

V4320

**Vehicle Research and Test Center
2001 Ford F150 XL Sport into
Flat Frontal Barrier at 25.0 mph
TRC Inc. Test Number: 020521**

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**Final Report
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**Prepared For:
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Table of Contents

<u>Section</u>	<u>Description</u>	<u>Page</u>
1.0	Purpose and Test Procedure	1-1
2.0	Full Frontal Barrier Test Summary	2-1
3.0	Summary of FMVSS 208 Data	3-1
4.0	Occupant, Camera and Vehicle Information	4-1
Appendix A	Photographs	A-1
Appendix B	Data Plots	B-1
Appendix C	Dummy Configuration and Performance Verification Data	C-1
Appendix D	Miscellaneous Test Information	D-1

List of Tables

<u>Number</u>	<u>Title</u>	<u>Page</u>
1	Crash Test Summary	2-4
2	General Test and Vehicle Parameter Data	2-5
3	Post-Impact Data	2-8
4	Vehicle Accelerometer Locations and Data Summary	2-11
5	Dummy Injury Criteria Data	3-2
6	Post-Impact Dummy/Vehicle Data	3-4
7	Dummy Measurement Data for Front Seat Occupants	4-4
8	Impacted Vehicle Measurements	4-6
9	Intrusion of Upper Instrument Panel	4-13
10	Camera Information	4-16

List of Figures

<u>Number</u>	<u>Title</u>	<u>Page</u>
1	Impact Velocity Measurement System	2-9
2	Vehicle Accelerometer Placement	2-10
3	Dummy Measurement Locations for Front Seat Occupants	4-3
4	Pre-Test and Post-Test Measurement Points	4-5
5	Vehicle Crush	4-7
6	Vehicle Intrusion Measurements, Door Opening Width	4-8
7	Vehicle Intrusion Measurements, Static Footwell Deformation	4-9
8	Vehicle Intrusion Measurements, Static Passenger Compartment Intrusion	4-10
9	Floorboard Deformation	4-11
10	Toeboard Measurements	4-12
11	Camera Positions	4-14
12	Vehicle Reference Photo Target Locations	4-17

List of Photographs

<u>Description</u>	<u>Figure</u>
Pre-Test Front View	A-1
Post-Test Front View	A-2
Pre-Test Left Front View	A-3
Post-Test Left Front View	A-4
Pre-Test Left Side View	A-5
Post-Test Left Side View	A-6
Pre-Test Left Rear View	A-7
Post-Test Left Rear View	A-8
Pre-Test Rear View	A-9
Post-Test Rear View	A-10
Pre-Test Right Rear View	A-11
Post-Test Right Rear View	A-12
Pre-Test Right Side View	A-13
Post-Test Right Side View	A-14
Pre-Test Right Front View	A-15
Post-Test Right Front View	A-16
Pre-Test Overhead View	A-17
Post-Test Overhead View	A-18
Pre-Test Front Underbody View	A-19
Post-Test Front Underbody View	A-20
Pre-Test Front Mid Underbody View	A-21
Post-Test Front Mid Underbody View	A-22
Pre-Test Rear Mid Underbody View	A-23
Post-Test Rear Mid Underbody View	A-24
Pre-Test Rear Underbody View	A-25
Post-Test Rear Underbody View	A-26
Pre-Test Engine Compartment View	A-27
Post-Test Engine Compartment View	A-28

List of Photographs, Cont'd.

<u>Description</u>	<u>Figure</u>
Pre-Test Windshield View	A-29
Post-Test Windshield View	A-30
Pre-Test Left Front Windshield View	A-31
Post-Test Left Front Windshield View	A-32
Pre-Test Right Front Windshield View	A-33
Post-Test Right Front Windshield View	A-34
Pre-Test Driver and Passenger Dummies Front View	A-35
Post-Test Driver and Passenger Dummies Front View	A-36
Pre-Test Driver Dummy Position - View 1	A-37
Post-Test Driver Dummy Position - View 1	A-38
Pre-Test Driver Dummy Position - View 2	A-39
Post-Test Driver Dummy Position - View 2	A-40
Pre-Test Driver Dummy & Vehicle Interior - View 1	A-41
Post-Test Driver Dummy & Vehicle Interior - View 1	A-42
Pre-Test Driver Dummy & Vehicle Interior - View 2	A-43
Post-Test Driver Dummy & Vehicle Interior - View 2	A-44
Pre-Test Passenger Dummy Position - View 1	A-45
Post-Test Passenger Dummy Position - View 1	A-46
Pre-Test Passenger Dummy Position - View 2	A-47
Post-Test Passenger Dummy Position - View 2	A-48
Pre-Test Passenger Dummy & Vehicle Interior - View 1	A-49
Post-Test Passenger Dummy & Vehicle Interior - View 1	A-50
Pre-Test Passenger Dummy & Vehicle Interior - View 2	A-51
Post-Test Passenger Dummy & Vehicle Interior - View 2	A-52
Post-Test Driver Dummy Overall View	A-53
Post-Test Driver Dummy Head Contact - View 1	A-54
Post-Test Driver Dummy Head Contact - View 2	A-55
Post-Test Driver Dummy Head Contact - View 3	A-56

List of Photographs, Cont'd.

<u>Description</u>	<u>Figure</u>
Post-Test Driver Dummy Knee Contact - View 1	A-57
Post-Test Driver Dummy Knee Contact - View 2	A-58
Post-Test Passenger Dummy Overall View	A-59
Post-Test Passenger Dummy Head Contact - View 1	A-60
Post-Test Passenger Dummy Head Contact - View 2	A-61
Post-Test Passenger Dummy Knee Contact - View 1	A-62
Post-Test Passenger Dummy Knee Contact - View 2	A-63
Post-Test Passenger Dummy Knee Contact - View 3	A-64
Pre-Test Vehicle Certification and Tire Load Label View	A-65

Section 1.0

Purpose and Test Procedure

Purpose

This 40 km/h (25 mph) frontal barrier impact test was conducted for the National Highway Traffic Safety Administration (NHTSA) and Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc.).

The purpose of this test was to evaluate frontal crash protection in a full frontal barrier impact test. The subject vehicle was a 2001 Ford F150 XL Sport extended cab pickup.

Test Procedure

This test was conducted in accordance with VRTC instructions for a full frontal car to stationary barrier test. Data was obtained relative to FMVSS 208, "Occupant Crash Protection" (December 18, 2001) performance for the 25 mph test mode using 5th percentile female anthropomorphic test devices (dummies).

The test vehicle, a 2001 Ford F150 XL Sport, was instrumented with six (6) accelerometers to measure longitudinal, lateral and vertical axis accelerations. The driver's and passenger's airbag signals were monitored with inductive pickups. The vehicle impacted a flat frontal barrier. The vehicle's specified impact velocity range was 39.4 to 41.0 km/h.

The test vehicle contained two (2) Part 572O small adult female Hybrid III dummies. The dummies were positioned in the front outboard designated seating positions according to FMVSS 208 (December 18, 2001). 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, plus six (6) chest and three (3) pelvis accelerometers to measure longitudinal, lateral, and vertical accelerations, three (3) sternum accelerometers to measure longitudinal accelerations. The dummies were also instrumented with upper and lower neck moment and force load cells, lumbar moment and force loads cells, left and right femur load cells to measure axial forces, and chest deflection potentiometers. Both dummies were also equipped with THOR-FLX legs, which included upper and lower tibia load cells to measure forces and moments, tibia and foot accelerometers in three axes, tibia to femur displacement potentiometers at each knee and three (3) rotary potentiometers at each ankle to measure foot rotations about three axes.

The 168 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 eleven (11) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera.

The barrier test summary data are presented in Section 2.0. The summary of FMVSS 208 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 frontal barrier test was conducted by TRC Inc. on May 21, 2002.

The test vehicle, a 2001 Ford F150 XL Sport extended cab 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 2220.8 kg. The vehicle's impact speed was 40.2 km/h. The vehicle sustained 474 mm of static crush during the impact.

The driver's 36 millisecond Head Injury Criteria (HIC) was 70. The driver's 15 millisecond HIC was 36. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 39.6 g. The driver's maximum chest deflection was 24 mm. The driver's left and right femur maximum axial compressive forces were 3798 N and 4113 N, respectively. The driver dummy's neck injury calculations were as follows: NTF, 0.26; NTE, 0.12; NCF, 0.16; NCE, 0.09. The driver dummy's peak neck tension force was 629 N and peak neck compression force was 108 N.

The right front passenger's 36 millisecond HIC was 192. The passenger's 15 millisecond HIC was 107. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 38.9 g. The passenger's maximum chest deflection was 6 mm. The passenger's left and right femur maximum axial compressive forces were 3510 N and 4198 N, respectively. The right front passenger's neck injury calculations were as follows: NTF, 0.26; NTE, 0.23; NCF, 0.29; NCE, 0.07. The right front passenger dummy's peak neck tension force was 544 N and peak neck compression force was 420 N.

Data Acquisition Explanations

The driver dummy's chest acceleration data channels, both primary and redundant, in the X, Y, and Z axes had a questionable noise from approximately 107 to 125 milliseconds. The primary chest acceleration mnemonics are CSTXG1, CSTYG1, and CSTZG1. The redundant chest acceleration channel mnemonics are CSTXR1, CSTYR1, and CSTZR1. The calculated resultant acceleration data channels were also affected, CSTRG1 for primary, and CSTRR1 for redundant, however the chest maximum with three millisecond duration did not occur in the affected time frame. The dummy was checked for mechanical and electronic problems; no cause was found.

The driver dummy's pelvis Z-axis data channel, PEVZG1, had a large questionable spike at approximately 183 milliseconds. This also affected the calculated resultant pelvis acceleration data channel, PEVRG1.

The passenger dummy's lumbar X, Y, and Z axes force load cell data channels, LMBXF2, LMBYF2, and LMBZF2, respectively, recorded numerous anomalous data spikes after approximately 165 milliseconds.

The passenger dummy's right foot rotation about the Z-axis data channel, FTRZD2, recorded anomalous data spikes at approximately 51 milliseconds and between 114 and 159 milliseconds. One of the potentiometer wires was found to be loose after the test and was repaired.

Table 1 Crash Test Summary

Test mode:	Flat frontal barrier		
Test date:	05/21/02		
Test time:	1213		
Ambient temperature:	21° C		
Vehicle year/make/ model/body style:	2001/Ford/F150 XL Sport/Extended Cab Pickup		
Vehicle test weight:	2220.8 kg		
Impact angle ¹ :	0°		
Impact velocity ² :	40.2 km/h		
Maximum static crush:	474 mm		
Average rebound:	673 mm		
Number of data channels:	168		
Number of cameras:	High-speed	11	Real-time 1
<u>Dummies:</u>	<u>Driver #416</u>		<u>Passenger #421</u>
Type:	Part 572O		Part 572O
Location:	Left front		Right front
Restraint:	Airbag		Airbag
 <u>Seat track position for test:</u>			
Driver:	Full forward		
Passenger:	Full forward		
 <u>Seat back position for test:</u>			
Driver:	21.9°		
Passenger:	15.6°		
 <u>Head restraint position for test:</u>			
Driver:	Full down		
Passenger:	Full down		
Steering column position:	Fixed		

¹ With respect to tow track centerline.

² Speed trap measurement (± .08 km/h accuracy)

Table 2 General Test and Vehicle Parameter Data

Vehicle year/make/
model/body style: 2001/Ford/F150 XL Sport/Extended Cab Pickup

VIN: 1FTZX17261NB51025

Model year: 2001

Body style: Extended Cab Pickup

Color: Black

Engine data:

 Cylinders: 6

 Displacement 4.2 liters

 Cylinder placement: V

 Engine placement: Inline

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

 Final drive: FWD, X RWD, 4WD

Date vehicle received: 05/15/2002

Odometer reading: 60

Dealer's name and address: (Supplied by VRTC)

Accessories:

Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	Yes
Power seats	No	Tilting steering wheel	No
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 Co. in USA

Date of manufacture: 04/01

VIN: 1FTZX17261NB51025

GVWR: 6000 lbs. (2721 kg)

GAWR: Front: 3100 lbs. (1406 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, P255/70R16

Tire pressure with maximum capacity vehicle load:

Front:	44 psi	(300 kPa)
Rear:	44 psi	(300 kPa)

Spare tire (mfr., line, size): General, Grabber AW, P255/70R16

Type of seats:

Front	Split-bench
Rear	Bench

Maximum width: 1955 mm

Wheelbase: 3520 mm

Location of "Recommended Tire Pressure" label:

The label was located on driver B-pillar.

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

Recommended tire size:

Recommended cold tire pressure:

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

Vehicle Capacity Data:

Number of Occupants (Designated seating capacity):¹

Front	3
Rear	3
Total	6

Vehicle capacity weight:² 728.5 kg

Rated cargo/luggage weight N/A

Test vehicle attitude:

Delivered attitude:	LF	885 mm;	RF	877 mm;	LR	908 mm;	RR	909 mm
Fully loaded attitude:	LF	882 mm;	RF	872 mm;	LR	881 mm;	RR	877 mm
Pre-test attitude:	LF	880 mm;	RF	874 mm;	LR	890 mm;	RR	878 mm
Post-test attitude:	LF	853 mm;	RF	827 mm;	LR	884 mm;	RR	866 mm

¹ Not on label; derived using seat belt count.

² Not on label; derived using NHTSA procedure.

Table 2 General Test and Vehicle Parameter Data Cont'd

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

Right front	542.0 kg	Right rear	445.0 kg
Left front	575.5 kg	Left rear	430.0 kg
Total front weight	1117.5 kg	(56.1 % of total vehicle weight)	
Total rear weight	875.0 kg	(43.9 % of total vehicle weight)	
Total delivered weight	1992.5 kg		

Calculation of test vehicle's target test weight:

Total Delivered Weight (UDW) =	1992.5 kg
Rated Cargo/Luggage Weight (RCLW) ¹ =	320.5 kg >136 kg
Weight of 2 Part 5720 Dummies @ 49 kg each =	98 kg
Target test weight = 1992.5 + 136 + 98 =	2226.5 kg

Weight of test vehicle with required dummies and 130.3 kg of cargo weight:

Right front	577.2 kg	Right rear	536 kg
Left front	593.2 kg	Left rear	514.4 kg
Total front weight	1170.4 kg	(52.7% of total vehicle weight)	
Total rear weight	1050.4 kg	(47.3% of total vehicle weight)	
Total test weight	2220.8 kg	(0.3% under target test weight)	

Weight of ballast secured in vehicle: None, except necessary test equipment

Components removed: None

Location of Vehicle's CG: 1665 mm rearward of front wheel centerline

Fuel System Data:

Usable fuel system capacity	94.6 liters (from owner's manual)
Actual test volume:	88.0 liters (93% of usable)

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: 020521
Test date: 05/21/02
Test time: 1213
Test type: Flat Frontal barrier
Impact angle: 0°
Ambient temperature
at impact area: 21° C
Required impact velocity range: 39.4 to 41.0 km/h

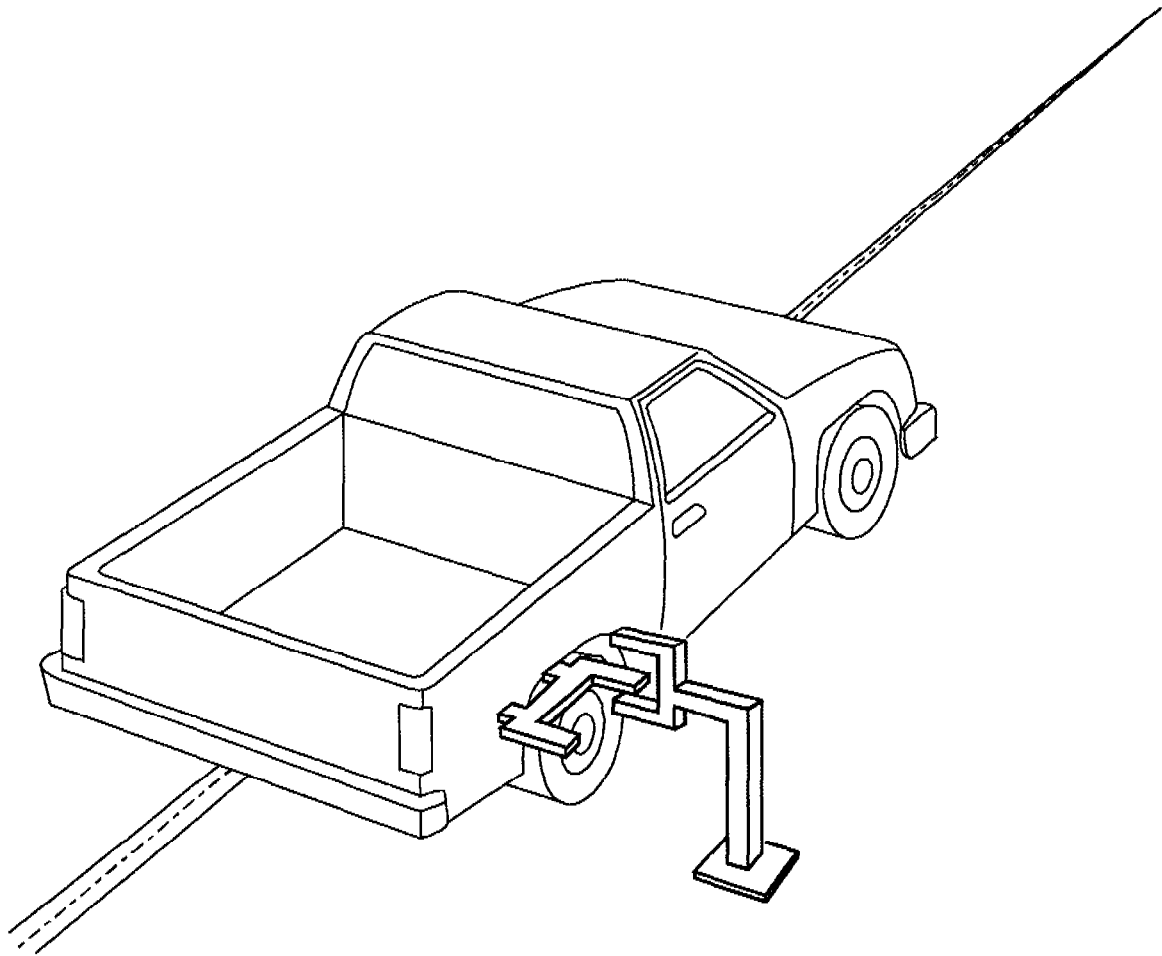
Barrier impact velocity:

