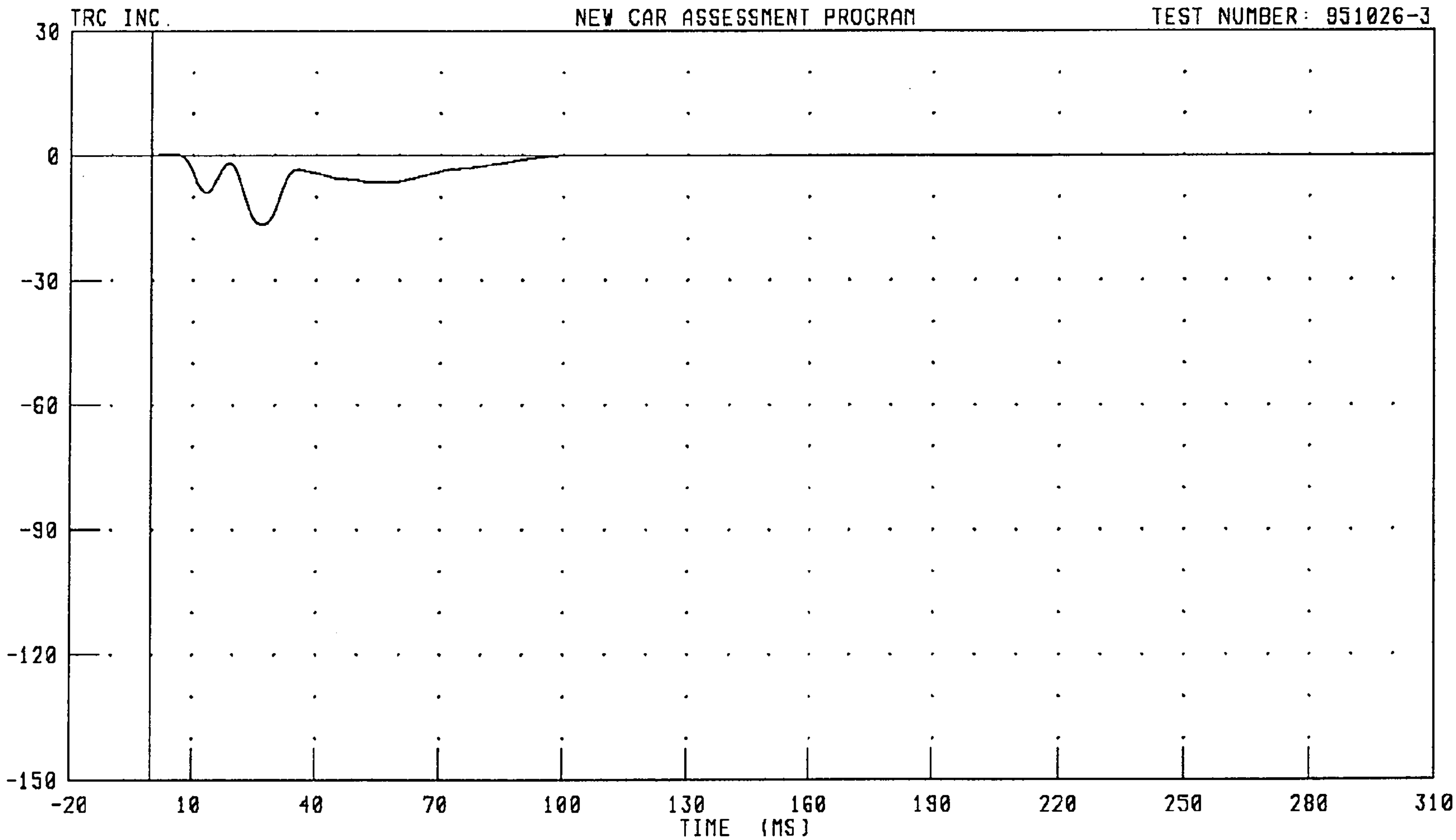
CHANNEL: BC4F FILTER: CH. CLASS 60 PEAK DATA: 0.24 KN @ 6.48 MS; -18.94 KN @ 27.84 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION C5 FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: BC5F FILTER: CH. CLASS 60 PEAK DATA: 0.26 KN @ 5.60 MS; -22.74 KN @ 27.20 MS

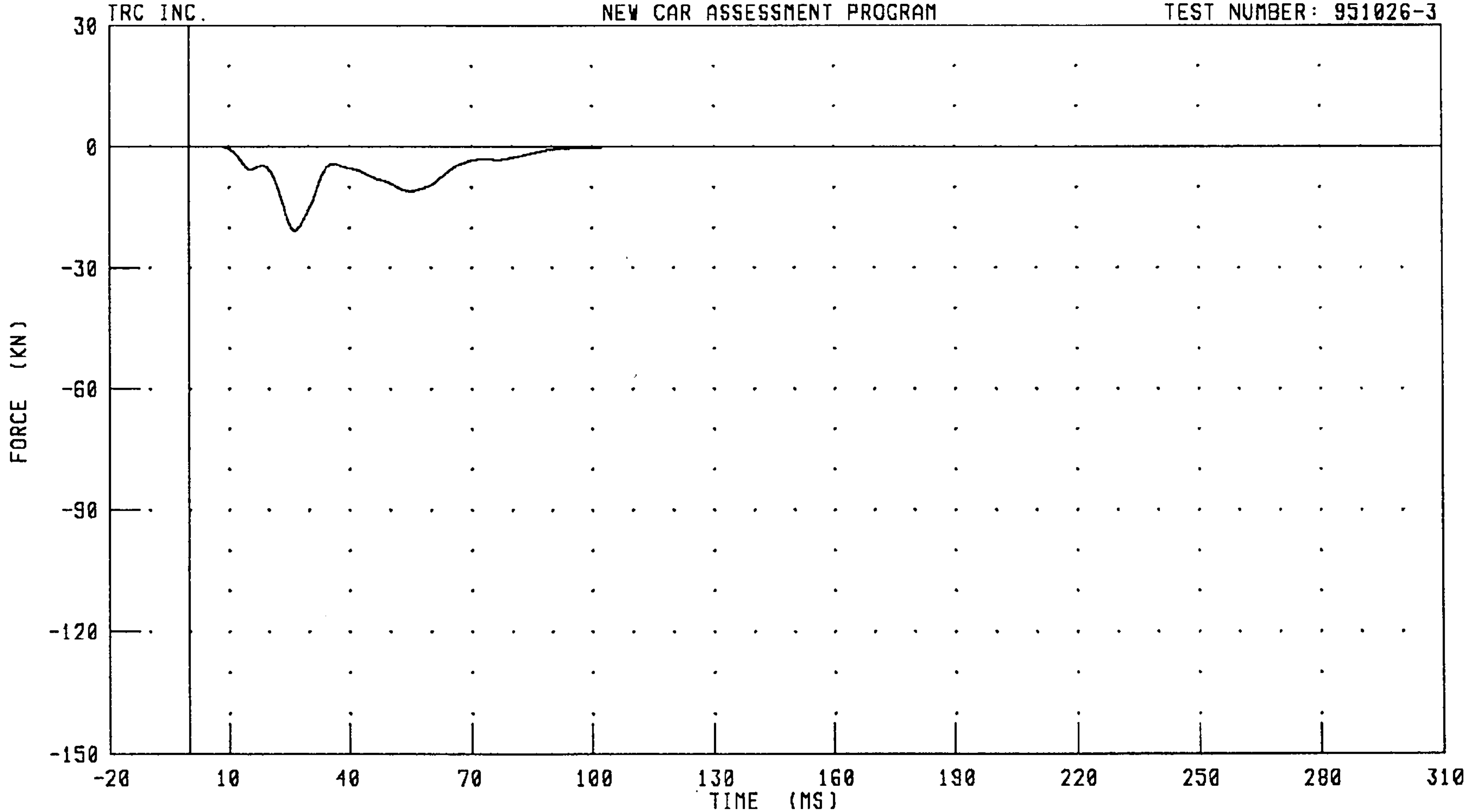
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION C6 FORCE
NEW CAR ASSESSMENT PROGRAM



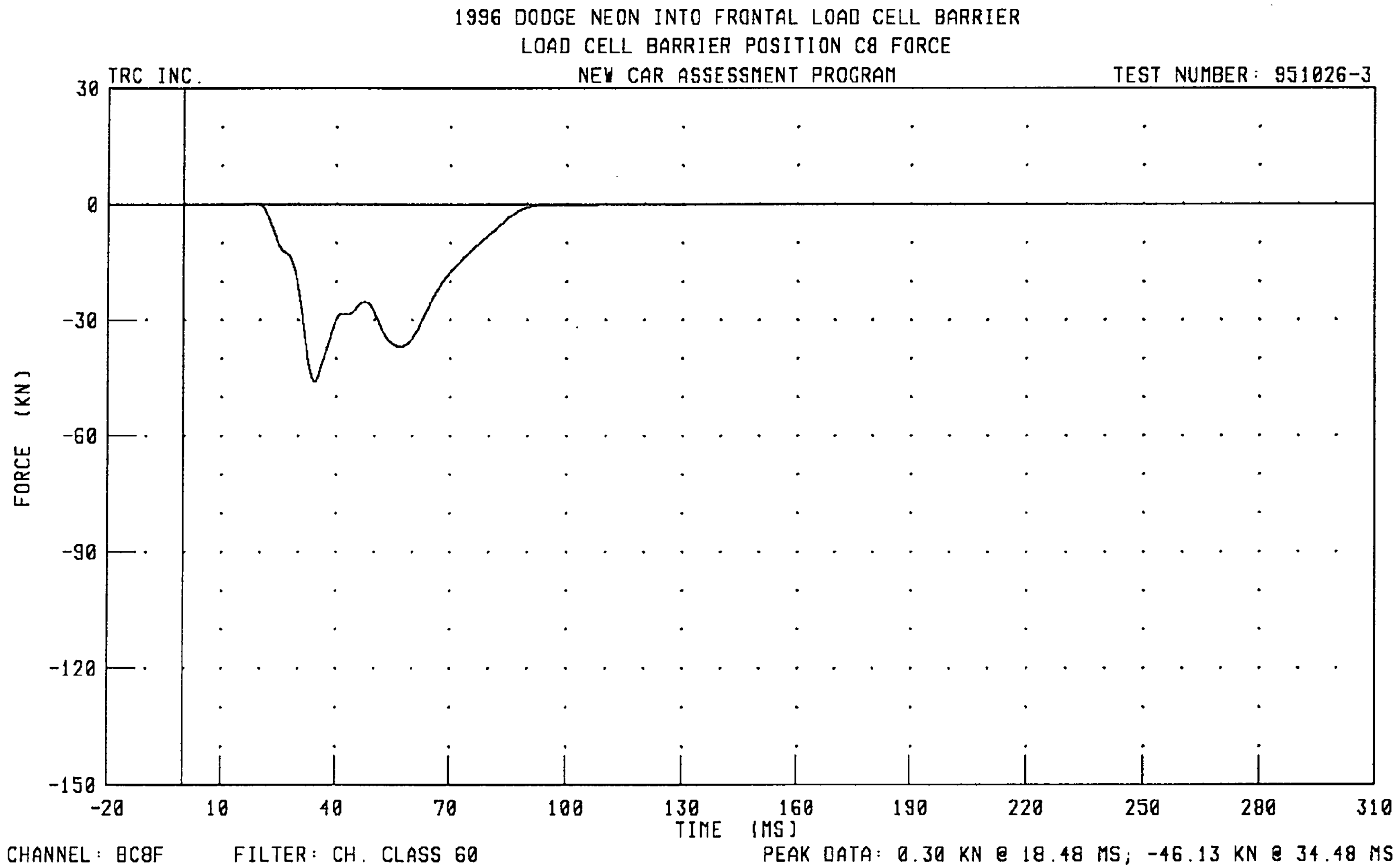
CHANNEL: BC6F FILTER: CH. CLASS 60 PEAK DATA: 0.23 KN @ 5.52 MS; -16.62 KN @ 27.04 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION C7 FORCE
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3

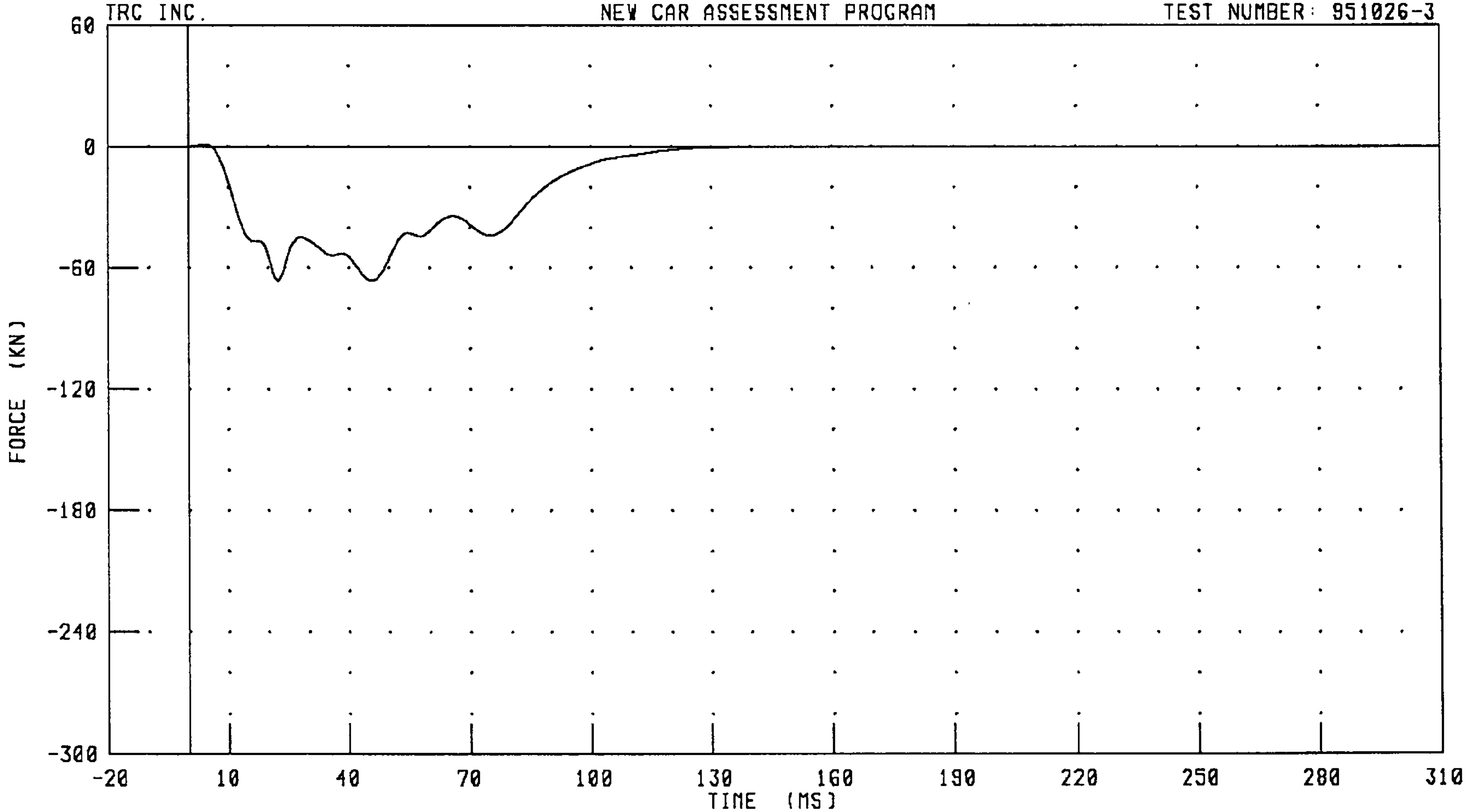


CHANNEL: BC7F FILTER: CH. CLASS 60 PEAK DATA: 0.08 KN @ 2.80 MS; -20.80 KN @ 26.56 MS


1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER POSITION C8 FORCE
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
FORCE (KN)
30
0
-30
-60
-90
-120
-150
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: BC8F
FILTER: CH. CLASS 60
PEAK DATA: 0.30 KN @ 18.48 MS; -46.13 KN @ 34.48 MS

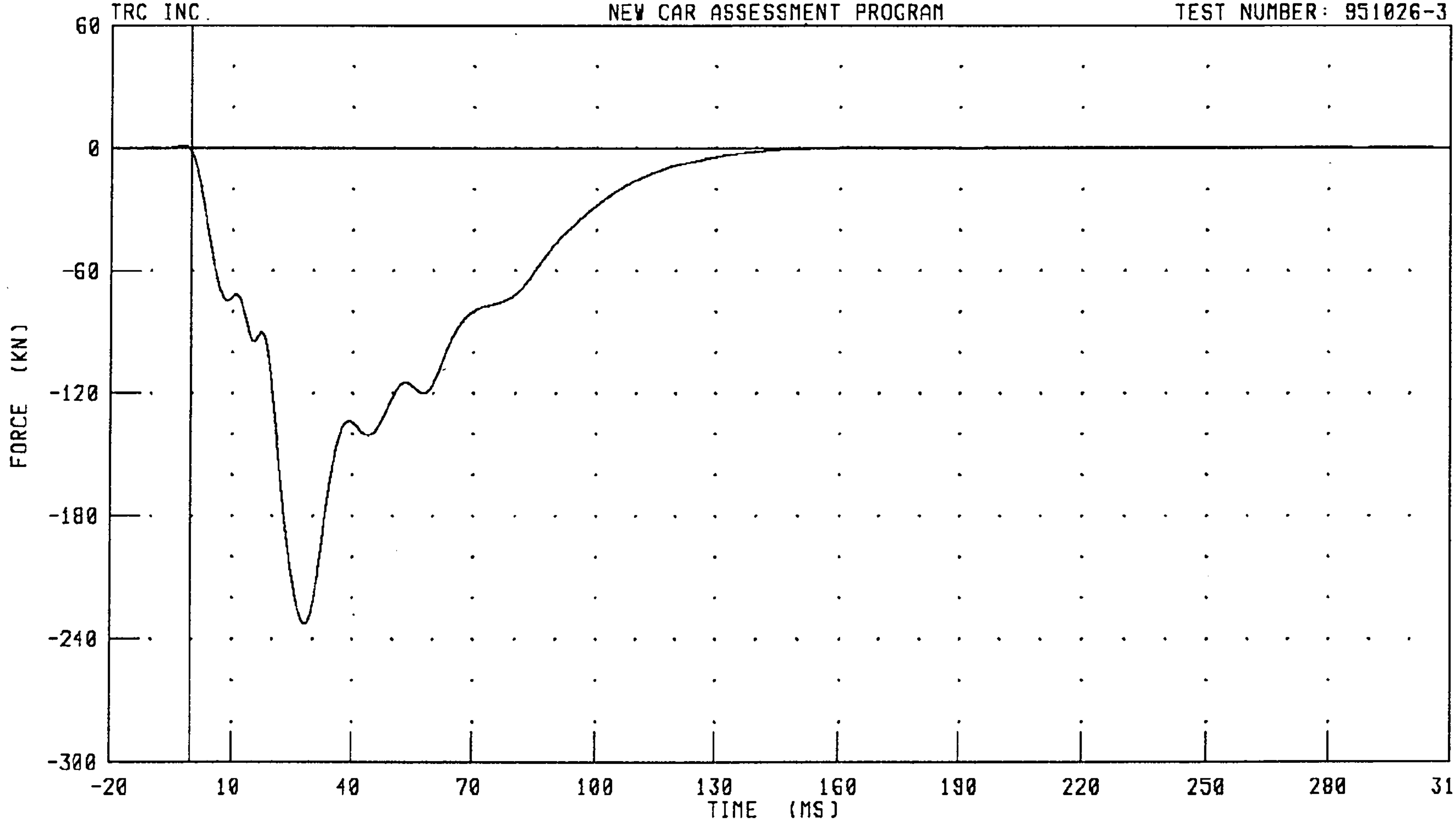
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER GROUP # 1 FORCE TOTAL

TRC INC. NEW CAR ASSESSMENT PROGRAM TEST NUMBER: 951026-3



CHANNEL: LCBG1F FILTER: CH. CLASS 60 PEAK DATA: 1.00 KN @ 3.84 MS; -66.40 KN @ 22.56 MS

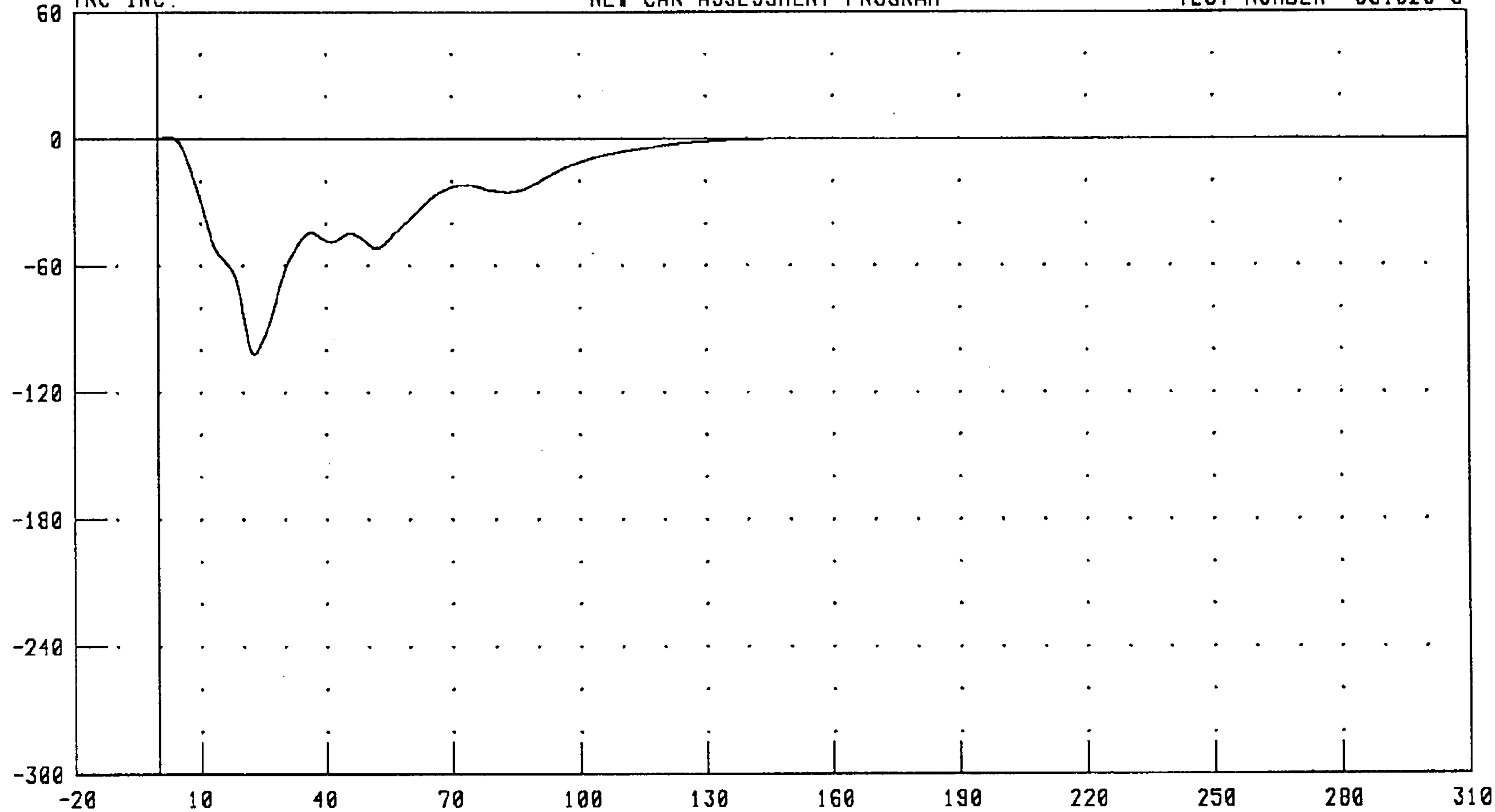
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER GROUP # 2 FORCE TOTAL
NEW CAR ASSESSMENT PROGRAM



CHANNEL: LCBG2F FILTER: CH. CLASS 60 PEAK DATA: 1.11 KN @ -2.08 MS; -232.62 KN @ 28.24 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER GROUP # 3 FORCE TOTAL
NEW CAR ASSESSMENT PROGRAM

TRC INC. TEST NUMBER: 951026-3

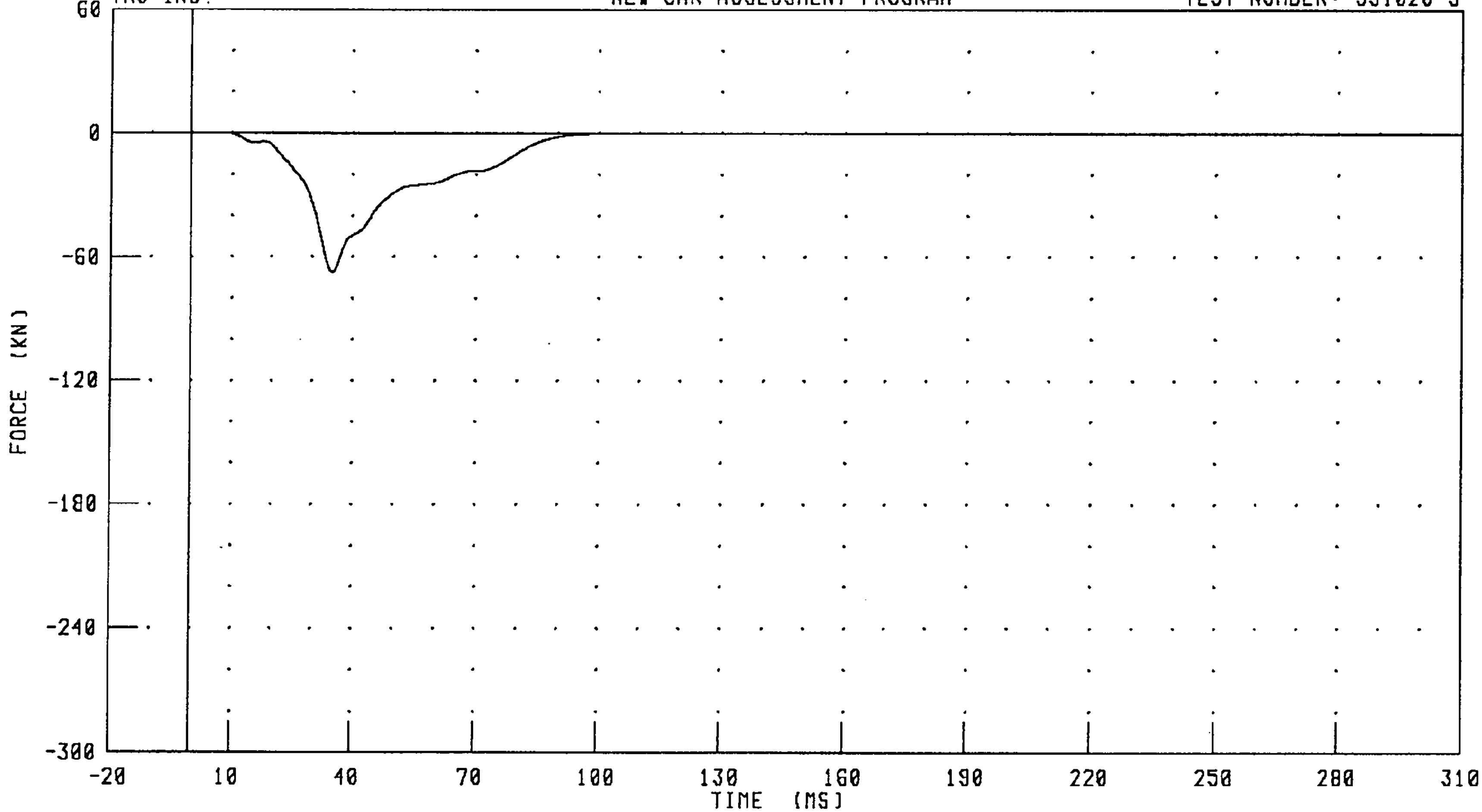


CHANNEL: LCBG3F FILTER: CH. CLASS 60 PEAK DATA: 0.95 KN @ 2.48 MS; -101.96 KN @ 22.72 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER GROUP # 4 FORCE TOTAL
NEW CAR ASSESSMENT PROGRAM

TRC INC.

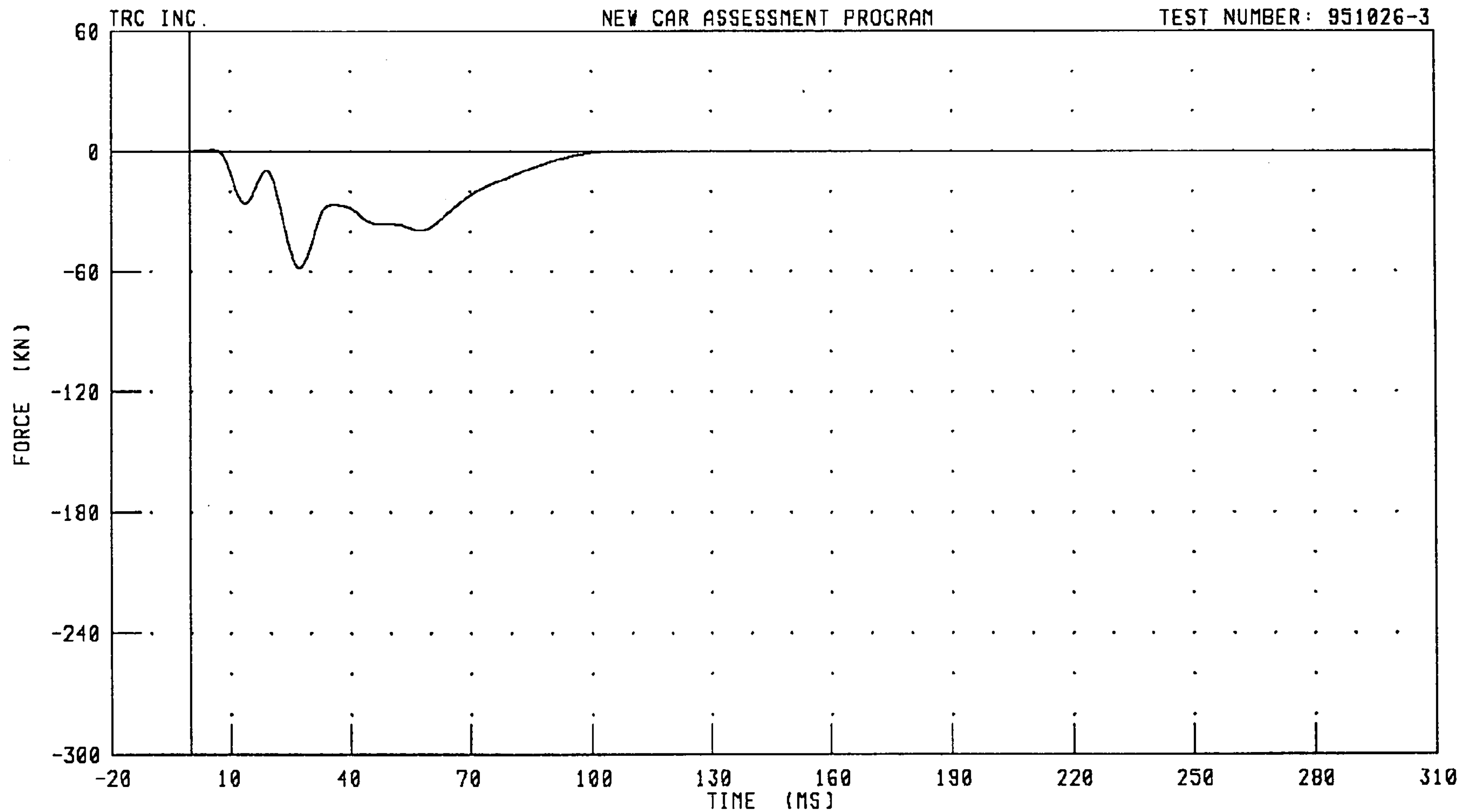
TEST NUMBER: 951026-3



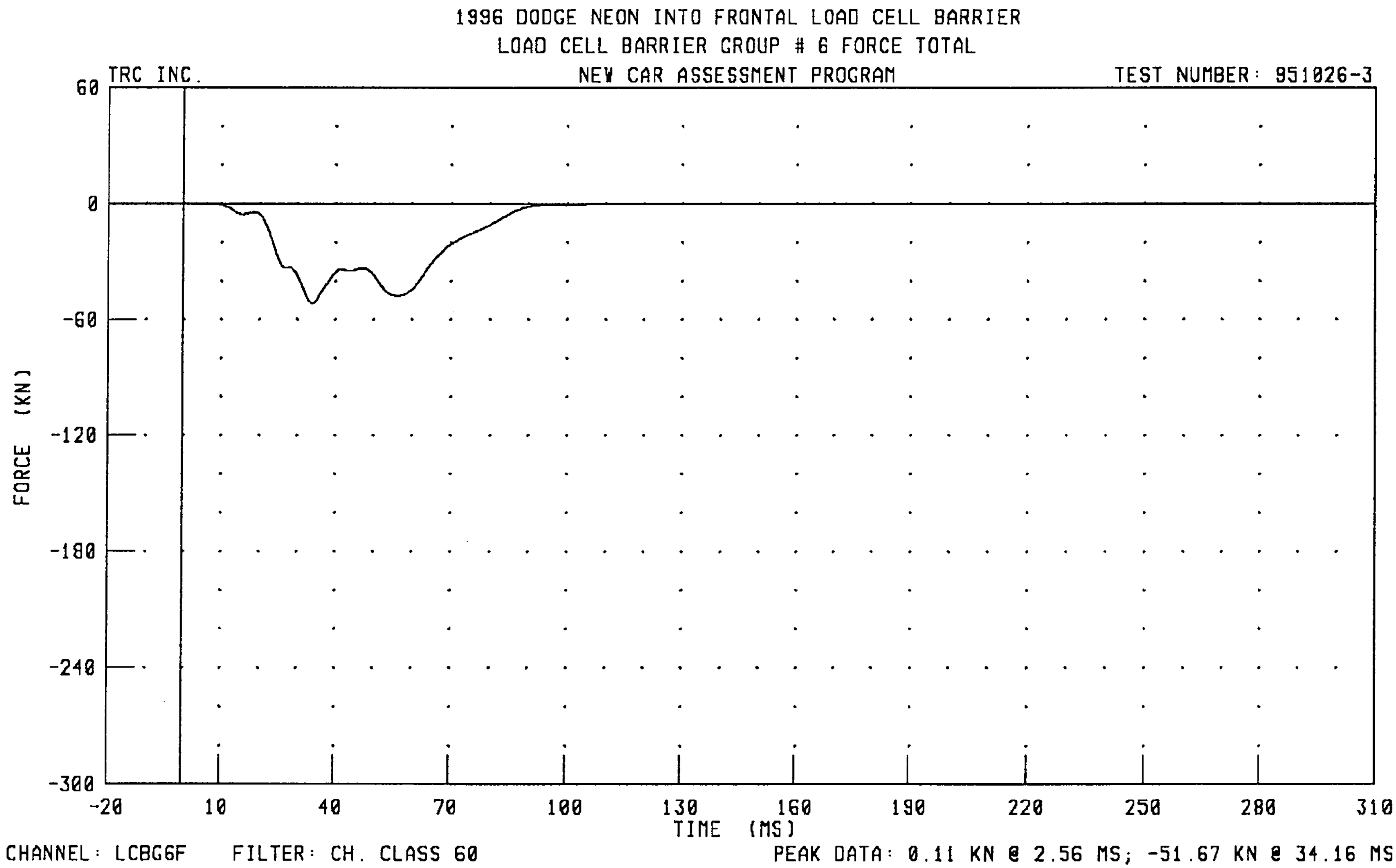
CHANNEL: LCBG4F FILTER: CH. CLASS 60

PEAK DATA: 0.16 KN @ 7.52 MS; -67.40 KN @ 35.12 MS

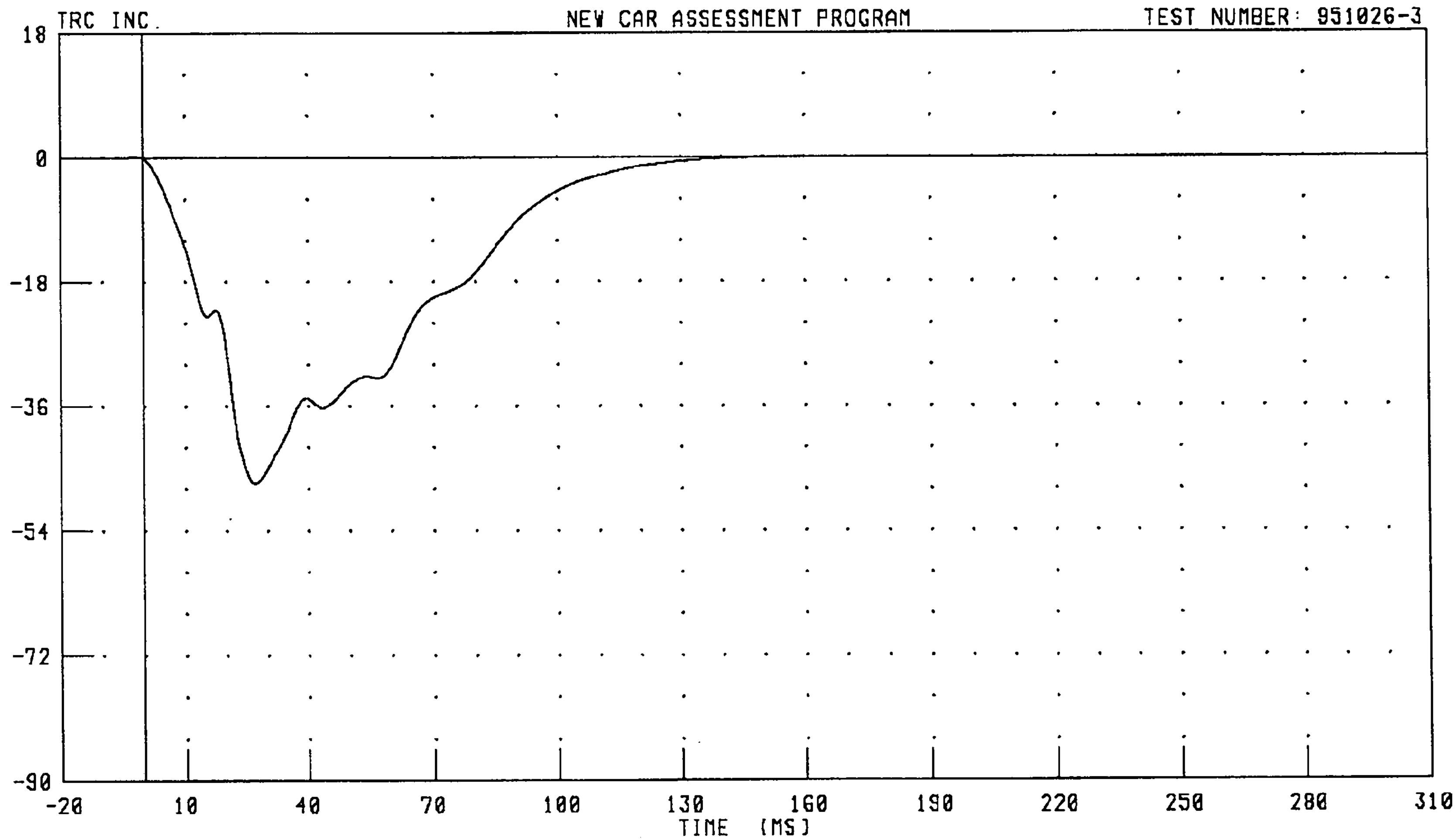
1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER GROUP # 5 FORCE TOTAL



