

Frontal Barrier Impact Test

Ford Motor Company of Canada Ltd.

2001 Ford F150 SuperCab Pickup

NHTSA Number:

TRC Inc. Test Number: 011029-2

Prepared By:

Transportation Research Center Inc.

10820 State Route 347

East Liberty, OH 43319



Final Report

November 8, 2001

Prepared For:

U. S. Department of Transportation

Volpe National Transportation Systems Center

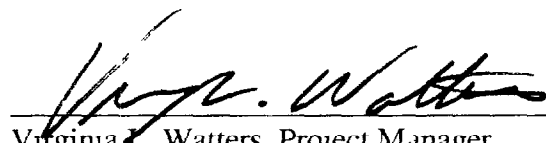
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16 Abstract A 40 km/h flat frontal rigid barrier impact test was conducted on a 2001 Ford F150 SuperCab Pickup, at Transportation Research Center Inc. on October 29, 2001. This test was conducted in accordance with Volpe Task Order No. 1, for the evaluation of vehicle and occupant responses. The barrier impact velocity was 39.9 km/h. The vehicle's maximum static crush was 439 millimeters. The ambient temperature was 21° C. The driver's 36 millisecond Head Injury Criteria (HIC) was 191. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 30.9 g. The driver's maximum chest deflection was 13 millimeters. The driver's left and right femur maximum axial compressive forces were 6688 N and 6961 N, respectively. The passenger's 36 millisecond HIC was 421. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 47.8 g. The passenger's maximum chest deflection was 14 millimeters. The passenger's left and right femur maximum axial compressive forces were 6620 N and 6625 N, respectively.			
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Section 1 0

Purpose and Test Procedure

Purpose

This 40 km/h frontal barrier impact test was conducted for the Volpe National Transportation Systems Center (Volpe) by Transportation Research Center Inc (TRC Inc)

The purpose of this testing was to evaluate and compare vehicle and occupant responses in frontal rigid barrier crash tests conducted at various impact speeds using model year 2001 vehicles in support of the FMVSS 208 Implementation plan (May 12, 2000 interim rule) For this test, the subject vehicle was a 2001 Ford F150 SuperCab Pickup

Test Procedure

This test was conducted in accordance with Volpe's instructions for a full frontal car to rigid barrier test. Data was obtained relative to FMVSS 208, "Occupant Crash Protection" performance.

The test vehicle, a 2001 Ford F150 SuperCab, was instrumented with ten (10) accelerometers to measure longitudinal axis accelerations and three (3) accelerometers to measure vertical axis accelerations. The driver's and passenger's airbag signals were monitored with inductive pickups. The vehicle impacted a rigid flat frontal barrier. The vehicle's specified impact velocity range was 39.3 to 40.9 km/h.

The test vehicle contained two (2) Part 572E adult male Hybrid III anthropomorphic test devices (dummies). The dummies were positioned in the front outboard designated seating positions according to NHTSA Laboratory Test Procedure TP-208-10. The driver dummy and the passenger dummy were both unbelted and were restrained with front single stage airbags.

Both dummies were instrumented with an array of twelve (12) accelerometers in the head, and three (3) accelerometers in the chest, oriented to measure longitudinal, lateral, and vertical accelerations. The dummies were also instrumented with upper and lower neck moment and force load cells, left and right femur load cells to measure axial forces, and chest deflection potentiometers. Both dummies were also instrumented with upper and lower tibia load cells to measure forces and moments, and knee displacement potentiometers. The driver dummy was equipped with THOR-LX legs, which included longitudinal and lateral tibia accelerometers, three (3) foot accelerometers on each foot to measure accelerations in three (3) axes and three (3) rotary potentiometers at each ankle to measure foot rotations about three (3) axes. The passenger dummy was instrumented with three (3) foot accelerometers to measure accelerations at the heel and toe.

The 135 data channels were digitally sampled and recorded at 12,500 samples per second and processed per SAE J211 March 1995.

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

The rigid barrier crash test summary data are presented in Section 2.0. The FMVSS 208 summary data are presented in Section 3.0. The occupant, camera, and vehicle measurements are presented in Section 4.0. Appendix A contains the still photographic prints. Appendix B contains the dummy and vehicle data plots. Appendix C contains the dummy verification data. Appendix D contains miscellaneous test information.

Section 2.0

Full Frontal Barrier Test Summary

Test Results Summary

This full frontal rigid barrier crash test was conducted by TRC Inc. on October 29, 2001

The test vehicle, a 2001 Ford F150 SuperCab Pickup, was equipped with a 4.2-liter inline engine, automatic transmission, power steering, power brakes and single stage front airbags. The vehicle's test weight was 2292.5 kg. The vehicle's impact speed was 39.9 km/h. The vehicle sustained 439 mm of static crush during the impact.

The driver's 36-millisecond Head Injury Criteria (HIC) was 191. The driver's 15-millisecond HIC was 175. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 30.9 g. The driver's maximum chest deflection was 13 mm. The driver's left and right femur maximum axial compressive forces were 6688 N and 6961 N, respectively. The driver dummy's neck injury calculations were as follows: NTF, 0.19; NTE, 0.05; NCF, 0.55; NCE, 0.04.

The right front passenger's 36-millisecond HIC was 421. The passenger's 15-millisecond HIC was 421. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 47.8 g. The passenger's maximum chest deflection was 14 mm. The passenger's left and right femur maximum axial compressive forces were 6620 N and 6625 N, respectively. The right front passenger's neck injury calculations were as follows: NTF, 0.29; NTE, 0.18; NCF, 0.67; NCE, 0.13.

Data Acquisition Explanations

The top engine X-axis data channel, ENGXG1, failed to record valid data throughout the event

The vehicle passenger airbag inductive pickup, PABET1, failed to pick up the initial fire time

Table 1 Crash Test Summary

Test mode	Flat frontal barrier		
Test date	10/29/01		
Test time	1539		
Ambient temperature	21° C		
Vehicle year/make/ model/body style	2001/Ford/F150 SuperCab/Pickup		
Vehicle test weight	2292.5 kg		
Impact angle ¹	0°		
Impact velocity ²	39.9 km/h		
Maximum static crush	439 mm		
Average rebound	447 mm		
Number of data channels	135		
Number of cameras	High-speed	14	Real-time 1
<u>Dummies</u>	<u>Driver #206</u>		<u>Passenger #202</u>
Type	Part 572E		Part 572E
Location	Left front		Right front
Restraint	Airbag		Airbag
<u>Seat track position for test</u>			
Driver	Mid		
Passenger	Mid		
<u>Seat back position for test</u>			
Driver.	19°		
Passenger	19°		
<u>Head restraint position for test</u>			
Driver.	Full Up		
Passenger	Full Up		
Steering column position	Mid		

¹ With respect to tow track centerline

² Speed trap measurement ($\pm$ 0.8 km/h accuracy)

Table 2 General Test and Vehicle Parameter Data

Vehicle year/make/ model/body style:	2001/Ford/F150 SuperCab/Pickup
VIN:	2FTZX17211CB02319
Model year:	2001
Body style:	Extended cab pickup
Color:	Red
Engine data:	
Cylinders:	6
Displacement	4.2 liters
Cylinder placement:	V
Engine placement:	Inline
Transmission data:	<u> 3 </u> speed, <u> </u> manual, <u> X </u> automatic, <u> </u> overdrive
Final drive:	<u> </u> FWD, <u> X </u> RWD, <u> </u> 4WD
Date vehicle received:	10/12/2001
Odometer reading:	36
Dealer's name and address:	Bob Chapman Ford, Inc 1255 Columbus Avenue Marysville, OH 43040-9511

Accessories:

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

Certification data from vehicle's label:

Vehicle manufactured by:	Ford Motor Company of Canada Ltd.
Date of manufacture:	08/01
VIN:	2FTZX17211CB02319
GVWR:	6000 lbs. (2721 kg)
GAWR: Front:	2950 lbs (1338 kg)
Rear:	3200 lbs. (1451 kg)

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

Tires on vehicle (mfr., line, size) General, Grabber AW, P235/70R16

Tire pressure with maximum capacity vehicle load:

Front:	29 psi	(200 kPa)
Rear:	32 psi	(221 kPa)

Spare tire (mfr., line, size) General, Grabber AW, P235/70R16

Type of seats:

Front	Split Bench
Rear	Split Bench

Maximum width: 1965 mm

Wheelbase: 3510 mm

Location of "Recommended Tire Pressure" label

The label was located on driver's B-pillar

Data from vehicle's "Recommended Tire Pressure" label:

Recommended tire size: P255/70R16SL

Recommended cold tire pressure:

Front:	200 kPa	(29 psi)
Rear:	221 kPa	(32 psi)

Vehicle Capacity Data:

Number of Occupants (Designated seating capacity):

Front	3
Mid	N/A
Rear	3
Total	6

Vehicle capacity weight: N/A

Rated cargo/luggage weight: N/A

Test vehicle attitude:

Delivered attitude:	LF	873 mm,	RF	876 mm;	LR	912 mm;	RR	920 mm
Fully loaded attitude:	LF	864 mm;	RF	864 mm;	LR	880 mm;	RR	887 mm
Pre-test attitude:	LF	865 mm;	RF	867 mm;	LR	873 mm;	RR	883 mm
Post-test attitude:	LF	840 mm;	RF	841 mm;	LR	872 mm;	RR	877 mm

Table 2 General Test and Vehicle Parameter Data Cont'd

Weight of test vehicle as received (with maximum fluids)=UDW

Right front	553 0 kg	Right rear	440 0 kg
Left front	575 0 kg	Left rear	444 5 kg
Total front weight	1128 0 kg	(56 0% of total vehicle weight)	
Total rear weight	884 5 kg	(44 0% of total vehicle weight)	
Total delivered weight	2012 5 kg		

Calculation of test vehicle's target test weight

Total Delivered Weight (UDW) =	2012 5 kg
Rated Cargo/Luggage Weight (RCLW) ¹ =	136 kg
Weight of 2 Part 572E Dummies @ 76 kg each =	152 kg
Target test weight = 2012 5 + 152 + 136 =	2300 5 kg

Weight of test vehicle with required dummies and 128 kg of cargo weight

Right front	578 4 kg	Right rear	549 4 kg
Left front	617 2 kg	Left rear	547 5 kg
Total front weight	1195 6 kg	(52 2% of total vehicle weight)	
Total rear weight	1096 9 kg	(47 8% of total vehicle weight)	
Total test weight	2292 5 kg	(0 3% under target test weight)	

Weight of ballast secured in vehicle 5 7 kg steel plate in bed

Components removed to meet target test weight None

Location of Vehicle's CG 1679 mm rearward of front wheel centerline

¹ Cargo weight for multipurpose passenger vehicles, trucks, and buses is the vehicle's rated cargo and luggage weight from the vehicle's label or 136 kilograms, whichever is less

Table 3 Post-Impact Data

Test number: 011029-2
Test date: 10/29/01
Test time: 1539
Test type: Flat Frontal barrier
Impact angle: 0°
Ambient temperature
at impact area: 21° C
Required impact velocity range: 39.3 to 40.9 km/h

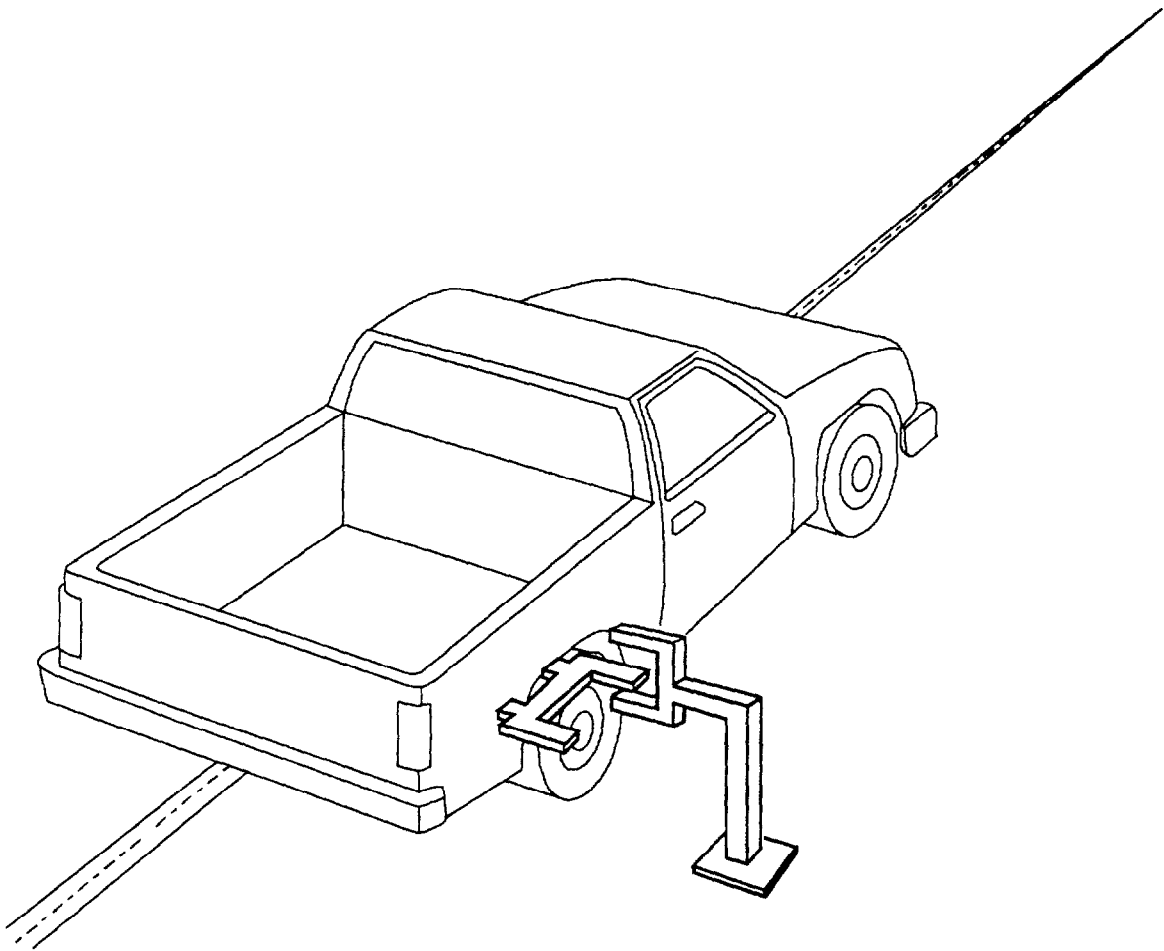
Barrier impact velocity:

Primary: 39.9 km/h
Secondary: 39.9 km/h
Distance from vehicle to barrier:
Entering velocity trap: 356 mm
Exiting velocity trap: 51 mm

Vehicle rebound from flat rigid barrier:

Distance from test vehicle to barrier impact point:
Post-test: L 462 mm; C 404 mm; R 475 mm
Average rebound: 447 mm

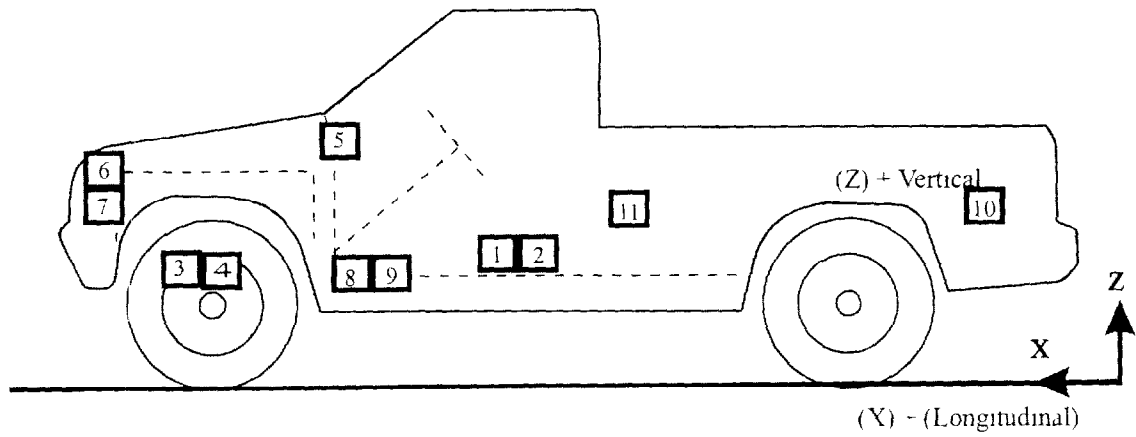
Figure 1 Impact Velocity Measurement System



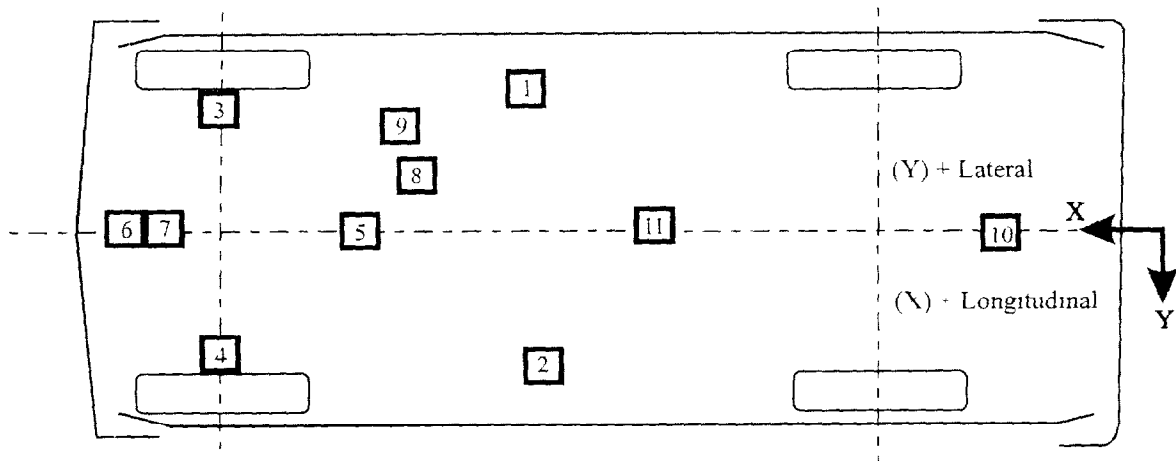
The final vane clears the final emitter/receiver pair 51 millimeters before impact

The vanes have 305-millimeter spacing.

Figure 2 Vehicle Accelerometer Placement



Side View



Bottom View

Table 4 Vehicle Accelerometer Locations and Data Summary

TEST NUMBER: 011029-2 No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 LEFT REAR SEAT CROSSMEMBER LONGITUDINAL	2581 mm	-744 mm	560 mm	5.8 g @ 43.3 ms	38.3 g @ 36.7 ms
2 RIGHT REAR SEAT CROSSMEMBER LONGITUDINAL	2581 mm	747 mm	570 mm	1.9 g @ 156.2 ms	37.2 g @ 23.4 ms
3 FRONT BRAKE CALIPER LEFT LONGITUDINAL	4581 mm	-700 mm	320 mm	19.4 g @ 27.8 ms	67.4 g @ 22.4 ms
4 FRONT BRAKE CALIPER RIGHT LONGITUDINAL	4581 mm	700 mm	320 mm	17.2 g @ 39.0 ms	62.9 g @ 30.9 ms
5 DASH PANEL CENTER LONGITUDINAL	4217 mm	0 mm	1270 mm	35.2 g @ 125.0 ms	55.7 g @ 36.9 ms
6 ENGINE TOP LONGITUDINAL ¹	4608 mm	-171 mm	894 mm	-----	-----
7 ENGINE BOTTOM LONGITUDINAL	4450 mm	0 mm	275 mm	7.7 g @ 109.6 ms	29.2 g @ 57.2 ms

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

TEST NUMBER: 011029-2 No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
8 TOEPAN NEXT TO ACCEL LONGITUDINAL VERTICAL	4072 mm	-285 mm	515 mm	5.4 g @ 44.1 ms 14.8 g @ 24.4 ms	38.2 g @ 37.2 ms 16.0 g @ 45.0 ms
9 TOEPAN NEXT TO FOOTREST LONGITUDINAL VERTICAL	4067 mm	-621 mm	535 mm	2.3 g @ 111.1 ms 22.6 g @ 41.2 ms	37.2 g @ 36.6 ms 21.6 g @ 46.2 ms
10 REAR DECK VERTICAL	250 mm	0 mm	625 mm	10.1 g @ 104.4 ms	13.9 g @ 53.7 ms
11 REAR COMPARTMENT CENTER LONGITUDINAL	2481 mm	0 mm	785 mm	5.6 g @ 43.0 ms	39.0 g @ 36.2 ms

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

¹See DATA ACQUISITION EXPLANATIONS in Section 2.0.

Section 3 0

Summary of FMVSS 208 Data

Table 5 Dummy Injury Criteria Data

<u>Maximum Acceleration¹</u>							
	Head				Chest		
	X	Y	Z	R	X	Y	Z
Driver	-51.2 g	21.4 g	52.0 g	73.9 g	-29.7 g	3.3 g	20.3 g
Passenger	-90.6 g	-34.8 g	33.2 g	101.8 g	-40.9 g	-5.6 g	32.3 g

<u>Maximum Femur Compressive Force</u>		
	Left Femur	Right Femur
Driver	6688 N	6961 N
Passenger	6620 N	6625 N

<u>Head Injury Criteria²</u>			
36 millisecond			
	HIC	Time t ₁	Time t ₂
Driver	191	84.3 ms	120.3 ms
Passenger	421	97.3 ms	104.6 ms

15 millisecond			
	HIC	Time t ₁	Time t ₂
Driver	175	99.8 ms	114.8 ms
Passenger	421	97.3 ms	104.6 ms

<u>Chest Maximum Resultant Acceleration³</u>			
	Acceleration	Time t ₁	Time t ₂
Driver	30.9 g	92.5 ms	95.5 ms
Passenger	47.8 g	98.2 ms	101.2 ms

Table 5 Dummy Injury Criteria Data, Cont'd

Maximum Chest Deflection

Driver	13 mm
Passenger	14 mm

Neck Injury Calculations (N_{ij})²

	NTF	NTE	NCF	NCE
Driver	0.19	0.05	0.55	0.04
Passenger	0.29	0.18	0.67	0.13

¹ See Report Sign Convention in Appendix D.

² As defined in FMVSS No. 208.

³ Defined as equal to or exceeding 0.003 sec. duration.

Table 6 Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points

	<u>Driver</u>	<u>Passenger</u>
Head	Airbag, sun visor, windshield	Airbag, sun visor, windshield, head restraint
Chest	Airbag	Airbag
Abdomen	None	None
Left knee	Instrument panel	Instrument panel
Right knee	Instrument panel	Instrument panel

Door opening

	<u>Left</u>	<u>Right</u>
Front	Easy	Easy
Rear	Easy	Easy

Seat movement

	<u>Seat back failure</u>	<u>Seat shift</u>
Left Front	None	None
Right Front	None	None
Left Rear	N/A	N/A
Right Rear	N/A	N/A

Glazing damage Windshield cracked

Other notable impact effects None

Section 4 0

Occupant, Camera, and Vehicle Information

Dummy Kinematic Summary

Driver Dummy

Upon impact, the driver dummy translated forward in the seat impacting both knees into the instrument panel. The dummy's head and chest contacted the airbag and the head went forward contacting the windshield. As the dummy rebounded the dummy lifted and moved to the right with the head contacting the sun visor. The driver dummy rebounded into the seat and came to rest seated in the seat, leaning forward and to the right.

Right Front Passenger Dummy

Upon impact, the passenger dummy translated forward impacting both knees into the instrument panel. The dummy's head rotated forward and to the left as the head and chest impacted the airbag. The head also contacted the windshield and the forward edge of the sun visor. As the dummy rebounded into the seat back, the dummy's head rotated forward and then rearward, contacting the left side of the headrest. The dummy came to rest seated in the passenger's seat leaning slightly to the left.

Figure 3 Dummy Measurement Locations for Front Seat Occupants

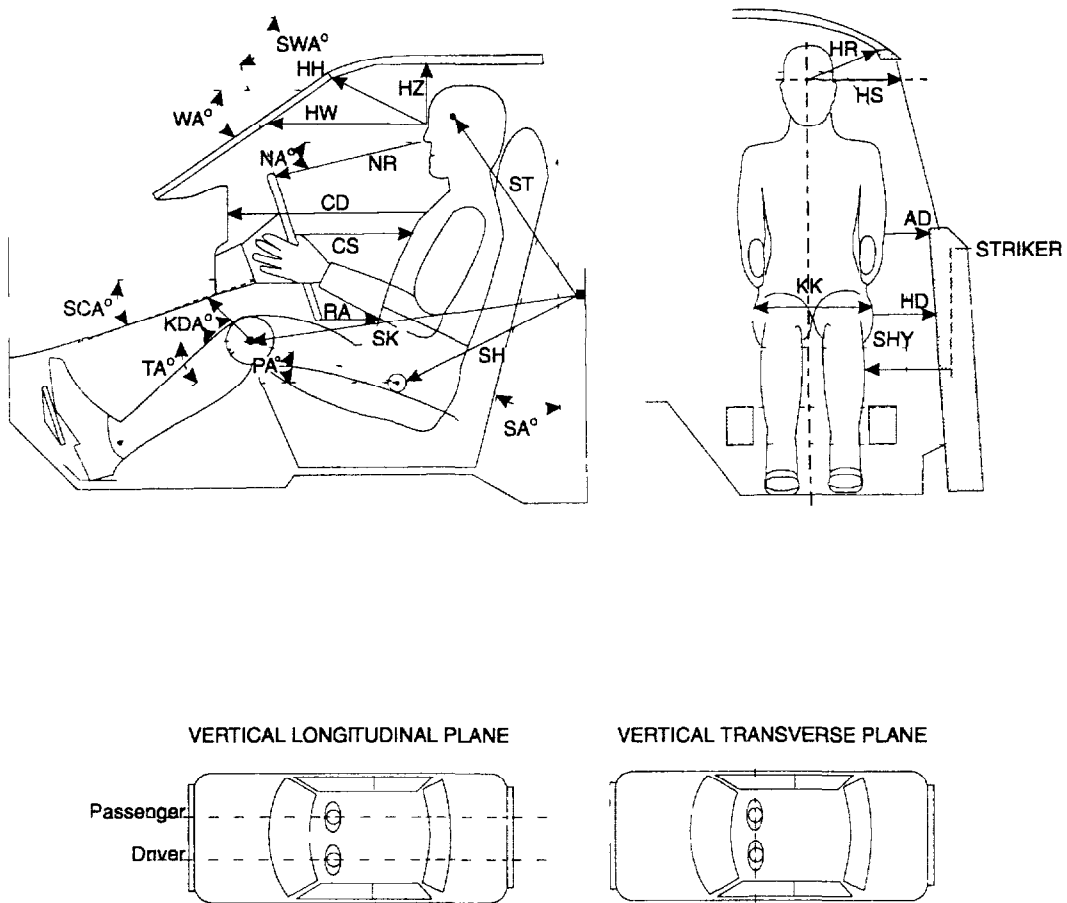


Table 7 Dummy Measurement Data For Front Seat Occupants

Designation	Type of Measurement	Driver (Serial # 206)	Passenger (Serial # 202)
WA	Windshield angle	34.1°	34.1°
SWA	Steering wheel angle	68.9°	N/A
SCA	Steering column angle	21.1°	N/A
SA	Seat back angle	19.0°	19.0°
HZ	Head to roof	248 mm	242 mm
HH	Head to header	404 mm	394 mm
HW	Head to windshield	612 mm	620 mm
HR	Head to side header	251 mm	259 mm
NR	Nose to rim	400 mm	N/A
NA	Nose to rim angle	17.3°	N/A
CD	Chest to dash	591 mm	579 mm
CS	Steering wheel to chest	335 mm	N/A
RA	Rim to abdomen	244 mm	N/A
KDL	Left knee to dash	181 mm	179 mm
KDR	Right knee to dash	170 mm	183 mm
KDA	Outboard knee to dash angle	60.3°	72.8°
PA	Pelvic angle	23.1°	20.8°
TA	Tibia angle	55.2°	56.7°
KK	Knee to knee	300 mm	270 mm
ST ¹	Striker to head	675 mm	667 mm
	Striker to head angle	-62.6°	-63.0°
SK ¹	Striker to knee	729 mm	753 mm
	Striker to knee angle	-3.8°	0.1°
SH ¹	Striker to H-point	223 mm	380 mm
	Striker to H-point angle	2.4°	8.5°
SHY	Striker to H-point (Y dir.)	351 mm	275 mm
HS	Head to side window	265 mm	269 mm
HD	H-point to door	187 mm	186 mm
AD	Arm to door	139 mm	125 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.

Descriptions of Dummy Measurements

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

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

- * HH Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header
- * HW Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield. Use a level
- HZ Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level
- * CS Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest. Use a level
- * CD Chest to Dash, place a tape measure on the tip of the dummy's chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy's chest. Then measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See diagram
- RA Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level
- NR Nose to Rim, taken from the tip of the dummy's nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA)
- *¹ KDL, Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See diagram

* Measurement used in Data Tape Reference Guide

¹ Only outboard measurement is referenced in Data Tape Reference Guide

Descriptions of Dummy Measurements, Cont'd

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

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

- HS Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height which allows a level measurement. Use a level. See diagram.
- * AD Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer biceps. When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso.
- * HD H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.
- * HR Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.
- SHY Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See diagram.
- KK Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse.)

Angles

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

* Measurement used in Data Tape Reference Guide

Descriptions of Dummy Measurements, Cont'd.

- PA Pelvic or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid II dummy with respect to the horizontal, to find the femur angle
- SWA Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal
- SCA Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column
- NA Measure the angle made when taking the measurement NR with respect to the horizontal.
- KDA Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See diagram
- WA Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal)
- TA Tibia Angle, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal

Figure 4 Pre-Test And Post-Test Measurement Points

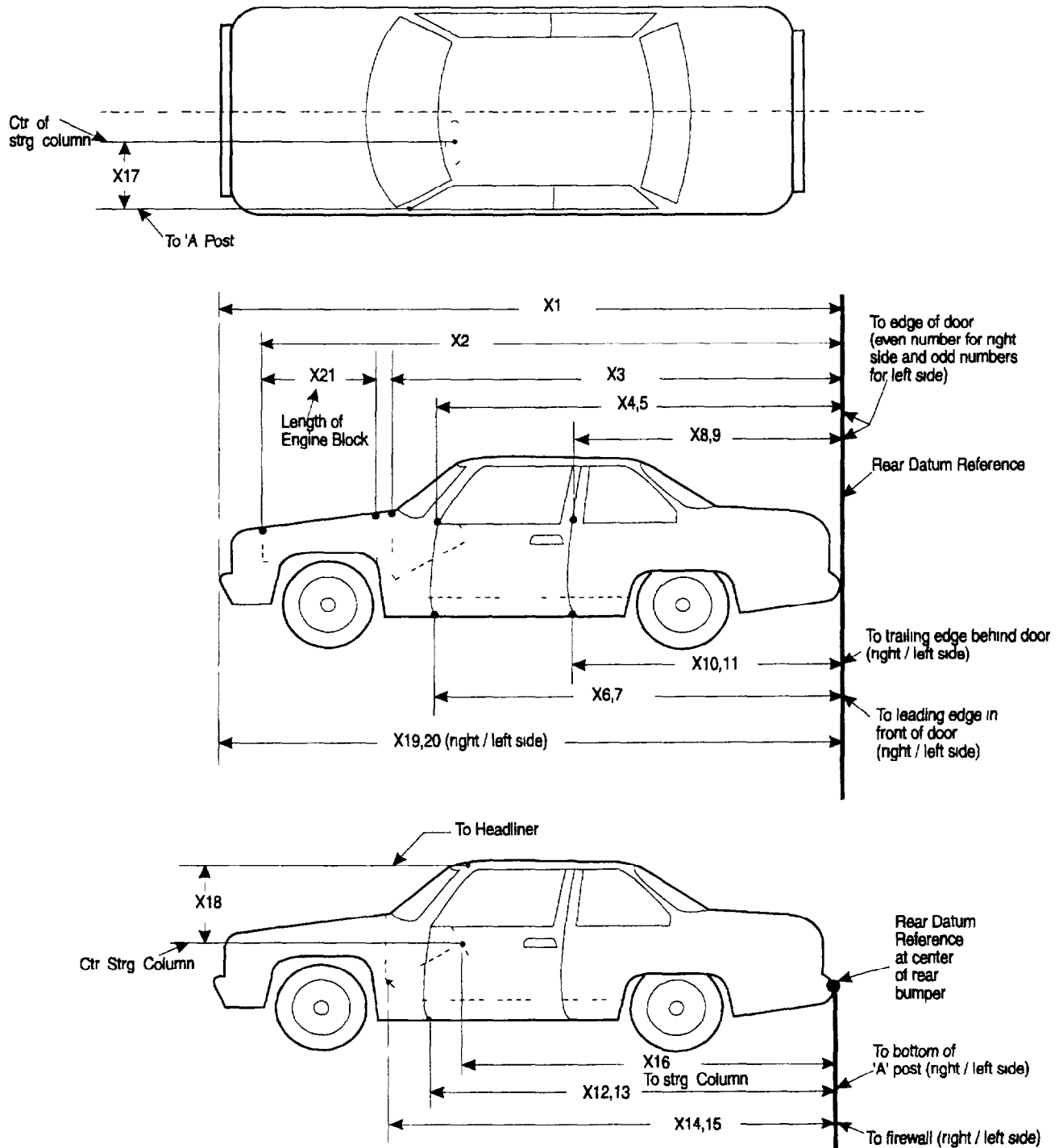


Table 8 Impacted Vehicle Measurements

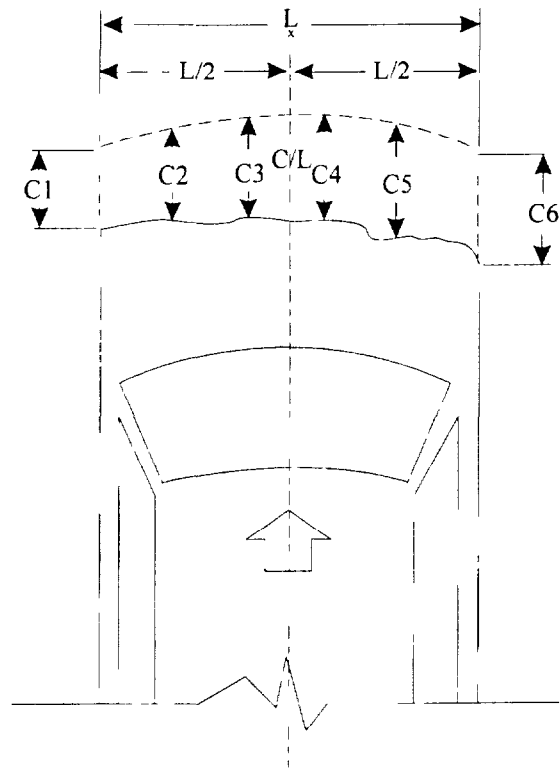
Test number 011029-2

Vehicle year/make/model/body style 2001/Ford/F150 SuperCab/Pickup

No	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5702	5276	426
X2	Rear Surface of Vehicle to Front of Engine Block	4687	4687	0
X3	Rear Surface of Vehicle to Firewall	4504	4504	0
X4	Rear Surface of Veh to Upper Leading Edge of Right Door	4117	4113	4
X5	Rear Surface of Veh to Upper Leading Edge of Left Door	4116	4113	3
X6	Rear Surface of Veh to Lower Leading Edge of Right Door	4056	4028	28
X7	Rear Surface of Veh to Lower Leading Edge of Left Door	4056	4033	23
X8	Rear Surface of Veh to Upper Trailing Edge of Right Door	2890	2887	3
X9	Rear Surface of Veh to Upper Trailing Edge of Left Door	2884	2879	5
X10	Rear Surface of Veh to Lower Trailing Edge of Right Door	2974	2946	28
X11	Rear Surface of Veh to Lower Trailing Edge of Left Door	2972	2948	24
X12	Rear Surface of Veh to Bottom of " A " Post on Right Side	4092	4091	1
X13	Rear Surface of Veh to Bottom of " A " Post on Left Side	4087	4086	1
X14	Rear Surface of Vehicle to Firewall--Right Side	4507	4507	0
X15	Rear Surface of Vehicle to Firewall --Left Side	4498	4498	0
X16	Rear Surface of Vehicle to Steering Wheel Center	3667	3623	44
X17	Center of Steering Column to " A " Post	285	301	-16
X18	Center of Steering Column to Headliner	470	460	10
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5500	5192	308
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5498	5173	325
X21	Length of Engine Block	372	372	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3984	3998	-14
CD	Rear Surface of Vehicle to Center of Dash Panel	3886	3773	-12
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3819	3829	-10

All distance measurements are in millimeters

Figure 5 Vehicle Crush



Notes L is pre-test length of contact surface
 C1 through C6 are spaced equally apart
 CL is vehicle centerline

Vehicle: 2001 Ford F150 SuperCab

Location	Pre-test	Post-test	Difference
L	2135 mm		
C1	5498 mm	5173 mm	325 mm
C2	5637 mm	5243 mm	394 mm
C3	5708 mm	5302 mm	406 mm
C4	5703 mm	5277 mm	426 mm
C5	5642 mm	5252 mm	390 mm
C6	5500 mm	5192 mm	308 mm
CL	5702 mm	5276 mm	426 mm

Table 9 Test Vehicle Frontal Profile Data

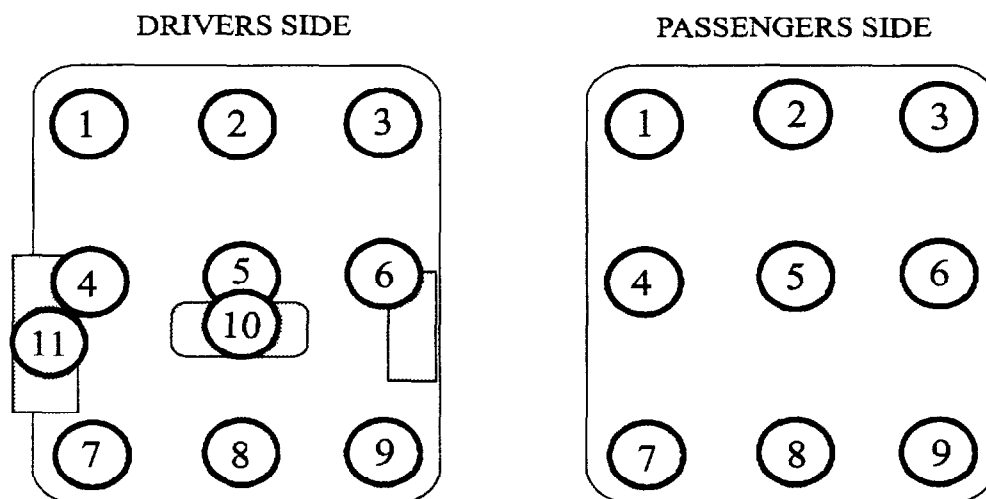
Pre-Test Profile							
		Vehicle Left			Vehicle Right		
		Point 1	Point 2	Point 3	Point 4	Point 5	Point 6
Bottom of Front Bumper	X	5482 mm	5637 mm	5696 mm	5692 mm	5647 mm	5507 mm
	Y	860 mm	505 mm	165 mm	165 mm	507 mm	860 mm
	Z	536 mm	543 mm	575 mm	580 mm	550 mm	545 mm
Top of Front Bumper	X	5487 mm	5617 mm	5672 mm	5682 mm	5632 mm	5482 mm
	Y	855 mm	510 mm	165 mm	165 mm	510 mm	862 mm
	Z	665 mm	665 mm	672 mm	678 mm	675 mm	675 mm
Center of Grille	X	5372 mm	5527 mm	5574 mm	5572 mm	5527 mm	5382 mm
	Y	835 mm	505 mm	165 mm	165 mm	502 mm	855 mm
	Z	820 mm	820 mm	815 mm	825 mm	825 mm	840 mm
Front of Hood	X	5327 mm	5477 mm	5542 mm	5552 mm	5492 mm	5332 mm
	Y	815 mm	510 mm	165 mm	164 mm	506 mm	825 mm
	Z	1000 mm	1105 mm	1102 mm	1102 mm	1105 mm	1010 mm

Post-Test Profile							
		Vehicle Left			Vehicle Right		
		Point 1	Point 2	Point 3	Point 4	Point 5	Point 6
Bottom of Front Bumper	X	5203 mm	5263 mm	5257 mm	5263 mm	5270 mm	5224 mm
	Y	850 mm	505 mm	165 mm	165 mm	490 mm	840 mm
	Z	595 mm	635 mm	667 mm	676 mm	650 mm	615 mm
Top of Front Bumper	X	5221 mm	5304 mm	5305 mm	5293 mm	5274 mm	5196 mm
	Y	825 mm	500 mm	165 mm	165 mm	504 mm	840 mm
	Z	664 mm	720 mm	700 mm	707 mm	755 mm	717 mm
Center of Grille	X	5256 mm	5354 mm	5309 mm	5282 mm	5328 mm	5266 mm
	Y	811 mm	506 mm	165 mm	165 mm	500 mm	771 mm
	Z	822 mm	835 mm	818 mm	829 mm	863 mm	835 mm
Front of Hood	X	5139 mm	5235 mm	5246 mm	5238 mm	5246 mm	5096 mm
	Y	806 mm	510 mm	165 mm	150 mm	465 mm	795 mm
	Z	1197 mm	1115 mm	1066 mm	1062 mm	1070 mm	1150 mm

Difference							
		Vehicle Left			Vehicle Right		
		Point 1	Point 2	Point 3	Point 4	Point 5	Point 6
Bottom of Front Bumper	X	279 mm	374 mm	439 mm	429 mm	377 mm	283 mm
	Y	10 mm	0 mm	0 mm	0 mm	17 mm	20 mm
	Z	-59 mm	92 mm	-92 mm	-96 mm	-100 mm	-70 mm
Top of Front Bumper	X	266 mm	313 mm	367 mm	389 mm	358 mm	286 mm
	Y	30 mm	10 mm	0 mm	0 mm	6 mm	22 mm
	Z	1 mm	-55 mm	-28 mm	-29 mm	-80 mm	-42 mm
Center of Grille	X	116 mm	173 mm	265 mm	290 mm	199 mm	116 mm
	Y	24 mm	-1 mm	0 mm	0 mm	2 mm	84 mm
	Z	-2 mm	-15 mm	-3 mm	-4 mm	-38 mm	5 mm
Front of Hood	X	188 mm	242 mm	296 mm	314 mm	246 mm	236 mm
	Y	9 mm	0 mm	0 mm	14 mm	41 mm	30 mm
	Z	-197 mm	-10 mm	36 mm	40 mm	35 mm	-140 mm

Note X-axis measurements referenced forward of the rear bumper centerline Y-axis measurements are left and right of the original vehicle centerline Y-axis measurements (6 points) divide the width of the car Z-axis (height) measurements are from the ground

Figure 6 Toeboard Measurements



Driver's Side Floorpan Measurements

Floorpan Location	X			Z		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	4282 mm	4282 mm	0 mm	600 mm	570 mm	30 mm
2	4272 mm	4272 mm	0 mm	605 mm	573 mm	32 mm
3	4262 mm	4262 mm	0 mm	606 mm	573 mm	33 mm
4	4166 mm	4165 mm	1 mm	540 mm	505 mm	35 mm
5	4171 mm	4171 mm	0 mm	533 mm	495 mm	38 mm
6	4146 mm	4146 mm	0 mm	540 mm	493 mm	47 mm
7	4084 mm	4084 mm	0 mm	516 mm	472 mm	44 mm
8	4046 mm	4046 mm	0 mm	508 mm	470 mm	38 mm
9	4079 mm	4079 mm	0 mm	515 mm	470 mm	45 mm
10	4116 mm	4116 mm	0 mm	694 mm	675 mm	19 mm
11	4146 mm	4146 mm	0 mm	535 mm	488 mm	47 mm

Passenger's Side Floorpan Measurements

Floorpan Location	X			Z		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	4256 mm	4256 mm	0 mm	645 mm	600 mm	45 mm
2	4274 mm	4272 mm	2 mm	641 mm	600 mm	41 mm
3	4274 mm	4272 mm	2 mm	641 mm	600 mm	41 mm
4	4214 mm	4212 mm	2 mm	580 mm	522 mm	58 mm
5	4193 mm	4194 mm	-1 mm	570 mm	530 mm	40 mm
6	4204 mm	4204 mm	0 mm	572 mm	528 mm	44 mm
7	4137 mm	4135 mm	2 mm	534 mm	490 mm	44 mm
8	4103 mm	4103 mm	0 mm	527 mm	485 mm	42 mm
9	4122 mm	4122 mm	0 mm	520 mm	488 mm	32 mm

Reference: +X forward from rear bumper; +Z upward from ground level

Table 10 Intrusion of Upper Instrument Panel

Pre-Test			
	X	Y	Z
Driver Left Knee	3883 mm	592 mm	1018 mm
Driver Right Knee	3873 mm	269 mm	1012 mm
Passenger Left Knee	3907 mm	310 mm	1020 mm
Passenger Right Knee	3907 mm	605 mm	1010 mm

Post-Test			
	X	Y	Z
Driver Left Knee	3922 mm	588 mm	985 mm
Driver Right Knee	3927 mm	262 mm	940 mm
Passenger Left Knee ¹	4004 mm	301 mm	942 mm
Passenger Right Knee ¹	3977 mm	590 mm	942 mm

Difference			
	X	Y	Z
Driver Left Knee	-39 mm	4 mm	33 mm
Driver Right Knee	-54 mm	7 mm	72 mm
Passenger Left Knee	-97 mm	9 mm	78 mm
Passenger Right Knee	-70 mm	15 mm	68 mm

Instructions: Mark a point to be measured pre and post which is just above where the four (4) knees would be expected to contact the instrument panel

+X: Forward from rear bumper

+Y From centerline

+Z: Upward from ground level

¹ Glove box door opened during event and was repositioned to closed for post measurements.

Table 11 Fuel System Data

Usable fuel system capacity	94.6 liters (from owner's manual)
Test volume range	87.0 – 88.9 liters (92-94% of usable)
Actual test volume:	88.0 liters (93% of usable)
Test fluid type	Stoddard
Specific gravity	0.764
Kinematic viscosity	0.99 centistoke
Test fluid color	Purple
Type of fuel pump	Electric
Did electric fuel pump operate with ignition switch "on" and the engine not operating	No
Details of fuel system	The fuel tank is located in front of the rear axle on the left side. The fuel filler neck exits out of the top of the tank in the center and is routed to the left side of the vehicle forward of the rear axle with the fuel filler cap on the end of the filler neck. The fuel lines are routed inside the left frame rail to the front of the vehicle.

Figure 7 Camera Positions

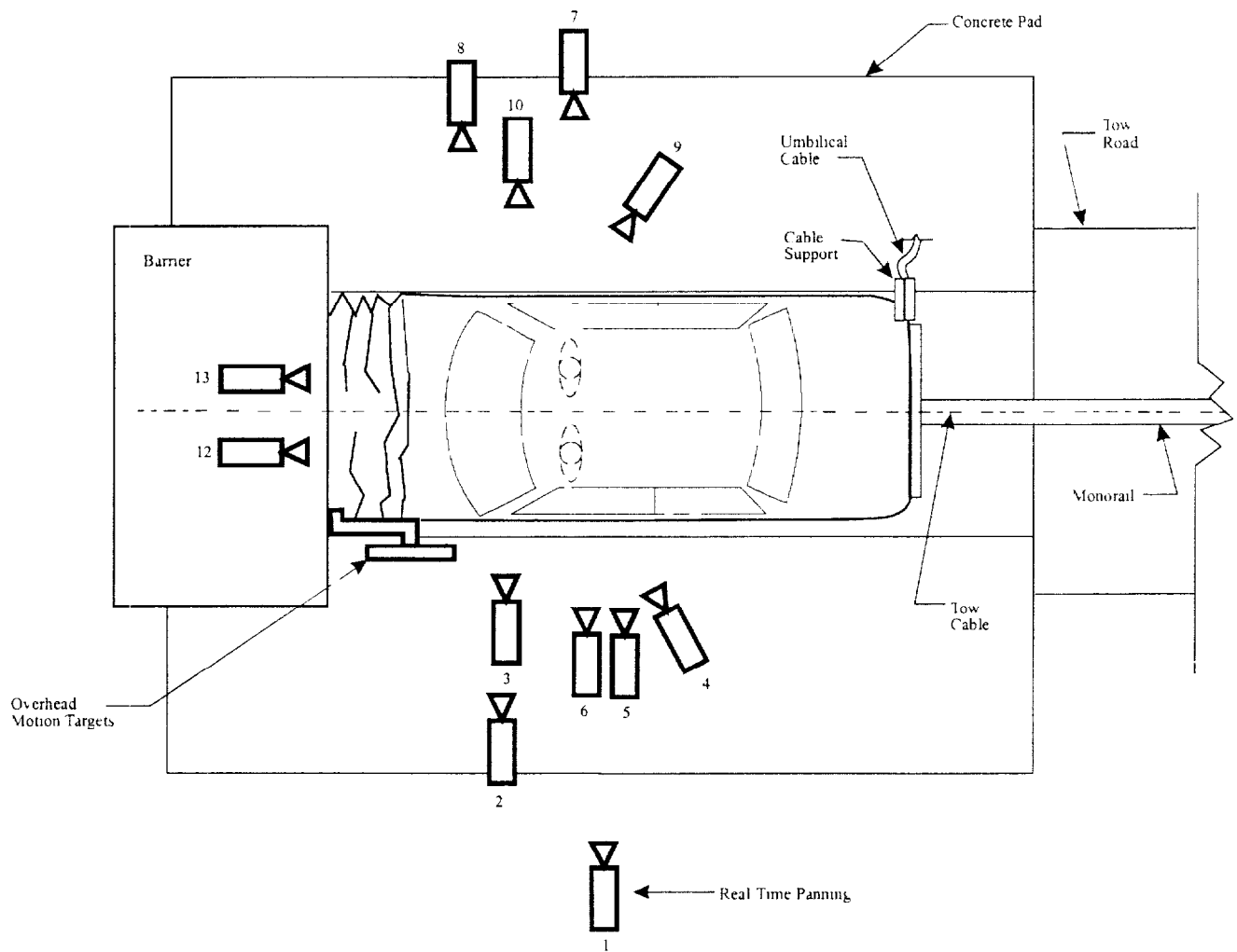


Figure 7 Camera Positions, Cont'd.

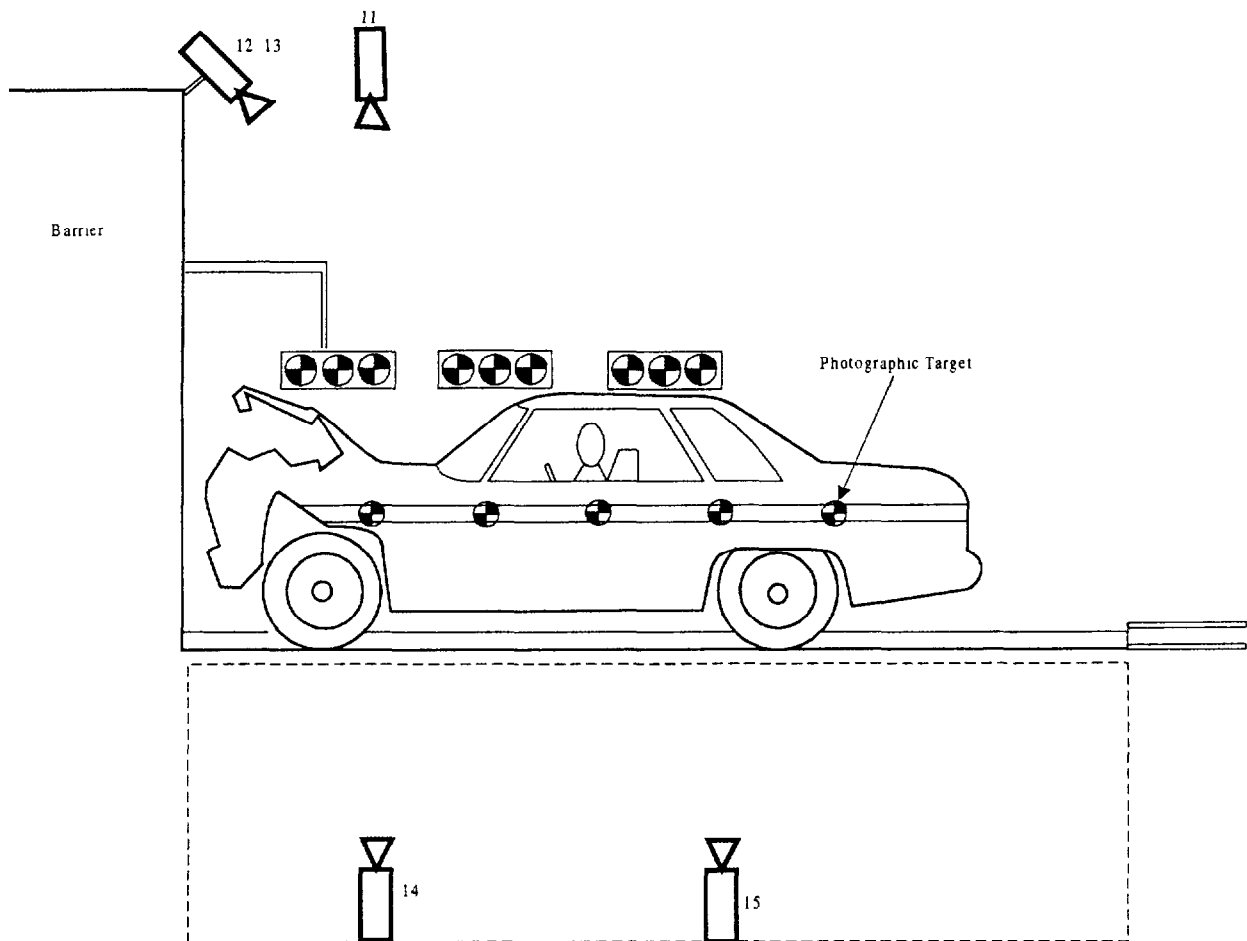


Table 12 Camera Information

No	View	Type	Lens	Film Speed	Camera Positions ¹			Angle ²	Film Plane to Head Target
					X	Y	Z		
1	Real-time panning	Bolex		24 frames/s	N/A	N/A	N/A	N/A	N/A
2	Left side medium tight	Hycam	25 mm	1015 frames/s	1532 mm	-7551 mm	1510 mm	-1 8	7080 mm
3	Left tight dummy	Photosonic	50 mm	1000 frames/s	1190 mm	-7110 mm	1535 mm	0 7	6688 mm
4	Left angled on dummy	Photosonic	25 mm	1000 frames/s	3120 mm	-2557 mm	2220 mm	-18 2	2157 mm
5	Left steering column upper	Photosonic	25 mm	1000 frames/s	2664 mm	-8260 mm	2690 mm	-11 6	7810 mm
6	Left steering column lower	Photosonic	25 mm	1000 frames/s	2664 mm	-8288 mm	1640 mm	-4 8	7803 mm
7	Right side overall	Photosonic	13 mm	1000 frames/s	3275 mm	8842 mm	1300 mm	-2 9	8312 mm
8	Right tight dummy	Photosonic	50 mm	1000 frames/s	970 mm	6854 mm	1550 mm	-0 2	6419 mm
9	Right angled on dummy	Photosonic	25 mm	997 frames/s	3200 mm	2250 mm	2300 mm	-23 3	1940 mm
10	Right side passenger	Hycam	25 mm	1015 frames/s	1550 mm	7203 mm	1530 mm	-2 3	6710 mm
11	Overhead	Photosonic	8 5 mm	1000 frames/s	500 mm	0 mm	2600 mm	-67 4	2360 mm
12	Barrier driver	Photosonic	17 mm	1000 frames/s	500 mm	-350 mm	2610 mm	-52 3	2360 mm
13	Barrier passenger	Photosonic	17 mm	1005 frames/s	500 mm	350 mm	2610 mm	-59 9	2360 mm
14	Pit front	Photosonic	17 mm	990 frames/s	995 mm	0 mm	-910 mm	90 0	N/A
15	Pit rear	Photosonic	13 mm	997 frames/s	3250 mm	0 mm	-940 mm	90 0	N/A

¹ +X = Film plane in front of (upstream from) barrier face

+Y = Film plane to right of monorail centerline

+Z = Film plane above ground level

² +Angle = Film plane angled upward from horizontal plane

Description Of Timing Marks On TRC Inc. High-Speed Film

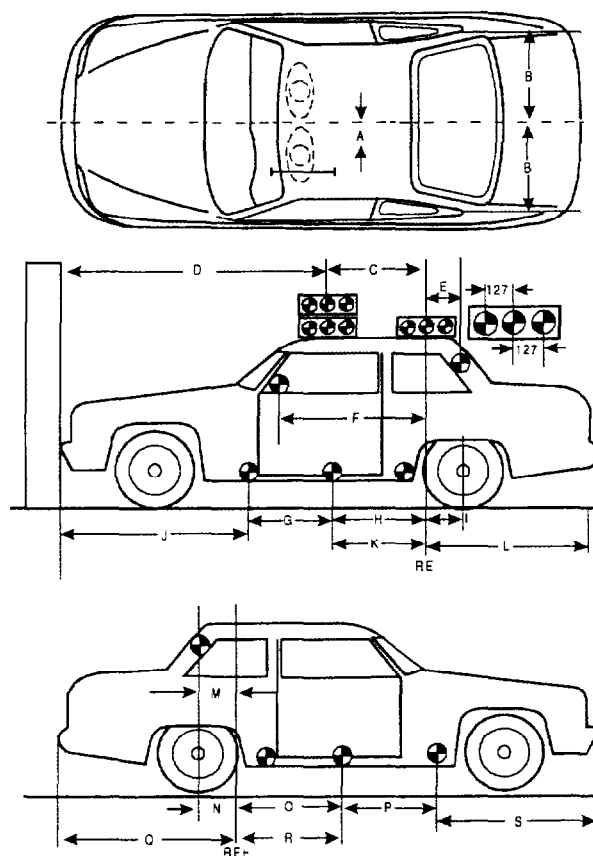
All TRC Inc. high-speed cameras are equipped with red LEDs which put timing marks on the right edge of the film. TRC Inc. uses a single timing generator to generate the timing for all cameras. This allows the timing marks to be common to all cameras. The timing marks can be used to measure camera speed (frames per second) or to locate a point in time before or after the time-zero event.

The timing marks appear on the film as small red marks on the right edge of the film. Round marks are left by the Photosonic and Stalex cameras while horizontal bars are left by the Hycam, Locam, and Fastax II cameras.

The timing generator puts out a pulse for every millisecond plus it generates additional pulses for hundredths and tenths of seconds. To explain this further, we can use an example of a camera running at 1000 frames per second.

- 1 Every frame will have **one** LED appear in it. This indicates a *millisecond* pulse.
- 2 Every ten frames will have **two** LEDs appear in it. These indicate a *millisecond* pulse plus a *hundredth of a second* pulse.
- 3 Every one hundred frames will have **three** LEDs appear in it. These indicate a *millisecond* pulse, a *hundredth of a second* pulse, and a *tenth of a second* pulse.

Figure 8 Vehicle Reference Photo Target Locations



Measurement	Pre-Test
A	455 mm
B	690 mm
C	610 mm
D	1475 mm
E	495 mm
F	1507 mm
G	1215 mm
H	1214 mm
I	1040 mm
J	1296 mm
K	174 mm
L	2812 mm
M	495 mm
N	1050 mm
O	1232 mm
P	1205 mm
Q	2317 mm
R	184 mm
S	1296 mm

Additional targeting:
Inch tape along the top
and sides of the vehicle
has targets placed at
300 mm intervals
except the first side
target is placed 600 mm
from front of front
bumper.

Appendix A

Photographs



Figure A-1 Pre-Test Front View



Figure A-2 Post-Test Front View



Figure A-3 Pre-Test Left Front View



Figure A-4 Post-Test Left Front View



Figure A-5 Pre-Test Left Side View



Figure A-6 Post-Test Left Side View



Figure A-7 Pre-Test Left Rear View



Figure A-8 Post-Test Left Rear View



Figure A-9 Pre-Test Rear View



Figure A-10 Post-Test Rear View



Figure A-11 Pre-Test Right Rear View



Figure A-12 Post-Test Right Rear View



Figure A-13 Pre-Test Right Side View

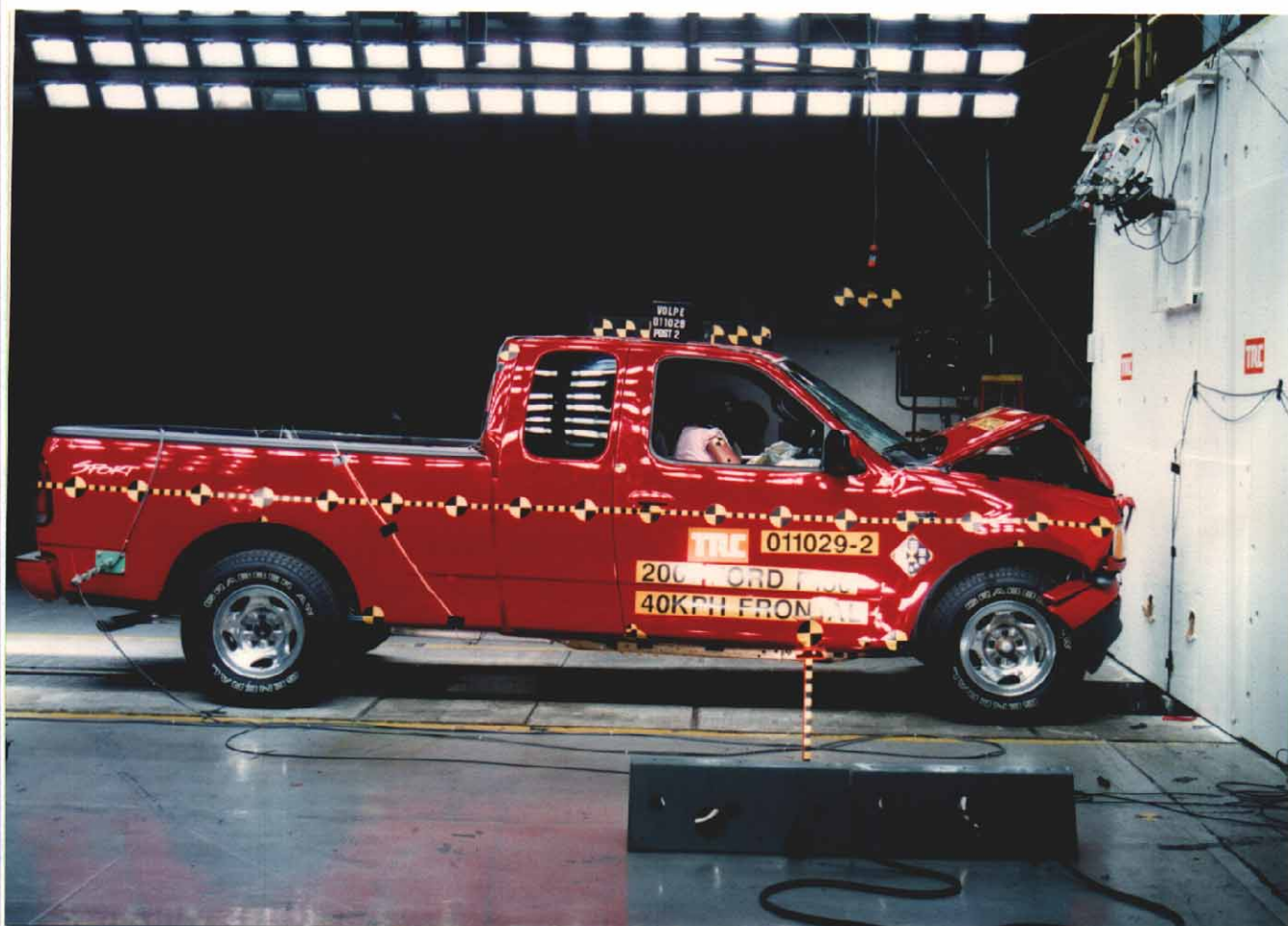


Figure A-14 Post-Test Right Side View



Figure A-15 Pre-Test Right Front View



Figure A-16 Post-Test Right Front View

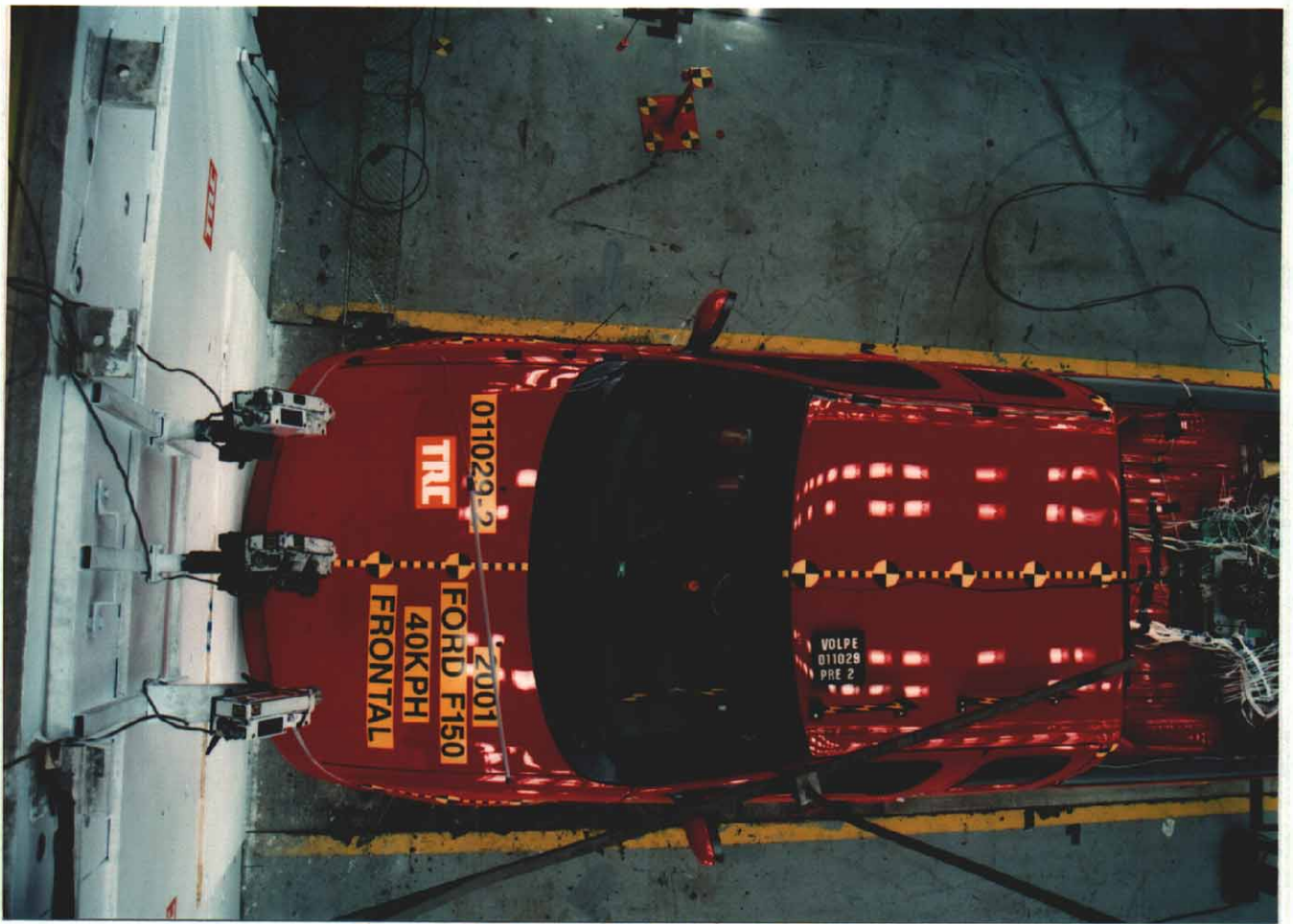


Figure A-17 Pre-Test Overhead Overall View

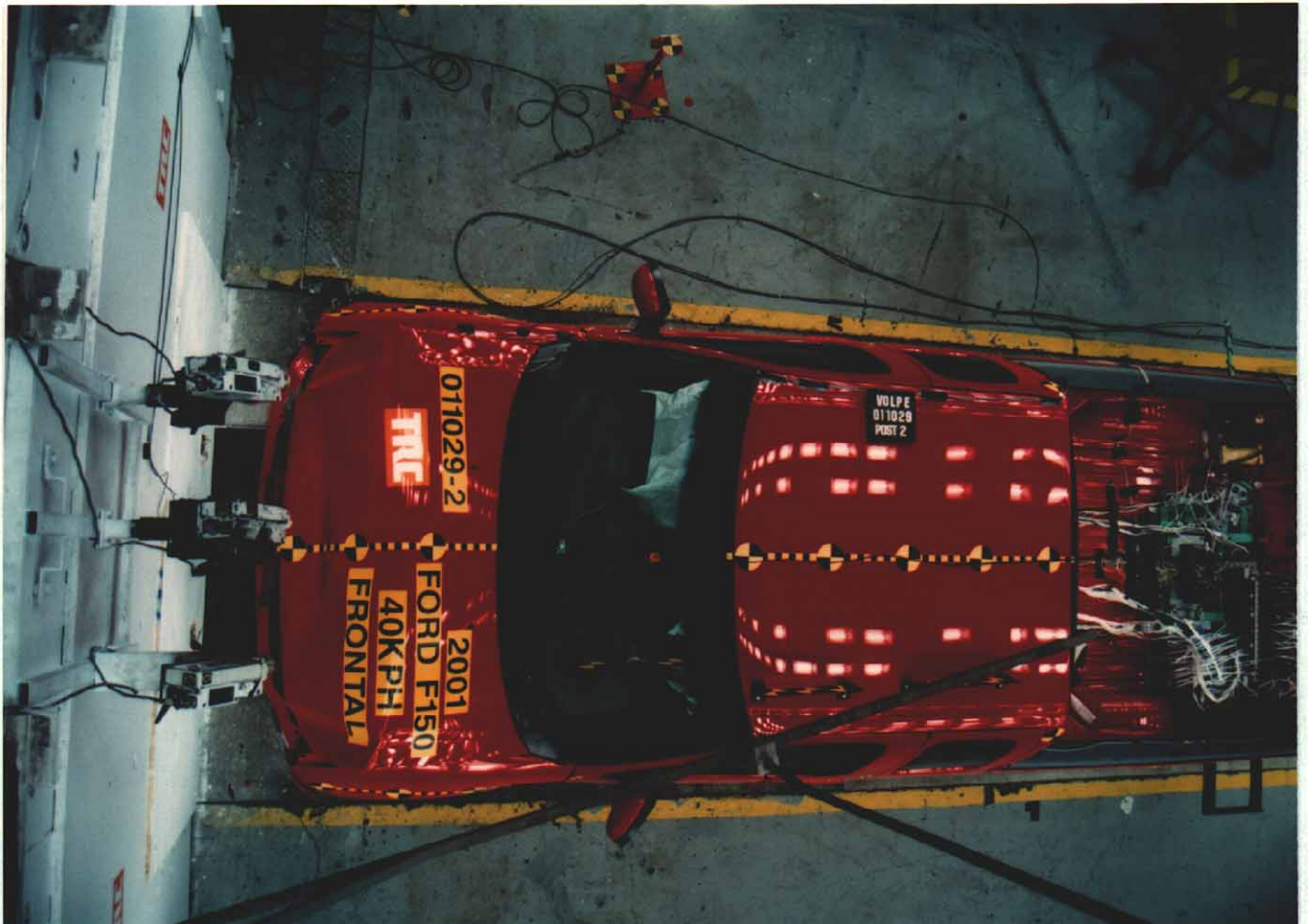


Figure A-18 Post-Test Overhead Overall View



Figure A-19 Pre-Test Overhead Close-up View



Figure A-20 Post-Test Overhead Close-up View

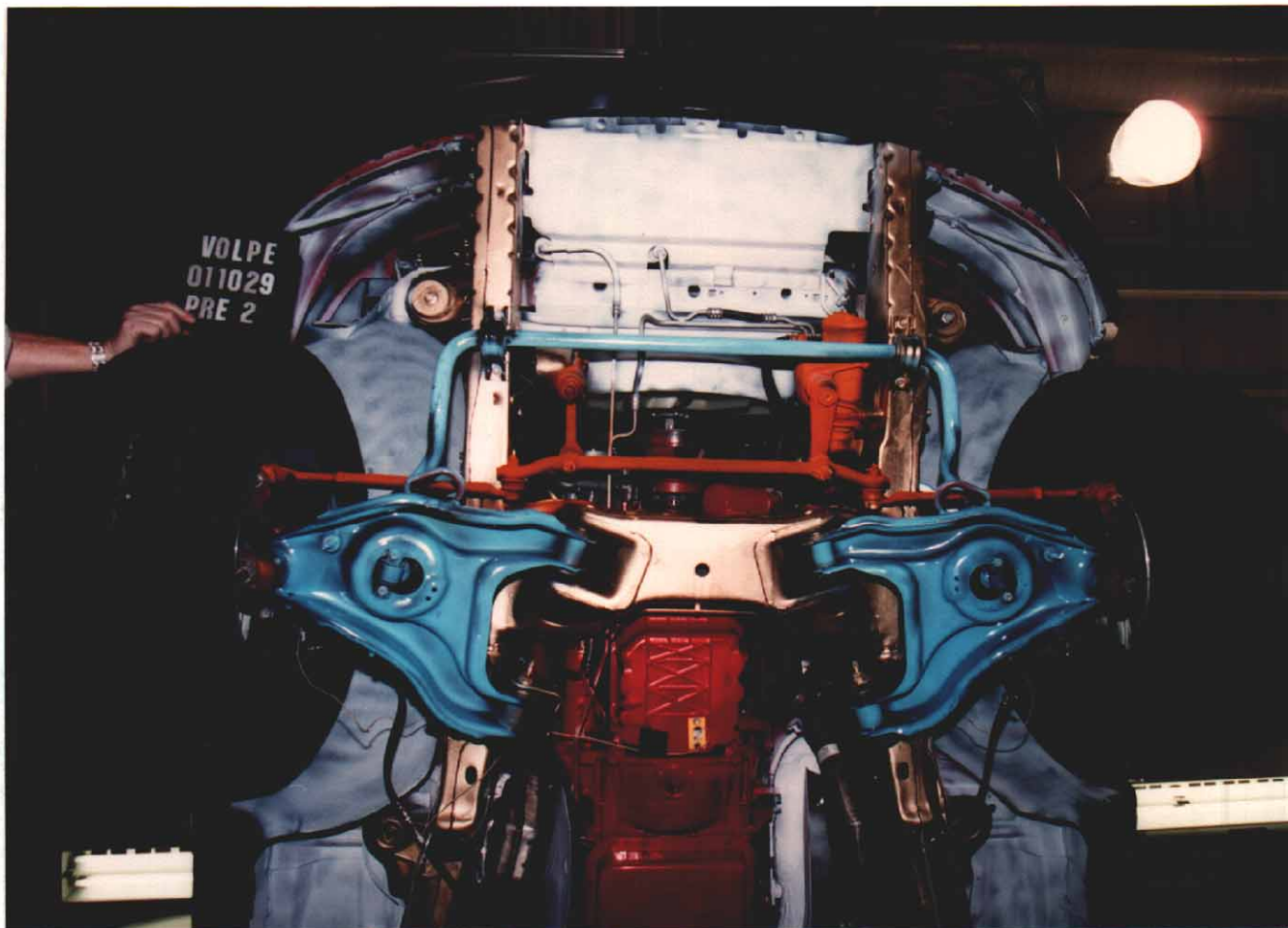


Figure A-21 Pre-Test Front Underbody View

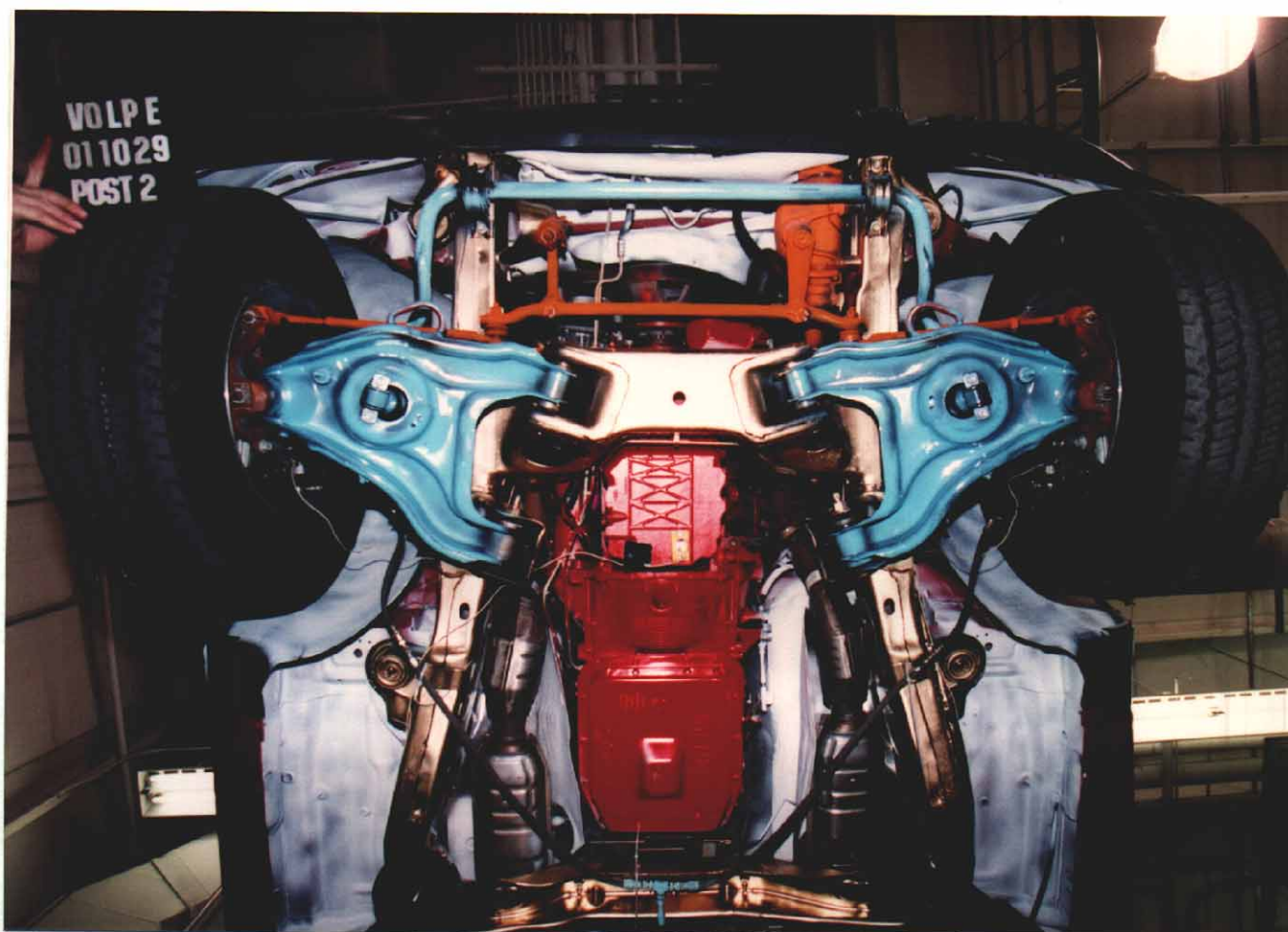


Figure A-22 Post-Test Front Underbody View

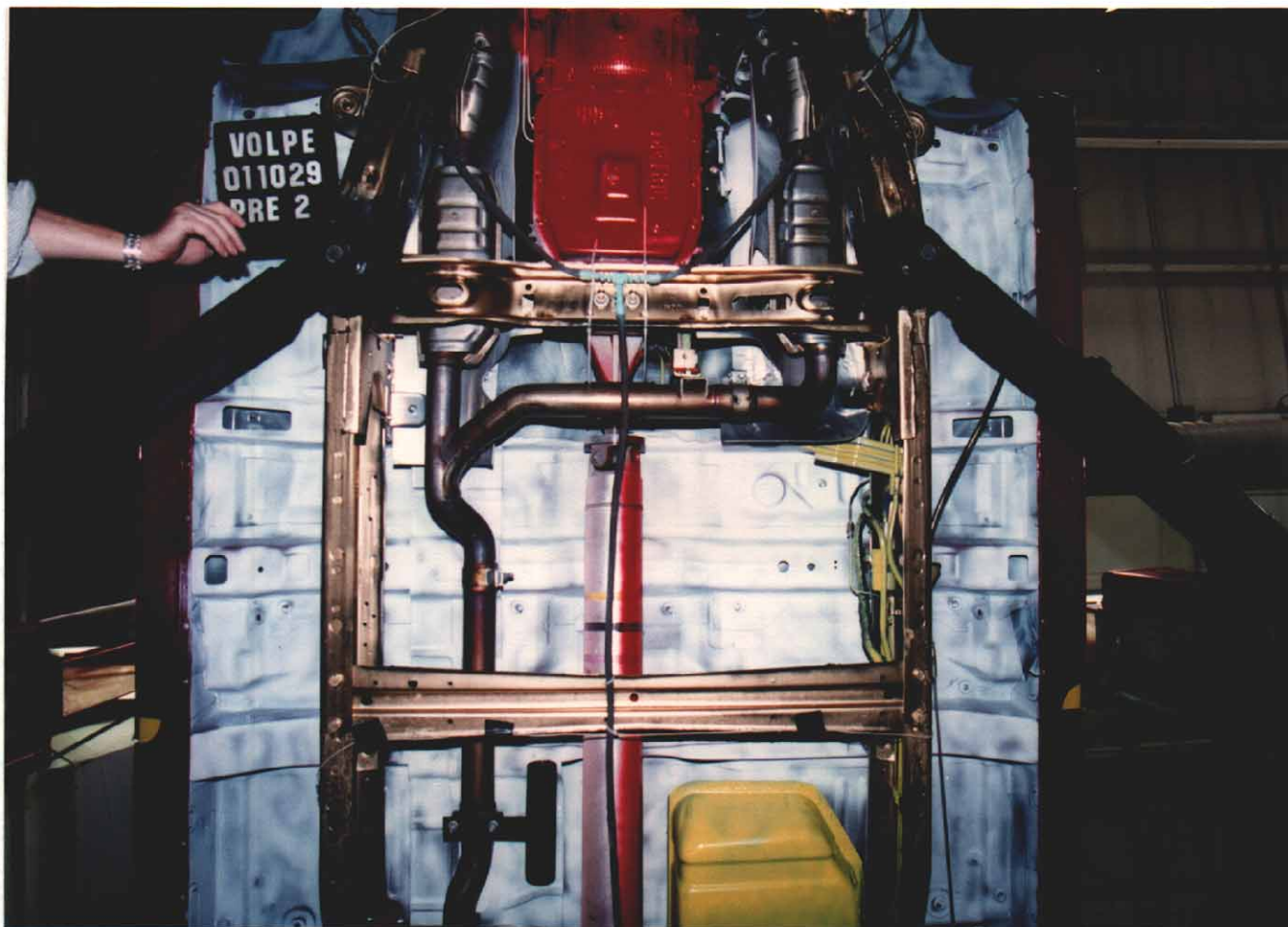


Figure A-23 Pre-Test Front Mid Underbody View

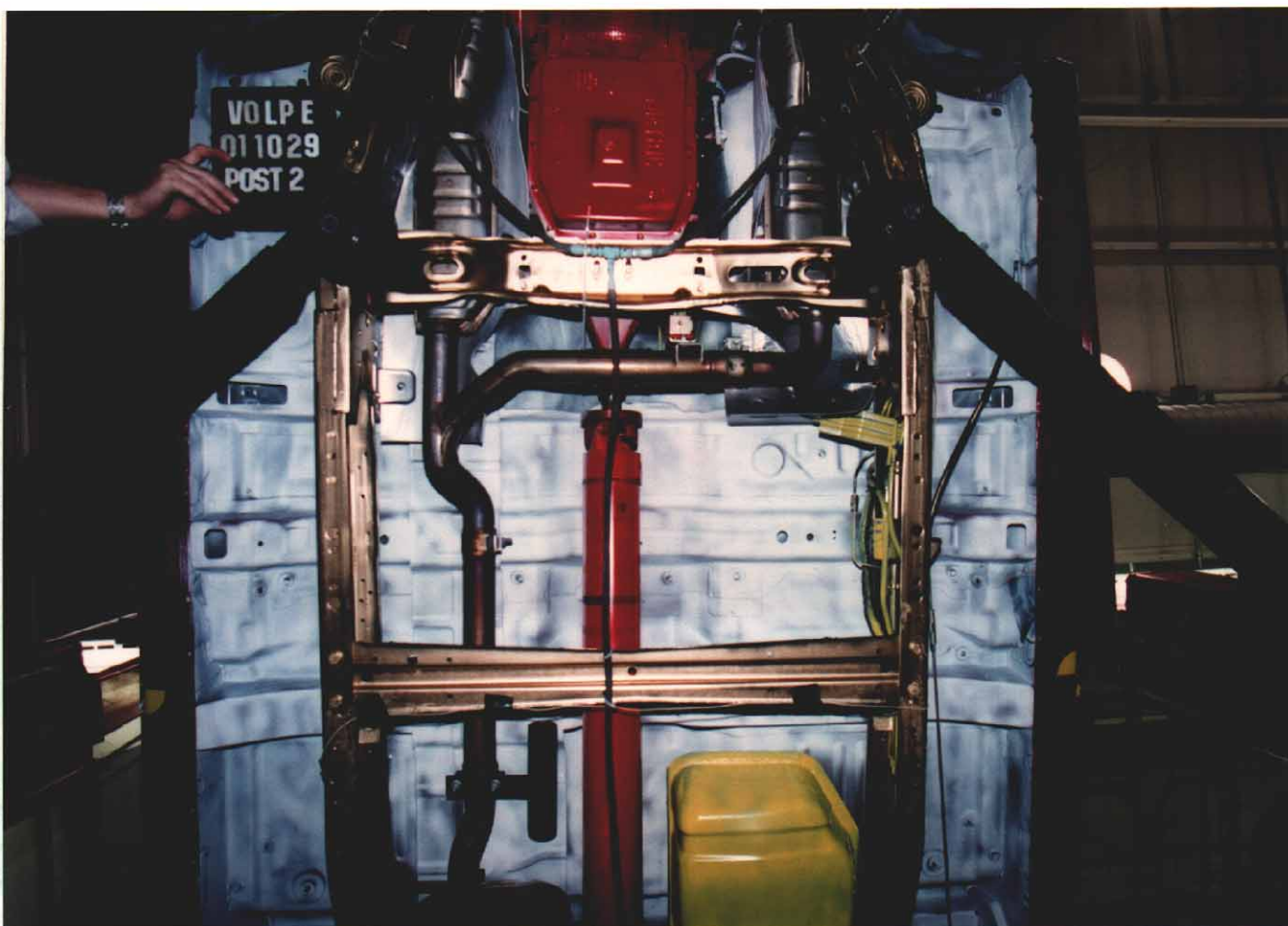


Figure A-24 Post-Test Front Mid Underbody View

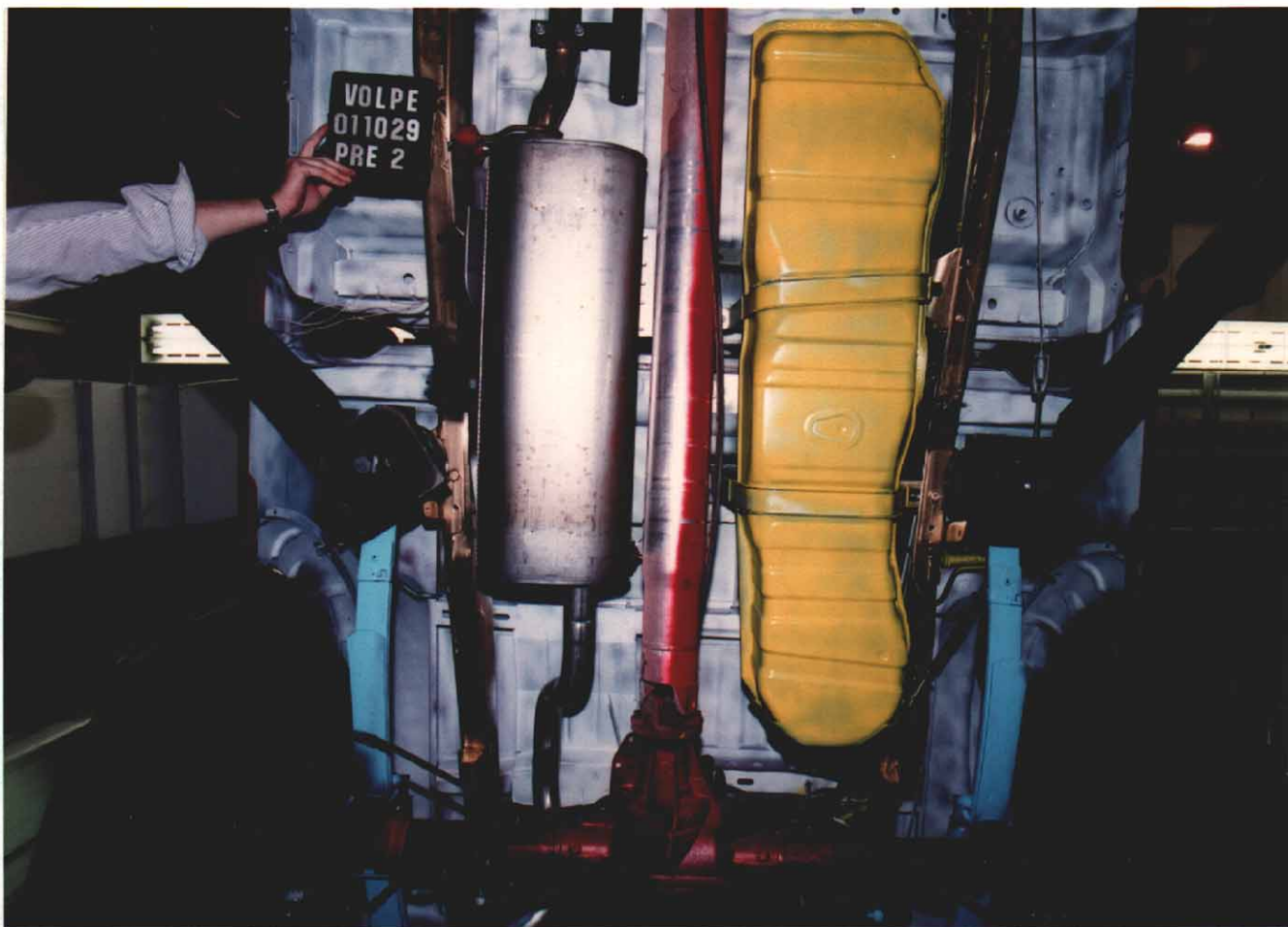


Figure A-25 Pre-Test Rear Mid Underbody View

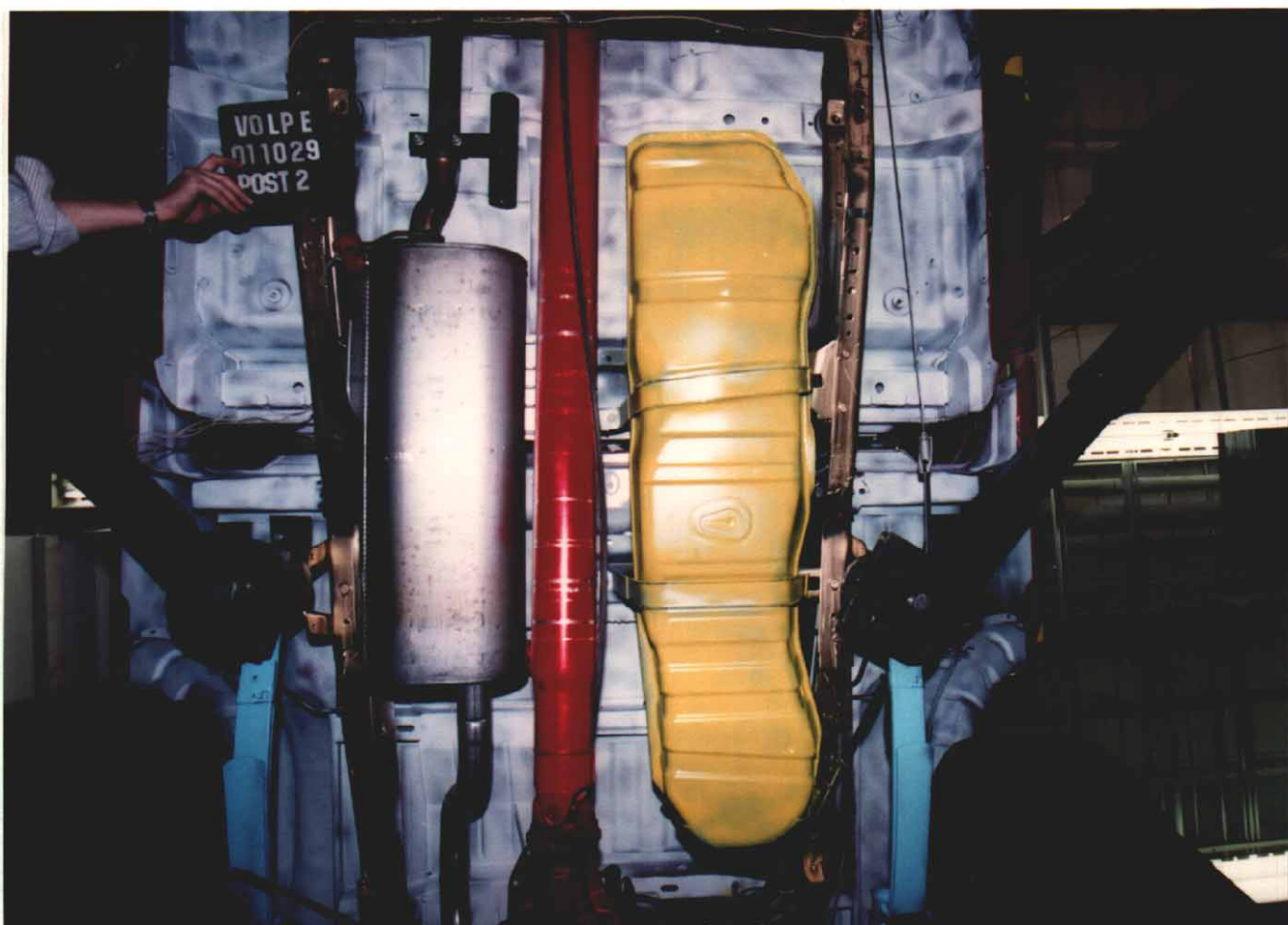


Figure A-26 Post-Test Rear Mid Underbody View

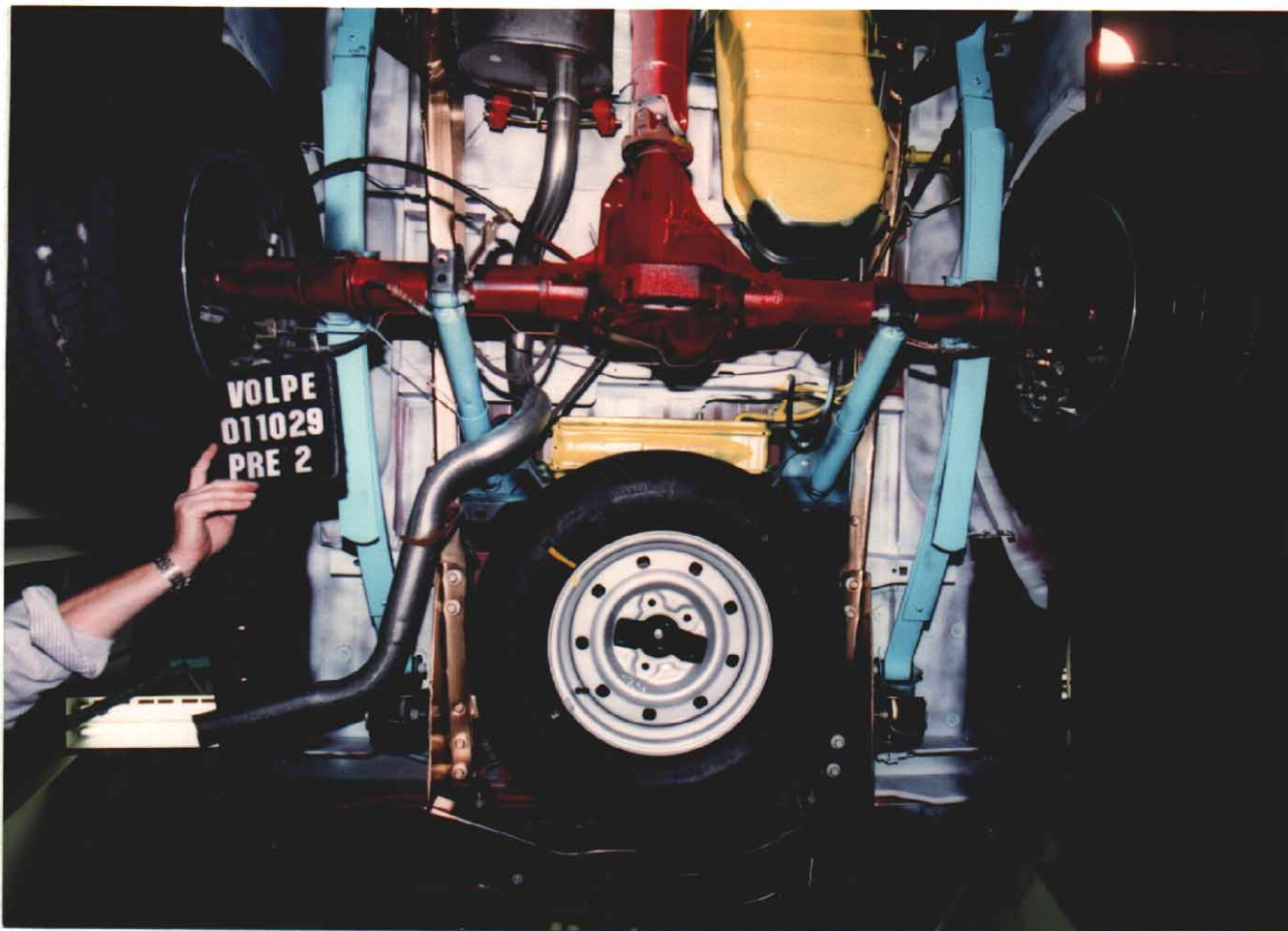


Figure A-27 Pre-Test Rear Underbody View

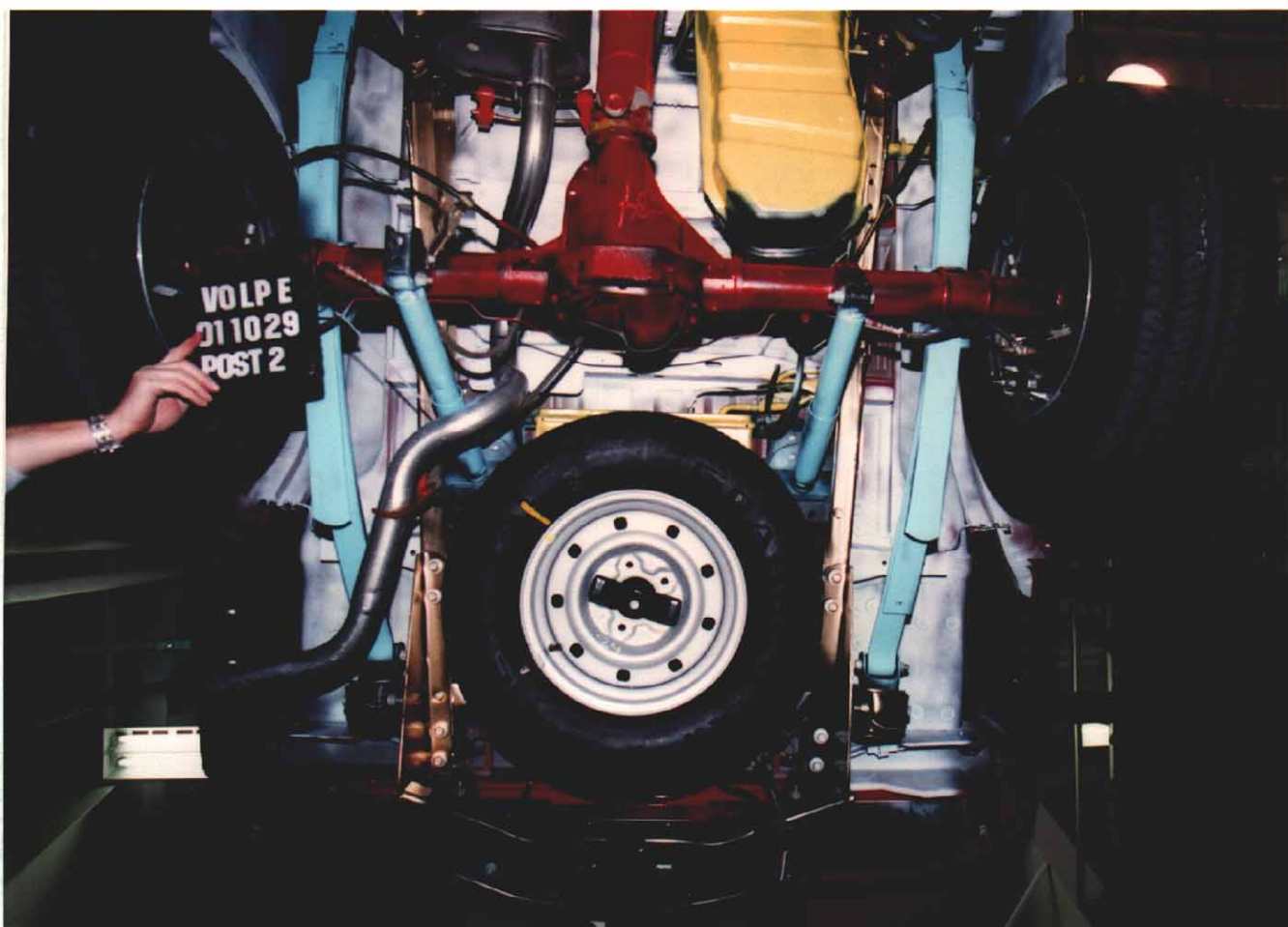


Figure A-28 Post-Test Rear Underbody View



Figure A-29 Pre-Test Fuel Filler Cap View

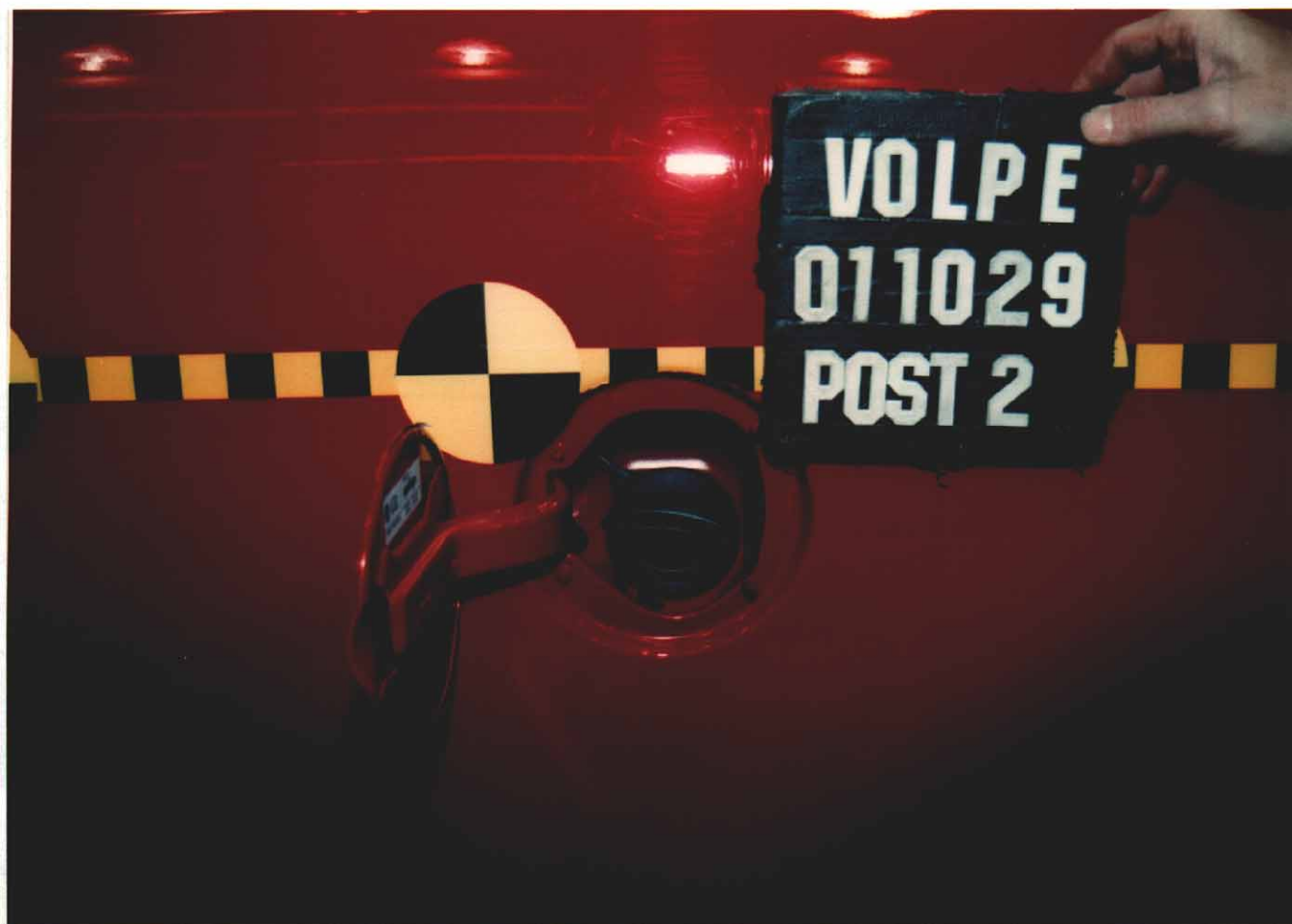


Figure A-30 Post-Test Fuel Filler Cap View



Figure A-31 Pre-Test Engine Compartment View

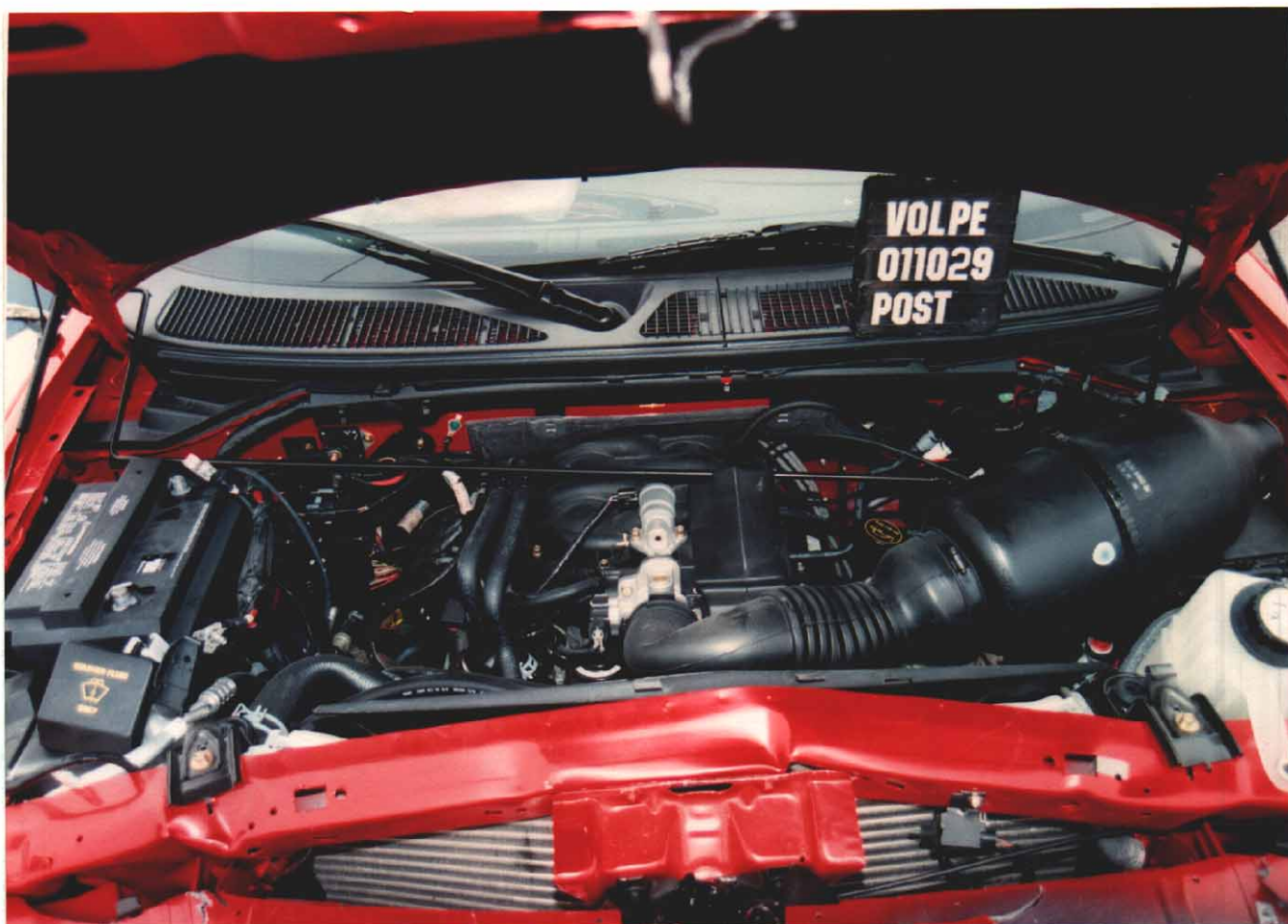


Figure A-32 Post-Test Engine Compartment View



Figure A-33 Pre-Test Windshield View



Figure A-34 Post-Test Windshield View



Figure A-35 Pre-Test Driver and Passenger Dummies Front View



Figure A-36 Post-Test Driver and Passenger Dummies Front View

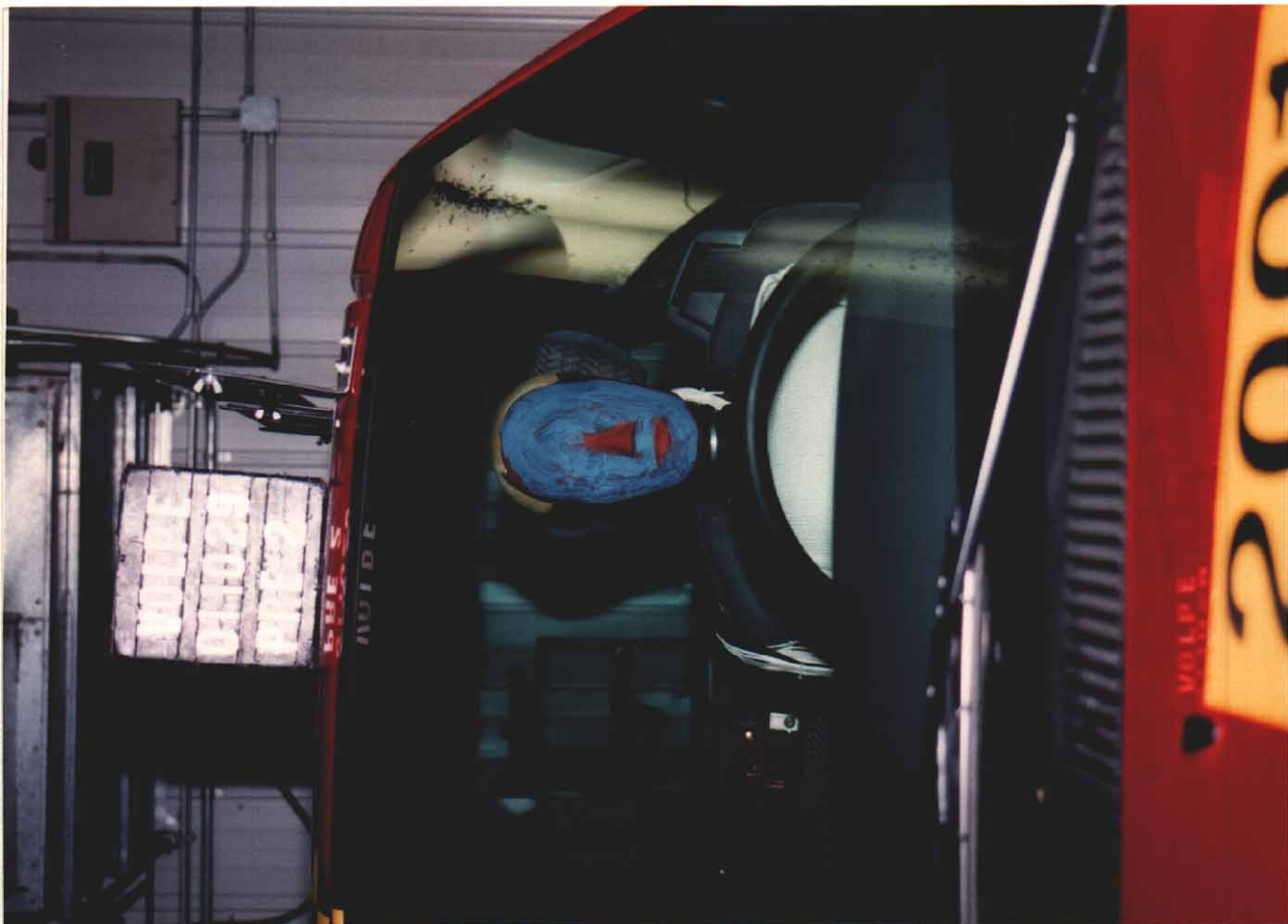


Figure A-37 Pre-Test Driver Dummy Position - View 1



Figure A-38 Post-Test Driver Dummy Position - View 1



Figure A-39 Pre-Test Driver Dummy Position - View 2



Figure A-40 Post-Test Driver Dummy Position - View 2



Figure A-41 Pre-Test Driver Dummy & Vehicle Interior - View 1



Figure A-42 Post-Test Driver Dummy & Vehicle Interior - View 1



Figure A-43 Pre-Test Driver Dummy & Vehicle Interior - View 2



Figure A-44 Post-Test Driver Dummy & Vehicle Interior - View 2

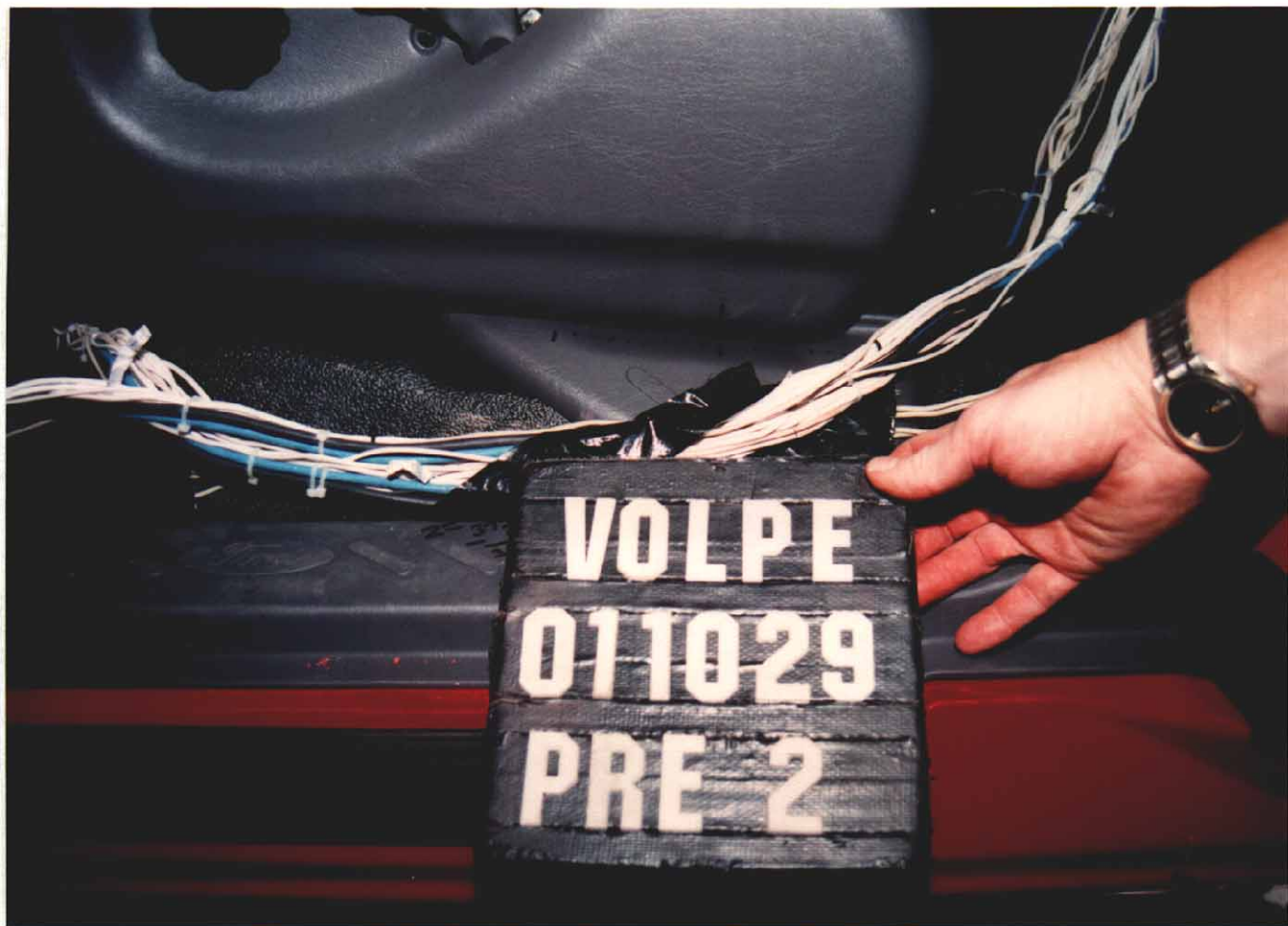


Figure A-45 Pre-Test Driver Dummy Seat Track Position View

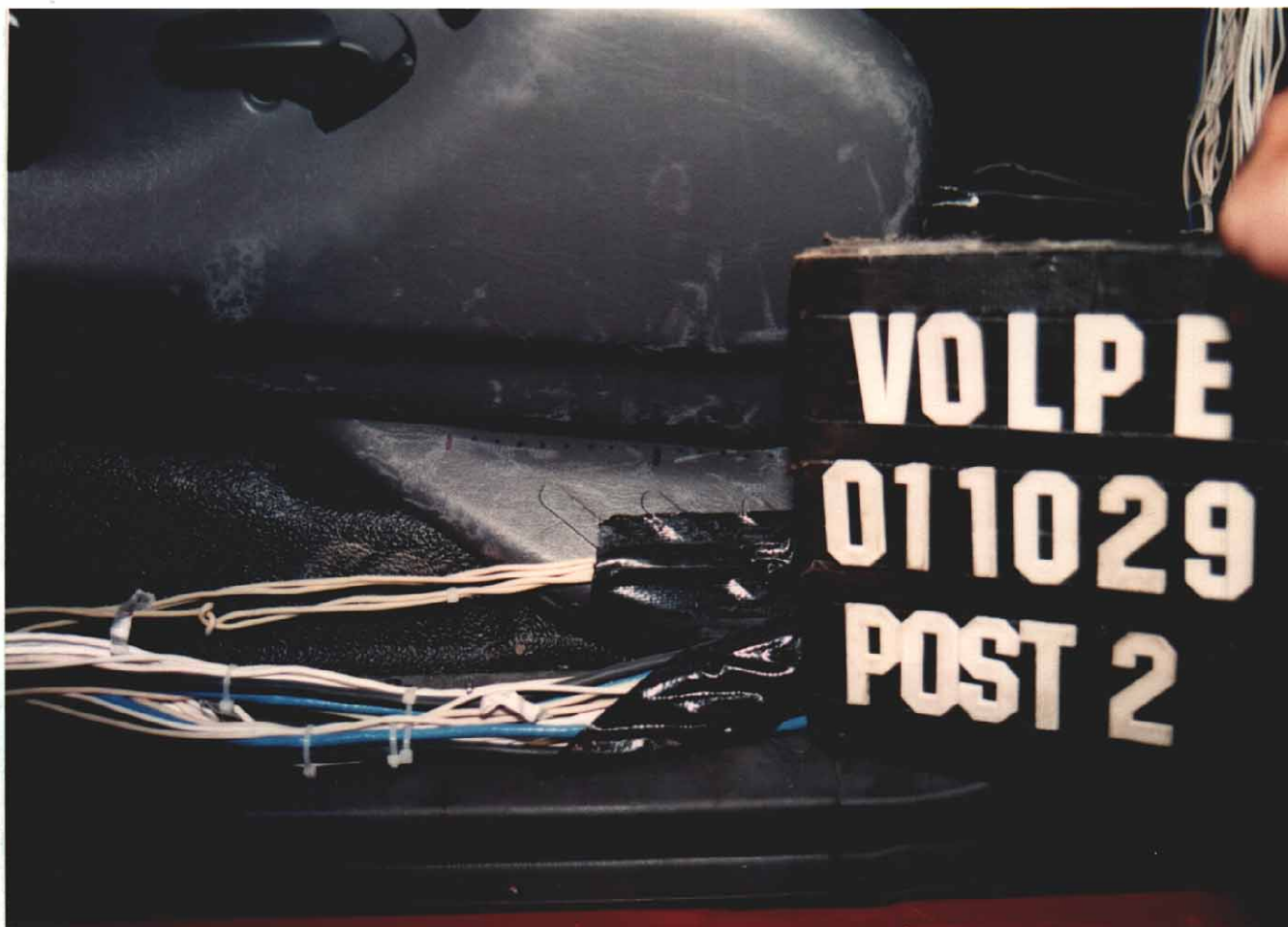


Figure A-46 Post-Test Driver Dummy Seat Track Position View

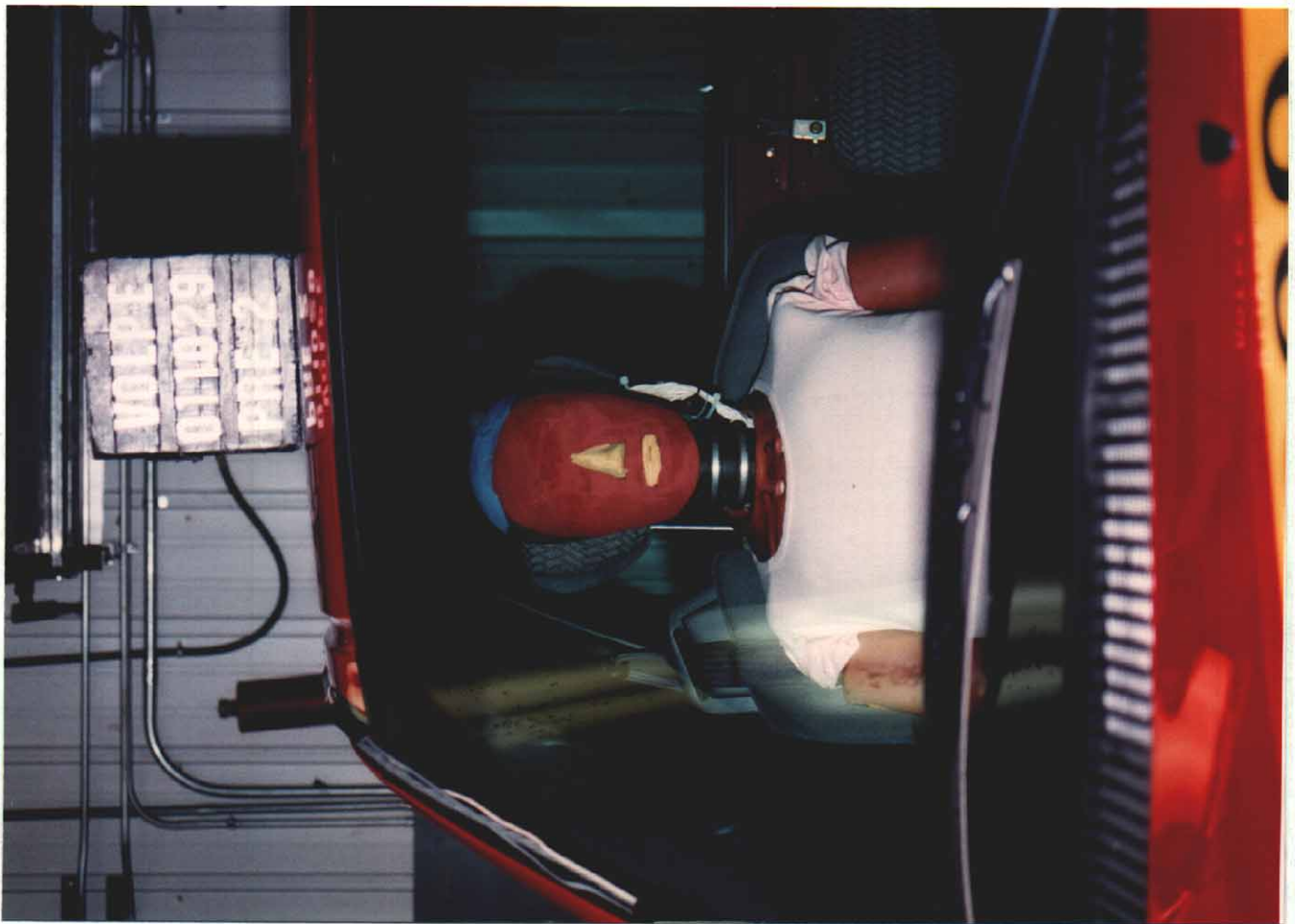


Figure A-47 Pre-Test Passenger Dummy Position - View 1



Figure A-48 Post-Test Passenger Dummy Position - View 1



Figure A-49 Pre-Test Passenger Dummy Position - View 2



Figure A-50 Post-Test Passenger Dummy Position - View 2



Figure A-51 Pre-Test Passenger Dummy & Vehicle Interior - View 1



Figure A-52 Post-Test Passenger Dummy & Vehicle Interior - View 1



Figure A-53 Pre-Test Passenger Dummy & Vehicle Interior - View 2



Figure A-54 Post-Test Passenger Dummy & Vehicle Interior - View 2

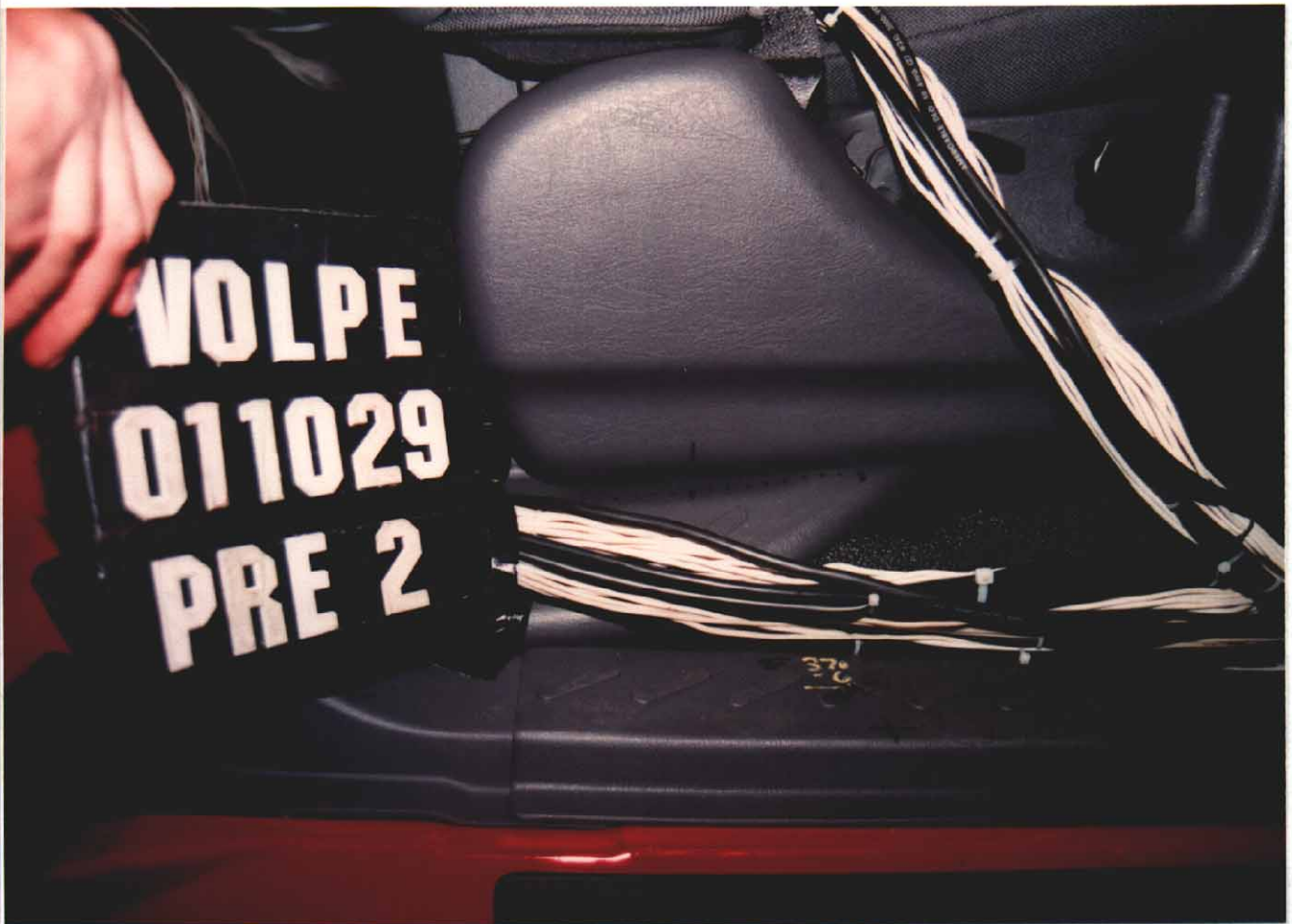


Figure A-55 Pre-Test Passenger Dummy Seat Track Position View



Figure A-56 Post-Test Passenger Dummy Seat Track Position View

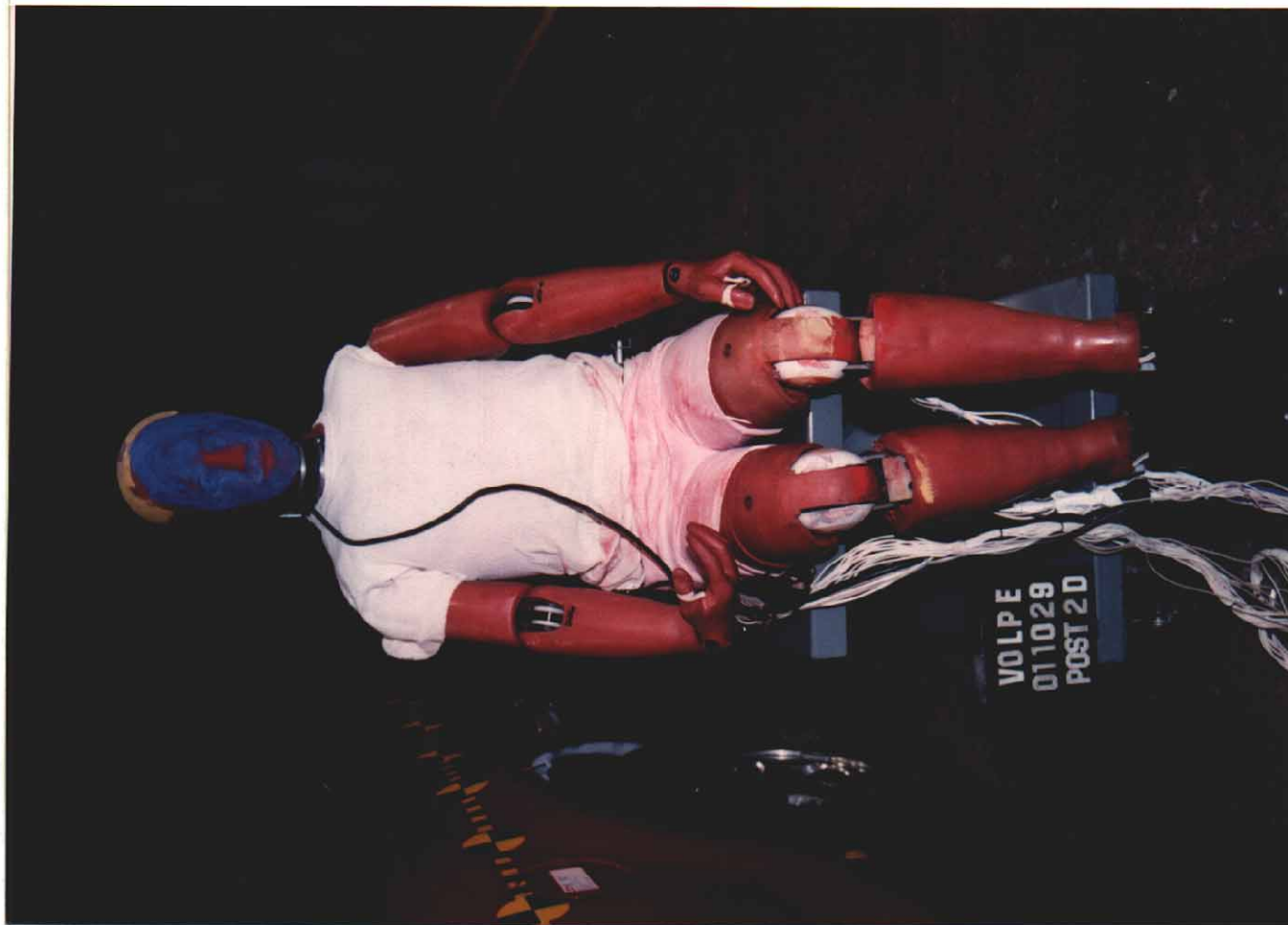


Figure A-57 Post-Test Driver Dummy Overall View



Figure A-58 Post-Test Driver Dummy Head Contact - View 1

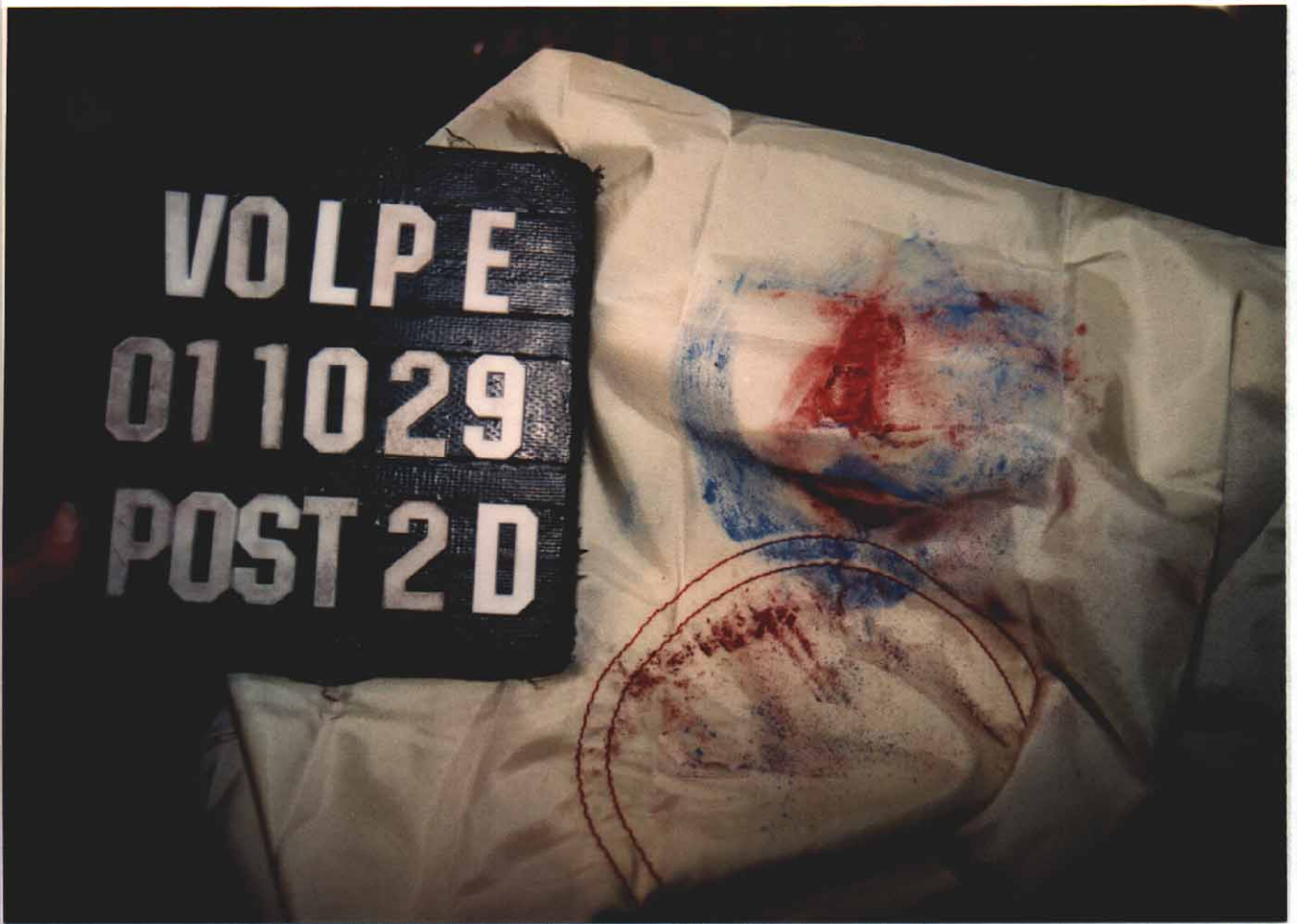


Figure A-59 Post-Test Driver Dummy Head Contact - View 2

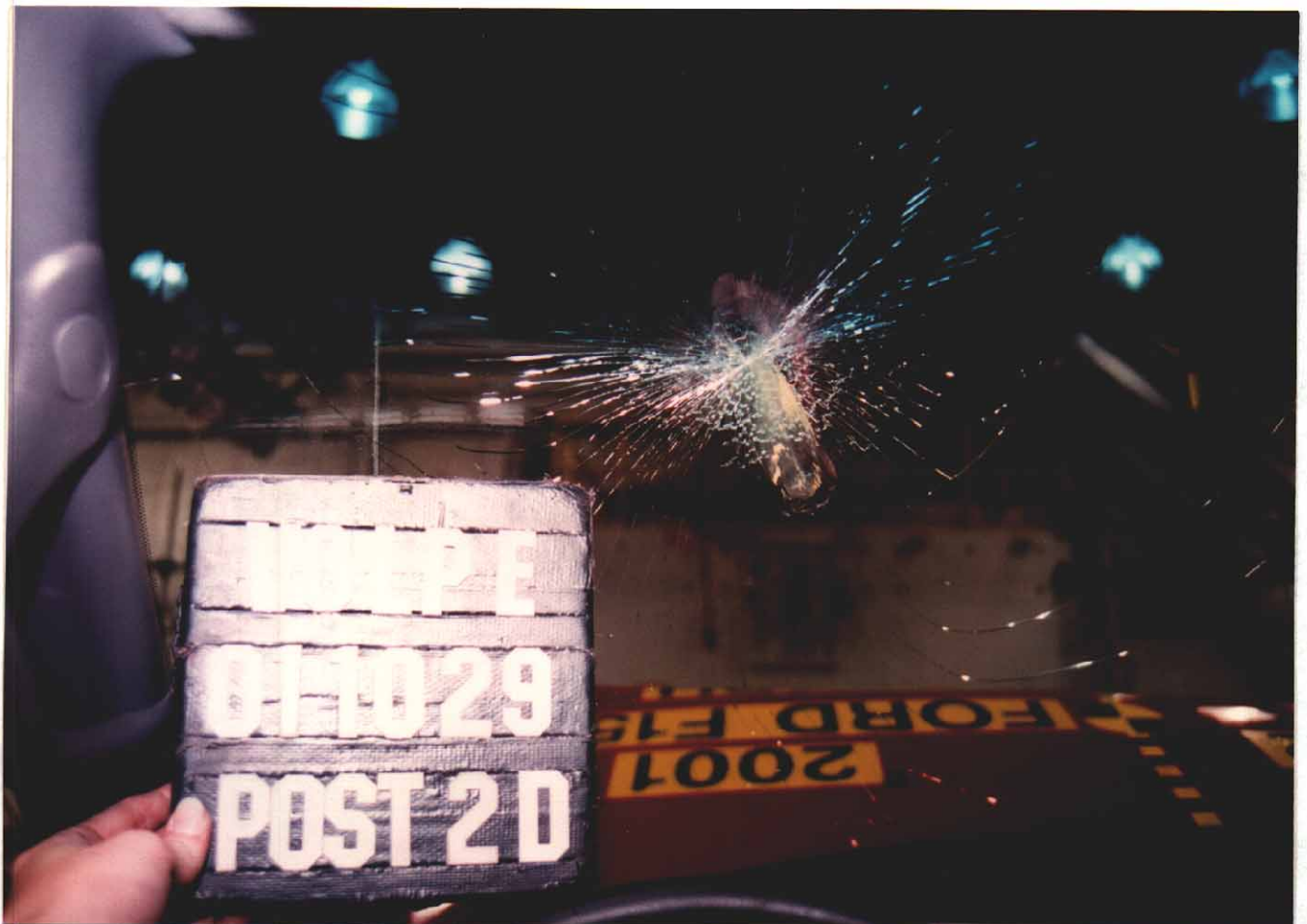


Figure A-60 Post-Test Driver Dummy Head Contact - View 3

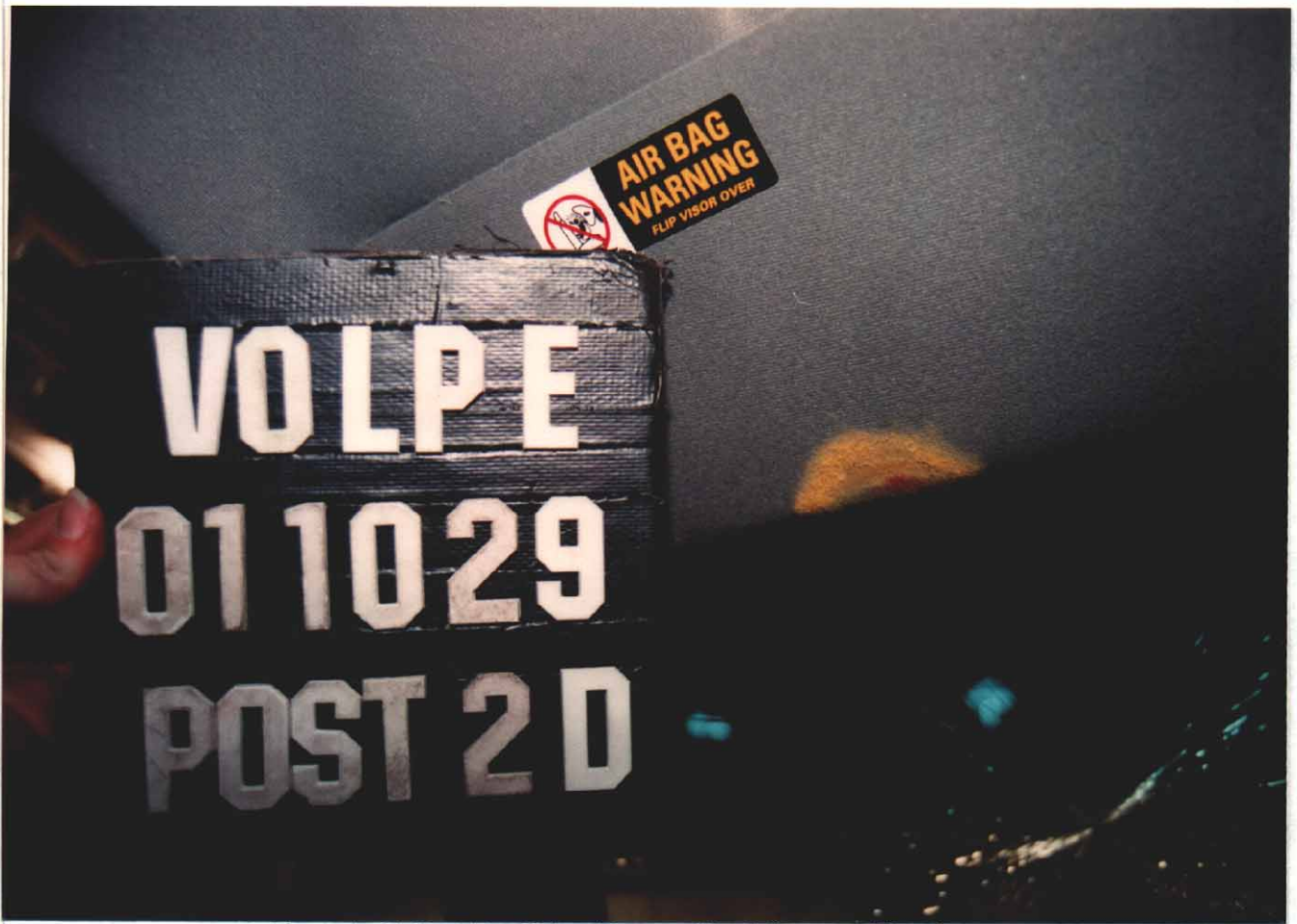


Figure A-61 Post-Test Driver Dummy Head Contact - View 4

Intentionally Left Blank

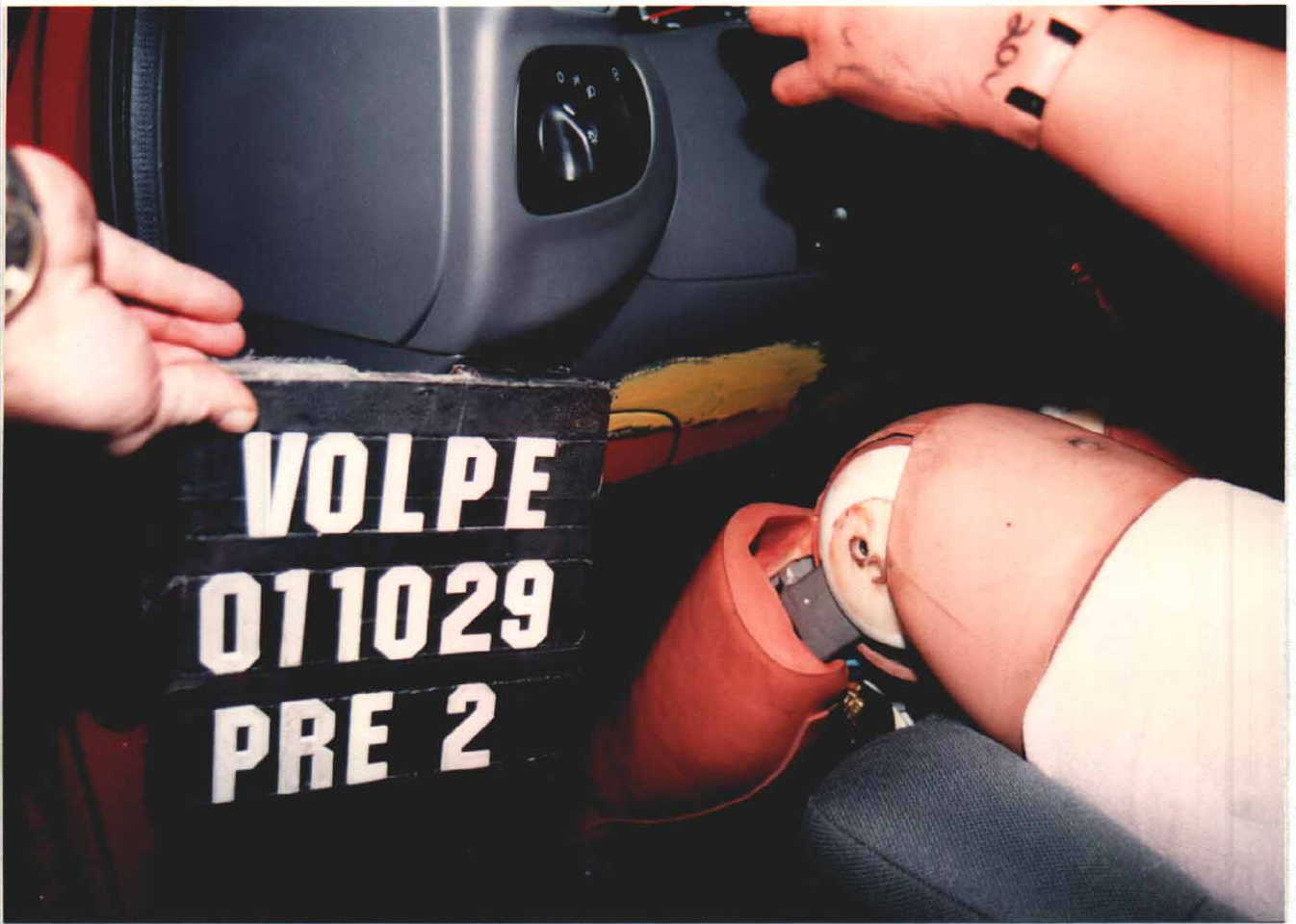


Figure A-62 Pre-Test Driver Dummy Knee Contact - View 1



Figure A-63 Post-Test Driver Dummy Knee Contact - View 1

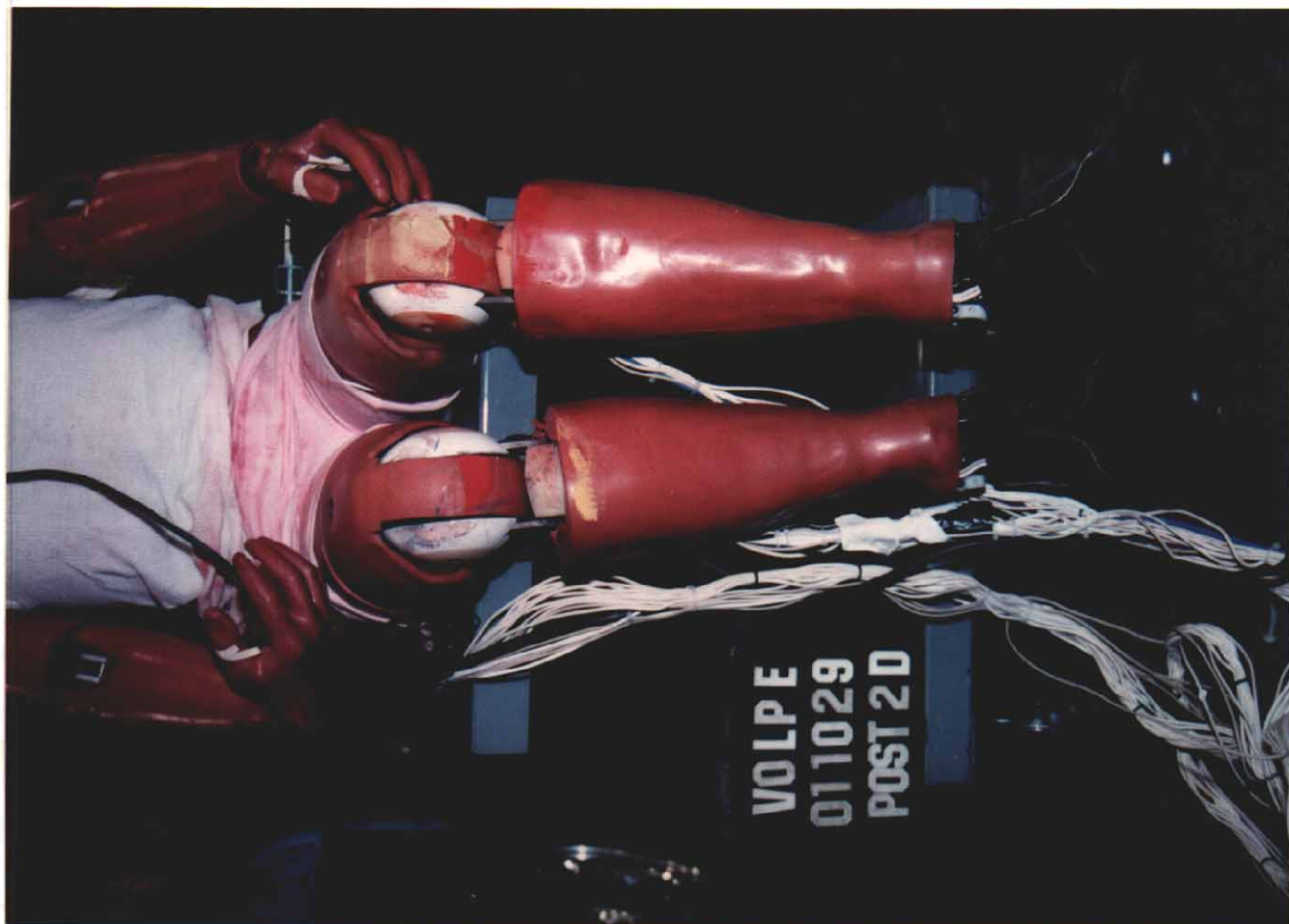


Figure A-64 Post-Test Driver Dummy Knee Contact - View 2



Figure A-65 Post-Test Passenger Dummy Overall View

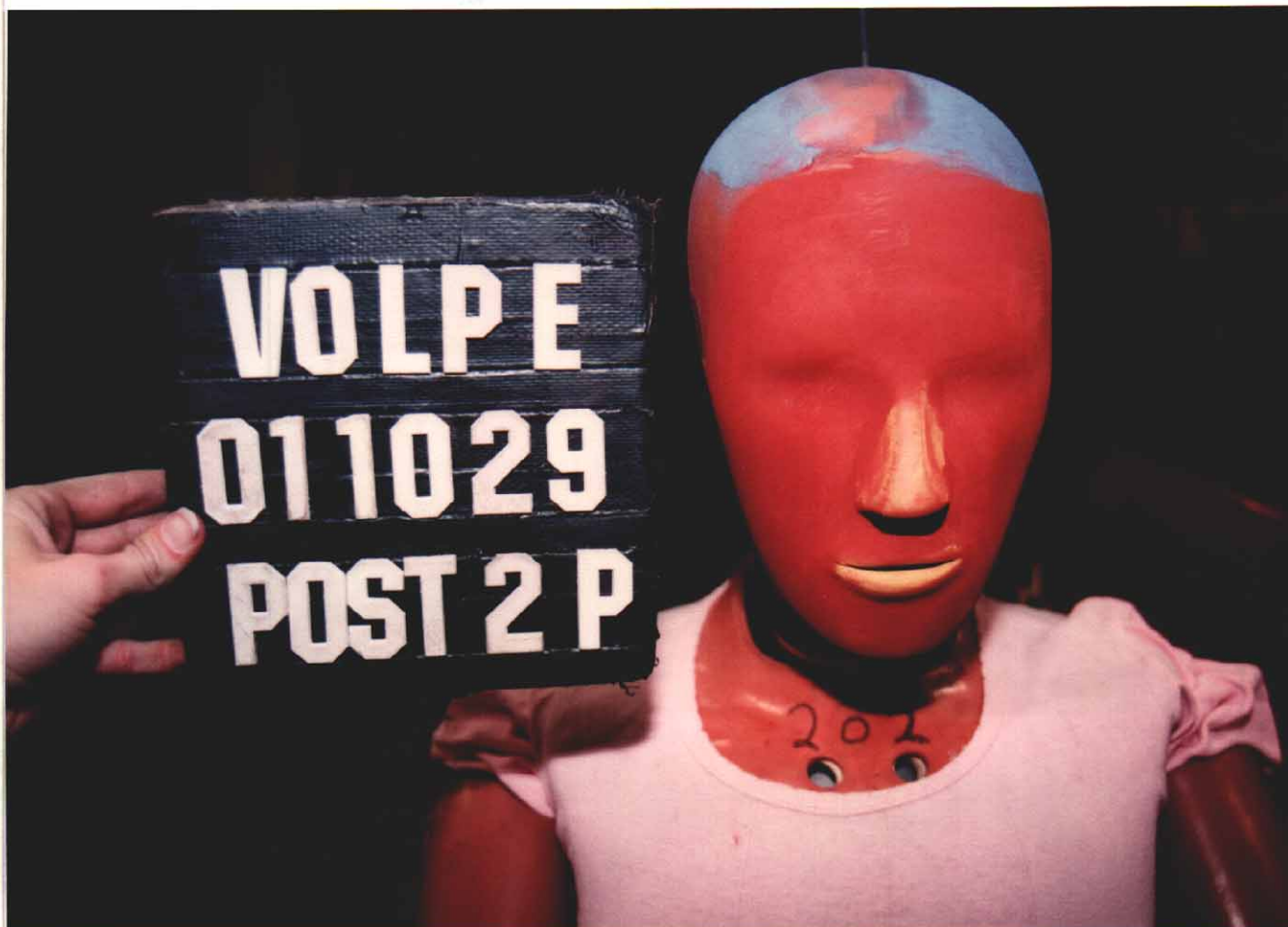


Figure A-66 Post-Test Passenger Dummy Head Contact - View 1



Figure A-67 Post-Test Passenger Dummy Head Contact - View 2

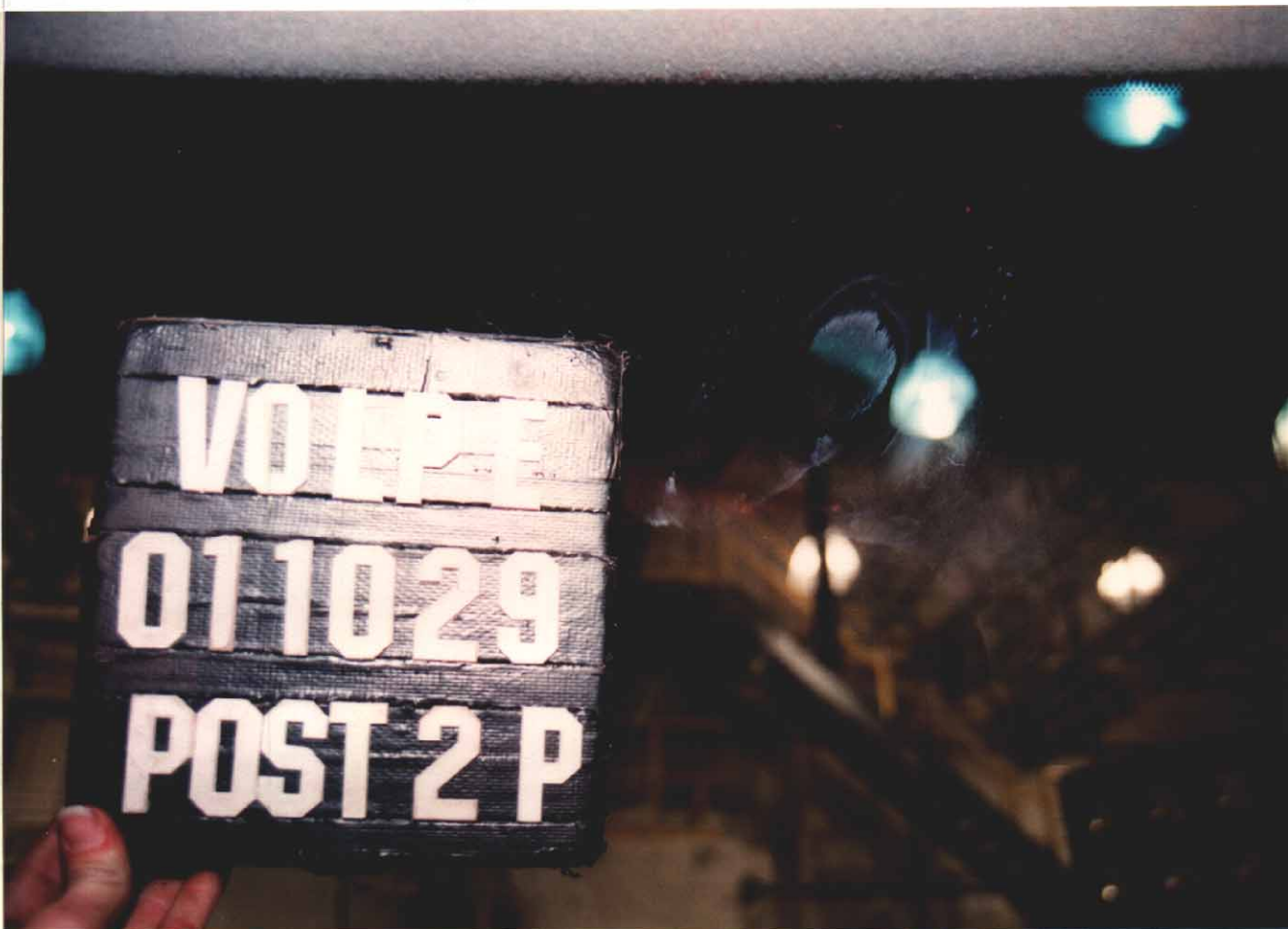


Figure A-68 Post-Test Passenger Dummy Head Contact - View 3

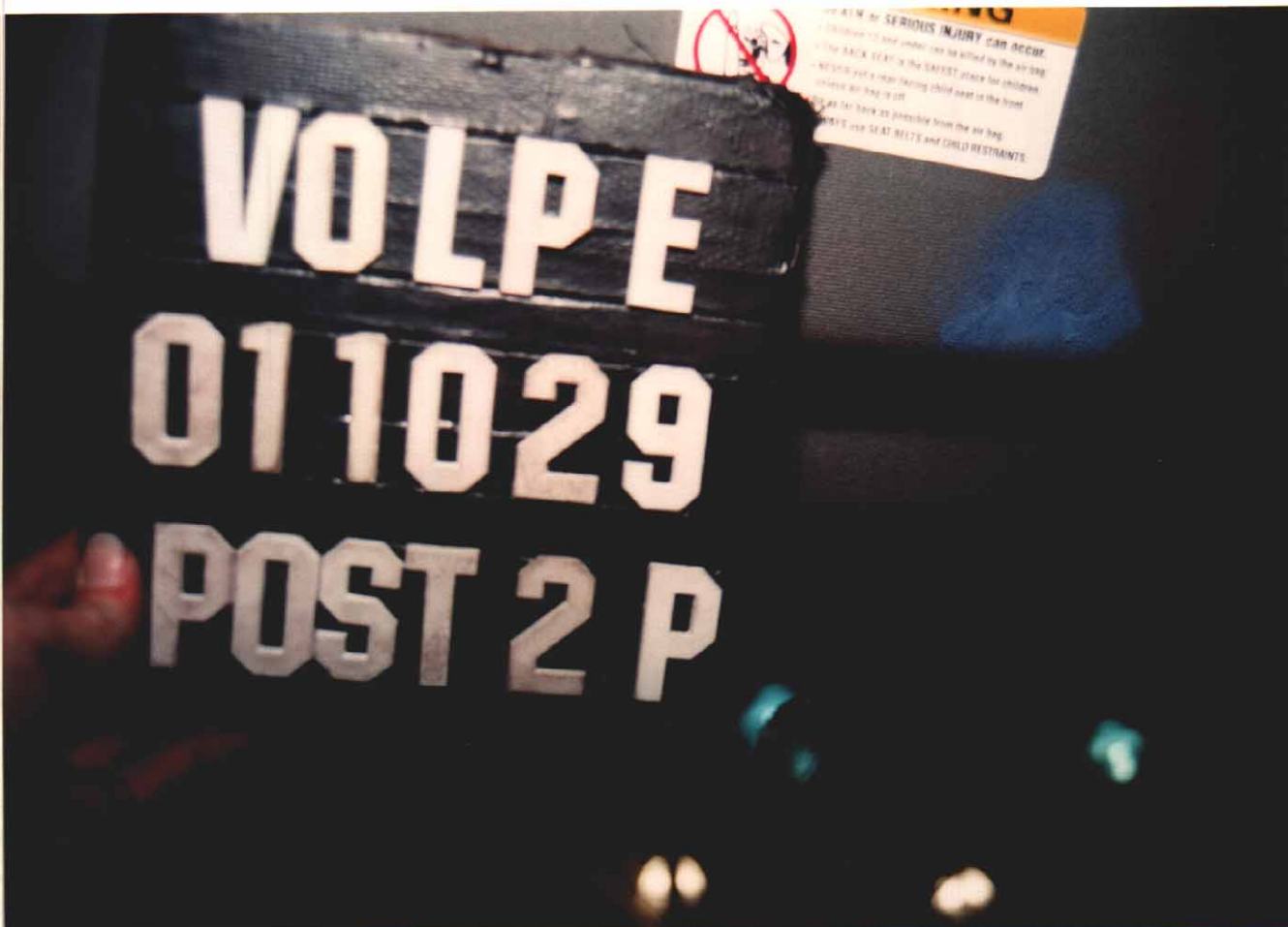


Figure A-69 Post-Test Passenger Dummy Head Contact - View 4



Figure A-70 Post-Test Passenger Dummy Head Contact - View 5

Intentionally Left Blank

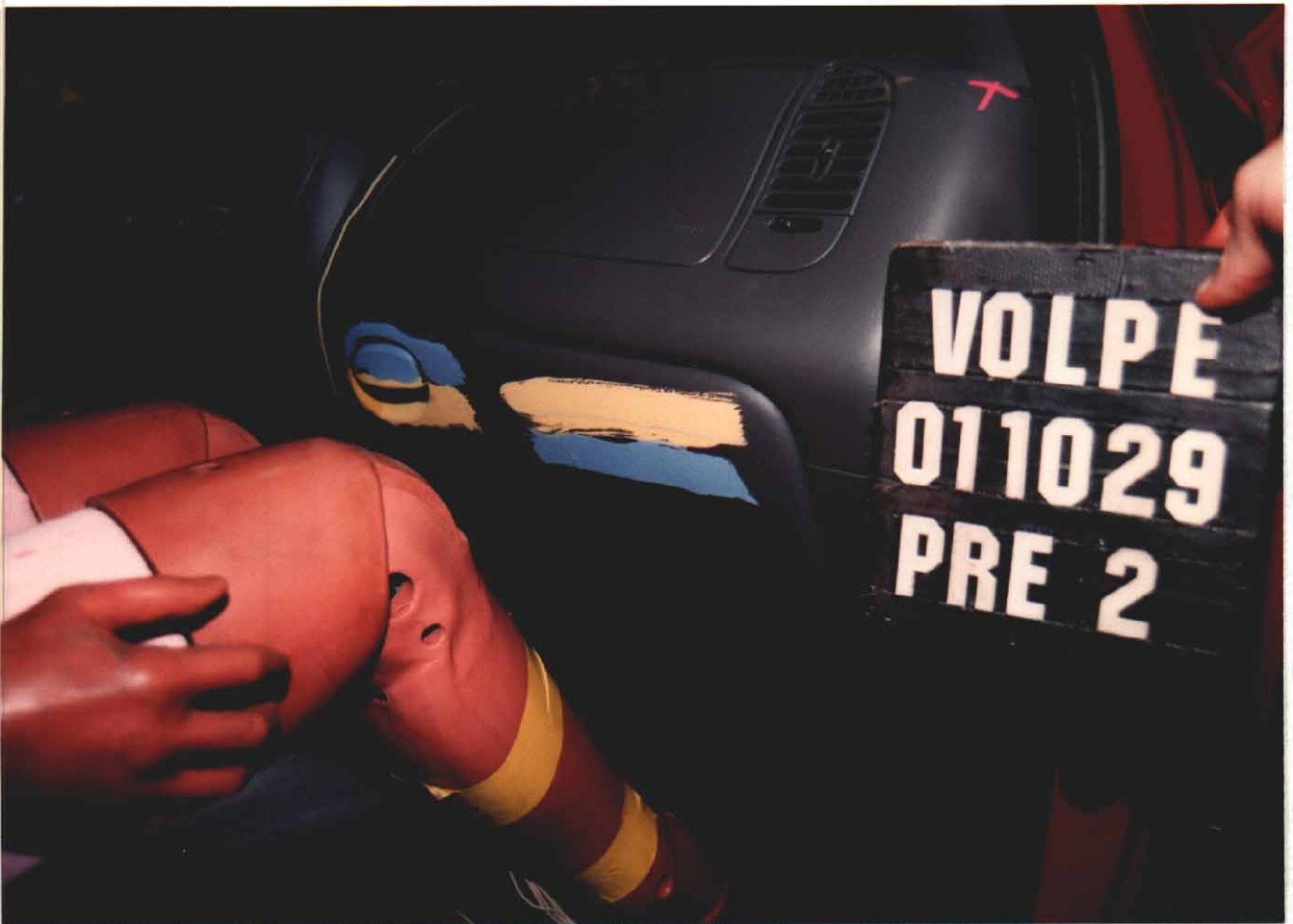


Figure A-71 Pre-Test Passenger Dummy Knee Contact - View 1



Figure A-72 Post-Test Passenger Dummy Knee Contact - View 1

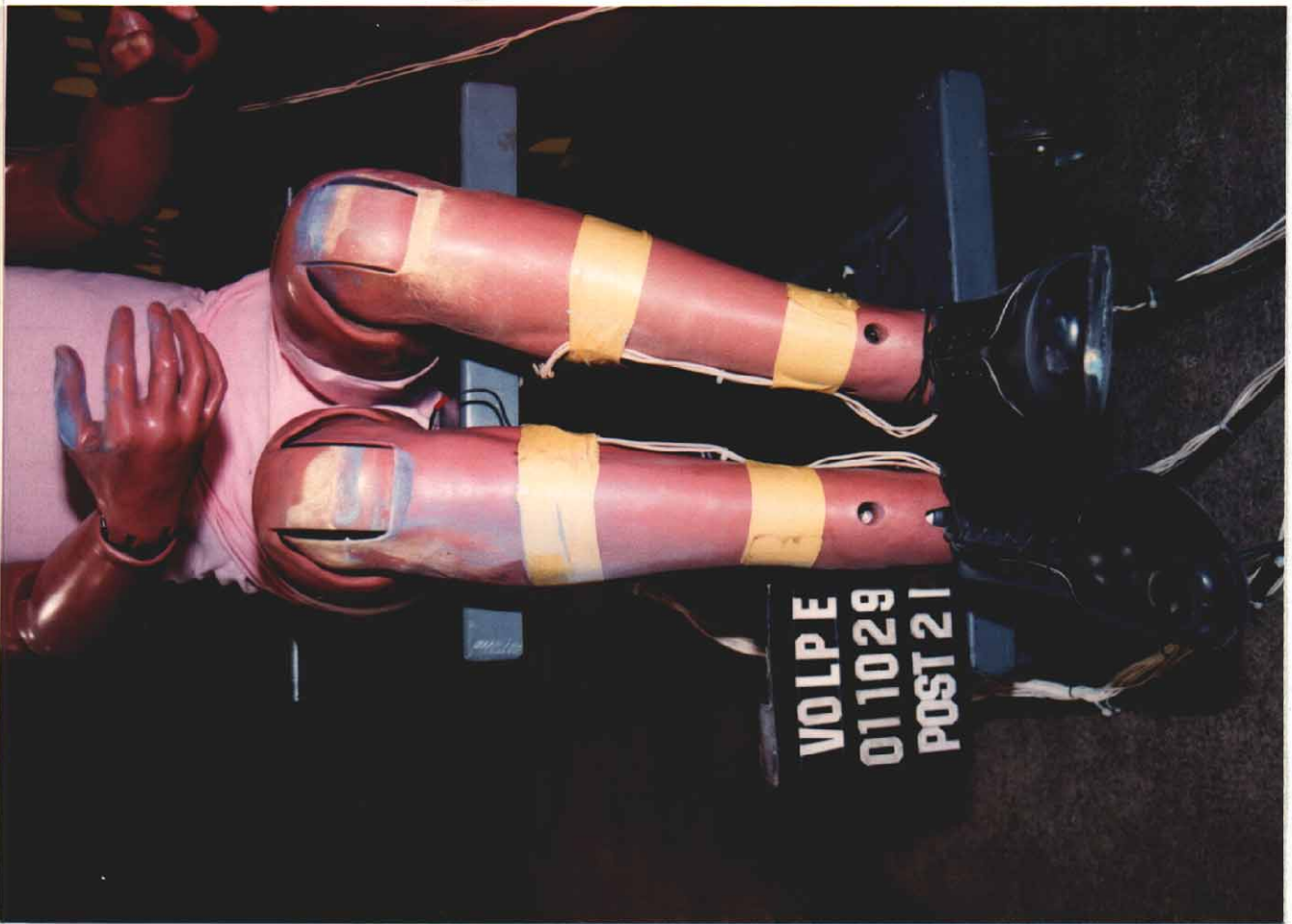


Figure A-73 Post-Test Passenger Dummy Knee Contact - View 2

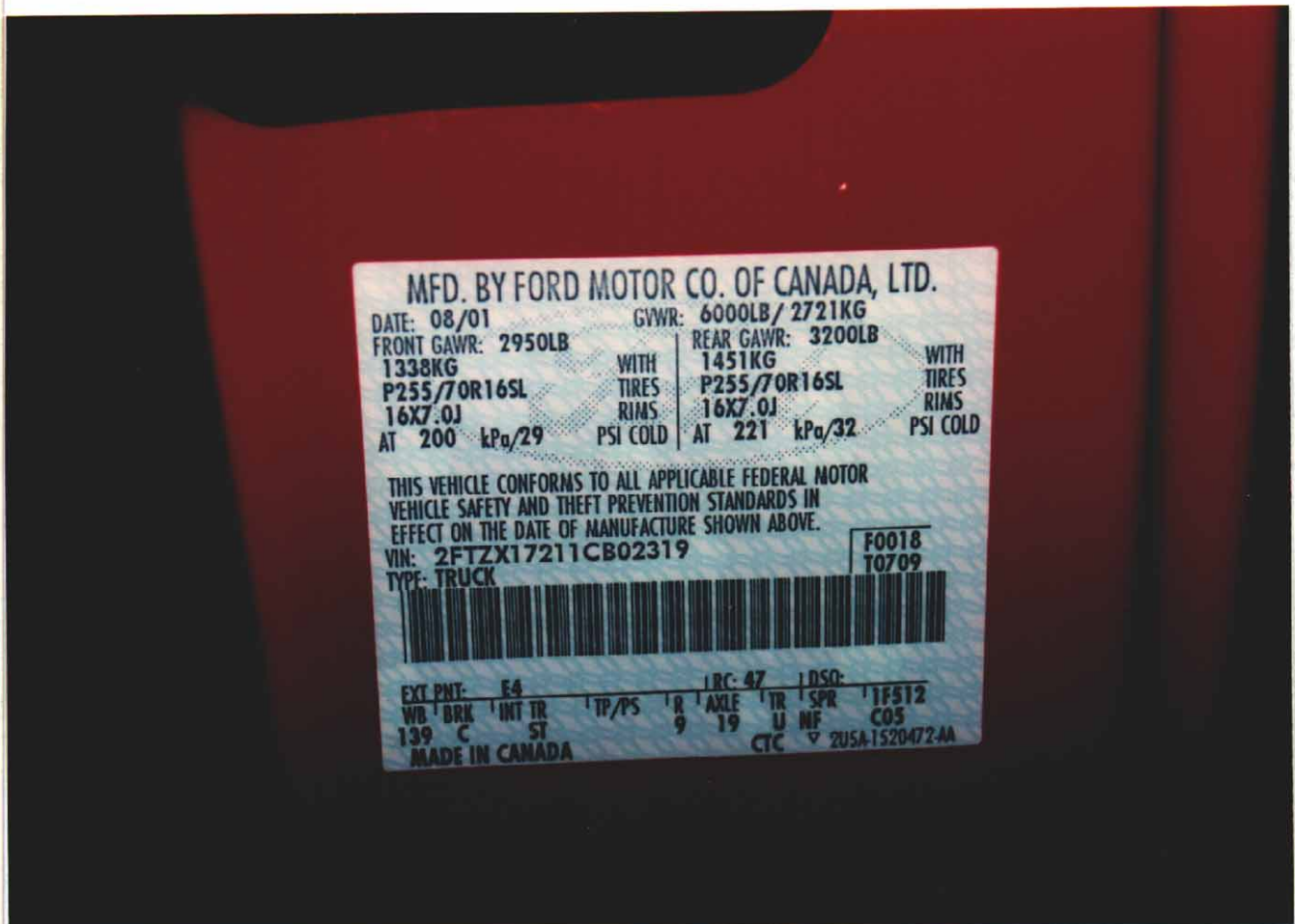


Figure A-74 Pre-Test Vehicle Certification Label View

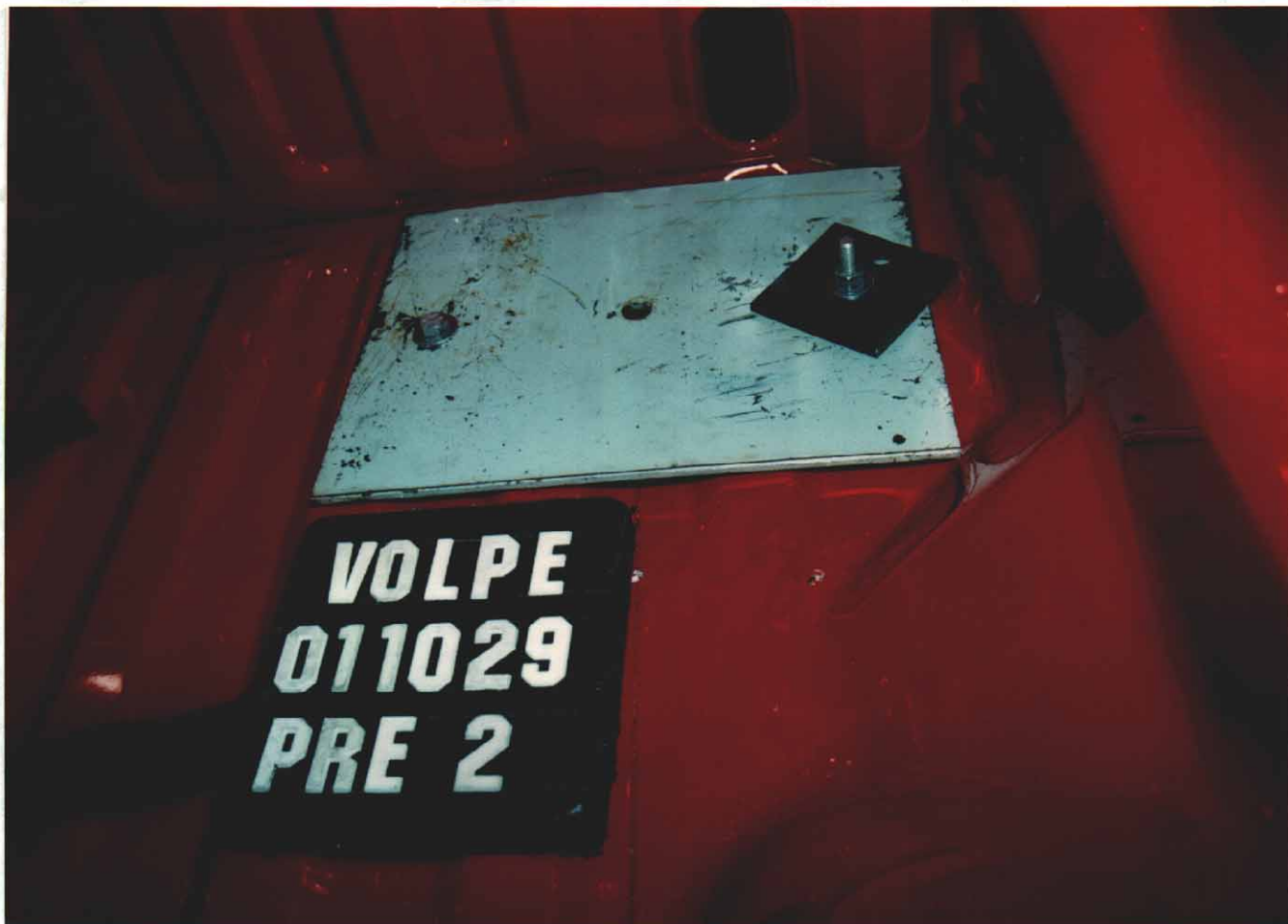


Figure A-75 Pre-Test Ballast View

Appendix B

Data Plots

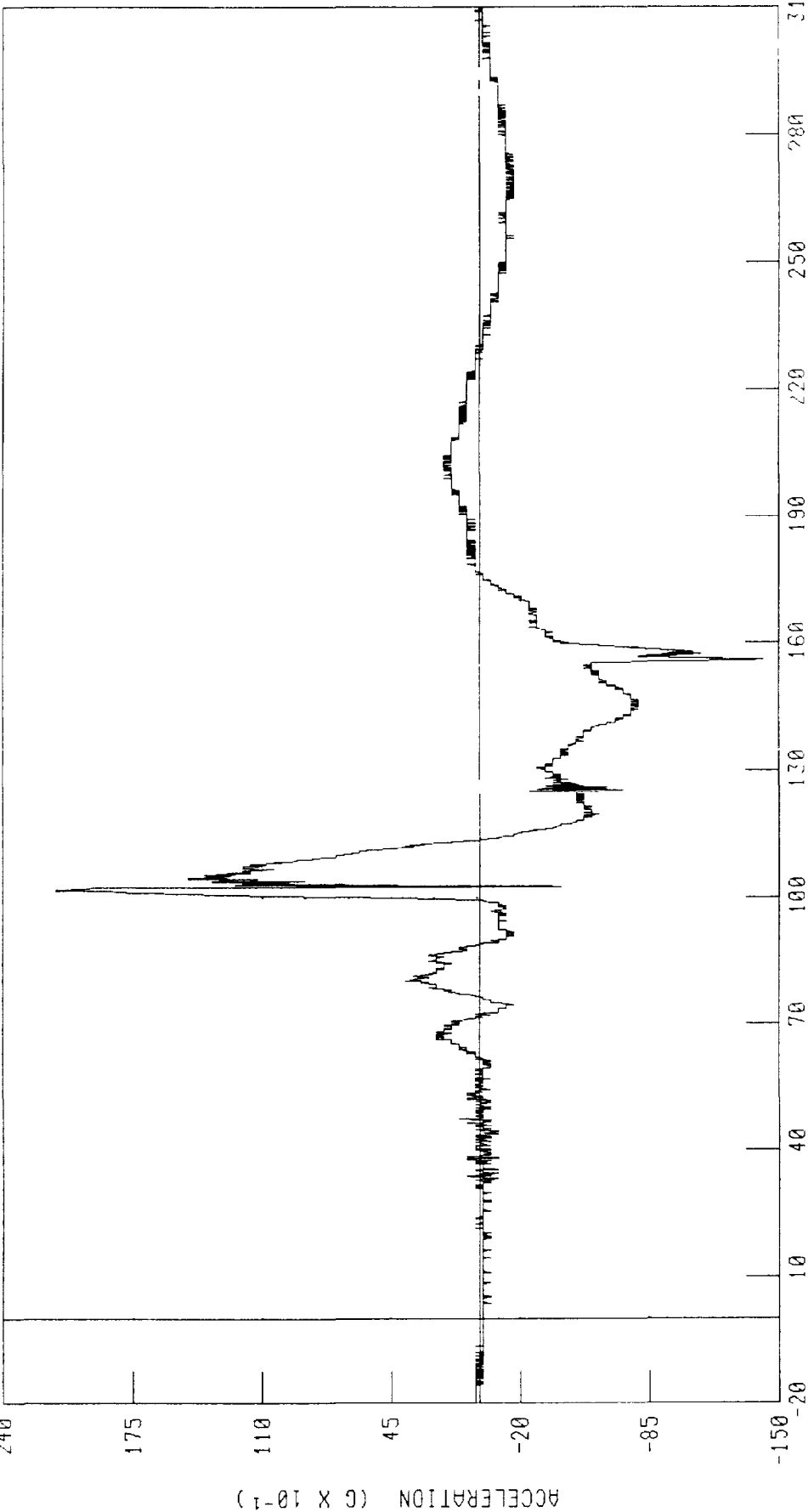
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER HEAD Y-AXIS ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