Primary: 40.2 km/h
Secondary: 40.1 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 717 mm; C 630 mm; R 673 mm
Average rebound: 673 mm

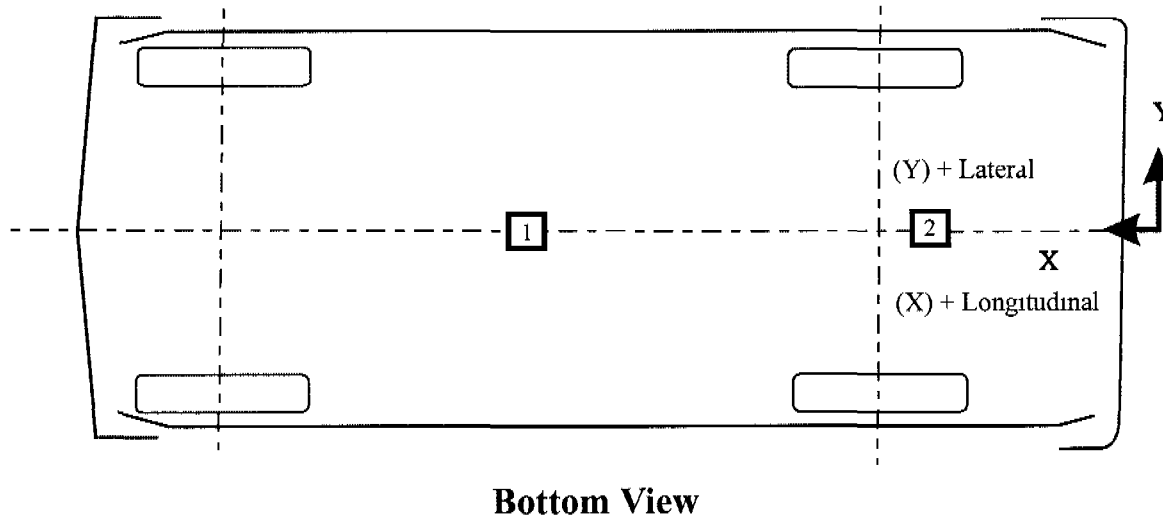
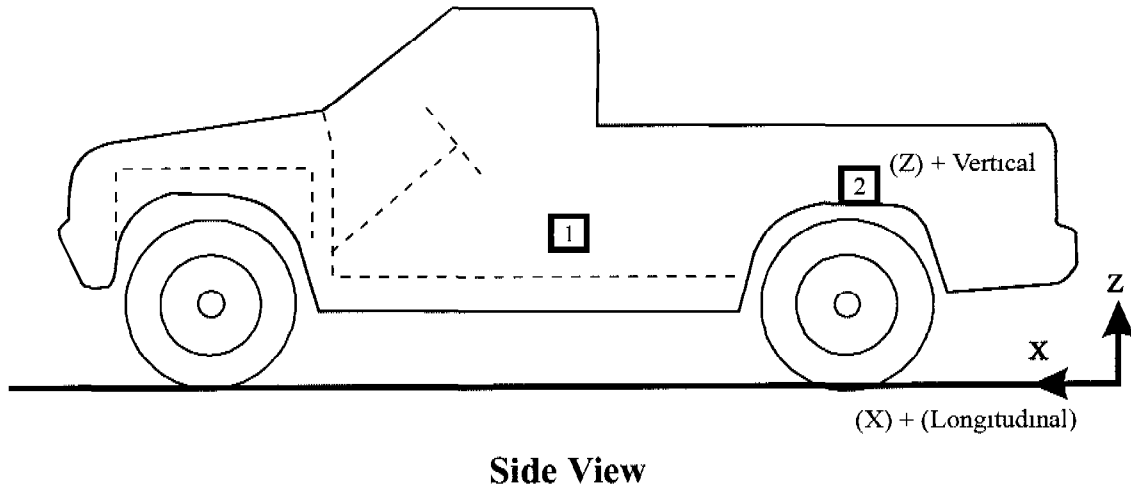
Figure 1 Impact Velocity Measurement System



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

The vanes have 305-millimeter spacing.

Figure 2 Vehicle Accelerometer Placement



Section 3.0

Summary of FMVSS 208 Data

Table 5 Dummy Injury Criteria Data

	<u>Maximum Acceleration¹</u>							
	Head				Chest ²			
	X	Y	Z	R	X	Y	Z	R
Driver	-23.8 g	8.7 g	17.3 g	25.7 g	-58.7 g	-21.6 g	-10.9 g	60.8 g
Passenger	-37.7 g	14.1 g	12.4 g	38.4 g	-34.9 g	4.9 g	19.2 g	39.5 g

Maximum Femur Compressive Force

	Left Femur	Right Femur
Driver	3798 N	4113 N
Passenger	3510 N	4198 N

Head Injury Criteria³

36 millisecond

	HIC	Time t ₁	Time t ₂
Driver	70	79.4 ms	115.4 ms
Passenger	192	79.0 ms	115.0 ms

15 millisecond

	HIC	Time t ₁	Time t ₂
Driver	36	101.7 ms	116.7 ms
Passenger	107	93.0 ms	108.0 ms

Chest Maximum Resultant Acceleration^{2,4}

	Acceleration	Time t ₁	Time t ₂
Driver	39.6 g	62.8 ms	66.3 ms
Passenger	38.9 g	95.8 ms	98.8 ms

Table 5 Dummy Injury Criteria Data, Cont'd.

Maximum Chest Deflection

Driver	24 mm
Passenger	6 mm

Neck Injury Calculations (Nij)³

	NTF	NTE	NCF	NCE
Driver	0.26	0.12	0.16	0.09
Passenger	0.26	0.23	0.29	0.07

Neck Axial Force

	Neck Tension	Neck Compression
Driver	629 N	108 N
Passenger	544 N	420 N

Tibia Index⁵

	Upper Tibia	Lower Tibia
Driver - Left	0.89	0.80
Driver - Right	0.45	0.26
Passenger - Left	0.39	0.26
Passenger - Right	0.83	0.50

¹ See Report Sign Convention in Appendix D.

² See Data Acquisition Explanation in Section 2.0.

³ As defined in FMVSS No. 208.

⁴ Defined as equal to or exceeding 0.003 sec. duration.

⁵ Tibia Index calculation for Small Female THOR-FLX legs: $F/8.6 \text{ kN} + M/146 \text{ Nm}$ (where M is the resultant of the measured Mx and My channels in Nm and Fz is absolute value of Fz in kN).

Table 6 Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	<u>Driver</u>	<u>Passenger</u>
Head	Airbag, head restraint	Airbag
Chest	Airbag	Airbag
Abdomen	None	None
Left knee	Knee bolster	Glove box, back side of airbag
Right knee	Knee bolster	Glove box, back side of airbag

Door opening:

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

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: None

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 on the seat impacting both knees into the instrument panel. The dummy's head contacted the airbag and the head flexed forward over the airbag as the chest moved forward into the airbag. The driver dummy rebounded upward and rearward and the head contacted the head restraint. The dummy came to rest upright on the outboard side of the seat with the torso rotated so that the dummy faced somewhat inboard.

Right Front Passenger Dummy

Upon impact, the passenger dummy translated forward impacting both knees into the glove box. The dummy's head contacted the airbag and first rotated rearward as the chest moved forward into the airbag. The head and neck then flexed forward and the dummy began to rebound into the seat. The head and neck flexed rearward again as the dummy continued to rebound. The dummy came to rest upright on the outboard side of the seat with the torso rotated so that the dummy faced somewhat inboard.

Figure 3 Dummy Measurement Locations for Front Seat Occupants

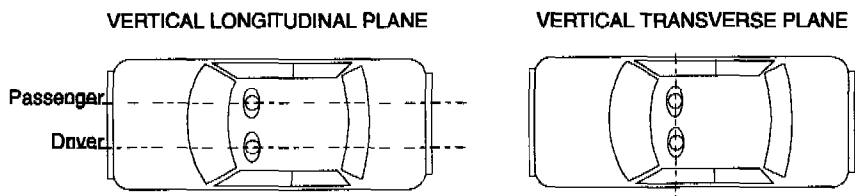
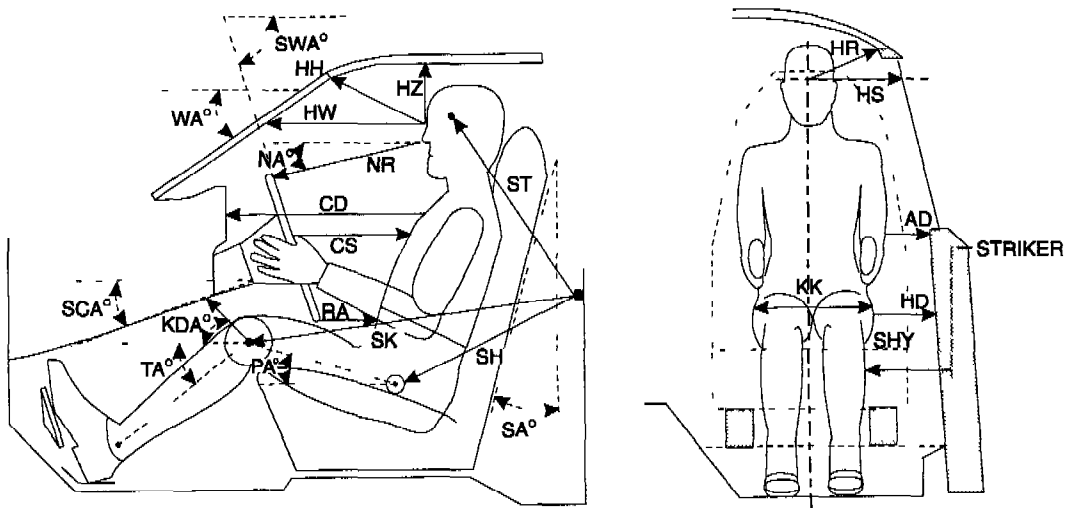


Table 7 Dummy Measurement Data For Front Seat Occupants

<u>Designation</u>	<u>Type of Measurement</u>	<u>Driver (Serial # 416)</u>	<u>Passenger (Serial # 421)</u>
WA	Windshield angle	33.7°	33.7°
SWA	Steering wheel angle	68.7°	N/A
SCA	Steering column angle	21.3°	N/A
SA	Seat back angle	21.9°	15.6°
HZ	Head to roof	323 mm	275 mm
HH	Head to header	418 mm	380 mm
HW	Head to windshield	631 mm	613 mm
HR	Head to side header	290 mm	285 mm
NR	Nose to rim	353 mm	N/A
NA	Nose to rim angle	3.6°	N/A
CD	Chest to dash	553 mm	587 mm
CS	Steering wheel to chest	276 mm	N/A
RA	Rim to abdomen	168 mm	N/A
KDL	Left knee to dash	125 mm	130 mm
KDR	Right knee to dash	145 mm	122 mm
KDA	Outboard knee to dash angle	60.8°	77.1°
PA	Pelvic angle	21.5°	22.4°
TA	Tibia angle	64.2°	75.3°
KK	Knee to knee	198 mm	160 mm
ST ¹	Striker to head	625 mm	641 mm
	Striker to head angle	-56.9°	-55.6°
SK ¹	Striker to knee	822 mm	857 mm
	Striker to knee angle	-1.0°	-2.1°
SH ¹	Striker to H-point	495 mm	524 mm
	Striker to H-point angle	7.0°	4.7°
SHY	Striker to H-point (Y dir.)	280 mm	265 mm
HS	Head to side window	274 mm	274 mm
HD	H-point to door	213 mm	226 mm
AD	Arm to door	160 mm	163 mm