CHANNEL: LCBG5F FILTER: CH. CLASS 60 PEAK DATA: 0.70 KN @ 5.76 MS; -58.13 KN @ 27.36 MS

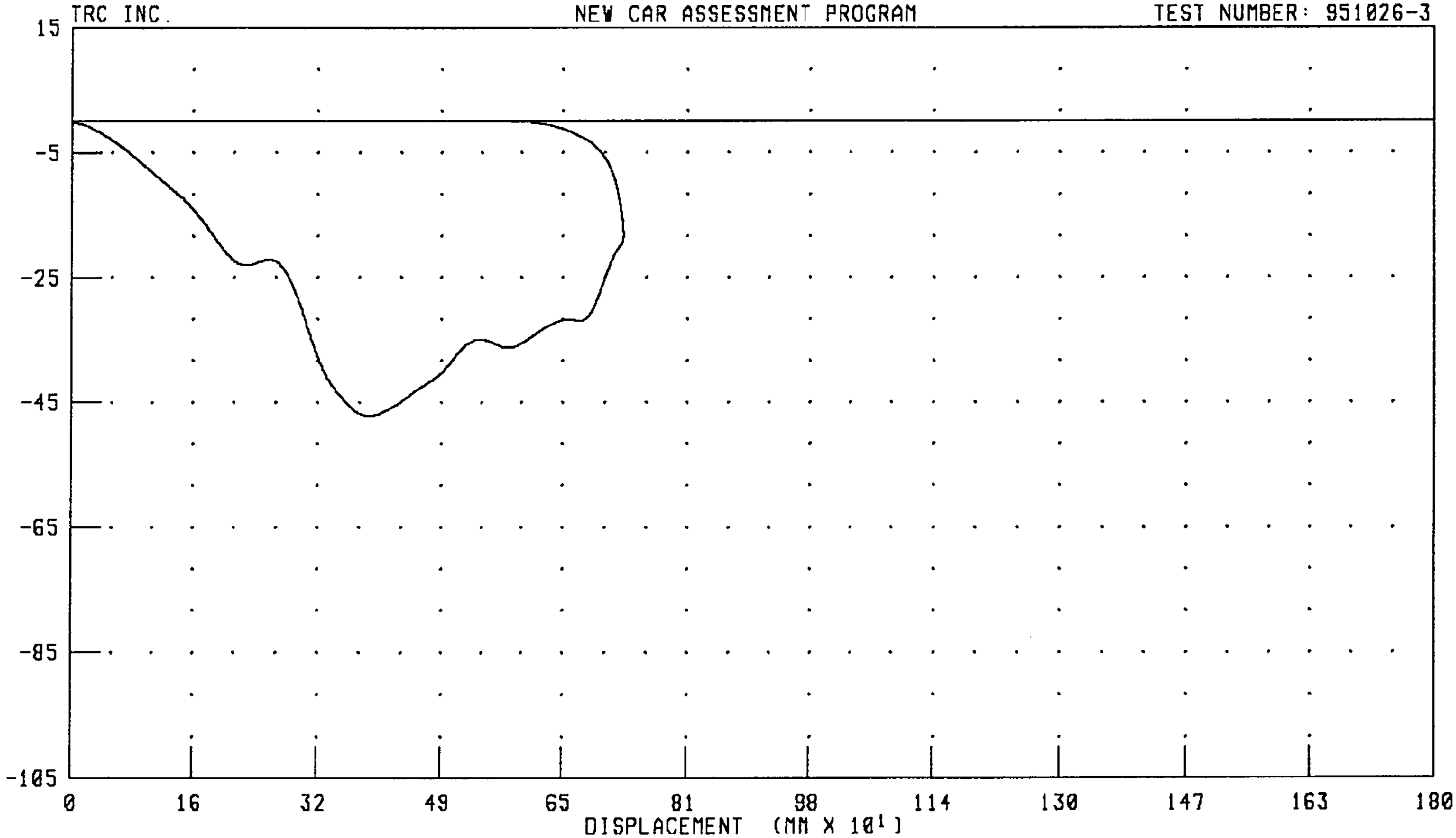

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
LOAD CELL BARRIER GROUP # 6 FORCE TOTAL
NEW CAR ASSESSMENT PROGRAM
TRC INC.
TEST NUMBER: 951026-3
60
0
-60
-120
-180
-240
-300
FORCE (KN)
-20
10
40
70
100
130
160
190
220
250
280
310
TIME (MS)
CHANNEL: LCBG6F
FILTER: CH. CLASS 60
PEAK DATA: 0.11 KN @ 2.56 MS; -51.67 KN @ 34.16 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
TOTAL LOAD CELL BARRIER FORCE
NEW CAR ASSESSMENT PROGRAM



CHANNEL: LCBGT FILTER: CH. CLASS 60 PEAK DATA: 0.92 KN @ -1.92 MS; -472.14 KN @ 26.96 MS

1996 DODGE NEON INTO FRONTAL LOAD CELL BARRIER
TOTAL LOAD CELL BARRIER FORCE VS AVERAGE VEHICLE X-AXIS DISPLACEMENT



CHANNEL: OTHXD LCBGT

FILTER: CH. CLASS 180 CH. CLASS 60

PEAK DATA: 734.17 MM @ 77.60 MS; 0.00 MM @ 0.00 MS
0.34 KN @ 238.32 MS; -472.14 KN @ 26.96 MS

Appendix C

Dummy Certification Data

<u>Pre-test Certification Data</u>

Driver Dummy S/N: 192

TRANSPORTATION RESEARCH CENTER INC.
HYBRID III EXTERNAL DIMENSIONS
192 ALDERSON 13-SEP-95

TRC INC. TEST NO: 192C27ED1 572E SN192 EXT.DIMENSION CAL27

TEST PARAMETER	(DIMEN.)	SPECIFICATION	TEST RESULTS
LOCATION FOR CHEST CIRCUMFERENCE	(AA)	429 - 434 MM	432. MM
LOCATION FOR WAIST CIRCUMFERENCE	(BB)	226 - 231 MM	229. MM
CHEST CIRCUMFERENCE	(Y)	970 -1001 MM	980. MM
WAIST CIRCUMFERENCE	(Z)	836 - 866 MM	851. MM
CHEST DEPTH	(O)	213 - 229 MM	218. MM
H-POINT HEIGHT	(C)	84 - 89 MM	84. MM
H-POINT FROM SEATBACK	(D)	135 - 140 MM	135. MM
SKULL CAP TO BACKLINE	(H)	41 - 46 MM	43. MM
TOTAL SITTING HEIGHT	(A)	879 - 889 MM	889. MM
THIGH CLEARANCE	(F)	140 - 155 MM	150. MM
BUTTOCK KNEE LENGTH	(K)	579 - 605 MM	597. MM
BUTTOCK POPLITEAL LENGTH	(N)	452 - 478 MM	470. MM
POPLITEAL HEIGHT	(L)	429 - 455 MM	447. MM
KNEE PIVOT HEIGHT	(M)	485 - 500 MM	493. MM
FOOT LENGTH	(P)	252 - 267 MM	259. MM
FOOT BREADTH	(W)	91 - 107 MM	102. MM
SHOULDER PIVOT FROM BACKLINE	(E)	84 - 94 MM	94. MM
SHOULDER BREADTH	(V)	422 - 437 MM	429. MM
SHOULDER PIVOT HEIGHT	(B)	506 - 521 MM	516. MM
ELBOW REST HEIGHT	(J)	191 - 211 MM	211. MM
SHOULDER-ELBOW LENGTH	(I)	330 - 345 MM	345. MM
BACK OF ELBOW TO WRIST PIVOT	(G)	290 - 305 MM	290. MM

DUMMY MEETS SPECIFICATIONS
TECHNICIAN Chas Middlet

RUN NUMBER: 092595.0956

TRANSPORTATION RESEARCH CENTER INC.

HEAD DROP TEST

HYBRID III 24-OCT-95

TRC INC. TEST NO: 192C27HD4 572E SN192 HEAD DROP CAL 27

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PEAK RESULTANT ACCELERATION	225 - 275 G	248.16 G
PEAK LATERAL ACCELERATION	15 G MAX	-4.70 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

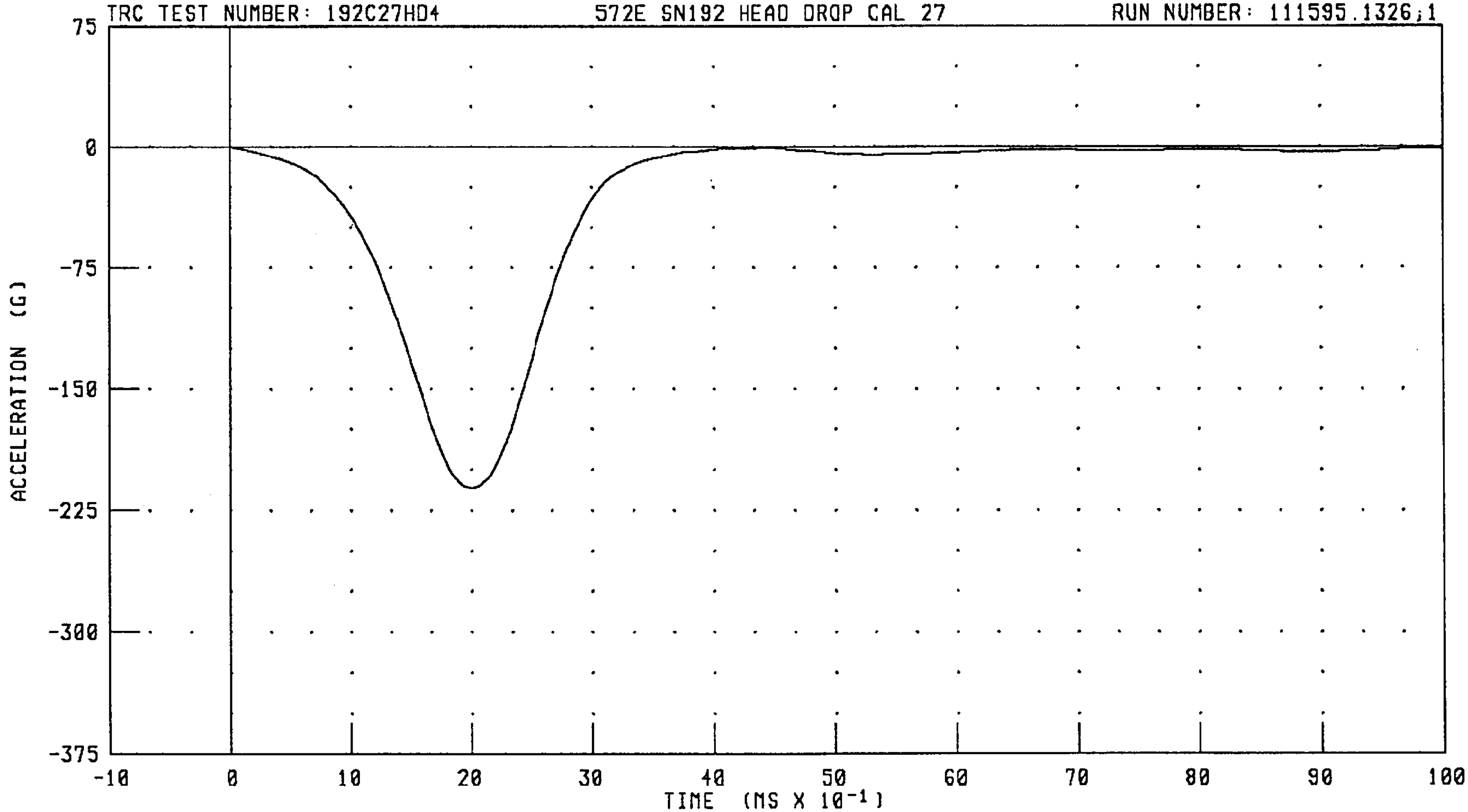
REDUNDANT ACCELEROMETER MOUNT WITH 6 ACCELS.

TEST MEETS SPECIFICATIONS

TECHNICIAN Clas. Middlet RUN NUMBER: 111595.1427;2

PART 572-E HYBRID III HEAD CALIBRATION
HEAD ACCELERATION X AXIS

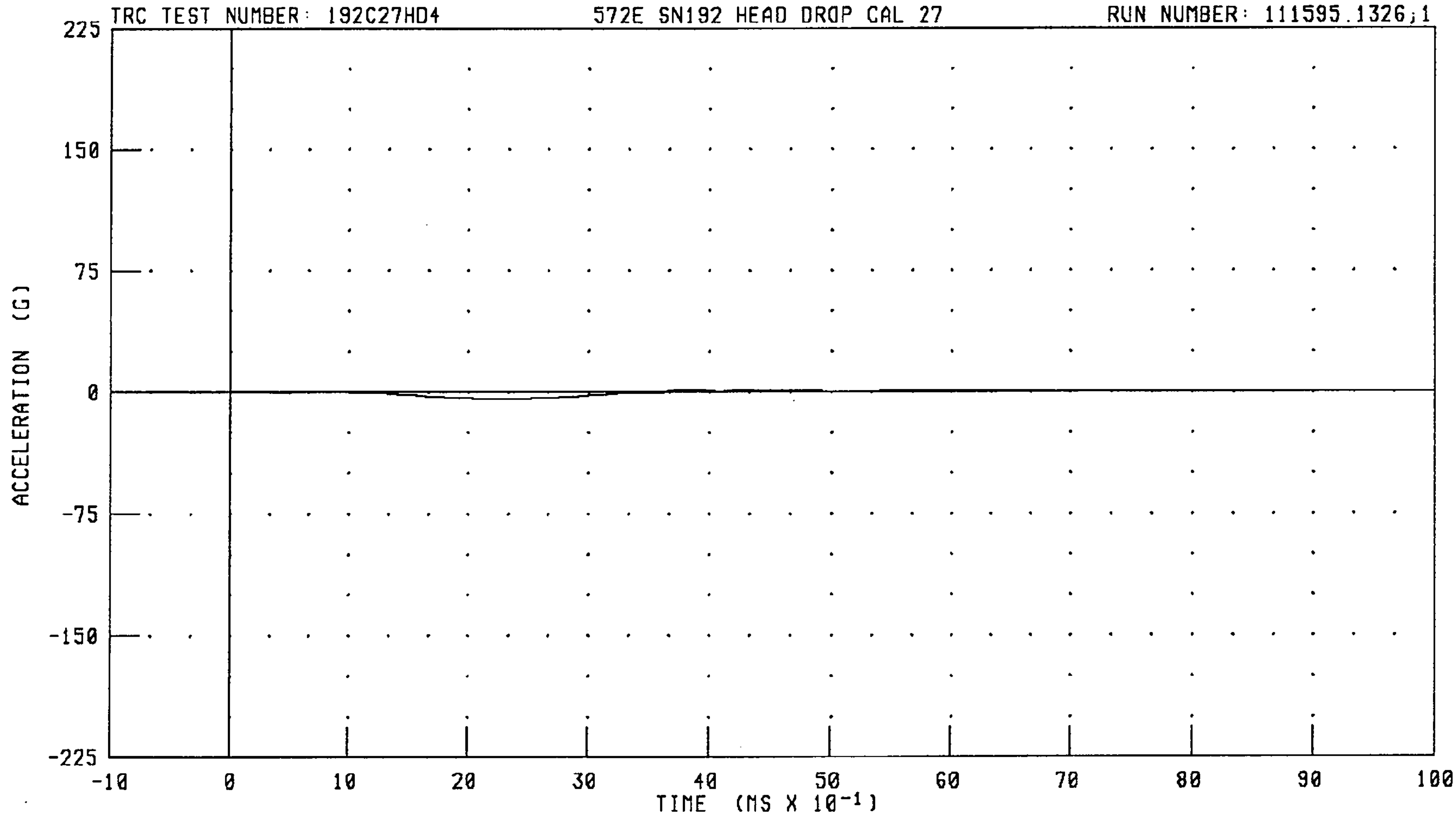
TRC TEST NUMBER: 192C27HD4 572E SN192 HEAD DROP CAL 27 RUN NUMBER: 111595.1326;1



CHANNEL: HEDXG FILTER: CH. CLASS 1000 PEAK DATA: 0.04 G @ -0.08 MS; -211.84 G @ 2.00 MS

951026

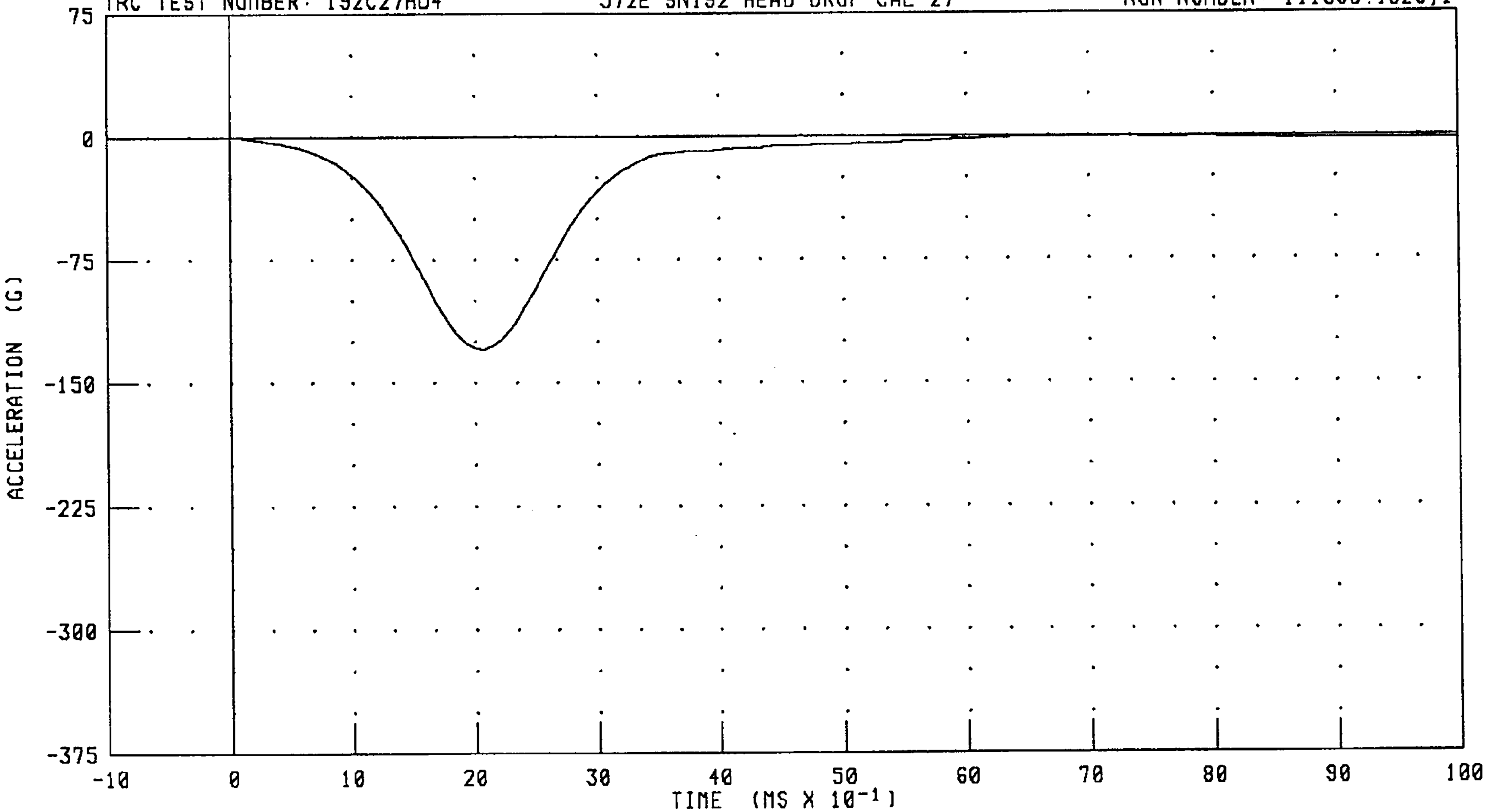
PART 572-E HYBRID III HEAD CALIBRATION
HEAD ACCELERATION Y AXIS



CHANNEL: HEDYG FILTER: CH. CLASS 1000 PEAK DATA: 1.45 G @ 3.84 MS; -4.71 G @ 2.40 MS

PART 572-E HYBRID III HEAD CALIBRATION
HEAD ACCELERATION Z AXIS

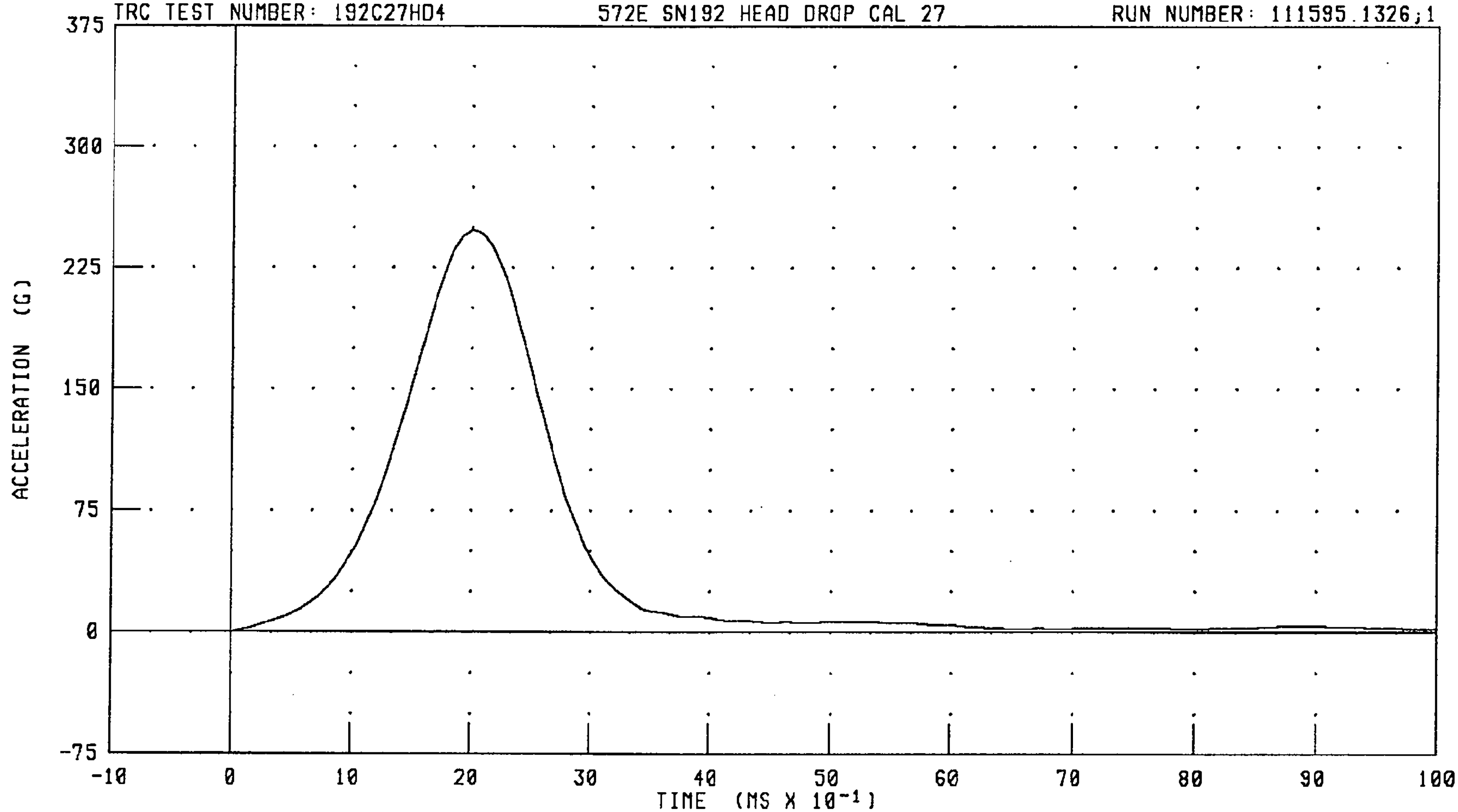
TRC TEST NUMBER: 192C27HD4 572E SN192 HEAD DROP CAL 27 RUN NUMBER: 111595.1326;1



CHANNEL: HEDZG FILTER: CH. CLASS 1000 PEAK DATA: 0.02 G @ -0.08 MS; -129.43 G @ 2.08 MS

PART 572-E HYBRID III HEAD CALIBRATION
HEAD RESULTANT ACCELERATION

TRC TEST NUMBER: 192C27HD4 572E SN192 HEAD DROP CAL 27 RUN NUMBER: 111595.1326;1



CHANNEL: HEDRG FILTER: CH. CLASS 1000 PEAK DATA: 248.16 G @ 2.00 MS; 0.02 G @ -0.96 MS

951026

TRANSPORTATION RESEARCH CENTER INC.

NECK FLEXION TEST - 6 CHANNEL TRANSDUCER

HYBRID III 15-SEP-95

TRC INC. TEST NO: 192C27NF1 572E SN192 NECK FLEXION CAL27

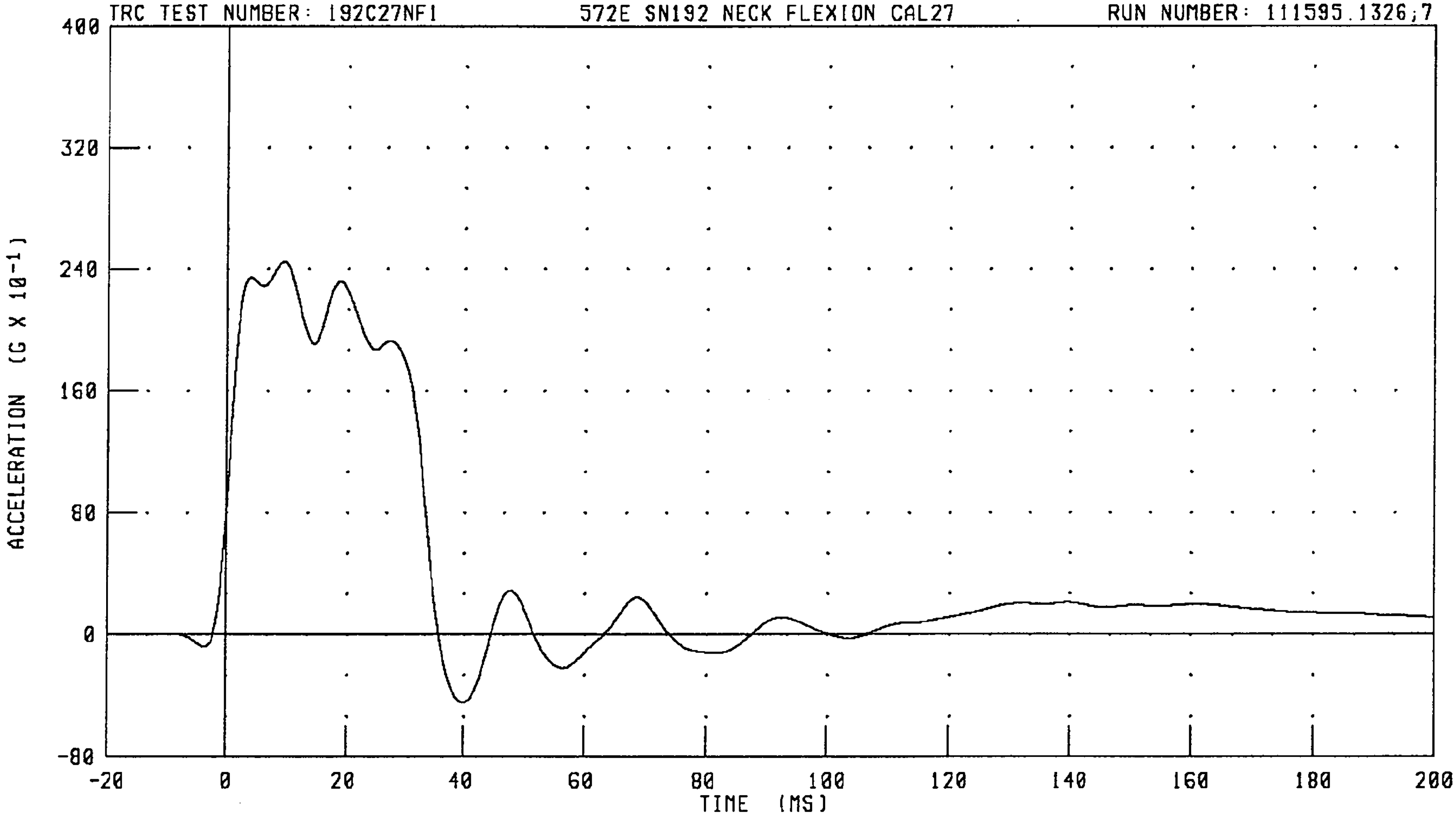
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6-22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY		10 - 70 %	62.0 %
IMPACT VELOCITY		6.89 - 7.13 M/S	7.06 M/S
PENDULUM DECELERATION	10 MS	22.50 - 27.50 G	24.27 G
	20 MS	17.60 - 22.60 G	22.59 G
	30 MS	12.50 - 18.50 G	17.66 G
MAX PENDULUM G		29 G MAX	24.47 G
MAX PENDULUM G ABOVE 30 MS		29 G MAX	17.56 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		34 - 42 MS	34.08 MS
D PLANE ROTATION	MAX	64 - 78 DEG.	75.65 DEG.
	TIME	57 - 64 MS	59.60 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MAX	88.2 - 108.5 NM	105.61 NM
	TIME	47 - 58 MS	48.08 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		113 - 128 MS	116.72 MS
POSITIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		97 - 107 MS	97.36 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN Alan Middell RUN NUMBER: 091595.1236;7

PART 572-E HYBRID III NECK FLEXION CALIBRATION
PENDULUM DECELERATION

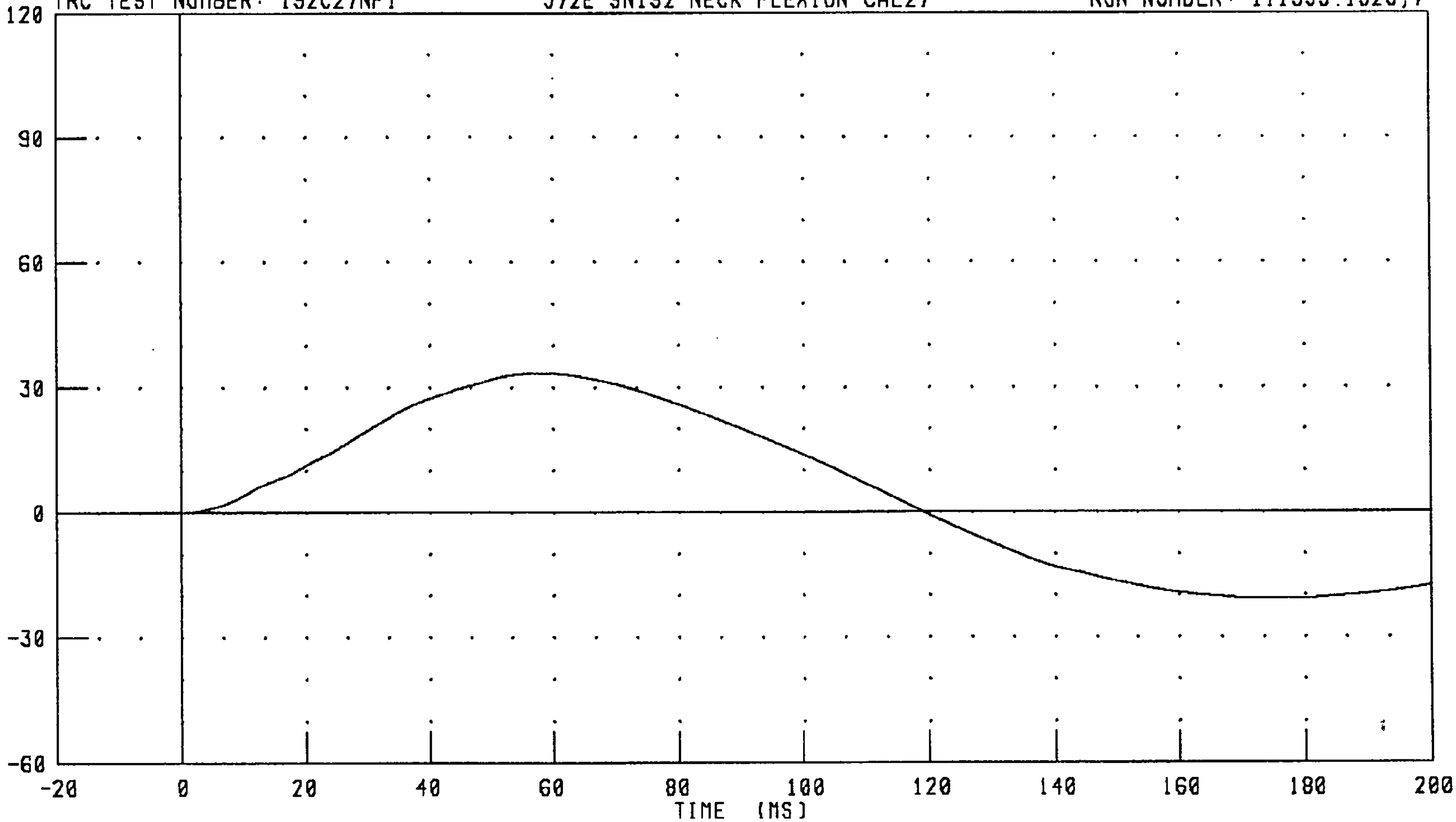
TRC TEST NUMBER: 192C27NF1 572E SN192 NECK FLEXION CAL27 RUN NUMBER: 111595.1326;7



CHANNEL: PENXG FILTER: CH. CLASS 60 PEAK DATA: 24.47 G @ 9.36 MS; -4.45 G @ 39.84 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION
ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: 192C27NF1 572E SN192 NECK FLEXION CAL27 RUN NUMBER: 111595.1326;7

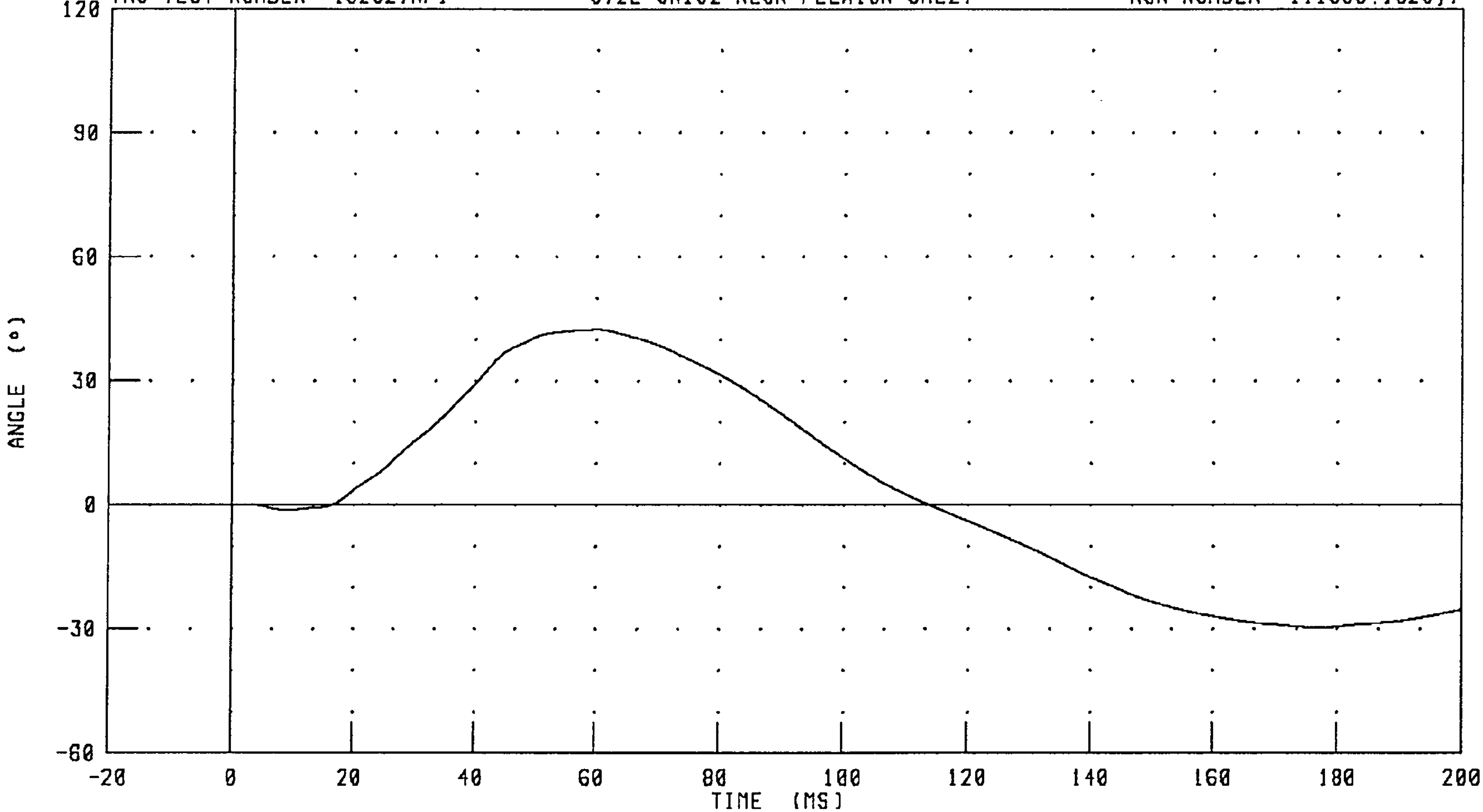


CHANNEL: BETA FILTER: CH. CLASS 60 PEAK DATA: 33.34 ° @ 57.92 MS; -20.85 ° @ 172.56 MS

951026

PART 572-E HYBRID III NECK FLEXION CALIBRATION
ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: 192C27NF1   572E SN192 NECK FLEXION CAL27   RUN NUMBER: 111595.1326;7