TRC INC



TIME (MS)

CHANNEL HEDY11 FILTER CH (CLASS 1000

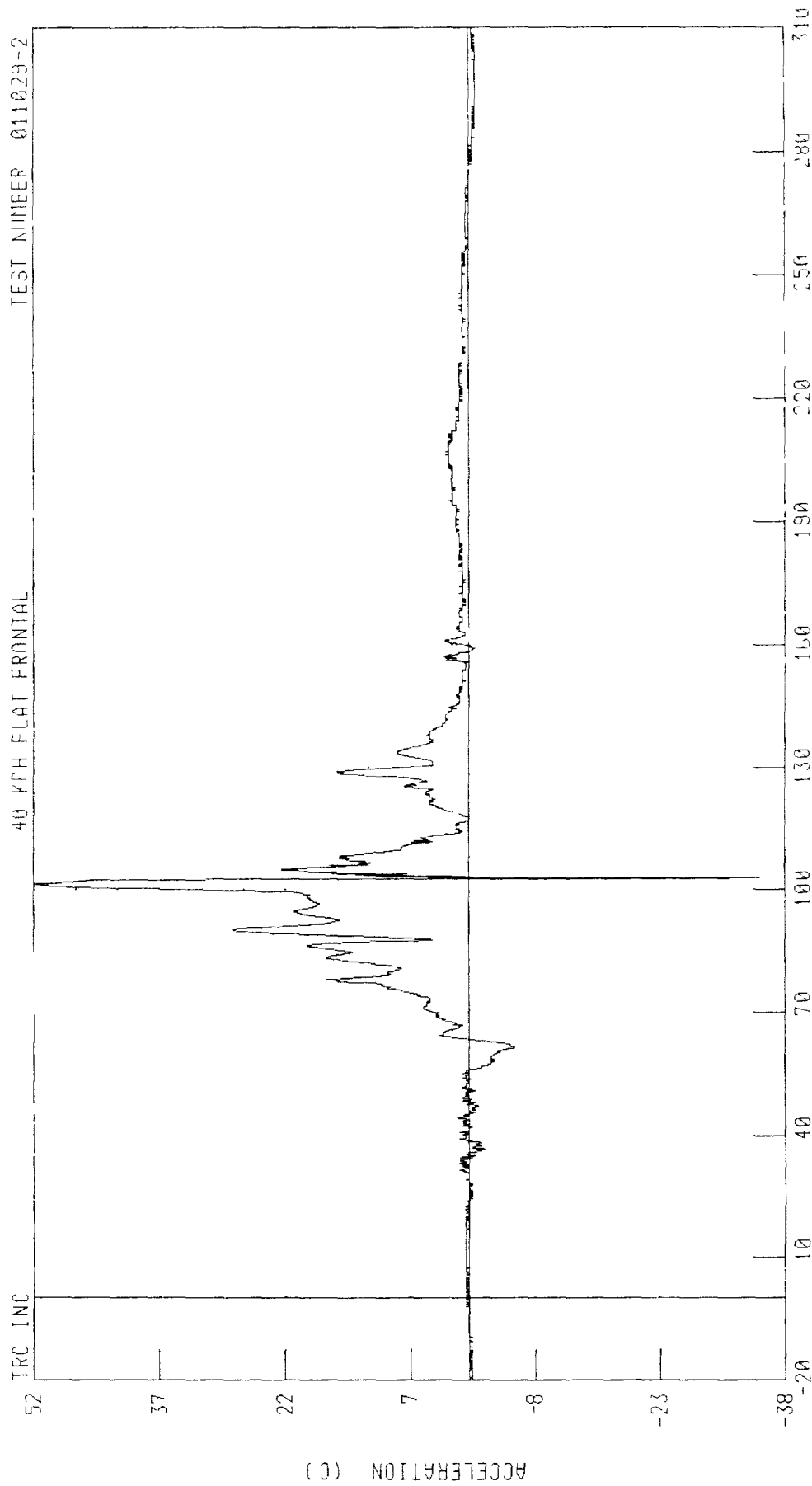
PEAK DATA 21 39 6 @ 102 00 MS, -14 22 6 @ 157 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 MPH

DRIVER HEAD Z-AXIS ACCELERATION

40 MPH FLAT FRONTAL

TEST NUMBER 011029-2



TIME (MS)

PEAK DATA 51 36 1 0 101 7.1 17 4 41 1 0 102 0 M

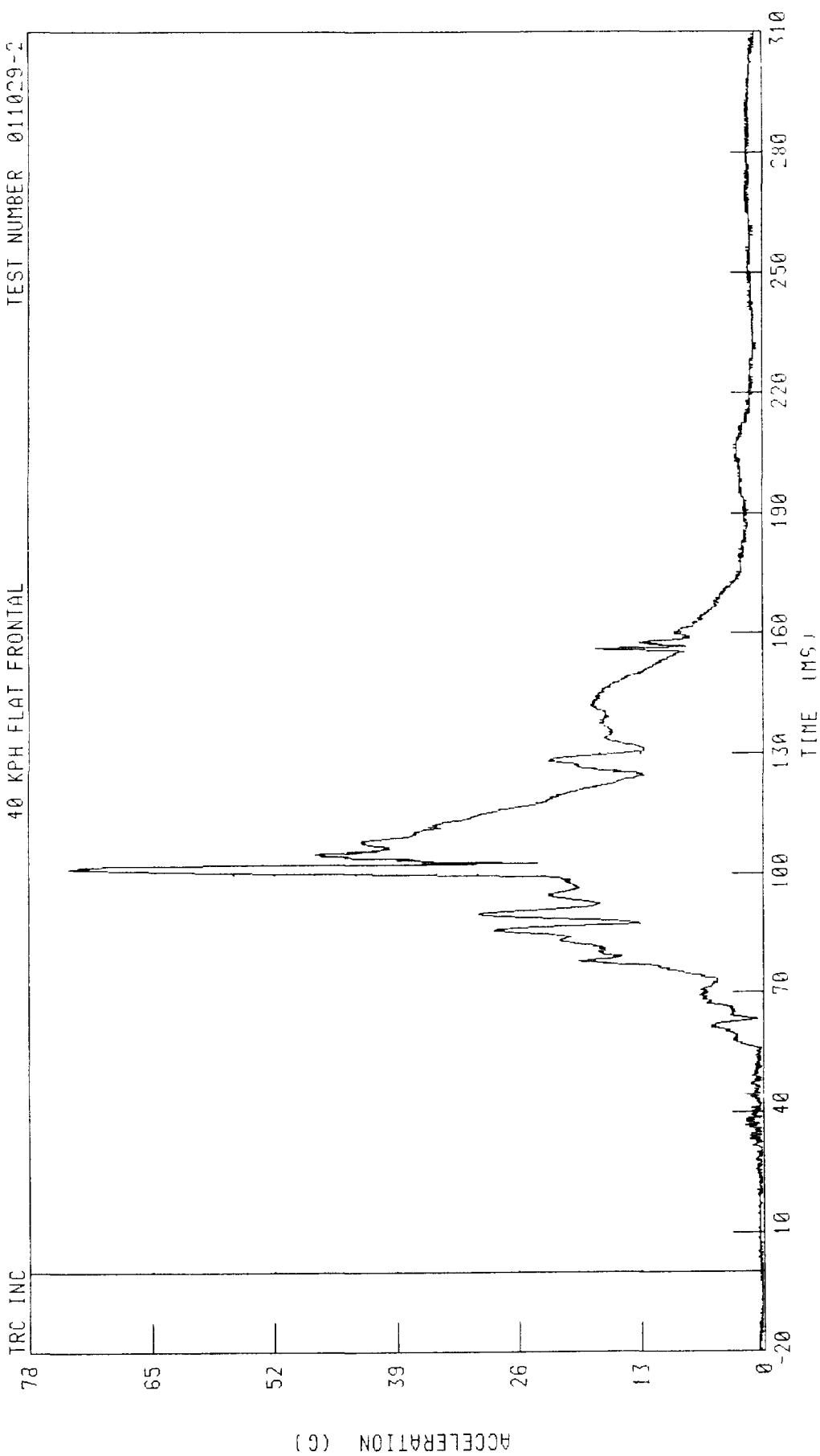
CHANNEL HEAD061 FILTER LH CLASS 1000

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER HEAD RESULTANT ACCELERATION

40 KPH FLAT FRONTAL

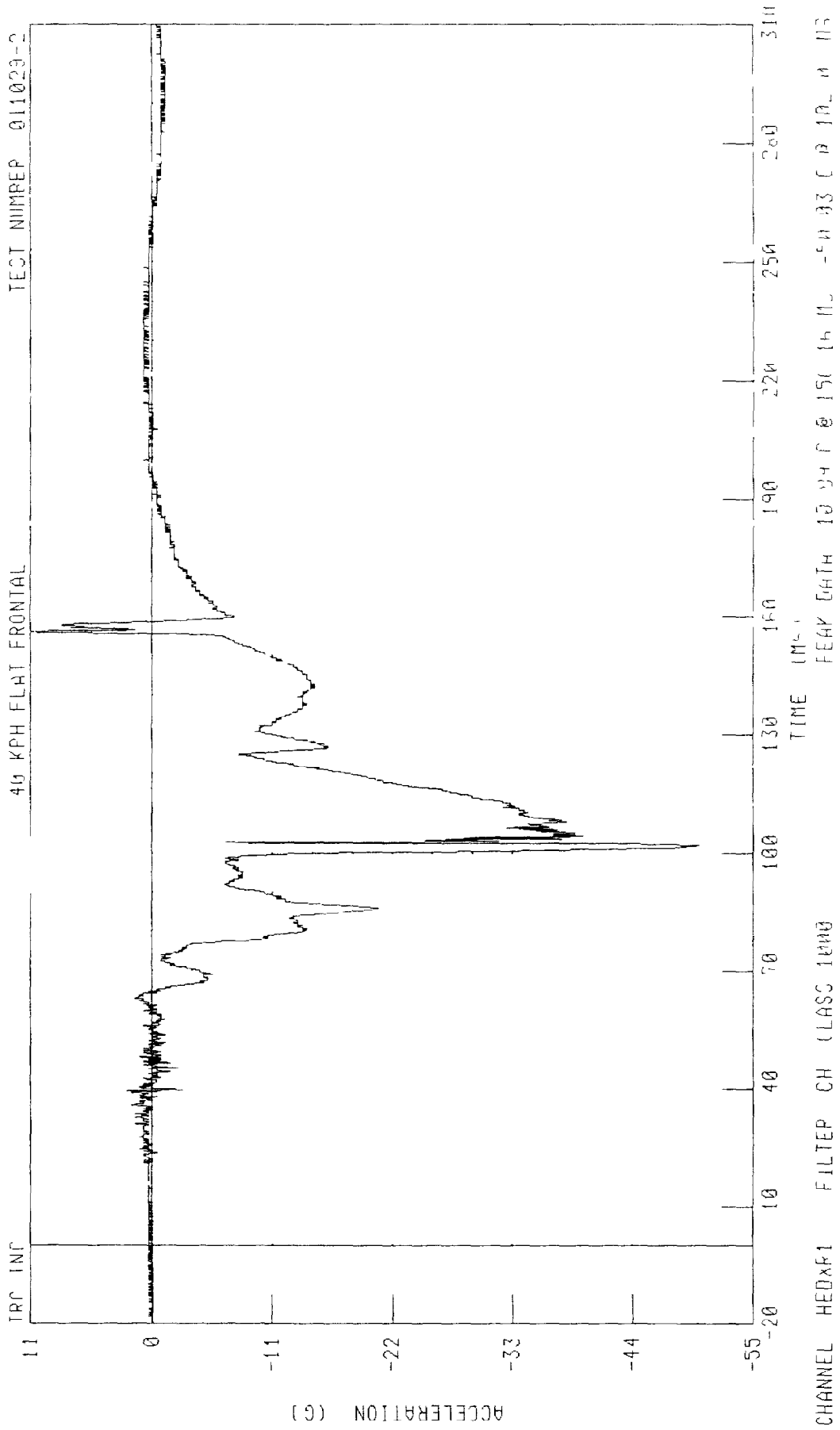
TEST NUMBER 011029-2



CHANNEL HEDG1 FILTER CH CLASS 1400

PEAK DATA 77 87 0 101 52 MS, 0 20 0 0 -15 52 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER HEAD X-AXIS ACCELERATION REDUNDANT

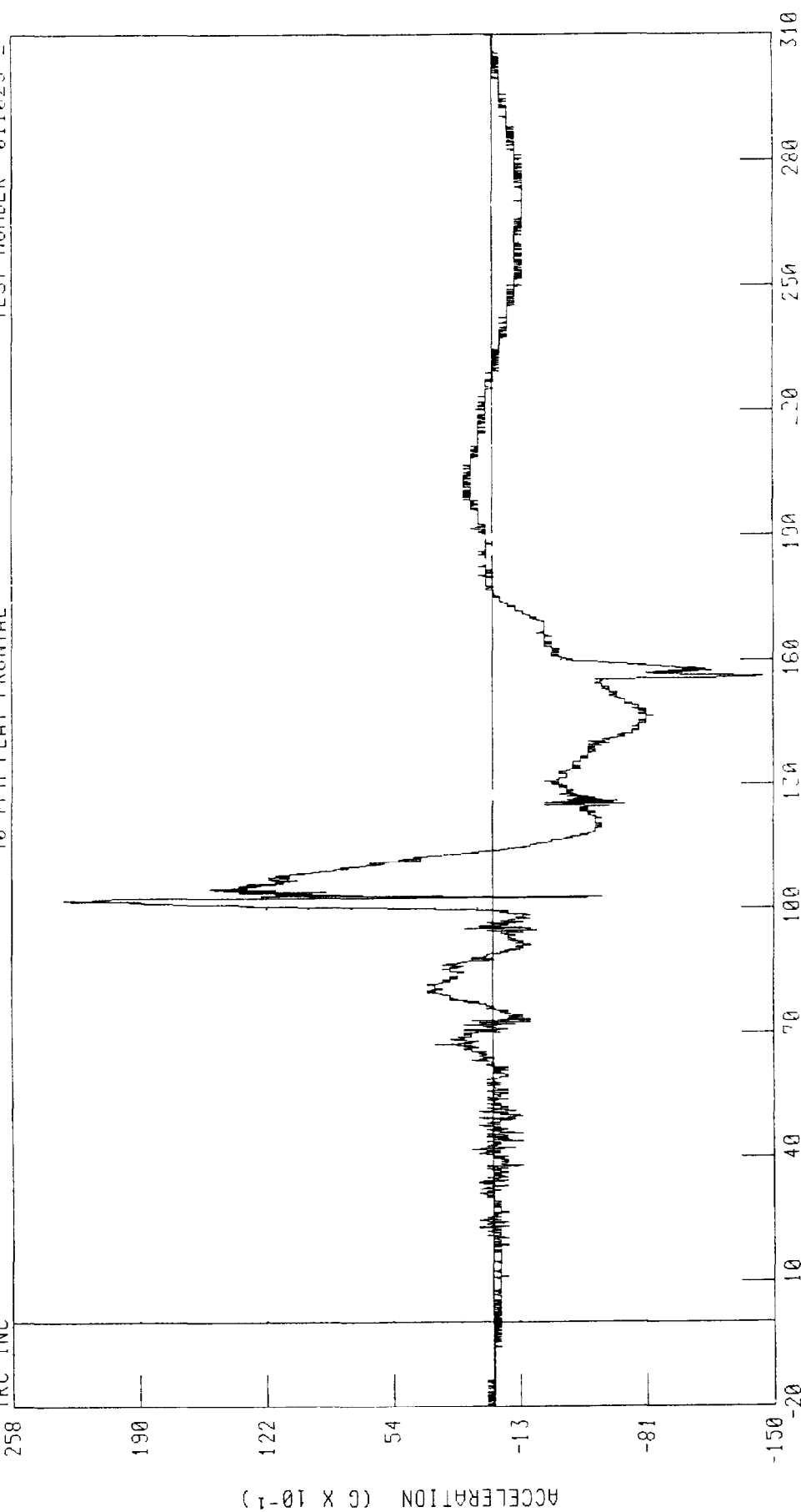


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER HEAD Y-AXIS ACCELERATION REDUNDANT

TEST NUMBER 011029-2

40 KPH FLAT FRONTAL

TRC INC

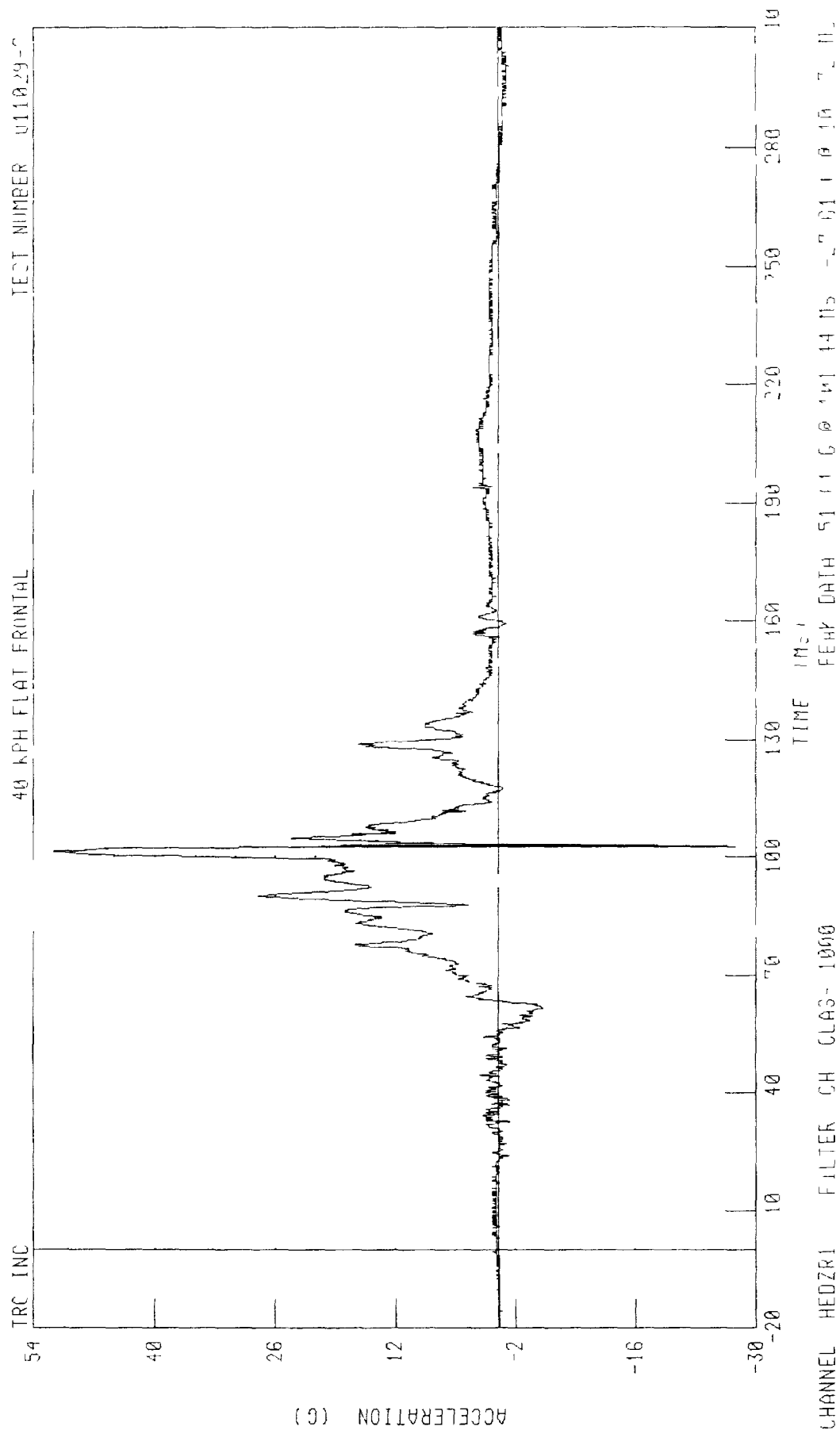


TIME (MS)

CHANNEL HEDYR1 FILTER CH CLASS 1000

PEAK DATA 20 06 10 03 MS -14 48 5 150 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER HEAD Z-AXIS ACCELERATION REDUNDANT

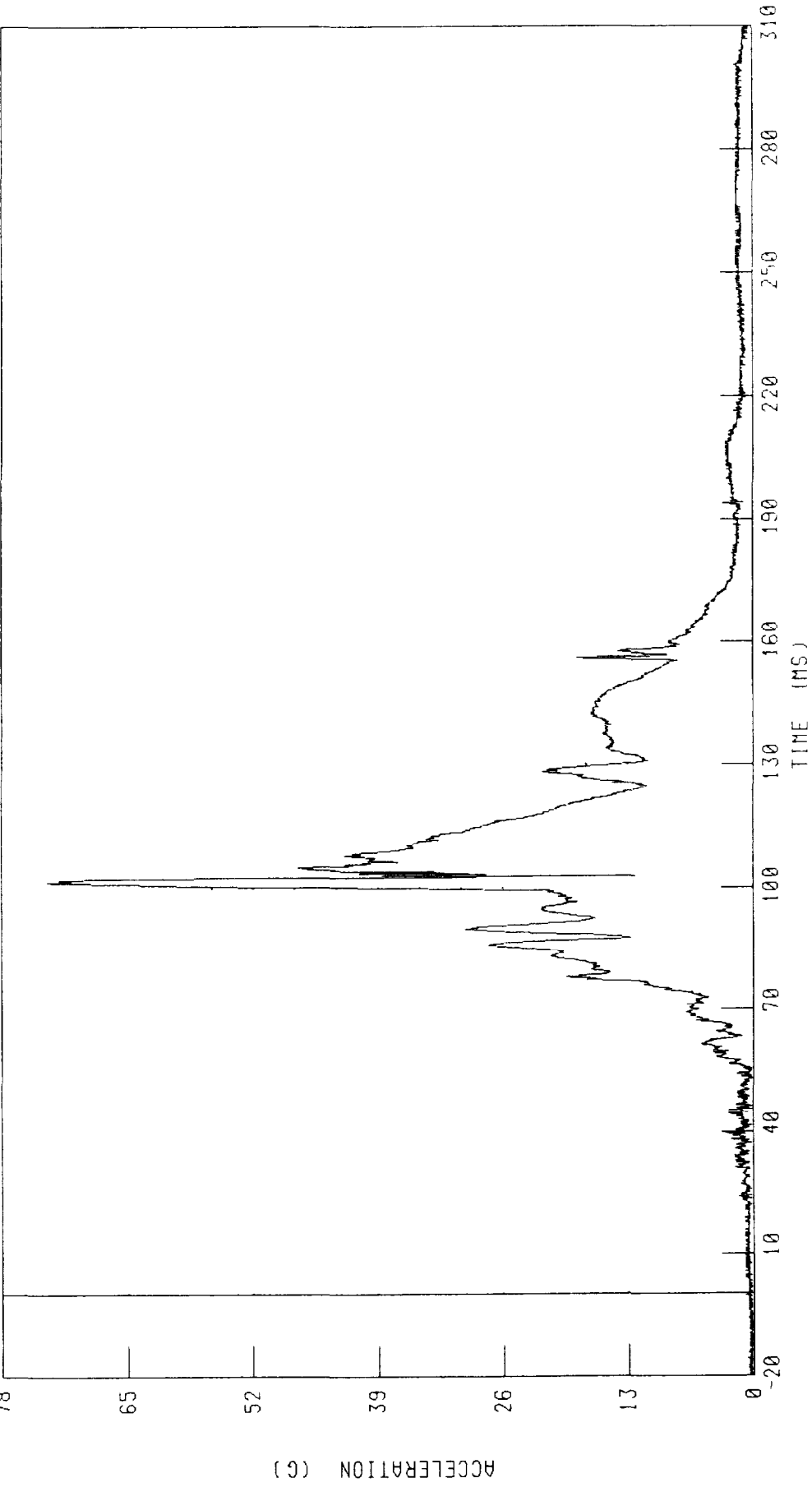


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER HEAD RESULTANT ACCELERATION REDUNDANT

TRC INC

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

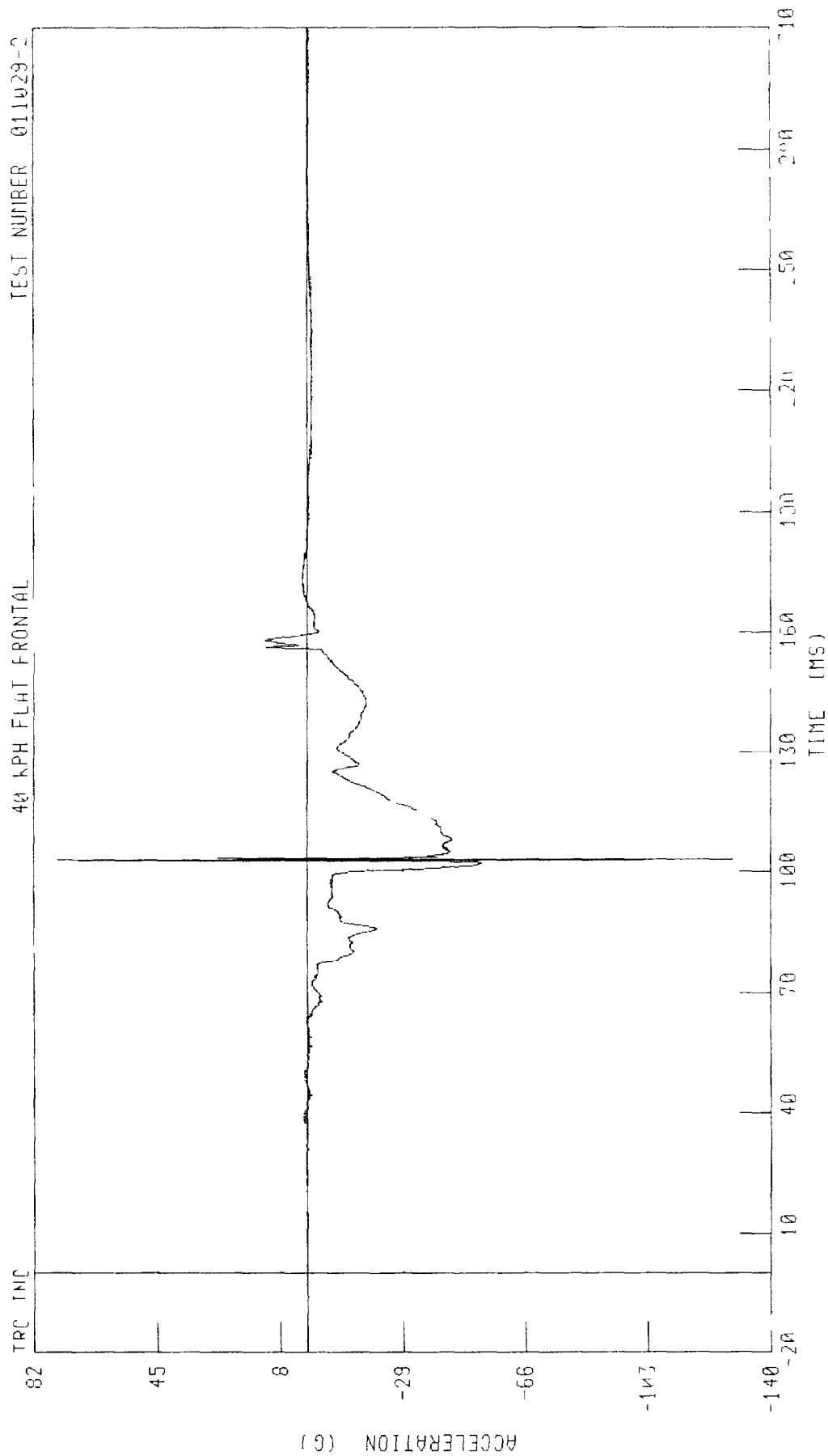


CHANNEL HEDRR1 FILTER CH CLASS 1000

PEAK DATA 73 34 0 101 52 MS 0 17 G 0 -19 32 MS

DRIVER HEAD X-AXIS (LT) ACCELERATION

TEST NUMBER 011029-2



(CHANNEL H) 1xG1 FILTER (H) LHC-10MG

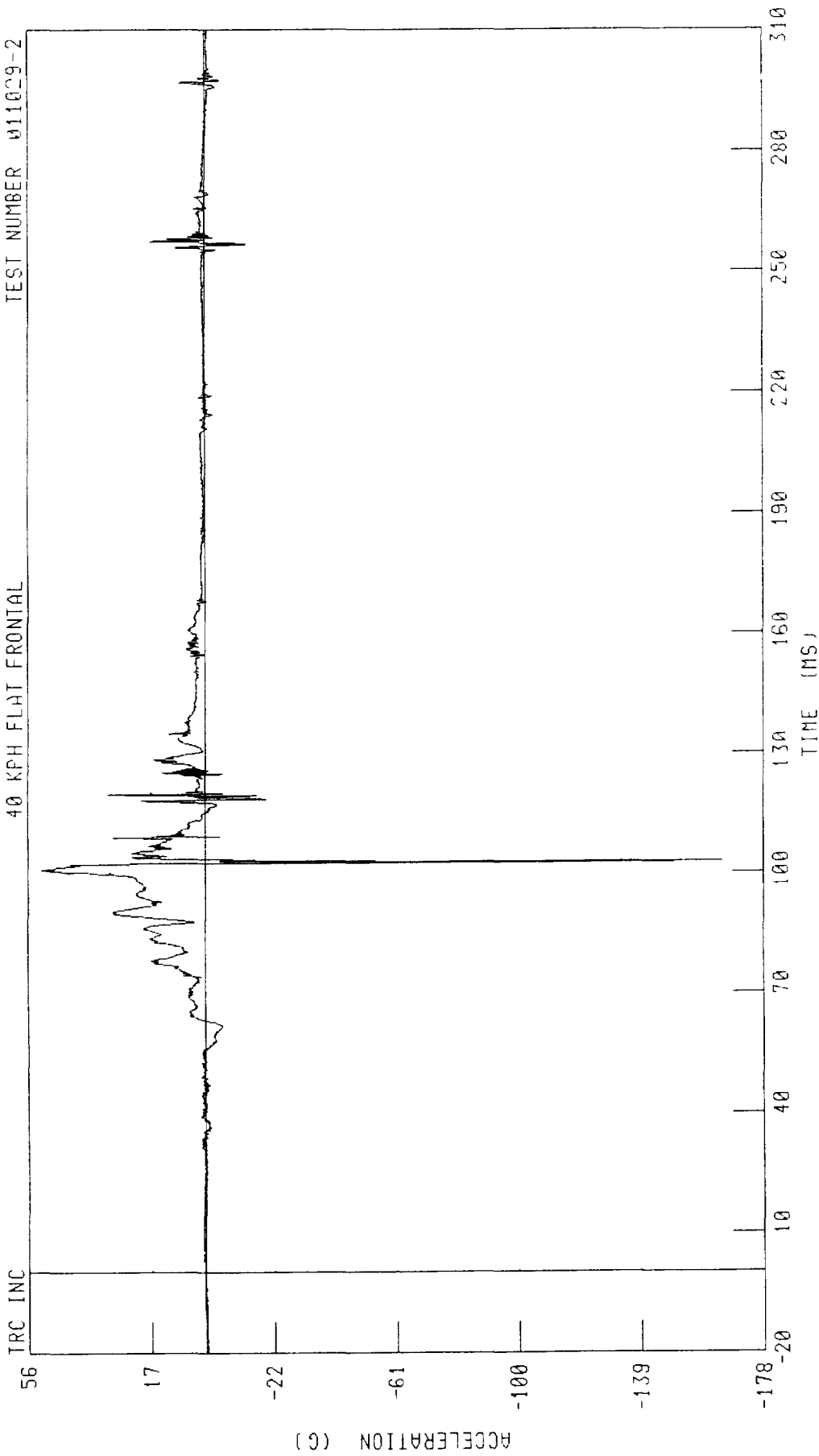
РЕЖИ ДАТН 71 5 С @ 10⁻⁵ И 10⁻⁶ 30 1 0 10⁻⁷ 1.4 M.

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER HEAD Z-AXIS (LT) ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



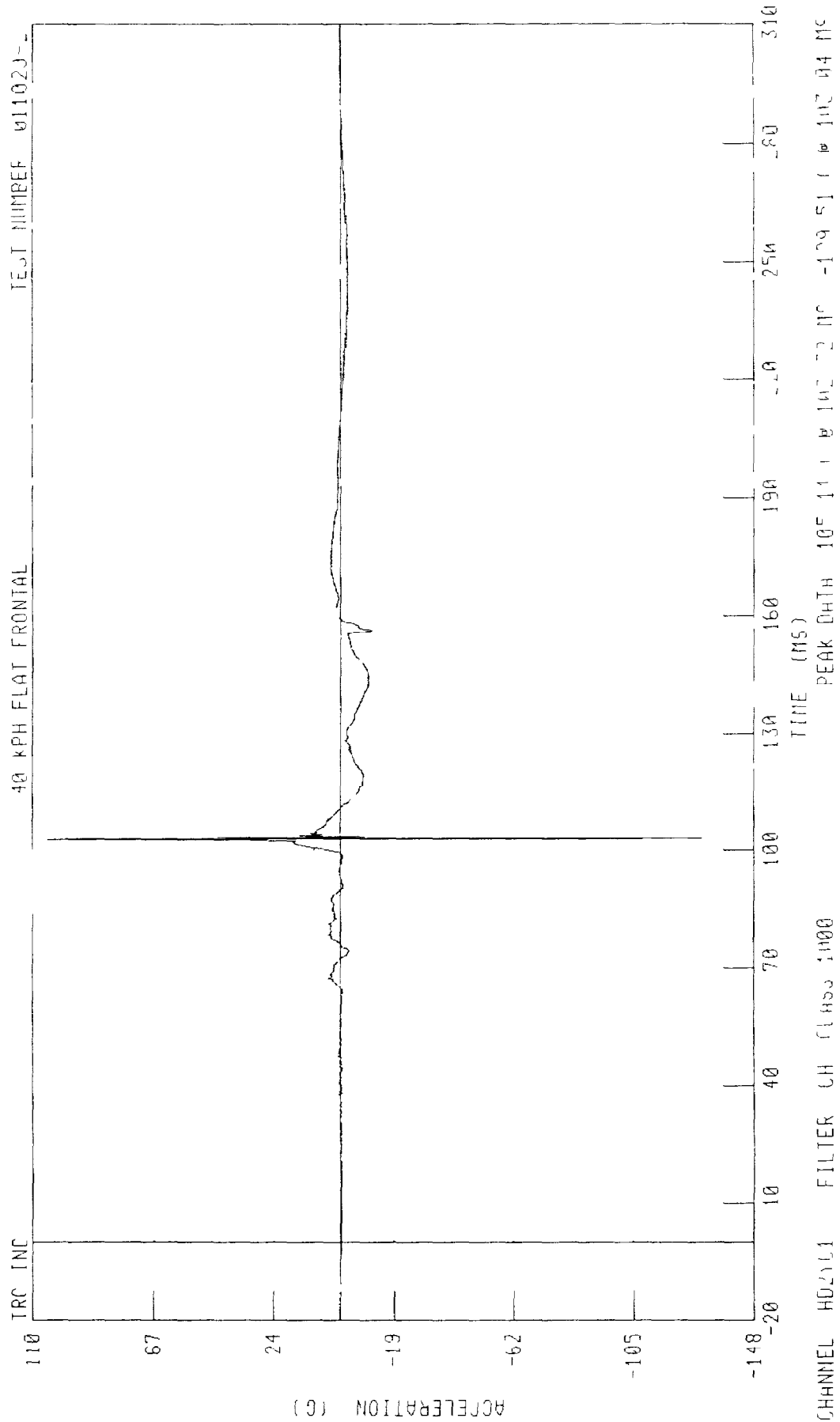
TIME (MS)

CHANNEL HD1ZG1 FILTER CH CLASS 1000

PEAK DATA 51 66 G @ 100 88 MS, -164 74 G @ 102 20 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER HEAD Y-AXIS (FT) ACCELERATION

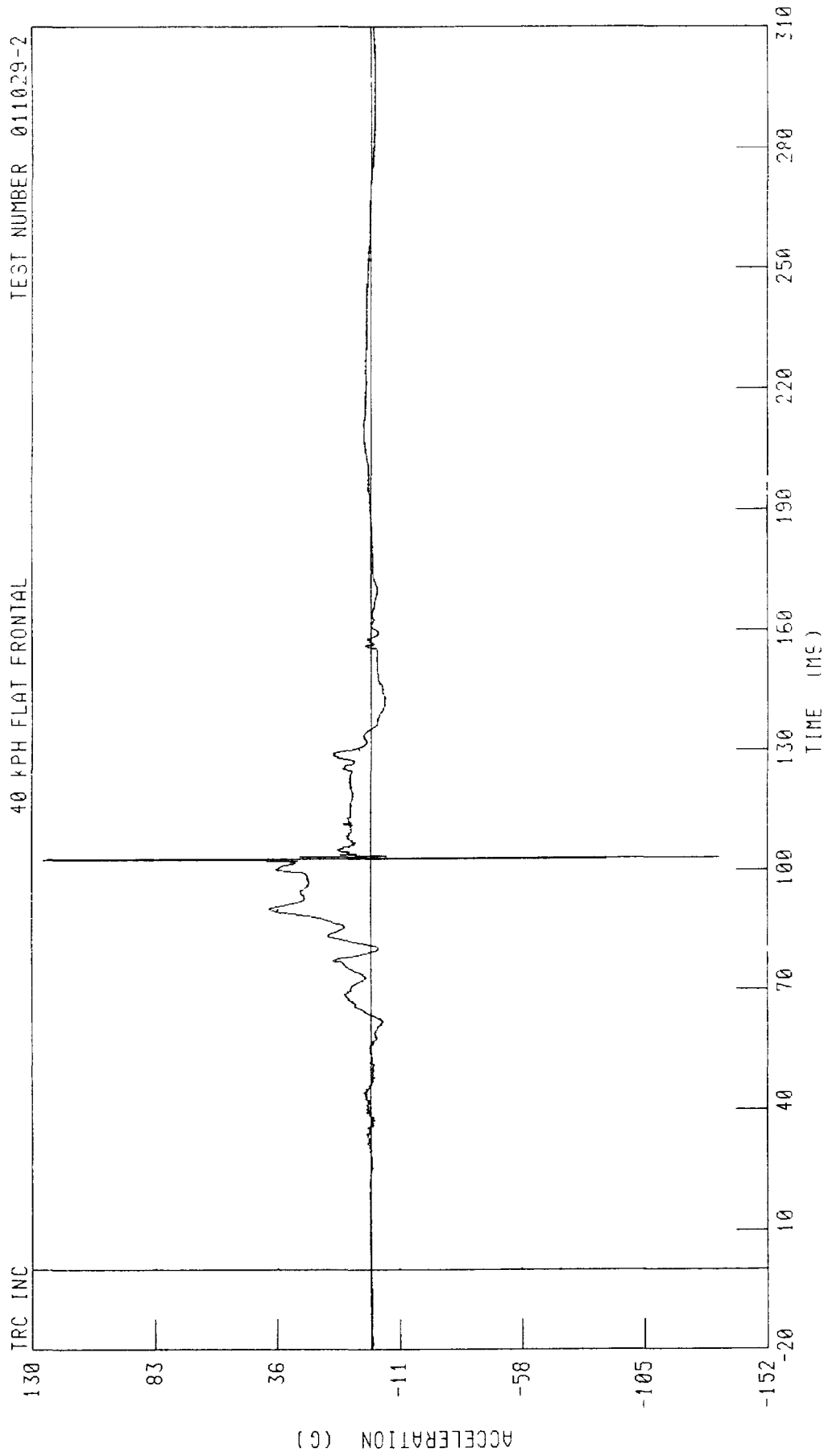


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER HEAD Z-AXIS (FT) ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

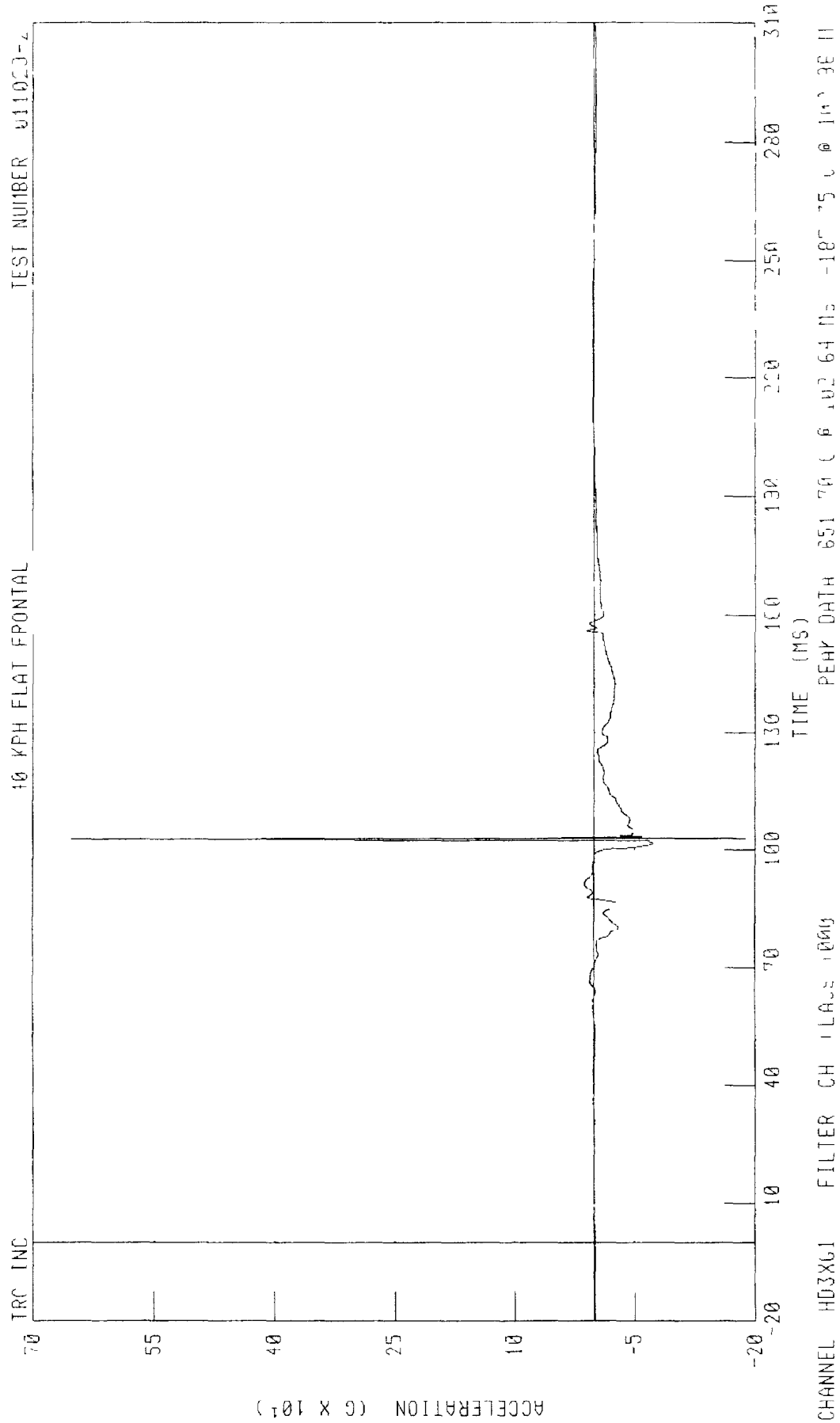


CHANNEL HD2ZG1 FILTER CH CLASS 1000

PEAK DATA 125 70 0 102 72 MS -133 67 0 103 12 M

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER HEAD X-AXIS (TP) ACCELERATION

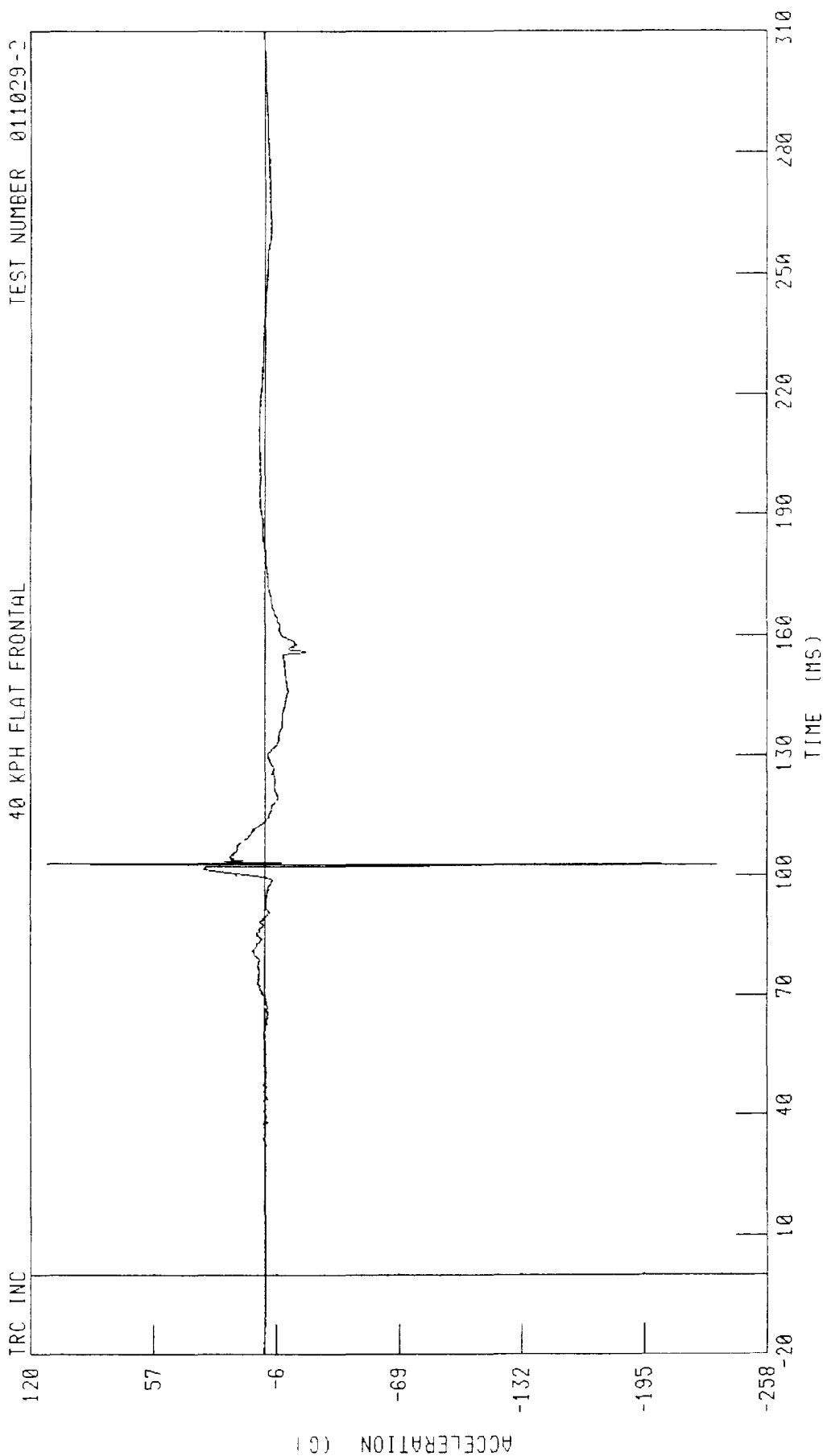


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER HEAD Y-AXIS (TP) ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL HD3YG1 FILTER CH CLASS 1000

PEAK DATA 111 48 0 103 04 MS, -232 47 G, 102 72 M

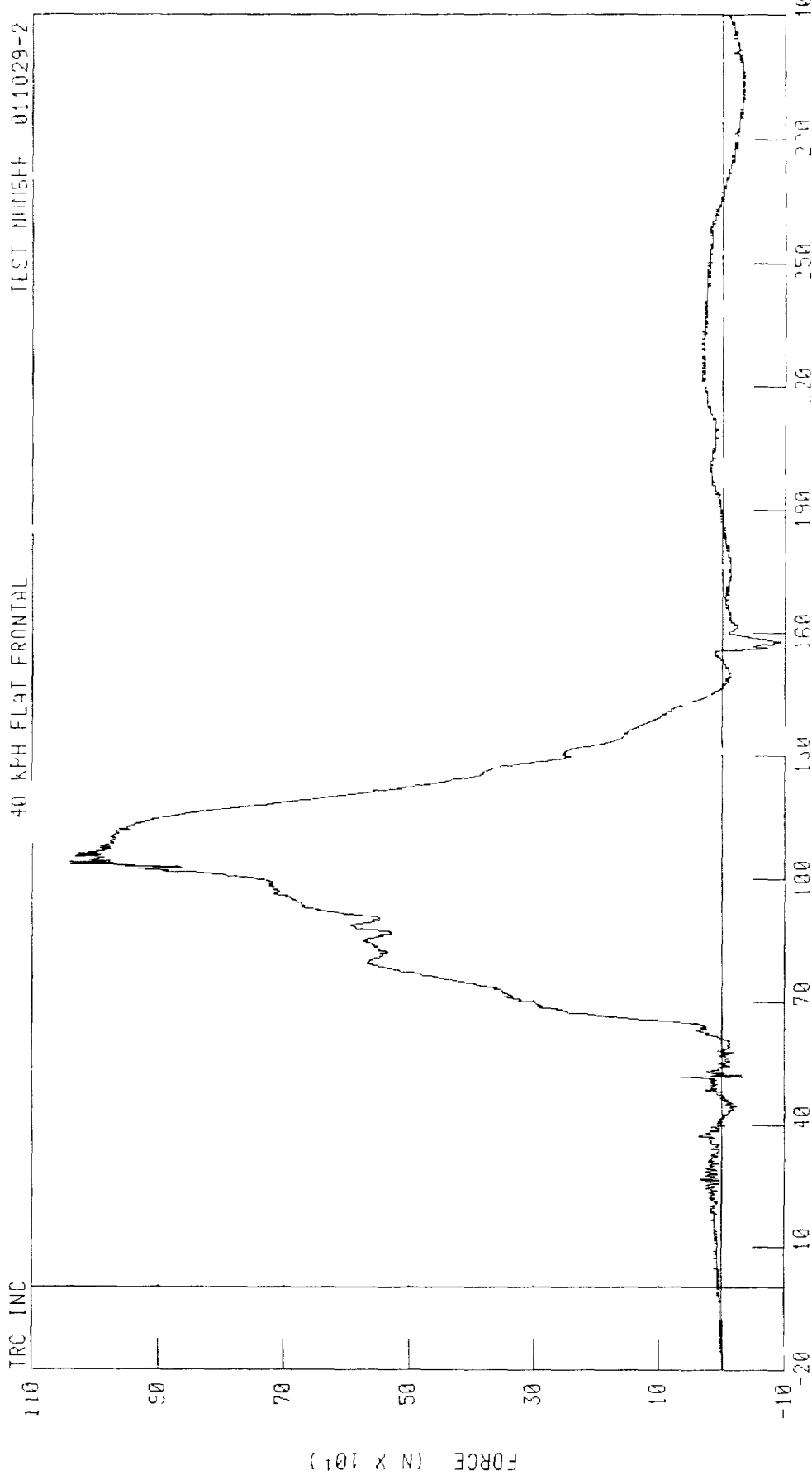
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER SIDE X-AXIS SHEAR FORCE

TEST NUMBER 011029-2

40 KPH FLAT FRONTAL

TRC INC

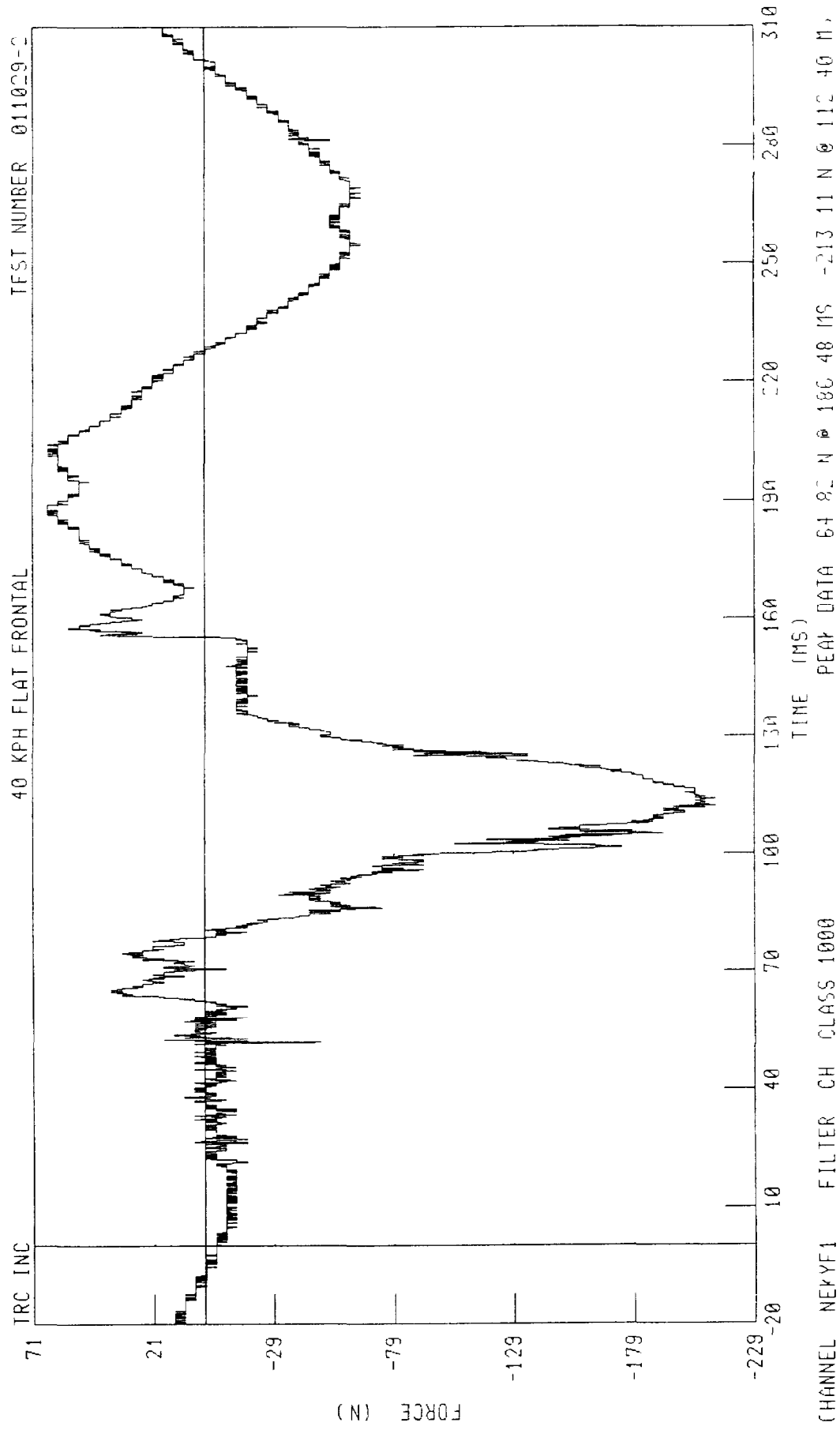


TIME (MS)

CHANNEL NEKXF1 FILTER CH CLASS 1000

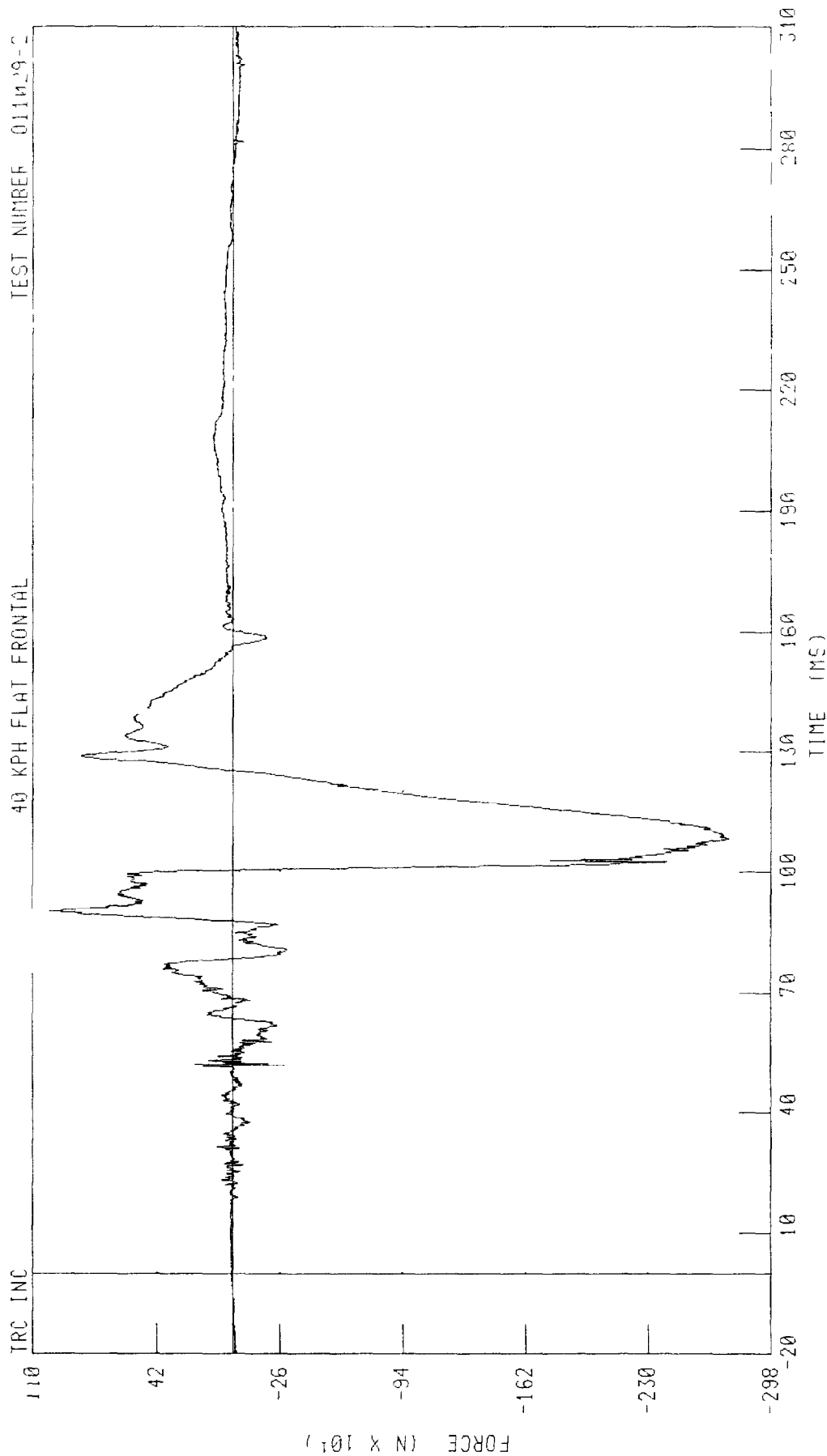
PEAK DATA 1011 72.11 107.40 MS -92.72 11.00 157.64 N

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK Y-AXIS SHEAR FORCE



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

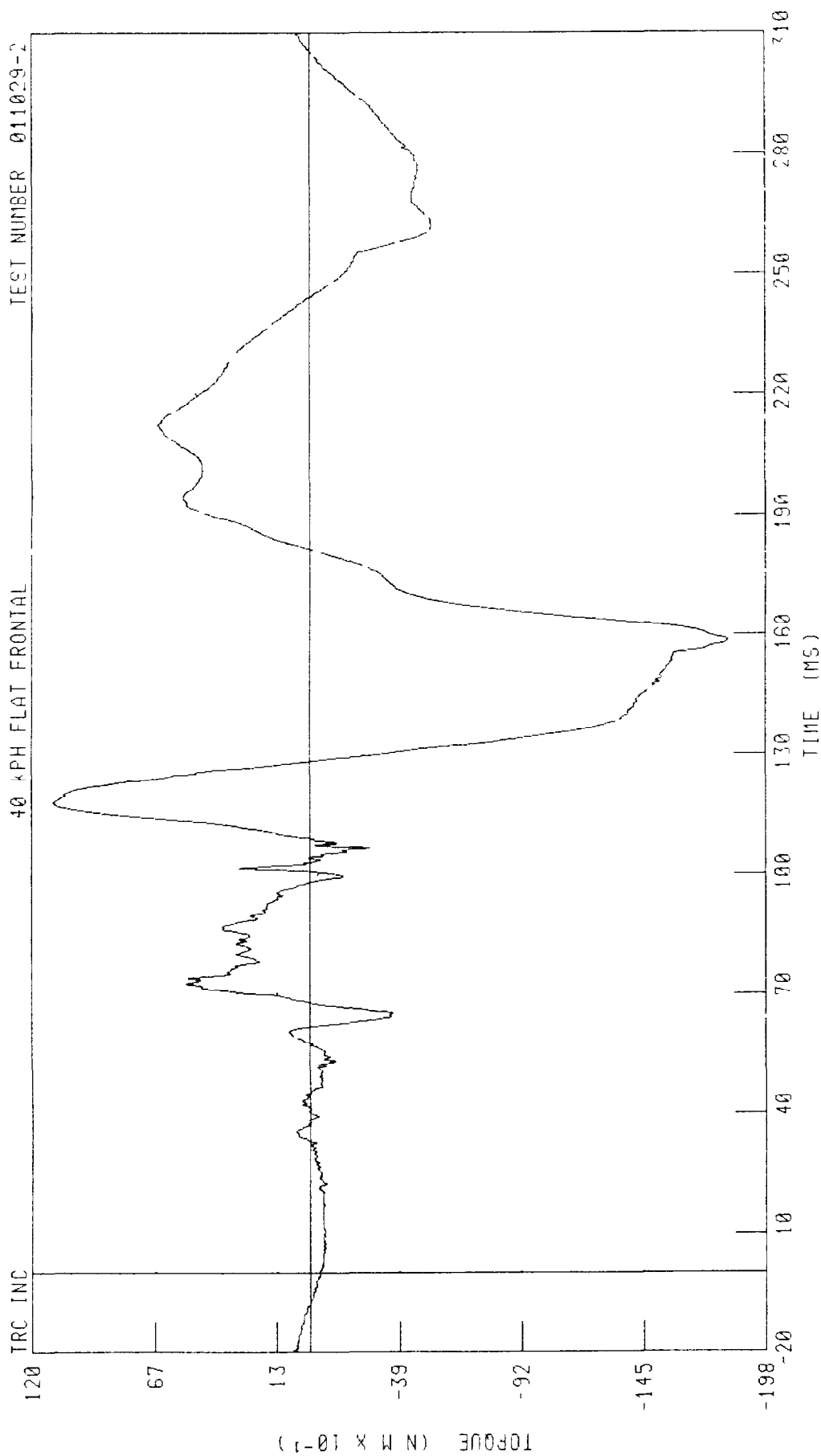
DRIVER NECK Z-AXIS AXIAL FORCE



CHANNEL NEKZF1 FILTER CH CLASS 1000

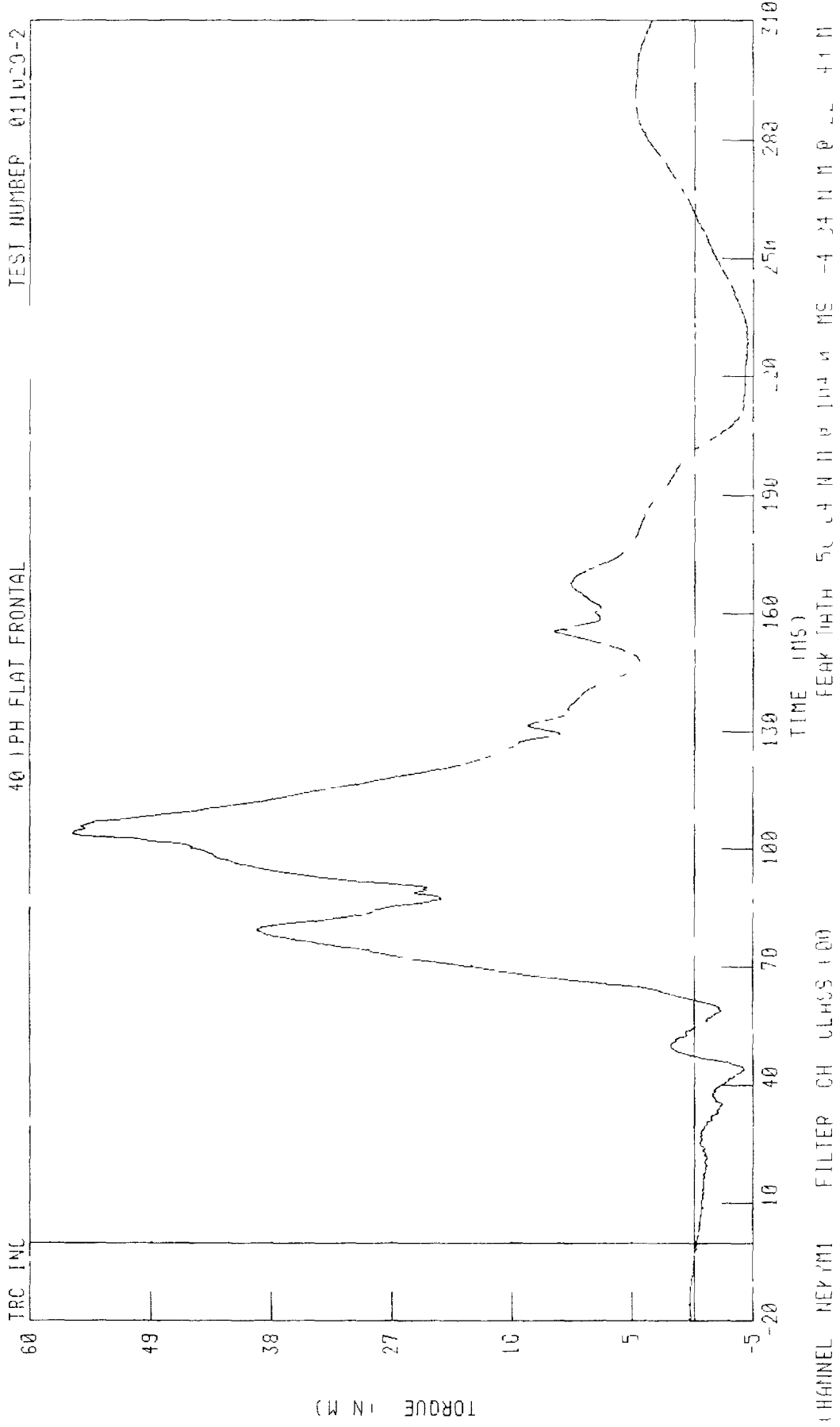
PEAK DATA 1011 70 N 0 90 16 MS 2748 59 N 0 106 47 MC

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK MOMENT ABOUT X AXIS



CHANNEL NEPXM1 FILTER CH CLASS 600 PEAK DATA 11 11 N M P 113 16 M5 -18 13 N M P 15 12 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 MPH
 DRIVER NECK MOMENT ABOUT Y AXIS
 40 MPH FLAT FRONTAL

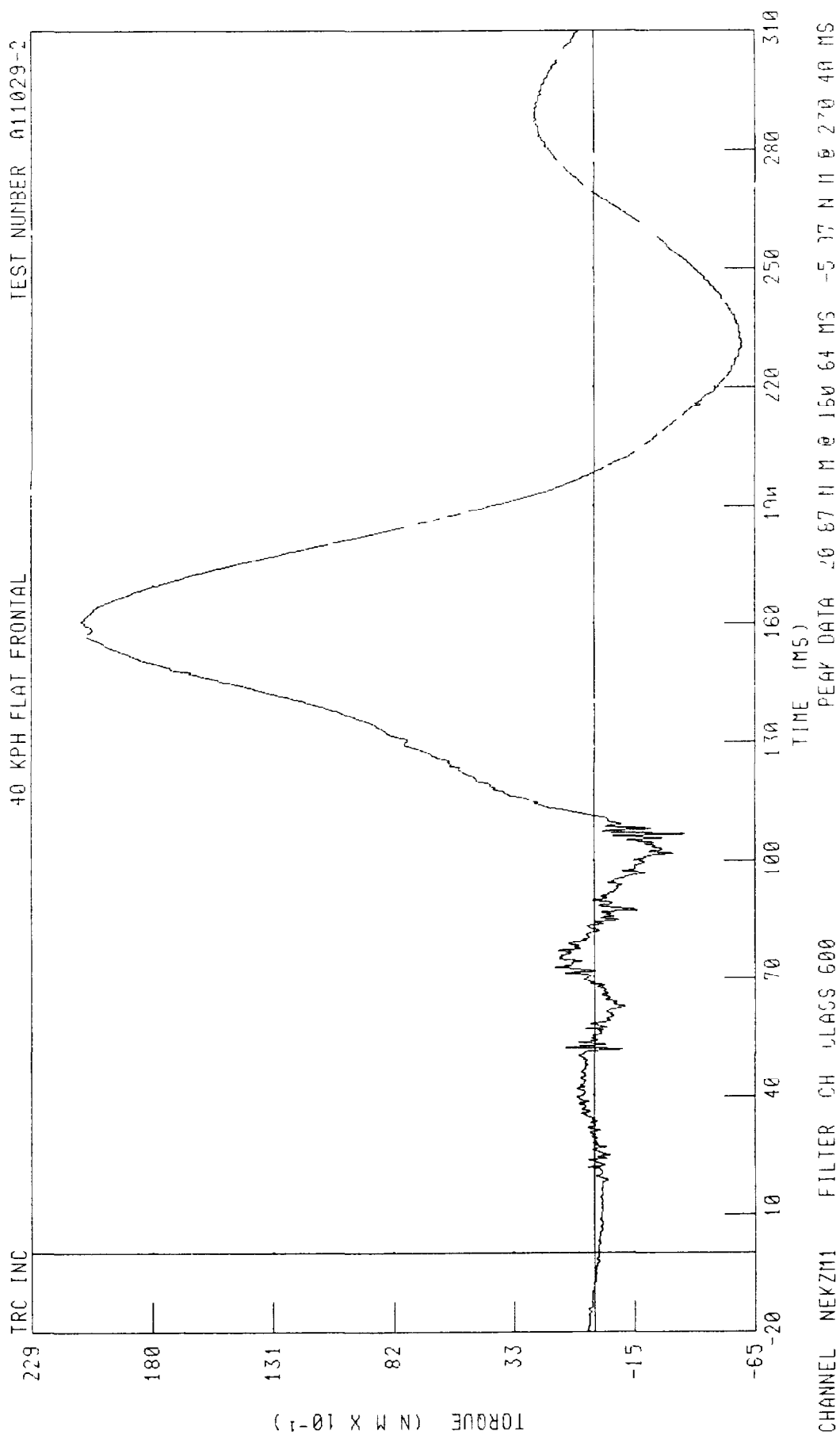


TORQUE (N.M)

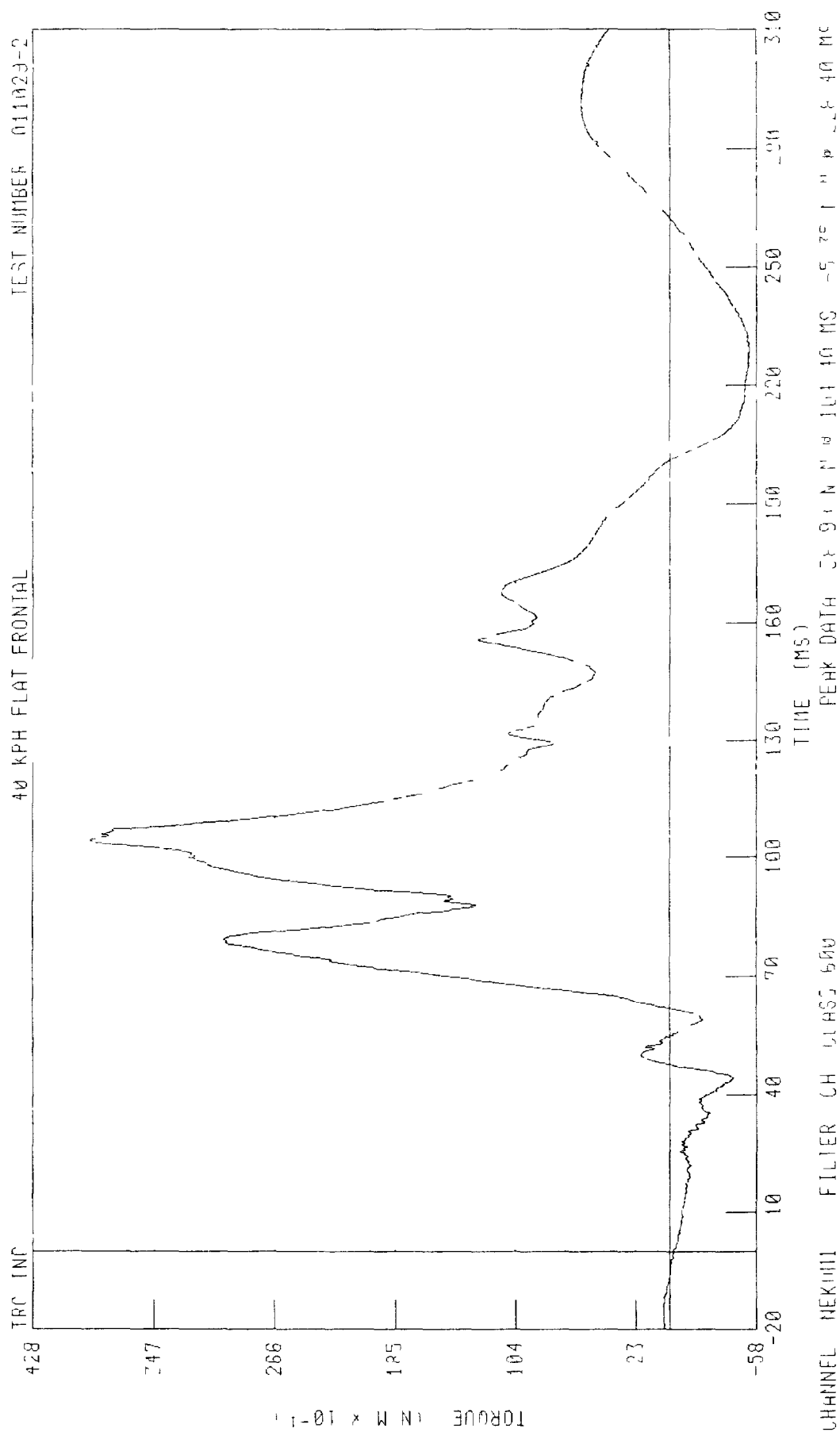
TIME (MS)

CHANNEL NEVIM1 FILTER CH CLASS 100 PEAK DATA 50.04 NIP 104.4 MS -4.24 NIP 0.00 41.11

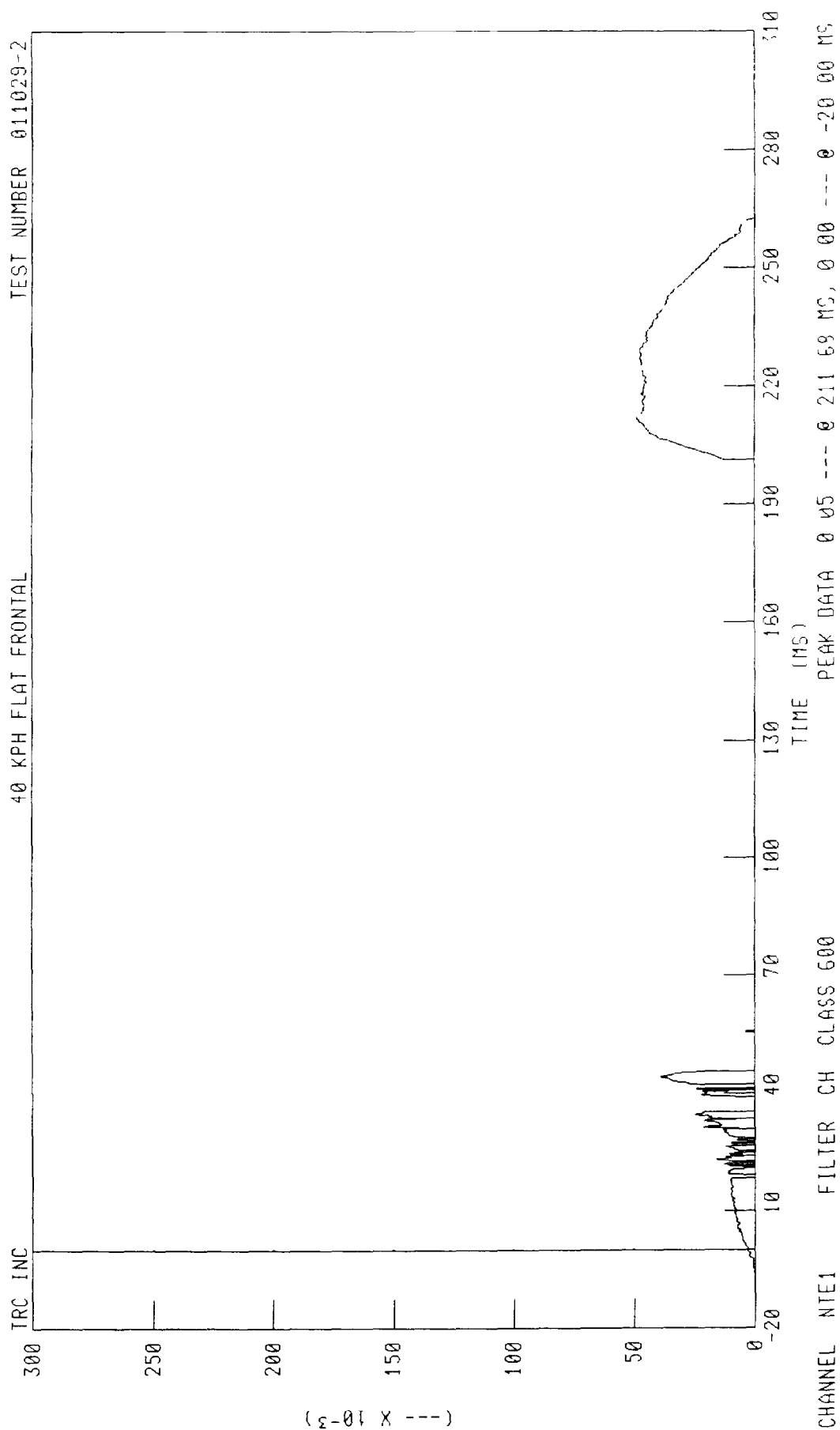
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK MOMENT ABOUT Z AXIS



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK OCCIPITAL CONDYLE MOMENT ABOUT Y AXIS



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK TENSION/EXTENSION
 40 KPH FLAT FRONTAL



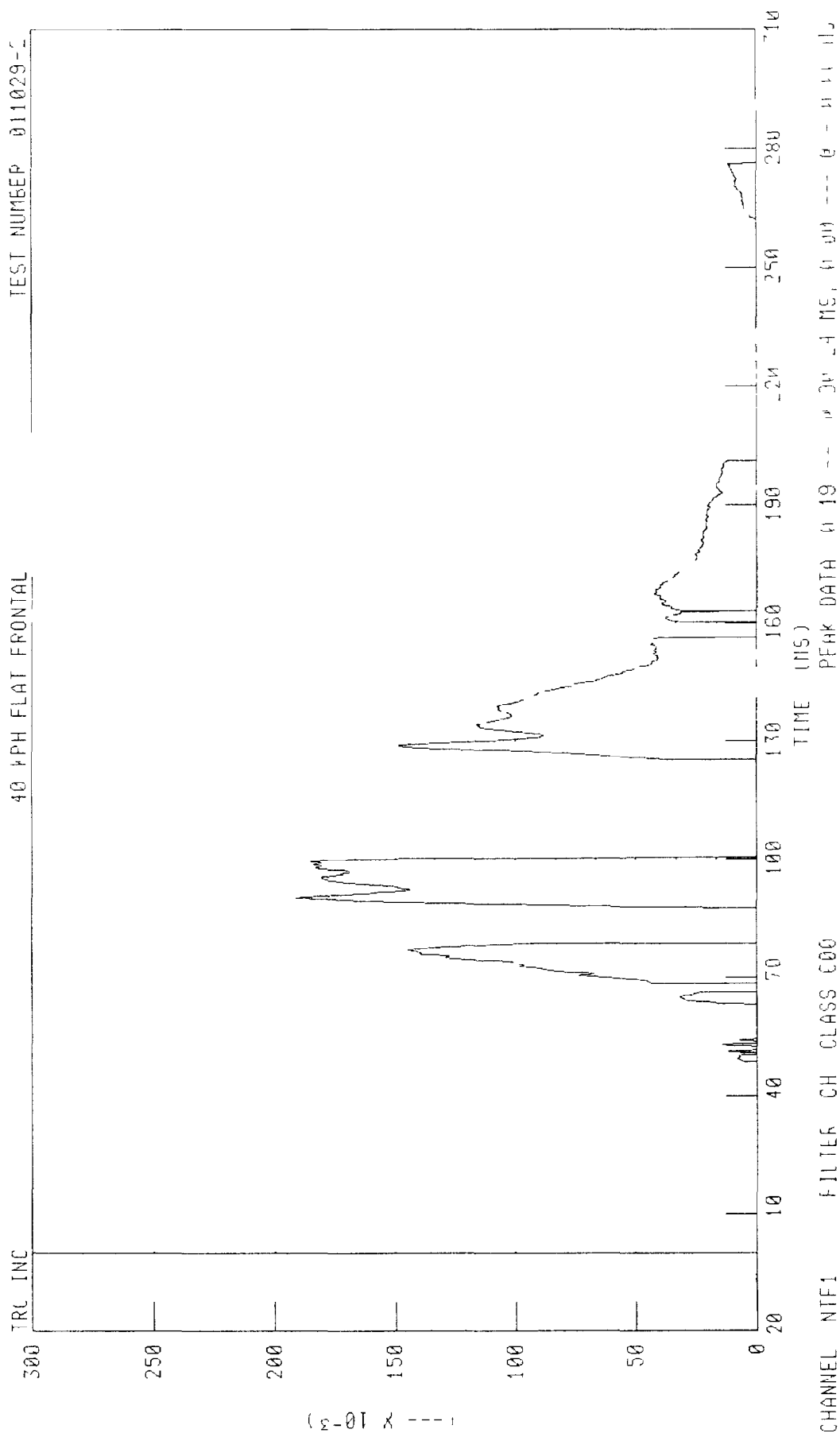
(--- X 10⁻³)

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER NECK TENSION/FLEXION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER NECK COMPRESSION-EXTENSION

TEST NUMBER 011029-2

40 KPH FLAT FRONTAL

TRC INC

300

250

200

150

100

50

0

(--- X 10⁻³)

TIME 130 160 190 220 250 280 310

IMS1

PEAK DATA 0 04 --- 0 58 64 MC 4 00 --- 0 -20 00 MS

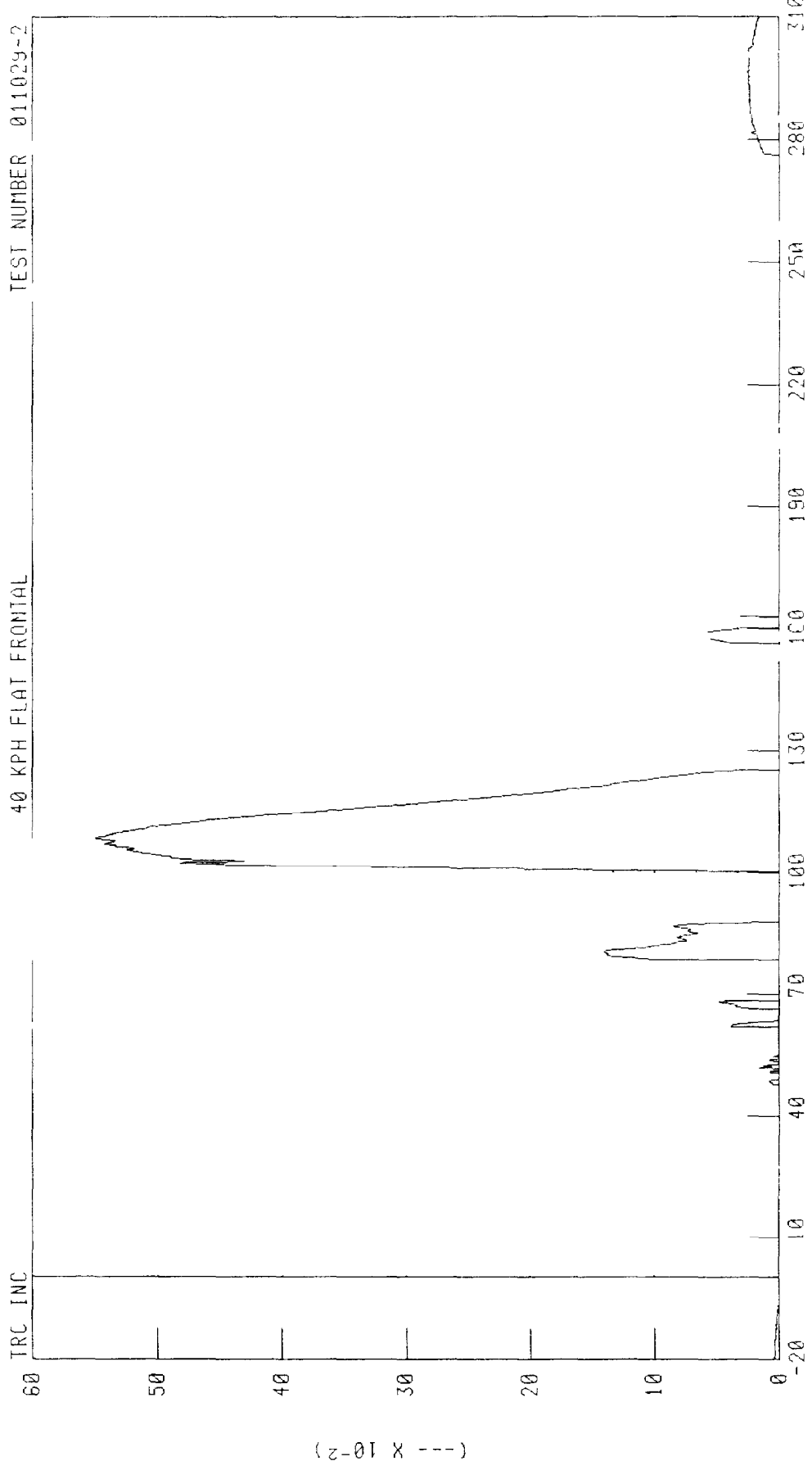
CHANNEL NCE1 FILTER CH CLASS 600

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER NECK COMPRESSION/FLEXION

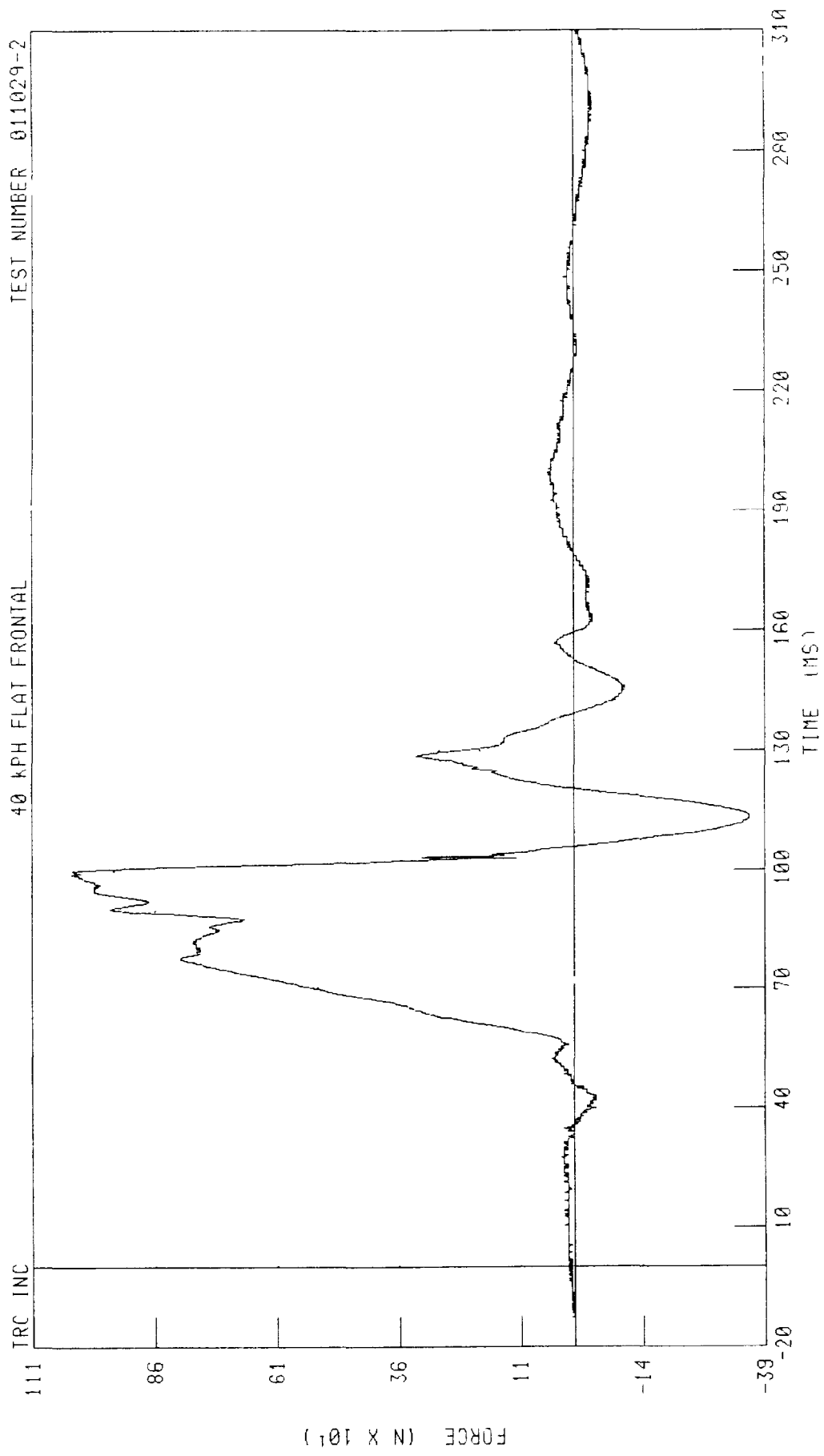
40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL NCF1 FILTER CH CLASS 600 TIME (MS) PEAK DATA 0 55 - - 0 103 40 MS 0 60 - - 0 -7 61 MS

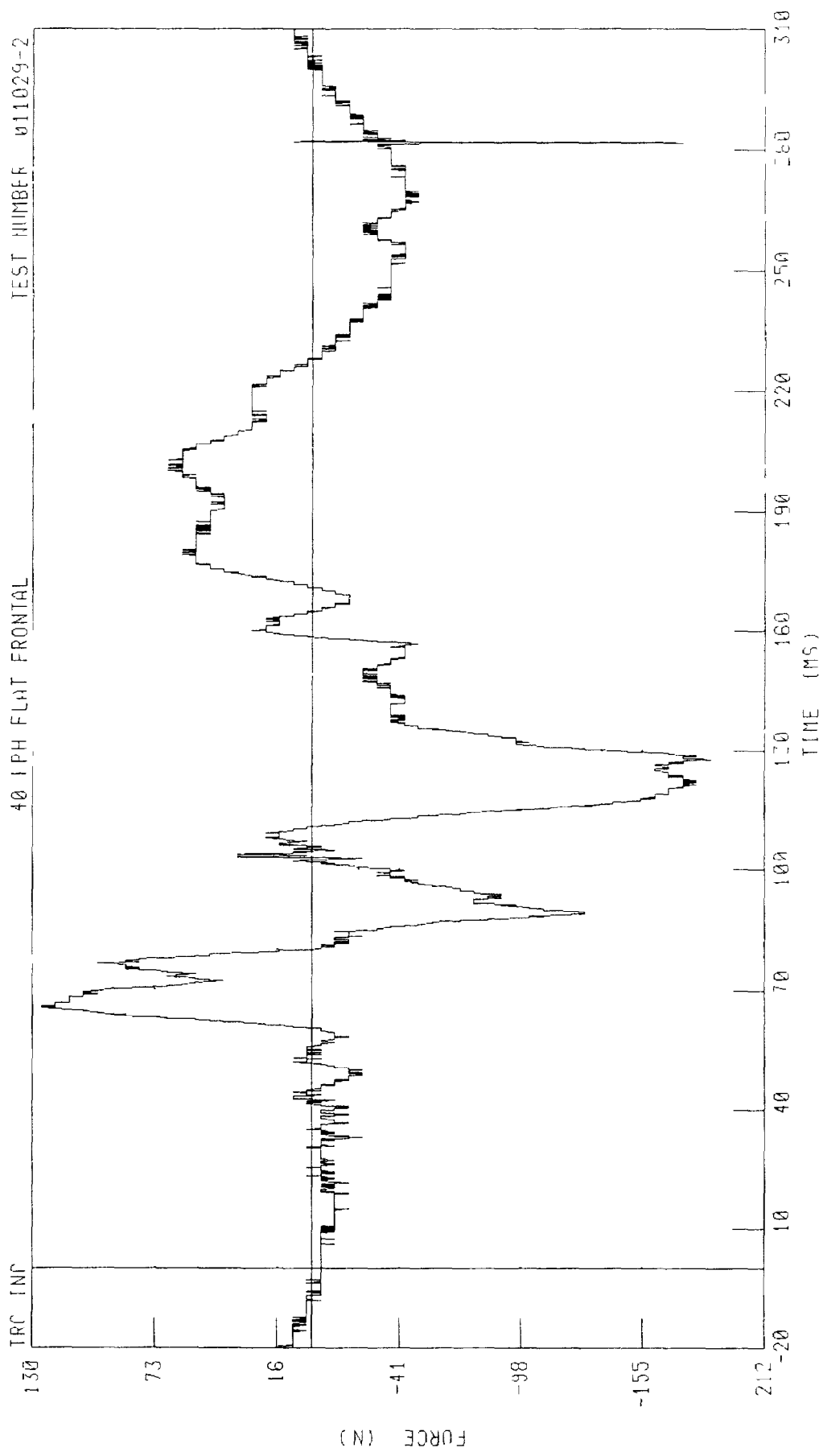
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK LOWER X-AXIS SHEAR FORCE



CHANNEL NKLXF1 FILTER CH CLASS 1000

PEAK DATA 1029 21 N 0 49 17 110, -358 40 N 0 112 4F 110

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK LOWER Y-AXIS SHEAR FORCE



CHANNEL NKLAFI FILTER CH CLASS 1000

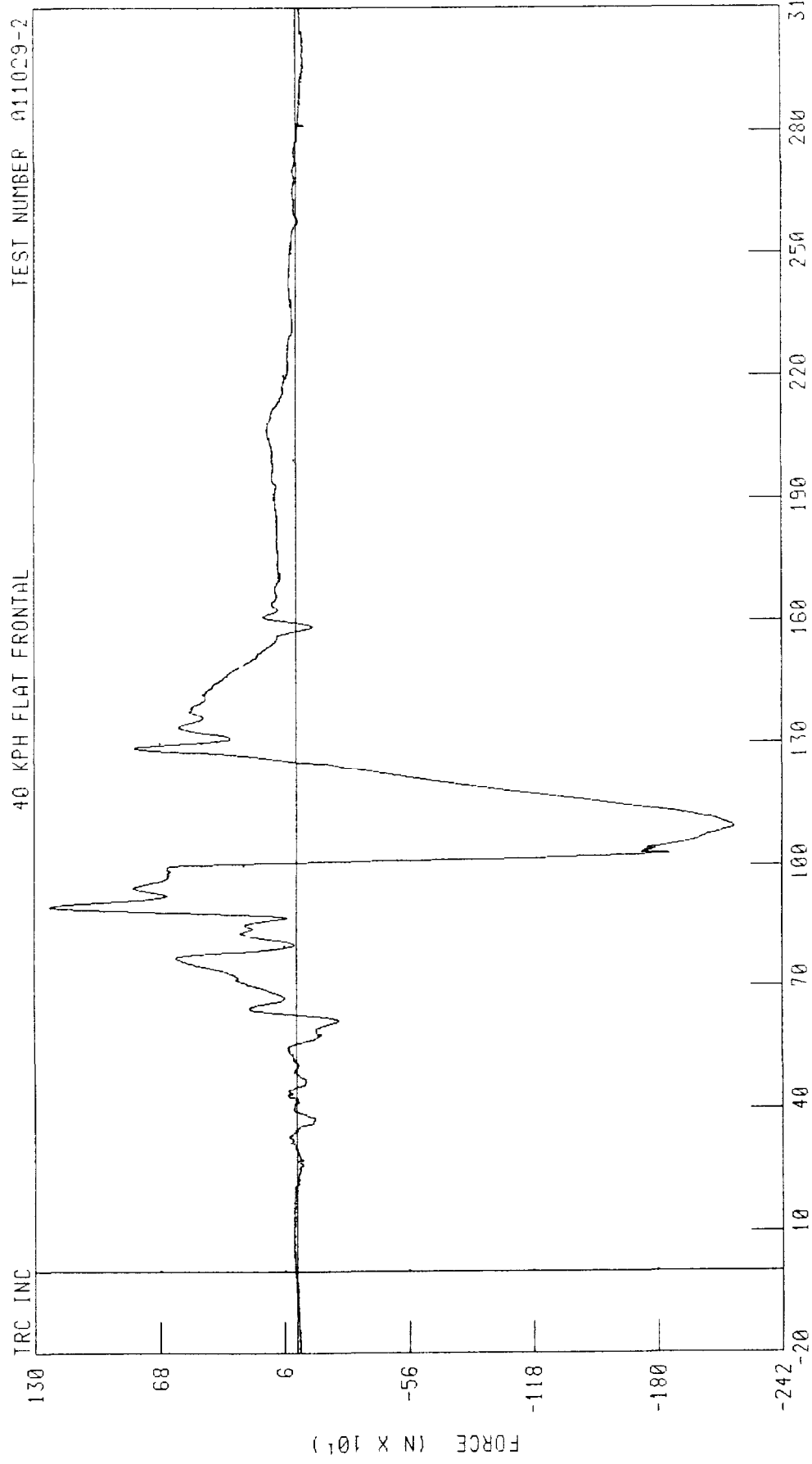
FEAR DATA 125 82 N 15 44 N -190 8 11 12 14 N

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER NECK LOWER Z-AXIS AXIAL FORCE

40 KPH FLAT FRONTAL

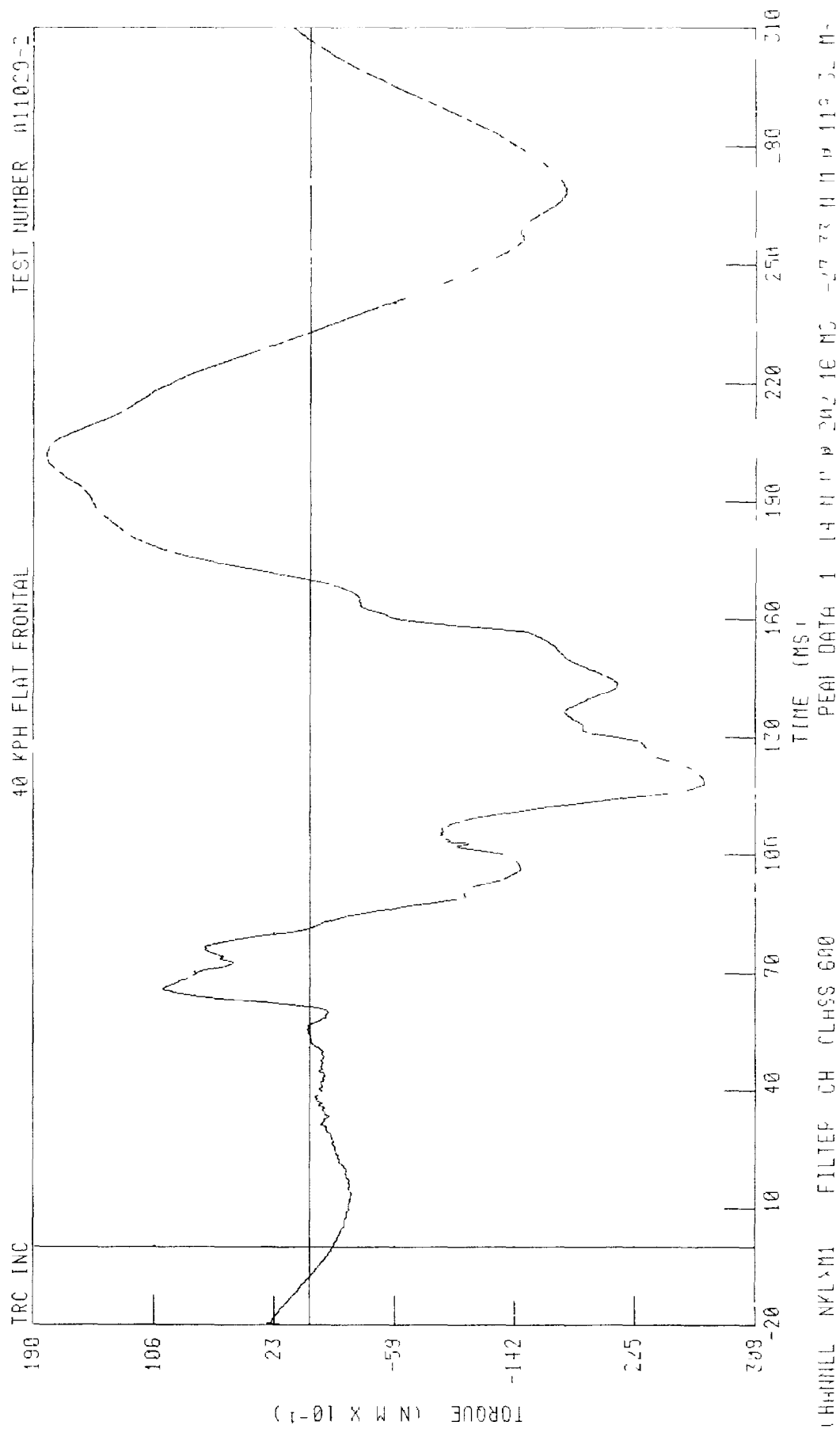
TEST NUMBER 011029-2



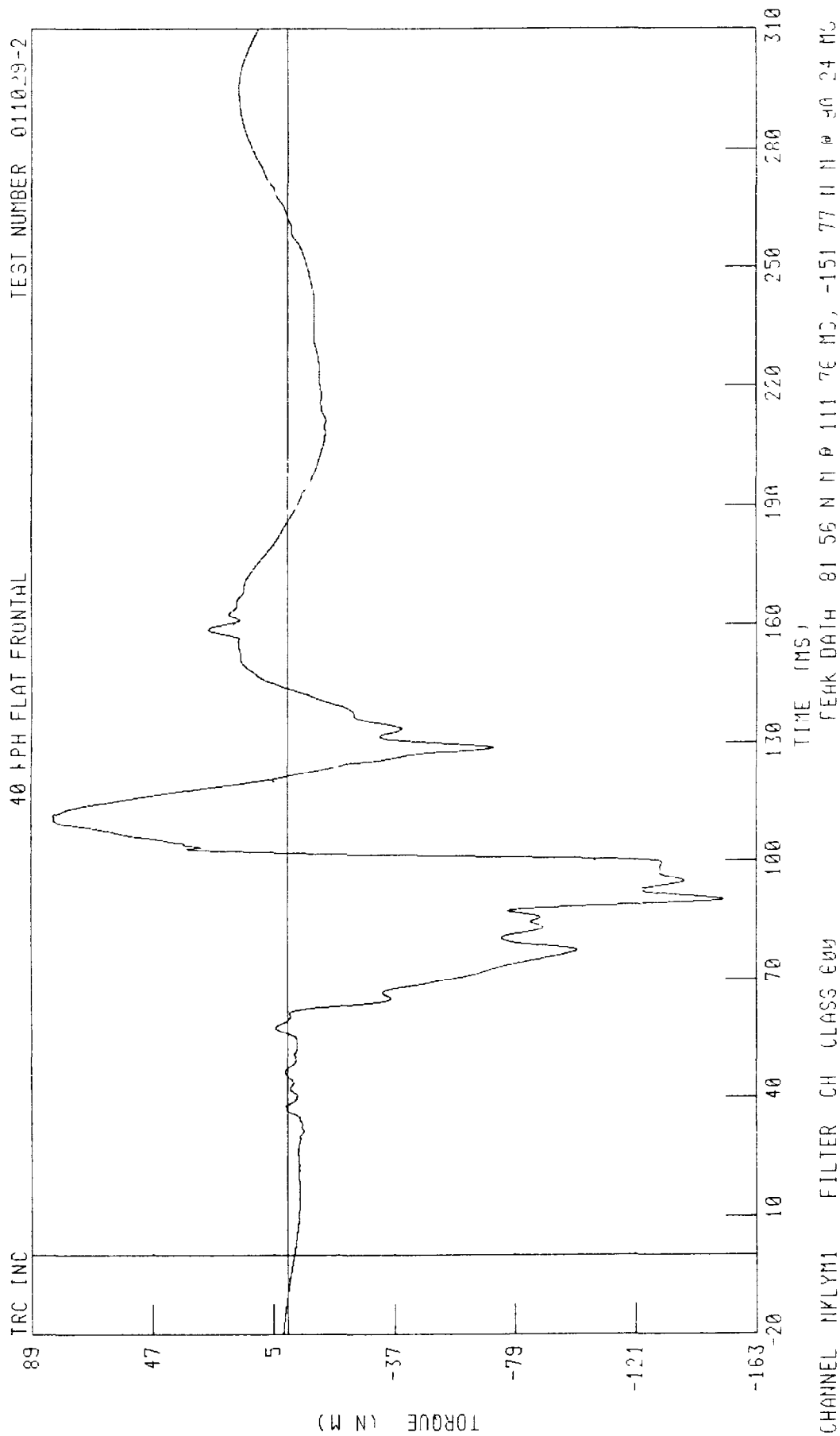
CHANNEL NKLZF1 FILTER CH (CLASS 1000

PEAK DATA 1257 38 11 0 30 08 MS, -2136 30 11 0 109 52 MS,

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK LOWER MOMENT ABOUT X AXIS



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER NECK LOWER MOMENT ABOUT Y AXIS

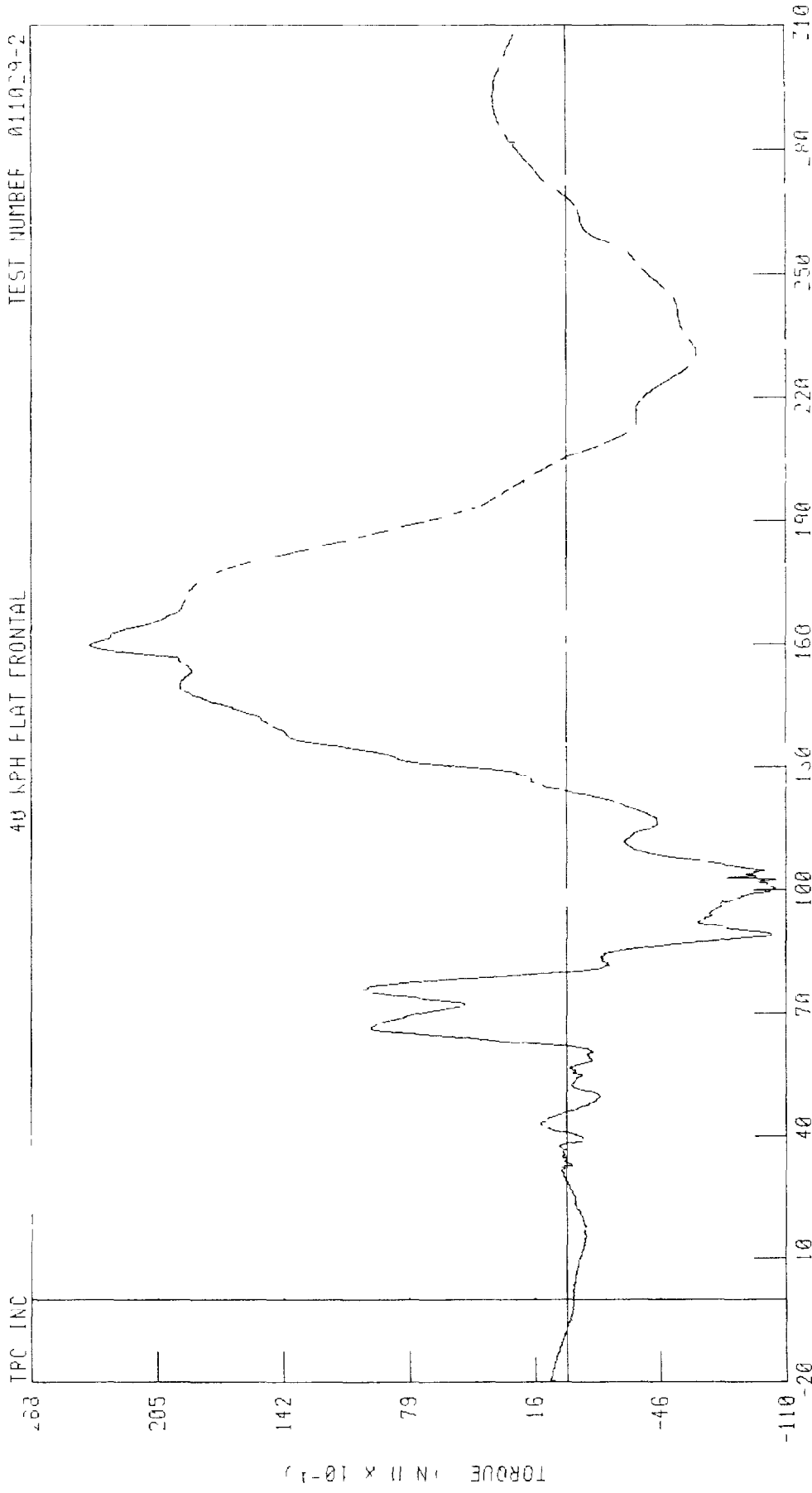


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER NECK LOWER MOMENT ABOUT Z AXIS

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



TIME (MS)

CHANNEL NKLZM1 FILTER CH CLAS CAN

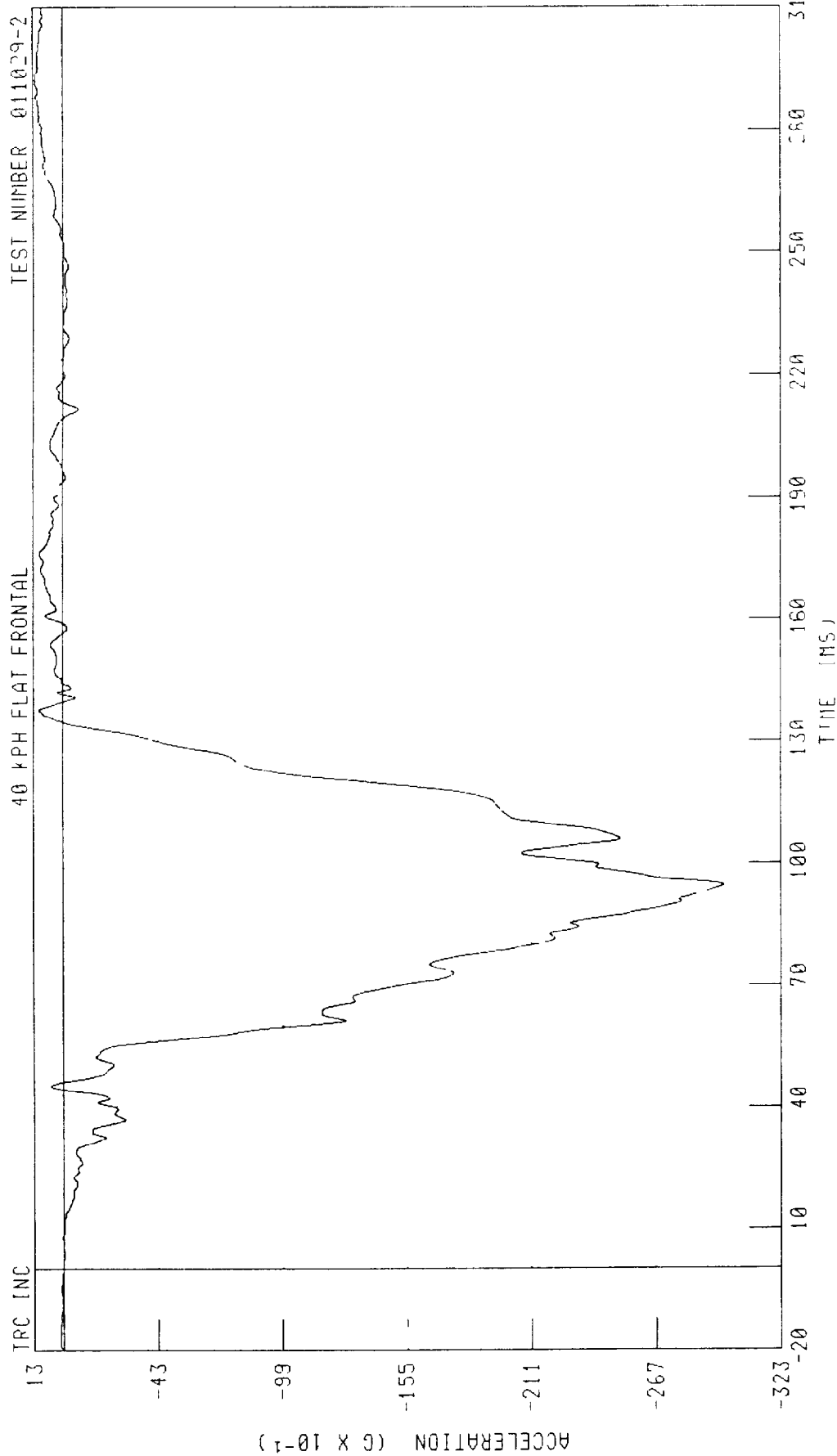
PEAK DATA 27.2 11.1 159.9 2.1 14.5 11.1 102.7 2.1

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER CHEST X-AXIS ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

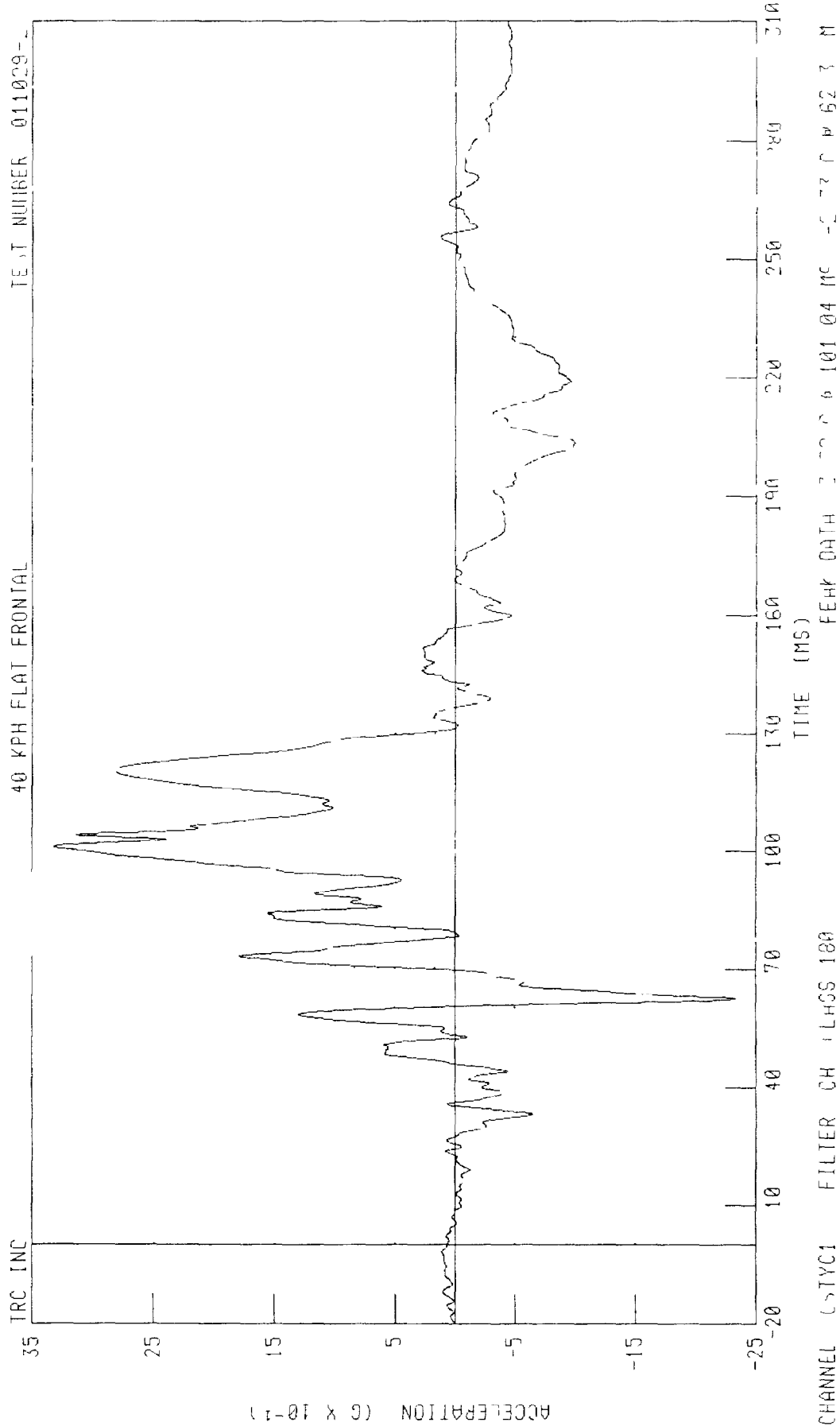


CHANNEL C, TXG1 FILTER CH CLASS 180

PEAK DATA 1 23 0 0 291 08 M3 -29 75 0 0 94 72 M3

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER CHEST Y-AXIS ACCELERATION

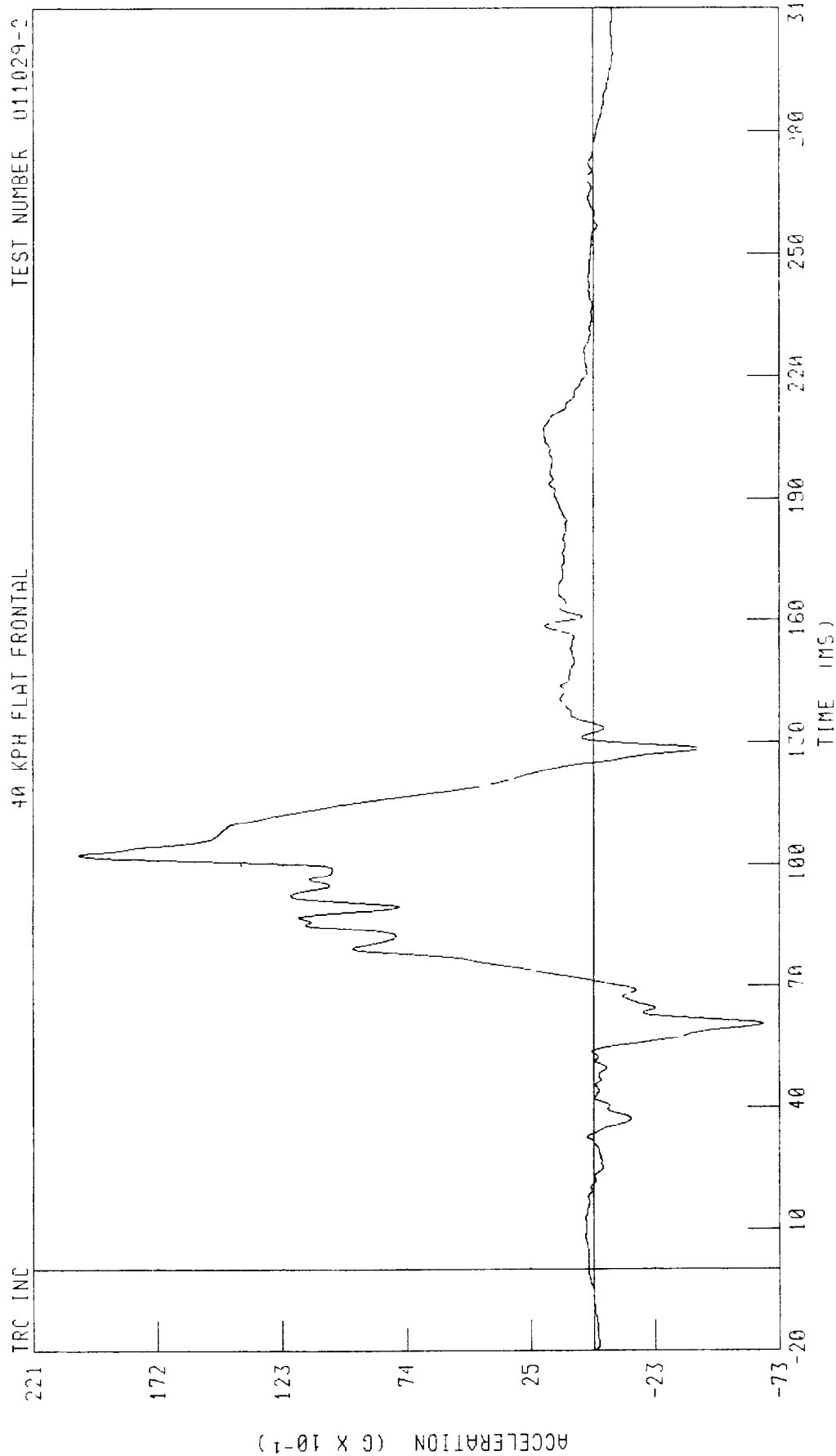


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER CHEST Z-AXIS ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL C51ZG1 FILTER CH CLASS 120

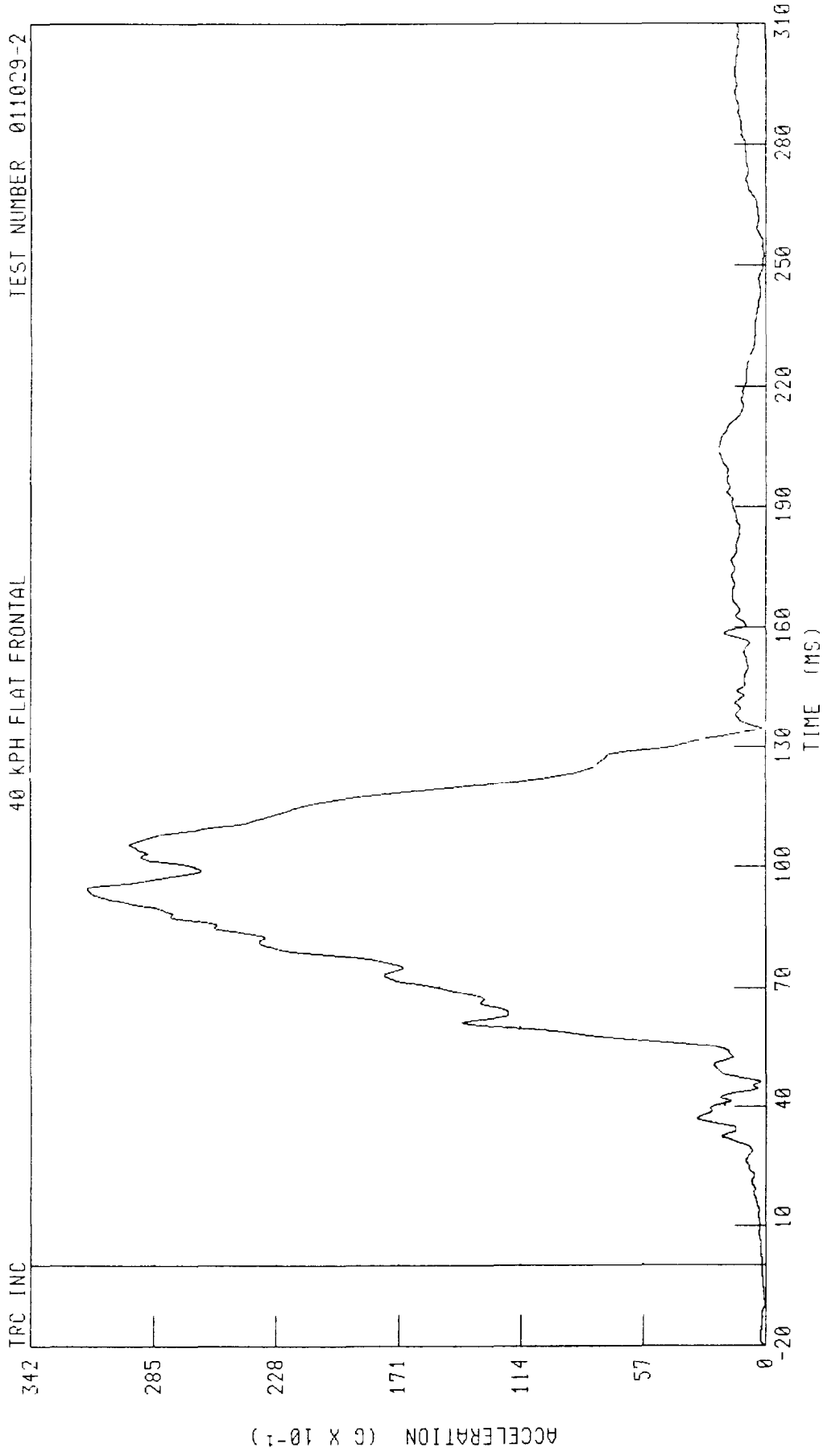
PEAK DATA 20 32 6 102 64 MS -6 68 0 0 0 4 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER CHEST RESULTANT ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL CSTRG1 FILTER CH CLASS 180

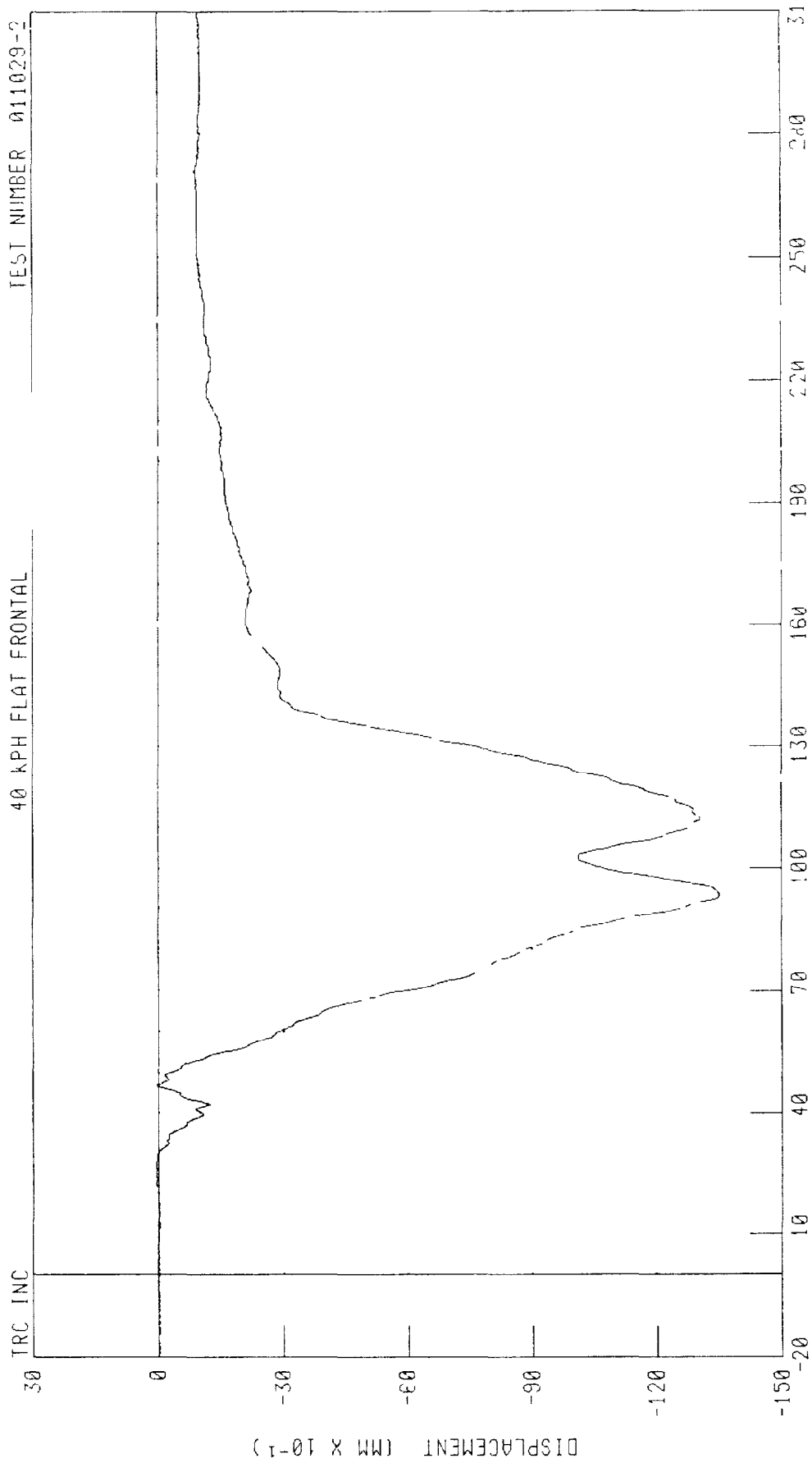
PEAK DATA 31 50 0 94 01 MS 0 01 0 0 -20 00 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER CHEST DEFLECTION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



TIME (msec)

CHANNEL CSTXD1 FILTER CH CLASS 600

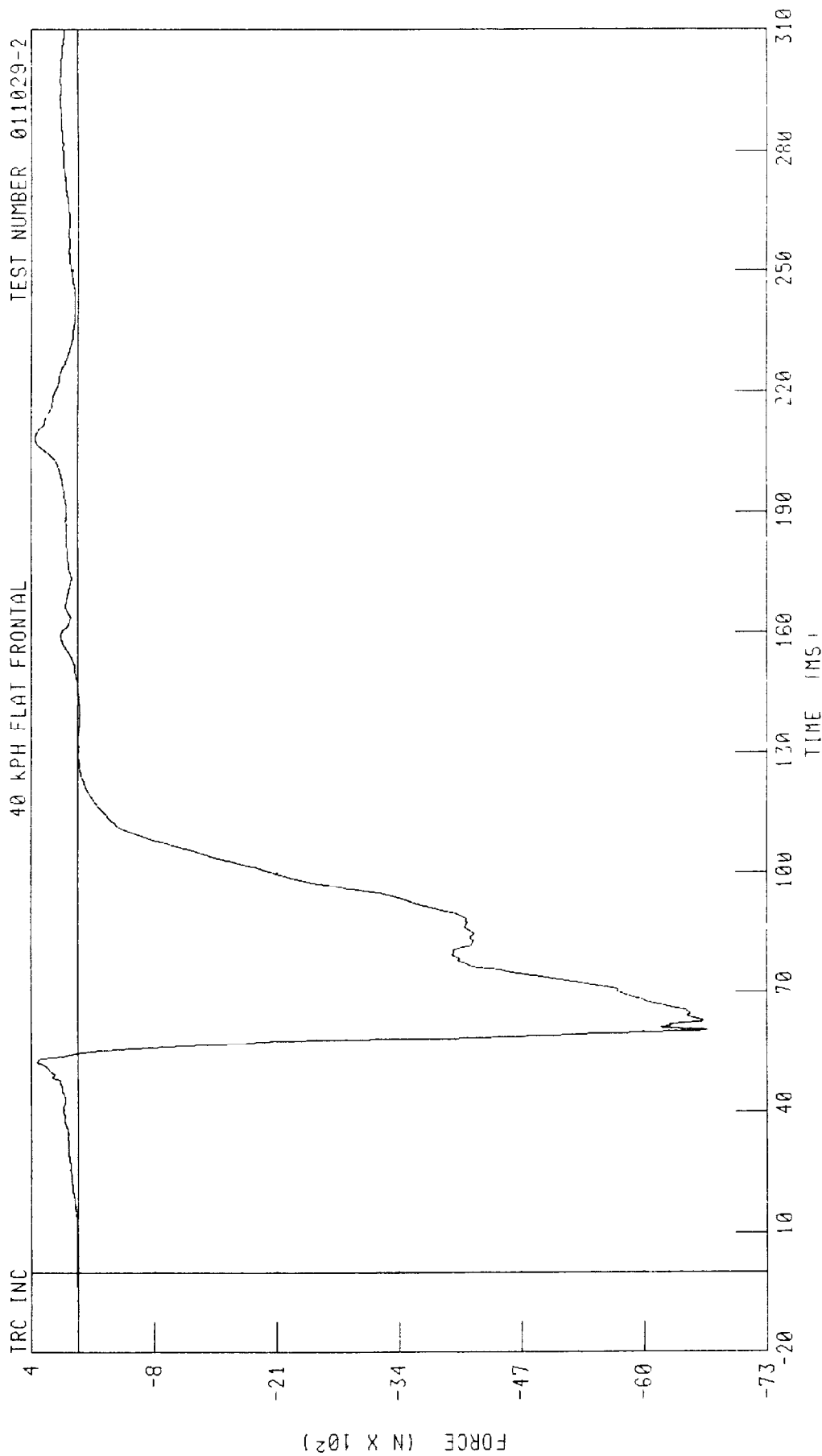
PEAK DATA 0.06 mm @ 1.5 ms -13.49 mm @ 92.46 ms

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER LEFT FEMUR FORCE

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL LFMZF1 FILTER CH CLASS 640

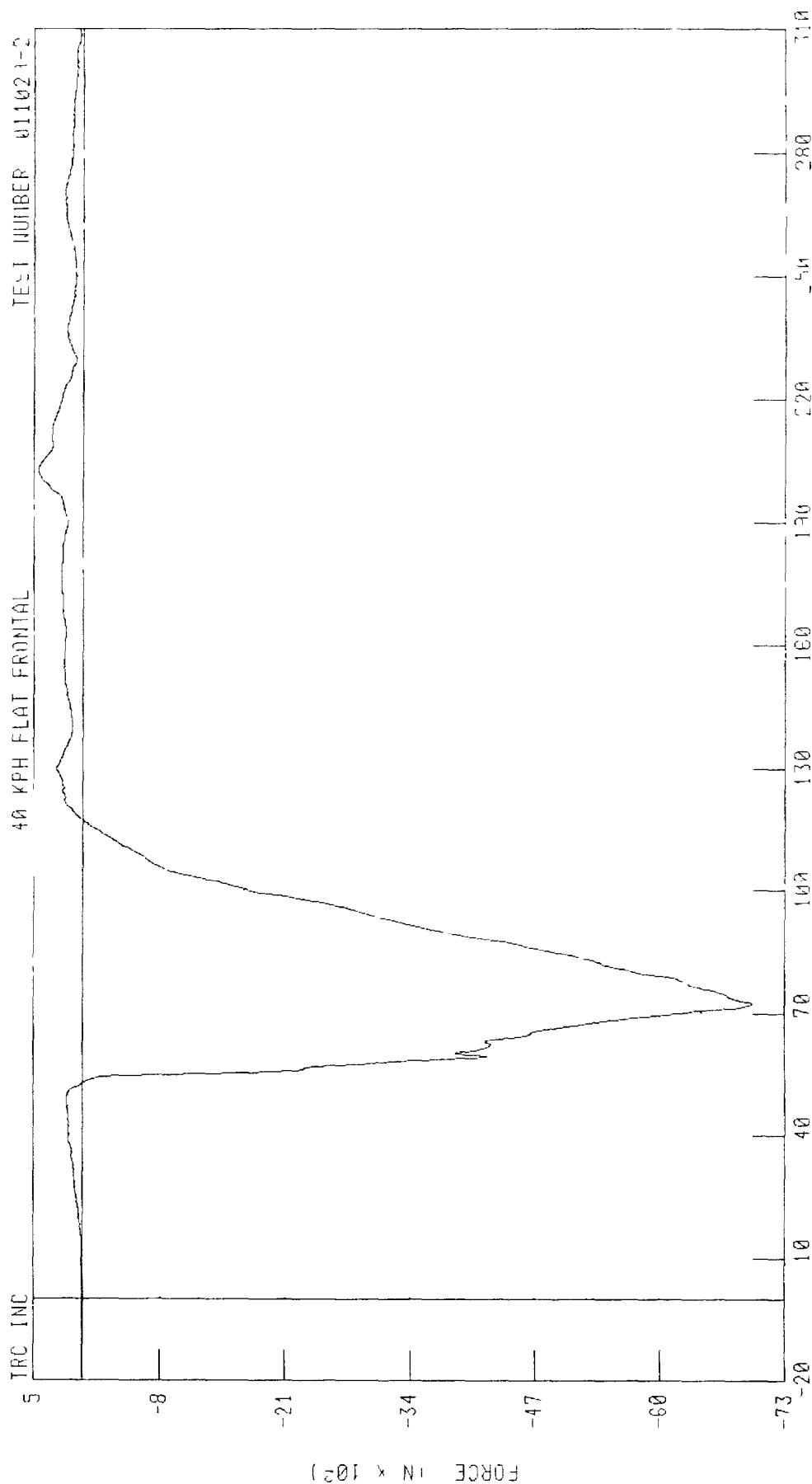
PEAK DATA 451 58 N @ 208 72 MS, -6687 53 N @ 111 48 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 MPH

DRIVER RIGHT FEMUR FORCE

40 MPH FLAT FRONTAL

TEST NUMBER 011021-2



TIME (MS)

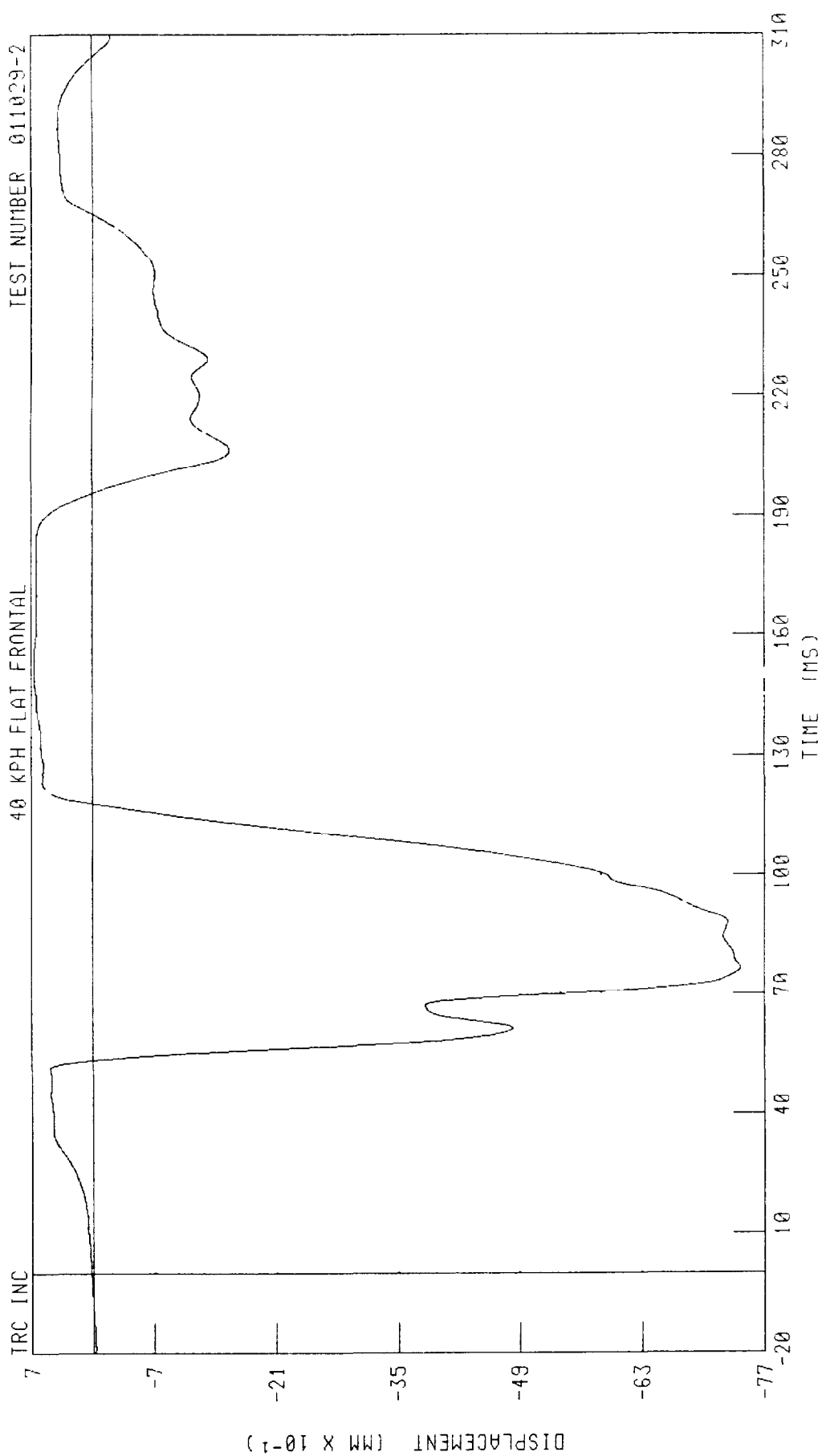
PEAK DATA 154.91 N 207.1 N -0944 59 N 0 5.2 72 N

CHANNEL RFMZFI FILTER CH CLASS 600

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER LEFT TIBIA TO KNEE DISPLACEMENT

40 KPH FLAT FRONTAL TEST NUMBER 011029-2



CHANNEL KNLXD1 FILTER CH CLASS 180

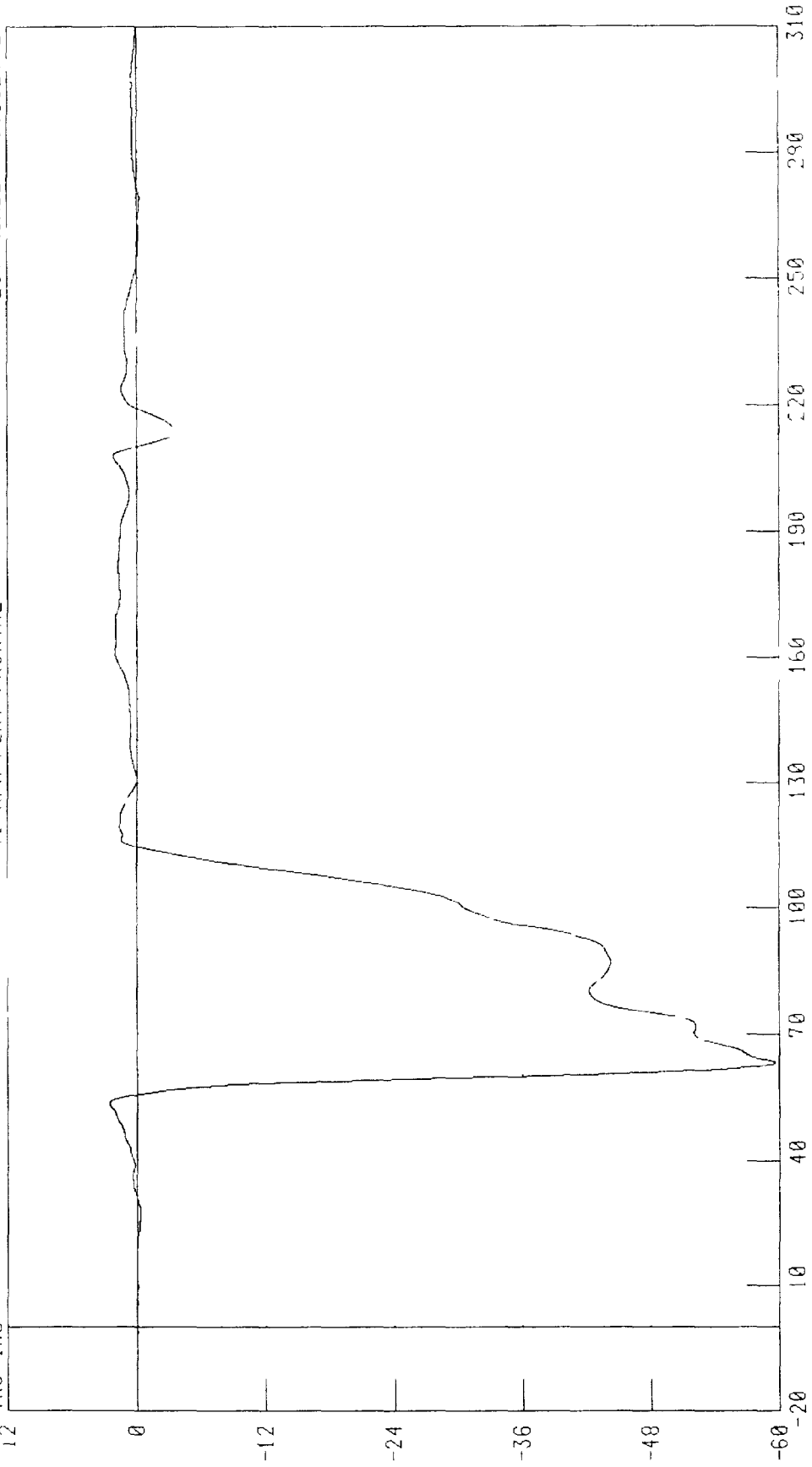
PEAK DATA 0 67 MM 155 76 MS -7 43 MM 76 40 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER RIGHT TIBIA TO KNEE DISPLACEMENT
40 KPH FLAT FRONTAL

TEST NUMBER 011020-2

TRC INC

DISPLACEMENT (MM X 10⁻¹)

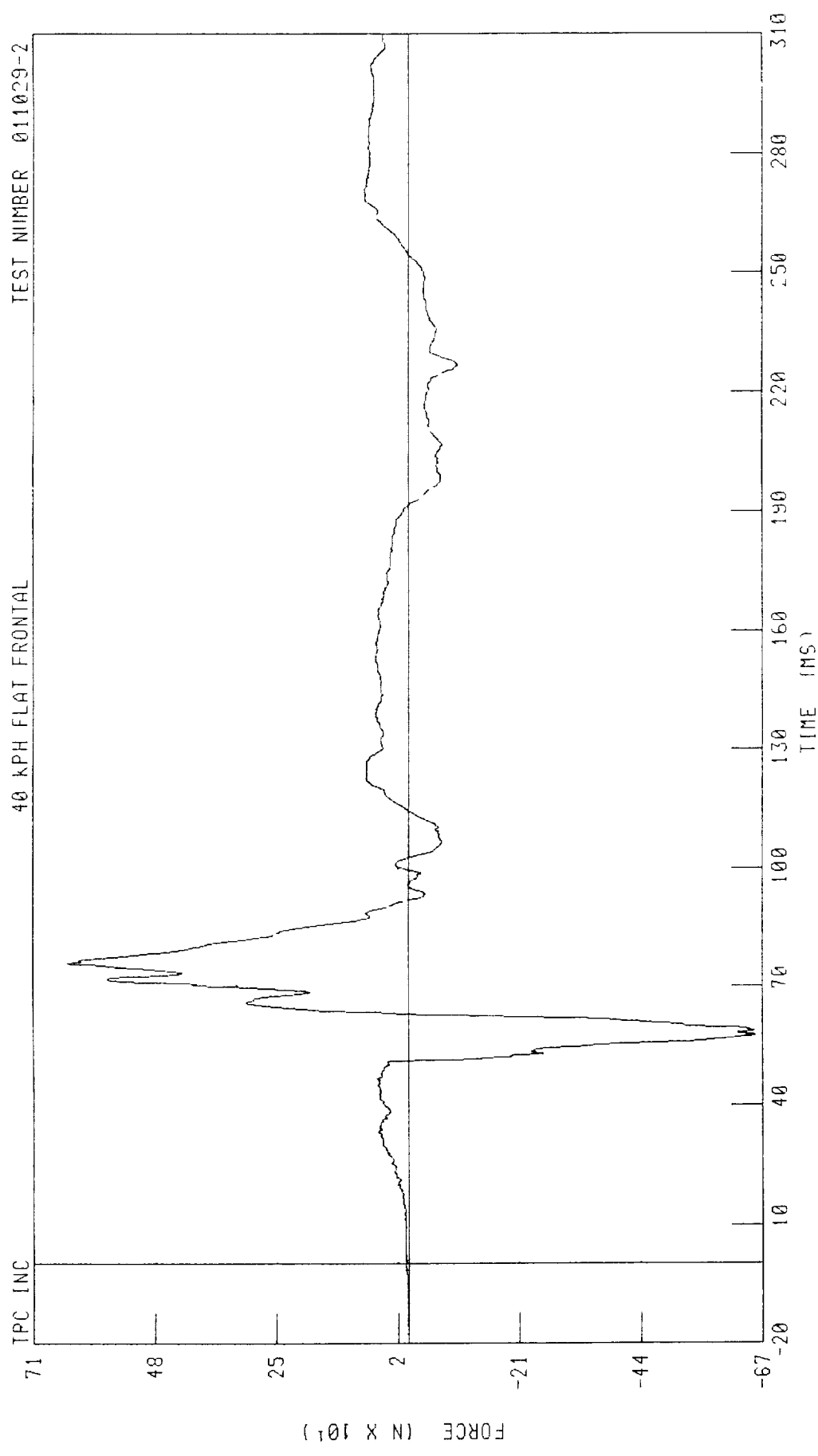


CHANNEL KNRX01 FILTER CH CLASS 180 PEAK DATA 0 26 MM @ 53 F, MS -5.97 MM @ 03.28 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER LEFT UPPER TIBIA X-AXIS FORCE

TEST NUMBER 011029-2

40 KPH FLAT FRONTAL

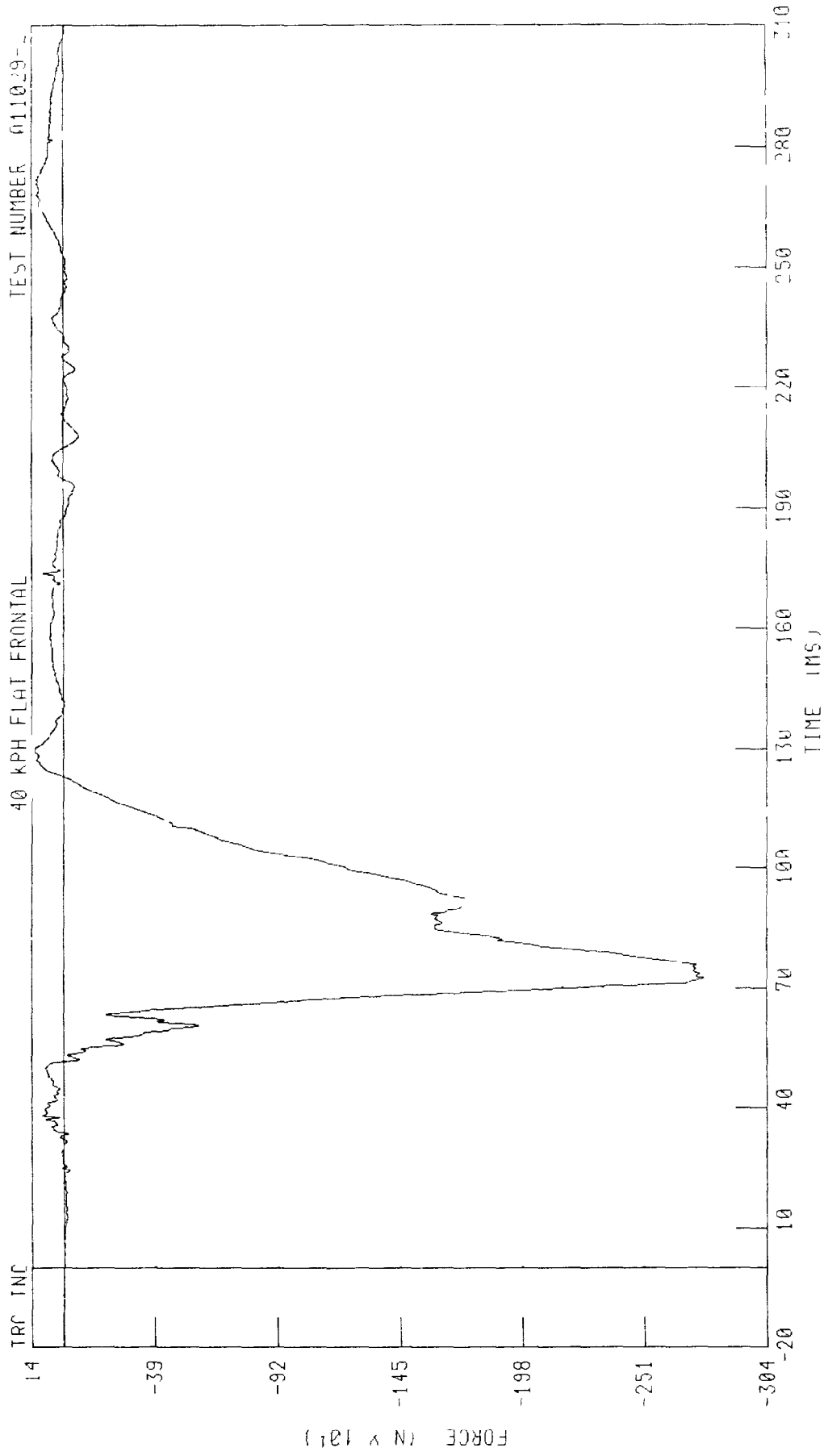


CHANNEL TBLXF1 FILTER CH CLASS 600

PEAK DATA 646 56 N @ 76 40 MS -656 30 N @ 57 76 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

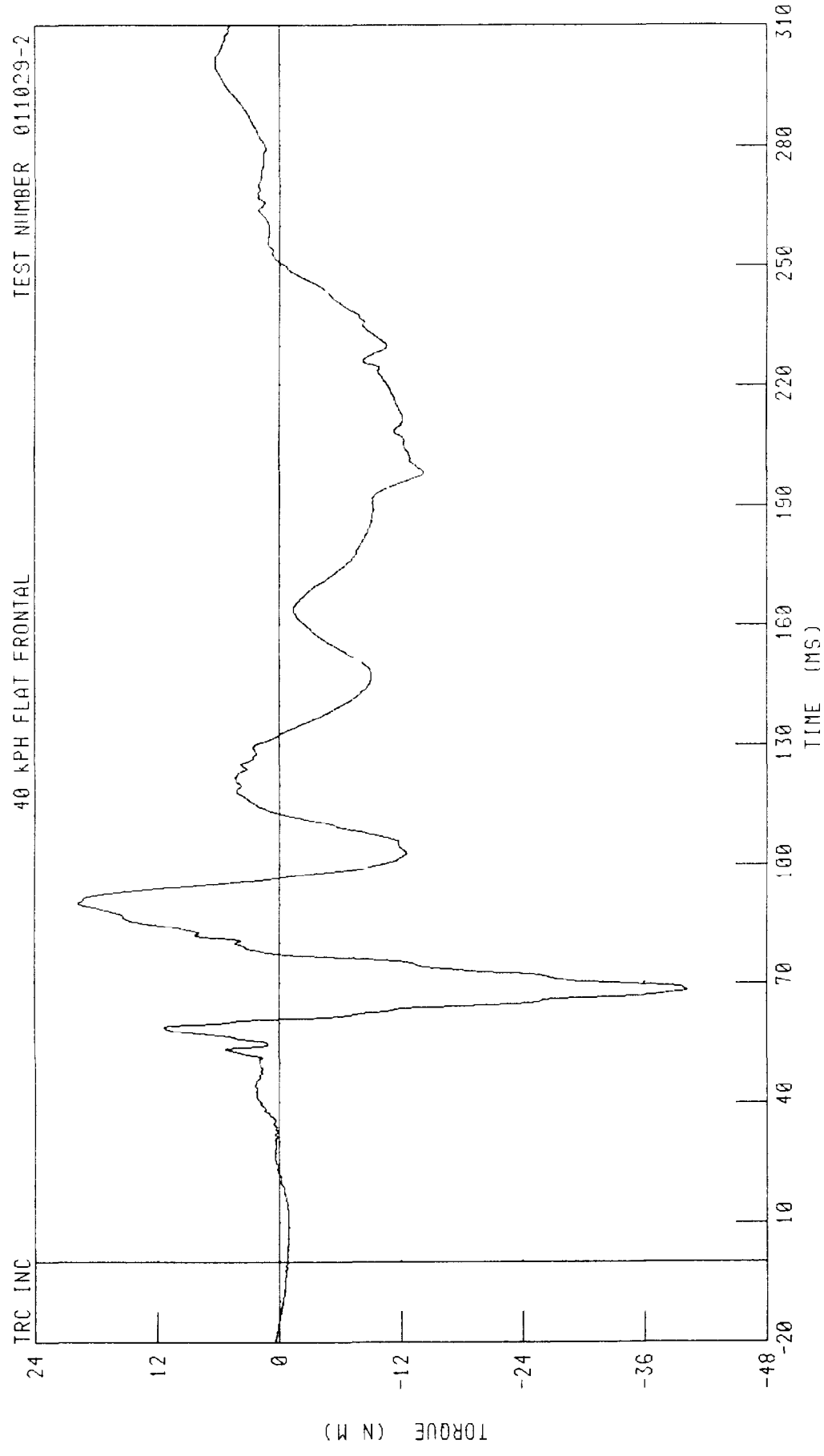
DRIVER LEFT UPPER TIBIA Z-AXIS FORCE



CHANNEL TBLZF1 FILTER CH (CLASS 600)

PEAK DATA 12160 N @ 12930 MS 270755 N @ 2743 MS

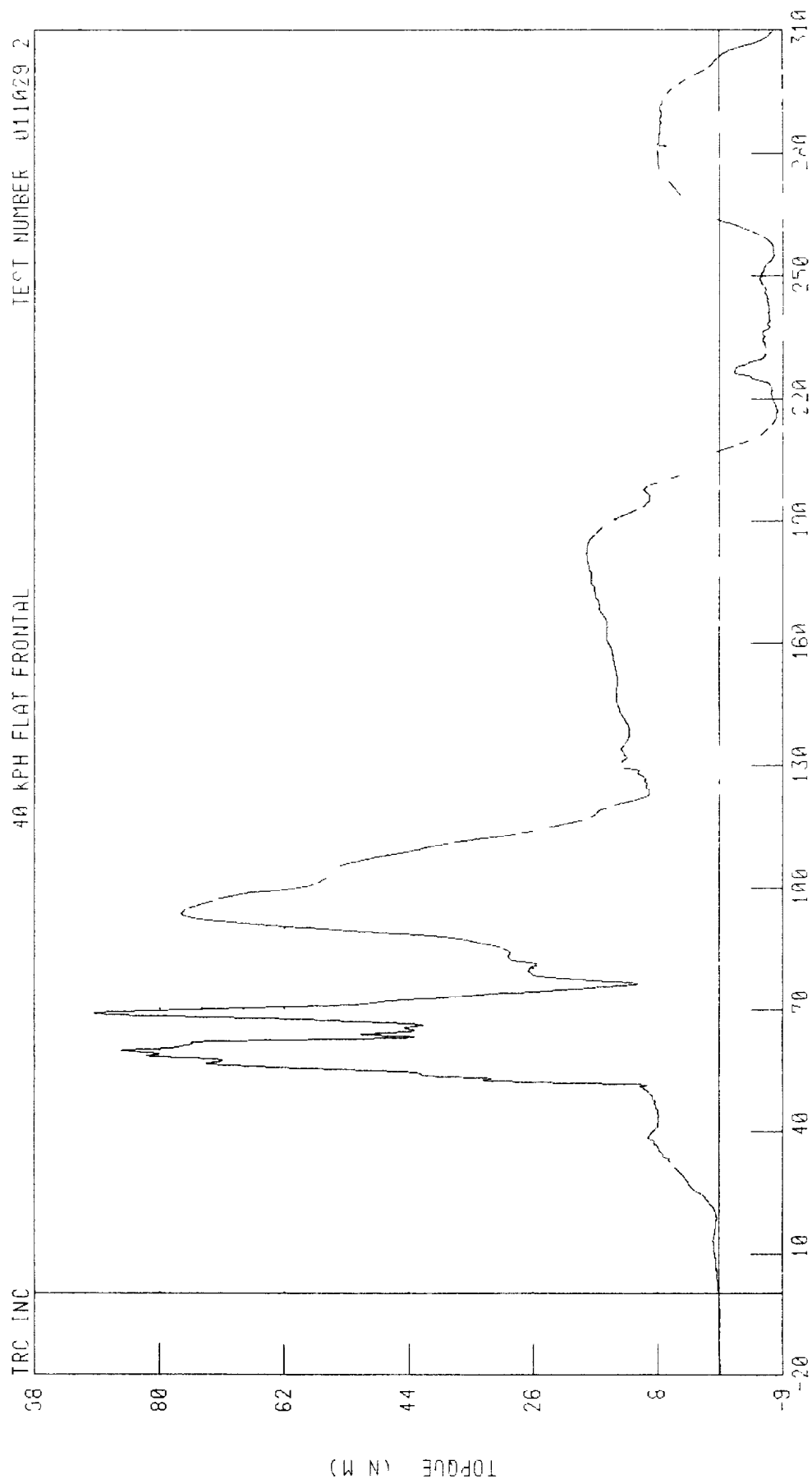
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER LEFT UPPER TIBIA MOMENT ABOUT X AXIS



CHANNEL TBLXM1 FILTER CH CLASS 600

PEAK DATA 19 76 N M @ 90 56 MS, -40 16 N M @ 68 24 MS

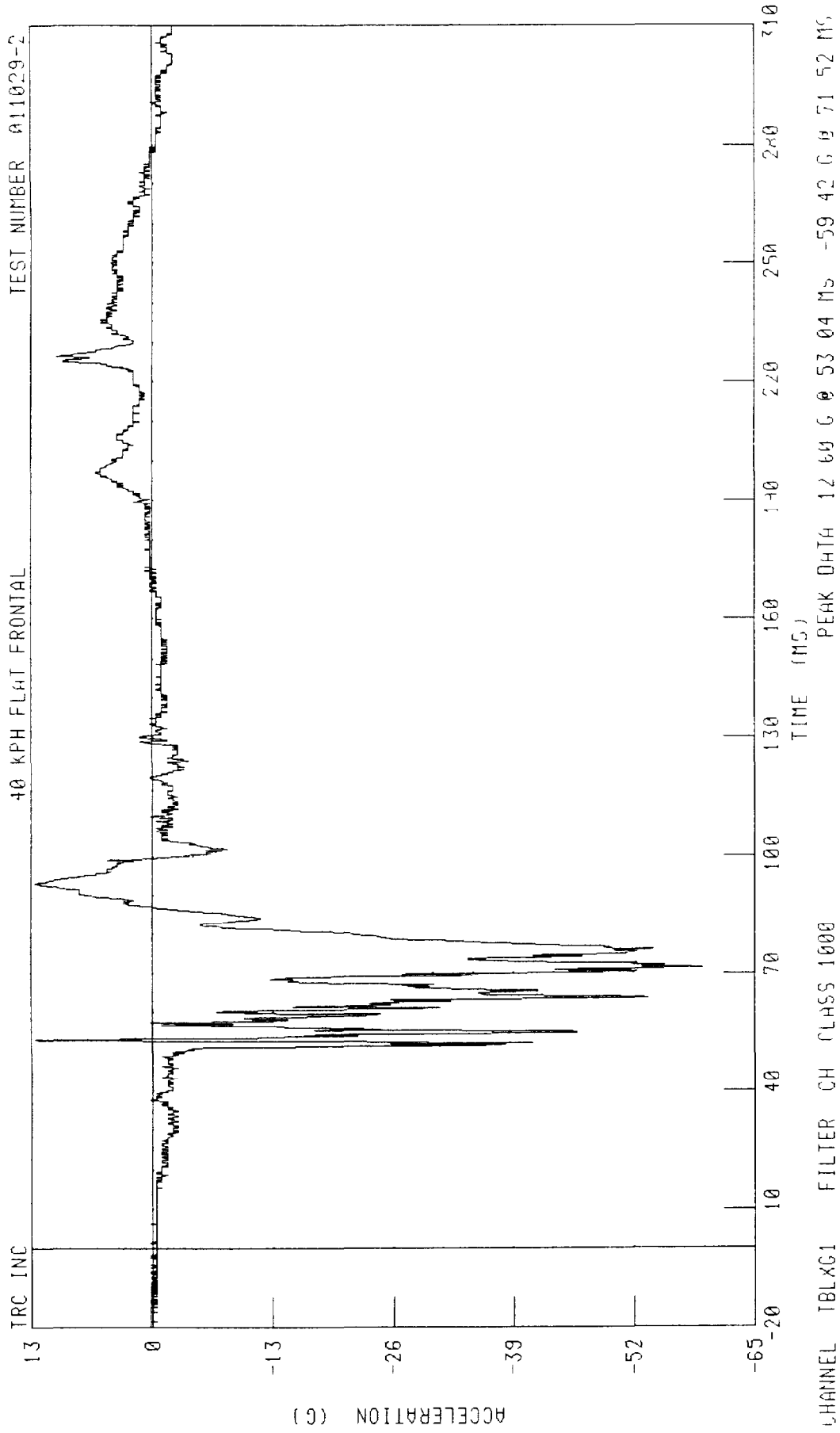
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER LEFT UPPER TIBIA MOMENT ABOUT Y AXIS



CHANNEL TBL1M1 FILTER (H CLHS 400 PEAK DATA 30 28 N 10 68 96 N, -3 31 N 10 210 96 N

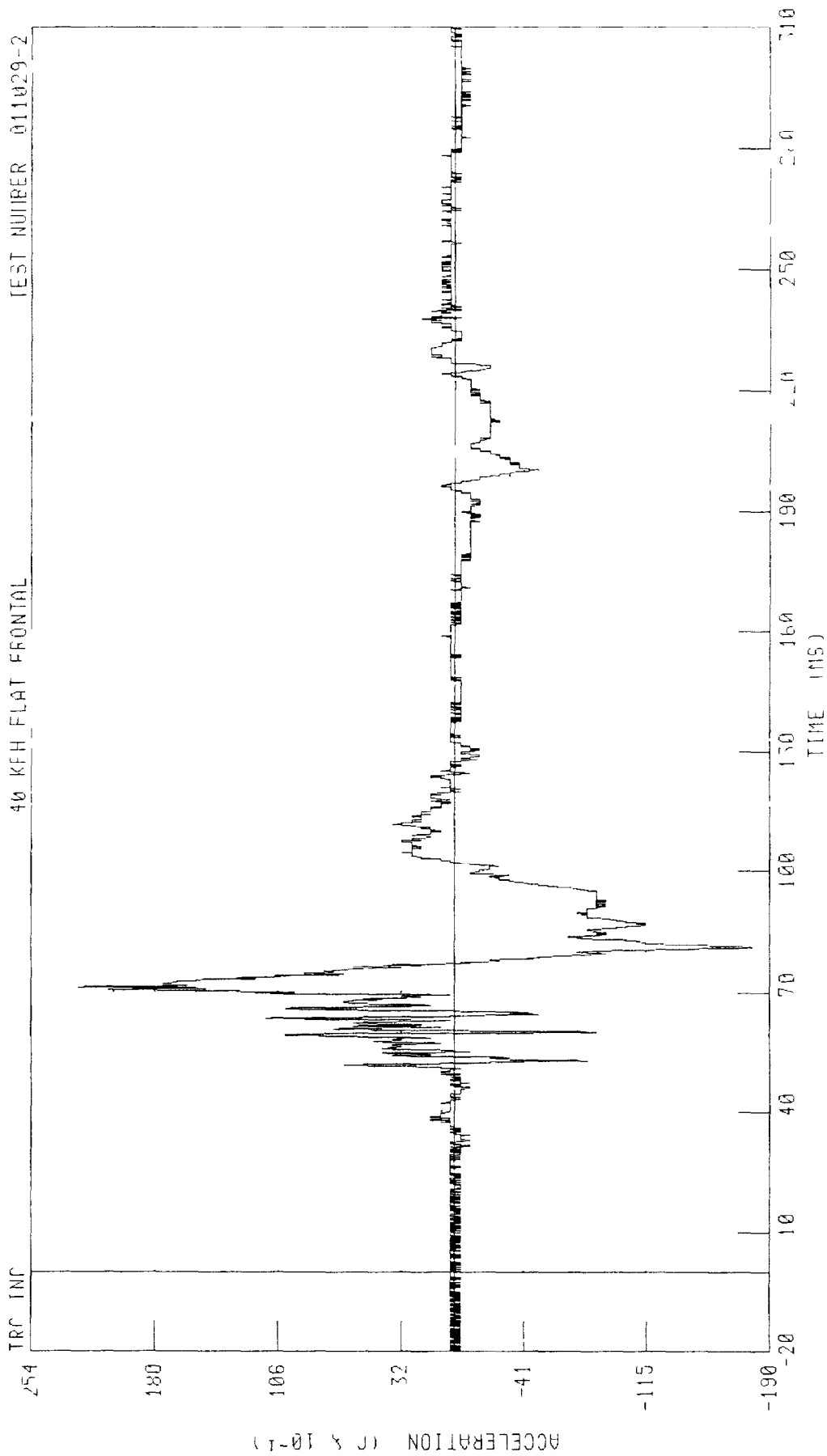
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER LEFT TIBIA X-AXIS ACCELERATION



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

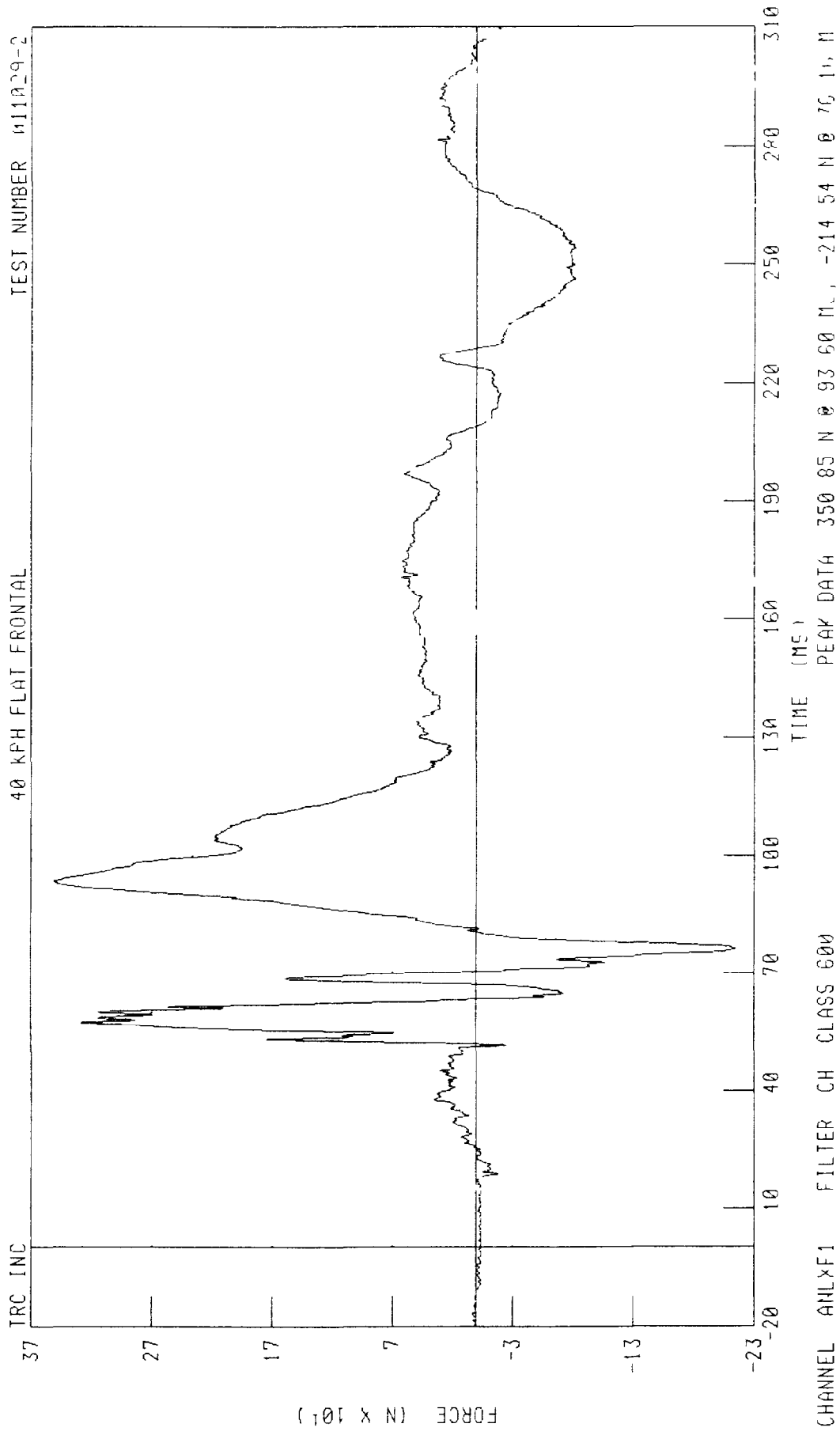
DRIVER LEFT TIBIA Y-AXIS ACCELERATION



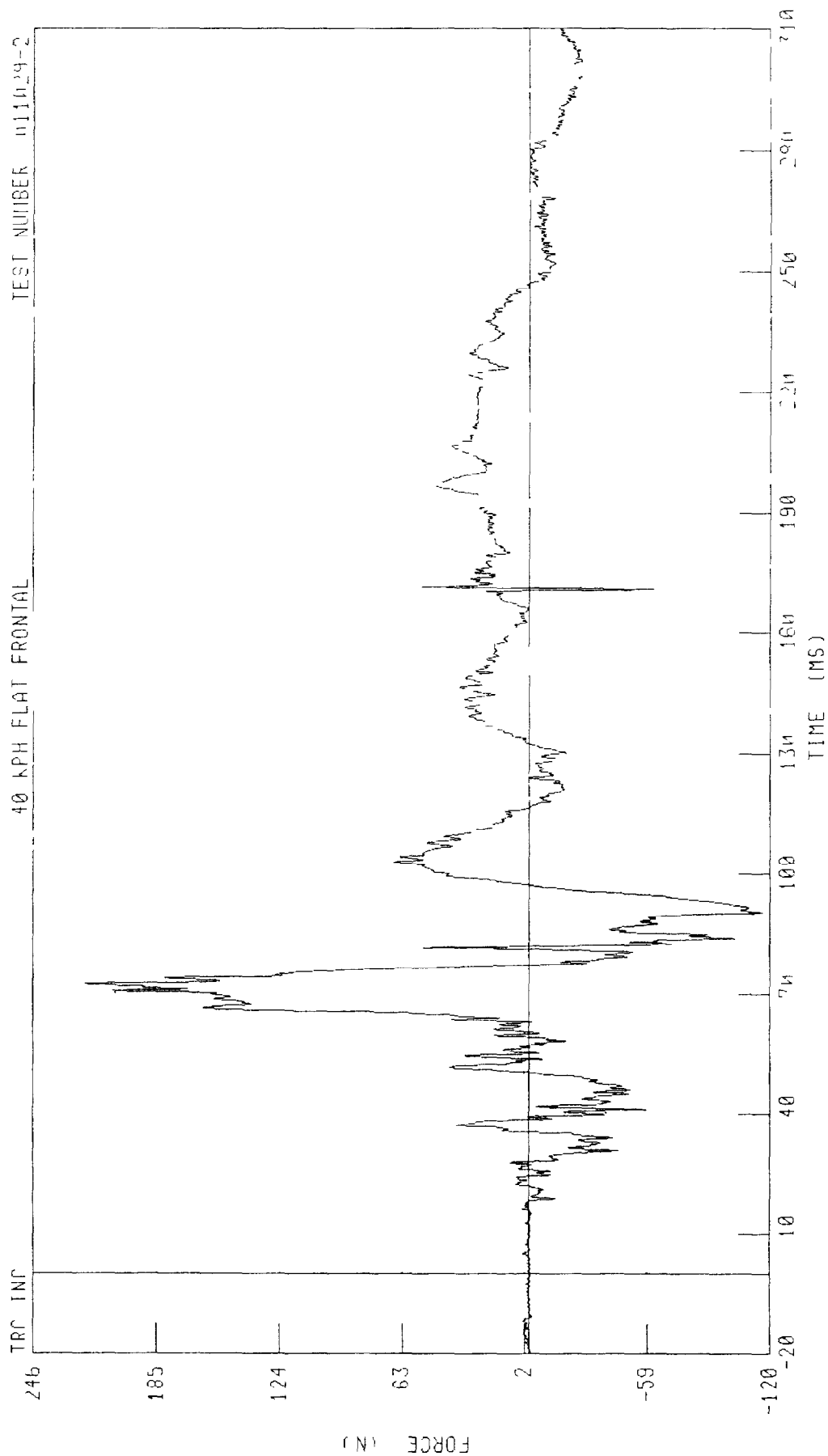
CHANNEL TEL-1 FILTER CH CLASS 1000

PEAK DATA 2.57E-1 2.3 MS, 1.0E-6 0.1 20 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER LEFT LOWER TIBIA Y-AXIS FORCE