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

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

Figure 4 Pre-Test And Post-Test Measurement Points

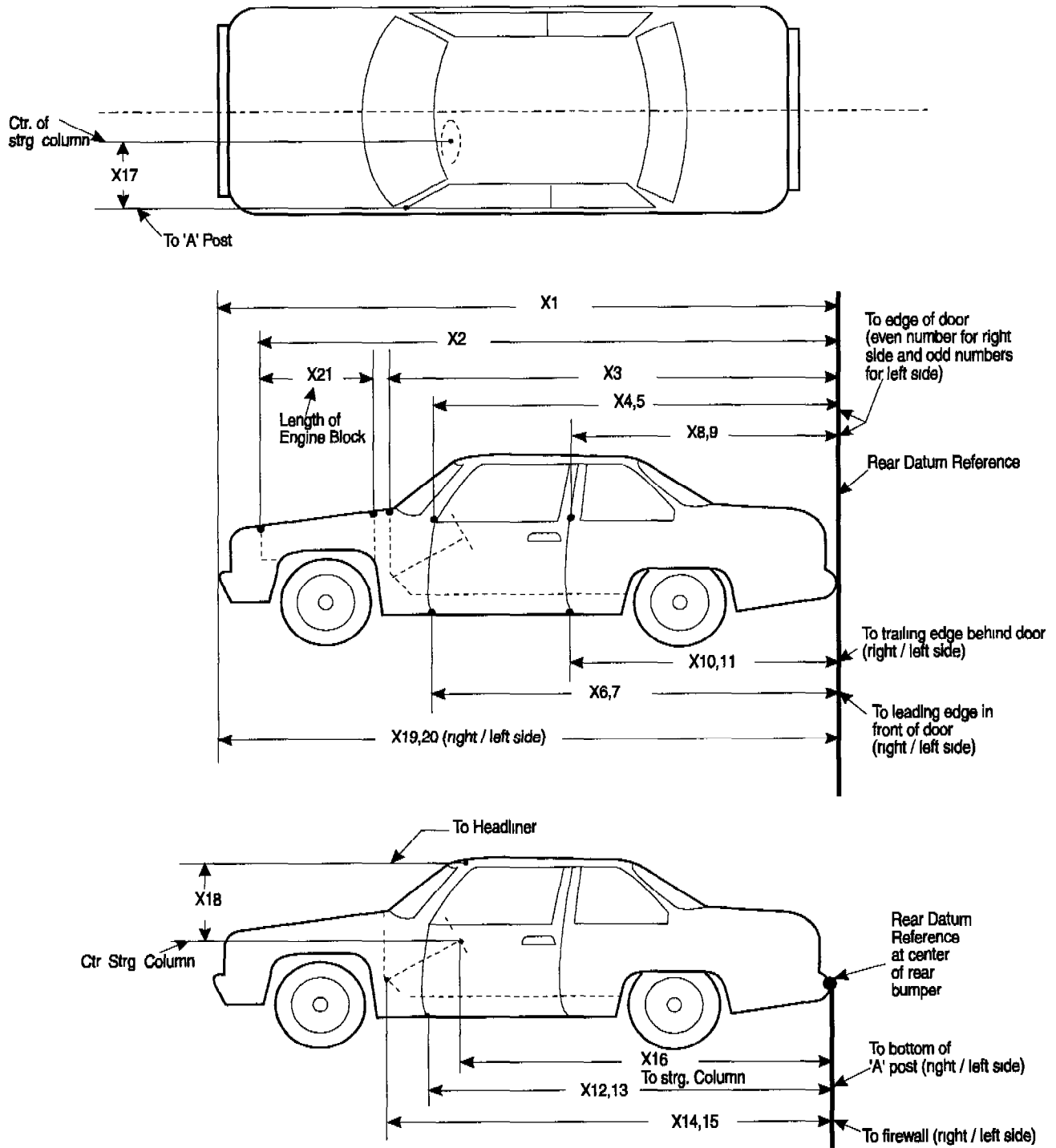


Table 8 Impacted Vehicle Measurements

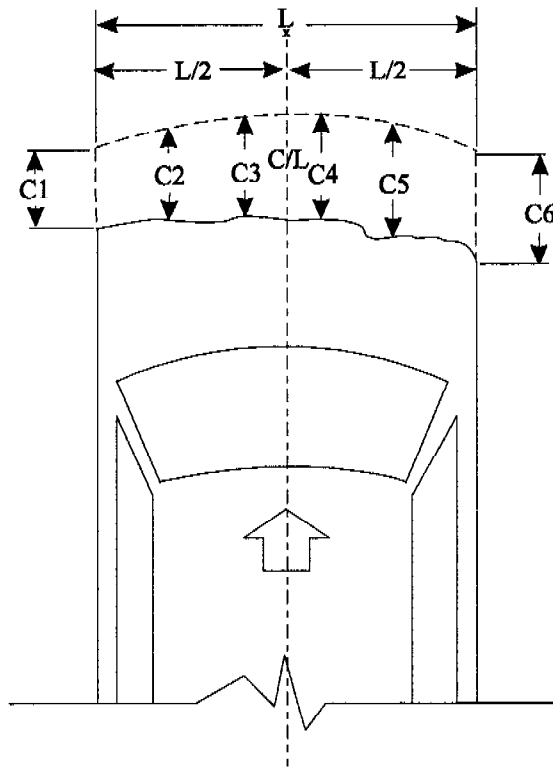
Test number: 020521

Vehicle year/make/model/body style: 2001/Ford /F150 XL Sport/Extended Cab Pickup

No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5714	5240	474
X2	Rear Surface of Vehicle to Front of Engine Block	4974	4963	11
X3	Rear Surface of Vehicle to Firewall	4515	4515	0
X4	Rear Surface of Veh. to Upper Leading Edge of Right Door	4116	4094	22
X5	Rear Surface of Veh. to Upper Leading Edge of Left Door	4104	4099	5
X6	Rear Surface of Veh. to Lower Leading Edge of Right Door	4059	4011	48
X7	Rear Surface of Veh. to Lower Leading Edge of Left Door	4051	4019	32
X8	Rear Surface of Veh. to Upper Trailing Edge of Right Door	2885	2866	19
X9	Rear Surface of Veh. to Upper Trailing Edge of Left Door	2872	2869	3
X10	Rear Surface of Veh. to Lower Trailing Edge of Right Door	2976	2931	45
X11	Rear Surface of Veh. to Lower Trailing Edge of Left Door	2969	2939	30
X12	Rear Surface of Veh. to Bottom of " A " Post on Right Side	4089	4089	0
X13	Rear Surface of Veh. to Bottom of " A " Post on Left Side	4162	4084	78
X14	Rear Surface of Vehicle to Firewall--Right Side	4518	4518	0
X15	Rear Surface of Vehicle to Firewall --Left Side	4489	4489	0
X16	Rear Surface of Vehicle to Steering Wheel Center	3647	3674	-27
X17	Center of Steering Column to " A " Post	300	300	0
X18	Center of Steering Column to Headliner	485	480	5
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5459	5149	310
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5454	5141	313
X21	Length of Engine Block	660	660	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3974	3964	10
CD	Rear Surface of Vehicle to Center of Dash Panel	3876	3884	-8
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3797	3814	-17

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.

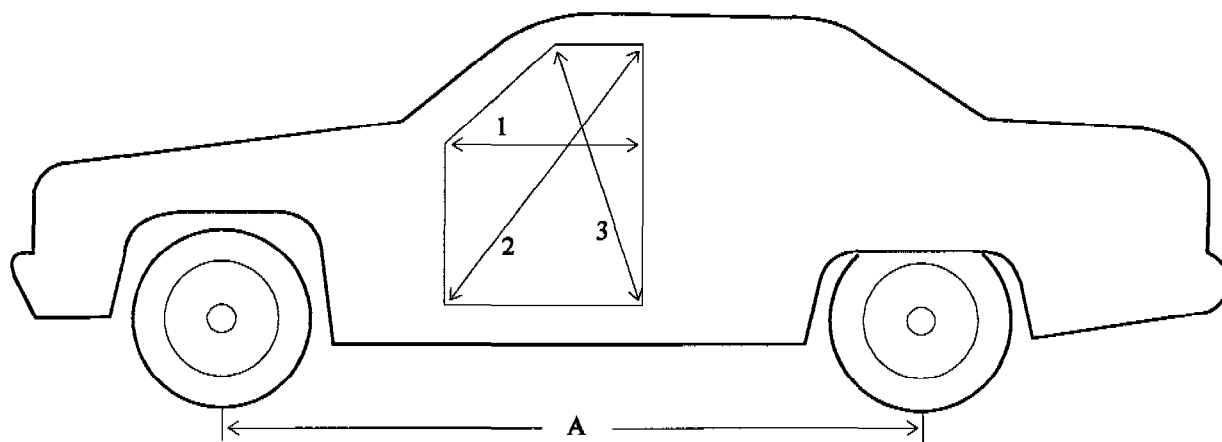
Vehicle: 2001 Ford F150 XL Sport
 Measured with bumper:¹

Location	Pre-test	Post-test	Difference
L	1829 mm		
C1	5454 mm	5141 mm	313 mm
C2	5629 mm	5254 mm	375 mm
C3	5704 mm	5257 mm	447 mm
C4	5709 mm	5251 mm	458 mm
C5	5638 mm	5255 mm	383 mm
C6	5459 mm	5149 mm	310 mm
CL	5714 mm	5240 mm	474 mm

¹ Dual measurements, with and without bumper fascia, were not required due to truck's bumper construction.

Figure 6 Vehicle Intrusion Measurements

Door Opening Width

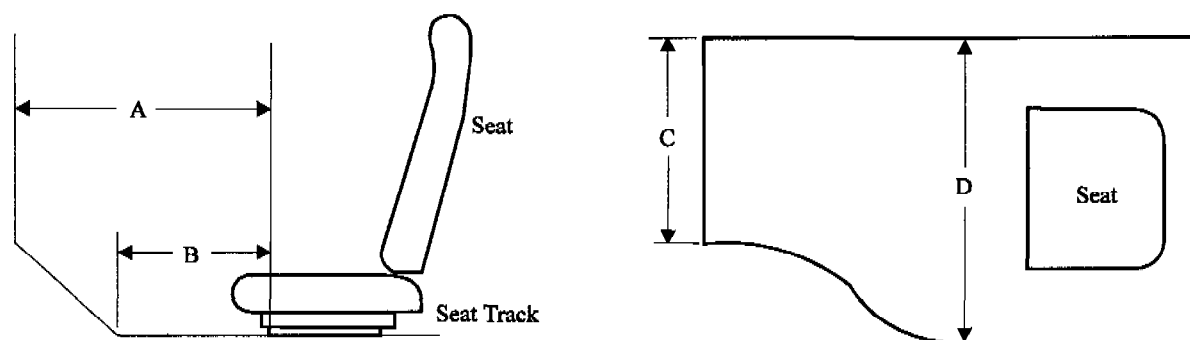


Units (mm)	Left			Right		
Measurement	1	2	3	1	2	3
Pre-Test	1212 mm	1605 mm	1331 mm	1205 mm	1604 mm	1338 mm
Post-Test	1210 mm	1595 mm	1332 mm	1210 mm	1600 mm	1330 mm
Difference	2 mm	10 mm	-1 mm	-5 mm	4 mm	8 mm

Units (mm)	A = Wheelbase Left	A = Wheelbase Right
Pre-Test	3520 mm	3520 mm
Post-Test	3510 mm	3510 mm
Difference	10 mm	10 mm

Figure 7 Vehicle Intrusion Measurements

Static Footwell Deformation



Driver's Side

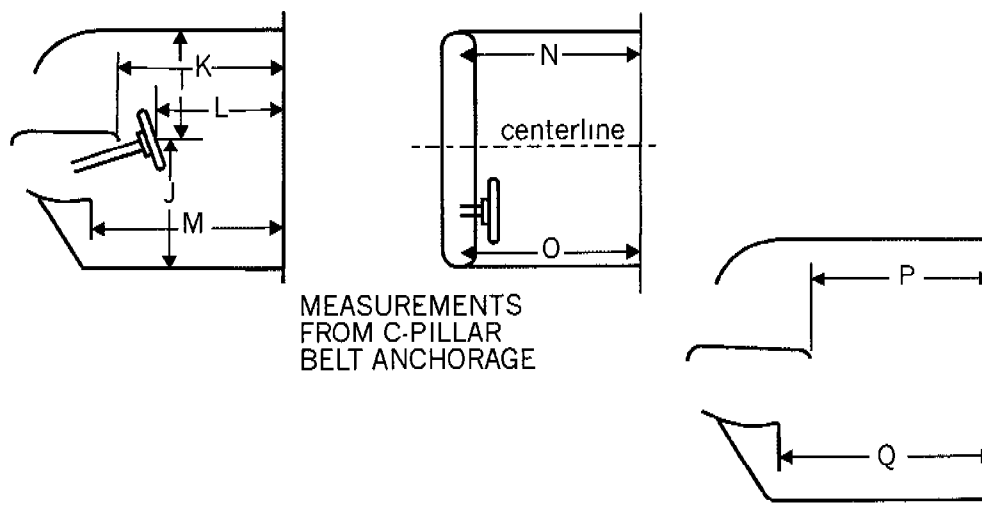
Measurement	Pre-Test	Post-Test	Difference
A	865 mm	865 mm	0 mm
B	515 mm	515 mm	0 mm
C	485 mm	485 mm	0 mm
D	435 mm	435 mm	0 mm

Passenger's Side

Measurement	Pre-Test	Post-Test	Difference
A	880 mm	880 mm	0 mm
B	515 mm	510 mm	5 mm
C	465 mm	465 mm	0 mm
D	455 mm	453 mm	2 mm

Figure 8 Vehicle Intrusion Measurements

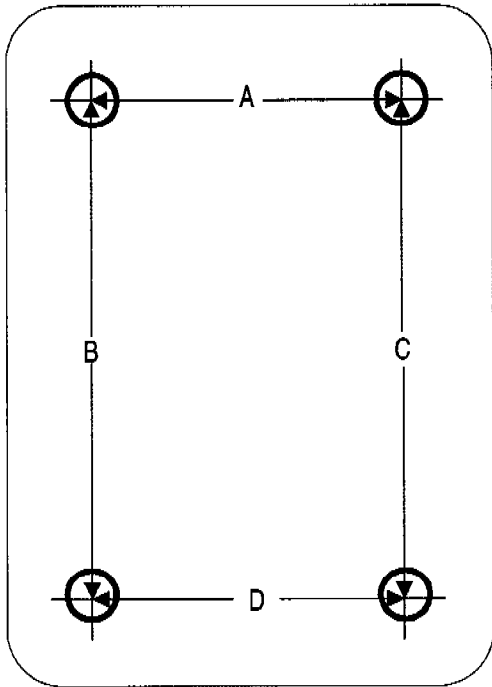
Static Passenger Compartment Intrusion



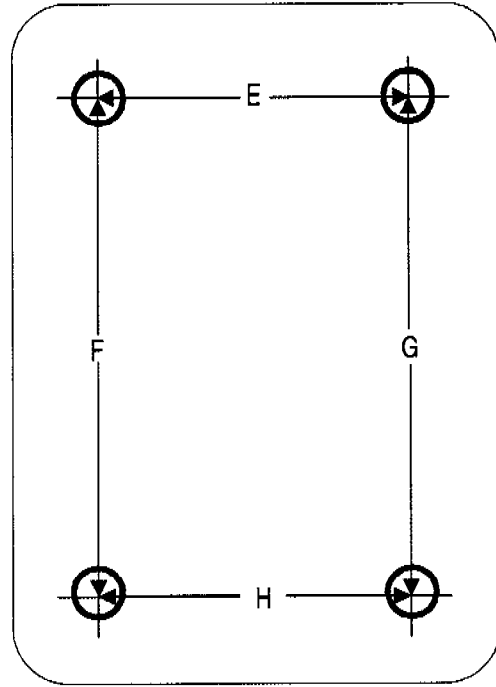
Measurement	Pre-Test	Post-Test	Difference
I	485 mm	480 mm	5 mm
J	700 mm	720 mm	-20 mm
K (driver's side)	1505 mm	1515 mm	-10 mm
L	1423 mm	1450 mm	-27 mm
M (driver's side)	1478 mm	1470 mm	8 mm
N (passenger's side)	1480 mm	1485 mm	-5 mm
O (driver's side)	1357 mm	1365 mm	-8 mm
P (passenger's side)	1667 mm	1680 mm	-13 mm
Q (passenger's side)	1522 mm	1530 mm	-8 mm

Figure 9 Floorboard Deformation

DRIVERS SIDE

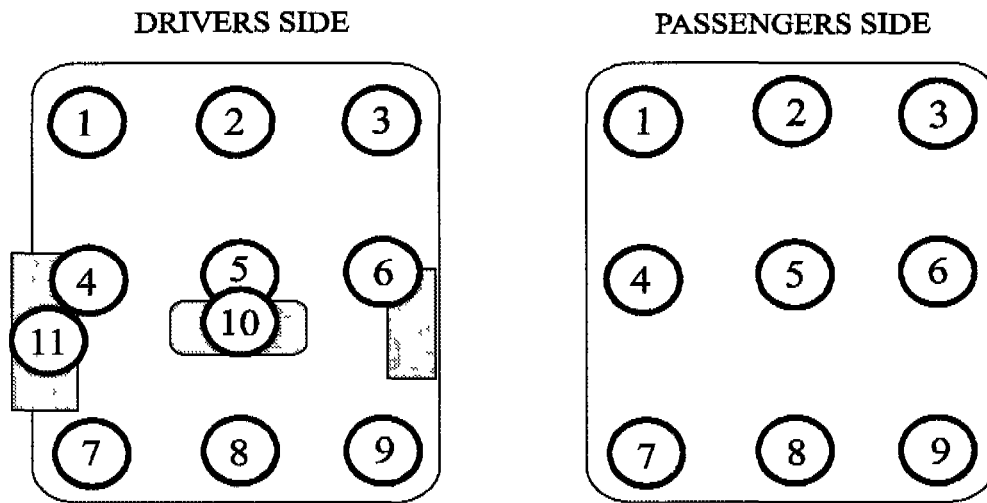


PASSENGERS SIDE



Measurement	Pre-Test	Post-Test	Difference
A	485 mm	485 mm	0 mm
B	445 mm	445 mm	0 mm
C	445 mm	440 mm	5 mm
D	440 mm	435 mm	5 mm
E	465 mm	465 mm	0 mm
F	450 mm	445 mm	5 mm
G	460 mm	460 mm	0 mm
H	455 mm	453 mm	2 mm

Figure 10 Toeboard Measurements



Driver's Side Toeboard Measurements in Millimeters

Toeboard Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	4269	685	614	4269	685	593	0	0	21
2	4274	503	616	4274	503	566	0	0	50
3	4279	335	616	4279	334	562	0	1	54
4	4207	685	580	4204	685	544	3	0	36
5	4199	503	578	4194	503	555	5	0	23
6	4199	335	580	4199	335	520	0	0	60
7	4096	620	538	4094	620	474	2	0	64
8	4104	503	534	4104	503	482	0	0	52
9	4114	335	535	4114	335	477	0	0	58
10	4116	460	703	4114	460	652	2	0	51
11	4126	685	555	4124	685	505	2	0	50

Passenger's Side Toeboard Measurements in Millimeters

Toeboard Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	4239	262	642	4239	262	604	0	0	38
2	4264	460	636	4264	460	577	0	0	59
3	4269	710	637	4269	710	597	0	0	40
4	4174	262	595	4174	262	537	0	0	58
5	4212	460	594	4209	460	540	3	0	54
6	4225	710	576	4224	710	539	1	0	37
7	4079	262	534	4079	262	470	0	0	64
8	4094	460	515	4094	460	470	0	0	45
9	4114	710	522	4114	710	477	0	0	45

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

Table 9 Intrusion of Upper Instrument Panel

Pre-Test	X	Y	Z
Driver Left Knee	3850	624	1043
Driver Right Knee	3859	256	1059
Passenger Left Knee	3869	325	1042
Passenger Right Knee	3864	638	1040
Steering Column	3749	416	660
Driver Front Outboard Seat Attachment Bolt	3569	593	555
Pass. Front Outboard Seat Attachment Bolt	3564	640	559

Post-Test	X	Y	Z
Driver Left Knee	3894	610	992
Driver Right Knee	3899	256	989
Passenger Left Knee	N/A ¹	N/A ¹	994
Passenger Right Knee	N/A ¹	N/A ¹	990
Steering Column	3774	435	1044
Driver Front Outboard Seat Attachment Bolt	3569	593	516
Pass. Front Outboard Seat Attachment Bolt	3564	640	510

Difference	X	Y	Z
Driver Left Knee	-44	14	51
Driver Right Knee	-40	0	70
Passenger Left Knee	N/A	N/A	48
Passenger Right Knee	N/A	N/A	50
Steering Column	-25	-19	-384
Driver Front Outboard Seat Attachment Bolt	0	0	39
Pass. Front Outboard Seat Attachment Bolt	0	0	49

Knee intrusions are points measured pre and post, which are located just above where the four 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 fell off prior to post-test measurements.