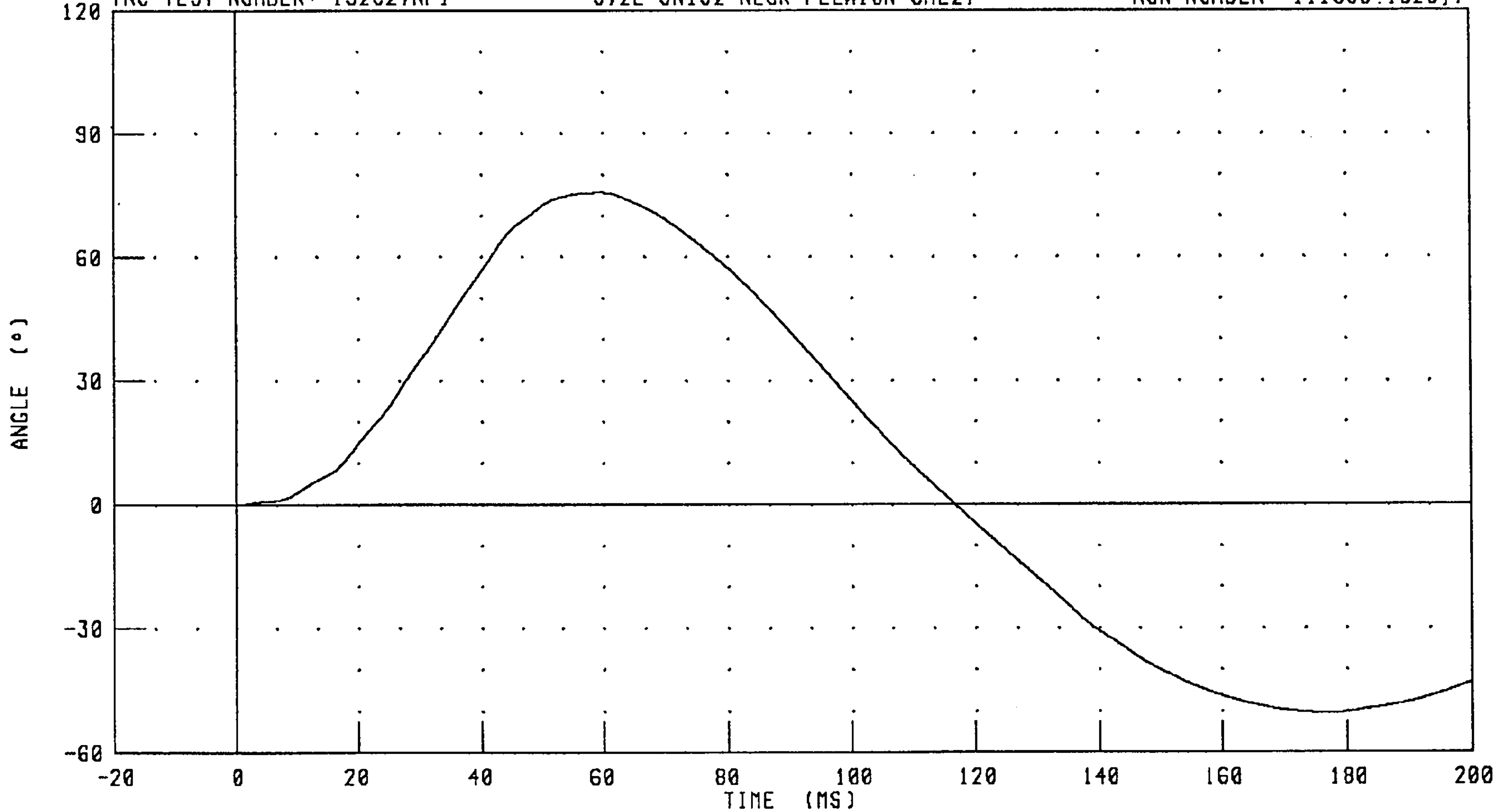


CHANNEL: THETA   FILTER: CH. CLASS 60   PEAK DATA: 42.38 ° @ 60.16 MS; -29.63 ° @ 177.04 MS

951026

PART 572-E HYBRID III NECK FLEXION CALIBRATION
TOTAL ROTATION

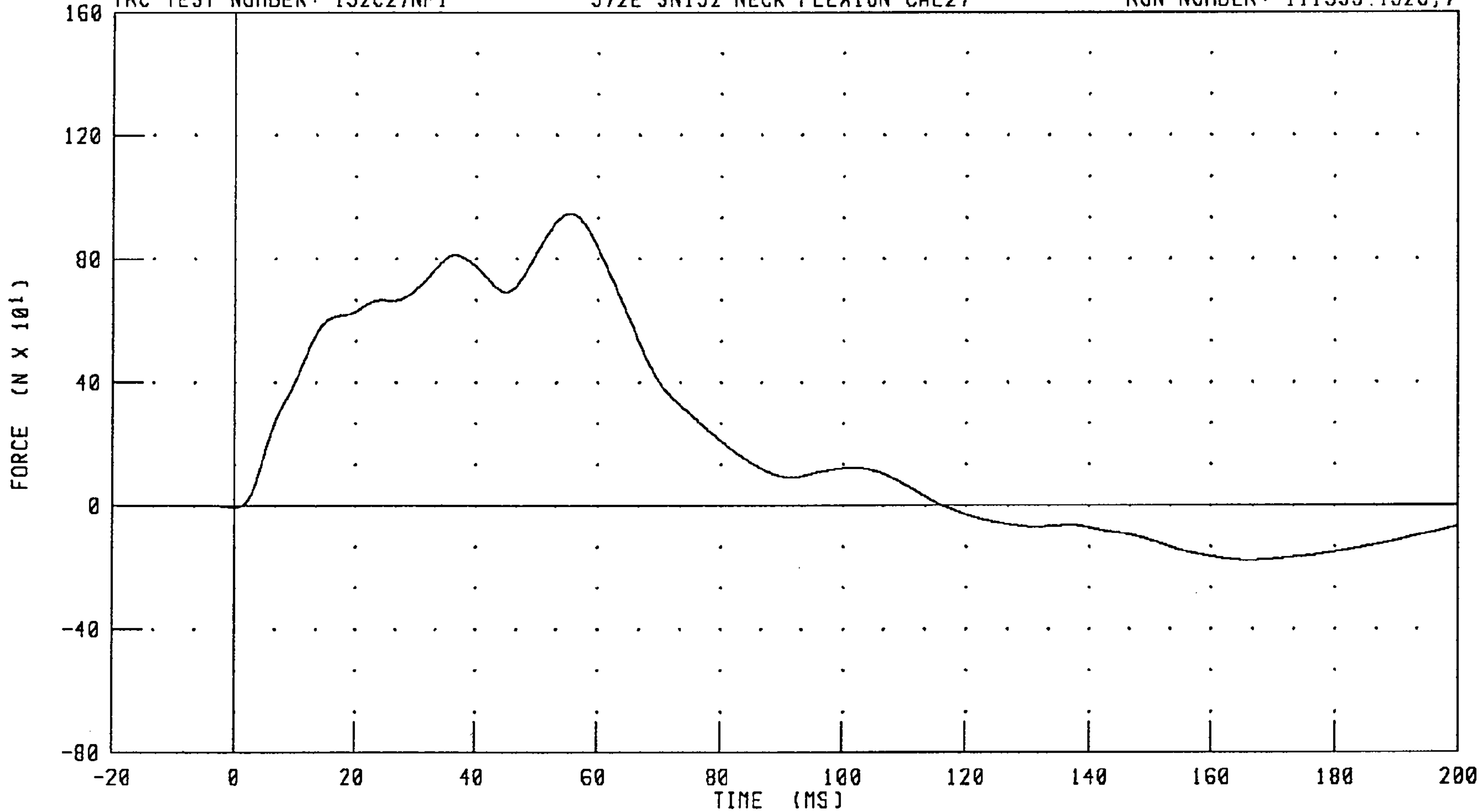
TRC TEST NUMBER: 192C27NF1 572E SN192 NECK FLEXION CAL27 RUN NUMBER: 111595.1326;7



CHANNEL: TOTAN FILTER: CH. CLASS 60 PEAK DATA: 75.66 ° @ 59.60 MS; -50.47 ° @ 177.20 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION
NECK FORCE X AXIS

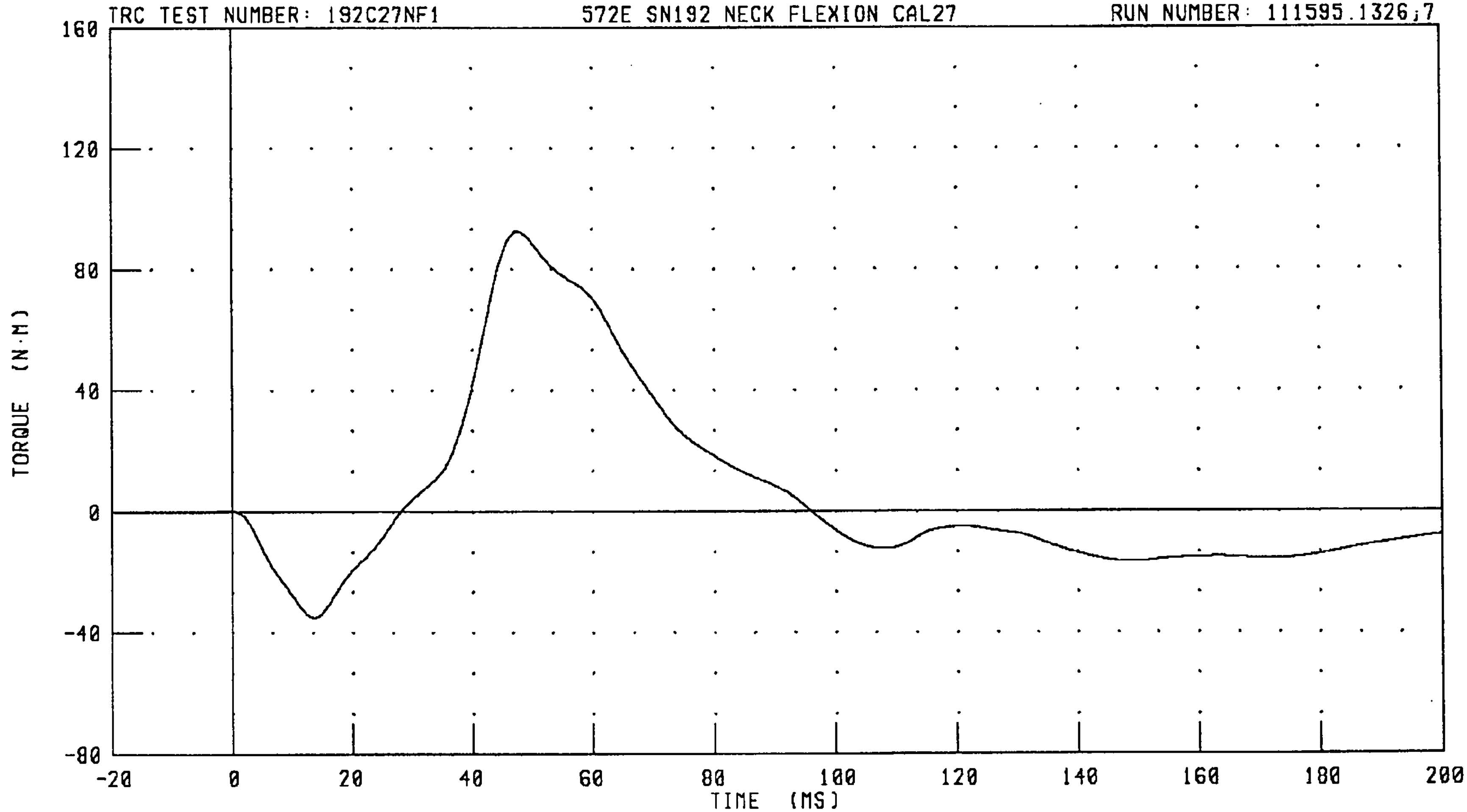
TRC TEST NUMBER: 192C27NF1 572E SN192 NECK FLEXION CAL27 RUN NUMBER: 111595.1326;7



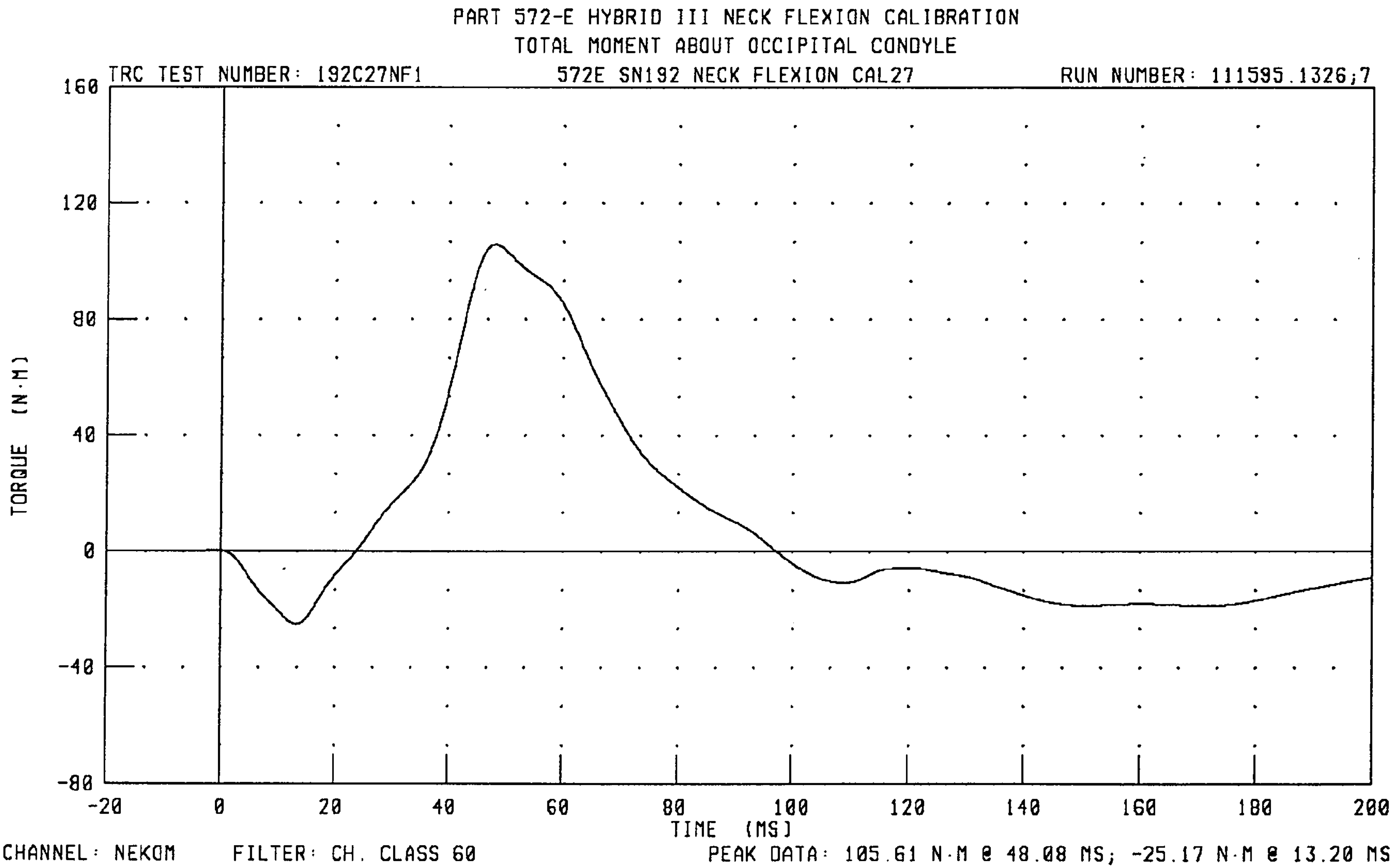
CHANNEL: NEKXF FILTER: CH. CLASS 60 PEAK DATA: 946.07 N @ 55.60 MS; -178.11 N @ 166.24 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION
NECK MOMENT Y AXIS

TRC TEST NUMBER: 192C27NF1 572E SN192 NECK FLEXION CAL27 RUN NUMBER: 111595.1326;7



CHANNEL: NEKYM FILTER: CH. CLASS 60 PEAK DATA: 92.41 N·M @ 47.68 MS; -35.06 N·M @ 13.68 MS


PART 572-E HYBRID III NECK FLEXION CALIBRATION
TOTAL MOMENT ABOUT OCCIPITAL CONDYLE
TRC TEST NUMBER: 192C27NF1
572E SN192 NECK FLEXION CAL27
RUN NUMBER: 111595.1326;7
TORQUE (N·M)
160
120
80
40
0
-40
-80
-20
0
20
40
60
80
100
120
140
160
180
200
TIME (MS)
CHANNEL: NEKOM
FILTER: CH. CLASS 60
PEAK DATA: 105.61 N·M @ 48.08 MS; -25.17 N·M @ 13.20 MS

TRANSPORTATION RESEARCH CENTER INC.

NECK EXTENSION TEST - 6 CHANNEL TRANSDUCER

HYBRID III 13-SEP-95

TRC INC. TEST NO: 192C27NE1 572E SN192 NECK EXT. CAL27

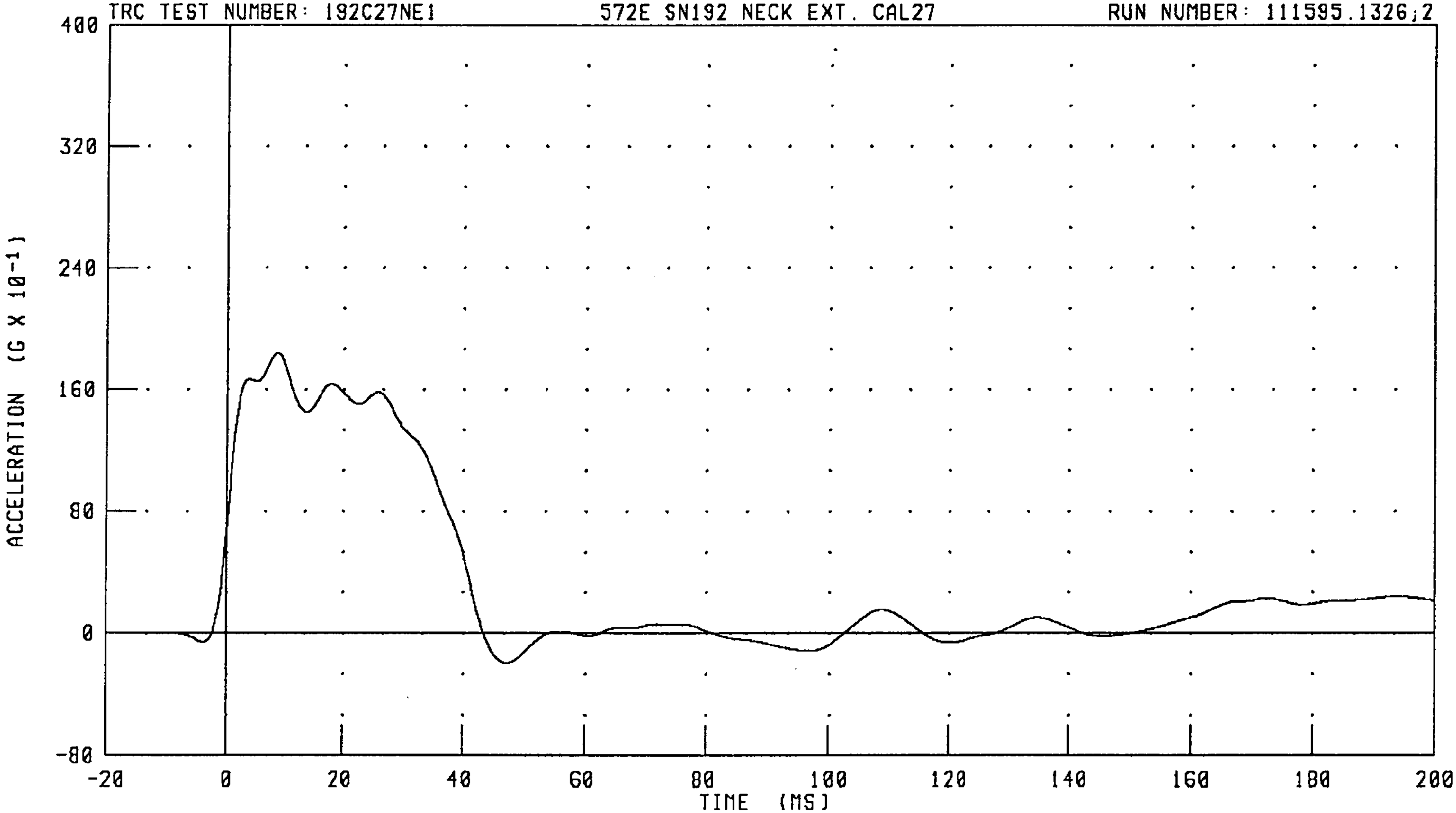
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY		10 - 70 %	62.0 %
IMPACT VELOCITY		5.95 - 6.19 M/S	6.00 M/S
PENDULUM DECELERATION	10 MS	17.20 - 21.20 G	17.52 G
	20 MS	14.00 - 19.00 G	15.78 G
	30 MS	11.00 - 16.00 G	13.46 G
MAX PENDULUM G		22 G MAX	18.40 G
MAX PENDULUM G ABOVE 30 MS		22 G MAX	13.42 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		38 - 46 MS	40.08 MS
D PLANE ROTATION	MAX	81 - 106 DEG.	100.66 DEG.
	TIME	72 - 82 MS	76.48 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MIN	-80.0/-52.9 NM	-72.70 NM
	TIME	65 - 79 MS	71.92 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		147 - 174 MS	161.52 MS
NEGATIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		120 - 148 MS	136.56 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Middlet RUN NUMBER: 091595.1355;2

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
PENDULUM DECELERATION

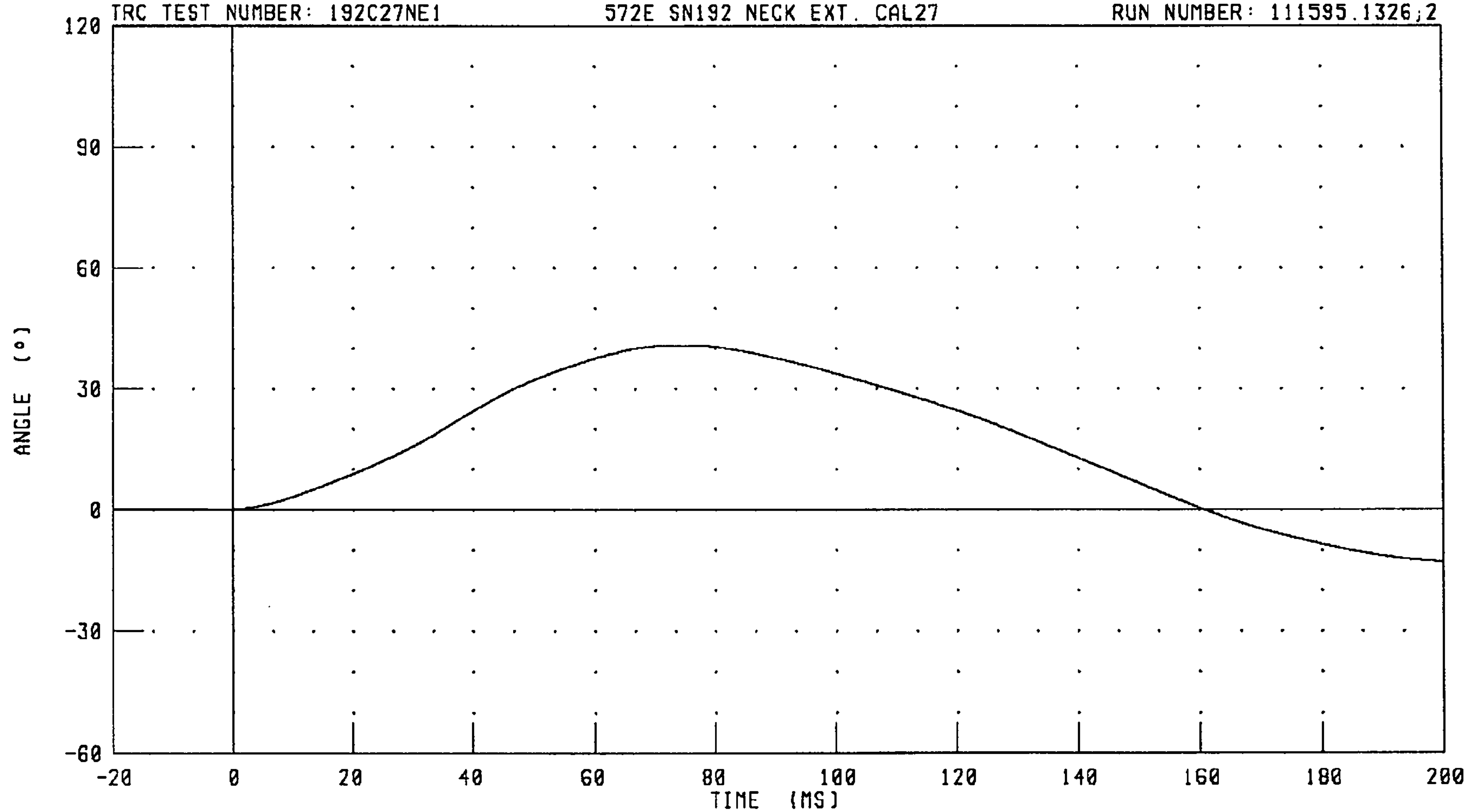
TRC TEST NUMBER: 192C27NE1 572E SN192 NECK EXT. CAL27 RUN NUMBER: 111595.1326;2



CHANNEL: PENXG FILTER: CH. CLASS 60 PEAK DATA: 18.41 G @ 8.64 MS; -1.94 G @ 47.12 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
ROTATION ABOUT BASE OF NECK

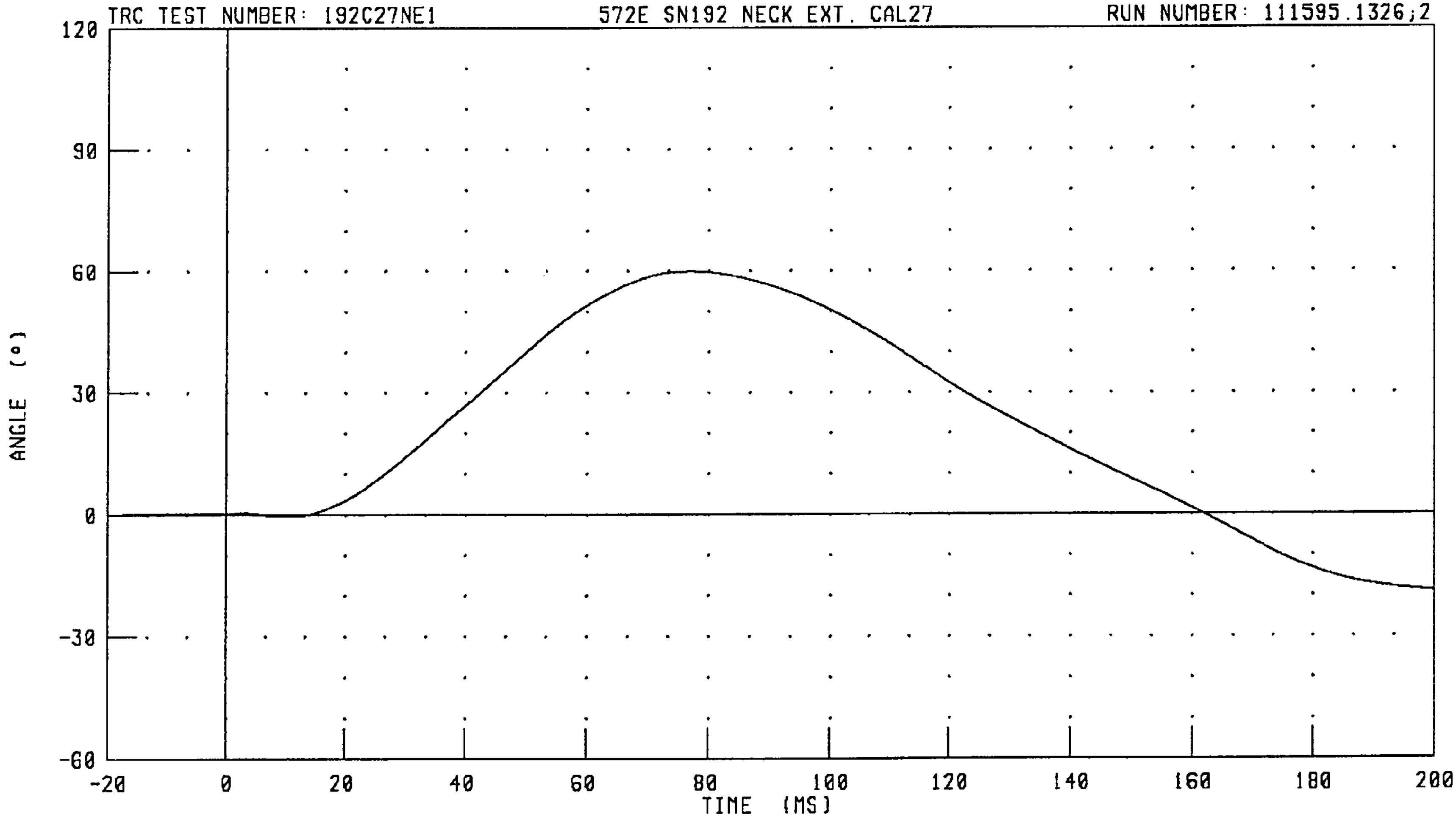
TRC TEST NUMBER: 192C27NE1 572E SN192 NECK EXT. CAL27 RUN NUMBER: 111595.1326;2



CHANNEL: BETA FILTER: CH. CLASS 60 PEAK DATA: 40.81 ° @ 74.88 MS; -12.91 ° @ 200.00 MS

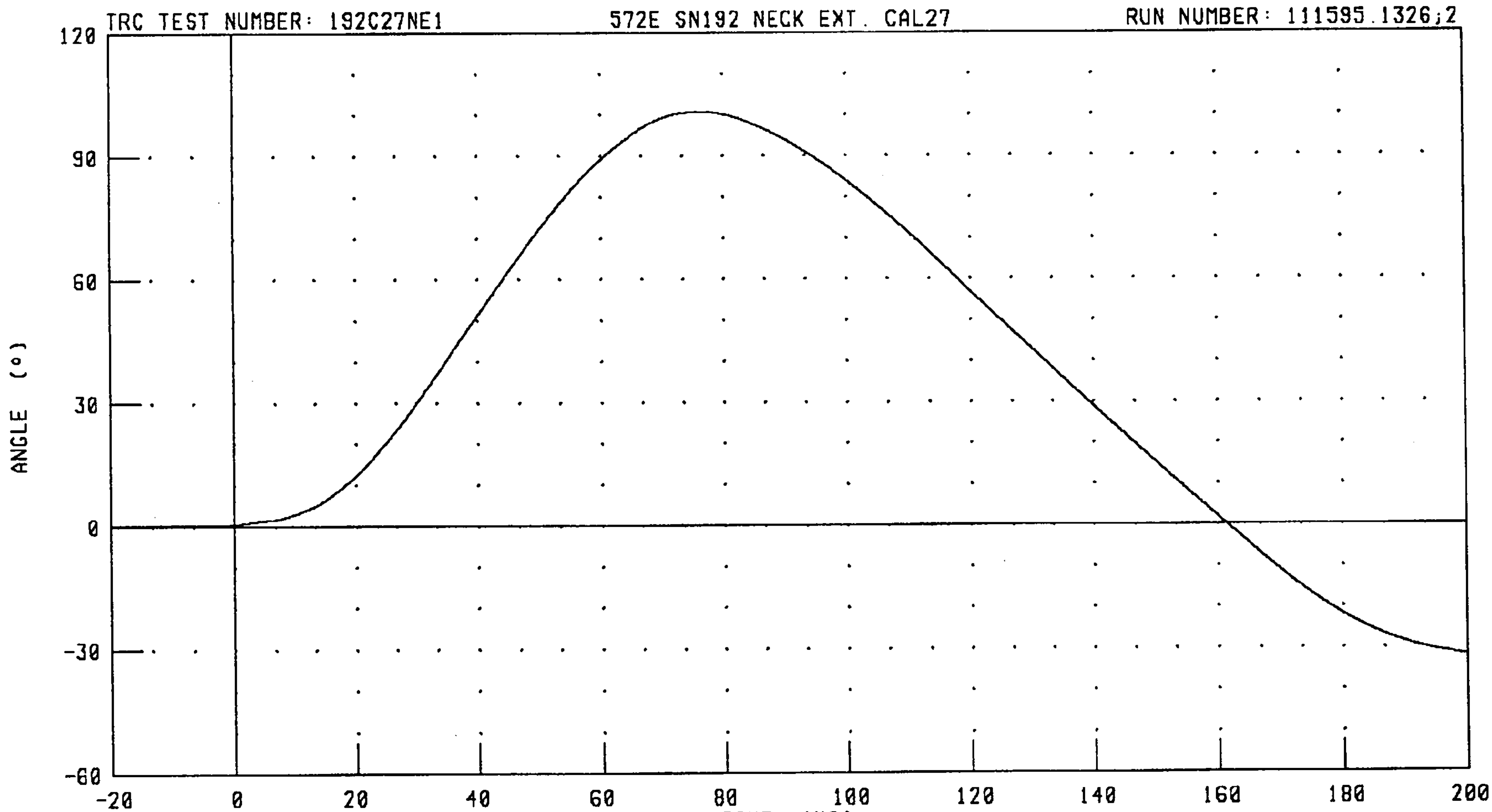
PART 572-E HYBRID III NECK EXTENSION CALIBRATION
ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: 192C27NE1 572E SN192 NECK EXT. CAL27 RUN NUMBER: 111595.1326;2



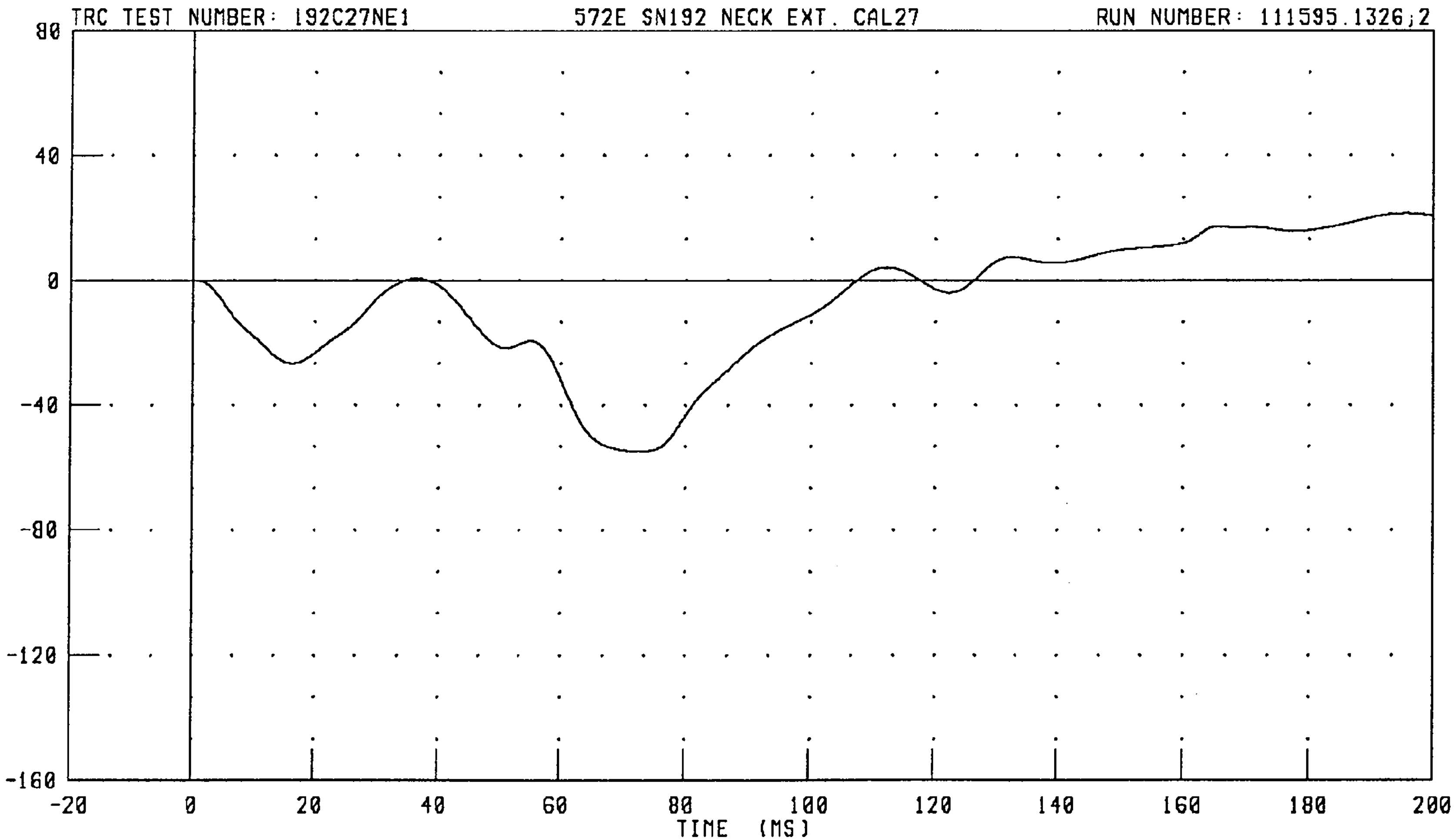
CHANNEL: THETA FILTER: CH. CLASS 60 PEAK DATA: 59.88 ° @ 77.12 MS; -18.90 ° @ 200.00 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
TOTAL ROTATION



CHANNEL: TOTAN FILTER: CH. CLASS 60 PEAK DATA: 100.66 ° @ 76.48 MS; -31.80 ° @ 200.00 MS

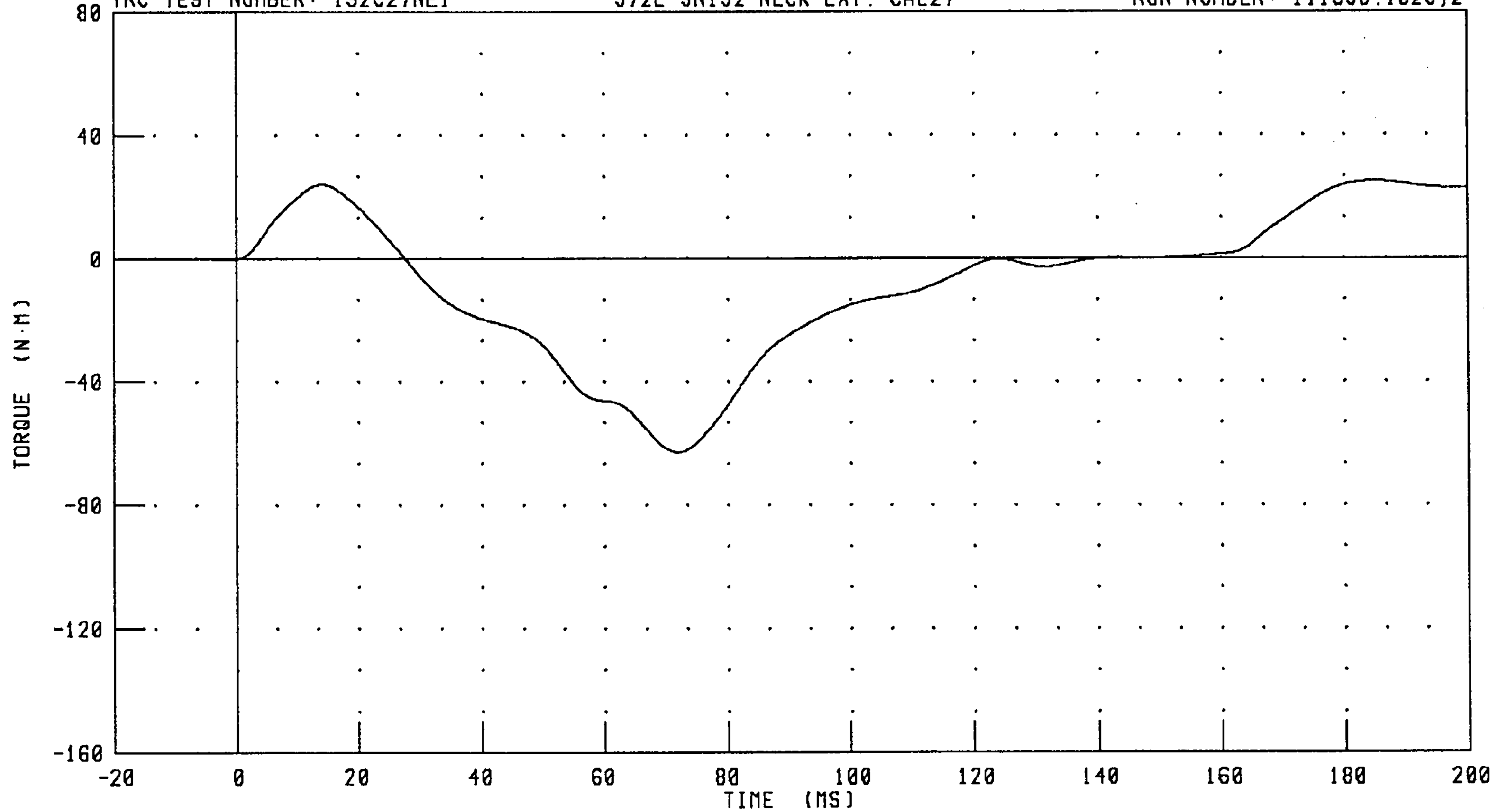
PART 572-E HYBRID III NECK EXTENSION CALIBRATION
NECK FORCE X AXIS



CHANNEL: NEKXF FILTER: CH. CLASS 60 PEAK DATA: 214.90 N @ 195.76 MS; -548.25 N @ 72.40 MS

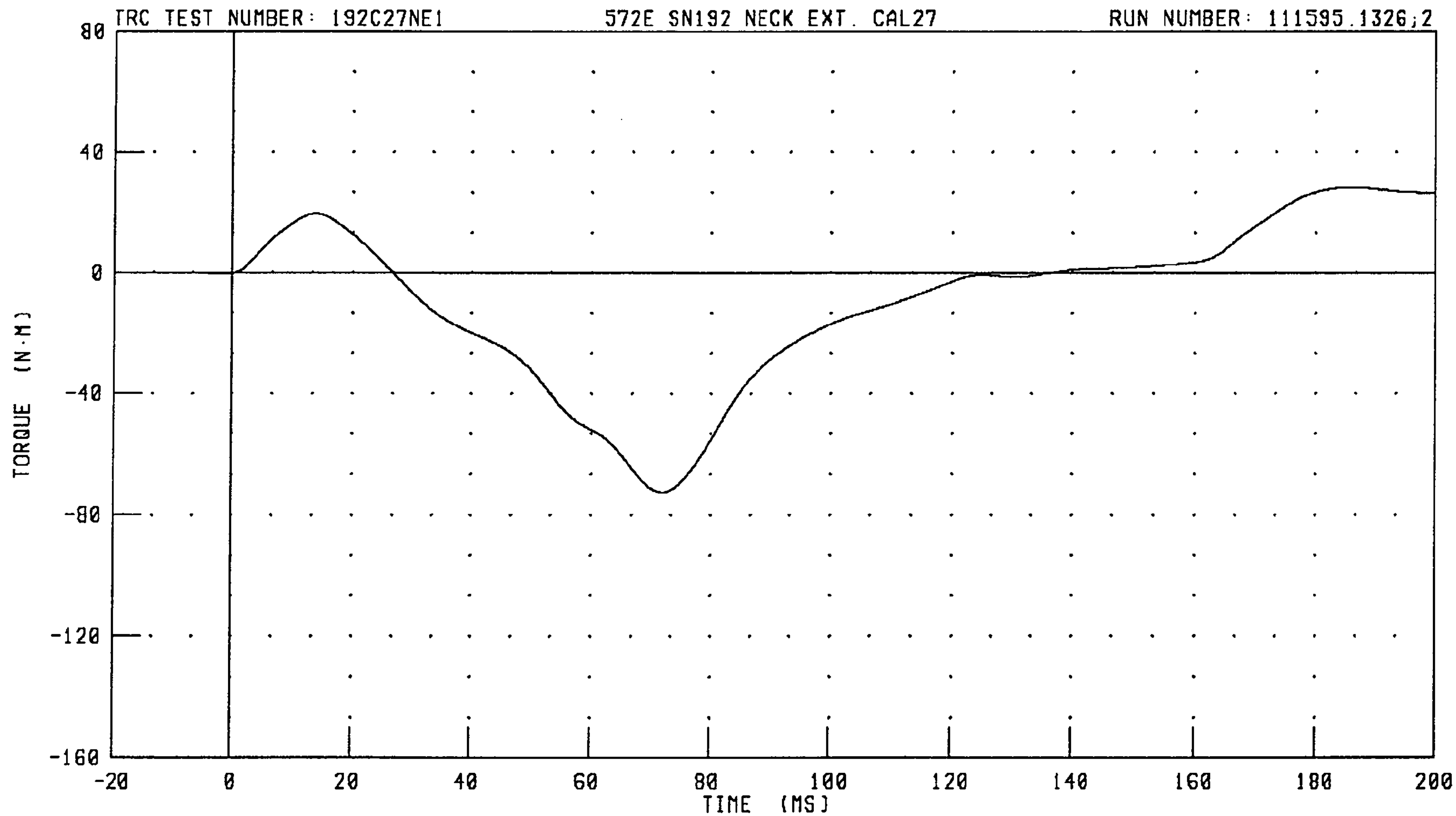
PART 572-E HYBRID III NECK EXTENSION CALIBRATION
NECK MOMENT Y AXIS

TRC TEST NUMBER: 192C27NE1 | 572E SN192 NECK EXT. CAL27 | RUN NUMBER: 111595.1326;2



CHANNEL: NEKYM   FILTER: CH. CLASS 60   PEAK DATA: 24.99 N·M @ 184.96 MS; -62.95 N·M @ 71.92 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
TOTAL MOMENT ABOUT OCCIPITAL CONDYLE



CHANNEL: NEKOM FILTER: CH. CLASS 60 PEAK DATA: 28.20 N·M @ 186.00 MS; -72.70 N·M @ 71.92 MS

TRANSPORTATION RESEARCH CENTER INC.