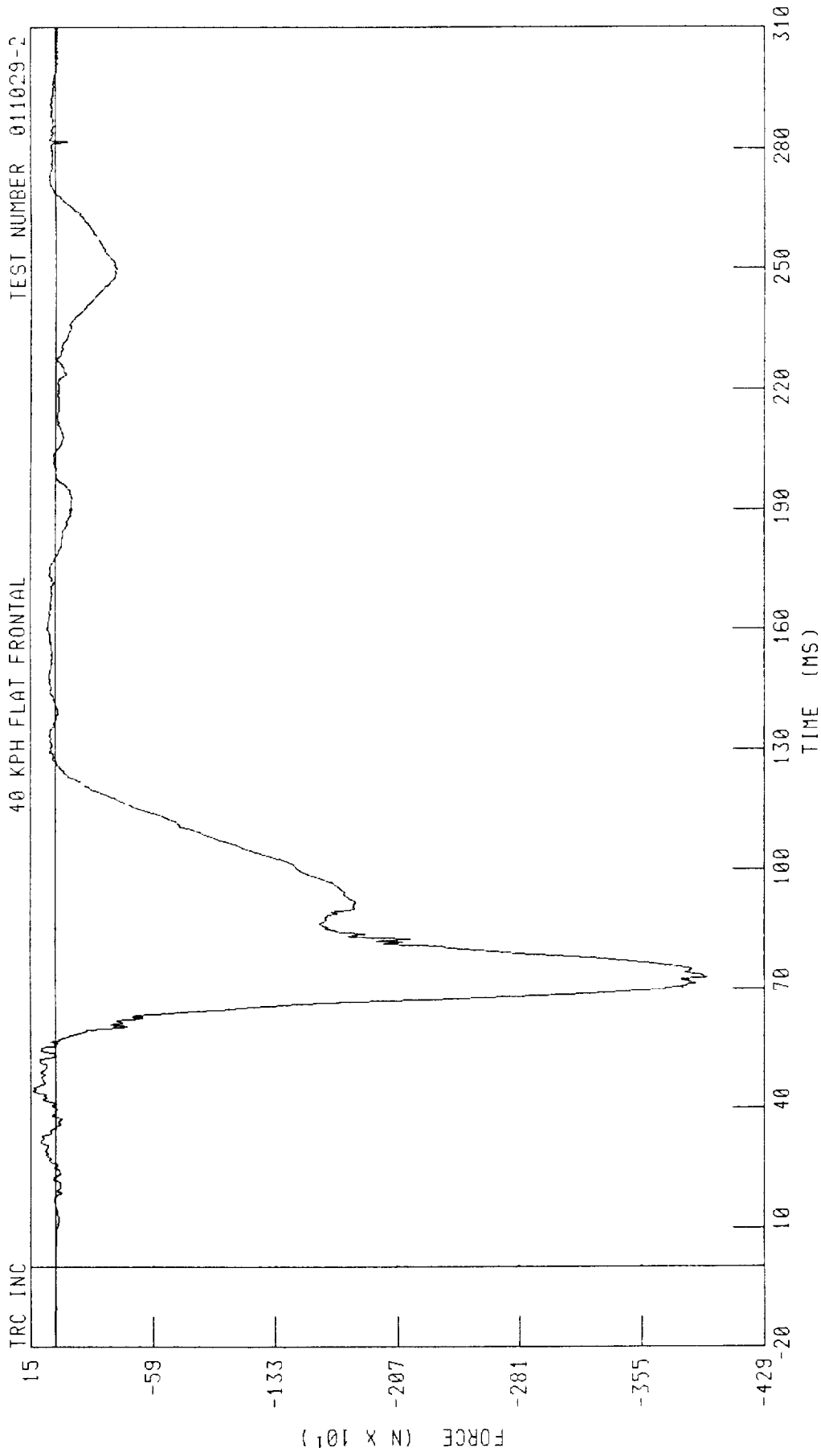


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER LEFT LOWER TIBIA Y-AXIS FORCE
 40 KPH FLAT FRONTAL



CHANNEL ANL\F1 FILTER CH CLASS 600 PEAK DATA 220 24 N @ 72 32 MS, -116 27 N @ 90 48 MS

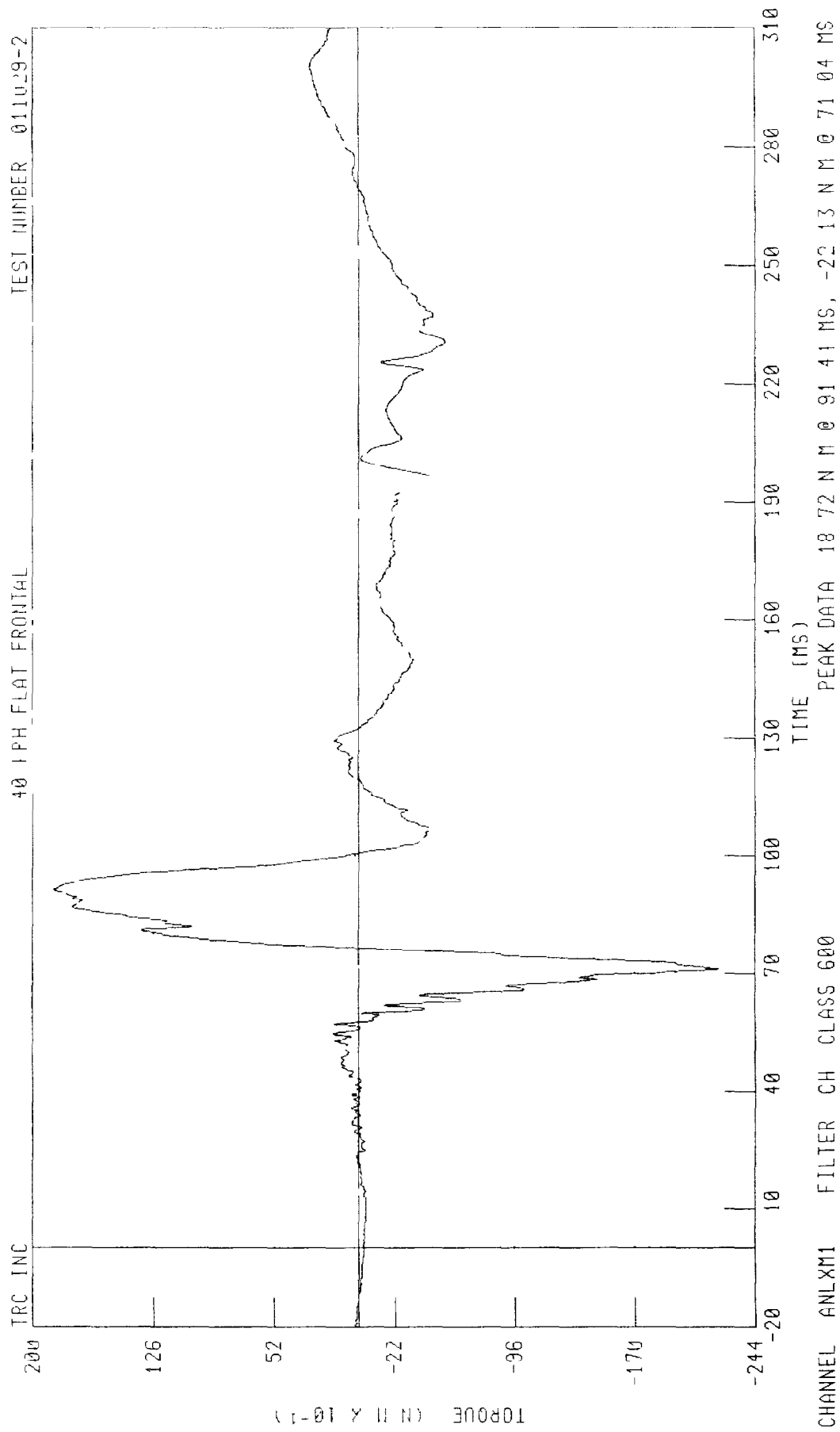
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER LEFT LOWER TIBIA Z-AXIS FORCE



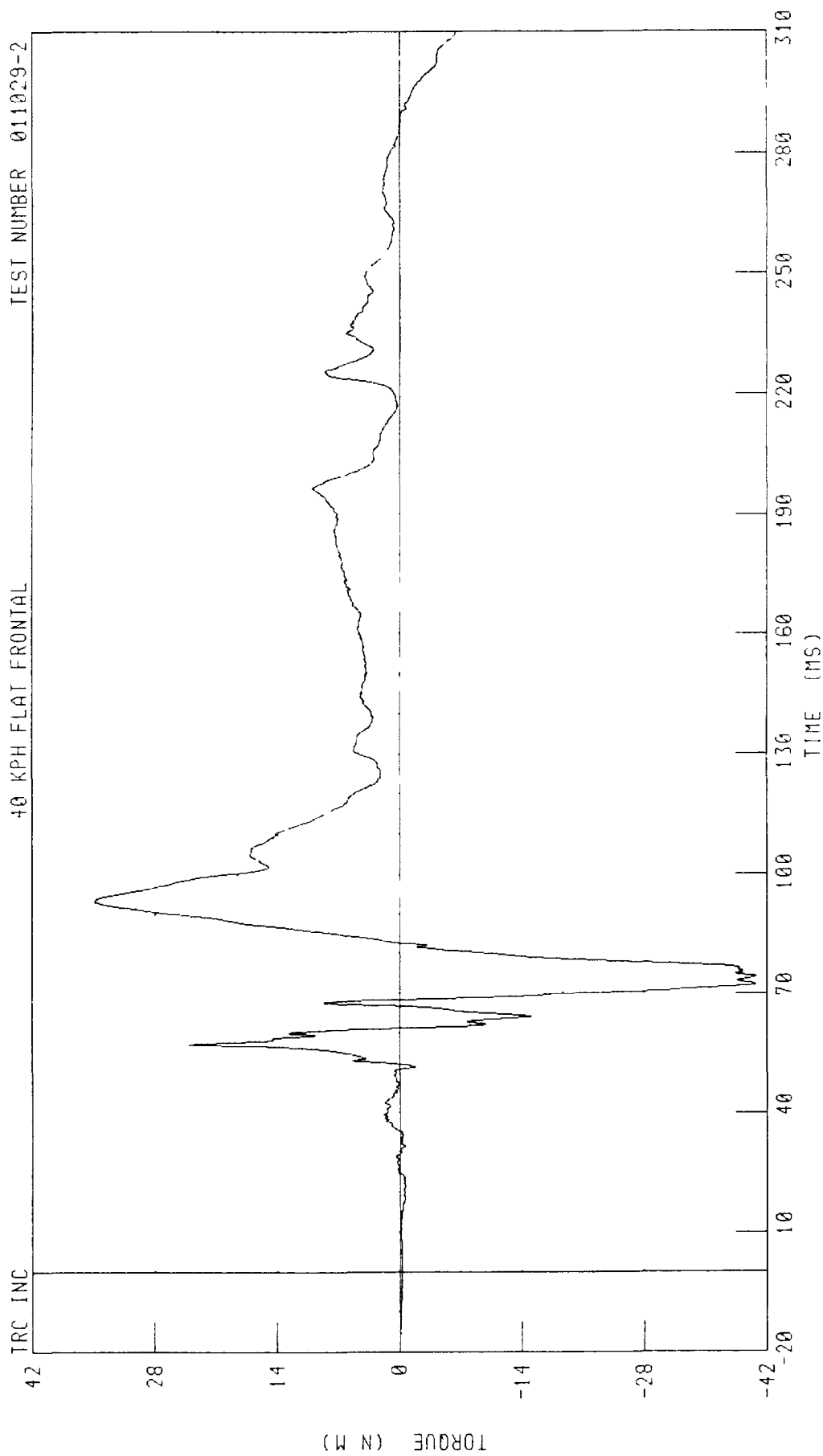
CHANNEL ANLZF1 FILTER CH CLASS 600

PEAK DATA 137 15 N @ 44 40 MS, -3944 39 N @ 72 88 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER LEFT LOWER TIBIA MOMENT ABOUT X AXIS



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER LEFT LOWER TIBIA MOMENT ABOUT Y AXIS



CHANNEL ANLYM1 FILTER CH CLASS 600

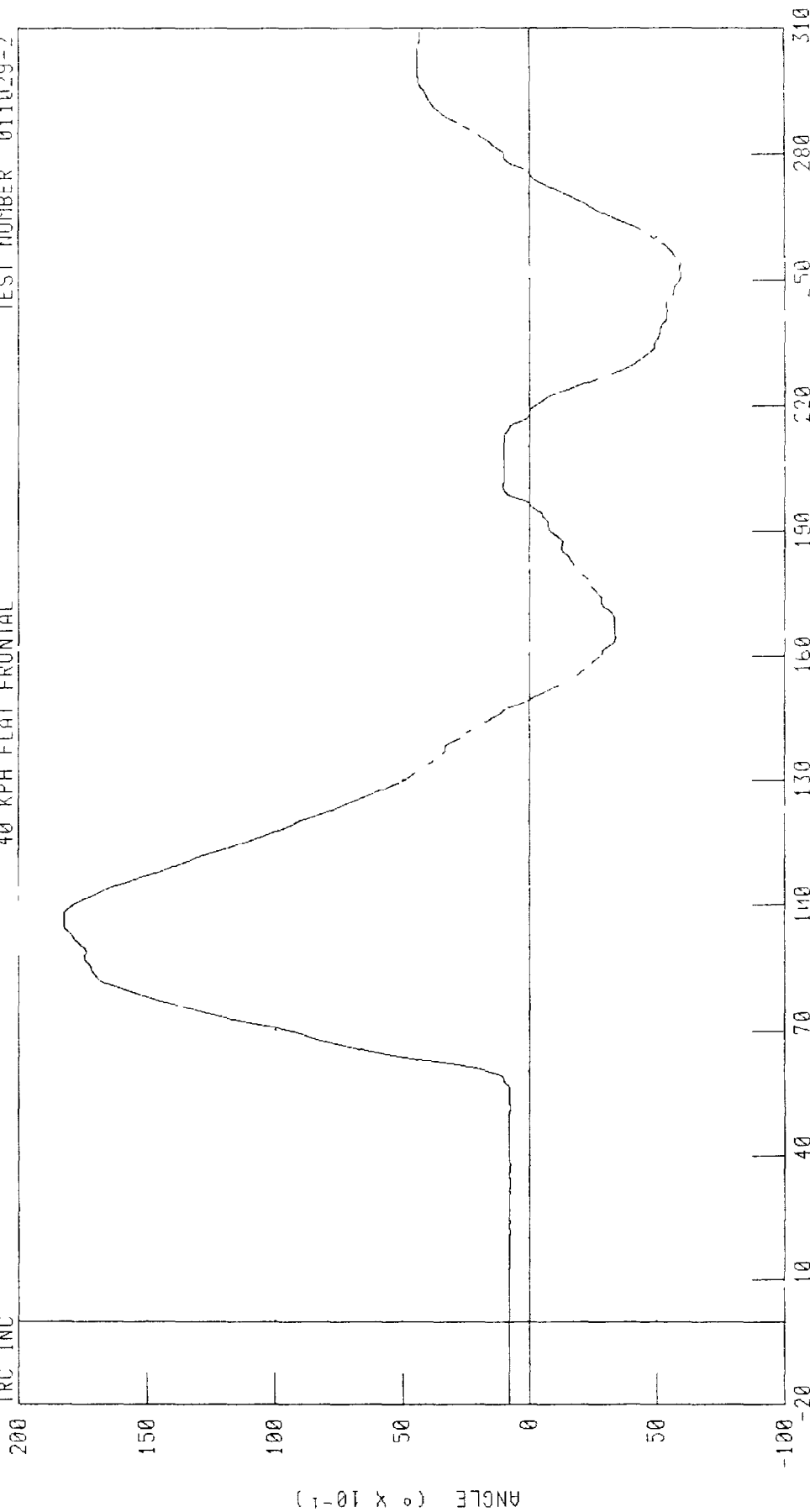
PEAK DATA 34 88 N M @ 93 20 MS, -40 86 N M @ 74 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER LEFT FOOT TO ANKLE X-AXIS DISPLACEMENT

TEST NUMBER 011029-2

40 KPH FLAT FRONTAL

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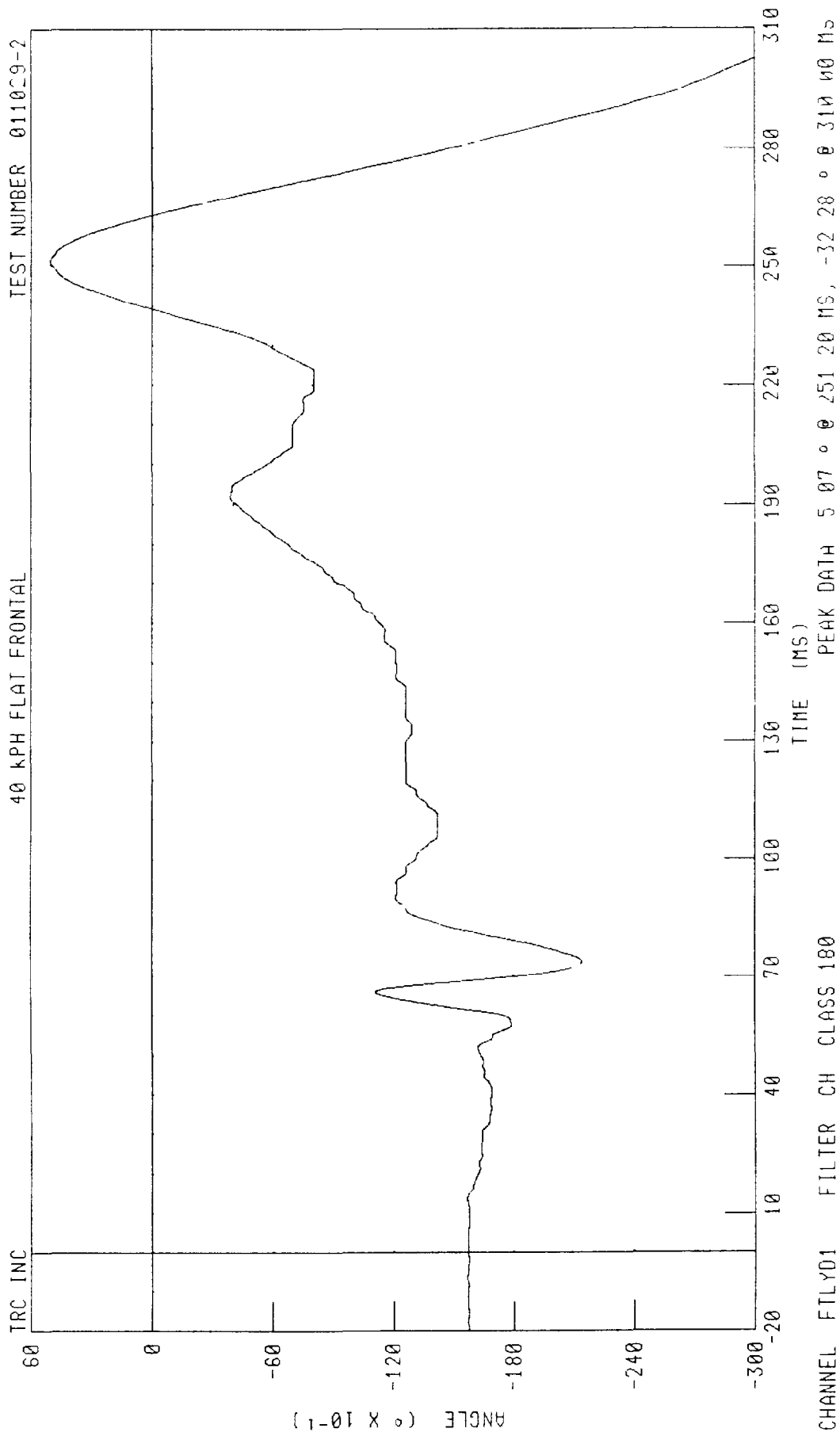


TIME (MS)

CHANNEL FTLXD1 FILTER CH CLASS 100

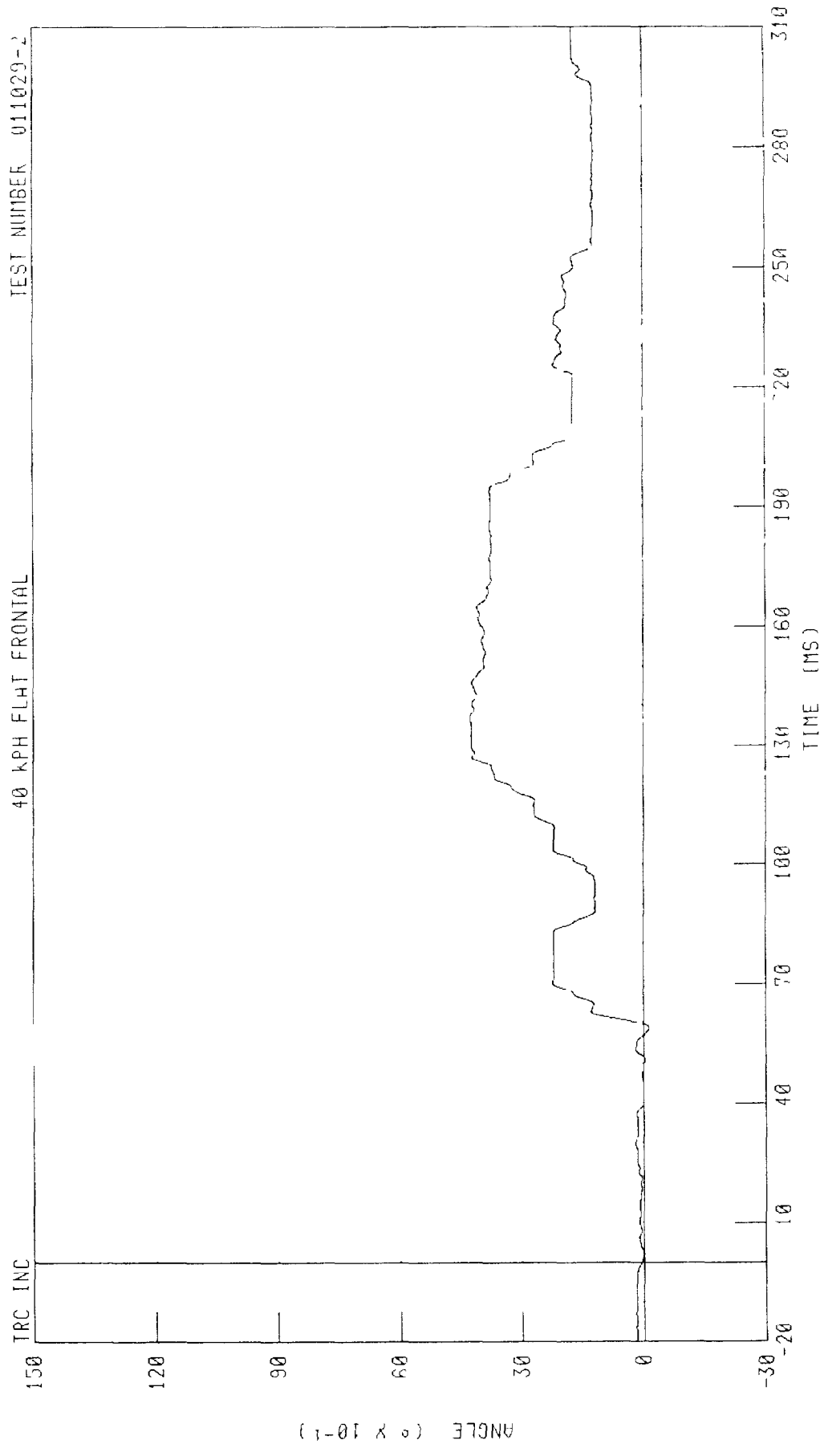
PEAK DATA 15 24 0 0 97 52 MS 5 94 0 0 251 12 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER LEFT FOOT TO ANKLE Y-AXIS DISPLACEMENT



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER LEFT FOOT TO ANKLE Z-AXIS DISPLACEMENT
 40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



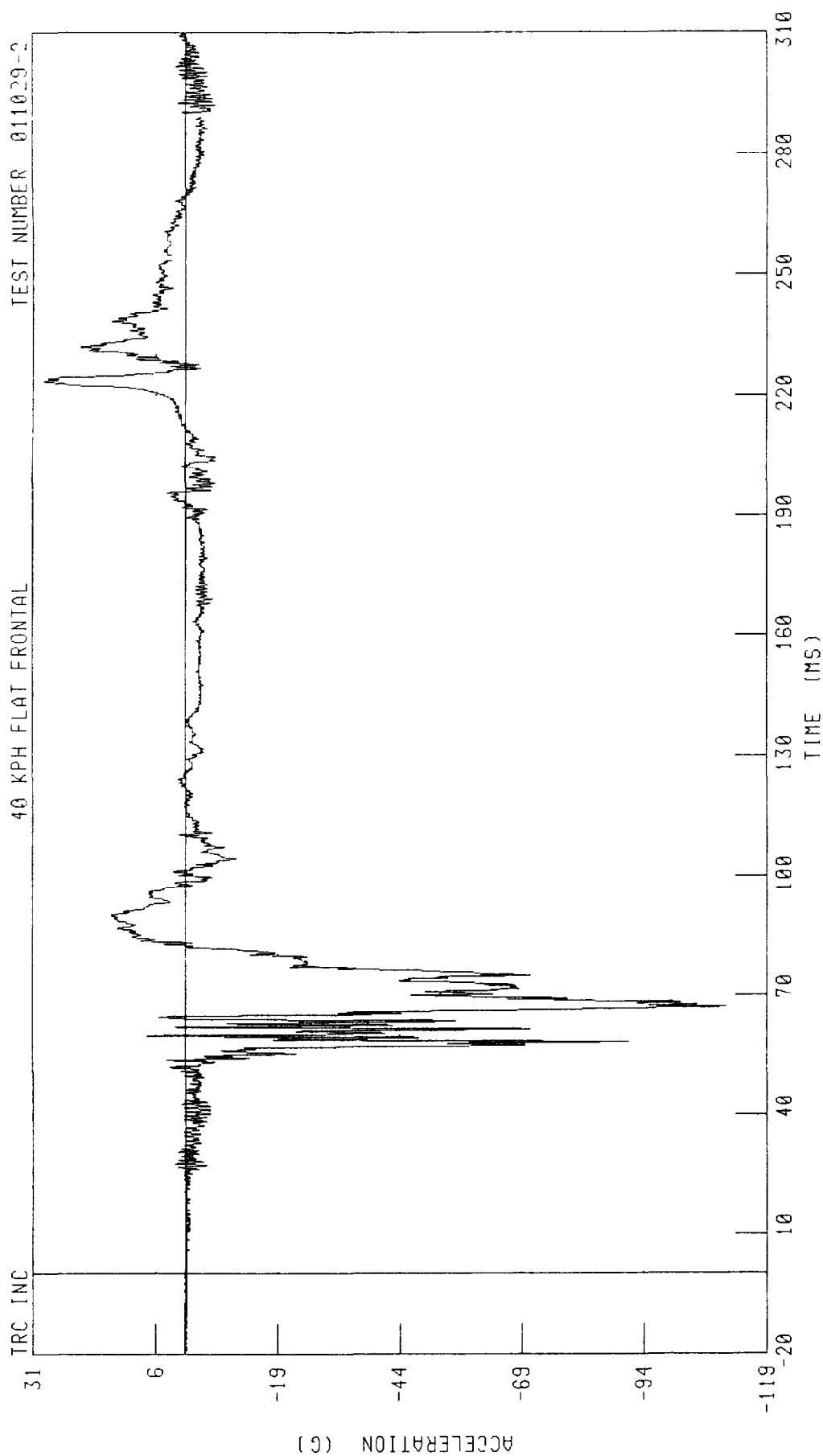
CHANNEL FTLZD1 FILTER CH CLASS 180 PEAK DATA 4 20 0 137 12 MS -0 14 0 58 72 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER LEFT FOOT X-AXIS ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

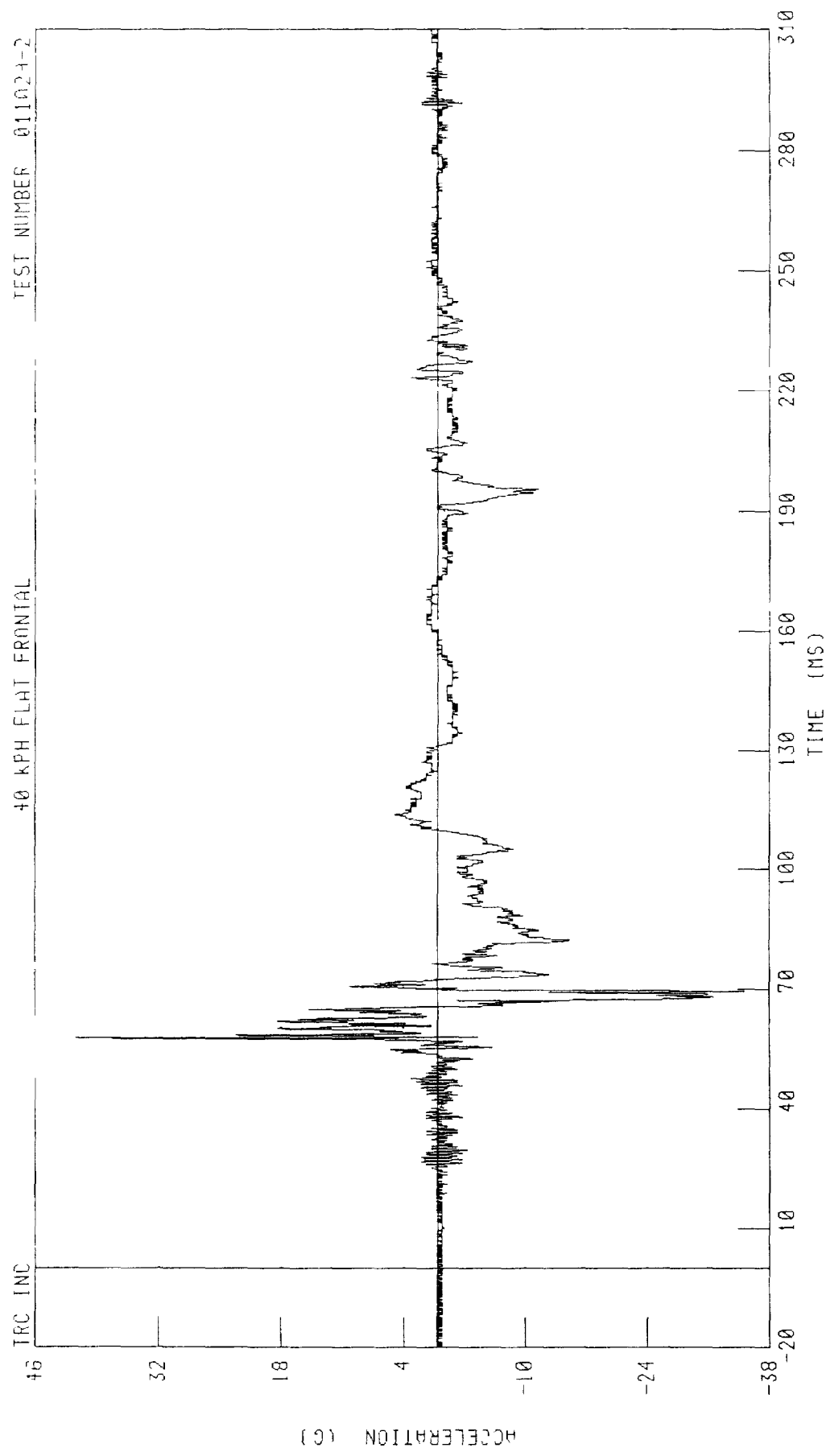


CHANNEL FTLXG1 FILTER CH CLASS 1000

PEAK DATA 28 99 G @ 223 44 MS, -110 76 G @ 66 96 MS

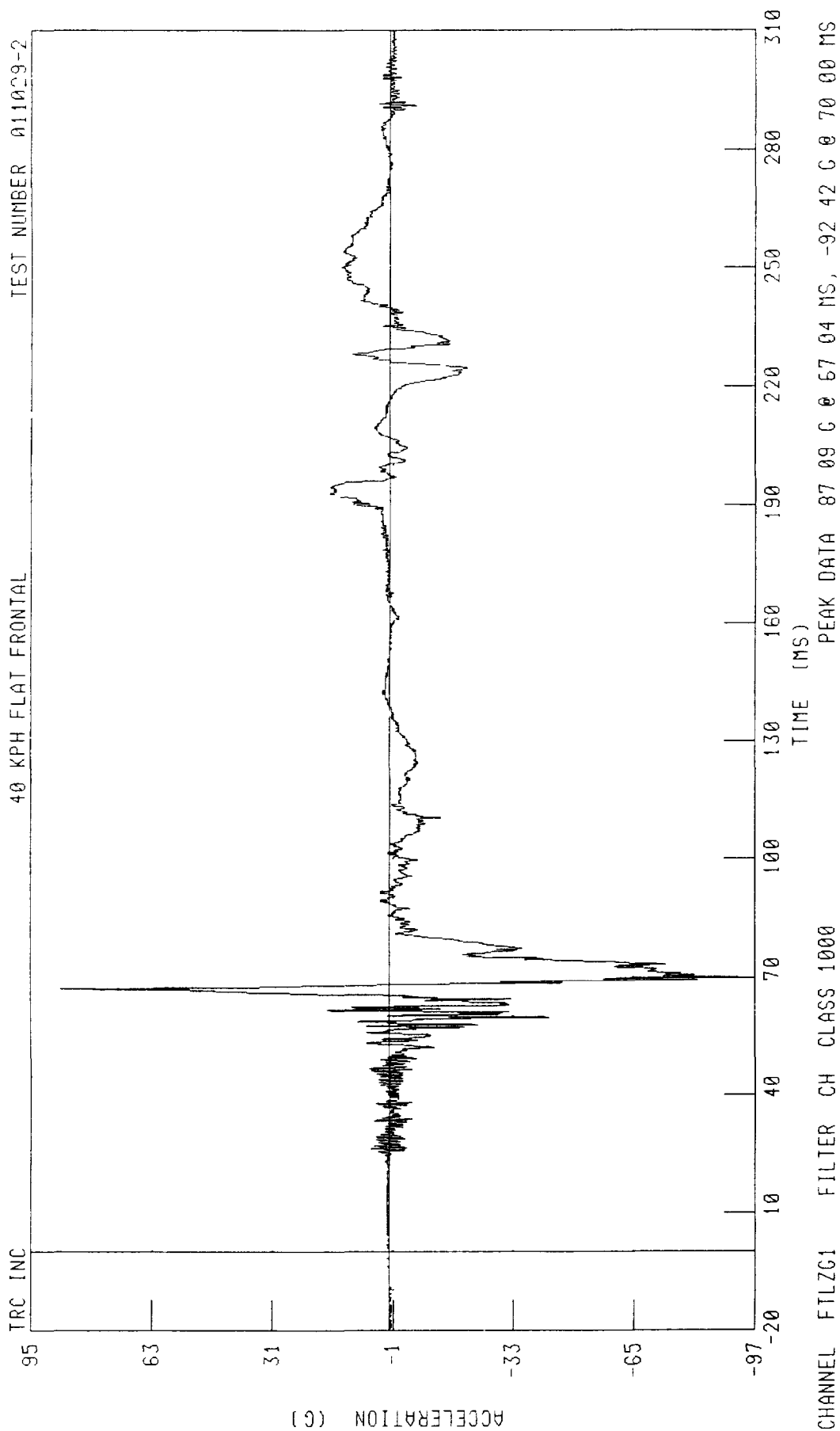
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER LEFT FOOT Y-AXIS ACCELERATION
 40 KPH FLAT FRONTAL

TEST NUMBER 01102+2

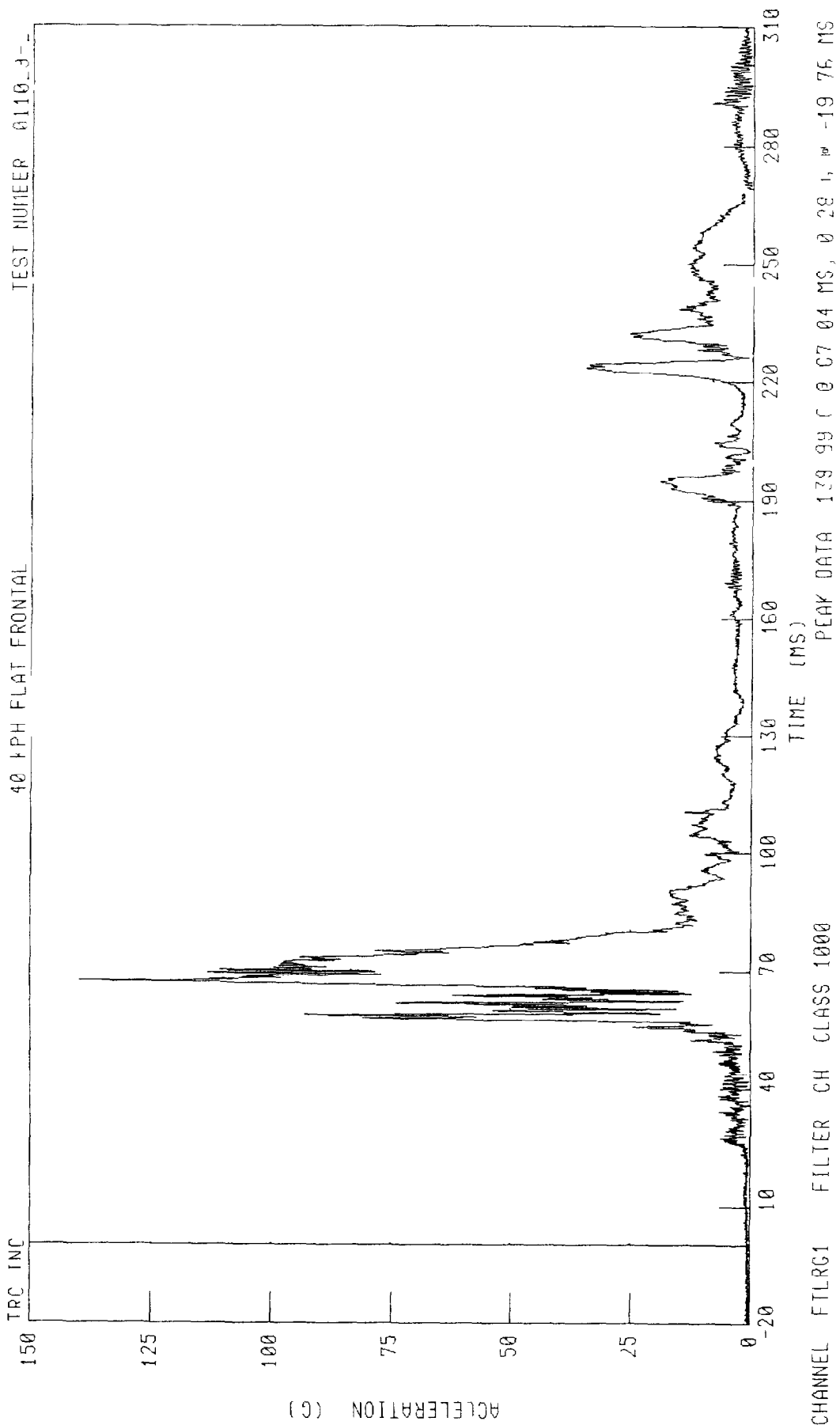


CHANNEL F1Y01 FILTER CH CLASS 1000
 TIME (MS)
 PEAK DATA 41 40 G @ 57 60 MS -35 16 G @ 69 76 MS

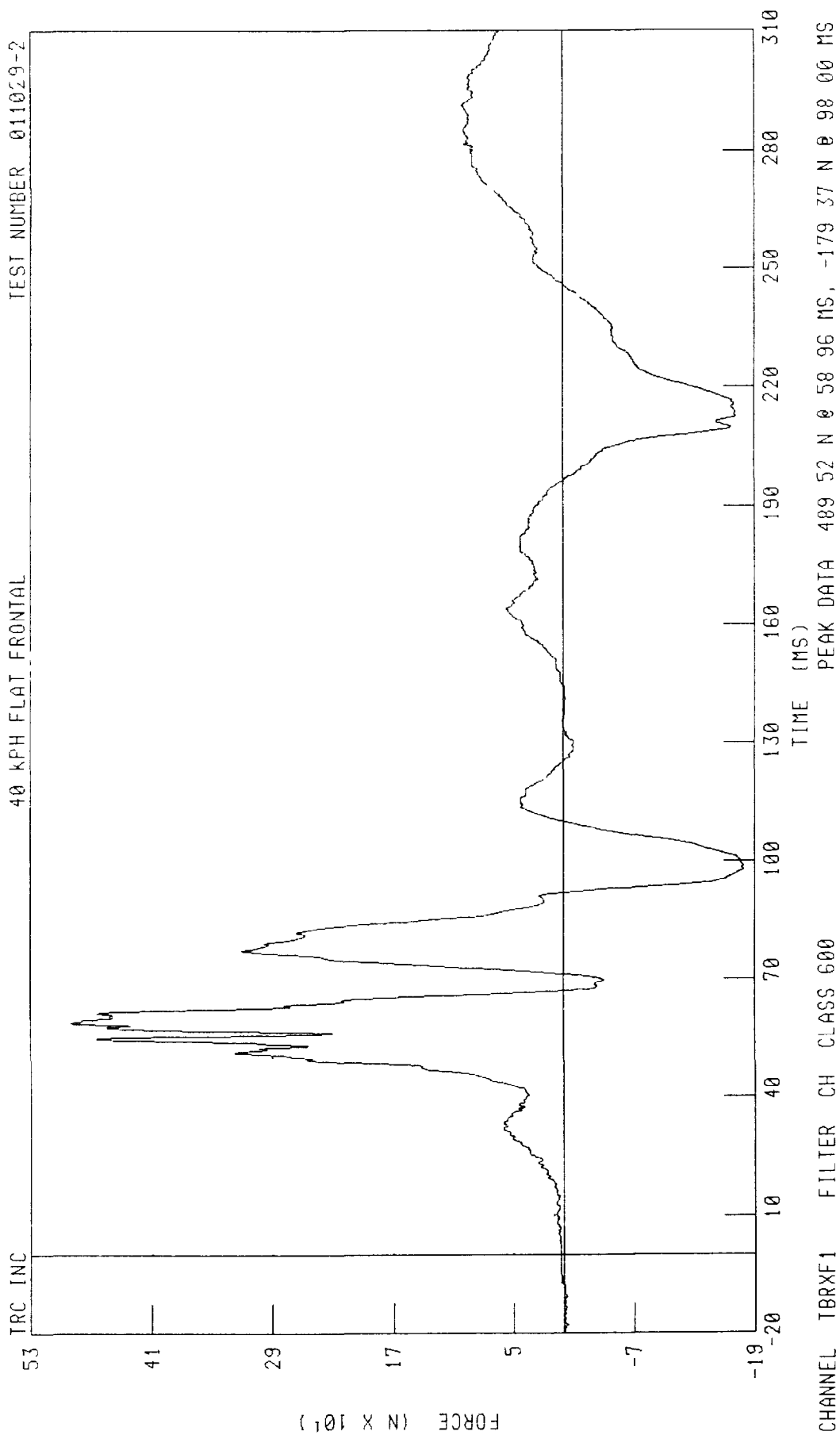
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER LEFT FOOT Z-AXIS ACCELERATION



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER LEFT FOOT RESULTANT ACCELERATION

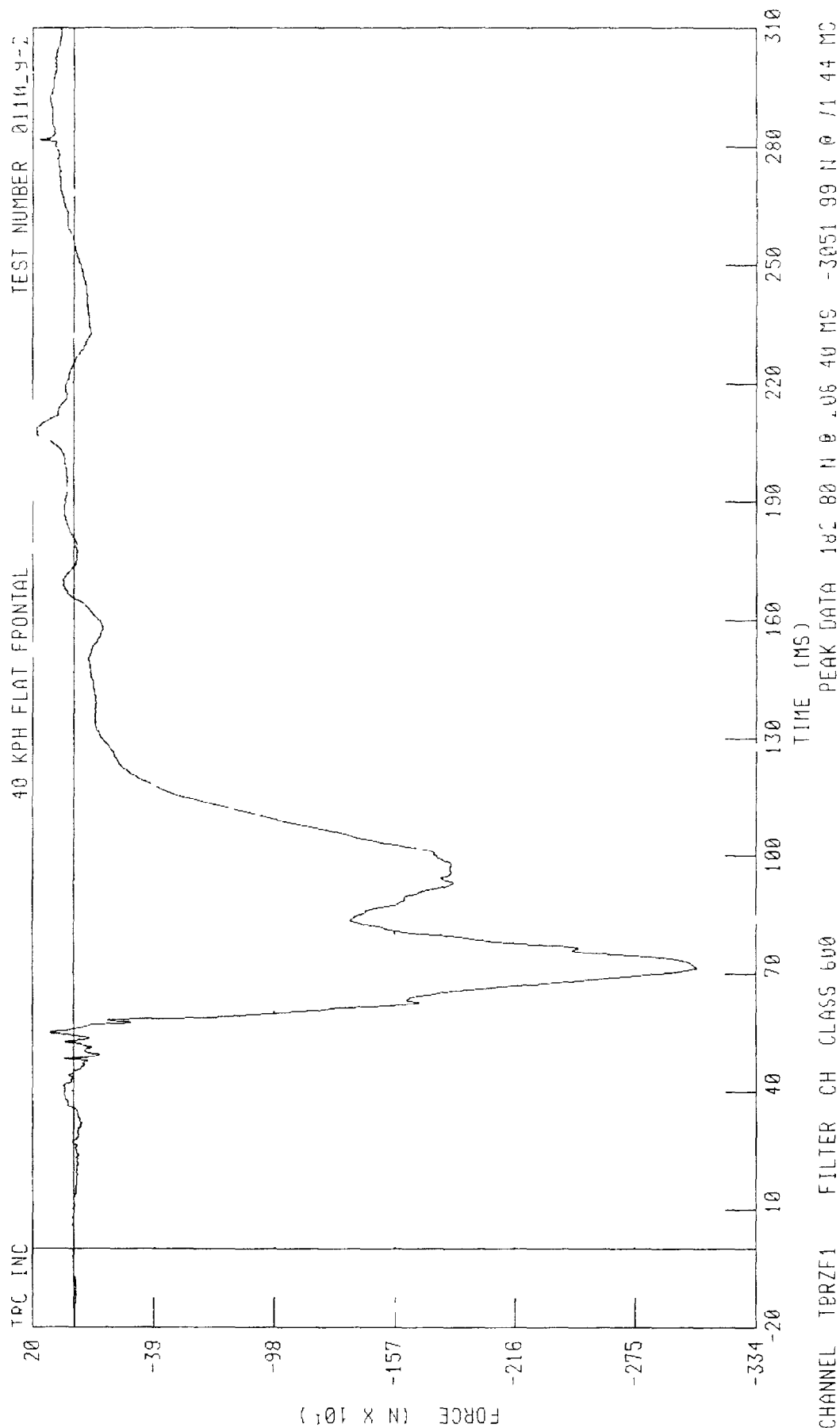


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER RIGHT UPPER TIBIA X-AXIS FORCE



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER RIGHT UPPER TIBIA Z-AXIS FORCE

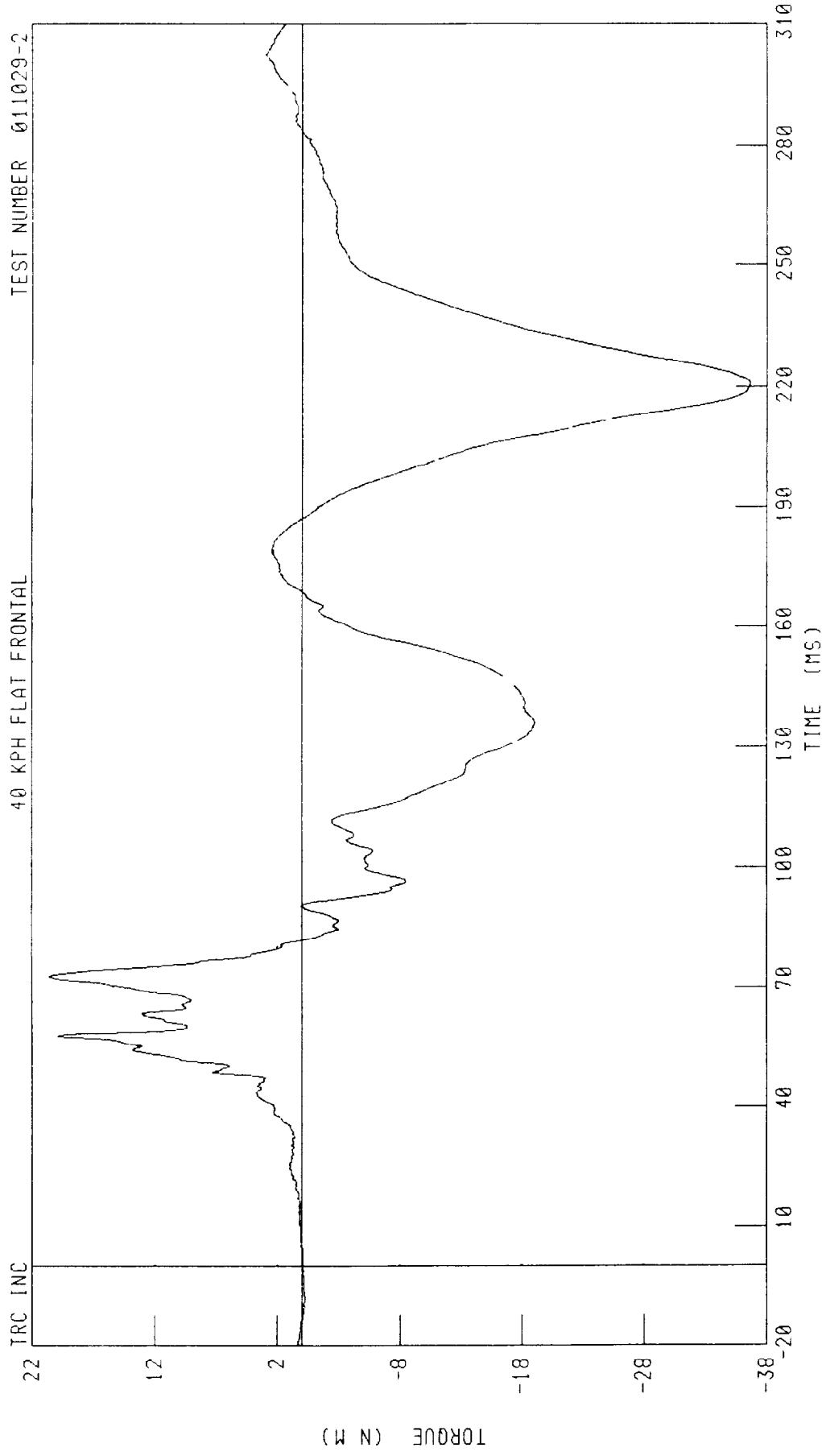


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER RIGHT UPPER TIBIA MOMENT ABOUT X AXIS

40 KPH FLAT FRONTAL

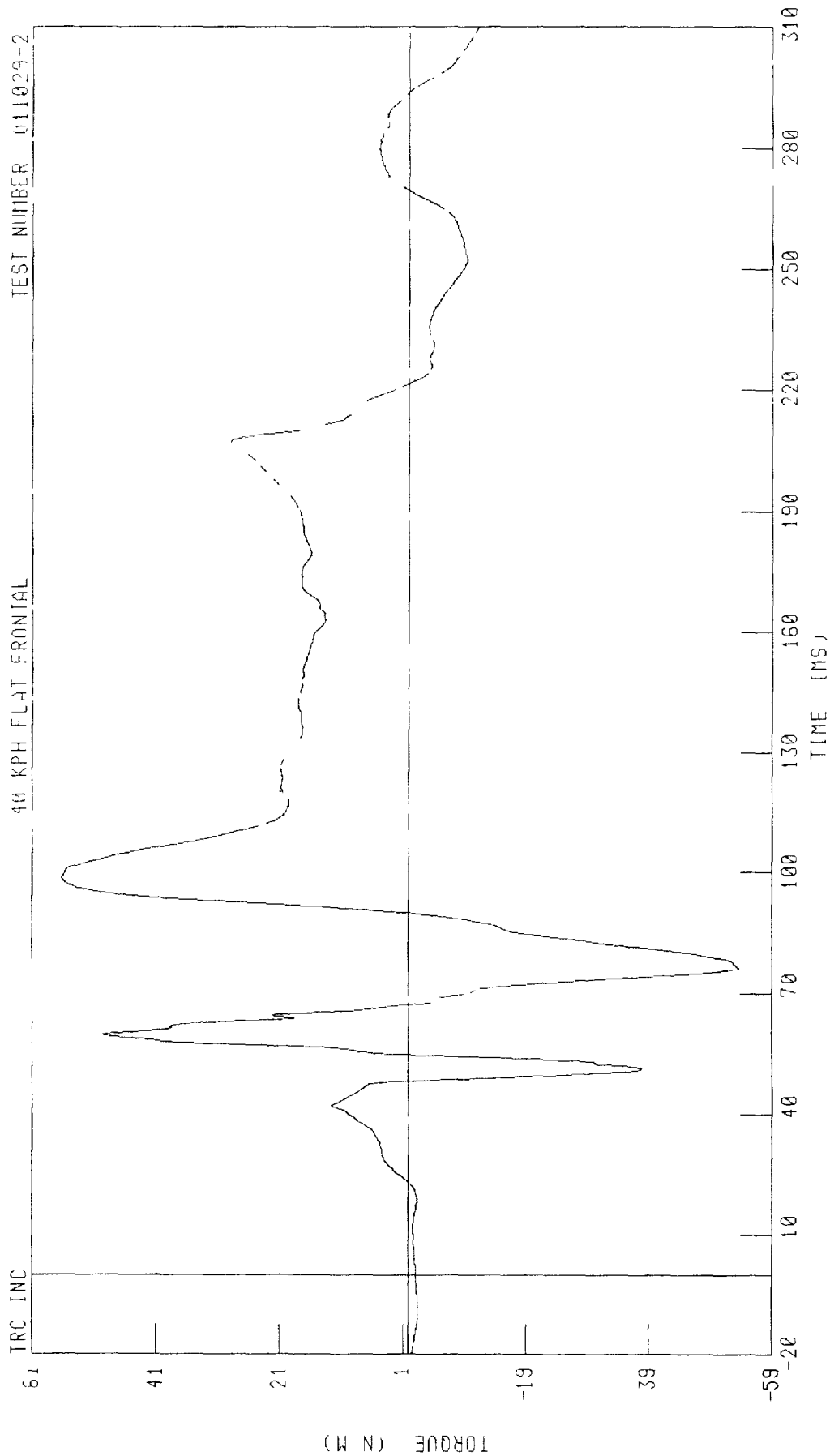
TEST NUMBER 011029-2



CHANNEL TBRX1 FILTER CH CLASS 600

PEAK DATA 20 55 N M 72 80 MS, -36 68 N M 220 88 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVEF RIGHT UPPER TIBIA MOMENT ABOUT Y AXIS



PEAK DATA 50 29 N M @ 98 48 MS, 53 70 N M @ 70 16 MS

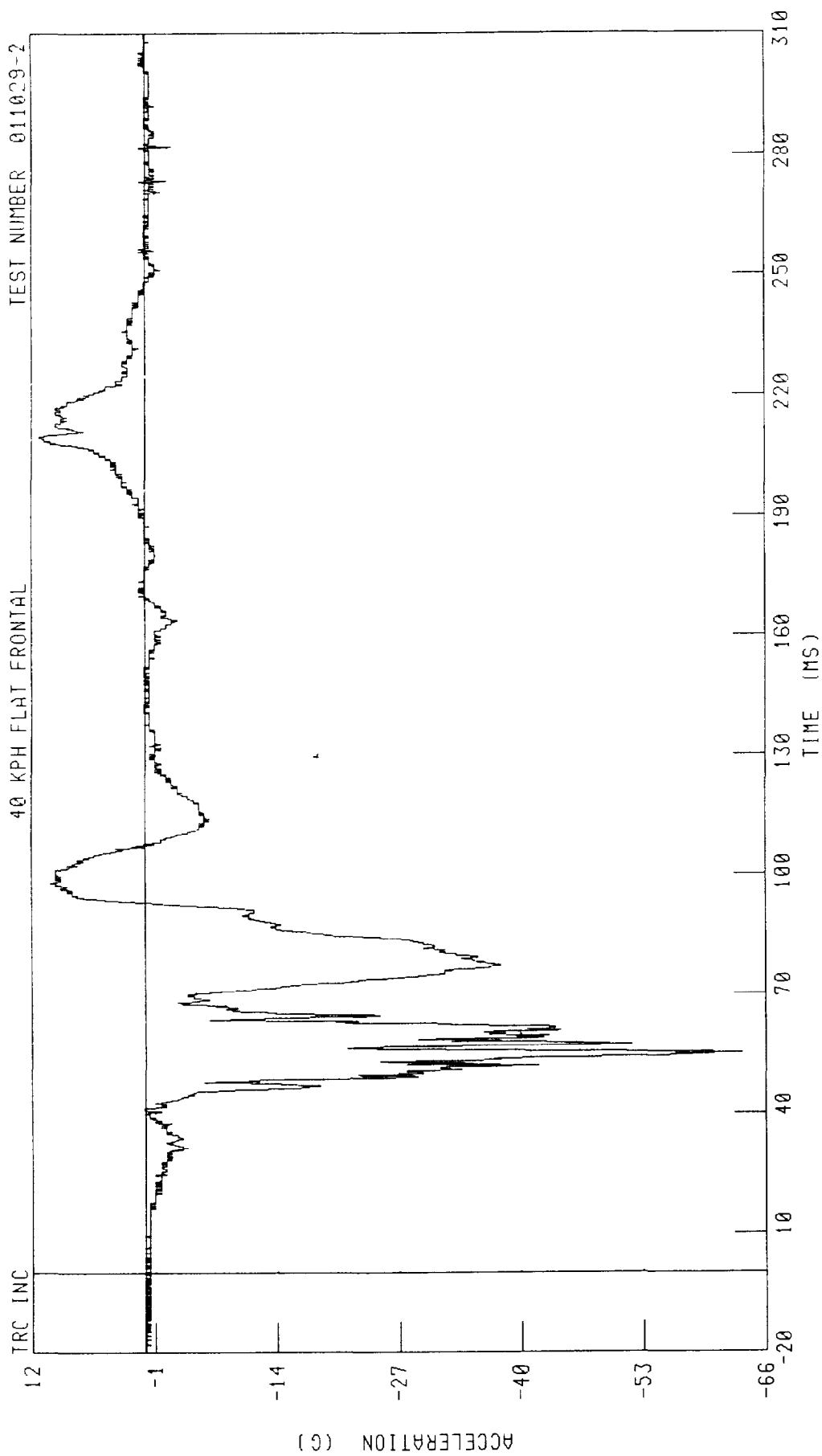
CHANNEL TBRYM1 FILTER CH CLASS 600

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER RIGHT TIBIA X-AXIS ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



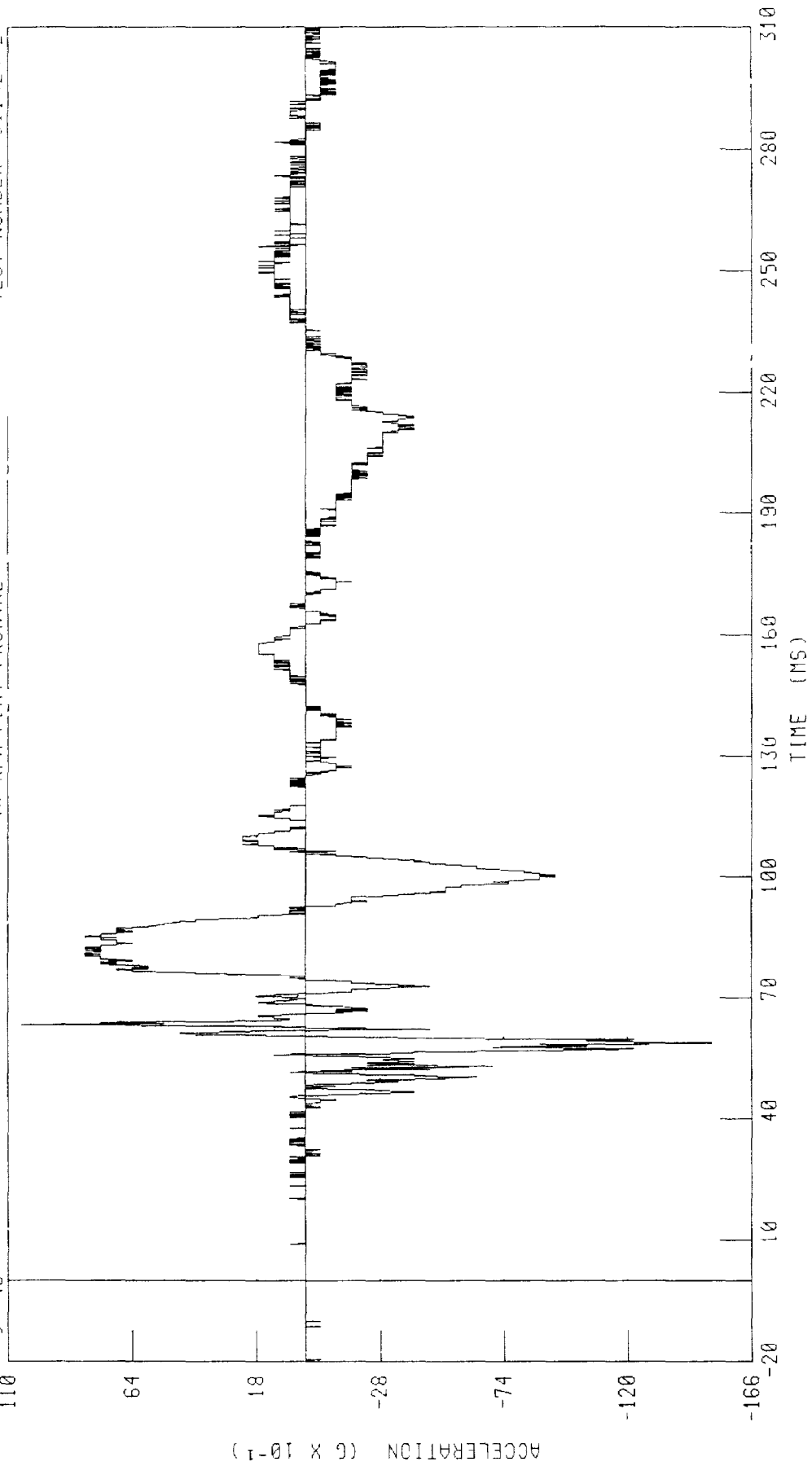
CHANNEL TBRXG1 FILTER CH CLASS 1000

PEAK DATA 11 24 G @ 209 28 MS, -63 46 G @ 55 12 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER RIGHT TIBIA Y-AXIS ACCELERATION
 40 KPH FLAT FRONTAL

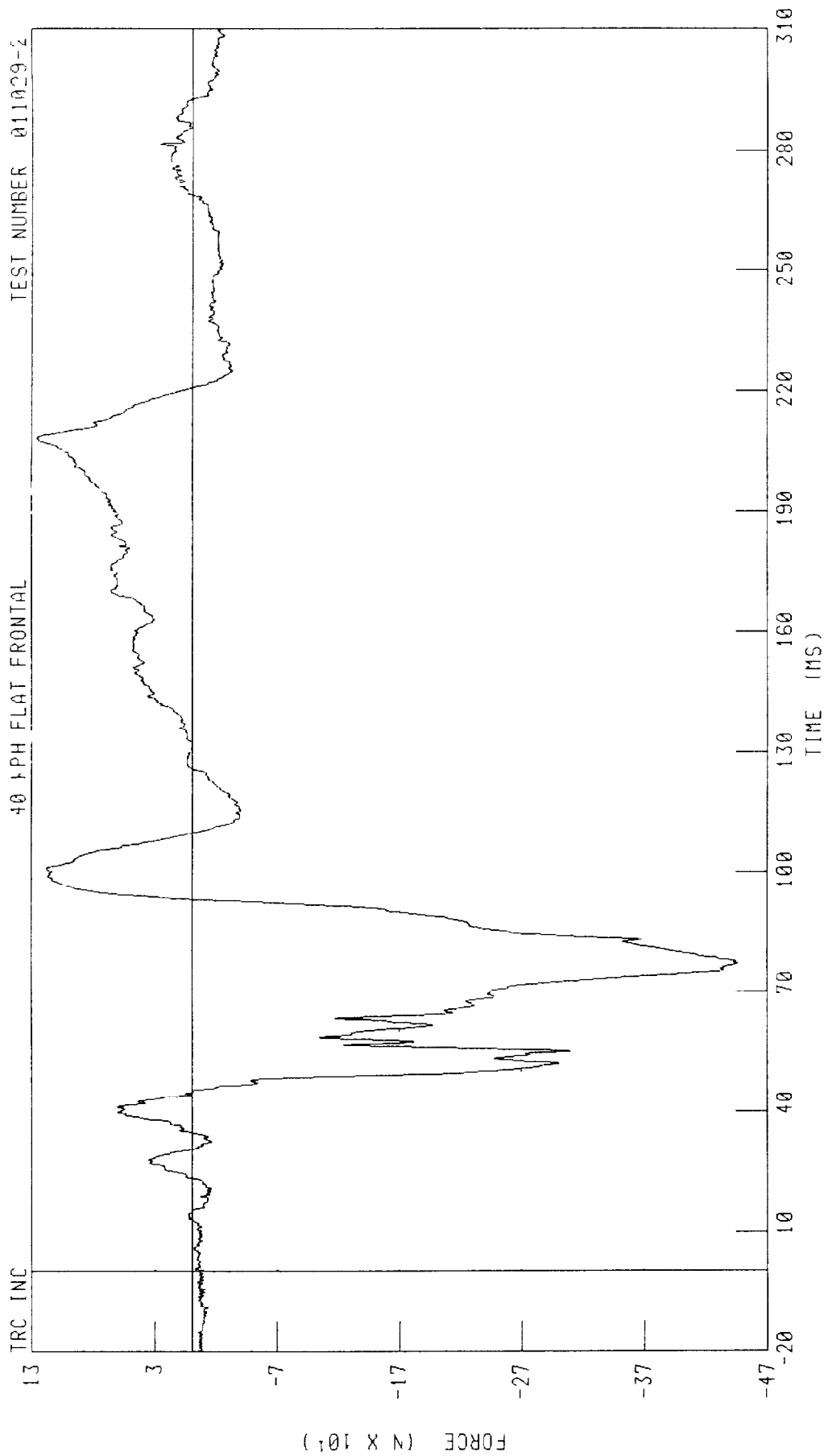
TRC INC

TEST NUMBER 011029-2



CHANNEL TBRYC1 FILTER CH CLASS 1000
 TIME (MS) PEAK DATA 10 45 6 0 63 28 MS, -15 13 6 0 52 30 MS

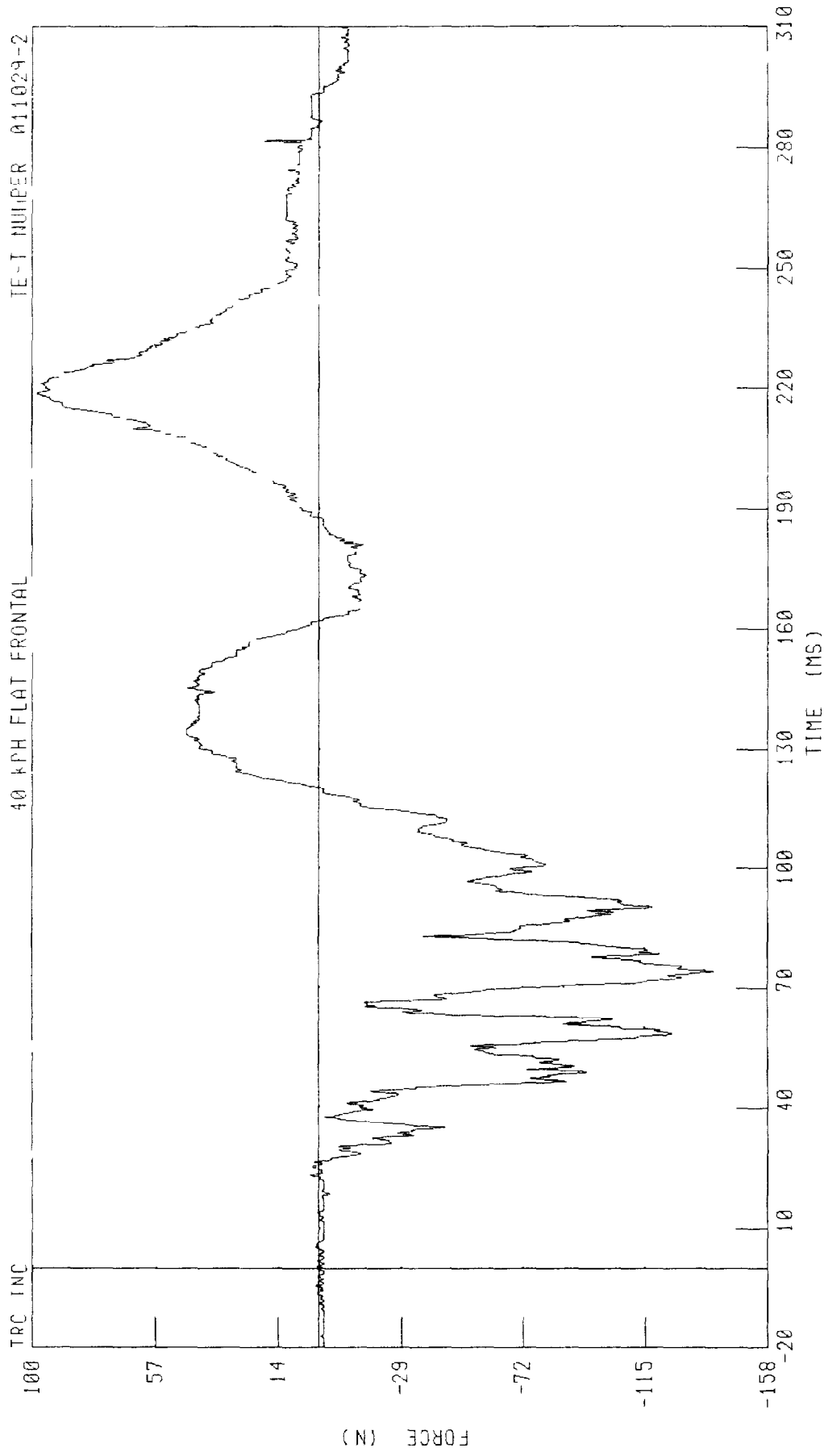
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER RIGHT LOWER TIBIA X-AXIS FORCE



CHANNEL ANRXF1 FILTER CH CLASS 600

PEAK DATA 126 12 N 0 208 24 MS, -446 09 N 0 76 96 MS

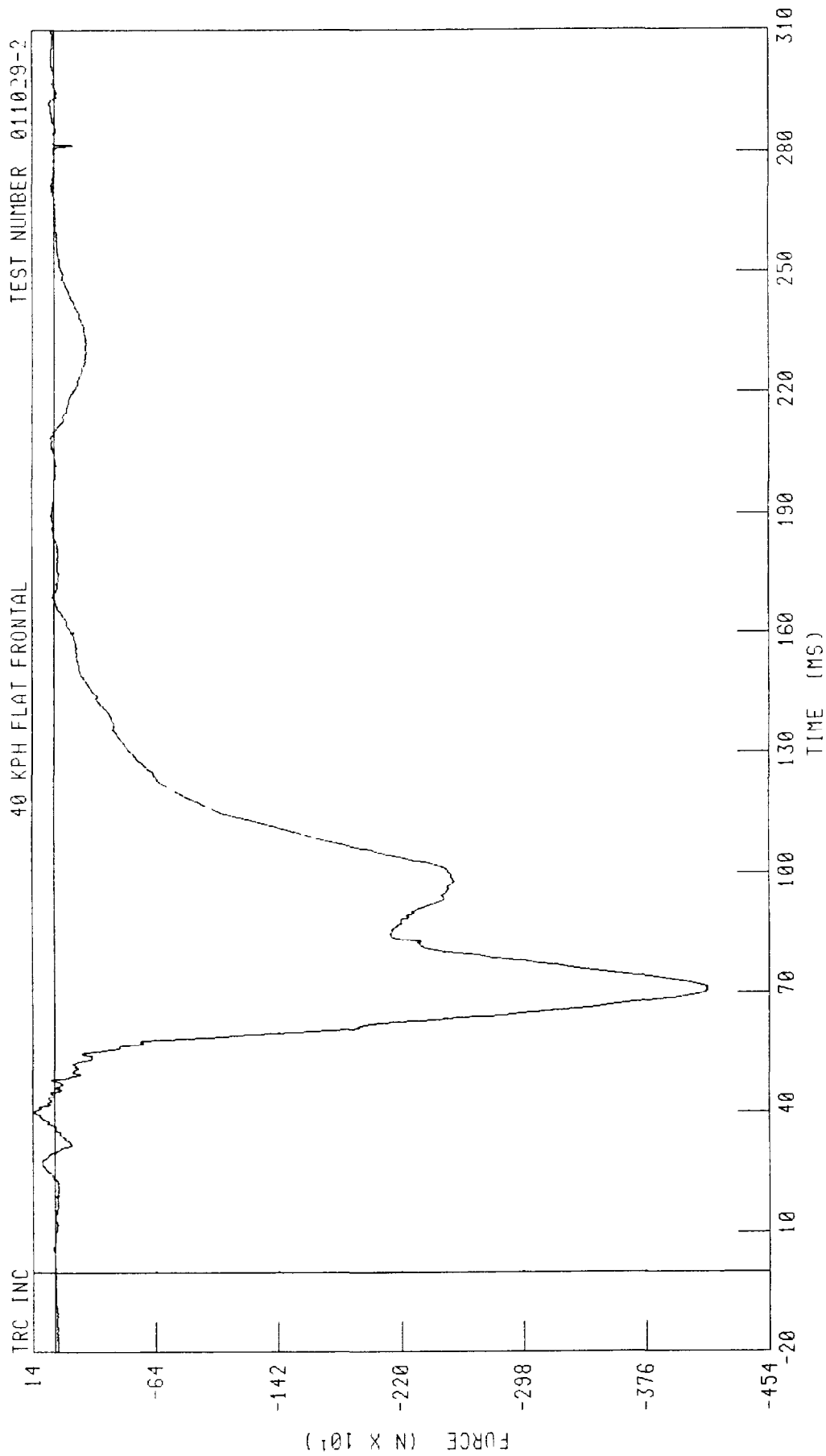
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER RIGHT LOWER TIBIA Y-AXIS FORCE



CHANNEL ANRYF1 FILTER CH CLASS 600

PEAK DATA 98 37 N 218 40 MS, -139 21 N 74 16 MS

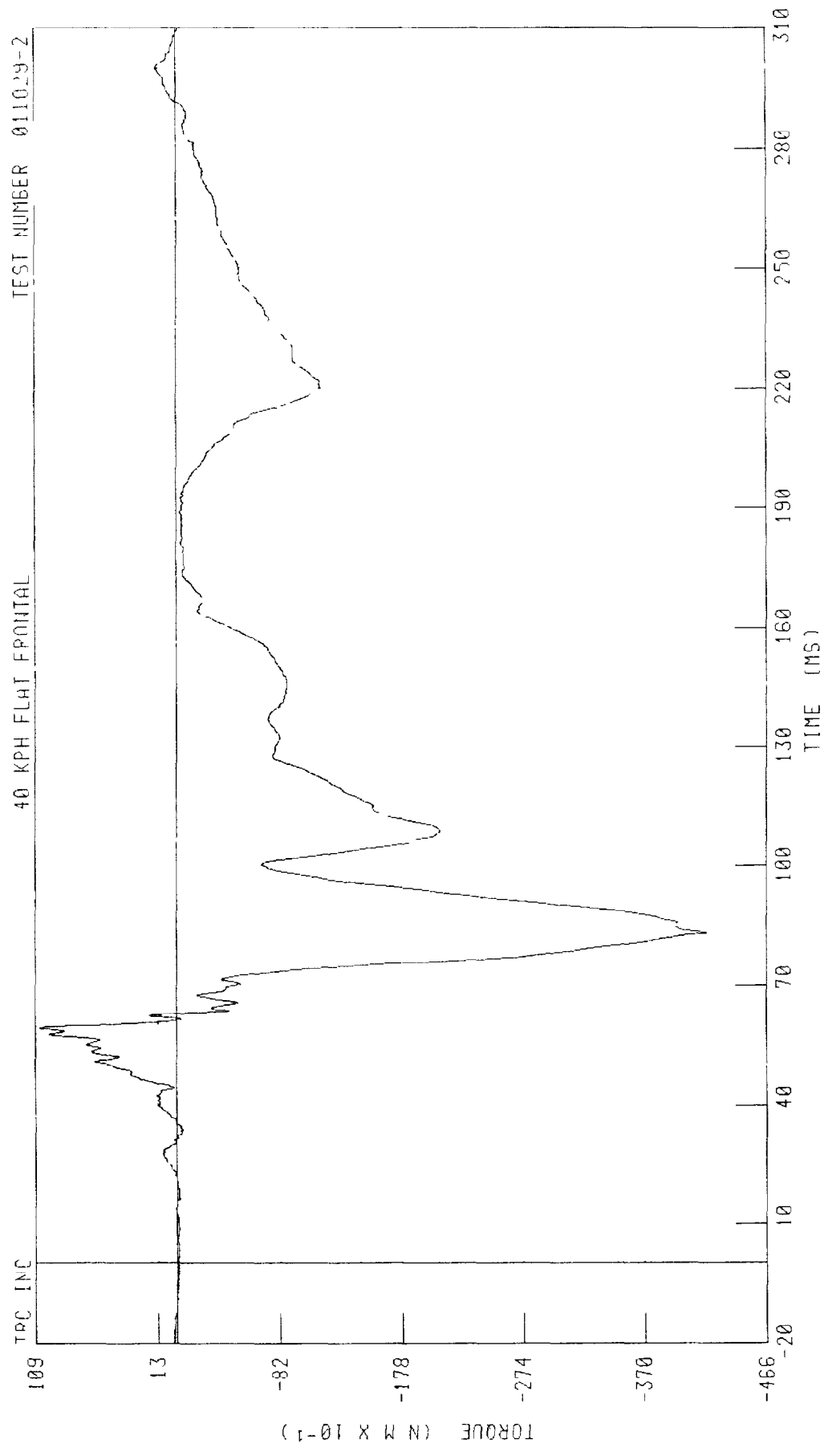
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER RIGHT LOWER TIBIA Z-AXIS FORCE



CHANNEL ANRZF1 FILTER CH CLASS 600

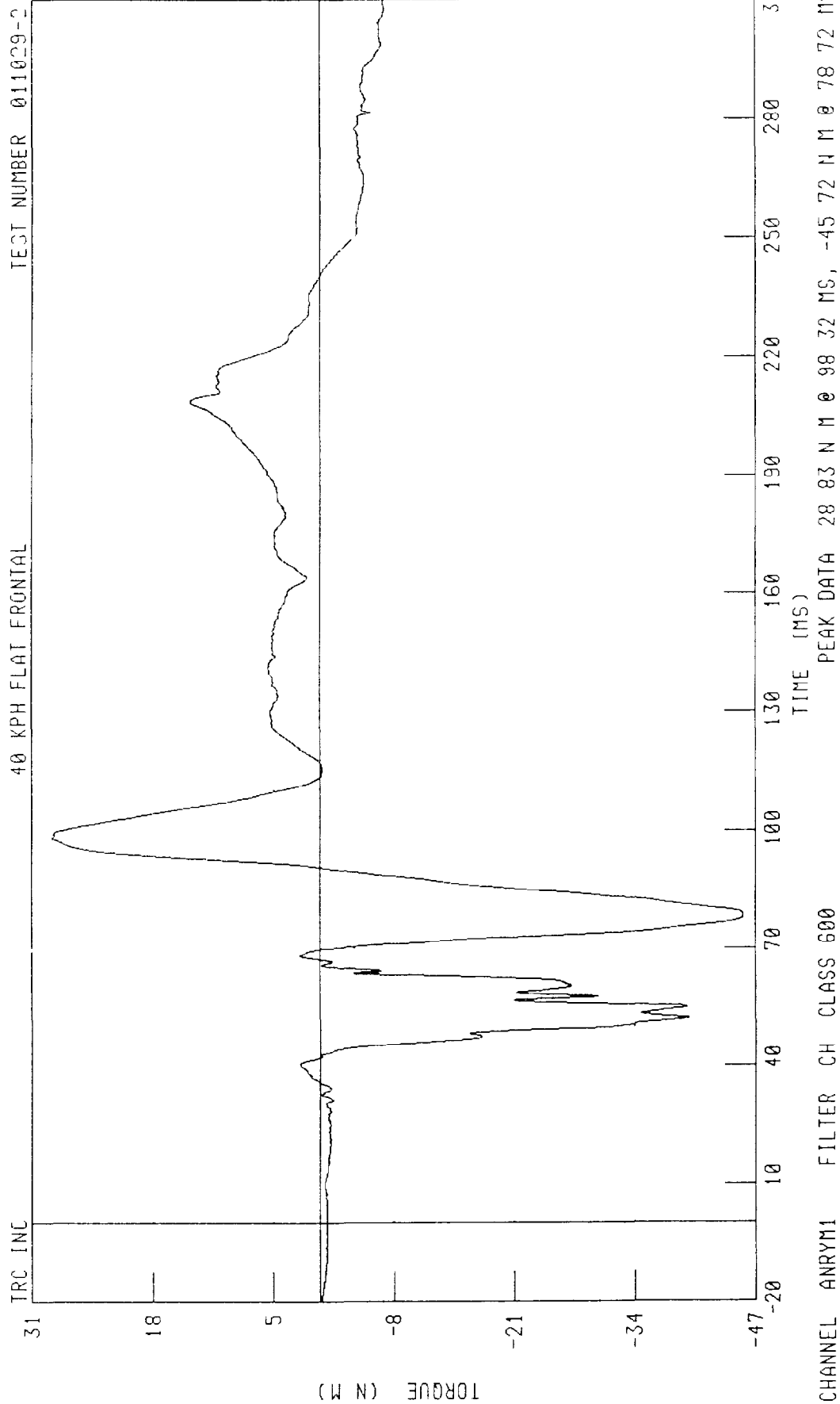
PEAK DATA 132 99 N 0 40 00 MS, -4152 86 N 0 71 36 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER RIGHT LOWER TIBIA MOMENT ABOUT X AXIS

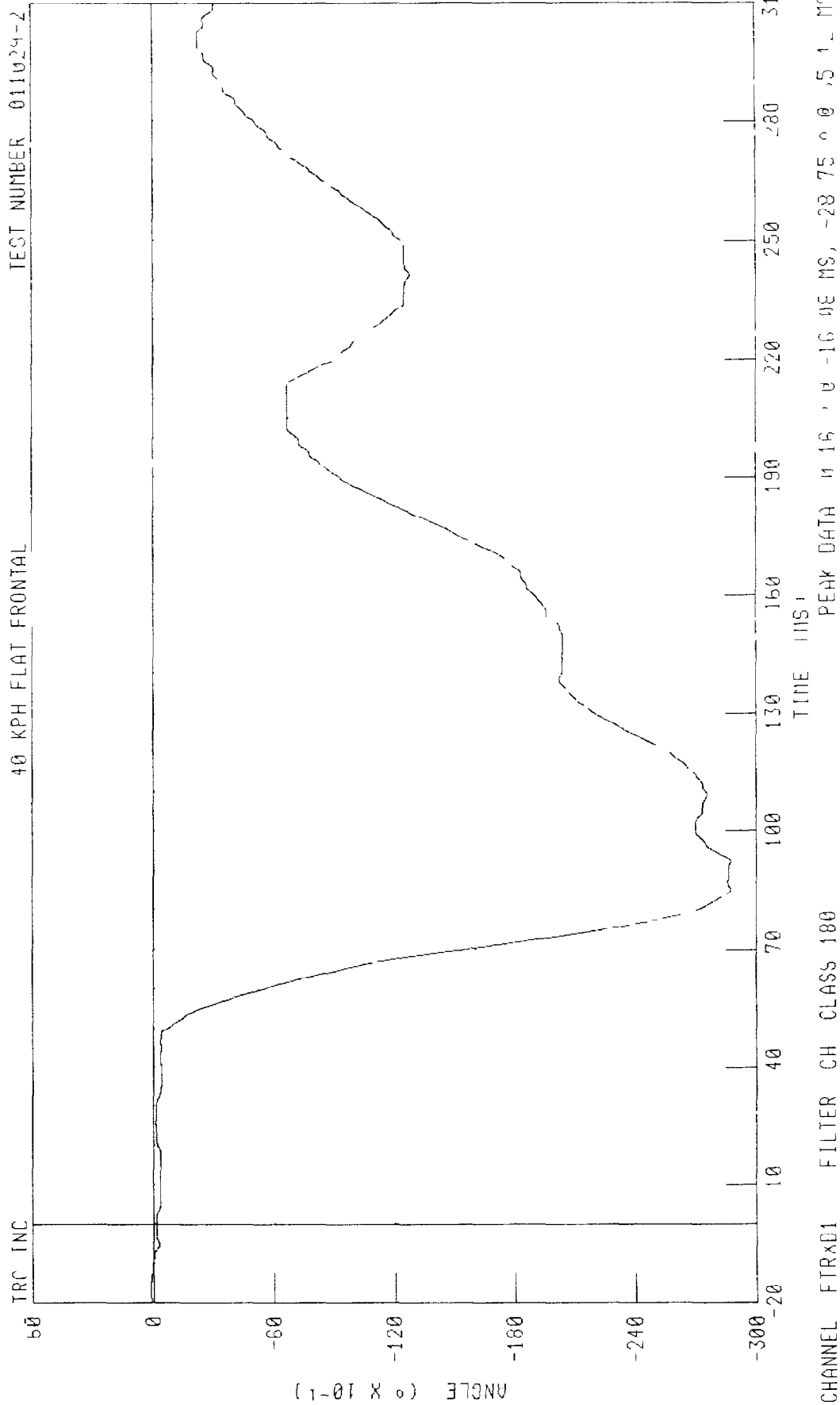


CHANNEL ANRMM1 FILTER CH CLASS 600 PEAK DATA 10 63 N M @ 59 20 MS, -41 98 N M @ 83 20 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER RIGHT LOWER TIBIA MOMENT ABOUT Y AXIS

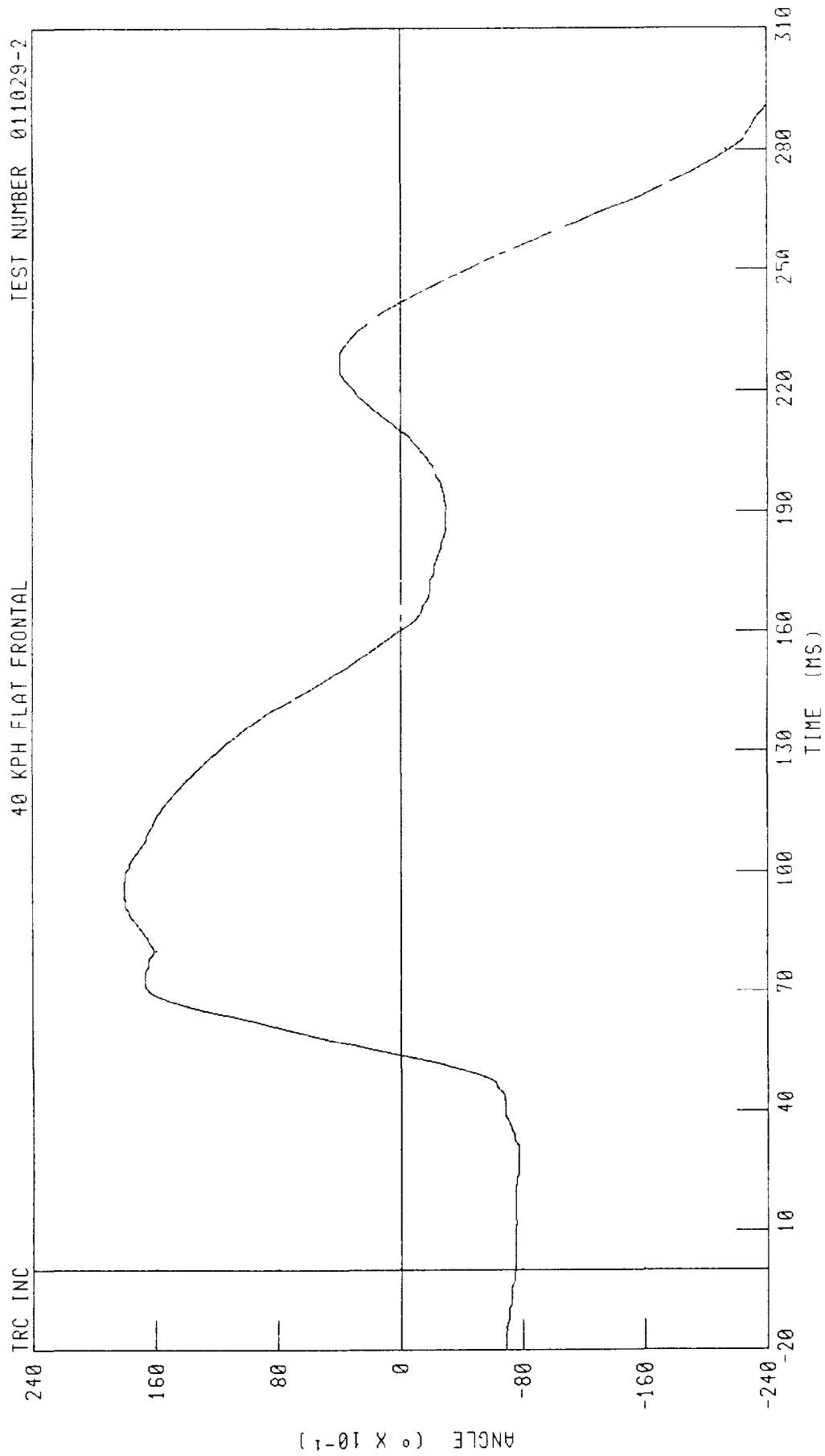


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER RIGHT FOOT 10 ANKLE X-AXIS DISPLACEMENT
 40 KPH FLAT FRONTAL



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER RIGHT FOOT TO ANKLE Y-AXIS DISPLACEMENT

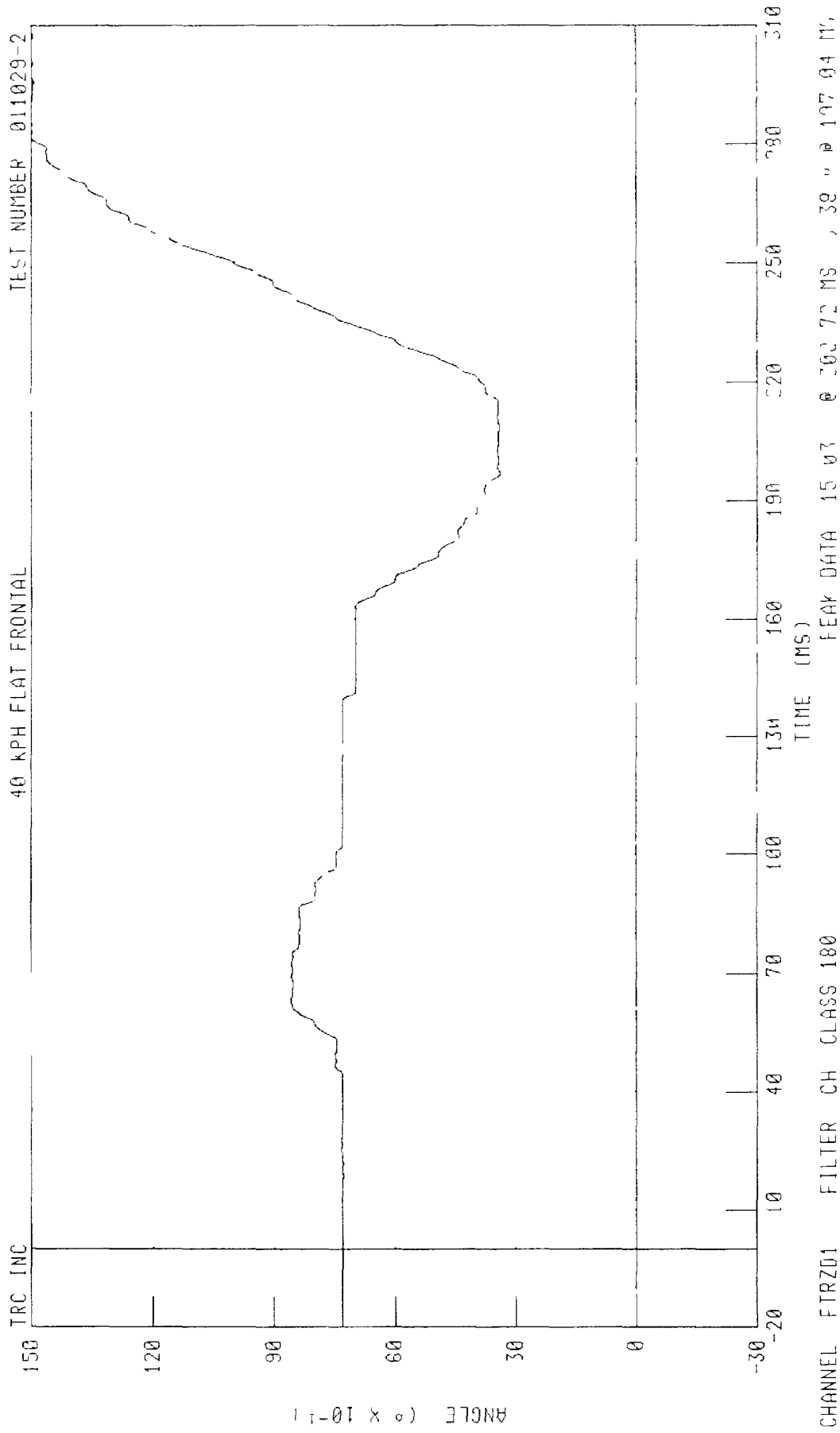
40 KPH FLAT FRONTAL TEST NUMBER 011029-2



CHANNEL FTRYD1 FILTER CH CLASS 180

PEAK DATA 18 04 ° @ 94 08 MS, -25 56 ° @ 307 84 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER RIGHT FOOT TO ANKLE Z-AXIS DISPLACEMENT

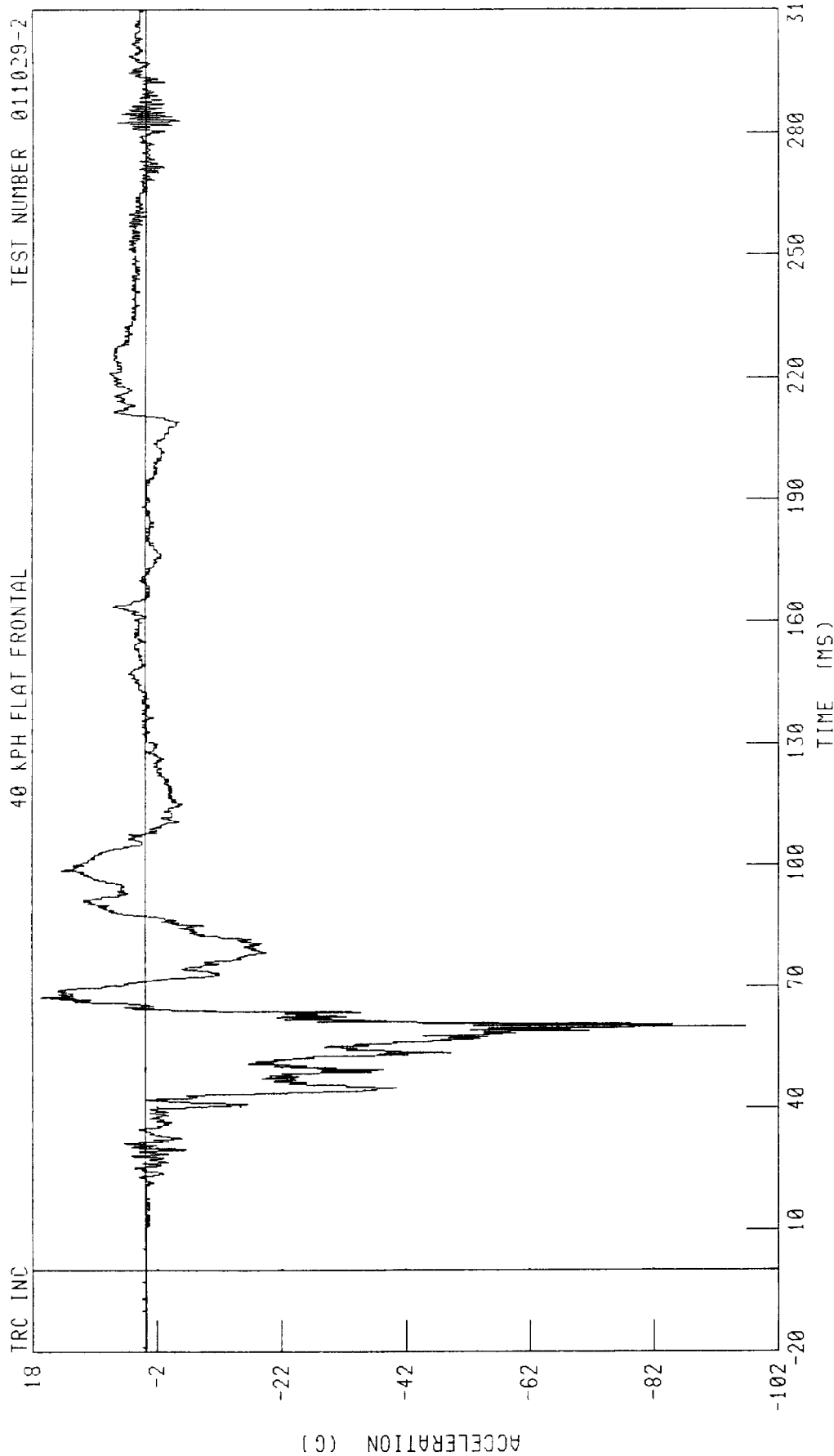


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER RIGHT FOOT X-AXIS ACCELERATION

40 KPH FLAT FRONTAL

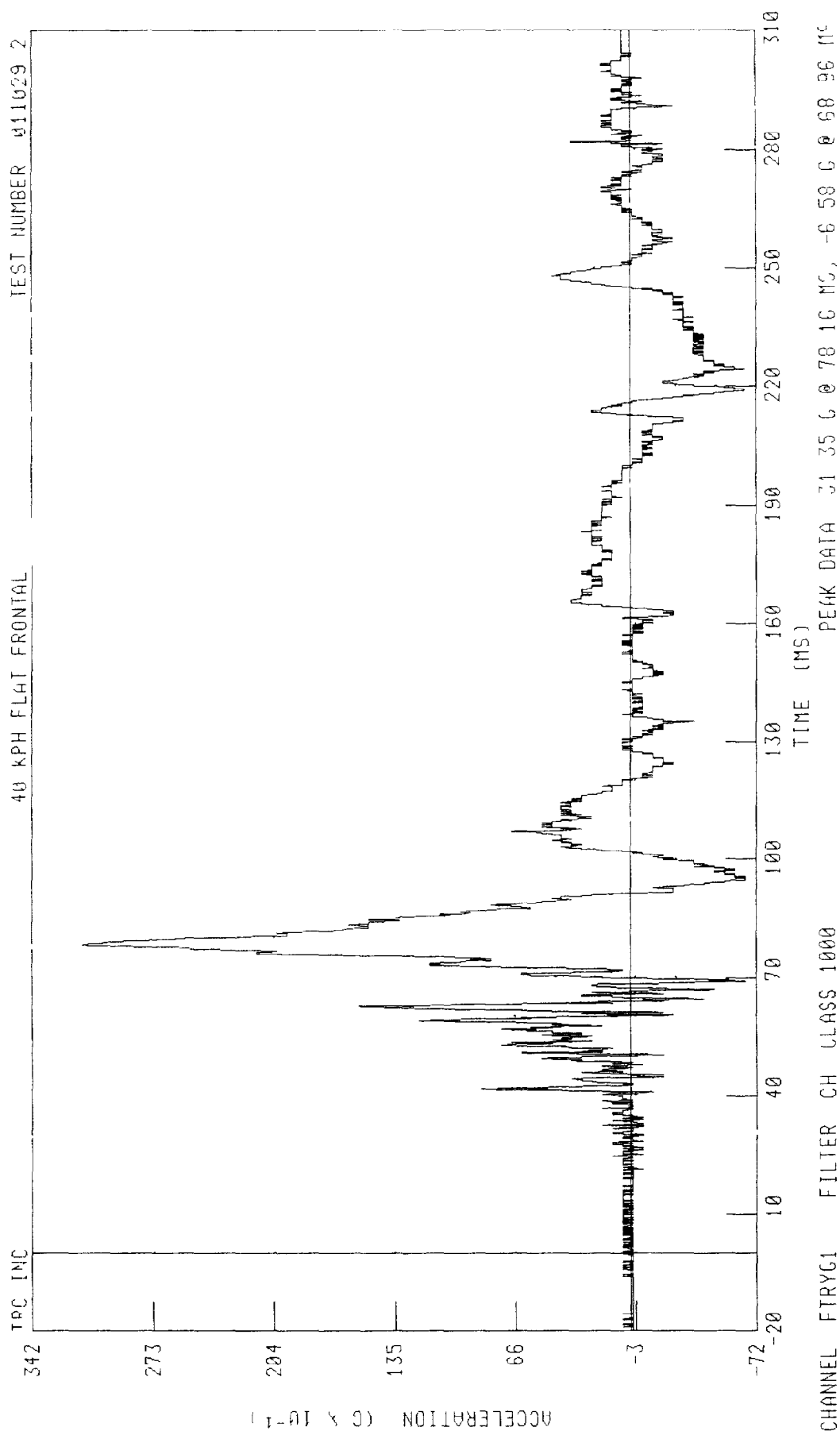
TEST NUMBER 011029-2



CHANNEL FTRXC1 FILTER CH CLASS 1000

PEAK DATA 16 76 6 0 67 44 MS, -96 82 6 0 60 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 DRIVER RIGHT FOOT Y-AXIS ACCELERATION
 40 KPH FLAT FRONTAL



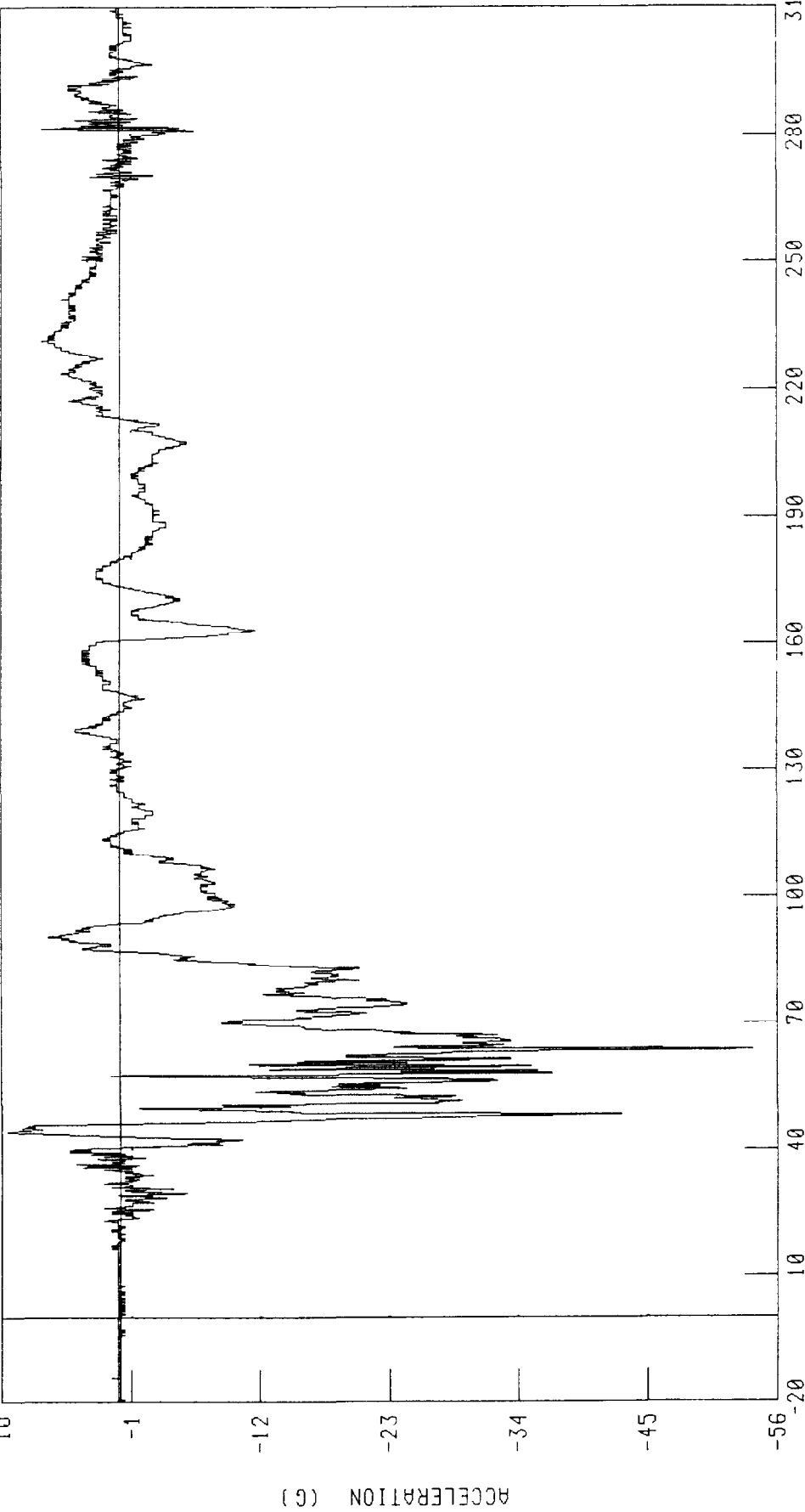
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER RIGHT FOOT Z-AXIS ACCELERATION

TEST NUMBER 011029-2

40 KPH FLAT FRONTAL

TRC INC

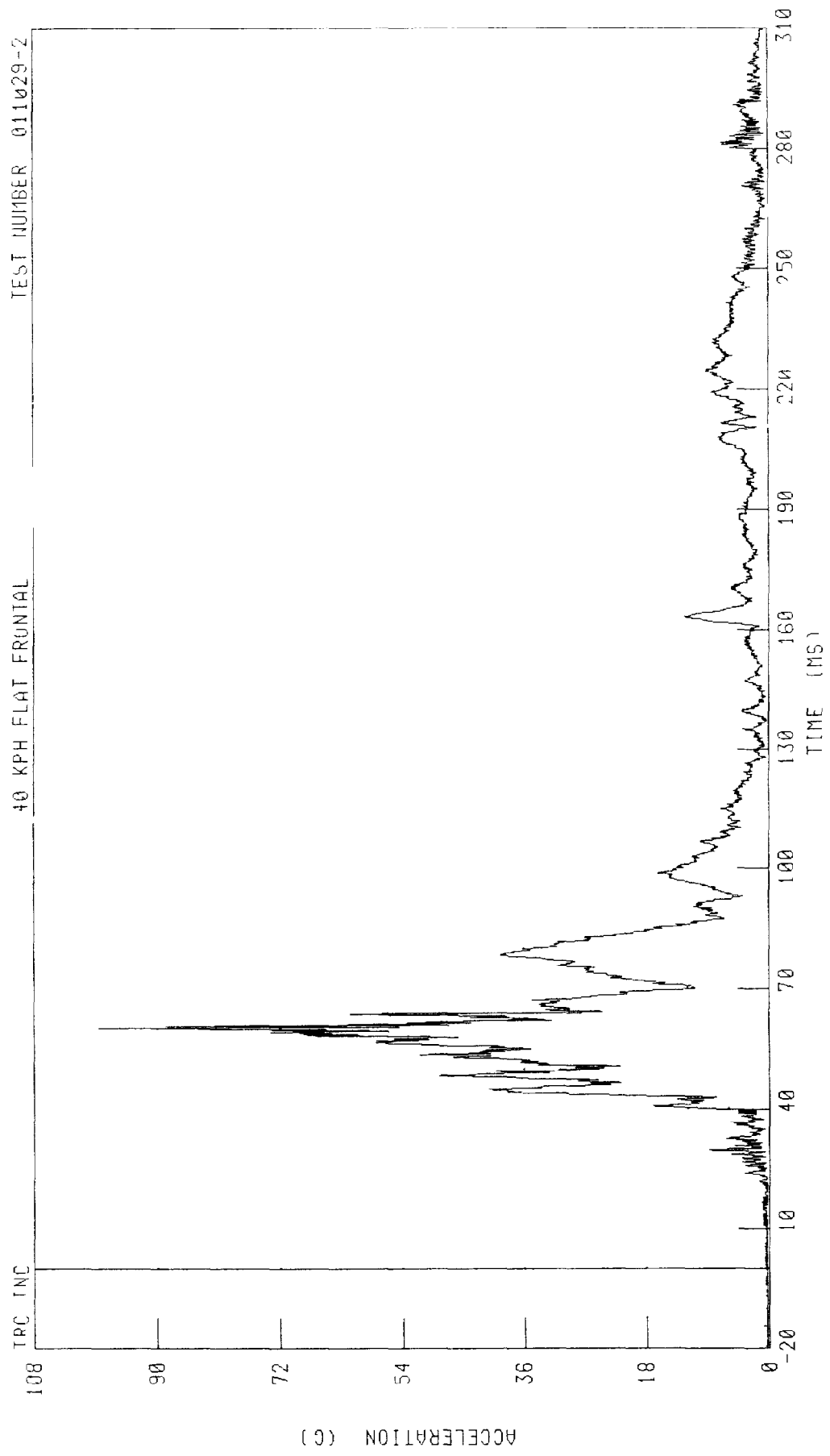


TIME (MS)

CHANNEL FTRZG1 FILTER CH CLASS 1000

PEAK DATA 9 56 0 0 44 32 MS -54 00 0 0 63 68 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
DRIVER RIGHT FOOT RESULTANT ACCELERATION



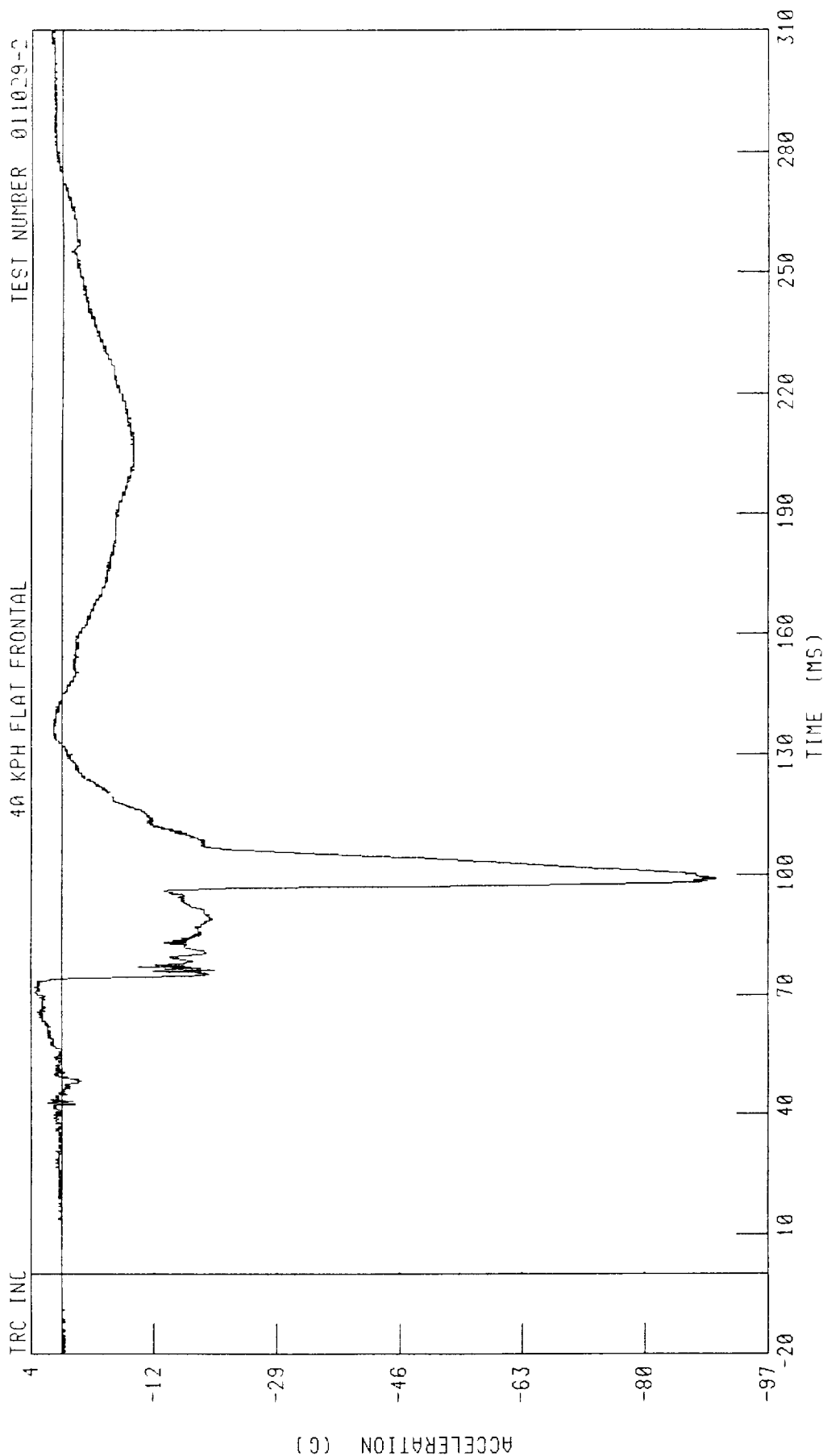
TEST NUMBER 011029-2

40 KPH FLAT FRONTAL

CHANNEL FTRC1 FILTER CH CLASS 1000
PEAK DATA 98 51 0 0 60 24 MS, 0 31 0 -20 00 M

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD X-AXIS ACCELERATION

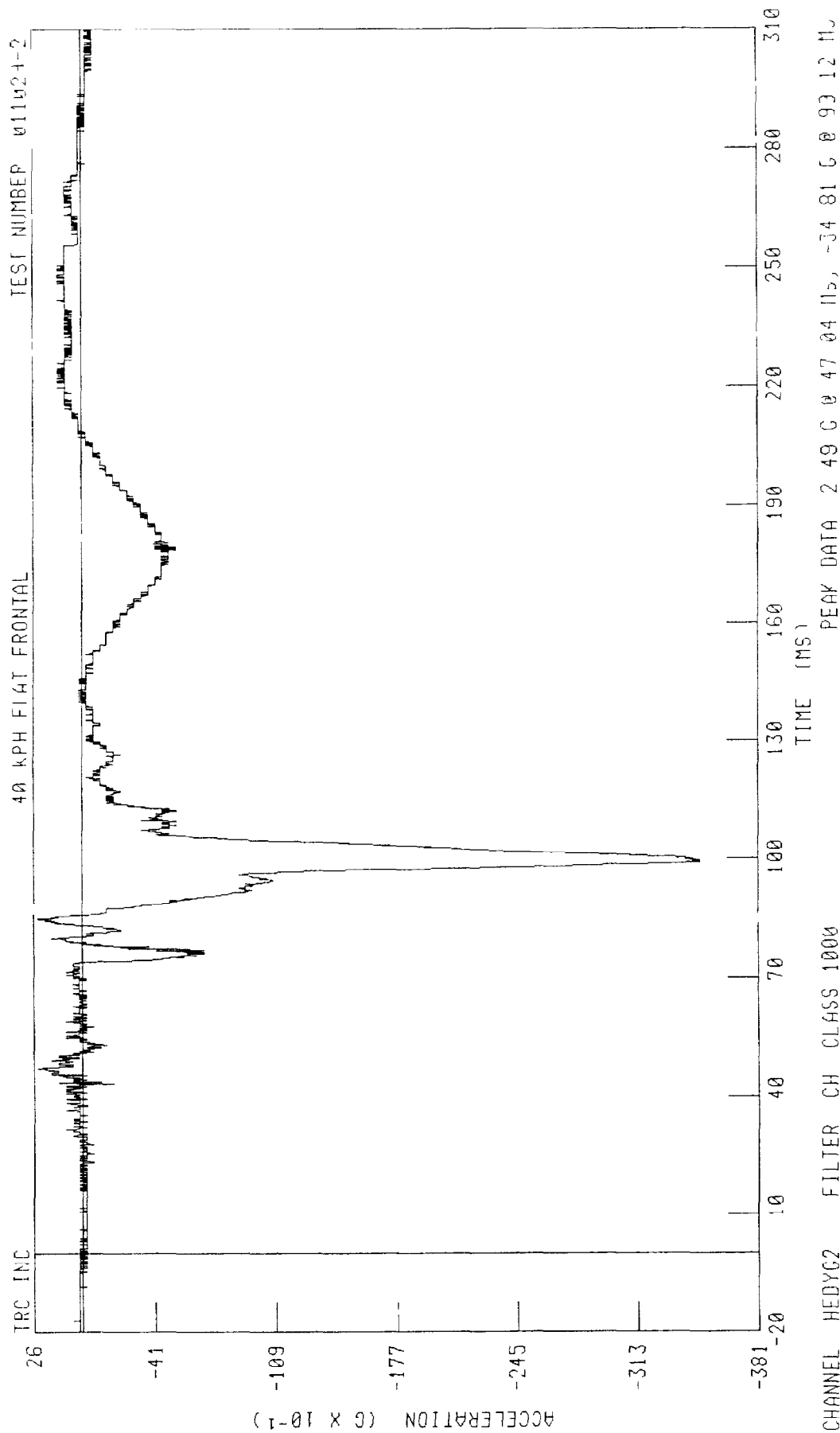


CHANNEL HEDXC2 FILTER CH CLASS 1000

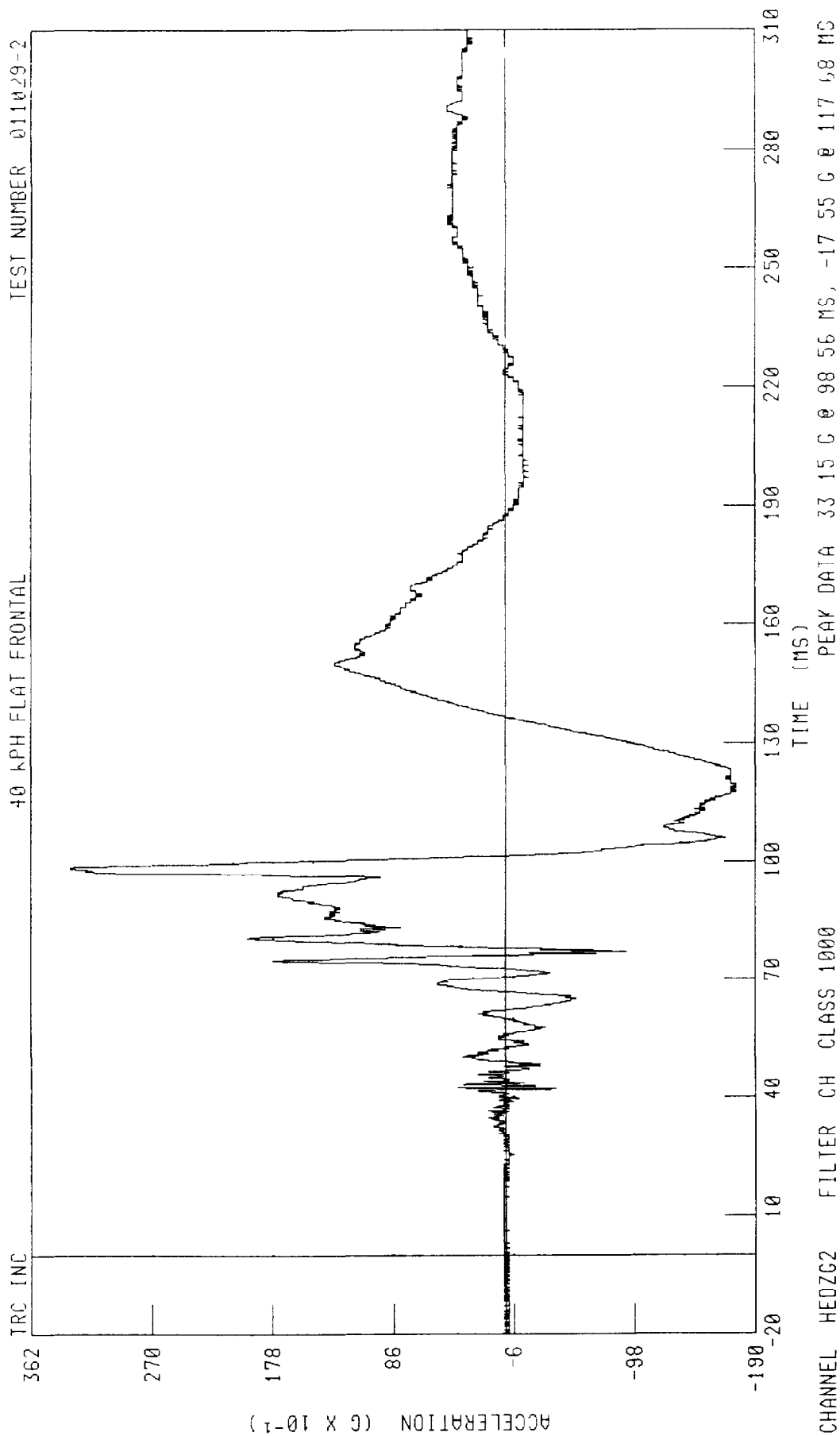
PEAK DATA 3 93 0 70 56 MS, -90 56 0 99 20 MS

2001 FORD F150 XL INTO FIAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD Y-AXIS ACCELERATION

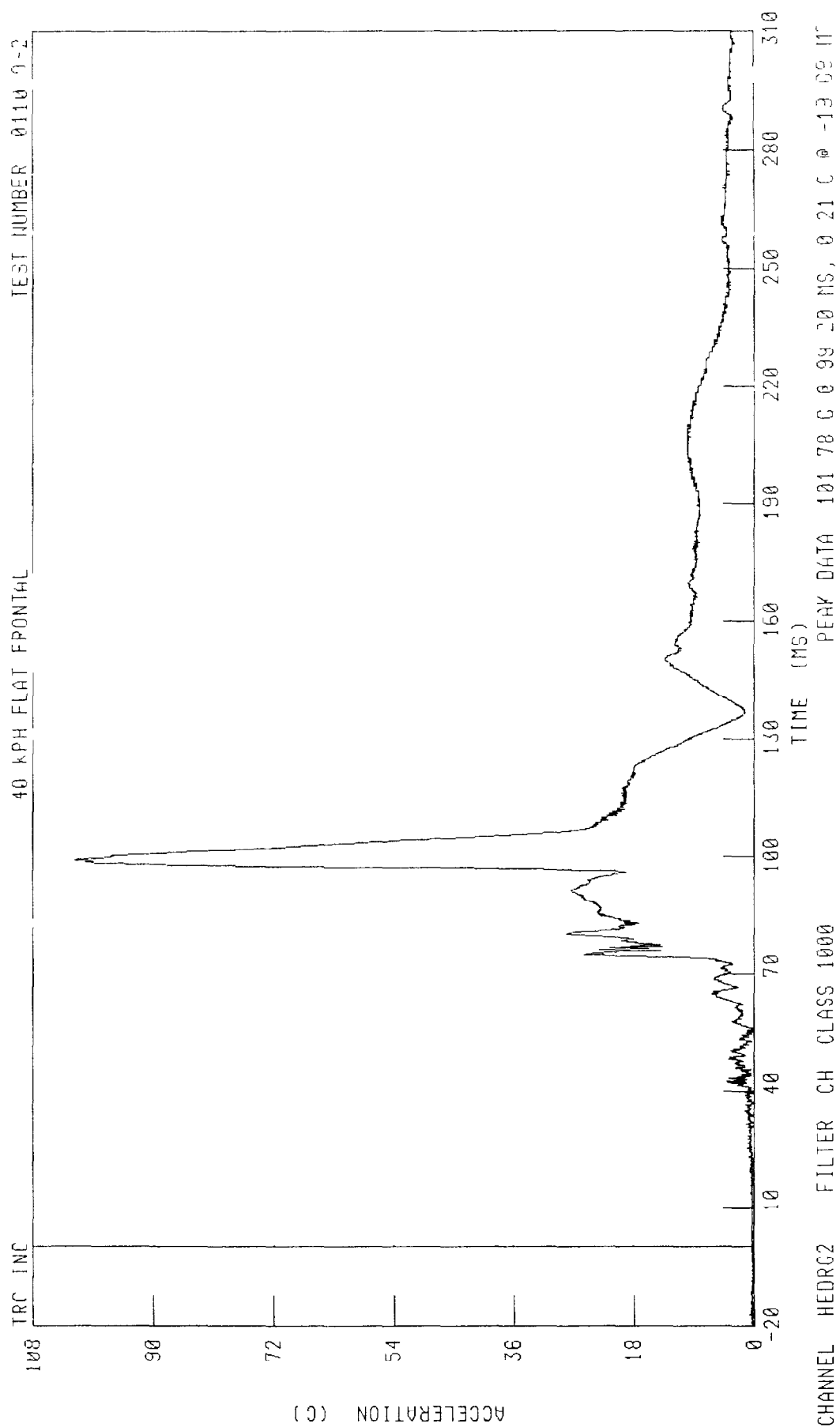


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER HEAD Z-AXIS ACCELERATION



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD RESULTANT ACCELERATION



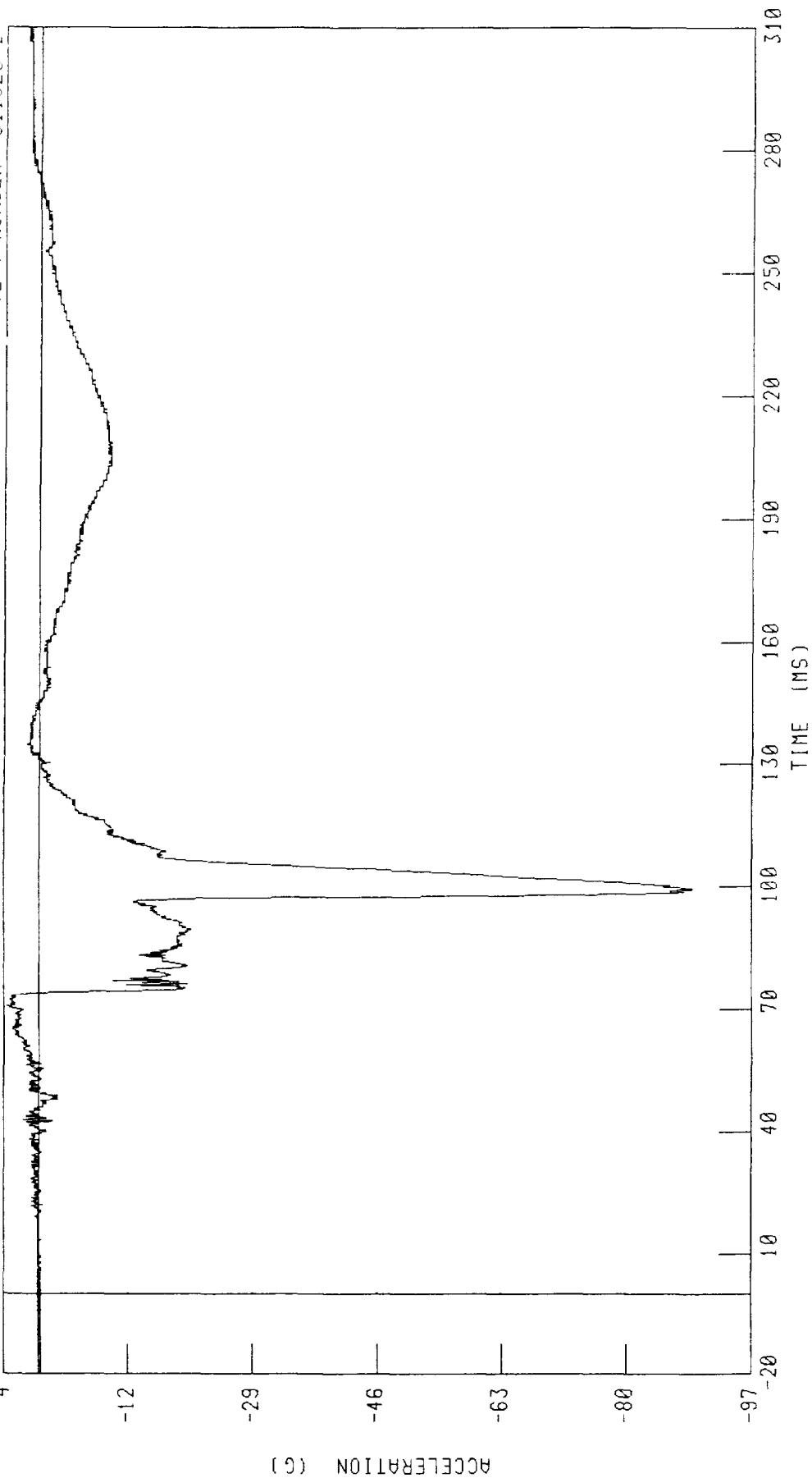
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD X-AXIS ACCELERATION REDUNDANT

TRC INC

40 KPH FLAT FRONTAL

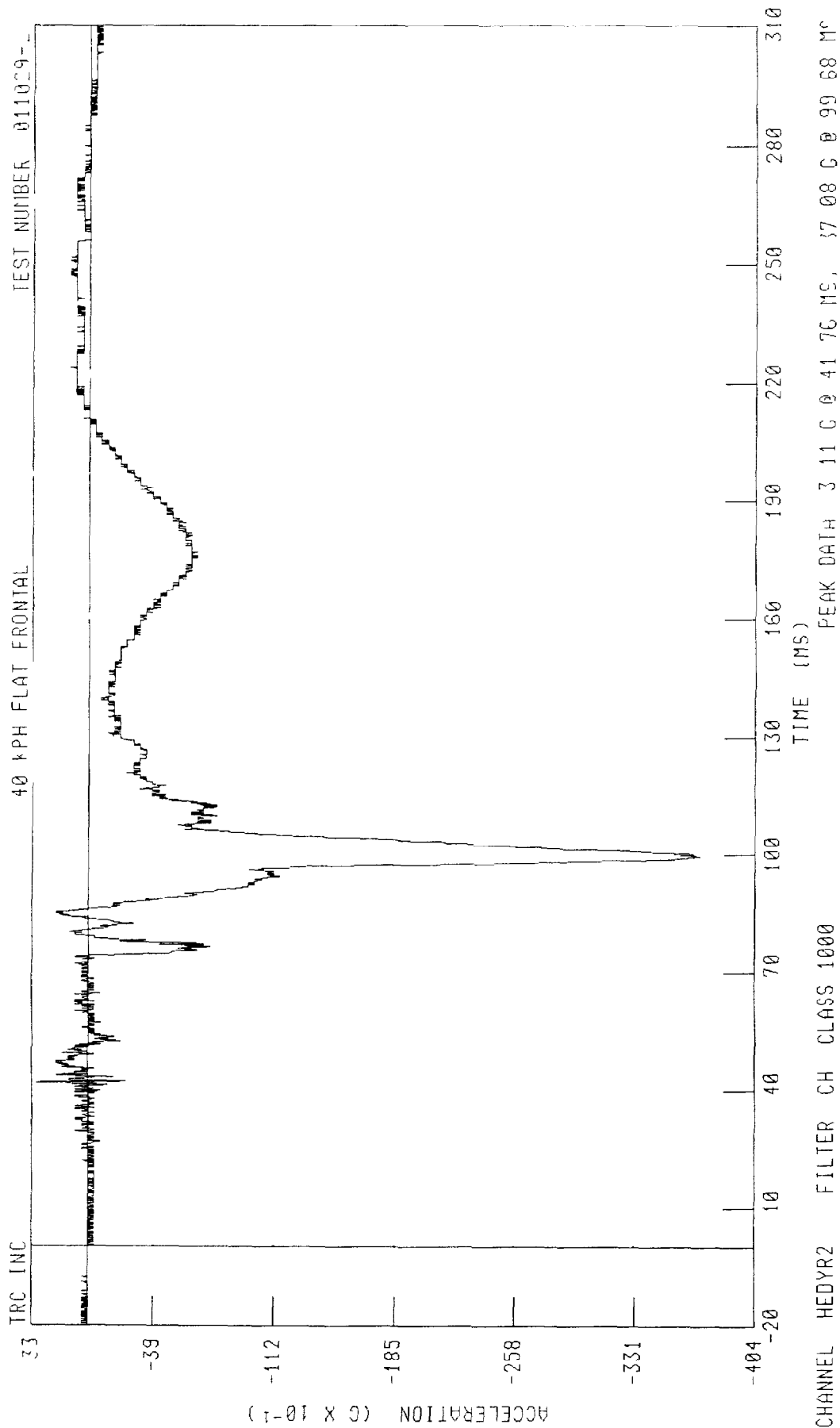
TEST NUMBER 011023-2



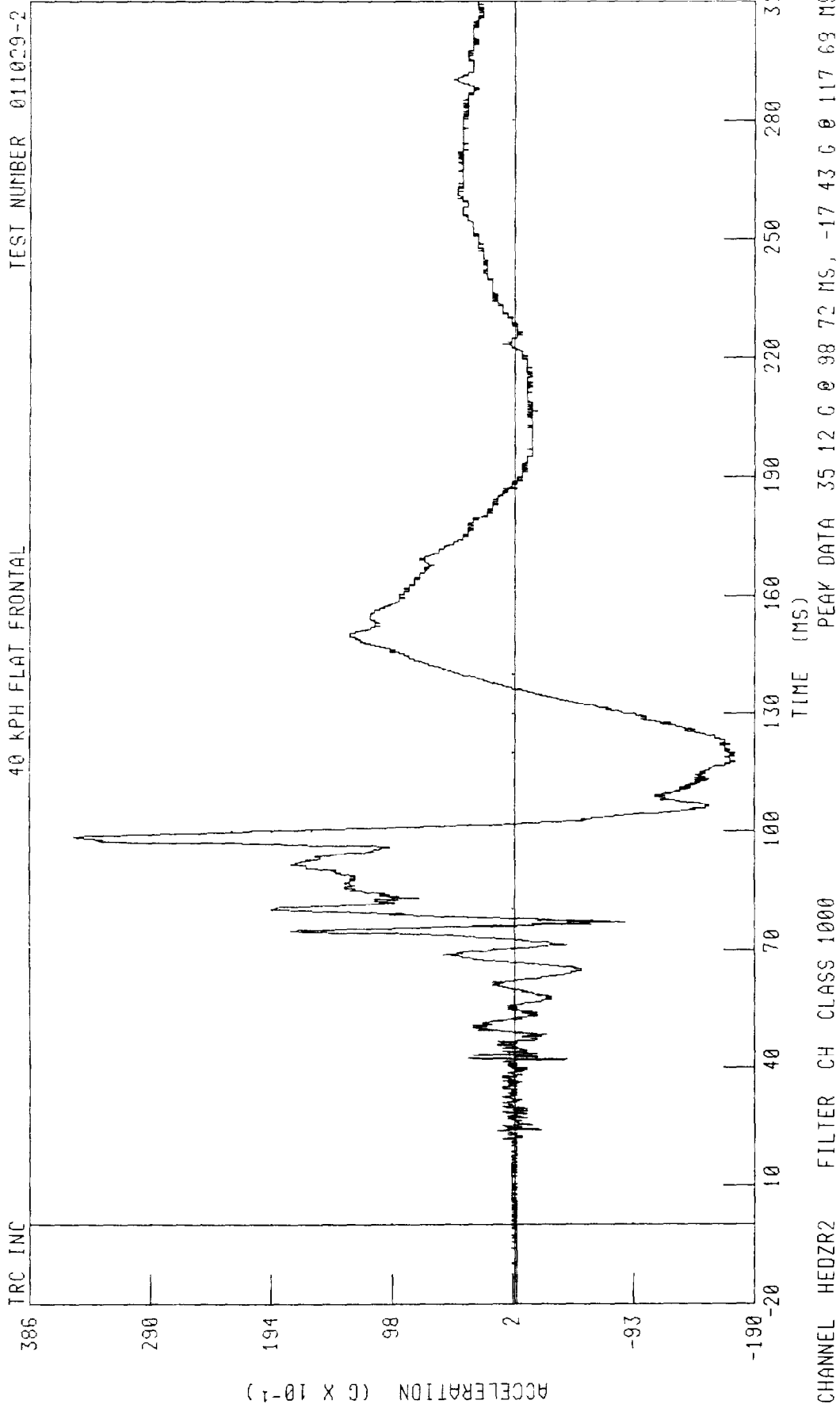
CHANNEL HEDXR2 FILTER CH CLASS 1000

PEAK DATA 4 50 G 0 70 56 MS, -89 11 G 0 99 20 MS

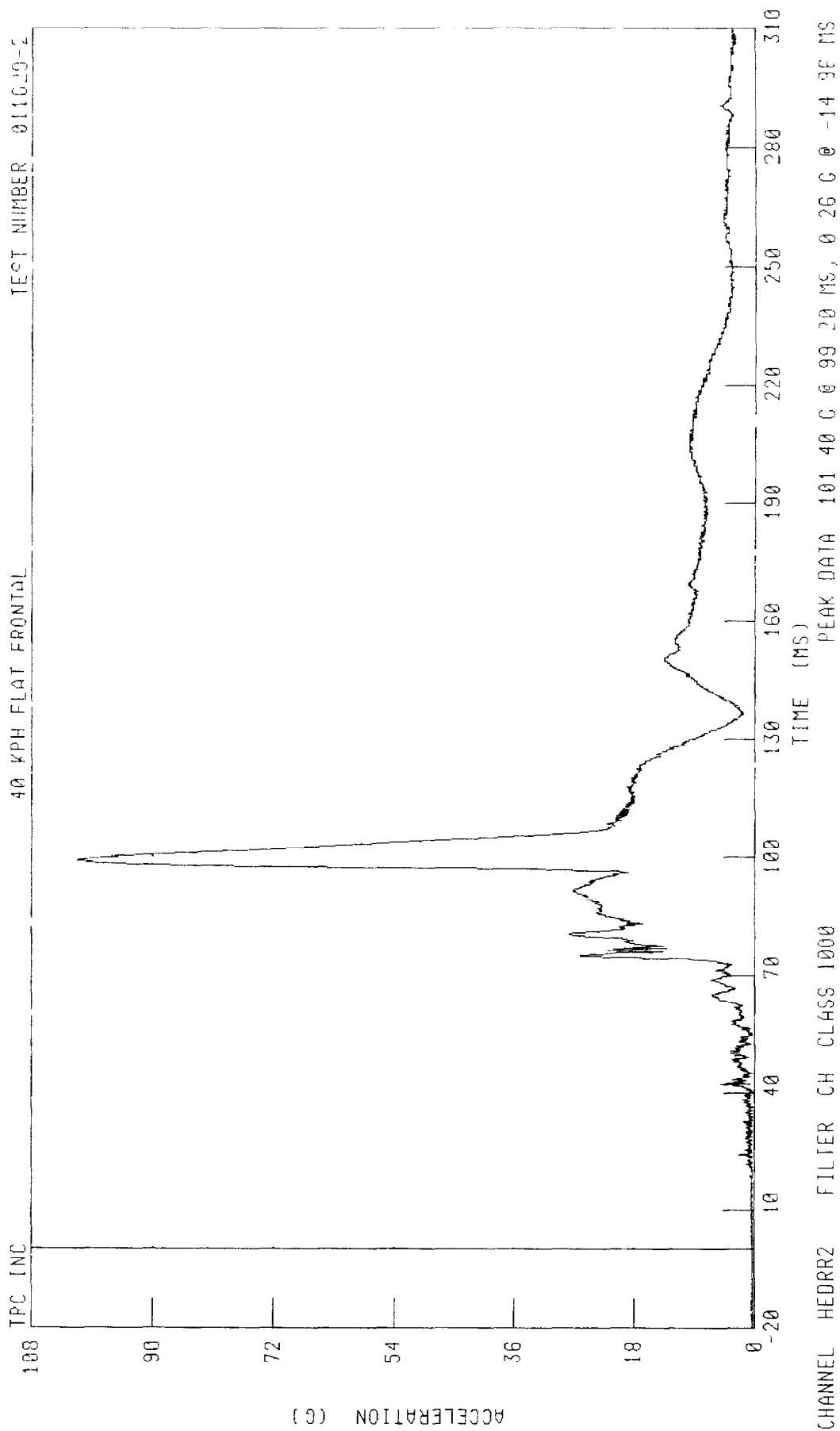
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER HEAD Y-AXIS ACCELERATION REDUNDANT



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER HEAD Z-AXIS ACCELERATION REDUNDANT
 40 KPH FLAT FRONTAL



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER HEAD RESULTANT ACCELERATION REDUNDANT

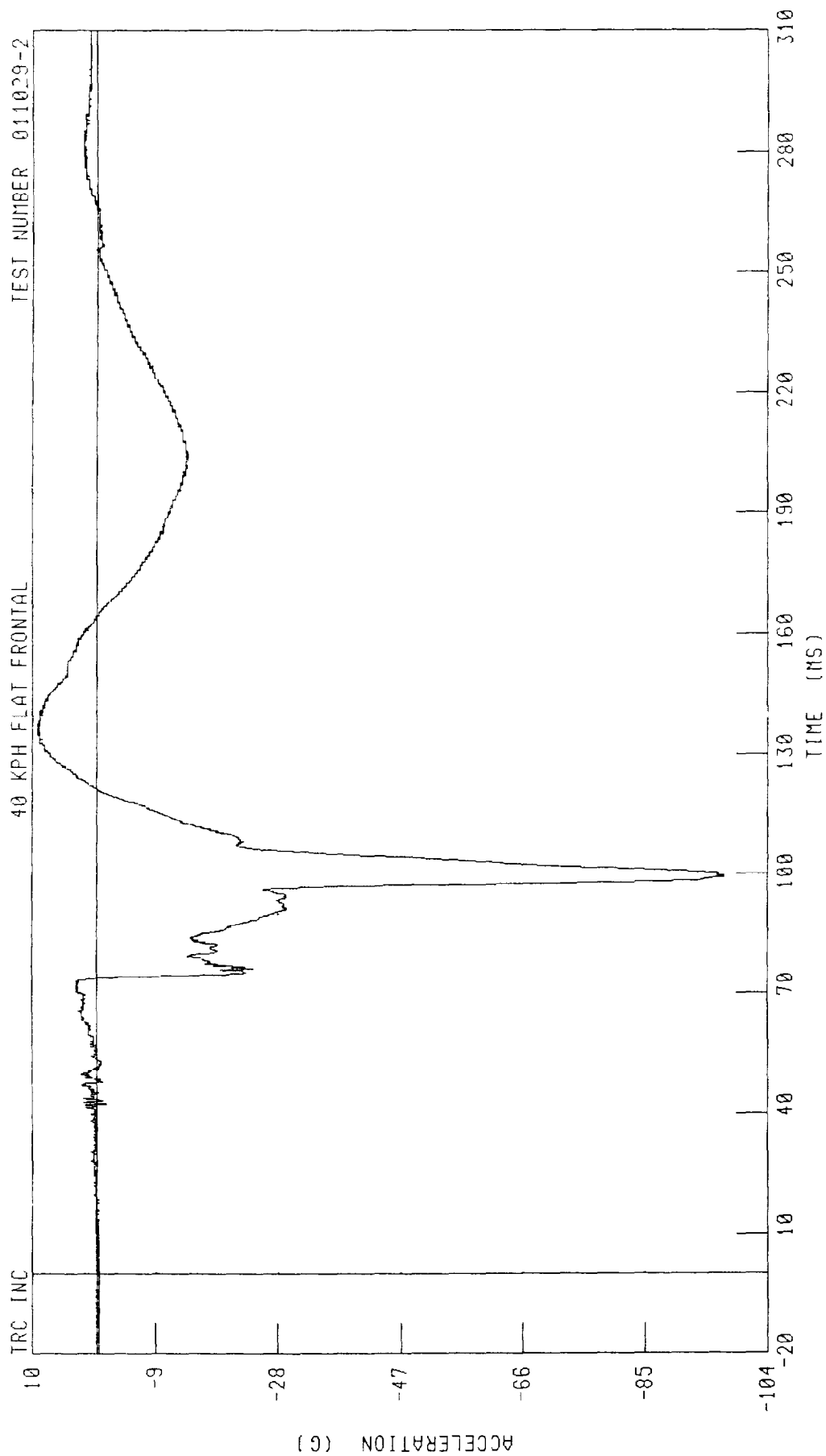


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD X-AXIS (LT) ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL HD1XC2 FILTER CH CLASS 1000

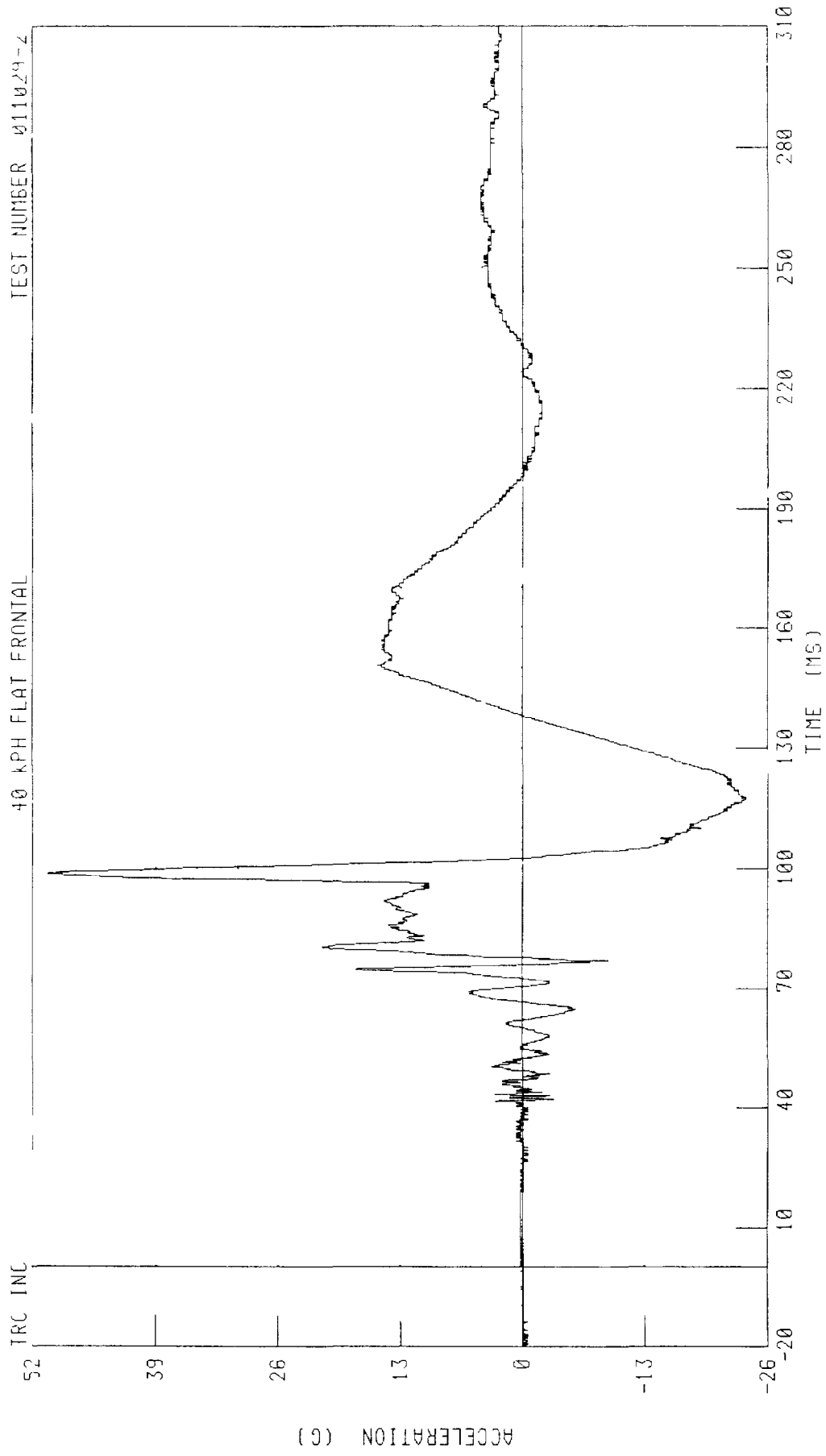
PEAK DATA 9 24 G @ 134 96 MS, -97 28 G @ 99 20 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD Z-AXIS (LT) ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL HD1ZG2 FILTER CH CLASS 1000

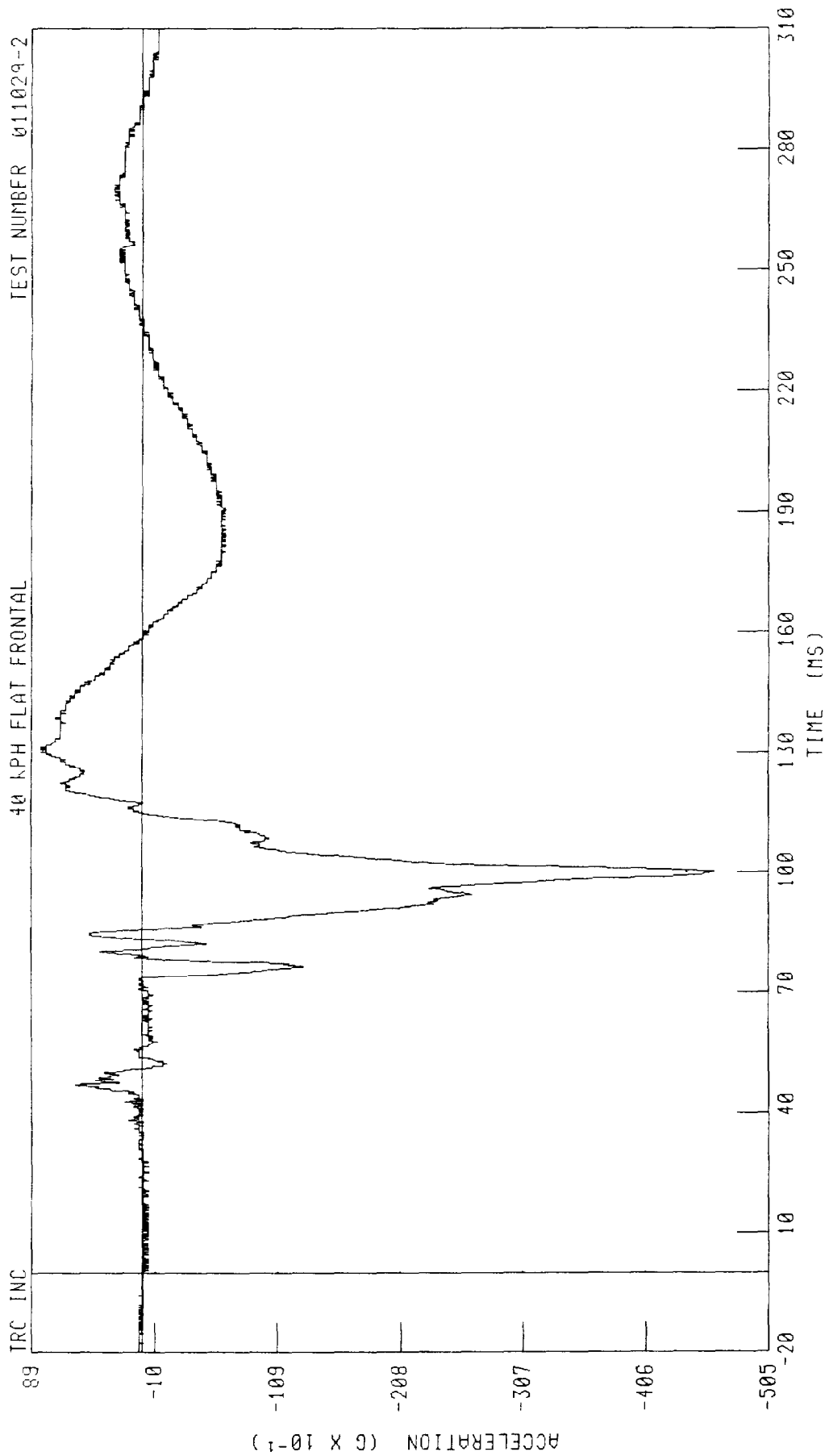
PEAK DATA 50 32 G @ 98 64 MS, -23 68 G @ 117 13 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD Y-AXIS (FT) ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL HD2YG2 FILTER CH CLASS 1000

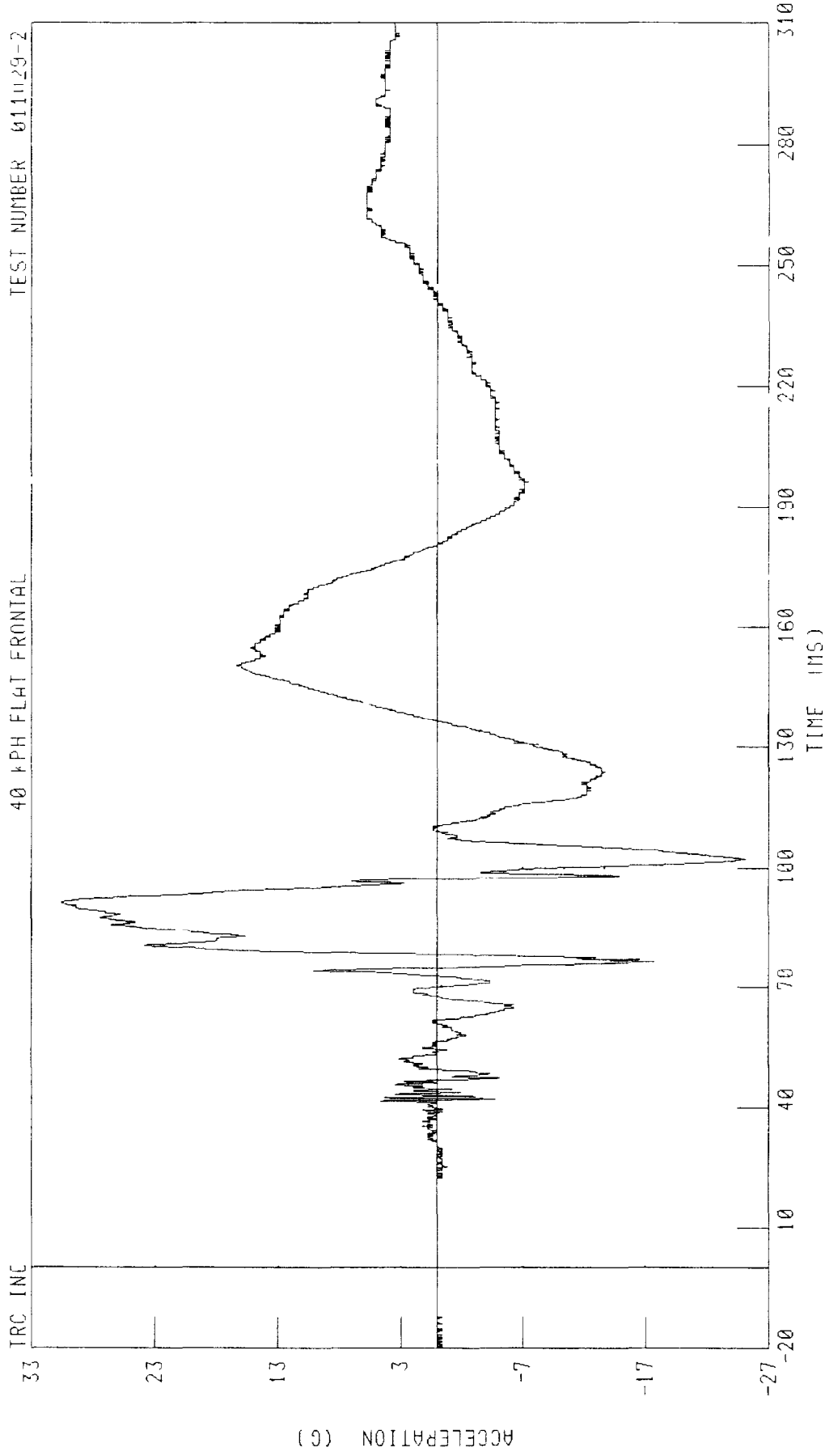
PEAK DATA 8 13 G @ 130 32 MS, -46 11 G @ 100 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD Z-AXIS (FT) ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL HD2ZG2 FILTER CH CLASS 1000

PEAK DATA 30 54 G @ 31 12 ms, -25 11 G @ 102 40 ms

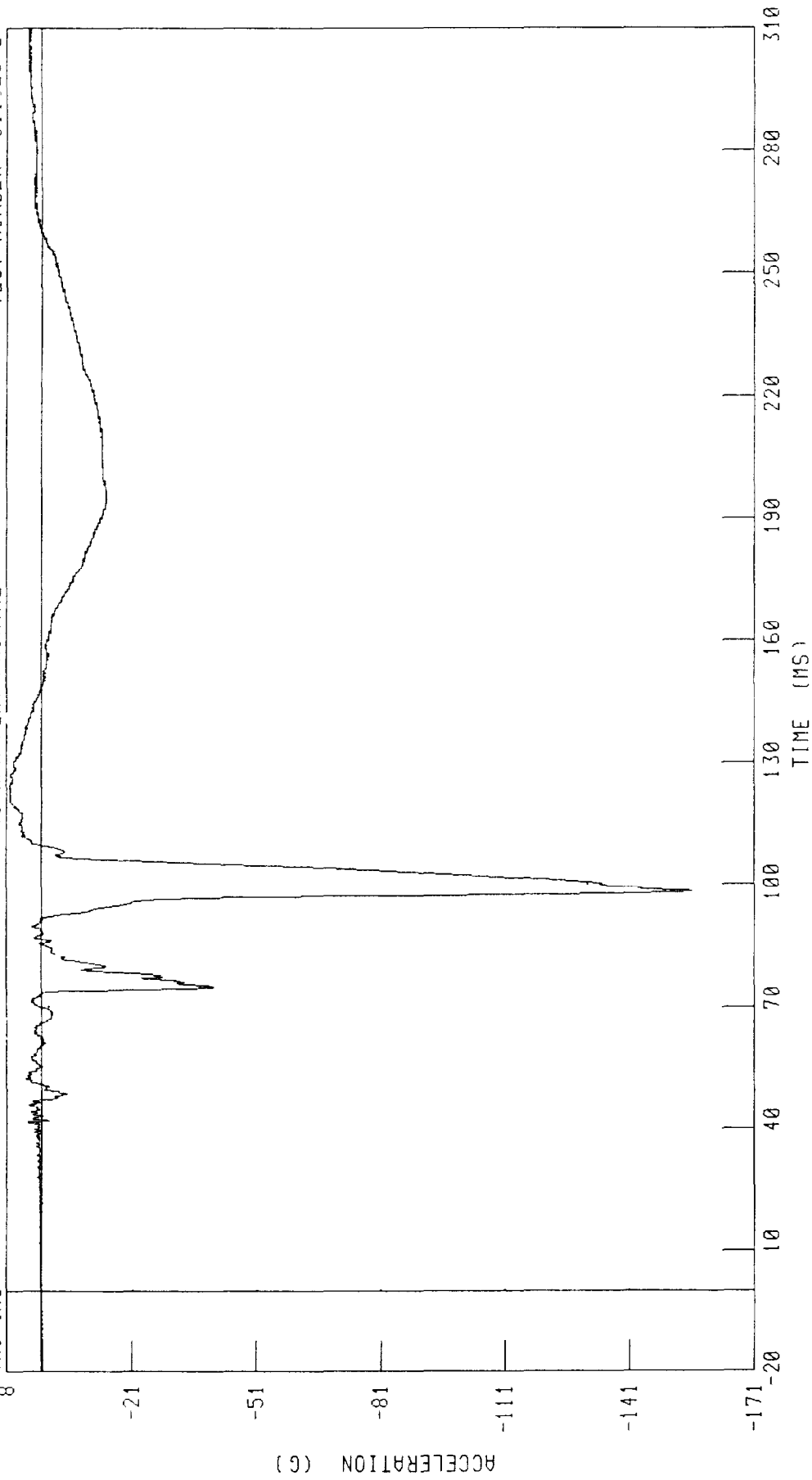
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD X-AXIS (TP) ACCELERATION

TRC INC

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



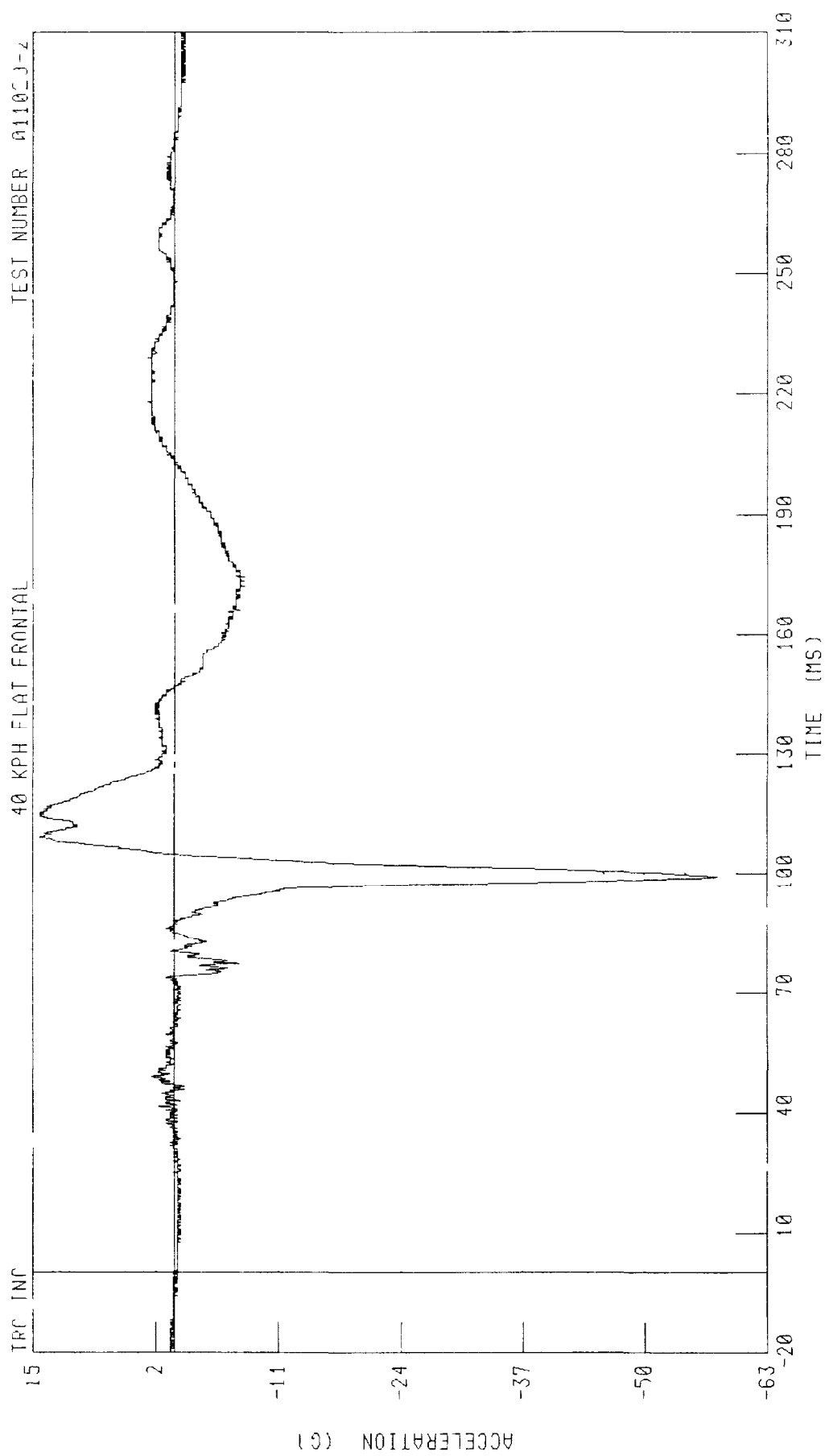
CHANNEL HD3XG2 FILTER CH CLASS 1000

PEAK DATA 7 53 0 120 80 MS, -156 78 0 98 32 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER HEAD Y-AXIS (TP) ACCELERATION

40 KPH FLAT FRONTAL TEST NUMBER 011023-2

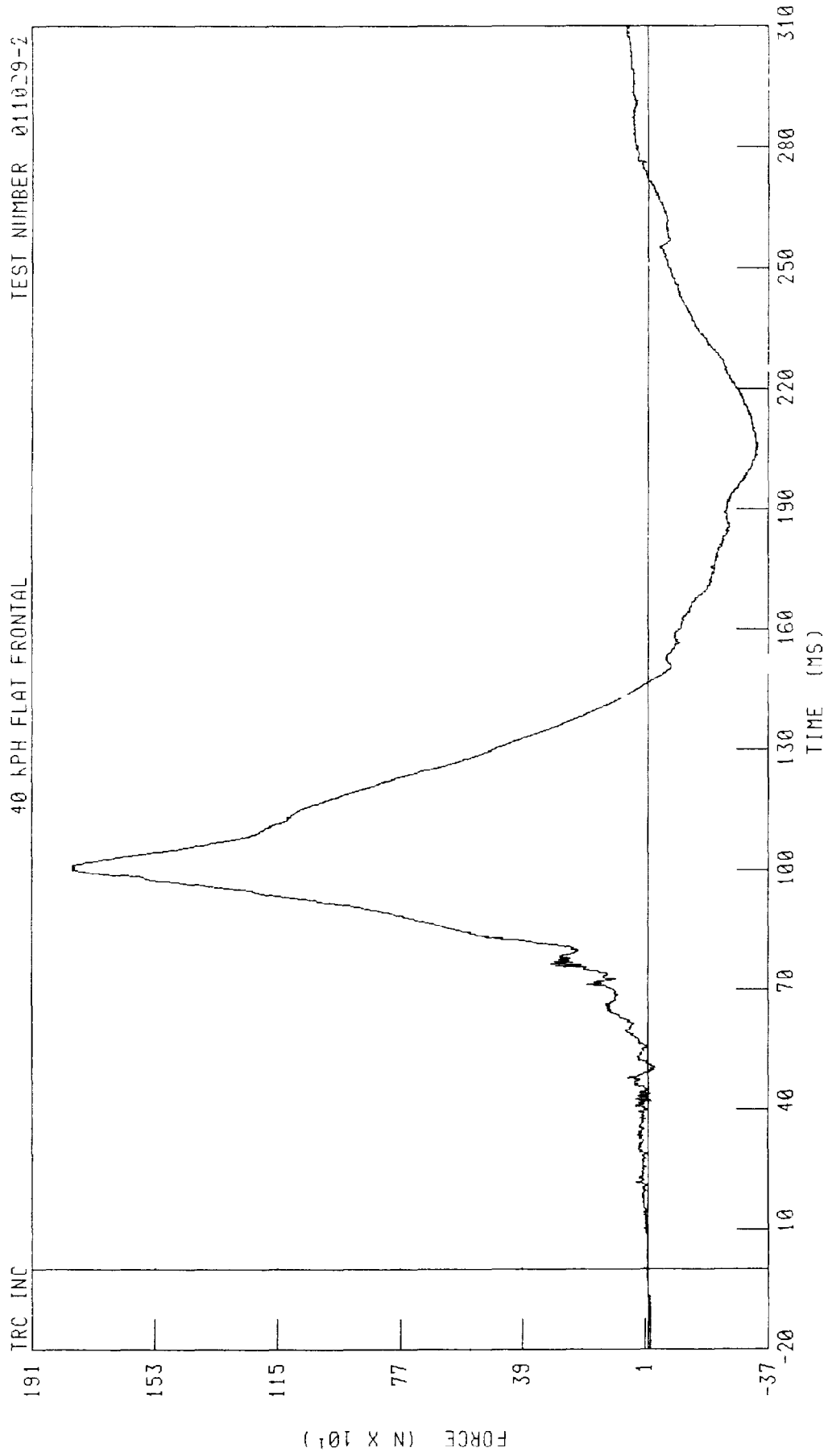


CHANNEL HD3YC2 FILTER CH CLASS 1000

PEAK DATA 14 23 C @ 108 96 MS, -57 69 G @ 99 28 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK X-AXIS SHEAR FORCE



CHANNEL NEKXF2 FILTER CH CLASS 1000

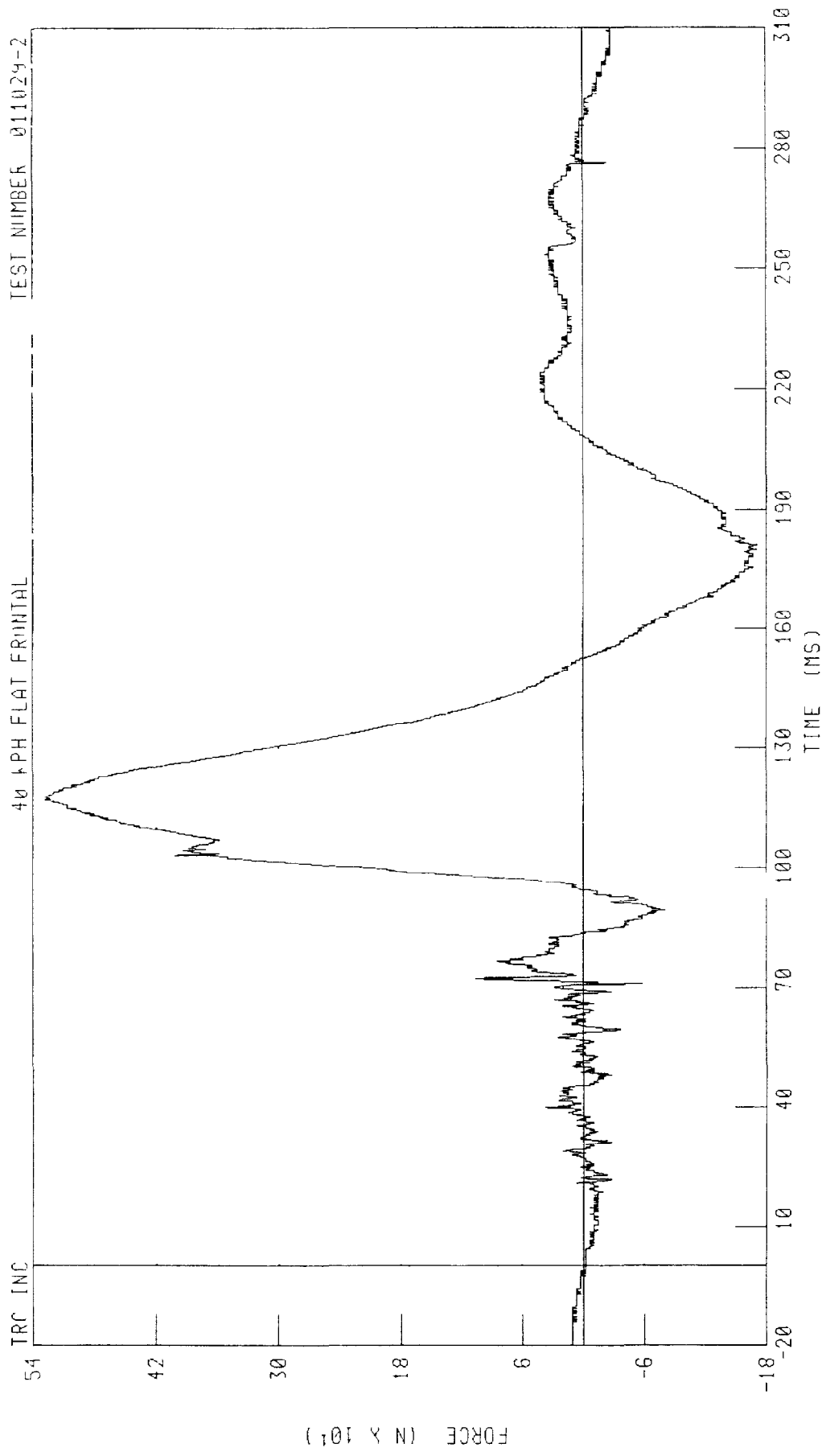
PEAK DATA 1784 56 N @ 100 32 MS, -336 67 N @ 203 60 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK Y-AXIS SHEAR FORCE

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL NEKYF2 FILTER CH CLASS 1000

PEAK DATA 52% 29 N @ 116 % MS, -171 42 N @ 180 08 MS

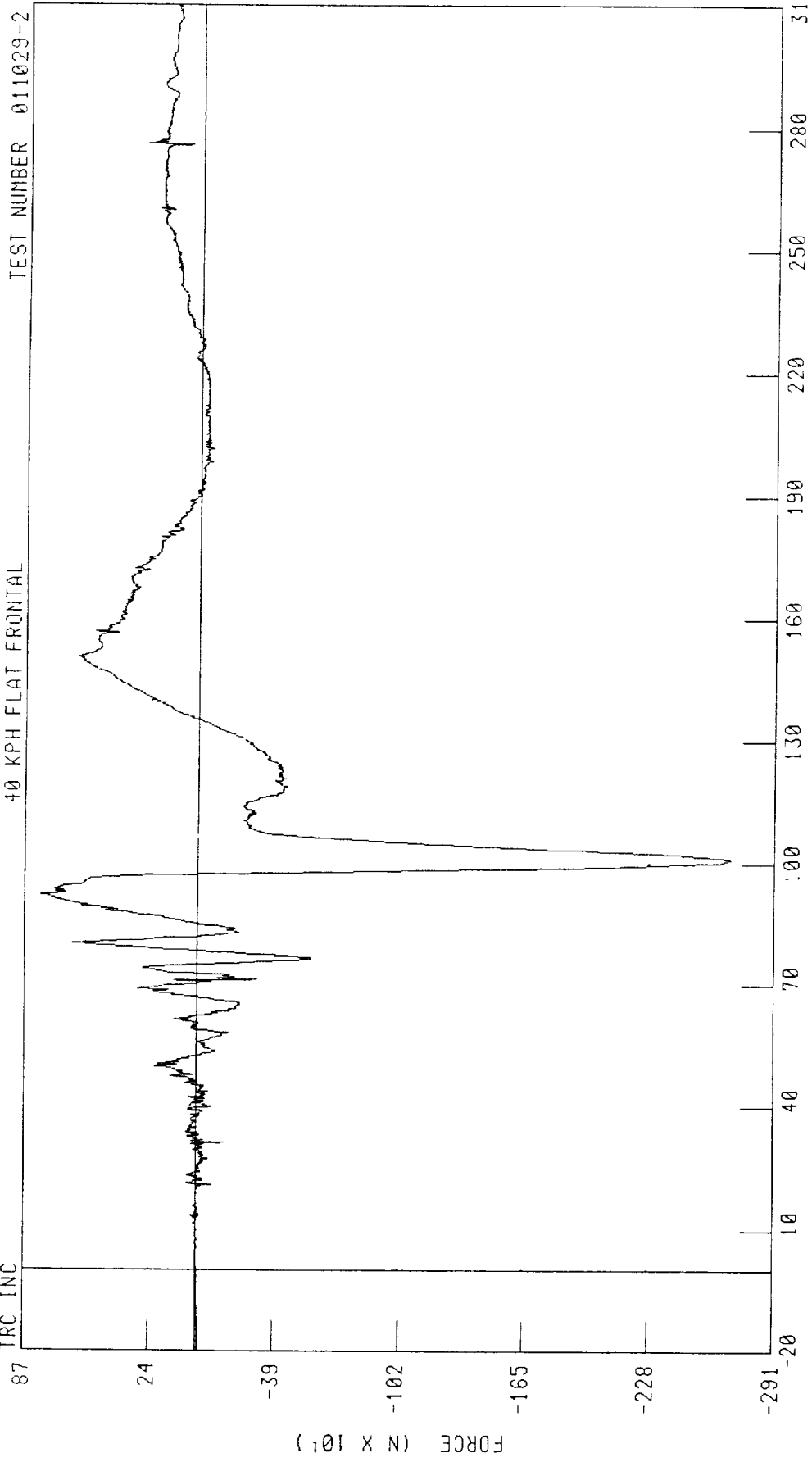
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK Z-AXIS AXIAL FORCE

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

TRC INC



CHANNEL NEKZF2 FILTER CH CLASS 1000

PEAK DATA 792 46 N @ 92 32 MS, -2692 58 N @ 101 12 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK MOMENT ABOUT X AXIS

40 KPH FLAT FRONTAL

TEST NUMBER 011024-2

TRC INC

37

45

TORQUE (N M X 10⁻¹)

-7

-59

-111

-163

-215

-20

10

40

70

100

130

160

190

220

250

280

310

TIME (MS)