Figure 11 Camera Positions

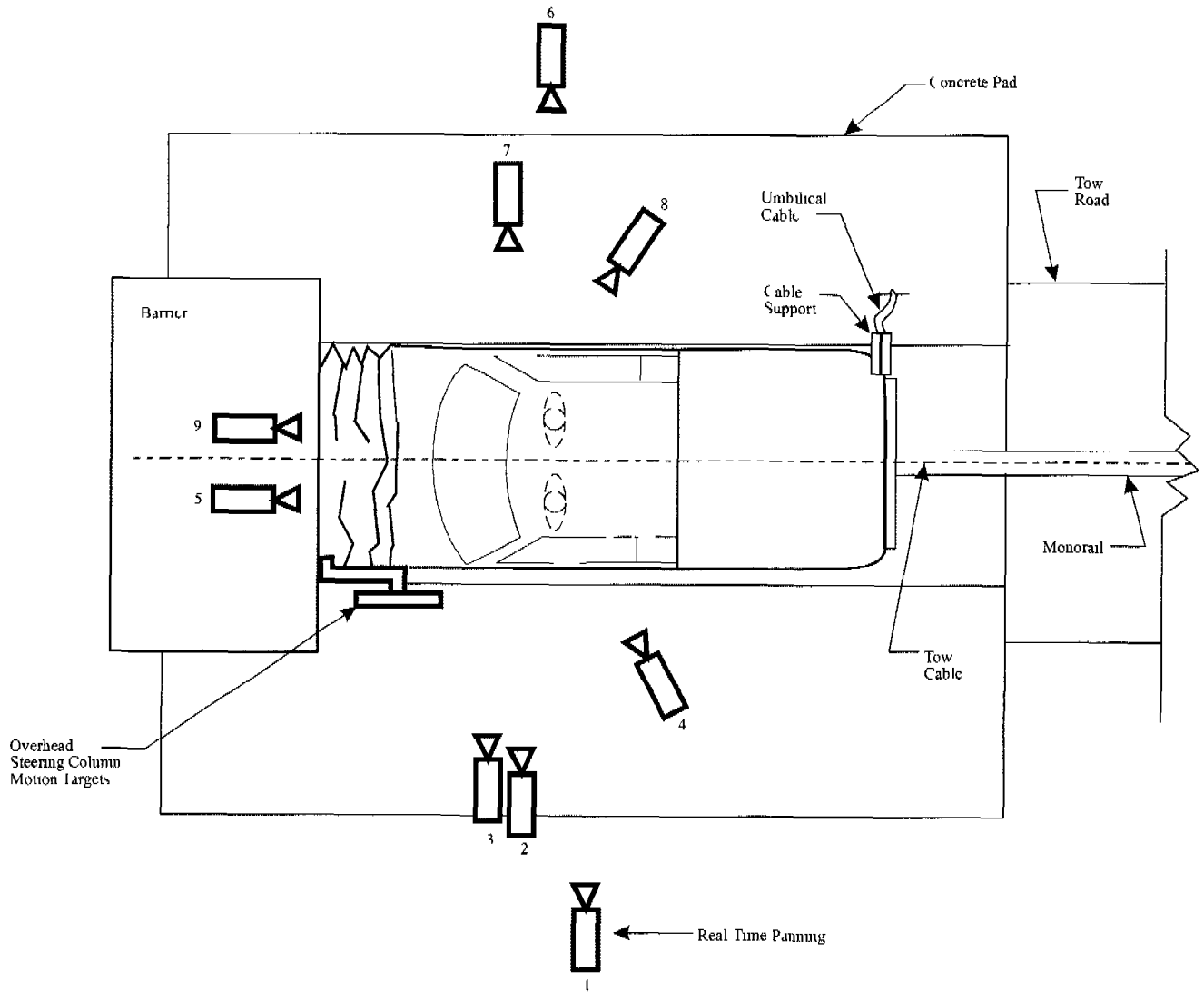


Figure 11 Camera Positions, Cont'd

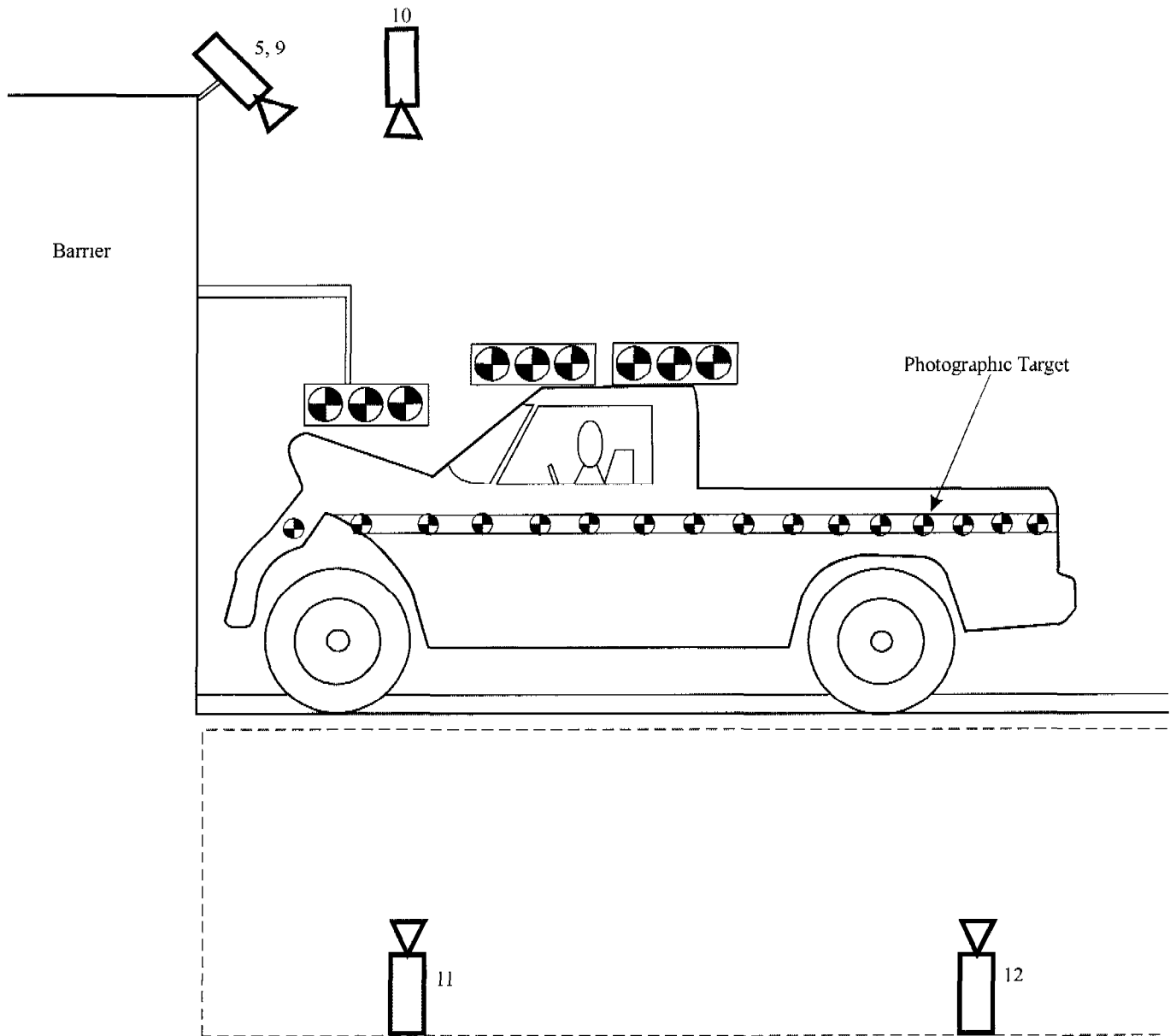
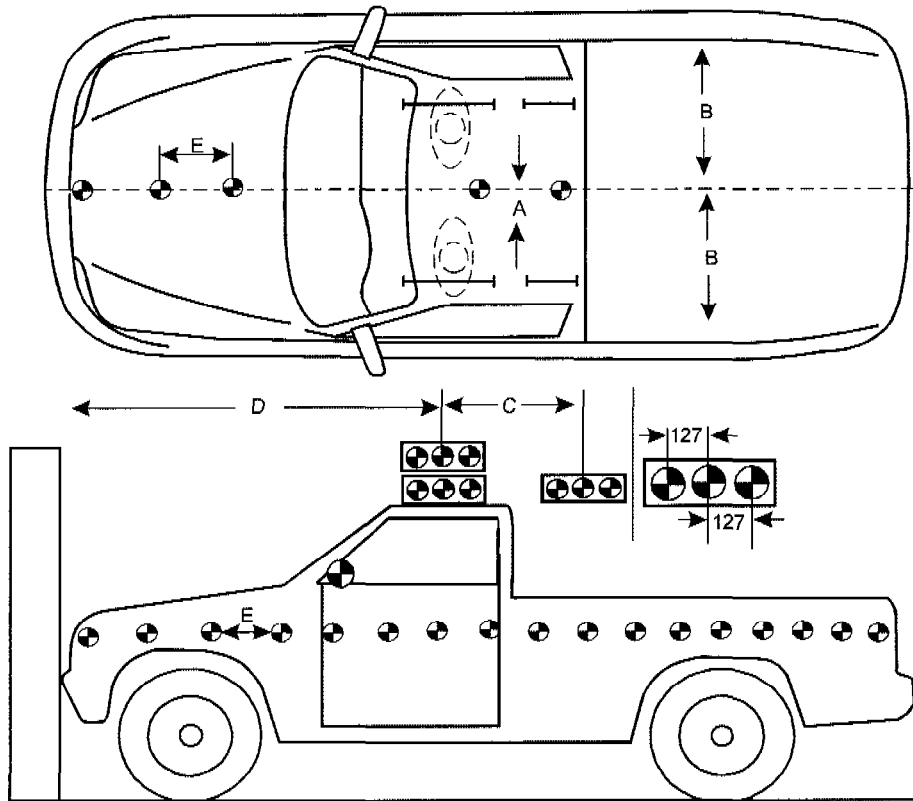


Table 10 Camera Information

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of camera data
1	Panning	Bolex		24	Vehicle dynamics
2	Left perpendicular overall	Photosonic	13	1000	Vehicle crush
3	Left tight dummy	Photosonic	25	1010	Dummy kinematics
4	Left angled on dummy	Photosonic	25	1000	Dummy kinematics
5	Barrier driver	Photosonic	17	1005	Airbag deployment
6	Right perpendicular overall	Photosonic	13	1010	Dummy kinematics
7	Right tight dummy	Photosonic	25	1010	Dummy kinematics
8	Right angled on dummy	Photosonic	25	----- ¹	Dummy kinematics
9	Barrier passenger	Photosonic	17	1005	Airbag deployment
10	Overhead	Photosonic	13	1000	Vehicle dynamics
11	Pit front	Photosonic	13	1000	Vehicle crush
12	Pit rear	Photosonic	13	1005	Vehicle crush

¹ Film broke

Figure 12 Vehicle Reference Photo Target Locations



Measurement	Pre-Test
A	left: 460 mm right: 460 mm
B	N/A mm
C	left: N/A mm right: N/A mm
D	1385 mm
E ¹	300 mm

¹ The first side target is placed 600 mm from front edge of bumper, and others are at 300 mm intervals.