THORAX IMPACT TEST

HYBRID III 15-SEP-95

TRC INC. TEST NO: 192C27TH1 572E SN192 H.S.THORAX CAL27

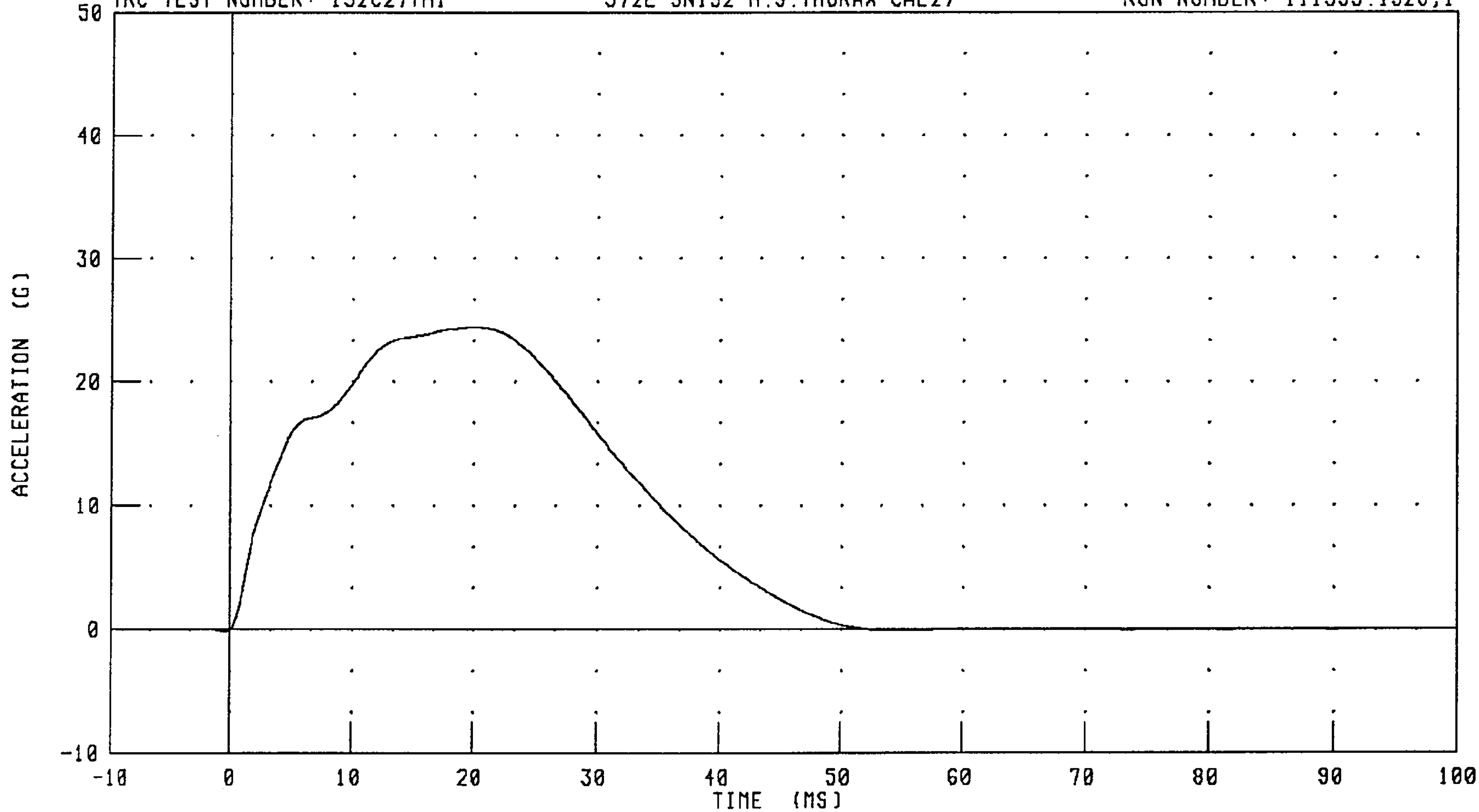
TEST PARAMETER	HIGH SPEED TEST SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6-22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	62.0 %
PENDULUM VELOCITY	6.59 - 6.83 M/S	6.65 M/S
MAXIMUM DEFLECTION	63.5 - 72.6 MM	67.1 MM
MAXIMUM RESISTIVE FORCE	5159 - 5894 N	5589. N
INTERNAL HYSTERESIS	69% - 85%	71.5%

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Middleton RUN NUMBER: 091595.1513;1

PART 572-E HYBRID III THORAX CALIBRATION
PENDULUM DECELERATION

TRC TEST NUMBER: 192C27TH1 572E SN192 H.S.THORAX CAL27 RUN NUMBER: 111595.1326;1

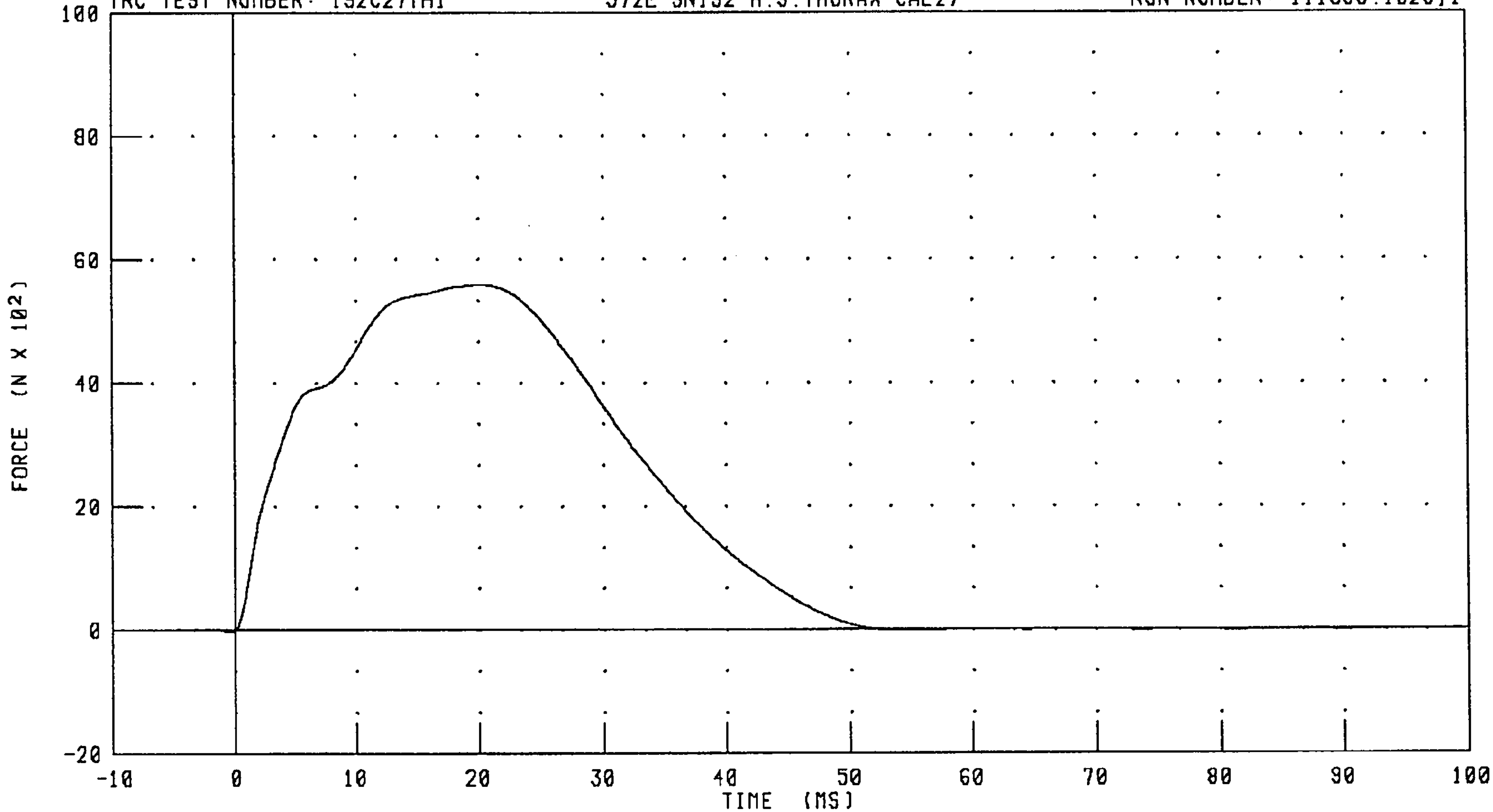


CHANNEL: PENXG FILTER: CH. CLASS 180 PEAK DATA: 24.40 G @ 20.16 MS; -0.14 G @ -0.40 MS

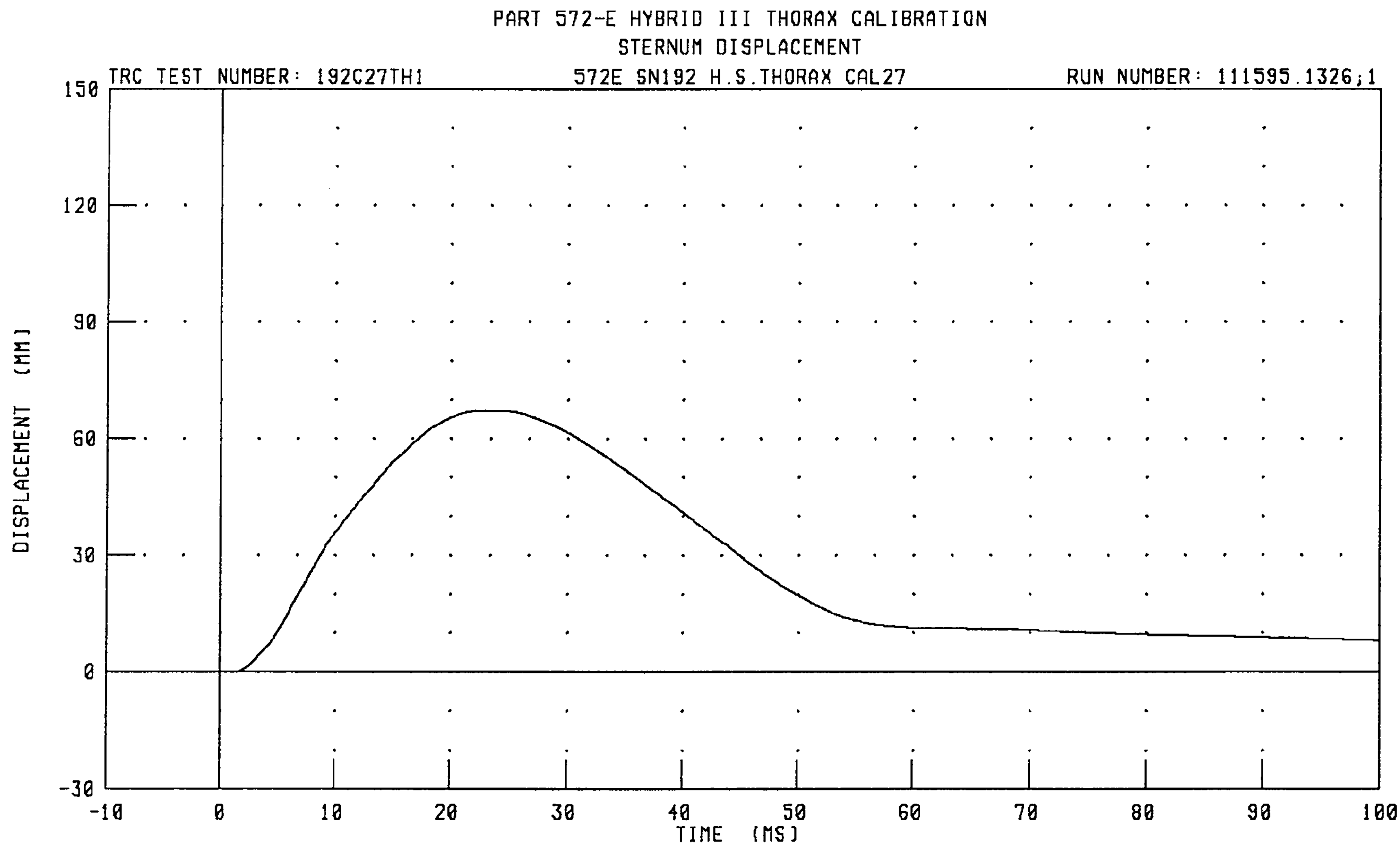
951026

PART 572-E HYBRID III THORAX CALIBRATION
PENDULUM FORCE

TRC TEST NUMBER: 192C27TH1 | 572E SN192 H.S.THORAX CAL27 | RUN NUMBER: 111595.1326;1



CHANNEL: PENXF FILTER: CH. CLASS 180 PEAK DATA: 5589.59 N @ 20.16 MS; -31.57 N @ -0.40 MS

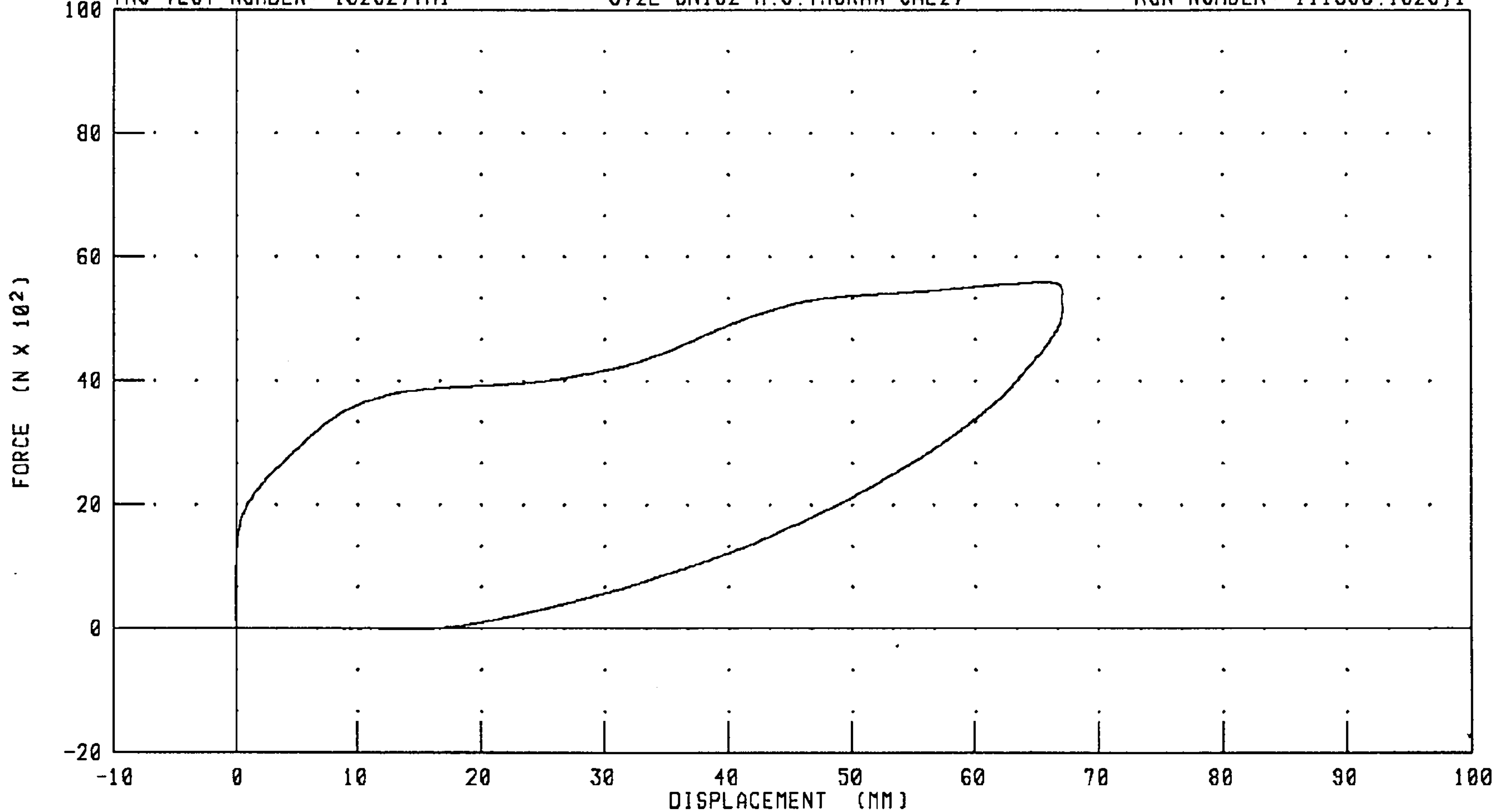


CHANNEL: CSTXD FILTER: CH. CLASS 180 PEAK DATA: 67.13 MM @ 24.32 MS; -0.05 MM @ 1.04 MS

951026

PART 572-E HYBRID III THORAX CALIBRATION
CHEST DISPLACEMENT VS PENDULUM FORCE

TRC TEST NUMBER: 192C27TH1 572E SN192 H.S.THORAX CAL27 RUN NUMBER: 111595.1326;1



CHANNEL: CSTXD FILTER: CH. CLASS 180 PEAK DATA: 67.13 MM @ 24.32 MS; -0.05 MM @ 1.04 MS
PENXF CH. CLASS 180 5589.59 N @ 20.16 MS; -31.57 N @ -0.40 MS

TRANSPORTATION RESEARCH CENTER INC.

RIGHT KNEE IMPACT TEST

HYBRID III 13-SEP-95

TRC INC. TEST NO: 192C27RK1 572E SN192 RIGHT KNEE CAL 27

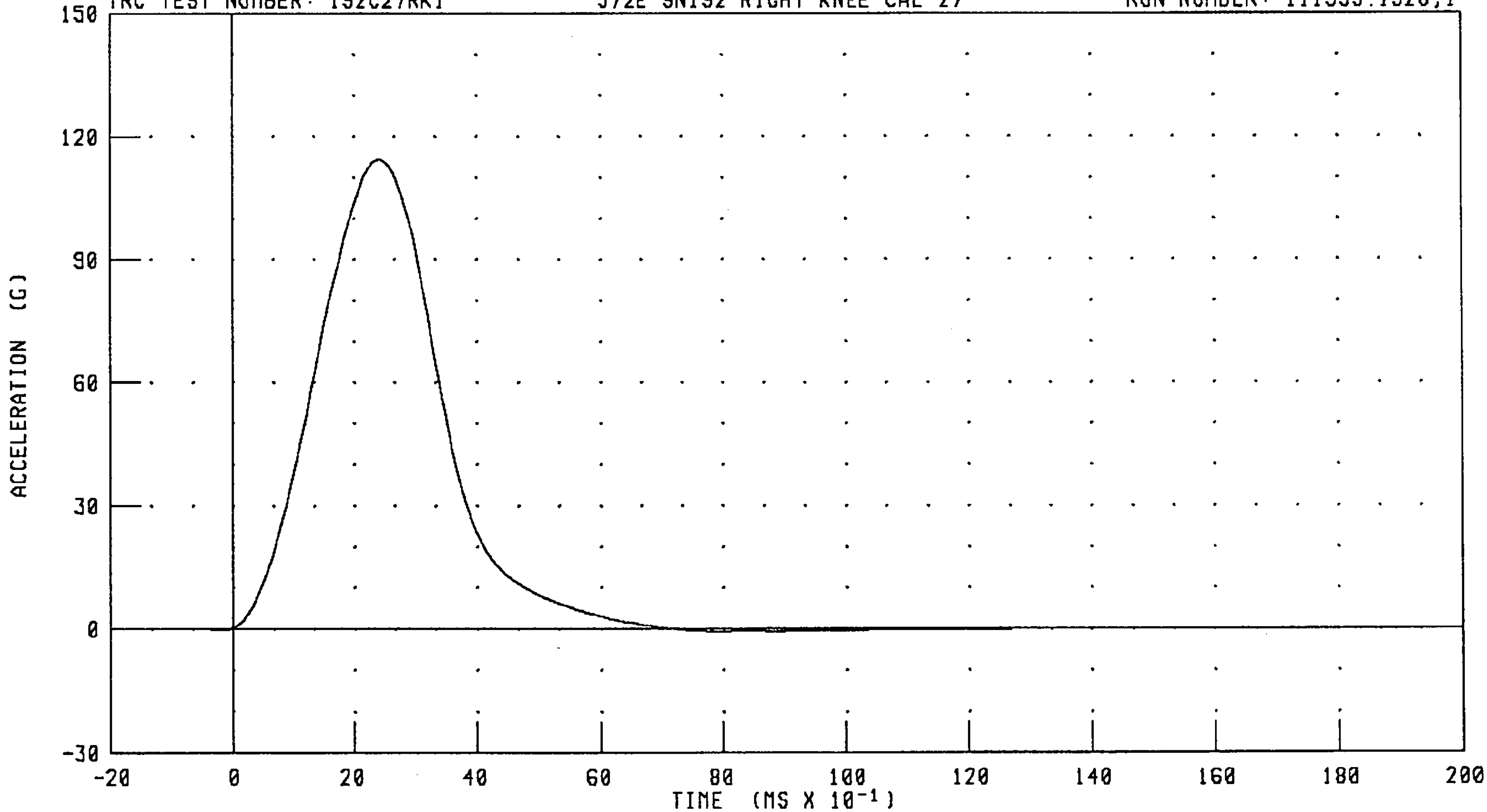
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	20.6 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.11 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5596.0 N

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Widdlet RUN NUMBER: 091395.1342;1

PART 572-E HYBRID III RIGHT KNEE CALIBRATION
PENDULUM DECELERATION (5 KG PEND.)

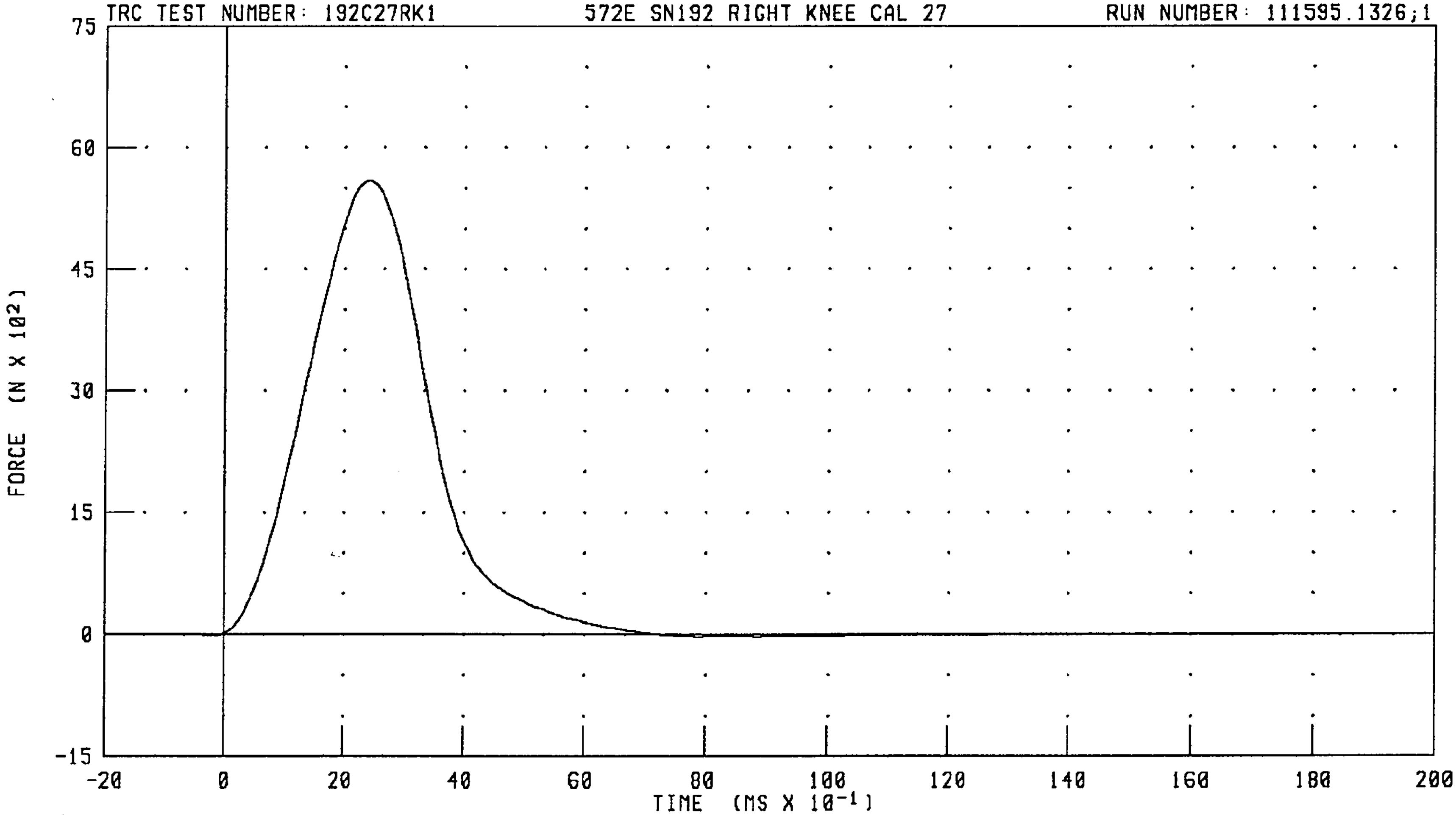
TRC TEST NUMBER: 192C27RK1 572E SN192 RIGHT KNEE CAL 27 RUN NUMBER: 111595.1326;1



CHANNEL: PENXG FILTER: CH. CLASS 600 PEAK DATA: 114.37 G @ 2.40 MS; -0.59 G @ 8.88 MS

PART 572-E HYBRID III RIGHT KNEE CALIBRATION
PENDULUM FORCE (5 KG PEND.)

TRC TEST NUMBER: 192C27RK1 572E SN192 RIGHT KNEE CAL 27 RUN NUMBER: 111595.1326;1



CHANNEL: PENXF FILTER: CH. CLASS 600 PEAK DATA: 5596.10 N @ 2.40 MS; -28.72 N @ 8.88 MS

TRANSPORTATION RESEARCH CENTER INC.

LEFT KNEE IMPACT TEST

HYBRID III 13-SEP-95

TRC INC. TEST NO: 192C27LK1 572E SN192 LEFT KNEE CAL 27

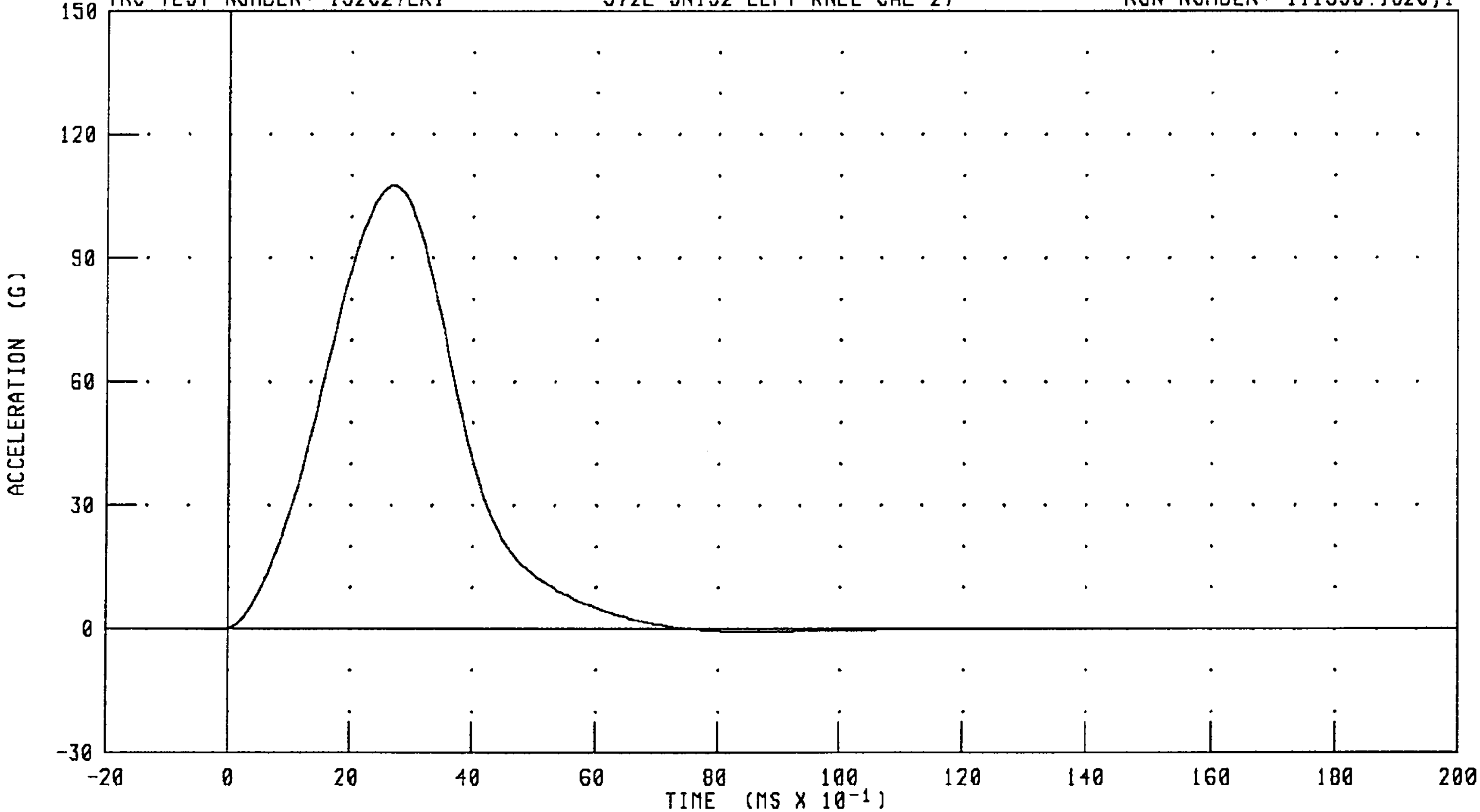
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	20.6 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.11 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5262.5 N

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Middlet RUN NUMBER: 091395.1335;1

PART 572-E HYBRID III LEFT KNEE CALIBRATION
PENDULUM DECELERATION (5 KG PEND.)

TRC TEST NUMBER: 192C27LK1 572E SN192 LEFT KNEE CAL 27 RUN NUMBER: 111595.1326;1

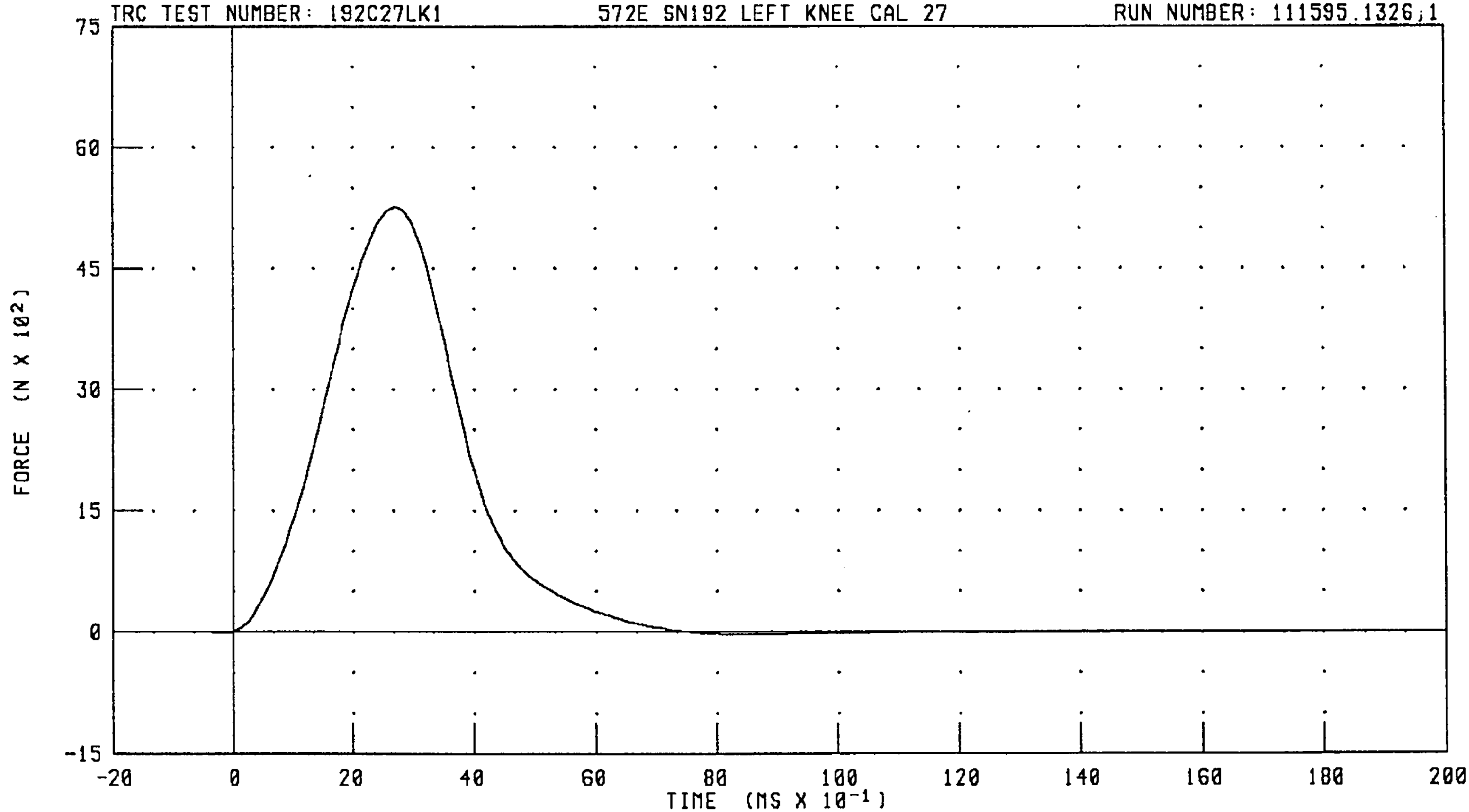


CHANNEL: PENXG FILTER: CH. CLASS 600 PEAK DATA: 107.56 G @ 2.72 MS; -0.79 G @ 8.56 MS

951026

PART 572-E HYBRID III LEFT KNEE CALIBRATION
PENDULUM FORCE (5 KG PEND.)

TRC TEST NUMBER: 192C27LK1 572E SN192 LEFT KNEE CAL 27 RUN NUMBER: 111595.1326;1



CHANNEL: PENXF FILTER: CH. CLASS 600 PEAK DATA: 5262.53 N @ 2.72 MS; -38.88 N @ 8.56 MS

<u>Pre-test Certification Data</u>

Passenger Dummy S/N: 142

TRANSPORTATION RESEARCH CENTER INC.
HYBRID III EXTERNAL DIMENSIONS
142 HUMANOID 13-SEP-95

TRC INC. TEST NO: 142C28ED1 572E SN142 EXT.DIMENSION CAL28

TEST PARAMETER	(DIMEN.)	SPECIFICATION	TEST RESULTS
LOCATION FOR CHEST CIRCUMFERENCE	(AA)	429 - 434 MM	432. MM
LOCATION FOR WAIST CIRCUMFERENCE	(BB)	226 - 231 MM	229. MM
CHEST CIRCUMFERENCE	(Y)	970 -1001 MM	986. MM
WAIST CIRCUMFERENCE	(Z)	836 - 866 MM	848. MM
CHEST DEPTH	(O)	213 - 229 MM	221. MM
H-POINT HEIGHT	(C)	84 - 89 MM	84. MM
H-POINT FROM SEATBACK	(D)	135 - 140 MM	137. MM
SKULL CAP TO BACKLINE	(H)	41 - 46 MM	43. MM
TOTAL SITTING HEIGHT	(A)	879 - 889 MM	879. MM
THIGH CLEARANCE	(F)	140 - 155 MM	145. MM
BUTTOCK KNEE LENGTH	(K)	579 - 605 MM	602. MM
BUTTOCK POPLITEAL LENGTH	(N)	452 - 478 MM	470. MM
POPLITEAL HEIGHT	(L)	429 - 455 MM	445. MM
KNEE PIVOT HEIGHT	(M)	485 - 500 MM	488. MM
FOOT LENGTH	(P)	252 - 267 MM	257. MM
FOOT BREADTH	(W)	91 - 107 MM	97. MM
SHOULDER PIVOT FROM BACKLINE	(E)	84 - 94 MM	91. MM
SHOULDER BREADTH	(V)	422 - 437 MM	429. MM
SHOULDER PIVOT HEIGHT	(B)	506 - 521 MM	508. MM
ELBOW REST HEIGHT	(J)	191 - 211 MM	203. MM
SHOULDER-ELBOW LENGTH	(I)	330 - 345 MM	345. MM
BACK OF ELBOW TO WRIST PIVOT	(G)	290 - 305 MM	292. MM

DUMMY MEETS SPECIFICATIONS
TECHNICIAN Chas Middlt

RUN NUMBER: 092595.0953

TRANSPORTATION RESEARCH CENTER INC.