CHANNEL NEKXN2 FILTER CH CLASS 600

PEAK DATA 8 86 N M @ 90 08 MS, -19 97 N M @ 174 00 MS

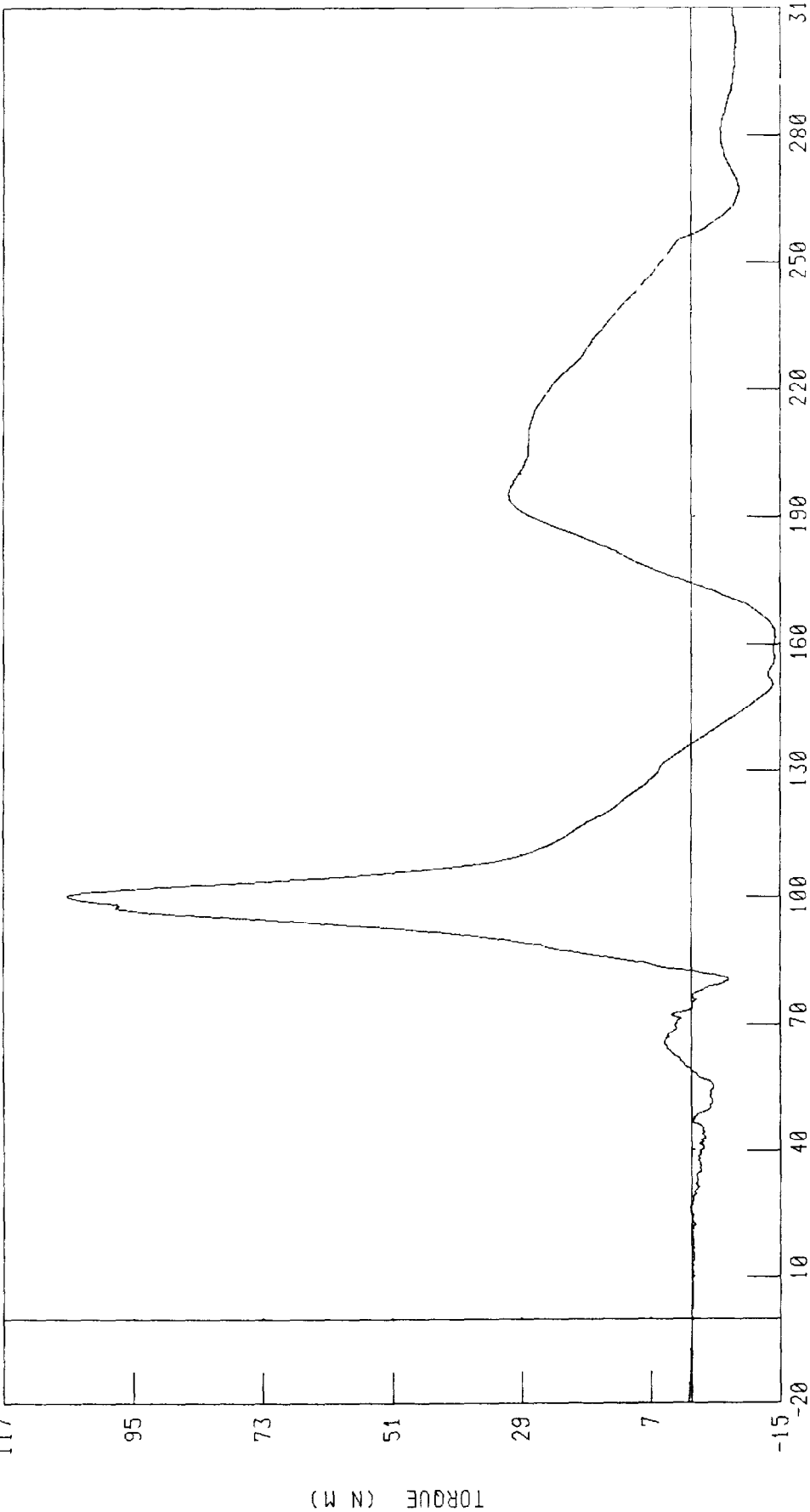
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK MOMENT ABOUT Y AXIS

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

TRC INC

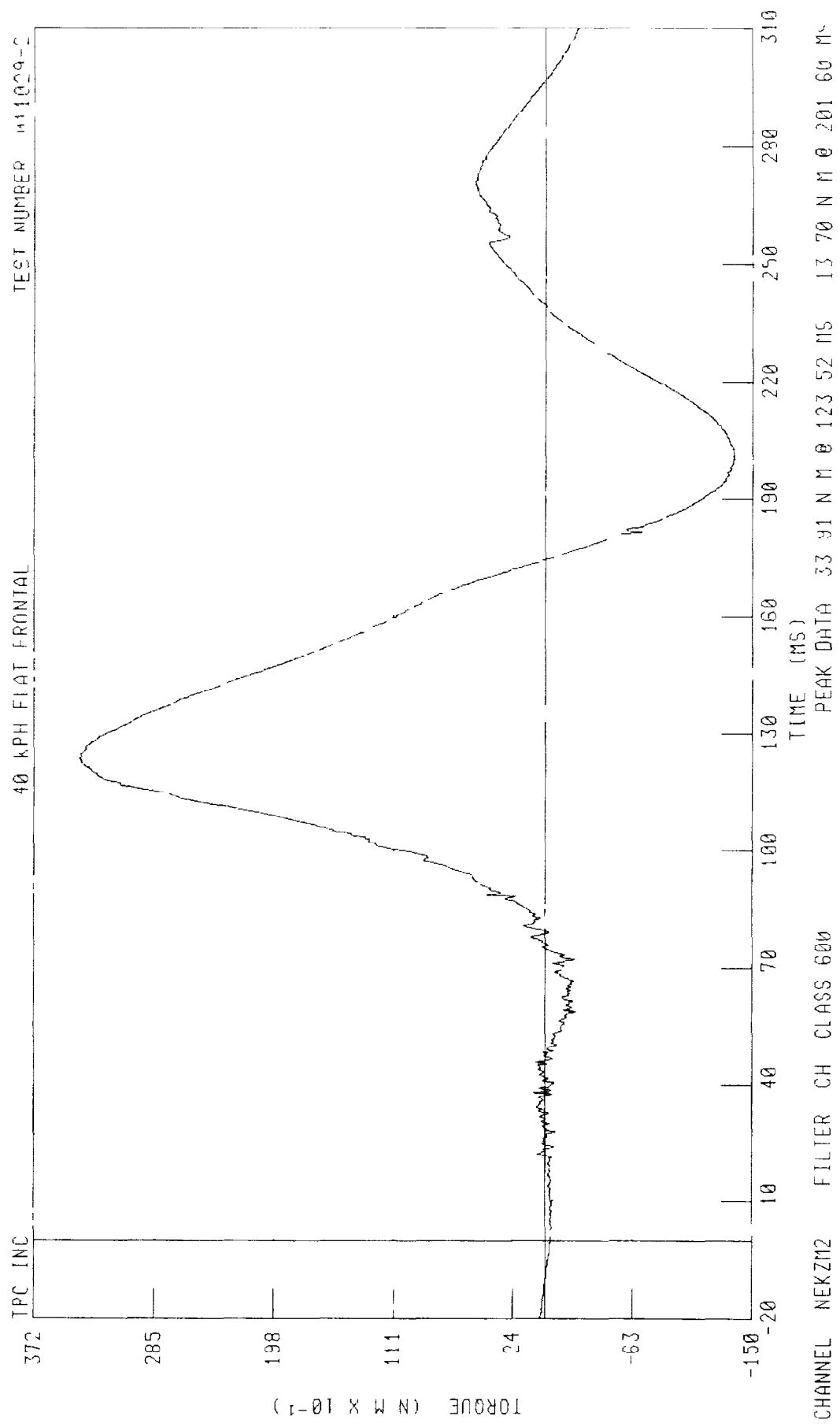


TIME (MS)

PEAK DATA 106 27 N M @ 100 48 MS, -14 20 N M @ 161 68 MS

CHANNEL NEKYM2 FILTER CH CLASS 600

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER NECK MOMENT ABOUT Z AXIS

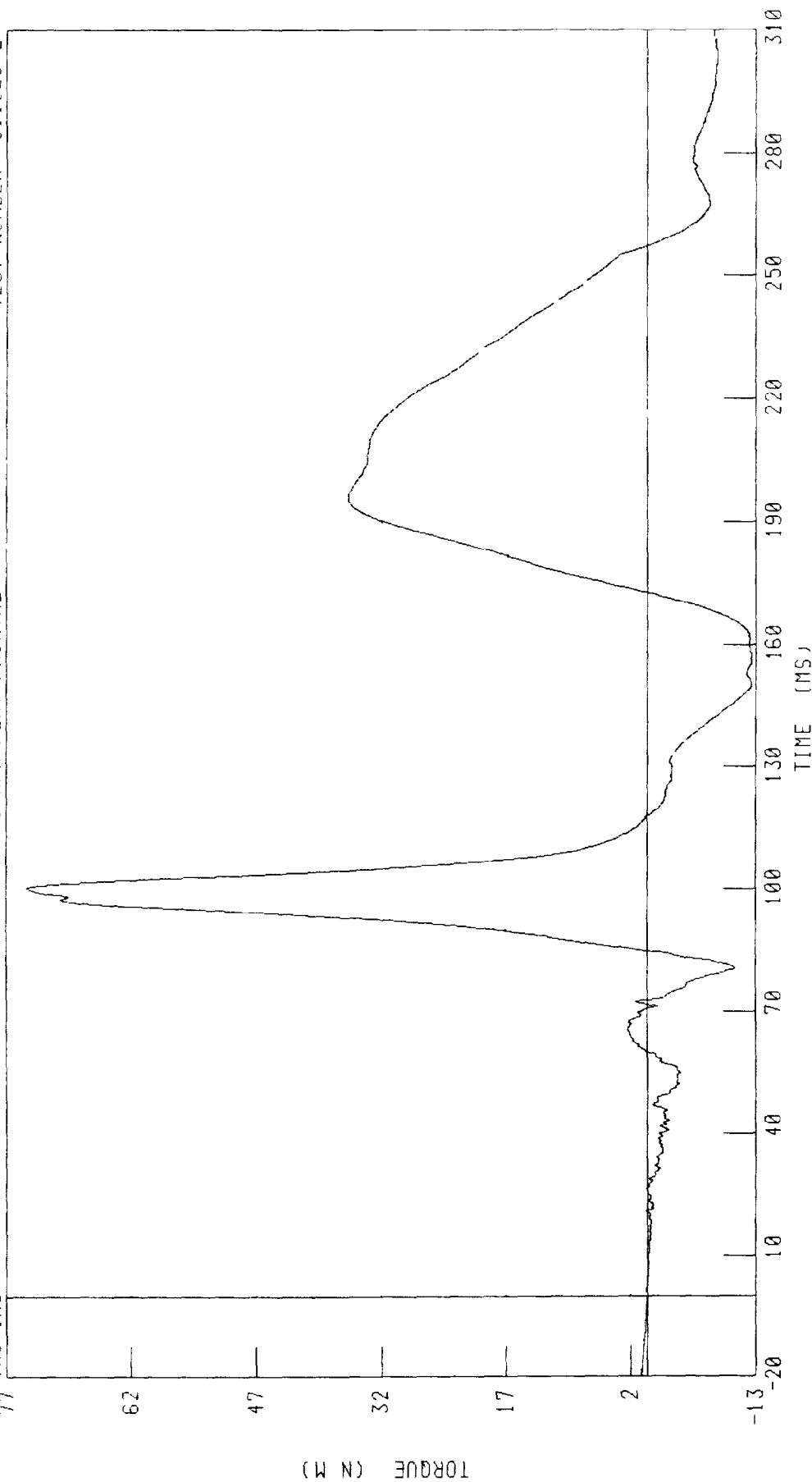


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER NECK OCCIPITAL CONDYLE MOMENT ABOUT Y AXIS

TRC INC

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

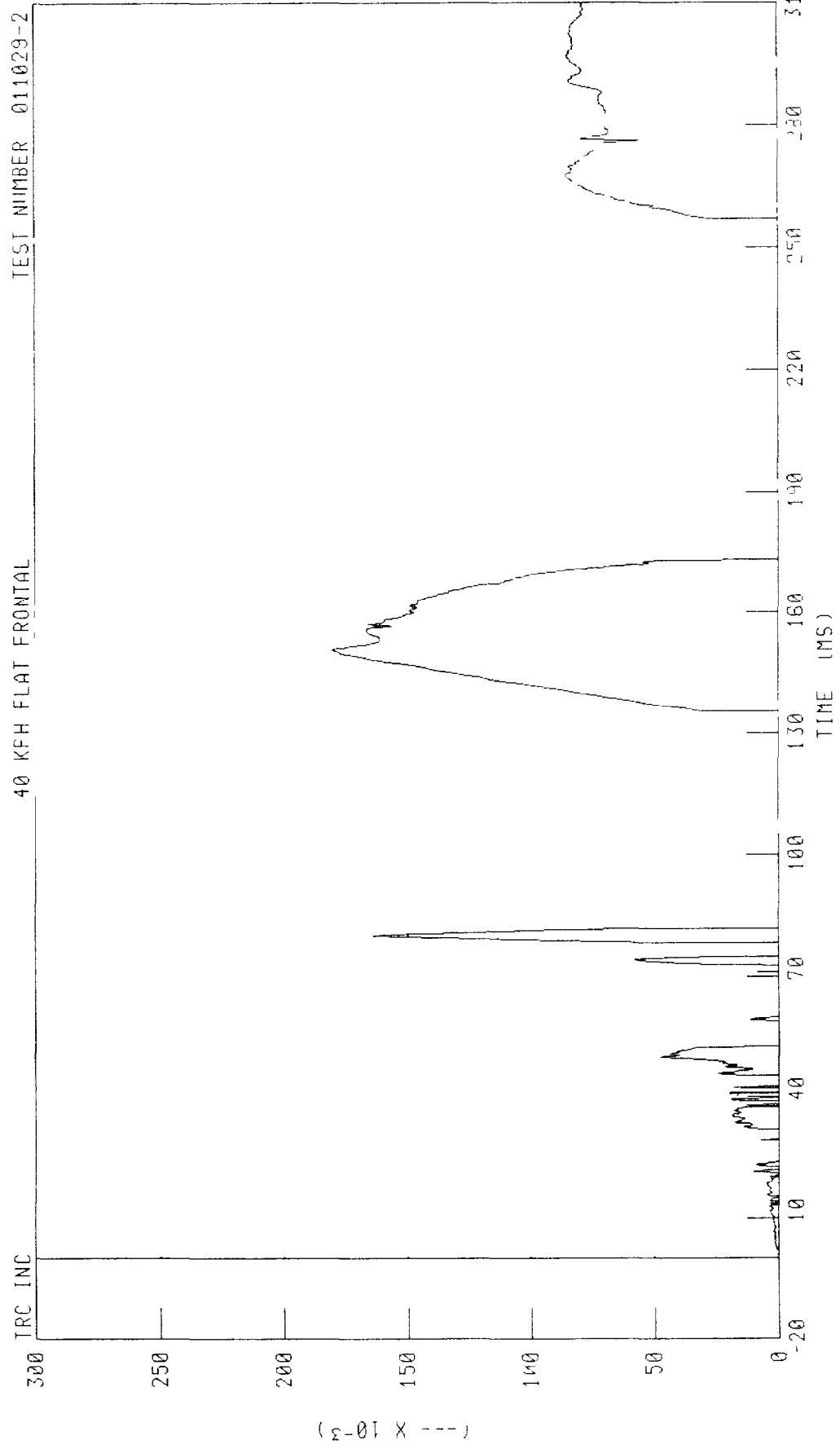


TIME (MS)

CHANNEL NEKOM2 FILTER CH CLASS 600

PEAK DATA 74 55 N M 100 40 MS, -12 56 N M 150 48 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER NECK TENSION/EXTENSION
 40 KPH FLAT FRONTAL



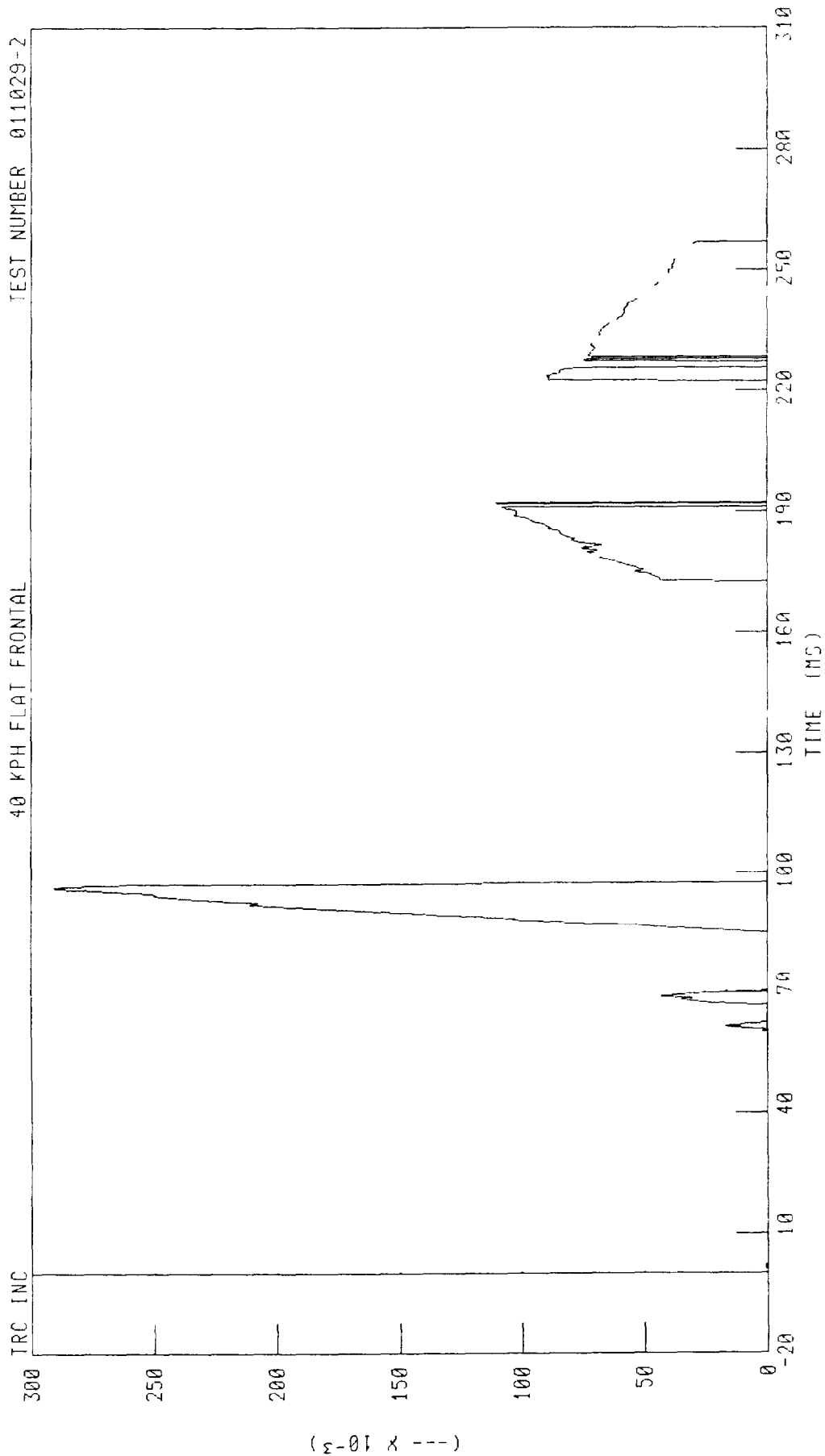
CHANNEL NTE2 FILTER CH CLASS 600 PEAK DATA 18 150 60 MS 10 01 00 00 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK TENSION/FLEXION

40 KPH FLAT FRONTAL

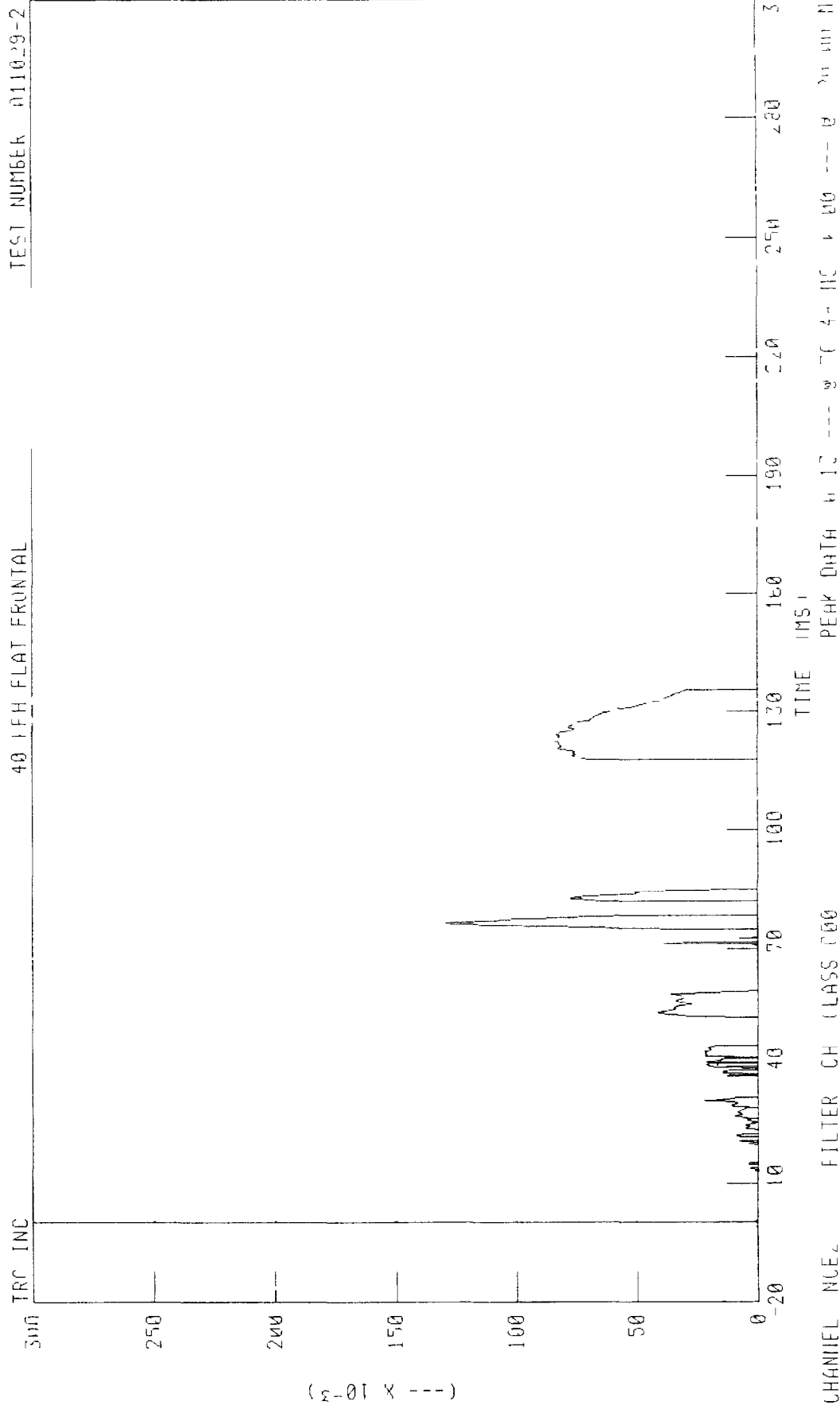
TEST NUMBER 011029-2



CHANNEL NTF2 FILTER CH CLASS E00

PEAK DATA 0 29 --- 0 96 48 MS, 0 00 --- 0 -20 00 n

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 4M KPH
 PASSENGER NEU COMPRESSION/EXTENSION
 40 IFH FLAT FRONTAL



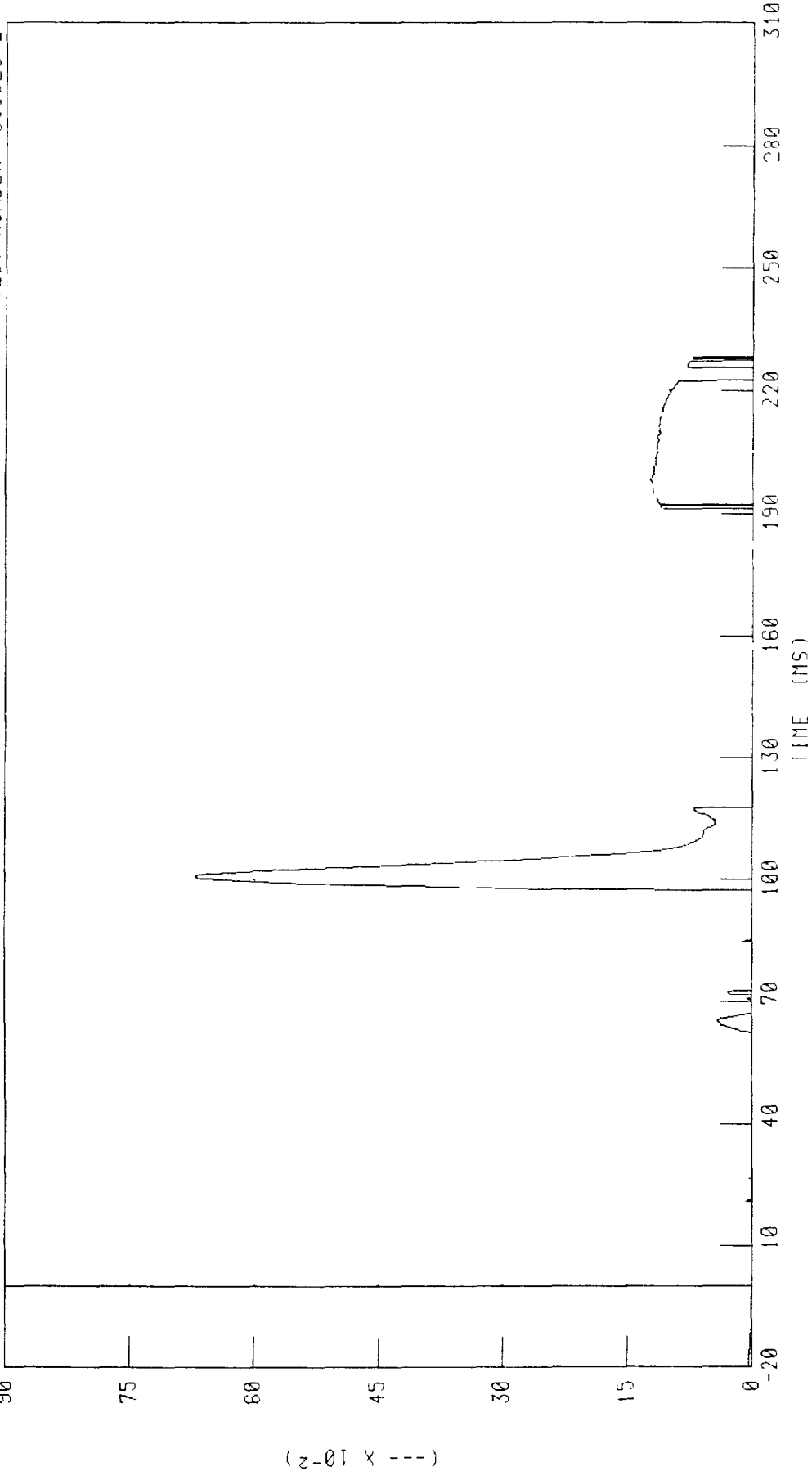
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK COMPRESSION/FLEXION

TRC INC

40 KPH FLAT FRONTAL

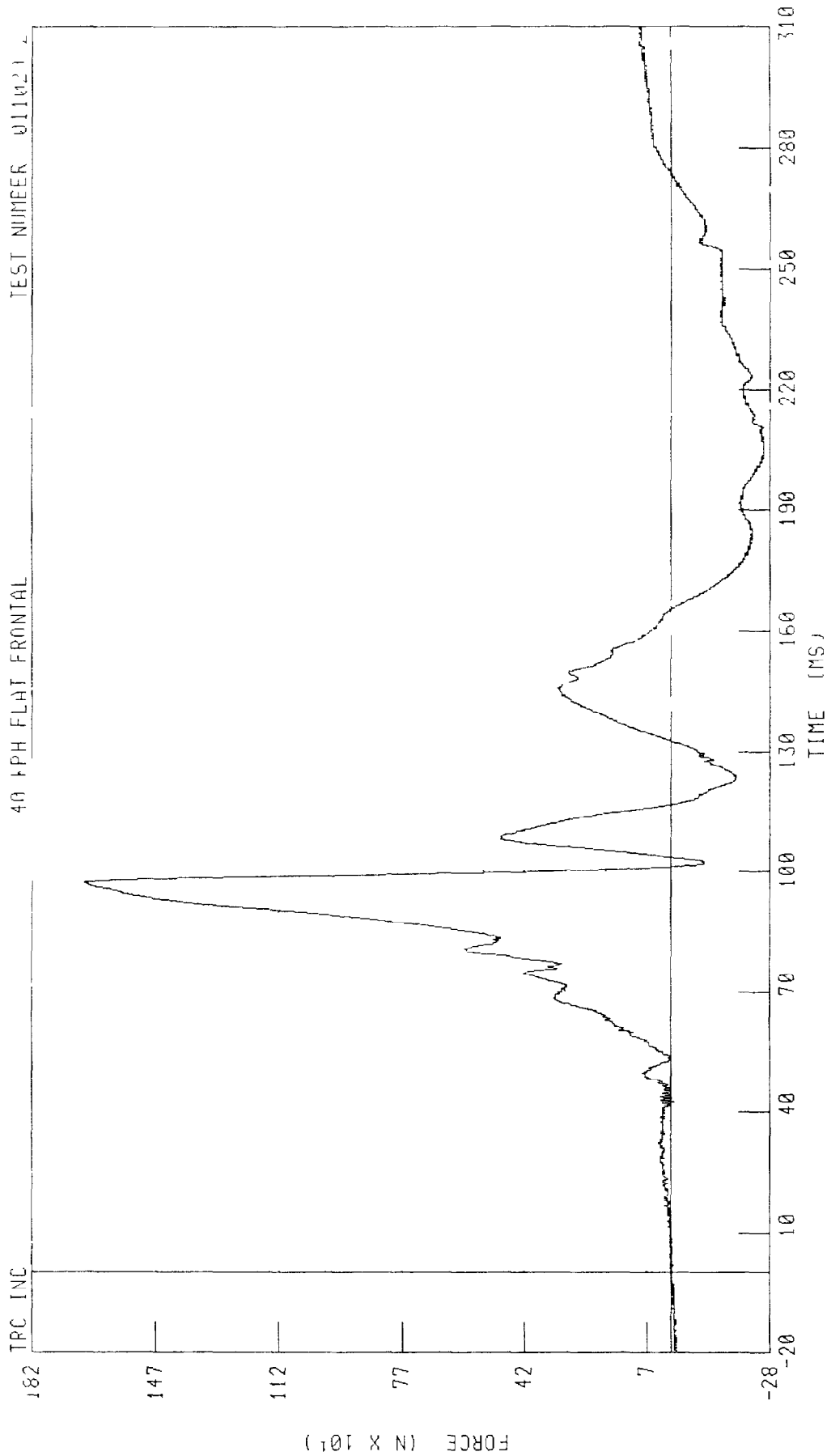
TEST NUMBER 011029-2



CHANNEL NCF2 FILTER CH CLASS 600

PEAK DATA 0 67 --- 0 100 96 MS, 0 00 --- 0 -1 12 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER NECK LOWER X-AXIS SHEAR FORCE
 40 KPH FLAT FRONTAL



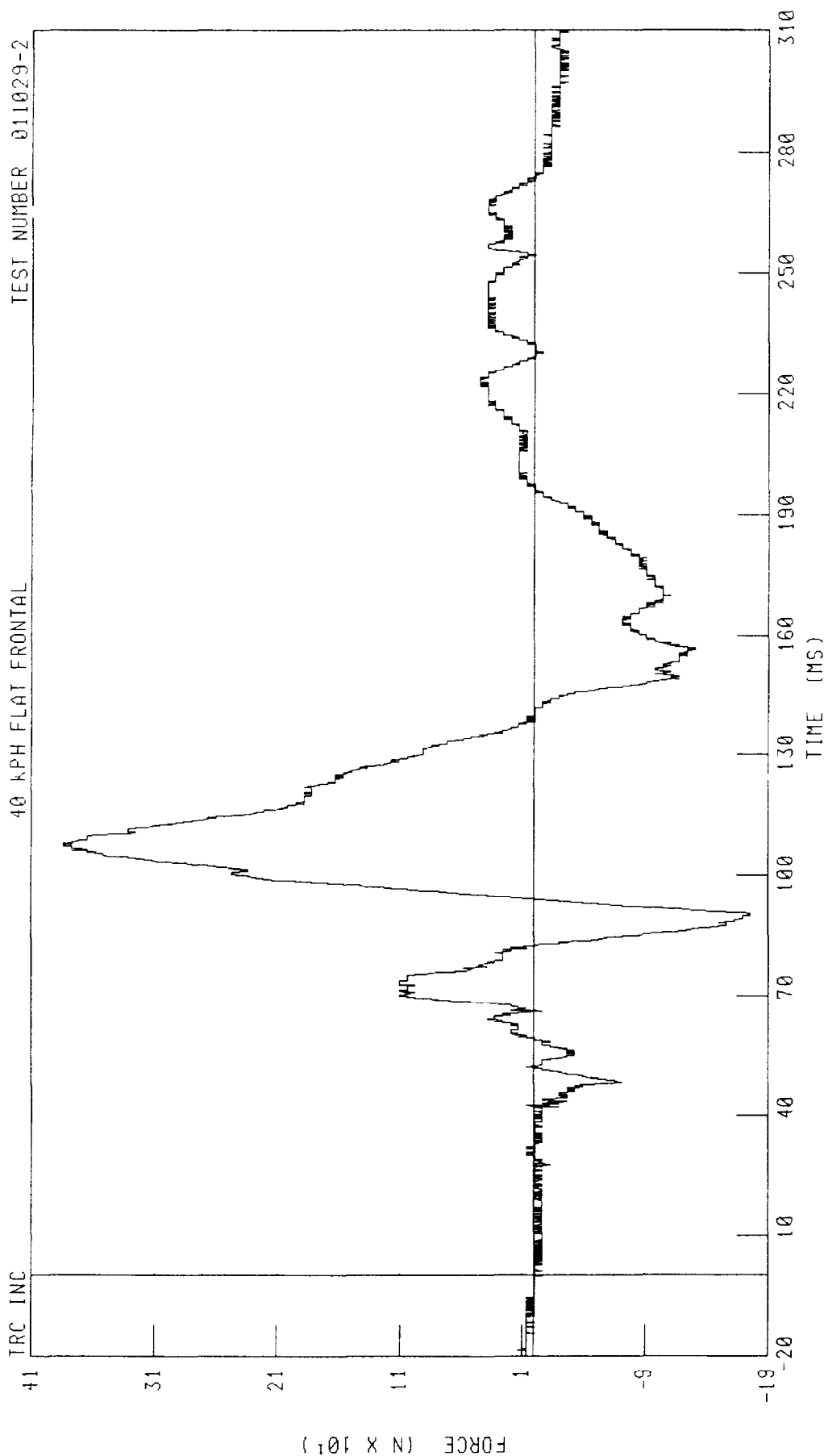
CHANNEL NKLXF2 FILTER CH CLASS 1400 PEAK DATA 1673 63 N @ 97 04 MS, -267 25 N @ 202 90 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK LOWER Y-AXIS SHEAR FORCE

40 KPH FLAT FRONTAL

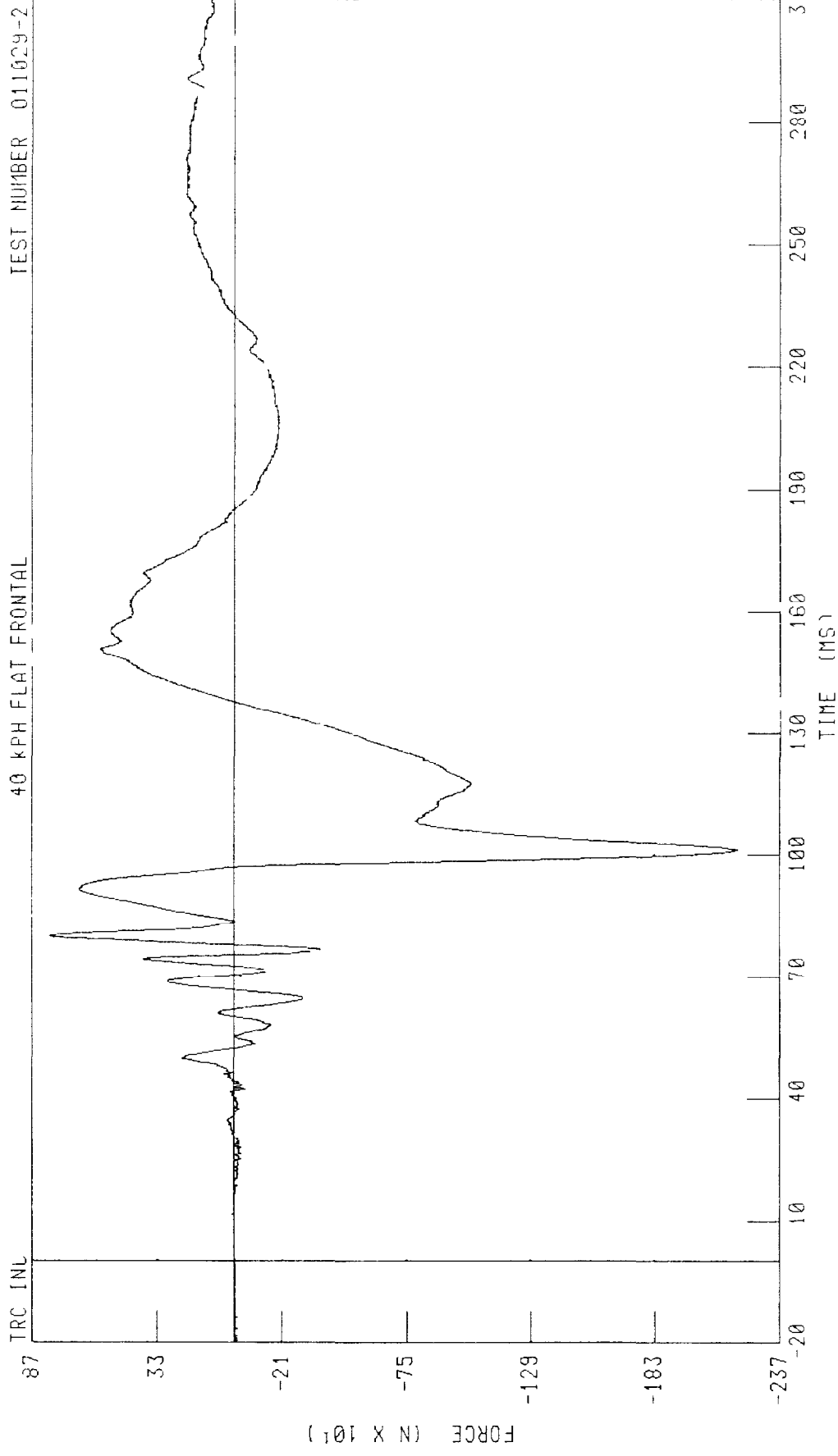
TEST NUMBER 011029-2



CHANNEL NKLYF2 FILTER CH CLASS 1000

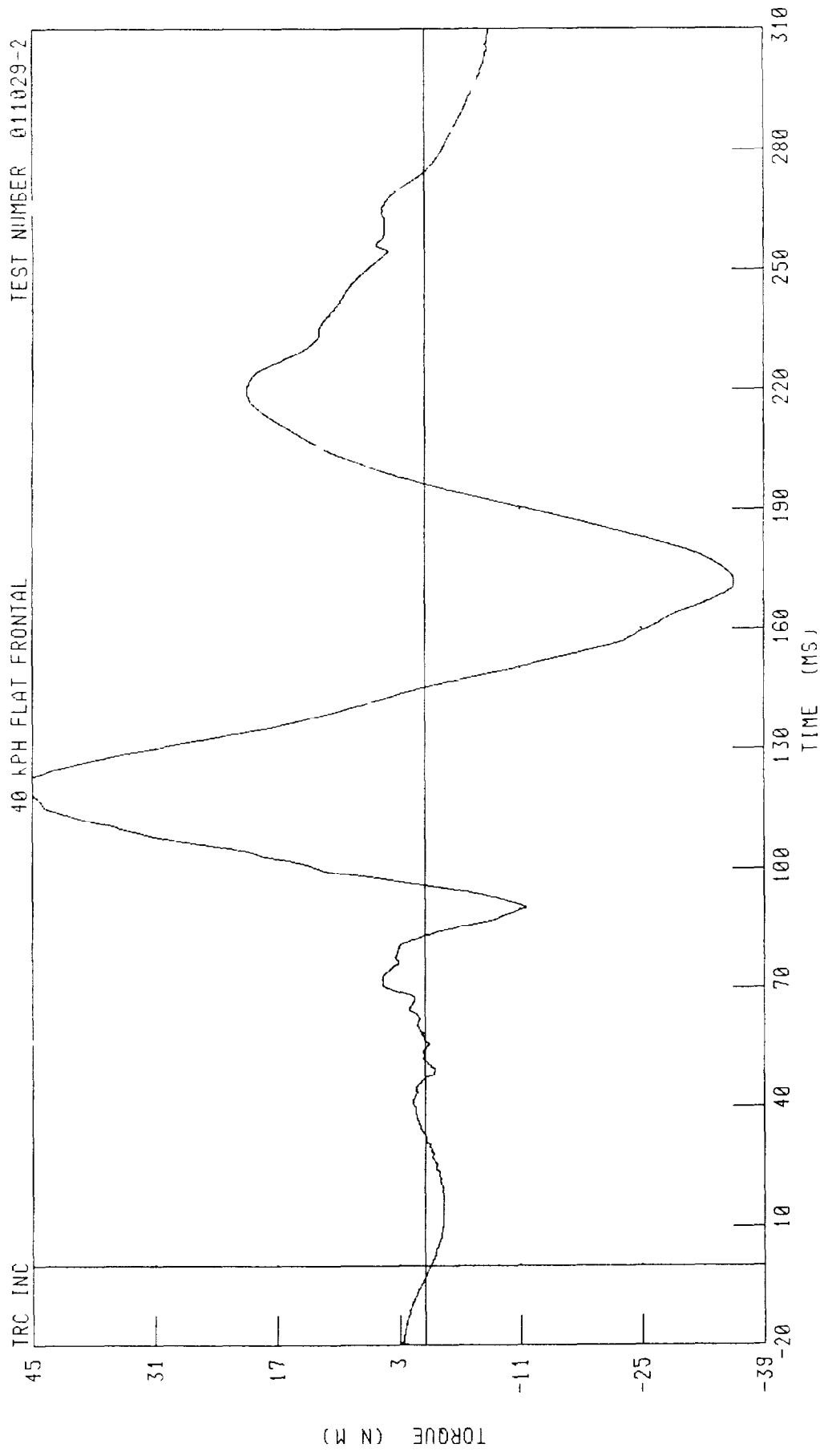
PEAK DATA 383 96 N @ 107 20 MS, -176 05 N @ 90 00 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER NECK LOWER Z-AXIS AXIAL FORCE
40 KPH FLAT FRONTAL



CHANNEL NKLZF2 FILTER CH CLASS 1000 PEAK DATA 794 92 N @ 80 00 MS, -2191 53 N @ 101 36 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER NECK LOWER MOMENT ABOUT X AXIS



CHANNEL NFXM2 FILTER CH CLASS 600

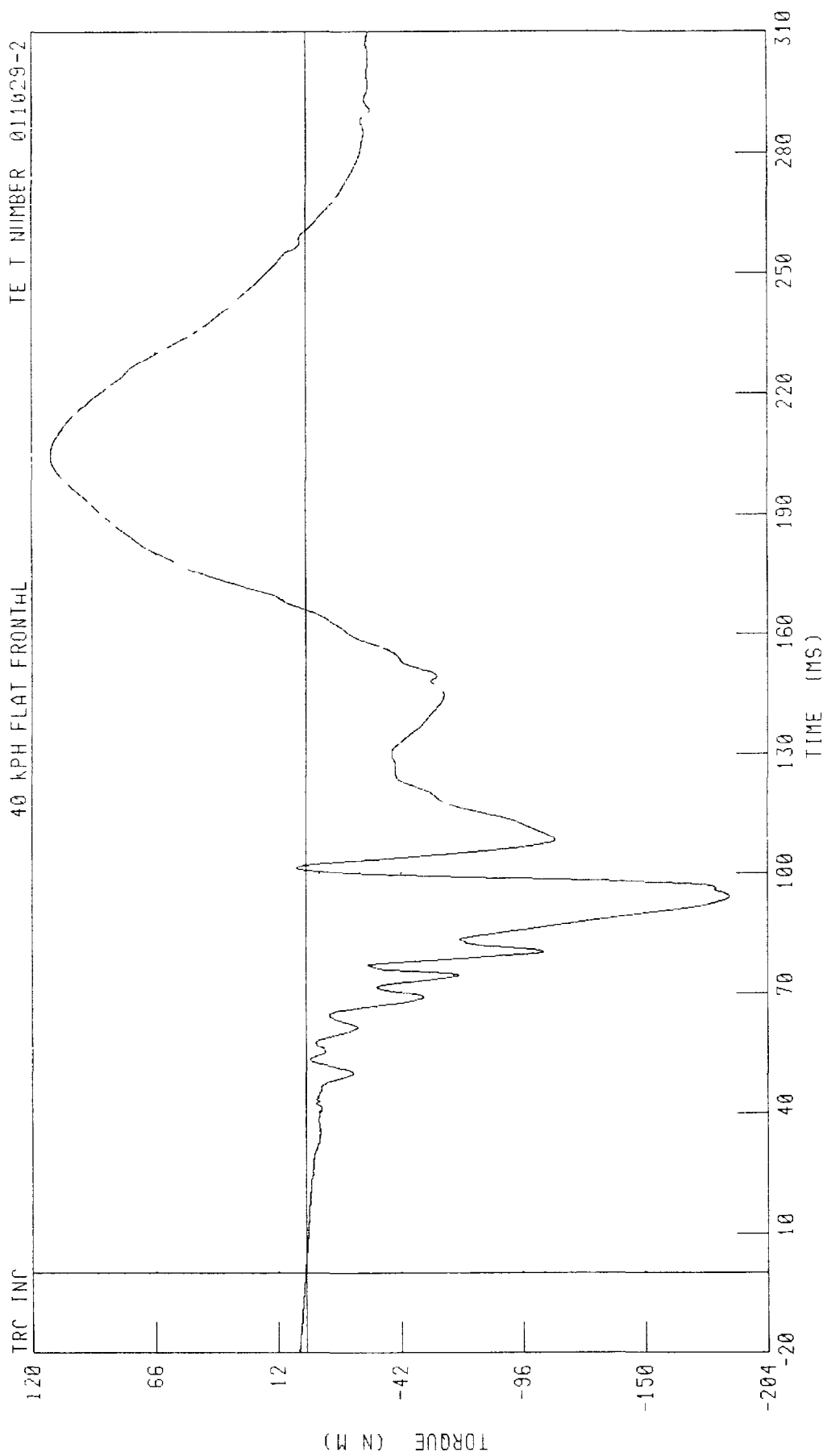
PEAK DATA 46 14 N M @ 120 96 MS, -35 62 N M @ 170 88 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER NECK LOWER MOMENT ABOUT Y AXIS

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL NKLYM2 FILTER CH CLASS 600

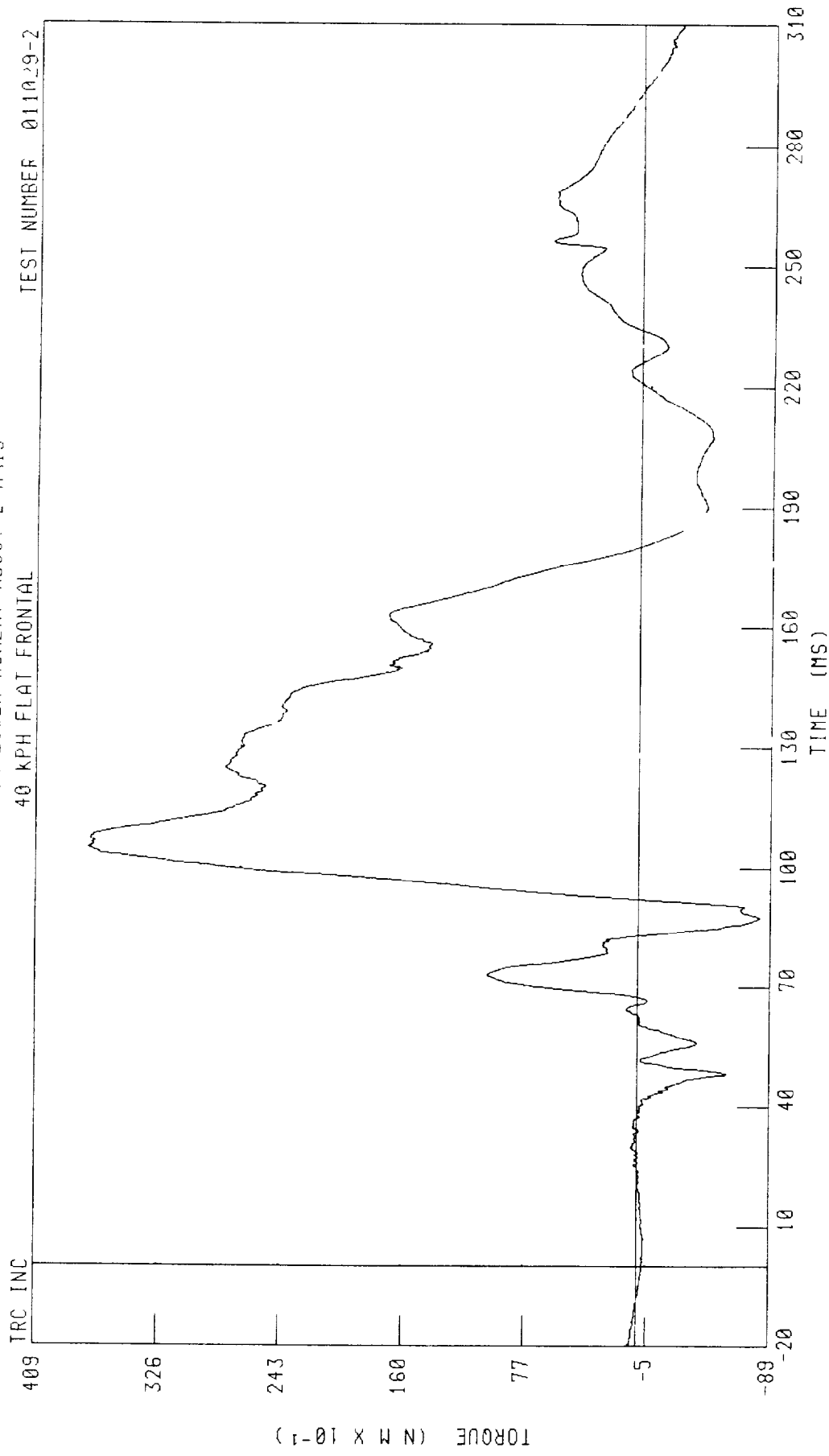
PEAK DATA 112 05 N M @ 204 48 MS, -187 12 N M @ 34 08 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENCER NECK LOWER MOMENT ABOUT Z AXIS

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL NKLZM2 FILTER CH CLASS 600

TIME (MS)

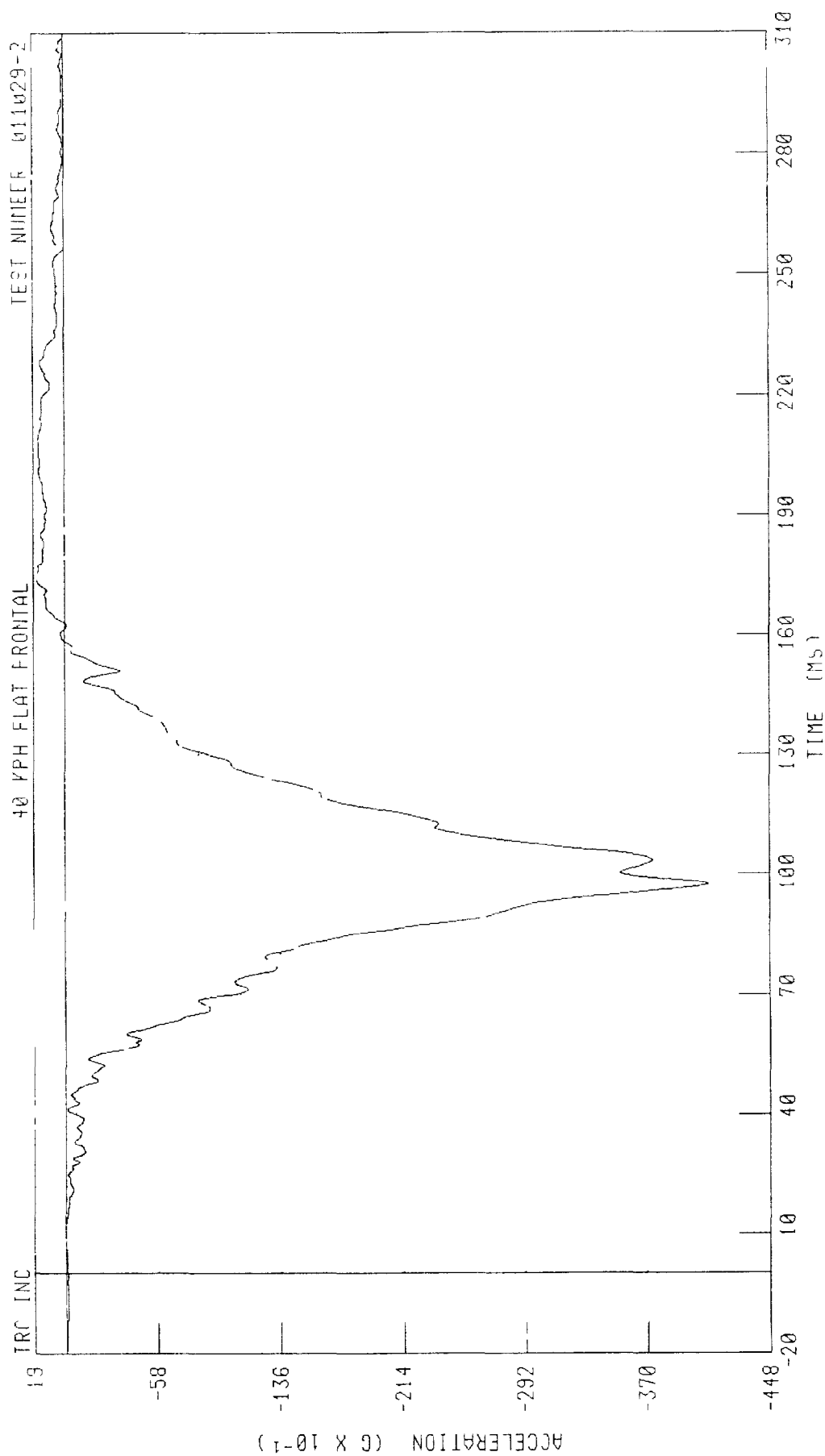
PEAK DATA 37 33 N M @ 104 96 MS, -8 18 N M @ 87 60 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER CHEST X-AXIS ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

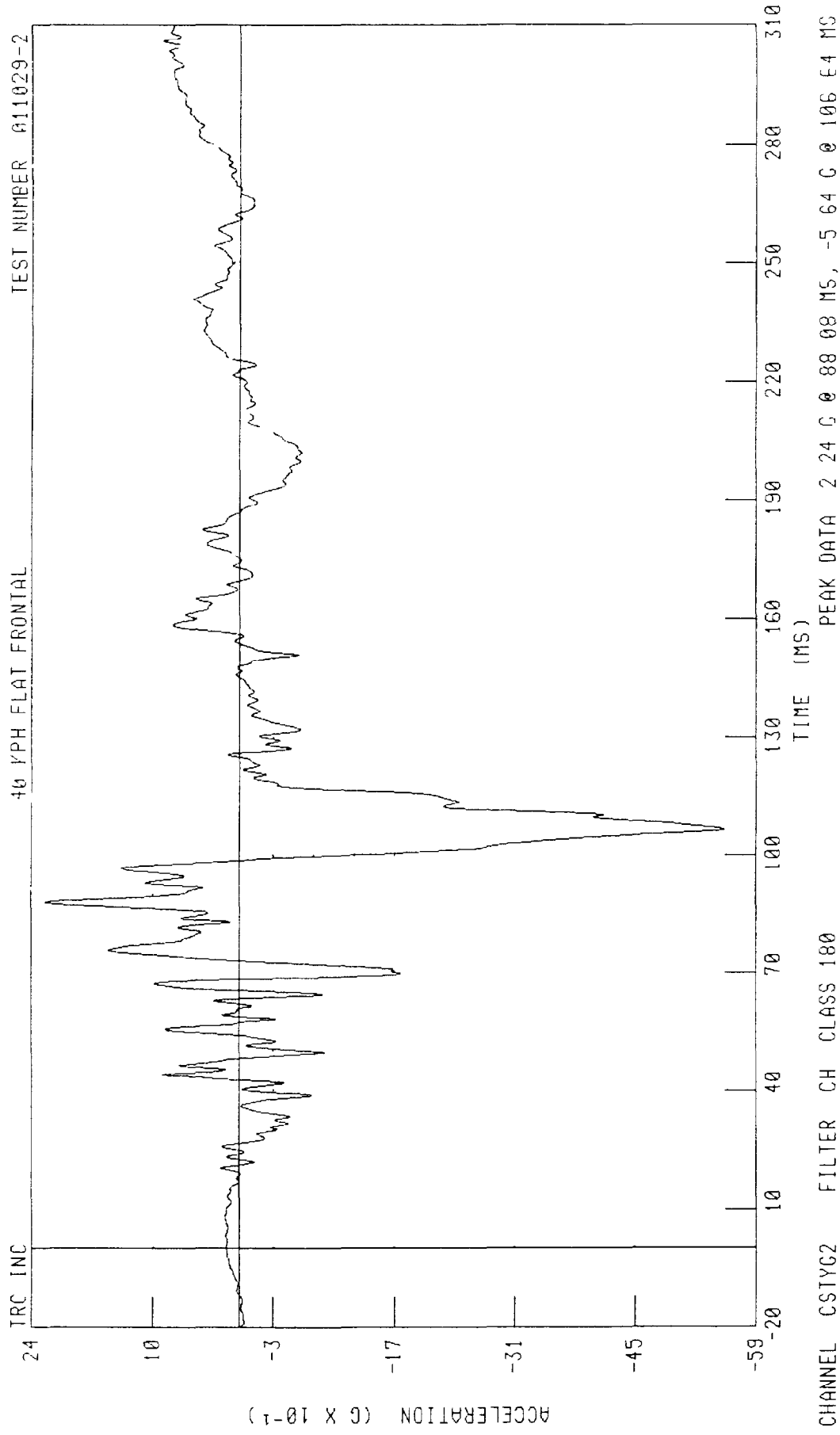


CHANNEL CSTXG2 FILTER CH CLASS 180

PEAK DATA 1 34 6 0 174 38 MS -40 91 6 0 37 44 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

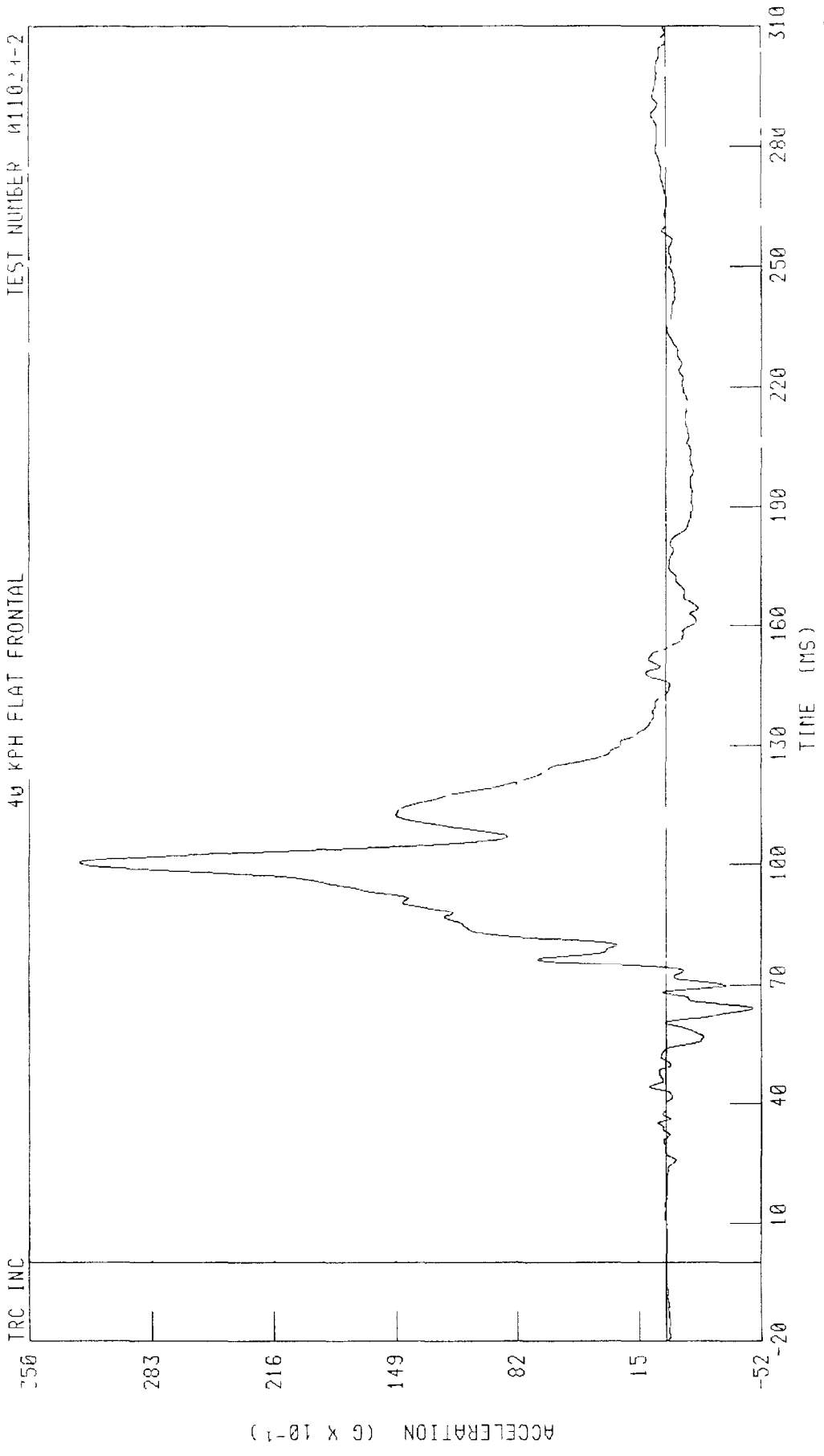
PASSENGER CHEST Y-AXIS ACCELERATION



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER CHEST Z-AXIS ACCELERATION

40 KPH FLAT FRONTAL TEST NUMBER 011024-2



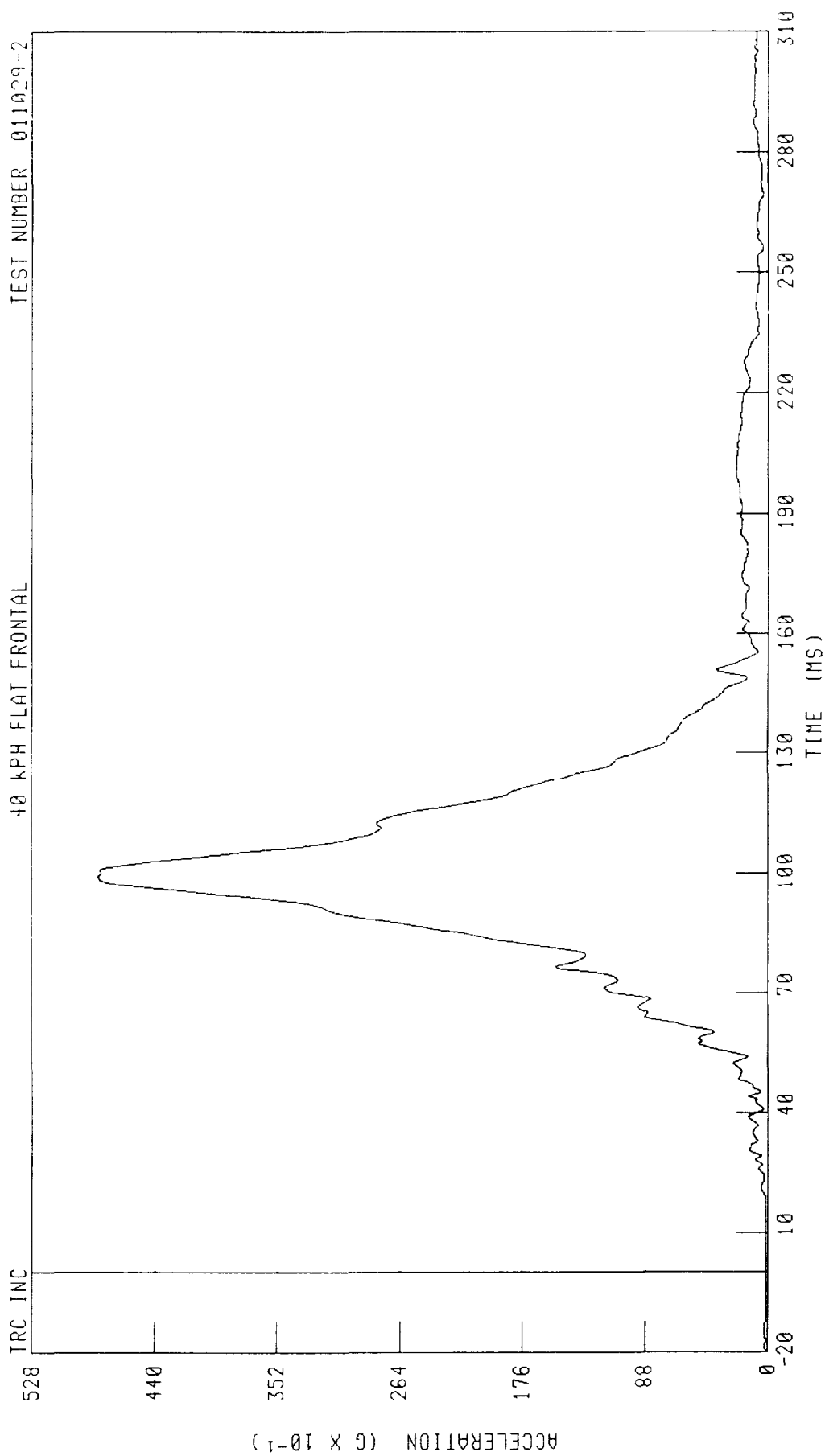
CHANNEL CSTZG2 FILTER CH CLASS 130 PEAK DATA 32 25 G @ 100 48 MS, -4 77 G @ 61 00 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER CHEST RESULTANT ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL CSTRG2 FILTER CH CLASS 180

PEAK DATA 48 03 G 99 28 MS, 0 01 G 0 -20 00 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER CHEST DEFLECTION

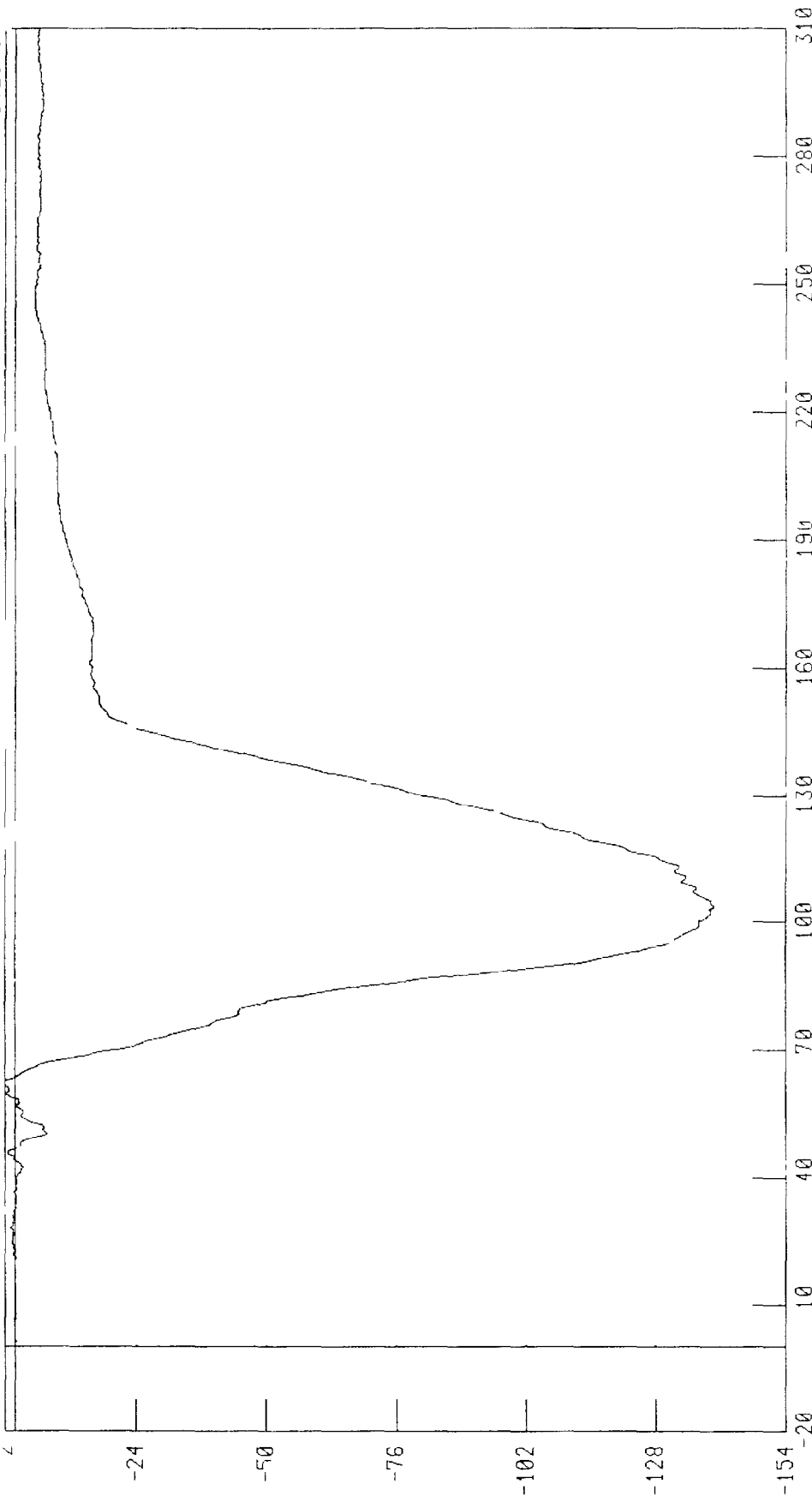
40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

TRC INC

2

DISPLACEMENT (MM X 10⁻¹)

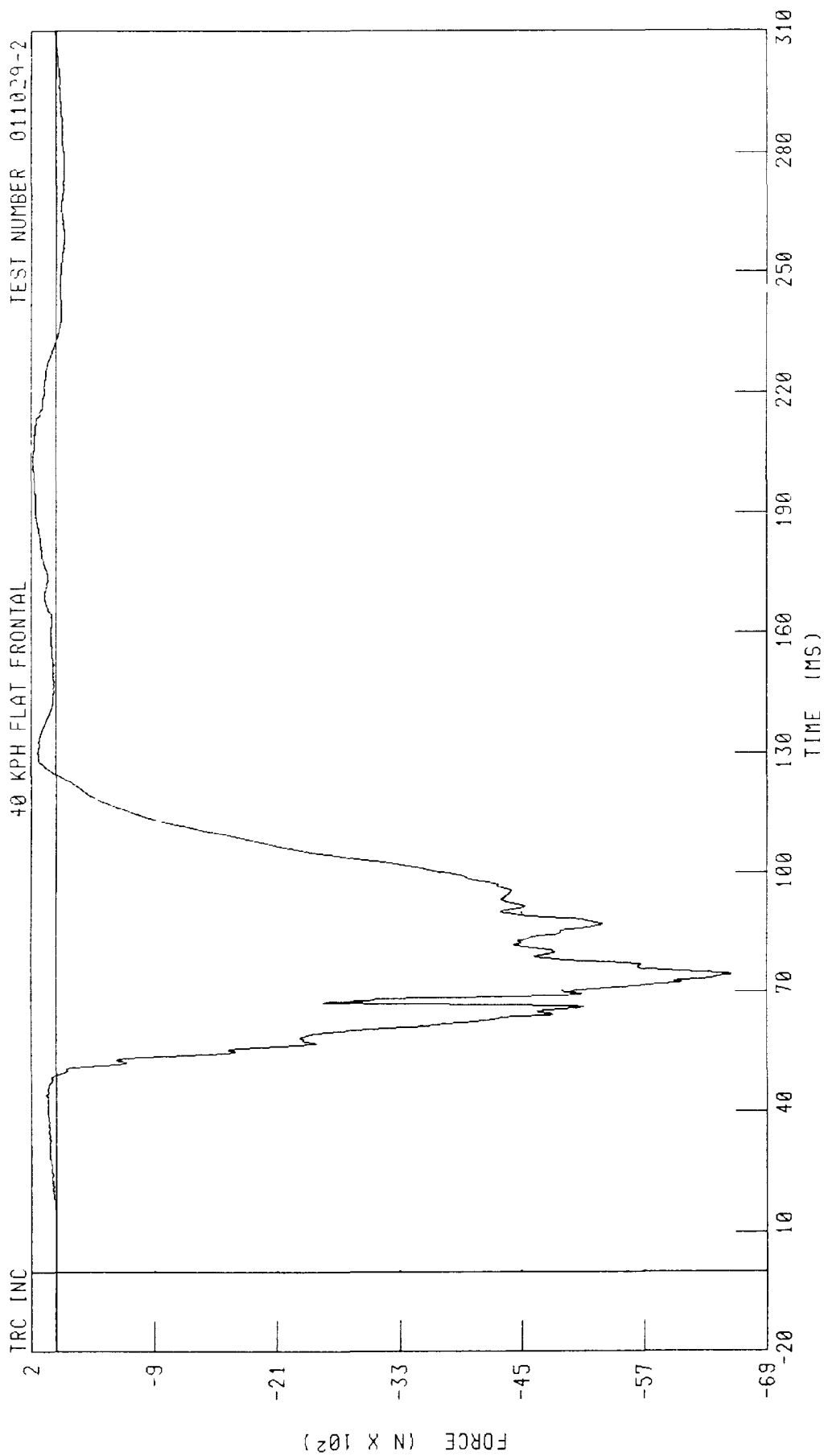


TIME (MS)

PEAK DATA 0 25 MM @ 61 76 MS -12 97 MM @ 103 92 MS

CHANNEL CSTX02 FILTER CH CLASS 600

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER LEFT FEMUR FORCE



CHANNEL LFMZF2 FILTER CH CLASS 600

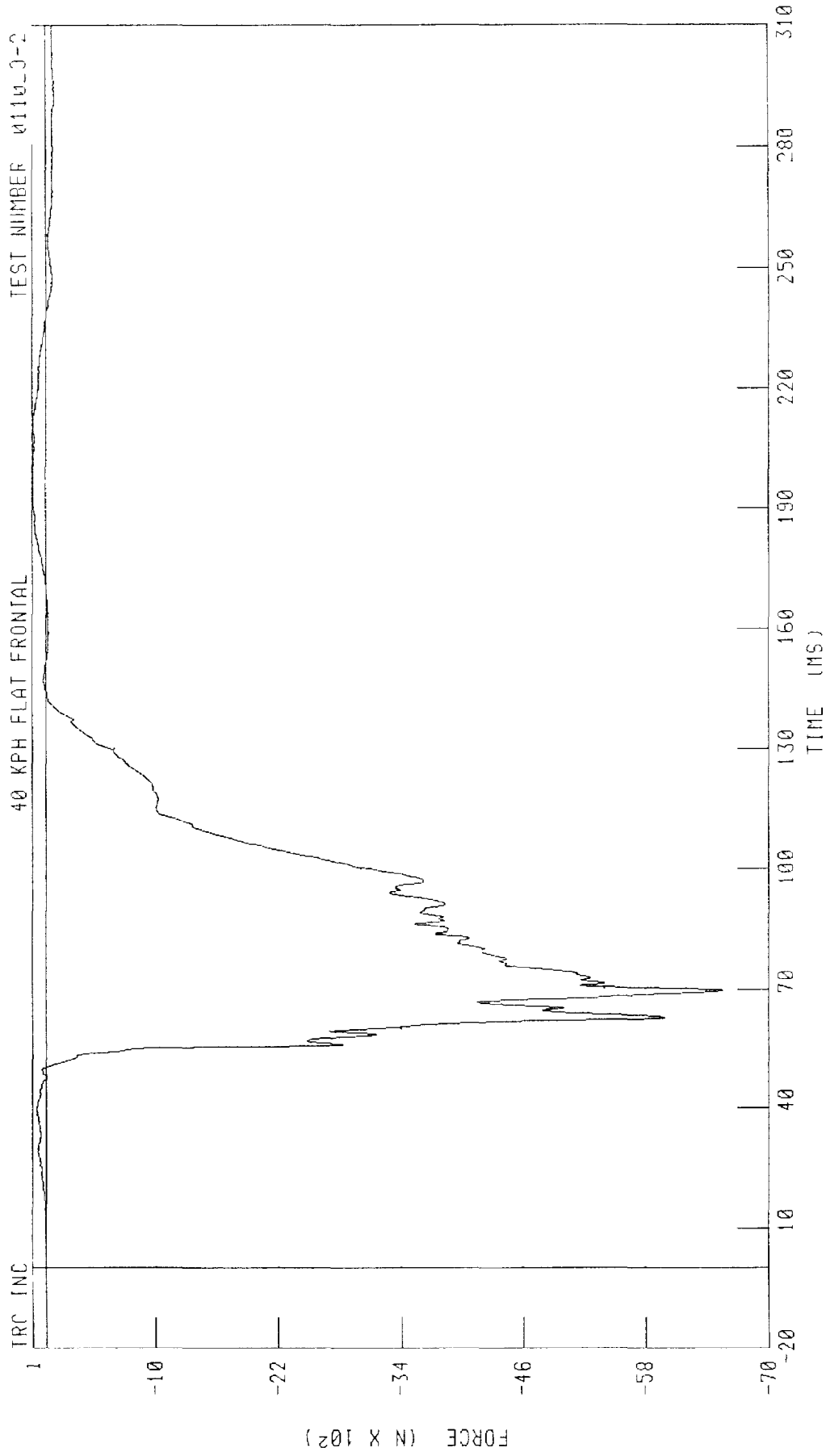
PEAK DATA 221 87 N @ 203 20 MS, -6620 27 N @ 74 48 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 MPH

PASSENGER PIGHT FEMUR FORCE

40 MPH FLAT FRONTAL

TEST NUMBER 0110-3-2



CHANNEL RFMZF2 FILTER CH CLASS 6000

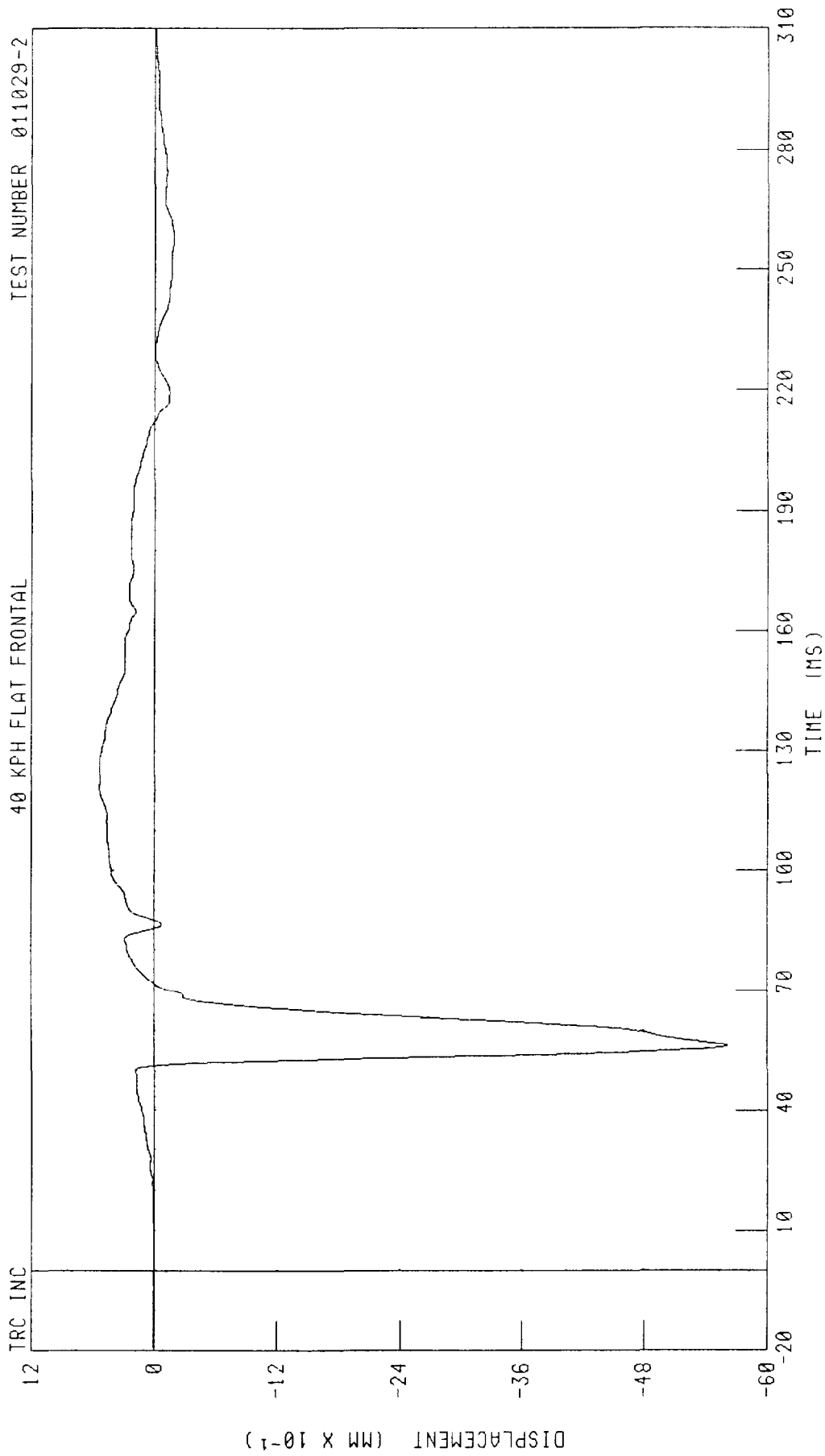
PEAK DATA 127 17 N 0 210 30 MS, -6624 51 N 0 63 66 N

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER LEFT TIBIA TO KNEE DISPLACEMENT

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL KNLXD2 FILTER CH CLASS 180

PEAK DATA 0 54 MM @ 120.64 MS, -5.62 MM @ 56.40 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

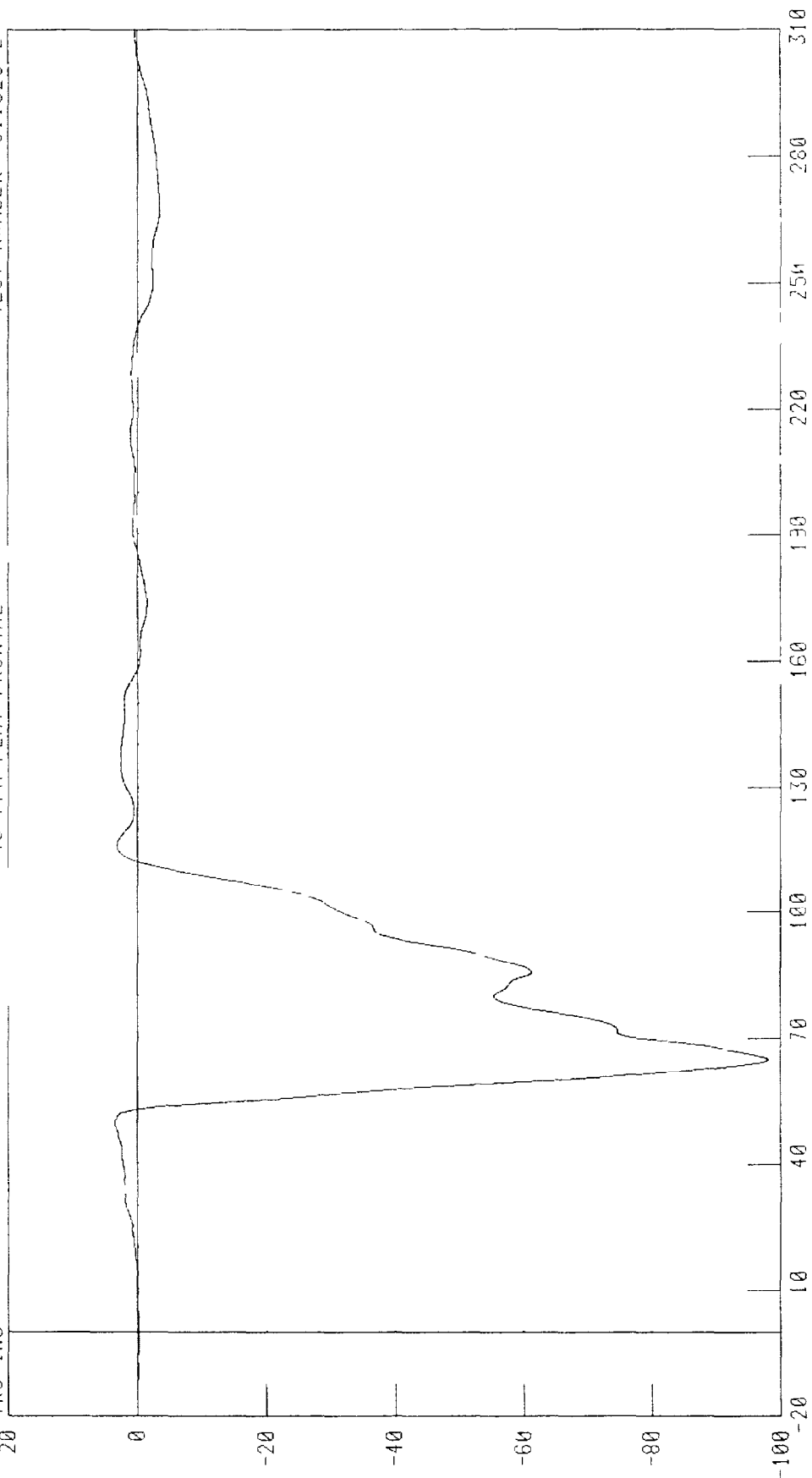
PASSENGER RIGHT TIBIA TO KNEE DISPLACEMENT

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

TRC INC

DISPLACEMENT (MM X 10⁻¹)

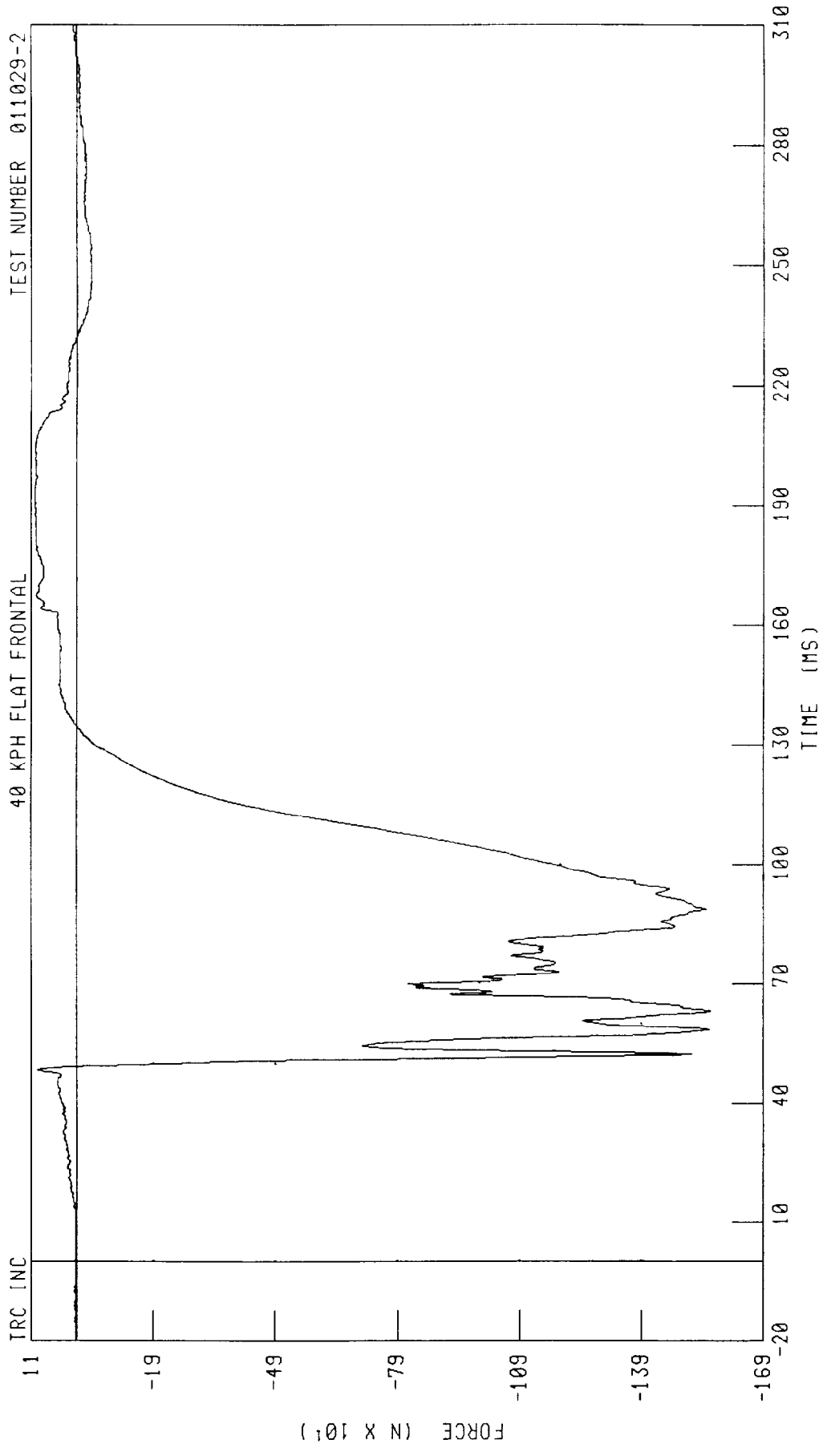


CHANNEL KNRX02 FILTER CH CLASS 180

TIME (MS)

PEAK DATA 0 24 MM 50 24 MM -3 2 MM 0 04 9E 10

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER LEFT UPPER TIBIA X-AXIS FORCE



CHANNEL TBLXF2 FILTER CH CLASS 600

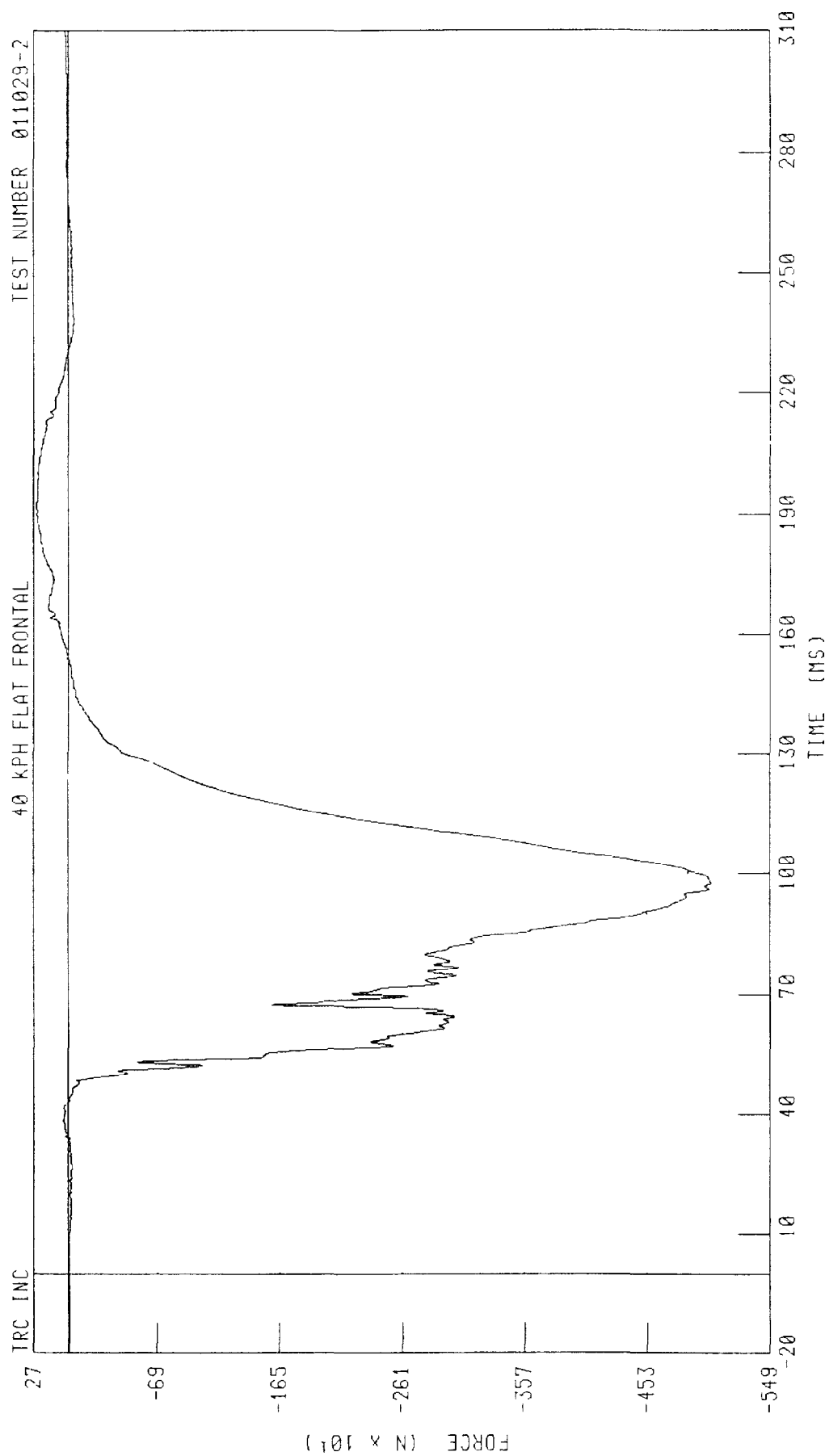
PEAK DATA 101 27 N 0 191 52 MS, -1560 40 N 0 63 12 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER LEFT UPPER TIBIA Z-AXIS FORCE

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

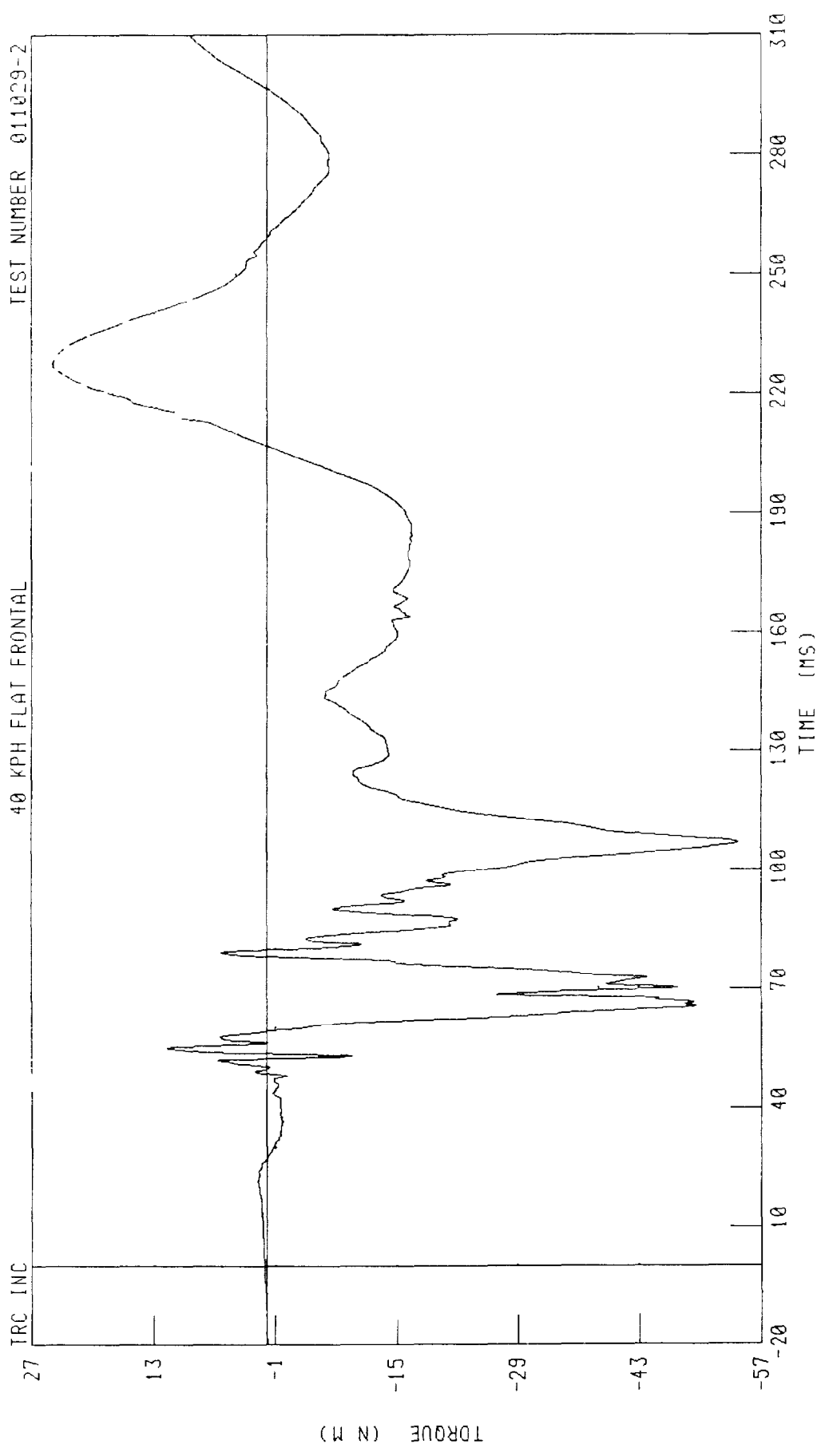


TIME (MS)

PLAY DATA 246 62 N @ 192 40 MS, -5036 66 N @ 97 68 MS

CHANNEL TBLZF2 FILTER CH CLASS 600

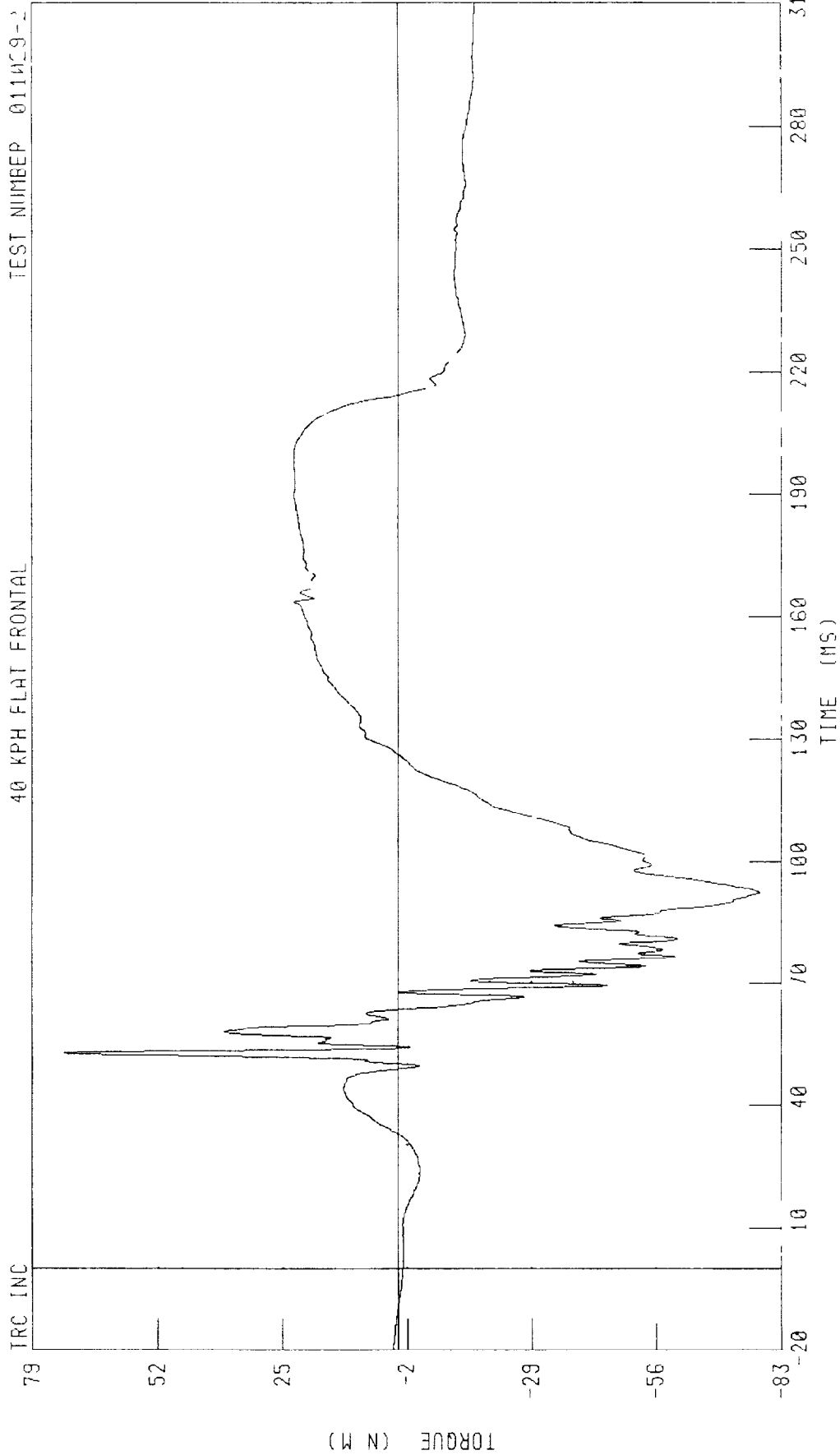
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER LEFT UPPER TIBIA MOMENT ABOUT X AXIS



CHANNEL TBLXM2 FILTER CH CLASS 600

PEAK DATA 24 62 N M 0 227 44 MS -54 37 N M 0 106 96 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER LEFT UPPER TIBIA MOMENT ABOUT Y AXIS
 40 KPH FLAT FRONTAL



CHANNEL TBLM2 FILTER CH CLASS 600

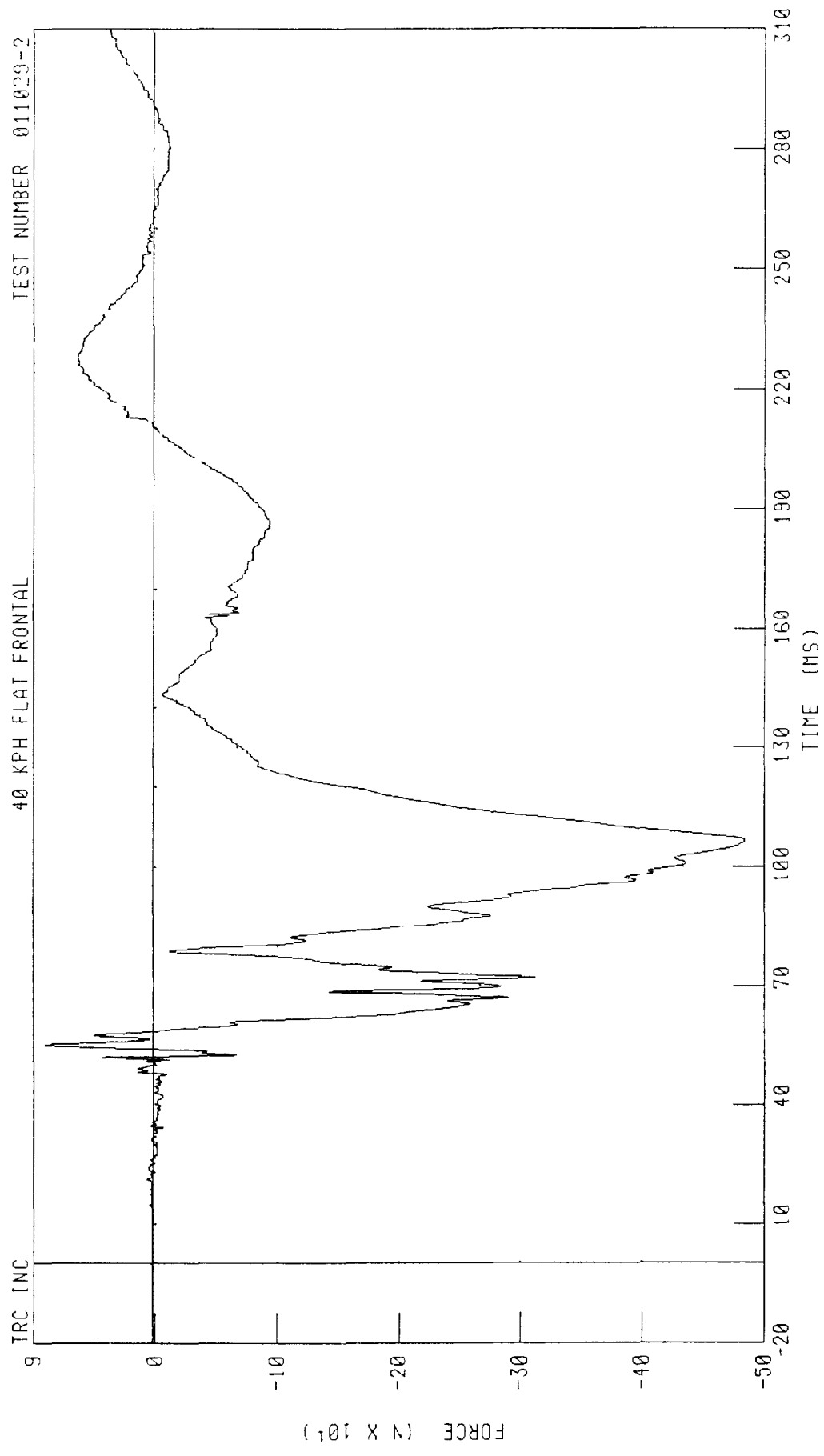
PEAK DATA 72 15 N 11 52 80 MS, -78 53 N M 92 40 M

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER LEFT LOWER TIBIA X-AXIS FORCE

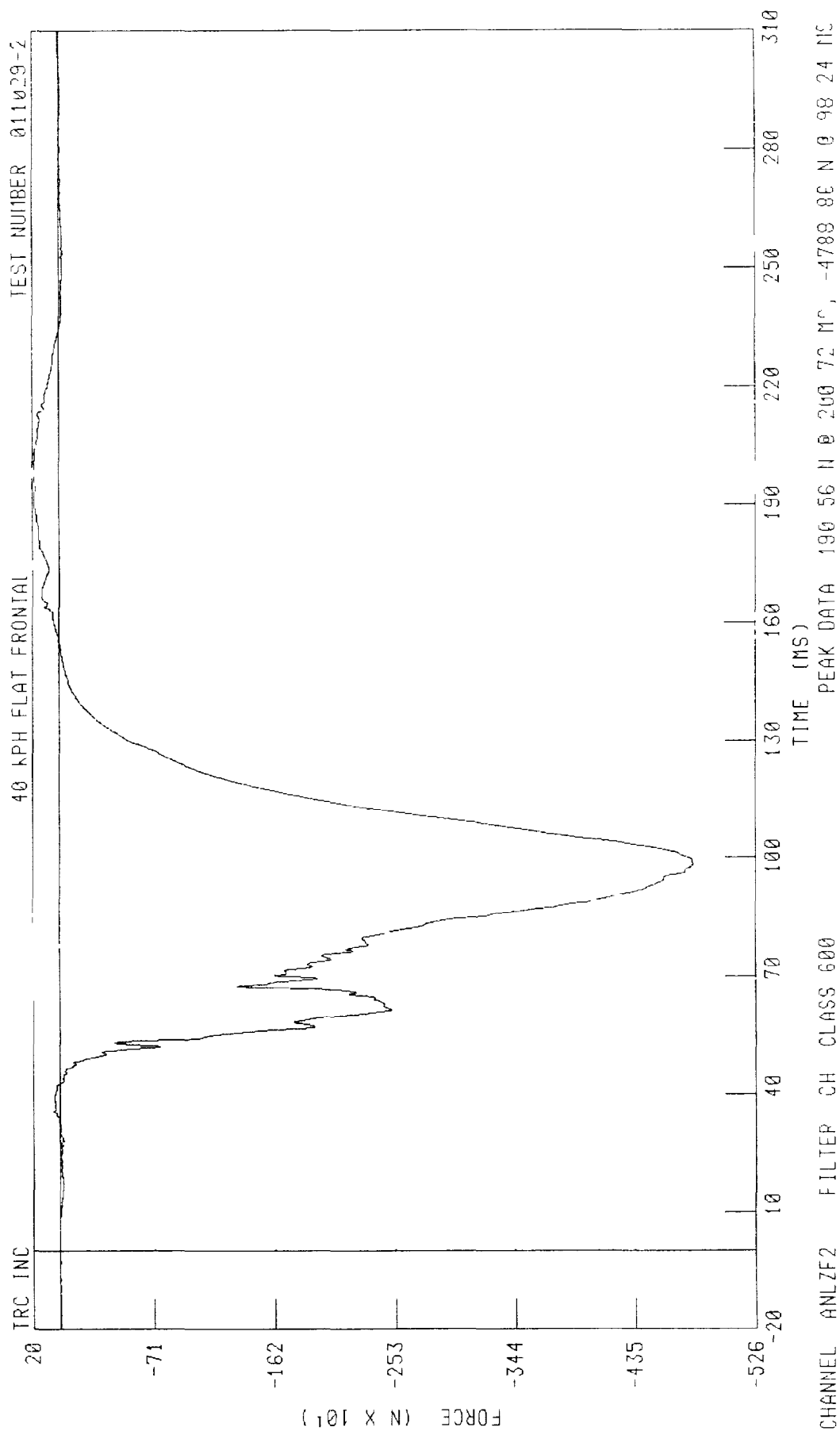
40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL ANLXF2 FILTER CH CLASS 600 PEAK DATA 89 12 N 0 55 04 MS, -485 95 N 0 106 72 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER LEFT LOWER TIBIA Z-AXIS FORCE

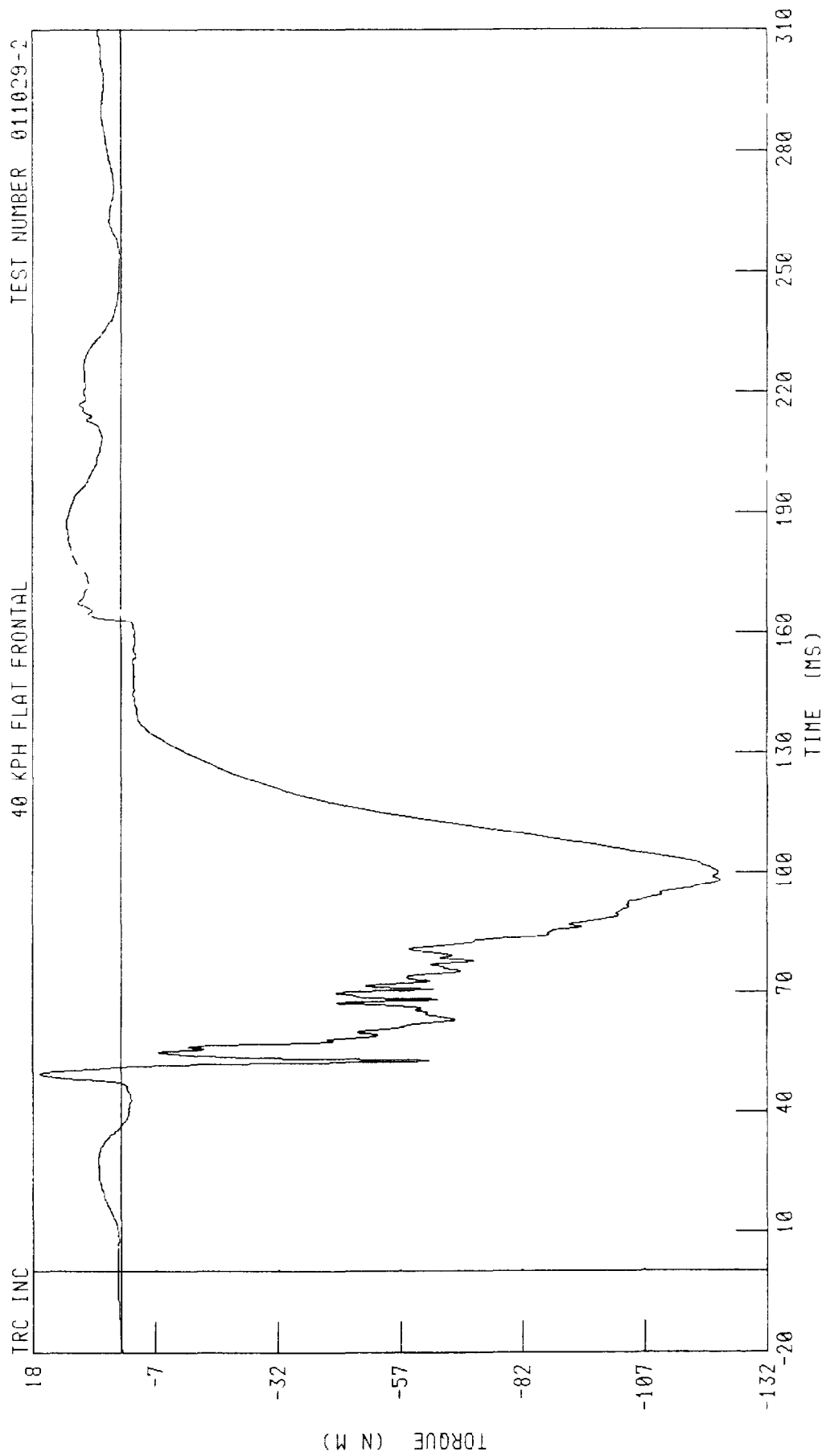


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER LEFT LOWER TIBIA MOMENT ABOUT X AXIS

40 KPH FLAT FRONTAL

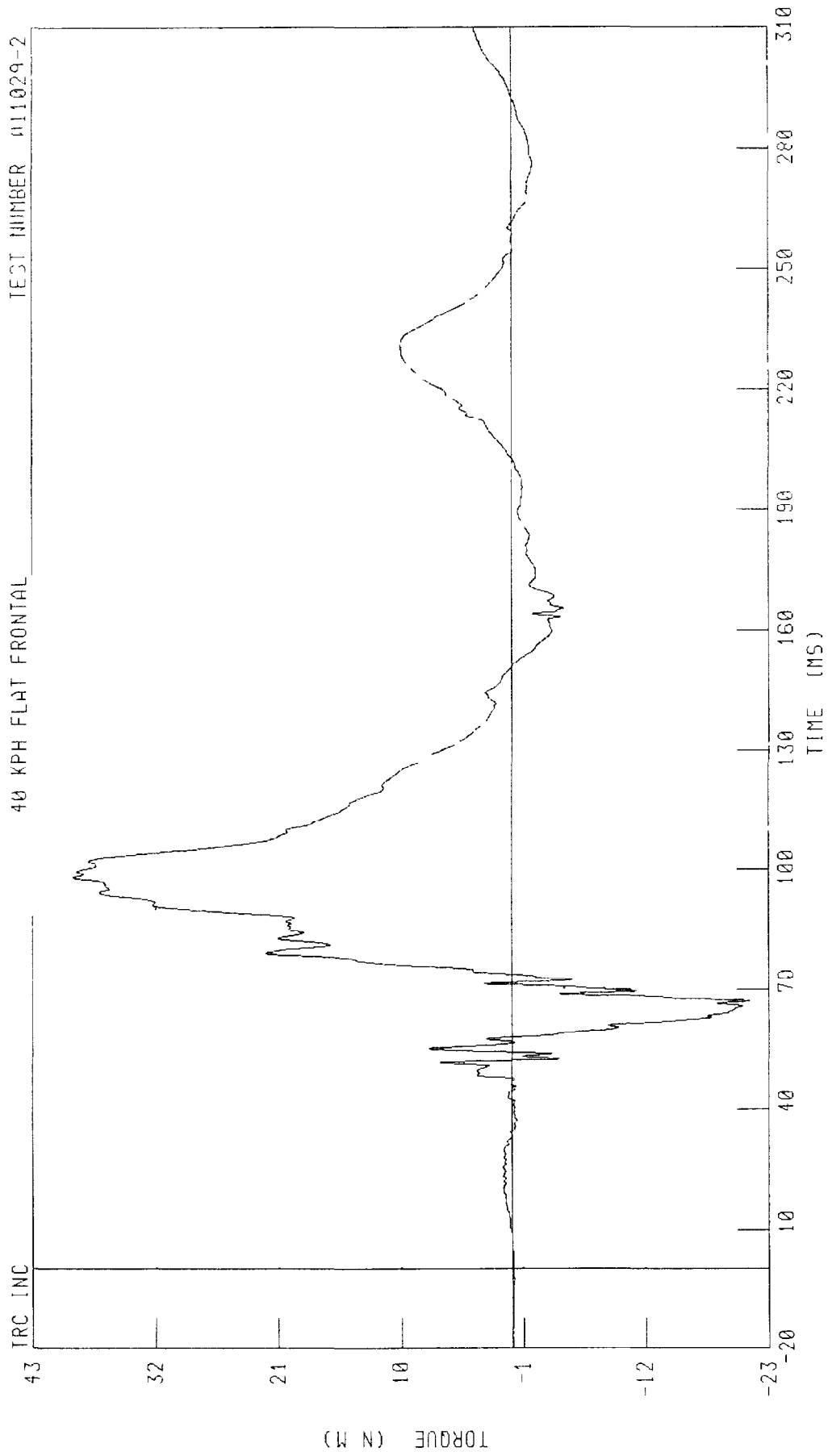
TEST NUMBER 011029-2



CHANNEL ANLXM2 FILTER CH CLASS 600

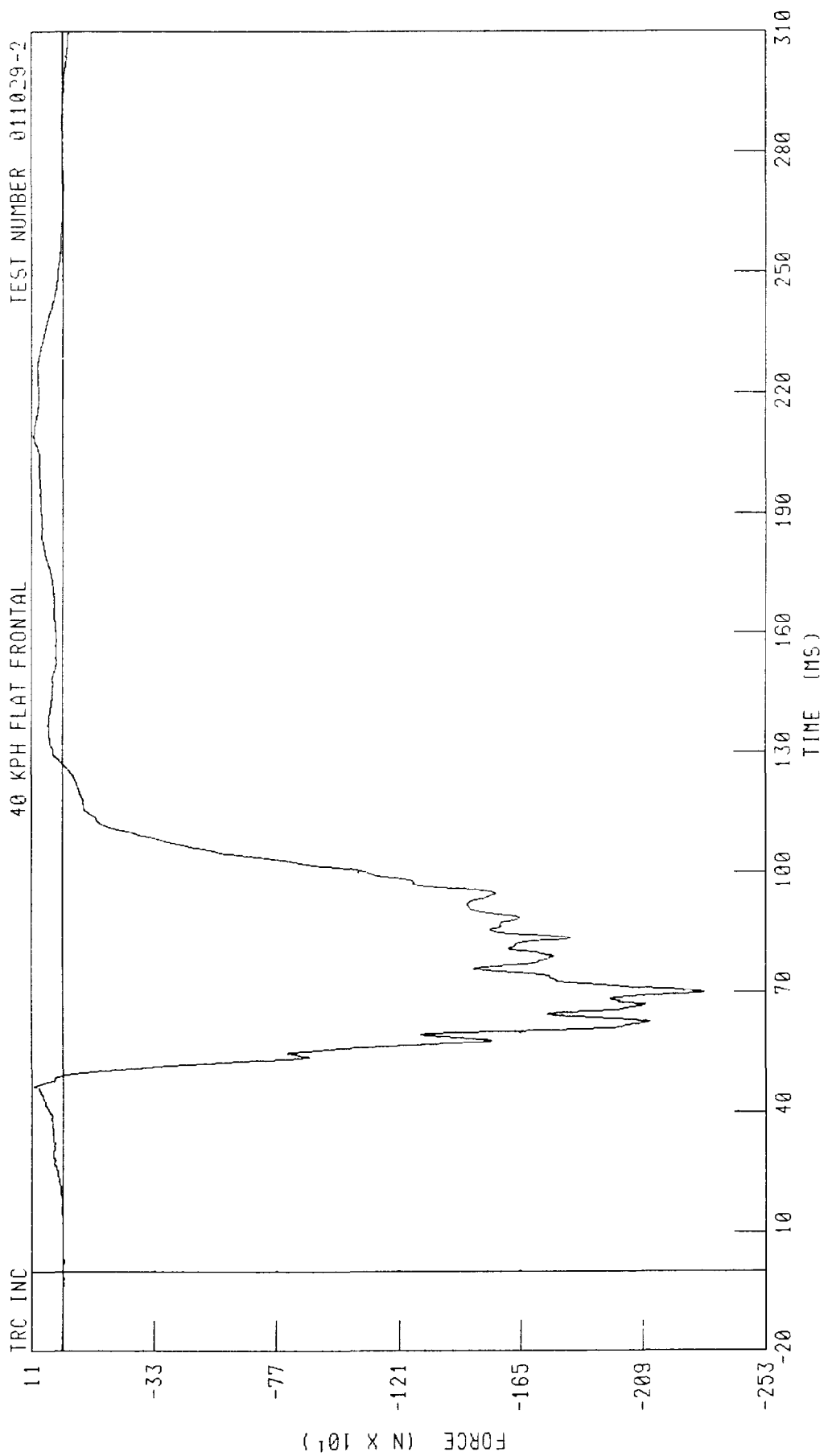
PEAK DATA 16 82 N M 0 49 52 MS, -122 49 N M 0 98 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER LEFT LOWER TIBIA MOMENT ABOUT Y AXIS
40 KPH FLAT FRONTAL



CHANNEL ANLYM2 FILTER CH CLASS 600 PEAK DATA 39 37 N M @ 97 92 MS, -21 31 N M @ 67 12 MS

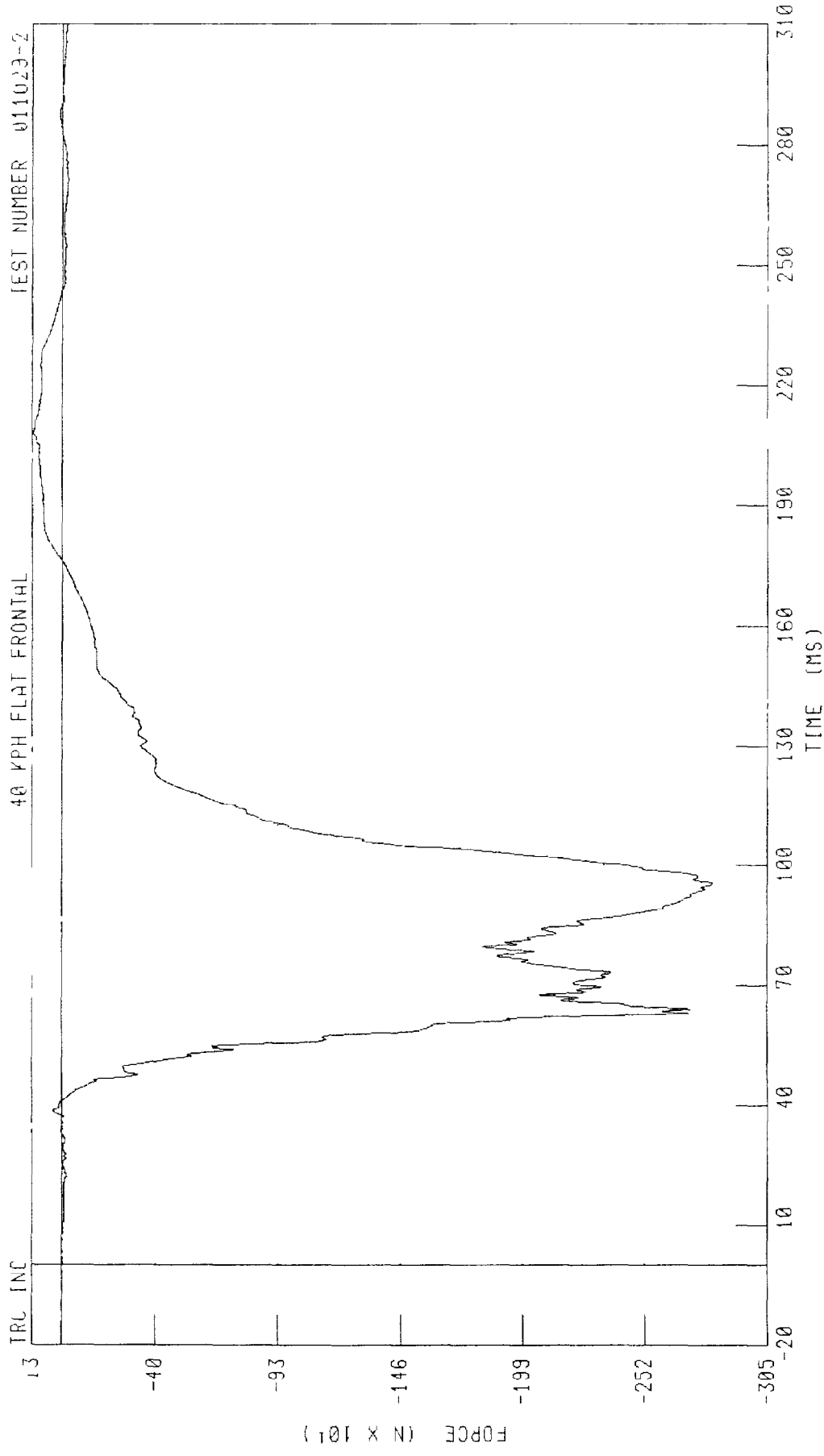
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER RIGHT UPPER TIBIA X-AXIS FORCE



CHANNEL TBRXF2 FILTER CH CLASS 600

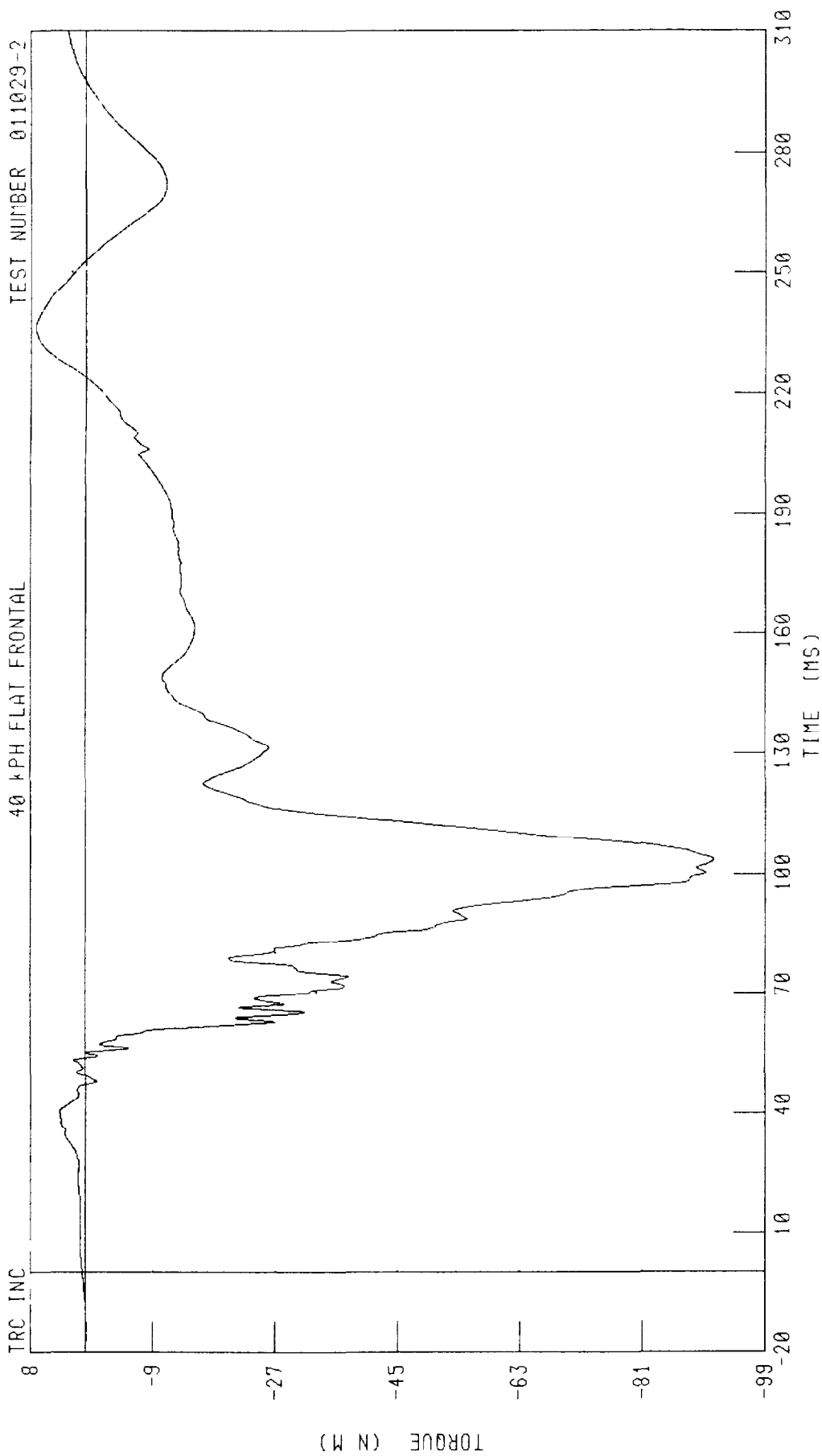
PEAK DATA 102 35 N @ 46 72 MS, -2311 35 N @ 69 92 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER RIGHT UPPER TIBIA Z-AXIS FORCE



CHANNEL TBRZF2 FILTER CH CLASS 600 PEAK DATA 127 26 N 0 207 92 M3, -2814 43 N 0 35 52 MS

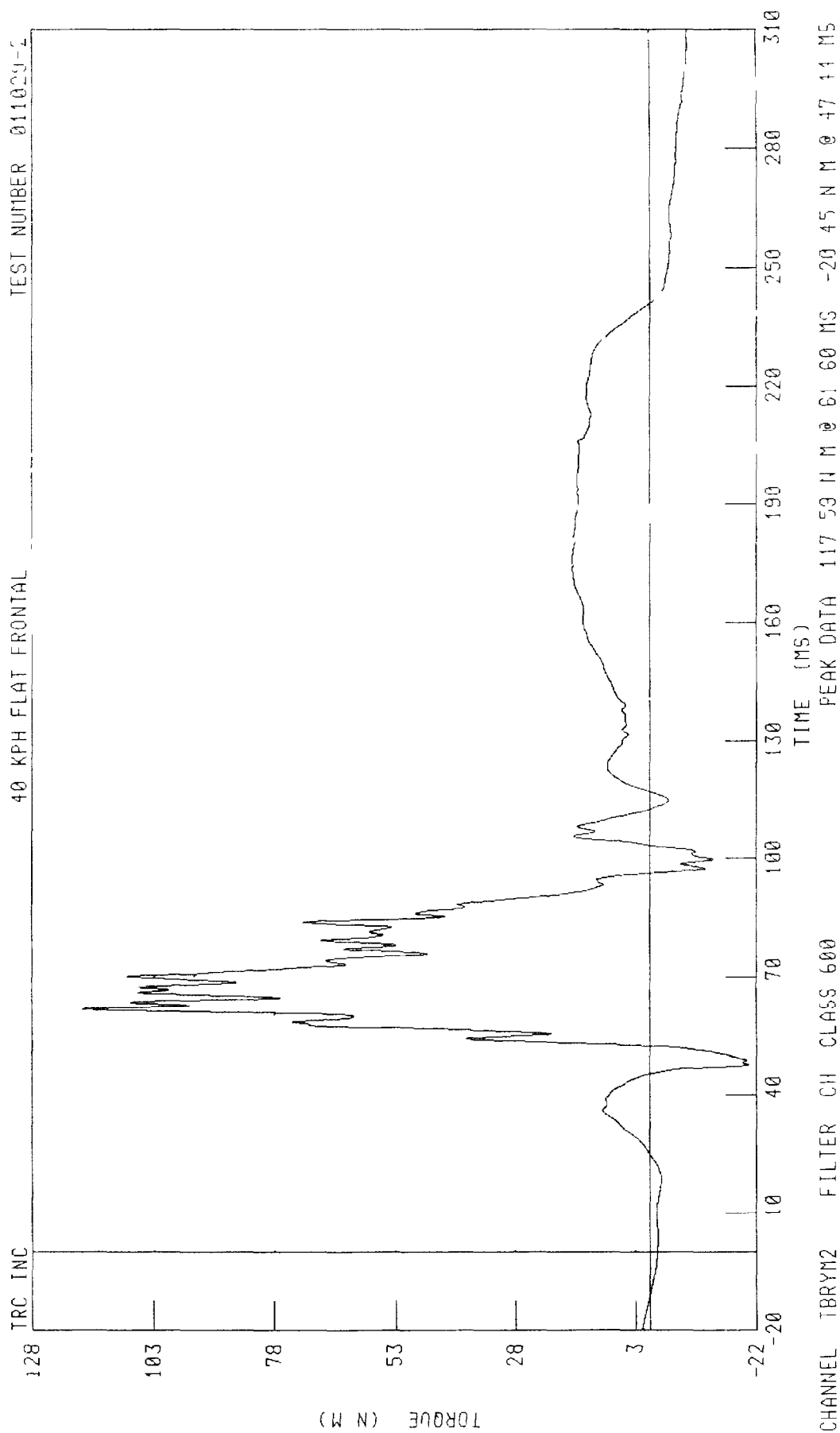
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 MPH
PASSENGER RIGHT UPPER TIBIA MOMENT ABOUT X AXIS



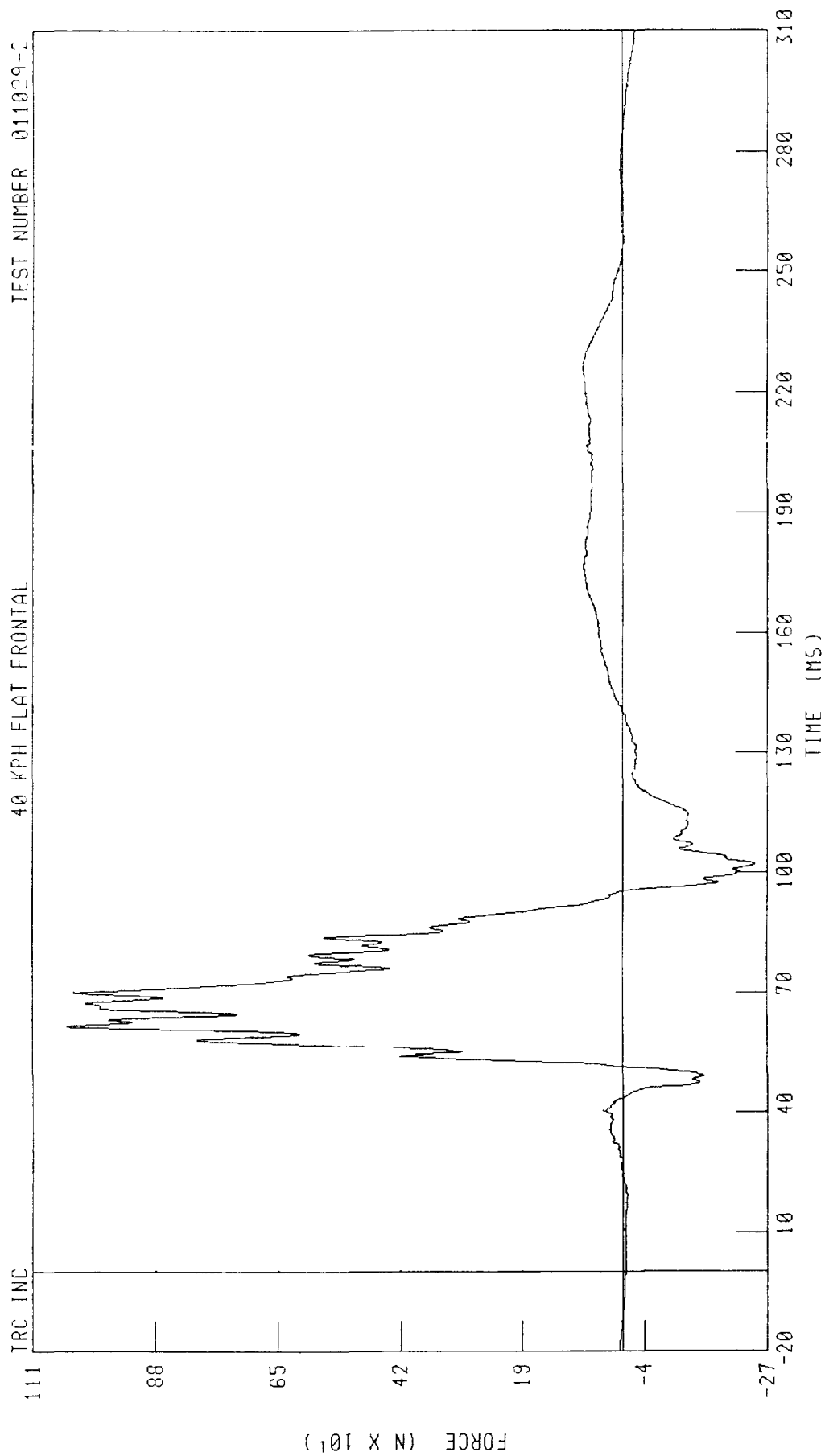
CHANNEL TBRXM2 FILTER CH CLASS 600

PEAK DATA 7 37 N M @ 236 64 MS, -92 38 N M @ 103 76 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER RIGHT UPPER TIBIA MOMENT ABOUT Y AXIS



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER RIGHT LOWER TIBIA X-AXIS FORCE

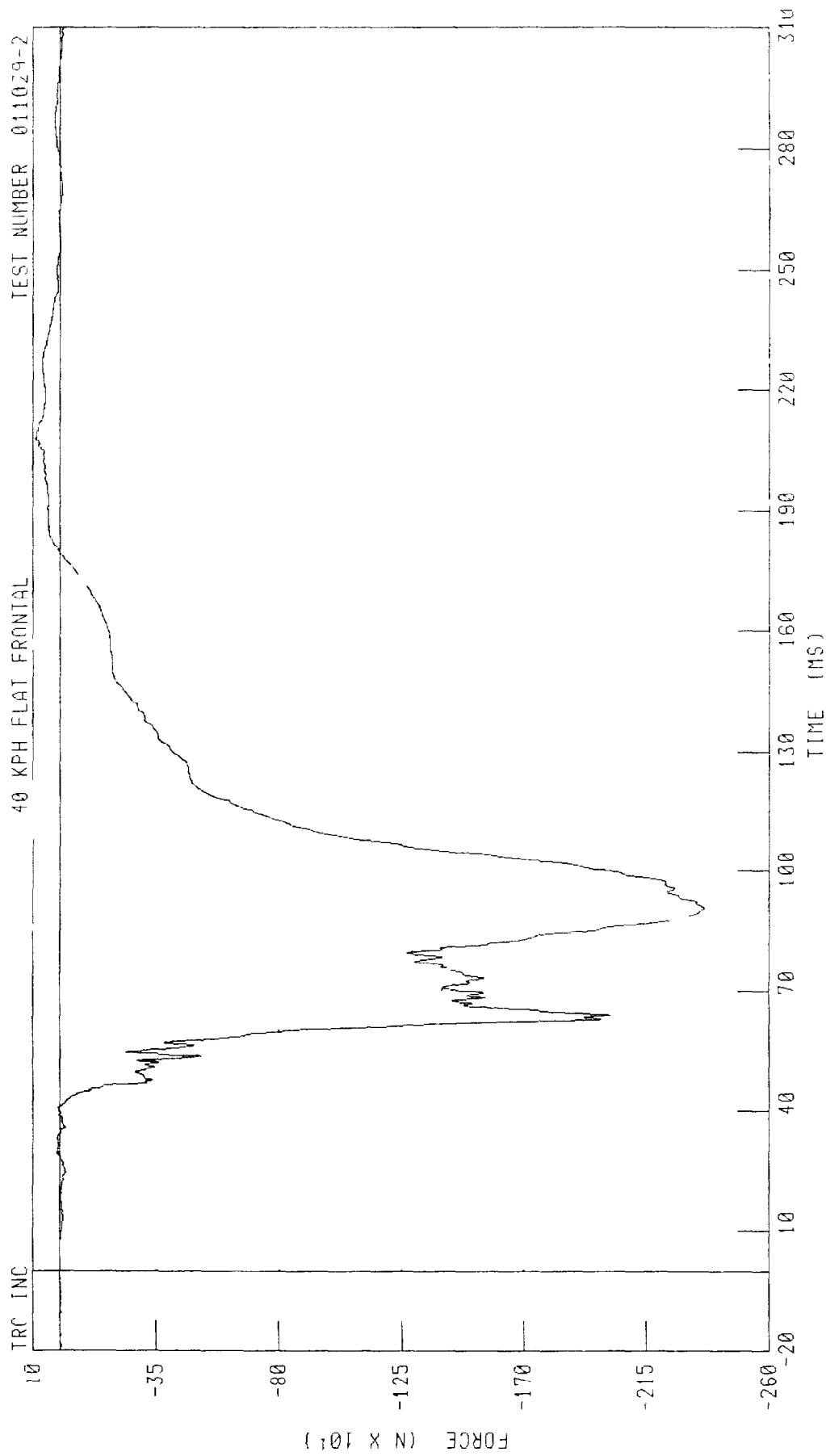


CHANNEL ANRxF2 FILTER CH CLASS 600

PEAK DATA 1045 30 N @ 61 52 MS, -247 33 N @ 102 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

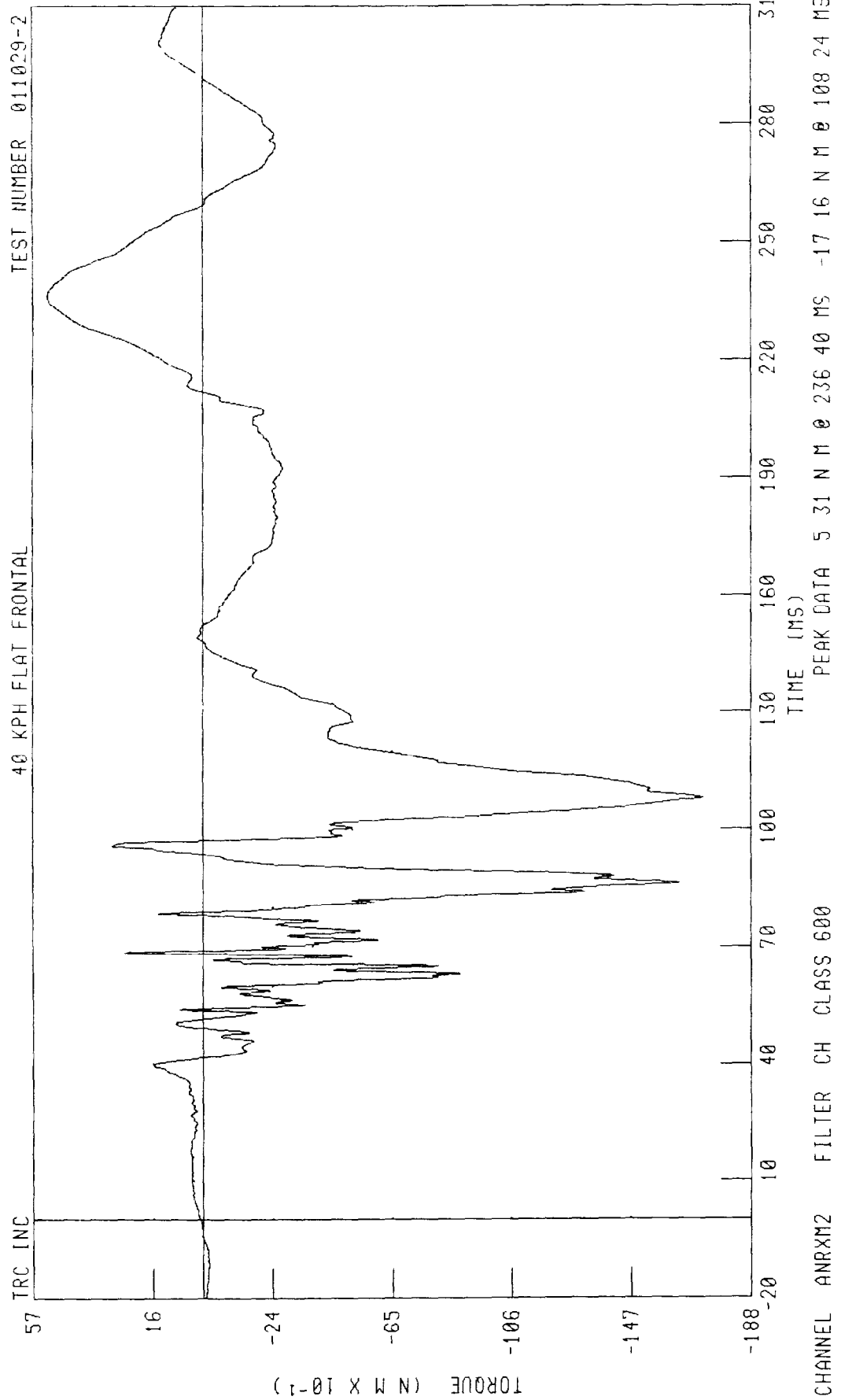
PASSENGER RIGHT LOWER TIBIA Z-AXIS FORCE



CHANNEL ANRZF2 FILTER CH CLASS 600

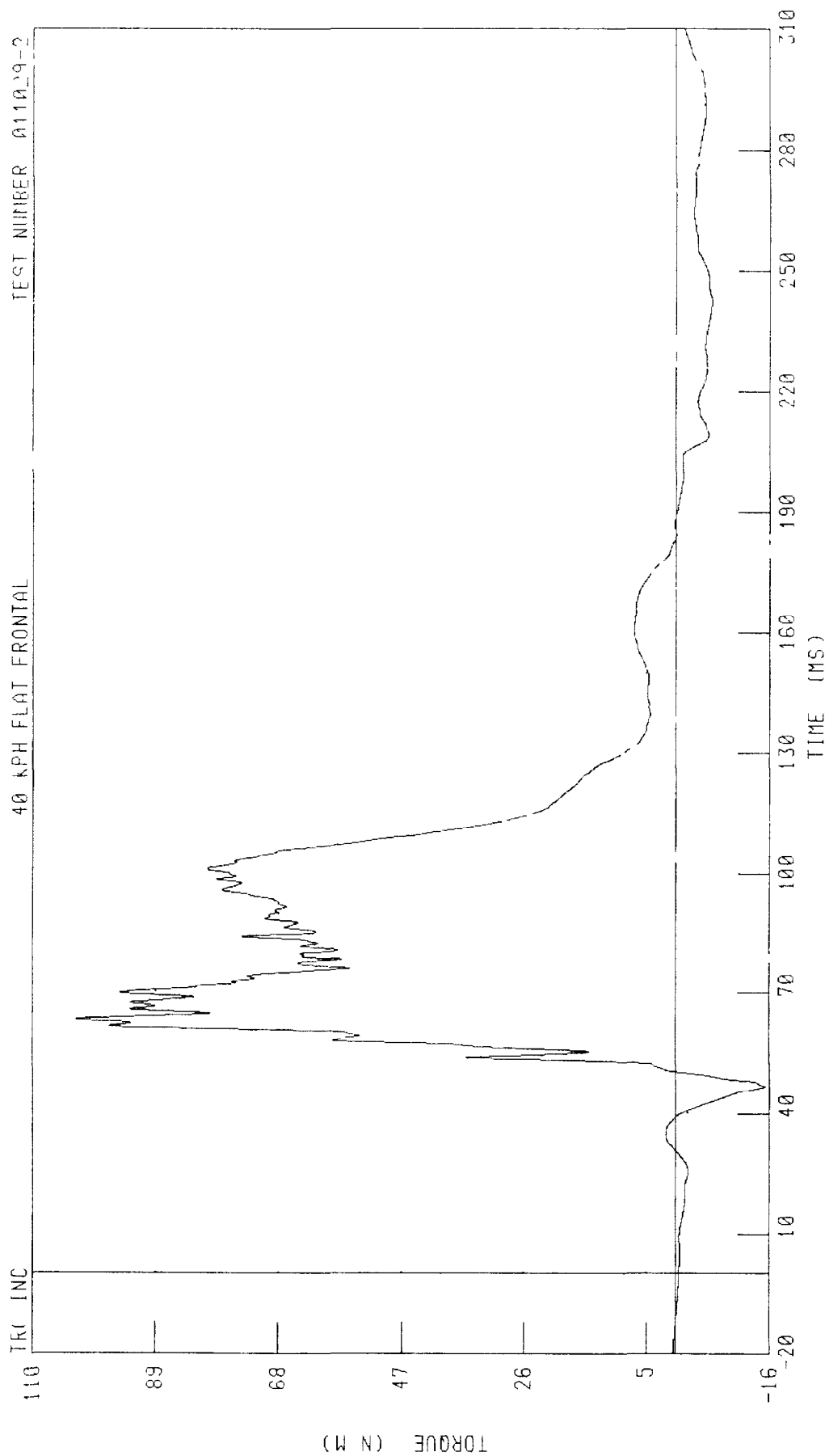
PEAK DATA 93 49 N @ 207 94 H , 2363 97 N @ 90 48 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER RIGHT LOWER TIBIA MOMENT ABOUT X AXIS
 40 KPH FLAT FRONTAL



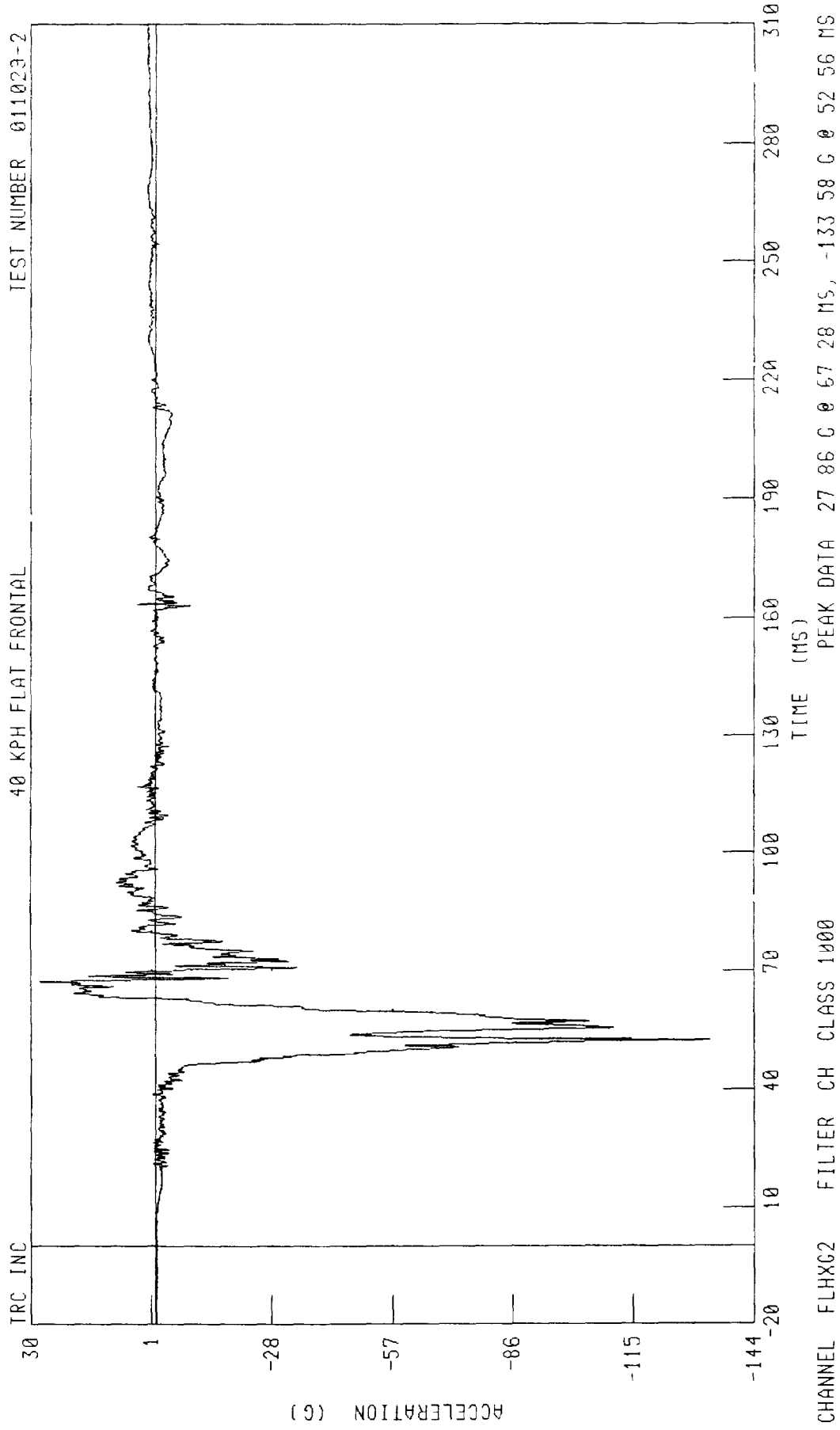
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER RIGHT LOWER TIBIA MOMENT ABOUT Y AXIS
 40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL ANRVM2 FILTER LH CLASS 600 TIME (MS) PEAK DATA 102 61 N M @ 63 20 MS -15 31 N M @ 46 56 MS

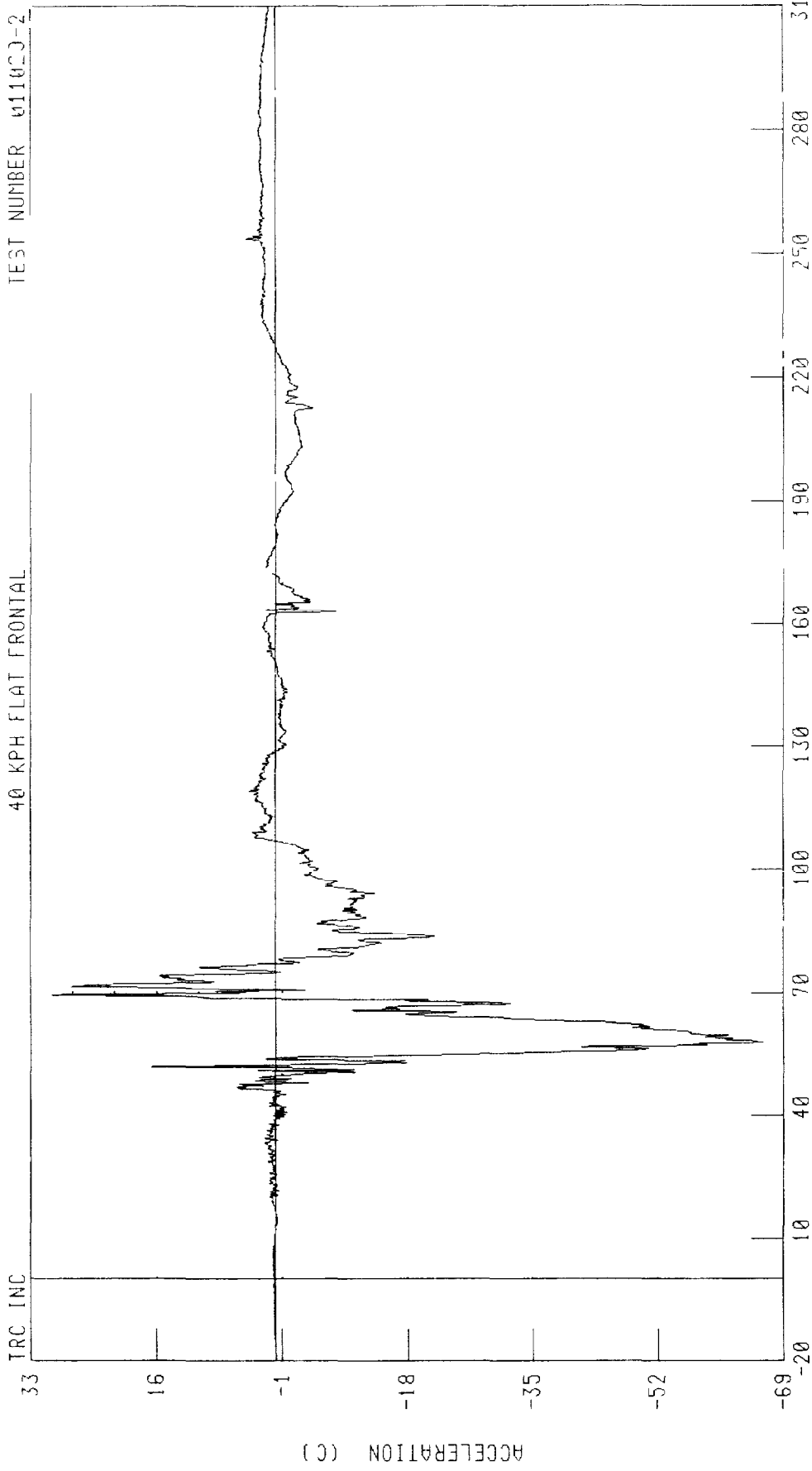
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER LEFT FOOT HEEL X-AXIS ACCELERATION



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 MPH
PASSENGER LEFT FOOT HEEL Z-AXIS ACCELERATION
40 KPH FLAT FRONTAL

TEST NUMBER 011020-2

TRC INC

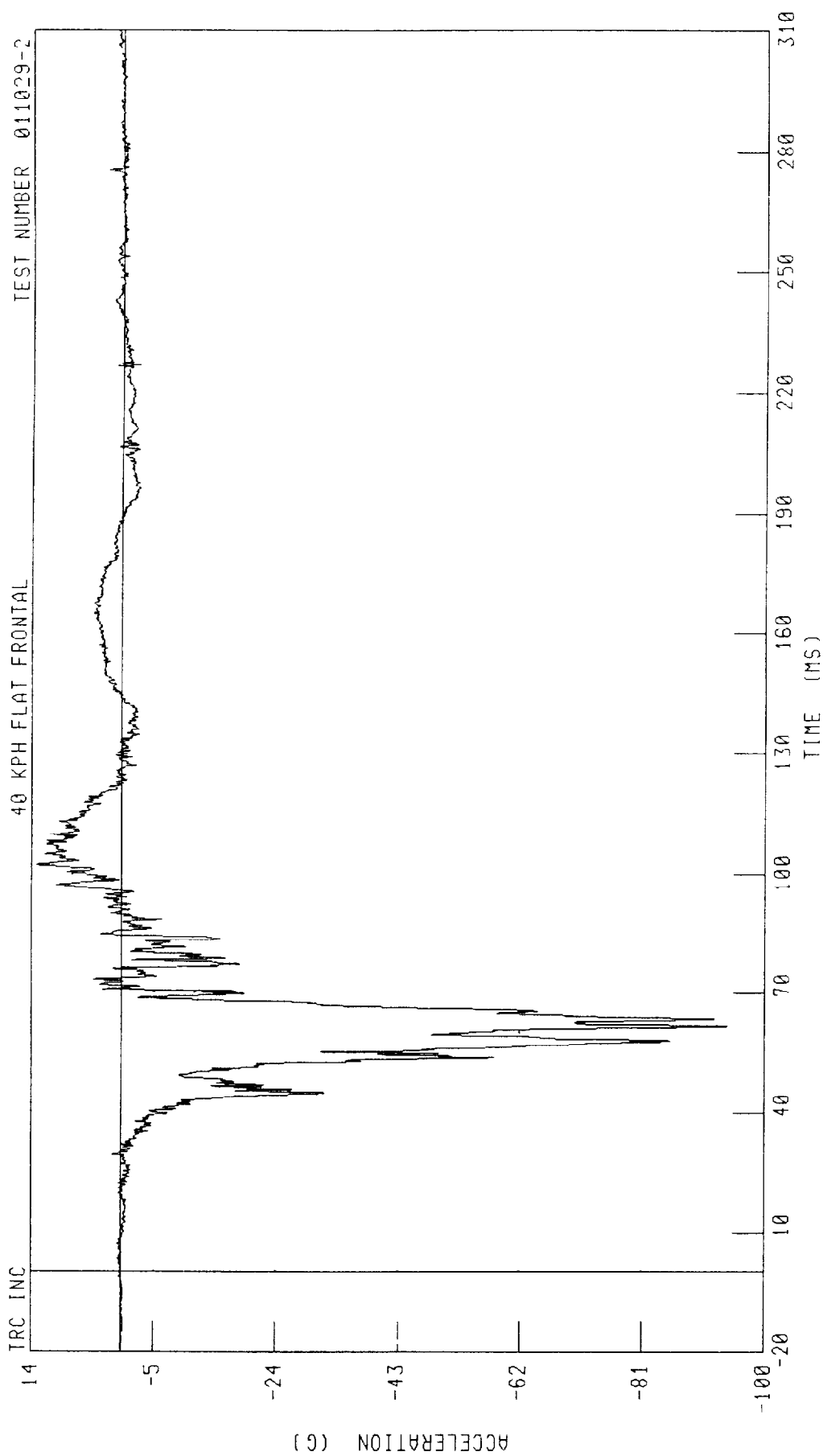


CHANNEL FLHZG2 FILTER CH CLASS 1000

PEAK DATA 30 14 0 69 44 NS 00 35 0 9 57 32 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER RIGHT FOOT HEEL X-AXIS ACCELERATION

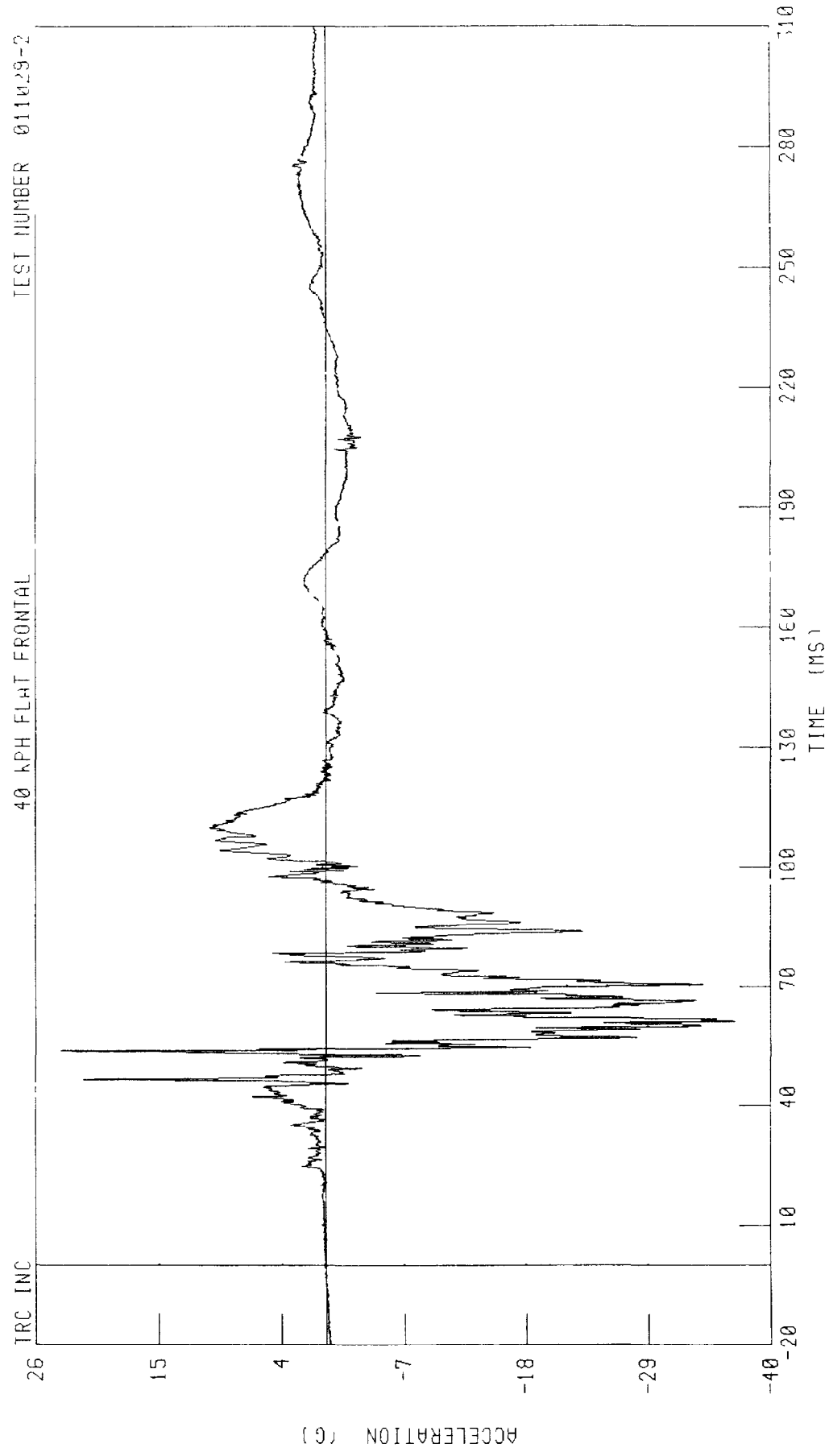


CHANNEL FRHXC2 FILTER CH CLASS 1000

PEAK DATA 13 22 0 102 40 MS, -94 21 0 61 68 MS

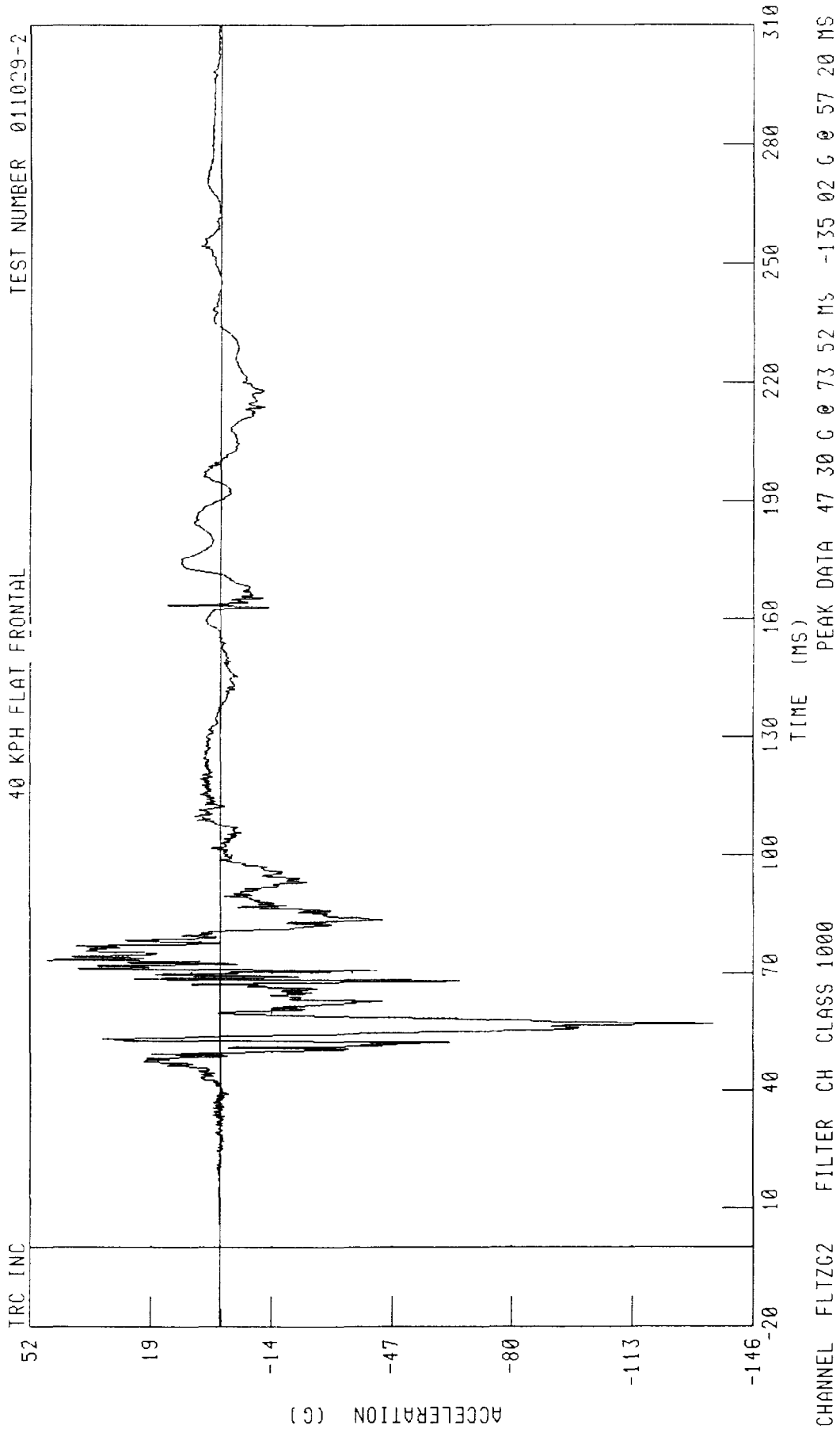
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER RIGHT FOOT HEEL Z-AXIS ACCELERATION
 40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL FRHZ02 FILTER CH CLASS 1000 TIME (MS) PEAK DATA 23 81 6 0 53 76 NS, -36 72 0 61 36 MC

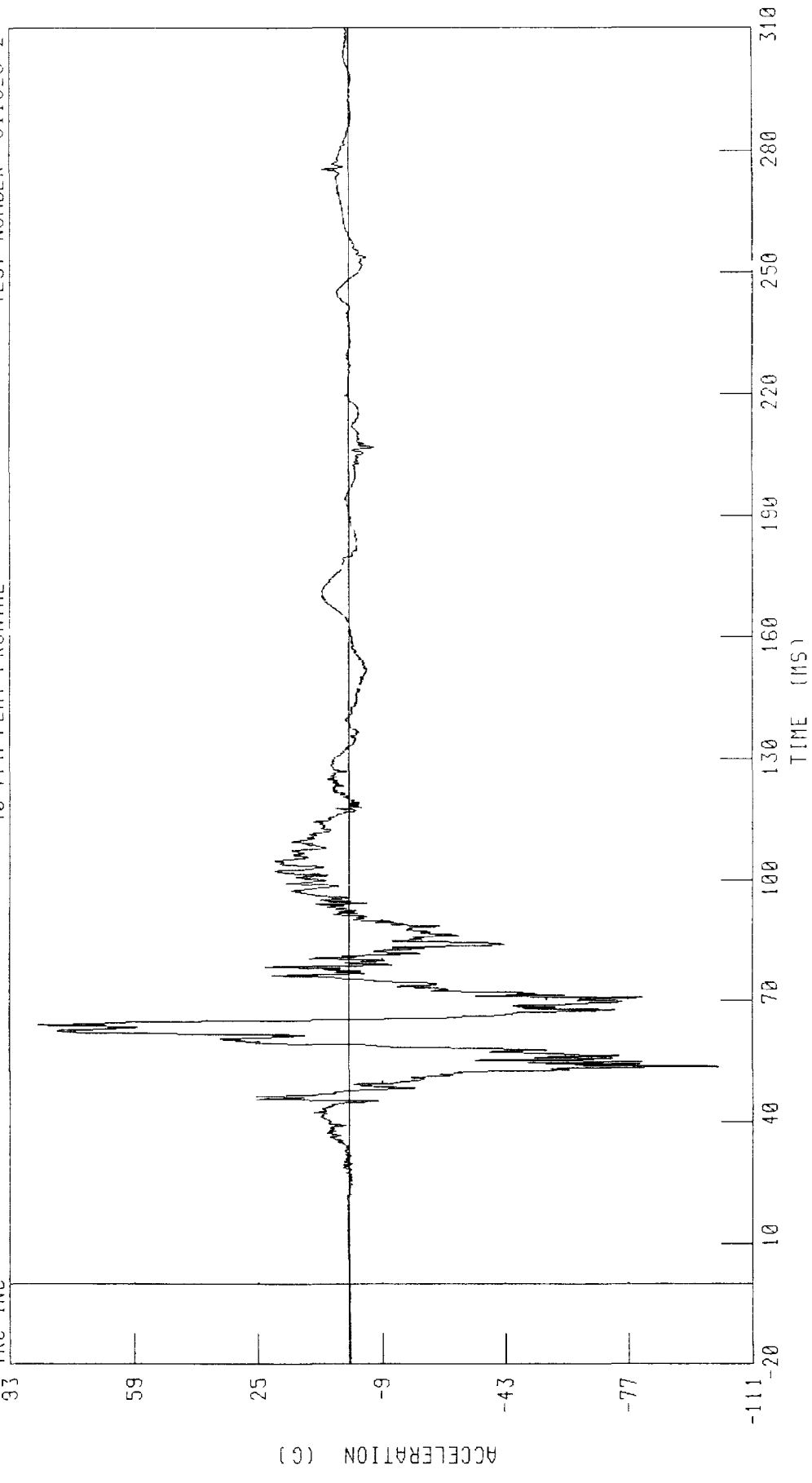
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
PASSENGER LEFT FOOT TOE Z-AXIS ACCELERATION



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 PASSENGER RIGHT FOOT TOE Z-AXIS ACCELERATION
 40 KPH FLAT FRONTAL

TEST NUMBER 011019-2

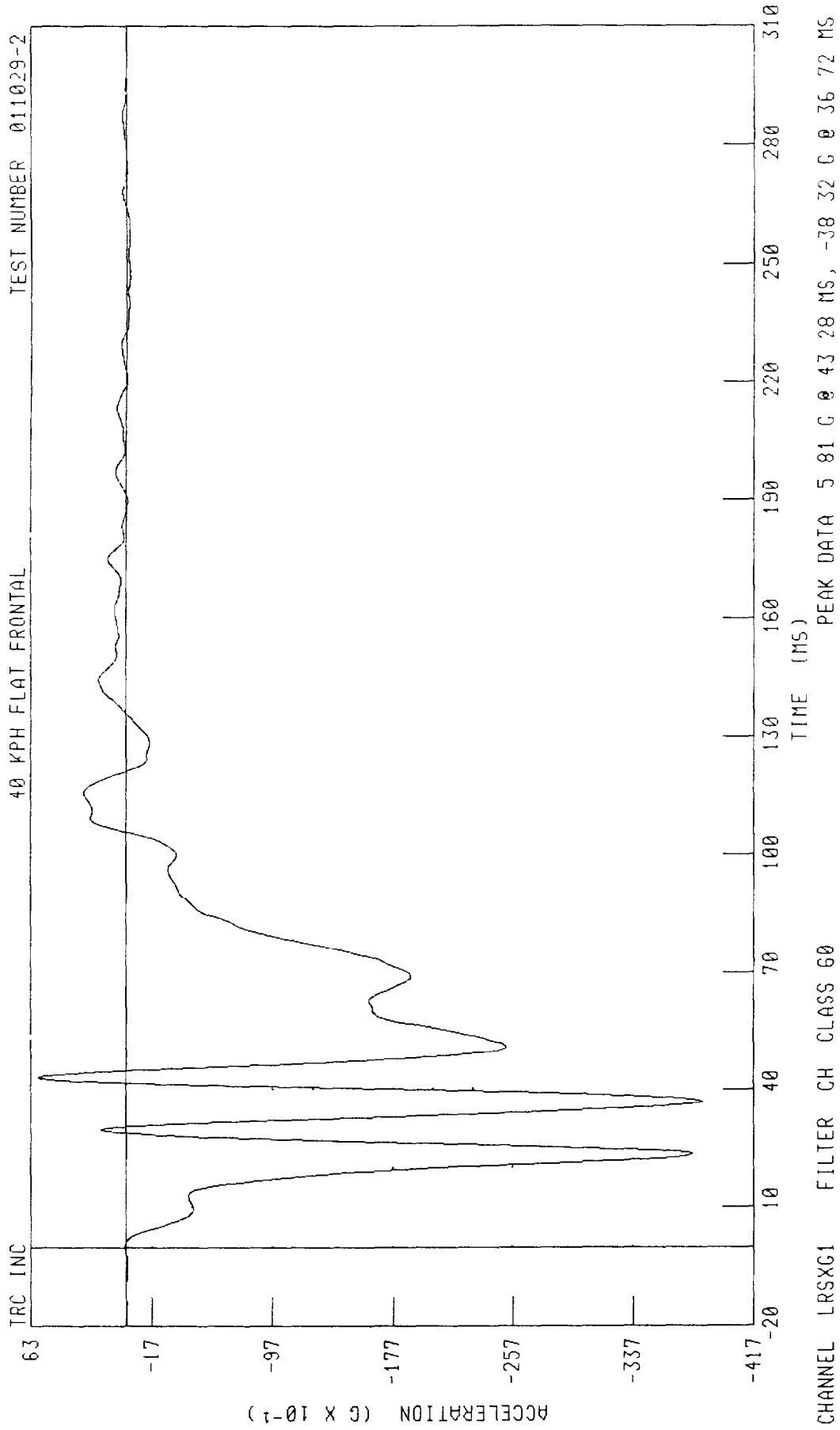
TRC INC



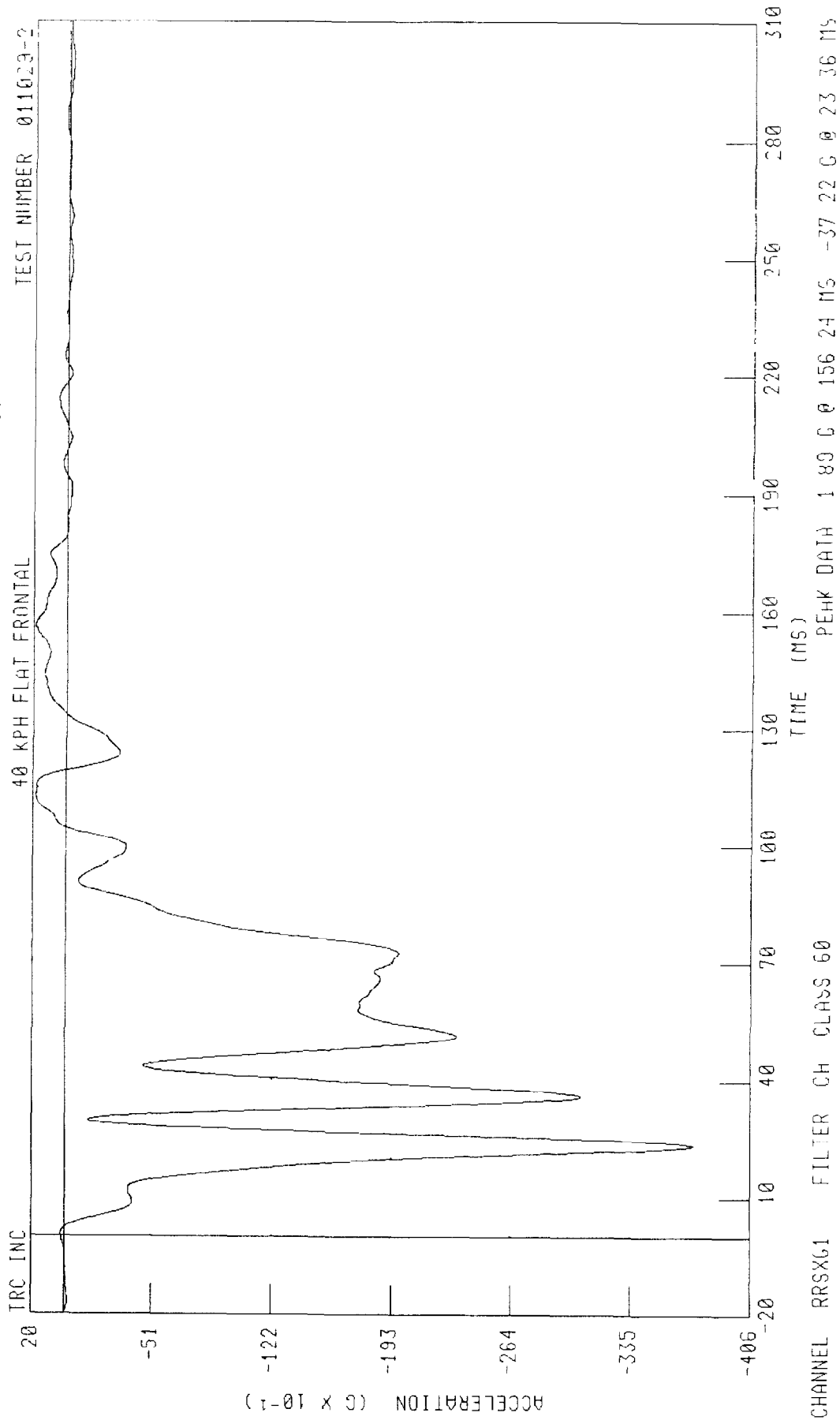
TIME (MS)