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

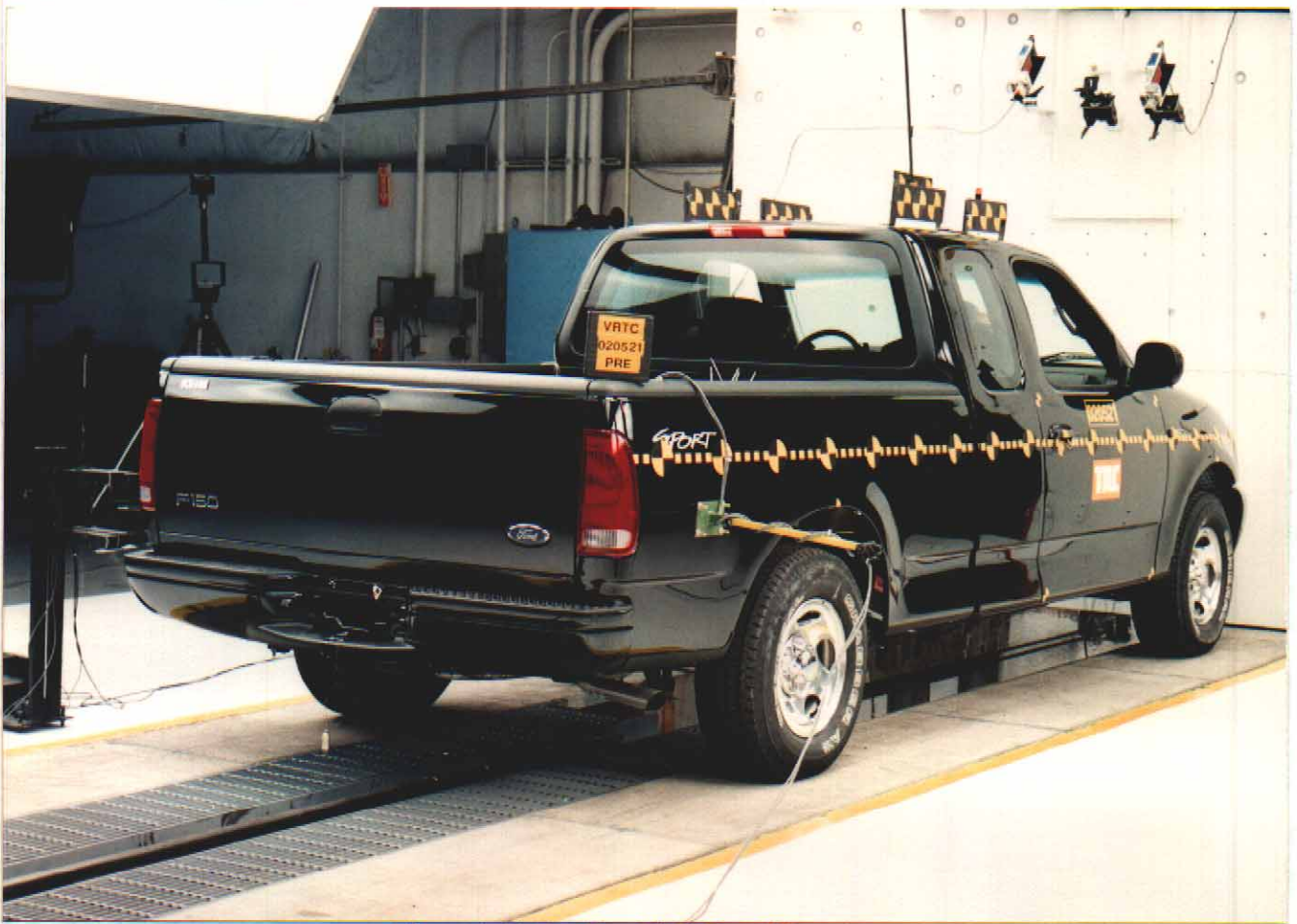


Figure A-11 Pre-Test Right Rear View



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

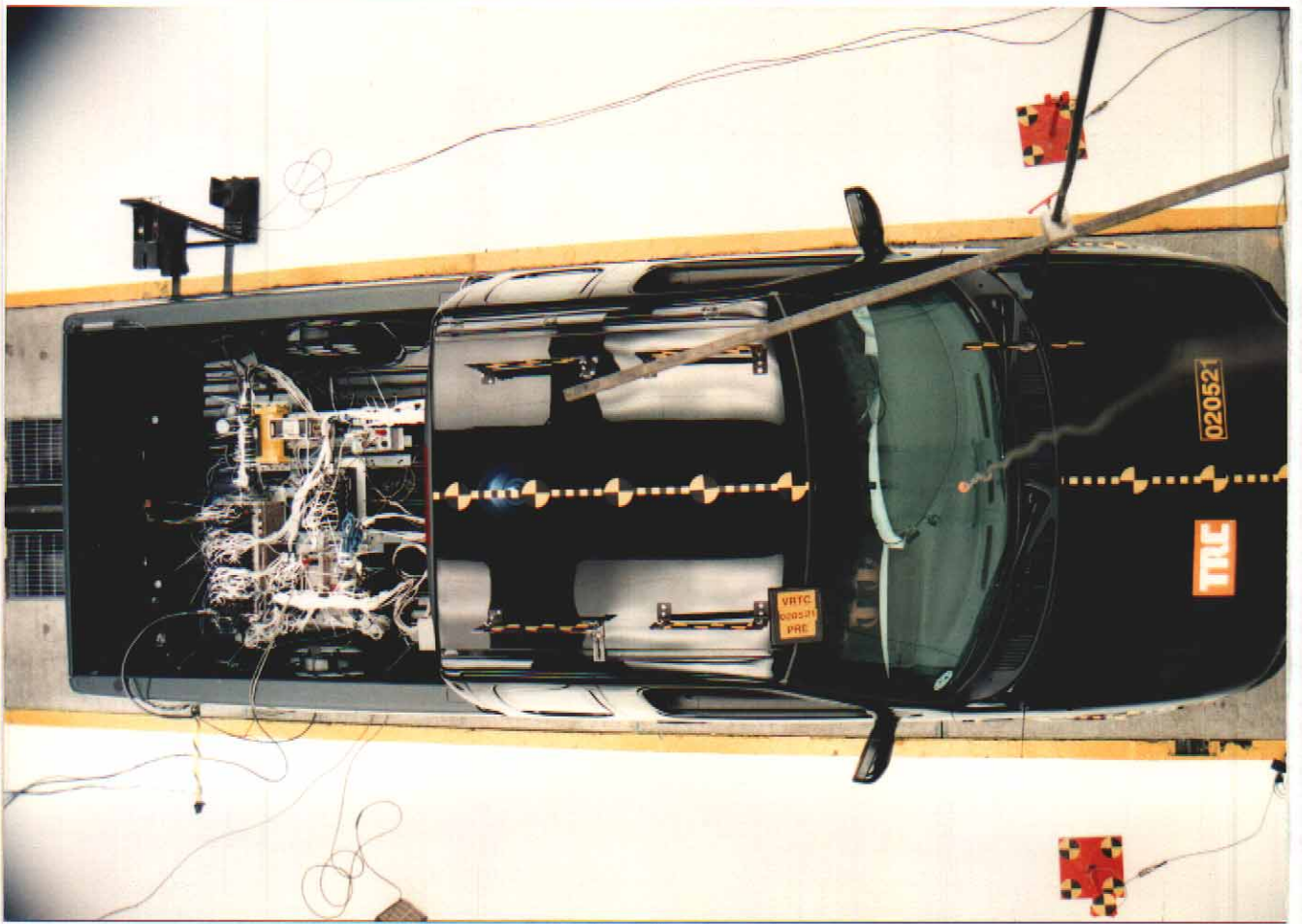


Figure A-17 Pre-Test Overhead View

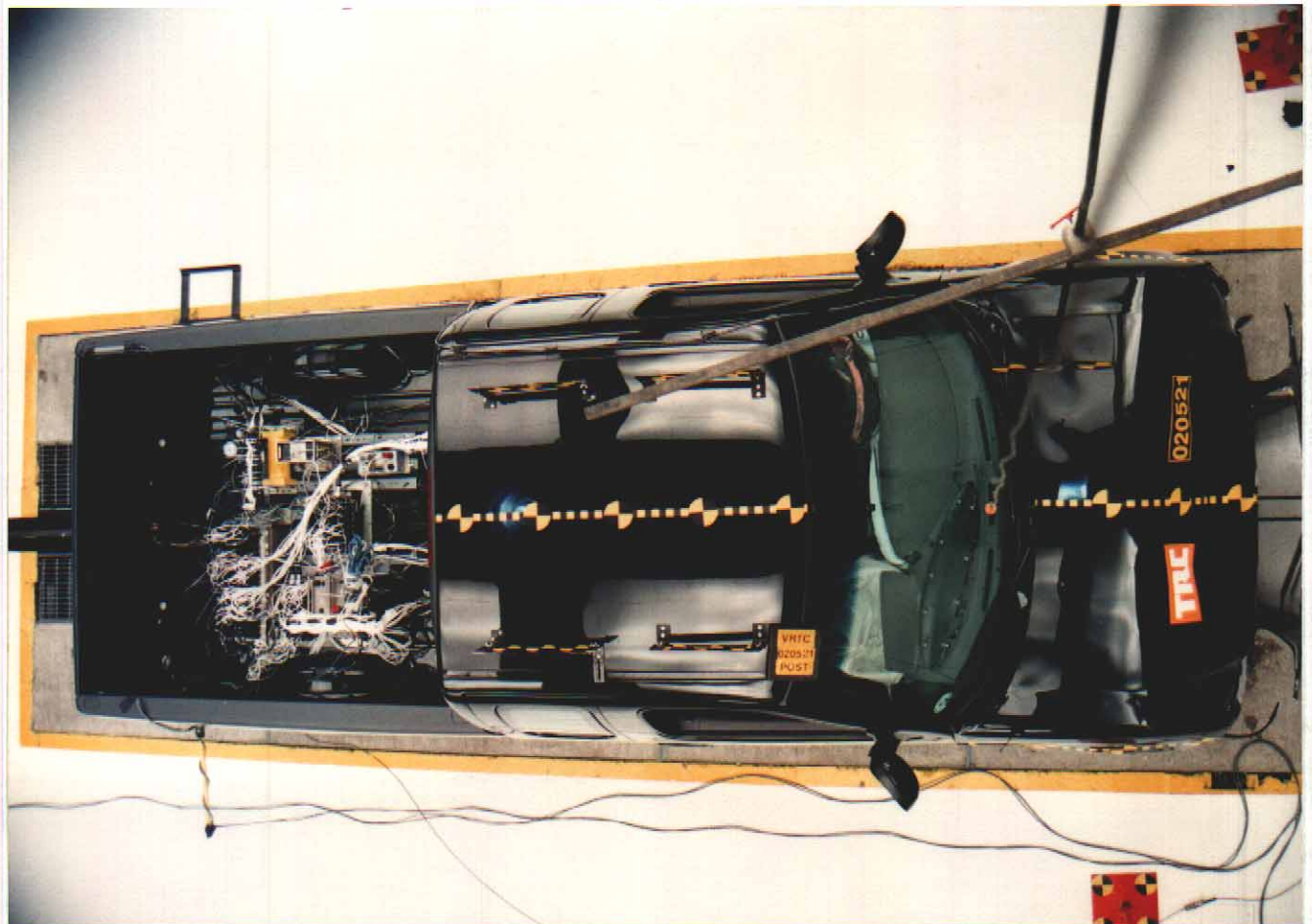


Figure A-18 Post-Test Overhead View

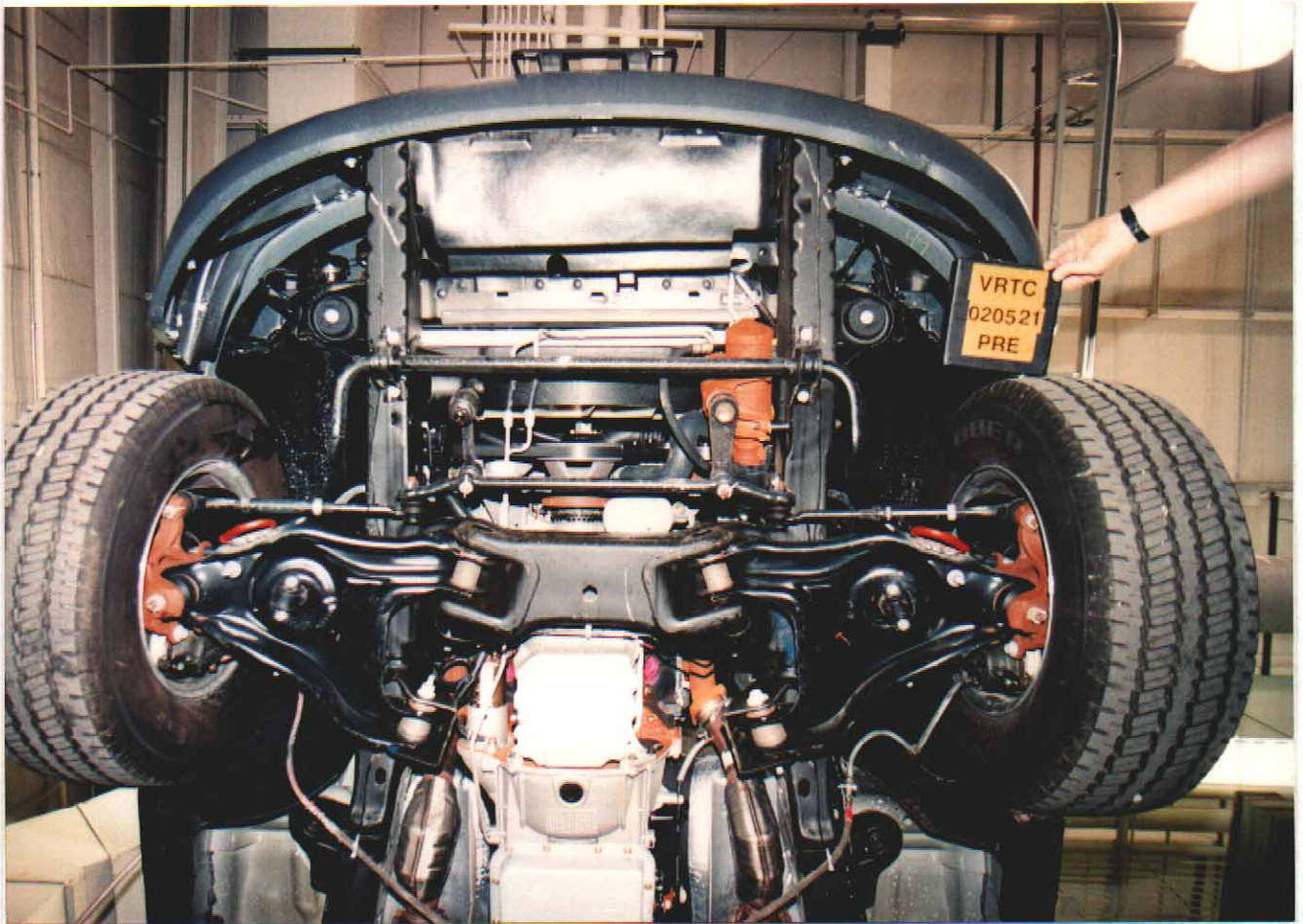


Figure A-19 Pre-Test Front Underbody View

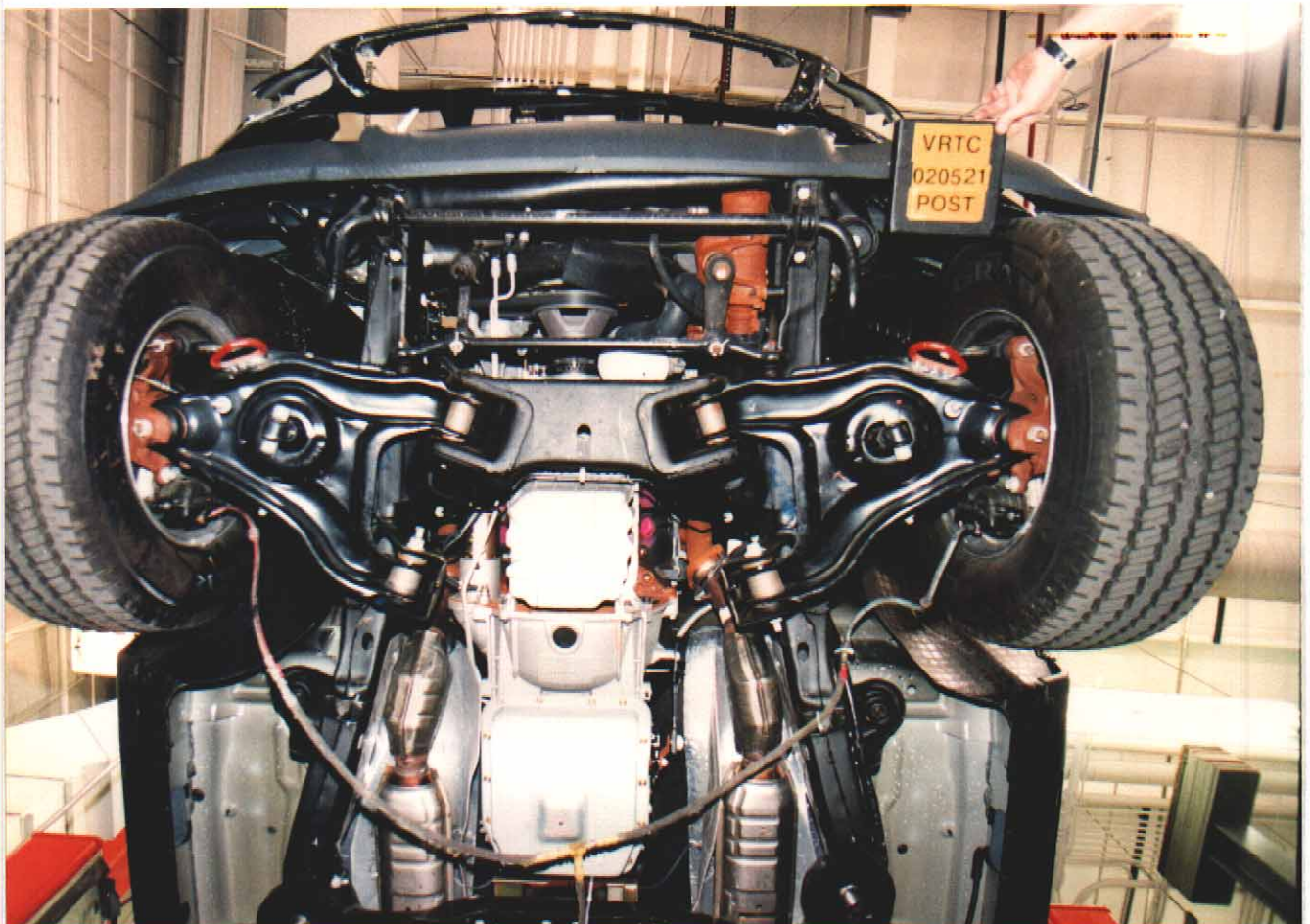


Figure A-20 Post-Test Front Underbody View

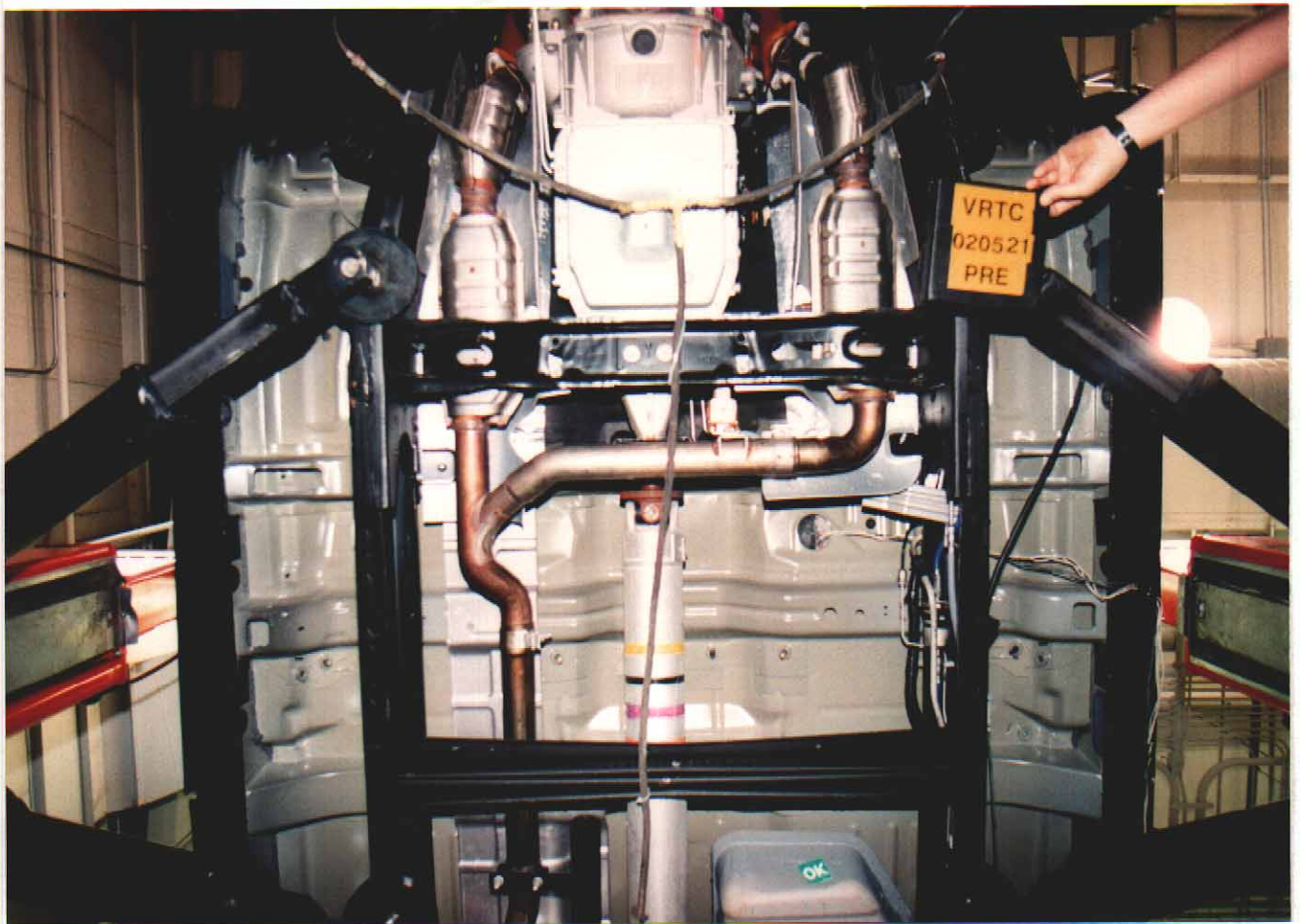


Figure A-21 Pre-Test Front Mid Underbody View

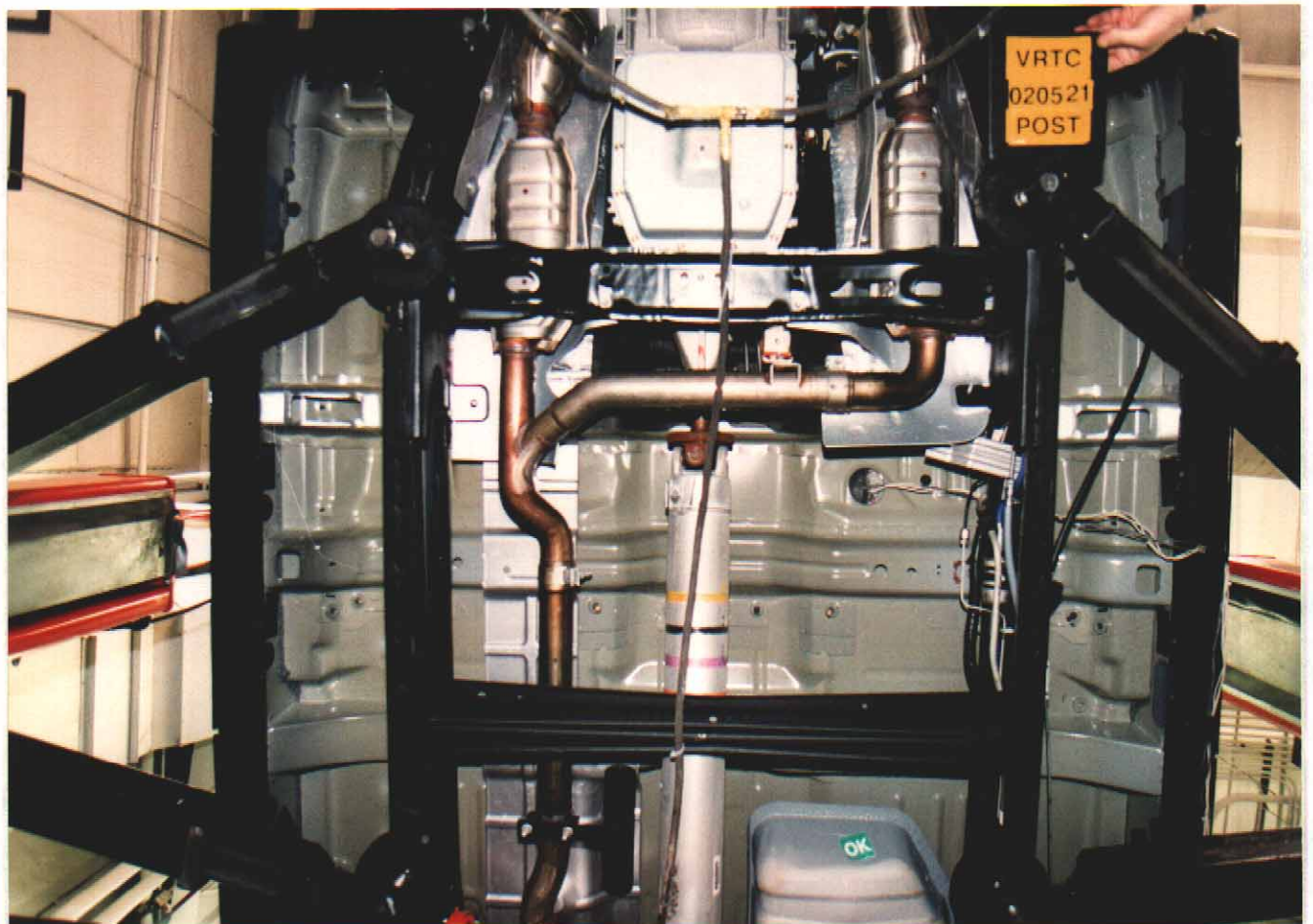