HEAD DROP TEST

HYBRID III 09-SEP-95

TRC INC. TEST NO: 142C28HD12 572E SN142 HEAD DROP CAL 28

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	64.0 %
PEAK RESULTANT ACCELERATION	225 - 275 G	258.60 G
PEAK LATERAL ACCELERATION	15 G MAX	-3.10 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

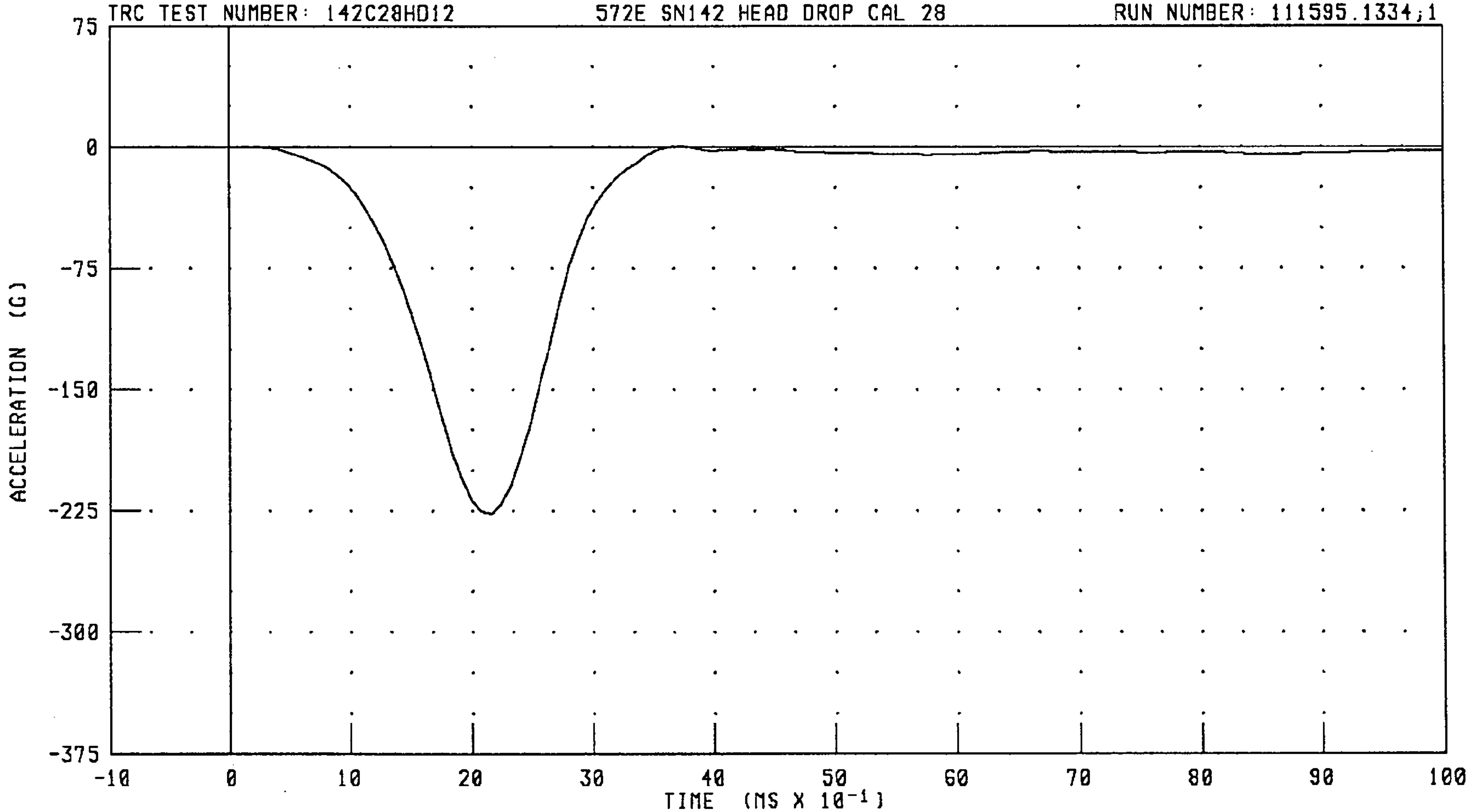
REDUNDANT ACCELEROMETER MOUNT WITH 6 ACCELS.

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Middleton RUN NUMBER: 090995.1357;1

PART 572-E HYBRID III HEAD CALIBRATION
HEAD ACCELERATION X AXIS

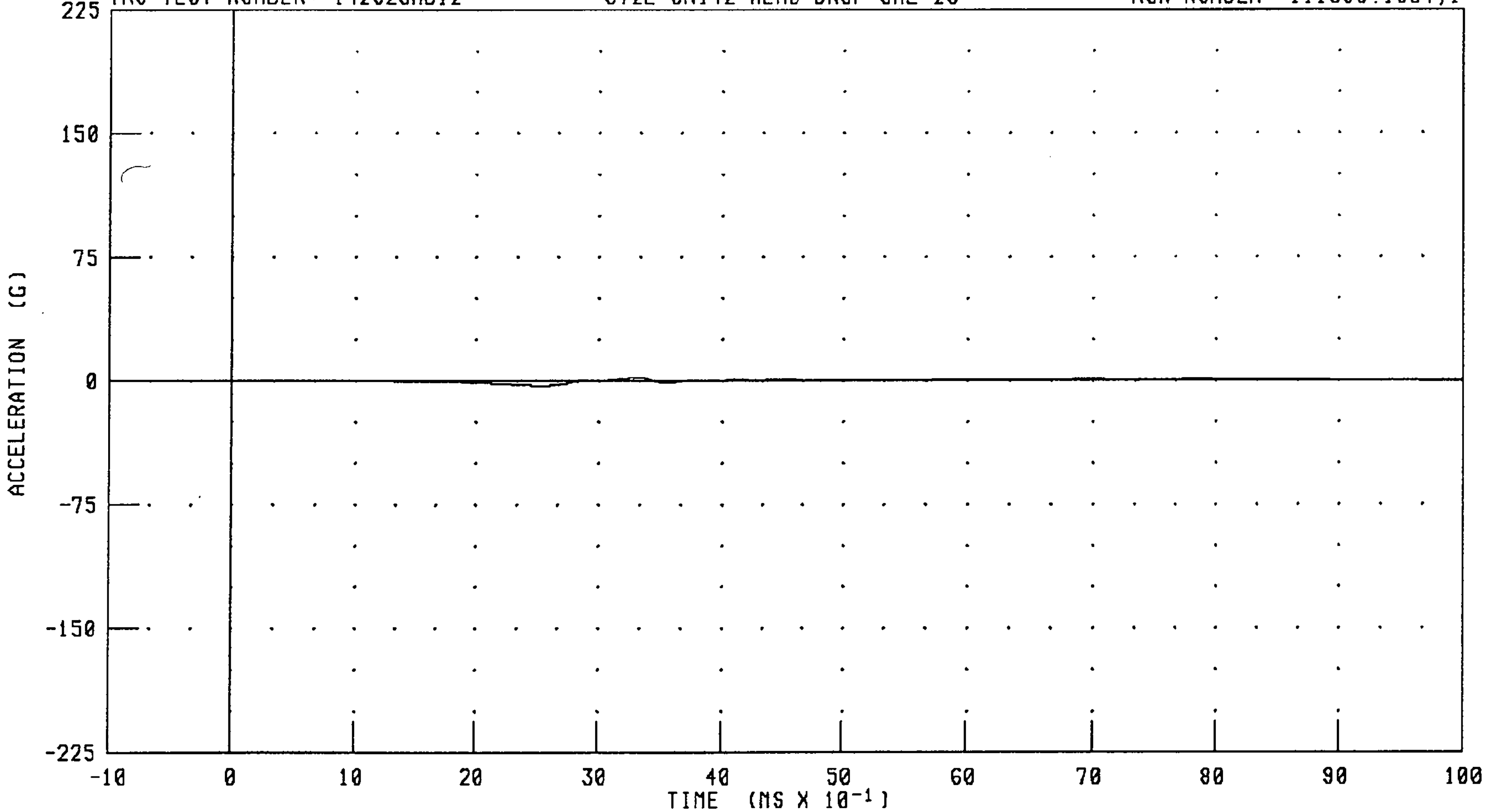
TRC TEST NUMBER: 142C28HD12 572E SN142 HEAD DROP CAL 28 RUN NUMBER: 111595.1334;1



CHANNEL: HEDXG FILTER: CH. CLASS 1000 PEAK DATA: 0.36 G @ 3.68 MS; -226.52 G @ 2.16 MS

PART 572-E HYBRID III HEAD CALIBRATION
HEAD ACCELERATION Y AXIS

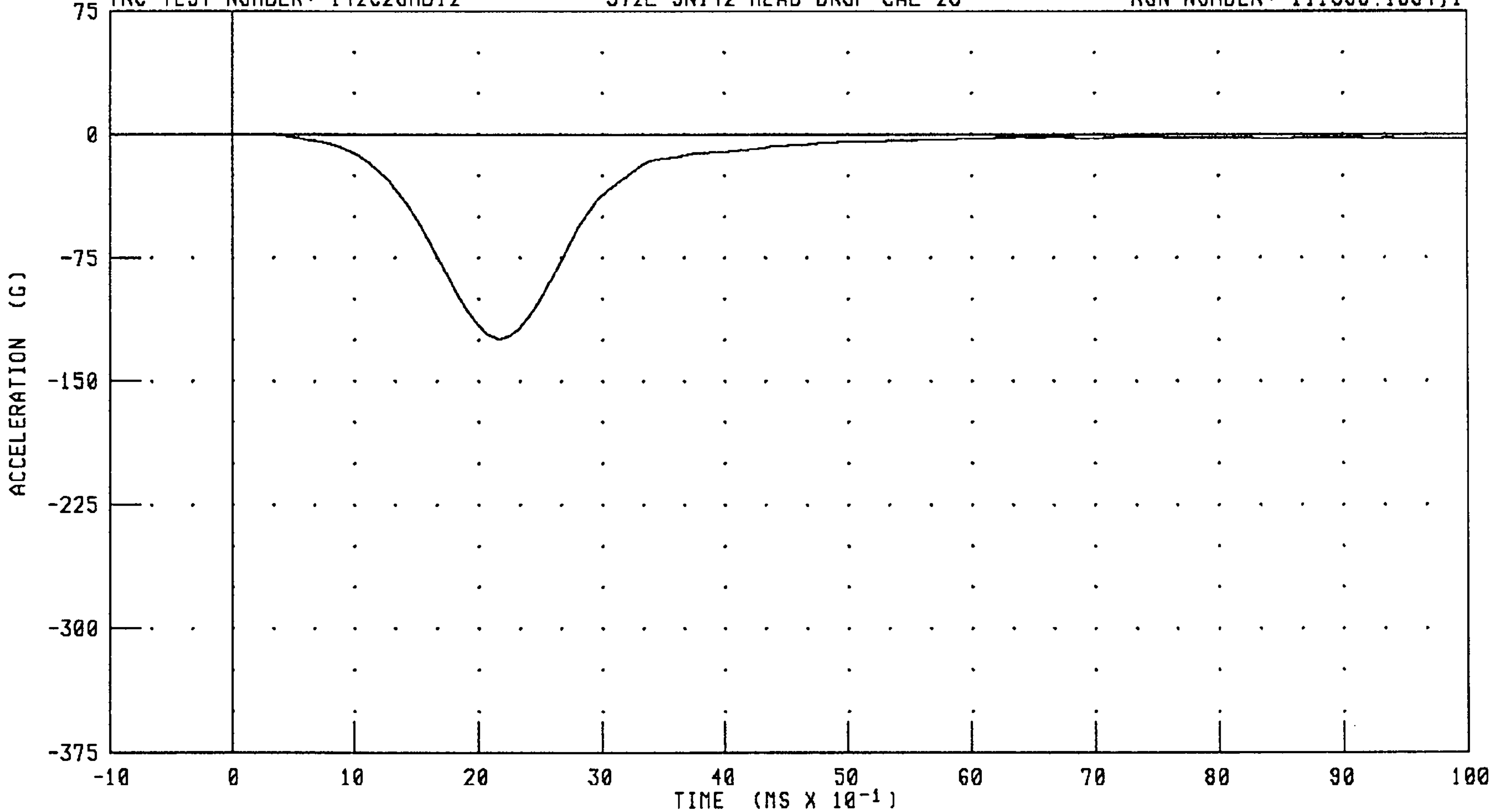
TRC TEST NUMBER: 142C28HD12 572E SN142 HEAD DROP CAL 28 RUN NUMBER: 111595.1334;1



CHANNEL: HEDYG FILTER: CH. CLASS 1000 PEAK DATA: 2.09 G @ 3.28 MS; -3.11 G @ 2.48 MS

PART 572-E HYBRID III HEAD CALIBRATION
HEAD ACCELERATION Z AXIS

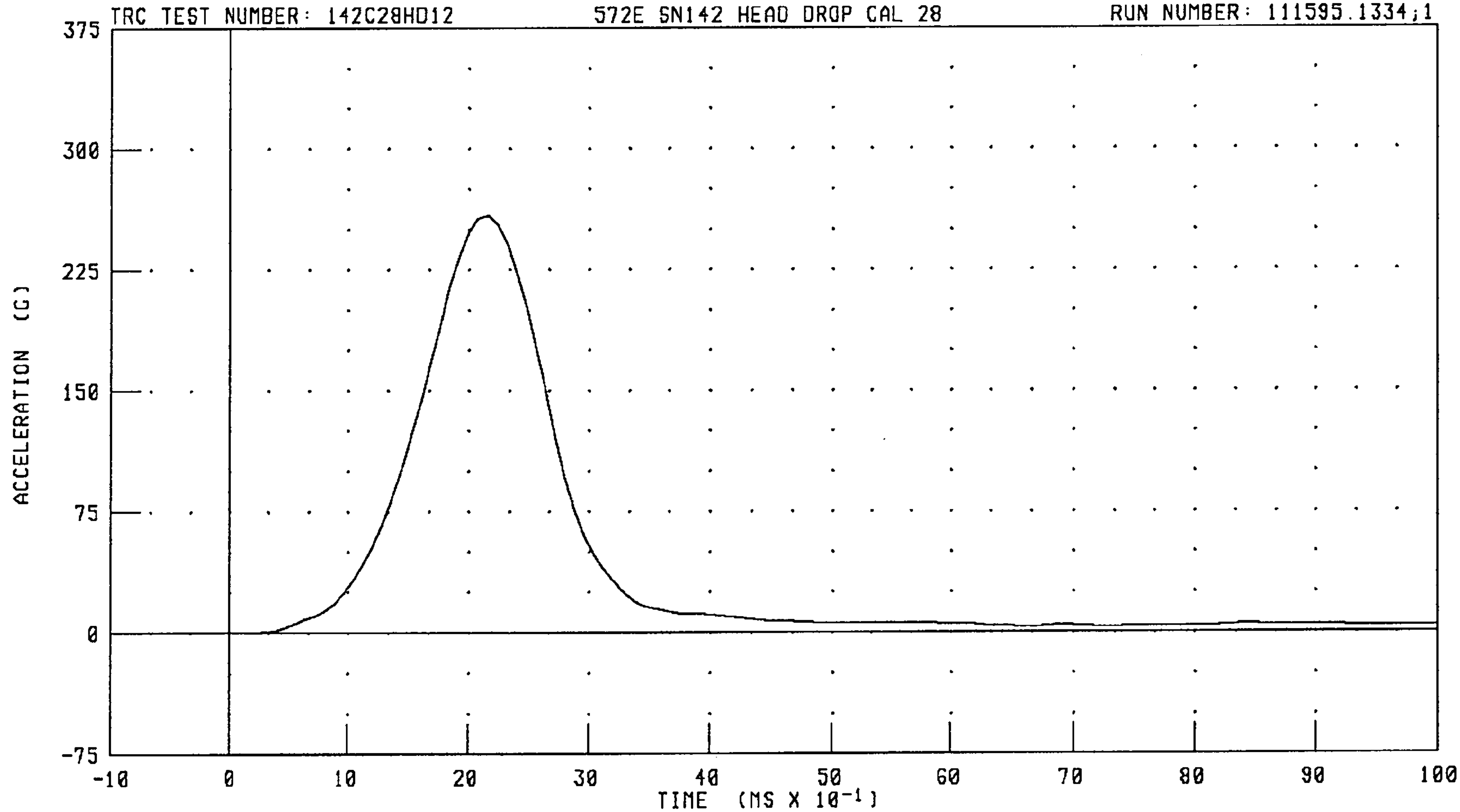
TRC TEST NUMBER: 142C28HD12 572E SN142 HEAD DROP CAL 28 RUN NUMBER: 111595.1334;1



CHANNEL: HEDZG FILTER: CH. CLASS 1000 PEAK DATA: 0.01 G @ 0.08 MS; -124.73 G @ 2.16 MS

PART 572-E HYBRID III HEAD CALIBRATION
HEAD RESULTANT ACCELERATION

TRC TEST NUMBER: 142C28HD12 572E SN142 HEAD DROP CAL 28 RUN NUMBER: 111595.1334;1



CHANNEL: HEDRG FILTER: CH. CLASS 1000 PEAK DATA: 258.60 G @ 2.16 MS; 0.01 G @ 0.00 MS

TRANSPORTATION RESEARCH CENTER INC.

NECK FLEXION TEST - 6 CHANNEL TRANSDUCER

HYBRID III 13-SEP-95

TRC INC. TEST NO: 142C28NF1 572E SN142 NECK FLEXION CAL28

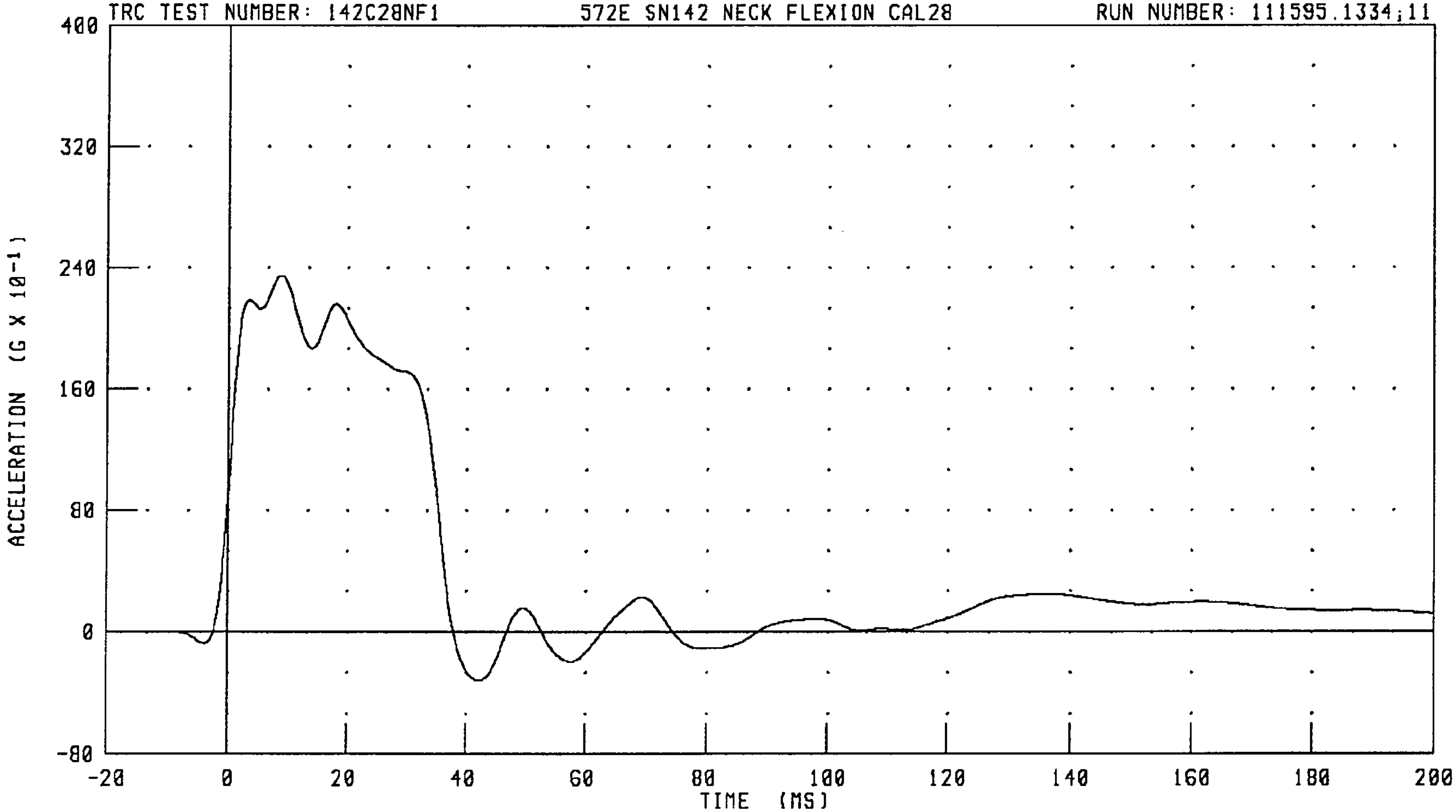
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6-22.2 DEG. C	20.6 DEG. C
RELATIVE HUMIDITY		10 - 70 %	62.0 %
IMPACT VELOCITY		6.89 - 7.13 M/S	7.06 M/S
PENDULUM DECELERATION	10 MS	22.50 - 27.50 G	22.89 G
	20 MS	17.60 - 22.60 G	20.54 G
	30 MS	12.50 - 18.50 G	17.11 G
MAX PENDULUM G		29 G MAX	23.48 G
MAX PENDULUM G ABOVE 30 MS		29 G MAX	17.10 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		34 - 42 MS	36.00 MS
D PLANE ROTATION	MAX	64 - 78 DEG.	73.47 DEG.
	TIME	57 - 64 MS	58.16 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MAX	88.2 - 108.5 NM	99.96 NM
	TIME	47 - 58 MS	49.68 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		113 - 128 MS	114.32 MS
POSITIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		97 - 107 MS	101.68 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Muddle [signature] RUN NUMBER: 091495.1504;11

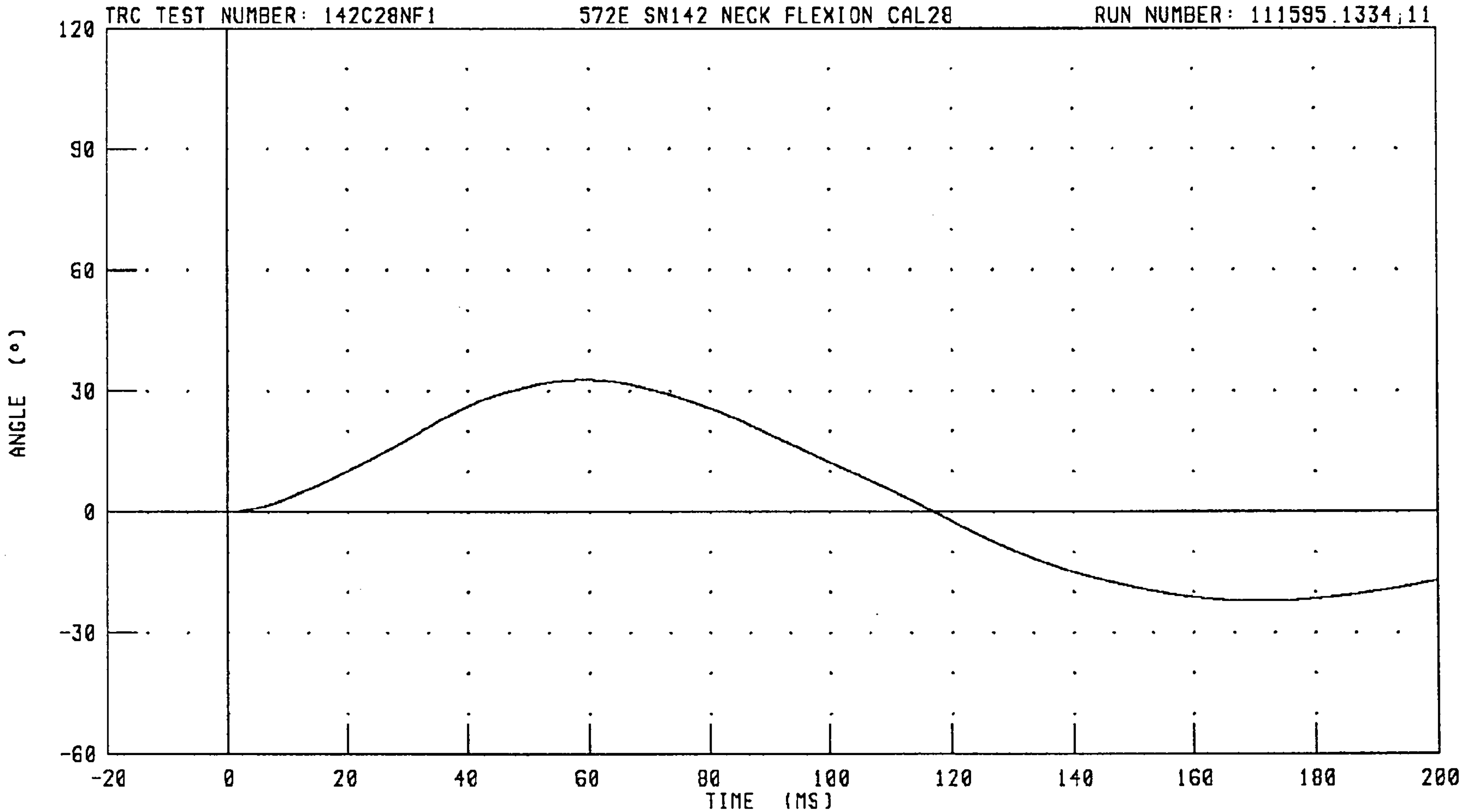
PART 572-E HYBRID III NECK FLEXION CALIBRATION
PENDULUM DECELERATION

TRC TEST NUMBER: 142C28NF1 572E SN142 NECK FLEXION CAL28 RUN NUMBER: 111595.1334;11



CHANNEL: PENXG FILTER: CH. CLASS 60 PEAK DATA: 23.49 G @ 8.88 MS; -3.19 G @ 42.24 MS

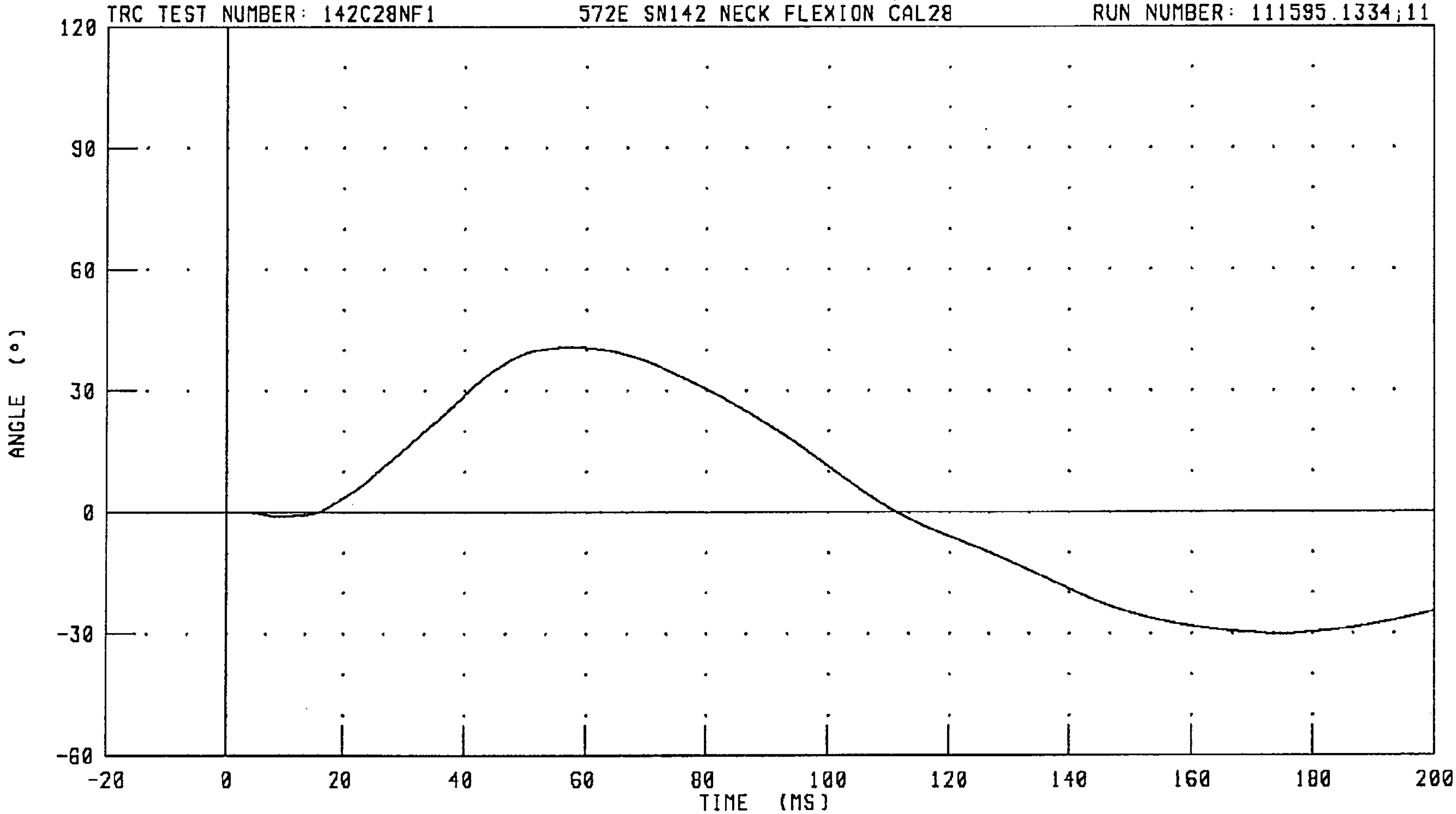
PART 572-E HYBRID III NECK FLEXION CALIBRATION
ROTATION ABOUT BASE OF NECK



CHANNEL: BETA FILTER: CH. CLASS 60 PEAK DATA: 32.73 ° @ 59.28 MS; -22.06 ° @ 167.92 MS

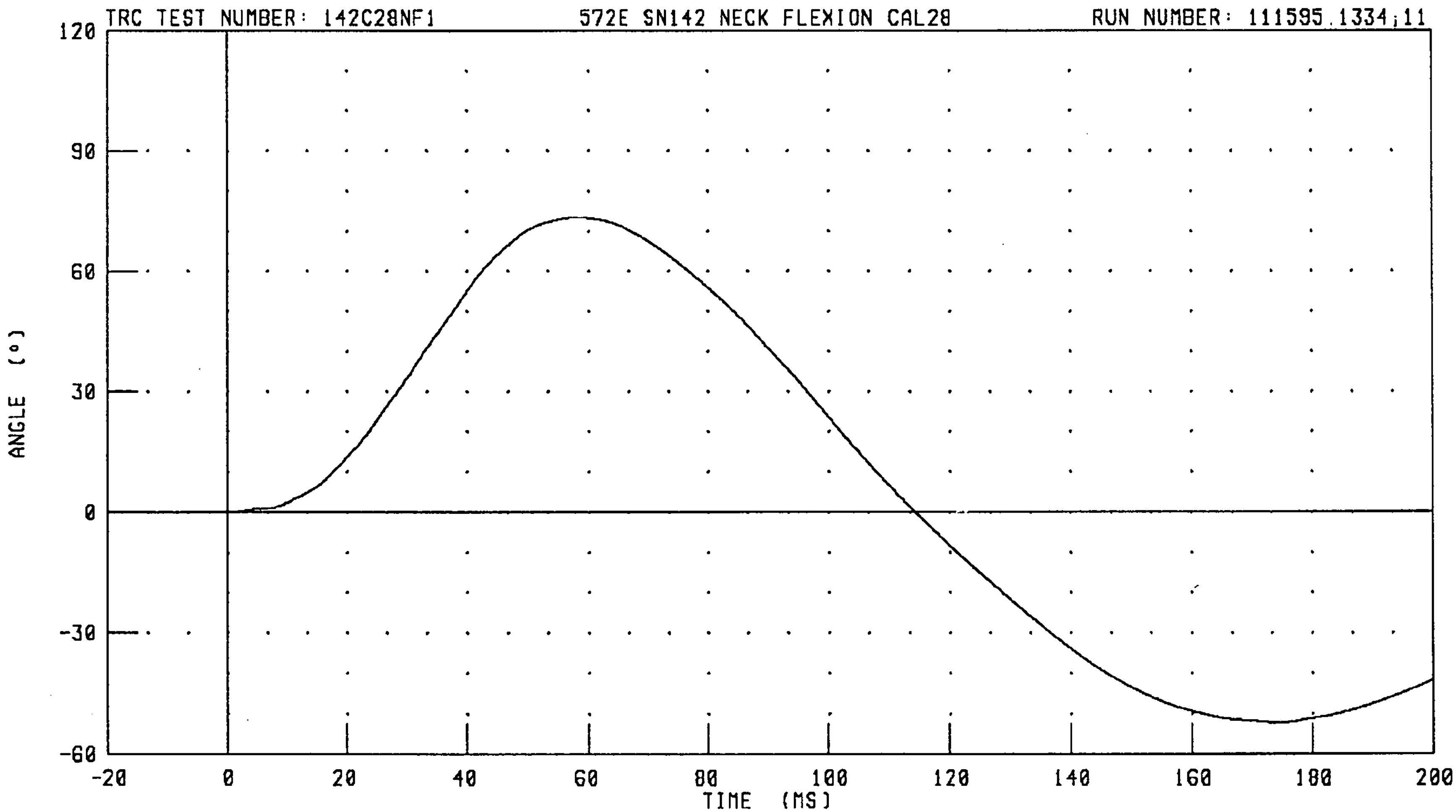
PART 572-E HYBRID III NECK FLEXION CALIBRATION
ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: 142C28NF1 572E SN142 NECK FLEXION CAL28 RUN NUMBER: 111595.1334;11



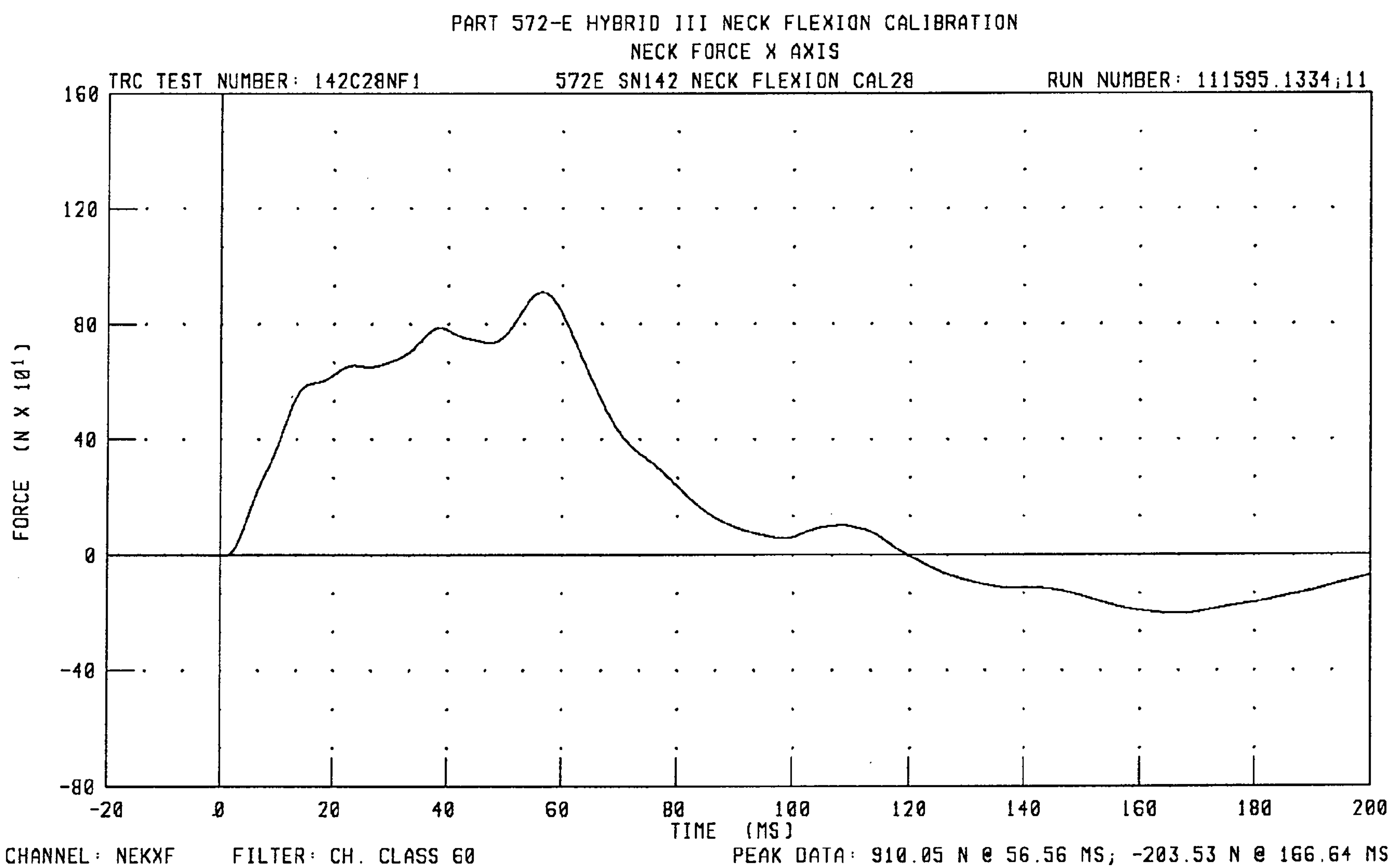
CHANNEL: THETA FILTER: CH. CLASS 60 PEAK DATA: 40.79 ° @ 57.68 MS; -30.22 ° @ 174.72 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION
TOTAL ROTATION