CHANNEL FRTZG2 FILTER CH CLASS 1000 PEAK DATA 35 17 G @ 64 00 MS, -101 00 G @ 53 63 MS

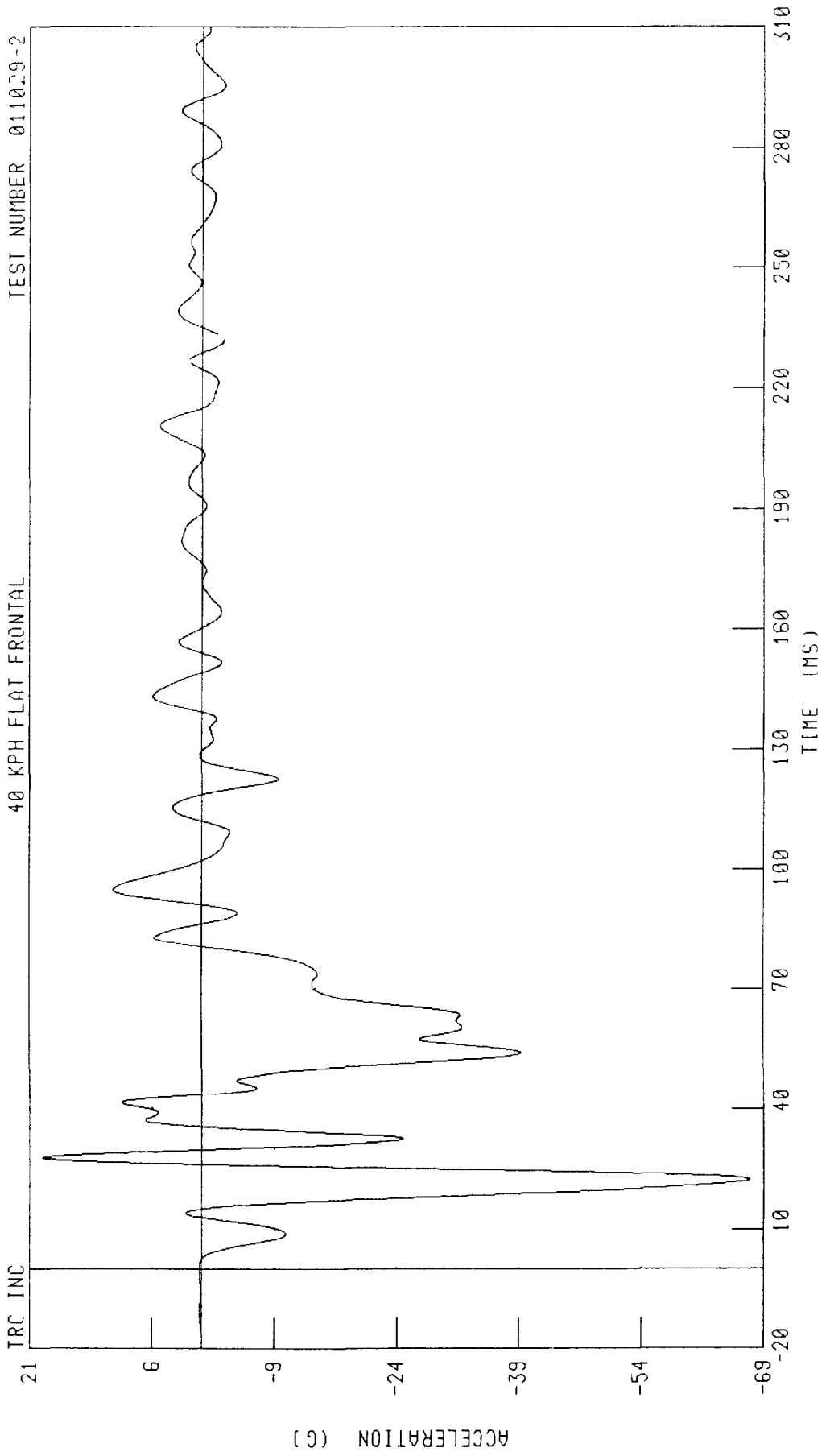
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
LEFT REAR SEAT CROSSMEMBER X-AXIS ACCELERATION



2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 RIGHT REAR SEAT CRUSSLMEMBER X-AXIS ACCELERATION



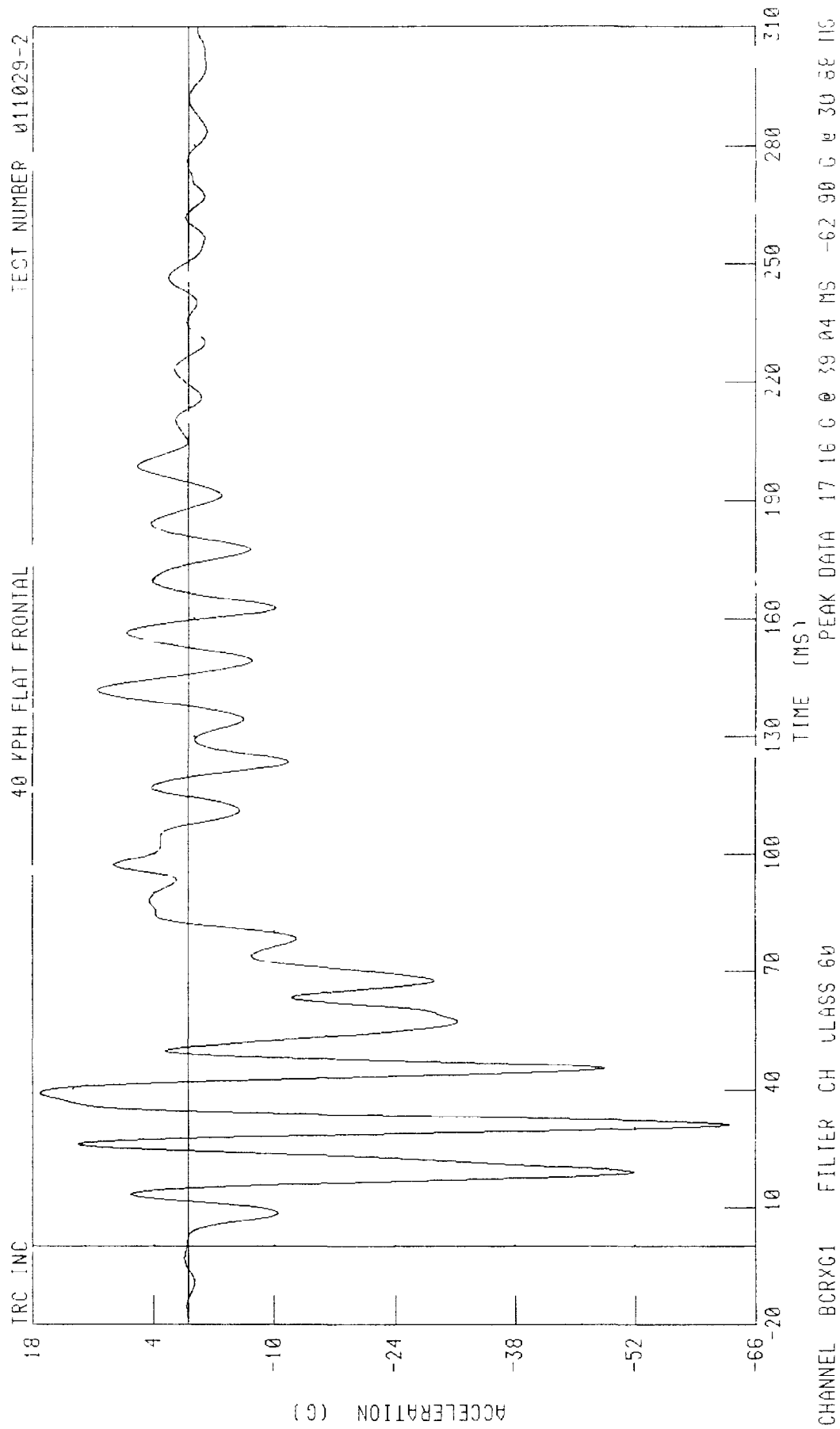
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
FRONT BRAKE CALIPER LEFT X-AXIS ACCELERATION



CHANNEL BCLXG1 FILTER CH CLASS 60

PEAK DATA 19 38 G @ 27 76 MS, -67 36 G @ 22 40 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
FRONT BRAKE CALIPER RIGHT X-AXIS ACCELERATION



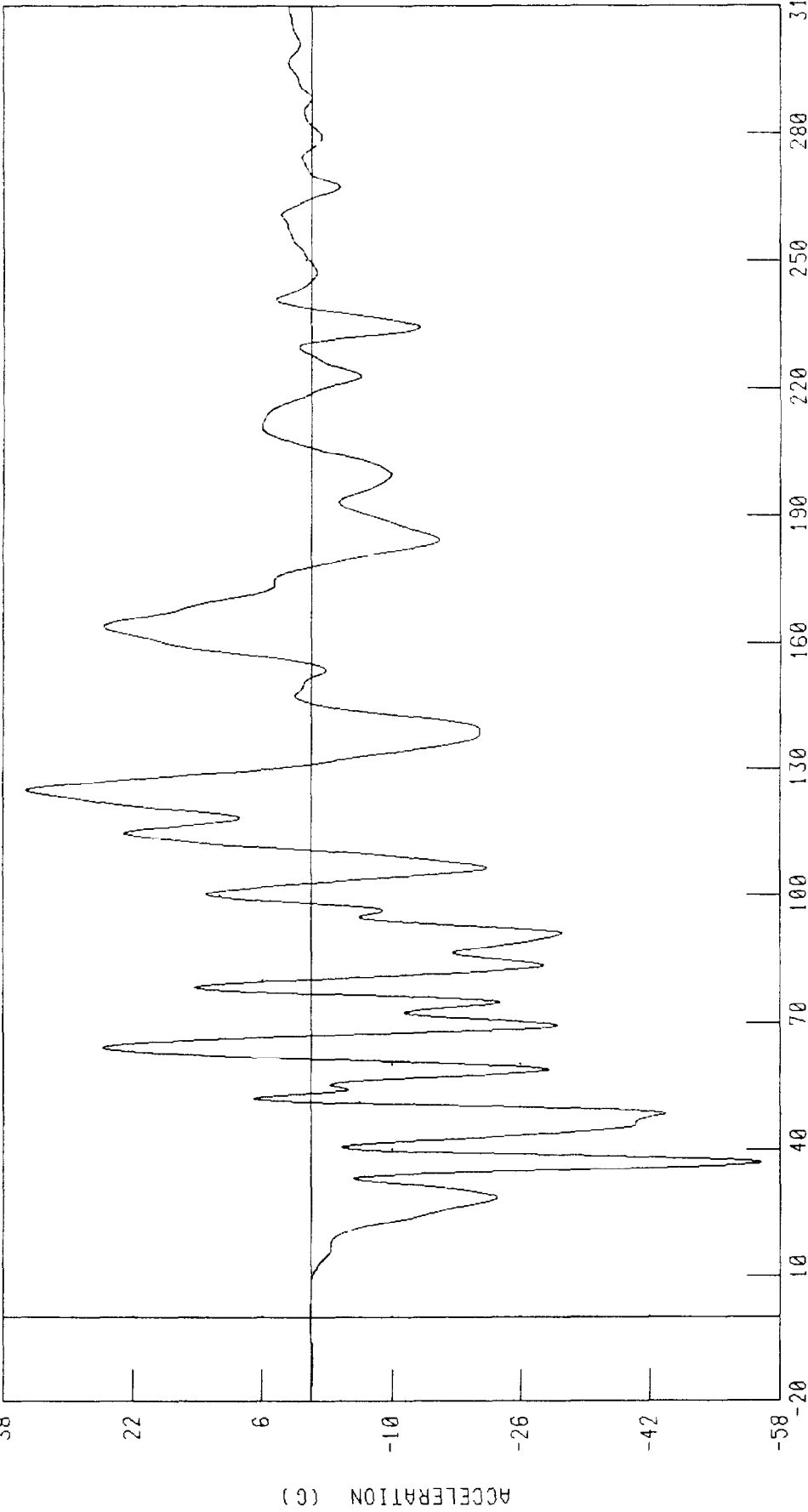
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DASH PANEL CENTER X-AXIS ACCELERATION

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

TRC INC



TIME (MS)

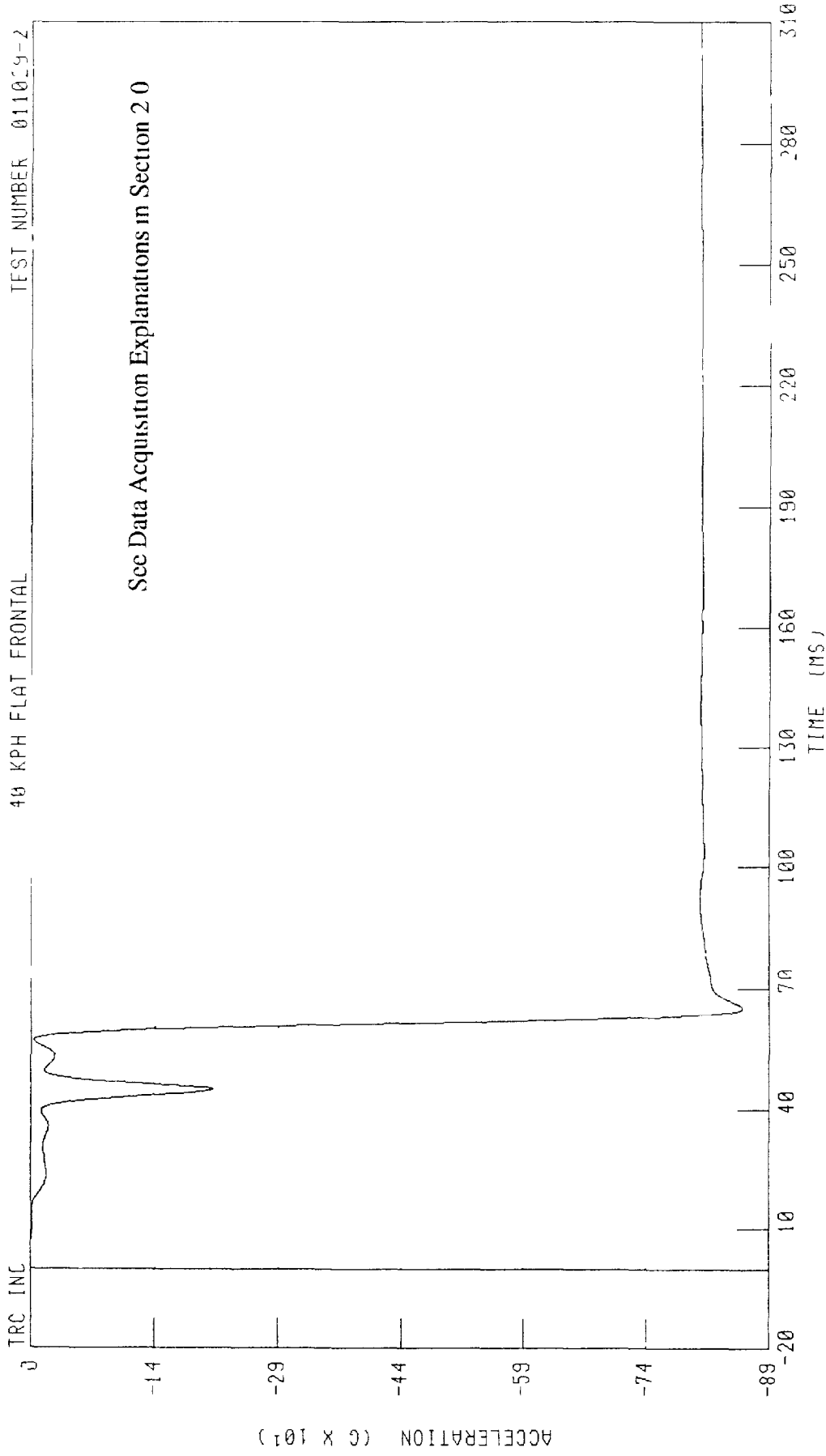
CHANNEL DPCXG1 FILTER CH CLASS 60

PEAK DATA 35 17 0 125 04 MS, -55 72 0 36 88 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 ENGINE TOP X-AXIS ACCELERATION
 40 KPH FLAT FRONTAL

TEST NUMBER 011029-2

See Data Acquisition Explanations in Section 2.0



CHANNEL ENCXG1 FILTER CH CLASS 60 PEAK DATA 0 19 0 0 2 96 MS, -807 51 0 0 65 20 MS

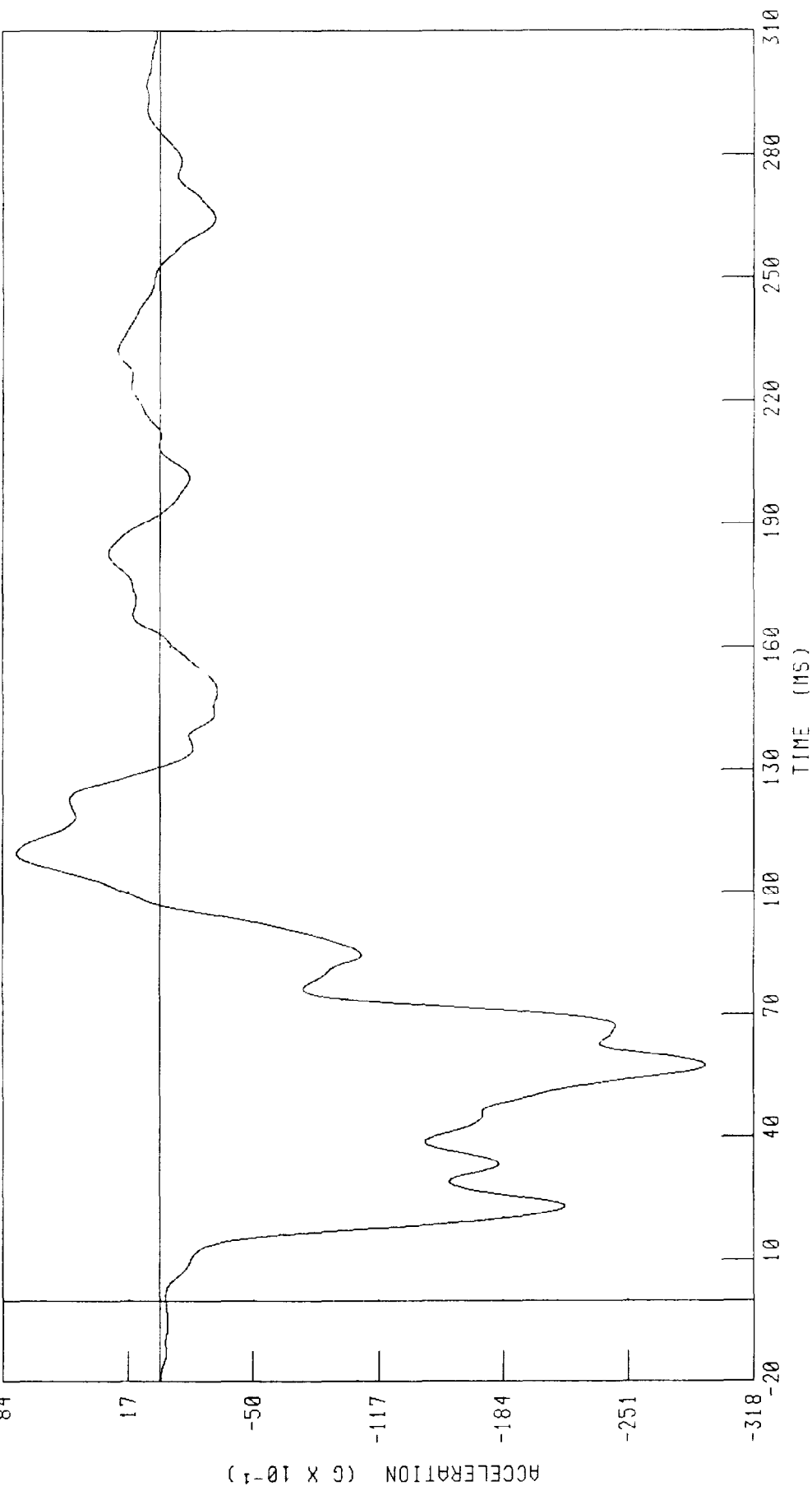
2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

ENGINE BOTTOM X-AXIS ACCELERATION

TRC INC

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



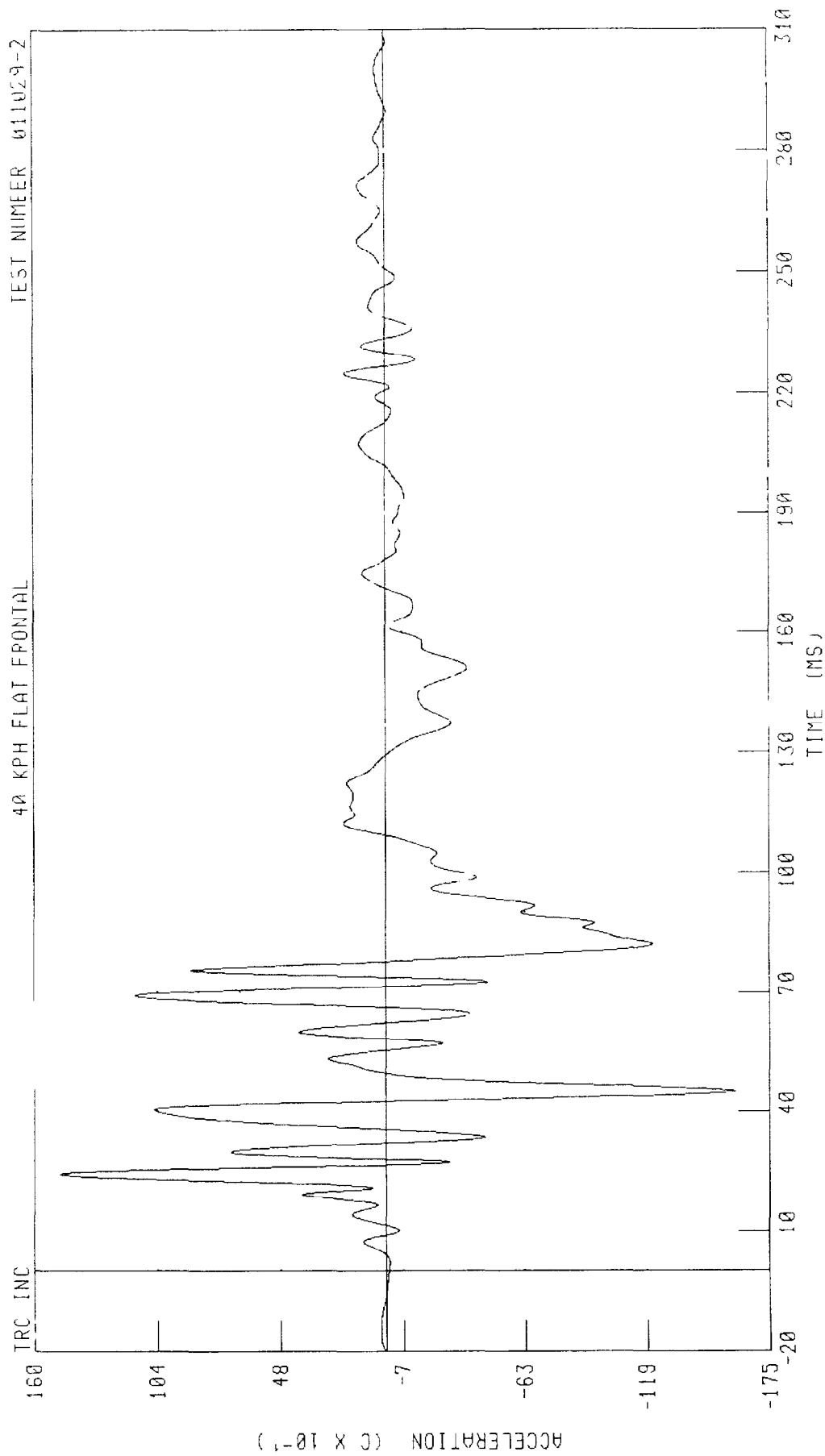
CHANNEL ENC2G2 FILTER CH CLASS 60

PEAK DATA 7 66 G @ 109 60 MS, -29 24 G @ 57 20 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
TOEPAN NEXT TO ACCELERATOR Z-AXIS ACCELERATION

TEST NUMBER 011029-2

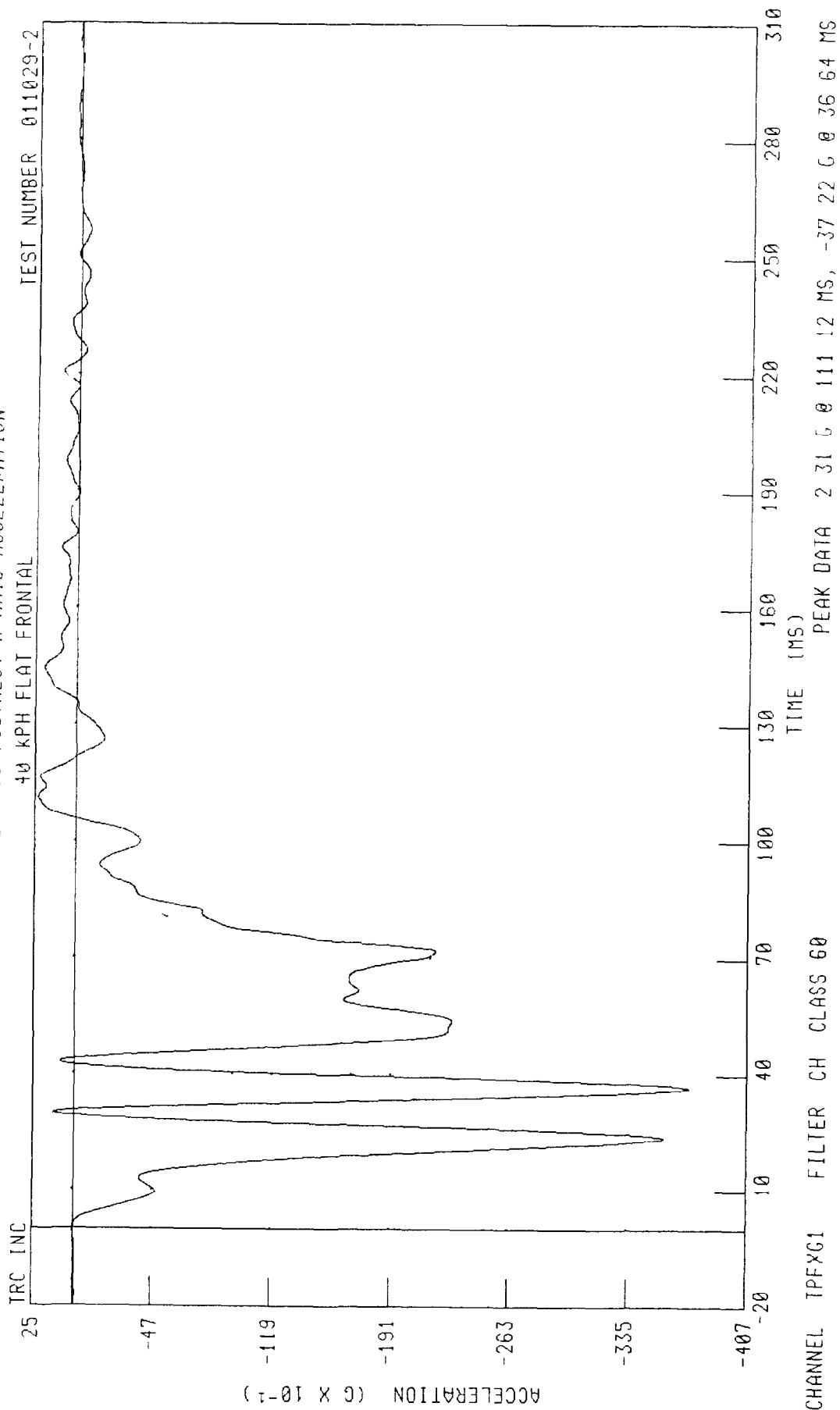
40 KPH FLAT FRONTAL



PEAK DATA 14 02 0 24 40 MS, -16 04 0 44 96 MS

CHANNEL TPAZG1 FILTER CH CLASS 00

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
TOEPAN NEXT TO FOOTREST X-AXIS ACCELERATION

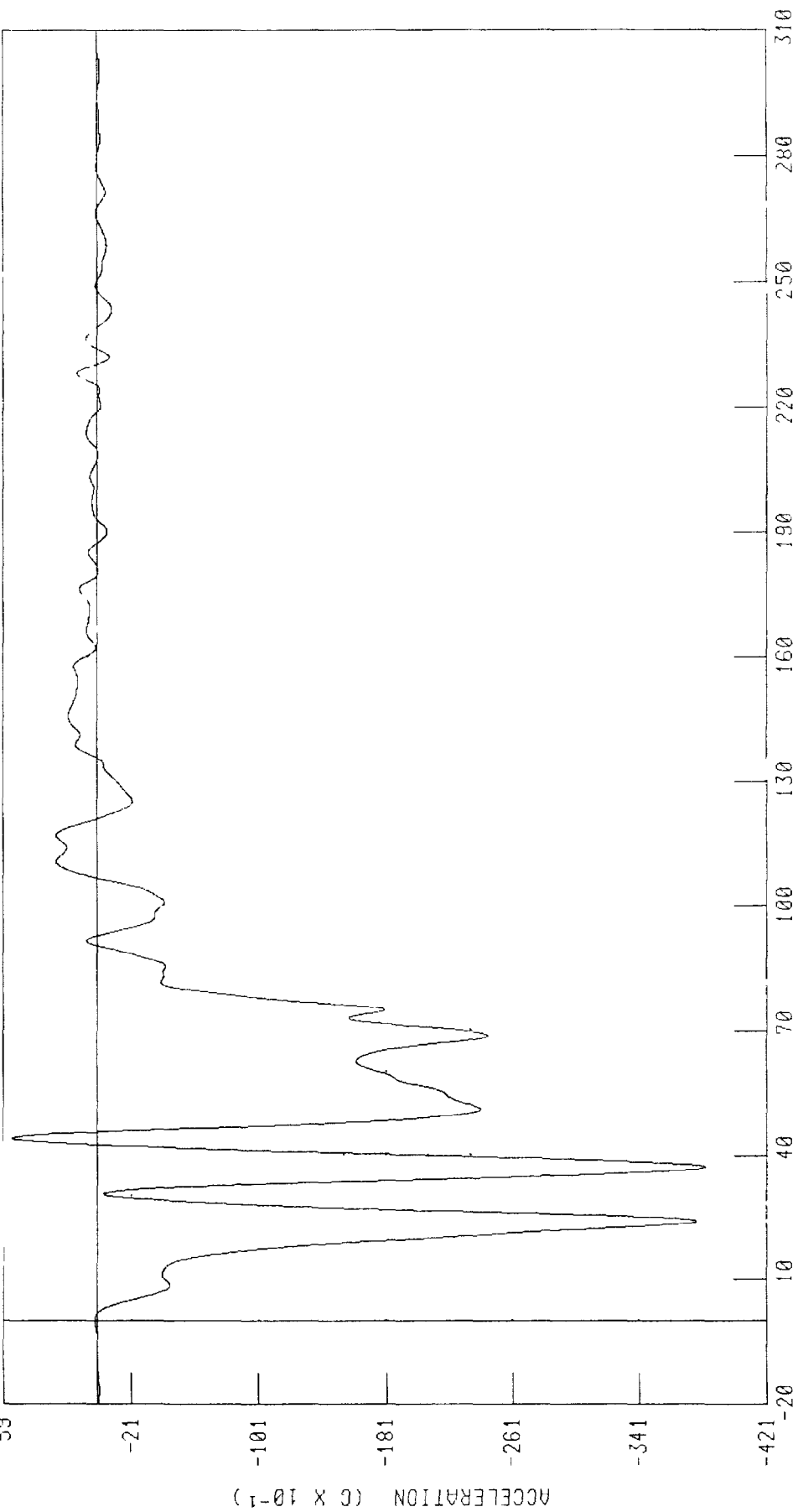


2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 TOEPAN NEXT TO ACCELERATOR X-AXIS ACCELERATION

TEST NUMBER 011024-2

40 KPH FLAT FRONTAL

TRC INC

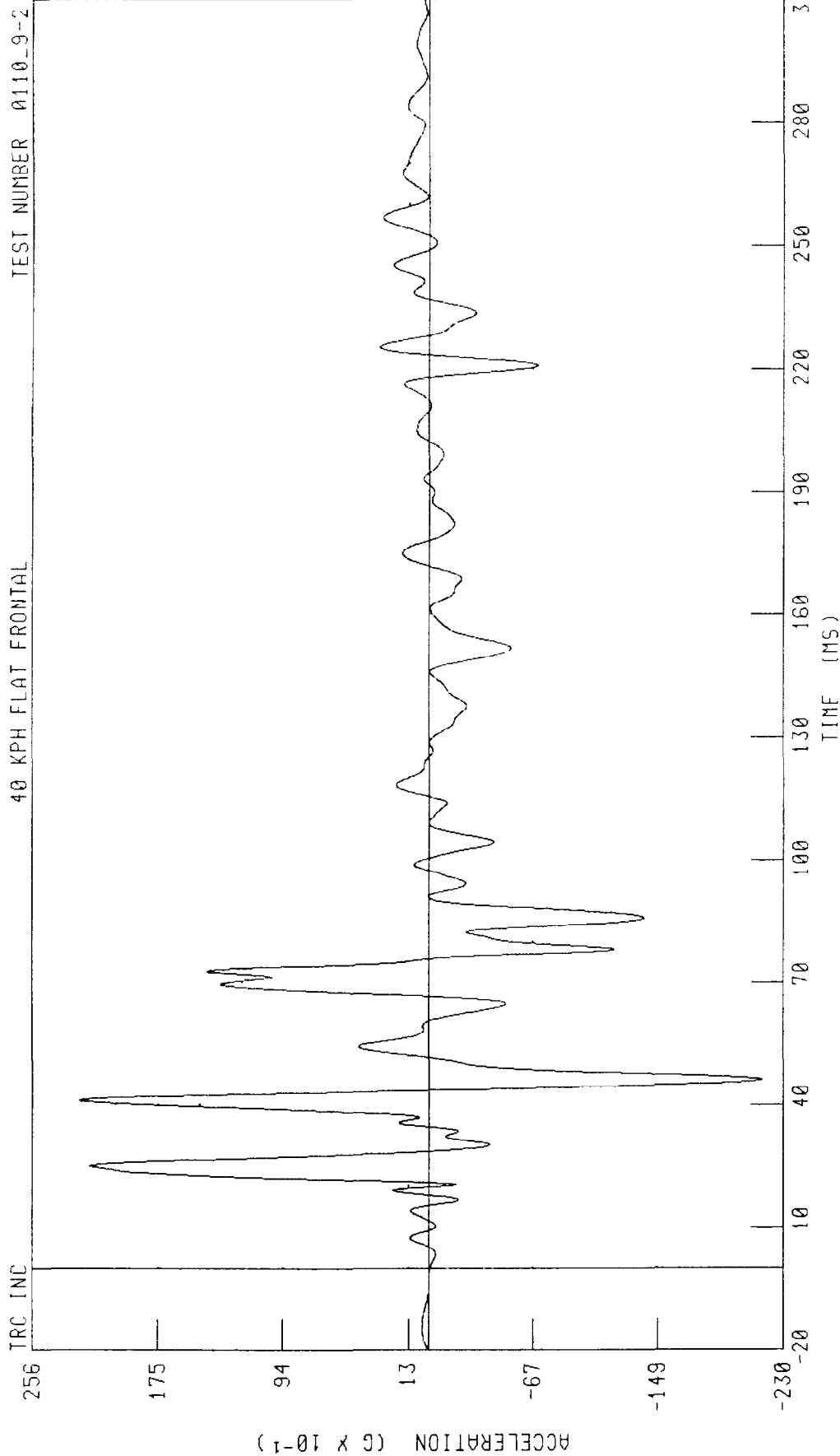


TIME (MS)

PEAK DATA 5 39 0 44 08 MS, -36 25 0 37 20 MS

CHANNEL TPXG1 FILTER LH CLASS 00

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 TOEPAN NEXT TO FOOTREST Z-AXIS ACCELERATION



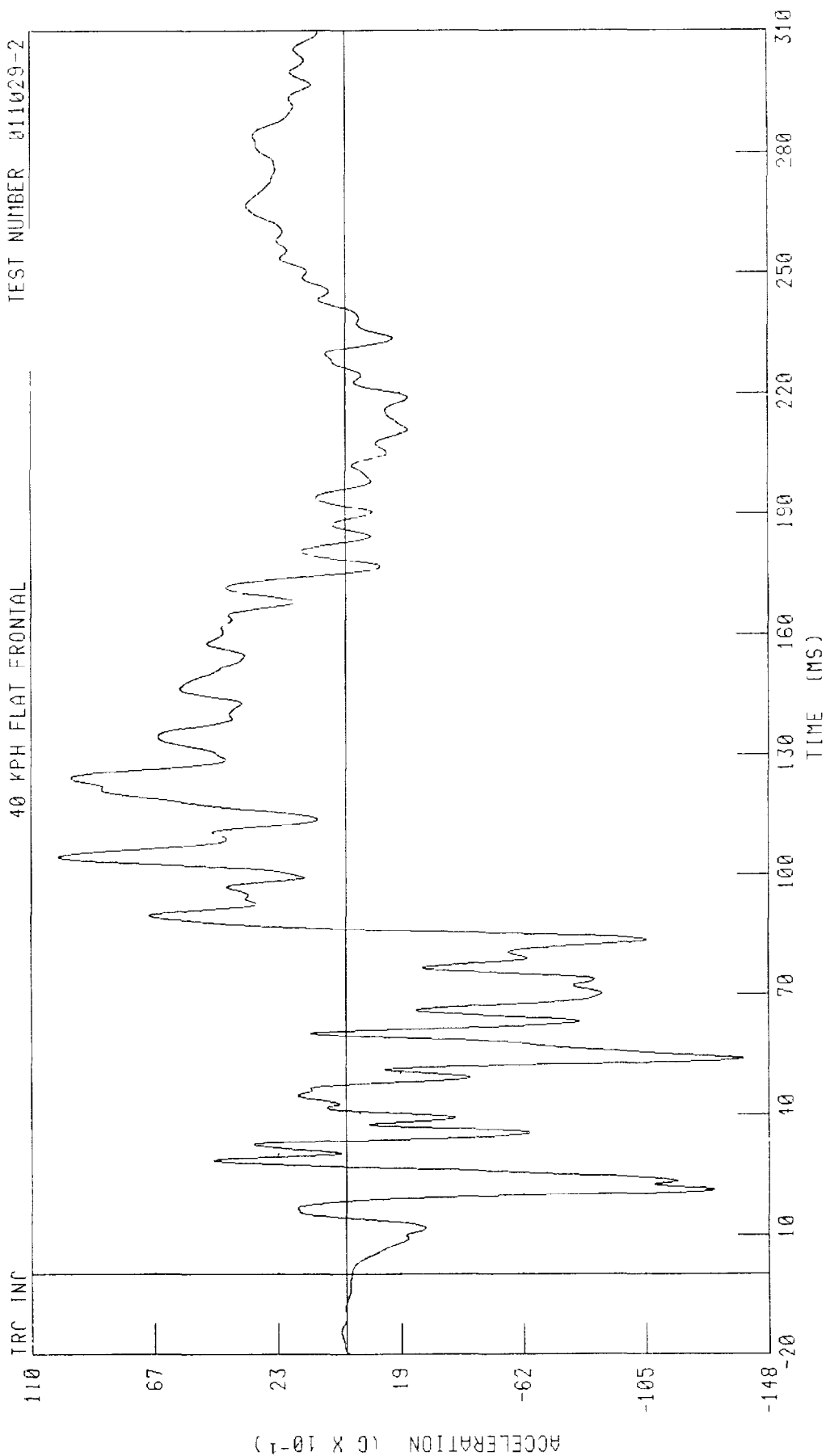
CHANNEL TPFZG1 FILTER CH CLASS 60 PEAK DATA 22 57 G @ 41 20 MS, -21 65 G @ 46 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

REAR DECK Z-AXIS ACCELERATION

40 KPH FLAT FRONTAL

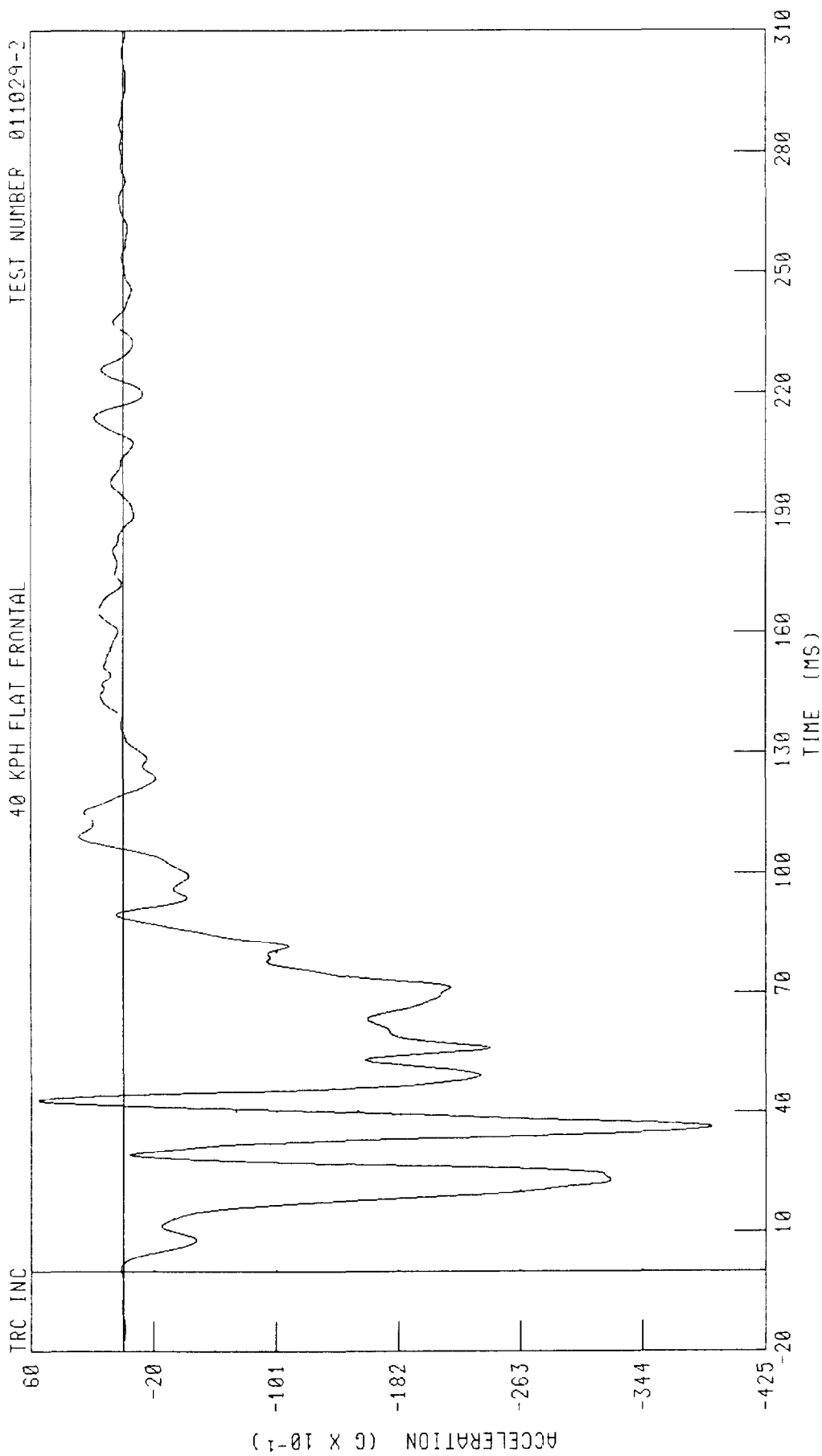
TEST NUMBER 011029-2



PEAK DATA 10 06 0 104 40 MS -13 30 4 0 53 68 MS

CHANNEL RDKZG1 FILTER LH CLASS 60

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH
 REAR COMPARTMENT CENTER X-AXIS ACCELERATION



CHANNEL RDCXG1 FILTER CH CLASS 60

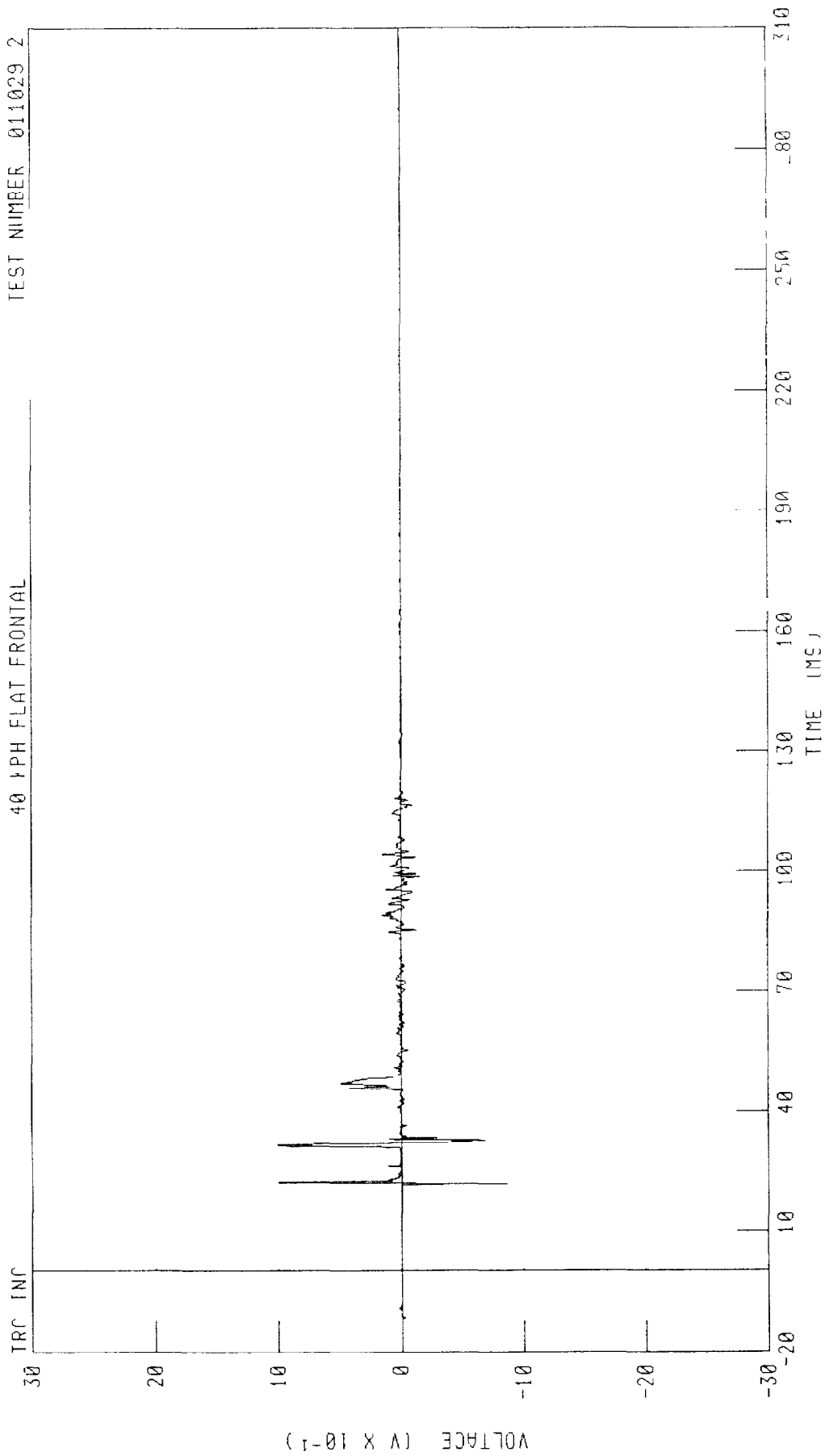
PEAK DATA 5 62 0 42 96 MS, -38 97 0 36 24 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

DRIVER AIRBAG EVENT

40 MPH FLAT FRONTAL

TEST NUMBER 011029 2



CHANNEL DABFT1 FILTER LH CLASS 1000

PEAK DATA 1 00 V 0 24 4 115 -0 07 / 0 21 32 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER AIRBAG EVENT

40 KPH FLAT FRONTAL

TRC INC

TEST NUMBER 011029-2

See Data Acquisition Explanations in Section 2.0

VOLTAGE (V X 10⁻¹)

TIME (MS)

CHANNEL PABET1 FILTER CH CLASS 1000

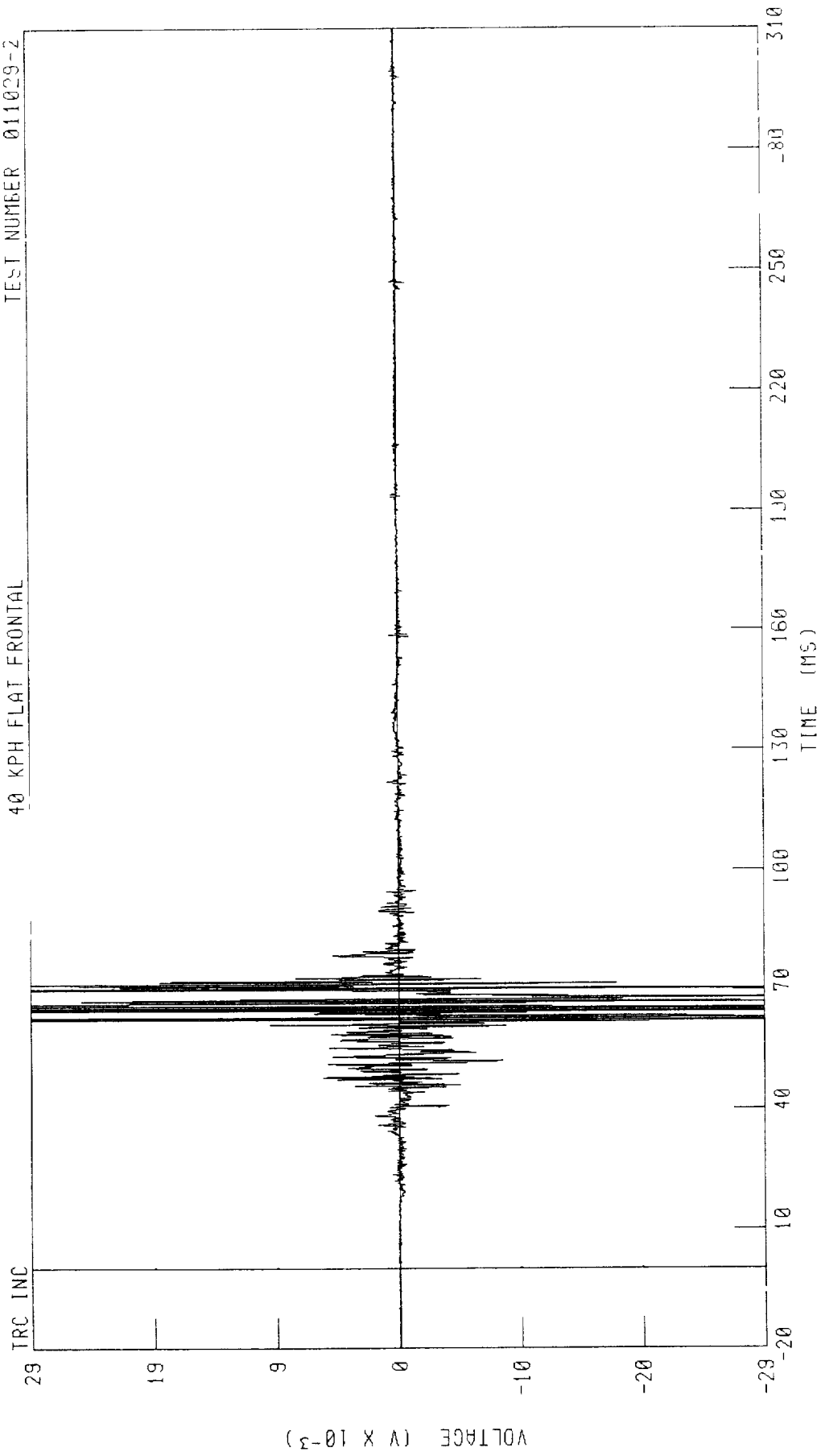
PEAK DATA 0 14 V @ 65 12 MS, -0 16 V @ 62 40 MS

2001 FORD F150 XL INTO FLAT FRONTAL BARRIER AT 40 KPH

PASSENGER AIRBAG EVENT

40 KPH FLAT FRONTAL

TEST NUMBER 011029-2



CHANNEL PABET1 FILTER CH CLASS 1000

PEAK DATA: 14 V @ 65.12 MS, -0.10 V @ 2.41 MS

Appendix C

Dummy Configuration and Performance Verification Data

Pre-Test Dummy Configuration and Performance Verification Data

Driver Dummy S/N· 206

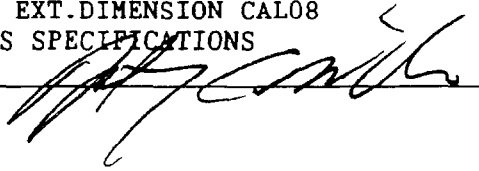
TRANSPORTATION RESEARCH CENTER INC.
HYBRID III EXTERNAL DIMENSIONS

206

25-OCT-01

TRC INC. TEST NO: 206C08ED1 572E SN206 EXT.DIMENSION CAL08

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	993. MM
WAIST CIRCUMFERENCE (Z)		836 - 866 MM	856. MM
CHEST DEPTH (O)		213 - 229 MM	224. MM
H-POINT HEIGHT (C)		84 - 89 MM	86. 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	881. 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	500. MM
FOOT LENGTH (P)		252 - 267 MM	254. MM
FOOT BREADTH (W)		91 - 107 MM	102. MM
SHOULDER PIVOT FROM BACKLINE (E)		84 - 94 MM	89. MM
SHOULDER BREADTH (V)		422 - 437 MM	434. MM
SHOULDER PIVOT HEIGHT (B)		506 - 521 MM	516. MM
ELBOW REST HEIGHT (J)		191 - 211 MM	208. MM
SHOULDER-ELBOW LENGTH (I)		330 - 345 MM	345. MM
BACK OF ELBOW TO WRIST PIVOT (G)		290 - 305 MM	297. MM

572E SN206 EXT.DIMENSION CAL08
DUMMY MEETS SPECIFICATIONS
TECHNICIAN 

RUN NUMBER: 102501.0858

TRANSPORTATION RESEARCH CENTER INC.

HEAD DROP TEST

HYBRID III 50th

23-OCT-01

TRC INC.

TEST NO: 206C08HD1

572E SN206 HEAD DROP CAL 08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PEAK RESULTANT ACCELERATION	225 - 275 G	270.77 G
PEAK LATERAL ACCELERATION	15 G MAX	3.01 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 102301.1311;1

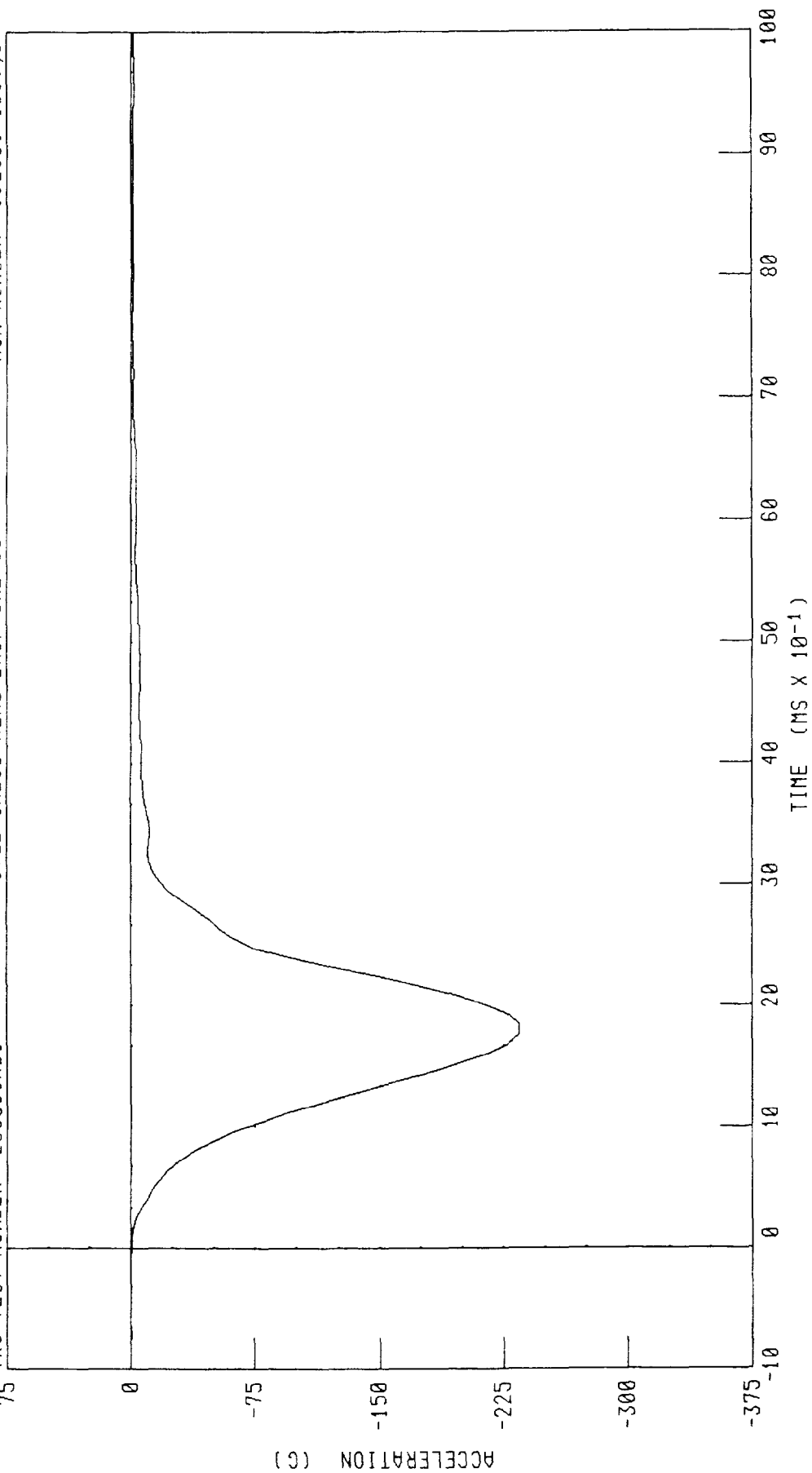
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION X AXIS

TRC TEST NUMBER 206C08HD1

572E SN206 HEAD DROP CAL 08

RUN NUMBER 102301 1311,1



CHANNEL HEDXC FILTER CH CLASS 1000

PEAK DATA 0 06 G 0 -0 48 MS, -234 89 G 0 1 84 MS

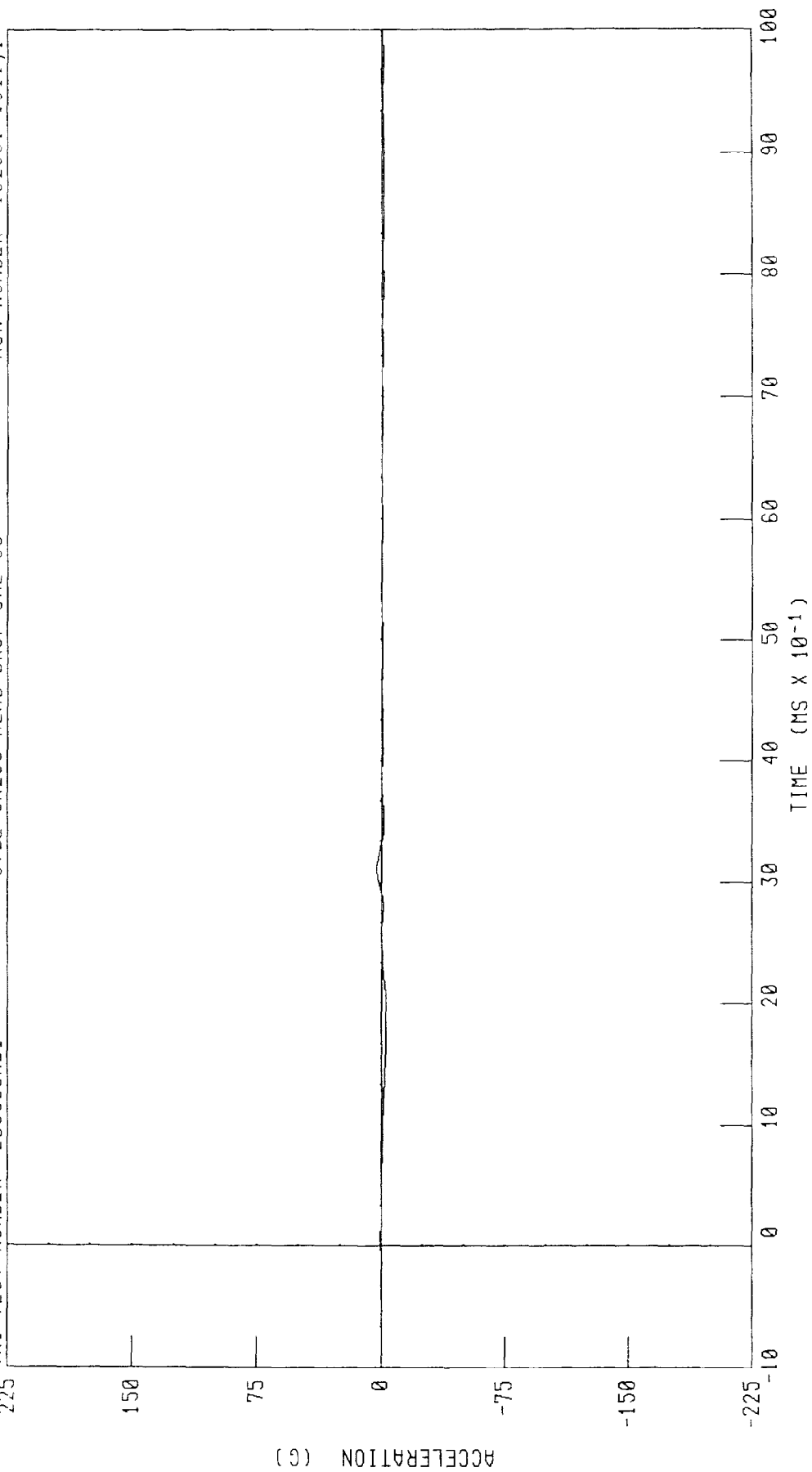
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER 206C08HD1

572E SN206 HEAD DROP CAL 08

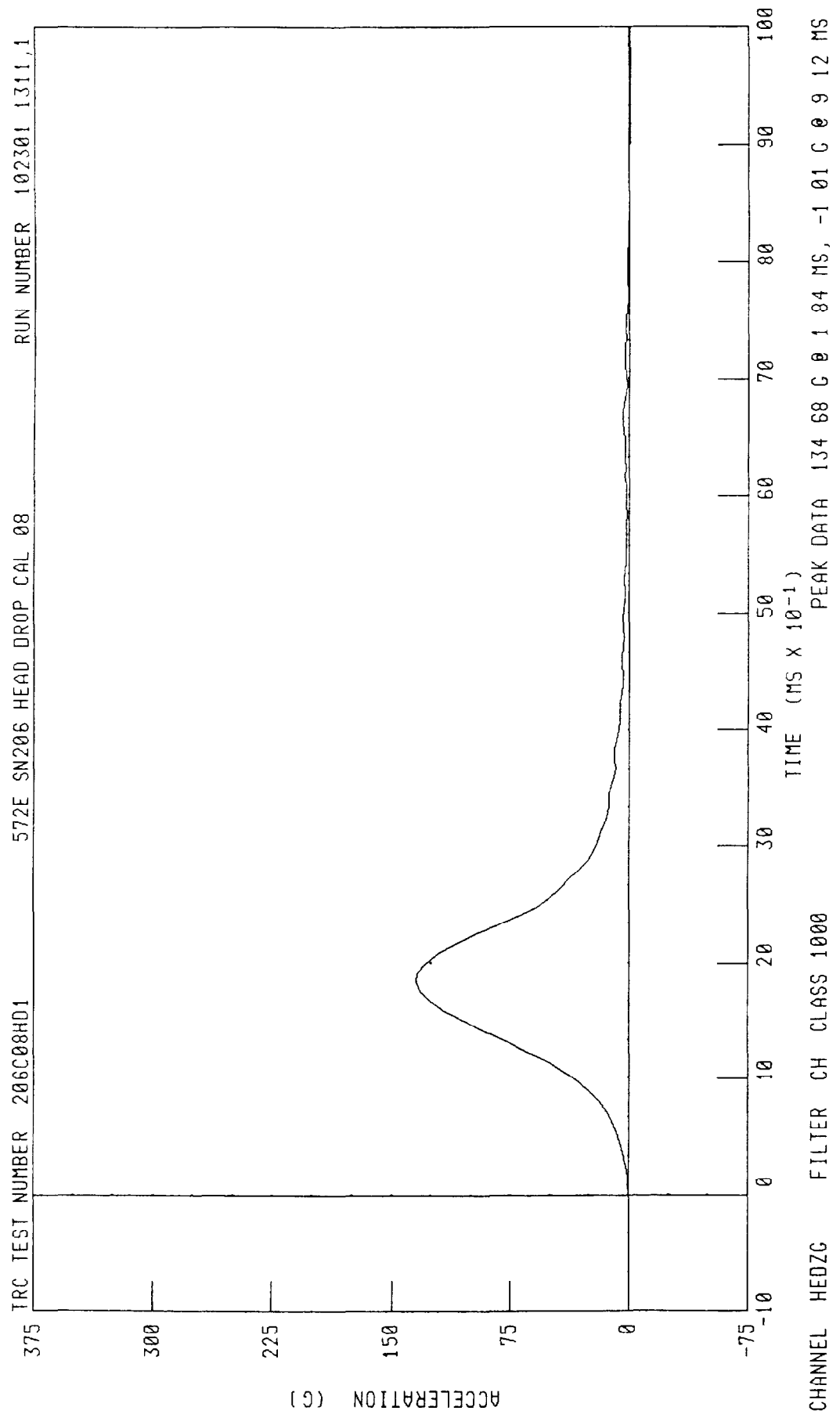
RUN NUMBER 102301 1311,1



CHANNEL HEDYC FILTER CH CLASS 1000

PEAK DATA 3 01 C 0 3 12 MS, -2 87 C 0 1 84 MS

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



CHANNEL HEDZG FILTER CH CLASS 1000

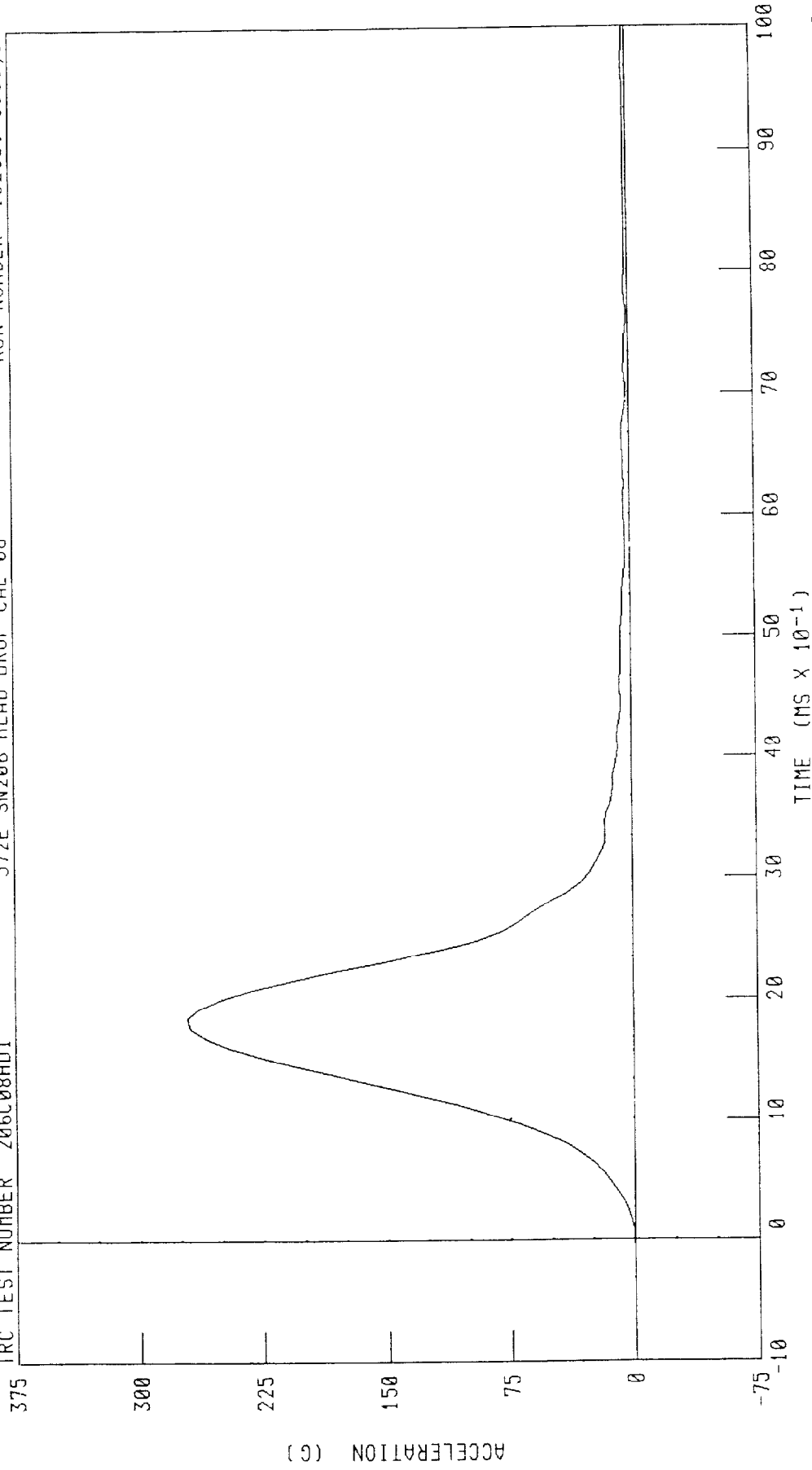
PART 572-E HYBRID III HEAD CALIBRATION

HEAD RESULTANT ACCELERATION

572E SN206 HEAD DROP CAL 08

RUN NUMBER 102301 1311,1

TRC TEST NUMBER 206C08HD1



CHANNEL HEDRG FILTER CH CLASS 1000

PEAK DATA 270 78 G 0 1 84 MS, 0 03 G 0 -0 96 MS

TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

24-OCT-01

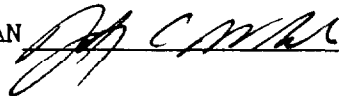
NECK FLEXION TEST - 6 CHANNEL TRANSDUCER

TRC INC. TEST NO: 206C08NF1 572E SN206 NECK FLEXION CAL08

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6-22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	60.0 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.93 M/S
PENDULUM DECELERATION	10 MS	22.50 - 27.50 G	24.67 G
	20 MS	17.60 - 22.60 G	21.53 G
	30 MS	12.50 - 18.50 G	18.44 G
MAX PENDULUM G		29 G MAX	25.46 G
MAX PENDULUM G ABOVE 30 MS		29 G MAX	18.35 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		34 - 42 MS	37.76 MS
D PLANE	MAX	64 - 78 DEG.	73.70 DEG.
ROTATION	TIME	57 - 64 MS	60.16 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MAX	88.2 - 108.5 NM	98.38 NM
	TIME	47 - 58 MS	50.96 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		113 - 128 MS	121.68 MS
POSITIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		97 - 107 MS	103.60 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 102401.1105;2

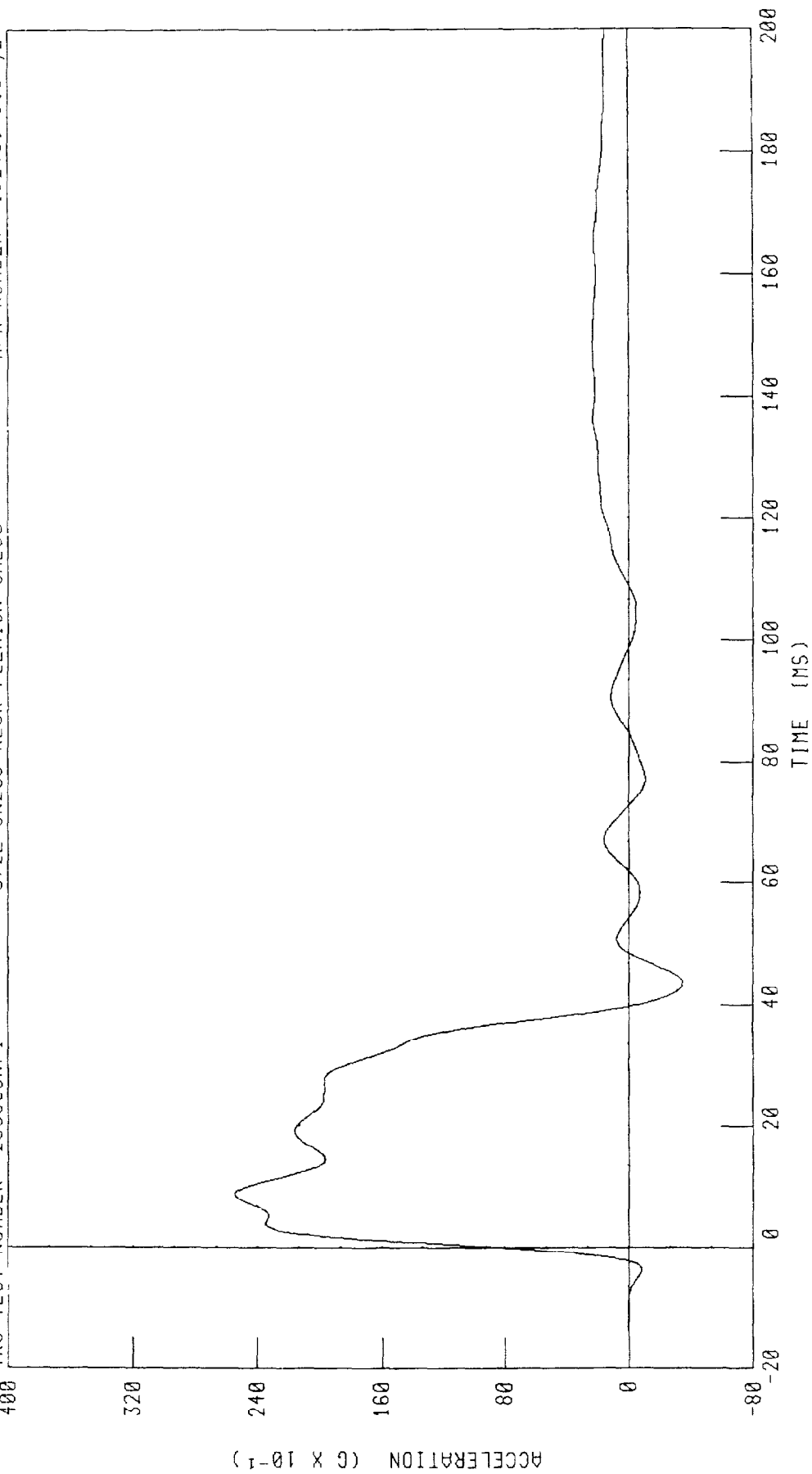
PART 572-E HYBRID III NECK FLEXION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 206C08NF1

572E SN206 NECK FLEXION CAL08

RUN NUMBER 102401 1106,2



CHANNEL PENXC FILTER CH CLASS 60

PEAK DATA 25 46 G 8 72 MS, -3 50 G 0 43 52 MS

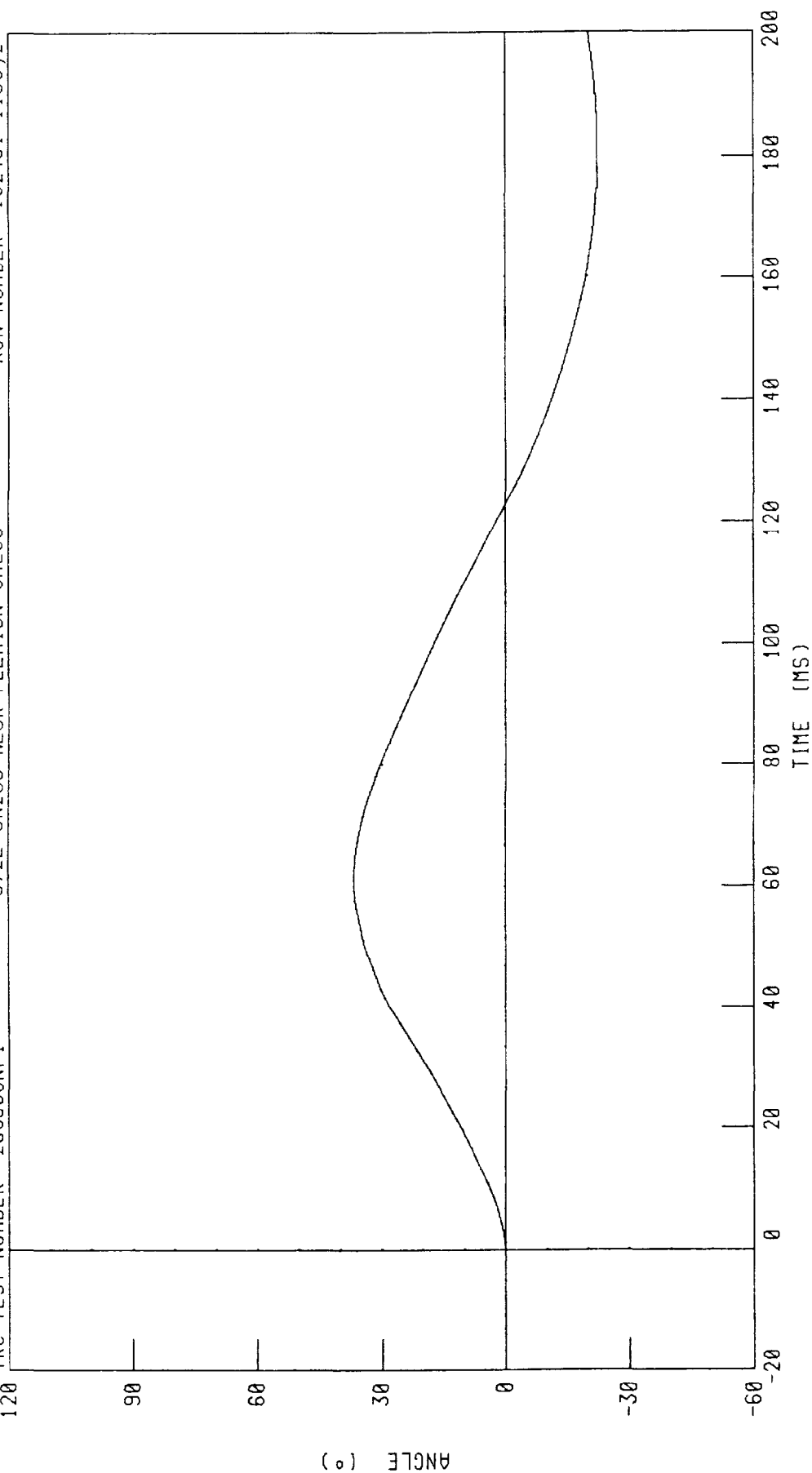
PART 572-E HYBRID III NECK FLEXION CALIBRATION

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER 206C08NF1

572E SN206 NECK FLEXION CAL08

RUN NUMBER 102401 1106,2



CHANNEL BETA FILTER CH CLASS 60

PEAK DATA 36 68 ° 0 61 12 MS, -22 48 ° 0 181 28 MS

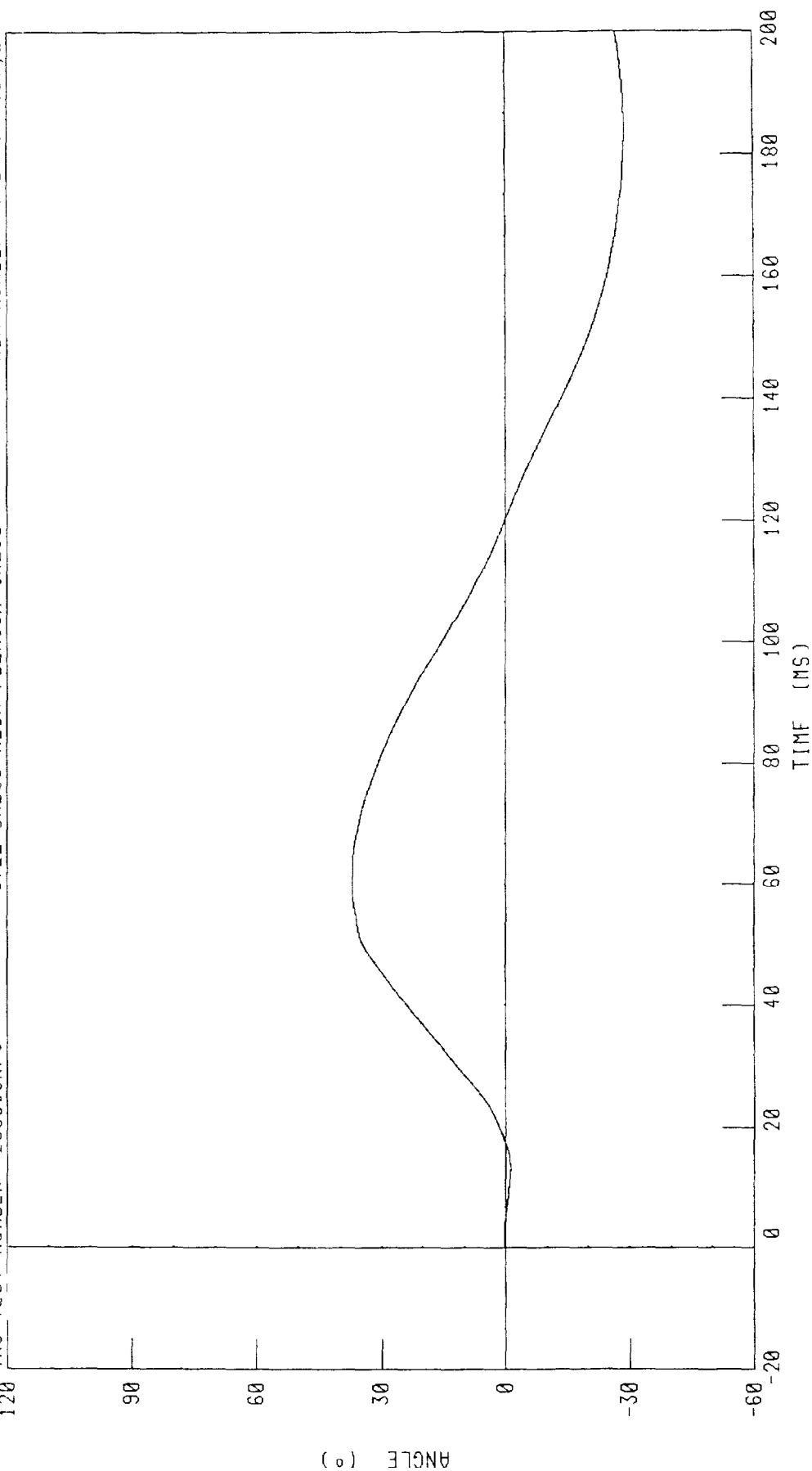
PART 572-E HYBRID I/II NECK FLEXION CALIBRATION

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 206C08NF1

572E SN206 NECK FLEXION CAL08

RUN NUMBER 102401 1106,2

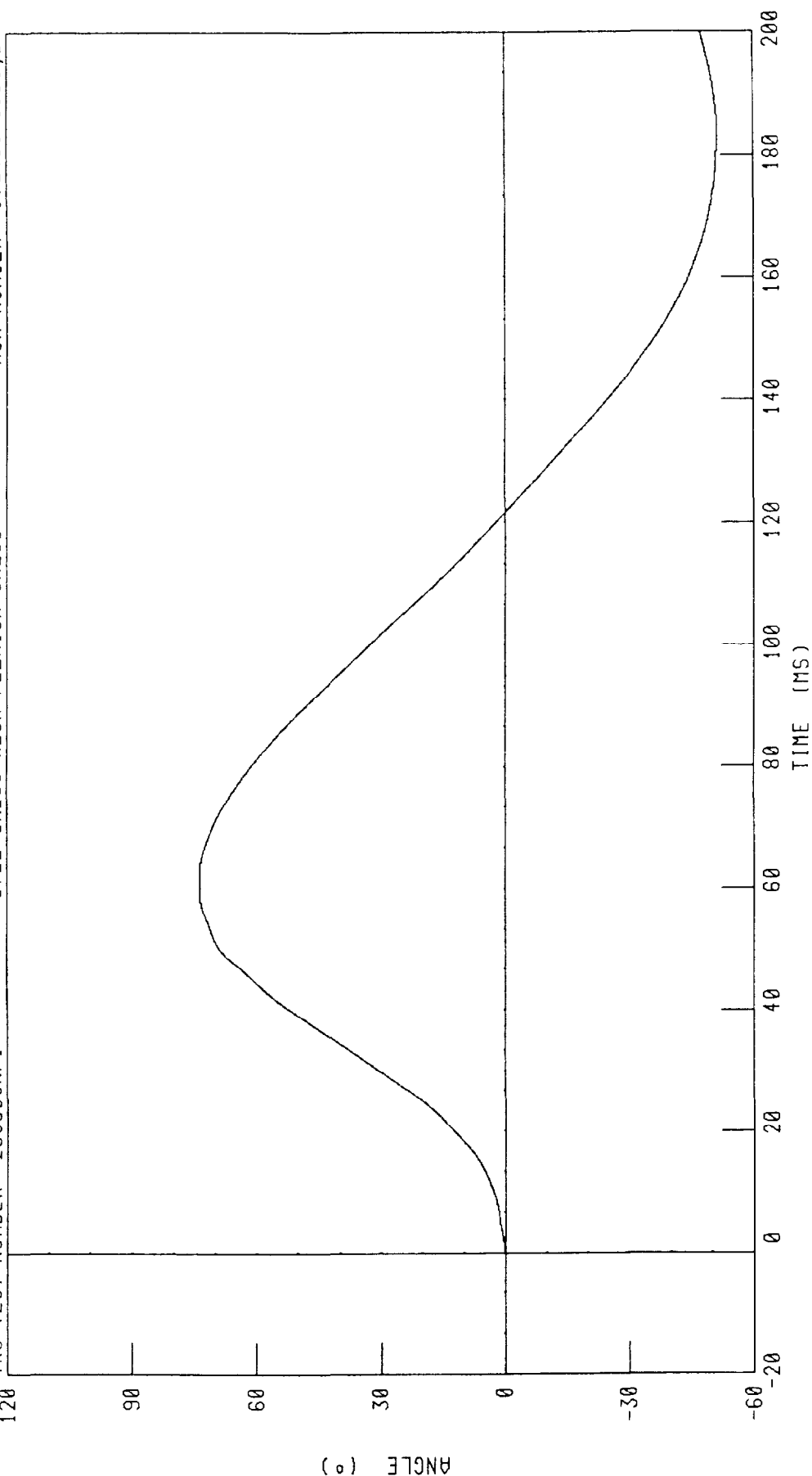


CHANNEL THETA FILTER CH CLASS 60 PEAK DATA 37 06 ° 0 59 20 MS, -28 99 ° 0 184 40 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL ROTATION

TRC TEST NUMBER 206C08NF1 572E SN206 NECK FLEXION CAL08 RUN NUMBER 102401 1106,2



CHANNEL TOTAL FILTER CH CLASS 60 PEAK DATA 73 71 ° @ 60 16 MS, -51 43 ° @ 183 76 MS

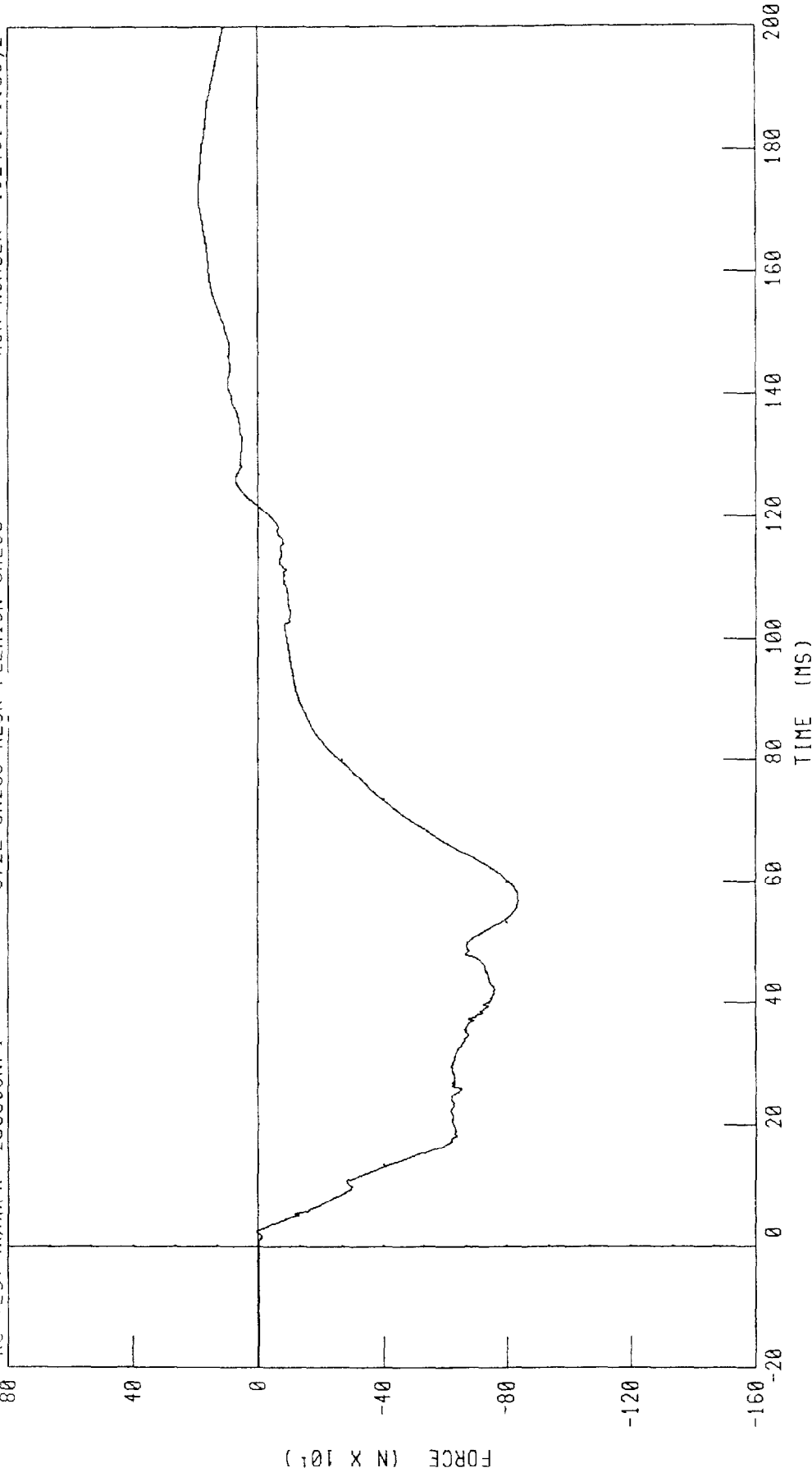
PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK FORCE X AXIS

TRC TEST NUMRFR 206C08NF1

572E SN206 NECK FLEXION CAL08

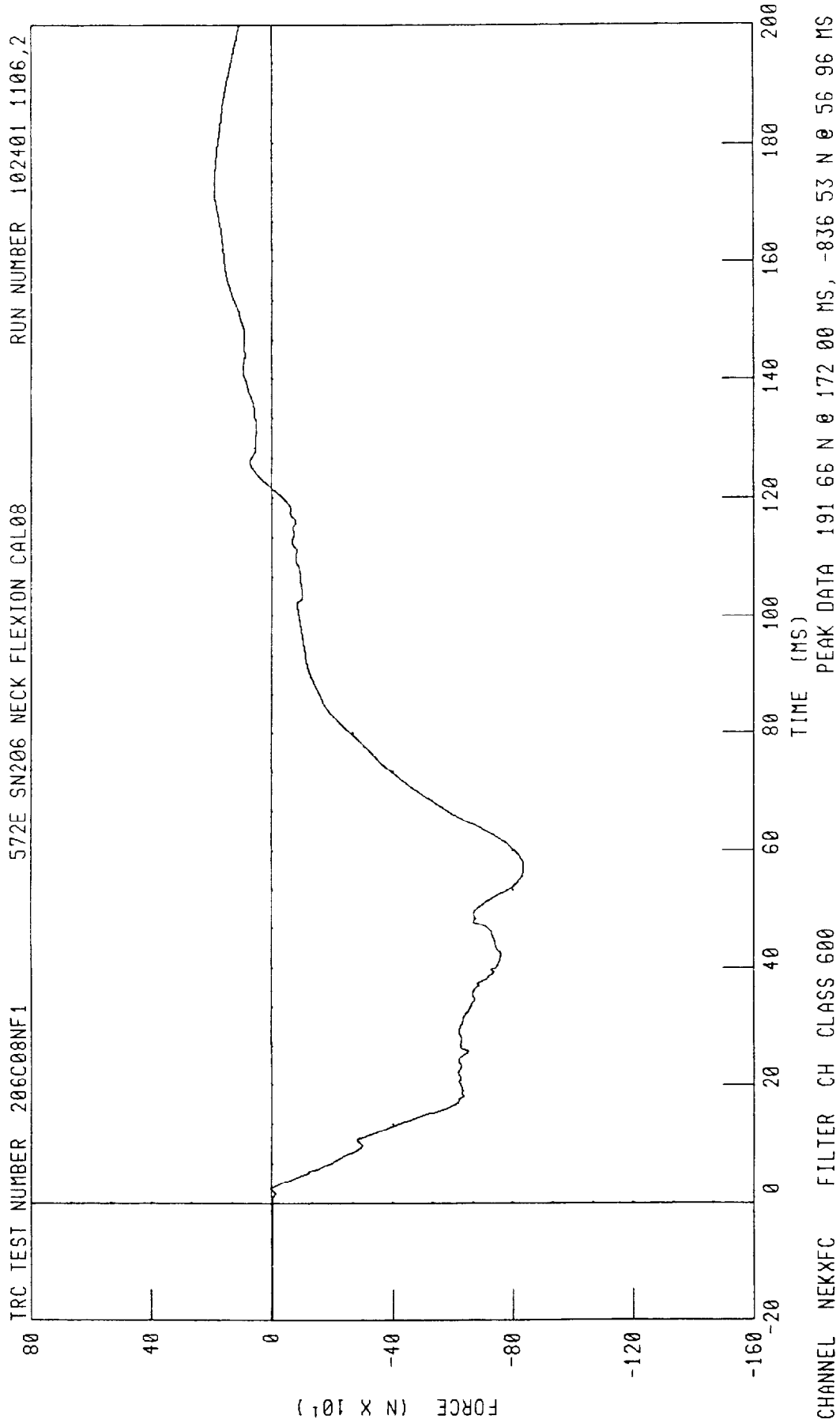
RUN NUMBER 102401 1106,2



PEAK DATA 191 94 N @ 172 00 MS, -836 79 N @ 56 80 MS

CHANNEL NEKXF FILTER CH CLASS 1000

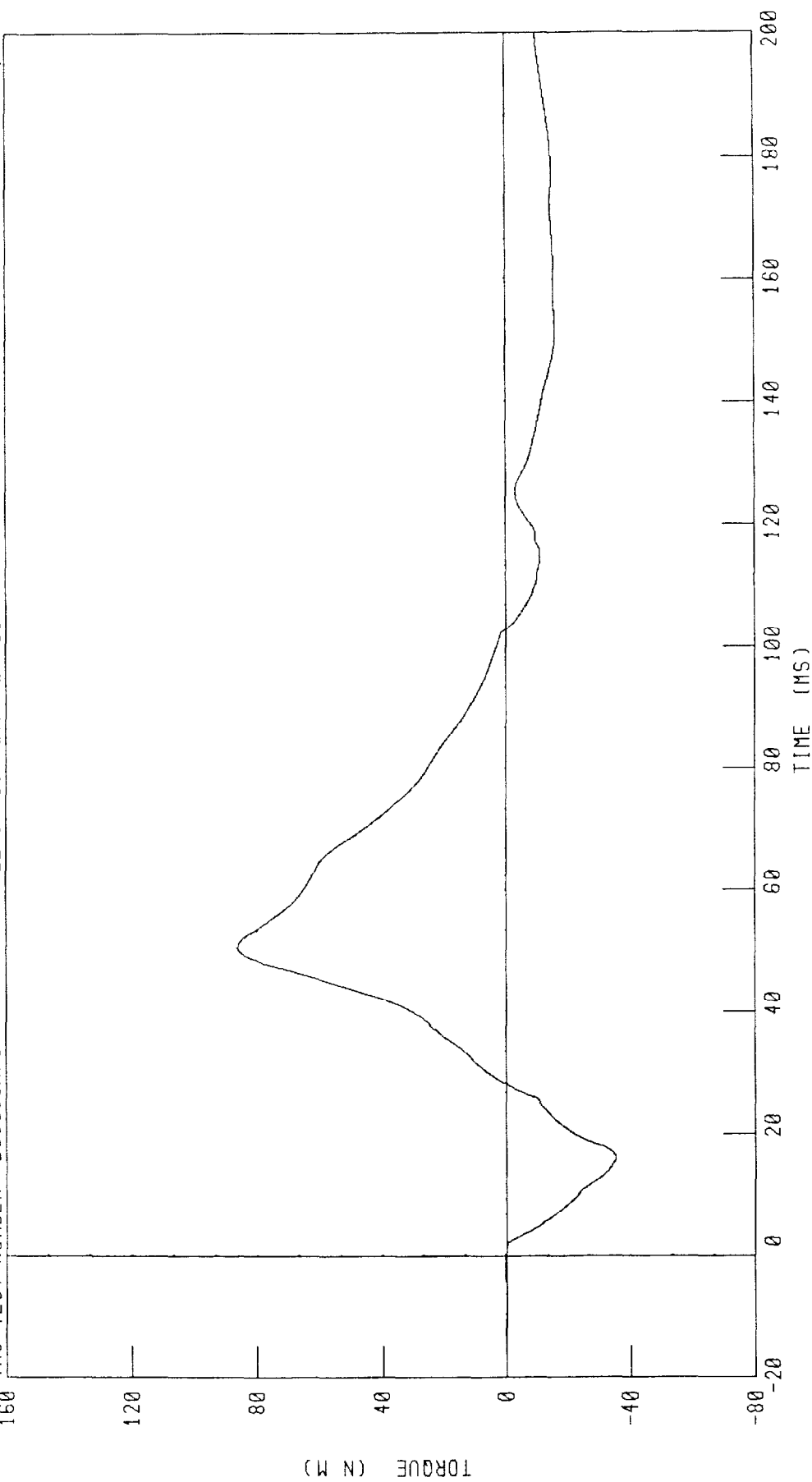
PART 572-E HYBRID III NECK FLEXION CALIBRATION
NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION



PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK MOMENT Y AXIS

TRC TEST NUMBER 206C08NF1 572E SN206 NECK FLEXION CAL08 RUN NUMBER 102401 1106,2



CHANNEL NEKYM FILTER CH CLASS 600

PEAK DATA 86 08 N M @ 50 56 MS, -35 37 N M @ 16 16 MS

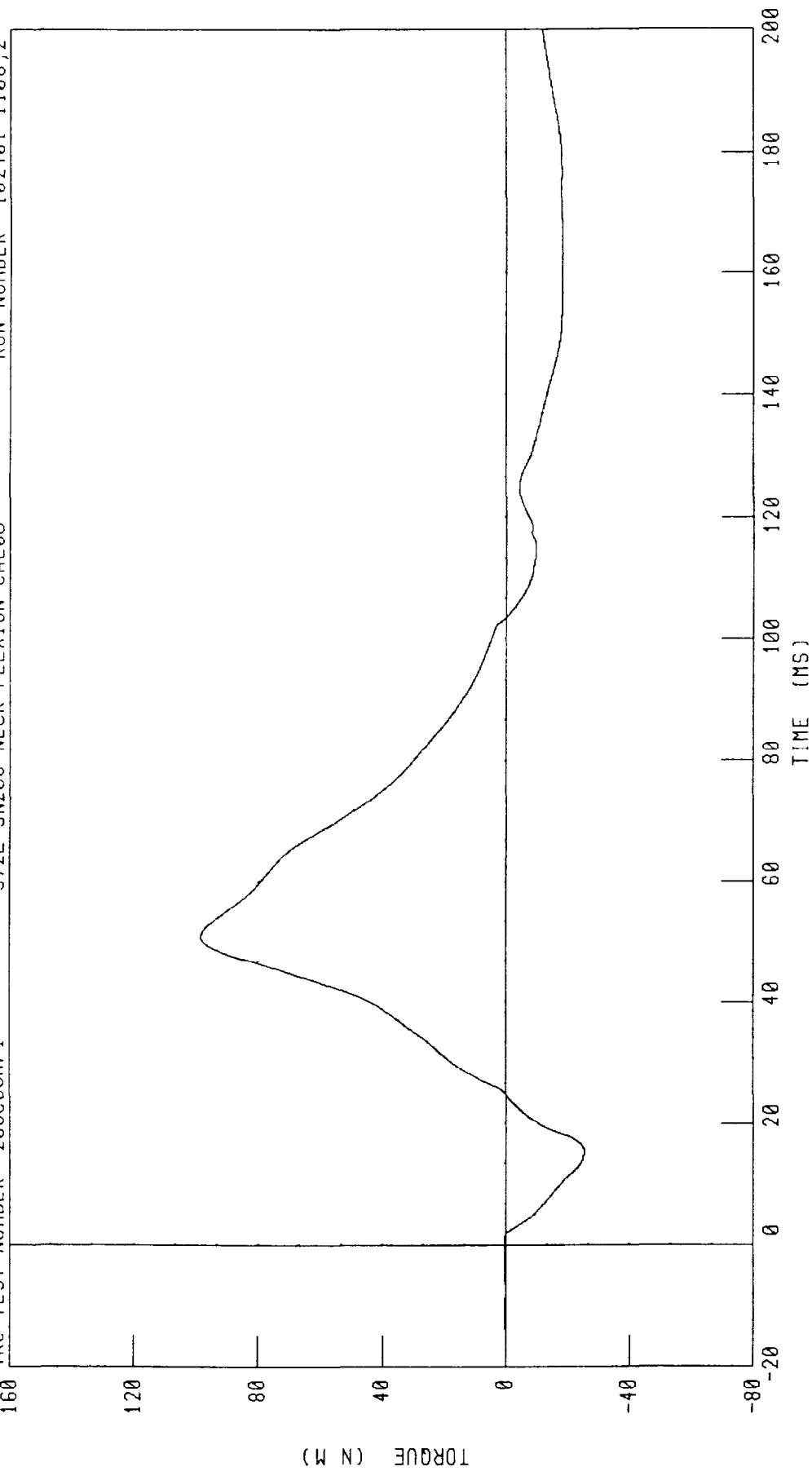
PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 206C08NF1

572E SN206 NECK FLEXION CAL08

RUN NUMBER 102401 1106,2



CHANNEL NEKOM FILTER CH CLASS 600

PEAK DATA 98 38 N M @ 50 96 MS, -25 50 N M @ 15 36 MS

TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

24-OCT-01

NECK EXTENSION TEST - 6 CHANNEL TRANSDUCER

TRC INC. TEST NO: 206C08NE1 572E SN206 NECK EXT CAL08

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	61.0 %
IMPACT VELOCITY		5.95 - 6.19 M/S	6.00 M/S
PENDULUM DECELERATION	10 MS	17.20 - 21.20 G	18.30 G
	20 MS	14.00 - 19.00 G	17.81 G
	30 MS	11.00 - 16.00 G	15.58 G
MAX PENDULUM G		22 G MAX	18.44 G
MAX PENDULUM G ABOVE 30 MS		22 G MAX	15.56 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		38 - 46 MS	41.60 MS
D PLANE	MAX	81 - 106 DEG.	99.35 DEG.
ROTATION	TIME	72 - 82 MS	79.52 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MIN	-80.0/-52.9 NM	-67.86 NM
	TIME	65 - 79 MS	74.00 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		147 - 174 MS	160.64 MS
NEGATIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		120 - 148 MS	146.88 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

RUN NUMBER: 102401.1225;1

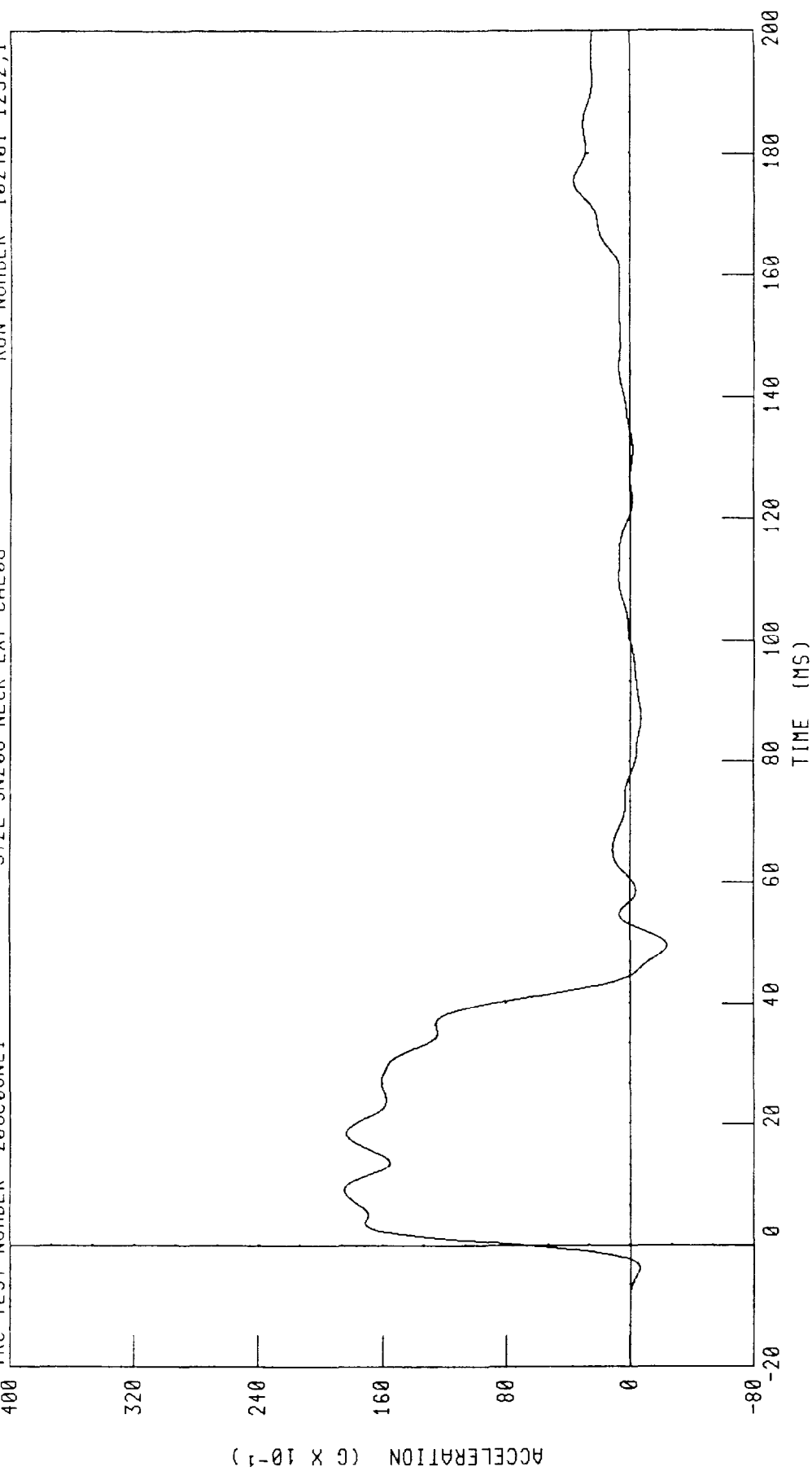
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 206C08NE1

572E SN206 NECK EXT CAL08

RUN NUMBER 102401 1232,1



CHANNEL PENXC FILTER CH CLASS 60

PEAK DATA 18 45 C 0 9 28 MS, -2 38 C 0 49 60 MS

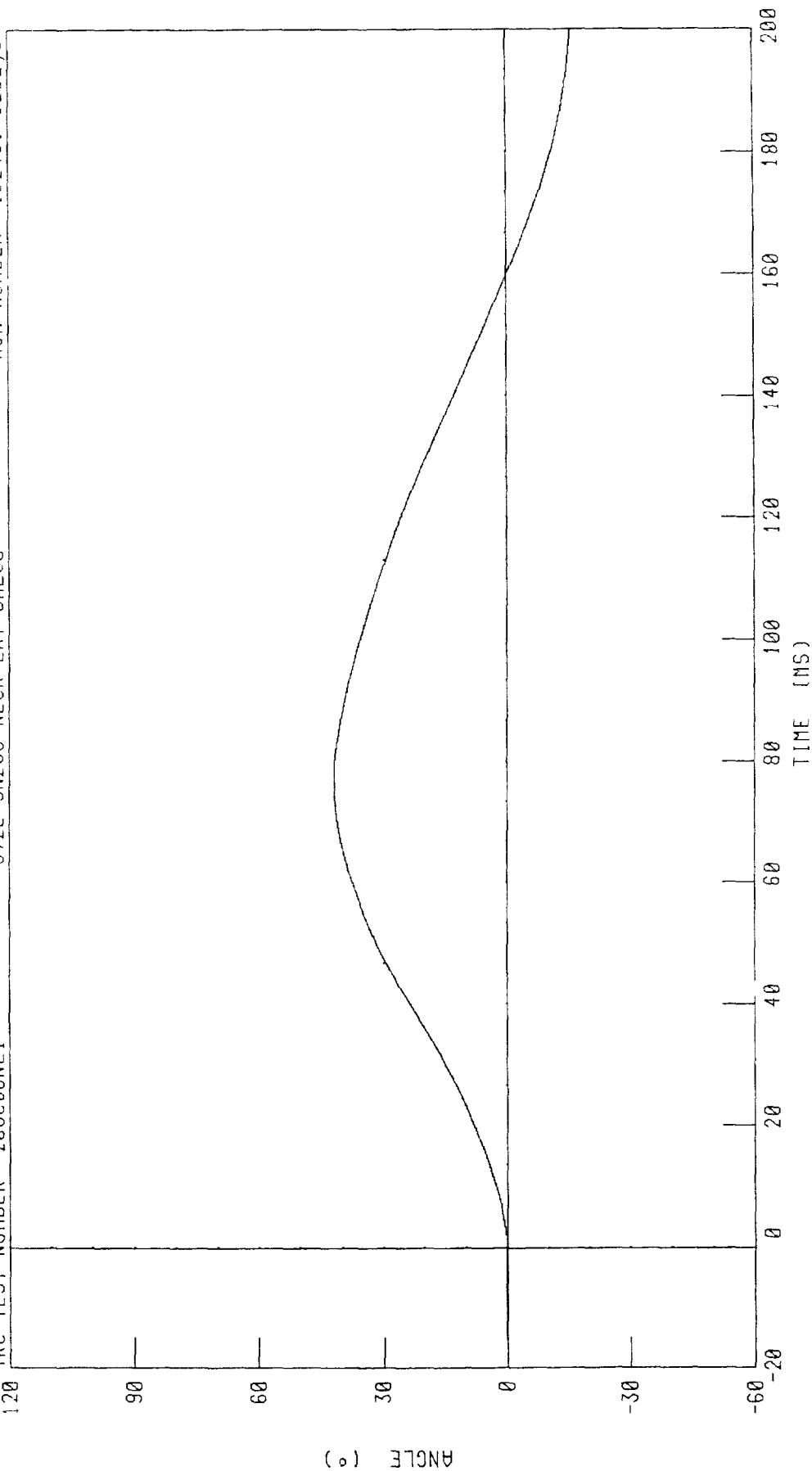
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER 206C08NE1

572E SN206 NECK EXT CAL08

RUN NUMBER 102401 1232,1



CHANNEL BETA

FILTER CH CLASS 60

PEAK DATA

41 79 ° @ 77 44 MS, -15 97 ° @ 200 00 MS

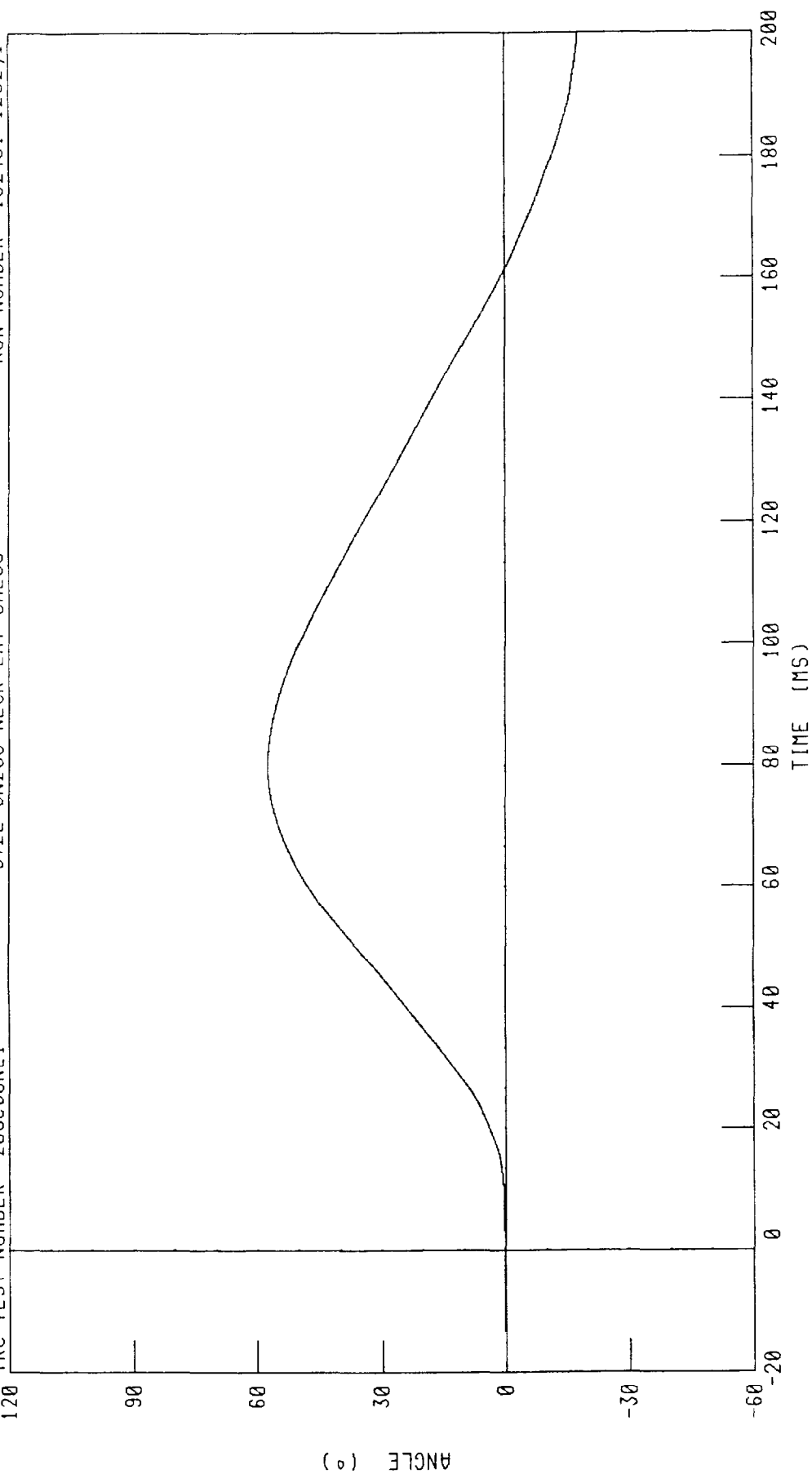
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 206C08NE1

572E SN206 NECK EXT CAL08

RUN NUMBER 102401 1232,1



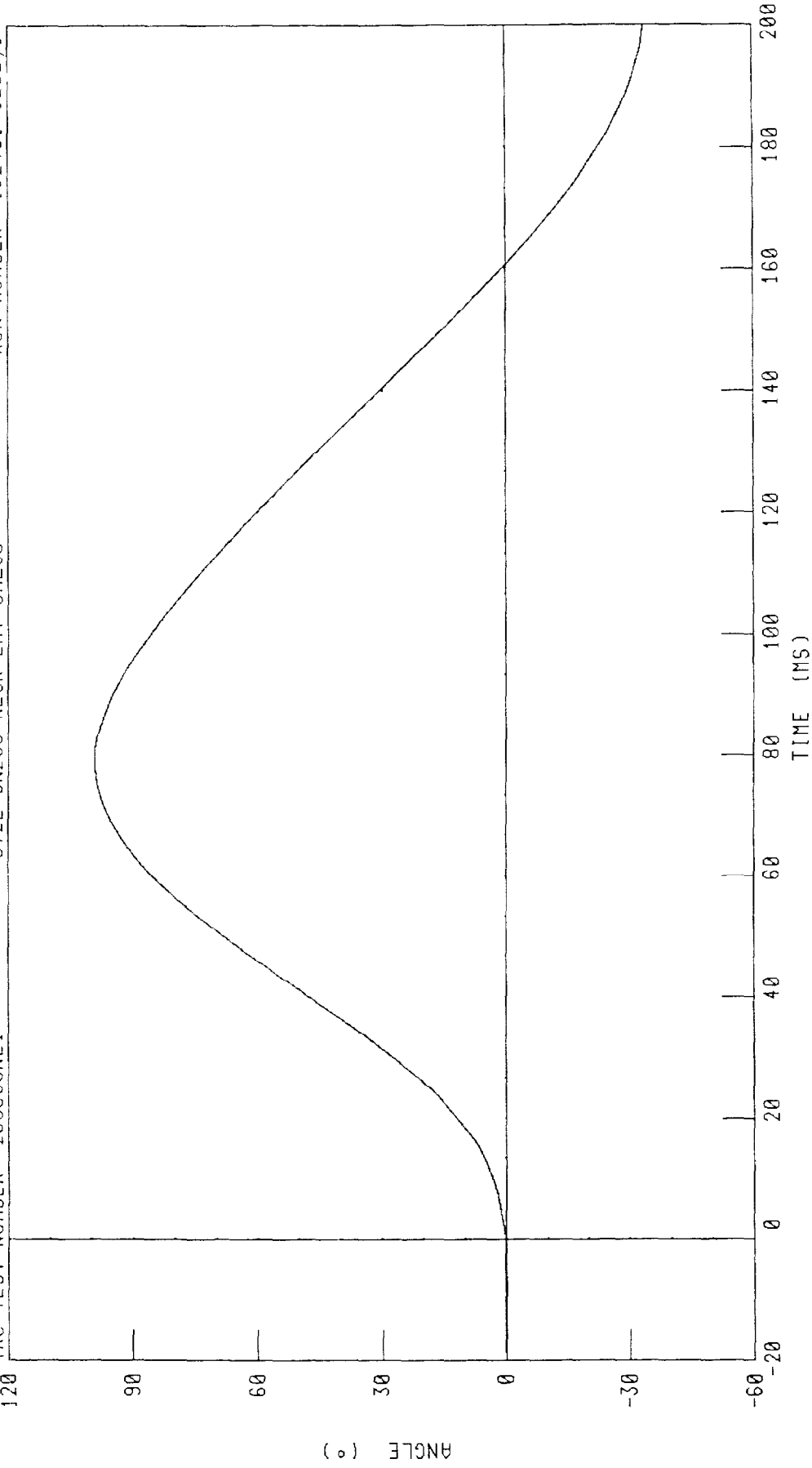
CHANNEL THETA FILTER CH CLASS 60

PEAK DATA 57 61 ° @ 80 16 MS, -17 88 ° @ 200 00 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

TOTAL ROTATION

TRC TEST NUMBER 206C08NE1 572E SN206 NECK EXT CAL08 RUN NUMBER 102401 1232,1

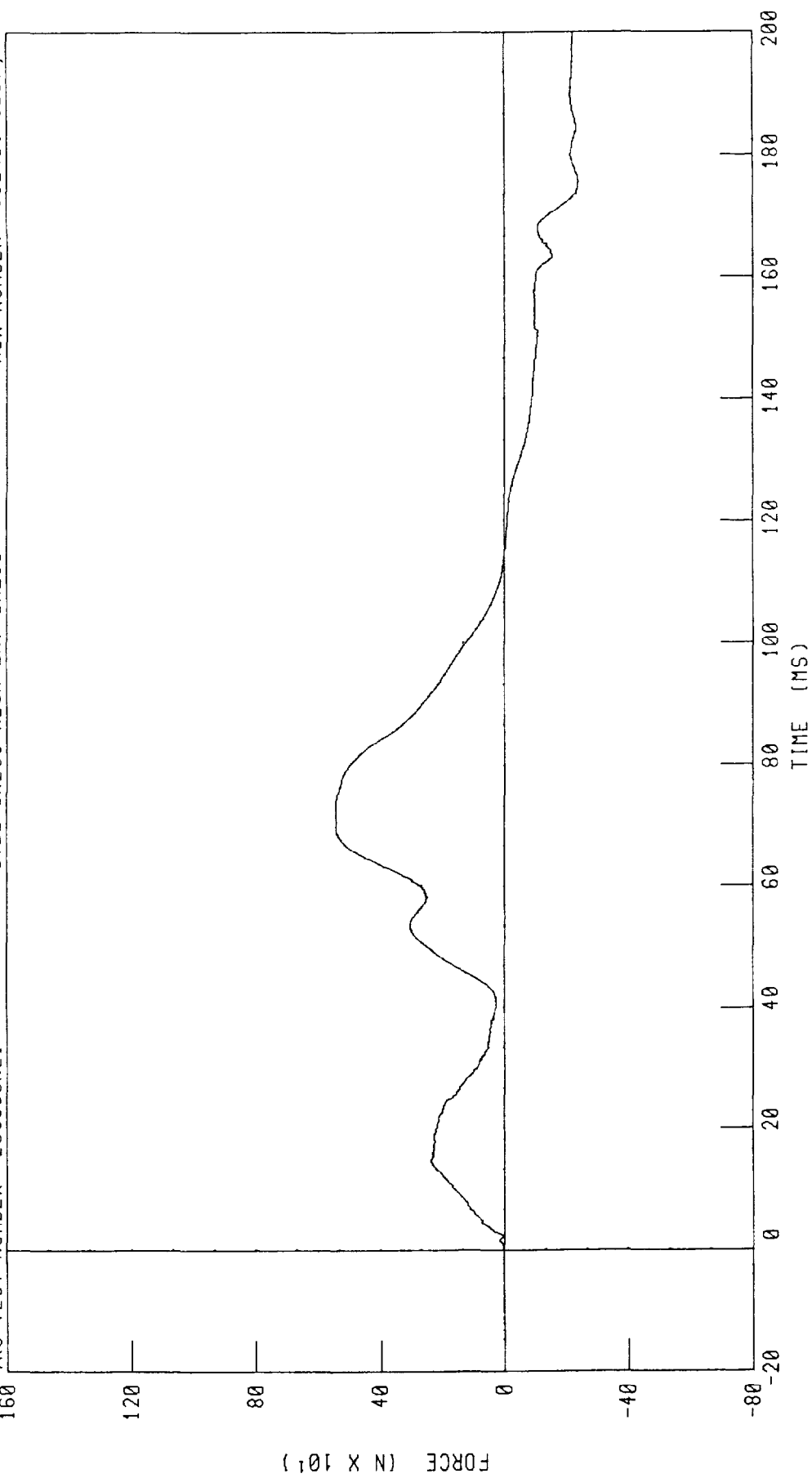


CHANNEL TOTAL FILTER CH CLASS 60 PEAK DATA 99 36 ° 0 79 52 MS, -33 86 ° 0 200 00 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK FORCE X AXIS

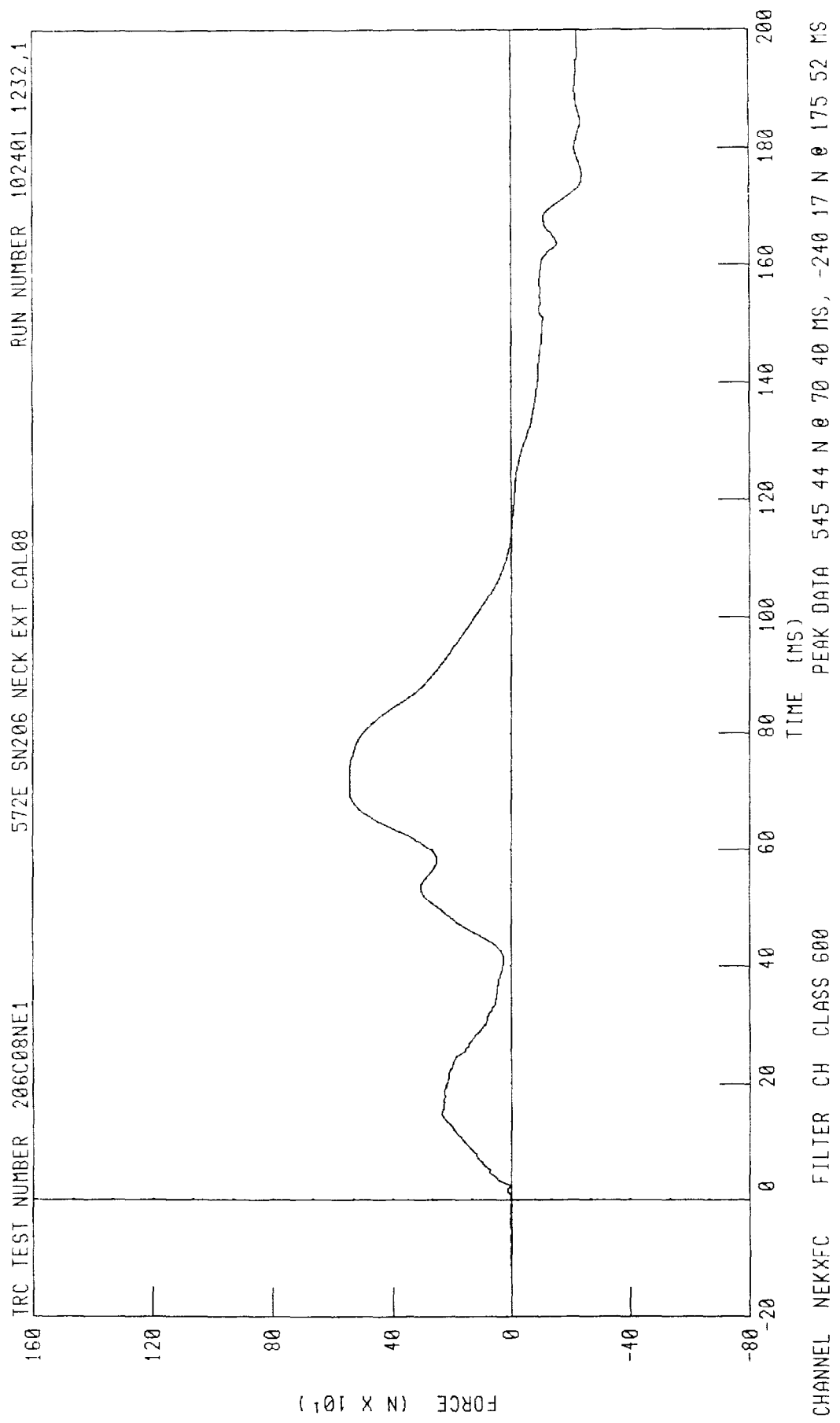
TRC TEST NUMBER 206C08NE1 572E SN206 NECK EXT CAL08 RUN NUMBER 102401 1232,1



CHANNEL NEKXF FILTER CH CLASS 1000

PEAK DATA 545 87 N @ 70 24 MS, -240 62 N @ 175 44 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION



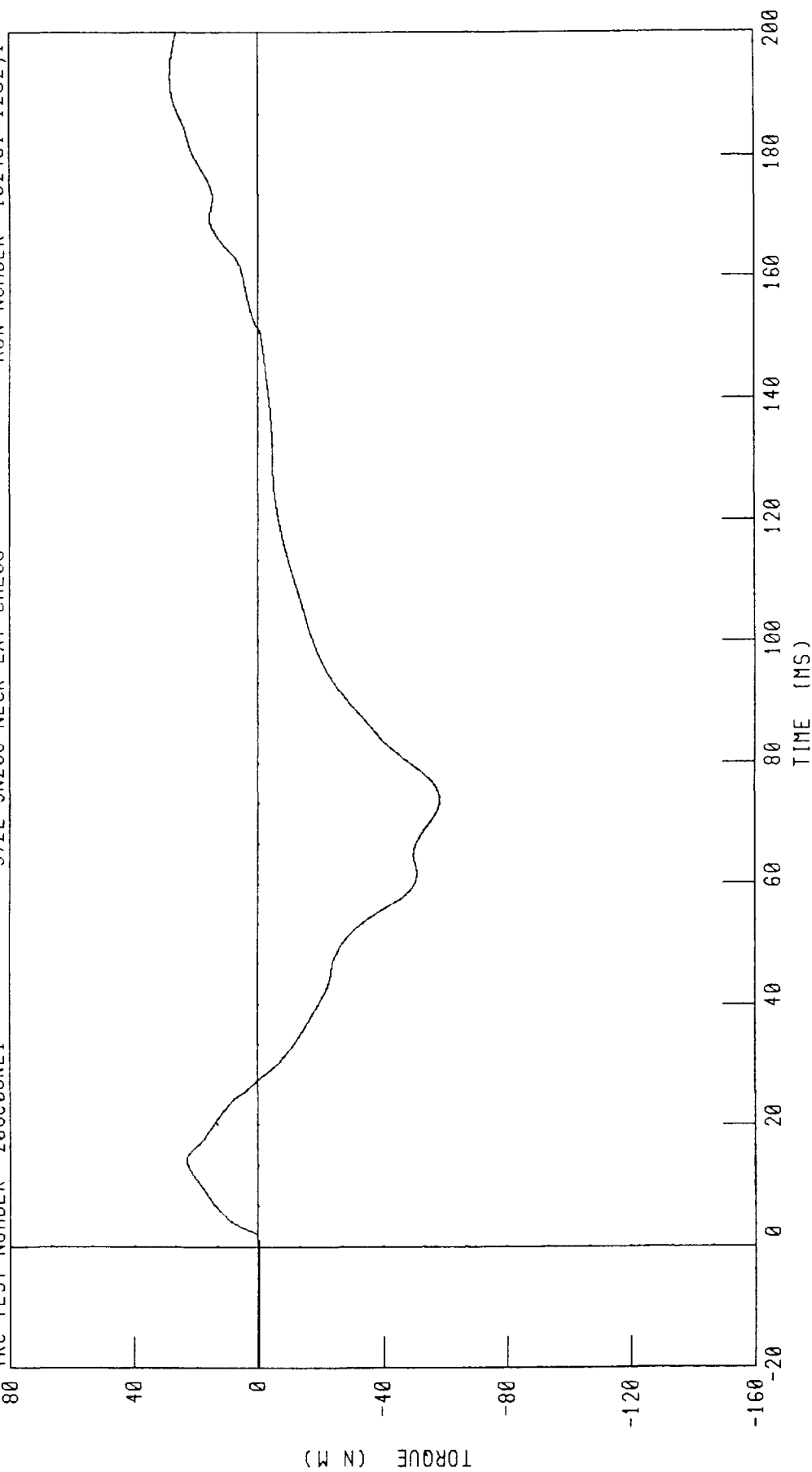
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK MOMENT Y AXIS

TRC TEST NUMBER 206C08NE1

572E SN206 NECK EXT CAL08

RUN NUMBER 102401 1232,1



TIME (MS)

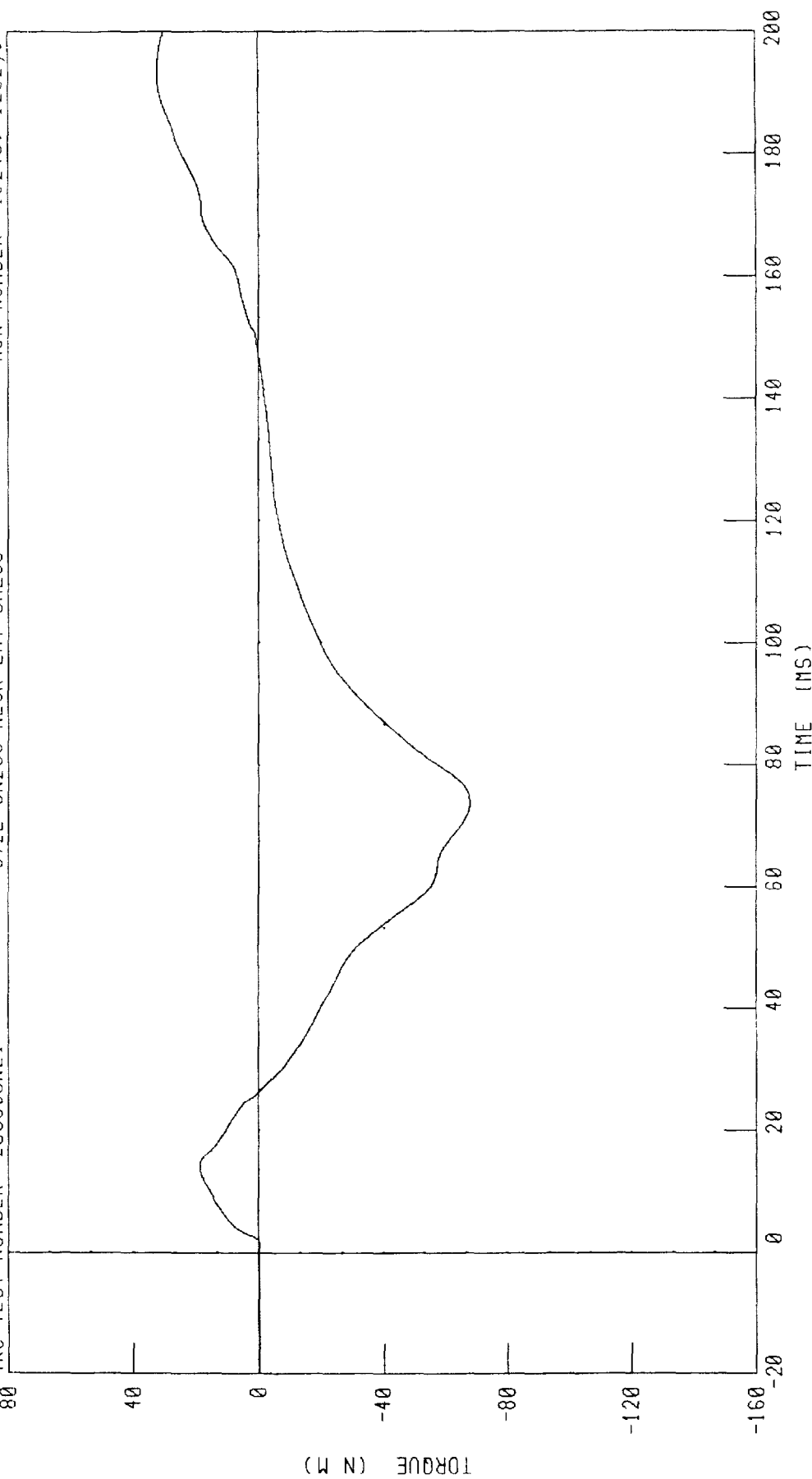
CHANNEL NEKYM FILTER CH CLASS 600

PEAK DATA 28 45 N M 192 72 MS, -58 21 N M 173 92 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 206C08NE1 572E SN206 NECK EXT CAL08 RUN NUMBER 102401 1232,1



PEAK DATA 32 37 N M @ 193 92 MS, -67 86 N M @ 74 00 MS

CHANNEL NEKOM FILTER CH CLASS 600

TRANSPORTATION RESEARCH CENTER INC.

THORAX IMPACT TEST

HYBRID III 50th

24-OCT-01

TRC INC.

TEST NO: 206C08TH1

572E SN206 H.S.THORAX CAL08

TEST PARAMETER	HIGH SPEED TEST	TEST RESULTS
	SPECIFICATION	
TEMPERATURE	20.6-22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	62.0 %
PENDULUM VELOCITY	6.59 - 6.83 M/S	6.59 M/S
MAXIMUM DEFLECTION	63.5 - 72.6 MM	65.3 MM
MAXIMUM RESISTIVE FORCE	5159 - 5894 N	5778. N
INTERNAL HYSTERESIS	69% - 85%	71.7%

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 102401.1453;1

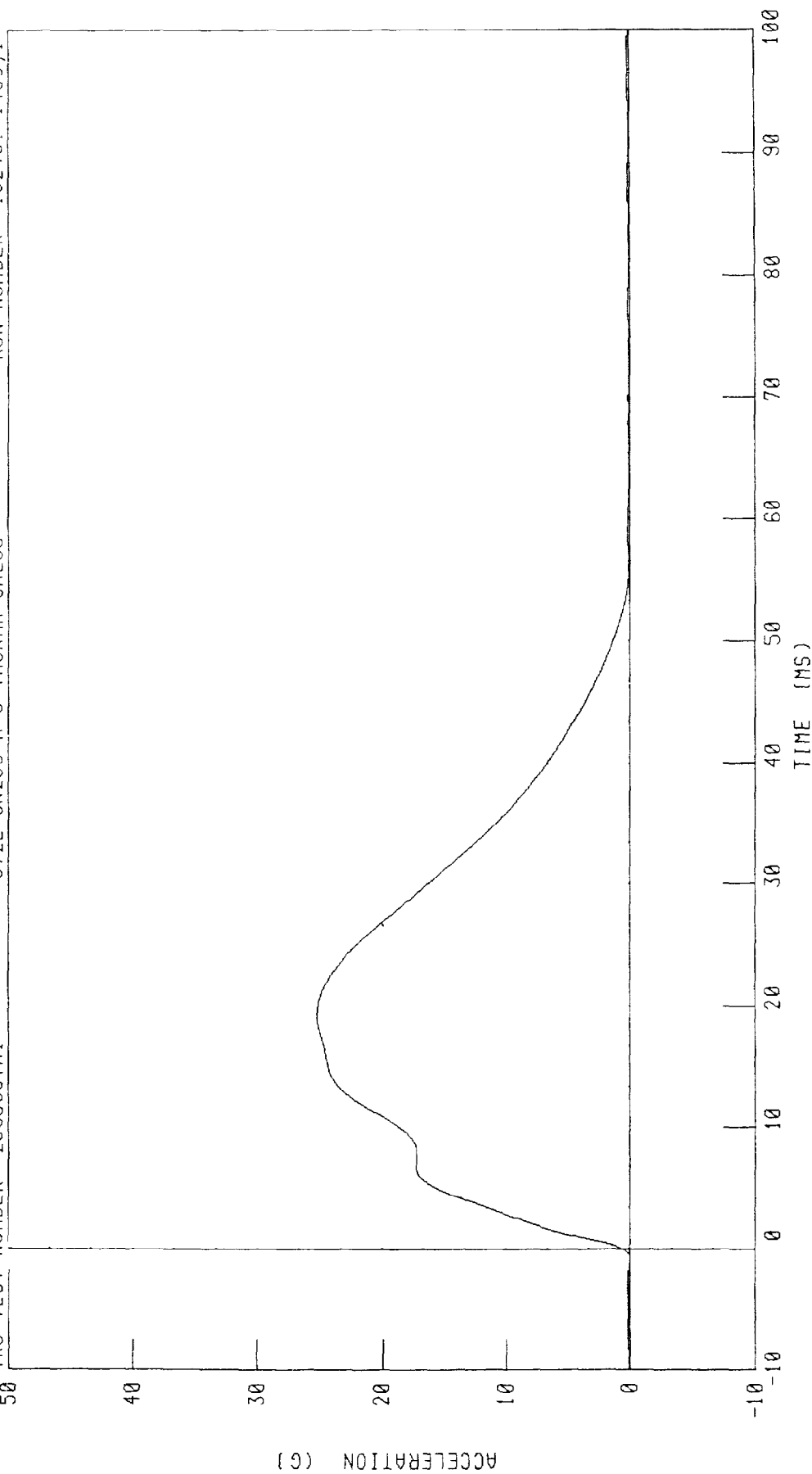
PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 206C08TH1

572E SN206 H S THORAX CAL08

RUN NUMBER 102401 1455,1



CHANNEL PENXC FILTER CH CLASS 180 PEAK DATA 25 22 G @ 19 36 MS, -0 02 G @ -0 80 MS

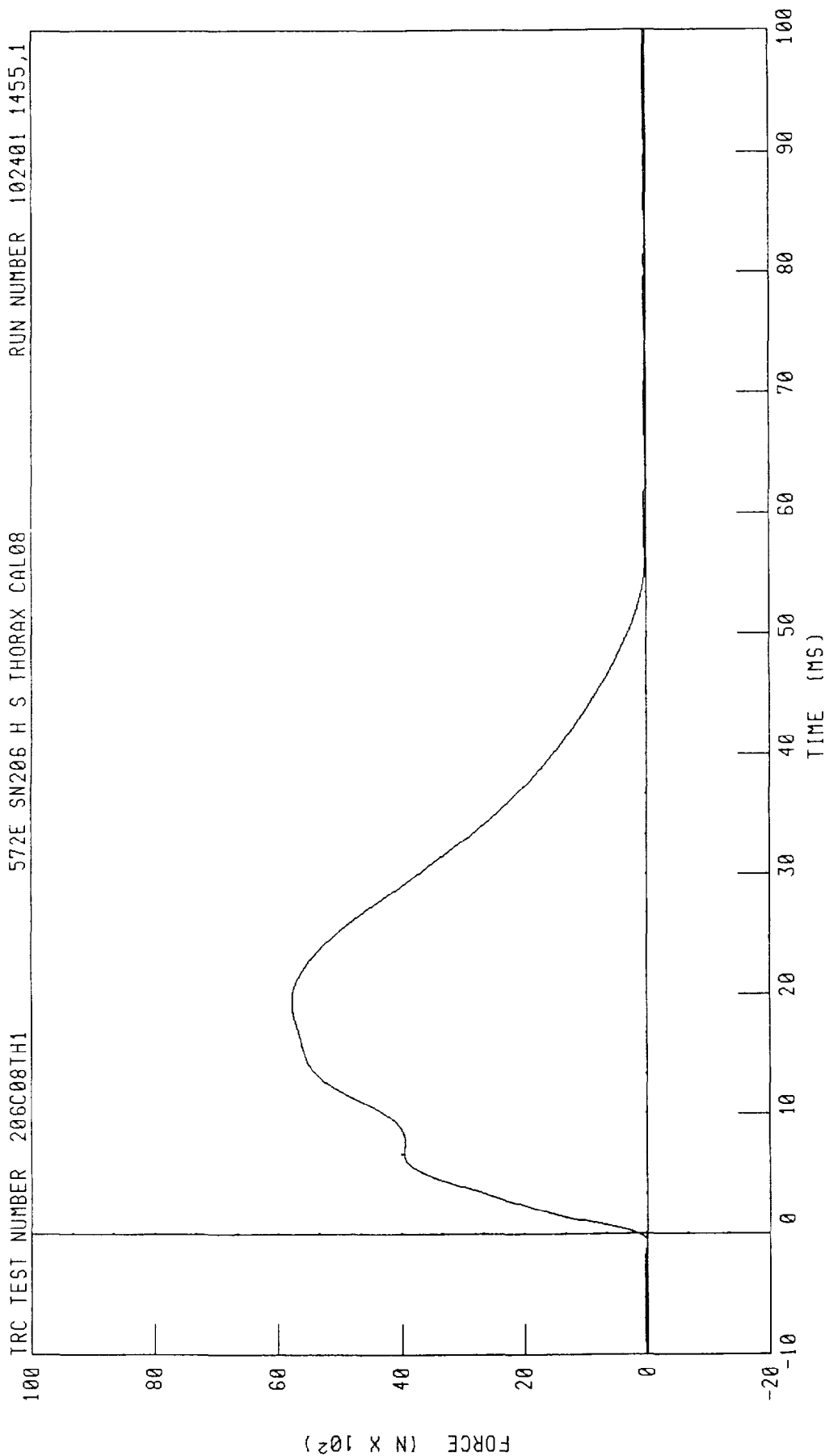
PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM FORCE

TRC TEST NUMBER 206C08TH1

572E SN206 H S THORAX CAL08

RUN NUMBER 102401 1455,1



CHANNEL PENXF FILTER CH CLASS 180

PEAK DATA 5778 05 N 0 19 36 MS, -5 46 N 0 -0 80 MS

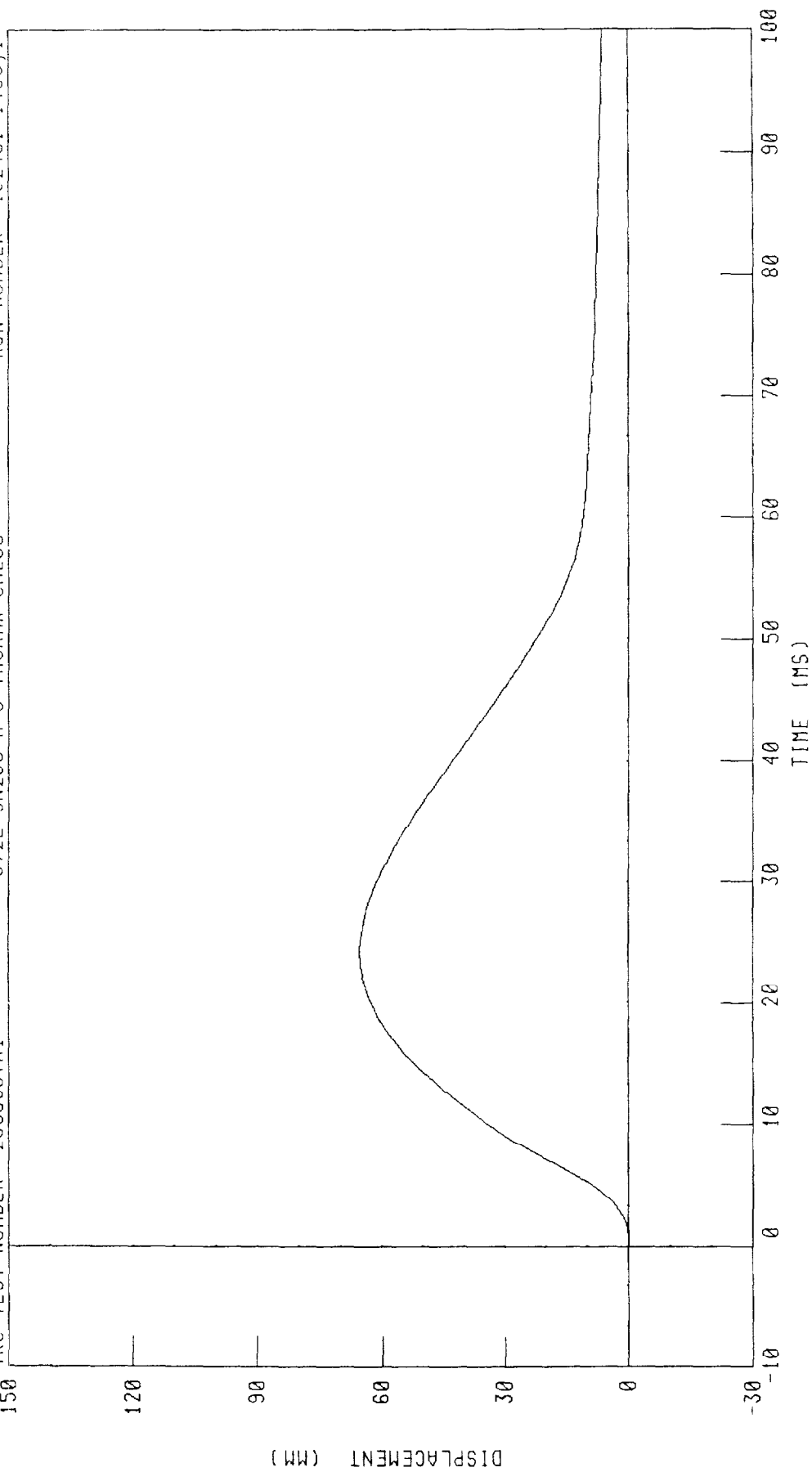
PART 572-E HYBRID III THORAX CALIBRATION

STERNUM DISPLACEMENT

TRC TEST NUMBER 206C08TH1

572E SN206 H S THORAX CAL08

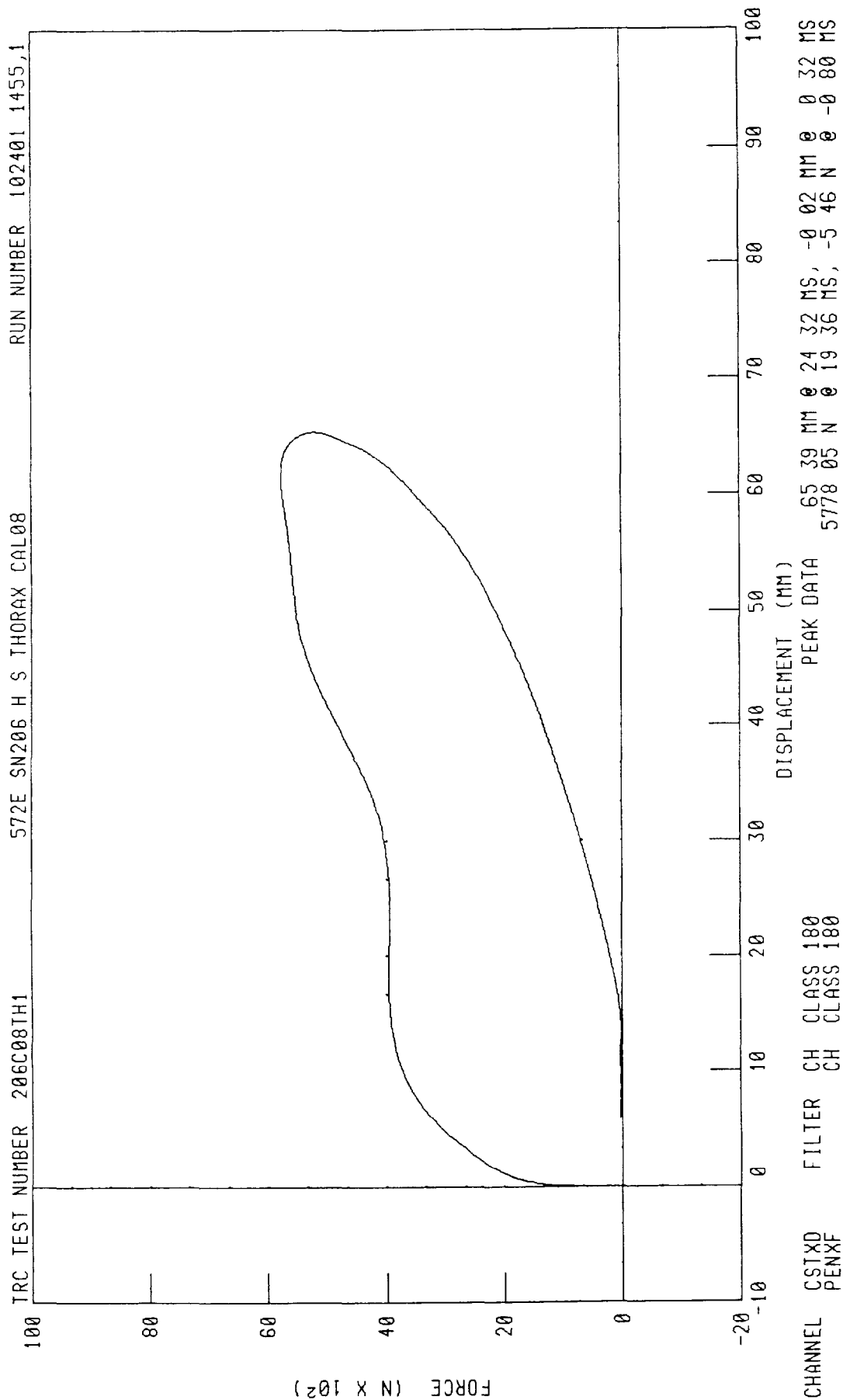
RUN NUMBER 102401 1455,1



CHANNEL CSTXD FILTER CH CLASS 180

PEAK DATA 65 39 MM @ 24 32 MS, -0 02 MM @ 0 32 MS

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



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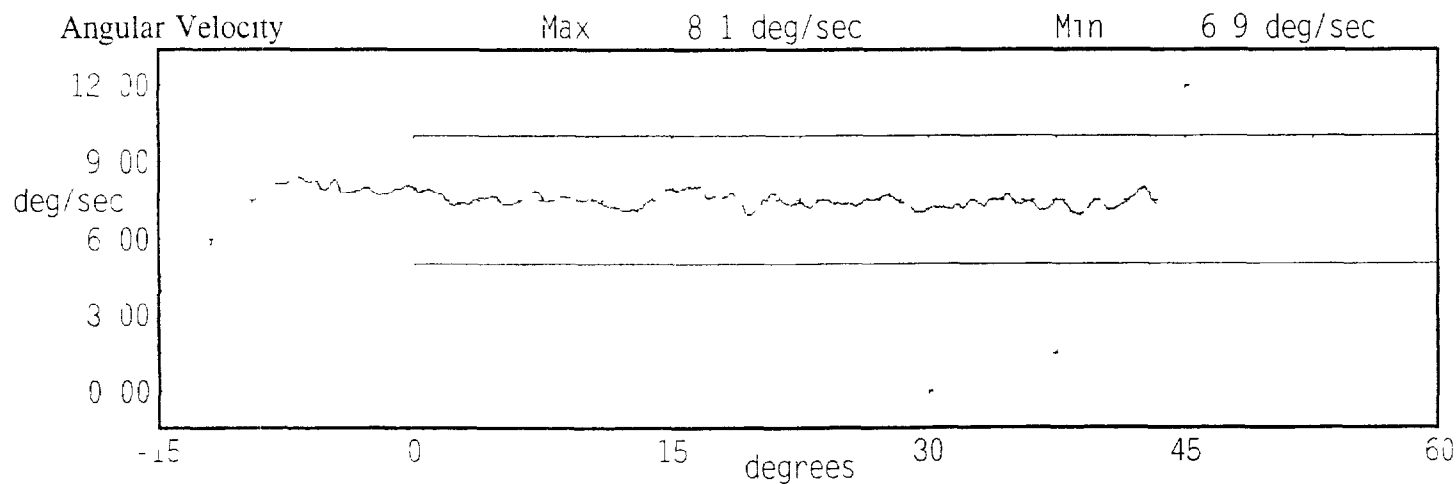
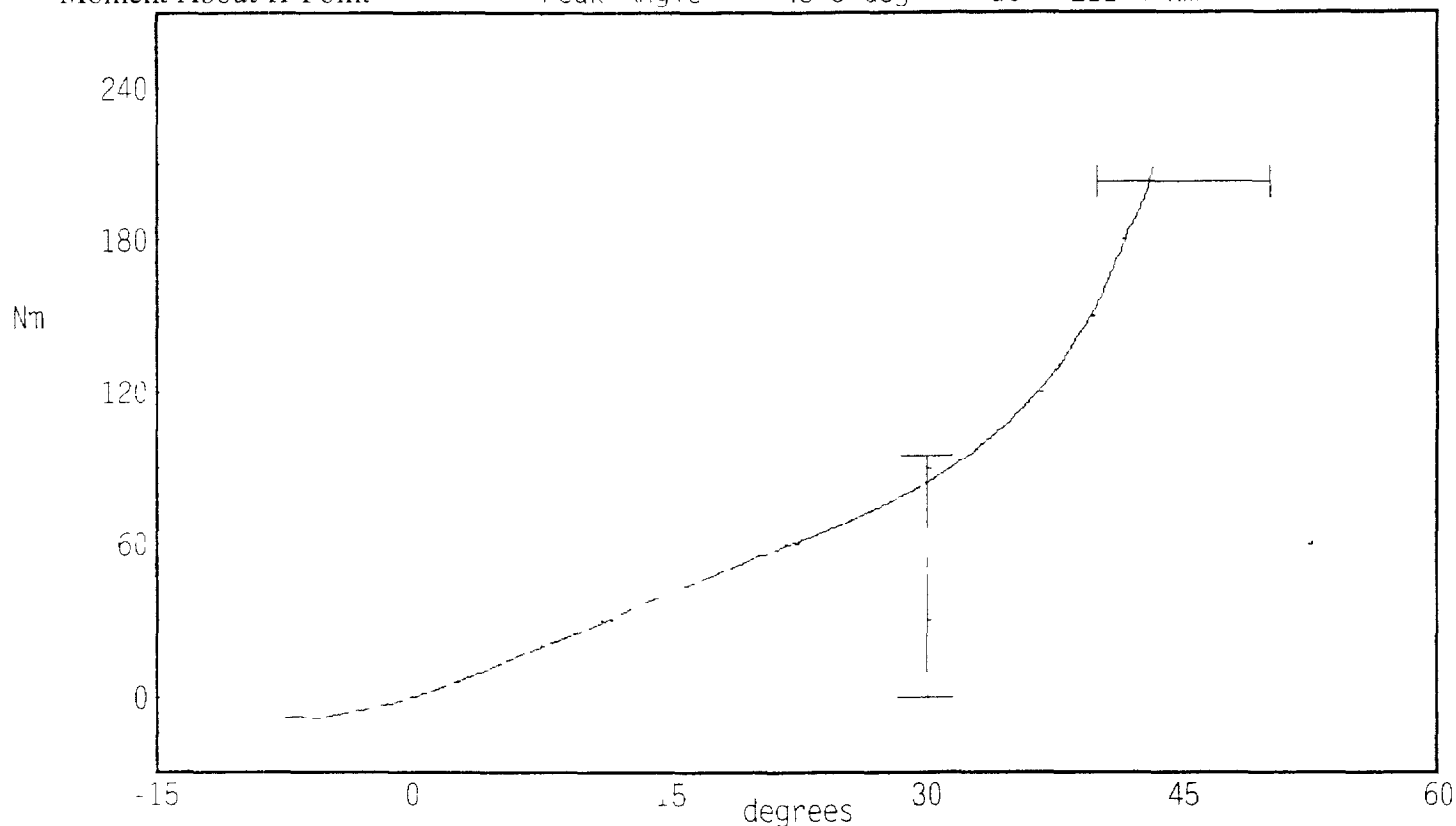
Hybrid III Hip Range of Motion

Serial Number 206L
Test Number 206C08
Comments

Date 10/23/2001
Time 11 31

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.7 °C	Pass
Humidity	10 - 70	60 %	Pass
Moment at 30 deg	<= 94.9	84.7 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	43.1 deg	Pass
Average velocity	5.0 - 10.0	7.5 deg/sec	Pass

Moment About H-Point
Peak Moment 211.4 Nm at 43.5 deg
Peak Angle 43.5 deg at 211.4 Nm



Transportation Research Center Inc

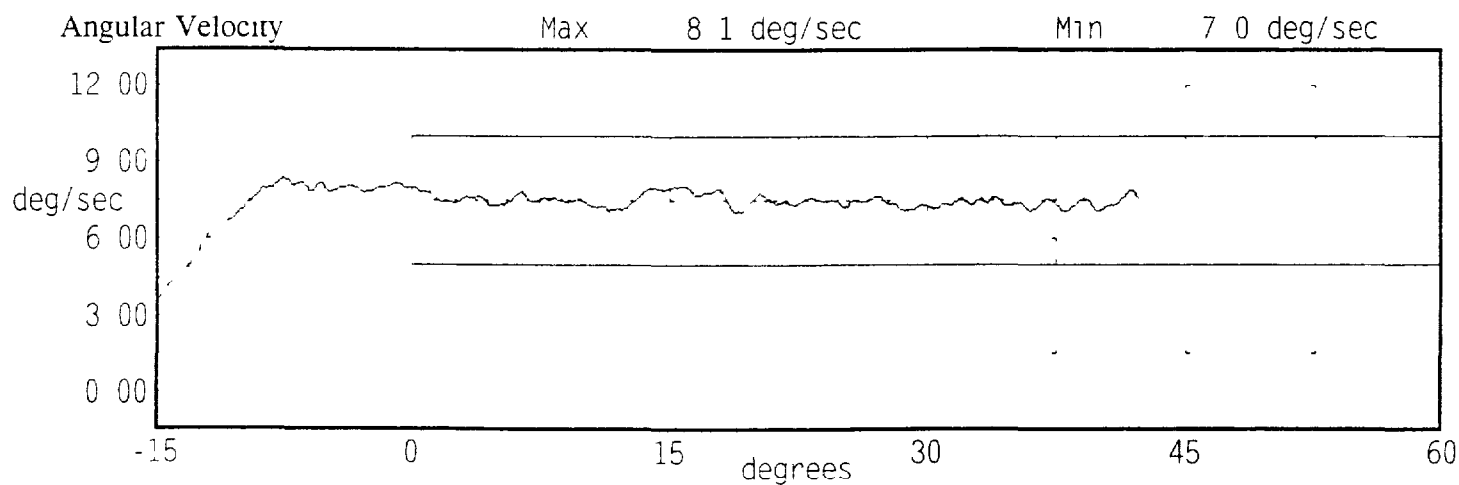
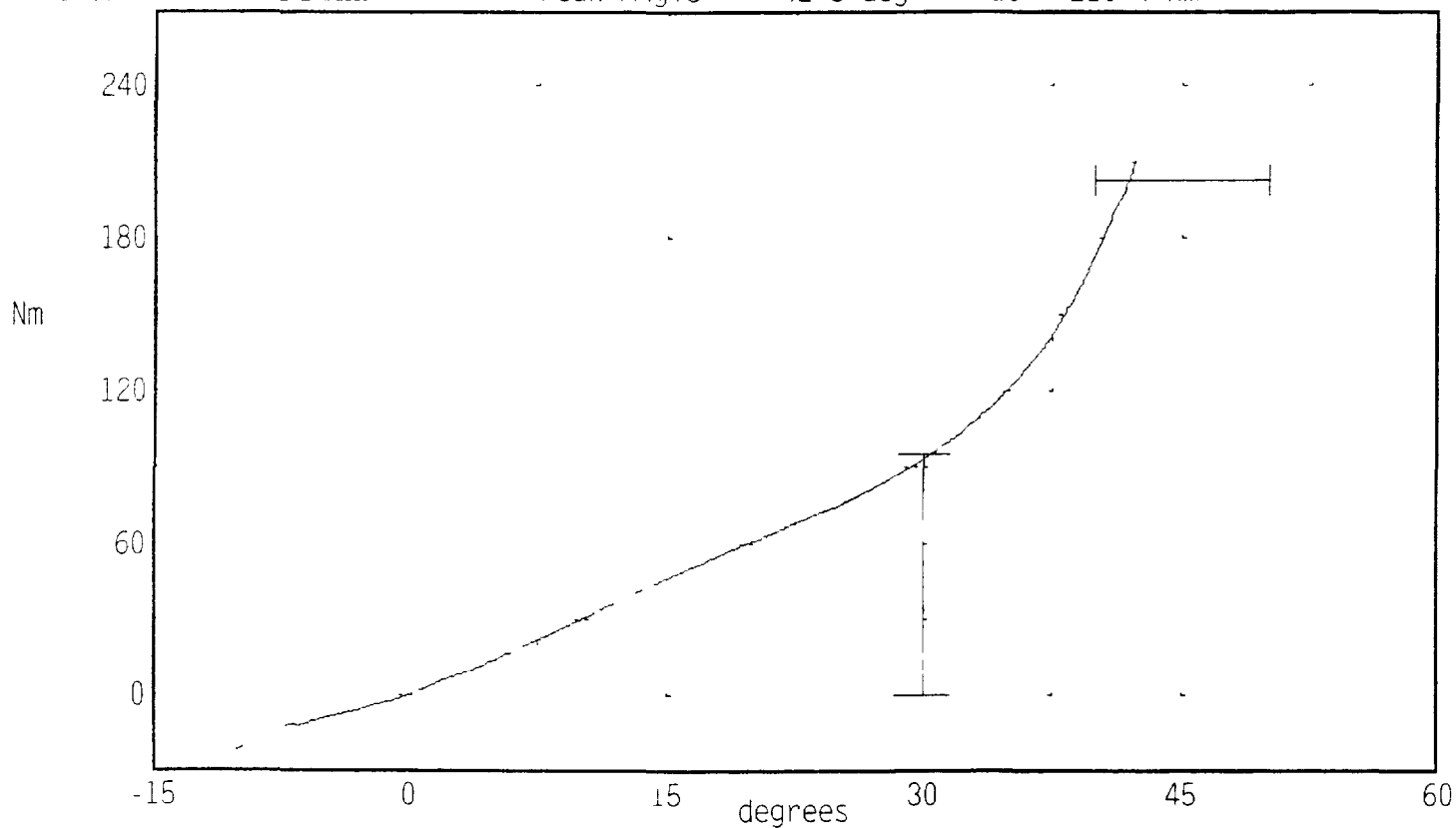
Hybrid III Hip Range of Motion

Serial Number 206R
Test Number 206C08
Comments

Date 10/23/2001
Time 11 47

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.7 °C	Pass
Humidity	10 - 70	60 %	Pass
Moment at 30 deg	<= 94.9	92.9 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	42.0 deg	Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec	Pass

Moment About H-Point
Peak Moment 210.4 Nm at 42.3 deg
Peak Angle 42.3 deg at 210.4 Nm



TRANSPORTATION RESEARCH CENTER INC.

LEFT KNEE IMPACT TEST

HYBRID III 50th

23-OCT-01

TRC INC.

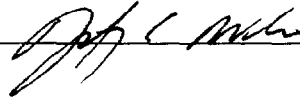
TEST NO: 206C08LK1

572E SN206 LEFT KNEE CAL 08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.10 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5462.3 N

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 102301.1333;3

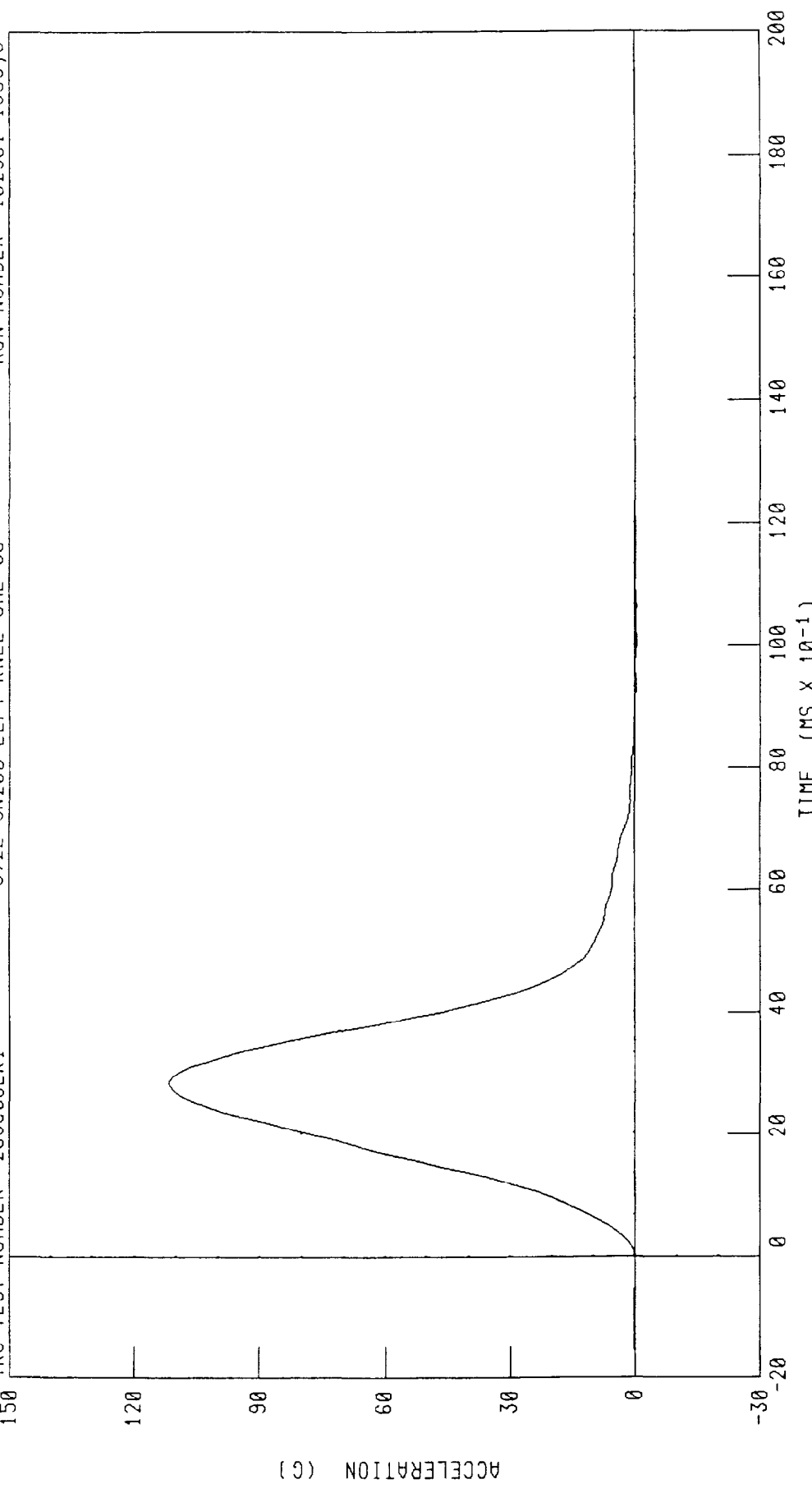
PART 572-E HYBRID III LEFT KNEE CALIBRATION

PENDULUM DECELERATION (5 KG PEND)

TRC TEST NUMBER 206C08LK1

572E SN206 LEFT KNEE CAL 08

RUN NUMBER 102301 1333,3



CHANNEL PENXC FILTER CH CLASS 600

PEAK DATA 111 64 0 2 80 MS, -0 49 0 10 08 MS

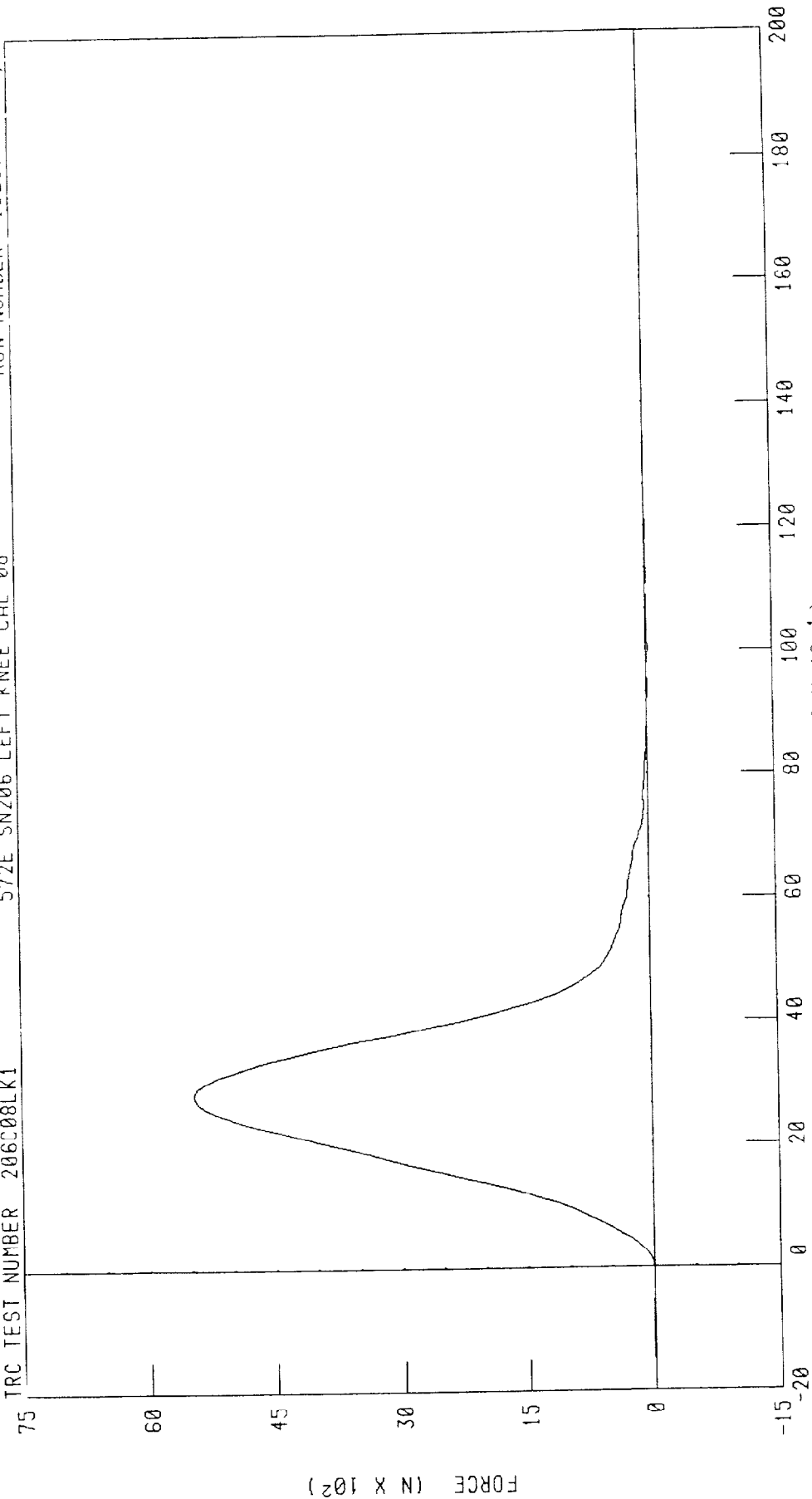
PART 572-E HYBRID III LEFT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

572E SN206 LEFT KNEE CAL 08

RUN NUMBER 102301 1333,3

TRC TEST NUMBER 206C08LK1



PEAK DATA 5462 36 N @ 2 80 MS, -23 92 N @ 10 08 MS

CHANNEL PENXF FILTER CH CLASS 600

TRANSPORTATION RESEARCH CENTER INC.

RIGHT KNEE IMPACT TEST

HYBRID III 50th

23-OCT-01

TRC INC.

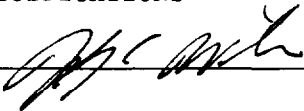
TEST NO: 206C08RK1

572E SN206 RIGHT KNEE CAL 08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.13 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5393.0 N

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 102301.1123;1

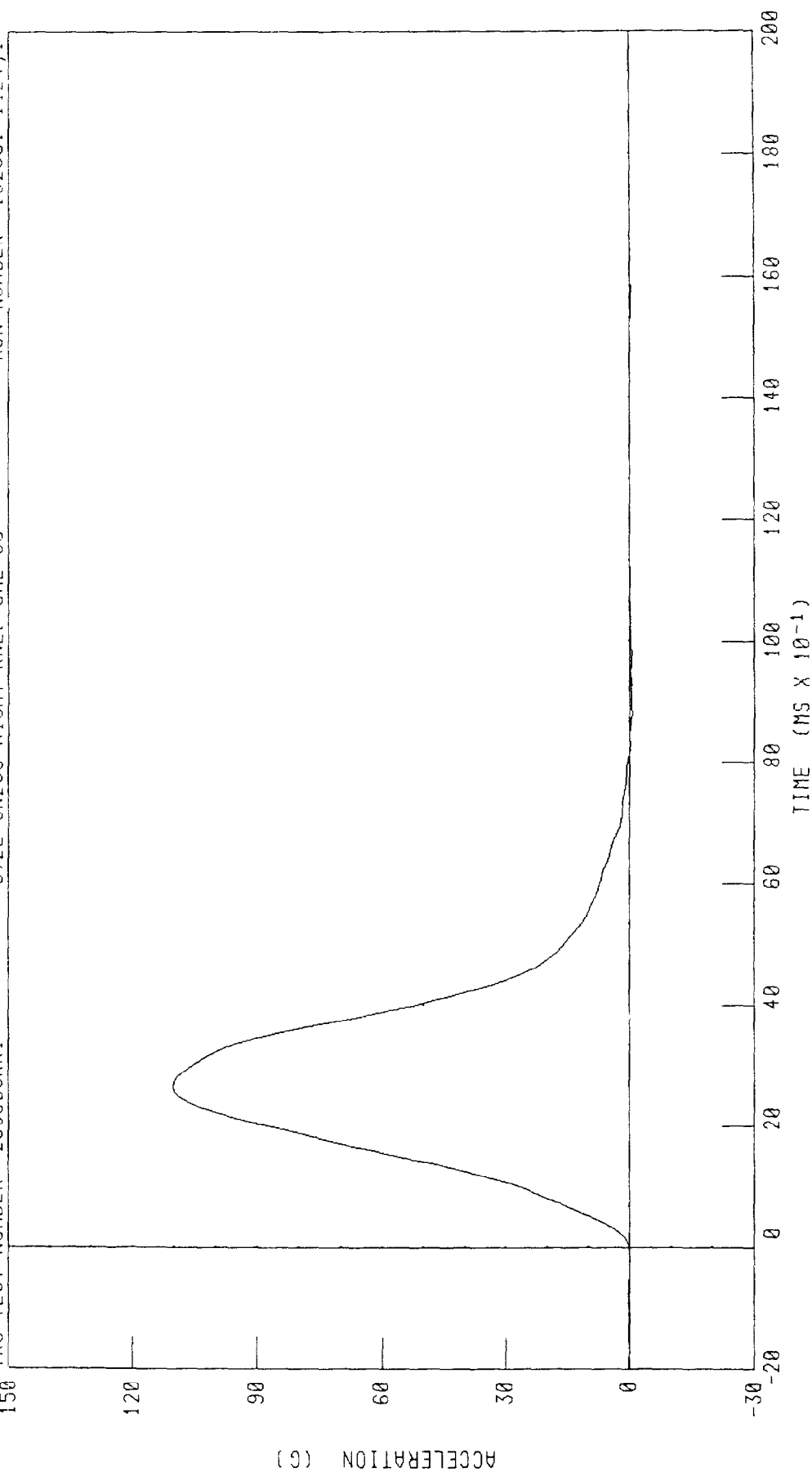
PART 572-E HYBRID III RIGHT KNEE CALIBRATION

PENDULUM DECELERATION (5 KG PEND)

TRC TEST NUMBER 206C08RK1

572E SN206 RIGHT KNEE CAL 08

RUN NUMBER 102301 1124,1



PEAK DATA 110 22 G 0 2 64 MS, -0 70 G 0 8 80 MS

CHANNEL PENXG FILTER CH CLASS 600

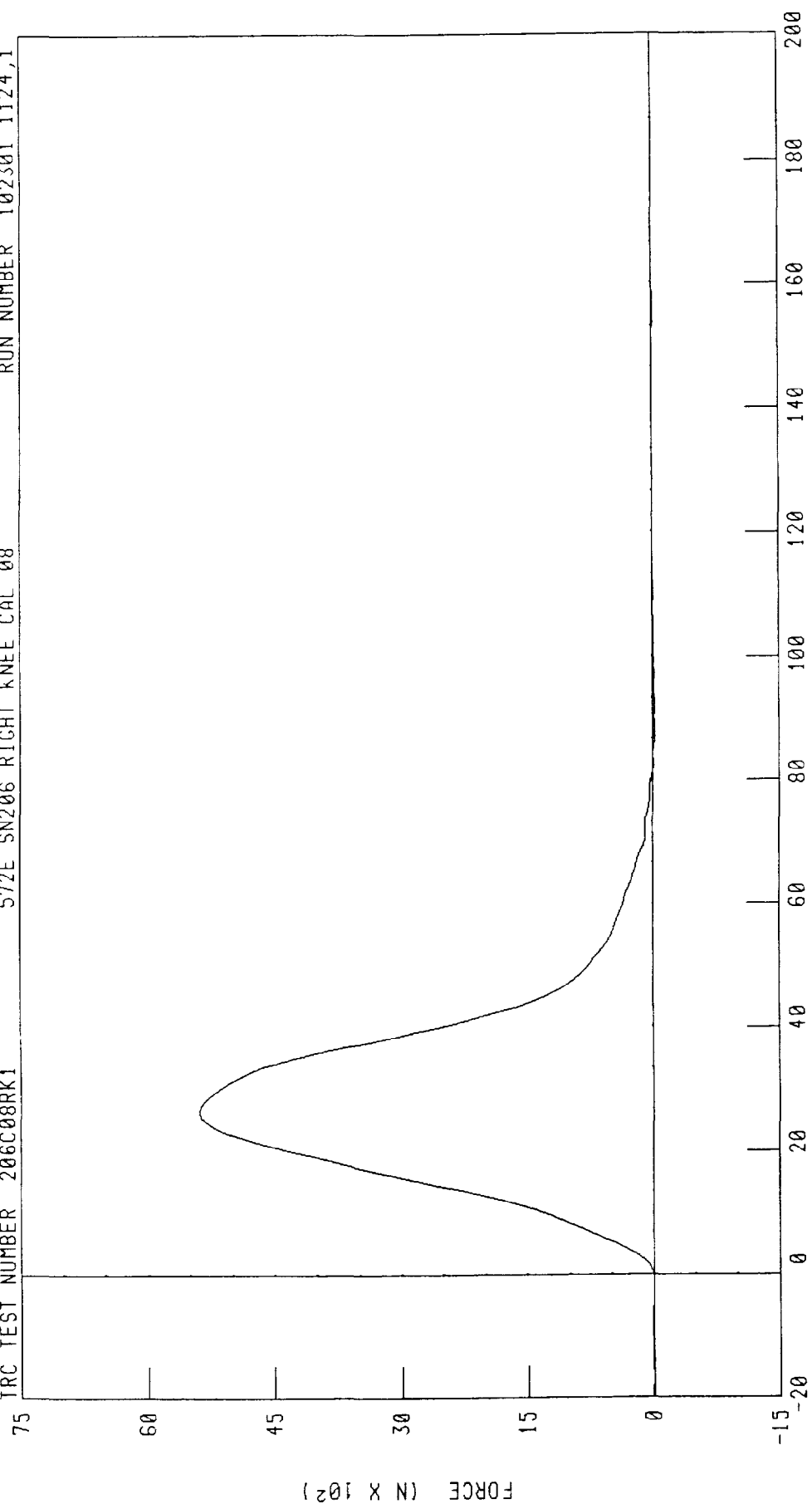
PART 572-E HYBRID III RIGHT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

TRC TEST NUMBER 206C08RK1

572E SN206 RIGHT KNEE CAL 08

RUN NUMBER 102301 1124,1



CHANNEL PENXF FILTER CH CLASS 600

PEAK DATA 5393 00 N 0 2 64 MS, -34 21 N 0 8 80 MS

TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

23-OCT-01

LEFT KNEE

TRC INC.