Figure A-22 Post-Test Front Mid Underbody View

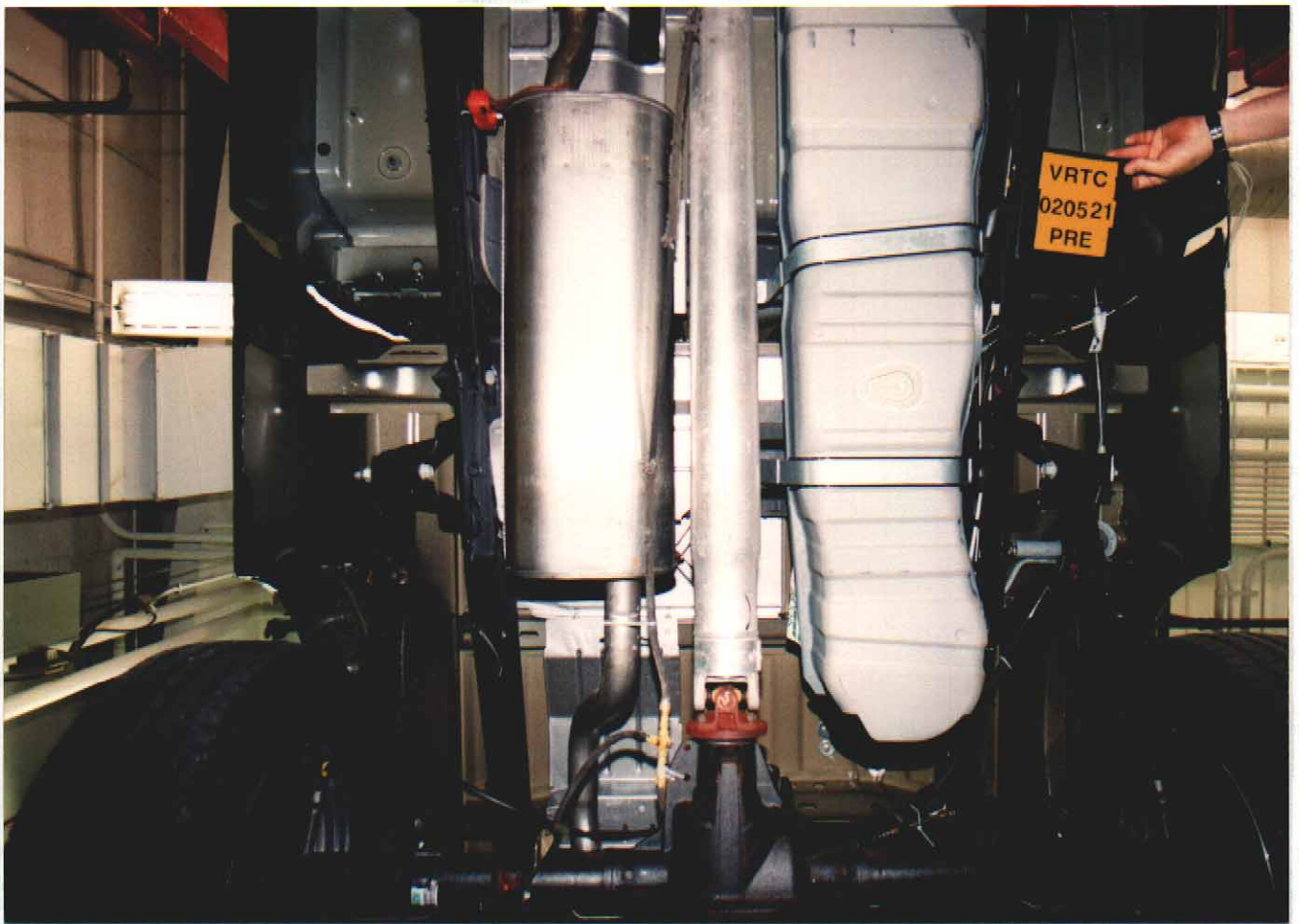


Figure A-23 Pre-Test Rear Mid Underbody View

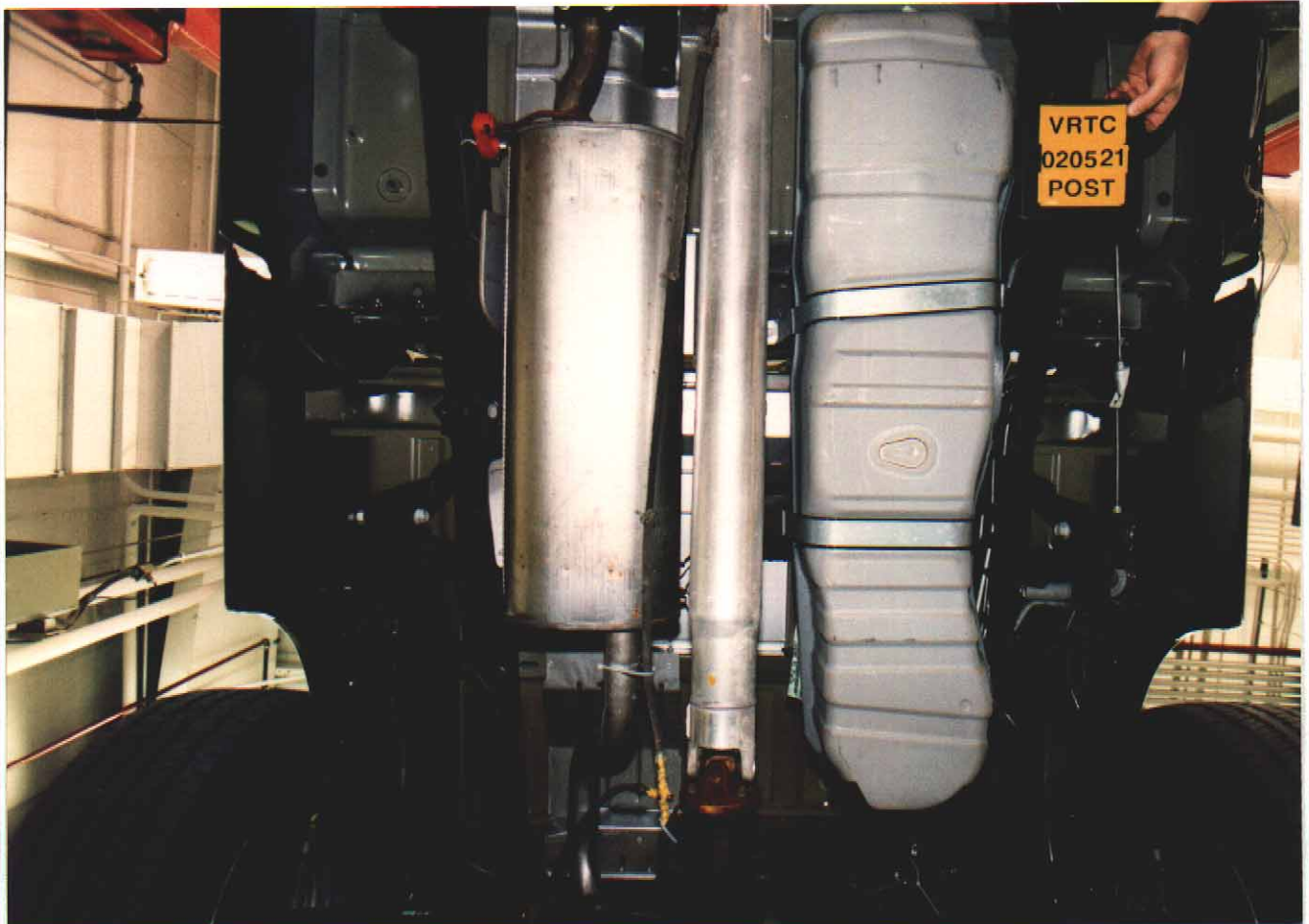


Figure A-24 Post-Test Rear Mid Underbody View

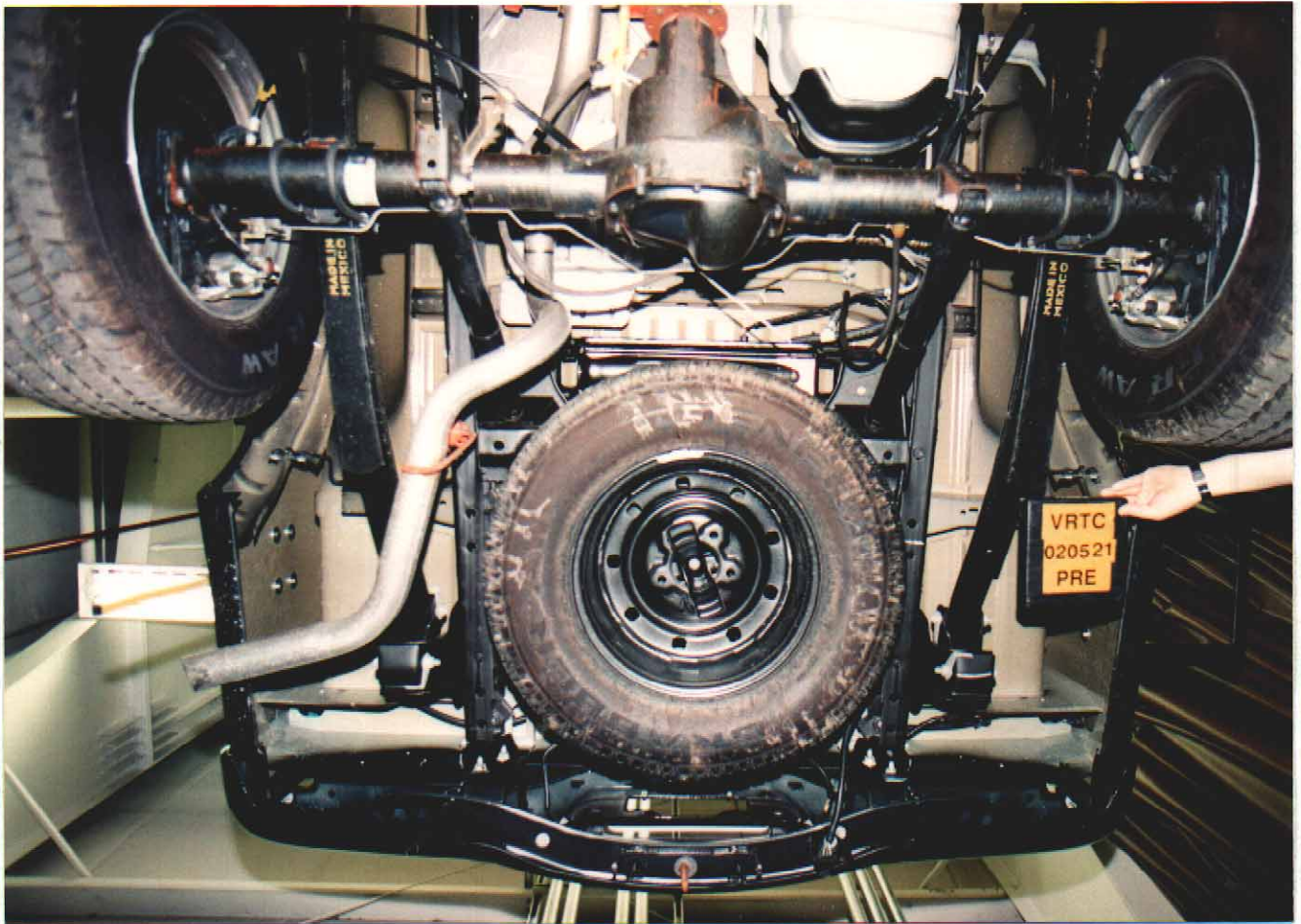


Figure A-25 Pre-Test Rear Underbody View

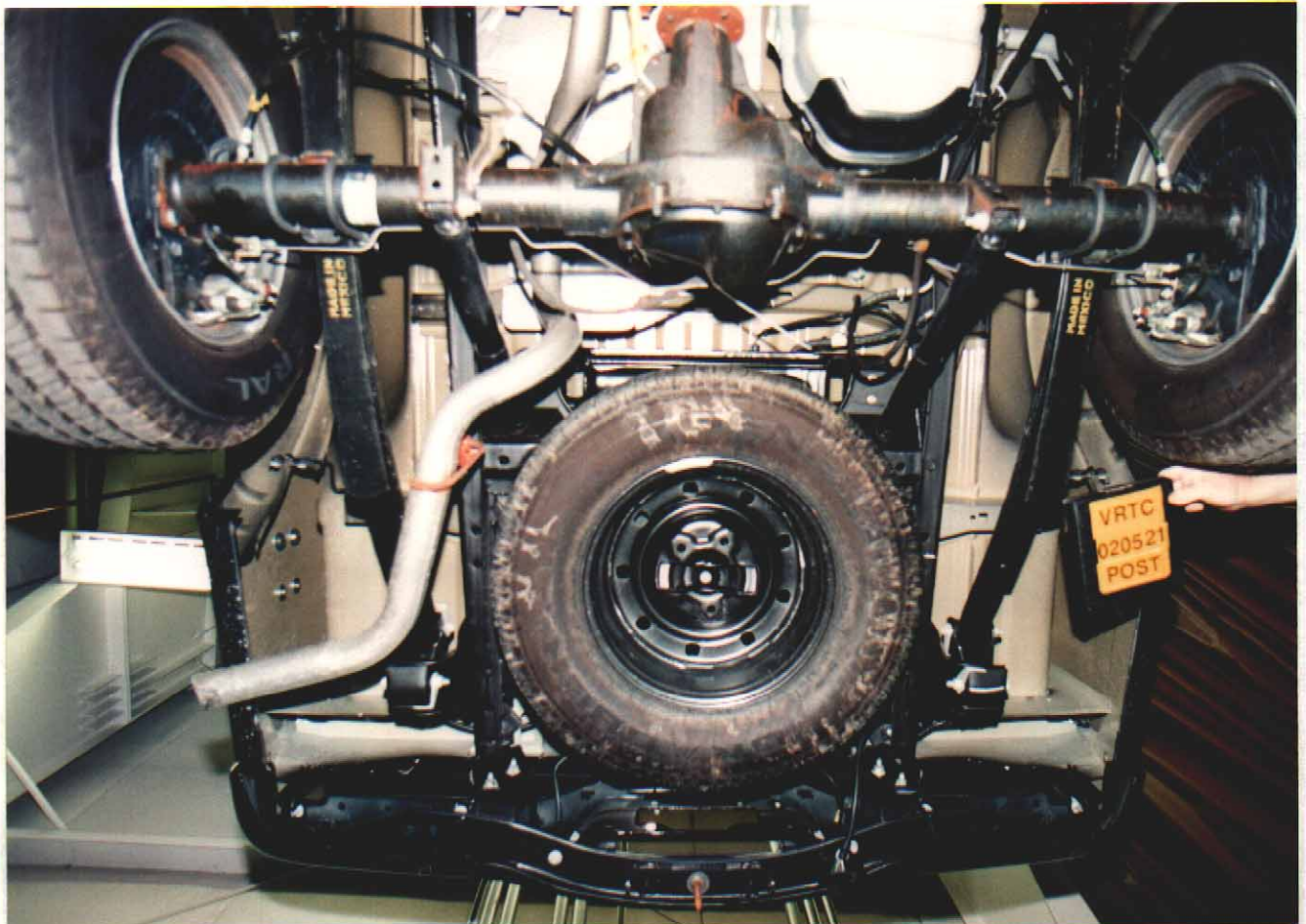


Figure A-26 Post-Test Rear Underbody View

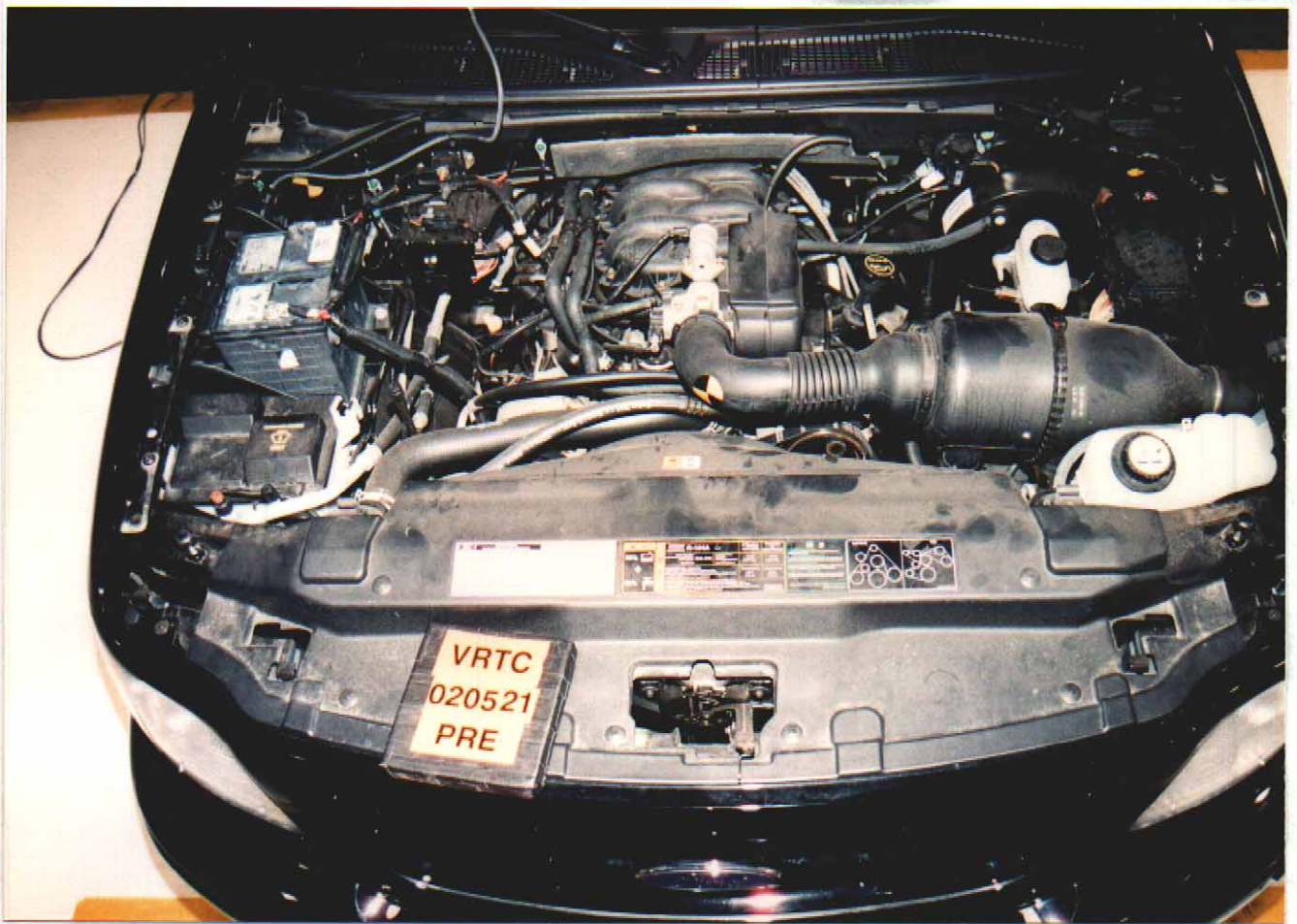


Figure A-27 Pre-Test Engine Compartment View

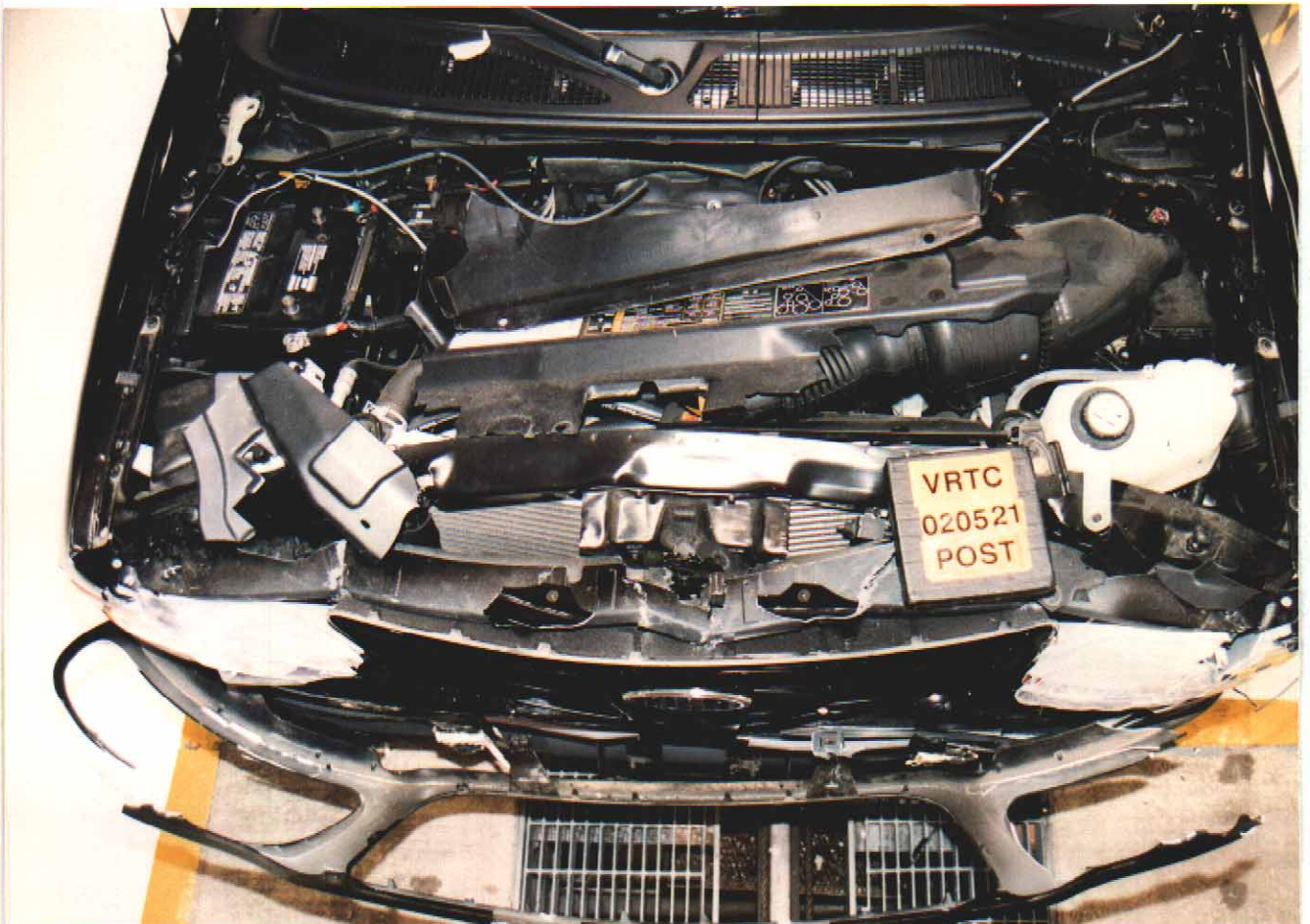


Figure A-28 Post-Test Engine Compartment View



Figure A-29 Pre-Test Windshield View



Figure A-30 Post-Test Windshield View