CHANNEL: TOTAN FILTER: CH. CLASS 60 PEAK DATA: 73.48 ° @ 58.16 MS; -52.27 ° @ 174.56 MS

951026

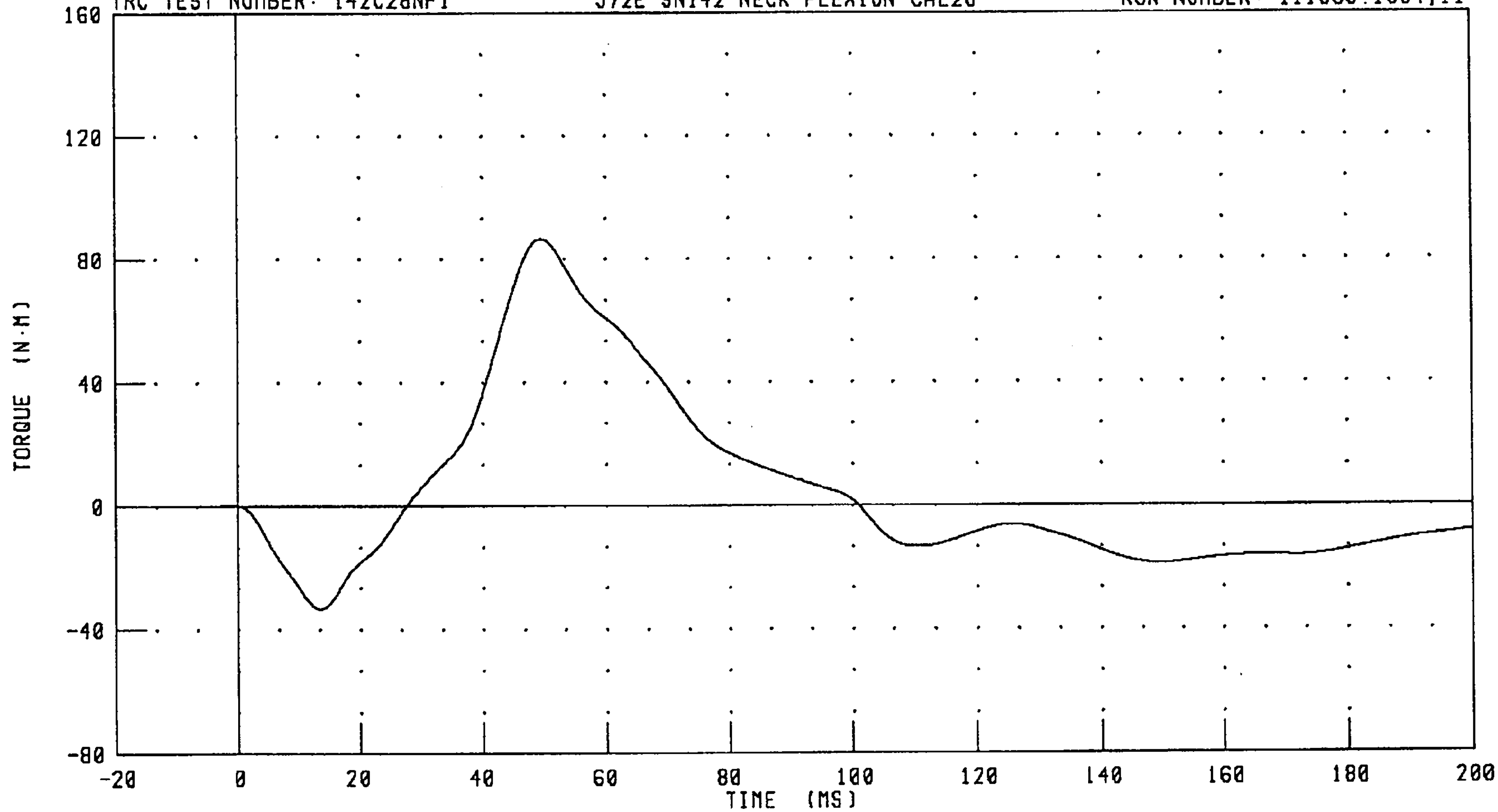


PART 572-E HYBRID III NECK FLEXION CALIBRATION
NECK FORCE X AXIS
TRC TEST NUMBER: 142C28NF1
572E SN142 NECK FLEXION CAL28
RUN NUMBER: 111595.1334;11
160
120
80
40
0
-40
-80
FORCE (N X 10¹)
-20
0
20
40
60
80
100
120
140
160
180
200
TIME (MS)
CHANNEL: NEKXF
FILTER: CH. CLASS 60
PEAK DATA: 910.05 N @ 56.56 MS; -203.53 N @ 166.64 MS

951026

PART 572-E HYBRID III NECK FLEXION CALIBRATION
NECK MOMENT Y AXIS

TRC TEST NUMBER: 142C28NF1 572E SN142 NECK FLEXION CAL28 RUN NUMBER: 111595.1334;11

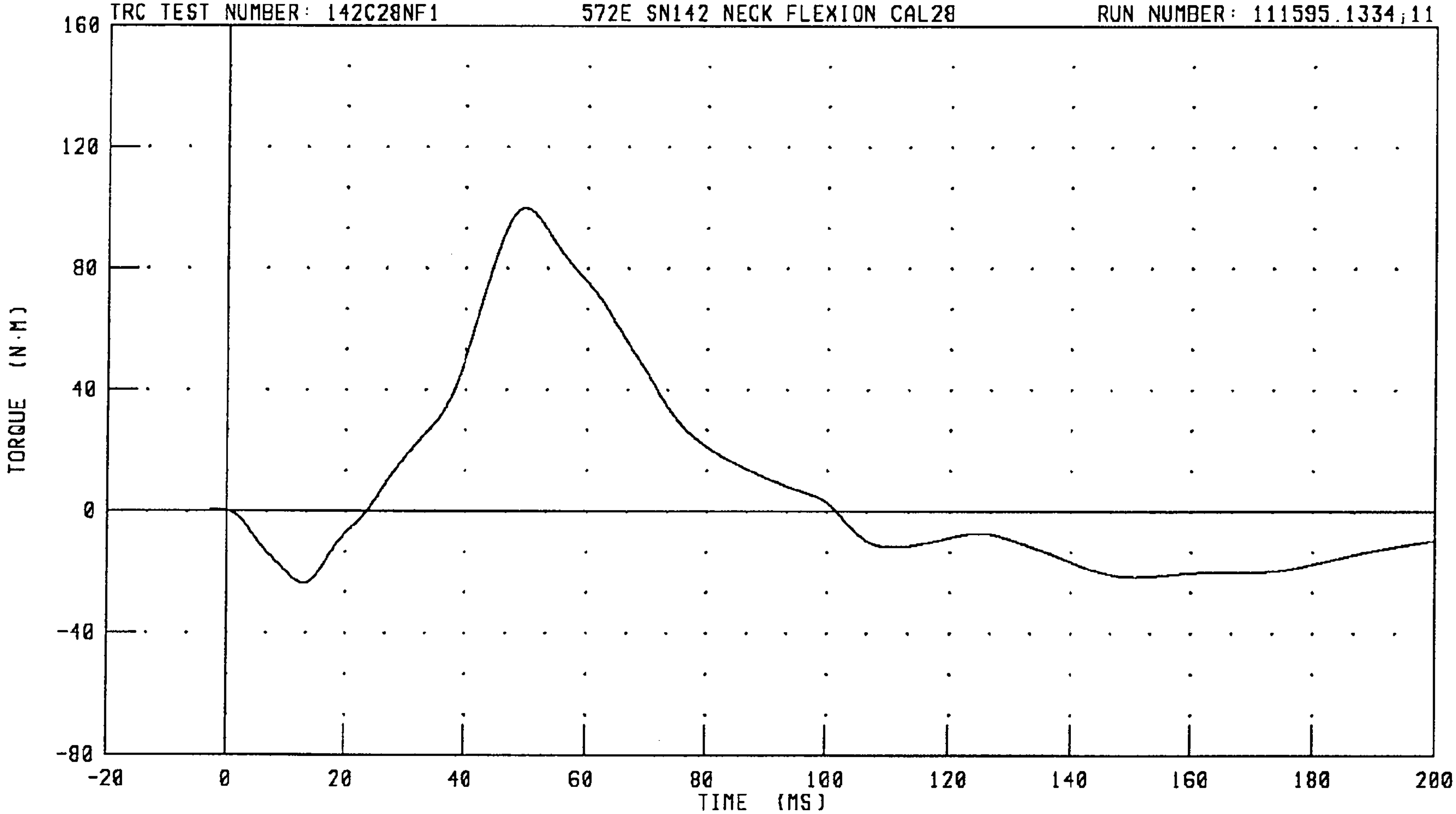


CHANNEL: NEKYM FILTER: CH. CLASS 60 PEAK DATA: 86.60 N·M @ 49.52 MS; -33.36 N·M @ 13.52 MS

951026

PART 572-E HYBRID III NECK FLEXION CALIBRATION
TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: 142C28NF1 572E SN142 NECK FLEXION CAL28 RUN NUMBER: 111595.1334;11



CHANNEL: NEKOM FILTER: CH. CLASS 60 PEAK DATA: 99.96 N·M @ 49.68 MS; -23.73 N·M @ 13.04 MS

TRANSPORTATION RESEARCH CENTER INC.

NECK EXTENSION TEST - 6 CHANNEL TRANSDUCER

HYBRID III 14-SEP-95

TRC INC. TEST NO: 142C28NE1 572E SN142 NECK EXT. CAL28

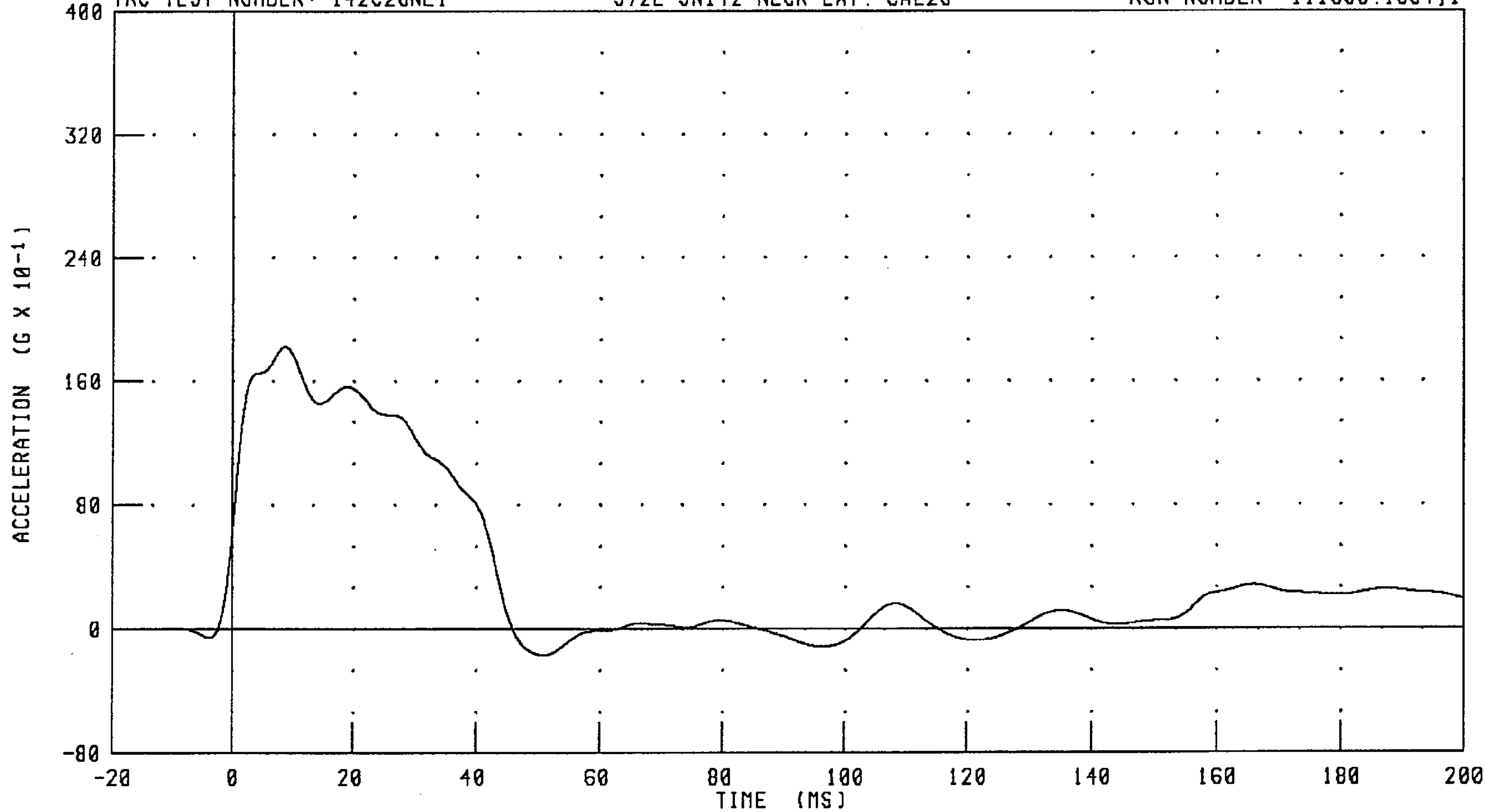
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 DEG. C	20.6 DEG. C
RELATIVE HUMIDITY		10 - 70 %	62.0 %
IMPACT VELOCITY		5.95 - 6.19 M/S	6.00 M/S
PENDULUM DECELERATION	10 MS	17.20 - 21.20 G	17.68 G
	20 MS	14.00 - 19.00 G	15.48 G
	30 MS	11.00 - 16.00 G	12.36 G
MAX PENDULUM G		22 G MAX	18.22 G
MAX PENDULUM G ABOVE 30 MS		22 G MAX	12.31 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		38 - 46 MS	42.56 MS
D PLANE ROTATION	MAX	81 - 106 DEG.	94.44 DEG.
	TIME	72 - 82 MS	75.36 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MIN	-80.0/-52.9 NM	-66.14 NM
	TIME	65 - 79 MS	70.32 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		147 - 174 MS	153.92 MS
NEGATIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		120 - 148 MS	136.40 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. [signature] RUN NUMBER: 091595.0742;1

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
PENDULUM DECELERATION

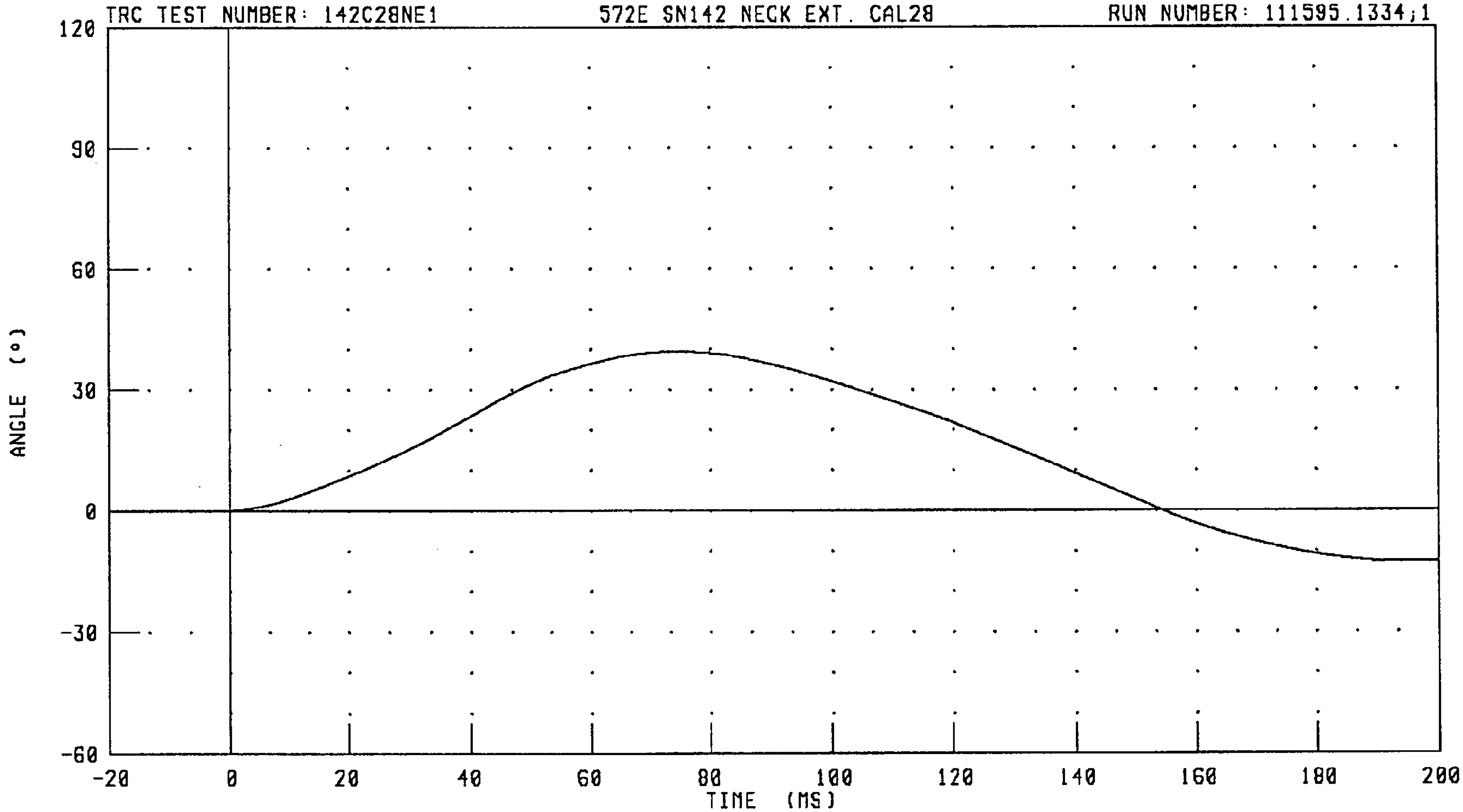
TRC TEST NUMBER: 142C28NE1 572E SN142 NECK EXT. CAL28 RUN NUMBER: 111595.1334;1



CHANNEL: PENXG FILTER: CH. CLASS 60 PEAK DATA: 18.22 G @ 8.72 MS; -1.67 G @ 50.88 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
ROTATION ABOUT BASE OF NECK

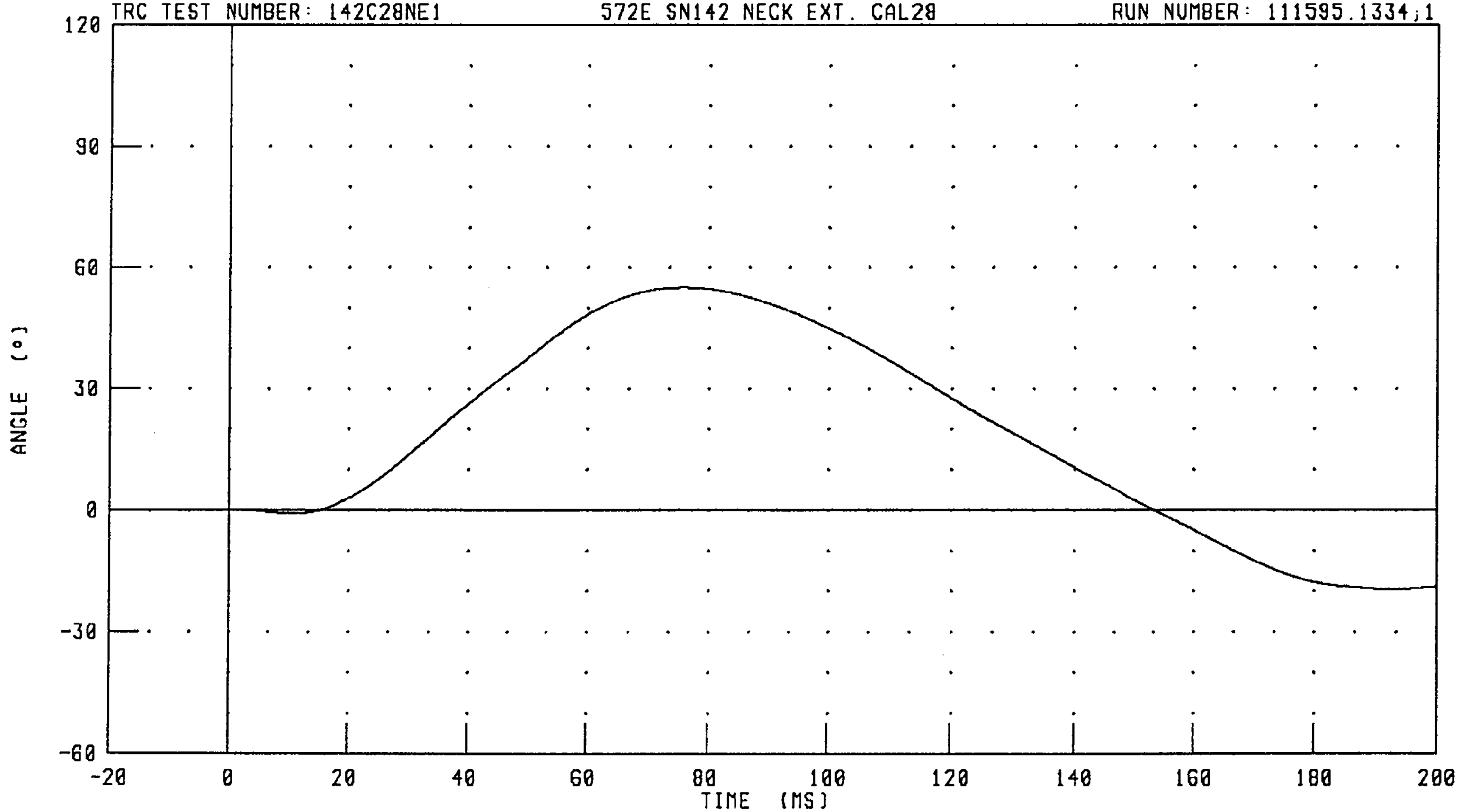
TRC TEST NUMBER: 142C28NE1 572E SN142 NECK EXT. CAL28 RUN NUMBER: 111595.1334;1



CHANNEL: BETA FILTER: CH. CLASS 60 PEAK DATA: 39.42 ° @ 74.48 MS; -12.75 ° @ 193.04 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
ROTATION ABOUT OCCIPITAL CONDYLE

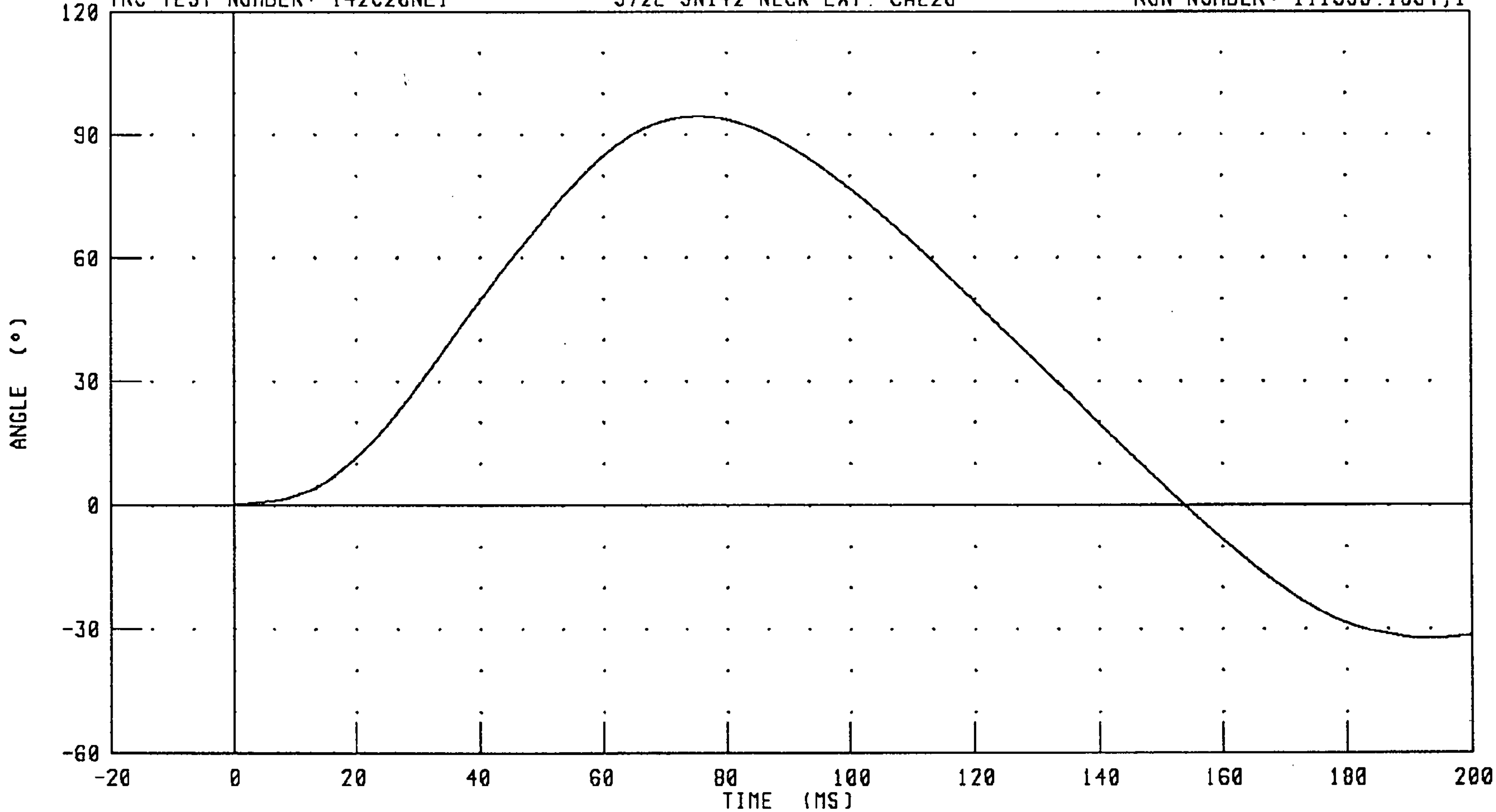
TRC TEST NUMBER: 142C28NE1 572E SN142 NECK EXT. CAL28 RUN NUMBER: 111595.1334;1



CHANNEL: THETA FILTER: CH. CLASS 60 PEAK DATA: 55.05 ° @ 75.84 MS; -19.51 ° @ 192.80 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
TOTAL ROTATION

TRC TEST NUMBER: 142C28NE1 572E SN142 NECK EXT. CAL28 RUN NUMBER: 111595.1334;1

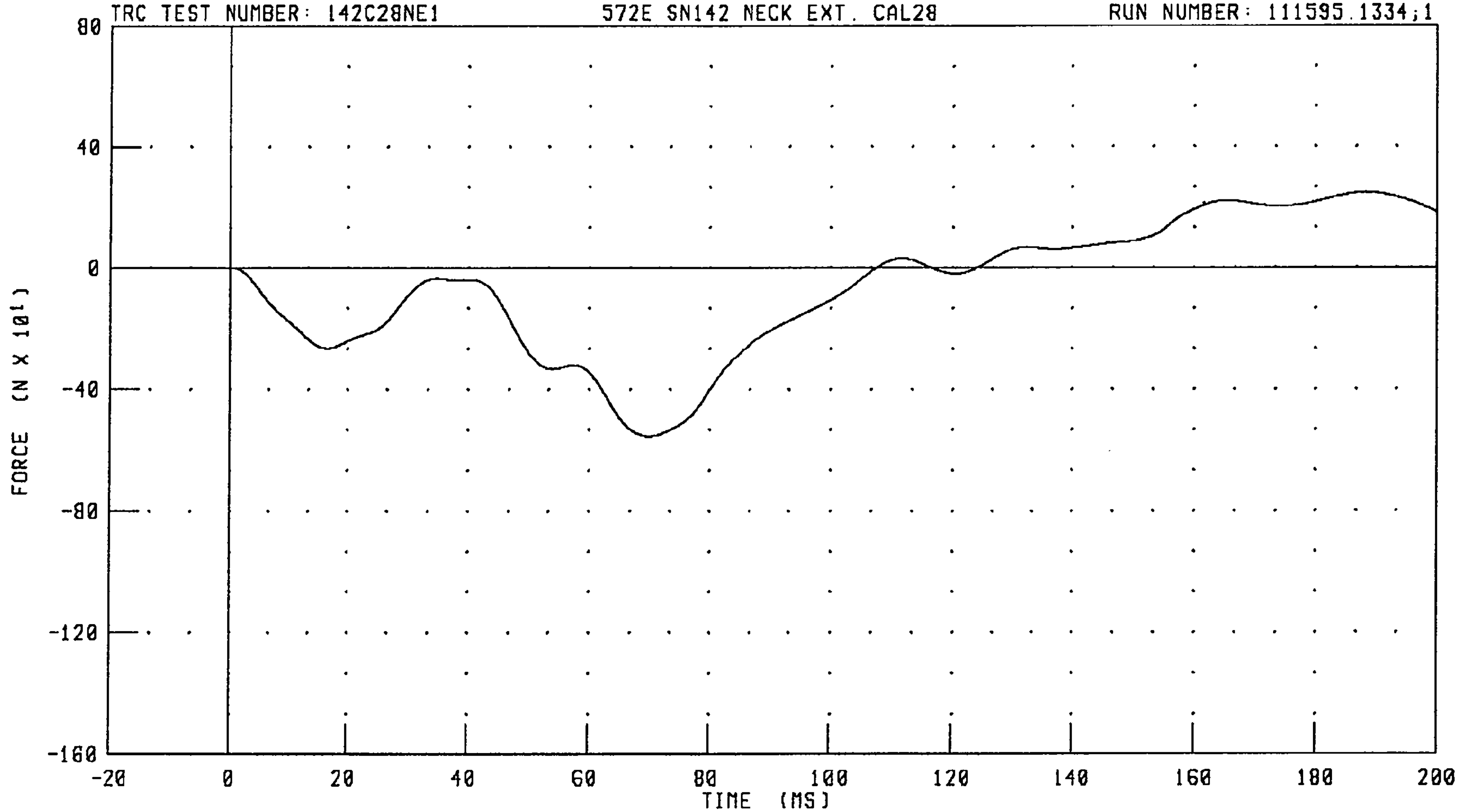


CHANNEL: TOTAN FILTER: CH. CLASS 60 PEAK DATA: 94.44 ° @ 75.36 MS; -32.26 ° @ 192.88 MS

951026

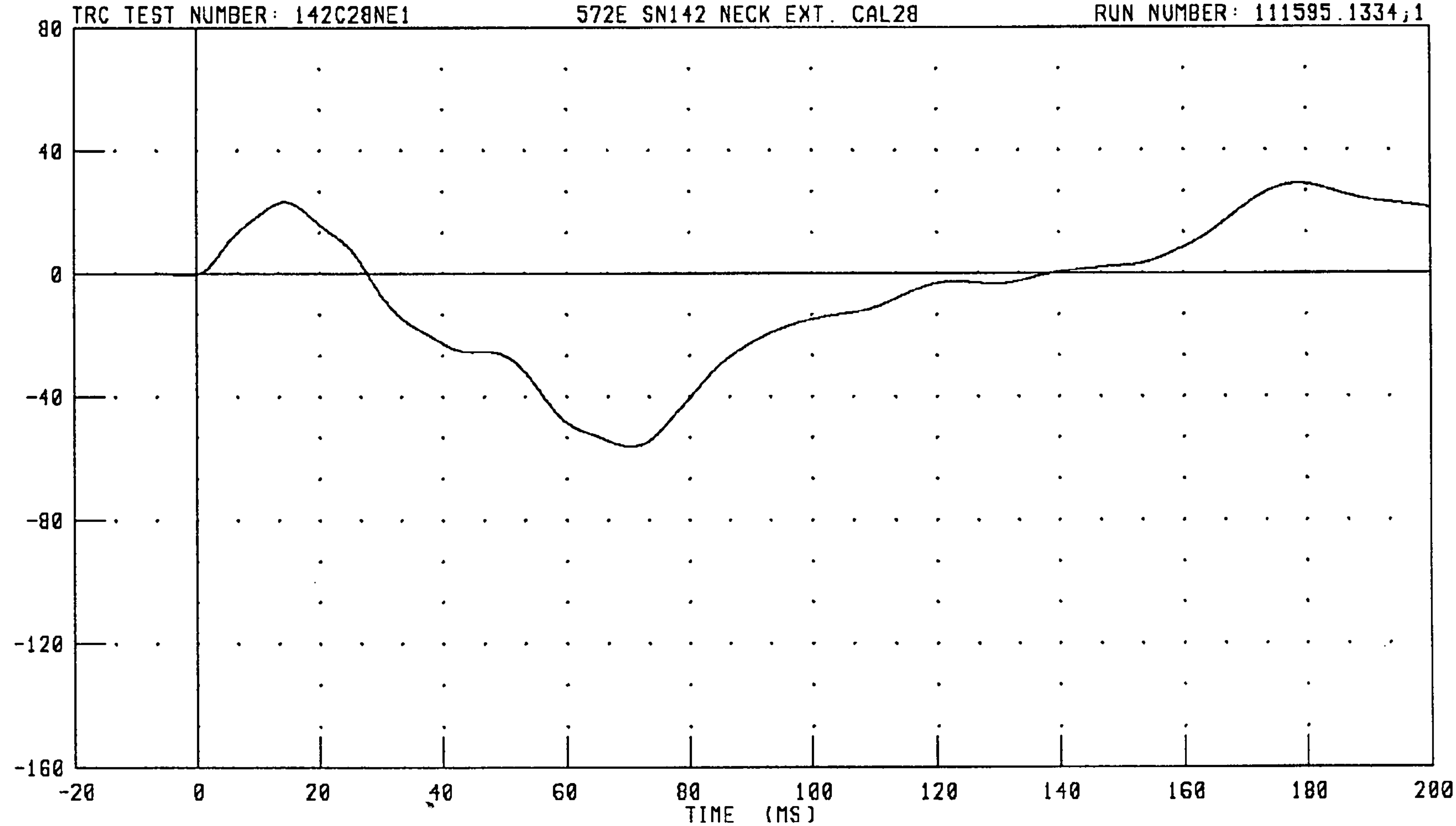
PART 572-E HYBRID III NECK EXTENSION CALIBRATION
NECK FORCE X AXIS

TRC TEST NUMBER: 142C28NE1 572E SN142 NECK EXT. CAL28 RUN NUMBER: 111595.1334;1



CHANNEL: NEKXF FILTER: CH. CLASS 60 PEAK DATA: 247.70 N @ 188.40 MS; -554.51 N @ 69.92 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
NECK MOMENT Y AXIS

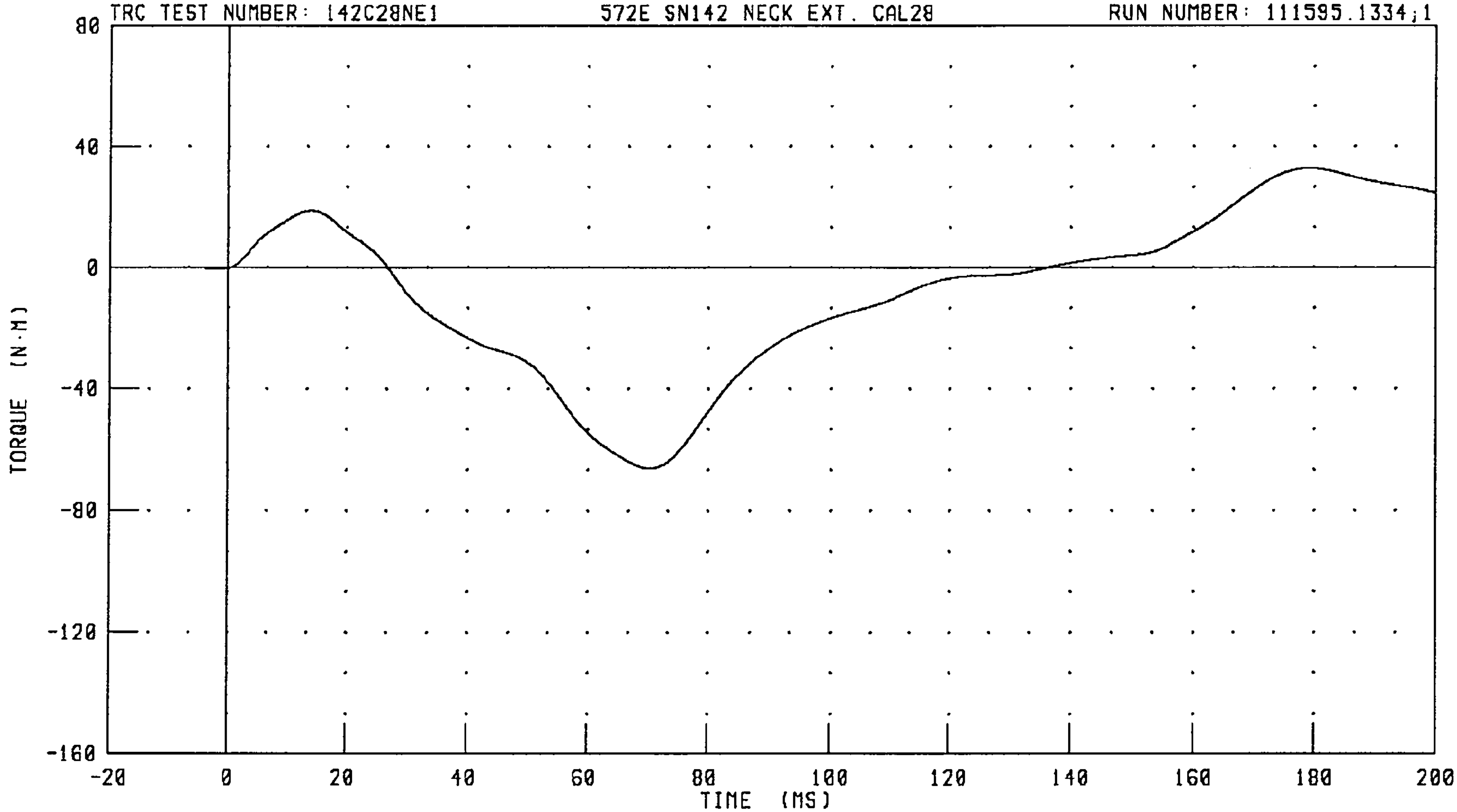


CHANNEL: NEKYM FILTER: CH. CLASS 60 PEAK DATA: 29.03 N·M @ 178.88 MS; -56.29 N·M @ 70.40 MS

951026

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: 142C28NE1   572E SN142 NECK EXT. CAL28   RUN NUMBER: 111595.1334;1



CHANNEL: NEKOM   FILTER: CH. CLASS 60   PEAK DATA: 32.82 N·M @ 179.28 MS; -66.14 N·M @ 70.32 MS

TRANSPORTATION RESEARCH CENTER INC.