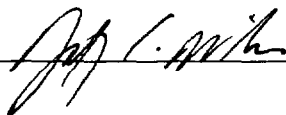
TEST NO: 206C08LS1

572E SN206 LEFT SLIDER CAL 08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	61.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.80 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1334. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	2374. N

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 102301.1448;1

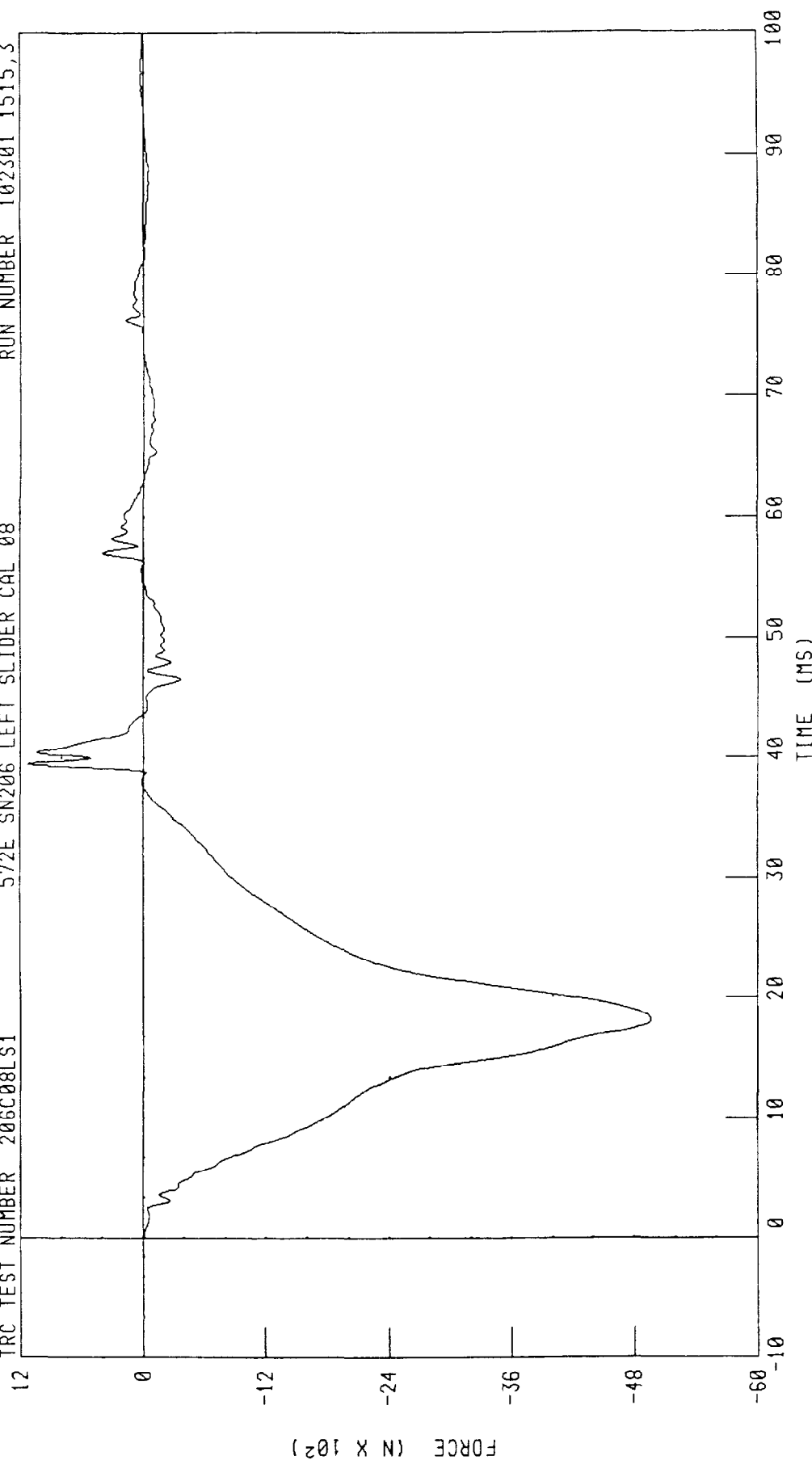
PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT FEMUR FORCE

TRC TEST NUMBER 206C08LS1

572E SN206 LEFT SLIDER CAL 08

RUN NUMBER 102301 1515,3



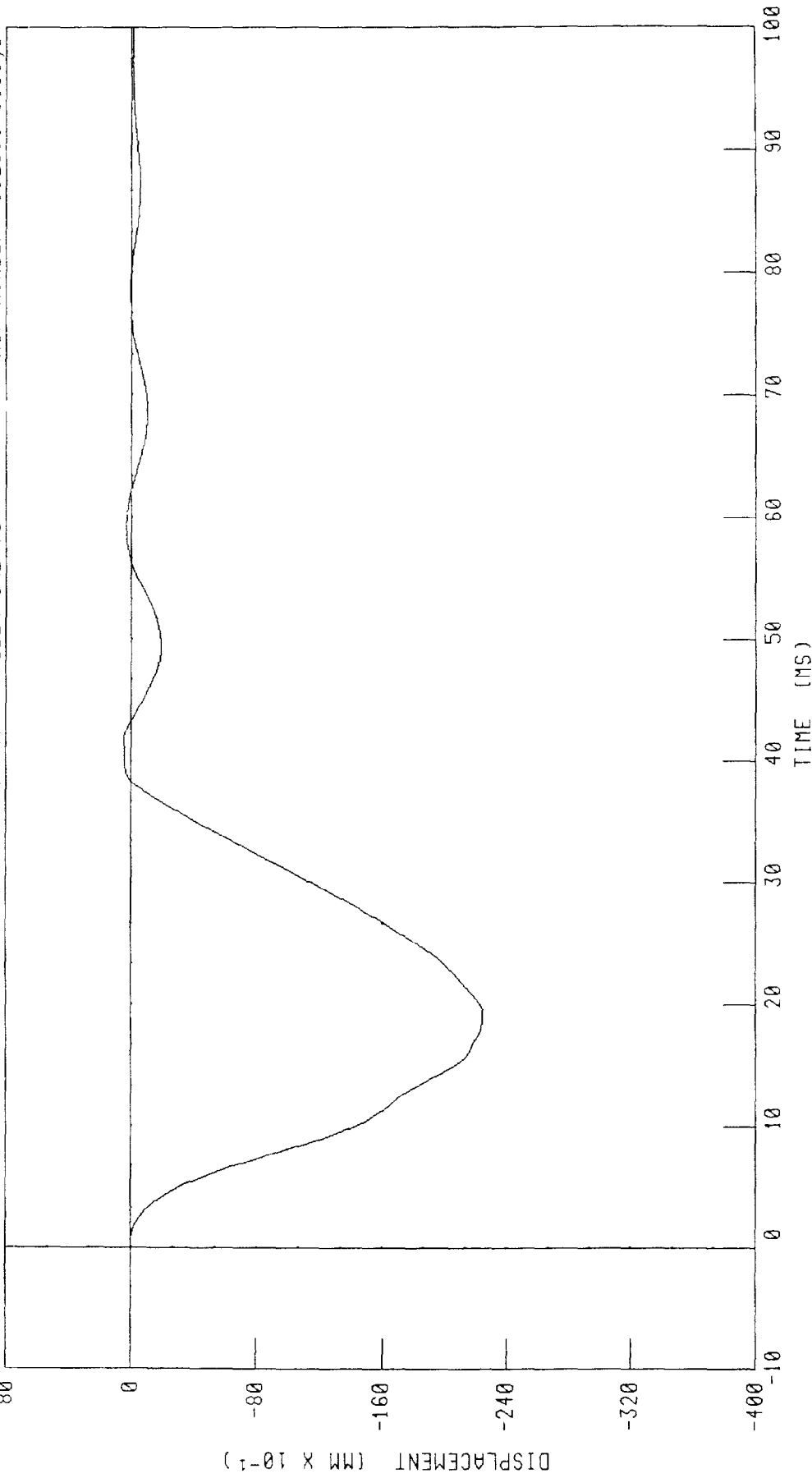
CHANNEL LFMF FILTER CH CLASS 600

PEAK DATA 1129 37 N 0 39 52 MS, -4966 09 N 0 18 00 MS

PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT KNEE DISPLACEMENT

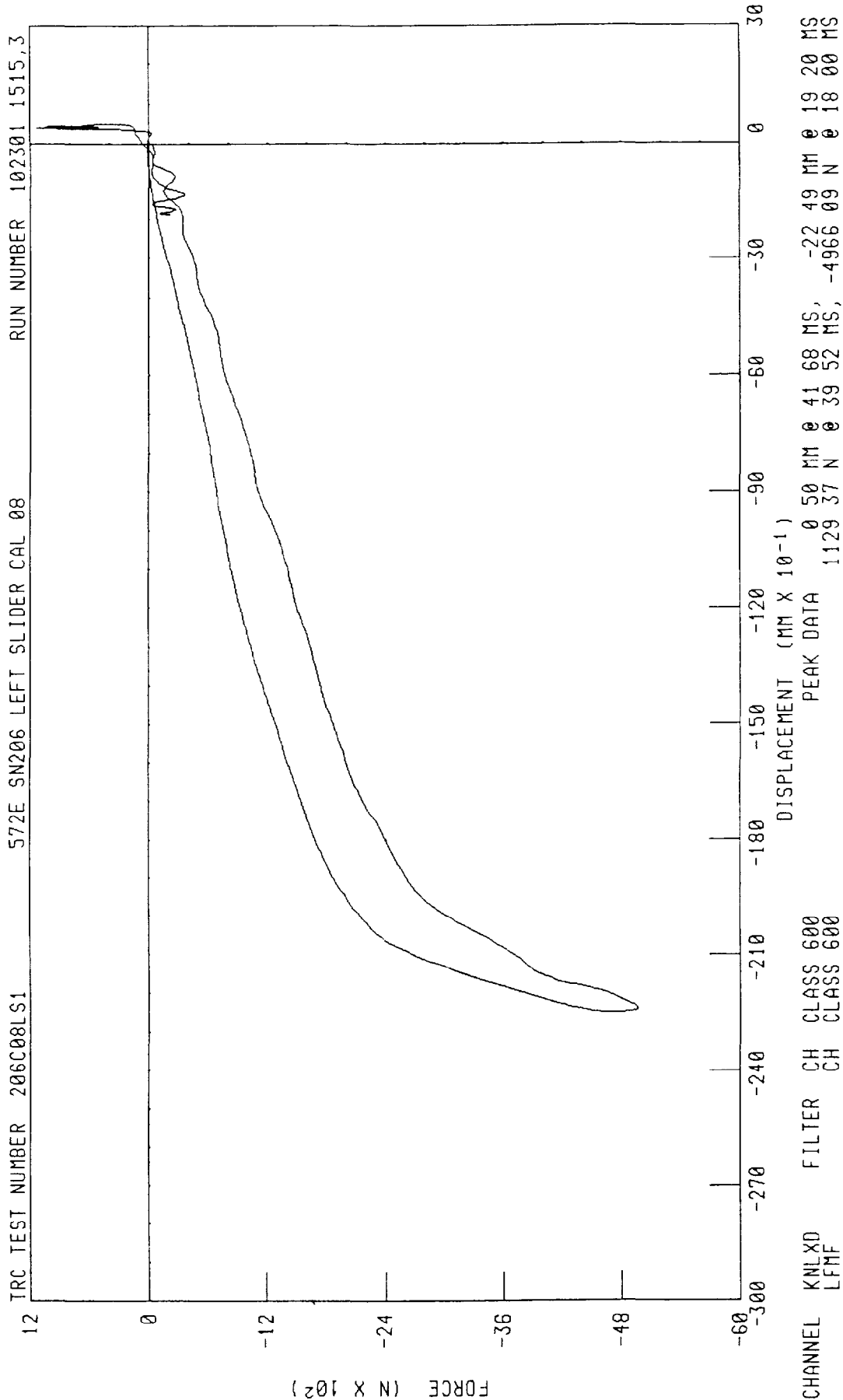
TRC TEST NUMBER 206C08LS1 572E SN206 LEFT SLIDER CAL 08 RUN NUMBER 102301 1515.3



CHANNEL KNLXD FILTER CH CLASS 600

TIME (MS) PEAK DATA 0 50 MM @ 41 68 MS, -22 49 MM @ 19 20 MS

PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION
LEFT KNEE DISPLACEMENT VS FEMUR FORCE



TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

23-OCT-01

RIGHT KNEE

TRC INC.

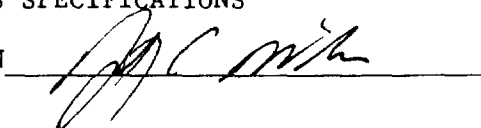
TEST NO: 206C08RS1

572E SN206 RIGHT SLIDER CAL 08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	59.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.80 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1593. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	3039. N

TEST MEETS SPECIFICATIONS

TECHNICIAN

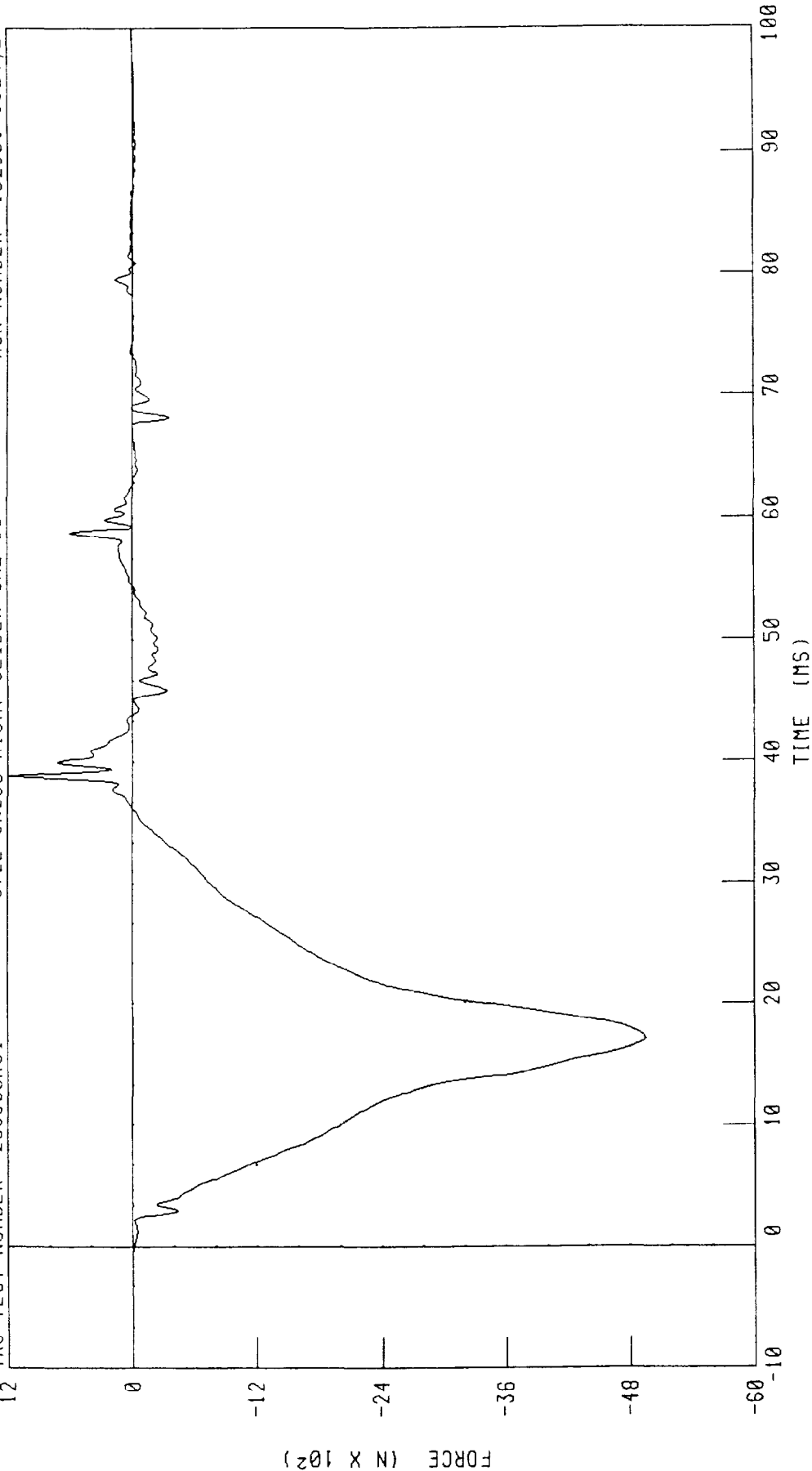


RUN NUMBER: 102301.1522;1

PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT FEMUR FORCE

TRC TEST NUMBER 206C08RS1 572E SN206 RIGHT SLIDER CAL 08 RUN NUMBER 102301 1524,2



CHANNEL RFMF FILTER CH CLASS 600

PEAK DATA 1218 99 N @ 38 88 MS, -4950 64 N @ 17 12 MS

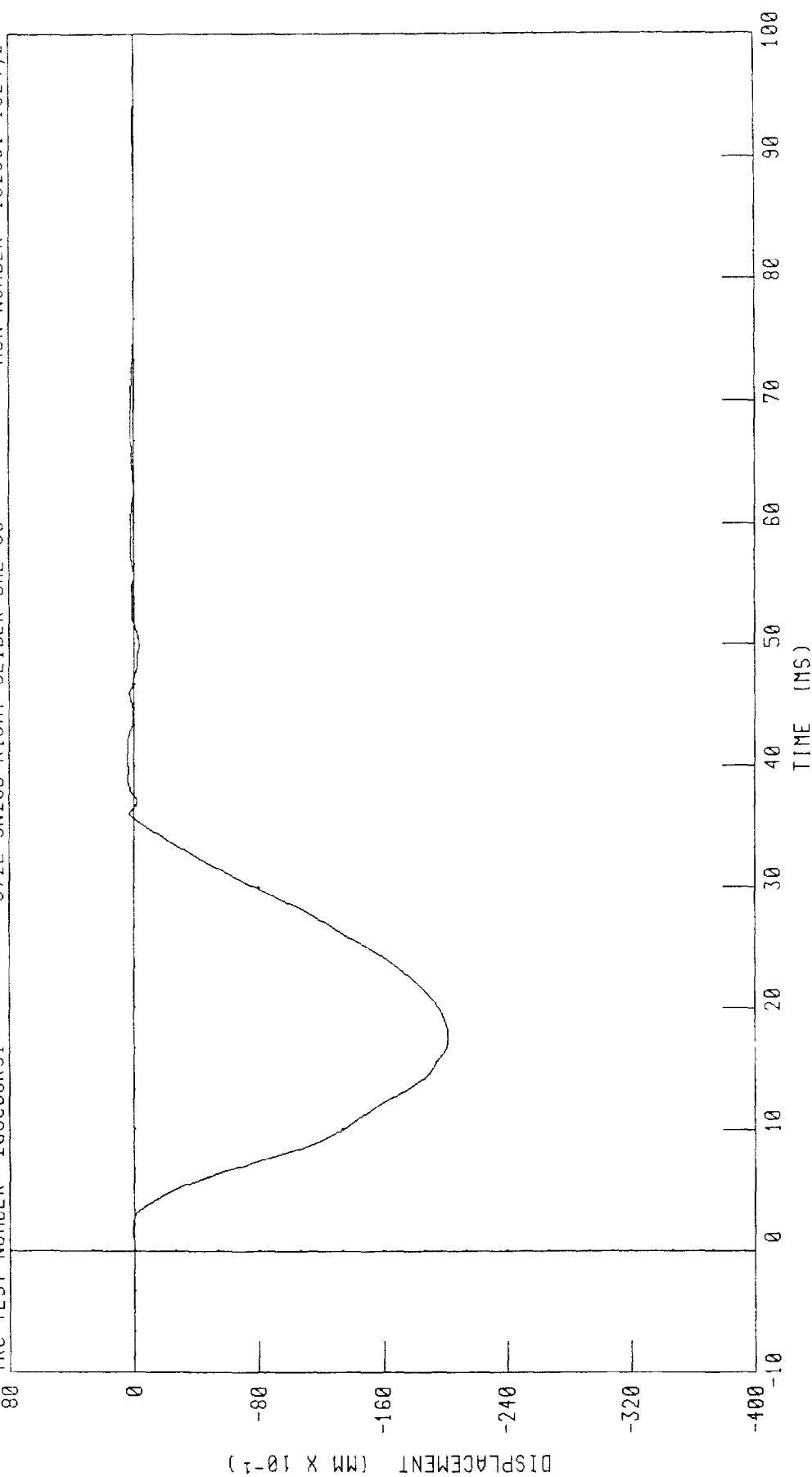
PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT KNEE DISPLACEMENT

TRC TEST NUMBER 206C08RS1

572E SN206 RIGHT SLIDER CAL 08

RUN NUMBER 102301 1524.2

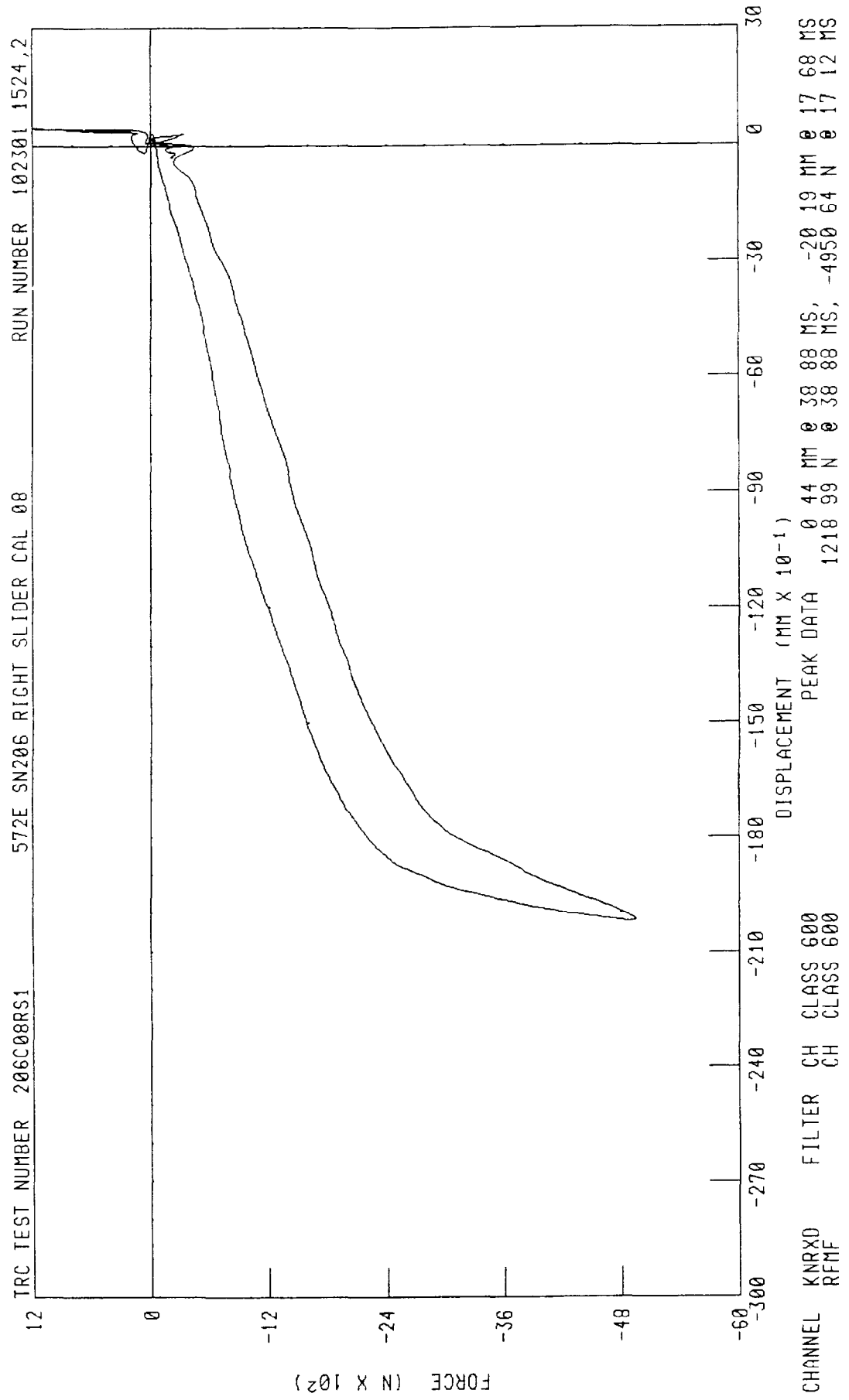


CHANNEL KNRXD FILTER CH CLASS 600

PEAK DATA 0 44 MM @ 38 88 MS, -20 19 MM @ 17 68 MS

PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT KNEE DISPLACEMENT VS FEMUR FORCE



Pre-Test Dummy Configuration and Performance Verification Data

Passenger Dummy S/N: 202

TRANSPORTATION RESEARCH CENTER INC.
HYBRID III EXTERNAL DIMENSIONS

202

24-OCT-01

TRC INC.

TEST NO: 202C09ED1

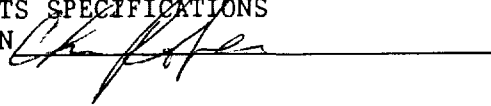
572E SN202 EXT.DIMENSION CAL09

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	993. MM
WAIST CIRCUMFERENCE	(Z)	836 - 866 MM	856. MM
CHEST DEPTH	(O)	213 - 229 MM	224. MM
H-POINT HEIGHT	(C)	84 - 89 MM	86. MM
H-POINT FROM SEATBACK	(D)	135 - 140 MM	135. MM
SKULL CAP TO BACKLINE	(H)	41 - 46 MM	46. MM
TOTAL SITTING HEIGHT	(A)	879 - 889 MM	886. MM
THIGH CLEARANCE	(F)	140 - 155 MM	142. MM
BUTTOCK KNEE LENGTH	(K)	579 - 605 MM	589. MM
BUTTOCK POPLITEAL LENGTH	(N)	452 - 478 MM	467. MM
POPLITEAL HEIGHT	(L)	429 - 455 MM	447. MM
KNEE PIVOT HEIGHT	(M)	485 - 500 MM	495. MM
FOOT LENGTH	(P)	252 - 267 MM	254. MM
FOOT BREADTH	(W)	91 - 107 MM	102. MM
SHOULDER PIVOT FROM BACKLINE	(E)	84 - 94 MM	91. MM
SHOULDER BREADTH	(V)	422 - 437 MM	432. MM
SHOULDER PIVOT HEIGHT	(B)	506 - 521 MM	511. MM
ELBOW REST HEIGHT	(J)	191 - 211 MM	201. MM
SHOULDER-ELBOW LENGTH	(I)	330 - 345 MM	333. MM
BACK OF ELBOW TO WRIST PIVOT	(G)	290 - 305 MM	300. MM

572E SN202 EXT.DIMENSION CAL09

DUMMY MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 102401.1342

TRANSPORTATION RESEARCH CENTER INC.

HEAD DROP TEST

HYBRID III 50th

23-OCT-01

TRC INC.

TEST NO: 202C09HD1

572E SN202 HEAD DROP CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	59.0 %
PEAK RESULTANT ACCELERATION	225 - 275 G	251.08 G
PEAK LATERAL ACCELERATION	15 G MAX	3.13 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN

[Signature]

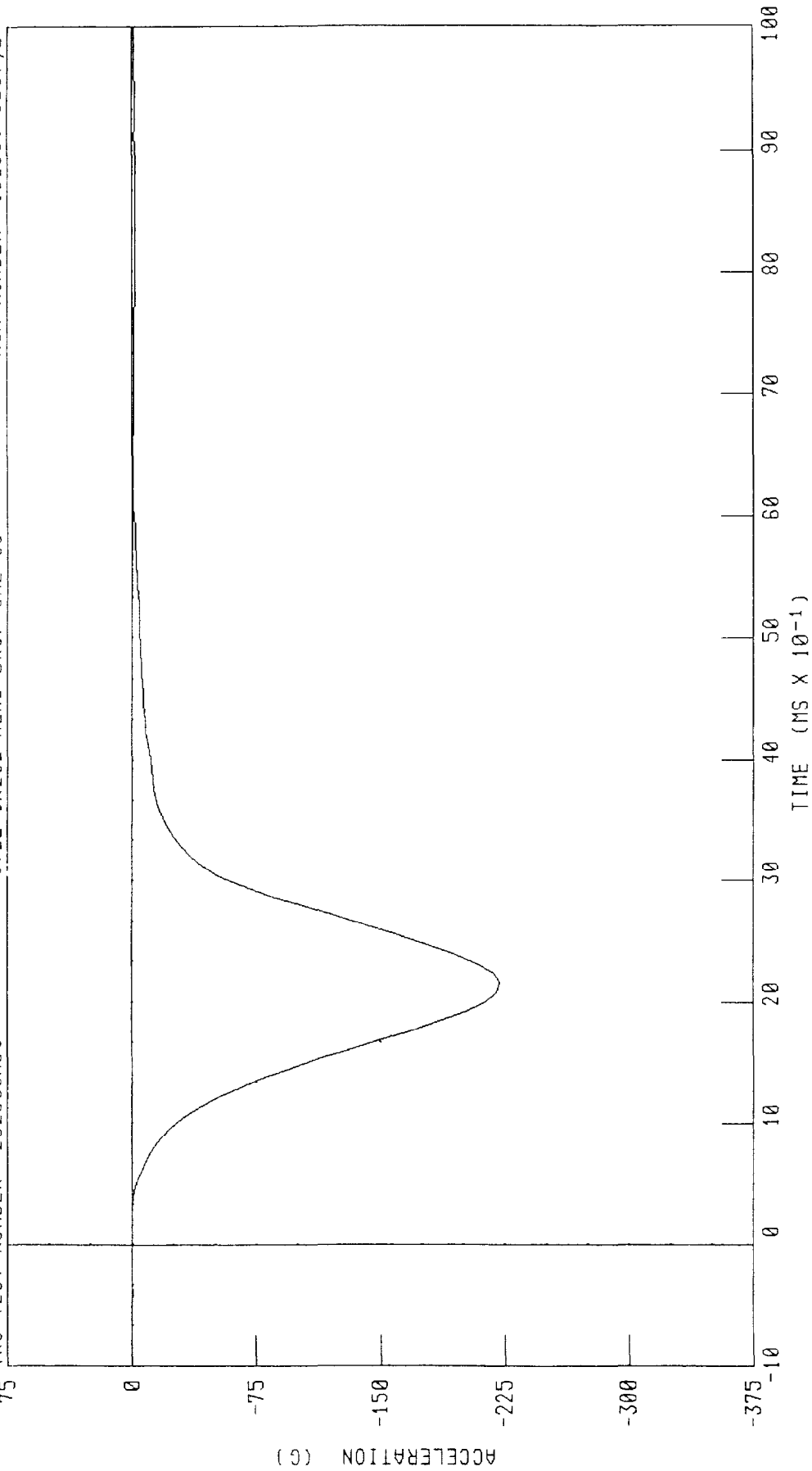
RUN NUMBER: 102301.1115;1

PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION X AXIS

572E SN202 HEAD DROP CAL 09 RUN NUMBER 102301 1257,2

TRC TEST NUMBER 202C09HD1



PEAK DATA 0 15 G @ -0 88 MS, -221 82 G @ 2 16 MS

CHANNEL HEDXC FILTER CH CLASS 1000

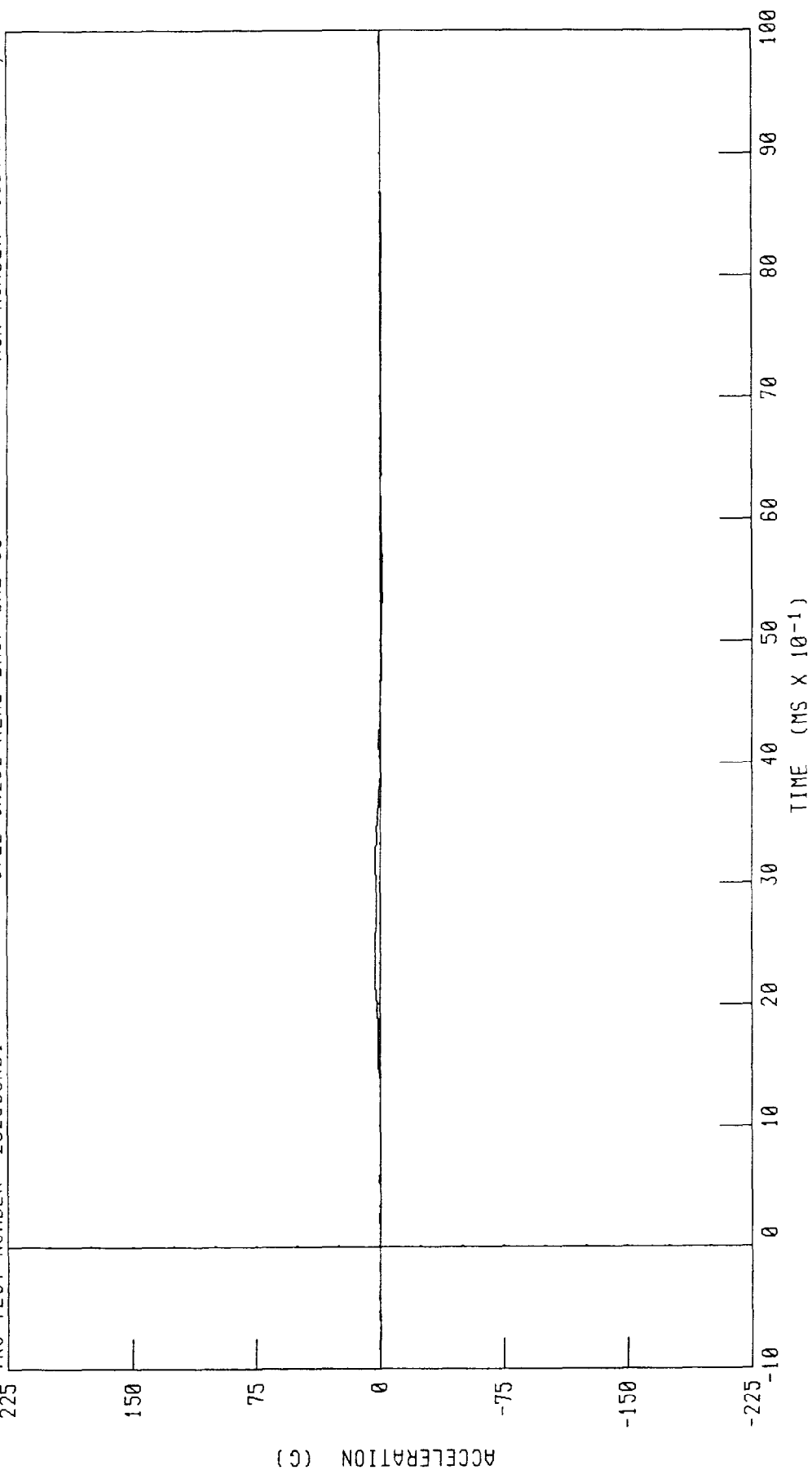
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER 202C09HD1

572E SN202 HEAD DROP CAL 09

RUN NUMBER 102301 1257,2



CHANNEL HEDYG FILTER CH CLASS 1000

PEAK DATA 3 14 G 0 2 40 MS, -1 40 G 0 5 36 MS

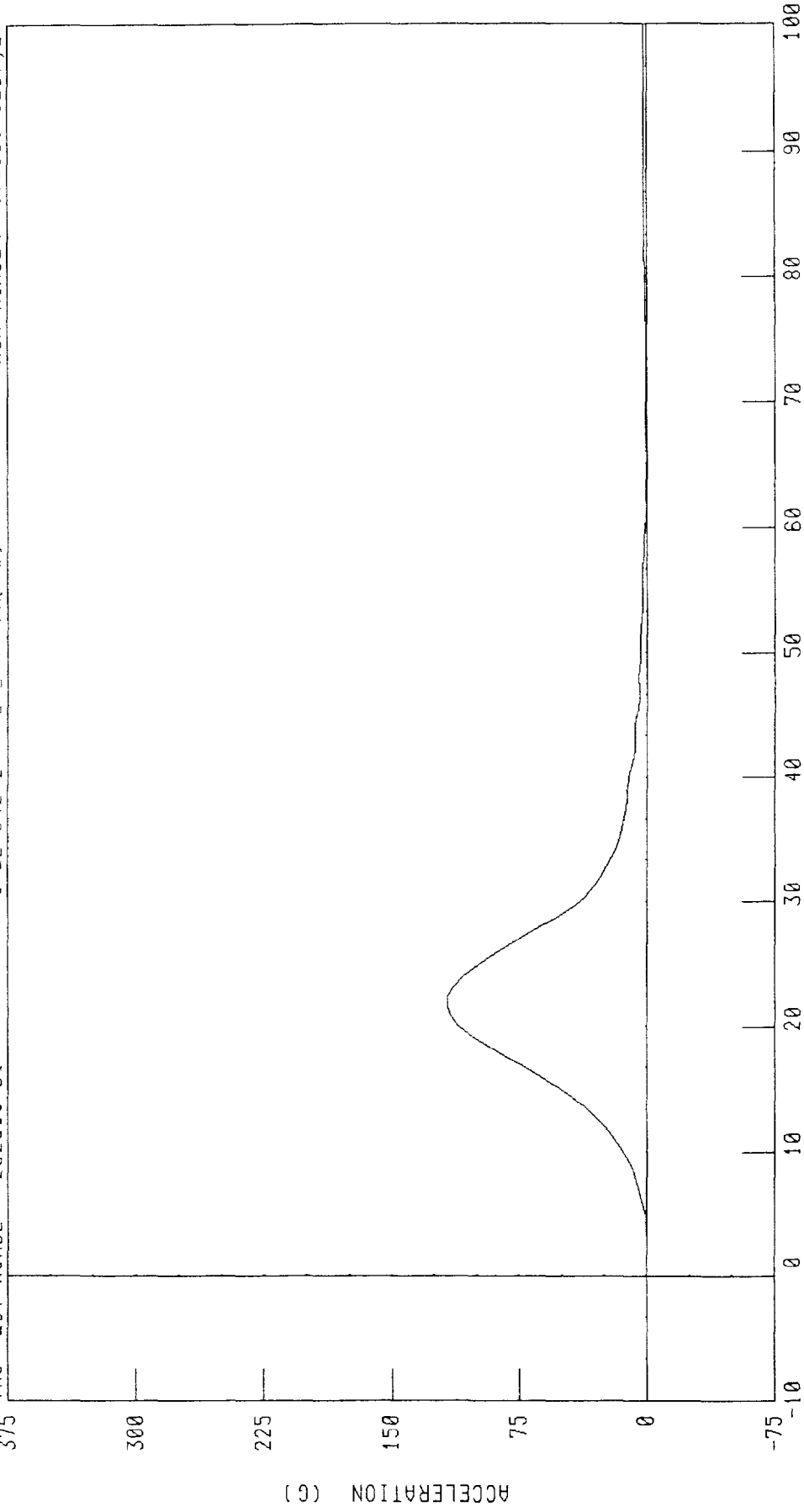
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION Z AXIS

TRC TEST NUMBER 202C09401

572E SN202 HEAD DROP CAL 09

RUN NUMBER 102301 1257,2



PEAK DATA 117 62 G @ 2 16 MS, -0 06 G @ -0 64 MS

CHANNEL HEDZG FILTER CH CLASS 1000

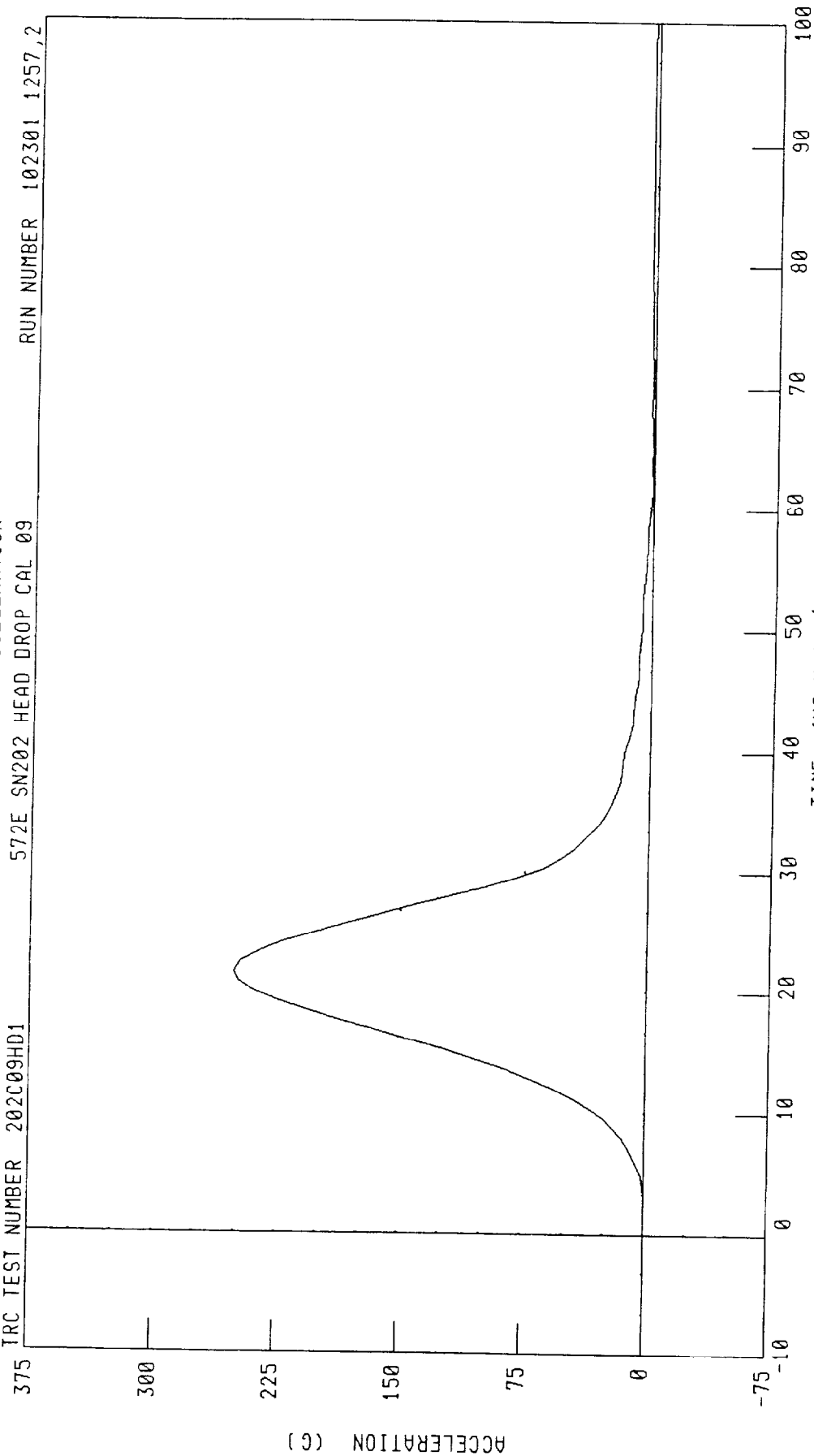
PART 572-E HYBRID III HEAD CALIBRATION

HEAD RESULTANT ACCELERATION

IRC TEST NUMBER 202C09HD1

572E SN202 HEAD DROP CAL 09

RUN NUMBER 102301 1257,2



TIME (MS X 10⁻¹)

CHANNEL HEDRG FILTER CH CLASS 1000

PEAK DATA 251 09 G 0 2 16 MS, 0 04 C 0 -0 96 MS

TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

24-OCT-01

NECK FLEXION TEST - 6 CHANNEL TRANSDUCER

TRC INC.

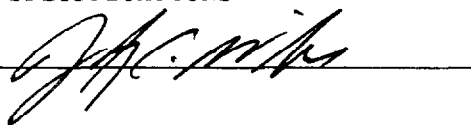
TEST NO: 202C09NF1

572E SN202 NECK FLEXION CAL09

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6-22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	62.0 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.93 M/S
PENDULUM DECELERATION	10 MS	22.50 - 27.50 G	26.63 G
	20 MS	17.60 - 22.60 G	22.26 G
	30 MS	12.50 - 18.50 G	18.24 G
MAX PENDULUM G		29 G MAX	27.39 G
MAX PENDULUM G ABOVE 30 MS		29 G MAX	18.16 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		34 - 42 MS	36.00 MS
D PLANE	MAX	64 - 78 DEG.	72.64 DEG.
ROTATION	TIME	57 - 64 MS	59.28 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MAX	88.2 - 108.5 NM	105.26 NM
	TIME	47 - 58 MS	49.12 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		113 - 128 MS	115.20 MS
POSITIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		97 - 107 MS	97.76 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 102401.0905;1

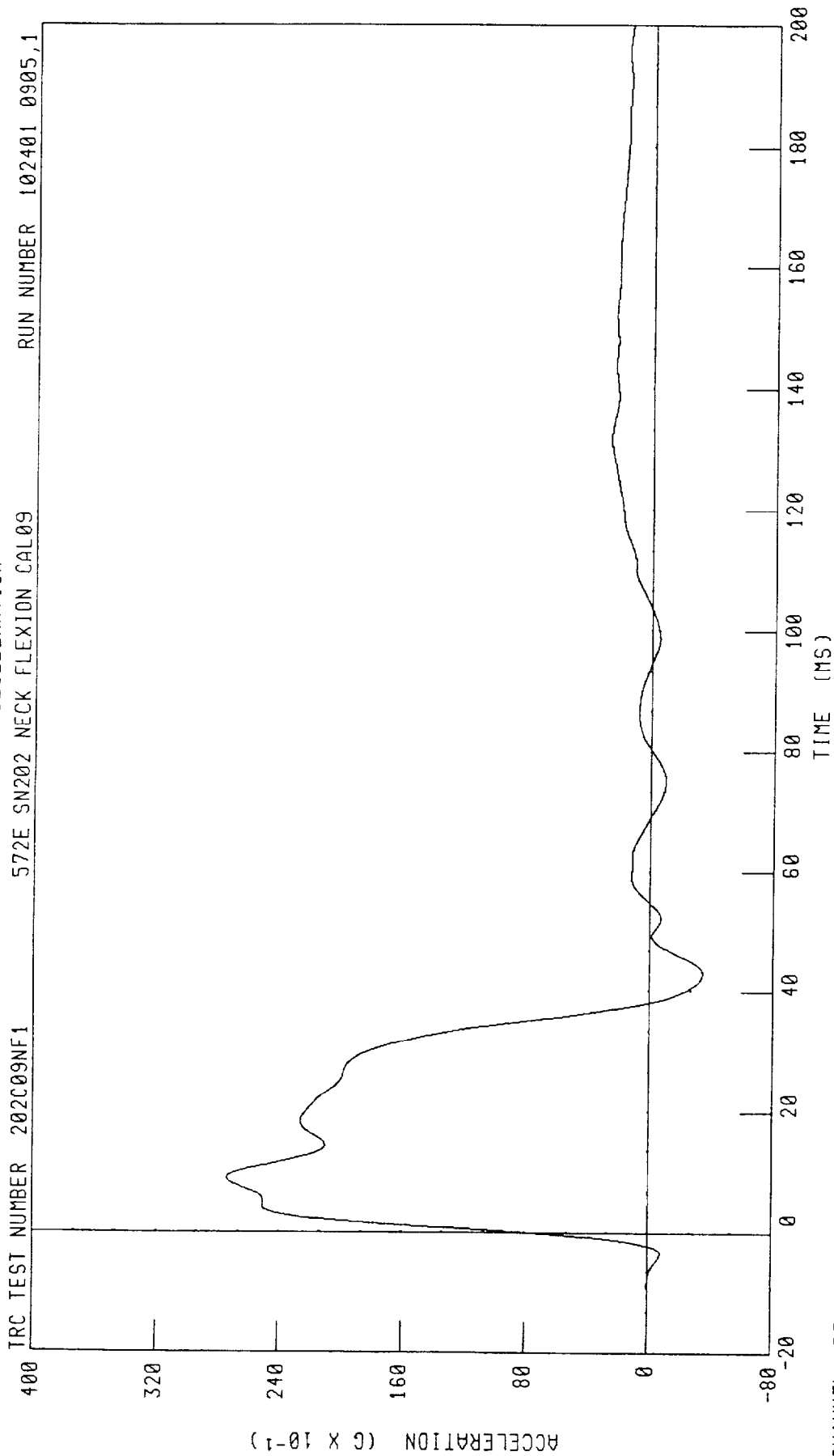
PART 572-E HYBRID III NECK FLEXION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 202C09NF1

572E SN202 NECK FLEXION CAL09

RUN NUMBER 102401 0905,1



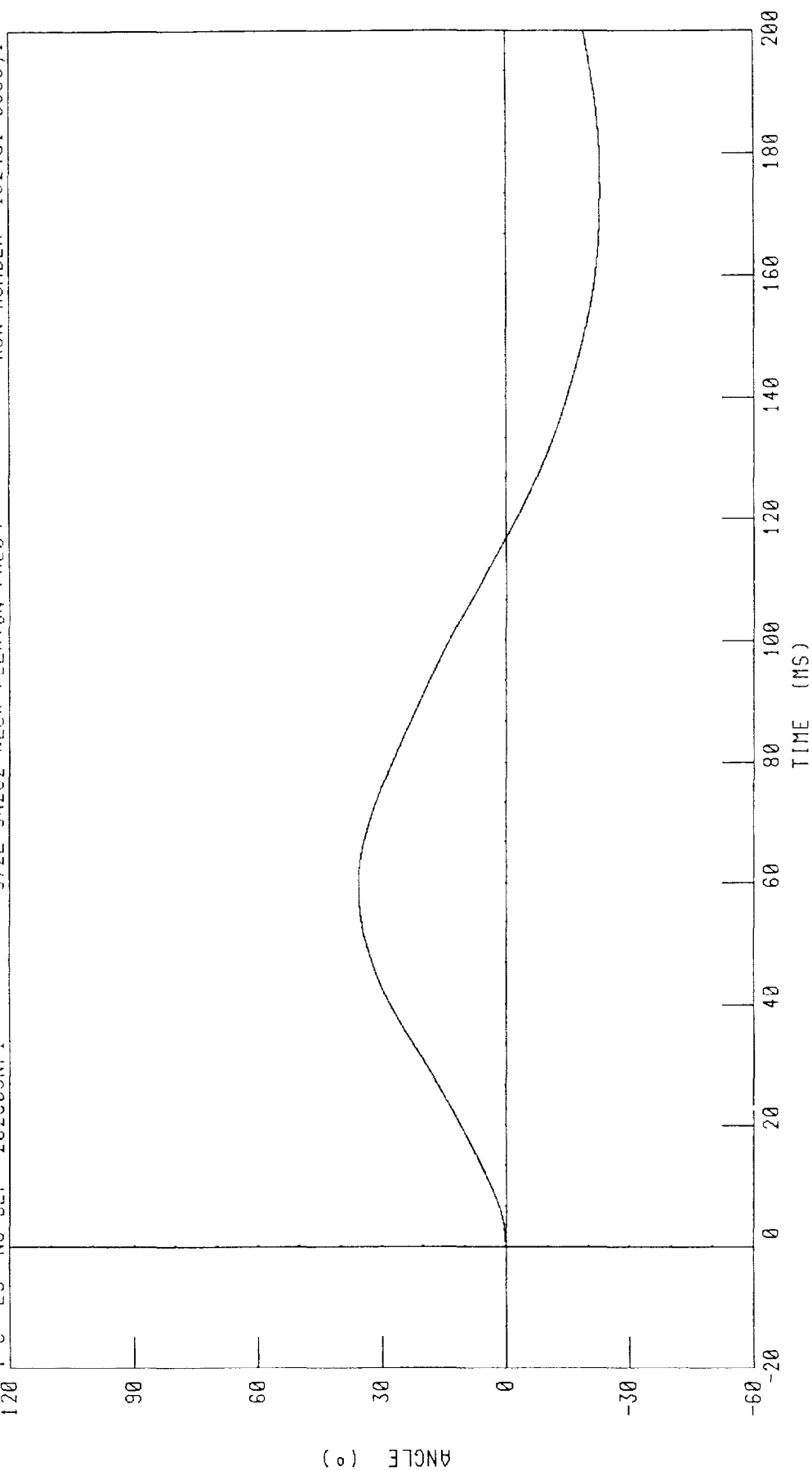
CHANNEL PENXC FILTER CH CLASS 60

PEAK DATA 27 39 C 0 8 88 MS, -3 45 C 0 43 04 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

ROTATION ABOUT BASE OF NECK

TPC TEST NUMBER 202C09NF1 572E SN202 NECK FLEXION CAL09 RUN NUMBER 102401 0905,1



CHANNEL BETA FILTER CH CLASS 60 PEAK DATA 35 85 ° @ 59 28 MS, -23 08 ° @ 173 68 MS

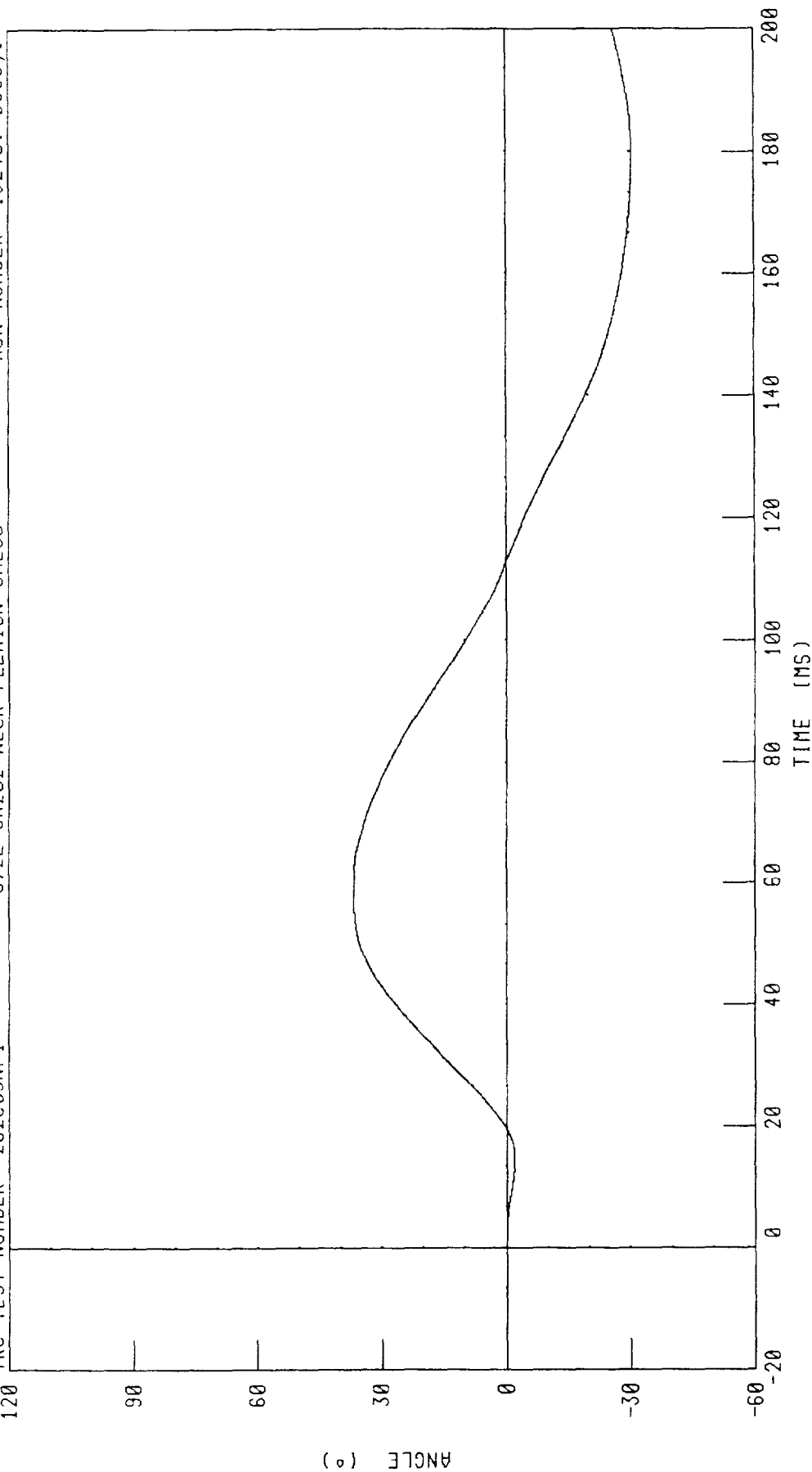
PART 572-E HYBRID III NECK FLEXION CALIBRATION

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 202C09NF1

572E SN202 NECK FLEXION CAL09

RUN NUMBER 102401 0905,1

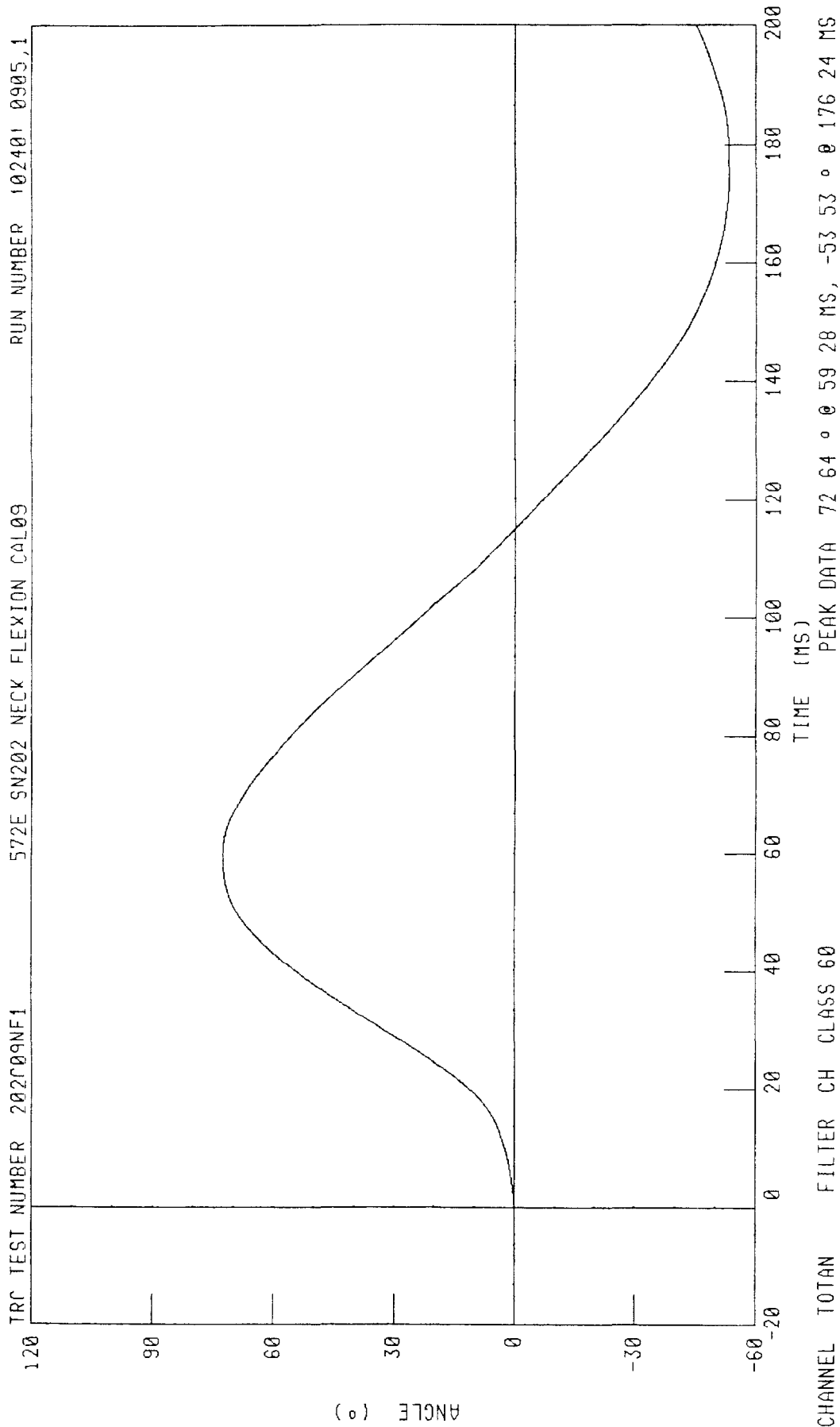


PEAK DATA 36 79 ° @ 59 28 MS, -30 51 ° @ 178 56 MS

CHANNEL THETA FILTER CH CLASS 60

PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL ROTATION



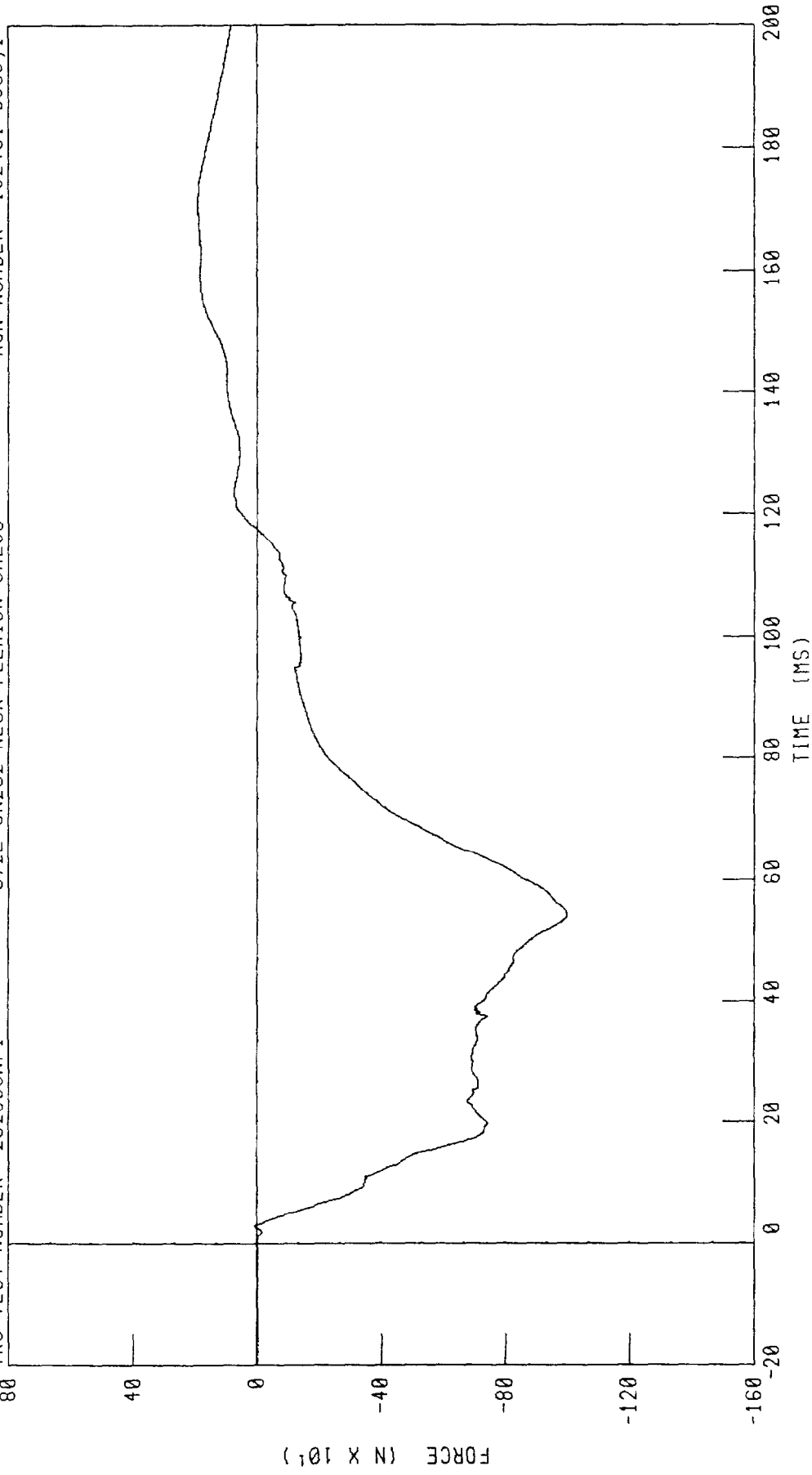
PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK FORCE X AXIS

TRC TEST NUMBER 202C09NF1

572E SN202 NECK FLEXION CAL09

RUN NUMBER 102401 0905,1



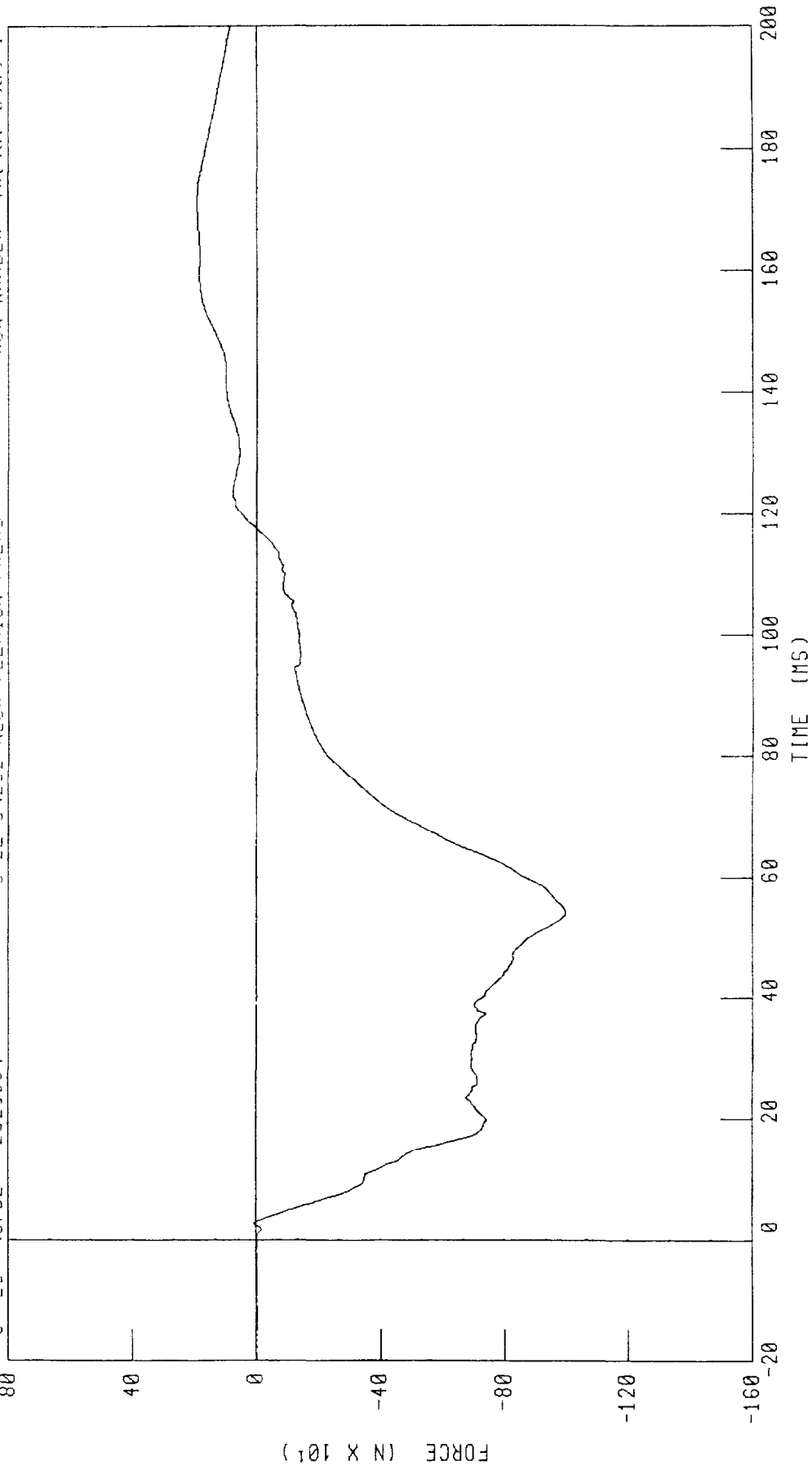
CHANNEL NEKXF FILTER CH CLASS 1000

PEAK DATA 193 97 N 0 169 84 MS, -998 32 N 0 54 16 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION

TRC TEST NUMBER 202C09NF1 572E SN202 NECK FLEXION CAL09 RUN NUMBER 102401 0905 1



CHANNEL NEKXFC FILTER CH CLASS 600 PEAK DATA 193 89 N @ 170 00 MS, -997 88 N @ 54 16 MS

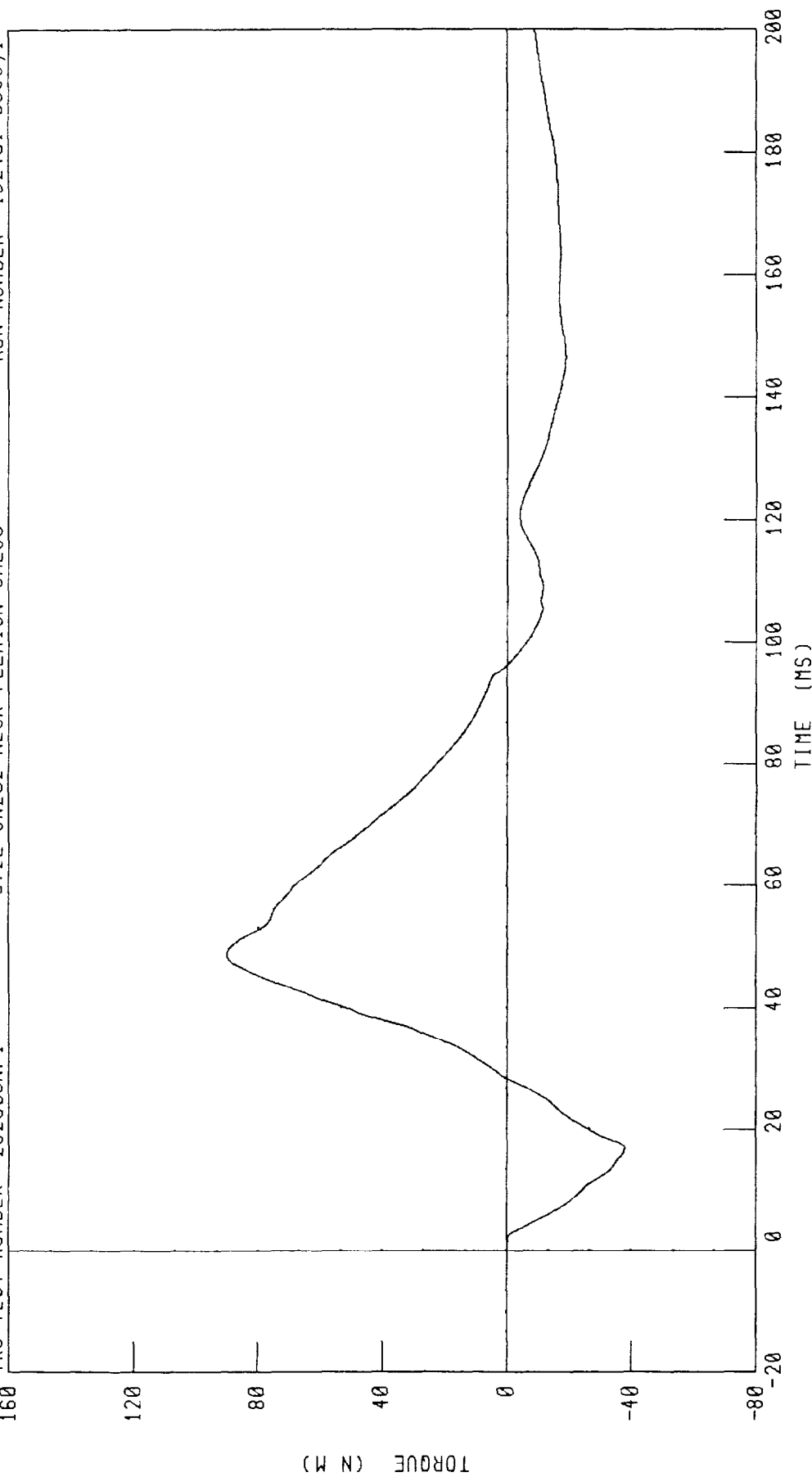
PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK MOMENT Y AXIS

TRC TEST NUMBER 202C09NF1

572E SN202 NECK FLEXION CAL09

RUN NUMBER 102401 0905,1



PEAK DATA 90 06 N M 0 48 96 MS, -38 00 N M 0 16 88 MS

CHANNEL NEKYM FILTER CH CLASS 600

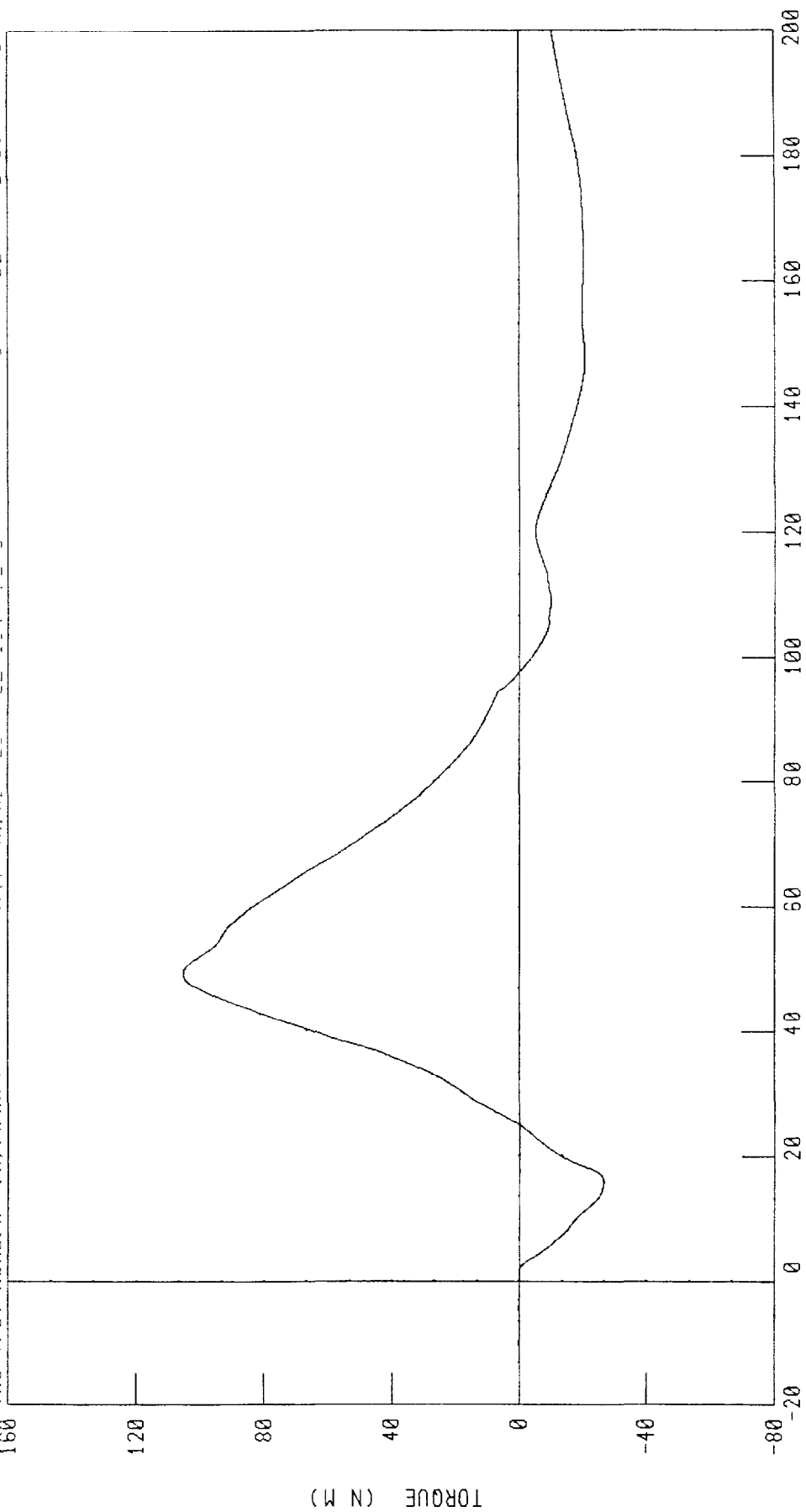
PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 202009NF1

572F 5N202 NECK FLEXION CAL09

RUN NUMBER 102401 0905 1



TIME (MS)

CHANNEL NEKOM FILTER CH CLASS 600

PEAK DATA 105 26 N M 0 49 12 MS, -26 71 N M 0 15 84 MS

TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

24-OCT-01

NECK EXTENSION TEST - 6 CHANNEL TRANSDUCER

TRC INC. TEST NO: 202C09NE1 572E SN202 NECK EXT CAL09

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	60.0 %
IMPACT VELOCITY		5.95 - 6.19 M/S	6.05 M/S
PENDULUM DECELERATION	10 MS	17.20 - 21.20 G	18.90 G
	20 MS	14.00 - 19.00 G	17.57 G
	30 MS	11.00 - 16.00 G	15.48 G
MAX PENDULUM G		22 G MAX	19.04 G
MAX PENDULUM G ABOVE 30 MS		22 G MAX	15.41 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		38 - 46 MS	41.36 MS
D PLANE	MAX	81 - 106 DEG.	97.33 DEG.
ROTATION	TIME	72 - 82 MS	78.24 MS
MOMENT ABOUT OCCIPITAL	MIN	-80.0/-52.9 NM	-68.16 NM
CONDYLE	TIME	65 - 79 MS	73.44 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		147 - 174 MS	156.72 MS
NEGATIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		120 - 148 MS	142.08 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 102401.1003;1

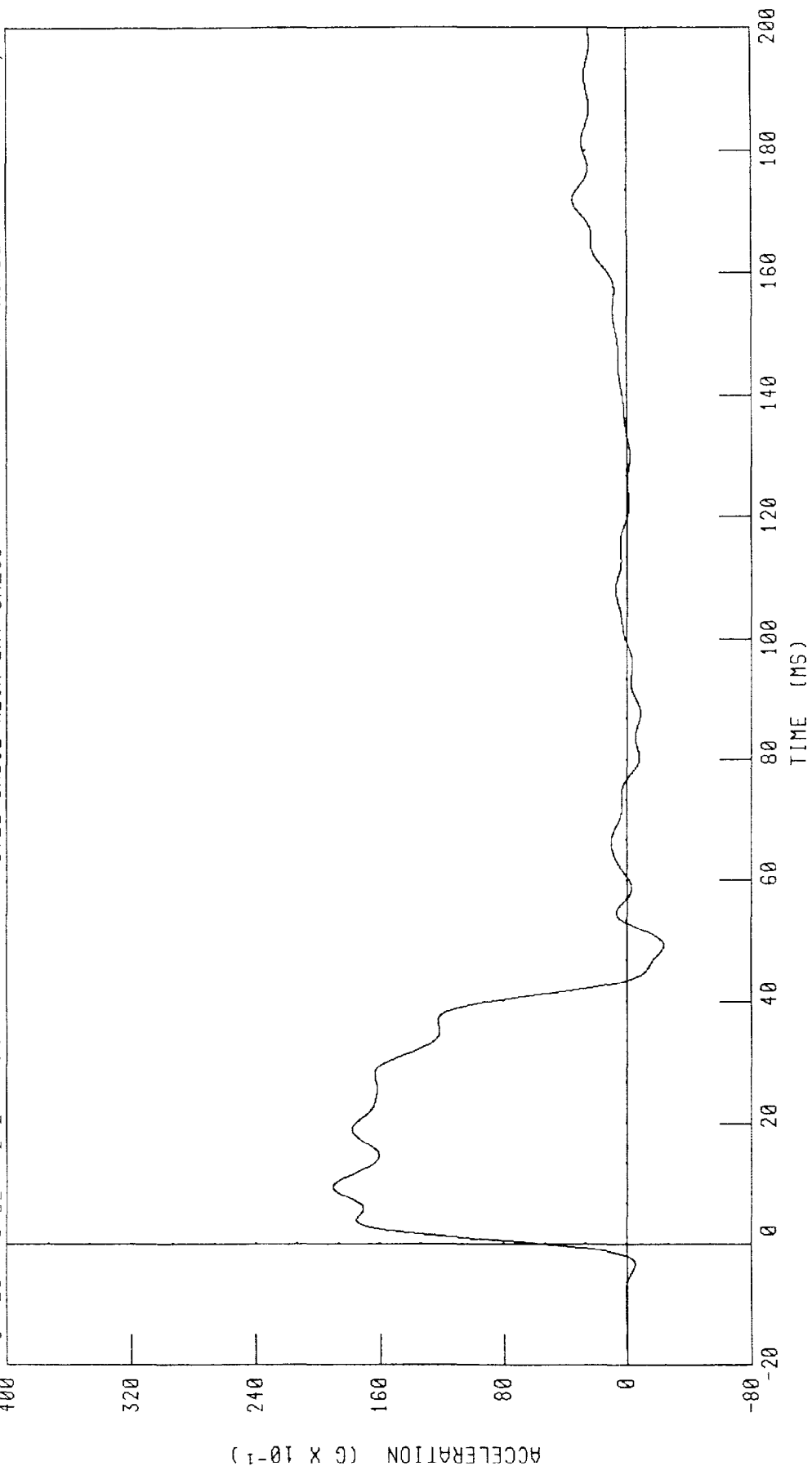
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 202C09NF1

572E SN202 NECK EXT CAL09

RUN NUMBER 102401 1003,1



CHANNEL PENXC FILTER CH CLASS 60 PEAK DATA 19 05 C 0 9 36 MS, -2 38 C 0 49 28 MS

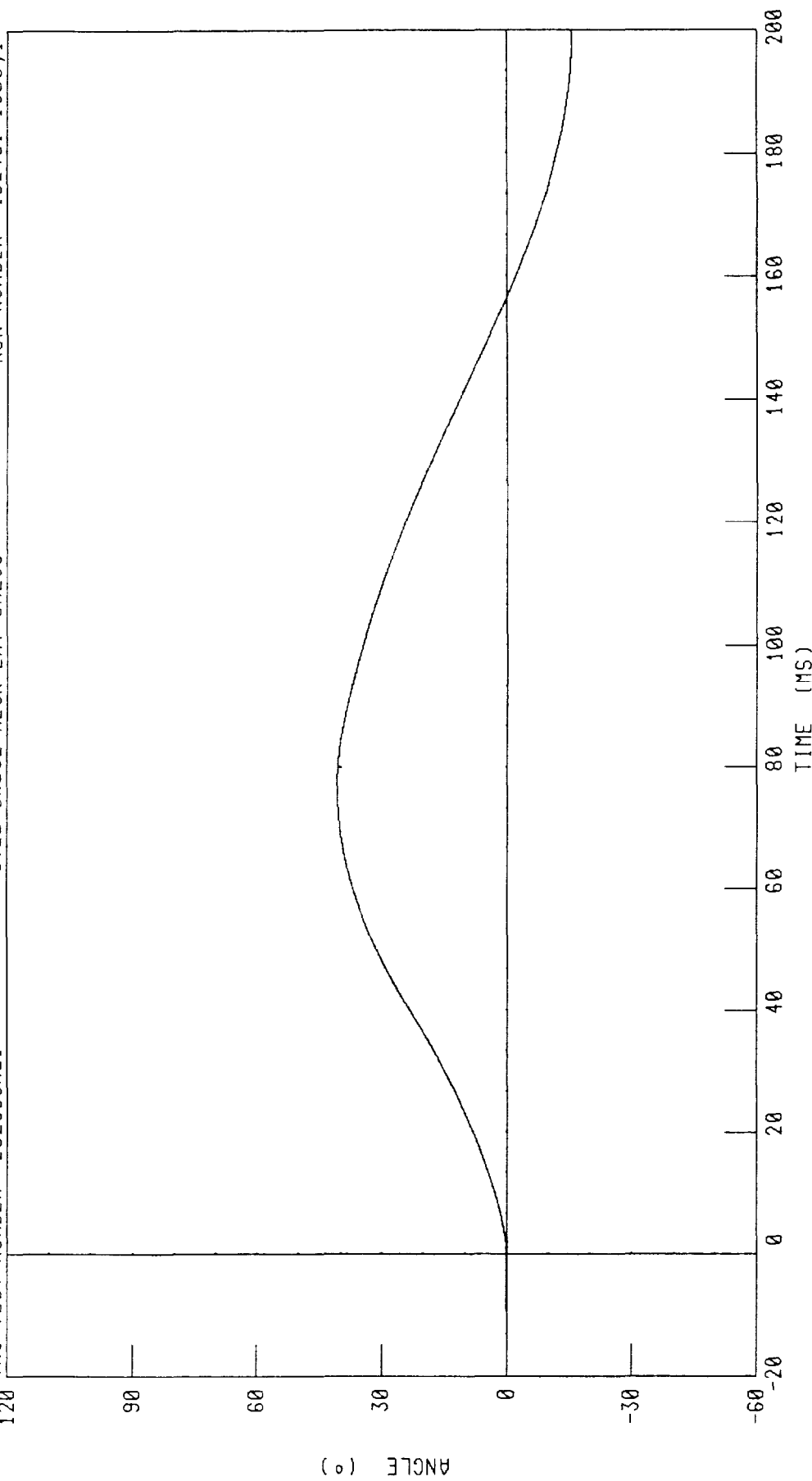
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER 202C09NE1

572E SN202 NECK EXT CAL09

RUN NUMBER 102401 1003,1



CHANNEL BETA FILTER CH CLASS 60 PEAK DATA 40 78 ° 0 76 08 MS, -15 92 ° 0 200 00 MS

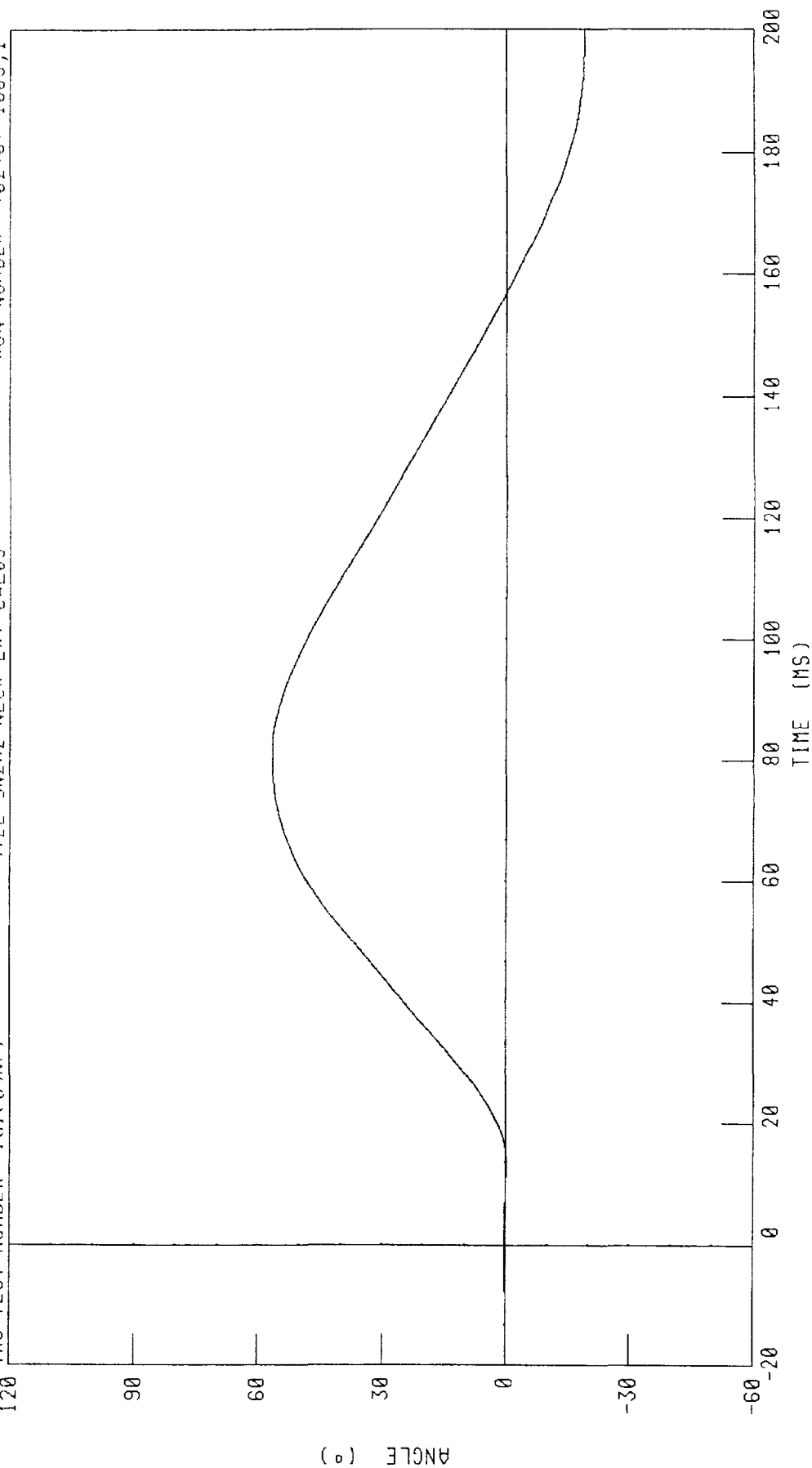
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT OCCIPITAL CONDYLE

IRC TEST NUMBER 202009NF1

572E SN202 NECK EXT CAL09

RUN NUMBER 102401 1003,1



PEAK DATA 56 65 ° @ 80 64 MS, -19 17 ° @ 200 00 MS

CHANNEL THETA FILTER CH CLASS 60

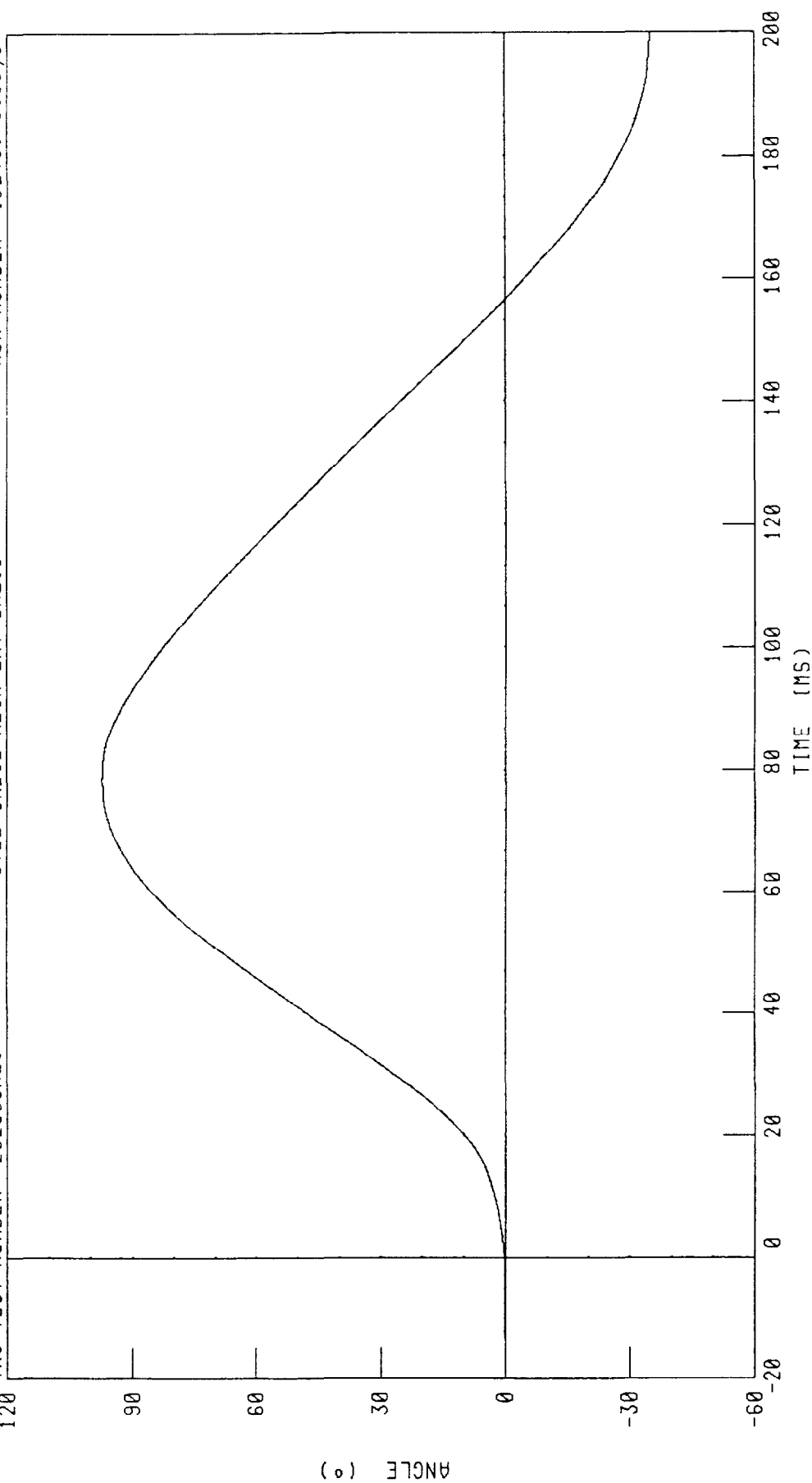
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

TOTAL ROTATION

TRC TEST NUMBER 202C09NE1

572E SN202 NECK EXT CAL09

RUN NUMBER 102401 1003,1

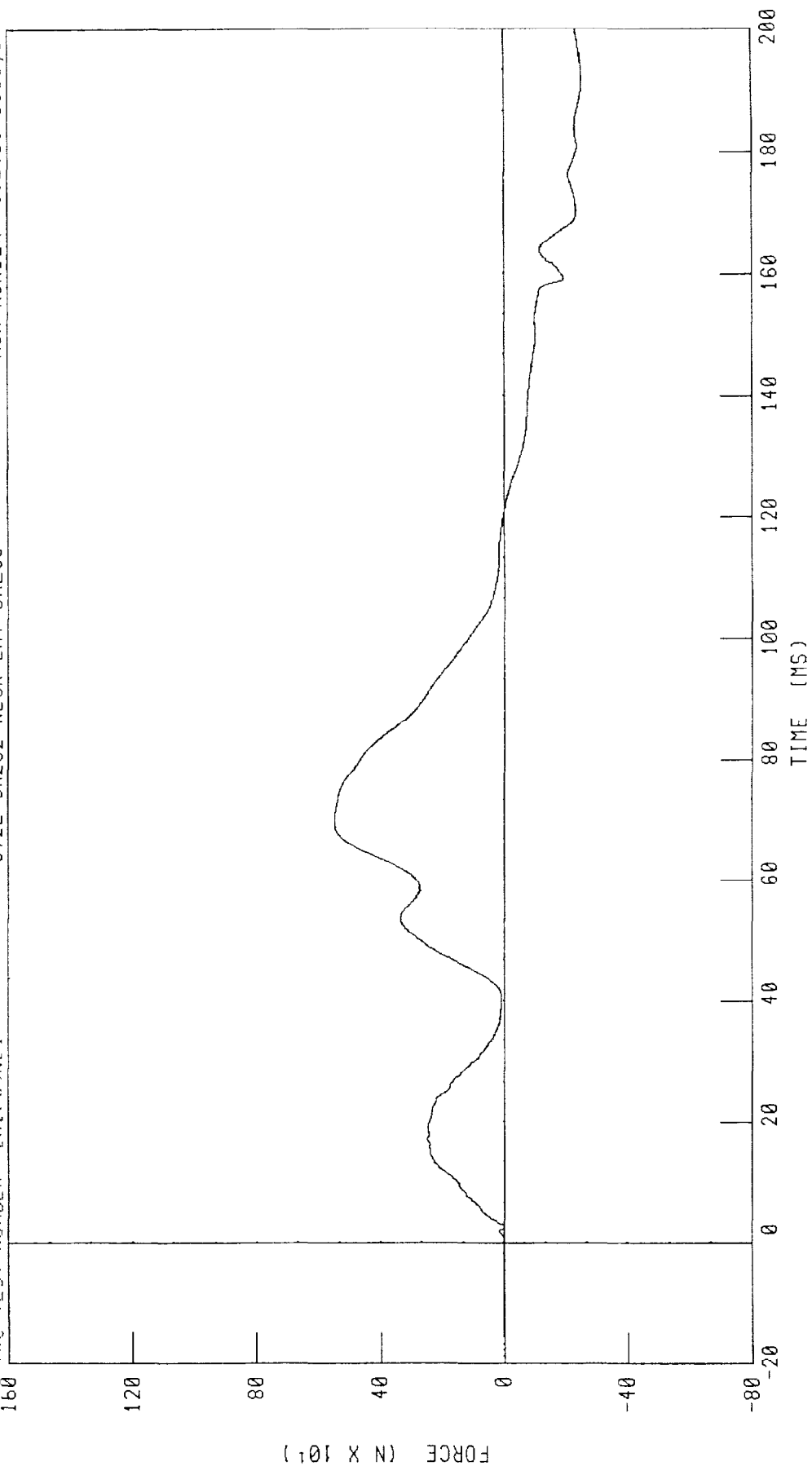


CHANNEL TOTAL FILTER CH CLASS 60 PEAK DATA 97 33 ° 78 24 MS, -35 09 ° 200 00 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK FORCE X AXIS

TRC TEST NUMBER 202C09NE1 572E SN202 NECK EXT CAL09 RUN NUMBER 102401 1003,1

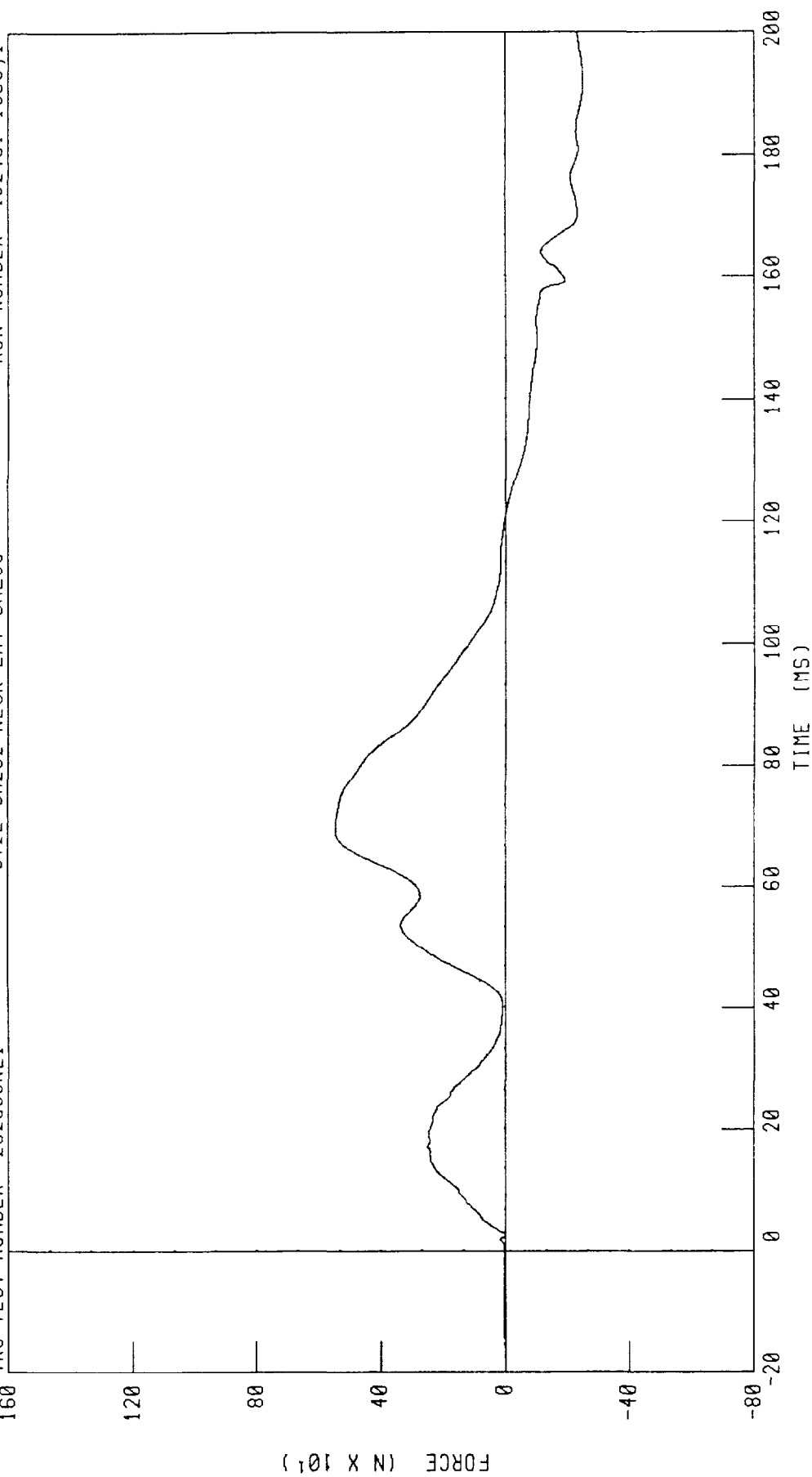


CHANNEL NEKXF FILTER CH CLASS 1000 PEAK DATA 549 03 N 0 69 52 MS, -253 51 N 0 191 84 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION

TRC TEST NUMBER 202C09NE1 572E SN202 NECK EXT CAL09 RUN NUMBER 102401 1003,1



CHANNEL NEKXFC FILTER CH CLASS 600

PEAK DATA 548 65 N @ 69 92 MS, -253 18 N @ 192 24 MS

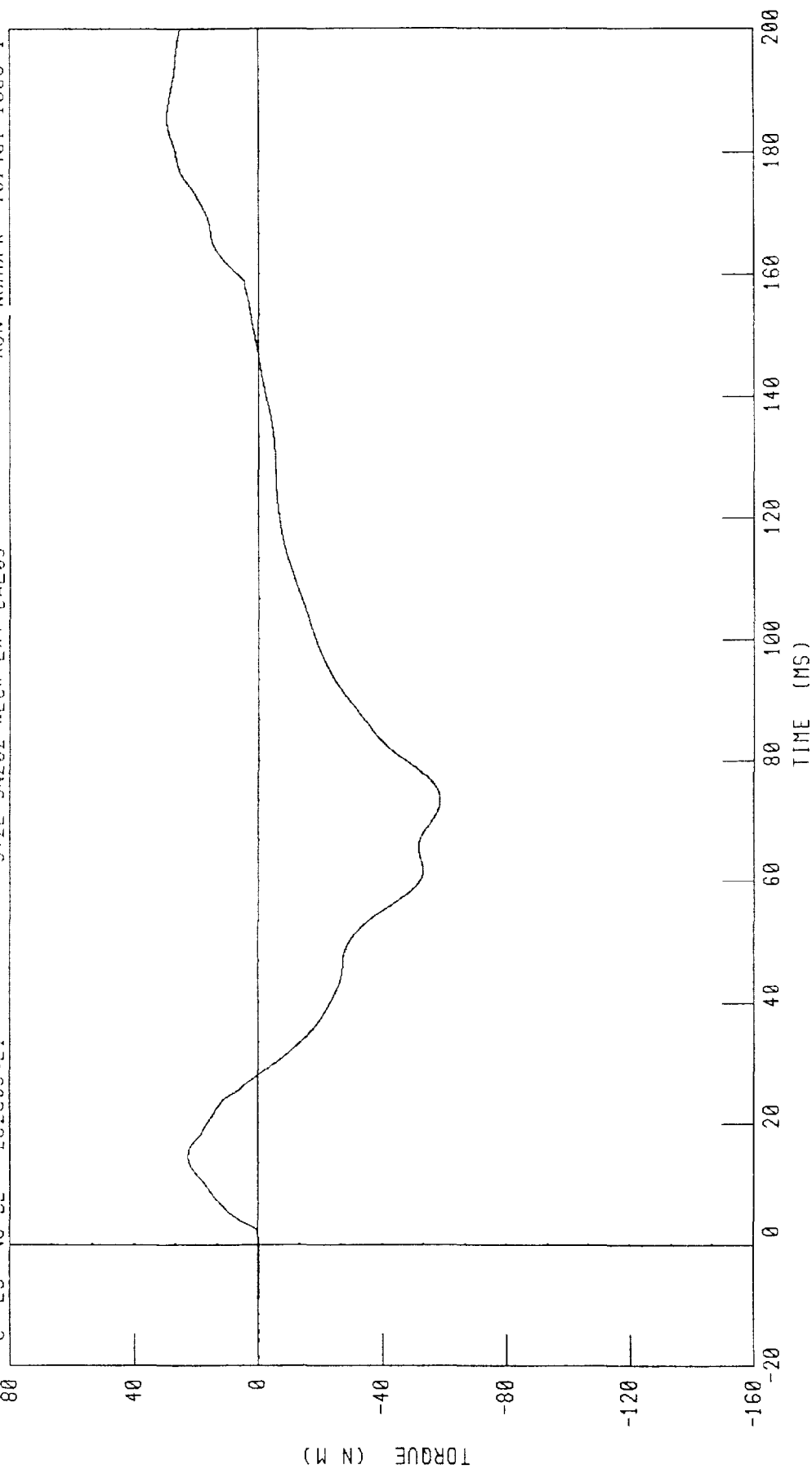
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK MOMENT Y AXIS

TPC TEST NUMBER 202C09NE1

572E SN202 NECK EXT CAL09

RUN NUMBER 102401 1003 1

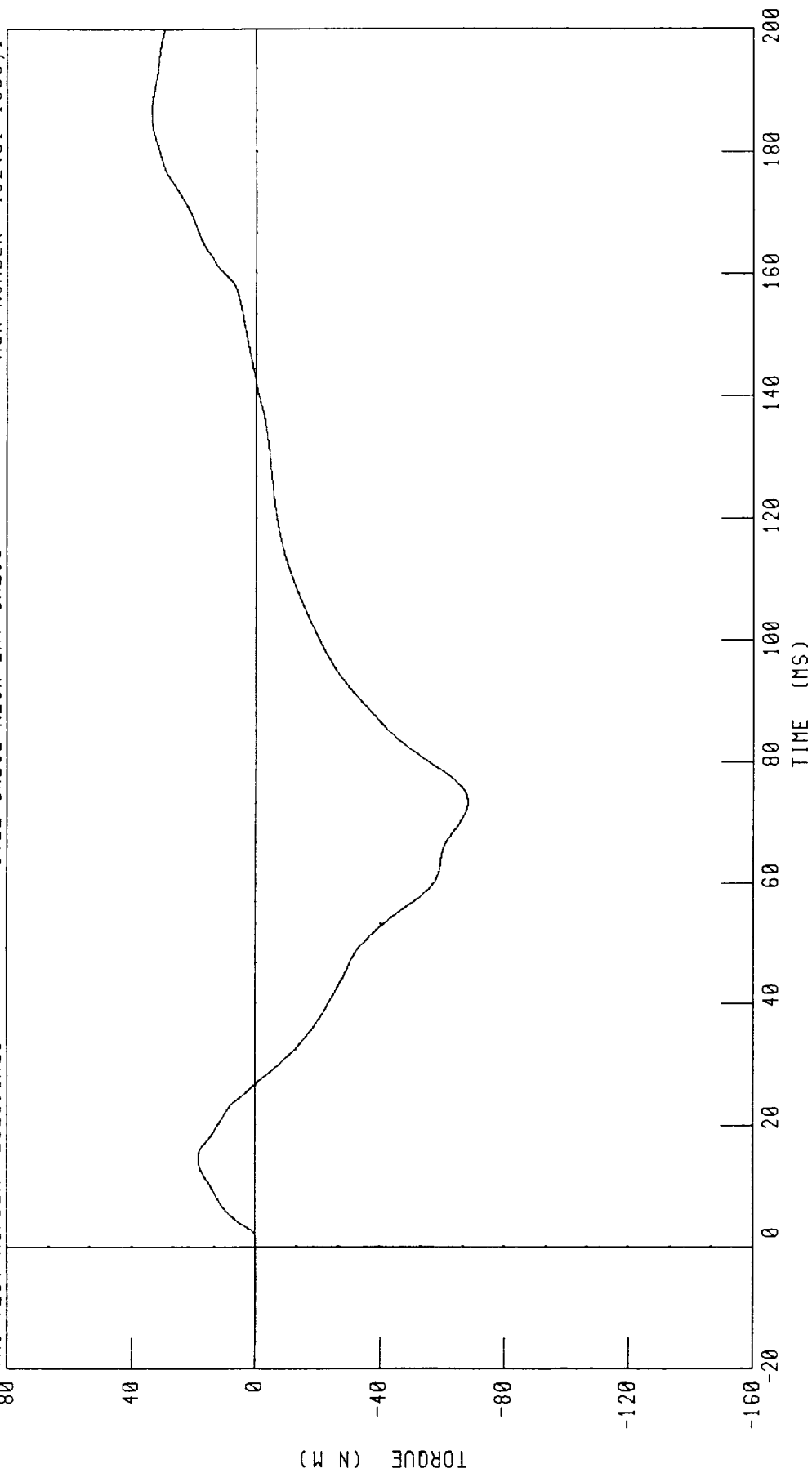


CHANNEL NEKYM FILTER CH CLASS 600 PEAK DATA 29 61 N M 0 185 68 MS, -58 60 N M 0 73 52 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 202C09NE1 572E SN202 NECK EXT CAL09 RUN NUMBER 102401 1003,1



CHANNEL NEKOM FILTER CH CLASS 600 PEAK DATA 33 75 N M @ 185 92 MS, -68 16 N M @ 73 44 MS

TRANSPORTATION RESEARCH CENTER INC.

THORAX IMPACT TEST

HYBRID III 50th

24-OCT-01

TRC INC.

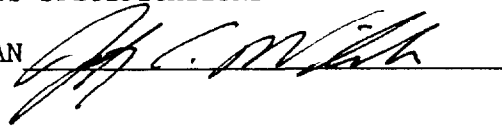
TEST NO: 202C09TH1

572E SN202 H.S.THORAX CAL09

TEST PARAMETER	HIGH SPEED TEST	TEST RESULTS
	SPECIFICATION	
TEMPERATURE	20.6-22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	59.0 %
PENDULUM VELOCITY	6.59 - 6.83 M/S	6.59 M/S
MAXIMUM DEFLECTION	63.5 - 72.6 MM	67.8 MM
MAXIMUM RESISTIVE FORCE	5159 - 5894 N	5802. N
INTERNAL HYSTERESIS	69% - 85%	70.9%

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 102401.1255;1

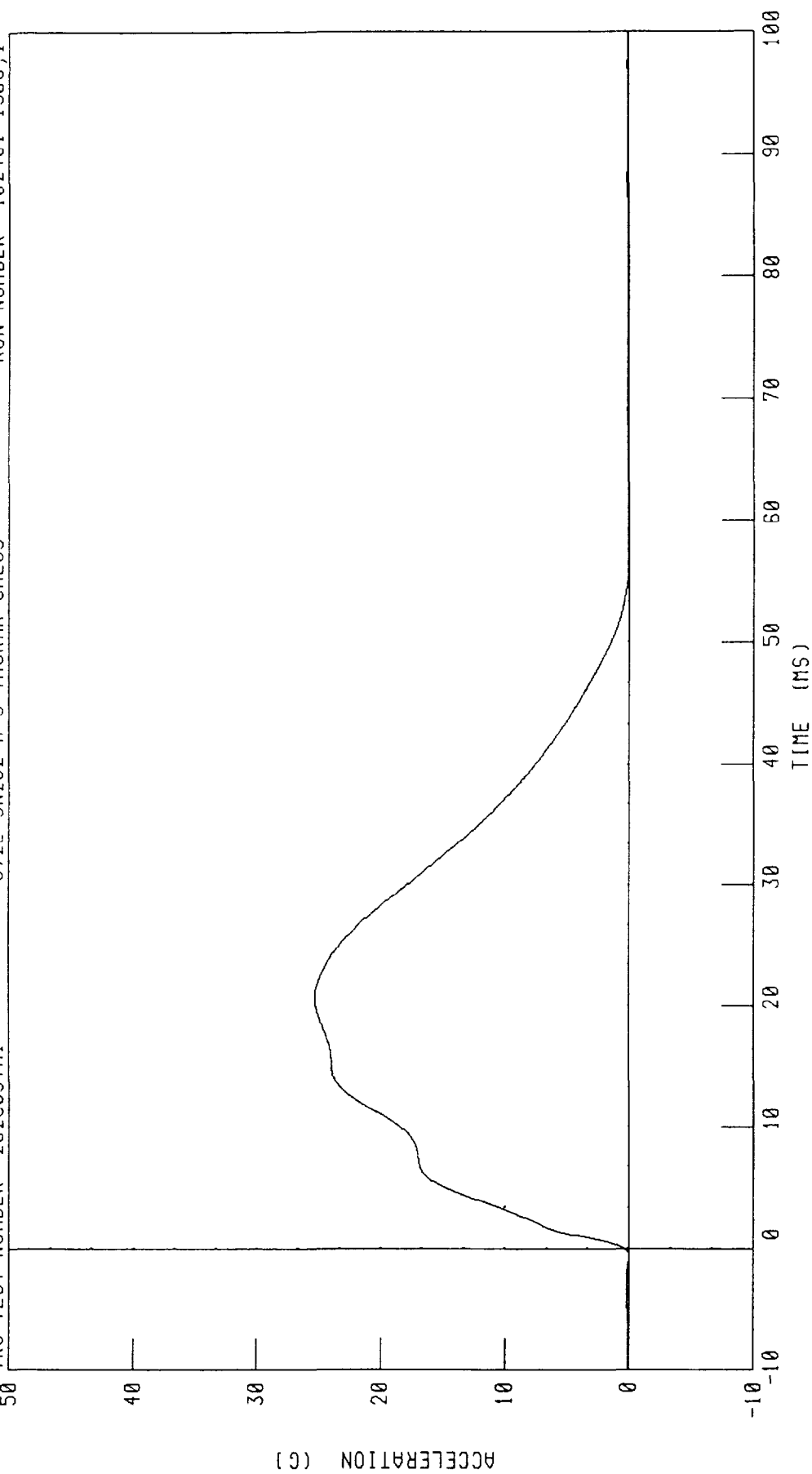
PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 202C09TH1

572E SN202 H S THORAX CAL09

RUN NUMBER 102401 1308,1



CHANNEL PENXC FILTER CH CLASS 180 PEAK DATA 25 33 G @ 20 64 MS, -0 04 C @ -0 64 MS

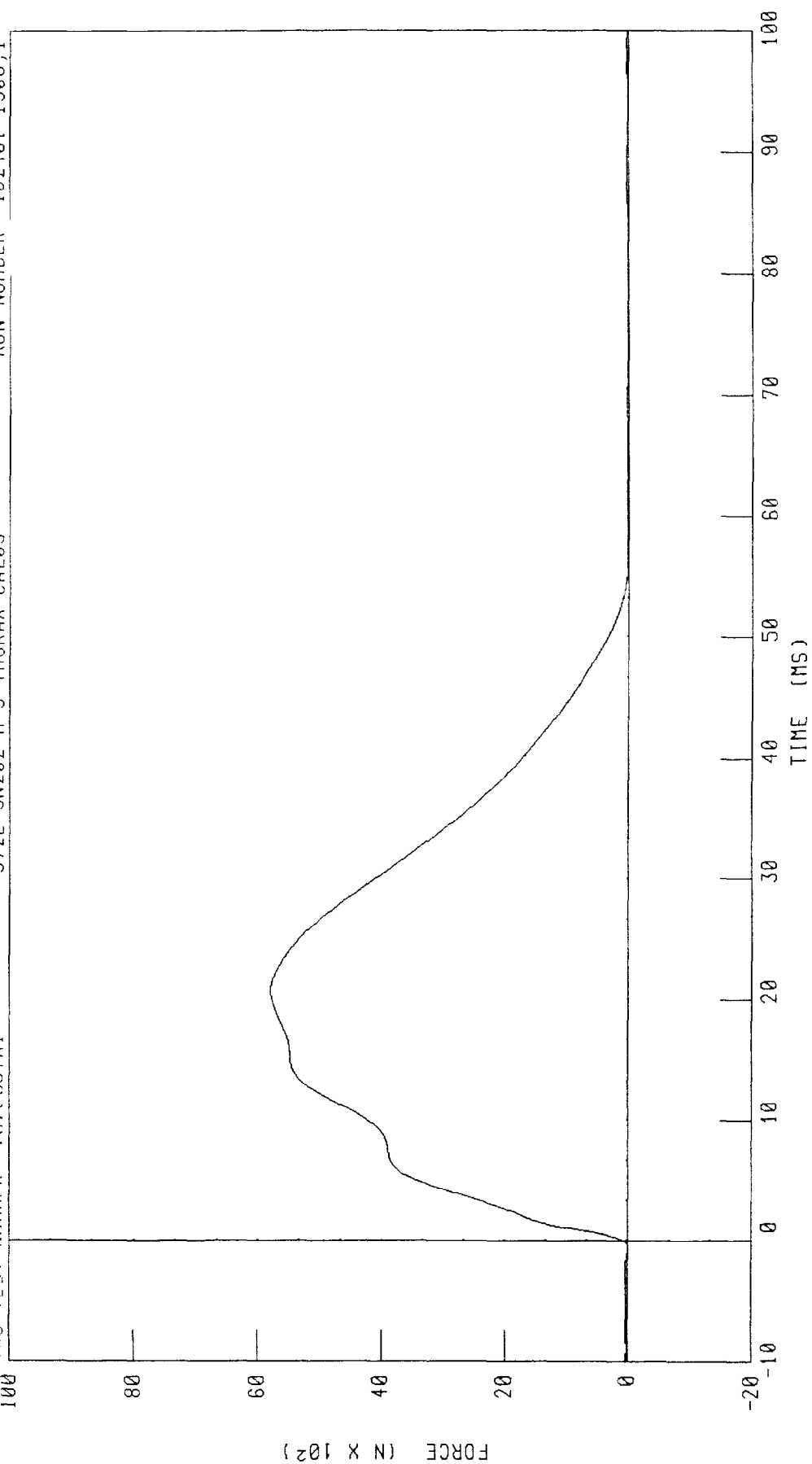
PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM FORCE

TRC TEST NUMBR 202009TH1

572E SN202 H S THORAX CAL09

RUN NUMBER 102401 1308.1



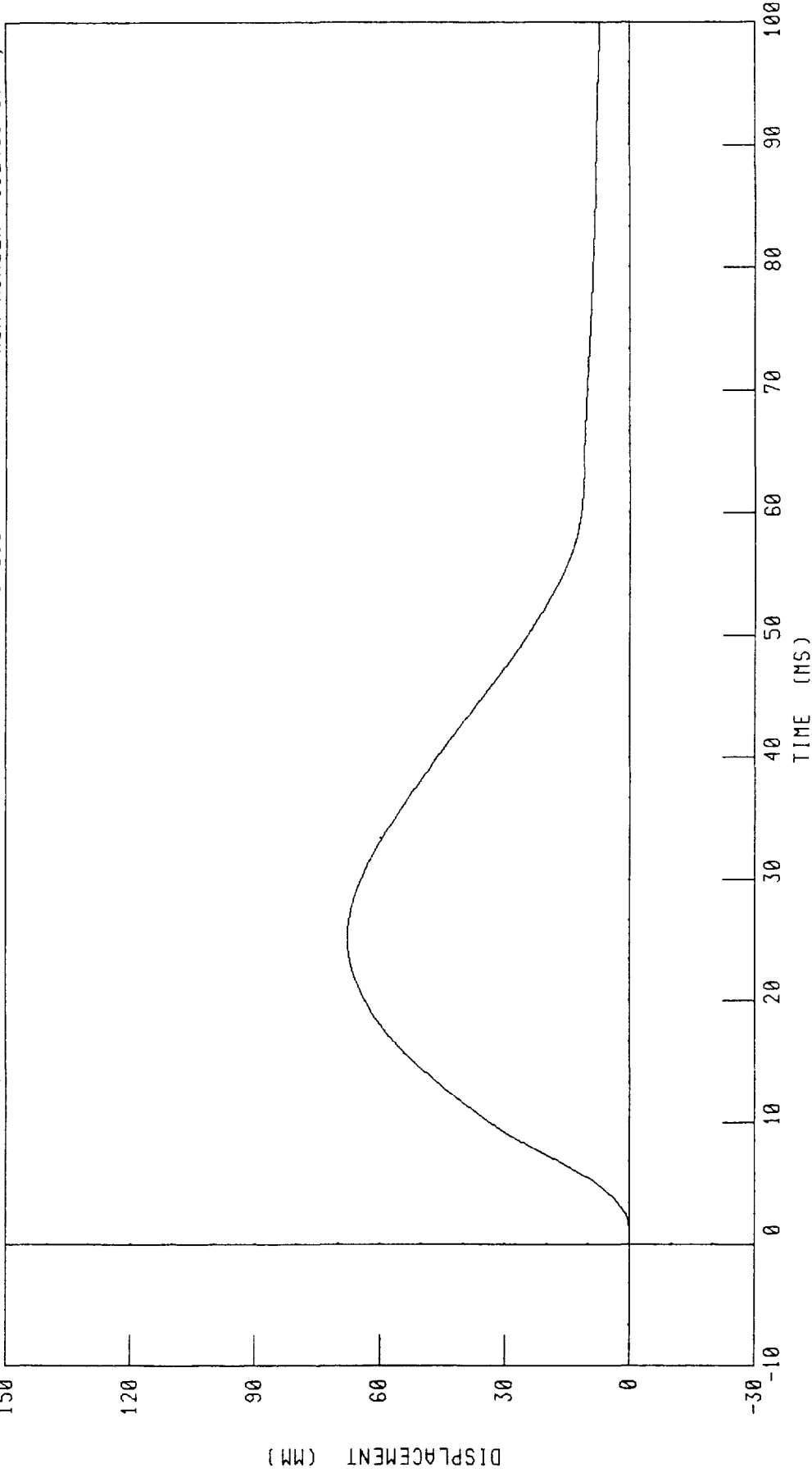
CHANNEL PENXF FILTER CH CLASS 180

PEAK DATA 5802 18 N @ 20 64 MS, -8 64 N @ -0 64 MS

PART 572-E HYBRID III THORAX CALIBRATION

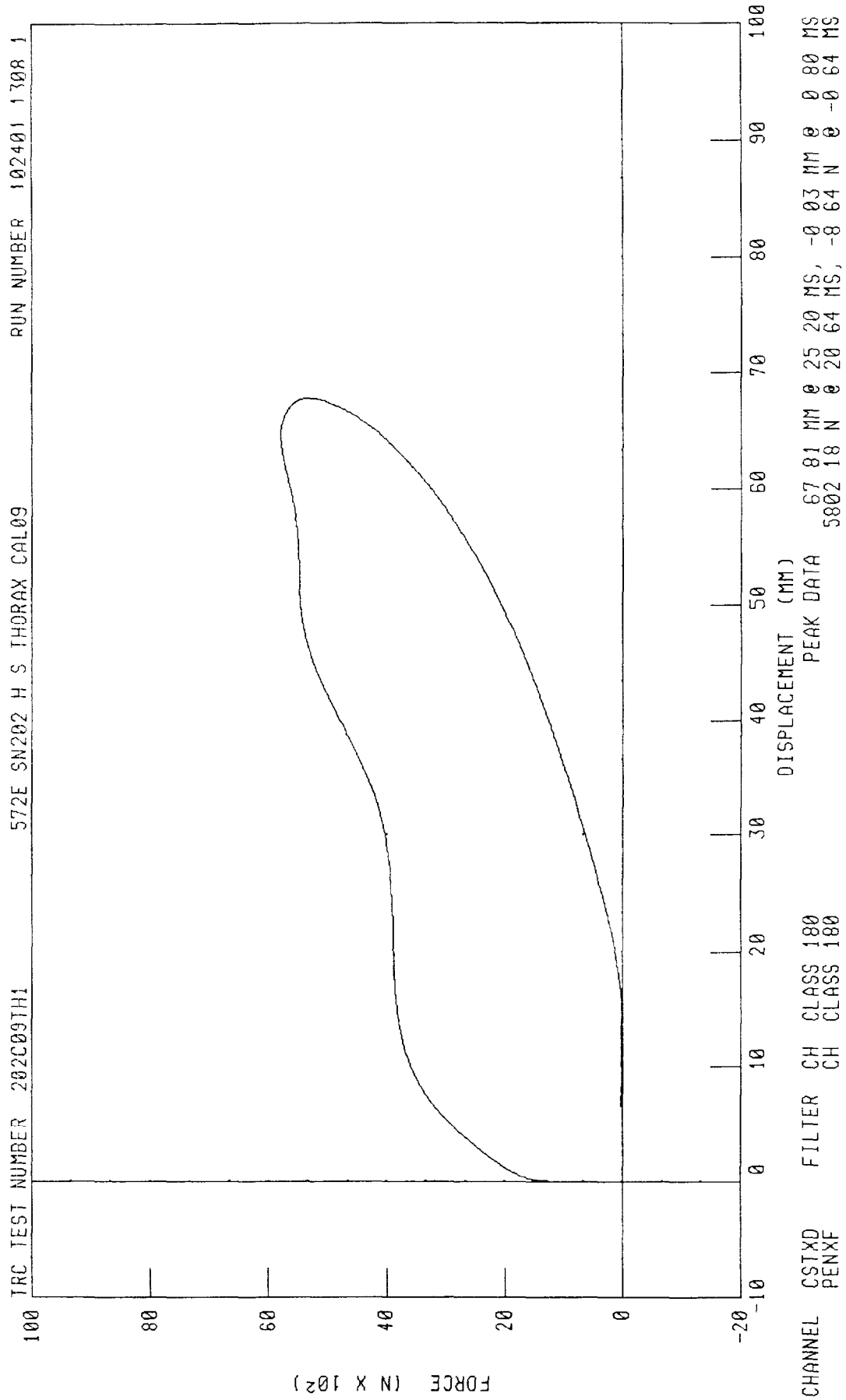
STERNUM DISPLACEMENT

IRC TEST NUMBER 202C09TH1 572E SN202 H S THORAX CAL09 RUN NUMBER 102401 1308,1



CHANNEL CSTXD FILTER CH CLASS 180 PEAK DATA 67 81 MM @ 25 20 MS, -0 03 MM @ 0 80 MS

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



Transportation Research Center Inc

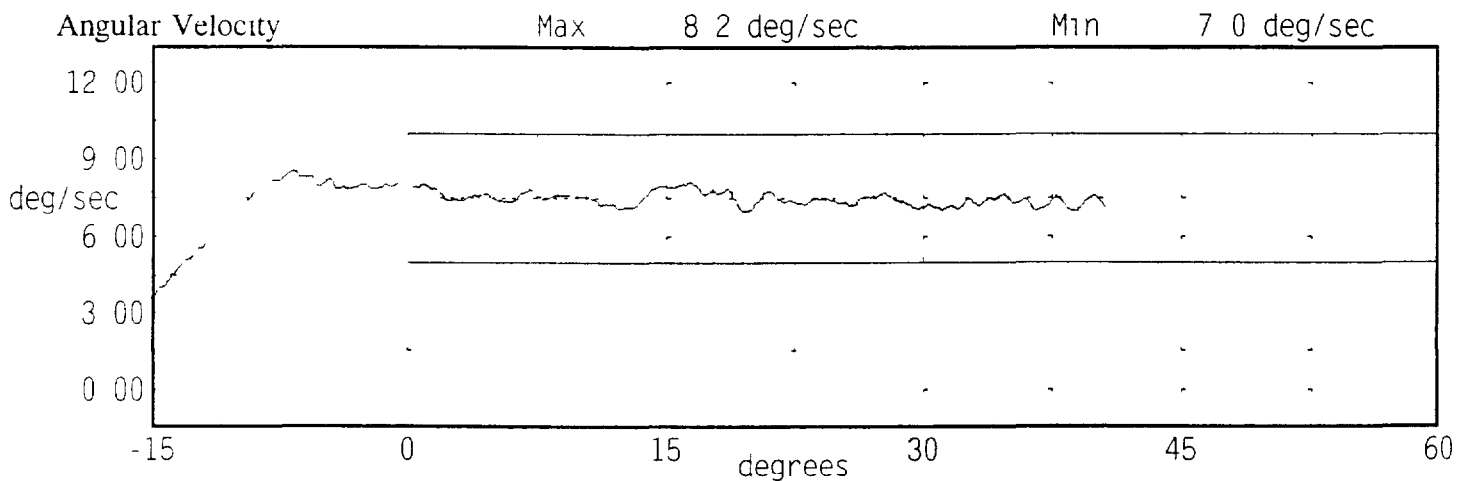
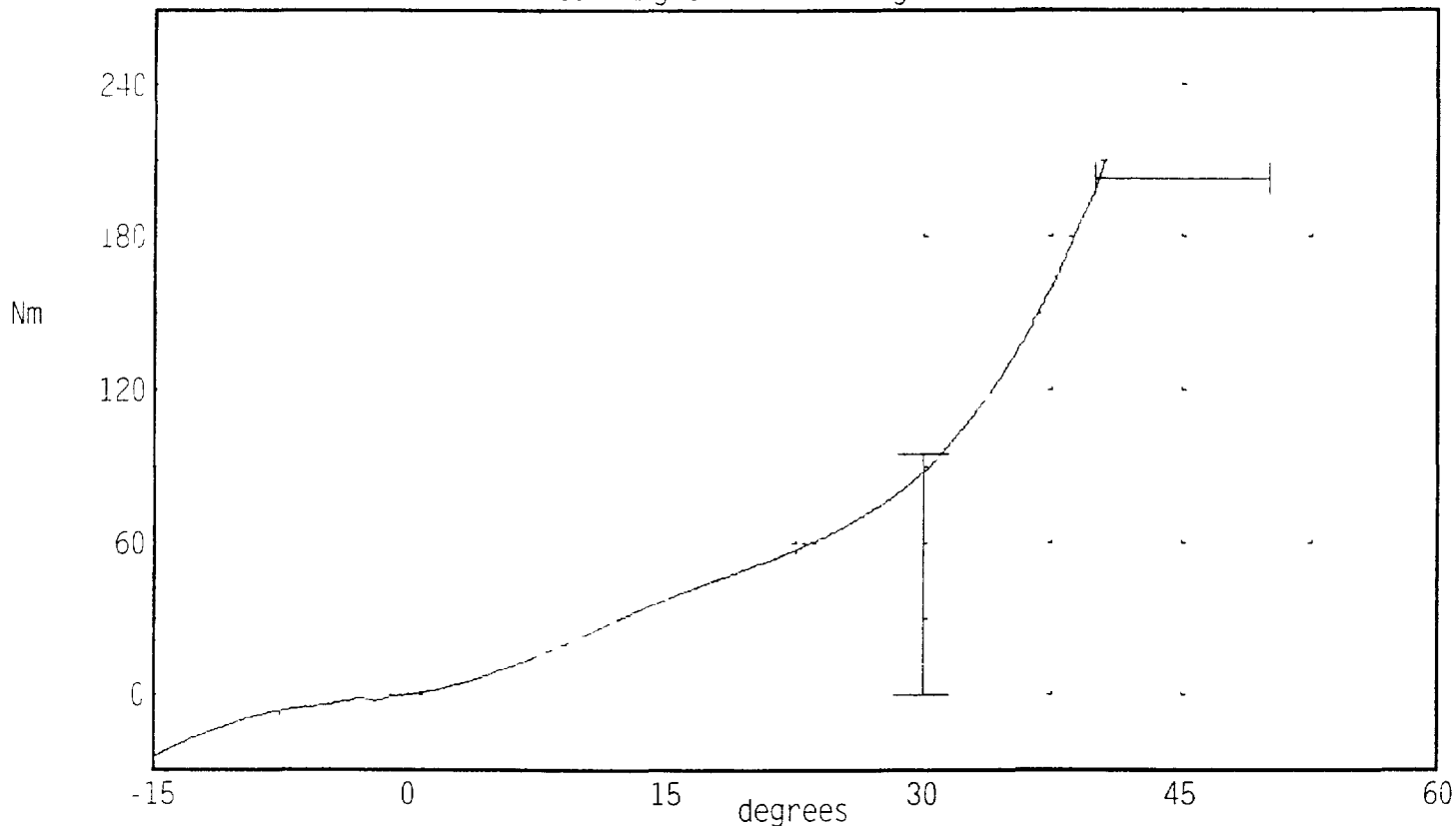
Hybrid III Hip Range of Motion

Serial Number 202L
Test Number 202C09
Comments

Date 10/23/2001
Time 09 51

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.7 °C Pass
Humidity	10 - 70	61 % Pass
Moment at 30 deg	<= 94.9	87.9 Nm Pass
Angle at 203 Nm	40.0 - 50.0	40.2 deg Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec Pass

Moment About H-Point
Peak Moment 210.7 Nm at 40.5 deg
Peak Angle 40.5 deg at 210.7 Nm



Transportation Research Center Inc

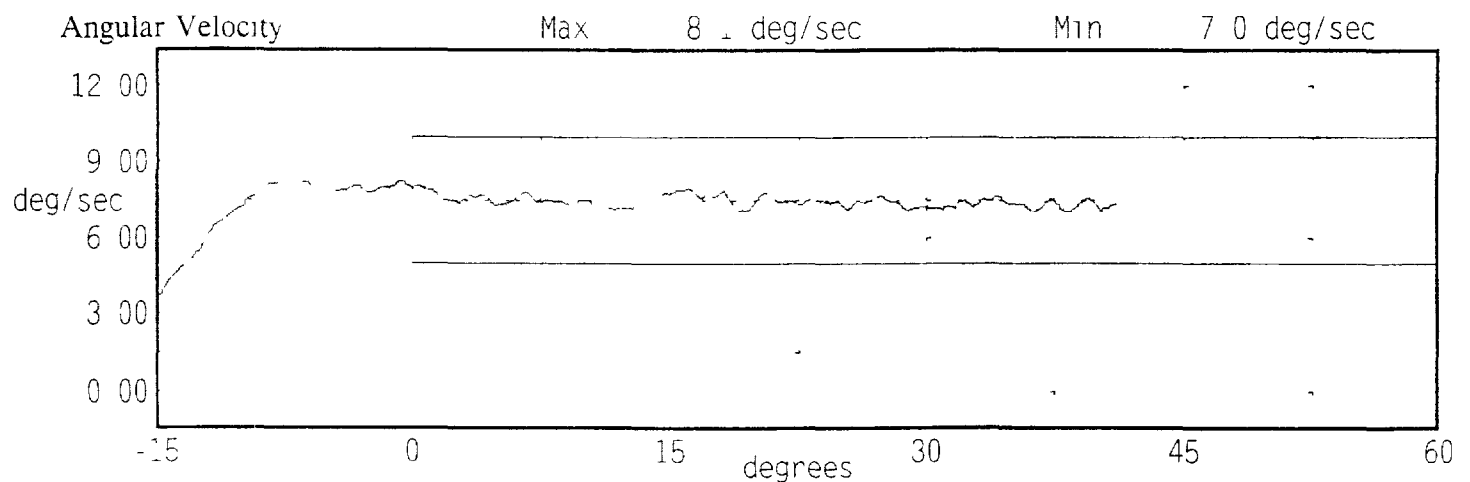
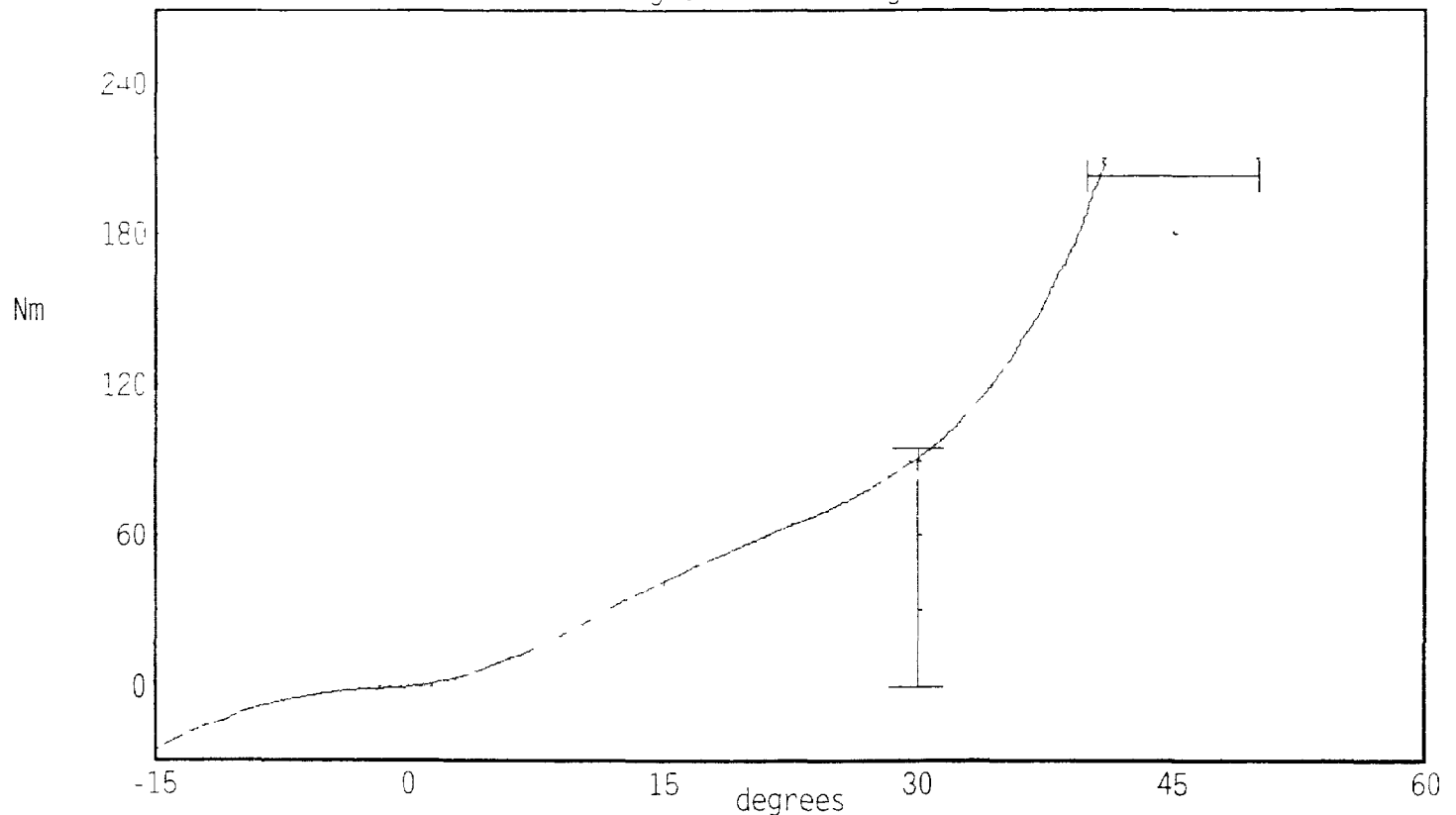
Hybrid III Hip Range of Motion

Serial Number 202R
Test Number 202C09
Comments

Date 10/23/2001
Time 09 44

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.7 °C	Pass
Humidity	10 - 70	61 %	Pass
Moment at 30 deg	<= 91.9	90.9 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	40.8 deg	Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec	Pass

Moment About H-Point
Peak Moment 210.2 Nm at 41.1 deg
Peak Angle 41.1 deg at 210.2 Nm



TRANSPORTATION RESEARCH CENTER INC.

LEFT KNEE IMPACT TEST

HYBRID III 50th

23-OCT-01

TRC INC.

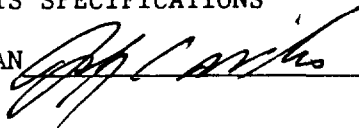
TEST NO: 202C09LK1

572E SN202 LEFT KNEE CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	58.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.10 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5111.6 N

TEST MEETS SPECIFICATIONS

TECHNICIAN



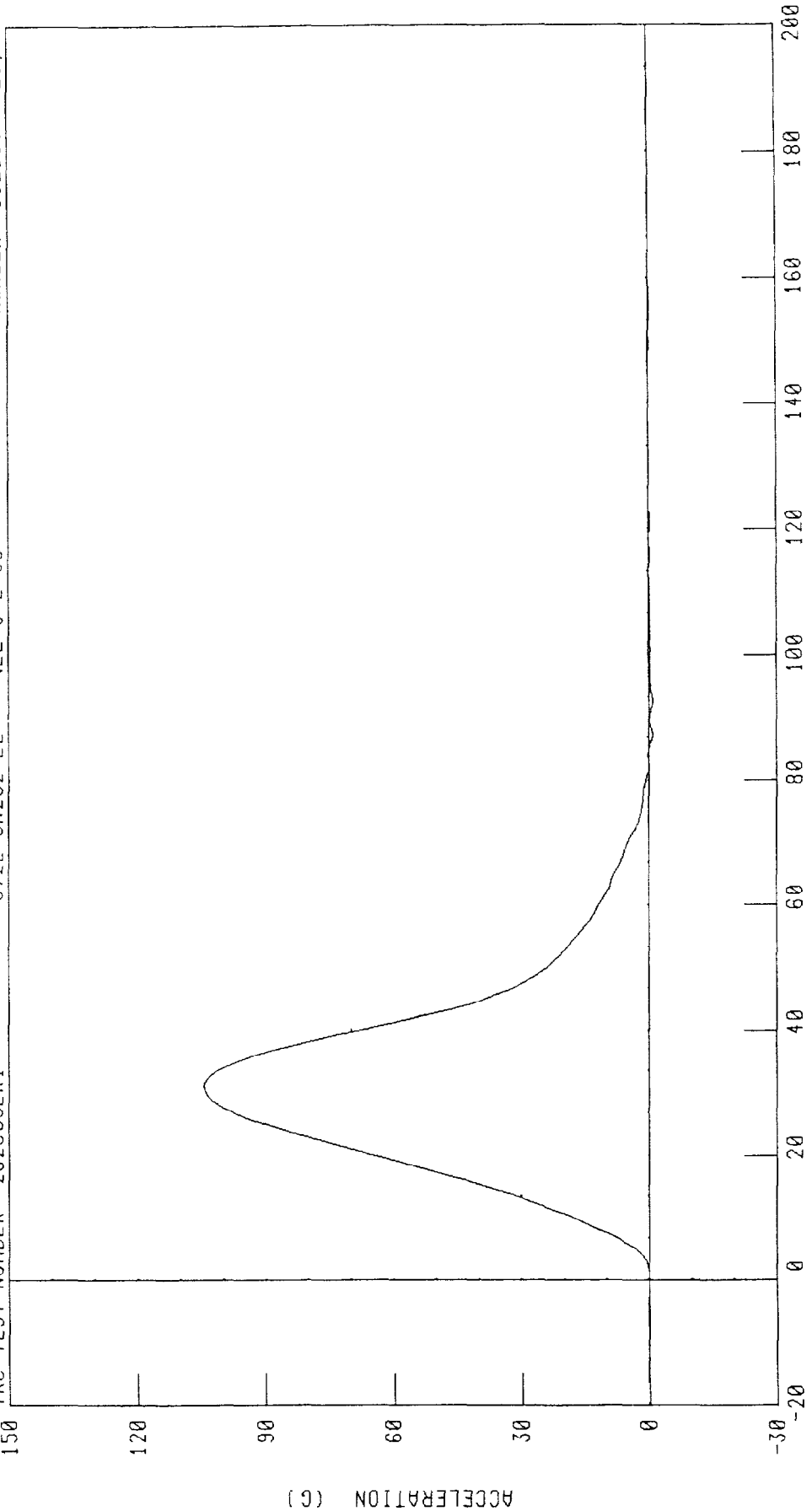
RUN NUMBER: 102301.1323;1

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

TRC TEST NUMBER 202C09LK1

572E SN202 LEFT KNEE CAL 09

RUN NUMBER 102301 1323,1



CHANNEL PENXG FILTER CH CLASS 600

PEAK DATA 104 47 G 3 12 MS, -1 03 G 0 8 72 MS

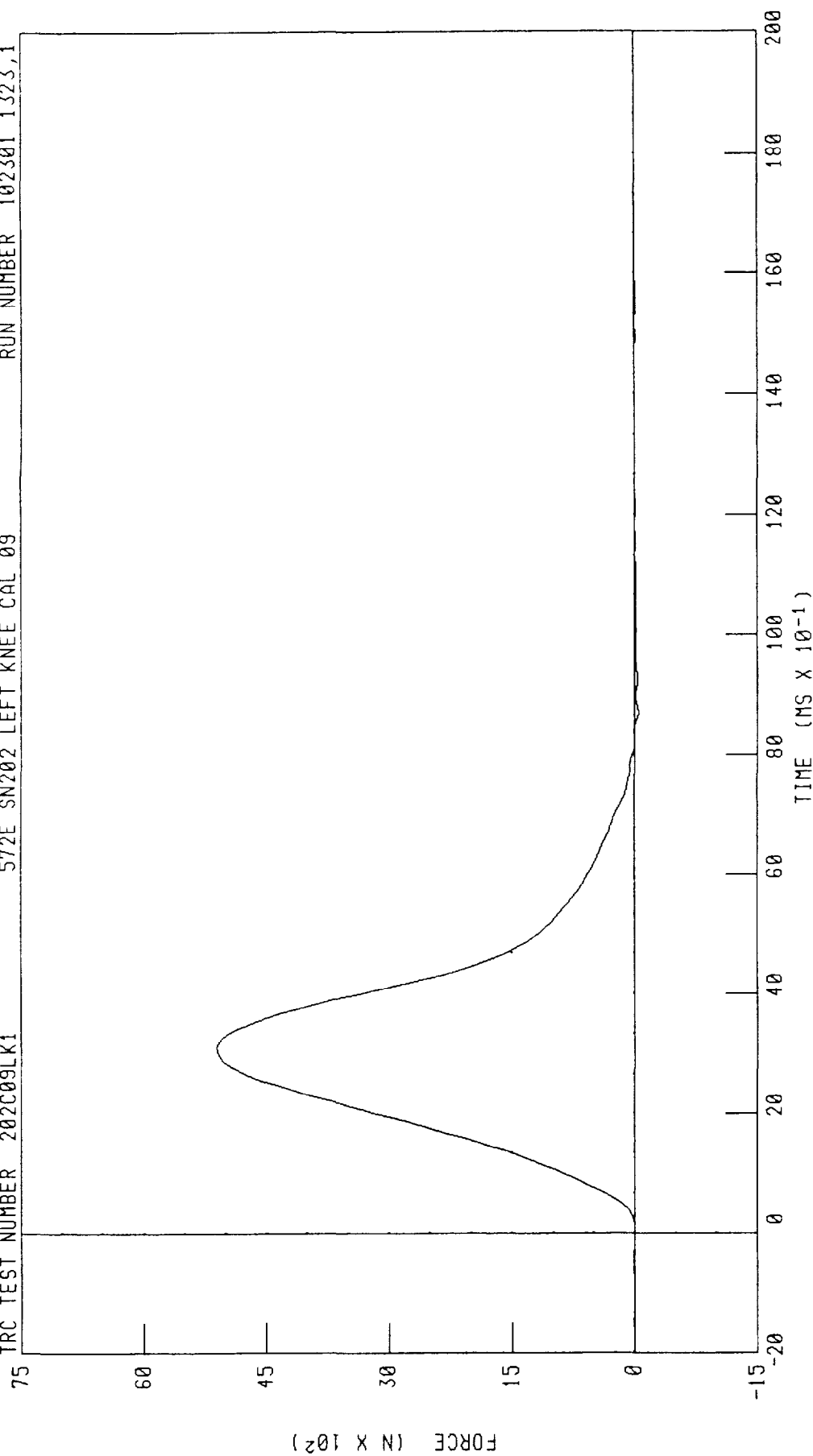
PART 572-E HYBRID III LEFT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

572E SN202 LEFT KNEE CAL 09

TRC TEST NUMBER 202C09LK1

RUN NUMBER 102301 1323,1



CHANNEL PENXF FILTER CH CLASS 600

PEAK DATA 5111 64 N 0 3 12 MS, -50 37 N 0 8 72 MS

TRANSPORTATION RESEARCH CENTER INC.

RIGHT KNEE IMPACT TEST

HYBRID III 50th

23-OCT-01

TRC INC.

TEST NO: 202C09RK1

572E SN202 RIGHT KNEE CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	59.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.13 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5525.0 N

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 102301.1119;1

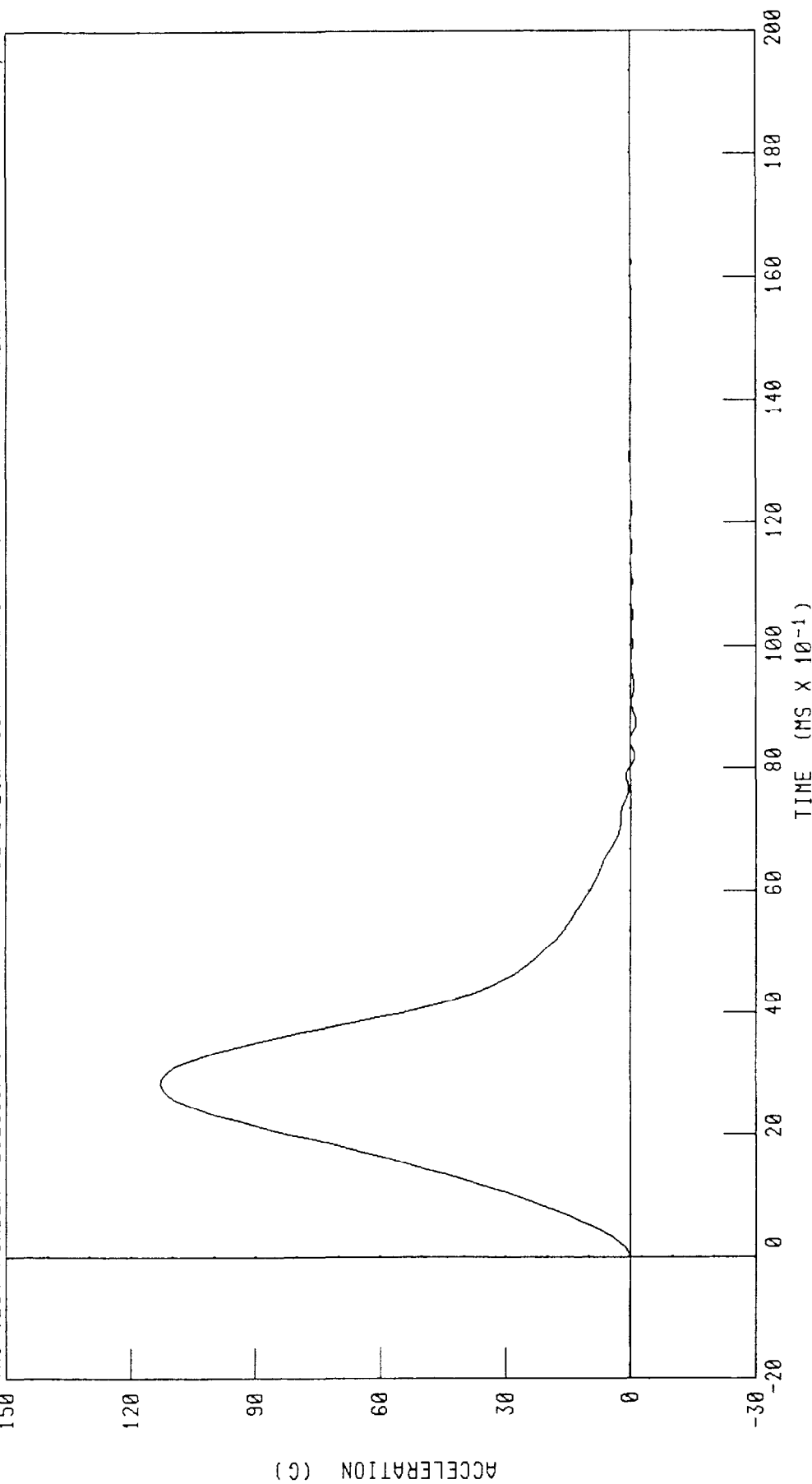
PART 572-E HYBRID III RIGHT KNEE CALIBRATION

PENDULUM DECELERATION (5 KG PEND)

TRC TEST NUMBER 202C09RK1

572E SN202 RIGHT KNEE CAL 09

RUN NUMBER 102301 1120,1



CHANNEL PENXG FILTER CH CLASS 600

PEAK DATA 112 92 G 2 80 MS, -1 41 G 0 8 72 MS

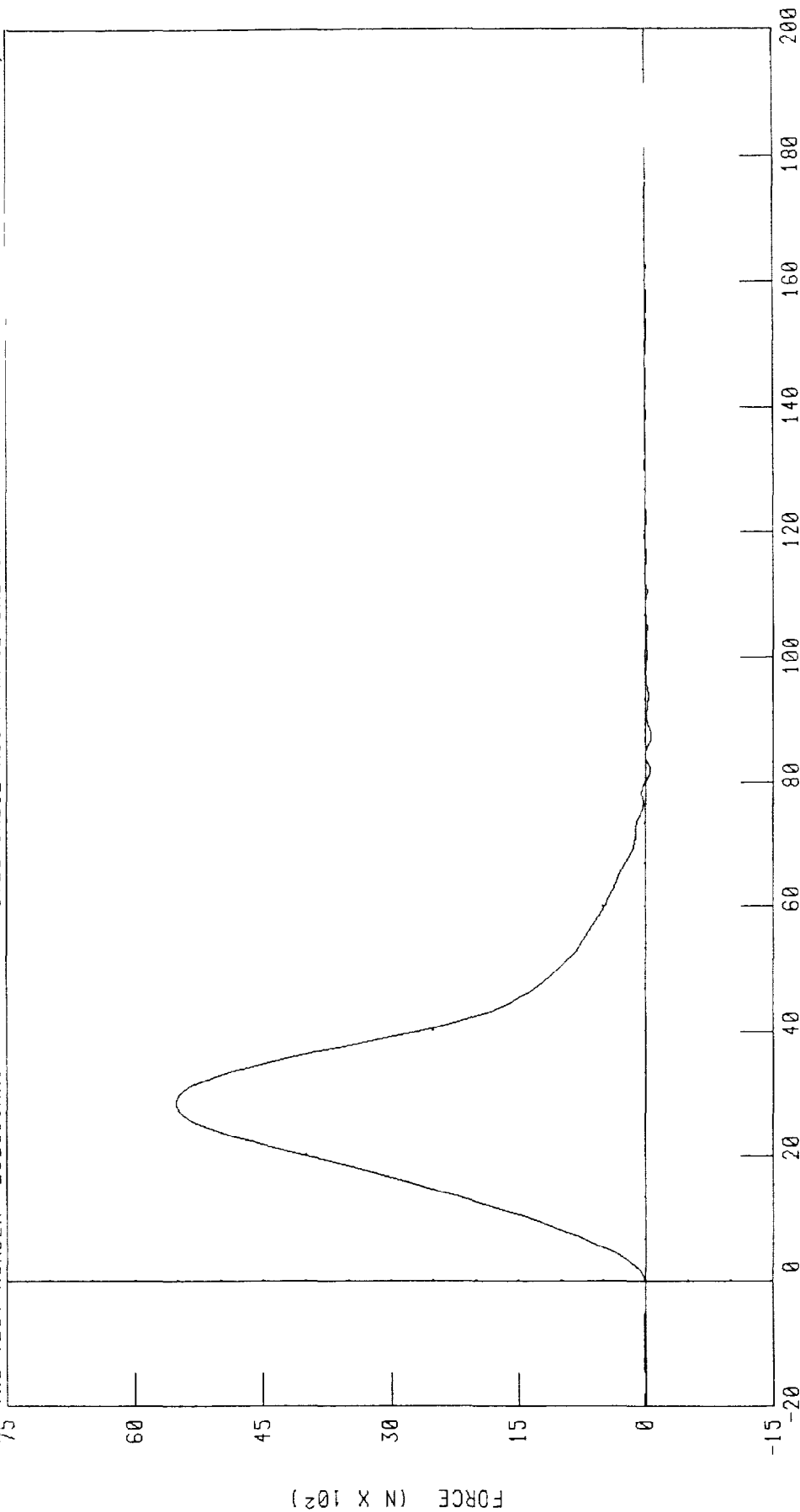
PART 572-E HYBRID III RIGHT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

572E SN202 RIGHT KNEE CAL 09

RUN NUMBER 102301 1120,1

TRC TEST NUMBER 202C09RK1



TIME ($\text{MS} \times 10^{-1}$)

PEAK DATA 5525 03 N 0 2 80 MS, -68 88 N 0 8 72 MS

CHANNEL PENXF FILTER CH CLASS 600

TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

24-OCT-01

LEFT KNEE

TRC INC.

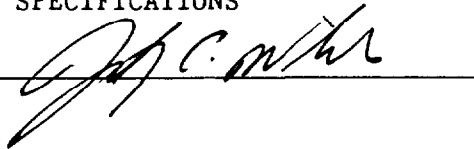
TEST NO: 202C09LS1

572E SN202 LEFT SLIDER CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	60.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.80 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1451. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	2850. N

TEST MEETS SPECIFICATIONS

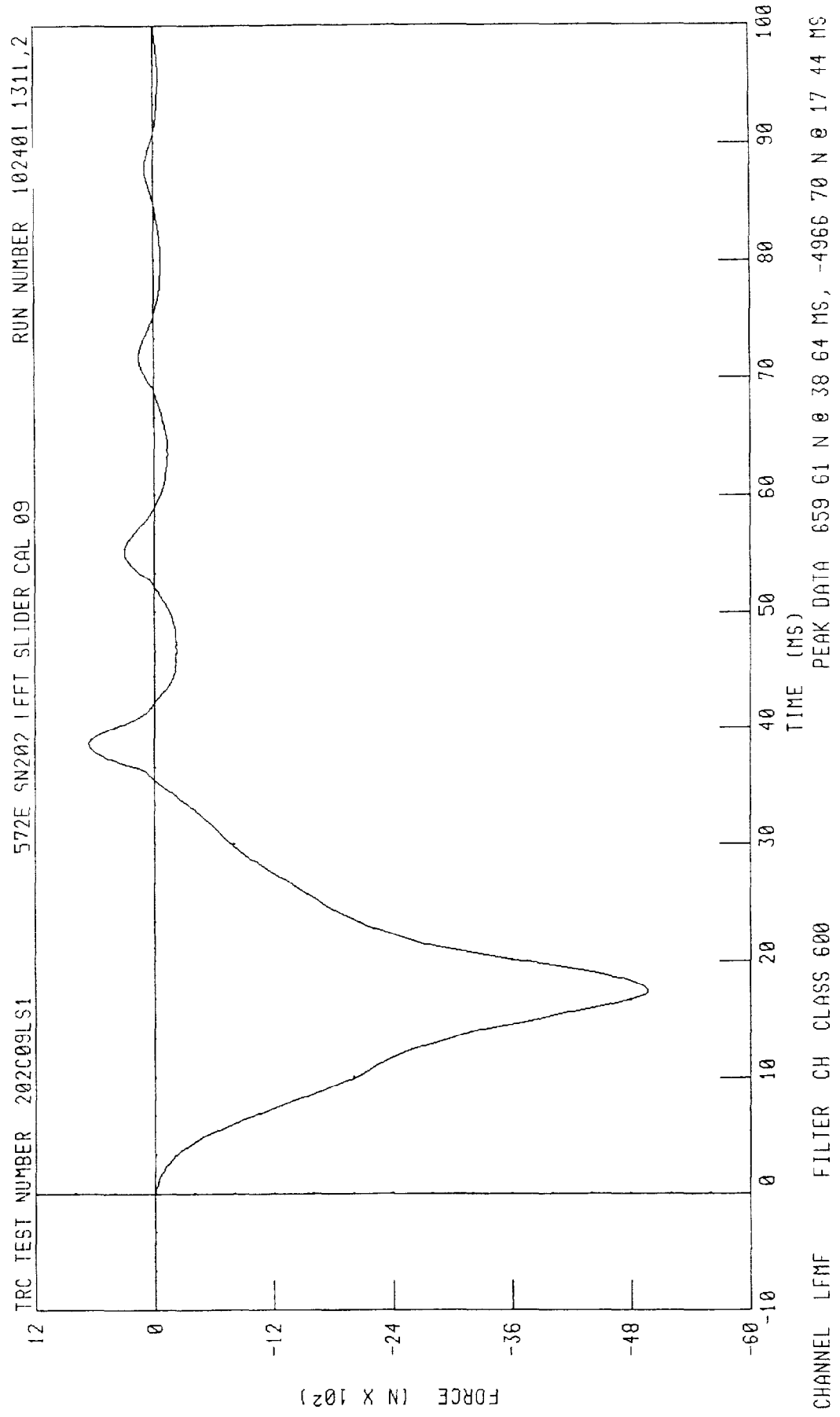
TECHNICIAN



RUN NUMBER: 102401.0759;1

PART 572-E HYBRID IJI LEFT KNEE SLIDER CALIBRATION

LEFT FEMUR FORCE



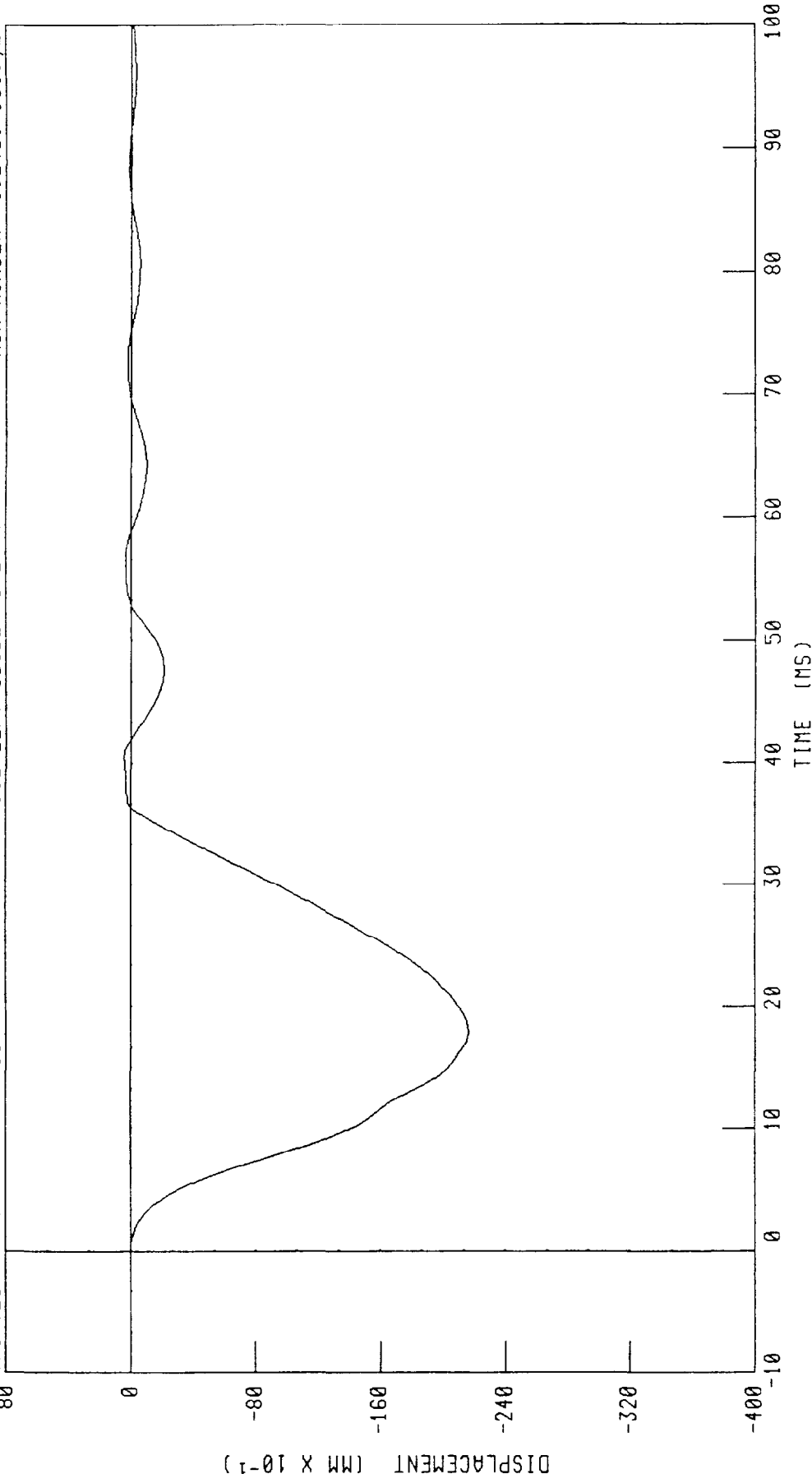
TRC TEST NUMBER 202C09LS1 572E SN202 LEFT SLIDER CAL 09 RUN NUMBER 102401 1311,2

CHANNEL LFMF FILTER CH CLASS 600 PEAK DATA 659 61 N @ 38 64 MS, -4966 70 N @ 17 44 MS

PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT KNEE DISPLACEMENT

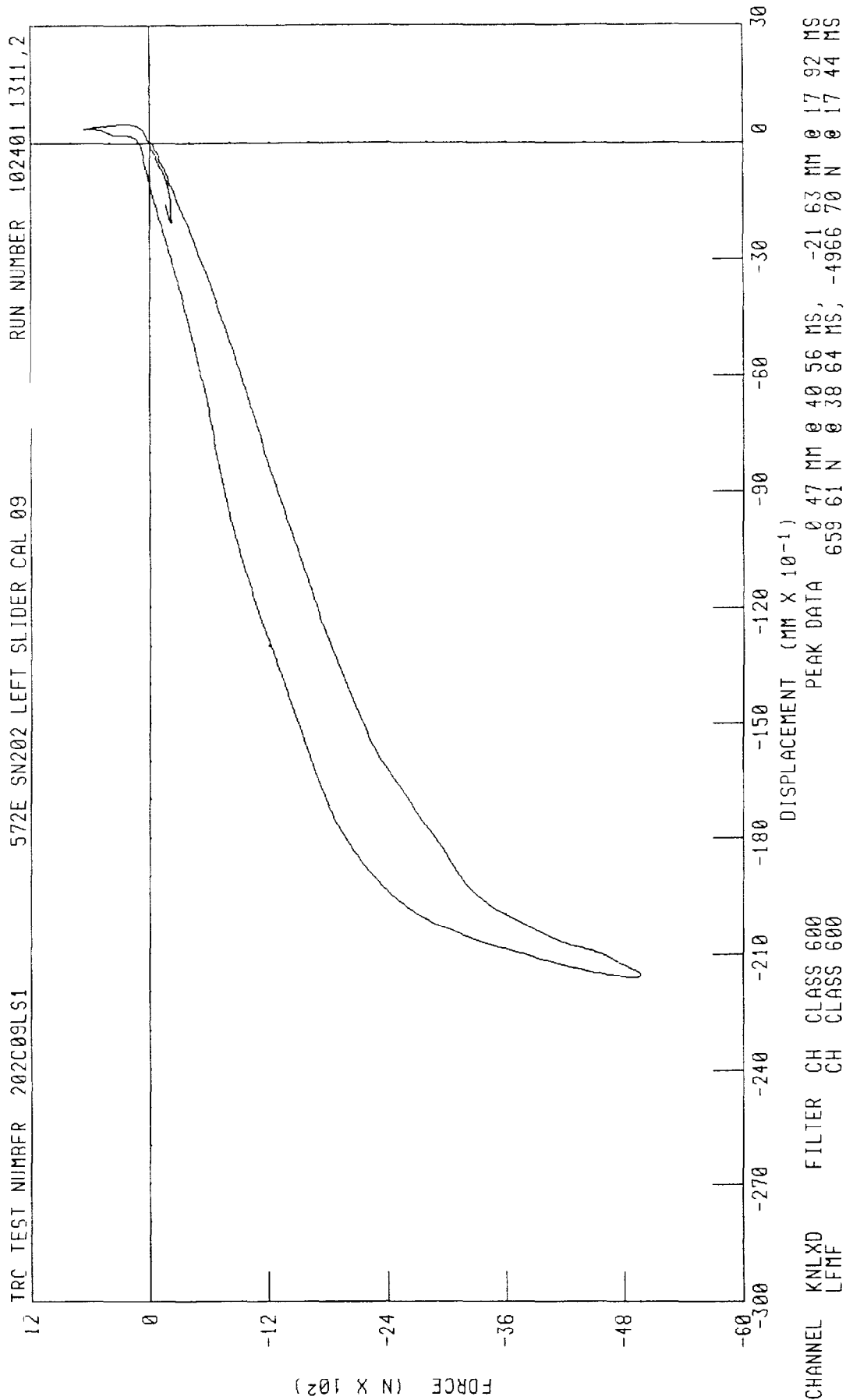
TRC TEST NUMBER 202C09LS1 572E SN202 LEFT SLIDER CAL 09 RUN NUMBER 102401 1311,2



CHANNEL KNLXD FILTER CH CLASS 600 PEAK DATA 0 47 MM @ 40 56 MS, -21 63 MM @ 17 92 MS

PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT KNEE DISPLACEMENT VS FEMUR FORCE



TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

24-OCT-01

RIGHT KNEE

TRC INC.

TEST NO: 202C09RS1

572E SN202 RIGHT SLIDER CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	59.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.80 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1281. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	2327. N

TEST MEETS SPECIFICATIONS

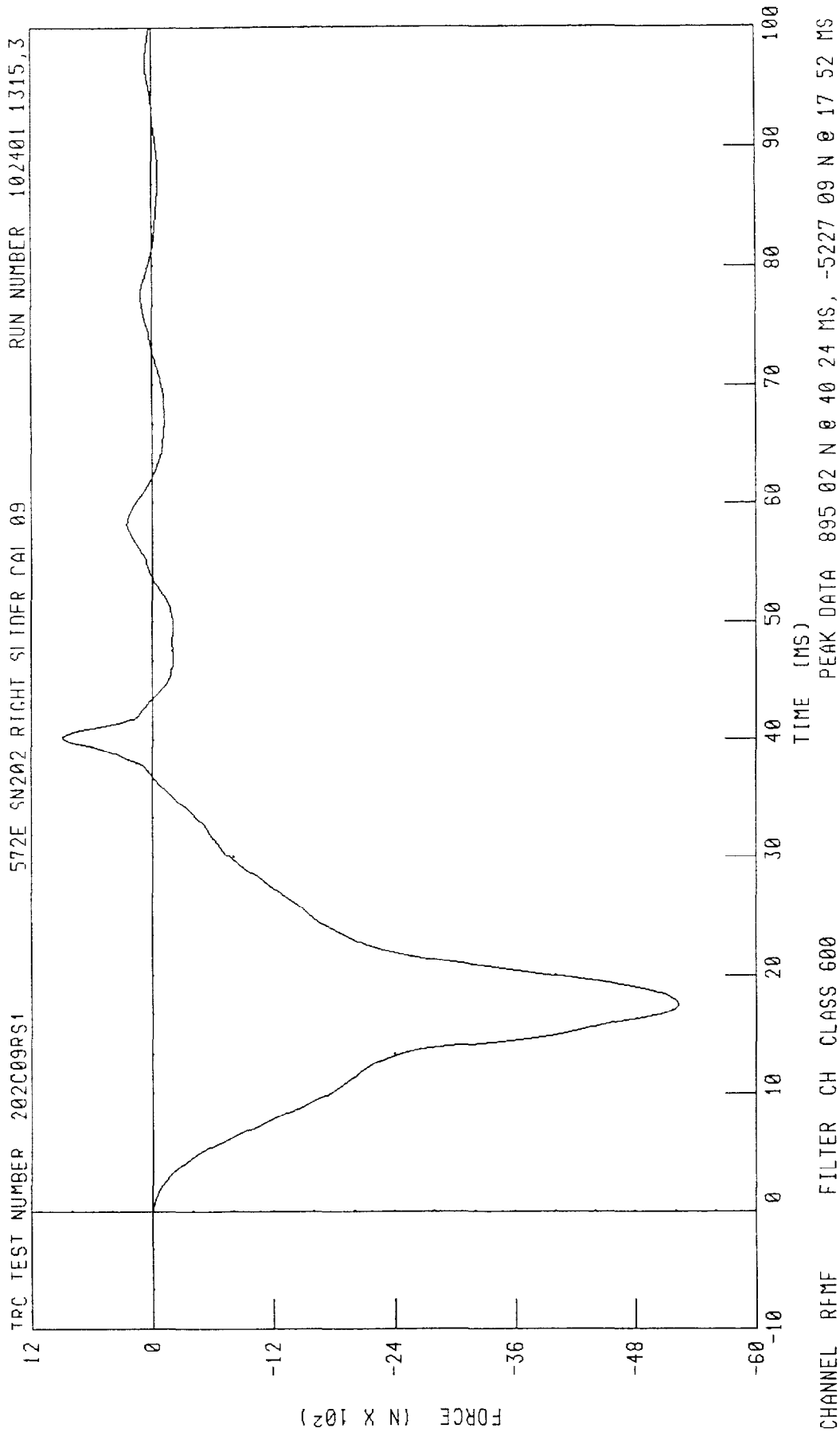
TECHNICIAN



RUN NUMBER: 102401.0840;1

PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT FEMUR FORCE



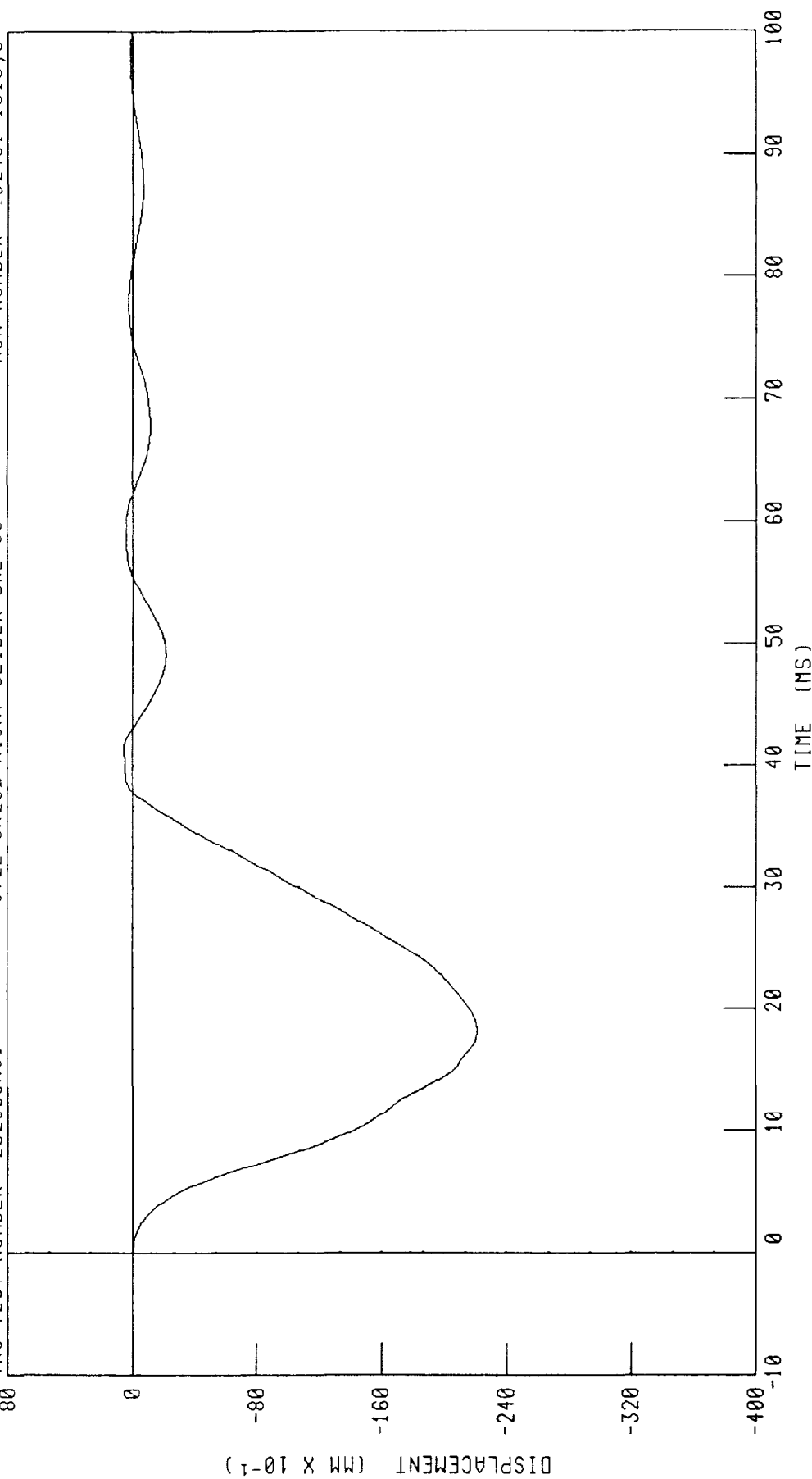
PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT KNEE DISPLACEMENT

TRC TEST NUMBER 202C09RS1

572E SN202 RIGHT SLIDER CAL 09

RUN NUMBER 102401 1315,3



CHANNEL KNRXD FILTER CH CLASS 600

PEAK DATA 0 57 MM 0 41 44 MS, -22 11 MM 0 18 16 MS

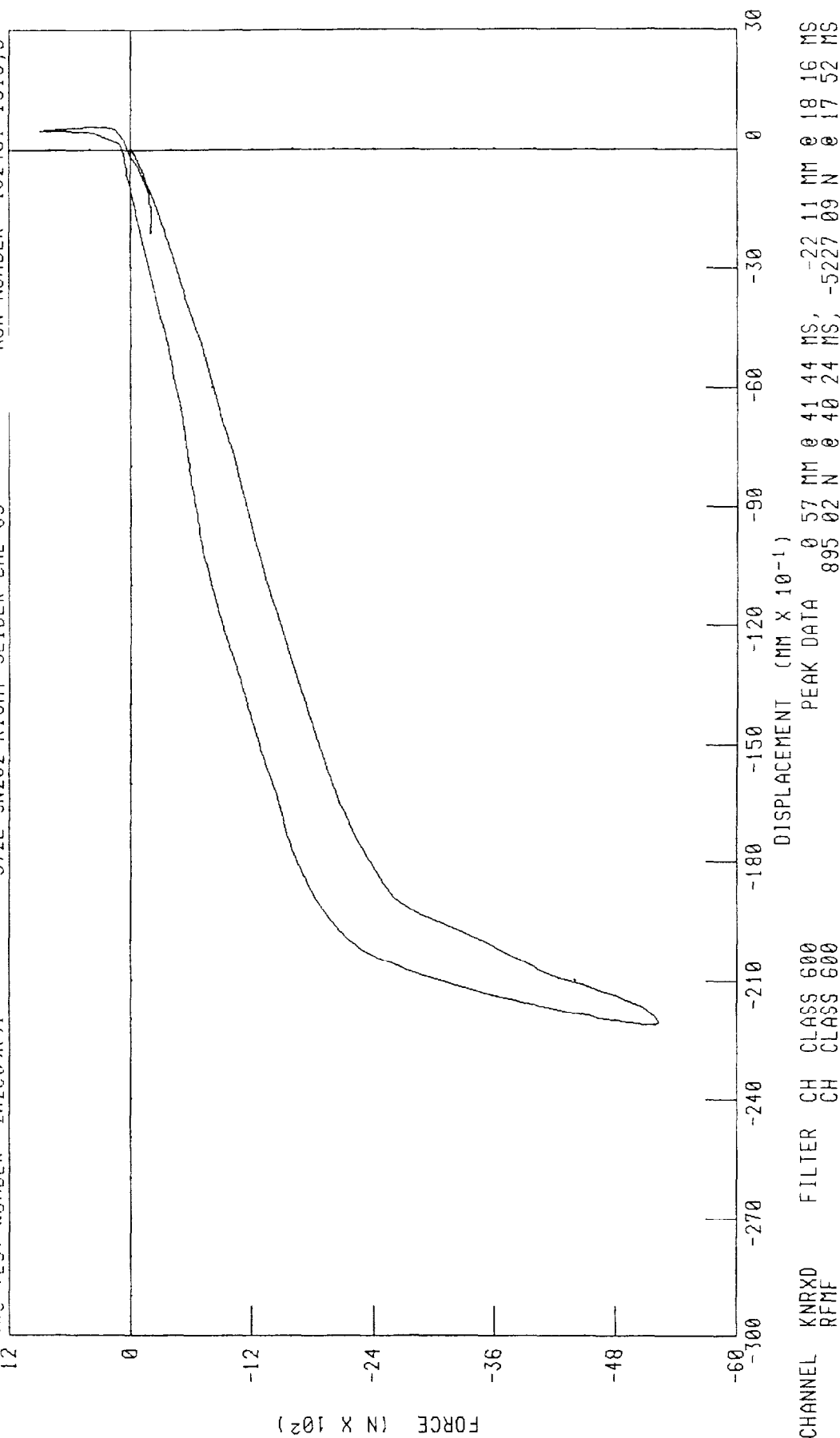
PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT KNEE DISPLACEMENT VS FEMUR FORCE

TRC TEST NUMBER 202C09RS1

572E SN202 RIGHT SLIDER CAL 09

RUN NUMBER 102401 1315.3



Post-Test Dummy Configuration and Performance Verification Data

Driver Dummy S/N: 206

TRANSPORTATION RESEARCH CENTER INC.
HYBRID III EXTERNAL DIMENSIONS

206

31-OCT-01

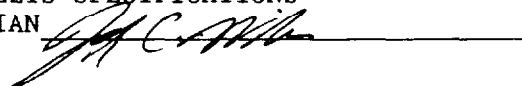
TRC INC. TEST NO: 206C09ED1 572E SN206 EXT.DIMENSION CAL09

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	993. MM
WAIST CIRCUMFERENCE (Z)	836 - 866 MM	853. MM
CHEST DEPTH (O)	213 - 229 MM	221. MM
H-POINT HEIGHT (C)	84 - 89 MM	86. 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	886. MM
THIGH CLEARANCE (F)	140 - 155 MM	147. MM
BUTTOCK KNEE LENGTH (K)	579 - 605 MM	599. MM
BUTTOCK POPLITEAL LENGTH (N)	452 - 478 MM	465. MM
POPLITEAL HEIGHT (L)	429 - 455 MM	447. MM
KNEE PIVOT HEIGHT (M)	485 - 500 MM	493. MM
FOOT LENGTH (P)	252 - 267 MM	254. MM
FOOT BREADTH (W)	91 - 107 MM	102. MM
SHOULDER PIVOT FROM BACKLINE (E)	84 - 94 MM	91. MM
SHOULDER BREADTH (V)	422 - 437 MM	434. MM
SHOULDER PIVOT HEIGHT (B)	506 - 521 MM	516. MM
ELBOW REST HEIGHT (J)	191 - 211 MM	206. MM
SHOULDER-ELBOW LENGTH (I)	330 - 345 MM	345. MM
BACK OF ELBOW TO WRIST PIVOT (G)	290 - 305 MM	297. MM

572E SN206 EXT.DIMENSION CAL09

DUMMY MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103101.1330

TRANSPORTATION RESEARCH CENTER INC.