Figure A-31 Pre-Test Left Front Windshield View



Figure A-32 Post-Test Left Front Windshield View



Figure A-33 Pre-Test Right Front Windshield View



Figure A-34 Post-Test Right Front Windshield View



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



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

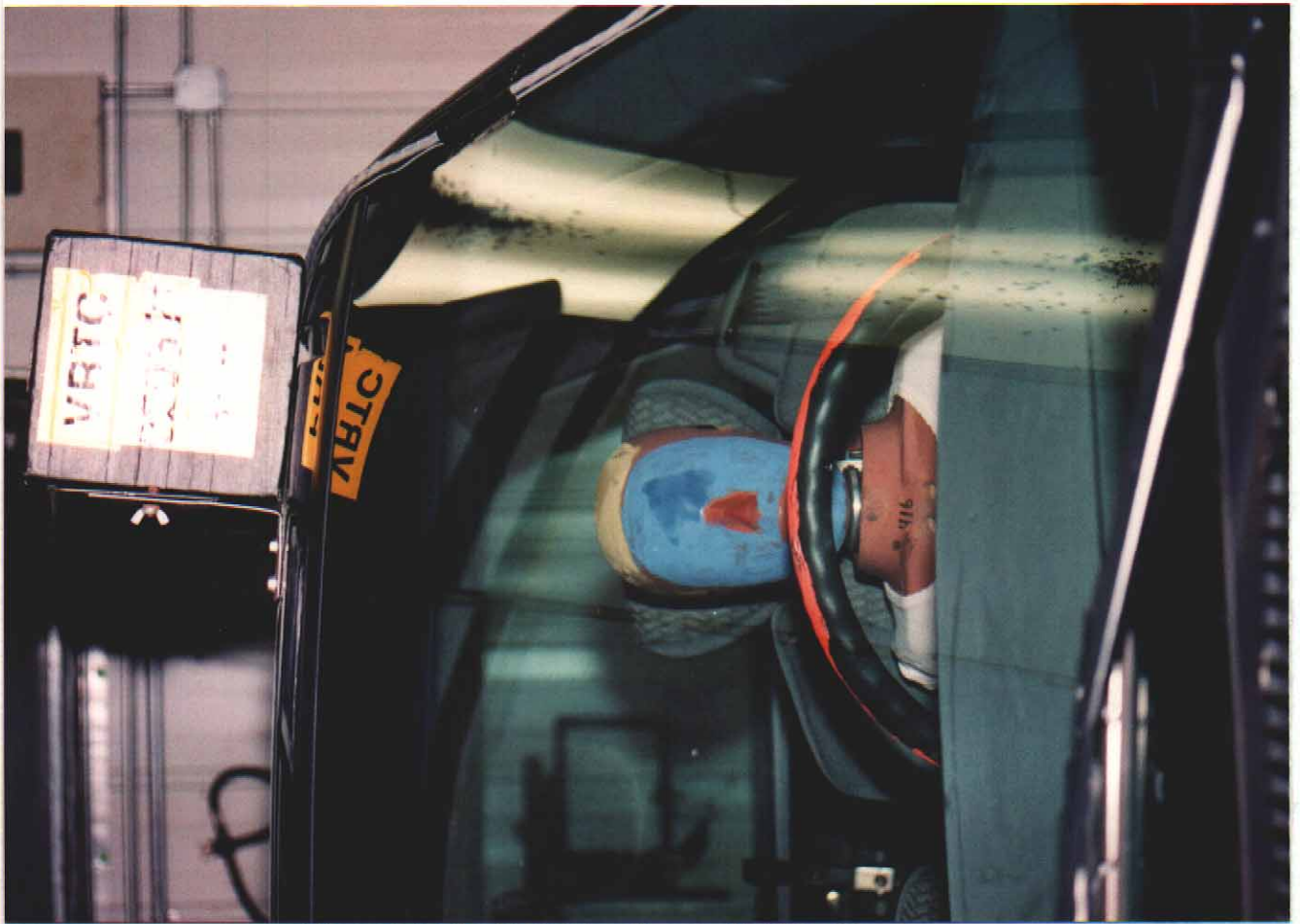


Figure A-37 Pre-Test Driver Dummy Position - View 1



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

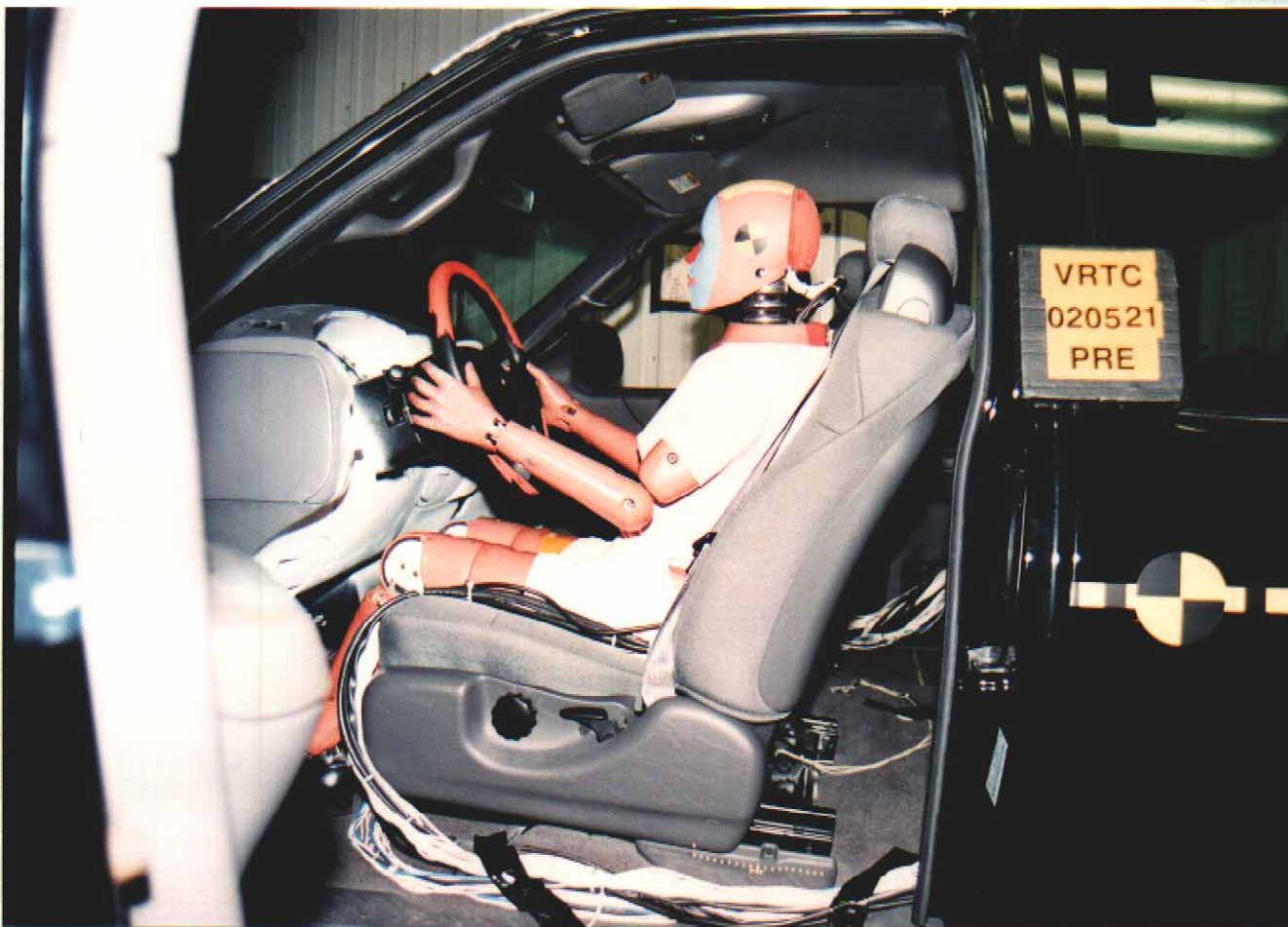


Figure A-41 Pre-Test Driver Dummy & Vehicle Interior - View 1



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 Passenger Dummy Position - View 1