THORAX IMPACT TEST

HYBRID III 15-SEP-95

TRC INC. TEST NO: 142C28TH1 572E SN142 H.S.THORAX CAL28

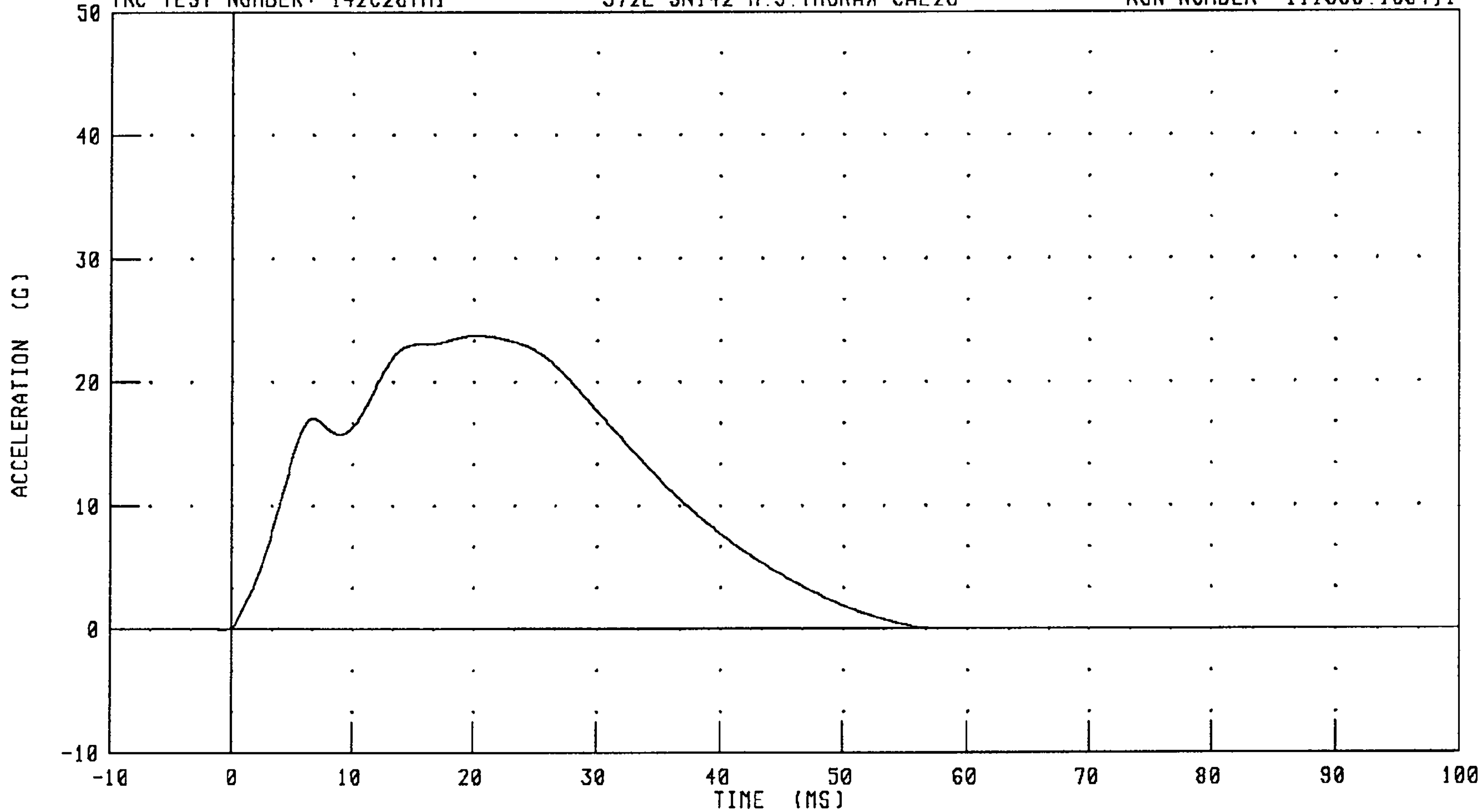
TEST PARAMETER	HIGH SPEED TEST SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6-22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	62.0 %
PENDULUM VELOCITY	6.59 - 6.83 M/S	6.65 M/S
MAXIMUM DEFLECTION	63.5 - 72.6 MM	68.6 MM
MAXIMUM RESISTIVE FORCE	5159 - 5894 N	5435. N
INTERNAL HYSTERESIS	69% - 85%	73.4%

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Mdllt RUN NUMBER: 091595.1343;1

PART 572-E HYBRID III THORAX CALIBRATION
PENDULUM DECELERATION

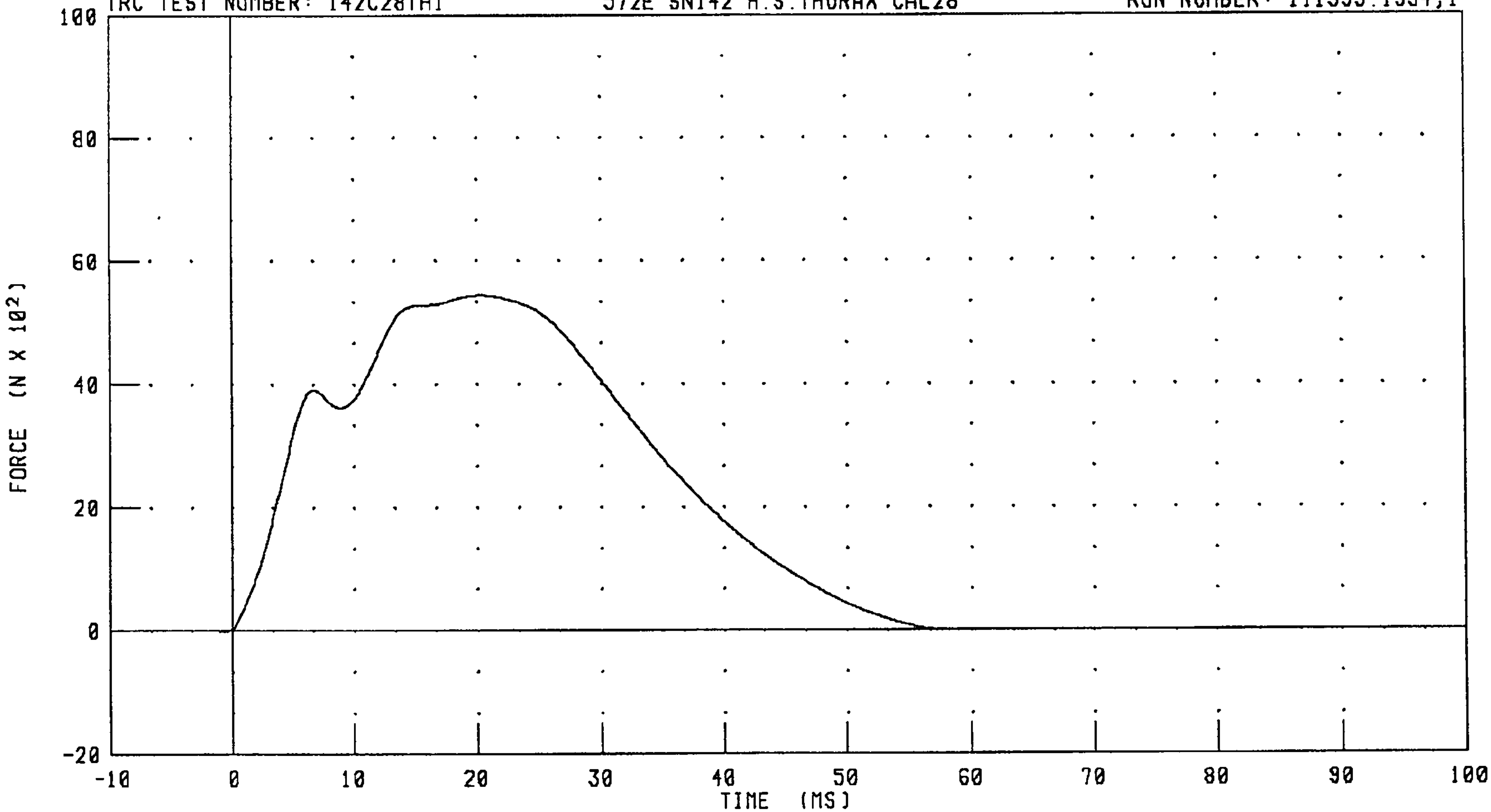
TRC TEST NUMBER: 142C28TH1 572E SN142 H.S.THORAX CAL28 RUN NUMBER: 111595.1334;1



CHANNEL: PENXG FILTER: CH. CLASS 180 PEAK DATA: 23.73 G @ 20.40 MS; -0.04 G @ -0.72 MS

PART 572-E HYBRID III THORAX CALIBRATION
PENDULUM FORCE

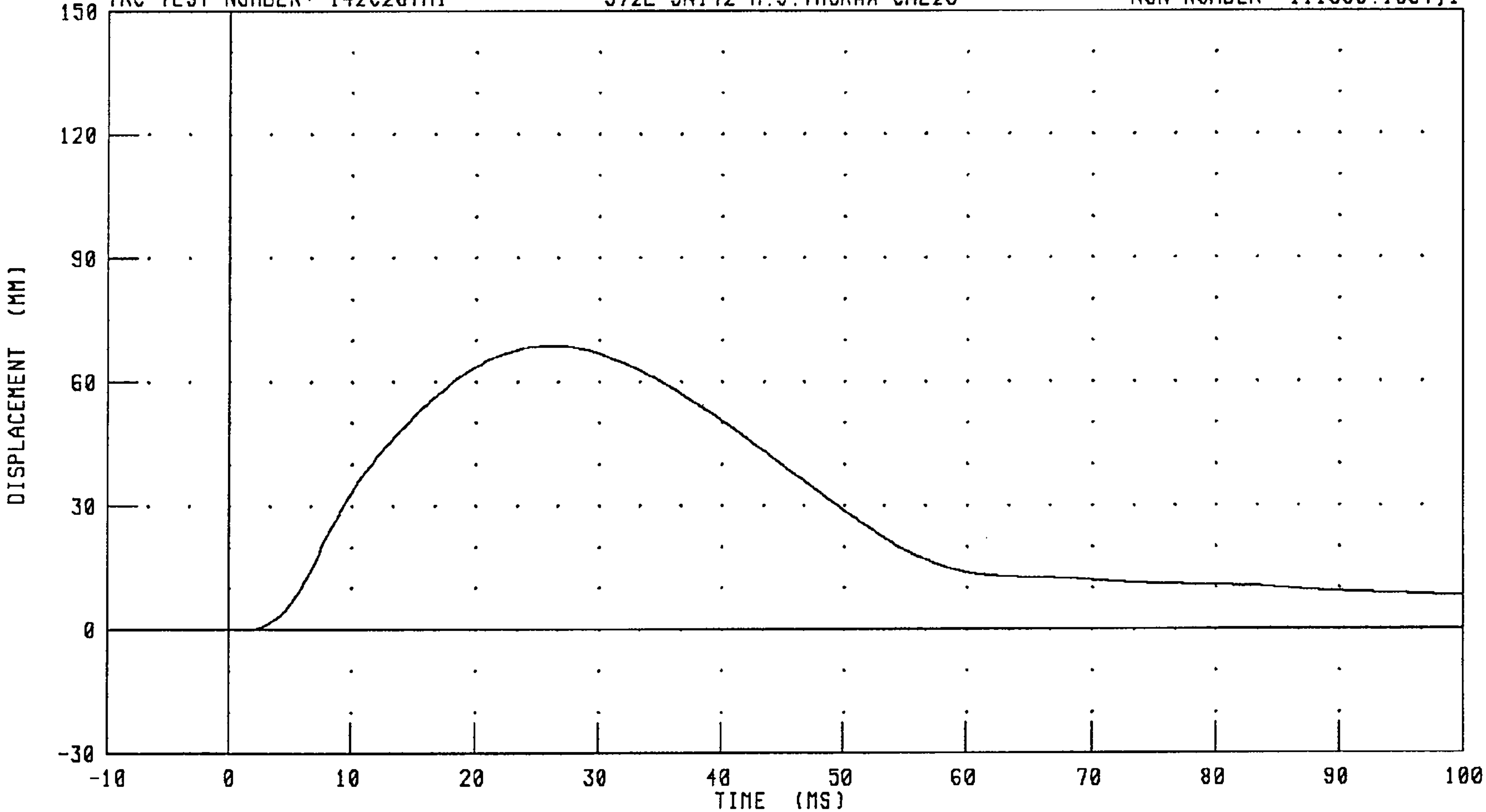
TRC TEST NUMBER: 142C28TH1 572E SN142 H.S.THORAX CAL28 RUN NUMBER: 111595.1334;1



CHANNEL: PENXF FILTER: CH. CLASS 180 PEAK DATA: 5435.08 N @ 20.40 MS; -8.99 N @ -0.72 MS

PART 572-E HYBRID III THORAX CALIBRATION
STERNUM DISPLACEMENT

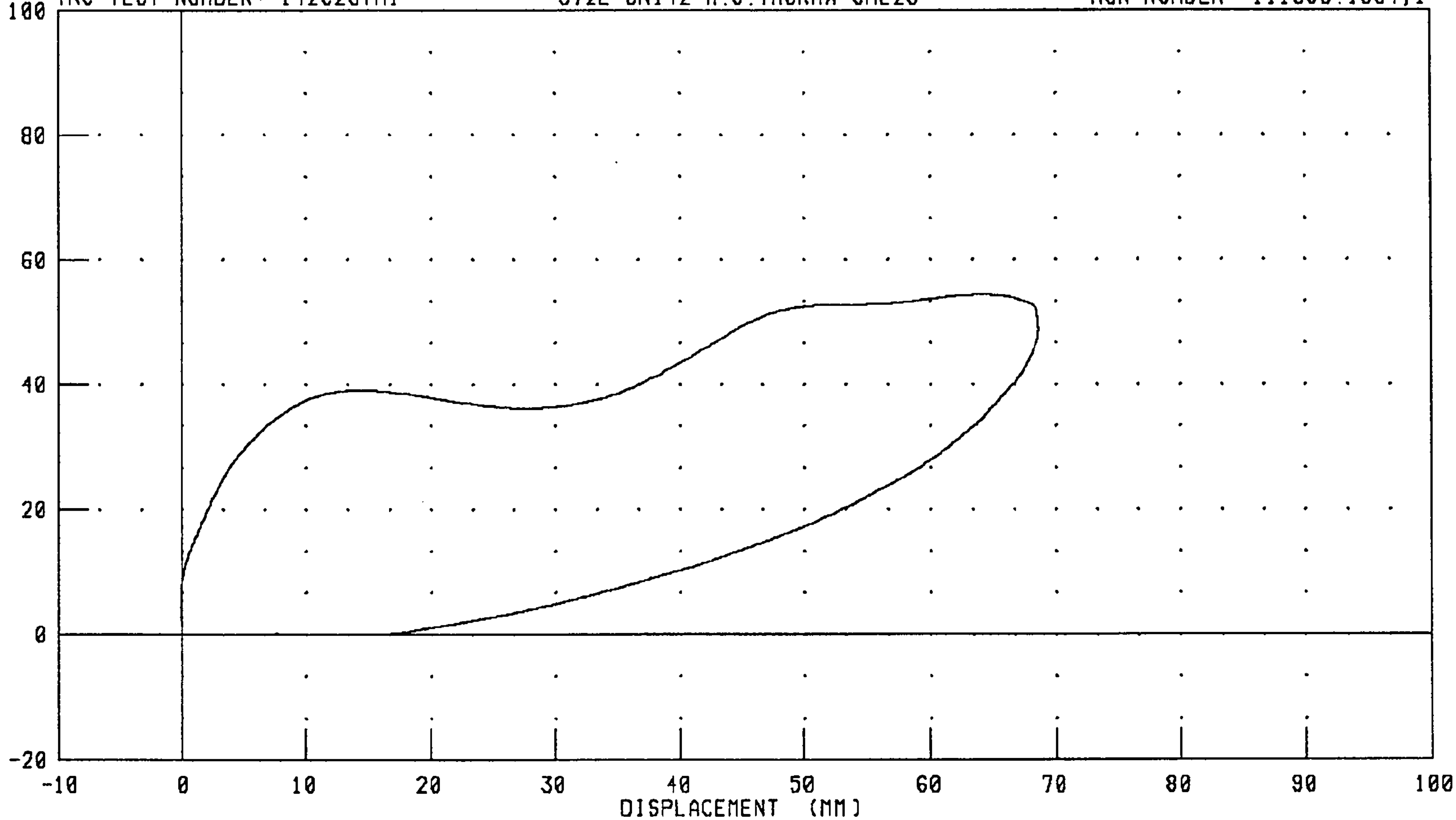
TRC TEST NUMBER: 142C28TH1 572E SN142 H.S.THORAX CAL28 RUN NUMBER: 111595.1334;1



CHANNEL: CSTXD FILTER: CH. CLASS 180 PEAK DATA: 68.64 MM @ 26.64 MS; -0.06 MM @ 1.44 MS

PART 572-E HYBRID III THORAX CALIBRATION
CHEST DISPLACEMENT VS PENDULUM FORCE

TRC TEST NUMBER: 142C28TH1　　572E SN142 H.S.THORAX CAL28　　RUN NUMBER: 111595.1334;1



CHANNEL: CSTXD　FILTER: CH. CLASS 180
PENXF　CH. CLASS 180

PEAK DATA: 68.64 MM @ 26.64 MS; -0.06 MM @ 1.44 MS
5435.08 N @ 20.40 MS; -8.99 N @ -0.72 MS

TRANSPORTATION RESEARCH CENTER INC.

RIGHT KNEE IMPACT TEST

HYBRID III 13-SEP-95

TRC INC. TEST NO: 142C28RK1 572E SN142 RIGHT KNEE CAL 28

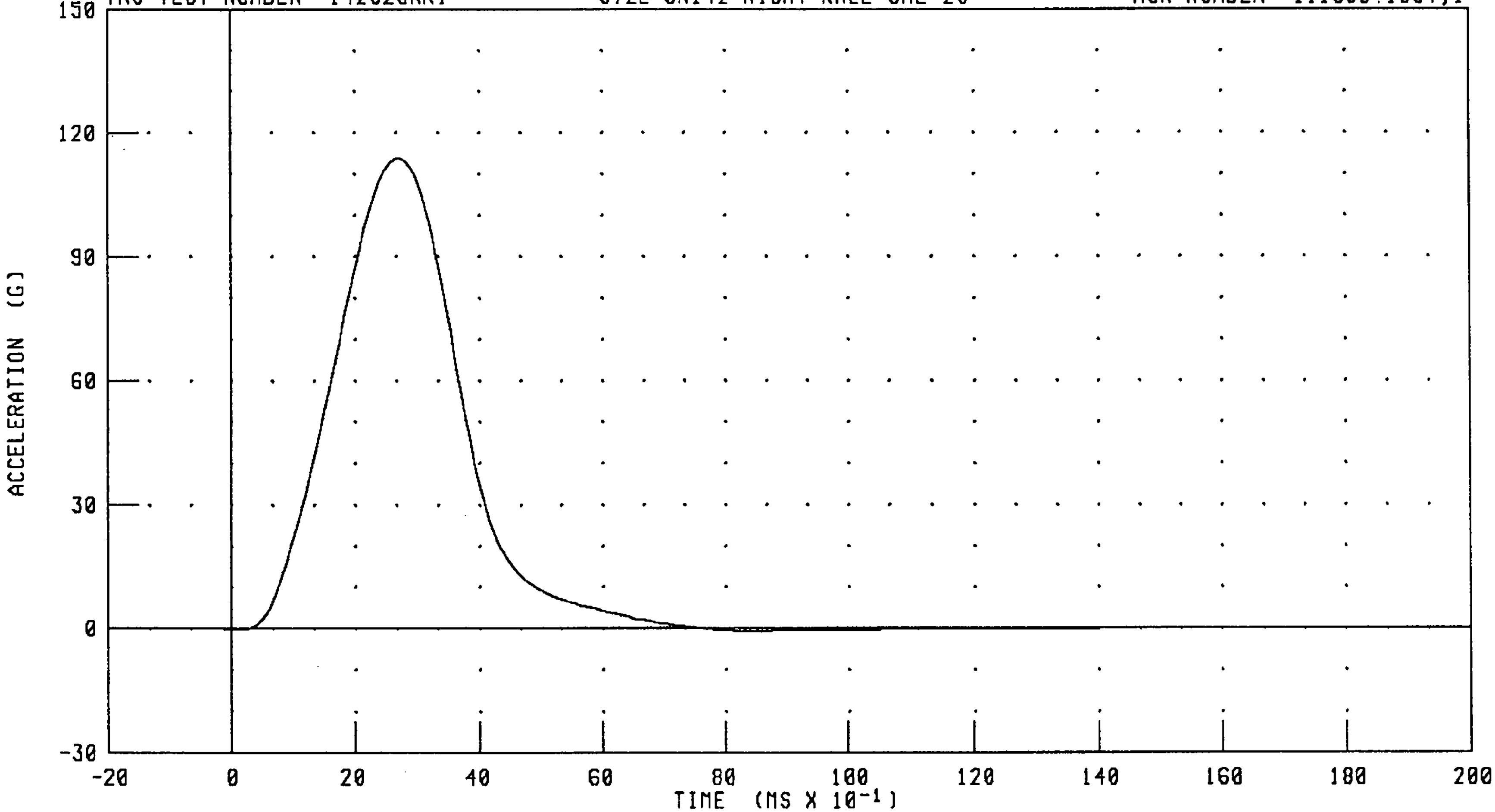
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	20.6 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.11 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5566.5 N

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Middle RUN NUMBER: 091395.1356;1

PART 572-E HYBRID III RIGHT KNEE CALIBRATION
PENDULUM DECELERATION (5 KG PEND.)

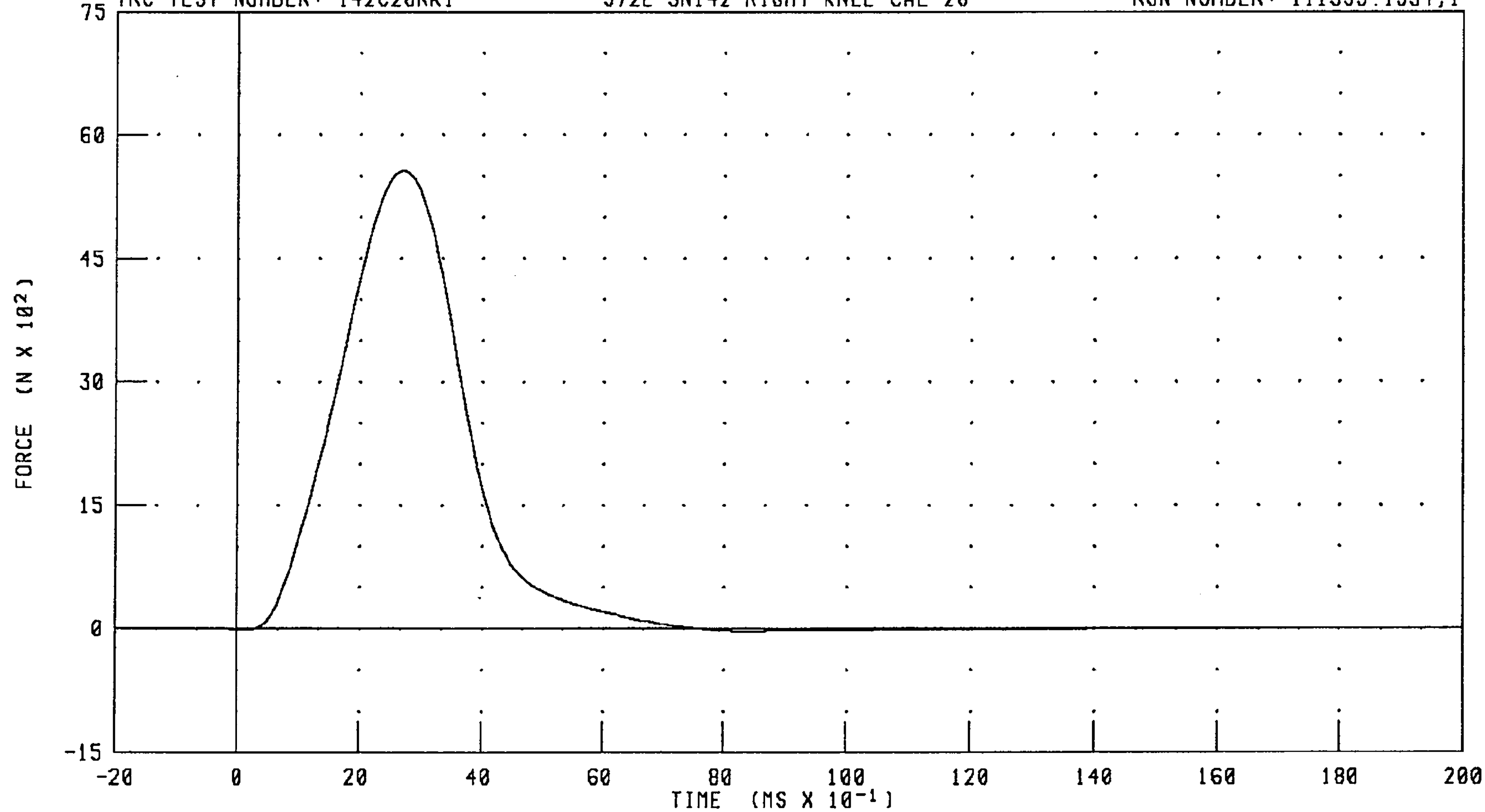
TRC TEST NUMBER: 142C28RK1 572E SN142 RIGHT KNEE CAL 28 RUN NUMBER: 111595.1334;1



CHANNEL: PENXG FILTER: CH. CLASS 600 PEAK DATA: 113.77 G @ 2.72 MS; -0.64 G @ 8.40 MS

PART 572-E HYBRID III RIGHT KNEE CALIBRATION
PENDULUM FORCE (5 KG PEND.)

TRC TEST NUMBER: 142C28RK1   572E SN142 RIGHT KNEE CAL 28   RUN NUMBER: 111595.1334;1



CHANNEL: PENXF   FILTER: CH. CLASS 600   PEAK DATA: 5566.56 N @ 2.72 MS; -31.24 N @ 8.40 MS

951026

TRANSPORTATION RESEARCH CENTER INC.

LEFT KNEE IMPACT TEST

HYBRID III 13-SEP-05

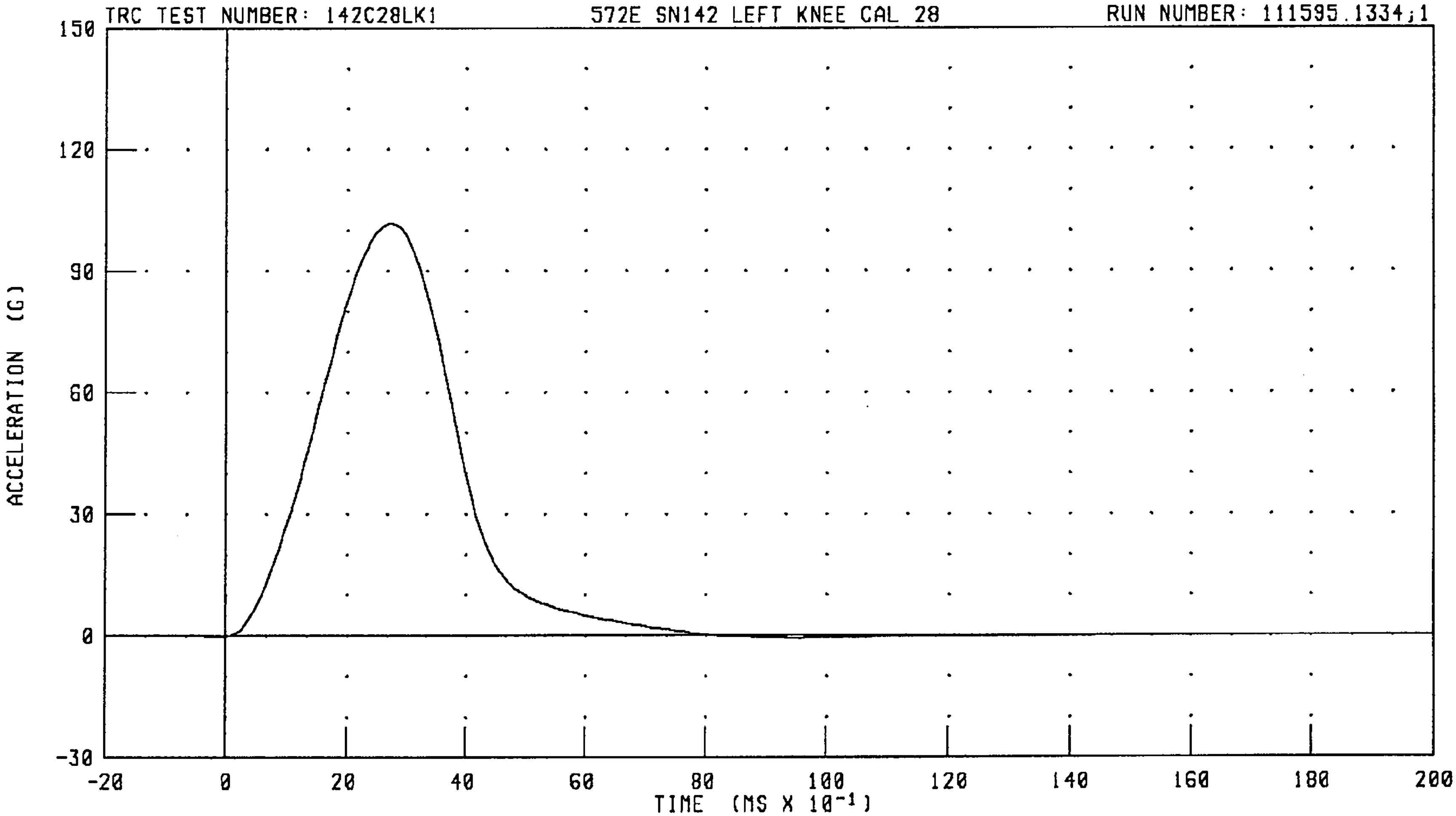
TRC INC. TEST NO: 142C28LK1 572E SN142 LEFT KNEE CAL 28

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	20.6 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.11 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	4977.8 N

TEST MEETS SPECIFICATIONS

TECHNICIAN Chas. Middlt RUN NUMBER: 091395.1350;1

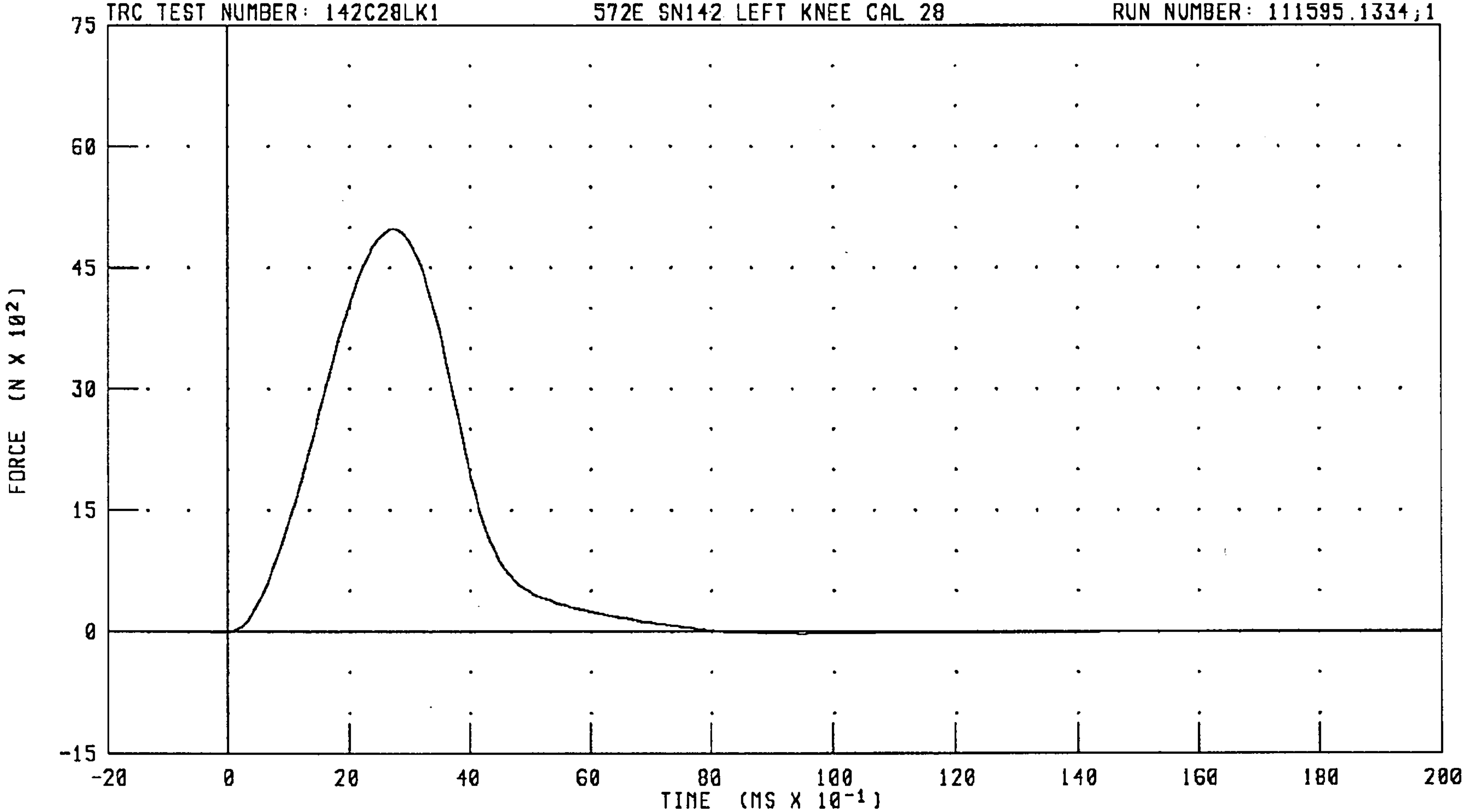
PART 572-E HYBRID III LEFT KNEE CALIBRATION
PENDULUM DECELERATION (5 KG PEND.)



CHANNEL: PENXG FILTER: CH. CLASS 600 PEAK DATA: 101.74 G @ 2.72 MS; -0.59 G @ 9.52 MS

PART 572-E HYBRID III LEFT KNEE CALIBRATION
PENDULUM FORCE (5 KG PEND.)

TRC TEST NUMBER: 142C28LK1 572E SN142 LEFT KNEE CAL 28 RUN NUMBER: 111595.1334;1



CHANNEL: PENXF FILTER: CH. CLASS 600 PEAK DATA: 4977.84 N @ 2.72 MS; -28.70 N @ 9.52 MS

Appendix D

Miscellaneous Test Information

<u>Dummy Instrument Calibrations</u>
Driver Dummy #192

	Serial Number	Model Number	Manufacturer	Calibration Date Last	Calibration Date Due
Head X-axis accelerometer	AAL82	7264	Endevco	08/30/95	03/01/96
Head X-axis accelerometer-redundant	AJ8J7	7264	Endevco	08/30/95	03/01/96
Head Y-axis accelerometer	A84JJ	7264	Endevco	08/30/95	03/01/96
Head Y-axis accelerometer-redundant	AJ8A6	7264	Endevco	08/30/95	03/01/96
Head Z-axis accelerometer	FH87J	7264	Endevco	08/30/95	03/01/96
Head Z-axis accelerometer-redundant	AC8W6	7264	Endevco	08/30/95	03/01/96
Chest X-axis accelerometer	CT22H	7264	Endevco	08/30/95	03/01/96
Chest X-axis accelerometer-redundant	A79GJ	7264	Endevco	08/30/95	03/01/96
Chest Y-axis accelerometer	AC708	7264	Endevco	08/30/95	03/01/96
Chest Y-axis accelerometer-redundant	AGR69	7264	Endevco	08/30/95	03/01/96
Chest Z-axis accelerometer	CW59H	7264	Endevco	08/30/95	03/01/96
Chest Z-axis accelerometer-redundant	DB74H	7264	Endevco	08/30/95	03/01/96
Left femur force load cell	986	2430	GSE	08/30/95	03/01/96
Right femur force load cell	987	2430	GSE	08/30/95	03/01/96
Neck X-axis force load cell[1]	85	1716	Denton	08/30/95	03/01/96
Neck Y-axis force load cell[1]	85	1716	Denton	08/30/95	03/01/96
Neck Z-axis force load cell[1]	85	1716	Denton	08/30/95	03/01/96
Neck Moment about X-axis load cell[1]	85	1716	Denton	08/30/95	03/01/96
Neck Moment about Y-axis load cell[1]	85	1716	Denton	08/30/95	03/01/96
Neck Moment about Z-axis load cell[1]	85	1716	Denton	08/30/95	03/01/96
Pelvis X-axis accelerometer	AJ694	7264	Endevco	08/30/95	03/01/96
Pelvis Y-axis accelerometer	AJ656	7264	Endevco	08/30/95	03/01/96
Pelvis Z-axis accelerometer	AJ788	7264	Endevco	08/30/95	03/01/96
Chest deflection potentiometer	87313-96	14CB1-2981	Vernitech	08/30/95	03/01/96
Lap belt force load cell	249	3419	Lebow	07/14/95	01/14/96
Shoulder belt force load cell	616	3419	Lebow	07/14/95	01/14/96

[1] Hybrid III use only.

Dummy Instrument Calibrations, Cont'd.
Driver Dummy #192

	Serial Number	Model Number	Manufacturer	Calibration Date Last	Calibration Date Due
Left upper tibia moment about X-axis load cell	46	1583	Denton	10/03/95	04/03/96
Left upper tibia moment about Y-axis load cell	46	1583	Denton	10/03/95	04/03/96
Right upper tibia moment about X-axis load cell	35	1583	Denton	10/03/95	04/03/96
Right upper tibia moment about Y-axis load cell	35	1583	Denton	10/03/95	04/03/96
Left Lower tibia X-axis force load cell	42	1584	Denton	10/03/95	04/03/96
Left Lower tibia Z-axis force load cell	42	1584	Denton	10/03/95	04/03/96
Left Lower tibia moment about Y-axis load cell	42	1584	Denton	10/03/95	04/03/96
Right Lower tibia X-axis force load cell	39	1584	Denton	10/03/95	04/03/96
Right Lower tibia Z-axis force load cell	39	1584	Denton	10/03/95	04/03/96
Right Lower tibia moment about Y-axis load cell	39	1584	Denton	10/03/95	04/03/96
Left foot X-axis accelerometer	10073	7264	Endevco	10/17/95	04/17/96
Left foot heel Z-axis accelerometer	10077	7264	Endevco	10/16/95	04/16/96
Left foot toe Z-axis accelerometer	10101	7264	Endevco	10/17/95	04/17/96
Right foot X-axis accelerometer	APYT4	7264	Endevco	10/17/95	04/17/96
Right foot heel Z-axis accelerometer	APOR8	7264	Endevco	10/17/95	04/17/96
Right foot toe Z-axis accelerometer	10076	7264	Endevco	10/16/95	04/16/96

Dummy Instrument Calibrations
Right Front Passenger Dummy #142

	Serial Number	Model Number	Manufacturer	Calibration Date Last	Due
Head X-axis accelerometer	A74JJ	7264	Endevco	09/01/95	03/01/96
Head X-axis accelerometer-redundant	AC8L5	7264	Endevco	09/01/95	03/01/96
Head Y-axis accelerometer	ACCR7	7264	Endevco	09/01/95	03/01/96
Head Y-axis accelerometer-redundant	AC872	7264	Endevco	09/01/95	03/01/96
Head Z-axis accelerometer	ACCJ1	7264	Endevco	09/01/95	03/01/96
Head Z-axis accelerometer-redundant	A68JJ	7264	Endevco	09/01/95	03/01/96
Chest X-axis accelerometer	AC721	7264	Endevco	09/01/95	03/01/96
Chest X-axis accelerometer-redundant	A65JJ	7264	Endevco	09/01/95	03/01/96
Chest Y-axis accelerometer	CY47H	7264	Endevco	09/01/95	03/01/96
Chest Y-axis accelerometer-redundant	FH14J	7264	Endevco	09/01/95	03/01/96
Chest Z-axis accelerometer	AAL44	7264	Endevco	09/01/95	03/01/96
Chest Z-axis accelerometer-redundant	AC745	7264	Endevco	09/01/95	03/01/96
Left femur force load cell	903	2430	GSE	09/01/95	03/01/96
Right femur force load cell	904	2430	GSE	09/01/95	03/01/96
Neck X-axis force load cell[1]	280	1716	Denton	09/01/95	03/01/96
Neck Y-axis force load cell[1]	280	1716	Denton	09/01/95	03/01/96
Neck Z-axis force load cell[1]	280	1716	Denton	09/01/95	03/01/96
Neck Moment about X-axis load cell[1]	280	1716	Denton	09/01/95	03/01/96
Neck Moment about Y-axis load cell[1]	280	1716	Denton	09/01/95	03/01/96
Neck Moment about Z-axis load cell[1]	280	1716	Denton	09/01/95	03/01/96
Pelvis X-axis accelerometer	CY63H	7264	Endevco	09/01/95	03/01/96
Pelvis Y-axis accelerometer	AMWA9	7264	Endevco	09/01/95	03/01/96
Pelvis Z-axis accelerometer	ANA55	7264	Endevco	09/01/95	03/01/96
Chest deflection potentiometer[1]	142	14CB1-2981	Vernitech	09/01/95	03/01/96
Lap belt force load cell	590	3419	Lebow	07/14/95	01/14/96
Shoulder belt force load cell	615	3419	Lebow	07/14/95	01/14/96

[1] Hybrid III use only.