HEAD DROP TEST

HYBRID III 50th

30-OCT-01

TRC INC.

TEST NO: 206C09HD1

572E SN206 HEAD DROP CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	38.0 %
PEAK RESULTANT ACCELERATION	225 - 275 G	268.84 G
PEAK LATERAL ACCELERATION	15 G MAX	-8.19 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN

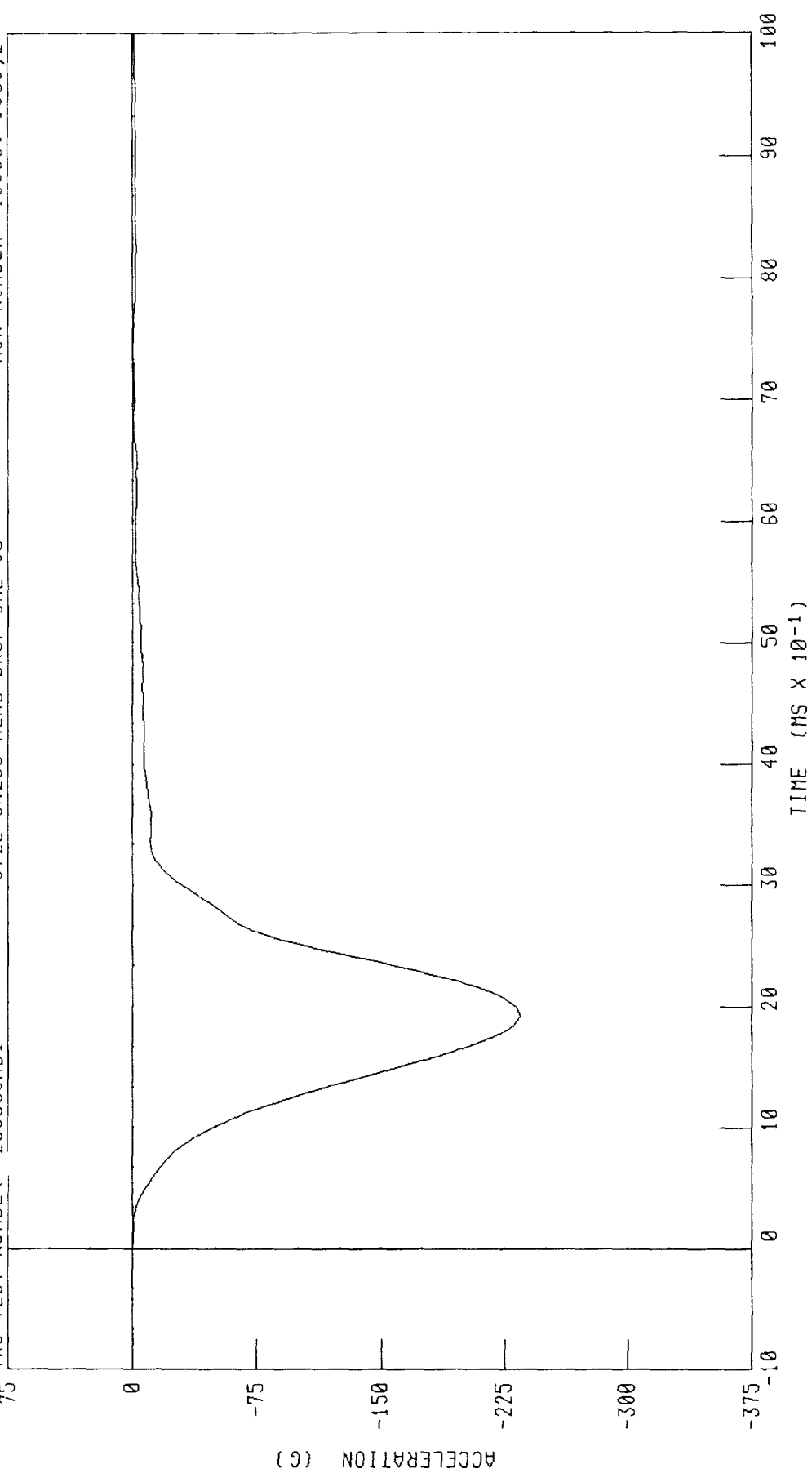


RUN NUMBER: 103001.1508;2

PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION X AXIS

TRC TEST NUMBER 206C03HD1 572E SN206 HEAD DROP CAL 09 RUN NUMBER 103001 1508,2



CHANNEL HEDXC FILTER CH CLASS 1000 PEAK DATA 0 30 C 0 7 36 MS, -234 53 C 0 1 92 MS

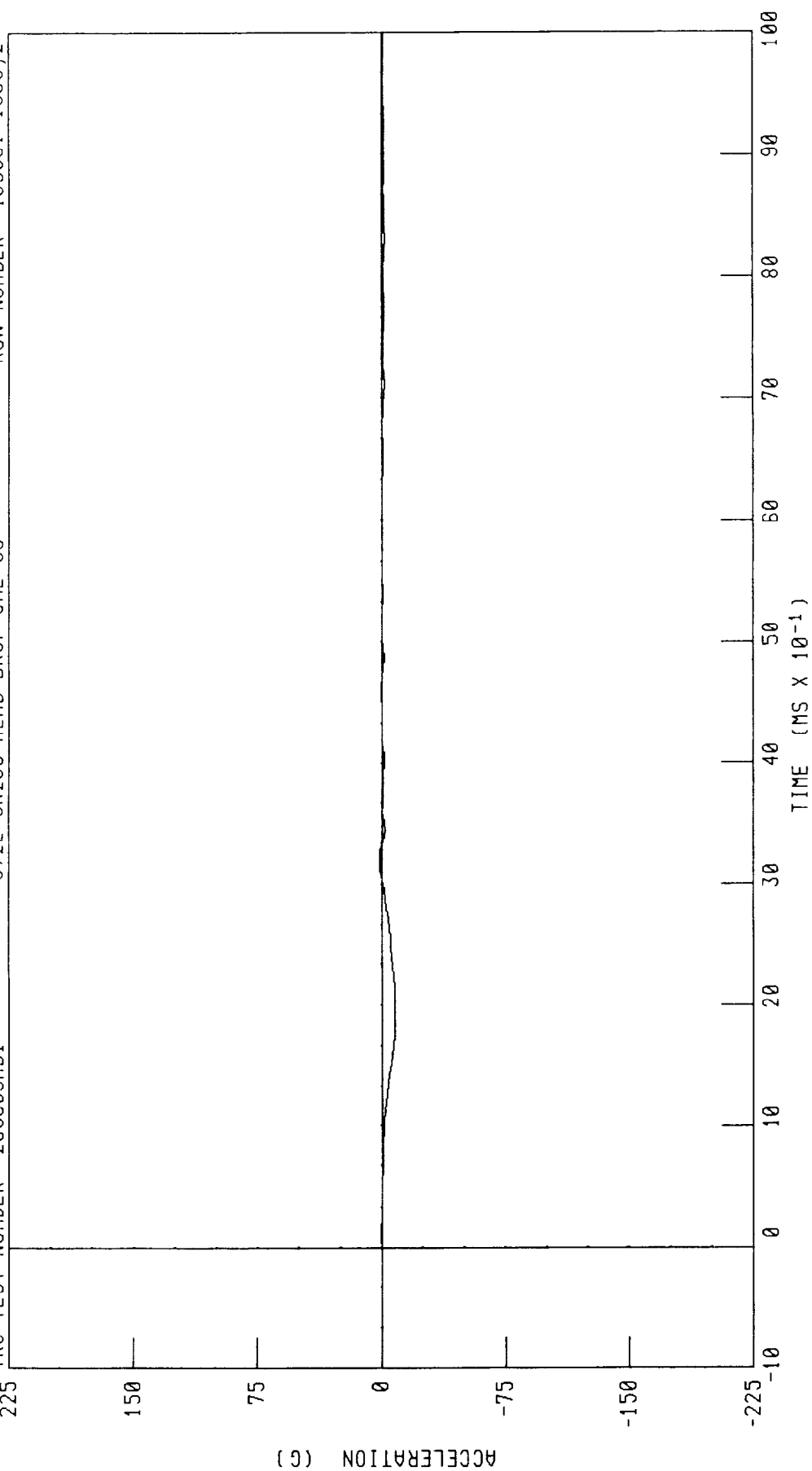
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER 206C09HD1

572E SN206 HEAD DROP CAL 09

RUN NUMBER 103001 1508,2



CHANNEL HEDYC FILTER CH CLASS 1000

PEAK DATA 1 31 G 0 3 20 MS, -8 19 G 0 1 92 MS

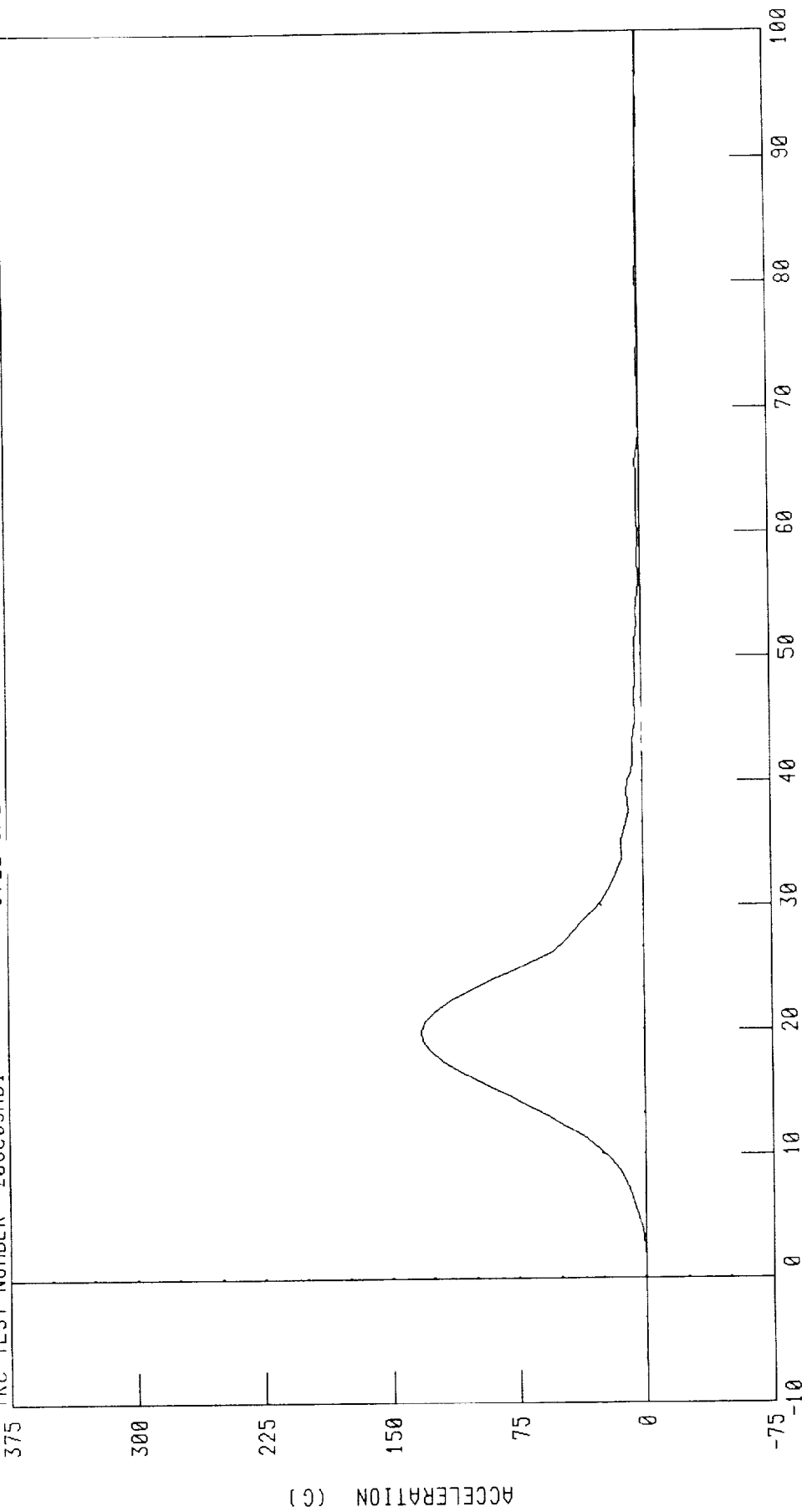
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION Z AXIS

572E SN206 HEAD DROP CAL 09

TRC TEST NUMBER 206C09HD1

RUN NUMBER 103001 1508,2



PEAK DATA 132 13 C 0 2 00 MS, -0 64 C 0 9 36 MS

CHANNEL HEDZG FILTER CH CLASS 1000

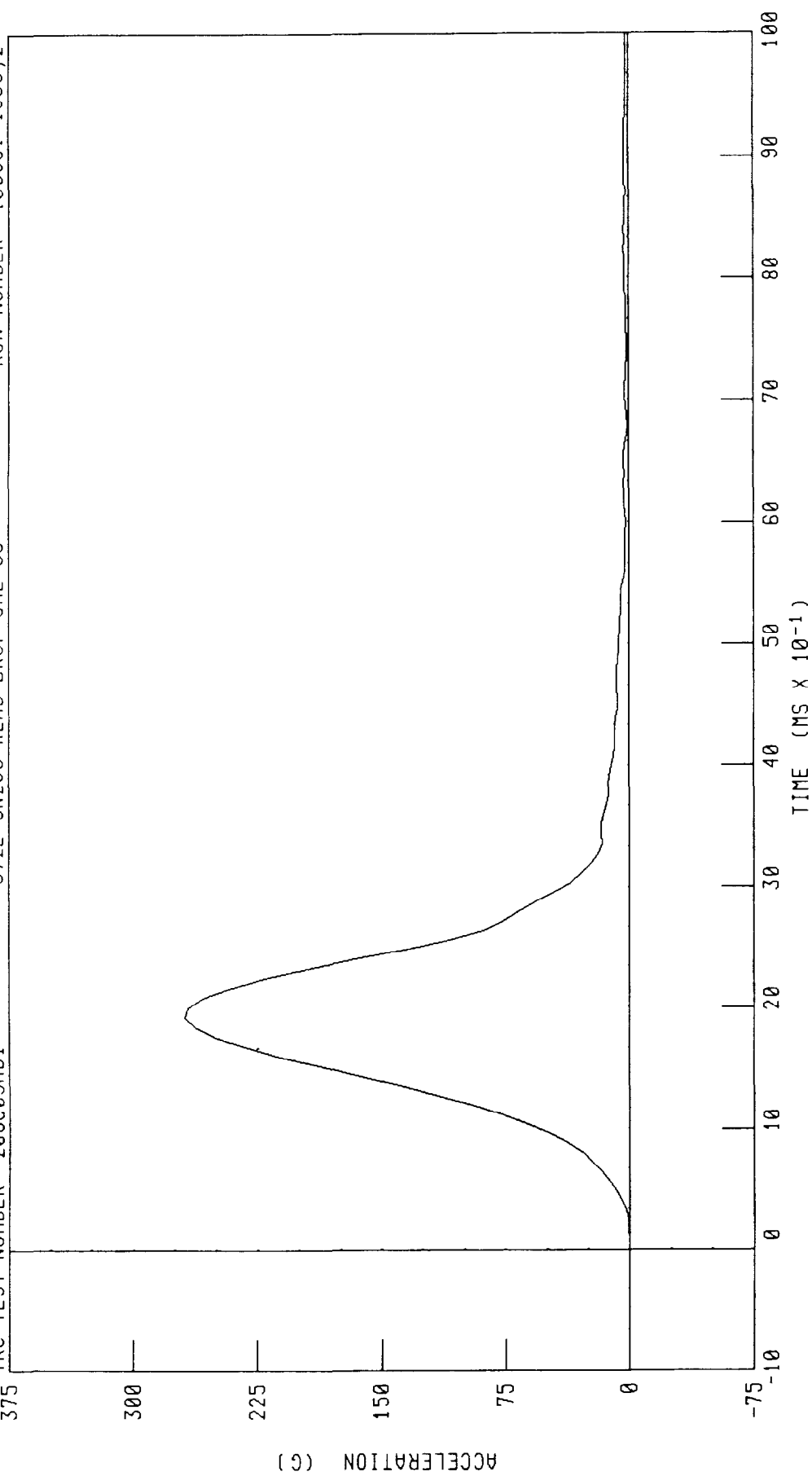
PART 572-E HYBRID III HEAD CALIBRATION

HEAD RESULTANT ACCELERATION

TRC TEST NUMBER 206C09HD1

572E SN206 HEAD DROP CAL 09

RUN NUMBER 103001 1508,2



CHANNEL HEADRC FILTER CH CLASS 1000

PEAK DATA 268 84 G @ 1 92 MS, 0 03 G @ -0 32 MS

TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

30-OCT-01

NECK FLEXION TEST - 6 CHANNEL TRANSDUCER

TRC INC. TEST NO: 206C09NF1 572E SN206 NECK FLEXION CAL09

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6-22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY		10 - 70 %	39.0 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.93 M/S
PENDULUM DECELERATION	10 MS	22.50 - 27.50 G	26.71 G
	20 MS	17.60 - 22.60 G	22.59 G
	30 MS	12.50 - 18.50 G	17.53 G
MAX PENDULUM G		29 G MAX	26.91 G
MAX PENDULUM G ABOVE 30 MS		29 G MAX	17.45 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		34 - 42 MS	36.40 MS
D PLANE	MAX	64 - 78 DEG.	75.18 DEG.
ROTATION	TIME	57 - 64 MS	61.20 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MAX	88.2 - 108.5 NM	98.96 NM
	TIME	47 - 58 MS	49.60 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		113 - 128 MS	120.32 MS
POSITIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		97 - 107 MS	102.32 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN

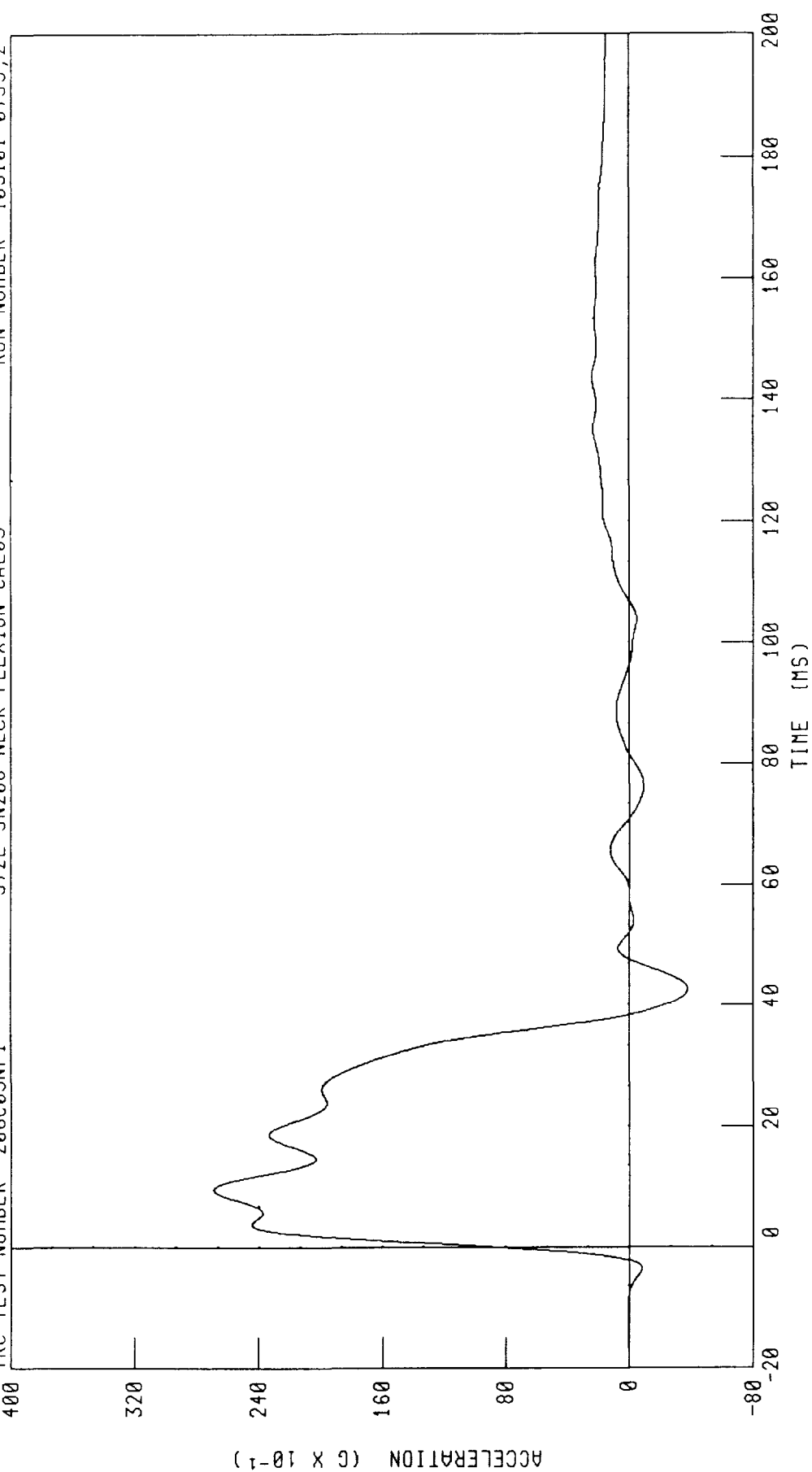


RUN NUMBER: 103101.0759;2

PART 572-E HYBRID III NECK FLEXION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 206C09NF1 572E SN206 NECK FLEXION CAL09 RUN NUMBER 103101 0759,2



CHANNEL PENXC FILTER CH CLASS 60

PEAK DATA 26 92 0 9 44 MS, -3 80 0 0 42 56 MS

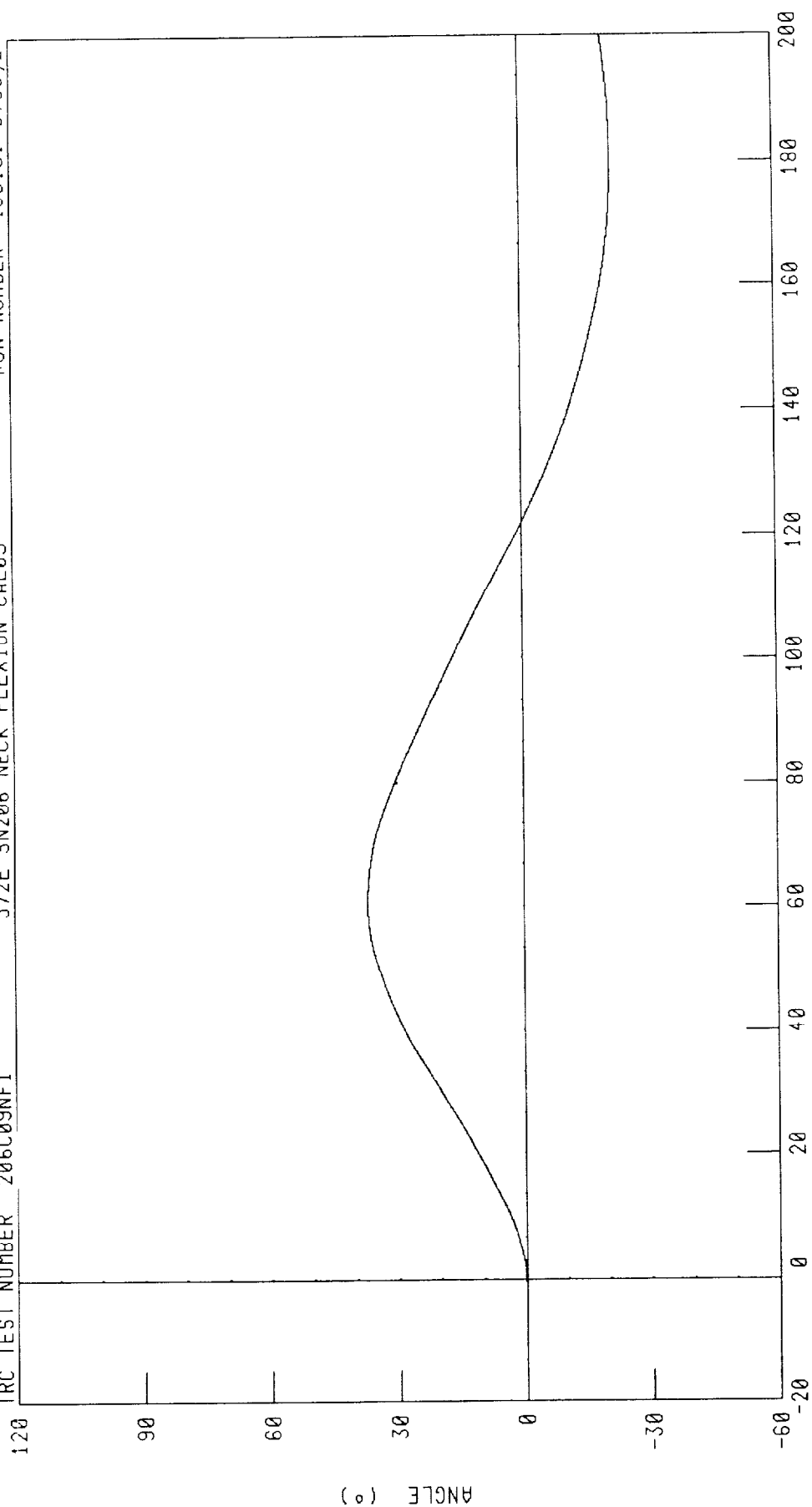
PART 572-E HYBRID III NECK FLEXION CALIBRATION

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER 206C09NF1

572E SN206 NECK FLEXION CAL09

RUN NUMBER 103101 0759,2

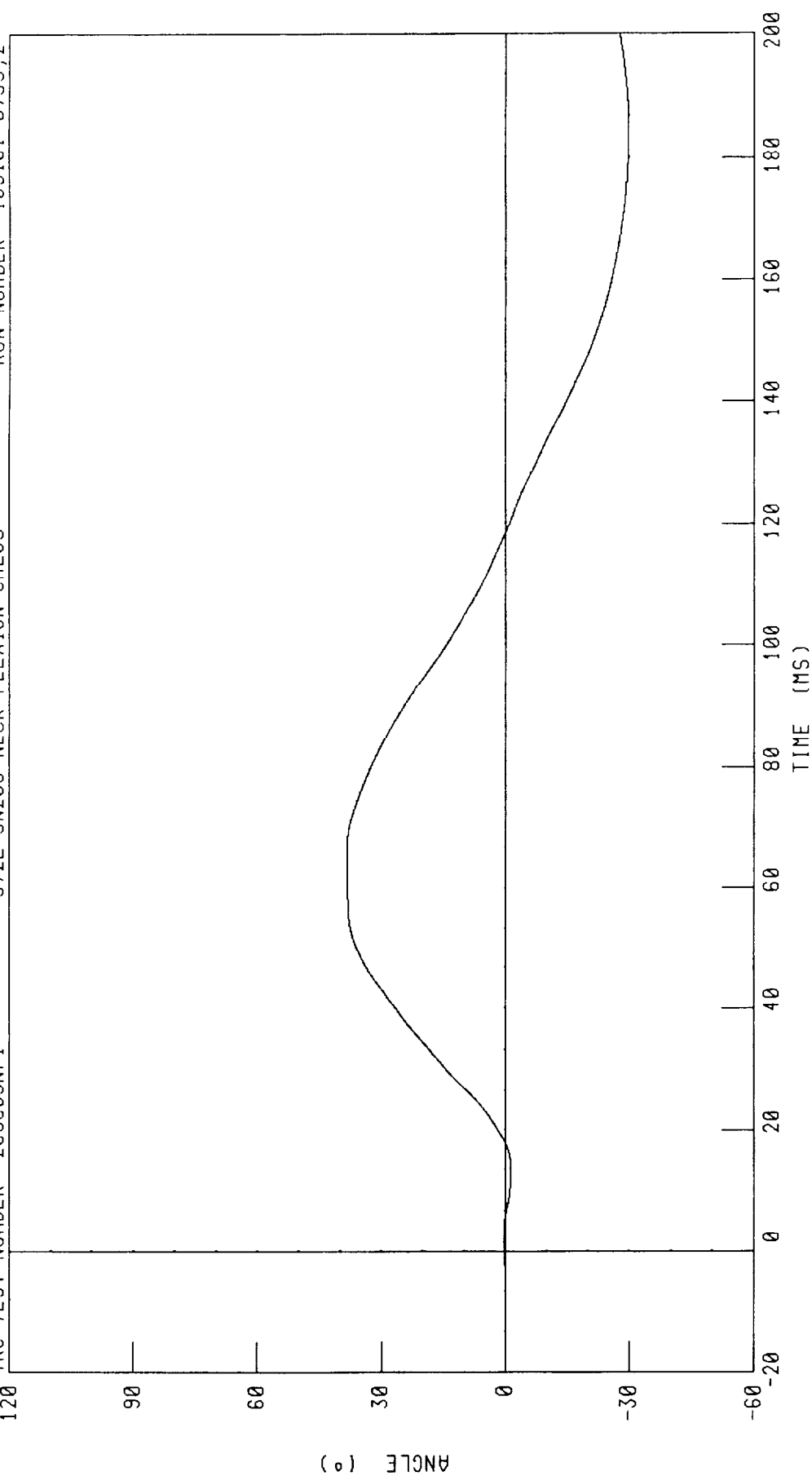


CHANNEL BETA FILTER CH CLASS 60

PEAK DATA 36 94 ° @ 60 32 MS, -21 70 ° @ 179 76 MS

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

TRC TEST NUMBER 206C09NF1 572E SN206 NECK FLEXION CAL09 RUN NUMBER 103101 0759,2



CHANNEL THETA FILTER CH CLASS 60

PEAK DATA 38 30 ° @ 65 76 MS, -29 86 ° @ 184 24 MS

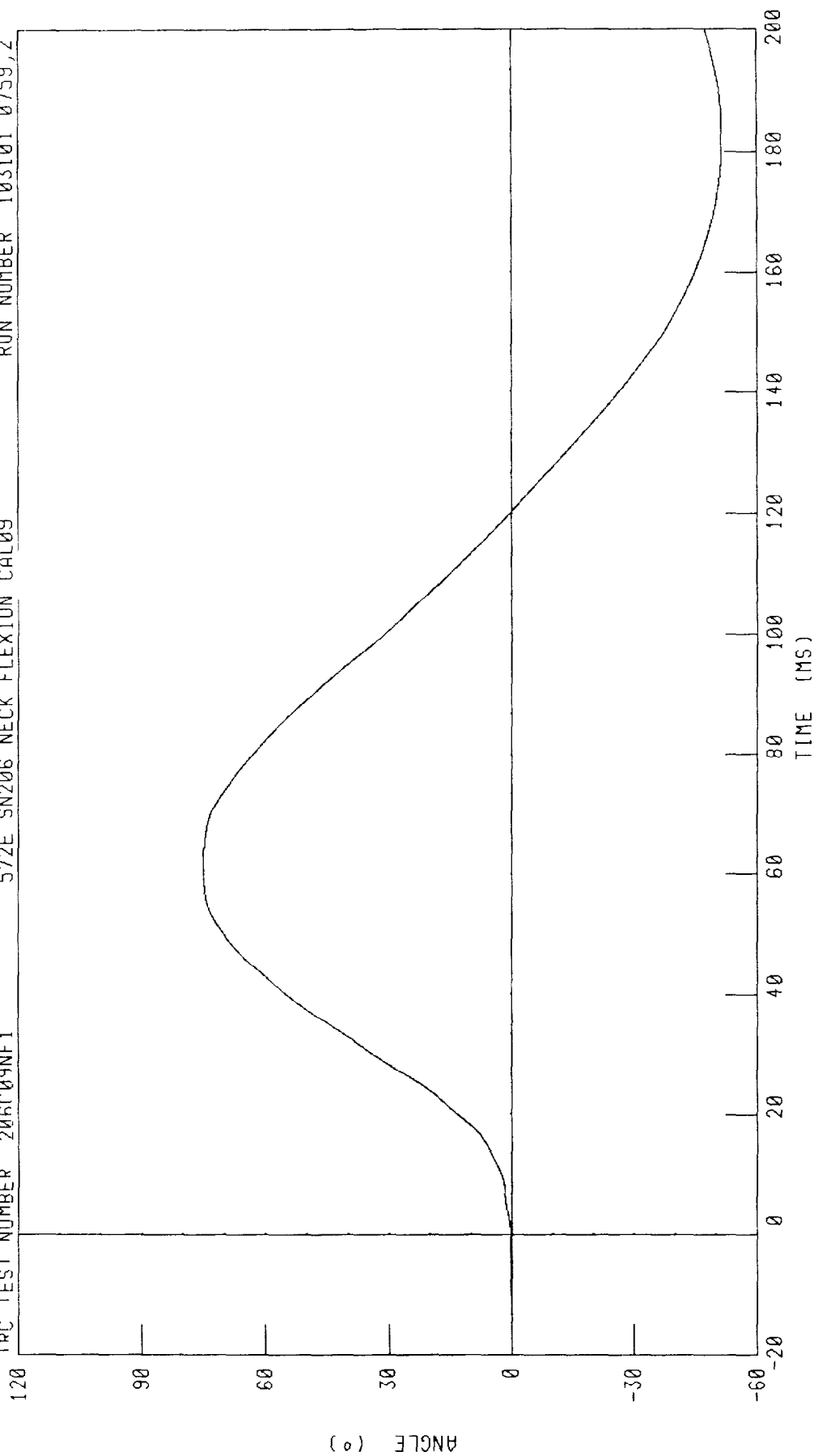
PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL ROTATION

TRC TEST NUMBER 206C09NF1

572E SN206 NECK FLEXION CAL09

RUN NUMBER 103101 0759,2



PEAK DATA 75 19 ° @ 61 20 MS, -51 51 ° @ 182 32 MS

CHANNEL TOTAL FILTER CH CLASS 60

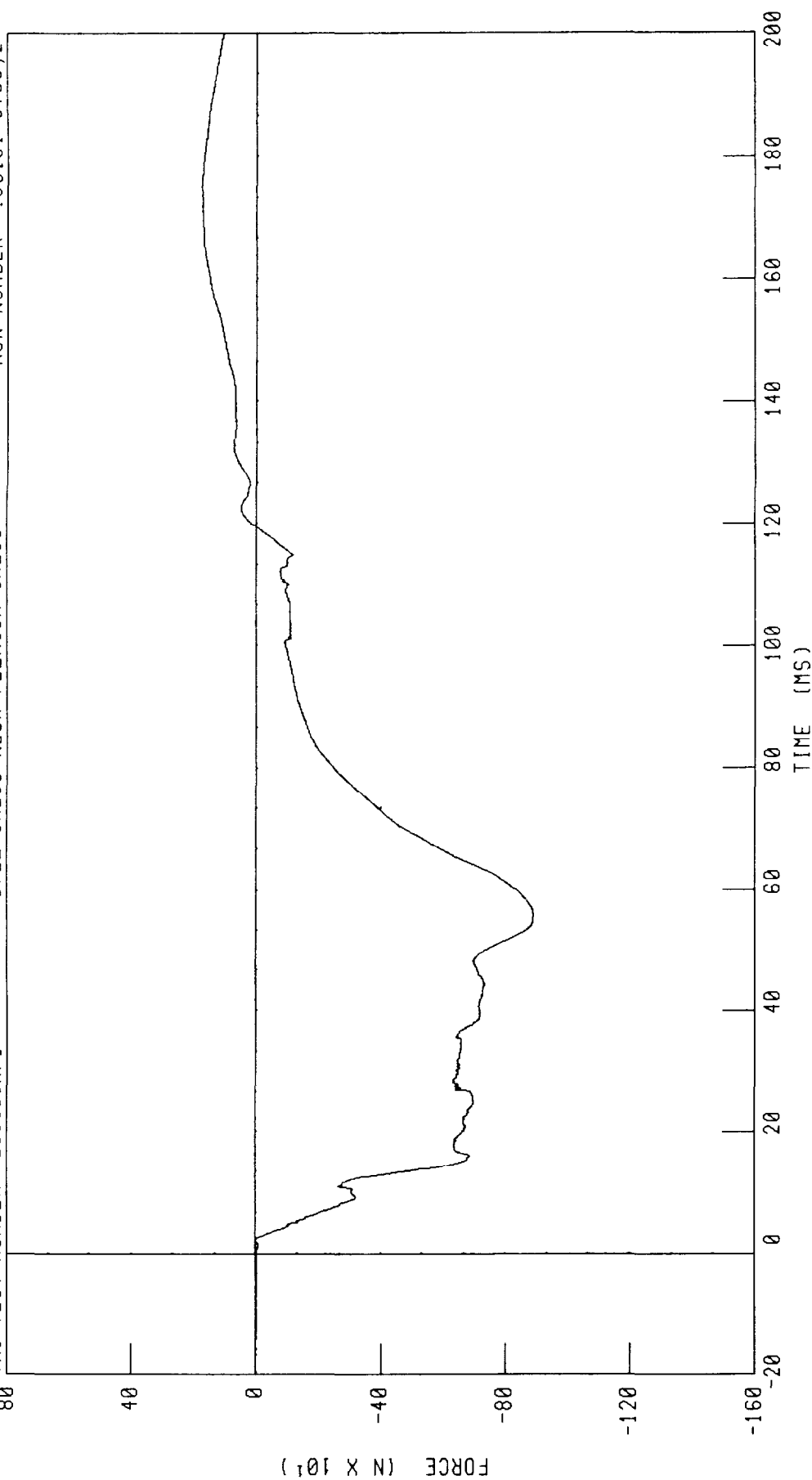
PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK FORCE X AXIS

TRC TEST NUMBER 206C09NF1

572E SN206 NECK FLEXION CAL09

RUN NUMBER 103101 0759,2



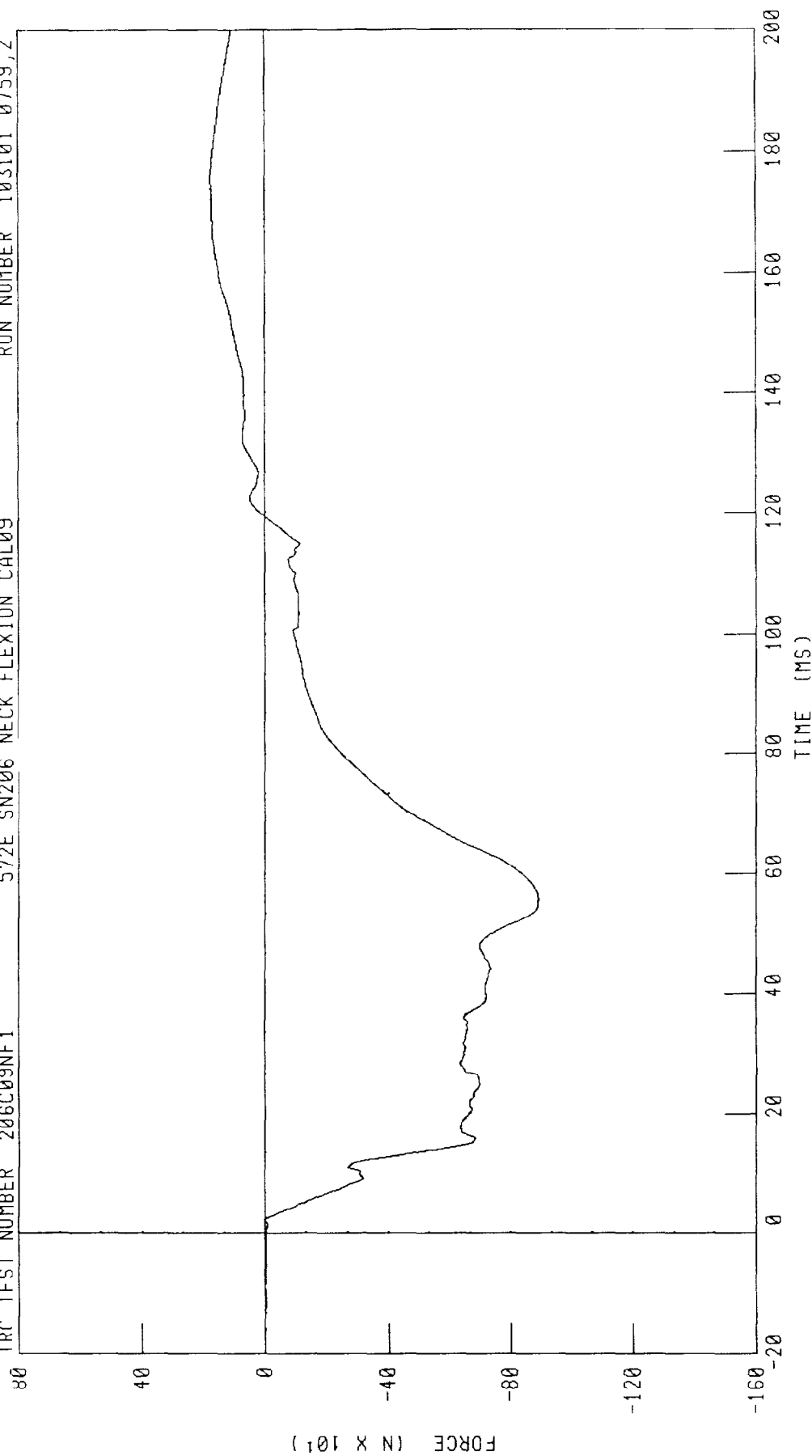
CHANNEL NEKXF FILTER CH CLASS 1000

PEAK DATA 178 12 N @ 174 88 MS, -891 62 N @ 55 68 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION

TRC TEST NUMBER 206C09NF1 572E SN206 NECK FLEXION CAL09 RUN NUMBER 103101 0759,2



CHANNEL NEKXFC FILTER CH CLASS 600 PEAK DATA 177 86 N @ 175 76 MS, -891 17 N @ 55 84 MS

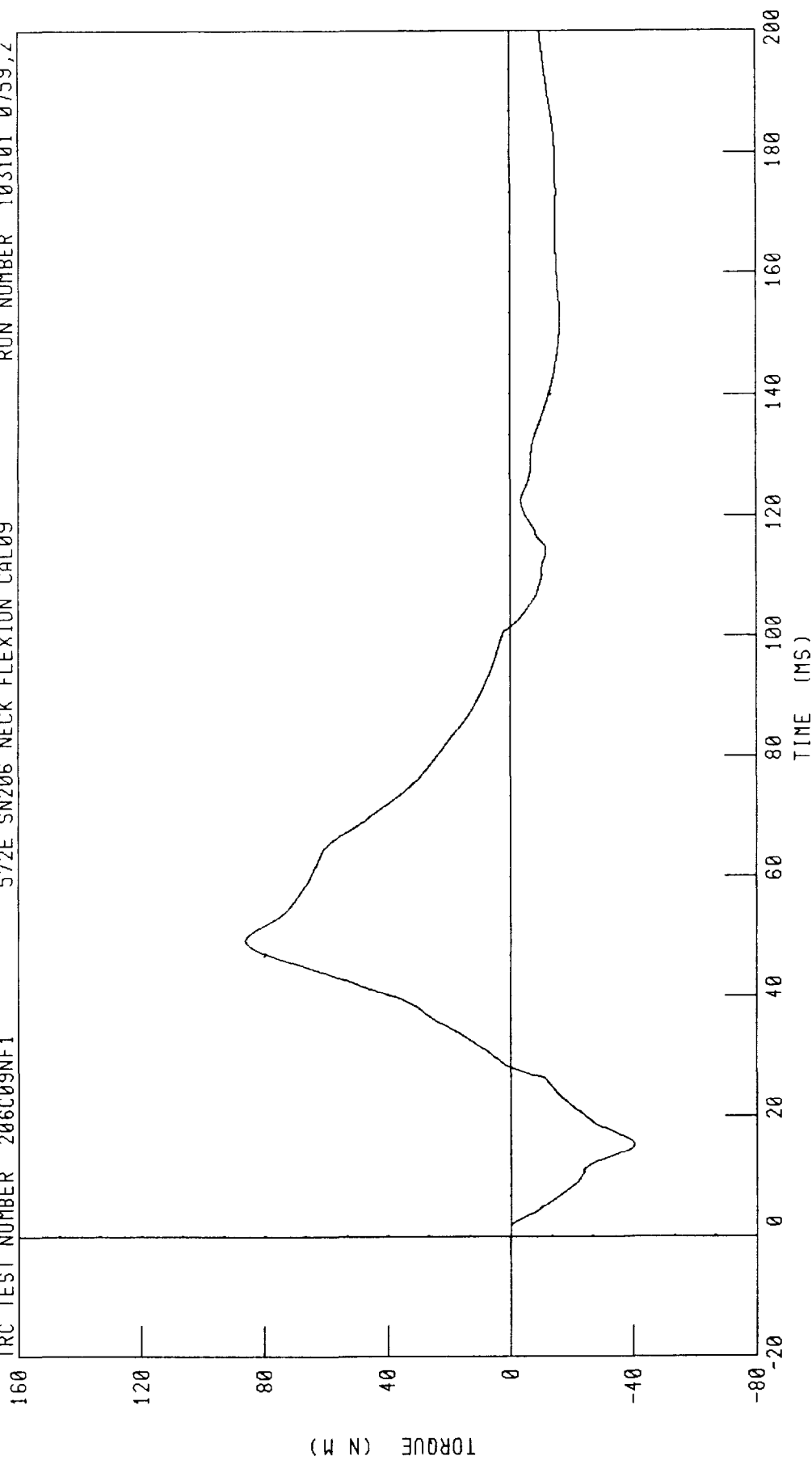
PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK MOMENT Y AXIS

TRC TEST NUMBER 206C09NF1

572E SN206 NECK FLEXION CAL09

RUN NUMBER 103101 0759,2



TIME (MS)

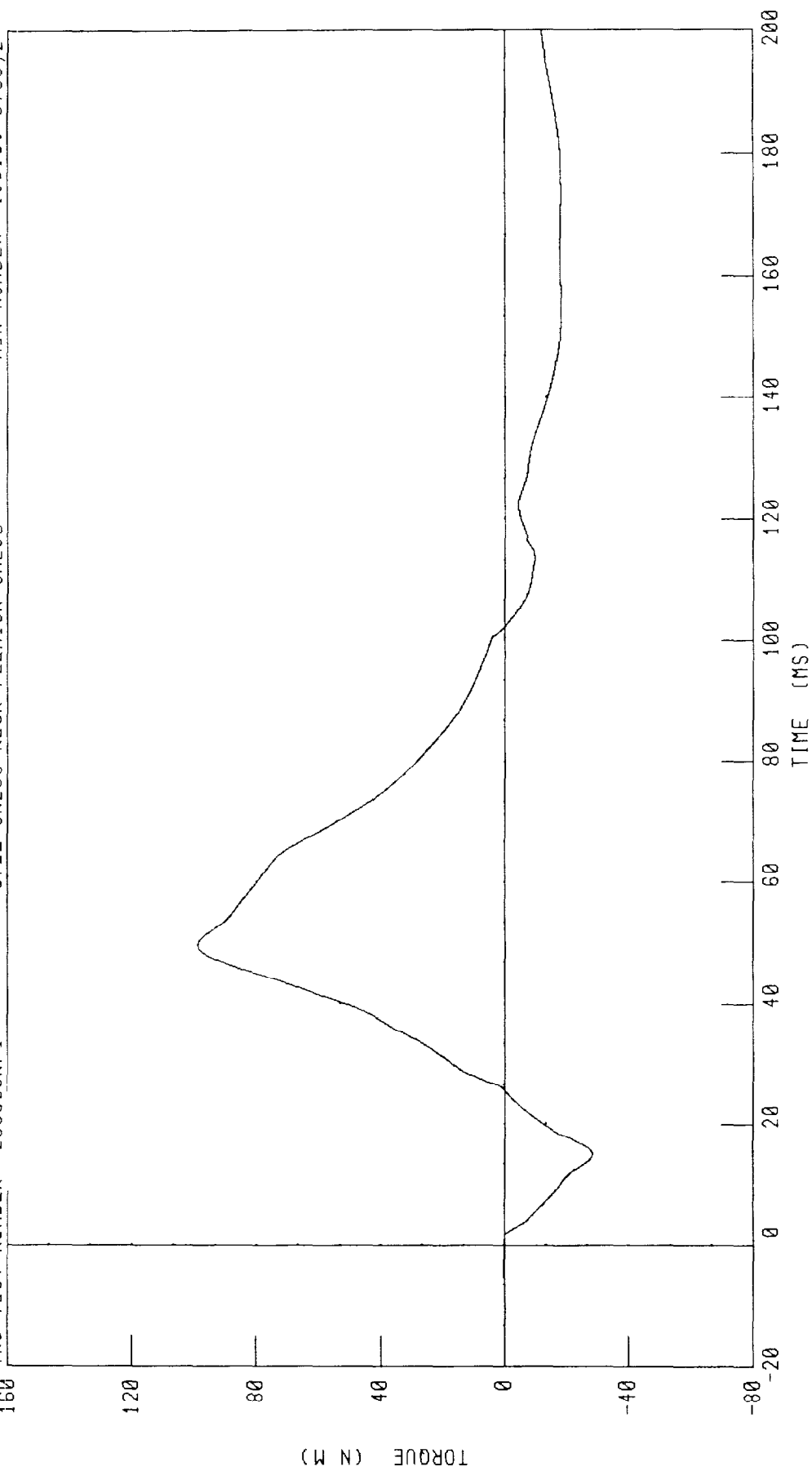
CHANNEL NEKYM FILTER CH CLASS 600

PEAK DATA 86 19 N M @ 49 36 MS, -40 37 N M @ 15 20 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 206C09NF1 572E SN206 NECK FLEXION CAL09 RUN NUMBER 103101 0759,2



CHANNEL NEKOM FILTER CH CLASS 600 PEAK DATA 98 96 N M @ 49 60 MS, -28 44 N M @ 14 96 MS

TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

31-OCT-01

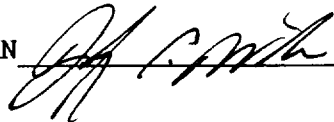
NECK EXTENSION TEST - 6 CHANNEL TRANSDUCER

TRC INC. TEST NO: 206C09NE1 572E SN206 NECK EXT CAL09

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	36.0 %
IMPACT VELOCITY		5.95 - 6.19 M/S	6.05 M/S
PENDULUM DECELERATION	10 MS	17.20 - 21.20 G	19.47 G
	20 MS	14.00 - 19.00 G	16.79 G
	30 MS	11.00 - 16.00 G	15.56 G
MAX PENDULUM G		22 G MAX	19.65 G
MAX PENDULUM G ABOVE 30 MS		22 G MAX	15.49 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		38 - 46 MS	41.28 MS
D PLANE	MAX	81 - 106 DEG.	98.10 DEG.
ROTATION	TIME	72 - 82 MS	79.52 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MIN	-80.0/-52.9 NM	-69.89 NM
	TIME	65 - 79 MS	73.36 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		147 - 174 MS	159.52 MS
NEGATIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		120 - 148 MS	147.04 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103101.0742;1

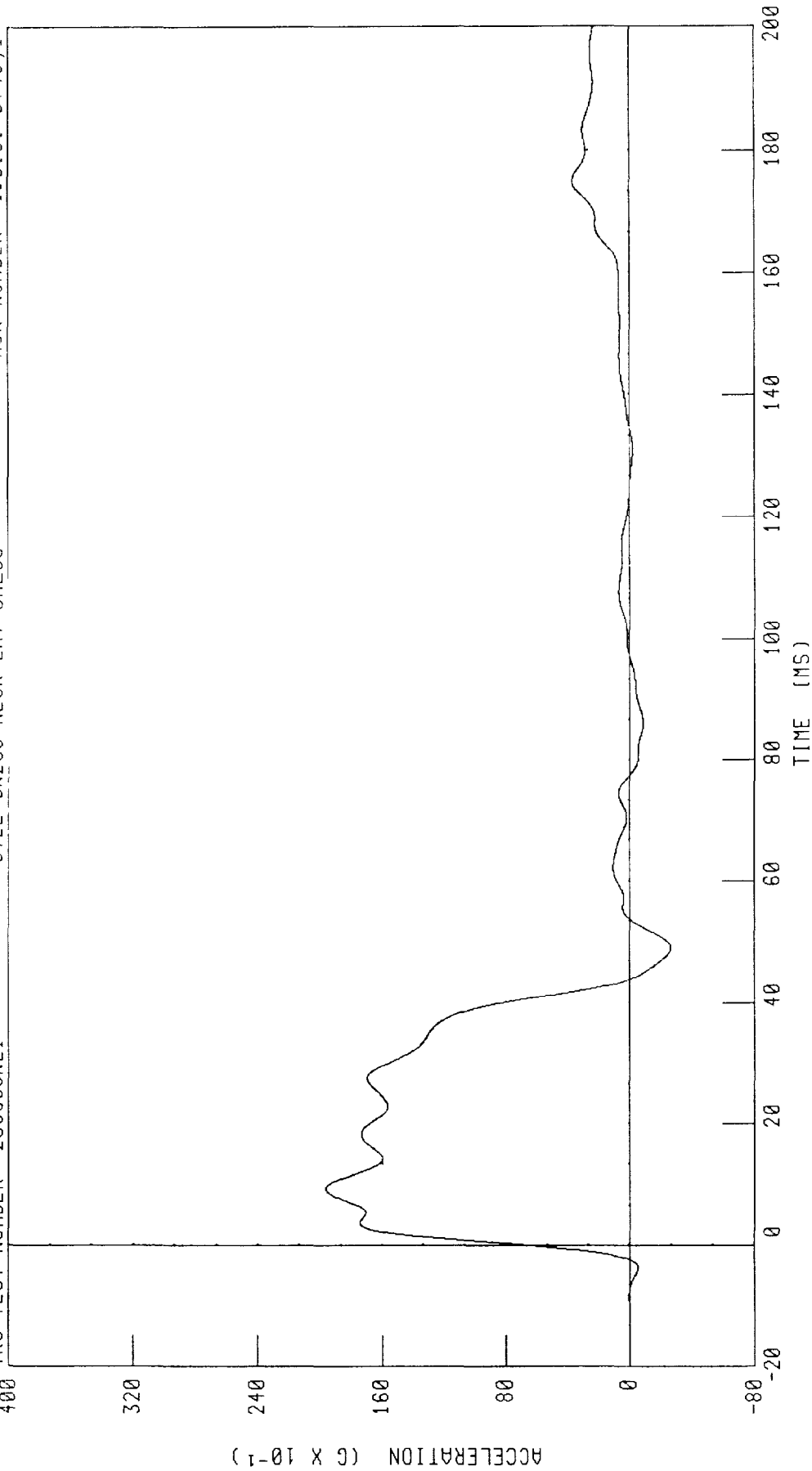
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 206C09NE1

572E SN206 NECK EXT CAL09

RUN NUMBER 103101 0745,1



PEAK DATA 19 65 G @ 9 36 MS, -2 67 G @ 48 96 MS

CHANNEL PENXC FILTER CH CLASS 60

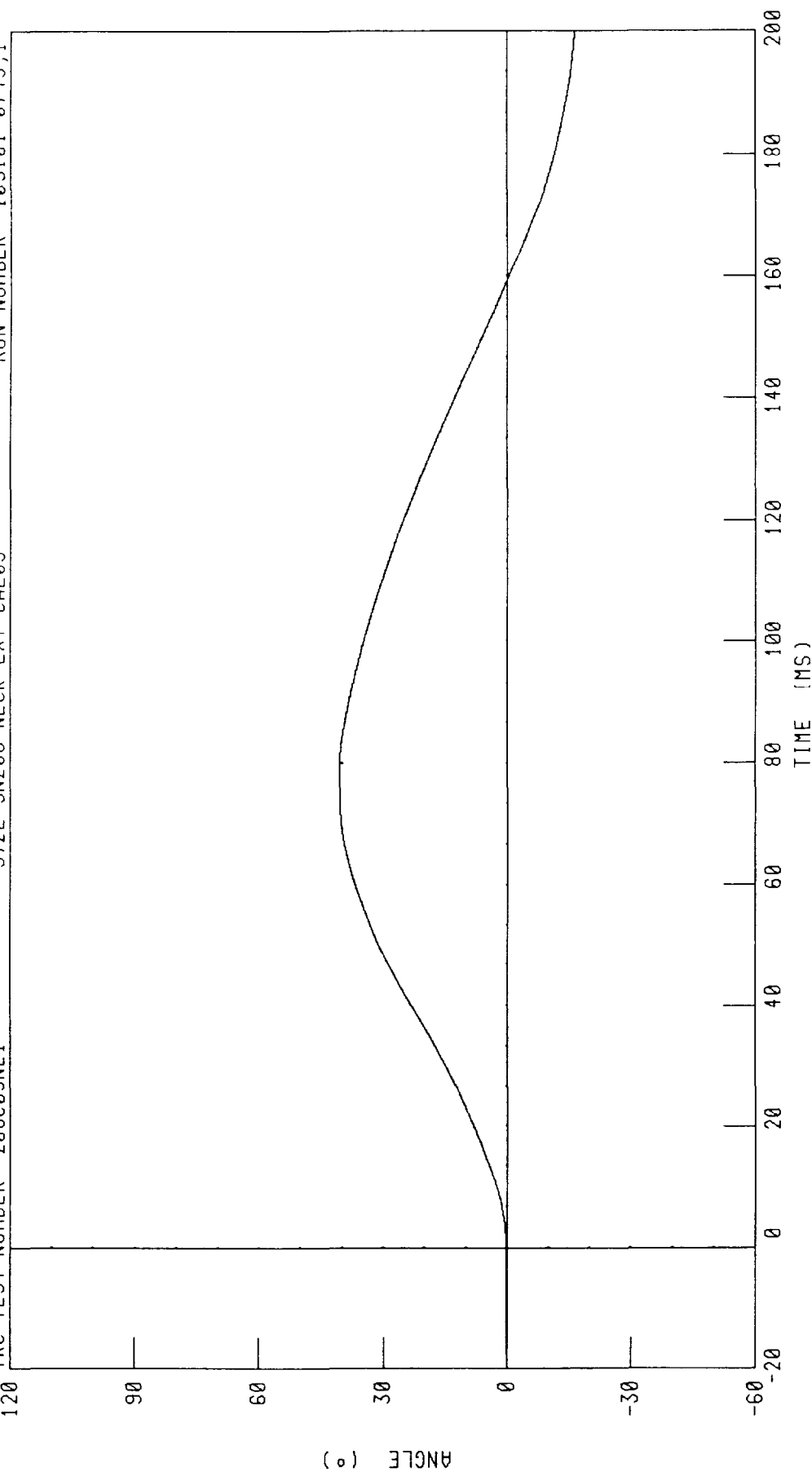
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER 206C09NE1

572E SN206 NECK EXT CAL09

RUN NUMBER 103101 0745.1



CHANNEL BETA FILTER CH CLASS 60

PEAK DATA 40 65 ° 0 76 80 MS, -16 60 ° 0 200 00 MS

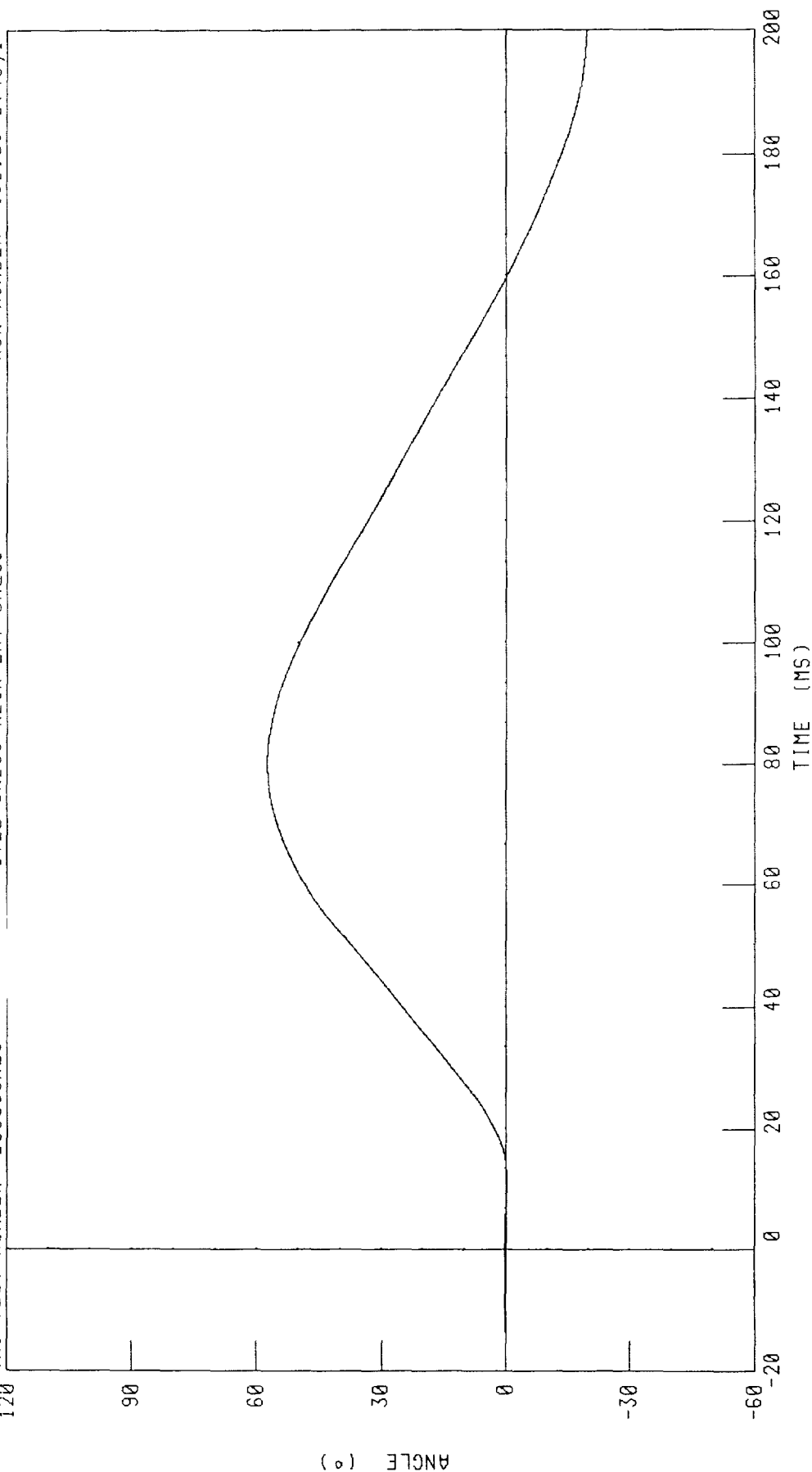
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 206C09NE1

572E SN206 NECK EXT CAL09

RUN NUMBER 103101 0745,1

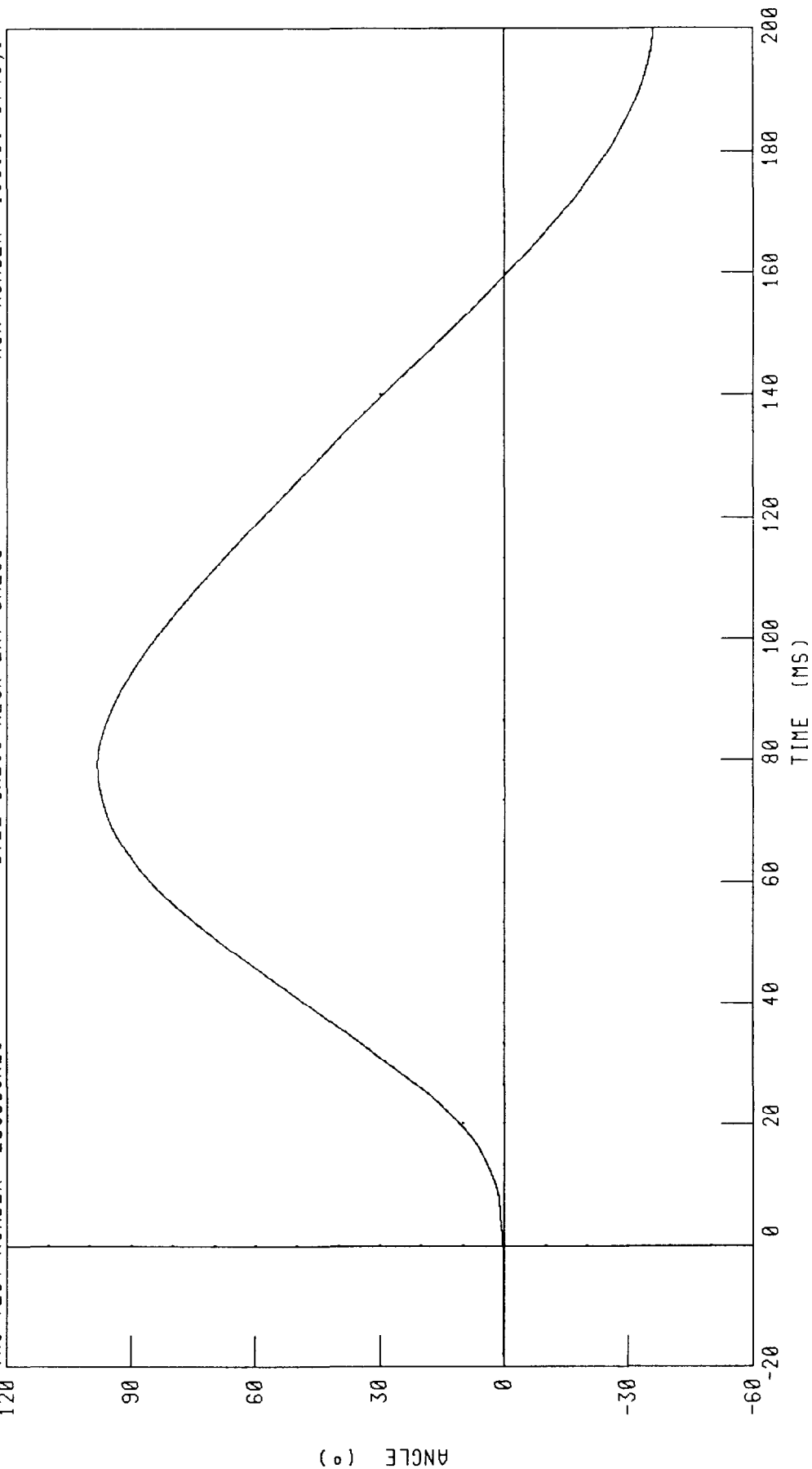


CHANNEL THETA FILTER CH CLASS 60 PEAK DATA 57 50 ° 0 80 08 MS, -19 64 ° 0 200 00 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

TOTAL ROTATION

TRC TEST NUMBER 206C09NE1 572E SN206 NECK EXT CAL09 RUN NUMBER 103101 0745,1



CHANNEL TOTAL FILTER CH CLASS 60

PEAK DATA 98 10 ° 0 79 52 MS, -36 24 ° 0 200 00 MS

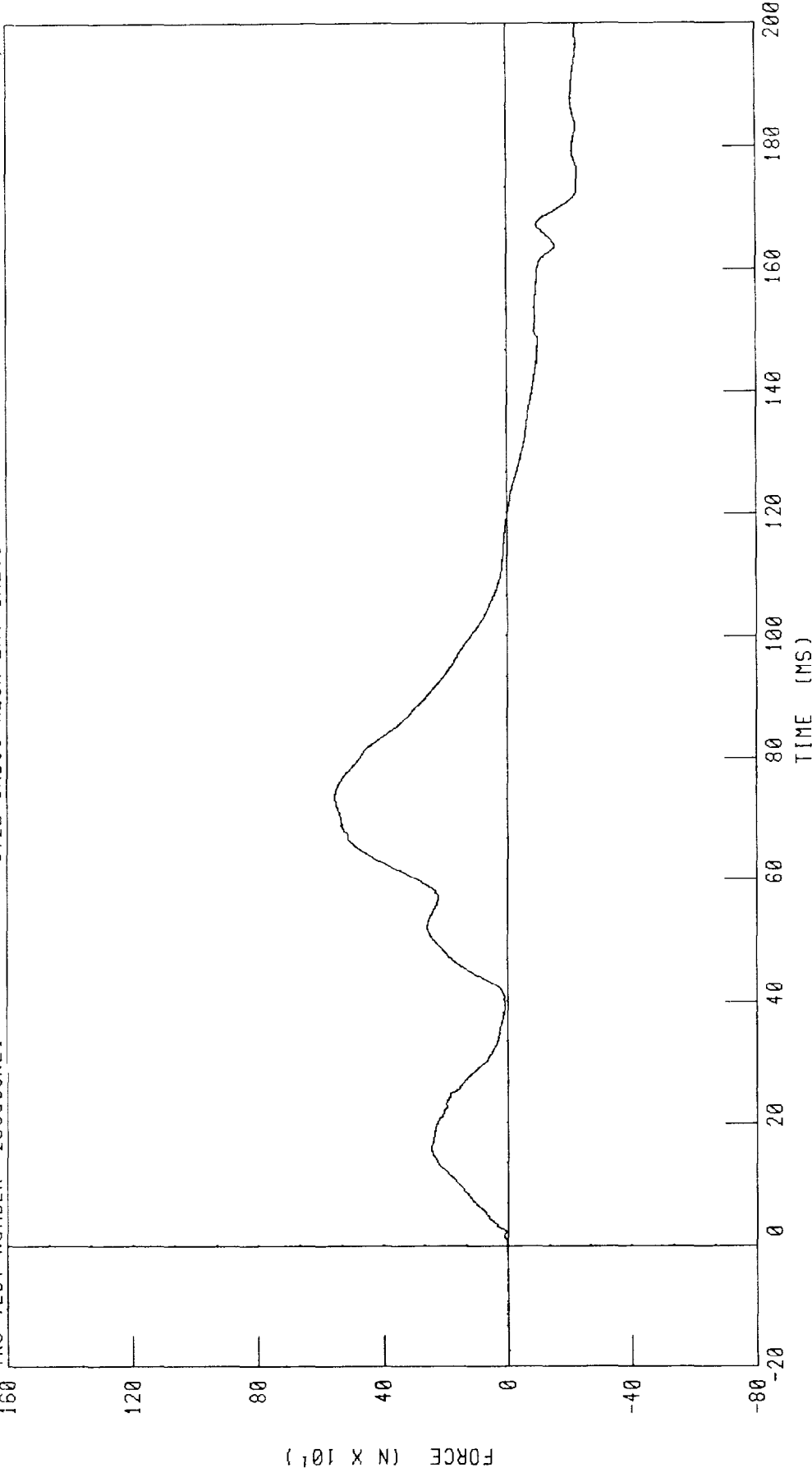
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK FORCE X AXIS

TRC TEST NUMBER 206C09NE1

572E 5N206 NECK EXT CAL09

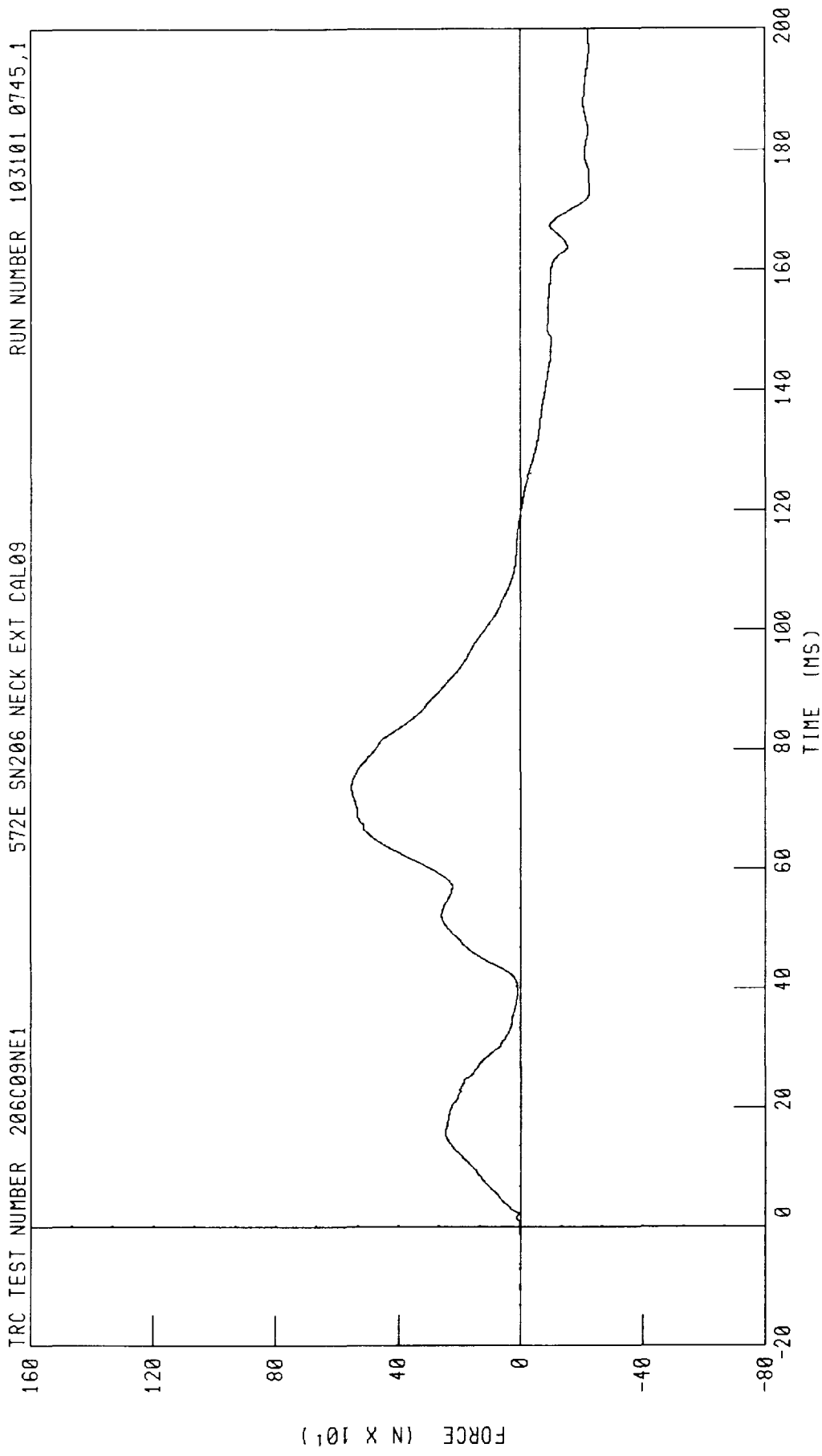
RUN NUMBER 103101 0745,1



CHANNEL NEKXF FILTER CH CLASS 1000

PEAK DATA 554 44 N @ 73 60 MS, -229 33 N @ 175 92 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION



CHANNEL NEKXFC FILTER CH CLASS 600 PEAK DATA 554 04 N @ 73 68 MS, -228 63 N @ 176 00 MS

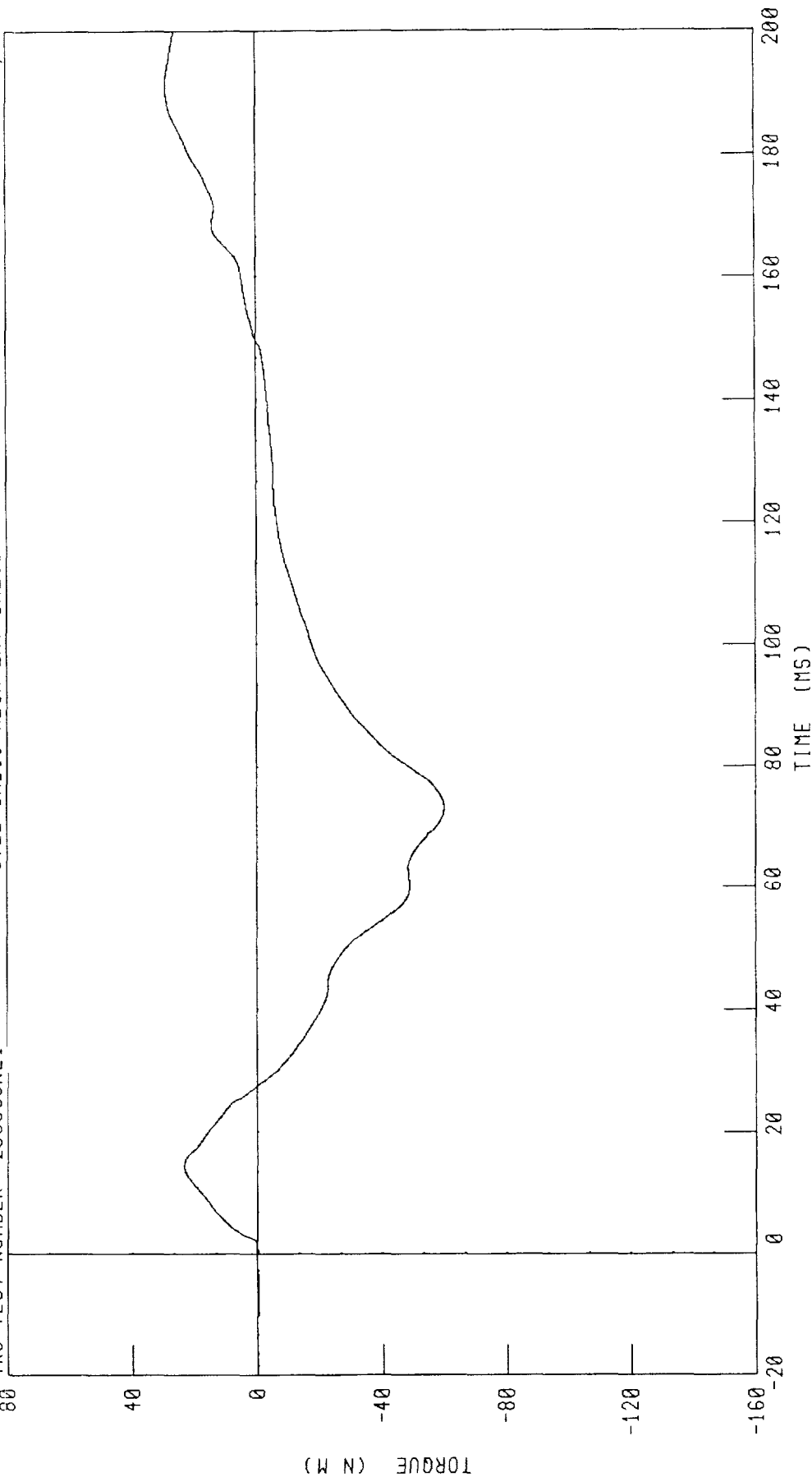
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK MOMENT Y AXIS

TRC TEST NUMBER 206C09NE1

572E SN206 NECK EXT CAL09

RUN NUMBER 103101.0745,1



CHANNEL NEKYM FILTER CH CLASS 600

TIME (MS)

PEAK DATA 28 98 N M @ 191 52 MS, -60 05 N M @ 73 20 MS

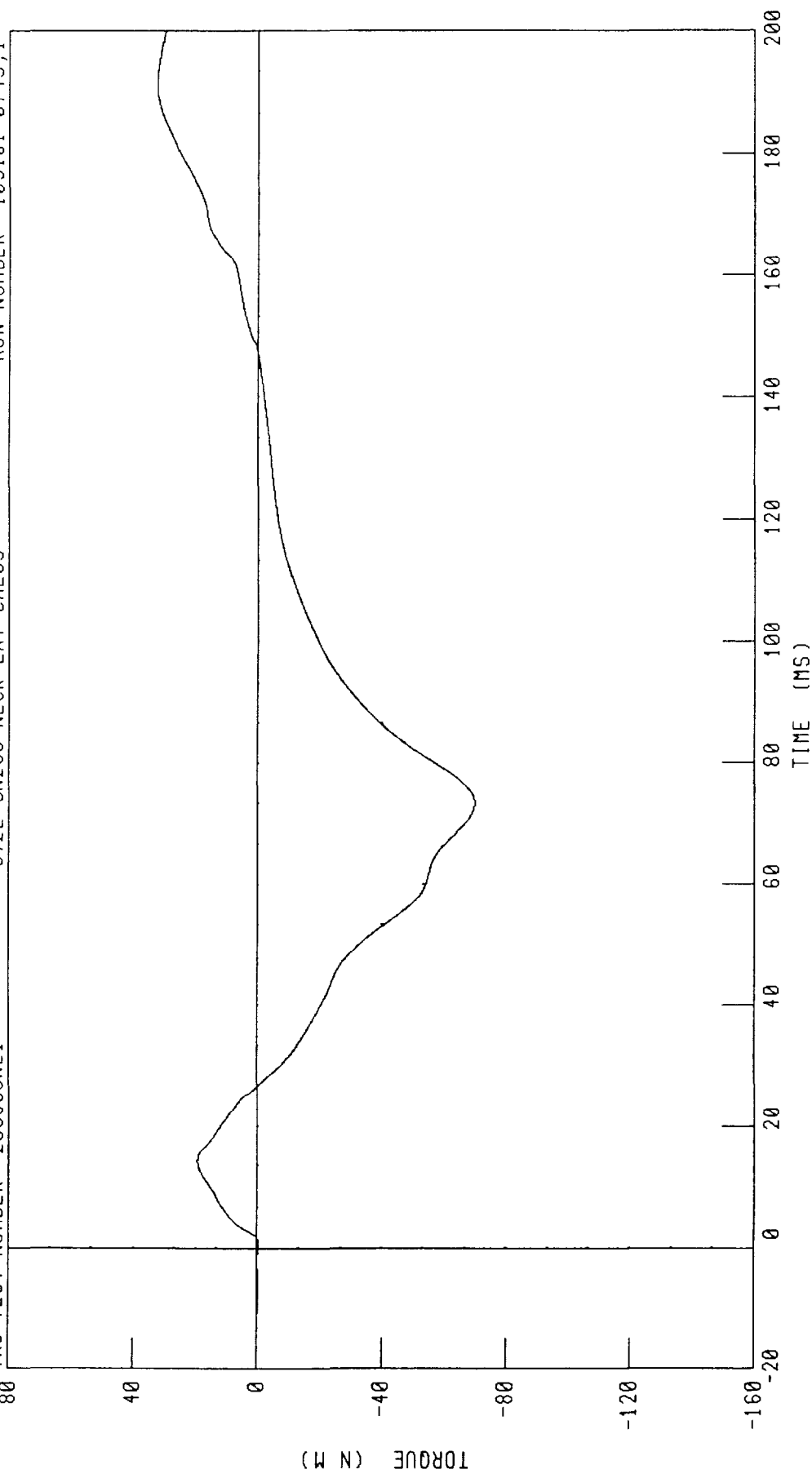
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 206C09NE1

572E SN206 NECK EXT CAL09

RUN NUMBER 103101 0745,1



CHANNEL NEKOM FILTER CH CLASS 600

PEAK DATA 32 79 N M 0 191 52 MS, -69 89 N M 0 73 36 MS

TRANSPORTATION RESEARCH CENTER INC.

THORAX IMPACT TEST

HYBRID III 50th

31-OCT-01

TRC INC.

TEST NO: 206C09TH1

572E SN206 H.S.THORAX CAL09

TEST PARAMETER	HIGH SPEED TEST	TEST RESULTS
	SPECIFICATION	
TEMPERATURE	20.6-22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	38.0 %
PENDULUM VELOCITY	6.59 - 6.83 M/S	6.59 M/S
MAXIMUM DEFLECTION	63.5 - 72.6 MM	65.5 MM
MAXIMUM RESISTIVE FORCE	5159 - 5894 N	5776. N
INTERNAL HYSTERESIS	69% - 85%	71.2%

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103101.0923;1

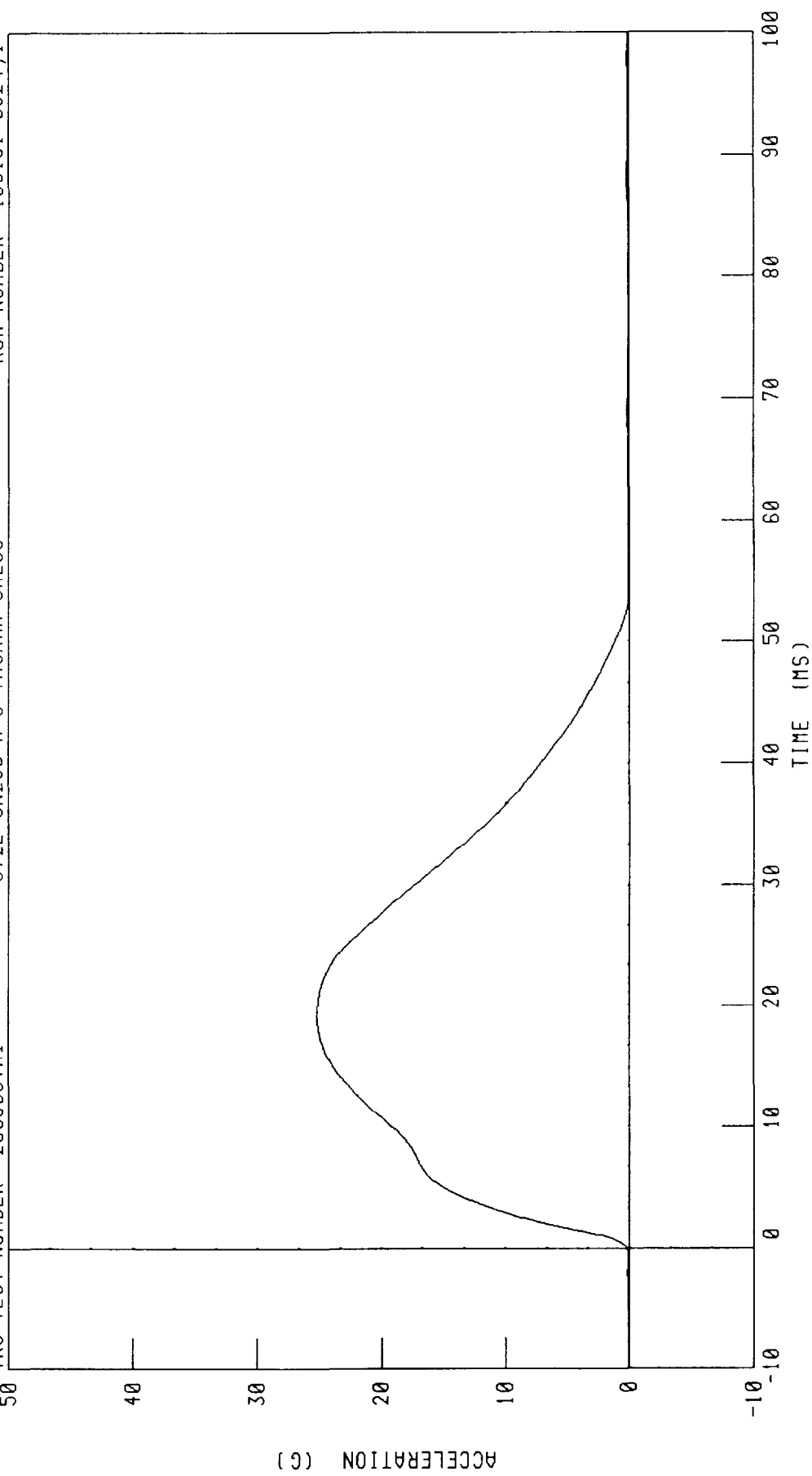
PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 206C09TH1

572E SN206 H S THORAX CAL09

RUN NUMBER 103101 0924,1



CHANNEL PENXC FILTER CH CLASS 180

PEAK DATA 25 21 G 19 20 MS, 0 03 G 55 36 MS

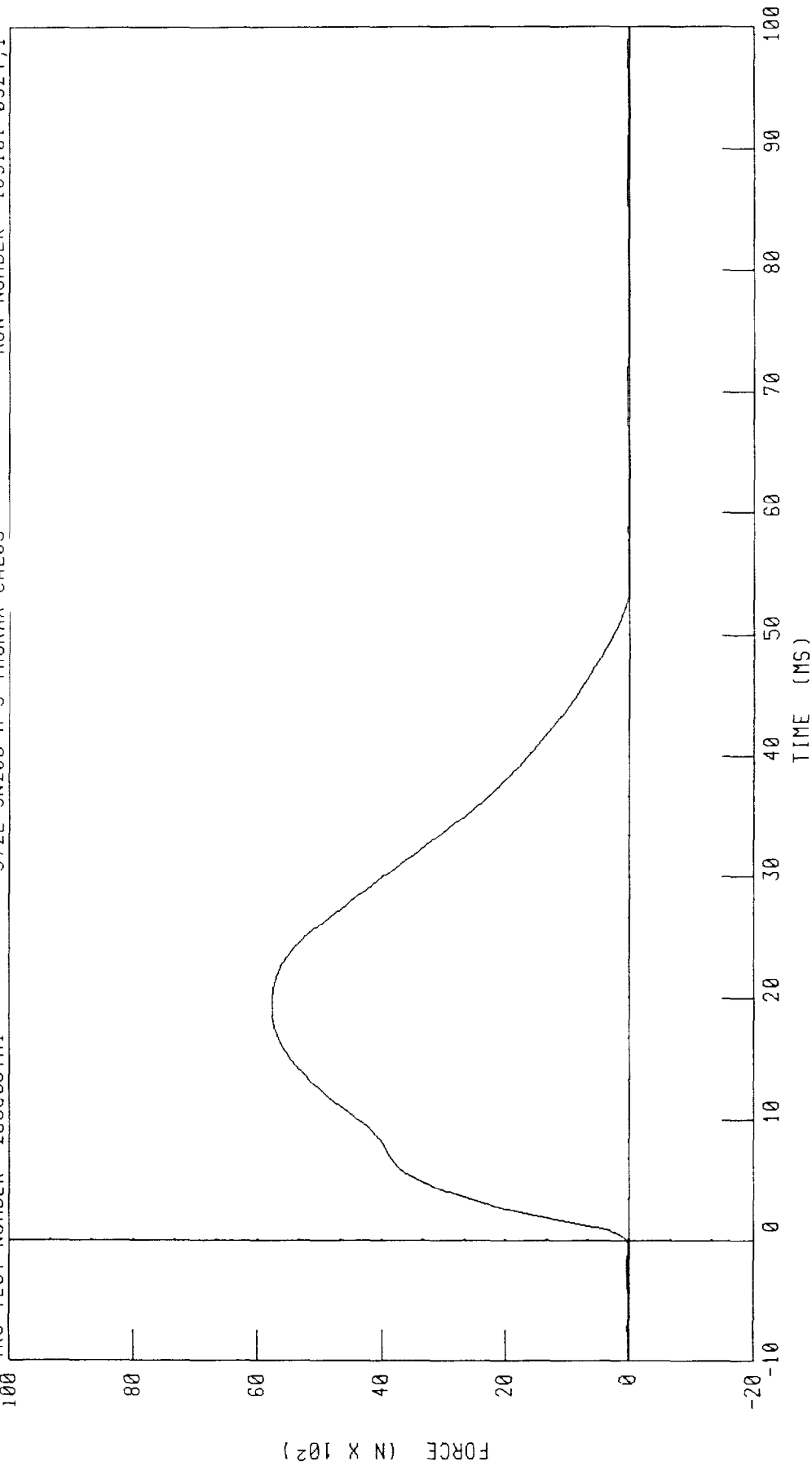
PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM FORCE

TRC TEST NUMBER 206C09TH1

572E SN206 H S THORAX CAL09

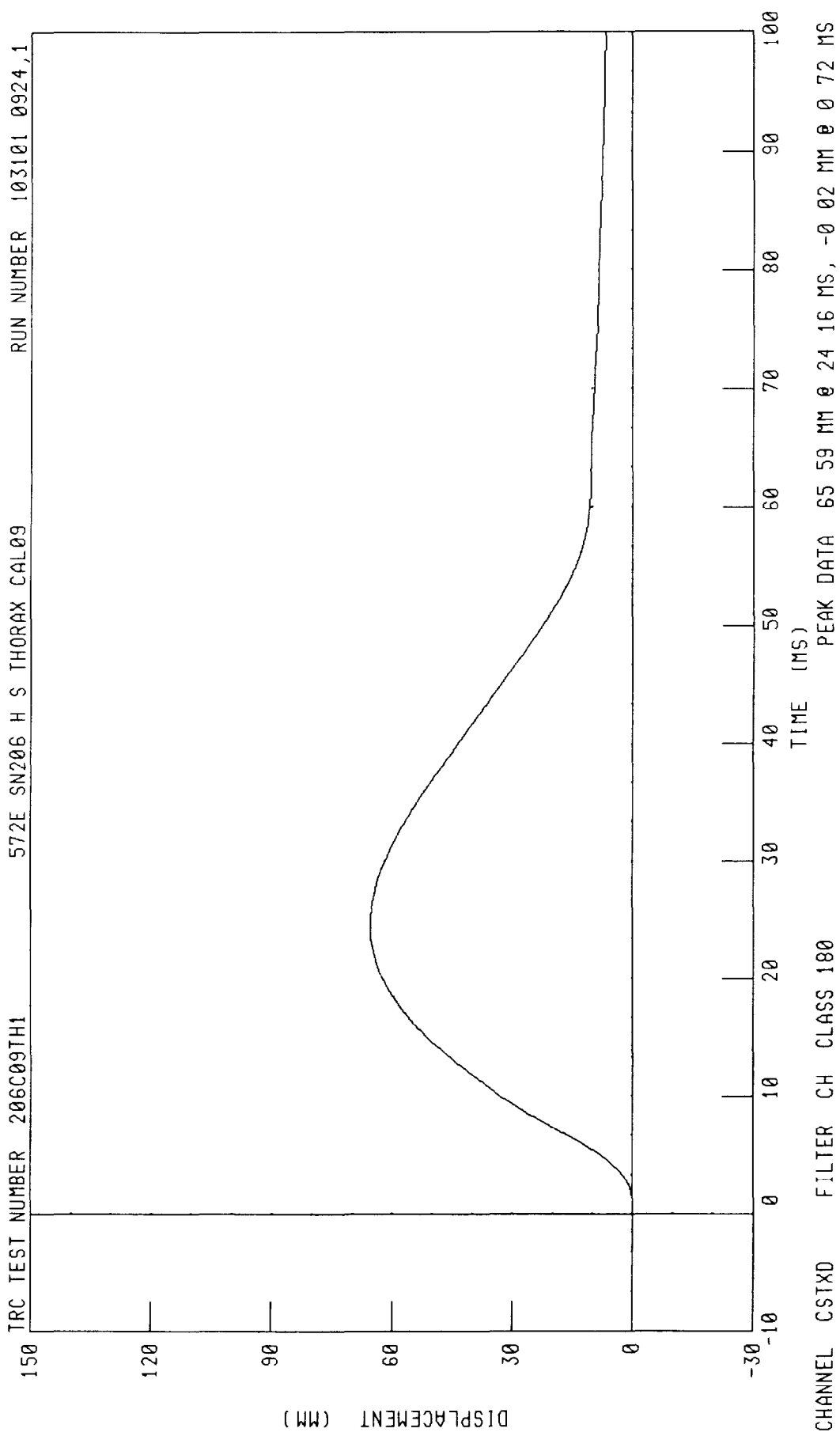
RUN NUMBER 103101 0924,1



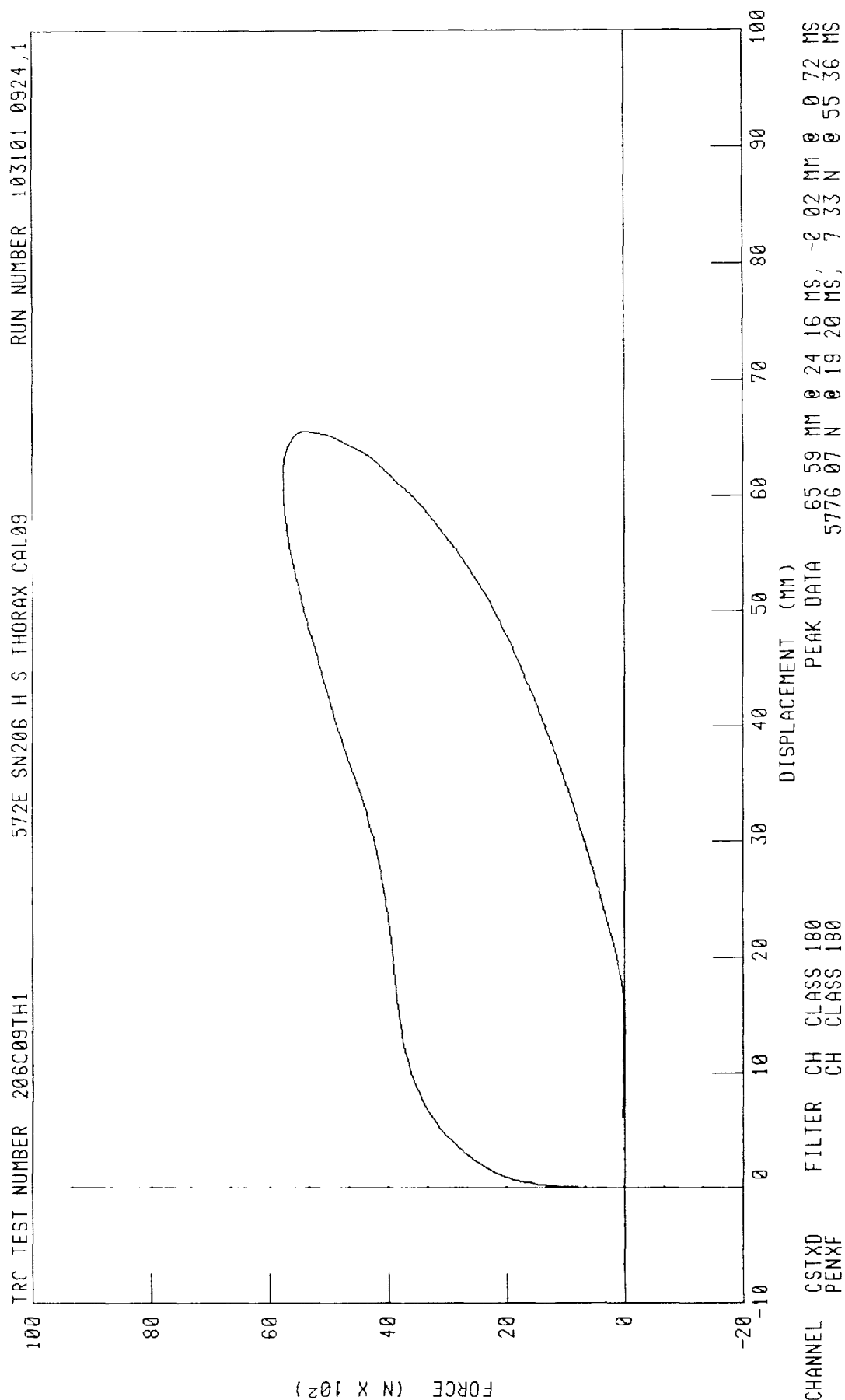
PEAK DATA 5776 07 N 0 19 20 MS, 7 33 N 0 55 36 MS

CHANNEL PENXF FILTER CH CLASS 180

PART 572-E HYBRID III THORAX CALIBRATION
STERNUM DISPLACEMENT



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



Transportation Research Center Inc

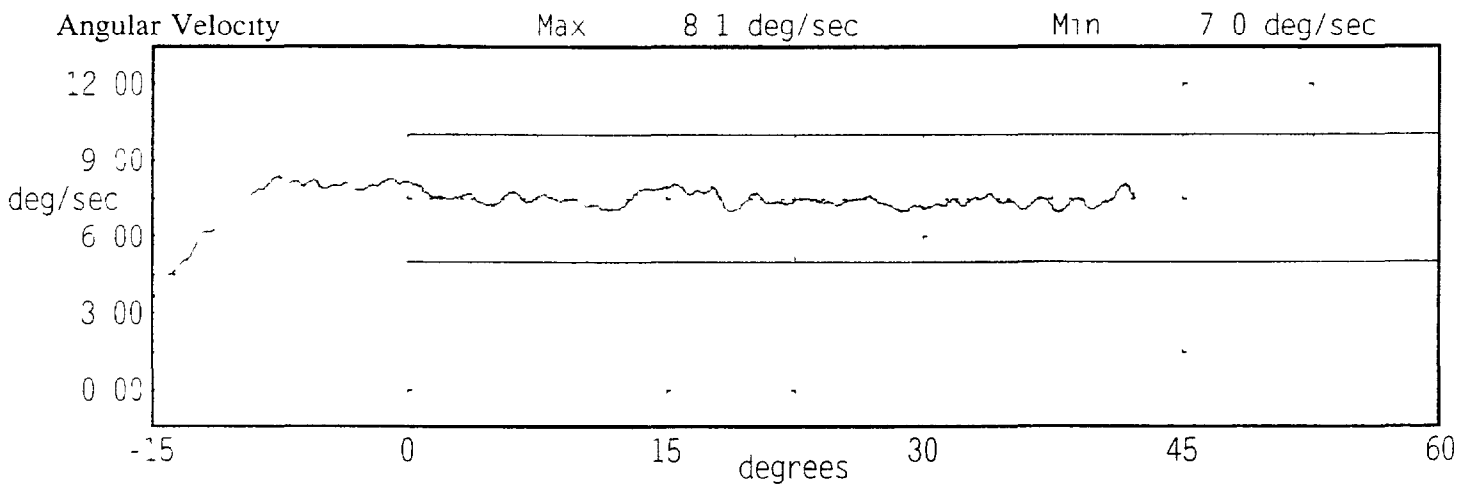
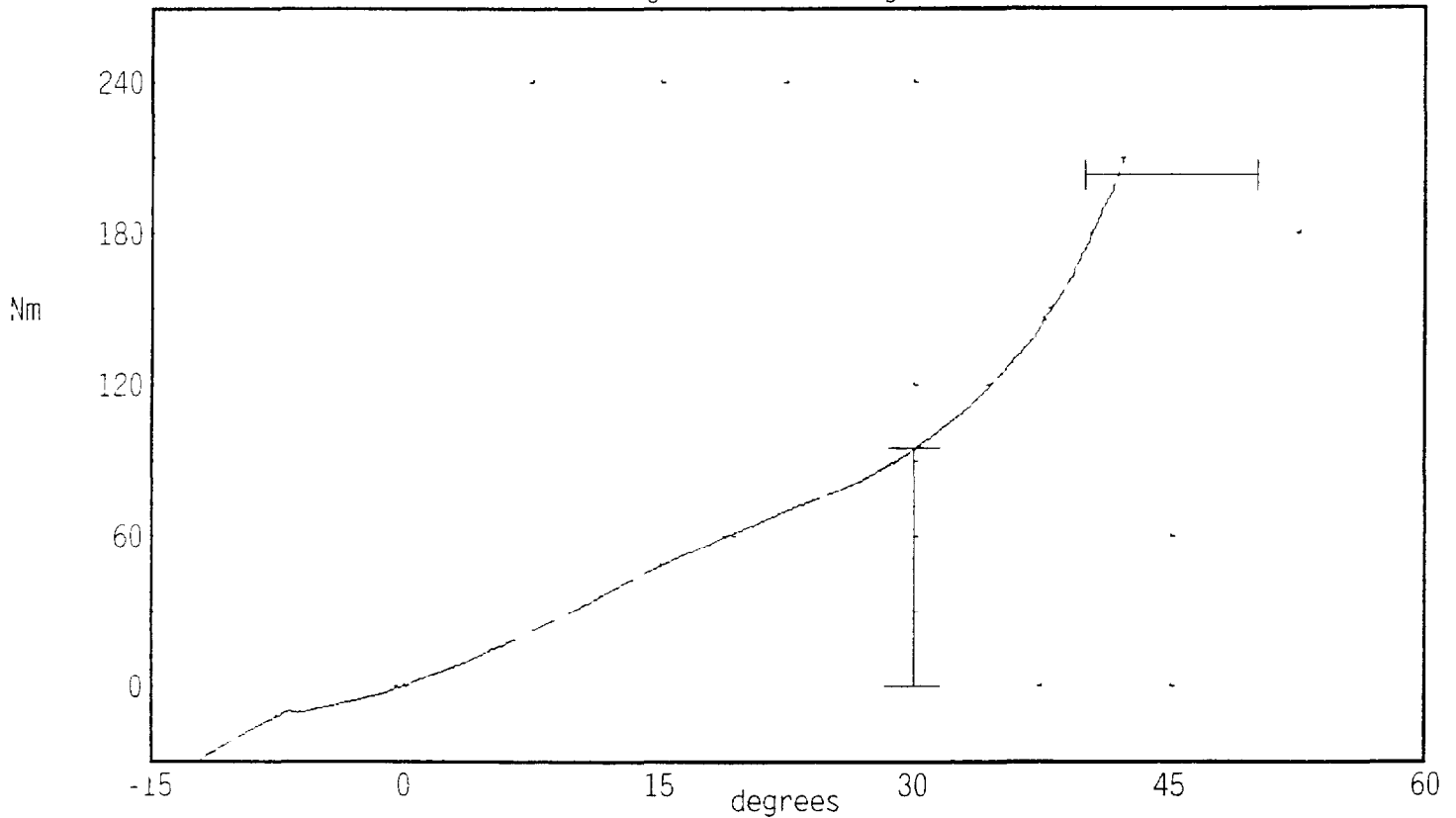
Hybrid III Hip Range of Motion

Serial Number 206R
Test Number 206C09
Comments

Date 10/30/2001
Time 08 49

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.1 °C Pass
Humidity	10 - 70	37 % Pass
Moment at 30 deg	<= 94.9	94.7 Nm Pass
Angle at 203 Nm	40.0 - 50.0	42.0 deg Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec Pass

Moment About H-Point Peak Moment 210.4 Nm at 42.3 deg
 Peak Angle 42.3 deg at 210.4 Nm



Transportation Research Center Inc

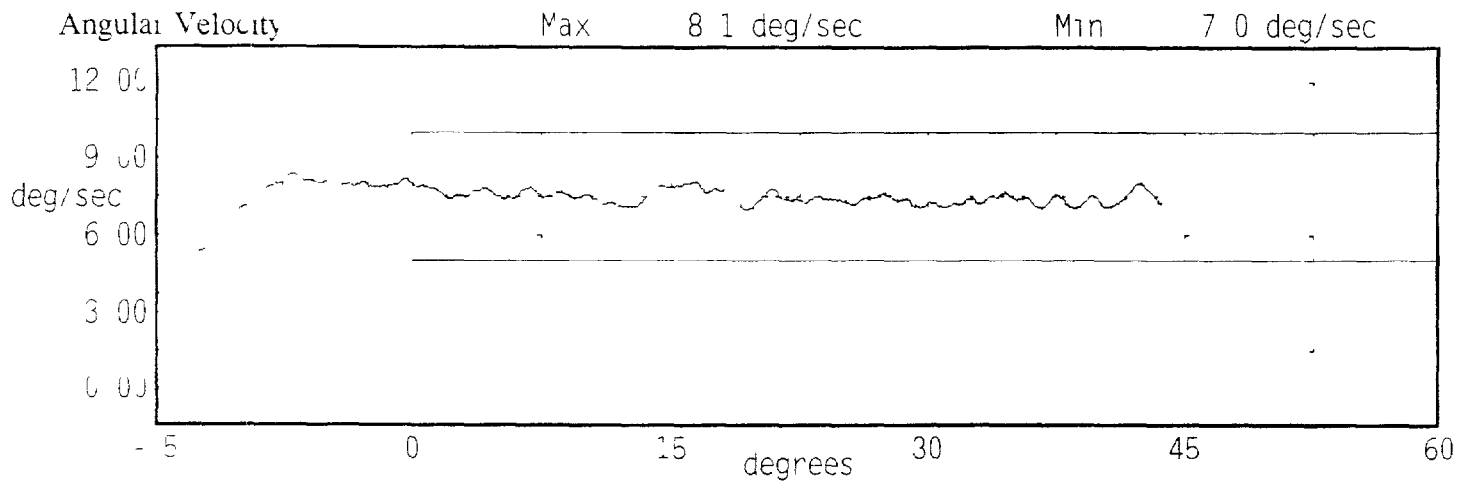
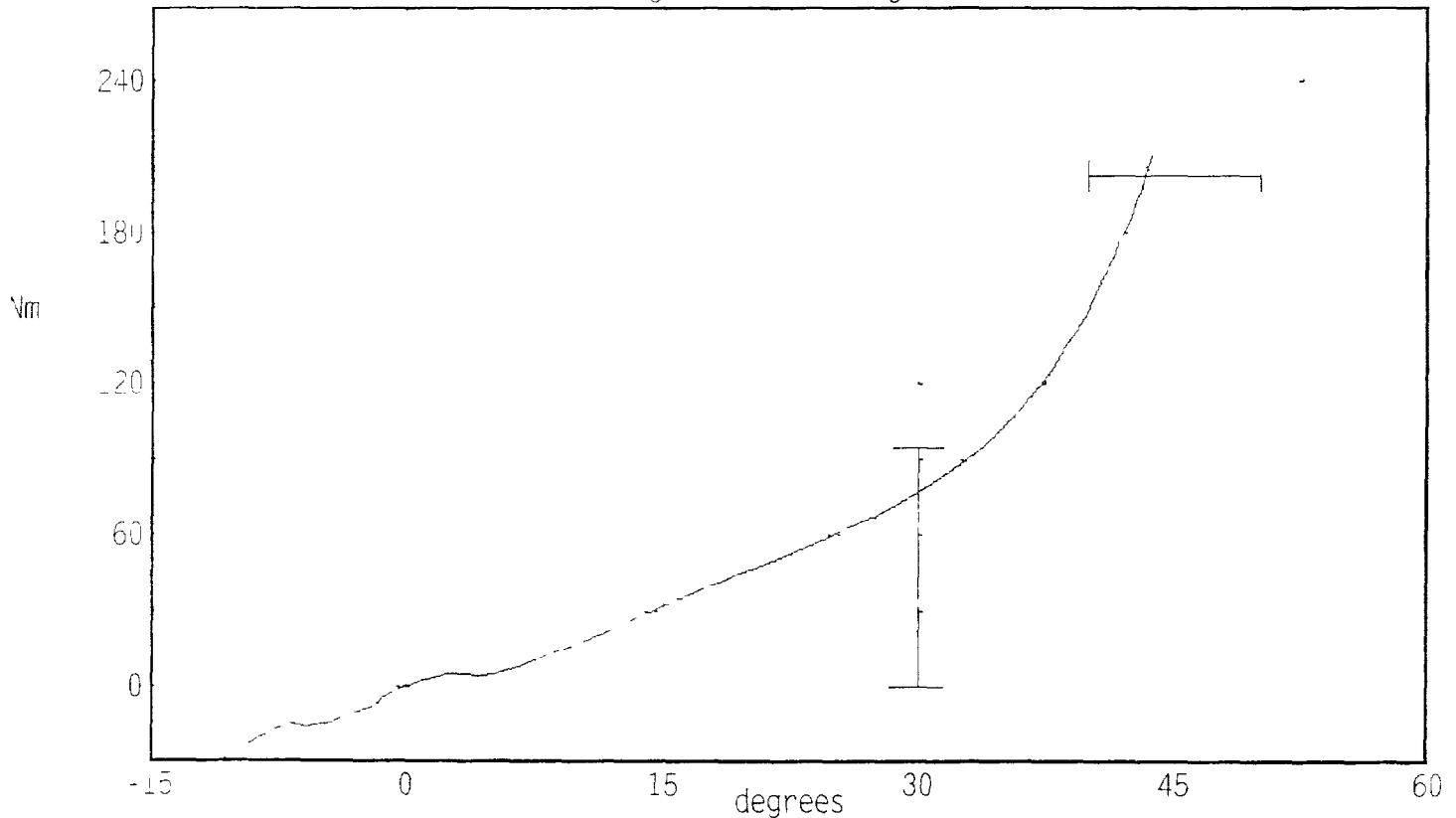
Hybrid III Hip Range of Motion

Serial Number 206L
Test Number 206C09
Comments

Date 10/30/2001
Time 08 54

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.1 °C	Pass
Humidity	10 - 70	37 %	Pass
Moment at 30 deg	<= 94.9	77.3 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	43.4 deg	Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec	Pass

Moment About H-Point
Peak Moment 210.8 Nm at 43.6 deg
Peak Angle 43.6 deg at 210.8 Nm



TRANSPORTATION RESEARCH CENTER INC.

LEFT KNEE IMPACT TEST

HYBRID III 50th

30-OCT-10

TRC INC.

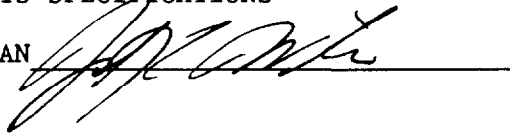
TEST NO: 206C09LK1

572E SN206 LEFT KNEE CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	38.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.10 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5361.4 N

TEST MEETS SPECIFICATIONS

TECHNICIAN



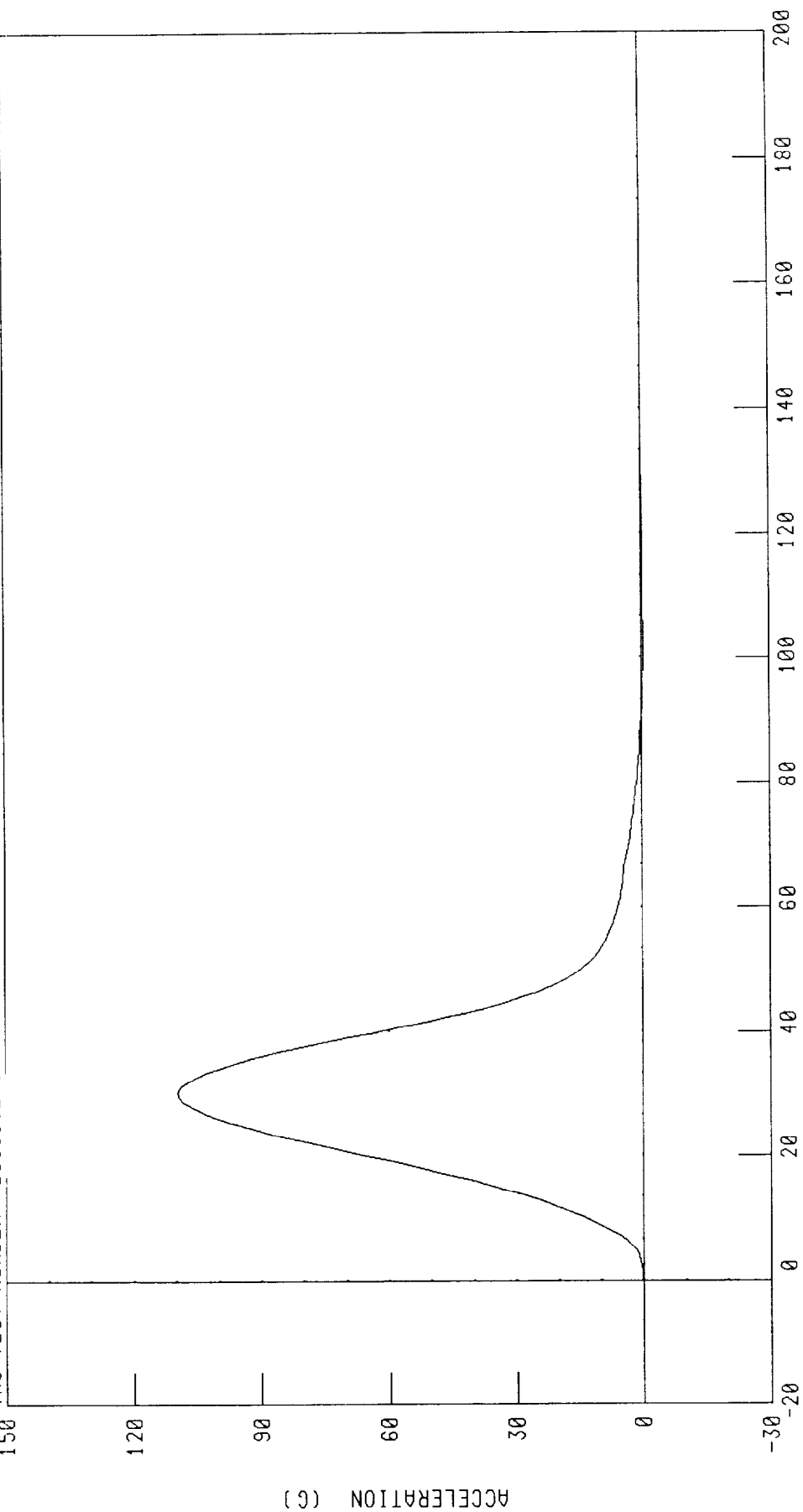
RUN NUMBER: 103001.1141;1

PART 572-E HYBRID III LEFT KNEE CALIBRATION

PENDULUM DECELERATION (5 KG PEND)

572E SN206 LEFT KNEE CAL 09 RUN NUMBER 103001 1142,1

TRC TEST NUMBER 206C09LK1



PEAK DATA 109 58 G @ 3 04 MS, -0 50 G @ 10 40 MS

CHANNEL PENXC FILTER CH CLASS 600

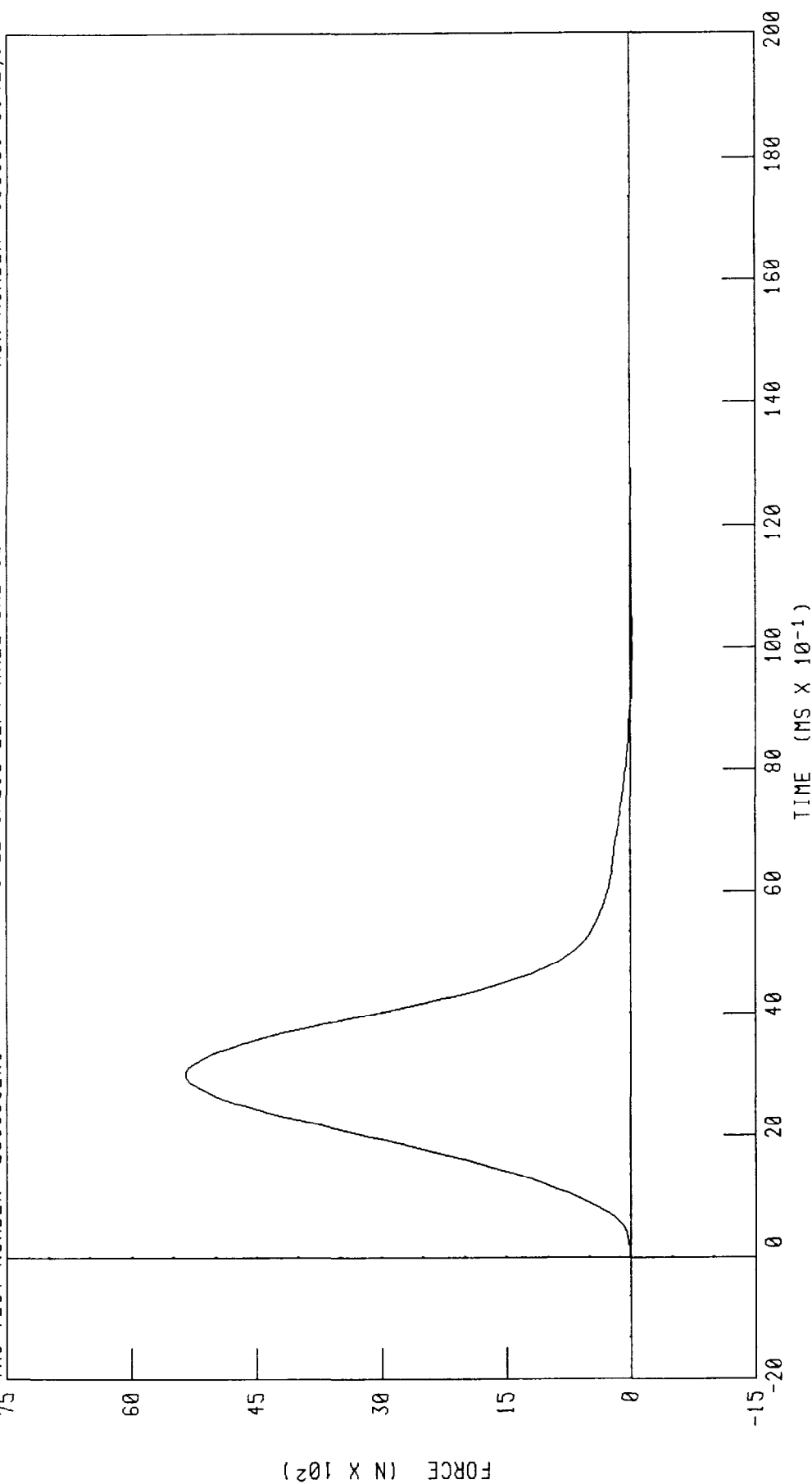
PART 572-E HYBRID III LEFT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

TRC TEST NUMBER 206C09LK1

572E SN206 LEFT KNEE CAL 09

RUN NUMBER 103001 1142,1



CHANNEL PENXF FILTER CH CLASS 600

PEAK DATA 5361 48 N @ 3 04 MS, -24 63 N @ 10 40 MS

TRANSPORTATION RESEARCH CENTER INC.

RIGHT KNEE IMPACT TEST

HYBRID III 50th

30-OCT-01

TRC INC.

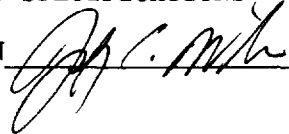
TEST NO: 206C09RK2

572E SN206 RIGHT KNEE CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	39.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.11 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5085.6 N

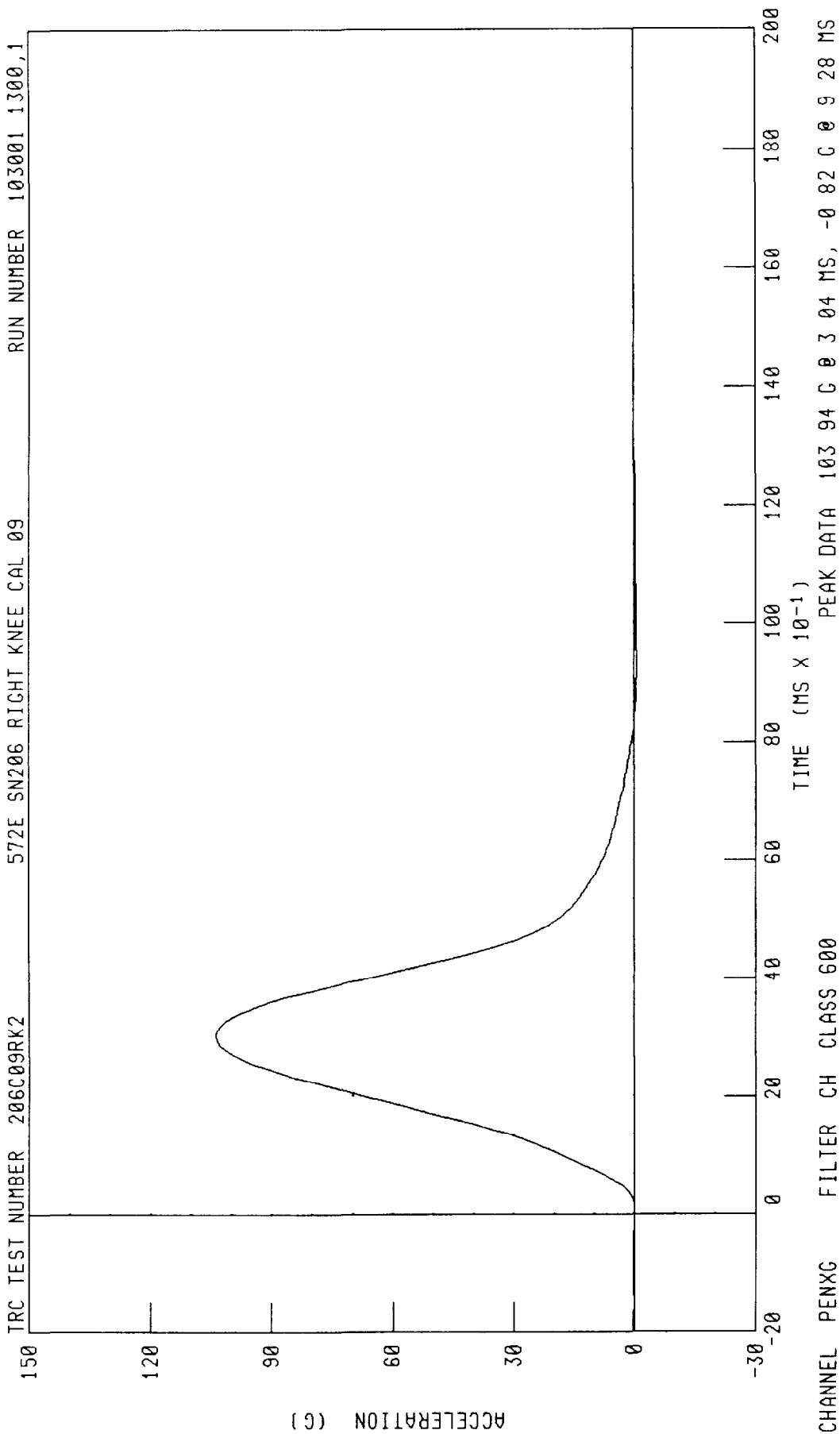
TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103001.1259;1

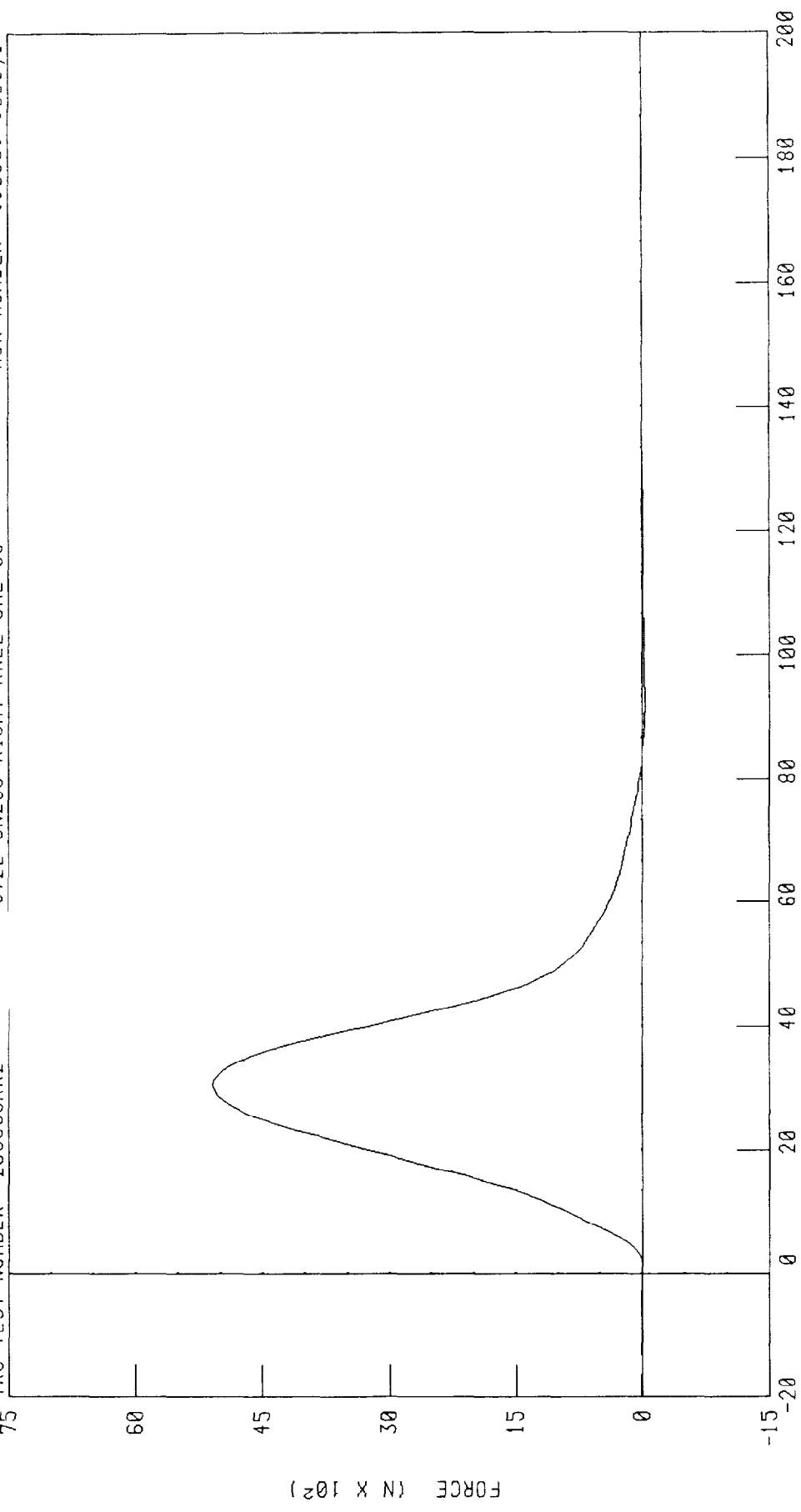
PART 572-E HYBRID III RIGHT KNEE CALIBRATION
PENDULUM DECELERATION (5 KG PEND)



PART 572-E HYBRID III RIGHT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

TRC TEST NUMBER 206C09RK2 RUN NUMBER 103001 1300,1



TIME (MS X 10⁻¹)

CHANNEL PENXF FILTER CH CLASS 600 PEAK DATA 5085 62 N 0 3 04 MS, -40 00 N 0 9 28 MS

TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

30-OCT-01

LEFT KNEE

TRC INC.

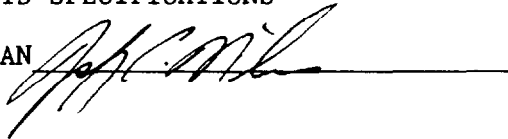
TEST NO: 206C09LS1

572E SN206 LEFT SLIDER CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	39.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.73 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1289. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	2392. N

TEST MEETS SPECIFICATIONS

TECHNICIAN

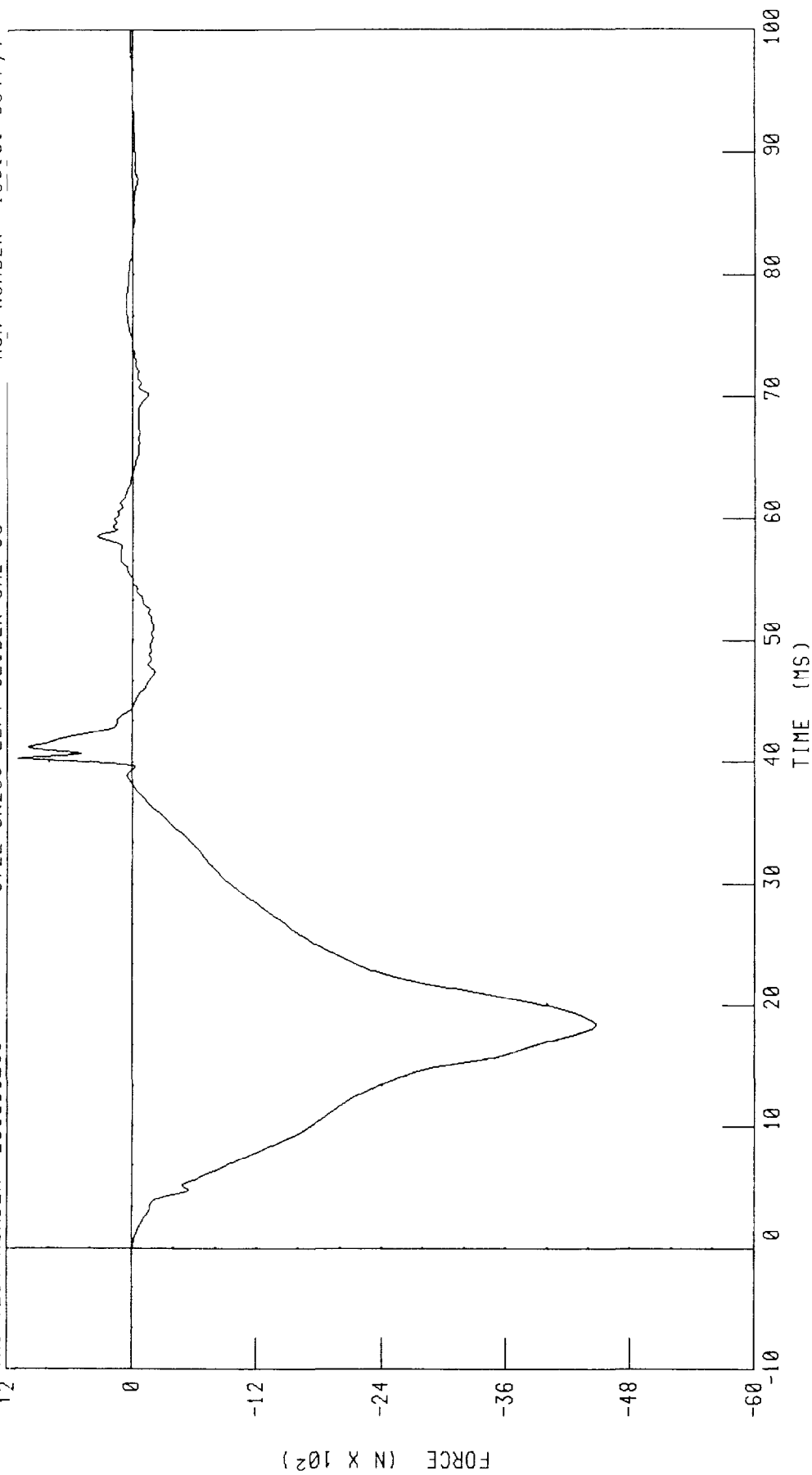


RUN NUMBER: 103101.0806;2

PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT FEMUR FORCE

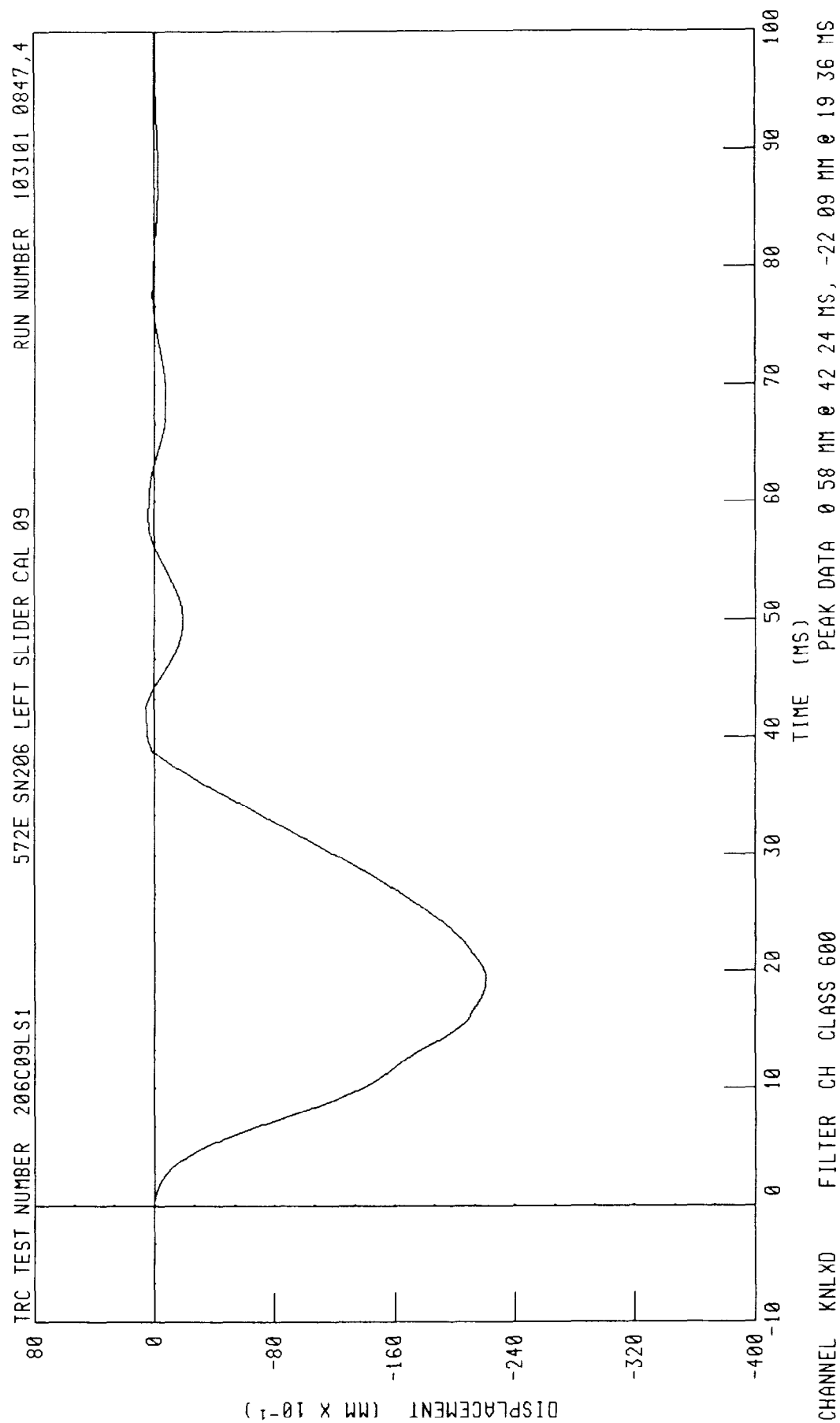
TRC TEST NUMBER 206C09LS1 572E SN206 LEFT SLIDER CAL 09 RUN NUMBER 103101 0847,4



CHANNEL LFMF FILTER CH CLASS 600 PEAK DATA 1099 71 N 0 40 32 MS, -4476 41 N 0 18 40 MS

PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT KNEE DISPLACEMENT



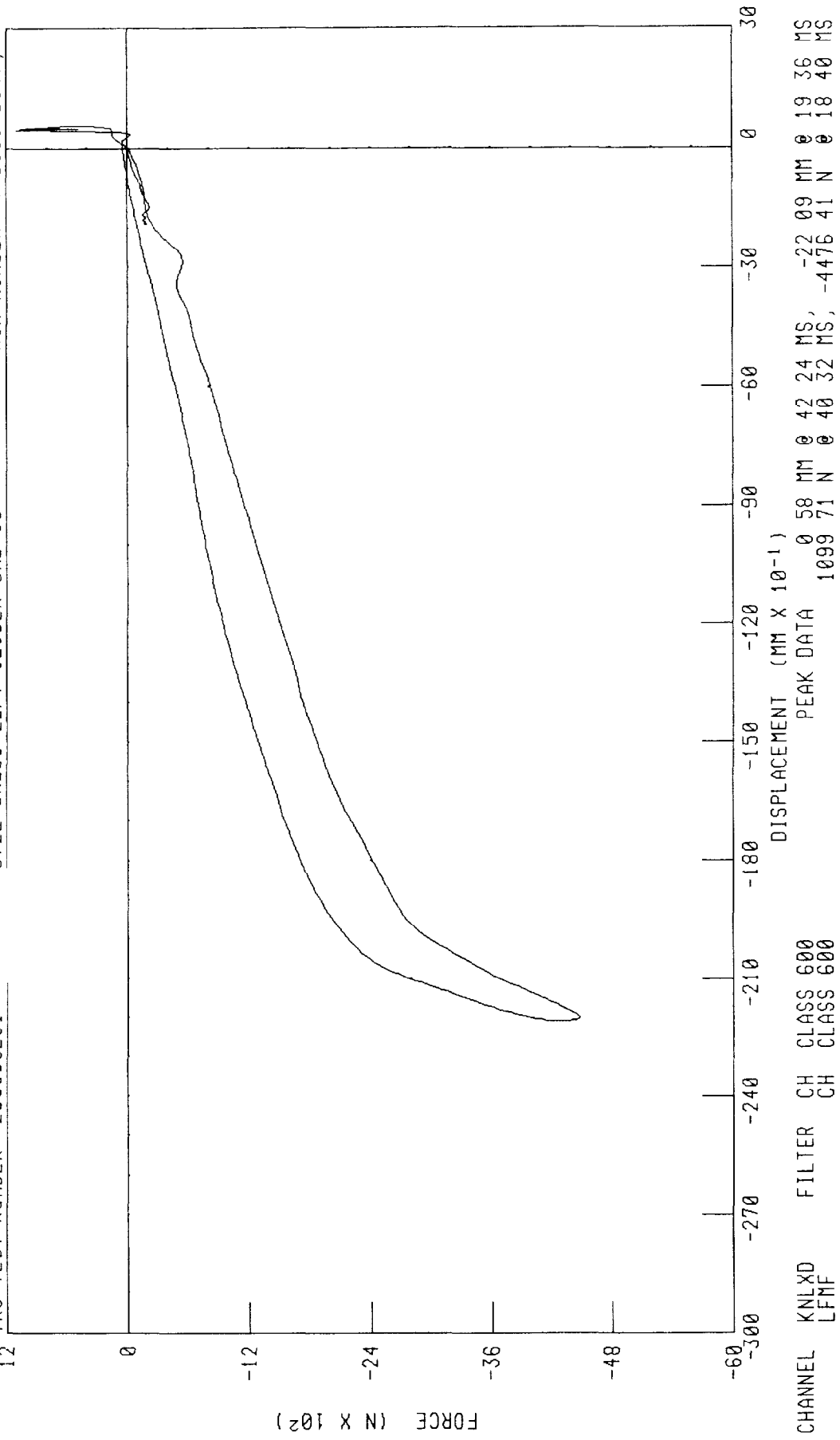
PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT KNEE DISPLACEMENT VS FEMUR FORCE

TRC TEST NUMBER 206C09LS1

572E SN206 LEFT SLIDER CAL 09

RUN NUMBER 103101 0847,4



TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

30-OCT-01

RIGHT KNEE

TRC INC.

TEST NO: 206C09RS2

572E SN206 RIGHT SLIDER CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	39.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.75 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1461. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	2731. N

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103001.1353;1

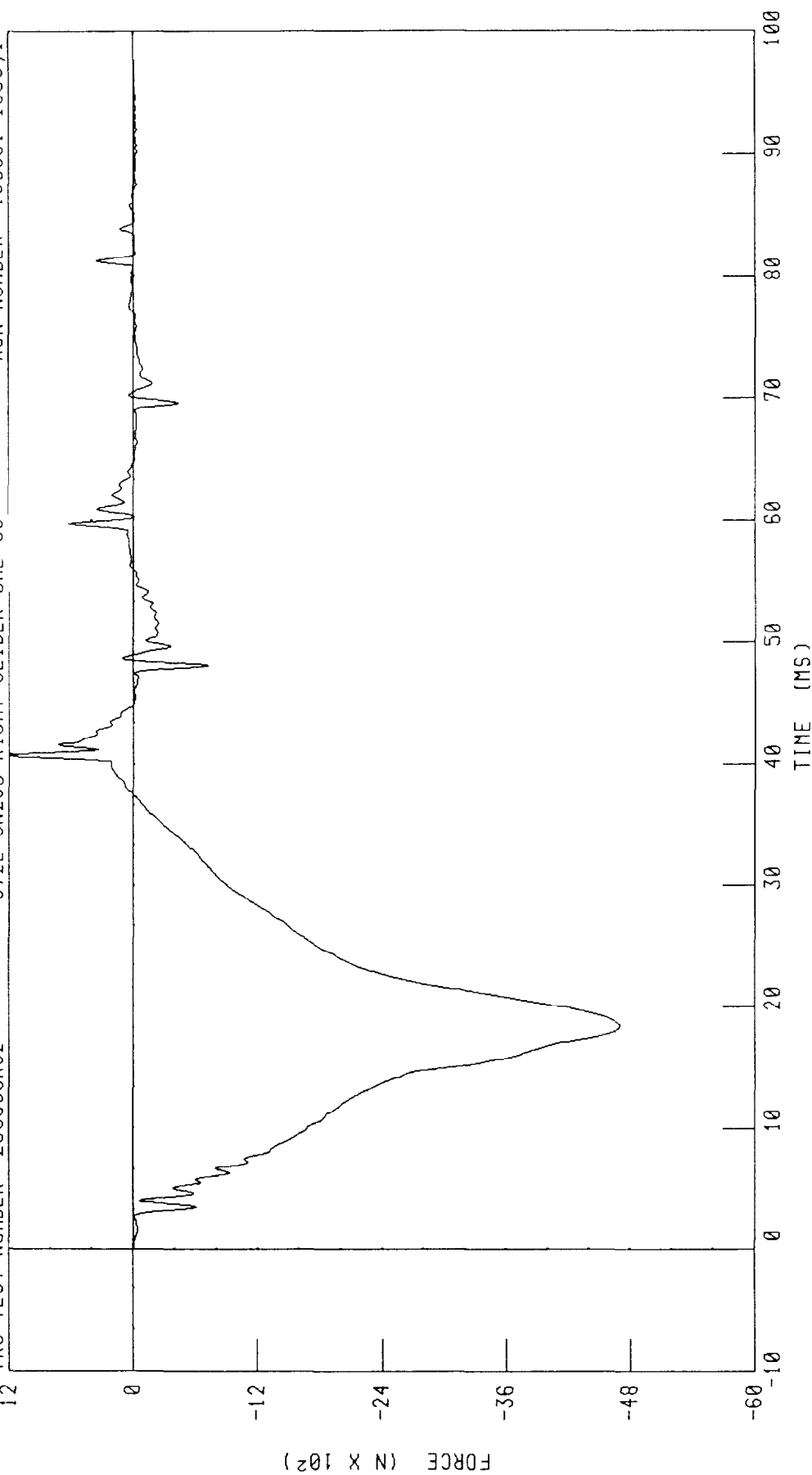
PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT FEMUR FORCE

TRC TEST NUMBER 206C09RS2

572E SN206 RIGHT SLIDER CAL 09

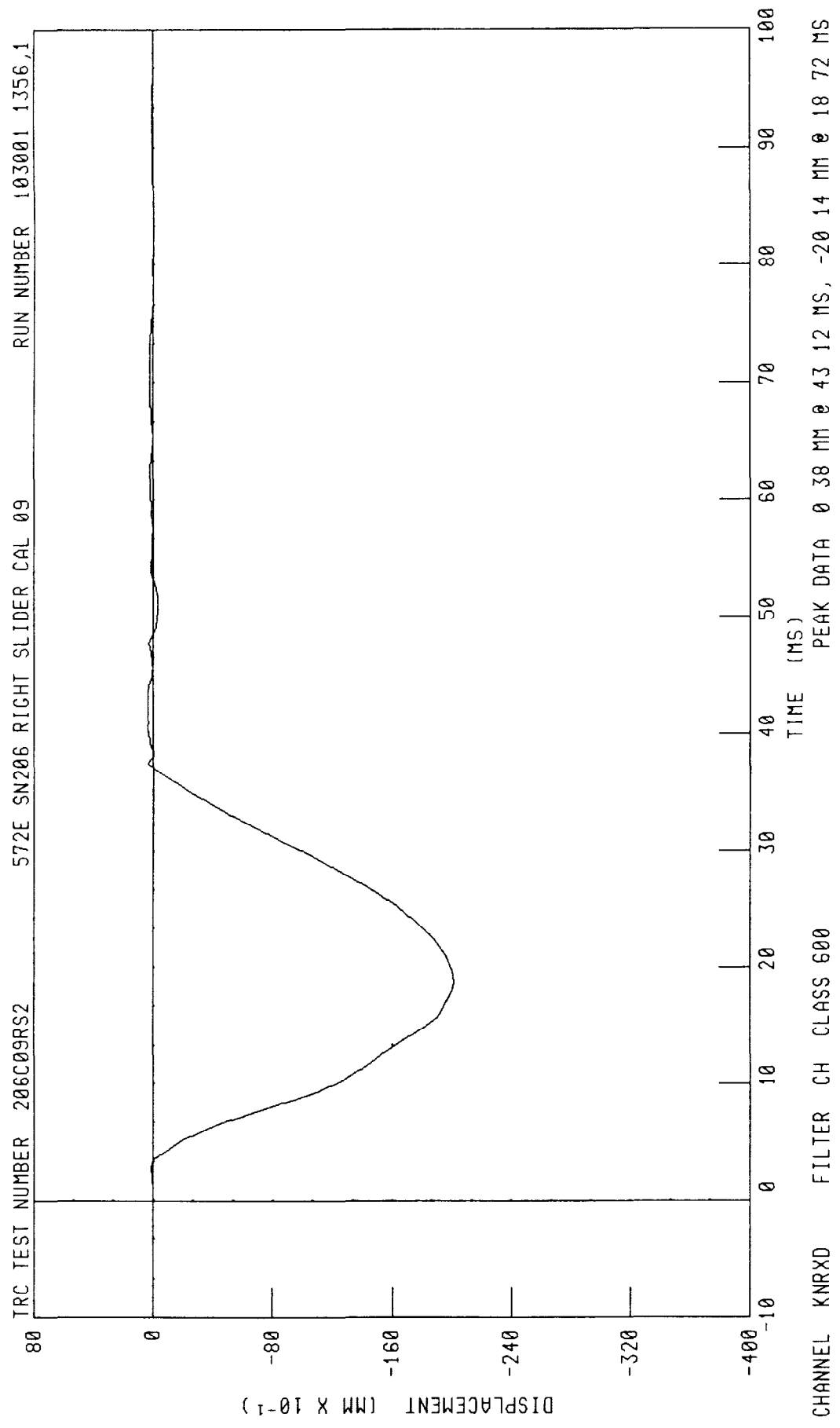
RUN NUMBER 103001 1356,1



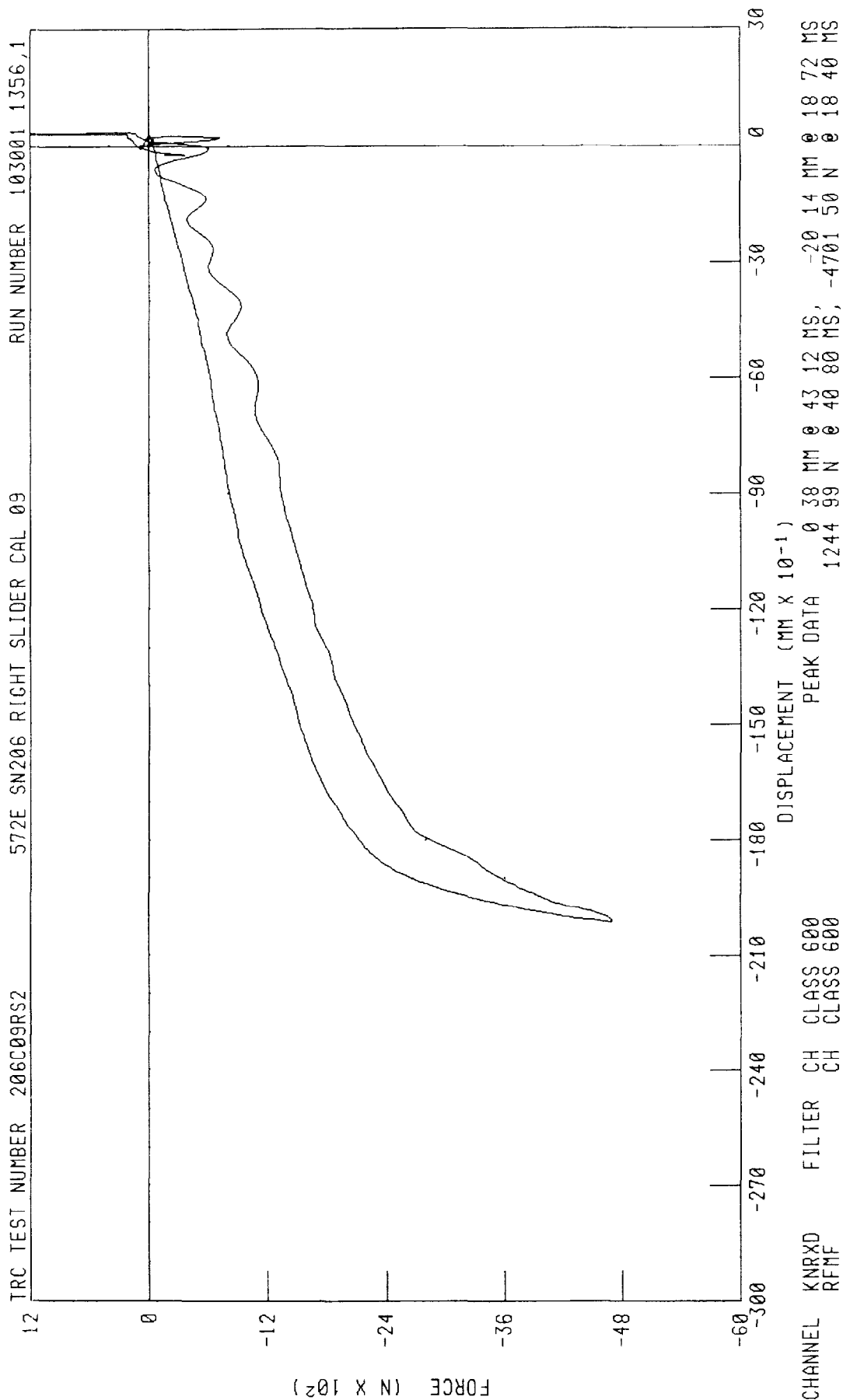
CHANNEL RFMF FILTER CH CLASS 600

PEAK DATA 1244 99 N @ 40 80 MS, -4701 50 N @ 18 40 MS

PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION
RIGHT KNEE DISPLACEMENT



PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION
 RIGHT KNEE DISPLACEMENT VS FEMUR FORCE



Post-Test Dummy Configuration and Performance Verification Data

Passenger Dummy S/N: 202

TRANSPORTATION RESEARCH CENTER INC.
HYBRID III EXTERNAL DIMENSIONS

202

31-OCT-01

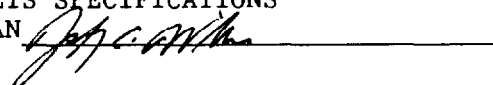
TRC INC. TEST NO: 202C10ED1 572E SN202 EXT.DIMENSION CAL10

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	983. MM
WAIST CIRCUMFERENCE (Z)	836 - 866 MM	851. MM
CHEST DEPTH (O)	213 - 229 MM	226. MM
H-POINT HEIGHT (C)	84 - 89 MM	86. 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	886. MM
THIGH CLEARANCE (F)	140 - 155 MM	145. MM
BUTTOCK KNEE LENGTH (K)	579 - 605 MM	599. MM
BUTTOCK POPLITEAL LENGTH (N)	452 - 478 MM	472. MM
POPLITEAL HEIGHT (L)	429 - 455 MM	447. MM
KNEE PIVOT HEIGHT (M)	485 - 500 MM	493. MM
FOOT LENGTH (P)	252 - 267 MM	254. MM
FOOT BREADTH (W)	91 - 107 MM	102. MM
SHOULDER PIVOT FROM BACKLINE (E)	84 - 94 MM	91. MM
SHOULDER BREADTH (V)	422 - 437 MM	434. MM
SHOULDER PIVOT HEIGHT (B)	506 - 521 MM	516. MM
ELBOW REST HEIGHT (J)	191 - 211 MM	203. MM
SHOULDER-ELBOW LENGTH (I)	330 - 345 MM	335. MM
BACK OF ELBOW TO WRIST PIVOT (G)	290 - 305 MM	300. MM

572E SN202 EXT.DIMENSION CAL10

DUMMY MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103101.1333

TRANSPORTATION RESEARCH CENTER INC.

HEAD DROP TEST

HYBRID III 50th

30-OCT-01

TRC INC.