Dummy Instrument Calibrations
Right Front Passenger Dummy #142

	Serial Number	Model Number	Manufacturer	Calibration Date Last	Calibration Date Due
Left foot X-axis accelerometer	APOA1	7264	Endevco	10/16/95	04/16/96
Left foot heel Z-axis accelerometer	10102	7264	Endevco	10/16/95	04/16/96
Left foot toe Z-axis accelerometer	10074	7264	Endevco	10/16/95	04/16/96
Right foot X-axis accelerometer	10088	7264	Endevco	10/16/95	04/16/96
Right foot heel Z-axis accelerometer	10089	7264	Endevco	10/16/95	04/16/96
Right foot toe Z-axis accelerometer	10087	7264	Endevco	10/17/95	04/17/96

Vehicle and Calibration Laboratory Instrument Calibrations

Vehicle Accelerometers

	Serial Number	Model Number	Manufacturer	Calibration Date Last	Calibration Date Due
Left rear seat crossmember X-axis	AGRM8	7264	Endevco	10/16/95	04/16/96
Left rear seat crossmember X-axis redundant	CF08H	7264	Endevco	04/25/95	10/25/95
Right rear seat crossmember X-axis	CK25H	7264	Endevco	08/14/95	02/14/96
Right rear seat crossmember X-axis redundant	ANA36	7264	Endevco	09/07/95	03/07/96
Engine top X-axis	DR10JT	7264	Endevco	08/23/95	02/23/96
Engine bottom X-axis	CY78H	7264	Endevco	08/10/95	02/10/96
Right brake caliper X-axis	AGRE4	7264	Endevco	10/05/95	04/05/96
Left brake caliper X-axis	AMTA4	7264	Endevco	09/07/95	03/07/95
Instrument panel center X-axis	DY61J	7264	Endevco	07/14/95	01/14/96

Calibration Laboratory Instruments

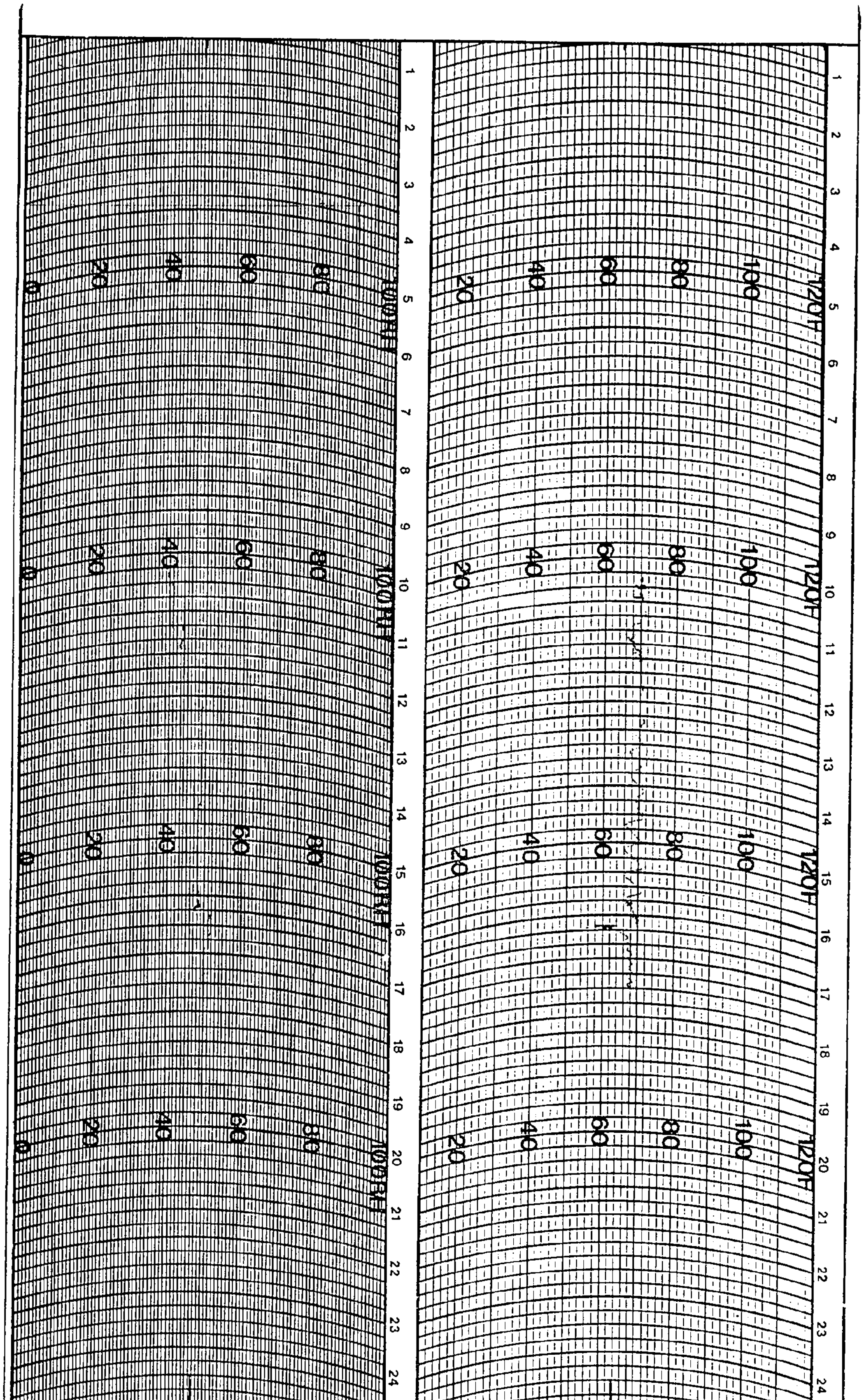
	Serial Number	Model Number	Manufacturer	Calibration Date Last	Calibration Date Due
Neck bending pendulum accelerometer	CB27	7232	Endevco	09/19/95	03/19/96
Neck bending rotary potentiometer	NA	35435-1-102	Bournes	Mfr. Specification	
Neck bending linear potentiometer	NA	5184-2051846003	Bournes	09/19/95	03/19/96
Thorax/Hybrid II femur pendulum accelerometer	CC64	7232	Endevco	09/19/95	03/19/96
Lumbar flexion force gauge	NA	DPPH-50	Chatillon	05/03/89	repaired
Lumbar flexion rotation gauge	CP17-0601-1	7020	Humphrey	Mfr. Specification	
Abdomen compression displacement gauge	4075-175	80294-2051941504	Bournes	09/19/95	03/19/96
Abdomen compression force gauge	3443	3167	Lebow	09/19/95	03/19/96
Hybrid III femur pendulum accelerometer	CG83	7232	Endevco	09/19/95	03/19/96

Sign Convention
NHTSA Data Tape Reference Guide

Accelerometers:	+X: Forward	
	+Y: Leftward	
	+Z: Upward	
Potentiometers:	+Chest longitudinal deflection:	Outward
	+Chest lateral deflection:	Leftward
	+Seat belt displacement:	Outward
	+Seat belt extension:	Elongation
	+Knee slider displacement:	Distance between femur and tibia increased (in relation to a seated dummy)
Load cells:	+Femur force:	Tension
	+Seat belt force:	Tension
	+Barrier force:	Tension
Neck load cells:	+X force:	Head pushed forward
	+y force:	Head pushed leftward
	+Z force:	Head pulled upward (tension on neck)
	+X moment:	Right ear rotating toward right shoulder
	+Y moment:	Chin rotating toward chest
	+Z moment:	Chin rotating toward left shoulder
Tibia load cells:	+X force:	Tension
	+Y force:	Tension
	+Z force:	Tension
	+X moment:	Bottom of tibia moving leftward
	+Y moment:	Bottom of tibia moving rearward

Frequency Response Classes
SAE J211 OCT88

Typical Test Measurements	Channel Class
Vehicle Structural Accelerations for use in:	
Total vehicle comparison	60
Collision simulation input	60
Component analysis	600
Integration for velocity or displacement	180
Barrier Face Forces	60
Belt Restraint System Loads	60
Anthropomorphic Test Device	
Head accelerations (linear and angular)	1000
Neck	
Forces	1000
Moments	600
Thorax	
Spine accelerations	180
Rib accelerations	1000
Sternum accelerations	1000
Deflections	180
Lumbar	
Forces	1000
Moments	1000
Pelvis	
Accelerations	1000
Forces	1000
Moments	1000
Femur/Knee/Tibia/Ankle	
Forces	600
Moments	600
Displacements	180
Sled Accelerations	60
Steering Column Loads	600
Head form Accelerations	1000



WEATHER MEASURE
P.O. BOX 41257
SACRAMENTO, CA. 95841
PHONE (916) 481-7565

HYGROTHERMOGRAPH
1 DAY

CHART # C311 D HF
PART # 699123

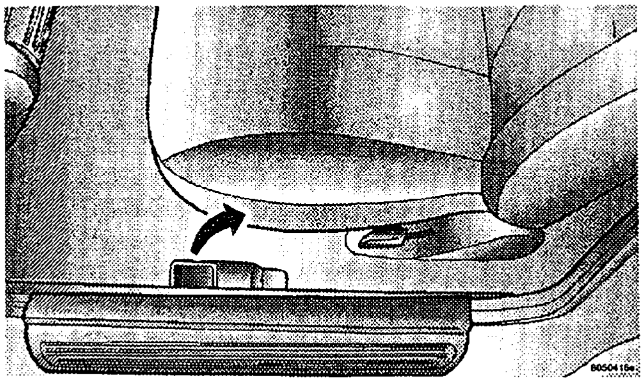
STATION 951026 DATE ON ________ DATE OFF ________

Appendix E

Restraint System Instructions from Owner's Manual

TRUNK LOCK AND RELEASE — OPTIONAL

Use the key to open the trunk from outside the vehicle. From inside the vehicle the trunk lid can be released by lifting the remote cable release lever. The lever is just outboard of the driver's seat riser, next to the sill trim.



OCCUPANT RESTRAINTS

One of the most important safety features in your vehicle is the restraint system. This system includes the front and rear seat belts, and airbags for the driver and right front passenger. Your seat belts also can be used to hold infant and child restraint systems if you will be carrying children too small for adult-size belts.

Please pay careful attention to the information in this section. It tells you how to use your restraint system properly to keep you and your passengers as safe as possible.

WARNING!

In a collision, you and your passengers can suffer much greater injuries if you are not properly buckled up. You can strike the interior of your vehicle or other passengers, or you can be thrown out of the vehicle. Always be sure you and others in your vehicle are buckled up properly.

Buckle up even though you are an excellent driver. Even on short trips. Someone on the road may be a poor driver and cause a collision which includes you. And this can happen far away from home or on your own street.

Research has shown that seat belts save lives. And they can reduce the seriousness of injuries in a collision. Some of the worst injuries happen when people are thrown from the vehicle. Seat belts provide protection from that, and they reduce the risk of injury caused by striking the inside of the vehicle. Everyone in a motor vehicle needs to be buckled up all the time.

Unibelts

The seats next to the front and rear doors of your vehicle are equipped with Unibelts.

Each unibelt is a combined lap/shoulder belt system. The belt webbing retractor will lock only during very sudden stops or impacts. This feature allows the shoulder part of the belt to move freely with you under normal conditions. But in a collision, the belt will lock and reduce the risk of your striking the inside of the vehicle or being thrown out.

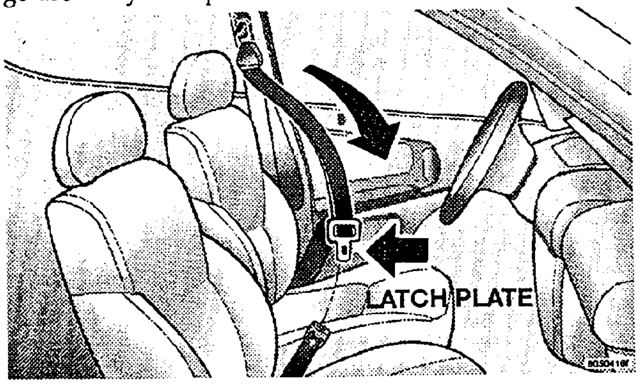
WARNING!

- **Wearing a seat belt incorrectly is dangerous. Seat belts are designed to go around the large bones of your body. These are the strongest parts of your body and can take the forces of a collision the best.**
- **Wearing your belt in the wrong place could make your injuries in a collision much worse. You might suffer internal injuries, or you could even slide out of part of the belt. Follow these instructions to wear your seat belt safely and to keep your passengers safe, too.**
- **Belting two people into one seat belt can lead to greater injury. People belted together can crash into one another in an accident, hurting one another badly. Never use a unibelt or a lap belt for more than one person, no matter what their size.**

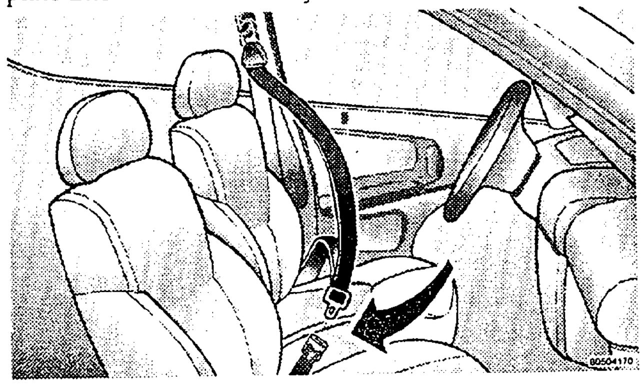
Unibelt Operating Instructions

1. Enter the vehicle and close the door. Sit back and adjust the seat.

2. The seat belt latch plate is above the back of your seat. Grasp the latch plate and pull out the belt. Slide the latch plate up the webbing as far as necessary to make the belt go around your lap.



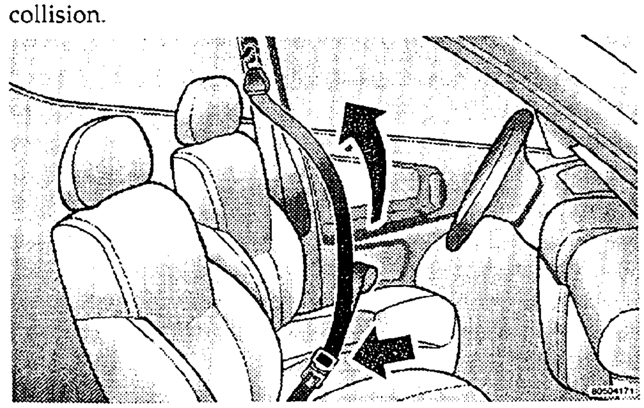
3. When the belt is long enough to fit, insert the latch plate into the buckle until you hear a "click".



WARNING!

- **A belt that is buckled into the wrong buckle will not protect you properly. The lap portion could ride too high on your body, possibly causing internal injuries. Always buckle your belt into the buckle nearest you.**
- **A belt that is too loose will not protect you as well. In a sudden stop you could move too far forward, increasing the possibility of injury. Wear your seat belt snugly.**
- **A belt that is worn under your arm is very dangerous. Your body could fall into the inside surfaces of the vehicle in a collision, increasing head and neck injury. And a belt worn under the arm can cause internal injuries. Ribs aren't as strong as shoulder bones. Wear the belt over your shoulder so that your strongest bones will take the force in a collision.**

4. Position the lap belt across your thighs, below your abdomen. To remove slack in the lap belt portion, pull up a bit on the shoulder belt, as shown. To loosen the lap belt if it is too tight, tilt the latch plate and pull on the lap belt. A snug belt reduces the risk of sliding under the belt in a collision.



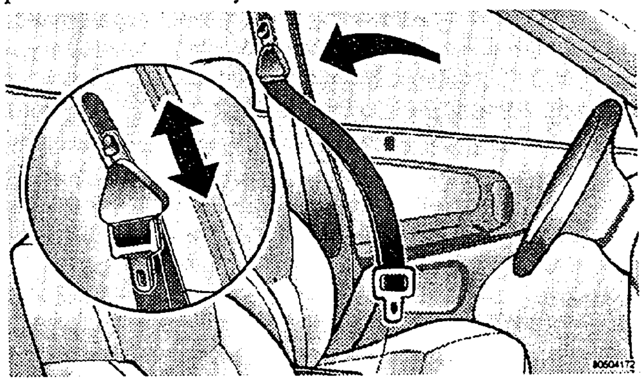
WARNING!

- **A lap belt worn too high can increase the risk of internal injury in a collision. The belt forces won't be at the strong hip and pelvic bones, but across your abdomen. Always wear the lap belt as low as possible and keep it snug.**
- **A twisted belt can't do its job as well. In a collision it could even cut into you. Be sure the belt is straight. Use the Unibelt Untwisting Procedure. If you can't straighten a belt in your vehicle, take it to your dealer and have it fixed.**

5. Position the shoulder belt on your chest so that it is comfortable and not resting on your neck. The retractor will withdraw any slack in the belt.

6. Adjustable Upper Shoulder Belt Anchorage

4 Door Models
In the front seat, the shoulder belt can be adjusted upward or downward to position the belt away from your neck. Push up or down on the anchorage control to release the anchorage, and move it up or down to the position that serves you best.



As a guide, if you are shorter than average, you will prefer a lower position, and if you are taller than average, you'll prefer a higher position. When you release the anchorage, try to move it up or down to make sure that it is locked in position.

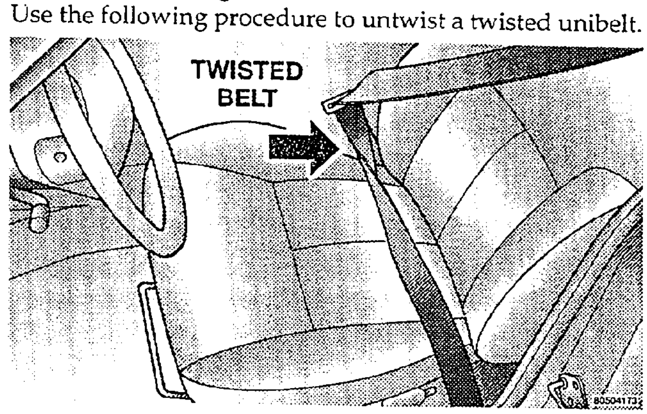
2 Door Models
In the front seats, the shoulder belt upper anchorage adjusts automatically to your height as you position the shoulder belt on your chest. If the belt is not comfortable, pull the shoulder belt webbing forward from the retractor and guide it over the desired point on your shoulder belt as it retracts.

In the rear seat, move toward the center of the seat to position the belt away from your neck.

To release the belt, push the red button marked PRESS on the buckle. The belt will automatically retract to its stowed position. If necessary, slide the latch plate down the webbing to allow it to retract fully.

Unibelt Untwisting Procedure

Use the following procedure to untwist a twisted unibelt.



WARNING!

- **A lap belt worn too high can increase the risk of internal injury in a collision. The belt forces won't be at the strong hip and pelvic bones, but across your abdomen. Always wear the lap belt as low as possible and keep it snug.**
- **A twisted belt can't do its job as well. In a collision it could even cut into you. Be sure the belt is straight. Use the Unibelt Untwisting Procedure. If you can't straighten a belt in your vehicle, take it to your dealer and have it fixed.**

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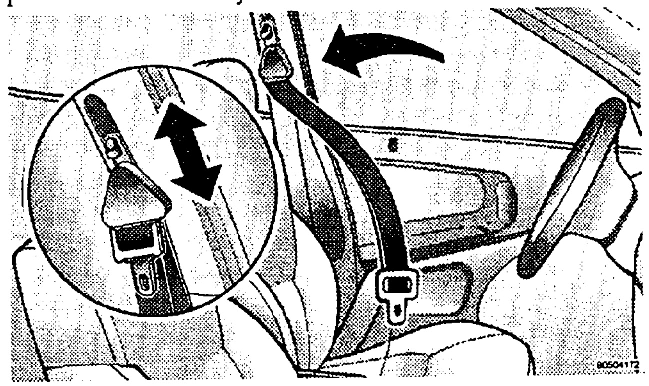
2



As a guide, if you are shorter than average, you will prefer a lower position, and if you are taller than average, you'll prefer a higher position. When you release the anchorage, try to move it up or down to make sure that it is locked in position.

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In the front seats, the shoulder belt upper anchorage adjusts automatically to your height as you position the shoulder belt on your chest. If the belt is not comfortable, pull the shoulder belt webbing forward from the retractor and guide it over the desired point on your shoulder belt as it retracts.

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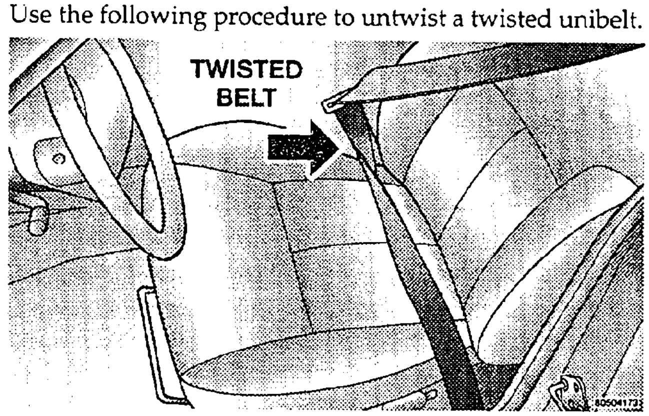
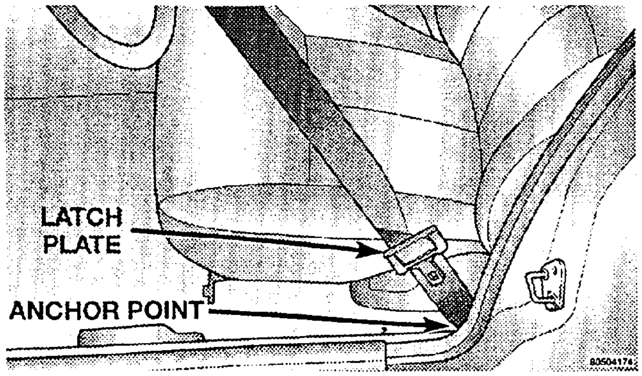
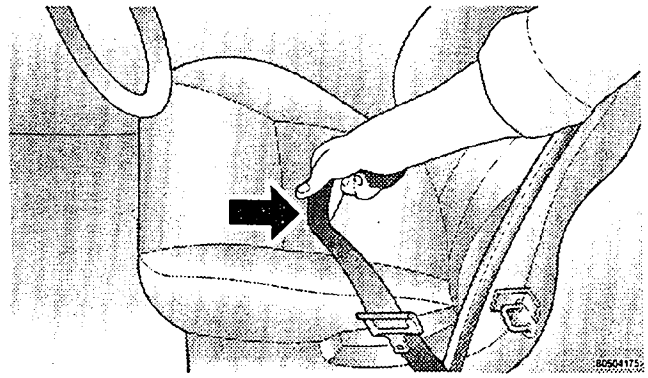


1. Position the latchplate as close as possible to the anchor point.

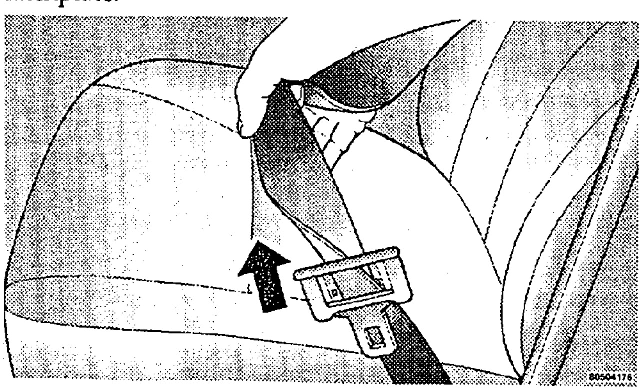


2. At about 6 to 12 inches above the latchplate, grasp and twist the belt webbing 180° to create a fold that begins immediately above the latchplate.



2

3. Slide the latchplate upward over the folded webbing. The folded webbing must enter the slot at the top of the latchplate.



4. Continue to slide the latchplate up until it clears the folded webbing.

Seat Belts And Pregnant Women

We recommend that pregnant women use the seat belts throughout their pregnancy. Keeping the mother safe is the best way to keep the baby safe.

Pregnant women should wear the lap part of the belt across the thighs and as snug across the hips as possible. Keep the belt low so that it does not come across the abdomen. That way the strong bones of the hips will take the force if there is a collision.

Rear Center Lap Belts

The center rear seating position has a lap belt only. To fasten a lap belt, slip the latch plate into the buckle.

To lengthen a lap belt, tilt the latch plate and pull. To remove slack, pull the loose end of the webbing. Wear the belt snug against the hips. Sit back and erect in the seat, then adjust the belt as tightly as is comfortable.

WARNING!

- A lap belt worn too loose or too high is dangerous.
- A belt worn too loose can allow you to slip down and under the belt in a collision.
- A belt that is too high will apply crash forces to the abdomen, not to the stronger hip bones.
- In either case, the risk of internal injuries is greater. Wear the lap belt low and snug.

WARNING!

A frayed or torn belt could rip apart in a collision and leave you with no protection. Inspect the belt system periodically, checking for cuts, frays, or loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system. Seat belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc).

Seat Belt Extender

If a seat belt is too short, even when fully extended, your dealer can provide you with a seat belt extender. This extender should be used only if the existing belt is not long enough.

2

WARNING!

Using a seat belt extender when not needed can increase the risk of injury in a collision. Only use the extender when a lap belt is not long enough when it is worn low and snug, and in the recommended seating positions. Remove and stow the seat belt extender when it is not needed.

Child Restraint

Everyone in your vehicle needs to be buckled up all the time, babies and children, too.

WARNING!

In a collision, an unrestrained child, even a tiny baby, can become a missile inside the vehicle. The force required to hold even an infant on your lap could become so great that you could not hold the child, no matter how strong you are. The child and others could be badly injured. Any child riding in your vehicle should be in a proper restraint for the child's size. All states and Canadian provinces require small children to ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

Chrysler Integrated Child Seat — Optional

Operating Instructions for this seat are included with the seat. If the instructions are not with the seat or in the owner's manual package, replacement instructions can be obtained.

To obtain replacement instructions:

Use the order form at the rear of this manual and specify publication 81-016-9470.

Infants And Small Children

There are different sizes and types of restraints for children from newborn size to the bigger child almost large enough for an adult safety belt. Use the restraint that is correct for your child.

Two different child restraint systems are generally available:

- The infant carrier for babies weighing up to 20 lbs. (9kg.)
- The child seat for small children over 20 lbs.

In addition, some manufacturers make systems that can be first used as an infant carrier, and then converted to a child seat as the child grows.

Here are some tips on getting the most out of your child restraint:

- Before buying any restraint system, make sure that it has a label certifying that it meets Motor Vehicle Safety Standard 213. Chrysler also recommends that before you buy a child restraint, you try it in the vehicle seats where you will use it.
- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for this too.

WARNING!

- **A rearward facing infant restraint should only be used in a rear seat. A rearward facing infant restraint in the front seat may be struck by a deploying passenger airbag which may cause severe or fatal injury to the infant.**
- **Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.**

- If possible, install the restraint in the rear seat. According to accident statistics, children are safer when properly restrained in the rear seats than in the front.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly, it may not work when you need it.

  Infant and child restraints are secured in the vehicle seats by the lap belt or the lap part of the lap/shoulder belt.

In the rear seats, you may have trouble tightening the belt on the child restraint because the buckle or latch plate interferes with the belt path opening on the restraint. Disconnect the latch plate from the buckle and twist the short buckle-end belt several turns to shorten it. Reassemble the latch plate to the buckle with the release button facing out.

In the front seat, move the seat forward to reposition the buckle against the side of the child restraint.

In the center rear seat if the belt still can't be tightened, or if pulling and pushing on the restraint loosens the belt, you may need to do something more. Disconnect the

latch plate from the buckle, turn it over, and reconnect it to the buckle. If you still can't make the child restraint secure, try a different seating position.

- Some child seat manufacturers recommend the use of a top anchorage (tether) strap in addition to the lap belt. Your vehicle has tether strap anchorages behind the rear seating positions for use with these child seats. Your dealer can provide you with anchorage hardware and installation instructions.
- Buckle the child into the seat exactly as the seat manufacturer's directions tell you. The latch plate will keep the belt tight.
- When your infant carrier or child seat is not in use, secure it with the seat belt or remove it from the vehicle. Don't leave it loose in the vehicle. In a sudden stop or collision, it could strike occupants and injure them.

Children Too Large For Child Seats

Children who are too large for child seats and who can sit upright by themselves should use the available lap/shoulder belts for best protection.

- Make sure that the child is seated upright in the seat.
- The lap belt should be fastened low on the hips and as snug as possible.
- Check belt fit periodically. A child's squirming or slouching can move the belt out of position.

If the shoulder belt contacts the face or neck, move the child closer to the middle of the vehicle. If this doesn't solve the problem, move the child to the center rear seating position and use the lap belt.

Booster seats that may help overcome this problem are also available for use with lap/shoulder belts. Before buying a booster seat, make sure that it has a label certifying that it meets applicable Motor Vehicle Safety Standards. Make sure that it is satisfactory for use in this vehicle.

Driver and Right Front Passenger Supplemental Restraint System (SRS) - Airbag

This vehicle has airbags for the driver and right front passenger as a supplement to the seat belt restraint systems. The driver's airbag is mounted in the steering wheel. The passenger side airbag is mounted in the instrument panel, above the glove compartment, under a cover marked SRS/AIRBAG. These airbags inflate in higher speed impacts. They work with the instrument panel knee bolsters and the seat belts to provide improved protection for the driver and right front passenger.

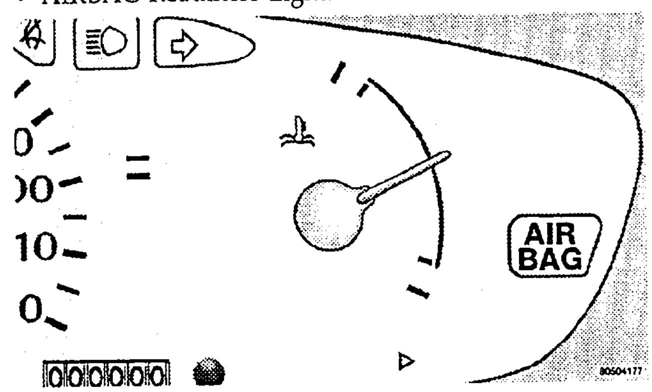
WARNING!

- **Relying on the airbags alone could lead to more severe injuries in a collision. The airbags work with your seat belt to restrain you properly. In some collisions the airbags won't deploy at all. Wear your seat belts even though you have airbags.**
- **Being too close to the steering wheel or instrument panel during airbag deployment could cause serious injury. Airbags need room to inflate. Sit back, comfortably extending your arms to reach the steering wheel or instrument panel.**

The seat belts are designed to protect you in many types of collisions. The airbags deploy only in frontal collisions and will not deploy in collisions at slow speed. But even in collisions where the airbags work, you need the seat belts to keep you in the right position for the airbags to protect you properly.

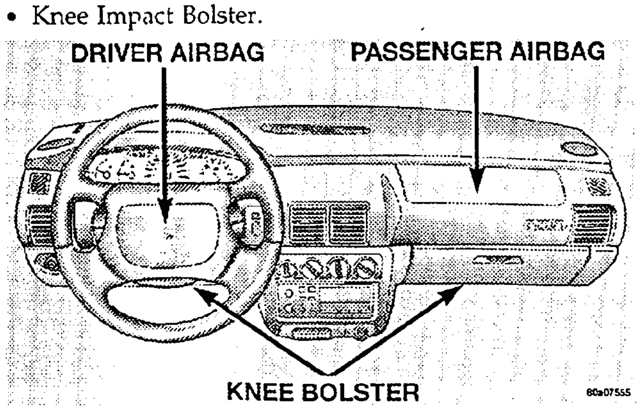
The airbag system consists of the following:

- Crash Sensors
- Diagnostic Unit
- AIRBAG Readiness Light.



- Driver and Passenger Airbag/Inflator Units

- Unique Steering Wheel and Column
- Unique Instrument Panel
- Interconnecting Wiring
- Knee Impact Bolster.



How The Airbag System Works

- Crash Sensors in the front of the vehicle and in the occupant compartment determine if a frontal impact is severe enough to require the airbag. The sensors will not detect side, rollover, or rear impacts. Switches in the sensors are connected to the diagnostic unit and to the airbag/inflator unit.
- The **Diagnostic Unit** monitors the readiness of the electronic parts of the system whenever the ignition switch is in the START or RUN positions. These include all of the items listed previously except the knee bolster, instrument panel, and steering column. The Diagnostic Unit also turns on the AIRBAG light in the instrument panel for 6 to 8 seconds when the ignition is first turned on, then turns the light off. If it detects a malfunction in any part of the system, it turns on the light either momentarily or continuously.

WARNING!

Ignoring the AIRBAG light in your instrument panel could mean you won't have the airbags to protect you in a collision. If the light does not come on, stays on after you start the vehicle, or if it comes on as you drive, have the airbag system checked right away.

- The **Airbag/Inflator Units** are in the center of the steering wheel and in the instrument panel. The words SRS/AIRBAG are embossed on the airbag covers.

WARNING!

Do not put anything on or around the airbag covers or attempt to manually open them. You may damage the airbags and you could be injured because the airbags are not there to protect you. These protective covers for the airbag cushions are designed to open only when the airbags are inflating.

- When the crash sensors detect an impact requiring the airbags, they signal the inflator units. A large quantity of non-toxic nitrogen gas is generated to inflate the airbags. The airbag covers separate and fold out of the way as the airbags inflate to their full size. The airbags fully inflate in about 50 milliseconds. This is only about half of the time it takes you to blink your eyes. The airbags then quickly deflate while helping to restrain the driver and right front passenger. The airbag gas is vented through the airbag material towards the instrument panel. In this way the airbags do not interfere with your control of the vehicle.
- The **Knee Impact Bolsters**help protect the knees and position you for the best interaction with the airbags.

2

If A Deployment Occurs

The airbag system is designed to deploy when the impact sensors detect a moderate-to-severe frontal collision, to help restrain the driver and right front passenger, and then to immediately deflate.

NOTE: A frontal collision that is not severe enough to need airbag protection will not activate the system. This does not mean something is wrong with the airbag system.

If you do have a collision which deploys the airbags, any or all of the following may occur:

- The nylon airbag material may sometimes cause abrasions and/or skin reddening to the driver and right front passenger as the airbags deploy and unfold. The abrasions are similar to friction rope burns or those you might get sliding along a carpet or gymnasium floor. They are not caused by contact with chemicals.

They are not permanent and normally heal quickly. However, if you haven't healed significantly within a few days, or if you have any blistering, see your doctor immediately.

- As the airbags deflate you may see some smoke-like particles. The particles are a normal by-product of the process that generates the non-toxic nitrogen gas used for airbag inflation. These airborne particles may irritate the skin, eyes, nose, or throat. If you have skin or eye irritation, rinse the area with cool water. For nose or throat irritation, move to fresh air. If the irritation continues, see your doctor. If these particles settle on your clothing, follow the garment manufacturer's instructions for cleaning.
- Your vehicle may be safely driveable after the airbags deploy. If so, you can tuck the deployed airbags inside the opening in the steering wheel hub and instrument panel trim covers to make driving somewhat easier.

WARNING!

Deployed airbags can't protect you in another collision. Have the airbags replaced by an authorized dealer as soon as possible.

Transporting Pets

Airbags deploying in the front seat could harm your pet. An unrestrained pet will be thrown about and possibly injured, or injure a passenger during panic braking or in a collision.

Pets should be restrained in the rear seat in pet harnesses or pet carriers that are secured by seat belts.

Maintaining Your Airbag System

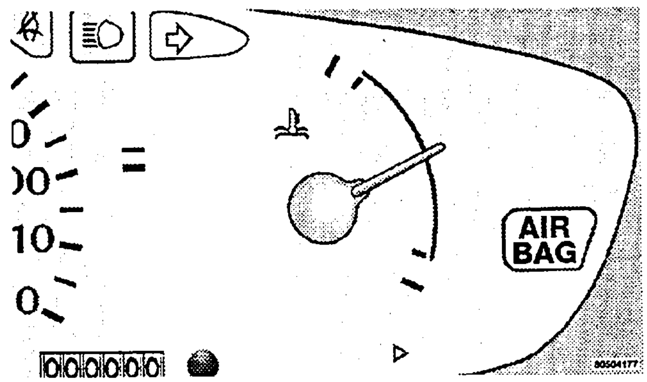
WARNING!

- **Modifications to any part of the airbag system could cause it to fail when you need it. You could be injured because the airbag is not there to protect you. Do not modify the components or wiring, including adding any kind of badges or stickers to the airbag covers. Do not modify the front bumper or vehicle body structure.**
- **You need proper knee impact protection in a collision. Do not mount or locate any aftermarket equipment on or behind the knee bolsters.**
- **It is dangerous to try to repair any part of the airbag system yourself. Don't try to repair the airbag system. Be sure to tell anyone who works on your vehicle that it has airbags.**

You will want to have the airbags ready for your protection in a collision. The airbag Supplemental Restraint System (SRS) is designed to be maintenance free.

If any of the following occurs, have an authorized dealer service the system immediately.

- The AIRBAG light does not come on or flickers during the 6 to 8 seconds when the ignition switch is first turned on.



- The light remains on or flickers after the 6 to 8 second interval.
- The light flickers or comes on and remains on while driving.

ENGINE BREAK-IN RECOMMENDATIONS

The engine in your new vehicle does not require a long break-in period.

Drive moderately during the first 300 miles (500 km). After the initial 60 miles (100 km), speeds up to 50 or 55 mph (80 or 90 km/h) are desirable.

While cruising, brief full-throttle acceleration, within the limits of local traffic laws, contributes to a good break-in.

Wide open throttle acceleration in low gear can be detrimental and should be avoided.

The crankcase oil installed in the engine at the factory is a high quality energy conserving type lubricant. Oil changes should be consistent with expected climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are in Section 7 of this manual.

Do not use non-detergent or straight mineral oils.

A new engine may consume some oil during its first few thousand miles of operation. This is a normal part of the break-in and not an indication of a problem.

SAFETY TIPS

Exhaust Gas

WARNING!

Exhaust gases can injure or kill. They contain carbon monoxide (CO) which is colorless and odorless. Breathing it can make you unconscious and can eventually poison you. To avoid breathing (CO) follow the safety tips below.

Do not run the engine in a closed garage or in confined areas any longer than needed to move your vehicle in or out of the area.

If it is necessary to sit in a parked vehicle with the engine running, adjust your heating or cooling controls to force outside air into the vehicle. Set the blower at high speed.

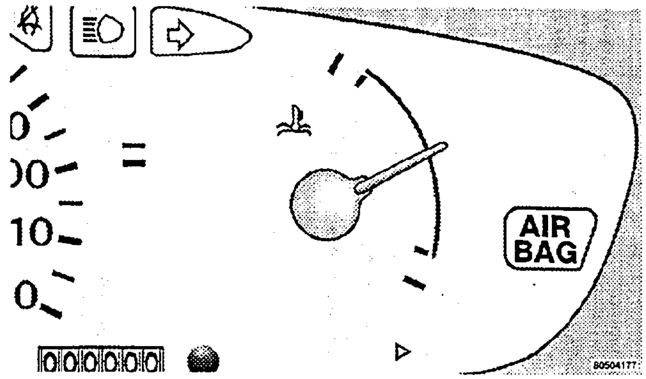
To avoid drawing exhaust gases into the vehicle, close the trunk while driving. However, if for some reason it must remain open, close all windows. Adjust the heating or cooling system to force outside air into the vehicle. Set the blower at high speed.

Safety Checks You Should Make Inside The Vehicle

Seat Belts
Inspect the belt system periodically, checking for cuts, frays and loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system.

Safety belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc.). If there is any question regarding belt or retractor condition, replace the belt.

Airbag Light
The light should come on and remain on for 6 to 8 seconds as a bulb check when the ignition switch is first turned ON. If the bulb is not lit during starting, have it replaced. If the light stays on or comes on while driving, have the system checked by an authorized dealer.



Defrosters
Check operation by selecting the defrost mode and place the blower control on high speed. You should be able to feel the air directed against the windshield.

Periodic Safety Checks You Should Make Outside The Vehicle

Tires
Examine tires for excessive tread wear or uneven wear patterns. Check for stones, nails, glass, or other objects lodged in the tread. Inspect for tread cuts or side wall cracks. Check wheel nuts for tightness and tires (including spare) for proper pressure.

Lights
Have someone observe the operation of exterior lights while you work the controls. Check turn signal and high beam indicator lights on the instrument panel.

Fluid Leaks
Check area under vehicle after overnight parking for fuel, water, oil, or other fluid leaks. Also, if gasoline fumes are present, the cause should be corrected immediately.