TEST NO: 202C10HD1

572E SN202 HEAD DROP CAL 01

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	38.0 %
PEAK RESULTANT ACCELERATION	225 - 275 G	234.73 G
PEAK LATERAL ACCELERATION	15 G MAX	-3.97 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103001.1510;2

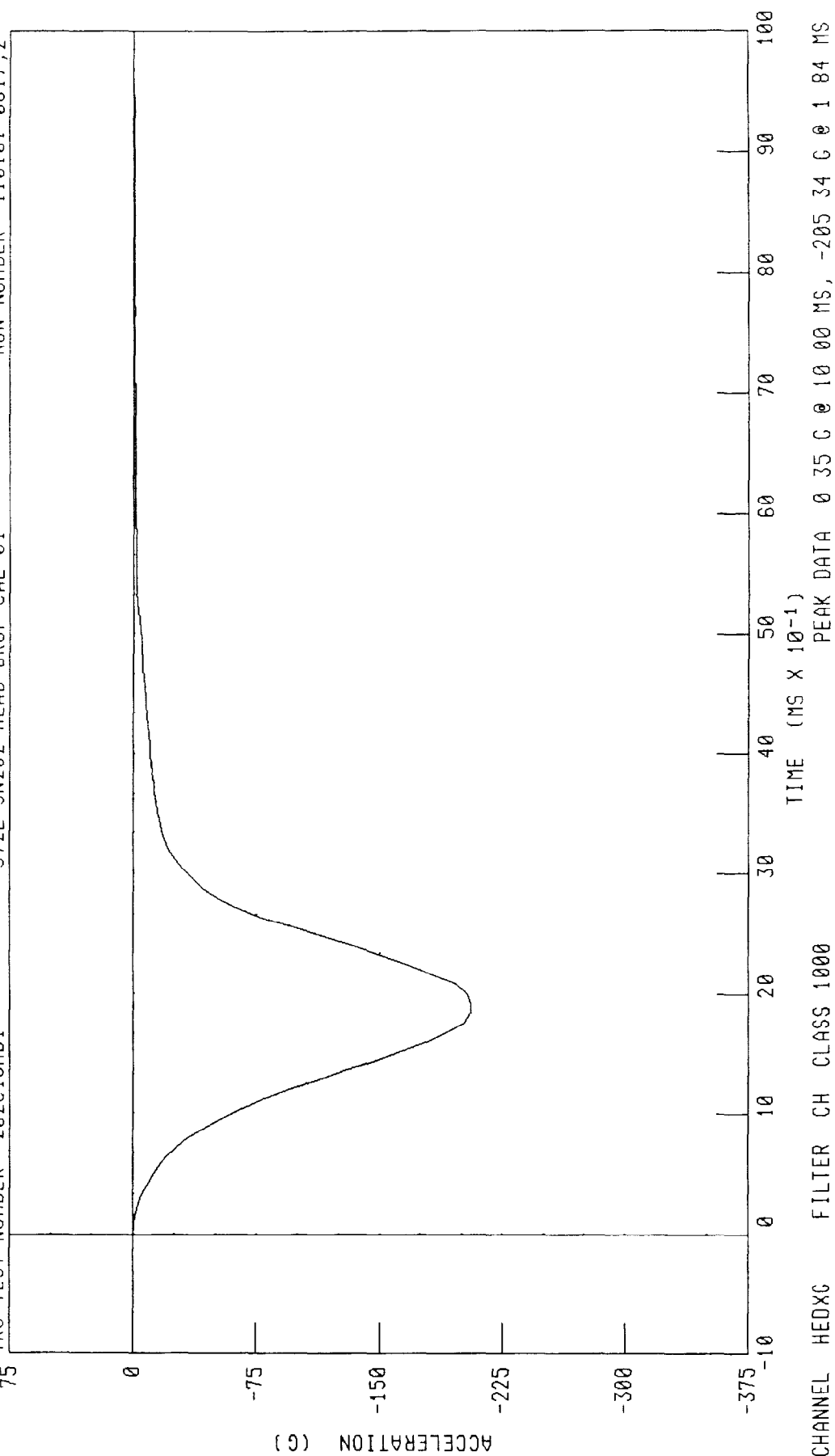
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION X AXIS

TRC TEST NUMBER 202C10HD1

572E SN202 HEAD DROP CAL 01

RUN NUMBER 110101 0817,2



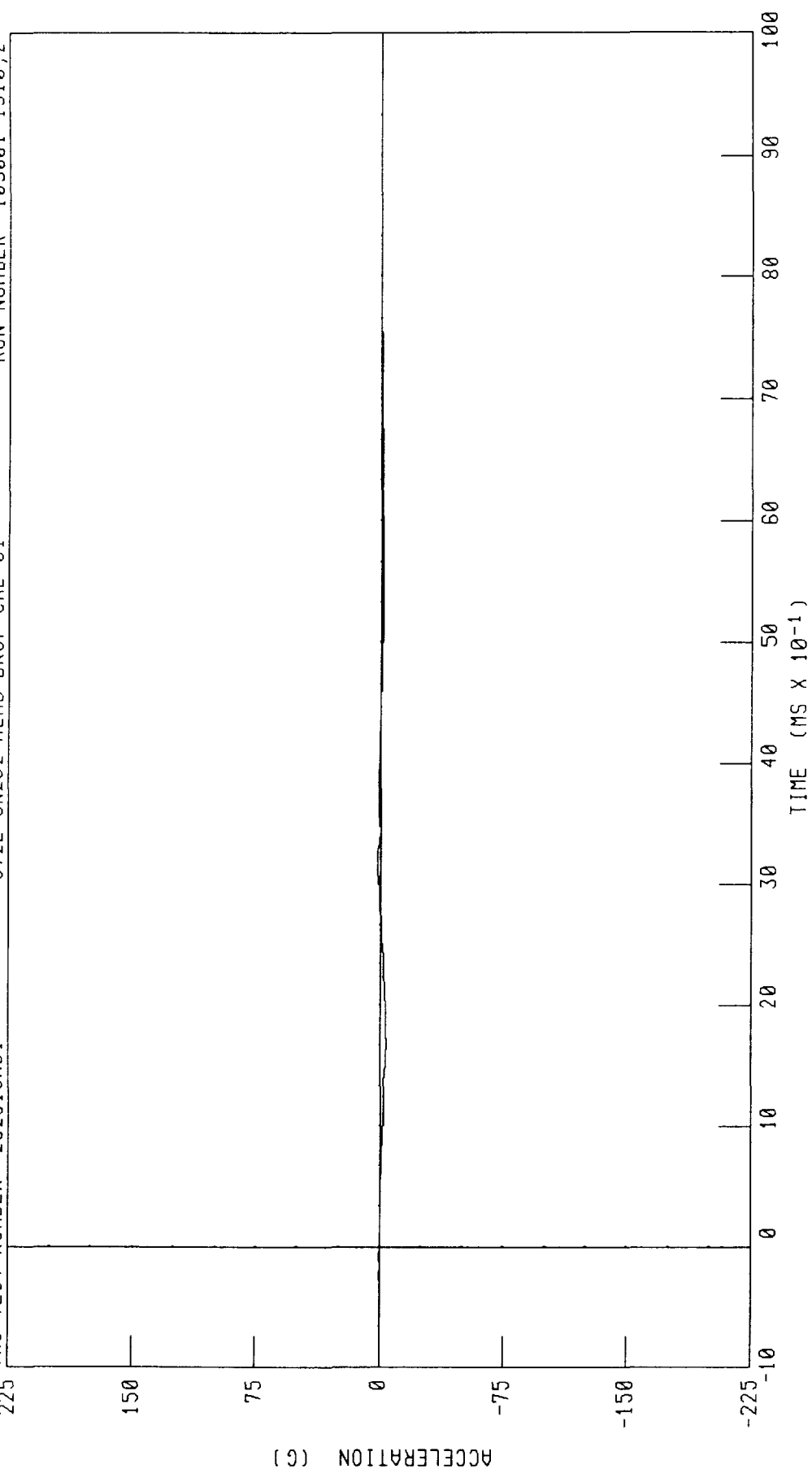
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER 202C10HD1

572E SN202 HEAD DROP CAL 01

RUN NUMBER 103001 1510,2



CHANNEL HEDYG FILTER CH CLASS 1000

PEAK DATA 1 76 G 0 3 12 MS, -3 98 G 0 1 68 MS

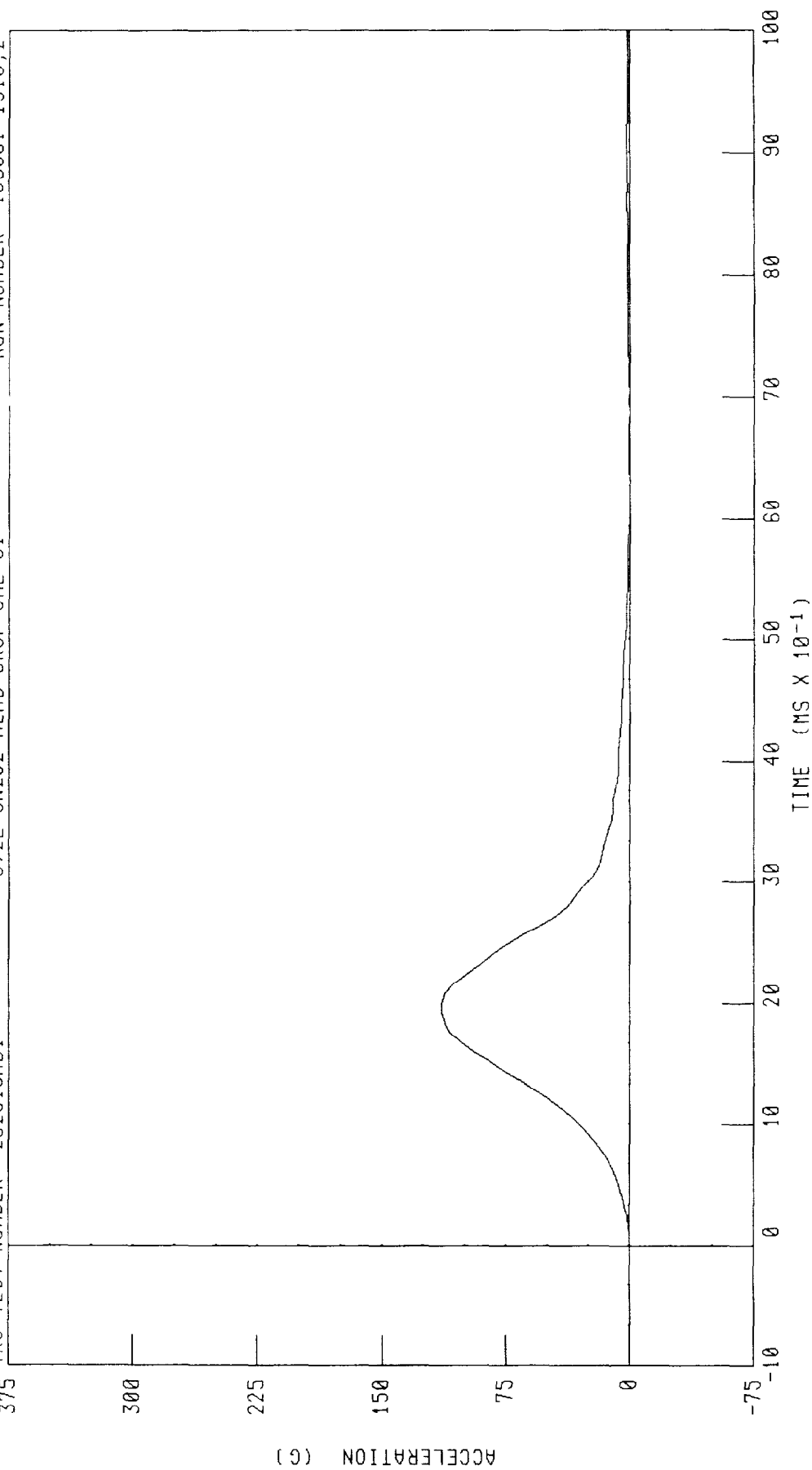
PART 572-E HYBRID III HEAD CALIBRATION

HEAD ACCELERATION Z AXIS

TRC TEST NUMBER 202C10HD1

572E SN202 HEAD DROP CAL 01

RUN NUMBER 103001 1510,2



TIME (MS X 10⁻¹)

CHANNEL HEDZG FILTER CH CLASS 1000

PEAK DATA 114 08 G @ 2 00 MS, -0 28 G @ 6 08 MS

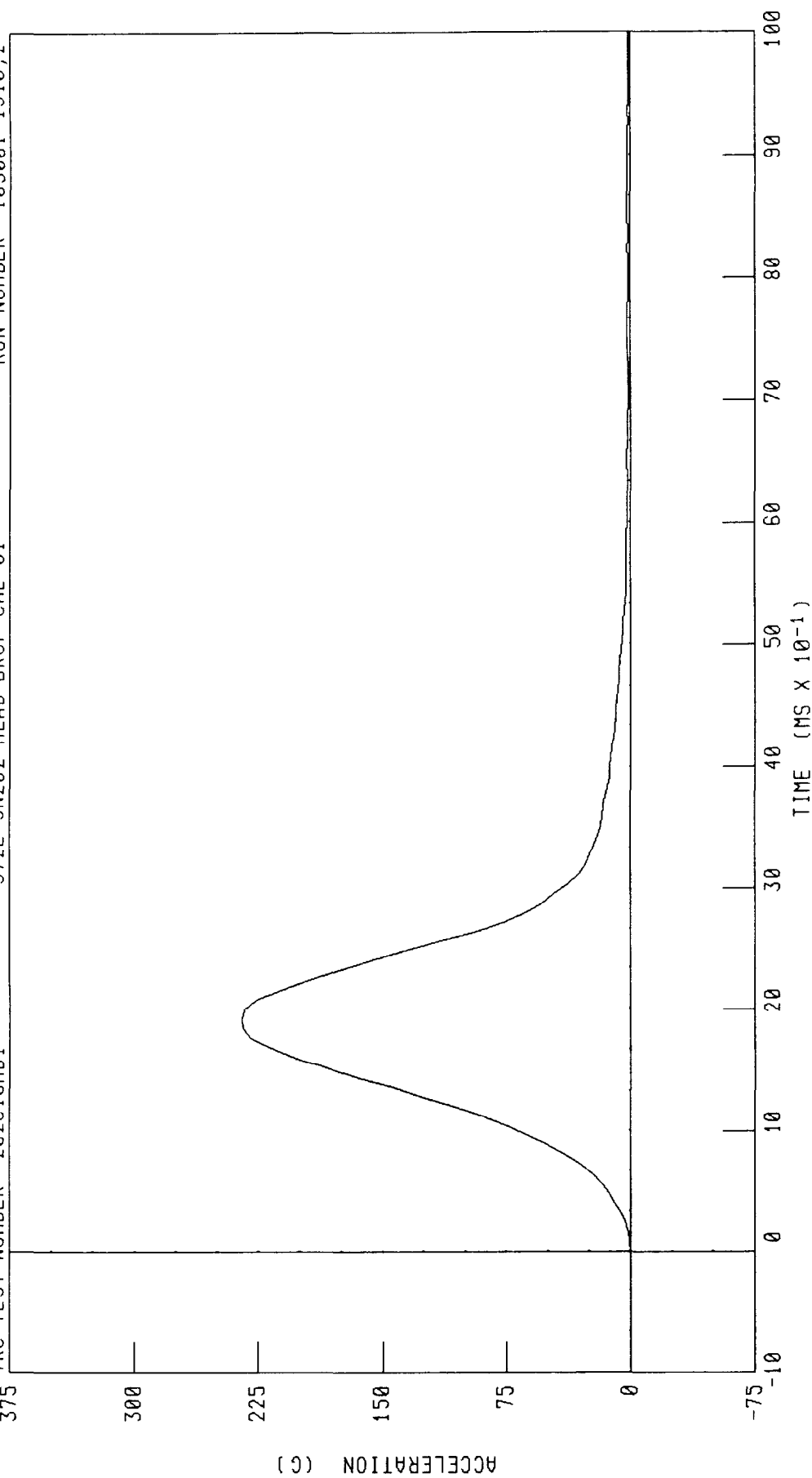
PART 572-E HYBRID III HEAD CALIBRATION

HEAD RESULTANT ACCELERATION

TRC TEST NUMBER 202C10HD1

572E SN202 HEAD DROP CAL 01

RUN NUMBER 103001 1510,2



CHANNEL HEDRG FILTER CH CLASS 1000

PEAK DATA 234 74 G 0 1 92 MS, 0 04 G 0 -0 88 MS

TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

30-OCT-01

NECK FLEXION TEST - 6 CHANNEL TRANSDUCER

TRC INC. TEST NO: 202C10NF1 572E SN202 NECK FLEXION CAL10

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6-22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY		10 - 70 %	39.0 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.99 M/S
PENDULUM DECELERATION	10 MS	22.50 - 27.50 G	26.58 G
	20 MS	17.60 - 22.60 G	22.54 G
	30 MS	12.50 - 18.50 G	17.83 G
MAX PENDULUM G		29 G MAX	27.11 G
MAX PENDULUM G ABOVE 30 MS		29 G MAX	17.76 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		34 - 42 MS	36.56 MS
D PLANE	MAX	64 - 78 DEG.	72.30 DEG.
ROTATION	TIME	57 - 64 MS	59.44 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MAX	88.2 - 108.5 NM	103.85 NM
	TIME	47 - 58 MS	49.20 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		113 - 128 MS	116.48 MS
POSITIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		97 - 107 MS	99.28 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN

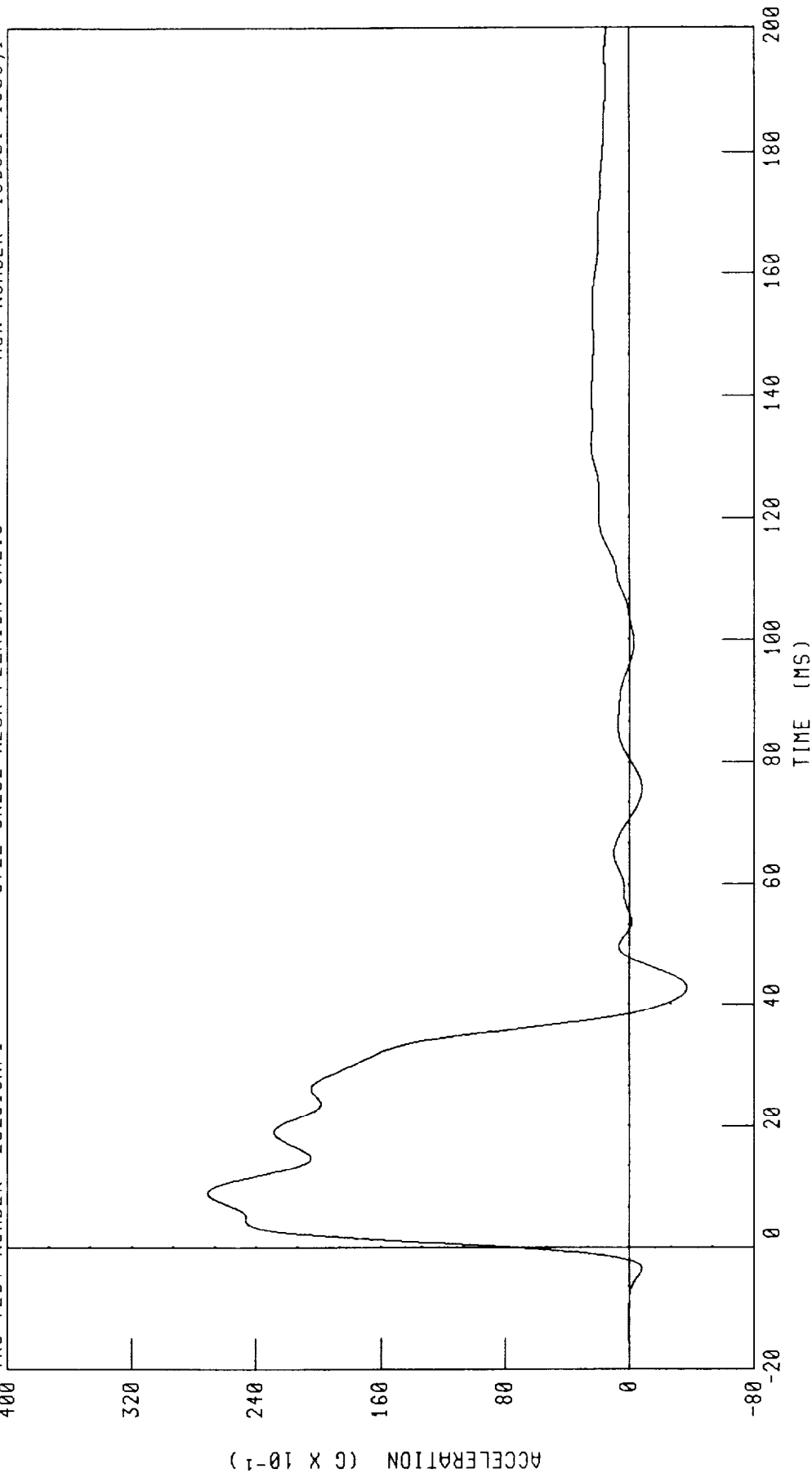


RUN NUMBER: 103001.1338;1

PART 572-E HYBRID III NECK FLEXION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 202C10NF1 572E SN202 NECK FLEXION CAL10 RUN NUMBER 103001 1338,1



CHANNEL PENXC FILTER CH CLASS 60

PEAK DATA 27 11 C 0 8 96 MS, -3 71 C 0 42 72 MS

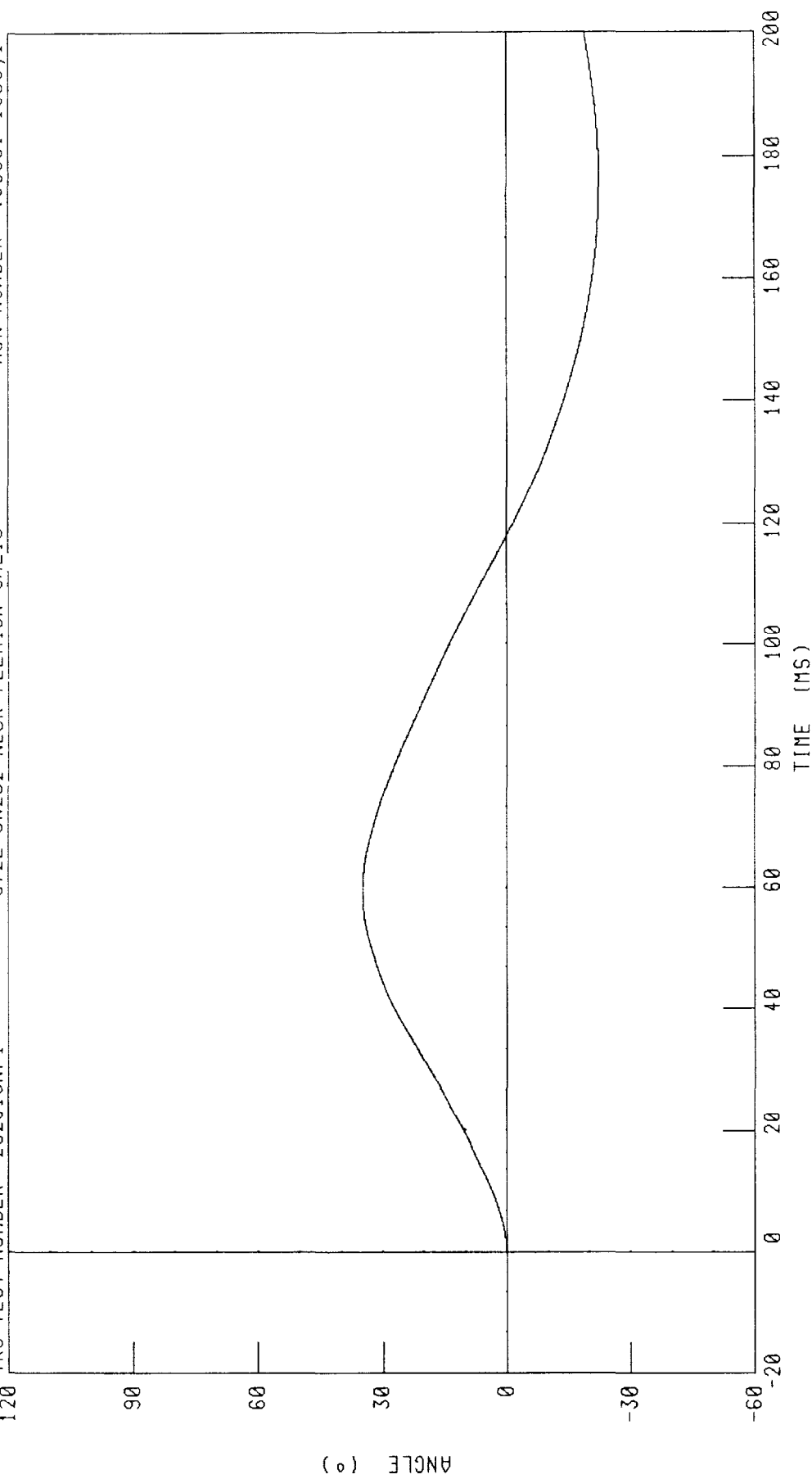
PART 572-E HYBRID [11] NECK FLEXION CALIBRATION

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER 202C10NF1

572E SN202 NECK FLEXION CAL10

RUN NUMBER 103001 1338,1



PEAK DATA 34 80 ° 0 59 28 MS, -22 51 ° 0 175 04 MS

CHANNEL BETA FILTER CH CLASS 60

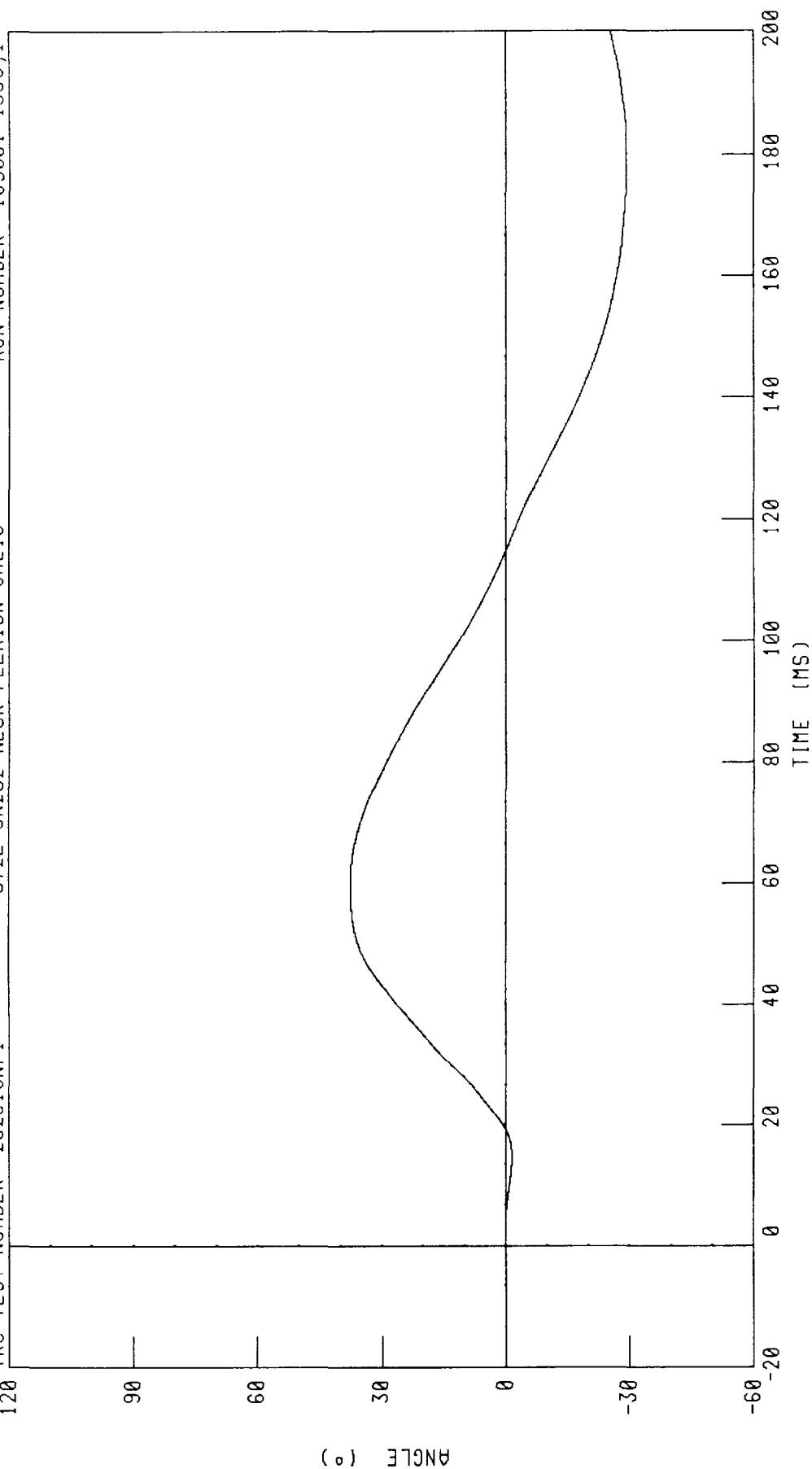
PART 572-E HYBRID III NECK FLEXION CALIBRATION

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 202C10NF1

572E SN202 NECK FLEXION CAL10

RUN NUMBER 103001 1338,1

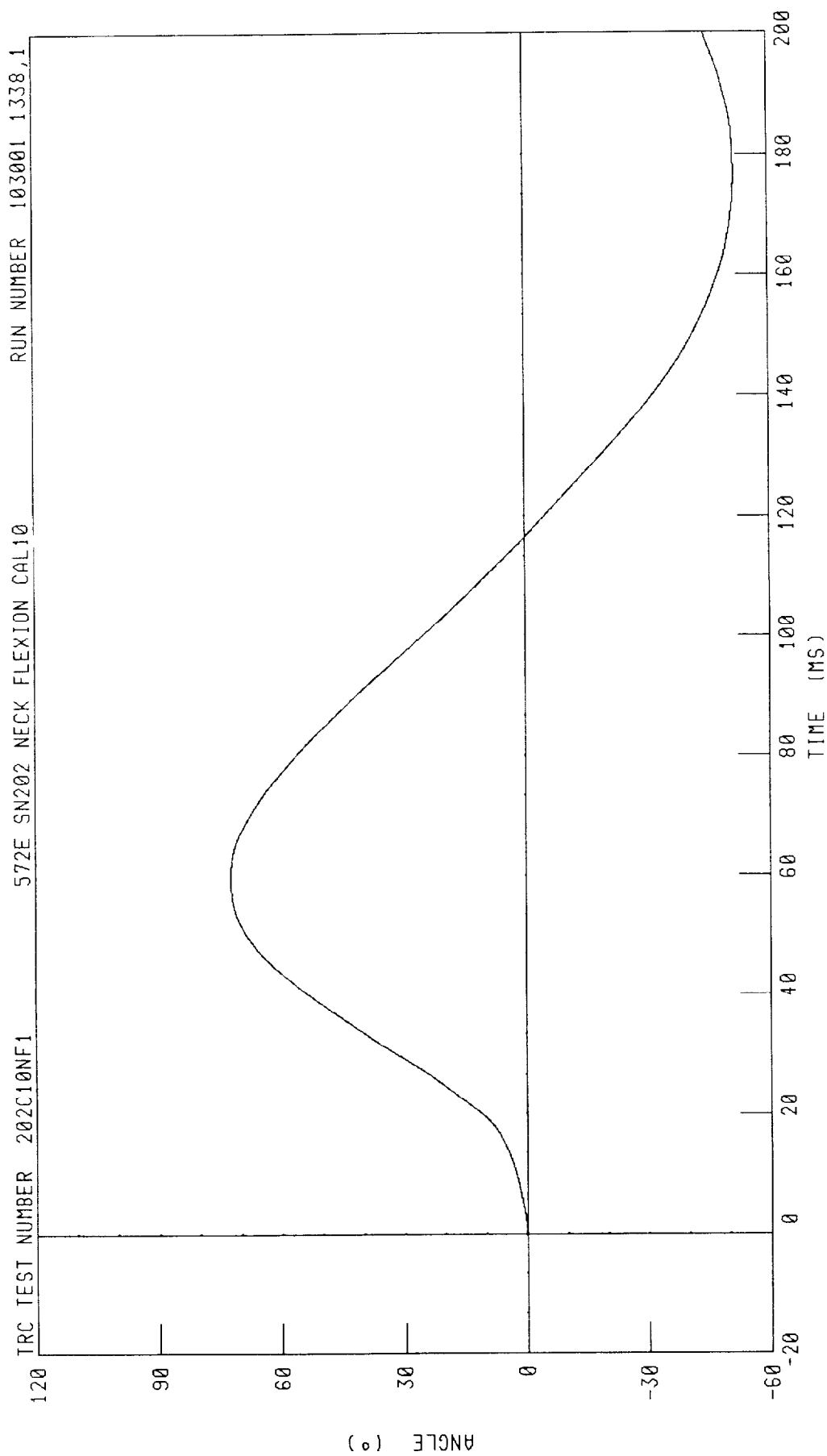


CHANNEL THETA FILTER CH CLASS 60

PEAK DATA 37 51 ° 0 60 00 MS, -29 33 ° 0 178 80 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL ROTATION



PEAK DATA 72 31 ° 0 59 44 MS, -51 81 ° 0 176 64 MS

CHANNEL TOTAL FILTER CH CLASS 60

IRC TEST NUMBER 202C10NF1

572E SN202 NECK FLEXION CAL10

RUN NUMBER 103001 1338,1

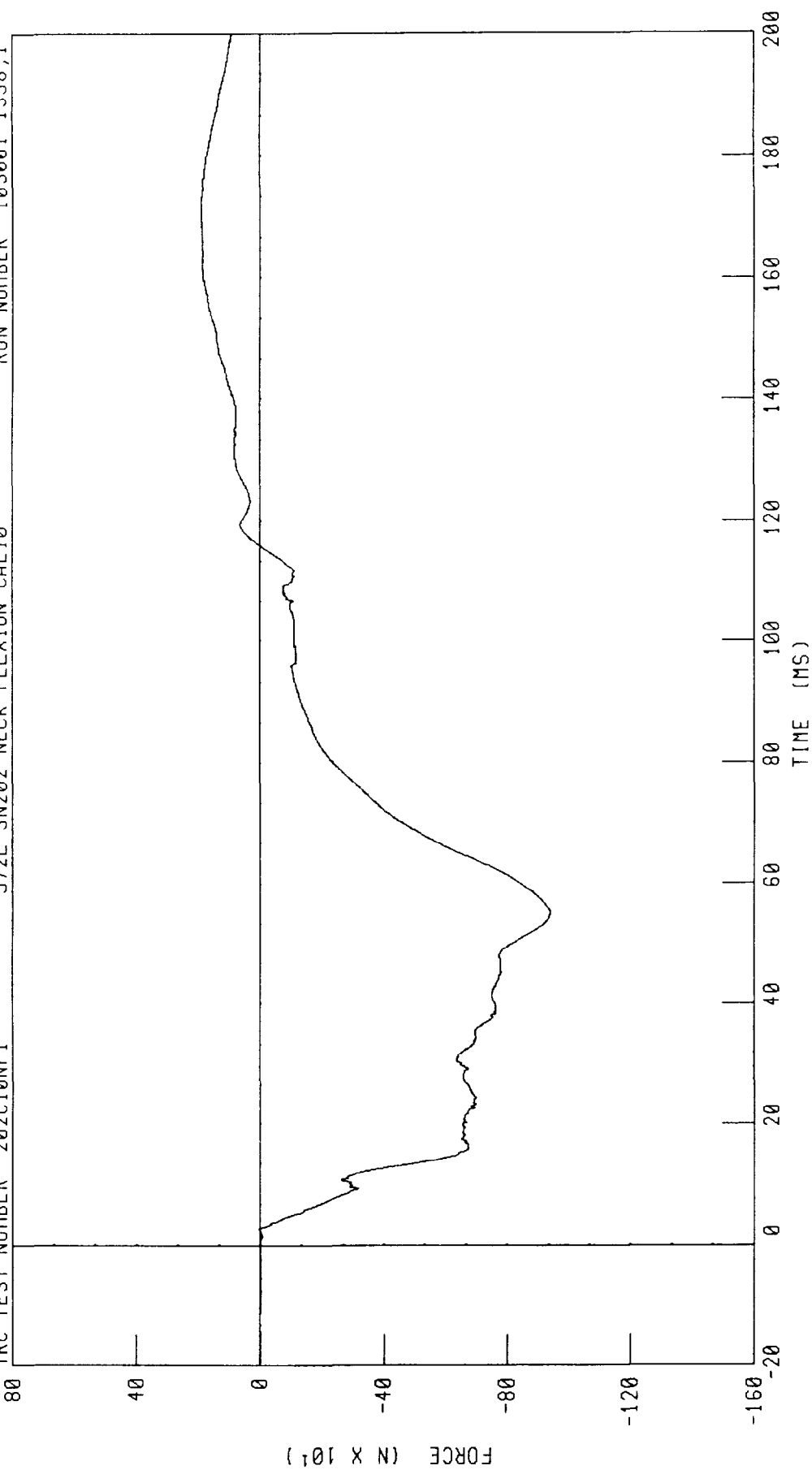
PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK FORCE X AXIS

TRC TEST NUMBER 202C10NF1

572E SN202 NECK FLEXION CAL10

RUN NUMBER 103001 1338,1



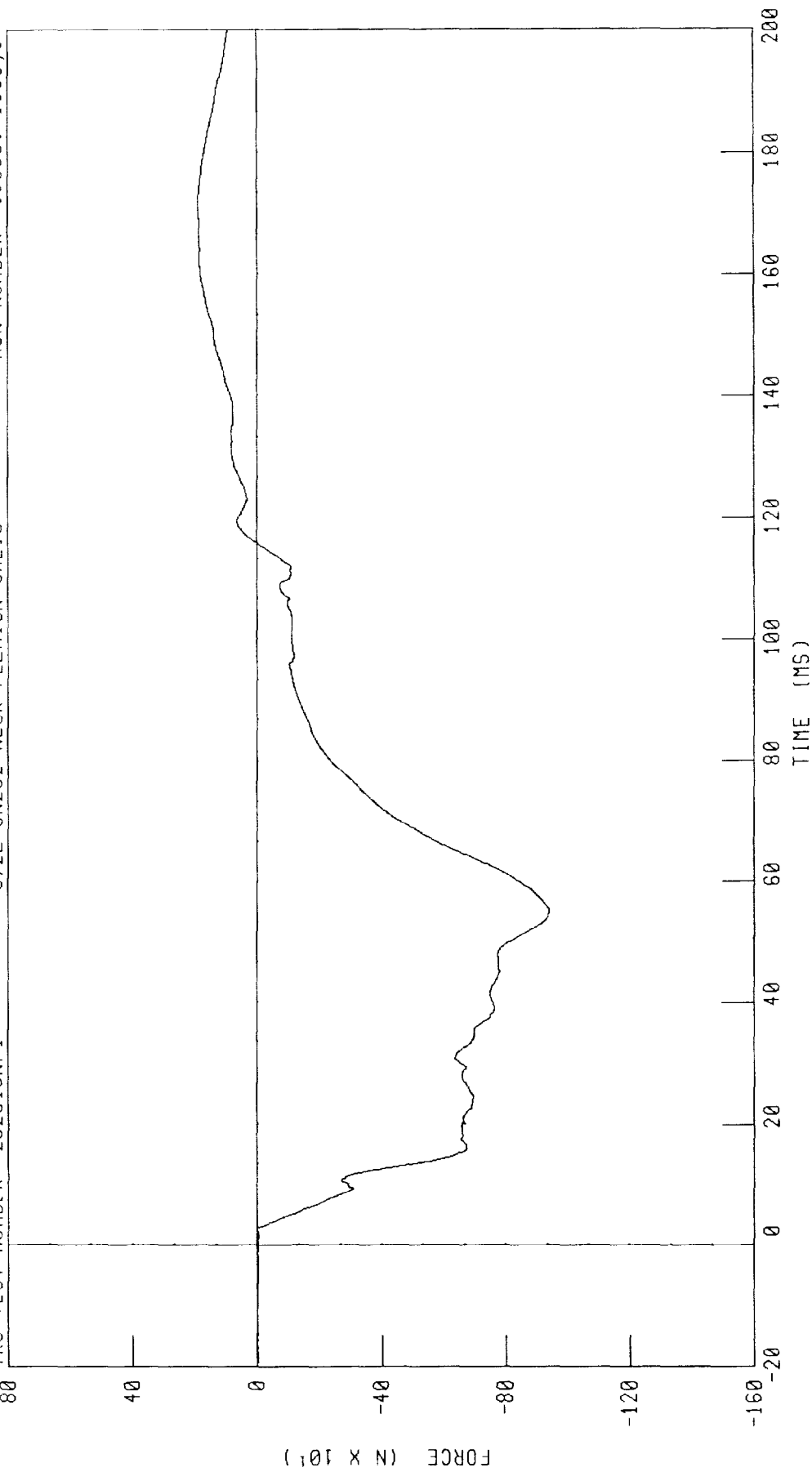
CHANNEL NEKXF FILTER CH CLASS 1000

PEAK DATA 191 70 N @ 171 36 MS, -940 10 N @ 55 04 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION

TRC TEST NUMBER 202C10NF1 572E SN202 NECK FLEXION CAL10 RUN NUMBER 103001 1338.1



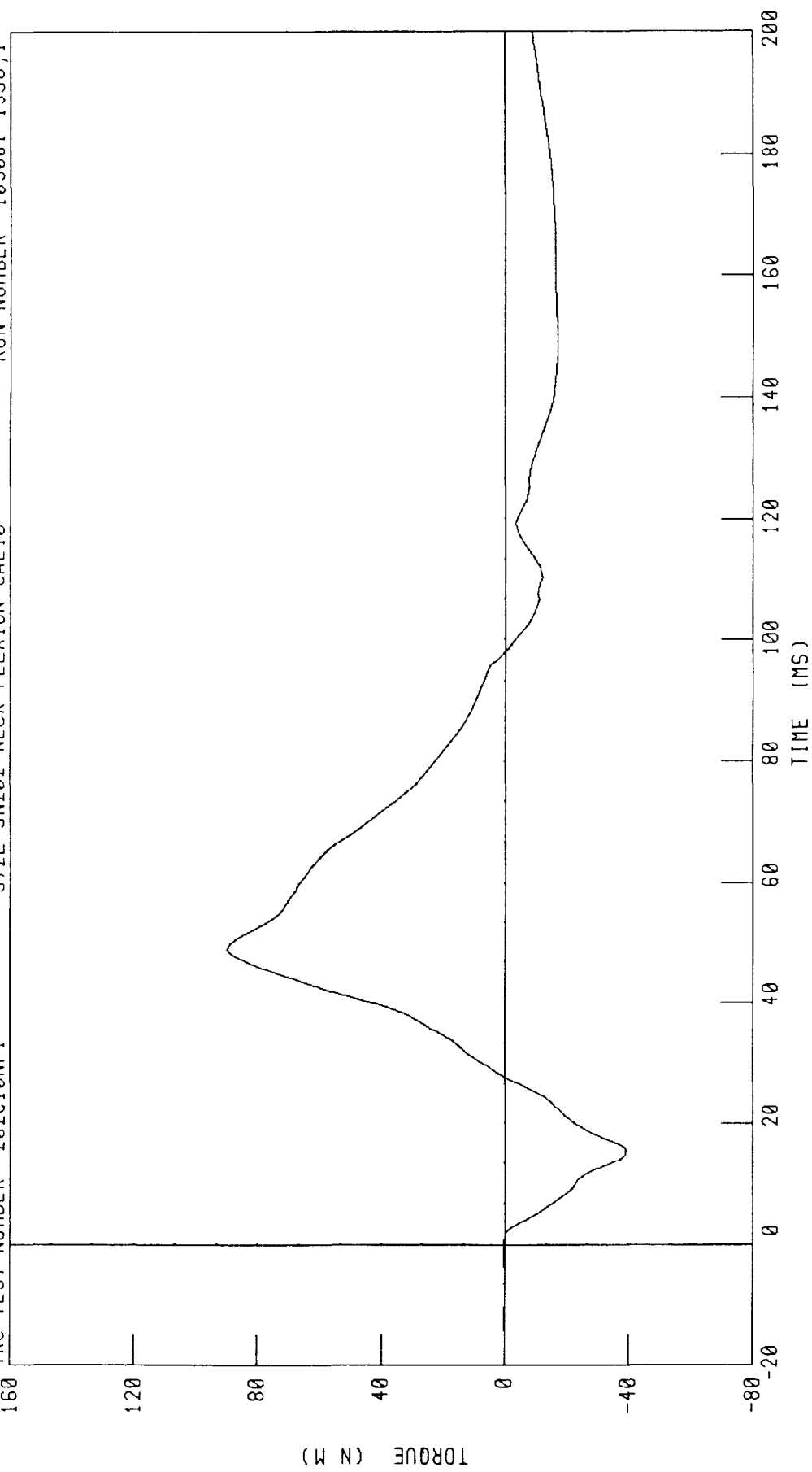
PEAK DATA 191 28 N @ 171 36 MS, -939 61 N @ 55 12 MS

CHANNEL NEKXFC FILTER CH CLASS 600

PART 572-E HYBRID III NECK FLEXION CALIBRATION

NECK MOMENT Y AXIS

TRC TEST NUMBER 202C10NF1 572E SN202 NECK FLEXION CAL10 RUN NUMBER 103001 1338,1

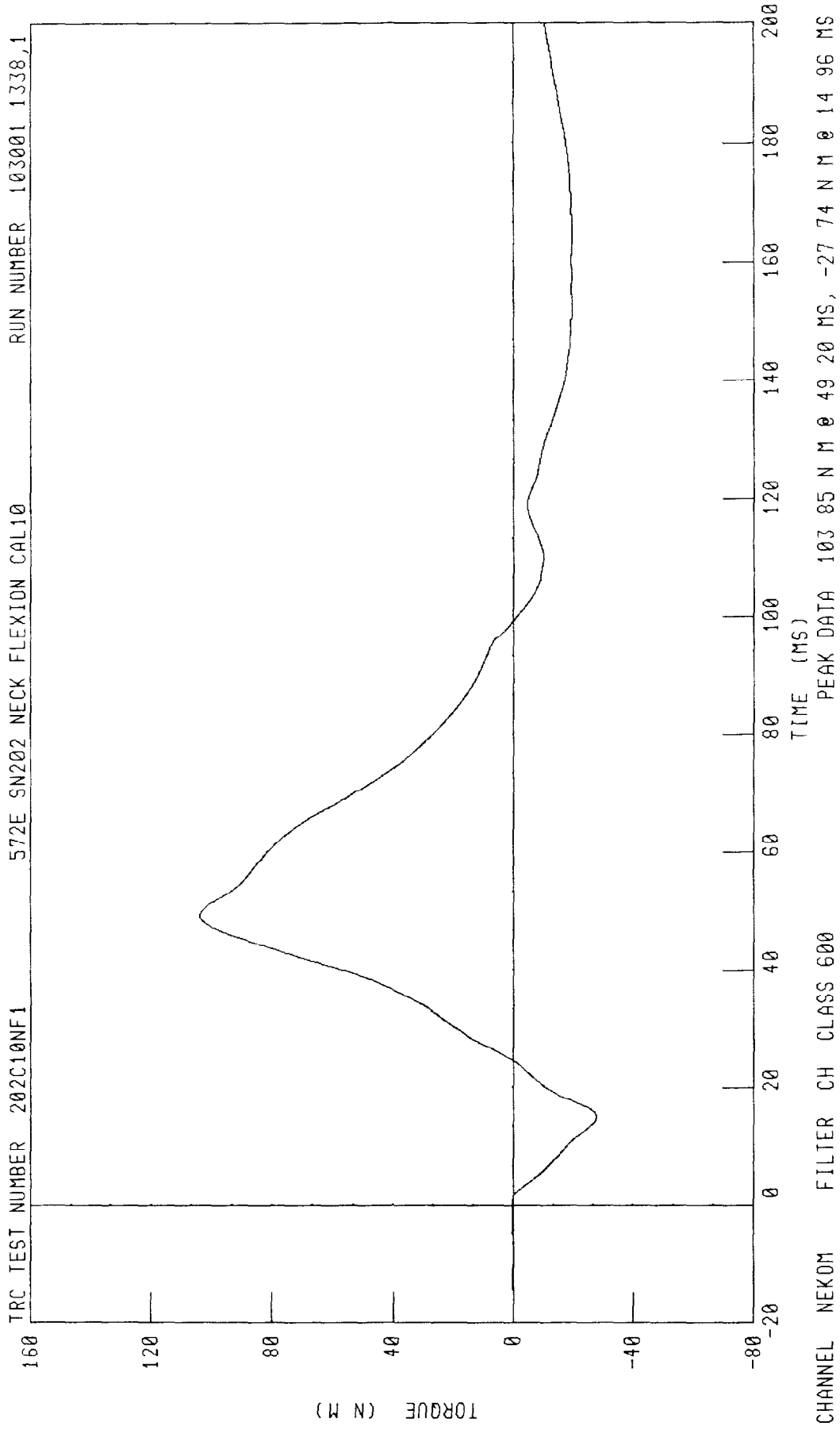


CHANNEL NEKYM FILTER CH CLASS 600

PEAK DATA 89 88 N M @ 49 04 MS, -39 24 N M @ 15 52 MS

PART 572-E HYBRID III NECK FLEXION CALIBRATION

TOTAL MOMENT ABOUT OCCIPITAL CONDYLE



TRANSPORTATION RESEARCH CENTER INC.

HYBRID III 50th

30-OCT-01

NECK EXTENSION TEST - 6 CHANNEL TRANSDUCER

TRC INC. TEST NO: 202C1ONE1 572E SN202 NECK EXT CAL10

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY		10 - 70 %	39.0 %
IMPACT VELOCITY		5.95 - 6.19 M/S	6.05 M/S
PENDULUM DECELERATION	10 MS	17.20 - 21.20 G	18.89 G
	20 MS	14.00 - 19.00 G	17.43 G
	30 MS	11.00 - 16.00 G	13.68 G
MAX PENDULUM G		22 G MAX	19.13 G
MAX PENDULUM G ABOVE 30 MS		22 G MAX	13.80 G
DECELERATION-TIME CURVE DECAY TIME TO 5 G		38 - 46 MS	42.00 MS
D PLANE	MAX	81 - 106 DEG.	97.78 DEG.
ROTATION	TIME	72 - 82 MS	77.68 MS
MOMENT ABOUT OCCIPITAL CONDYLE	MIN	-80.0/-52.9 NM	-68.36 NM
	TIME	65 - 79 MS	73.36 MS
ROTATION ANGLE-TIME CURVE DECAY TIME TO ZERO		147 - 174 MS	158.08 MS
NEGATIVE MOMENT-TIME CURVE DECAY TIME TO ZERO		120 - 148 MS	142.64 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103001.1339;1

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 202C10NE1

572E SN202 NECK EXT CAL10

RUN NUMBER 103001 1339,1



PEAK DATA 19 14 G @ 9 20 MS, -2 44 G @ 49 84 MS

CHANNEL PENXC FILTER CH CLASS 60

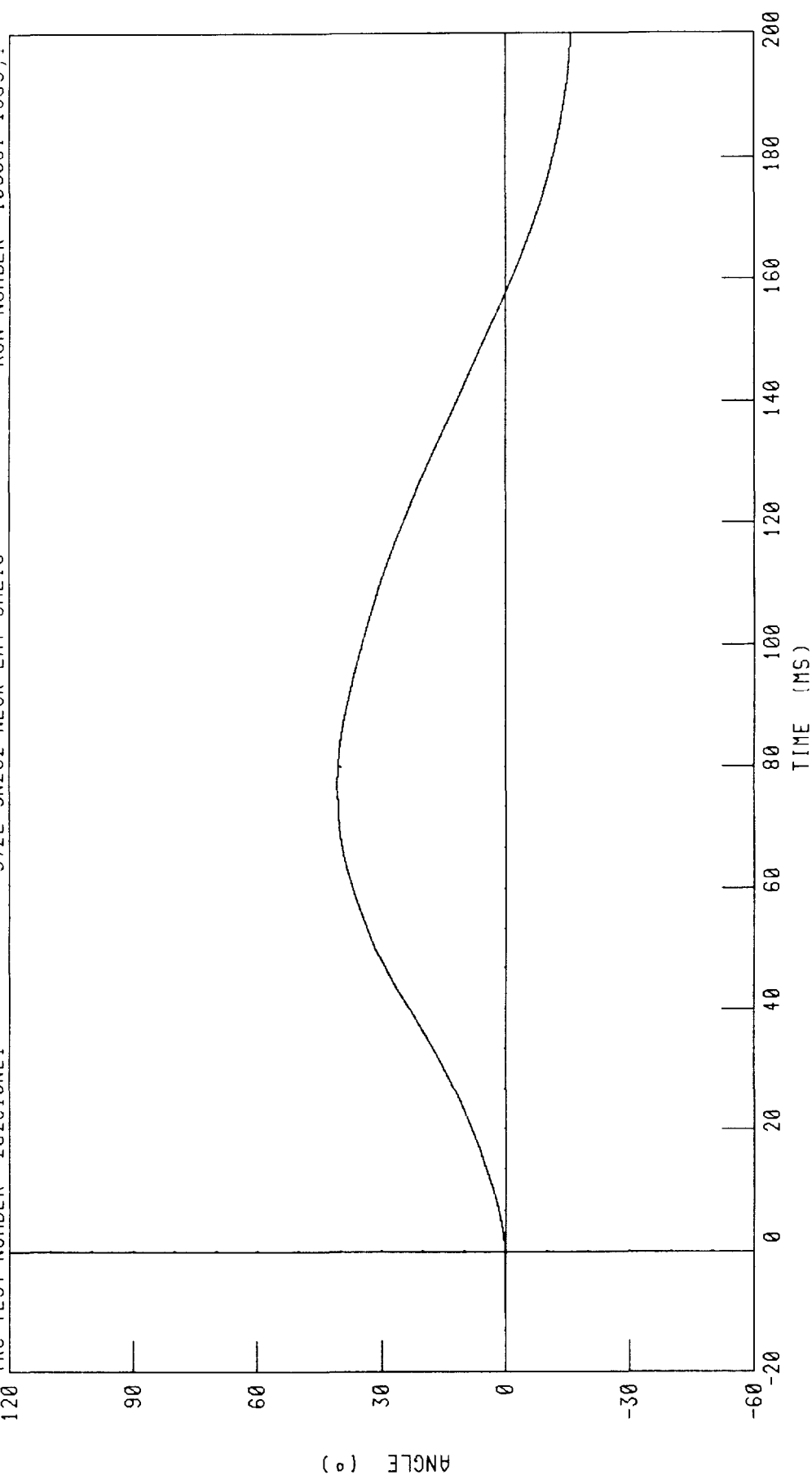
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER 202C10NE1

572E SN202 NECK EXT CAL10

RUN NUMBER 103001 1339,1



CHANNEL BETA FILTER CH CLASS 60

PEAK DATA 40 72 ° 0 76 48 MS, -15 90 ° 0 200 00 MS

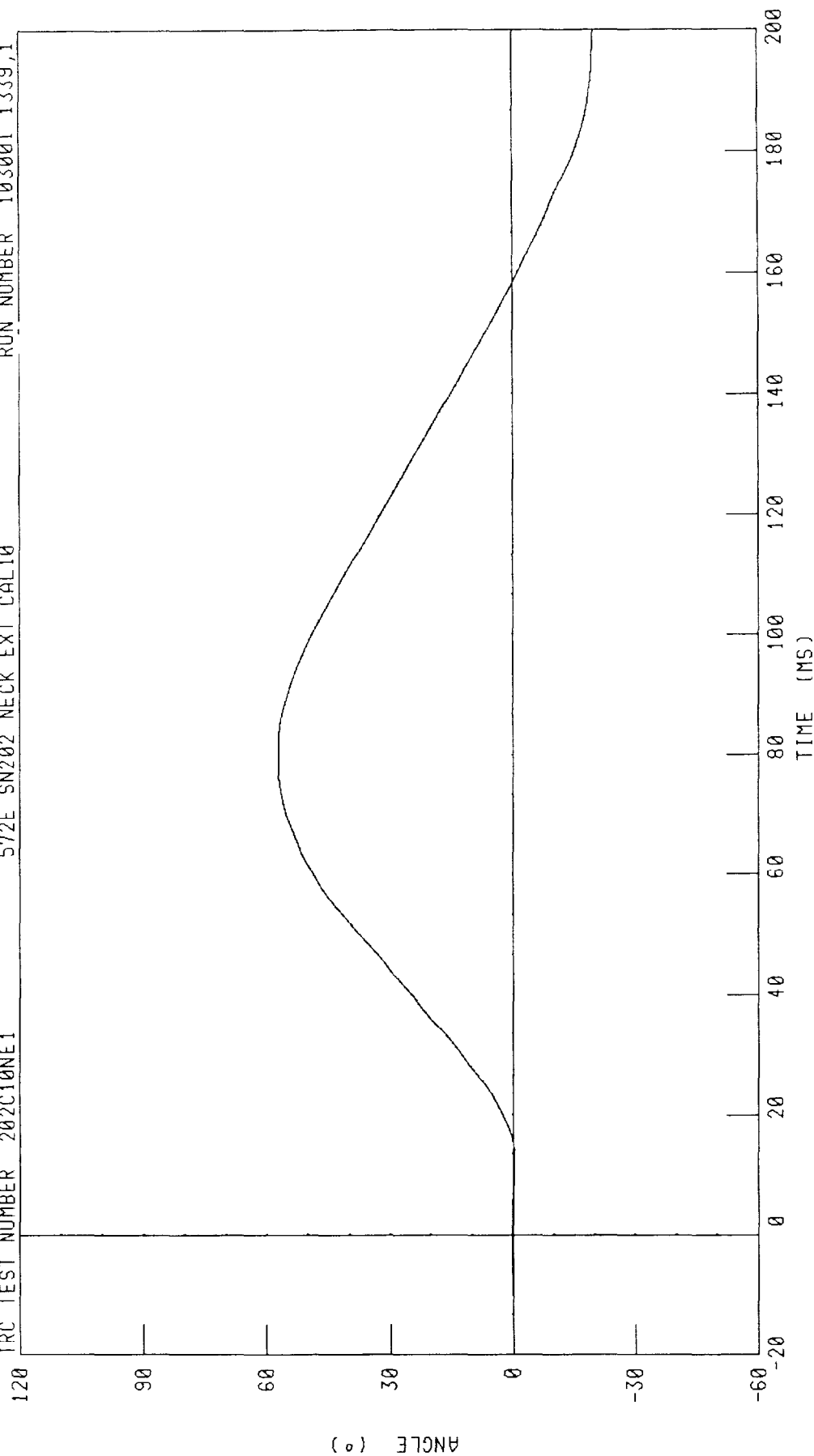
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER 202C10NE1

572E SN202 NECK EXT CAL10

RUN NUMBER 103001 1339,1



CHANNEL THETA FILTER CH CLASS 60

PEAK DATA 57 11 ° @ 79 52 MS, -19 86 ° @ 200 00 MS

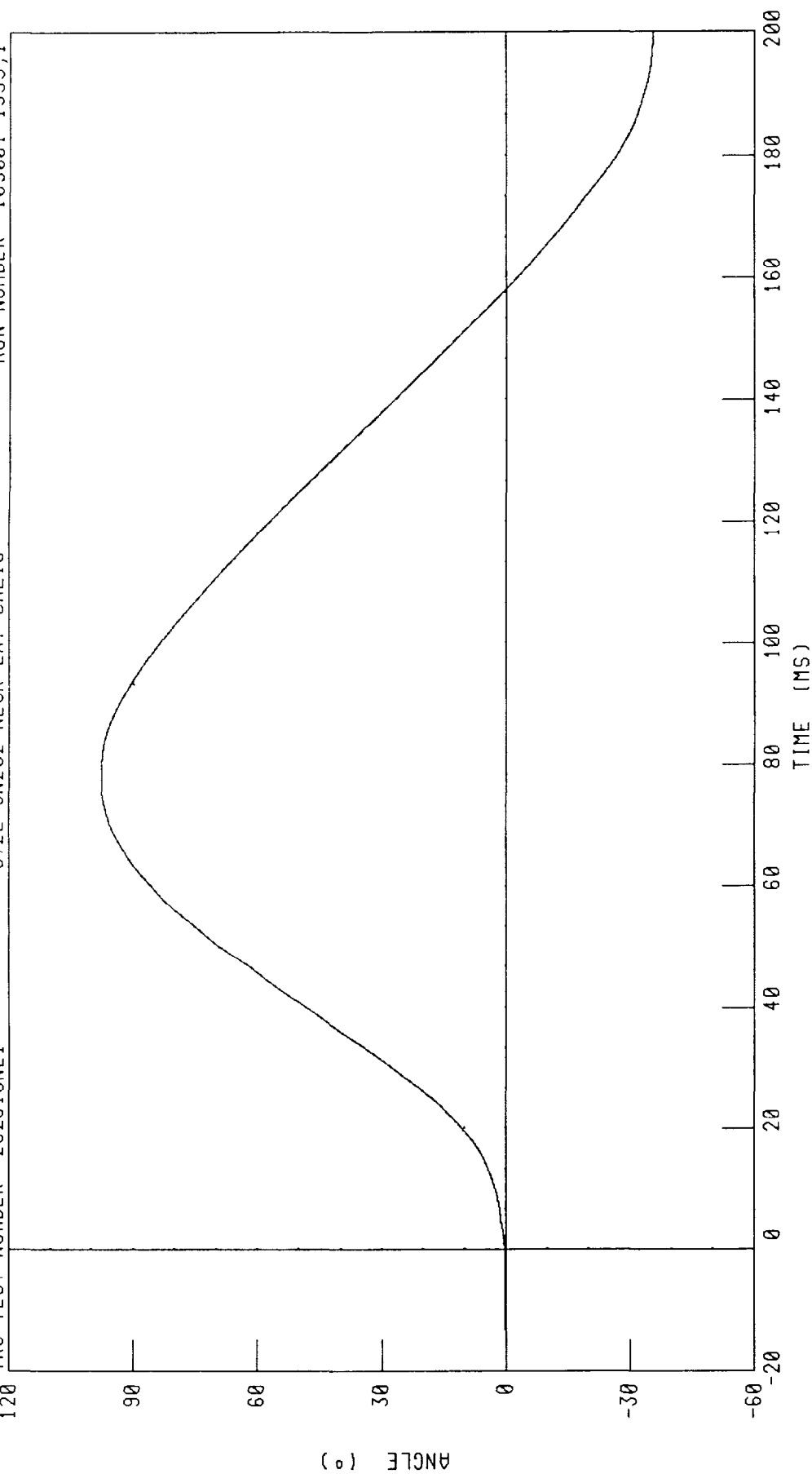
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

TOTAL ROTATION

TRC TEST NUMBER 202C10NE1

572E SN202 NECK EXT CAL10

RUN NUMBER 103001 1339,1



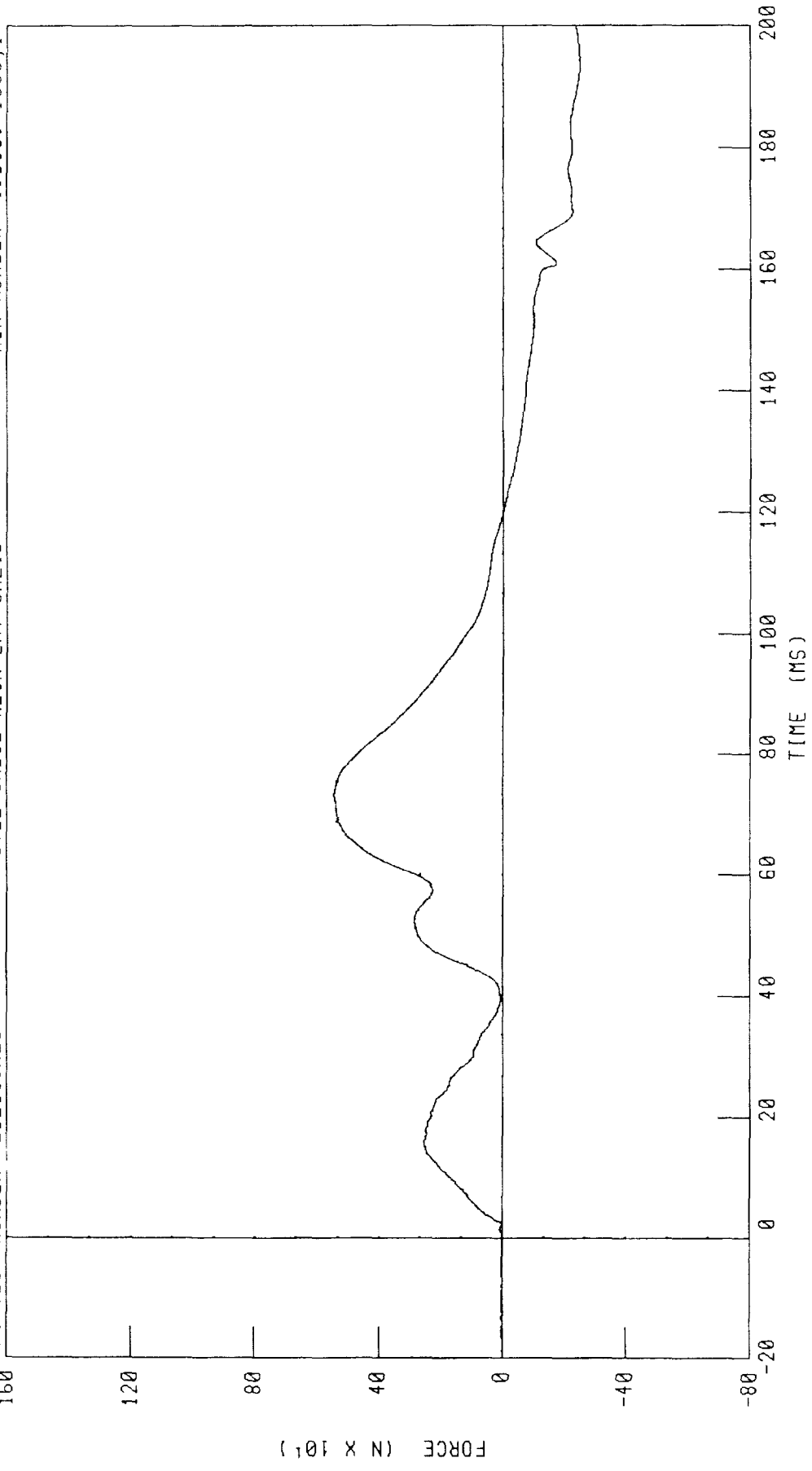
CHANNEL TOTAL FILTER CH CLASS 60

PEAK DATA 97 79 ° 0 77 68 MS, -35 77 ° 0 200 00 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION

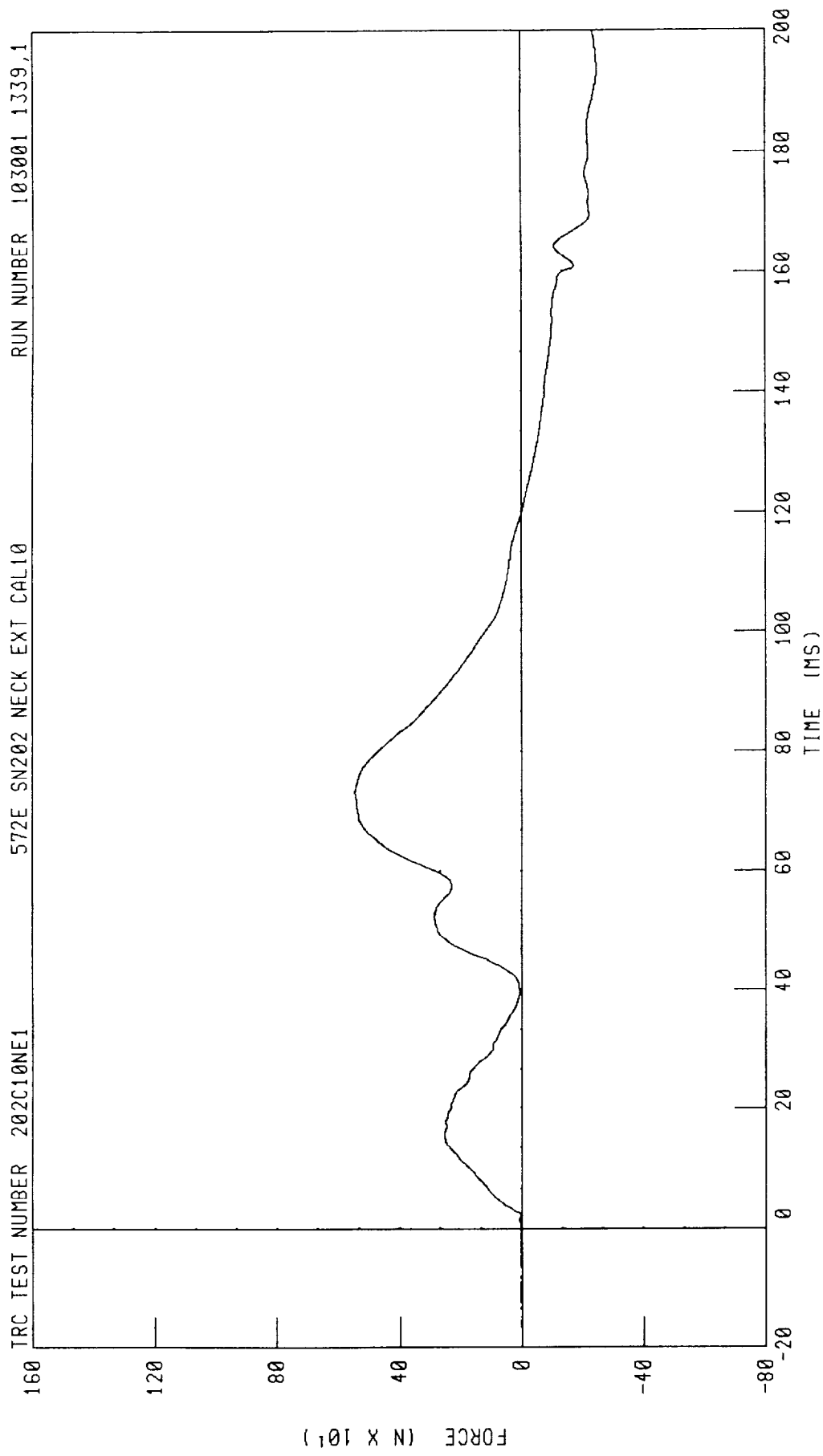
NECK FORCE X AXIS

TRC TEST NUMBER 202C10NE1 572E SN202 NECK EXT CAL10 RUN NUMBER 103001 1339,1



CHANNEL NEKXF FILTER CH CLASS 1000 PEAK DATA 546 58 N @ 73 28 MS, -252 44 N @ 193 12 MS

PART 572-E HYBRID III NECK EXTENSION CALIBRATION
NECK FORCE X AXIS FILTERED FOR USE IN OCCIPITAL MOMENT CALCULATION



CHANNEL NEKXFC FILTER CH CLASS 600

PEAK DATA 546 36 N @ 73 20 MS, -252 16 N @ 193 28 MS

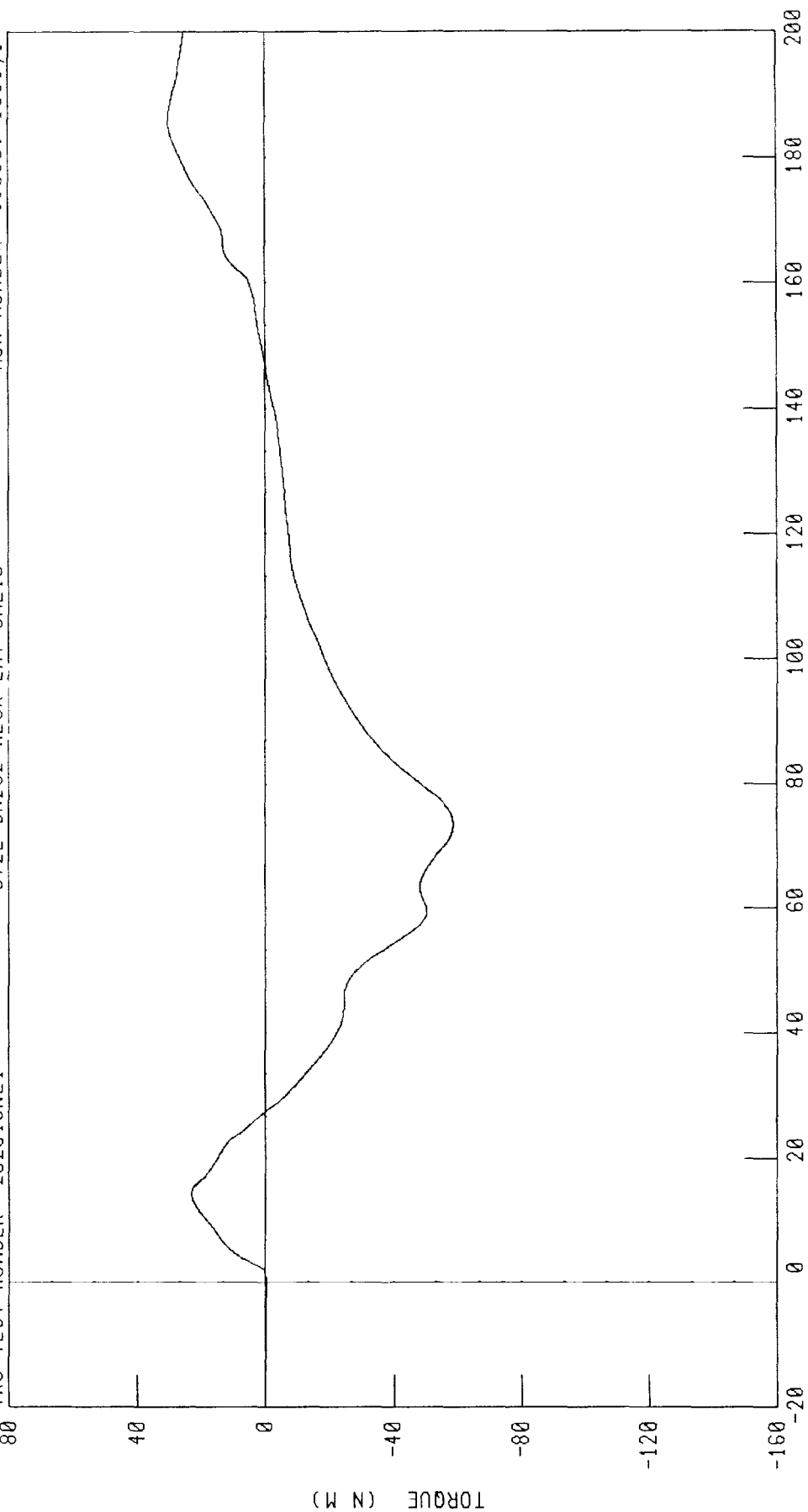
PART 572-E HYBRID III NECK EXTENSION CALIBRATION

NECK MOMENT Y AXIS

TRC TEST NUMBER 202C10NE1

572E SN202 NECK EXT CAL10

RUN NUMBER 103001 1339,1

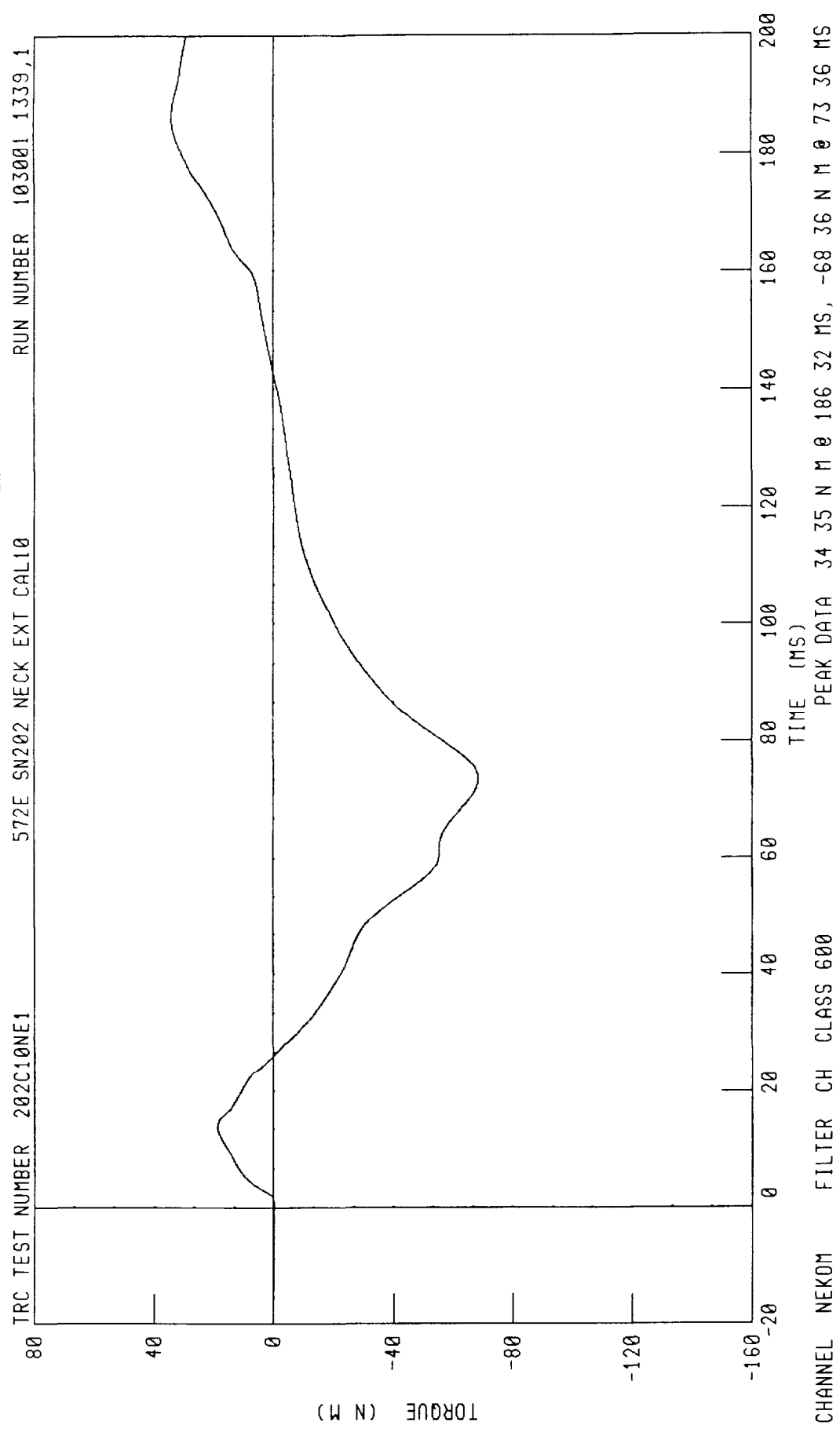


TIME (MS)

PEAK DATA 30 33 N M 0 186 24 MS, -58 65 N M 0 73 52 MS

CHANNEL NEKYM FILTER CH CLASS 600

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



TRANSPORTATION RESEARCH CENTER INC.

THORAX IMPACT TEST

HYBRID III 50th

31-OCT-01

TRC INC.

TEST NO: 202C10TH2

572E SN202 H.S.THORAX CAL10

TEST PARAMETER	HIGH SPEED TEST	TEST RESULTS
	SPECIFICATION	
TEMPERATURE	20.6-22.2 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	38.0 %
PENDULUM VELOCITY	6.59 - 6.83 M/S	6.59 M/S
MAXIMUM DEFLECTION	63.5 - 72.6 MM	65.9 MM
MAXIMUM RESISTIVE FORCE	5159 - 5894 N	5796. N
INTERNAL HYSTERESIS	69% - 85%	71.9%

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103101.1309;1

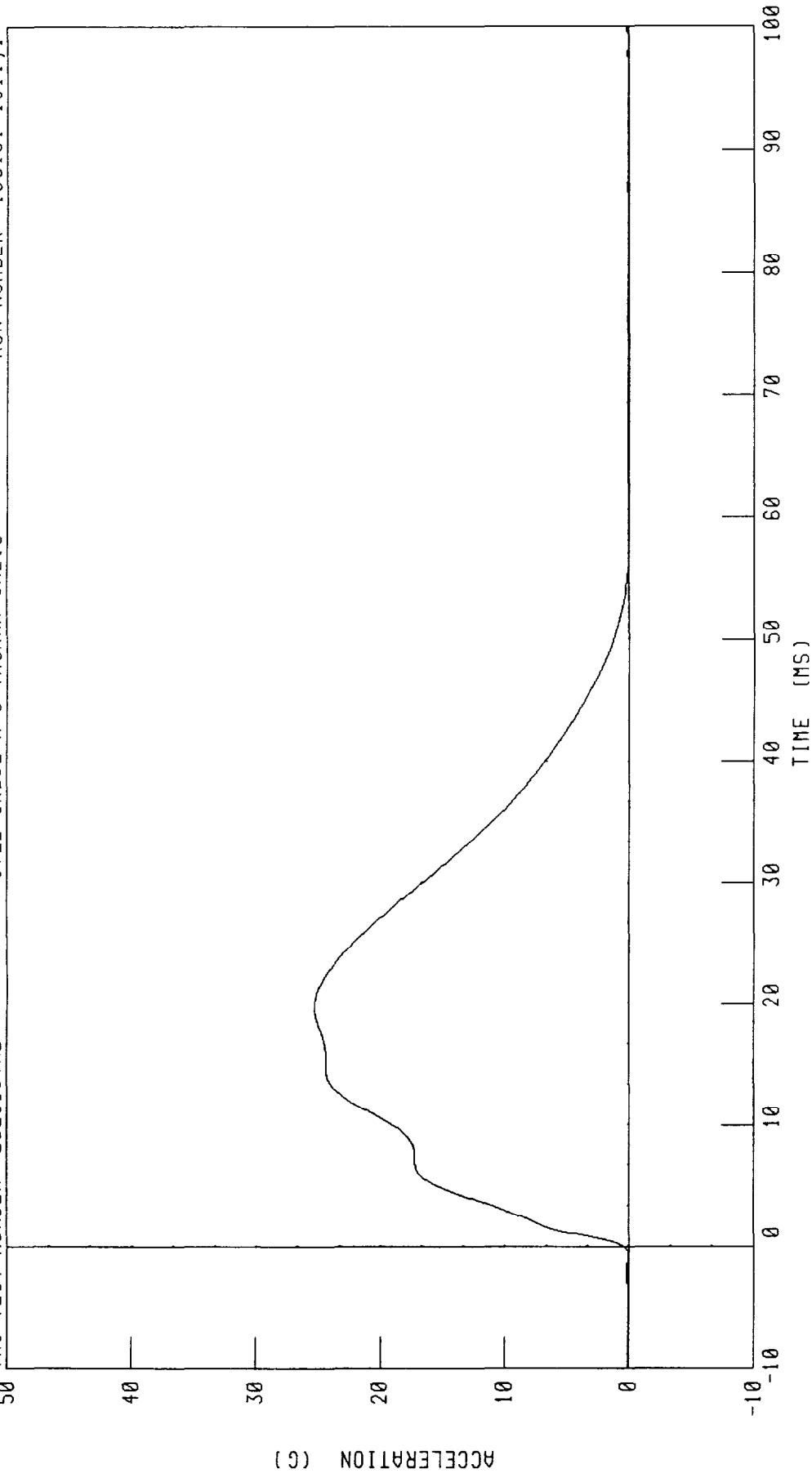
PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM DECELERATION

TRC TEST NUMBER 202C10TH2

572E SN202 H S THORAX CAL10

RUN NUMBER 103101 1311,1

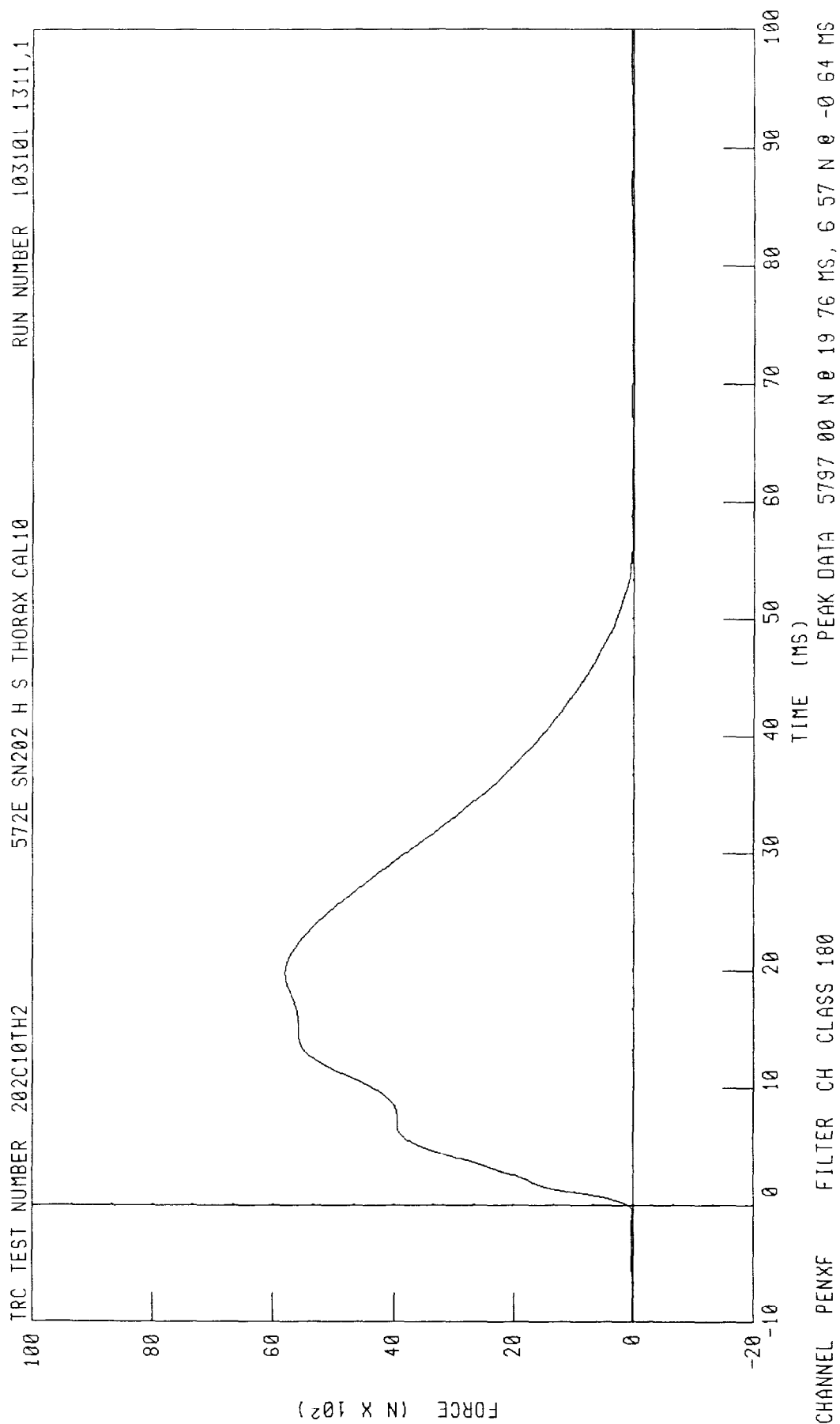


CHANNEL PENXC FILTER CH CLASS 180

PEAK DATA 25 31 G @ 19 76 MS, 0 03 G @ -0 64 MS

PART 572-E HYBRID III THORAX CALIBRATION

PENDULUM FORCE



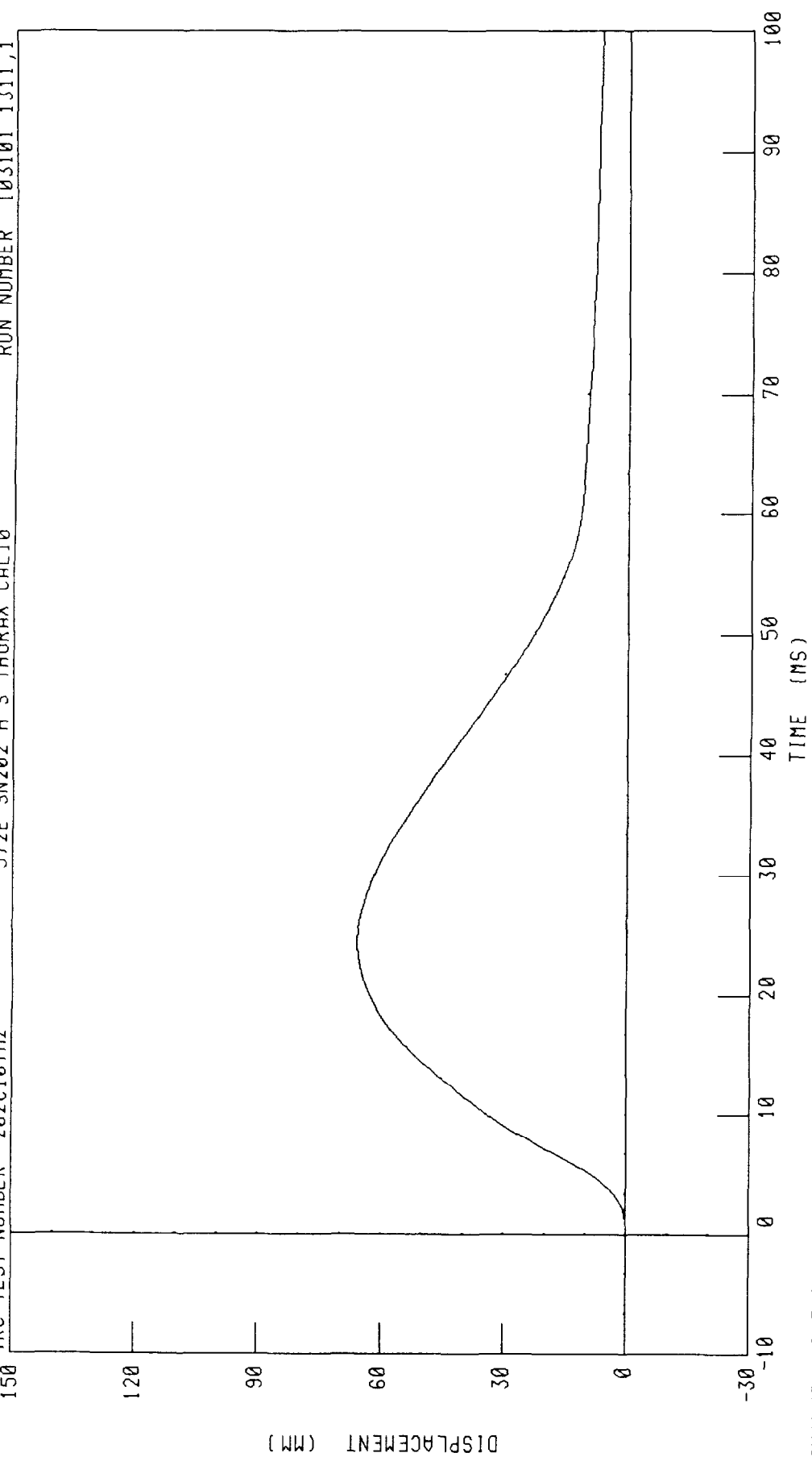
PART 572-E HYBRID III THORAX CALIBRATION

STERNUM DISPLACEMENT

IRC TEST NUMBER 202C10TH2

572E SN202 H S THORAX CAL10

RUN NUMBER 103101 1311,1



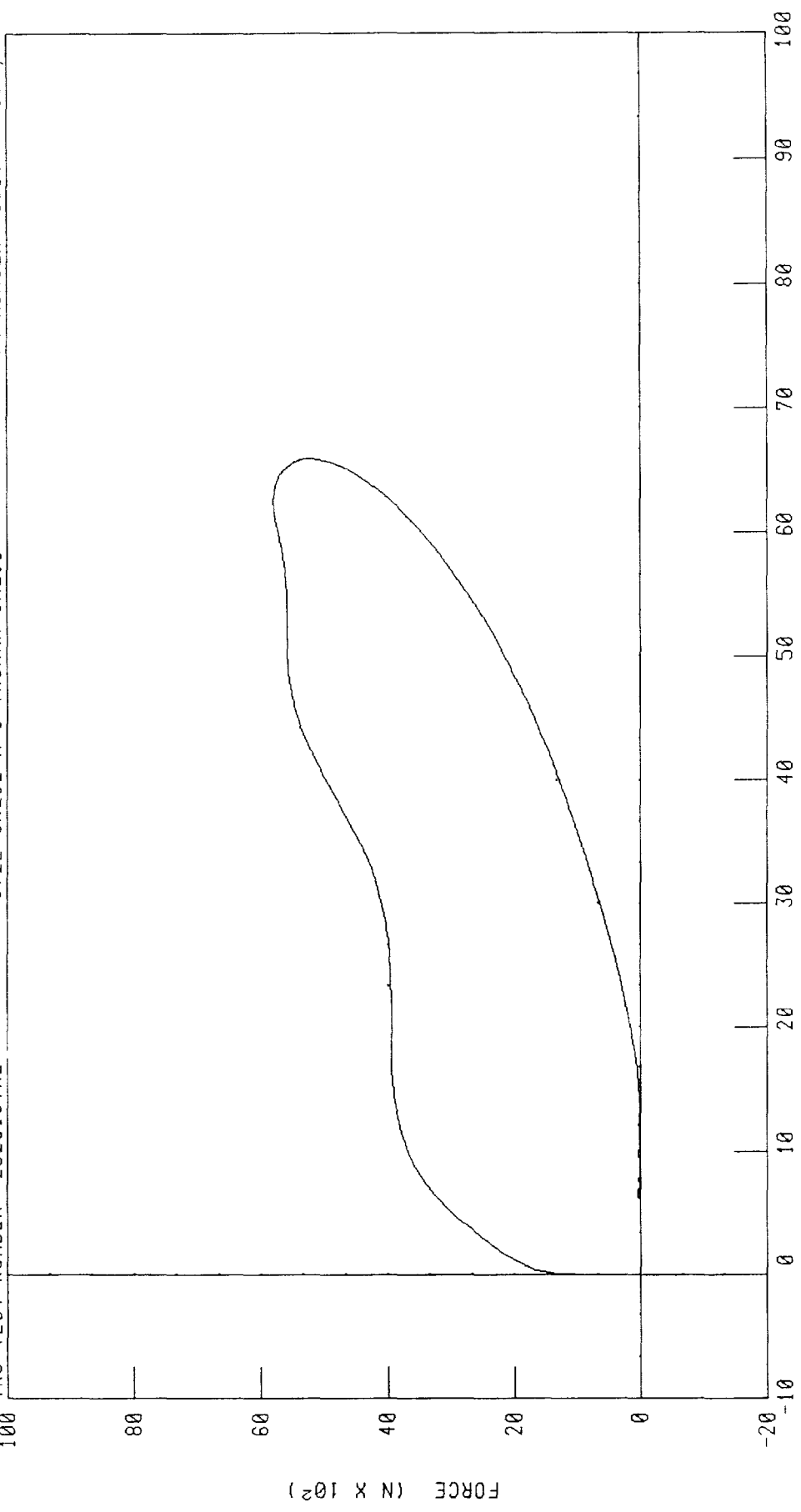
CHANNEL CSTXD FILTER CH CLASS 180

PEAK DATA 65 94 MM @ 24 24 MS, -0 01 MM @ 0 48 MS

PART 572-E HYBRID III THORAX CALIBRATION

CHEST DISPLACEMENT VS PENDULUM FORCE

TRC TEST NUMBER 202C10TH2 572E SN202 H S THORAX CAL10 RUN NUMBER 103101 1311,1



CHANNEL CSTXD FILTER CH CLASS 180
 PENXF CH CLASS 180
 DISPLACEMENT (MM) PEAK DATA 65 94 MM @ 24 24 MS, -0 01 MM @ 0 48 MS
 5797 00 N @ 19 76 MS, 6 57 N @ -0 64 MS

Transportation Research Center Inc

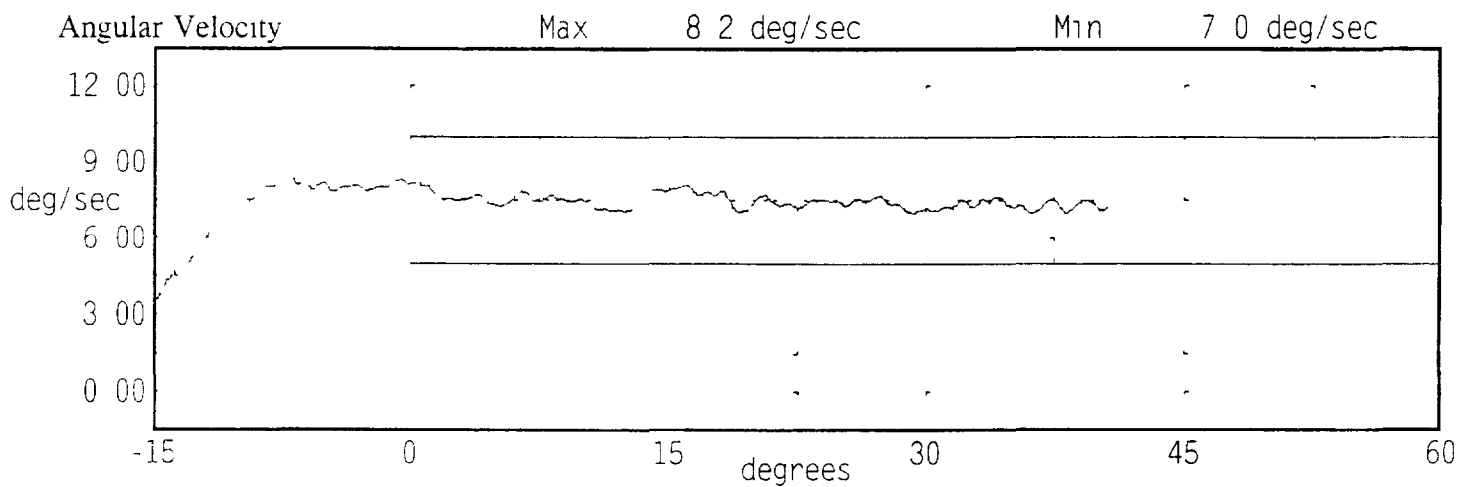
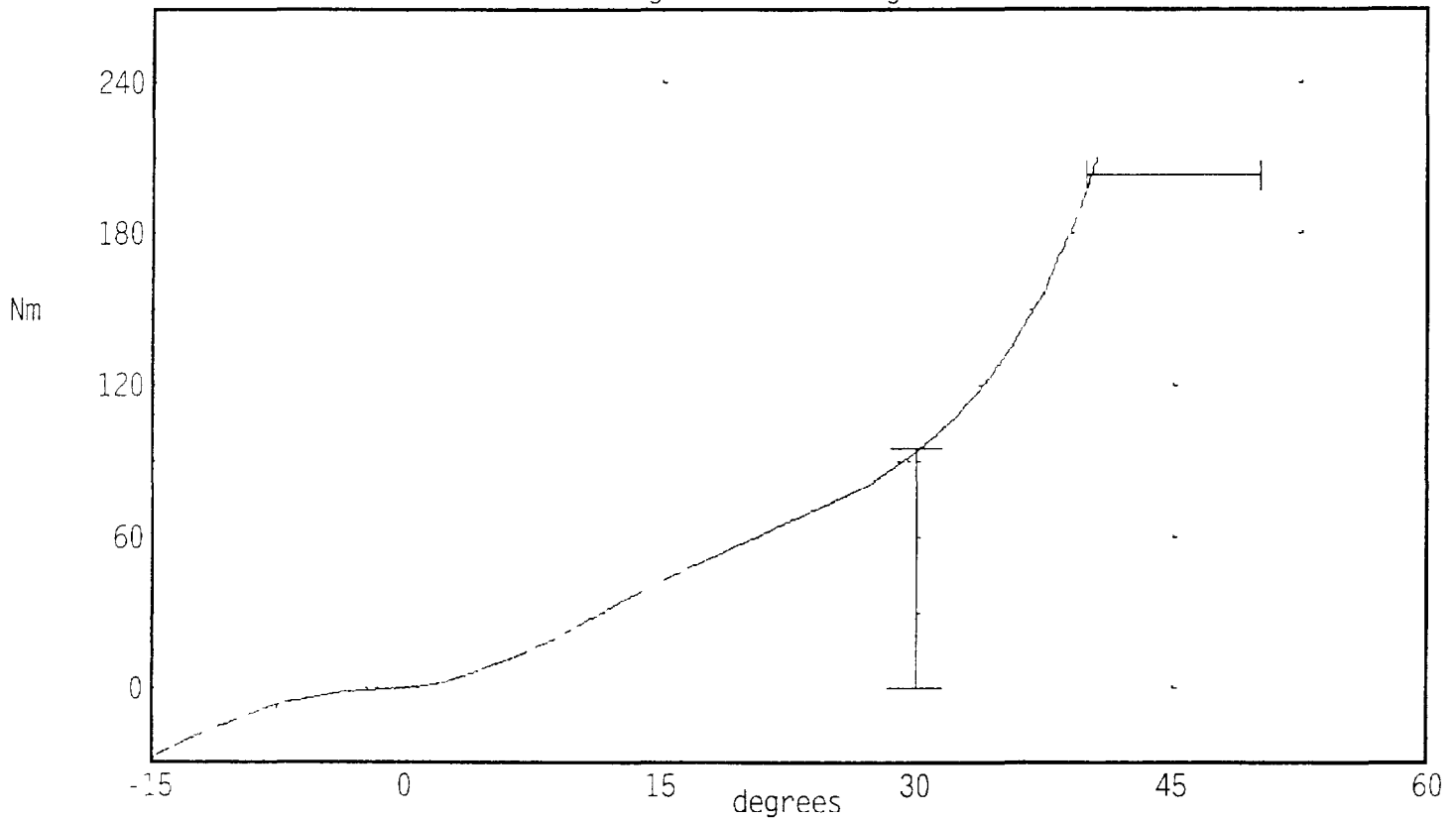
Hybrid III Hip Range of Motion

Serial Number 202R
Test Number 202C10
Comments

Date 10/30/2001
Time 08 33

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.1 °C Pass
Humidity	10 - 70	37 % Pass
Moment at 30 deg	<= 94.9	93.8 Nm Pass
Angle at 203 Nm	40.0 - 50.0	40.3 deg Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec Pass

Moment About H-Point
Peak Moment 210.2 Nm at 40.6 deg
Peak Angle 40.6 deg at 210.2 Nm



Transportation Research Center Inc

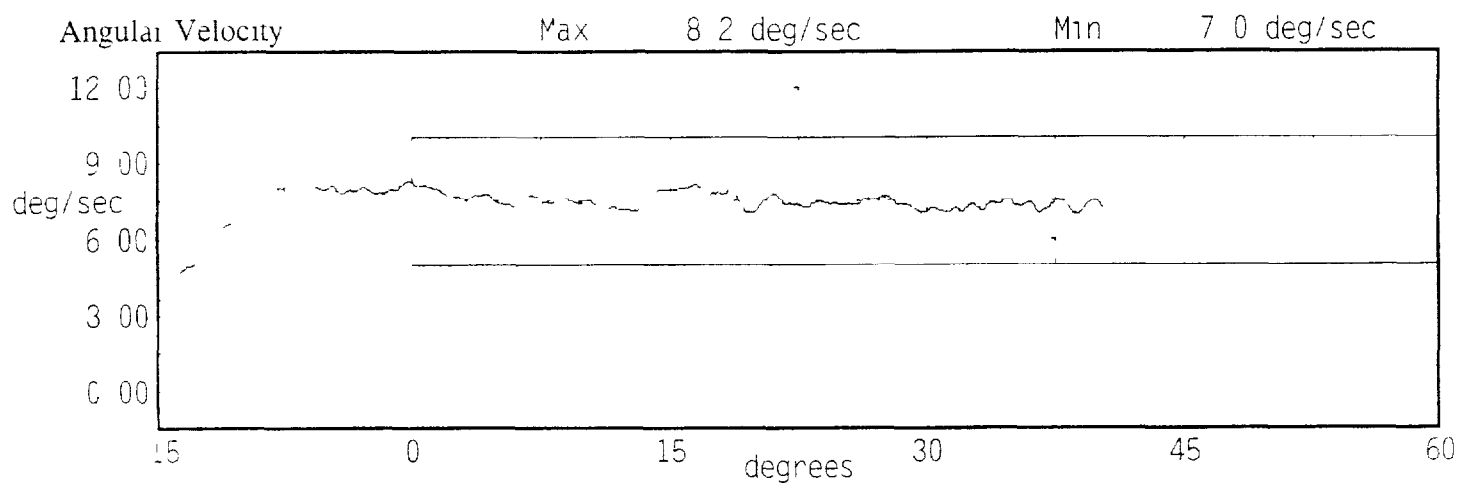
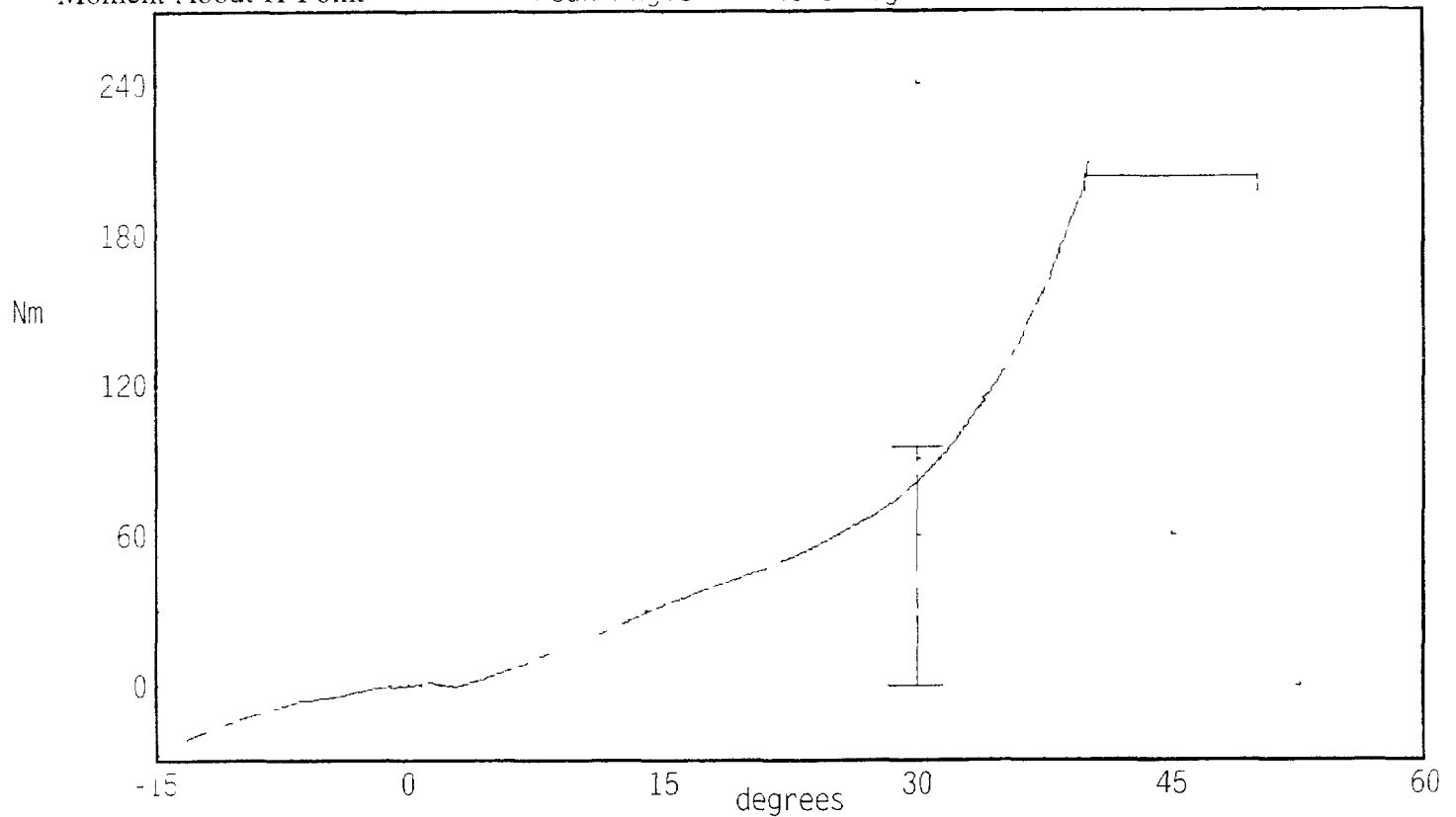
Hybrid III Hip Range of Motion

Serial Number 202L
Test Number 202C10
Comments

Date 10/30/2001
Time 08 29

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.1 °C	Pass
Humidity	10 - 70	37 %	Pass
Moment at 30 deg	<= 94.9	80.9 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	40.1 deg	Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec	Pass

Moment About H-Point
Peak Moment 210.4 Nm at 40.3 deg
Peak Angle 40.3 deg at 209.1 Nm



TRANSPORTATION RESEARCH CENTER INC.

LEFT KNEE IMPACT TEST

HYBRID III 50th

30-OCT-01

TRC INC.

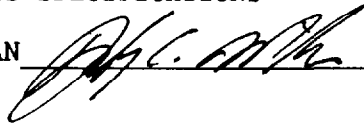
TEST NO: 202C10LK1

572E SN202 LEFT KNEE CAL 10

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	37.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.12 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	4940.9 N

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 103001.1336;1

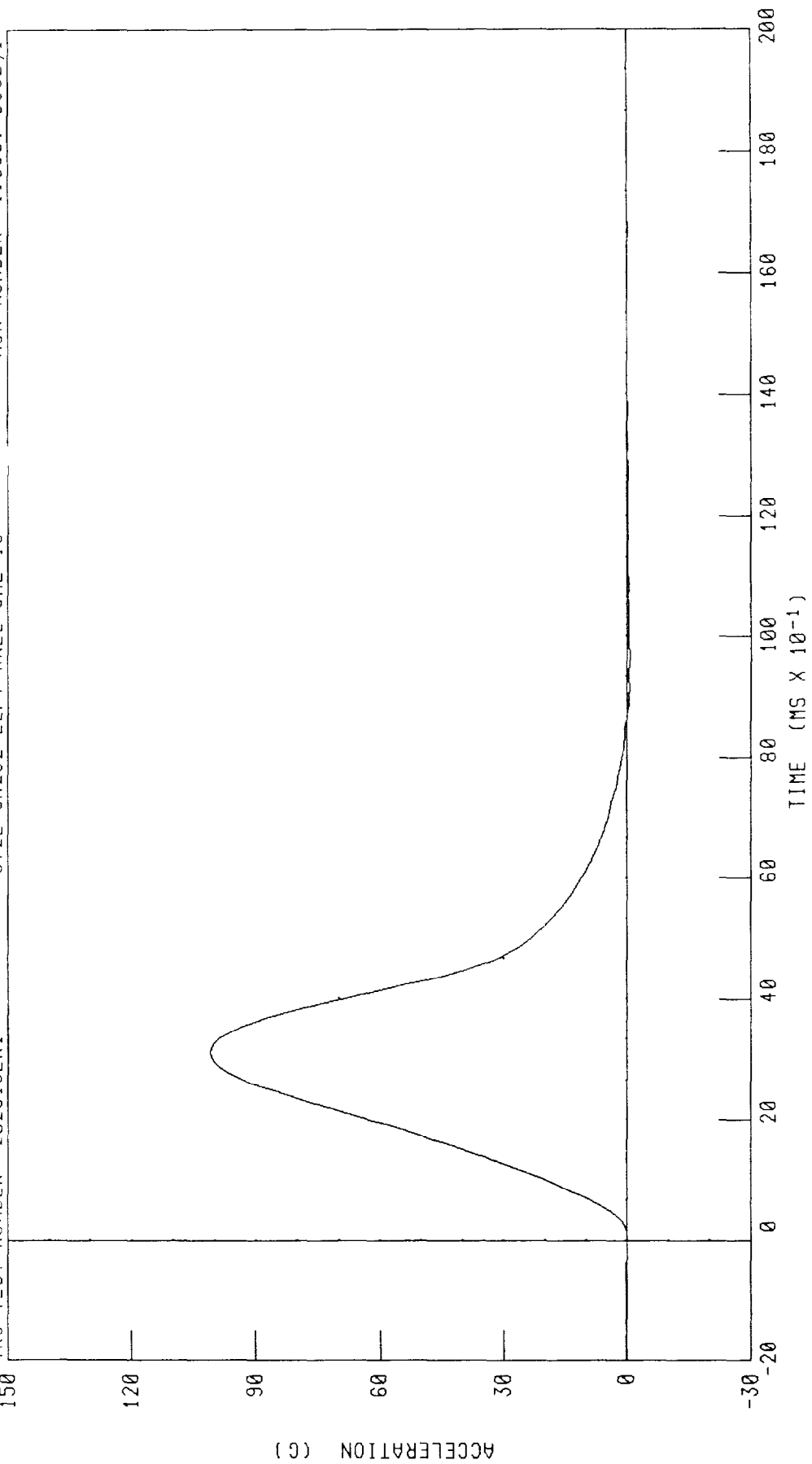
PART 572-E HYBRID III LEFT KNEE CALIBRATION

PENDULUM DECELERATION (5 KG PEND)

TRC TEST NUMBER 202C10LK1

572E SN202 LEFT KNEE CAL 10

RUN NUMBER 110901 0852,1



CHANNEL PENXC FILTER CH CLASS 600

PEAK DATA 100 98 G @ 3 12 MS, -0 72 G @ 9 68 MS

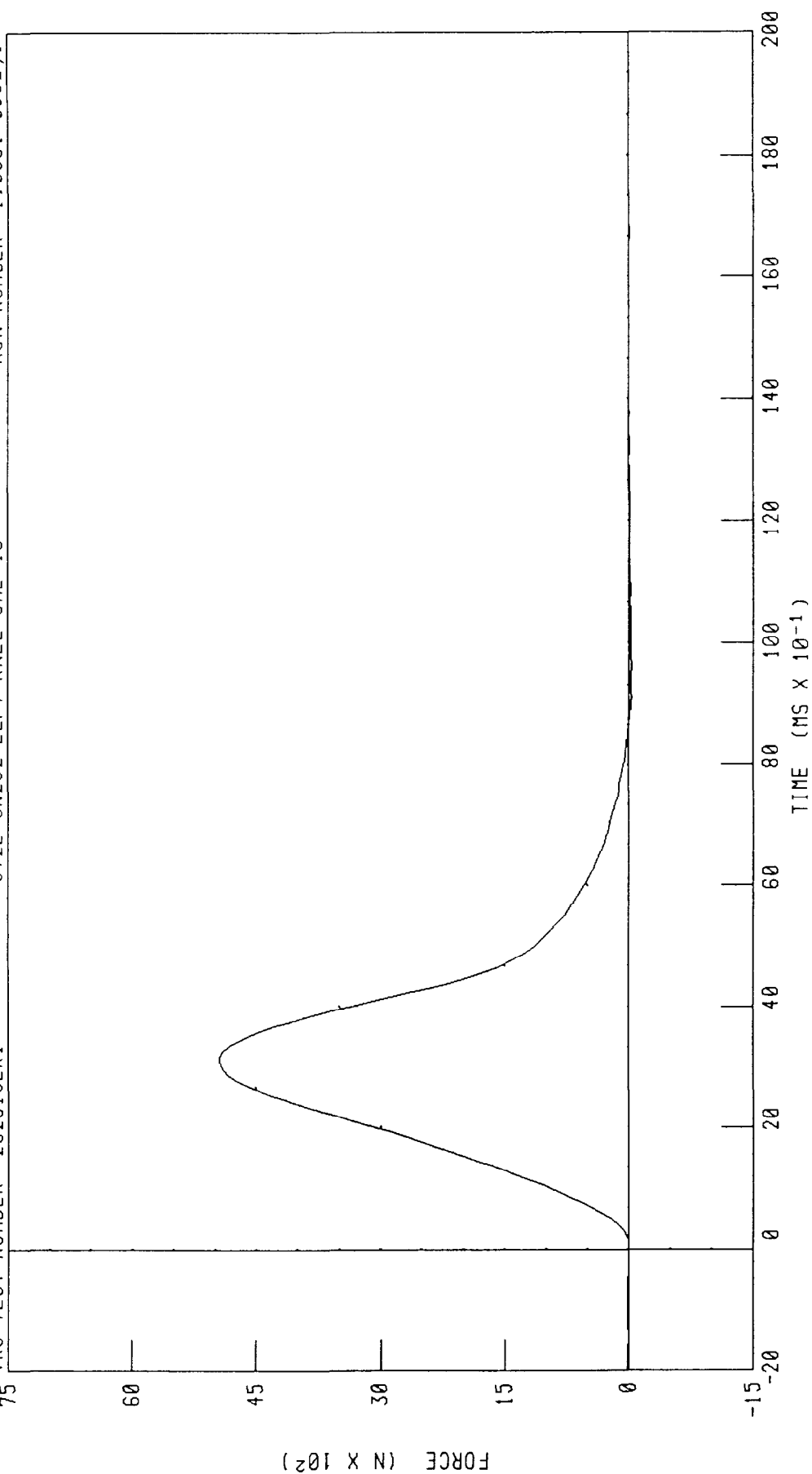
PART 572-E HYBRID III LEFT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

TRC TEST NUMBER 202C10LK1

572E SN202 LEFT KNEE CAL 10

RUN NUMBER 110901 0852,1



CHANNEL PENXF FILTER CH CLASS 600

PEAK DATA 4940 78 N 0 3 12 MS, -35 08 N 0 9 68 MS

TRANSPORTATION RESEARCH CENTER INC.

RIGHT KNEE IMPACT TEST

HYBRID III 50th

30-OCT-01

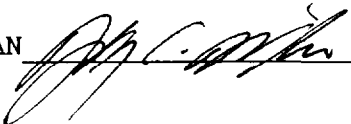
TRC INC.

TEST NO: 202C10RK1

572E SN202 RIGHT KNEE CAL 10

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	37.0 %
PROBE VELOCITY	2.07 - 2.13 M/S	2.12 M/S
PEAK KNEE IMPACT FORCE 5.0 KG PENDULUM	4715 - 5782 N	5493.8 N

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 103001.1337;2

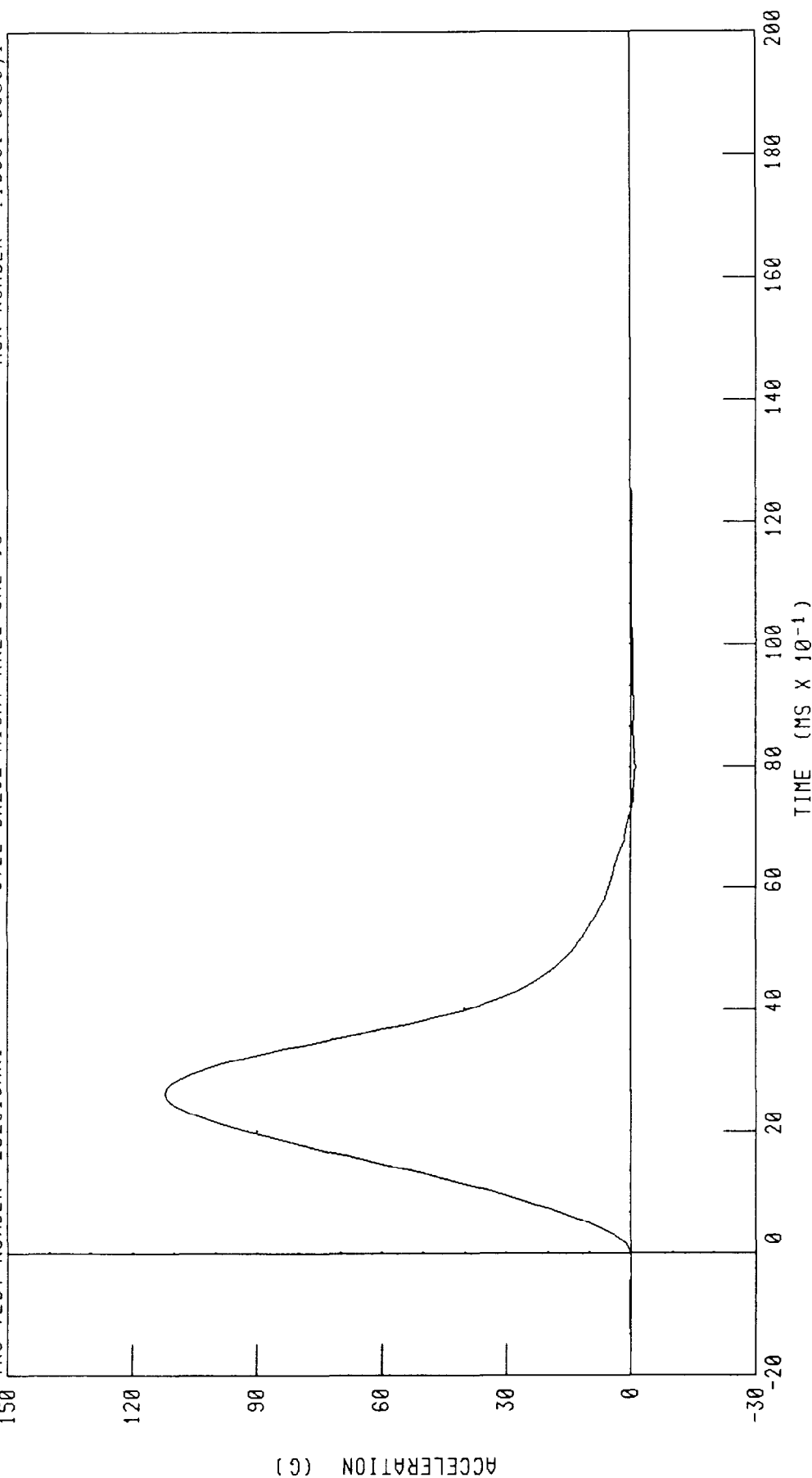
PART 572-E HYBRID III RIGHT KNEE CALIBRATION

PENDULUM DECELERATION (5 KG PEND)

TRC TEST NUMBER 202C10RK1

572E SN202 RIGHT KNEE CAL 10

RUN NUMBER 110901 0853,1



CHANNEL PENXC FILTER CH CLASS 600

PEAK DATA 112 28 G @ 2 64 MS, -1 23 G @ 8 00 MS

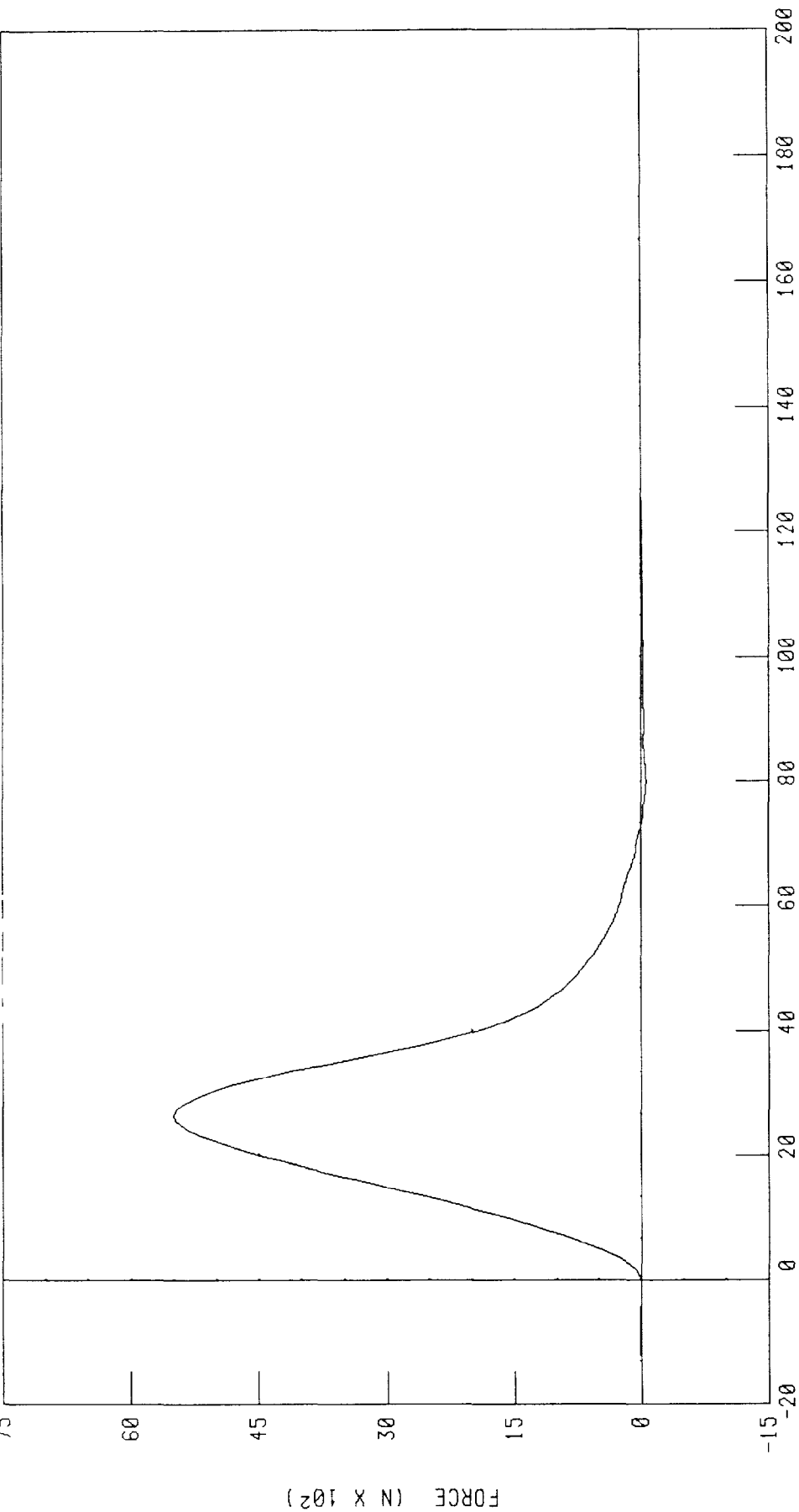
PART 572-E HYBRID III RIGHT KNEE CALIBRATION

PENDULUM FORCE (5 KG PEND)

572E SN202 RIGHT KNEE CAL 10

RUN NUMBER 110901 0053,1

TRC TEST NUMBER 202C10RK1



TIME (MS X 10⁻¹)

PEAK DATA 5493 72 N @ 2 64 MS, -60 05 N @ 8 00 MS

CHANNEL PENXF FILTER CH CLASS 600

TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

31-OCT-01

LEFT KNEE

TRC INC.

TEST NO: 202C10LS1

572E SN202 LEFT SLIDER CAL 10

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 - 70 %	39.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.76 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1445. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	2752. N

TEST MEETS SPECIFICATIONS

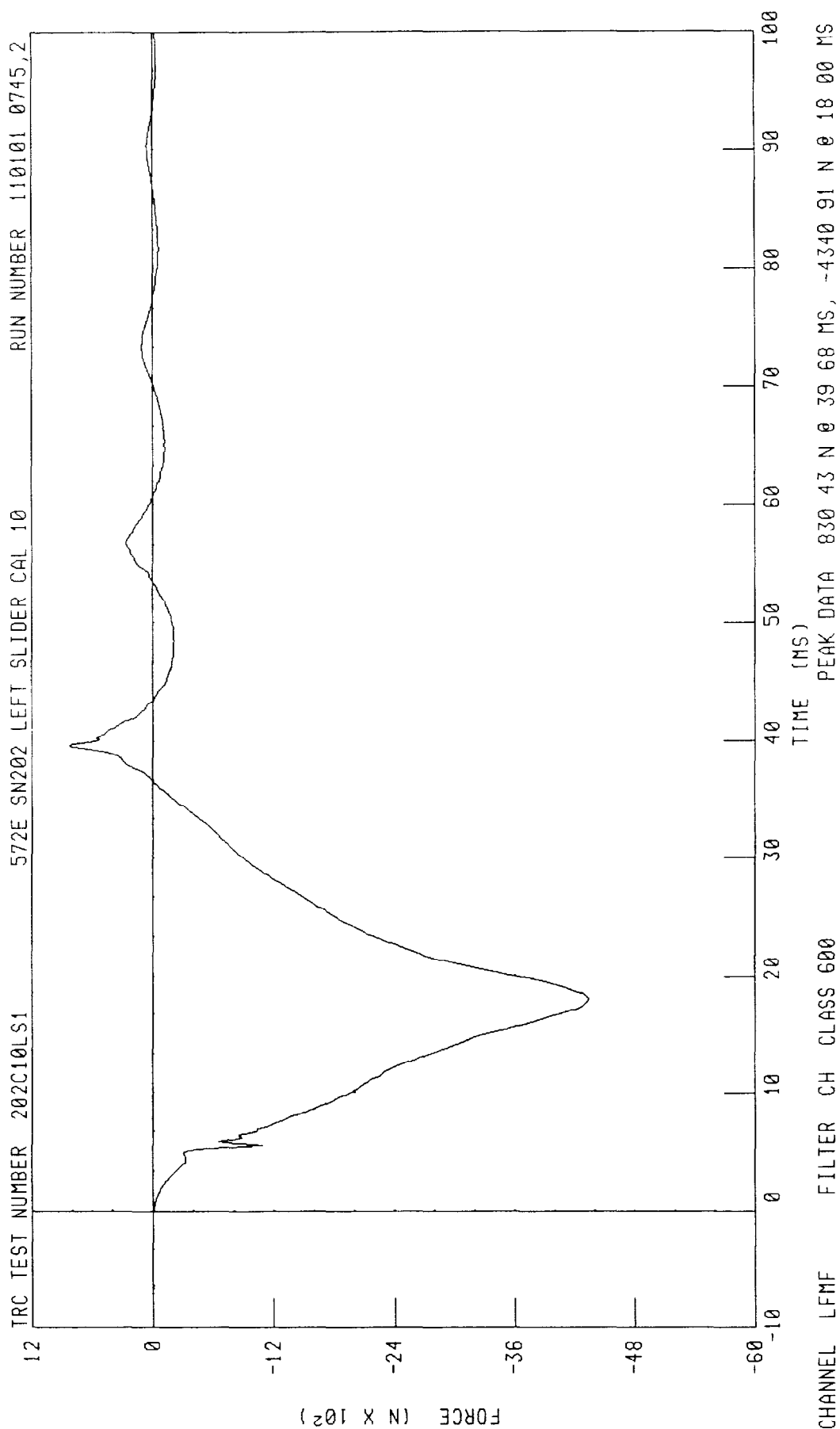
TECHNICIAN



RUN NUMBER: 110101.0743;1

PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

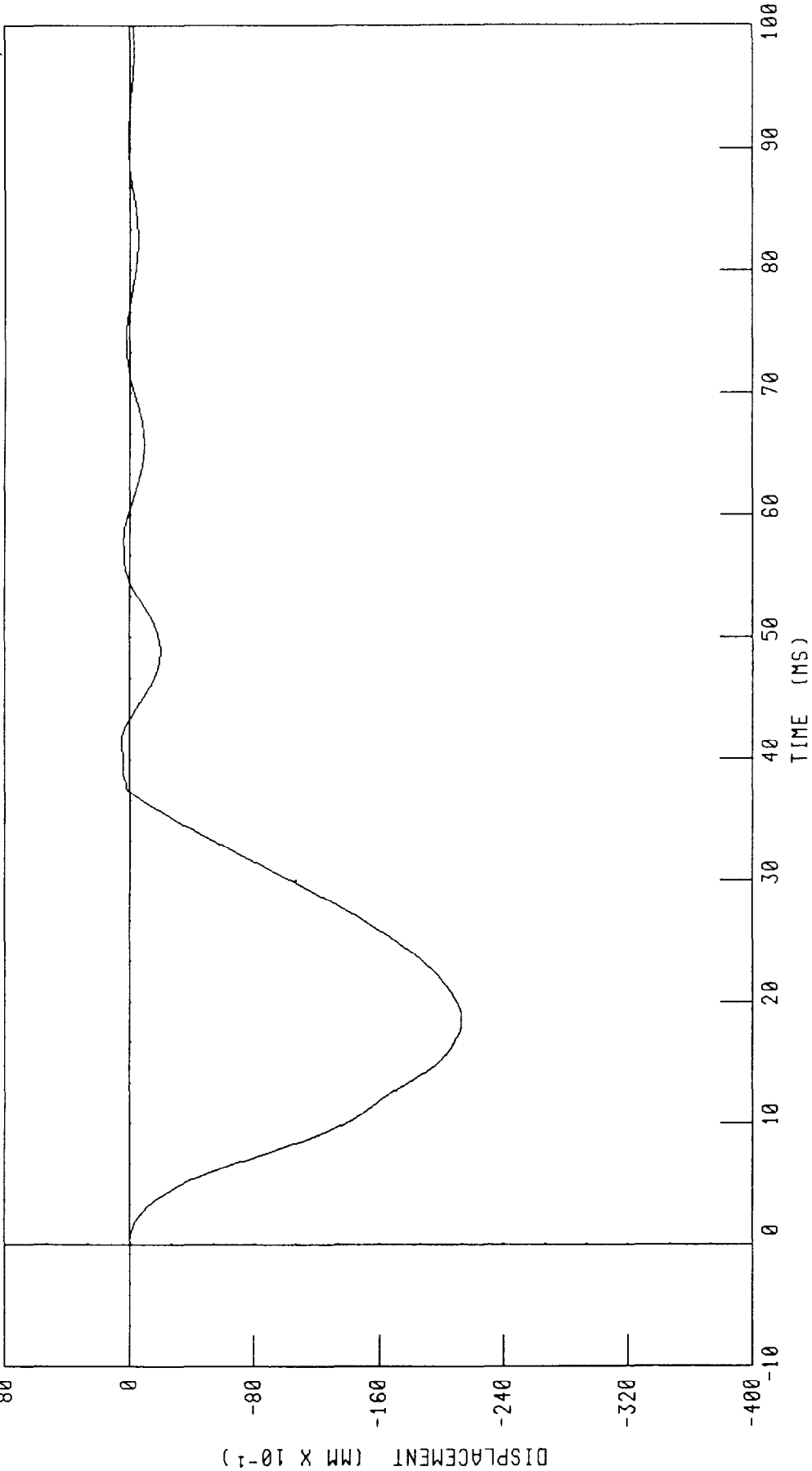
LEFT FEMUR FORCE



PART 572-E HYBRID III LEFT KNEE SLIDER CALIBRATION

LEFT KNEE DISPLACEMENT

TRC TEST NUMBER 202C10LS1 572E SN202 LEFT SLIDER CAL 10 RUN NUMBER 110101 0745,2



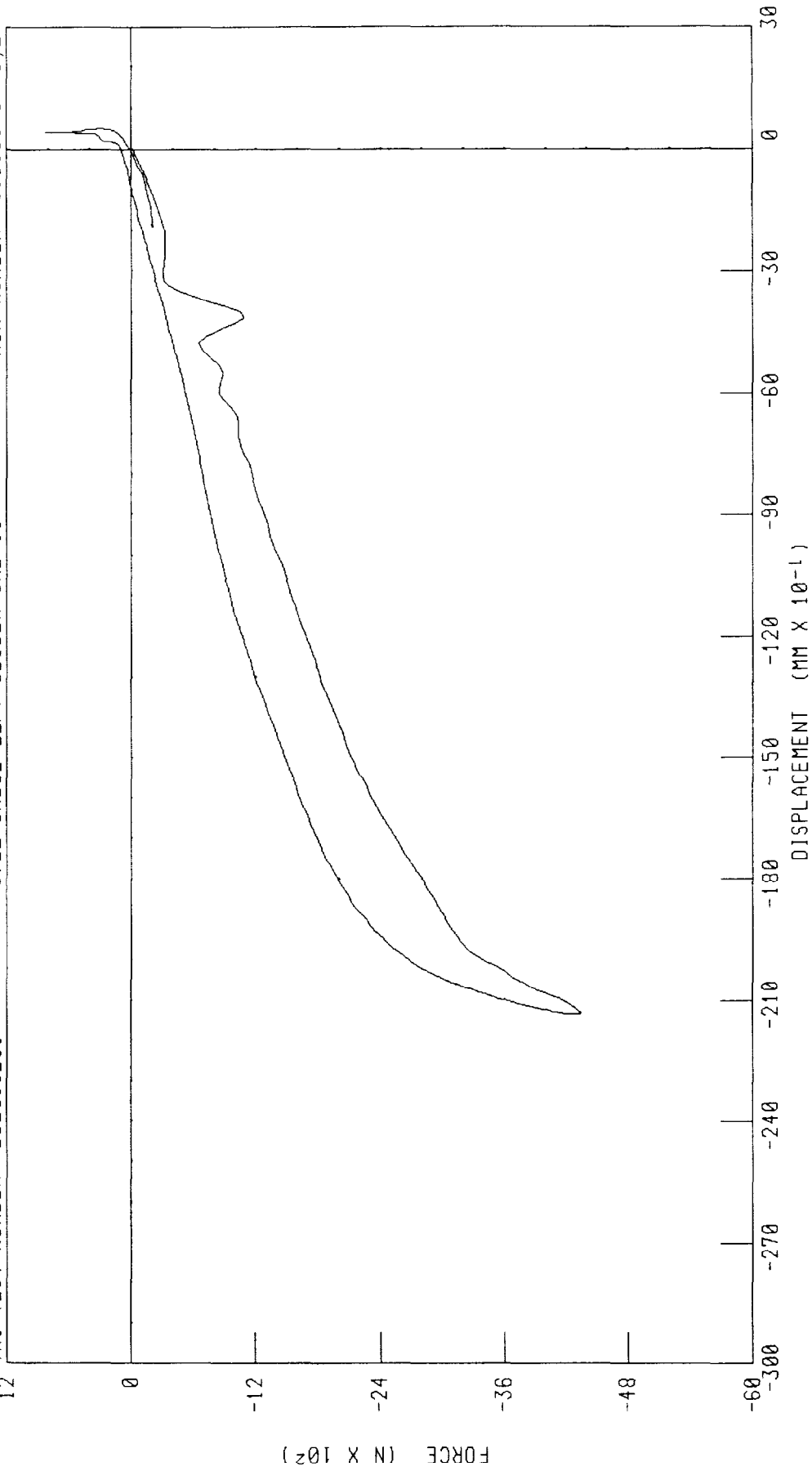
CHANNEL KNLXD FILTER CH CLASS 600

PEAK DATA 0 52 MM 0 41 60 MS, -21 34 MM 0 18 48 MS

12 TRC TEST NUMBER 202C10LS1

572E SN202 LEFT SLIDER CAL 10

RUN NUMBER 110101 0745,2



CHANNEL	FILTER	CLASS	600
KNLXD	CH	CLASS	600
LFMF	CH	CLASS	600

PEAK DATA 0

0 52 MM @ 41 60 MS, -21 34 MM @ 18 48 MS
830 43 N @ 39 68 MS, -4340 91 N @ 18 00 MS

TRANSPORTATION RESEARCH CENTER INC.

KNEE SLIDER TEST

HYBRID III 50th

30-OCT-01

RIGHT KNEE

TRC INC.

TEST NO: 202C10RS1

572E SN202 RIGHT SLIDER CAL 10

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9-25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	40.0 %
PENDULUM VELOCITY	2.70-2.80 M/S	2.72 M/S
FORCE AT 10.0 MM DISPLACEMENT	1259 - 1721 N	1299. N
FORCE AT 18.0 MM DISPLACEMENT	2268 - 3096 N	2627. N

TEST MEETS SPECIFICATIONS

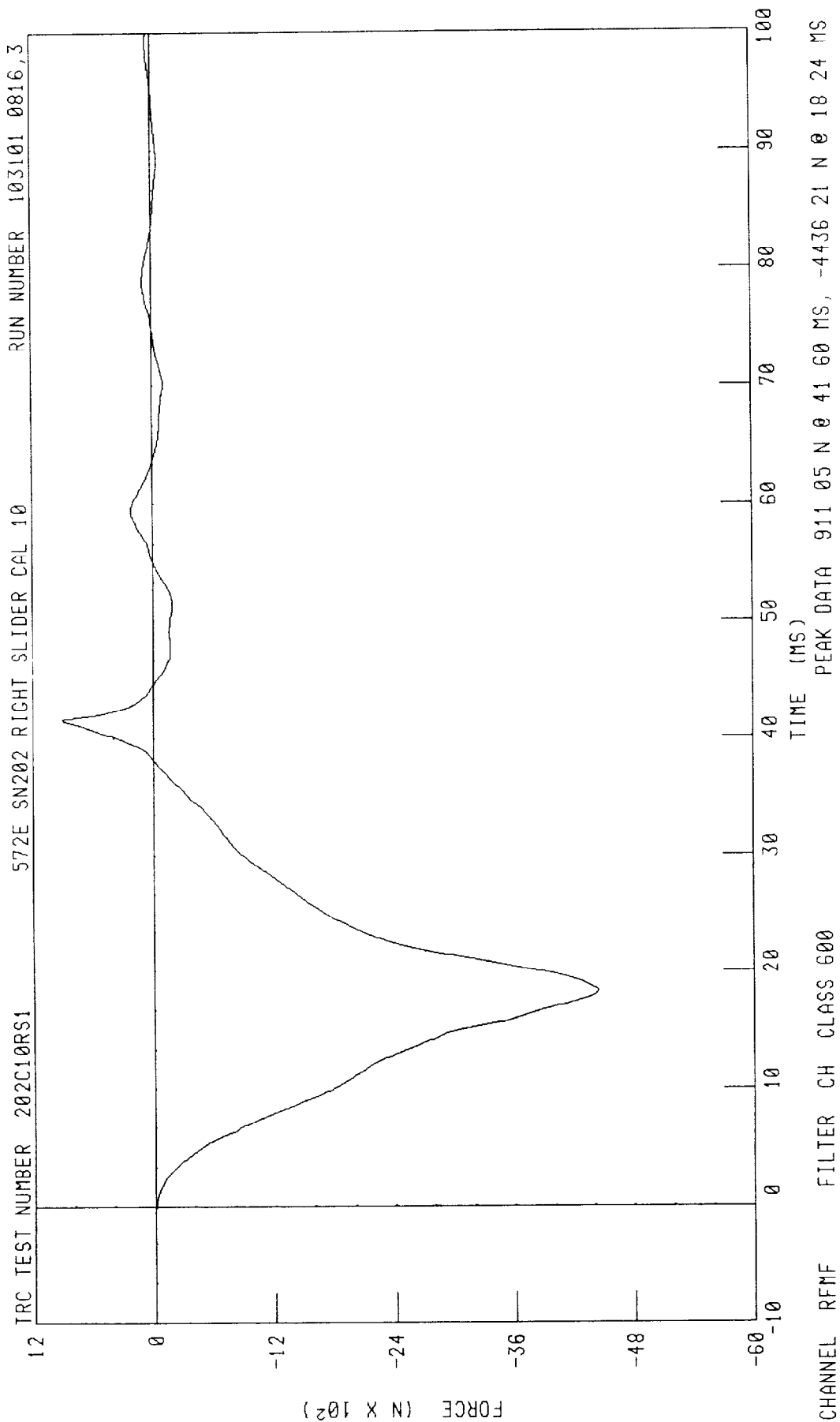
TECHNICIAN



RUN NUMBER: 103101.0813;1

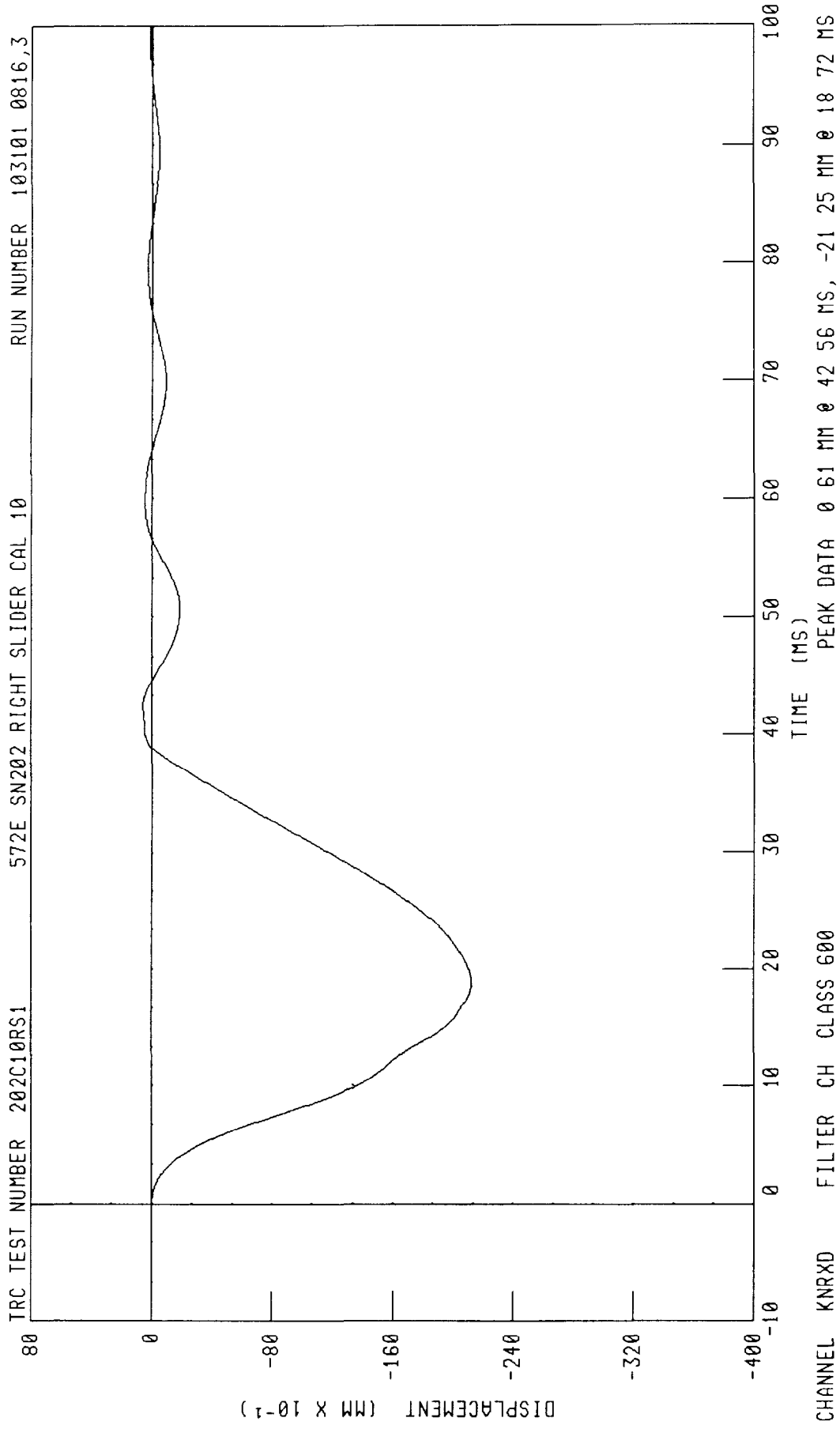
PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT FEMUR FORCE

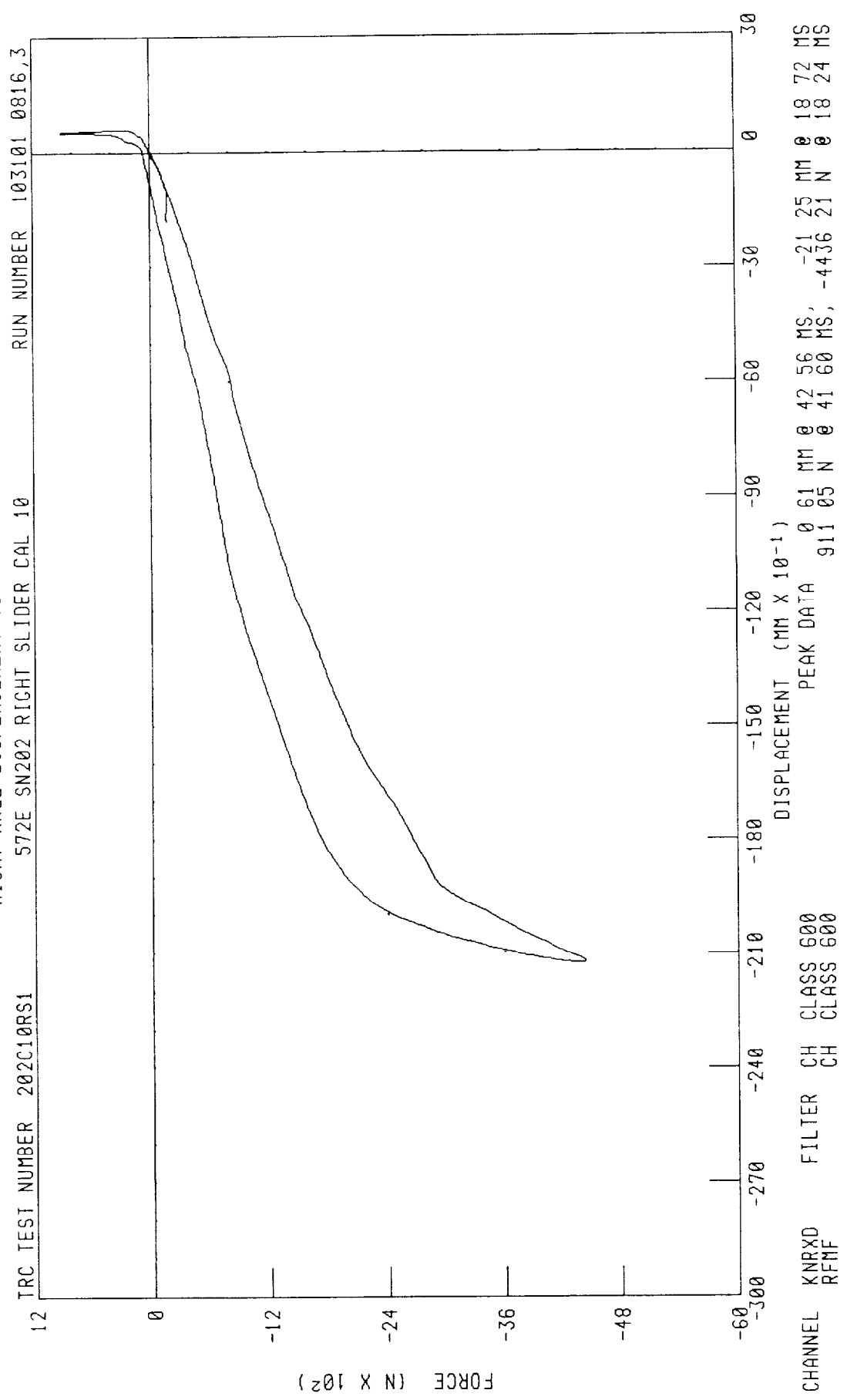


PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION

RIGHT KNEE DISPLACEMENT



PART 572-E HYBRID III RIGHT KNEE SLIDER CALIBRATION
 RIGHT KNEE DISPLACEMENT VS FEMUR FORCE



Appendix D

Test Equipment and Instrumentation Calibration Information

Report Sign Convention
SAE J211 MAR95¹

<u>Accelerometers:</u>	+X	Forward
	+Y	Rightward
	+Z	Downward
<u>Potentiometers:</u>	+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)
<u>Rotation potentiometers:</u>		
	+About the X-axis	Left foot-eversion Right foot-inversion
	+About the Y-axis	Left/right foot-dorsiflexion
	+About the Z-axis	Left foot-internal Right foot-external
<u>Load cells:</u>	+Femur force	Tension
	+Seat belt force	Tension
	+Barrier force	Tension
<u>Neck load cells:</u>	+X force	Head pushed rearward
	+Y force	Head pushed leftward
	+Z force	Head pulled upward (tension on neck)
	+X moment	Left ear rotating toward left shoulder
	+Y moment	Chin rotating toward chest
	+Z moment	Chin rotating toward left shoulder
<u>Tibia load cells:</u>	+X force	Ankle forward, knee rearward
	+Y force	Ankle rightward, knee leftward
	+Z force	Tension
	+X moment	Bottom of tibia moving leftward
	+Y moment	Bottom of tibia moving rearward

¹ The chest deflection and knee slider displacement presented in the dummy certification in Appendix C are opposite of J211 polarity

Frequency Response Classes
SAE J211 MAR95

<u>Typical Test Measurements</u>	<u>Channel Class</u>
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

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. See Report Sign Convention sheet for description of data output as presented in the report; channels were adjusted in post-acquisition processing to conform to J211 MAR95.

Dummy 206v Type HIII 50TH Description VOLPE (NHTSA) - 206 HYBRID III 501H (DKS 10-15-01) J211

Chsnam	Location	Model	Name	Manufacturer	Sens./m V/V/U	Fullscale	Caldate	Pos Output	Flip
HEDXG	Head Accel X	EGE-73B6Q-20	01G25 N01	Entran	0 01864 G	2000	08/10/2001	Fwd	0
HEDYG	Head Accel Y	EGE-73B6Q-20	01G25 N14	Entran	0 01879 G	2000	08/10/2001	Lft	1
HEDZG	Head Accel Z	EGE 73B6Q-20	01G25-N08	Entran	0 02344 G	2000	08/10/2001	Up	1
HEDXR	Head Accel Red X 1014	7264C 2K 2 18	P12566	Endevco	0 0194 G	2000	08/28/2001	Rwd	1
HEDYR	Head Accel Red Y M1	7264-2000TZ	J38075	Endevco	0 02664 G	2000	05/15/2001	Rgt	0
HEDZR	Head Accel Red Z 1018	7264C 2KLC 2	P17858	Endevco	0 01301 G	2000	08/28/2001	Up	1
HD1XG	Head (LT) Accel X	EGE 73B6Q-20	01G25 N06	Entran	0 02364 G	2000	08/10/2001	Fwd	0
HD1ZG	Head (LT) Accel Z	EGE-73B6Q-20	01G25 N05	Entran	0 01955 G	2000	08/10/2001	Up	1
HD2YG	Head (FT) Accel Y	EGE-73B6Q-20	01G25-N04	Entran	0 01977 G	2000	08/10/2001	Lft	1
HD2ZG	Head (FT) Accel Z	EGE-73B6Q-20	01G25-N13	Entran	0 01991 G	2000	08/10/2001	Up	1
HD3XG	Head (TP) Accel X	EGE 73B6Q-20	01G25-N09	Entran	0 01934 G	2000	08/10/2001	Fwd	0
HD3YG	Head (TP) Accel Y	EGE-73B6Q-20	01G25-N16	Entran	0 01877 G	2000	08/10/2001	Lft	1
NEKXF	Neck Force X	1716A	1716A-858-FX	Denton	0 000193719 N	8896 4	08/16/2001	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A 858-FY	Denton	0 000186907 N	8896 4	08/16/2001	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A 858-FZ	Denton	0 000096144 N	13344 6	08/16/2001	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A 858-MX	Denton	0 005827965 NM	282 5	08/16/2001	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-858-MY	Denton	0 005966726 NM	282 5	08/16/2001	Chn to Strmm	0
NEKZM	Neck Moment Z	1716A	1716A 858-MZ	Denton	0 008246372 NM	282 5	08/16/2001	Chn to Lt Shld	0
NKLXF	Lwr Neck Force X	1794A	1794A-216-FX	Denton	0 000140056 N	13344 6	07/05/2001	Hd Fd,Cst Rr	1
NKLYF	Lwr Neck Force Y	1794A	1794A 216-FY	Denton	0 000137546 N	13344 6	07/05/2001	Hd Lt,Cst Rt	0
NKLZF	Lwr Neck Force Z	1794A	1794A 216-FZ	Denton	0 000069773 N	13344 6	07/05/2001	Hd Up,Cst Dn	0
NKLXM	Lwr Neck Moment X	1794A	1794A-216-MX	Denton	0 00389115 NM	452	07/05/2001	Rt Ear to Rt Shld	1
NKLYM	Lwr Neck Moment Y	1794A	1794A-216-MY	Denton	0 003775 NM	452	07/05/2001	Chn to Strmm	0
NKLZM	Lwr Neck Moment Z	1794A	1794A 216-MZ	Denton	0 006764823 NM	452	07/05/2001	Chn to Lt Shld	0
CSTXG	Chest Accel X	7264-2000TZ	ACCM9	Endevco	0 02826 G	2000	08/24/2001	Fwd	0
CSTYG	Chest Accel Y	7264-2000TZ	J15368	Endevco	0 03531 G	2000	08/24/2001	Lft	1

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
CS1ZG	Chest Accel Z	7264-2000TZ	J20184	Endevco	0.02521 G	2000	08/24/2001	Up	1
CS1XD	Chest Deflection X	14CB1 2847	14CB1 2847 206	Servo	1 1403262 MM	100	09/07/2001	Strm Away Firm Spn	0
LFMZP	Left Femur Force Z	2121	2121 0160	Denton	0.000098324 N	13344 6	08/24/2001	Knee Fd Pel Rr	0
RFMZP	Right Femur Force Z	2121	2121 0161	Denton	0.000099718 N	13344 6	08/24/2001	Knee Fd,Pel Rrxt	0
KNLXD	Left Knee Displacement	150-0121VR	150-0121VR 13741	SpaceAge	23 39429 MM	40	11/30/2000	Tib Rr,Hld Fem	1
TBLXF	Left Upper Tibia Force X LC8	4353J	4353J-82 FX	Denton	0.00017107 N	11120	08/03/2001	Tib Fd,Knee Rr	0
TBLZF	Left Upper Tibia Force Z LC15	4353J	4353J-82 FZ	Denton	0.000095631 N	11120	08/03/2001	Tib Dn,Knee Up	0
TBLXM	Left Upper Tibia Moment X LC17	4353J	4353J 82 MX	Denton	0.0075411 NM	395 4	08/03/2001	Ank Lt,Hld Knee	0
TBLYM	Left Upper Tibia Moment Y LC01	4353J	4353J-82 MY	Denton	0.0075411 NM	395 4	08/03/2001	Ank Fd,Hld Knee	0
TBLXG	Left Tibia Accel X	EGE-73B6Q 20	01G19 F02	Entran	0.01925 G	2000	08/21/2001	Fwd	0
TBLYG	Left Tibia Accel Y	EGE 73B6Q 20	01H02 N02	Entran	0.02125 G	2000	08/21/2001	Rt	0
ANLXF	Left Lower Tibia Force X LC23	4929J	4929J 87 FX	Denton	0.00017264 N	11120	12/22/2000	Ank Fd,Knee Rr	0
ANLYF	Left Lower Tibia Force Y LC16	4929J	4929J-87 FY	Denton	0.00017608 N	11120	12/22/2000	Ank Rt,Knee Lt	0
ANLZF	Left Lower Tibia Force Z LC19	4929J	4929J 87 FZ	Denton	0.000095856 N	11120	12/22/2000	Ank Dn,Knee Up	0
ANLXM	Left Lower Tibia Moment X LC26	4929J	4929J 87 MX	Denton	0.0075904 NM	395 4	12/22/2000	Ank Lt,Hld Knee	0
ANLYM	Left Lower Tibia Moment Y LC18	4929J	4929J 87 MY	Denton	0.0075879 NM	395 4	12/22/2000	Ank Fd,Hld Knee	0
FTLXD	Left Foot Disp X POT4	PD210 4B	PD210 4B AK 060	CONTELEC	3 1541 DE	318	07/31/2001	Eversion	0
FTLYD	Left Foot Disp Y POT5	PD210 4B	PD210 4B-AK 061	CONTELEC	3 1679 DE	318	07/31/2001	Dorsiflexion	0
FTLZD	Left Foot Disp Z POT6	PD210-4B	PD210-4B AK 062	CONTELEC	3 1819 DE	318	07/31/2001	Internal Rotation	0
FTLXG	Left Foot Accel X	EGE 73B6Q 20	01H02 N05	Entran	0.02077 G	2000	08/21/2001	Fwd	0
FTLYG	Left Foot Accel Y	7264-2000TZ	J38856	Endevco	0.02426 G	2000	05/23/2001	Rt	0
FTLZG	Left Foot Accel Z	EGE 73B6Q 20	01H02 N01	Entran	0.02164 G	2000	08/21/2001	Dn	0
KNRXd	Right Knee Displacement	150 0121VL	150-0121VL-18123	SpaceAge	23 66 MM	40	04/26/2001	Tib Rr Hld Fem	1
TBRXF	Right Upper Tibia Force X LC10	4353J	4353J 81 FX	Denton	0.00016929 N	11120	08/03/2001	Tib Fd,Knee Rr	0
TBRZF	Right Upper Tibia Force Z LC14	4353J	4353J-81 FZ	Denton	0.000094724 N	11120	08/03/2001	Tib Dn,Knee Up	0
TBRXM	Right Upper Tibia Moment X LC13	4353J	4353J 81 MX	Denton	0.00773122 NM	395 4	08/03/2001	Ank Lt,Hld Knee	0
TBRYM	Right Upper Tibia Moment Y LC22	4353J	4353J 81 MY	Denton	0.0073572 NM	395 4	08/03/2001	Ank Fd,Hld Knee	0
TBRXG	Right Tibia Accel X	EGE 73B6Q 20	01H02 N07	Entran	0.02142 G	2000	08/21/2001	Fwd	0

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
TBRYG	Right Tibia Accel Y	EGE-73B6Q 20	01H02 N03	Entran	0 02147 G	2000	08/21/2001	Rt	0
ANRXF	Right Lower Tibia Force X	4929J	4929J 86 FX	Denton	0 00001716 N	11120	12/22/2000	Ank Fd,Knee Rr	0
ANRYF	Right Lower Tibia Force Y	4929J	4929J 86 FY	Denton	0 00001746 N	11120	12/22/2000	Ank Rt,Knee Lft	0
ANRZF	Right Lower Tibia Force Z	4929J	4929J 86 FZ	Denton	0 000095461 N	11120	12/22/2000	Ank Dn,Knee Up	0
ANRXM	Right Lower Tibia Moment X	4929J	4929J 86-MX	Denton	0 0074837 NM	395 4	12/22/2000	Ank Lt,Hld Knee	0
ANRYM	Right Lower Tibia Moment Y	4929J	4929J 86 MY	Denton	0 0073843 NM	395 4	12/22/2000	Ank Fd,Hld Knee	0
FTRXD	Right Foot Disp X	PD210-4B	PD210 4B AK-057	CONTELEC	3 1631 DE	318	07/31/2001	Inersion	0
FTRYD	Right Foot Disp Y	PD210-4B	PD210 4B AK-058	CONTELEC	3 1586 DE	318	07/31/2001	Dorsiflexion	0
FTRZD	Right Foot Disp Z	PD210-4B	PD210 4B AK-059	CONTELEC	3 1497 DE	318	07/31/2001	External Rotation	0
FTRXG	Right Foot Accel X	7264 2000TZ	J38857	Endevco	0 02945 G	2000	05/23/2001	Fwd	0
FTRYG	Right Foot Accel Y	7264 2000TZ	J38787	Endevco	0 02316 G	2000	05/24/2001	Rt	0
FTRZG	Right Foot Accel Z	EGE-73B6Q 20	01G19 F05	Entran	0 0177 G	2000	08/21/2001	Dn	0

Dummy 202v **Type** HIII 501H **Description** VOLPE (NHTSA) - 202 HYBRID III 501H (DKS 10-23-01) J211

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
I1EDXG	Head Accel X	EGE 73B6Q 20	01G25-N07	Entran	0.02208 G	2000	08/10/2001	Fwd	0
HEDYG	Head Accel Y	EGE 73B6Q 20	01G25-N20	Entran	0.02011 G	2000	08/10/2001	Lft	1
HEDZG	Head Accel Z	EGE 73B6Q 20	01G25 N17	Entran	0.01957 G	2000	08/10/2001	Up	1
HEDXR	Head Accel Red X VRTC10	7264C 2KLC 2-	P15951	Endevco	0.01358 G	2000	08/28/2001	Rwd	1
HEDYR	Head Accel Red Y	7264 2000TZ	J36709	Endevco	0.03594 G	2000	10/22/2001	Rgt	0
HEDZR	Head Accel Red Z VRTC9	7264C 2KLC 2	P16899	Endevco	0.015 G	2000	08/28/2001	Up	1
HD1XG	Head (LT) Accel X	EGE 73B6Q 20	01G19 F03	Entran	0.02156 G	2000	08/10/2001	Fwd	0
HD1ZG	Head (LT) Accel Z	EGE 73B6Q-20	01G25 N18	Entran	0.01906 G	2000	08/10/2001	Up	1
HD2YG	Head (FT) Accel Y	EGE 73B6Q-20	01G25 N10	Entran	0.02248 G	2000	08/10/2001	Lft	1
HD2ZG	Head (FT) Accel Z	FGE-73B6Q-20	01G25 N03	Entran	0.01933 G	2000	08/10/2001	Up	1
HD3XG	Head (TP) Accel X	EGE 73B6Q 20	01G25-N15	Entran	0.02019 G	2000	08/10/2001	Fwd	0
HD3YG	Head (TP) Accel Y	EGE-73B6Q-20	01G25-N02	Entran	0.01968 G	2000	08/10/2001	Lft	1
NEKXF	Neck Force X	1716	1716-0628 FX	Denton	0.000192033 N	8896.4	08/16/2001	Hd Fd Cst Rr	1
NEKYF	Neck Force Y	1716	1716-0628 FY	Denton	0.000184075 N	8896.4	08/16/2001	Hd Lt Cst Rt	0
NEKZF	Neck Force Z	1716	1716 0628-FZ	Denton	0.00008605 N	13344.6	08/16/2001	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716	1716-0628-MX	Denton	0.005770973 NM	282.5	08/16/2001	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716	1716 0628 MY	Denton	0.005887788 NM	282.5	08/16/2001	Chn to Strum	0
NEKZM	Neck Moment Z	1716	1716 0628 MZ	Denton	0.008187257 NM	282.5	08/16/2001	Chn to Lt Shld	0
NKLXF	Lwr Neck Force X	1794A	1794A 215 FX	Denton	0.000140236 N	13344.6	07/05/2001	Hd Fd Cst Rr	1
NKLYF	Lwr Neck Force Y	1794A	1794A-215-FY	Denton	0.000137853 N	13344.6	07/05/2001	Hd Lt,Cst Rt	0
NKLZF	Lwr Neck Force Z	1794A	1794A-215-FZ	Denton	0.000069204 N	13344.6	07/05/2001	Hd Up,Cst Dn	0
NKLXM	Lwr Neck Moment X	1794A	1794A-215 MX	Denton	0.003864601 NM	452	07/05/2001	Rt Ear to Rt Shld	1
NKLYM	Lwr Neck Moment Y	1794A	1794A 215 MY	Denton	0.003795796 NM	452	07/05/2001	Chn to Strum	0
NKLZM	Lwr Neck Moment Z	1794A	1794A-215 MZ	Denton	0.006828982 NM	452	07/05/2001	Chn to Lt Shld	0
CSTXG	Chest Accel X	7264 2000TZ	AJ460	Endevco	0.02863 G	2000	08/24/2001	Fwd	0
CSTYG	Chest Accel Y	7264 2000TZ	J14404	Endevco	0.028 G	2000	08/24/2001	Lft	1

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
CSTZG	Chest Accel Z	7264 2000TZ	J14144	Endevco	0 03795 G	2000	08/24/2001	Up	1
CSTXD	Chest Deflection X	14CB1-2847	14CB1 2847 0137	Servo	1 1347019 MM	100	09/07/2001	Strnm Away Frm Spn	0
LFMZP	Left Femur Force Z	2121	2121 0226	Denton	0 000098729 N	1334 6	08/24/2001	Knee Fd,Pel Rr	0
RFMZP	Right Femur Force Z	2121	2121 0227	Denton	0 000098759 N	13344 6	08/24/2001	Knee Fd,Pel Rrxt	0
KNLXD	Left Knee Displacement	150 0121VR	150-0121VR-13739	SpaceAge	23 10643 MM	40	11/30/2000	Tib Rr,Hld Fem	1
TBLXF	Left Upper Tibia Force X	3115	3115-199 FX	Denton	0 000172571 N	11120	03/02/2001	Tib Rr,Knee Fd	1
TBIZF	Left Upper Tibia Force Z	3115	3115-199 FZ	Denton	0 000095782 N	11120 5	03/02/2001	Tib Dn,Knee Up	0
TBLXM	Left Upper Tibia Moment X	3115	3115 199 MX	Denton	0 007356348 NM	395 5	03/02/2001	Tib Rt,Hld Knee	1
TBLYM	Left Upper Tibia Moment Y	3115	3115 199 MY	Denton	0 007476226 NM	395 5	03/02/2001	Tib Fd,Hld Knee	0
ANLXF	Left Lower Tibia Force X	3287	3287-128-FX	Denton	0 000174361 N	11120 5	03/05/2001	Ank Rr,Knee Fd	1
ANLZF	Left Lower Tibia Force Z	3287	3287 128-FZ	Denton	0 000096879 N	11120 5	03/05/2001	Ank Dn,Knee Up	0
ANLXM	Left Lower Tibia Moment X	3287	3287-128 MX	Denton	0 007693474 NM	395 4	03/05/2001	Ank Rt,Hld Knee	1
ANLYM	Left Lower Tibia Moment Y	3287	3287 128 MY	Denton	0 007630753 NM	395 4	03/05/2001	Ank Fd,Hld Knee	0
FLHXG	Left Foot-Heel Accel X	7264-2KM5T	J27387	Endevco	0 0241 G	2000	08/24/2001	Fwd	0
FLHZG	Left Foot-Heel Accel Z	7264 2KM5T	J27553	Endevco	0 02754 G	2000	08/24/2001	Dwn	0
FLTZG	Left Foot Toe Accel Z	7264-2KM5T	J27474	Endevco	0 02712 G	2000	08/24/2001	Up	1
KNRXD	Right Knee Displacement	150 0121VL	150-0121VL-13723	SpaceAge	23 5714 MM	40	11/30/2000	Tib Rr,Hld Fem	1
TBRXF	Right Upper Tibia Force X	3115	3115-200-FX	Denton	0 000170179 N	11120	03/05/2001	Tib Rr,Knee Fd	1
TBRZF	Right Upper Tibia Force Z	3115	3115 200 FZ	Denton	0 000094433 N	11120	03/05/2001	Tib Dn,Knee Up	0
TBRXM	Right Upper Tibia Moment X	3115	3115 200 MX	Denton	0 007369499 NM	395 5	03/05/2001	Tib Rt,Hld Knee	1
TBRYM	Right Upper Tibia Moment Y	3115	3115 200 MY	Denton	0 007401618 NM	395 5	03/05/2001	Tib Fd,Hld Knee	0
ANRXF	Right Lower Tibia Force X	3287	3287 129-FX	Denton	0 000173435 N	11120 5	03/07/2001	Ank Rr,Knee Fd	1
ANRZF	Right Lower Tibia Force Z	3287	3287-129-FZ	Denton	0 000096573 N	11120 5	03/07/2001	Ank Dn,Knee Up	0
ANRXM	Right Lower Tibia Moment X	3287	3287 129 MX	Denton	0 007584977 NM	395 4	03/07/2001	Ank Rt,Hld Knee	1
ANRYM	Right Lower Tibia Moment Y	3287	3287-129-MY	Denton	0 007643146 NM	395 4	03/07/2001	Ank Fd,Hld Knee	0
FRHXG	Right Foot Heel Accel X	7264 2000T	J17976	Endevco	0 02777 G	2000	08/24/2001	Fwd	0
FRHZG	Right Foot Heel Accel Z	7264 2000TZ	J38801	Endevco	0 02707 G	2000	05/23/2001	Dwn	0
FRTZG	Right Foot Toe Accel Z	7264 2KM5T	J28727	Endevco	0 02393 G	2000	08/24/2001	Up	1

Channel Report

Name of Test 011029

System K3600

Name of DAU DAU1

10/29/2001 1 13 01 PM

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal. Date/Status	Group	Mfg.	Model
1000	EVENT	SYNC1	SYNC		10 24 V	+	10/20/2001	OK -1	TRC	Fvent
1001	01G25-N01	HEDXG1	Head Accel X	Fwd	796 1684393G	+	08/10/2001	OK 206v	Entran	EGb-73B6Q-2000J
1002	01G25-N14	HEDYG1	Head Accel Y	Lft	801 4275428G	-	08/10/2001	OK 206v	Entran	FGE-73B6Q-2000J
1003	01G25-N08	HEDZG1	Head Accel Z	Up	794 2910331G	-	08/10/2001	OK 206v	Entran	EGb-73B6Q-2000J
1004	P12566	HEDXR1	Head Accel Red X 1014	Rwd	799 7500781G	-	08/28/2001	OK 206v	Endevco	7264C-2K-2-180
1005	J38075	HEDYR1	Head Accel Red Y M1	Rgt	800 8008008G	+	05/15/2001	OK 206v	Endevco	7264-2000TZ
1006	P17858	HEDZR1	Head Accel Red Z 1018	Up	803 1498533G	-	08/28/2001	OK 206v	Endevco	7264C-2KLC-2-24
1007	01G25-N06	HD1XG1	Head (LT) Accel X	Fwd	802 1557936G	+	08/10/2001	OK 206v	Entran	EGE-73B6Q-2000J
1008	01G25-N05	HD1ZG1	Head (LT) Accel Z	Up	805 8233326G	-	08/10/2001	OK 206v	Entran	EGE-73B6Q-2000J
1009	01G25-N04	HD2YG1	Head (FT) Accel Y	Lft	796 8561534G	-	08/10/2001	OK 206v	Entran	EGF-73B6Q-2000J
1010	01G25-N13	HD2ZG1	Head (FT) Accel Z	Up	803 6162732G	-	08/10/2001	OK 206v	Entran	EGE-73B6Q-2000J
1011	01G25-N09	HD3XG1	Head (TP) Accel X	Fwd	802 2312055G	+	08/10/2001	OK 206v	Entran	FGE-73B6Q-2000J
1012	01G25-N16	HD3YG1	Head (TP) Accel Y	Lft	802 2814879G	-	08/10/2001	OK 206v	Entran	EGb-73B6Q-2000J
1013	1716A-858-FX	NEKXF1	Neck Force X	Hd	8899 001770N	-	08/16/2001	OK 206v	Denton	1716A
1014	1716A-858-FY	NEKYF1	Neck Force Y	Hd	8893 929399N	+	08/16/2001	OK 206v	Denton	1716A
1015	1716A-858-FZ	NEKZF1	Neck Force Z	Hd	13346 73011N	+	08/16/2001	OK 206v	Denton	1716A
1016	1716A-858-MX	NEKXM1	Neck Moment X	Rt Ear	282 4832082NM	-	08/16/2001	OK 206v	Denton	1716A
1017	1716A-858-MY	NEKYM1	Neck Moment Y	Chn	282 7321336NM	+	08/16/2001	OK 206v	Denton	1716A
1018	1716A-858-MZ	NEKZM1	Neck Moment Z	Chn	282 2177713NM	+	08/16/2001	OK 206v	Denton	1716A
1019	1794A-216-FX	NKLXF1	Lwr Neck Force X	Hd	13341 89994N	-	07/05/2001	OK 206v	Denton	1794A
1020	1794A-216-FY	NKLYF1	Lwr Neck Force Y	Hd	13341 90342N	+	07/05/2001	OK 206v	Denton	1794A
1021	1794A-216-FZ	NKLZF1	Lwr Neck Force Z	Hd	13341 96739N	+	07/05/2001	OK 206v	Denton	1794A
1022	1794A-216-MX	NKLXM1	Lwr Neck Moment X	Rt Ear	339 1253559NM	-	07/05/2001	OK 206v	Denton	1794A
1023	1794A-216-MY	NKL YM1	Lwr Neck Moment Y	Chn	339 0728476NM	+	07/05/2001	OK 206v	Denton	1794A
1024	1794A-216-MZ	NKLZM1	Lwr Neck Moment Z	Chn	181 0661391NM	+	07/05/2001	OK 206v	Denton	1794A
1025	ACCM9	CSTXG1	Chest Accel X	Fwd	398 1863854G	+	08/24/2001	OK 206v	Endevco	7264-2000TZ
1026	J15368	CSTYG1	Chest Accel Y	Lft	397 2641535G	-	08/24/2001	OK 206v	Endevco	7264-2000TZ
1027	J20184	CSTZG1	Chest Accel Z	Up	398 2235496G	-	08/24/2001	OK 206v	Endevco	7264-2000TZ
1028	14CB1-2847-206	CSTXD1	Chest Deflection X	Strmm	99 77651813MM	+	09/07/2001	OK 206v	Servo	14CB1-2847
1029	2121-0160	LFMZFI	Left Femur Force Z	Knee	13351 98438N	+	08/24/2001	OK 206v	Denton	2121

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1030	2121-0161	RFMZFI	Right Femur Force Z	Knee	13336 30969 N	+	08/24/2001	OK	206v	Denton	2121
1031	150-0121VR-13741	KNIXD1	Left Knee Displacement	Tib	43 77136472 MM	-	11/30/2000	OK	206v	SpaceAge	150-0121VR
1032	150-0121VL-18123	KNRXD1	Right Knee Displacement	Tib	43 27979712 MM	-	04/26/2001	OK	206v	SpaceAge	150-0121VL
1033	4353J-82-FX	TBLXF1	Left Upper Tibia Force X	LC8	8894 284909 N	+	08/03/2001	OK	206v	Denton	4353J
1034	4353J-82-FZ	TBLZF1	Left Upper Tibia Force Z	LC15	8893 542249 N	+	08/03/2001	OK	206v	Denton	4353J
1035	4353J-82-MX	TBLXM1	Left Upper Tibia Moment X	Ank	281 7203495 NM	+	08/03/2001	OK	206v	Denton	4353J
1036	4353J-82-MY	IBLYM1	Left Upper Tibia Moment Y	LC01	281 7203495 NM	+	08/03/2001	OK	206v	Denton	4353J
1037	01G19-F02	TBLXG1	Left Tibia Accel X	Fwd	1208 972845 G	+	08/21/2001	OK	206v	Denton	4353J
1038	01H02-N02	TBLYG1	Left Tibia Accel Y	Rt	1204 705882 G	+	08/21/2001	OK	206v	Entran	EGE-73B6Q-2000J
1039	4929J-87-FX	ANLXF1	Left Lower Tibia Force X	LC23	8892 680629 N	+	12/22/2000	OK	206v	Entran	EGE-73B6Q-2000J
1040	4929J-87-FY	ANLYF1	Left Lower Tibia Force Y	LC16	8892 260537 N	+	12/22/2000	OK	206v	Denton	4929J
1041	4929J-87-FZ	ANLZF1	Left Lower Tibia Force Z	LC19	8902 242252 N	+	12/22/2000	OK	206v	Denton	4929J
1042	4929J-87-MX	ANLXM1	Left Lower Tibia Moment X	Ank	282 2327432 NM	+	12/22/2000	OK	206v	Denton	4929J
1043	4929J-87-MY	ANLYM1	Left Lower Tibia Moment Y	LC18	281 7363244 NM	+	12/22/2000	OK	206v	Denton	4929J
1044	PD210-4B-AK-060	FTLXD1	Left Foot Disp X	POT4	324 6567959 DEG	+	07/31/2001	OK	206v	CONTELEC	PD210-4B
1045	PD210-4B-AK-061	FTLYD1	Left Foot Disp Y	POT5	323 2425265 DEG	+	07/31/2001	OK	206v	CONTELEC	PD210-4B
1046	PD210-4B-AK-062	FTLZD1	Left Foot Disp Z	POT6	321 8202960 DEG	+	07/31/2001	OK	206v	CONTELEC	PD210-4B
1047	01H02-N05	FTLXG1	Left Foot Accel X	Fwd	1202 484822 G	+	08/21/2001	OK	206v	Entran	EGE-73B6Q-2000J
1048	J38856	FTLYG1	Left Foot Accel Y	Rt	1205 982805 G	+	05/23/2001	OK	206v	Endevco	7264-2000TZ
1049	01H02-N01	FTLZG1	Left Foot Accel Z	Dn	1213 327645 G	+	08/21/2001	OK	206v	Entran	EGE-73B6Q-2000J
1050	4353J-81-FX	TBRXF1	Right Upper Tibia Force X	LC10	8895 282373 N	+	08/03/2001	OK	206v	Denton	4353J
1051	4353J-81-FZ	TBRZF1	Right Upper Tibia Force Z	LC14	8904 739944 N	+	08/03/2001	OK	206v	Denton	4353J
1052	4353J-81-MX	TBRXM1	Right Upper Tibia Moment X	Ank	281 7704894 NM	+	08/03/2001	OK	206v	Denton	4353J
1053	4353J-81-MY	TBRYM1	Right Upper Tibia Moment Y	Ank	281 7477428 NM	+	08/03/2001	OK	206v	Denton	4353J
1054	01H02-N07	TBRXG1	Right Tibia Accel X	Fwd	1195 144724 G	+	08/21/2001	OK	206v	Entran	EGE-73B6Q-2000J
1055	01H02-N03	TBRYG1	Right Tibia Accel Y	Rt	1192 361434 G	+	08/21/2001	OK	206v	Entran	EGE-73B6Q-2000J
1056	4929J-86-FX	ANRXF1	Right Lower Tibia Force X	LC28	8893 242872 N	+	12/22/2000	OK	206v	Denton	4929J
1057	4929J-86-FY	ANRYF1	Right Lower Tibia Force Y	LC20	8899 596215 N	+	12/22/2000	OK	206v	Denton	4929J
1058	4929J-86-FZ	ANRZF1	Right Lower Tibia Force Z	LC9	8894 605062 N	+	12/22/2000	OK	206v	Denton	4929J
1059	4929J-86-MX	ANRXM1	Right Lower Tibia Moment X	Ank	282 1251795 NM	+	12/22/2000	OK	206v	Denton	4929J
1060	4929J-86-MY	ANRYM1	Right Lower Tibia Moment Y	Ank	281 8548559 NM	+	12/22/2000	OK	206v	Denton	4929J
1061	PD210-4B-AK-057	FTRXD1	Right Foot Disp X	POT1	323 7330466 DEG	+	07/31/2001	OK	206v	CONTELEC	PD210-4B
1062	PD210-4B-AK-058	FTRYD1	Right Foot Disp Y	POT2	324 1942632 DEG	+	07/31/2001	OK	206v	CONTELEC	PD210-4B
1063	PD210-4B-AK-059	FTRZD1	Right Foot Disp Z	POT3	325 1103279 DEG	+	07/31/2001	OK	206v	CONTELEC	PD210-4B
1064	J38857	FTRXG1	Right Foot Accel X	Fwd	1198 993033 G	+	05/23/2001	OK	206v	Endevco	7264-2000TZ

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1065	J38787	FTRYG1	Right Foot Accel Y	Rt	1194 977360G		OK	206v	Endevco	7264-2000TZ
1066	01G19-F05	FTRZG1	Right Foot Accel Z	Dn	1205 273069G	+	OK	206v	Entran	FGE-73B6Q-2000J
1067	01G25-N07	HEDXG2	Head Accel X	Fwd	799 6001999G	+	OK	202v	Entran	FGE-73B6Q-2000J
1068	01G25-N20	HEDYG2	Head Accel Y	Lft	795 6240676G	-	OK	202v	Entran	FGE-73B6Q-2000J
1069	01G25-N17	HEDZG2	Head Accel Z	Up	804 9998034G	-	OK	202v	Entran	FGE-73B6Q-2000J
1070	P15951	HFDXR2	Head Accel Red X VRTC10	Rwd	802 1809294G	-	OK	202v	Endevco	7264C-2KLC-2-24
1071	J36709	HEDYR2	Head Accel Red Y VRTC3	Rgt	791 4425276G	+	OK	202v	Endevco	7264C-2KLC-2-24
1072	P16899	HEDZR2	Head Accel Red Z VRTC9	Up	803 1372549G	-	OK	202v	Endevco	7264C-2KLC-2-24
1073	01G19-F03	HD1XG2	Head (LT) Accel X	Fwd	805 0061318G	+	OK	202v	Entran	EGE-73B6Q-2000J
1074	01G25-N18	HD1ZG2	Head (LT) Accel Z	Up	801 8668462G	-	OK	202v	Entran	LGE-73B6Q-2000J
1075	01G25-N10	HD2YG2	Head (FT) Accel Y	Lft	799 1509021G	-	OK	202v	Entran	EGE-73B6Q-2000J
1076	01G25-N03	HD2ZG2	Head (FT) Accel Z	Up	802 6462242G	-	OK	202v	Entran	LGE-73B6Q-2000J
1077	01G25-N15	HD3XG2	Head (TP) Accel X	Fwd	805 0504335G	+	OK	202v	Entran	EGE-73B6Q-2000J
1078	01G25-N02	HD3YG2	Head (TP) Accel Y	Lft	800 5003126G	-	OK	202v	Entran	EGE-73B6Q-2000J
1079	1716-0628-FX	NEKXF2	Neck Force X	Hd	8902 198370N	-	OK	202v	Denton	1716
1080	1716-0628-FY	NEKYF2	Neck Force Y	Hd	8900 719815N	+	OK	202v	Denton	1716
1081	1716-0628-FZ	NEKZF2	Neck Force Z	Hd	13340 87231N	+	OK	202v	Denton	1716
1082	1716-0628-MX	NEKXM2	Neck Moment X	Rt Ear	282 5473708NM	-	OK	202v	Denton	1716
1083	1716-0628-MY	NEKYM2	Neck Moment Y	Chn	282 3365349NM	+	OK	202v	Denton	1716
1084	1716-0628-MZ	NEKZM2	Neck Moment Z	Chn	282 3305064NM	+	OK	202v	Denton	1716
1085	1794A-215-FX	NKLXF2	Lwr Neck Force X	Hd	13349 13467N	-	OK	202v	Denton	1794A
1086	1794A-215-FY	NKLYF2	Lwr Neck Force Y	Hd	13336 09067N	+	OK	202v	Denton	1794A
1087	1794A-215-FZ	NKLZF2	Lwr Neck Force Z	Hd	13354 54201N	+	OK	202v	Denton	1794A
1088	1794A-215-MX	NKLXM2	Lwr Neck Moment X	Rt Ear	338 8352162NM	-	OK	202v	Denton	1794A
1089	1794A-215-MY	NKLYM2	Lwr Neck Moment Y	Chn	338 9097203NM	+	OK	202v	Denton	1794A
1090	1794A-215-MZ	NKLZM2	Lwr Neck Moment Z	Chn	181 0979990NM	+	OK	202v	Denton	1794A
1091	AJ460	CSTXG2	Chest Accel X	Fwd	401 8727899G	+	OK	202v	Endevco	7264-2000TZ
1092	J14404	CSTYG2	Chest Accel Y	Lft	401 8838304G	-	OK	202v	Endevco	7264-2000TZ
1093	J14144	CSTZG2	Chest Accel Z	Up	402 7294358G	-	OK	202v	Endevco	7264-2000TZ
1094	14CBI-2847-0137	CSTXD2	Chest Deflection X	Stmm	100 2710736MM	+	OK	202v	Servo	14CBI-2847
1095	2121-0226	LFMZP2	Left Femur Force Z	Knee	13348 55329N	+	OK	202v	Denton	2121
1096	2121-0227	RFM7F2	Right Femur Force Z	Knee	13344 49840N	+	OK	202v	Denton	2121
1097	150-0121VR-13739	KNLXD2	Left Knee Displacement	Tib	44 31666856MM	-	OK	202v	SpaceAge	150-0121VR
1098	150-0121VL-13723	KNRXd2	Right Knee Displacement	Tib	43 44247689MM	-	OK	202v	SpaceAge	150-0121VL
1099	3115-199-FX	TBI XF2	Left Upper Tibia Force X	Tib	8896 236237N	-	OK	202v	Denton	3115

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1100	3115-199-FZ	TBLZF2	Left Upper Tibia Force Z	Tib	8894 296188N	+	03/02/2001	OK	202v	Denton	3115
1101	3115-199-MX	TBLXM2	Left Upper Tibia Moment X	Tib	281 7803744NM	-	03/02/2001	OK	202v	Denton	3115
1102	3115-199-MY	TBLYM2	Left Upper Tibia Moment Y	Tib	281 8261359NM	+	03/02/2001	OK	202v	Denton	3115
1103	3287-128-FX	ANLXF2	Left Lower Tibia Force X	Ank	8898 292344N	-	03/05/2001	OK	202v	Denton	3287
1104	3287-128-FZ	ANLZF2	Left Lower Tibia Force Z	Ank	8897 210561N	+	03/05/2001	OK	202v	Denton	3287
1105	3287-128-MX	ANLXM2	Left Lower Tibia Moment X	Ank	281 9911428NM	-	03/05/2001	OK	202v	Denton	3287
1106	3287-128-MY	ANLYM2	Left Lower Tibia Moment Y	Ank	281 9198189NM	+	03/05/2001	OK	202v	Denton	3287
1107	J27913	ENGXG1	BOTTOM ENGINE X-AXIS	Fwd	1003 921568G	+	08/10/2001	OK	-1	Endevco	7264-2000TZ

Channel Report

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Name of Test		System		Name of DAU		DAU6				
011029		MINIDAU								
Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal. Date/Status	Group	Mfg.	Model
6001	J27387	FLHXG2	Left Foot-Heel Accel X	Fwd	1180 267404G	+	08/24/2001	OK	202v	Endevco
6002	J27553	FLHZG2	Left Foot-Heel Accel Z	Dwn	1239 409343G	+	08/24/2001	OK	202v	Endevco
6003	J27474	FLTZG2	Left Foot-Toe Accel Z	Up	1179 941002G	-	08/24/2001	OK	202v	Endevco
6004	3115-200-FX	TBRXF2	Right Upper Tibia Force X	Tib	8901 174054N	-	03/05/2001	OK	202v	Denton
6005	3115-200-FZ	TBRZF2	Right Upper Tibia Force Z	Tib	8902 846419N	+	03/05/2001	OK	202v	Denton
6006	3115-200-MX	TBRXM2	Right Upper Tibia Moment X	Tib	282 4209370NM	-	03/05/2001	OK	202v	Denton
6007	3115-200-MY	TBRYM2	Right Upper Tibia Moment Y	Tib	282 3431198NM	+	03/05/2001	OK	202v	Denton
6008	3287-129-FX	ANRXF2	Right Lower Tibia Force X	Ank	8891 911521N	-	03/07/2001	OK	202v	Denton
6009	3287-129-FZ	ANRZF2	Right Lower Tibia Force Z	Ank	8895 451137N	+	03/07/2001	OK	202v	Denton
6010	3287-129-MX	ANRXM2	Right Lower Tibia Moment X	Ank	282 4345300NM	-	03/07/2001	OK	202v	Denton
6011	3287-129-MY	ANRYM2	Right Lower Tibia Moment Y	Ank	281 4626992NM	+	03/07/2001	OK	202v	Denton
6012	J17976	FRHXG2	Right Foot-Heel Accel X	Fwd	1229 144160G	+	08/24/2001	OK	202v	Endevco
6013	J38801	FRHZG2	Right Foot-Heel Accel Z	Dwn	1182 120428G	+	05/23/2001	OK	202v	Endevco
6014	J28727	FRTZG2	Right Foot-Toe Accel Z	Up	1188 652087G	-	08/24/2001	OK	202v	Endevco
6015	J35805	LRSXG	LEFT REAR SEAT	FWD	1006 605850G	+	07/11/2001	OK	-1	Endevco
6016	J36108	RRSXG	RIGHT REAR SEAT	FWD	1003 921568G	+	08/30/2001	OK	-1	Endevco
6017	J37120	BCI XG	FRONT BRAKE CALIPER LEFT	FWD	979 1547140G	+	09/07/2001	OK	-1	Endevco
6018	J36201	BCRXG	FRONT BRAKE CALIPER	FWD	1019 575044G	+	08/30/2001	OK	-1	Endevco
6019	J27868	DPCXG	DASHBOARD CENTER X-AXIS	FWD	988 2262111G	+	05/22/2001	OK	-1	Endevco
6020	J37170	ENGXG2	BOTTOM ENGINE X-AXIS	FWD	980 2232305G	+	08/10/2001	OK	-1	Endevco
6021	J37655	TPAXG	TOEPAN (NEST TO	FWD	984 1233229G	+	09/07/2001	OK	-1	Endevco
6022	J38076	TPAZG	TOEPAN (NEST TO	UP	1011 677764G	-	09/07/2001	OK	-1	Endevco
6023	J35809	1PFXG	TOEPAN (NEXT TO FOOT	FWD	985 6389327G	+	07/12/2001	OK	-1	Endevco
6024	J36496	1PFZG	TOEPAN (NEXT TO FOOT	UP	1014 182711G	-	06/13/2001	OK	-1	Endevco
6025	J37159	RDKZG	REAR DECK Z-AXIS	UP	992 7097874G	-	05/29/2001	OK	-1	Endevco
6026	J34528	RDCXG	REAR COMPARTMENT	FWD	1019 189425G	+	07/17/2001	OK	-1	Endevco
6027	IP1	DABET1	DRIVER AIRBAG EVENT -	4	1 003921568V	+	06/15/2000	---	-1	FLUKE
6028	IP2	PABET1	PASSENGER AIRBAG EVENT -	H	1 003921568V	+	06/15/2000	---	-1	FLUKE
6029	EXP	EXPU	EXP		6 002344665V	+	10/29/2001	OK	-1	TRC
6030	EXP	EXPG	EXP		6 002344665V	+	10/29/2001	OK	-1	TRC

Channel Report

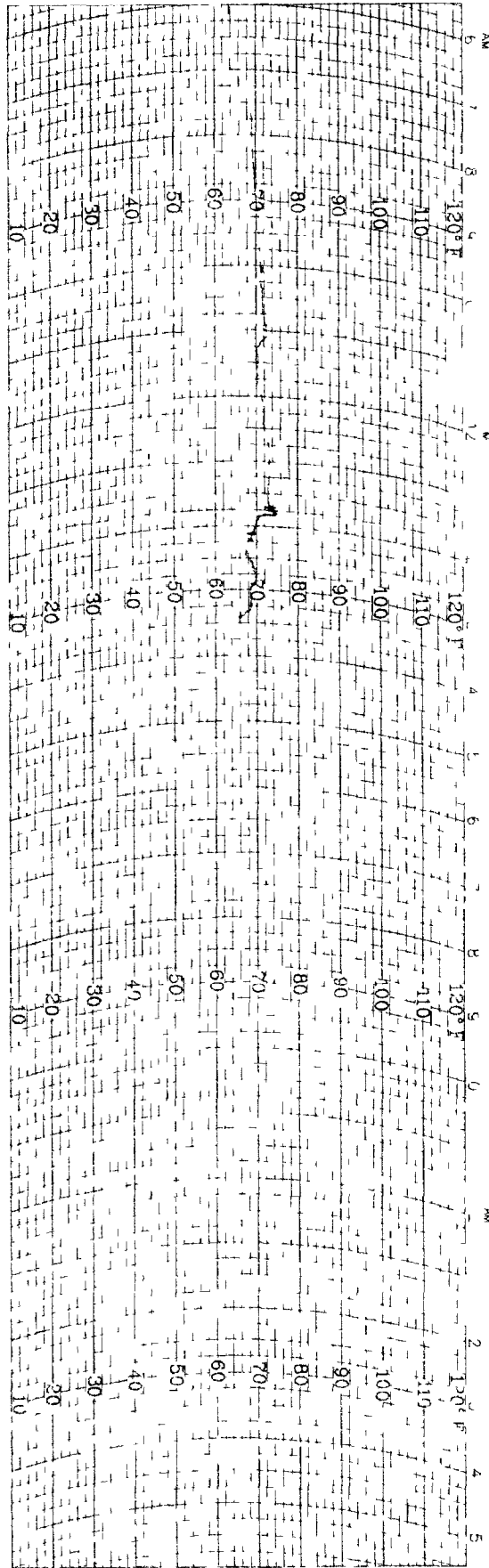
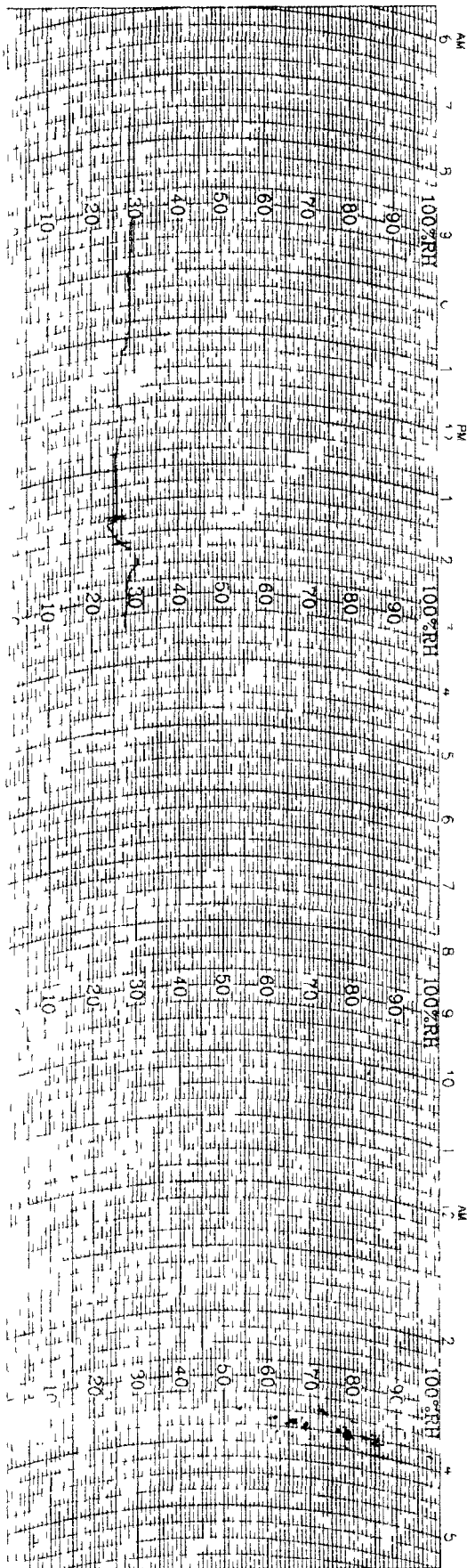
10/29/2001 1 13 06 PM

6031	EXP	DUMMY	Dummy load	6 002344665 V	+	10/29/2001	OK	-1	TRC	TEMP
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Digital and System Channel Report

2001 10-29 13 13 48

Name of Test	011029	System	K3600	Name of DAU	DAU1	description
enabled Channel		Short Name	Type	Data File	Module Type	
Yes	1500	DIG0	dig0	DAT11500	KM3650 Sequencer	
bit position	bit selector	short name	long name	description		
MSB = bit 15	1	EVENT	EVENT			
bit 14	0					
bit 13	0					
bit 12	0					
bit 11	0					
bit 10	0					
bit 09	0					
bit 08	0					
bit 07	0					
bit 06	0					
bit 05	0					
bit 04	0					
bit 03	0					
bit 02	0					
bit 01	0					
LSB = bit 00	0					



WeatherMeasure P.O. BOX 41039
 WEATHERtronics SACRAMENTO, CA 95841
 916-441-1111 PHONE (916) 923-0055

HYGROTHERMOGRAPH
 1 1/2

CHART NO. M699123
 CM D-HF
 FOR 2 1/2"
 6 9 87

STATION: 102301 DATE ON: 3-02-87 D E OFF