Figure A-46 Post-Test Passenger Dummy Position - View 1



Figure A-47 Pre-Test Passenger Dummy Position - View 2



Figure A-48 Post-Test Passenger Dummy Position - View 2



Figure A-49 Pre-Test Passenger Dummy & Vehicle Interior - View 1



Figure A-50 Post-Test Passenger Dummy & Vehicle Interior - View 1



Figure A-51 Pre-Test Passenger Dummy & Vehicle Interior - View 2



Figure A-52 Post-Test Passenger Dummy & Vehicle Interior - View 2

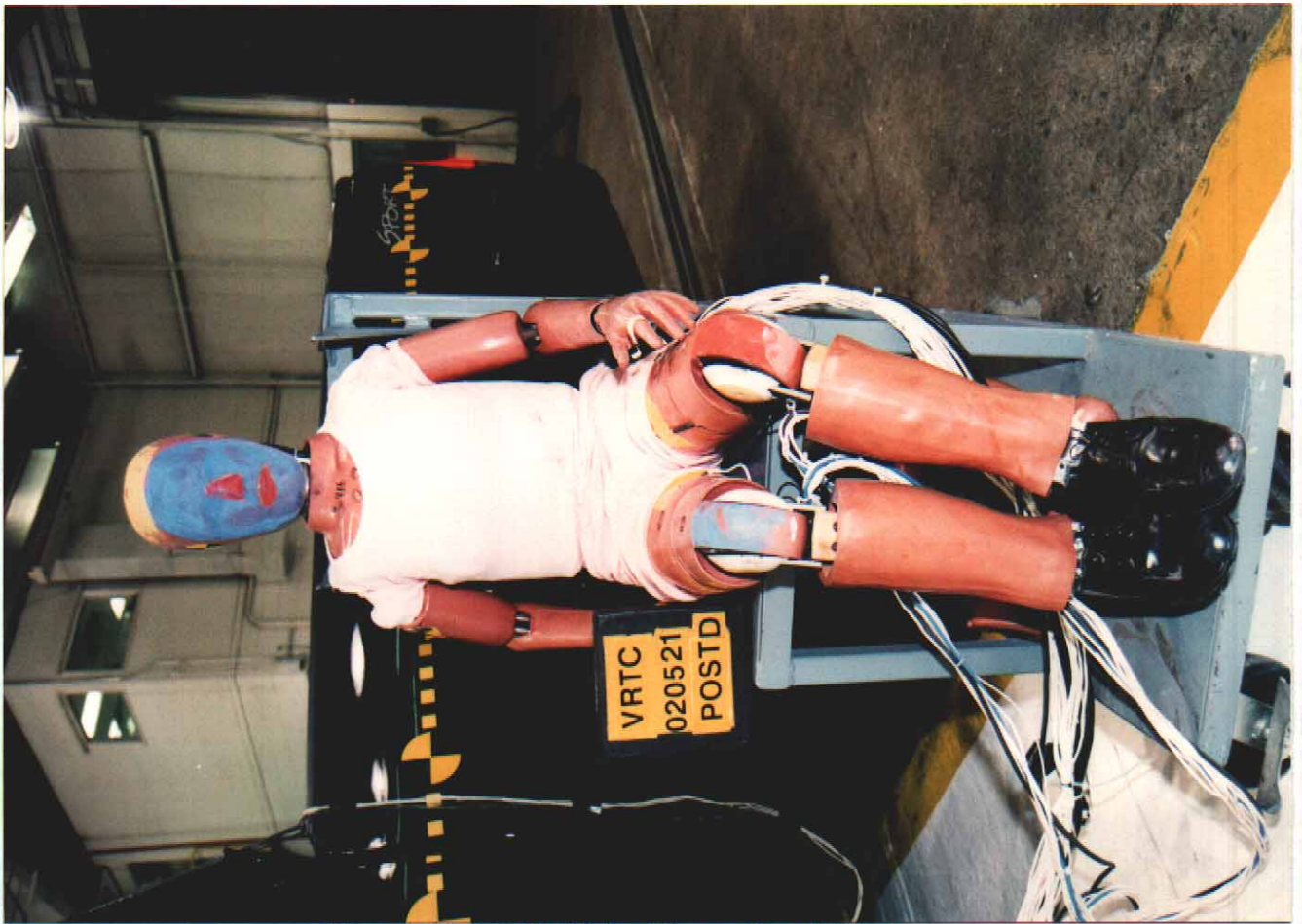


Figure A-53 Post-Test Driver Dummy Overall View

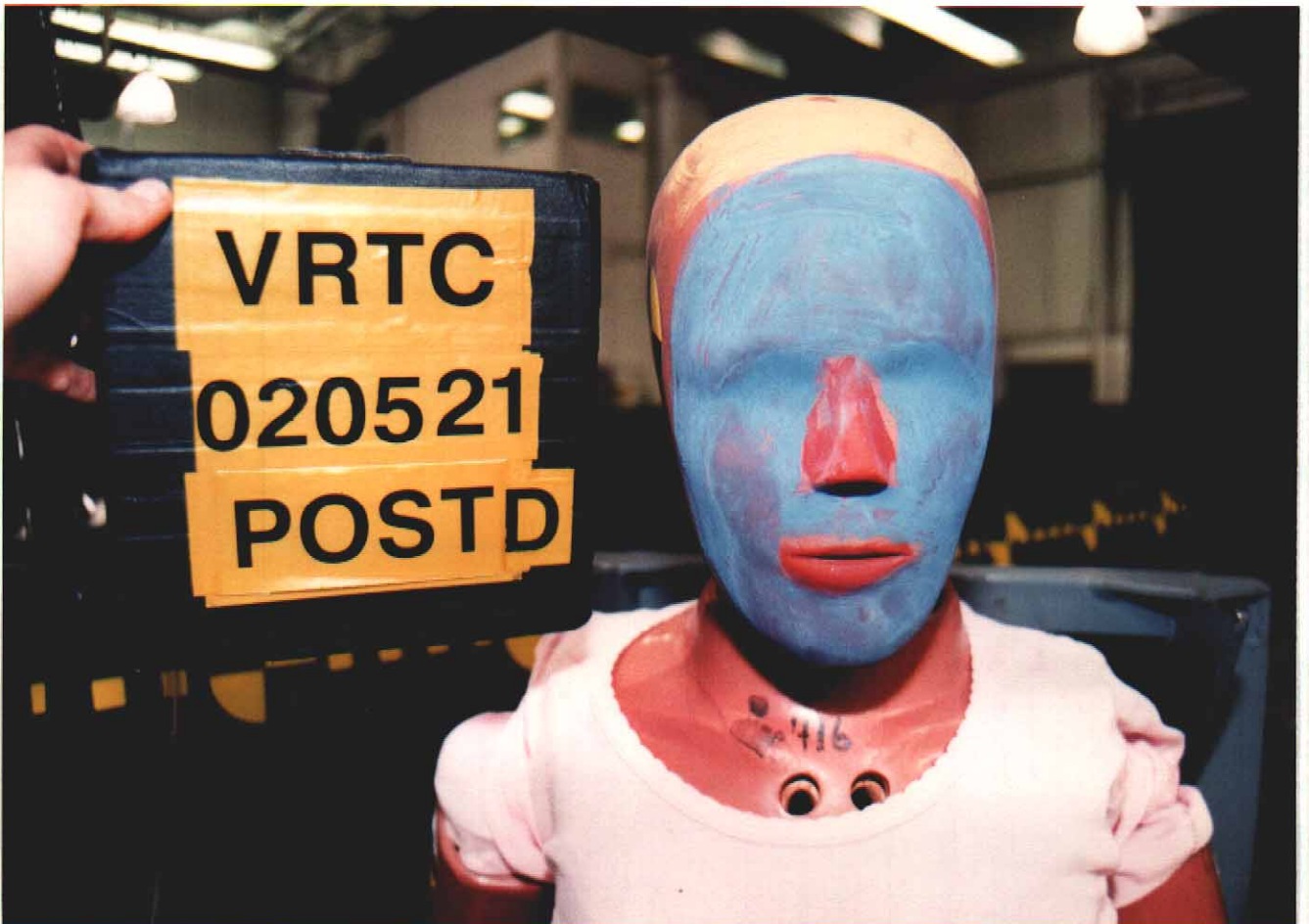


Figure A-54 Post-Test Driver Dummy Head Contact - View 1



Figure A-55 Post-Test Driver Dummy Head Contact - View 2



Figure A-56 Post-Test Driver Dummy Head Contact - View 3

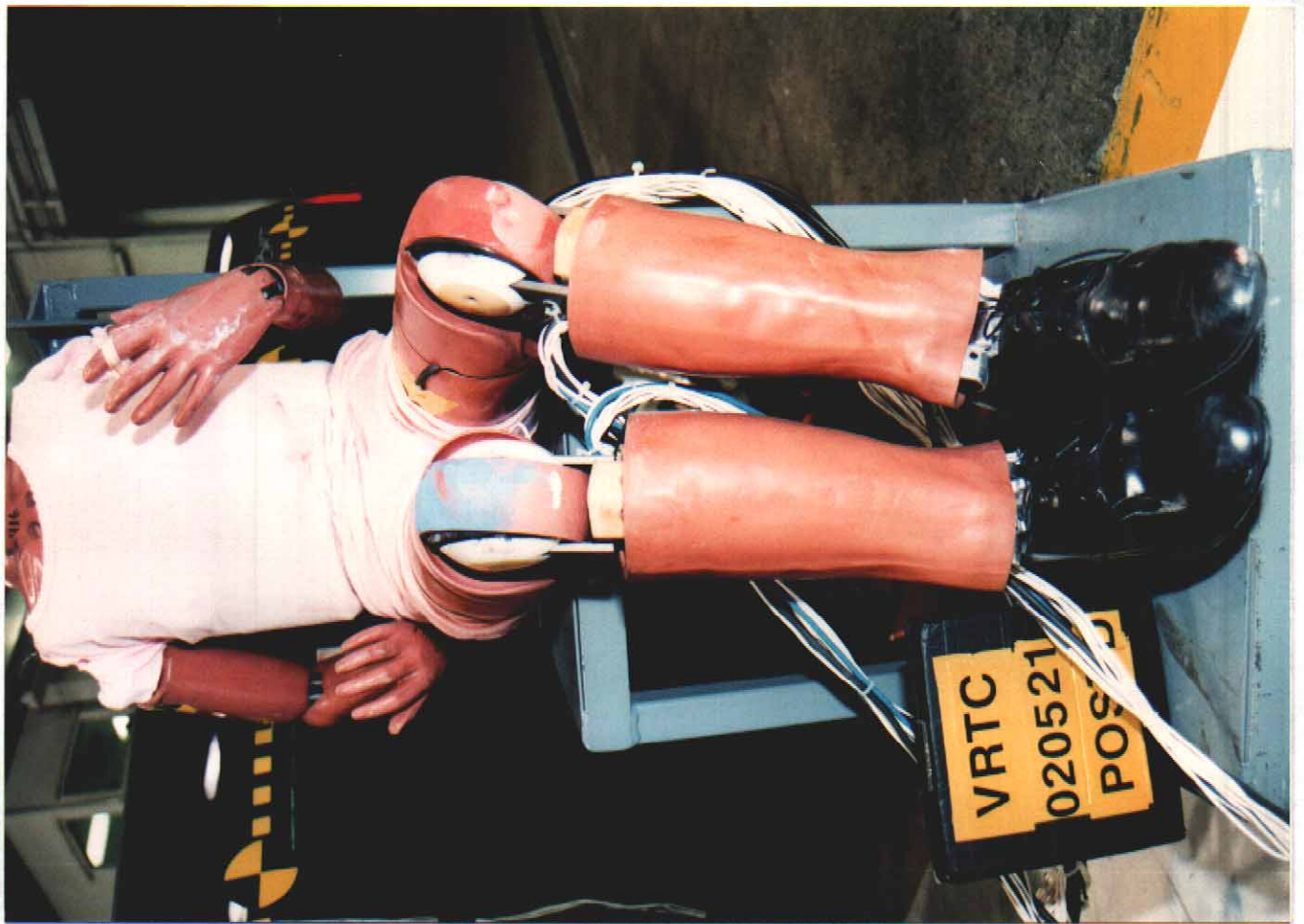


Figure A-57 Post-Test Driver Dummy Knee Contact - View 1



Figure A-58 Post-Test Driver Dummy Knee Contact - View 2

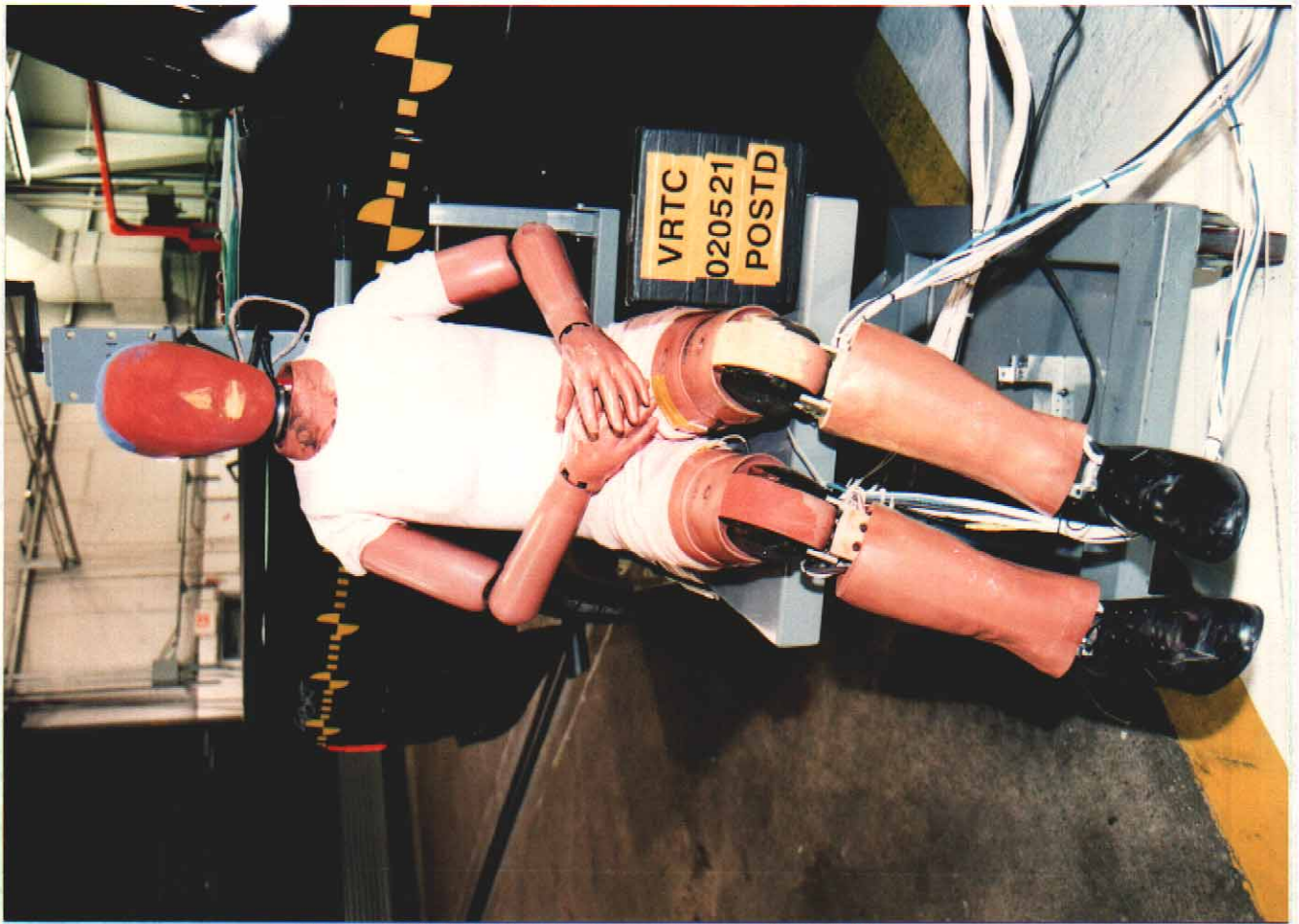


Figure A-59 Post-Test Passenger Dummy Overall View



Figure A-60 Post-Test Passenger Dummy Head Contact - View 1



Figure A-61 Post-Test Passenger Dummy Head Contact - View 2



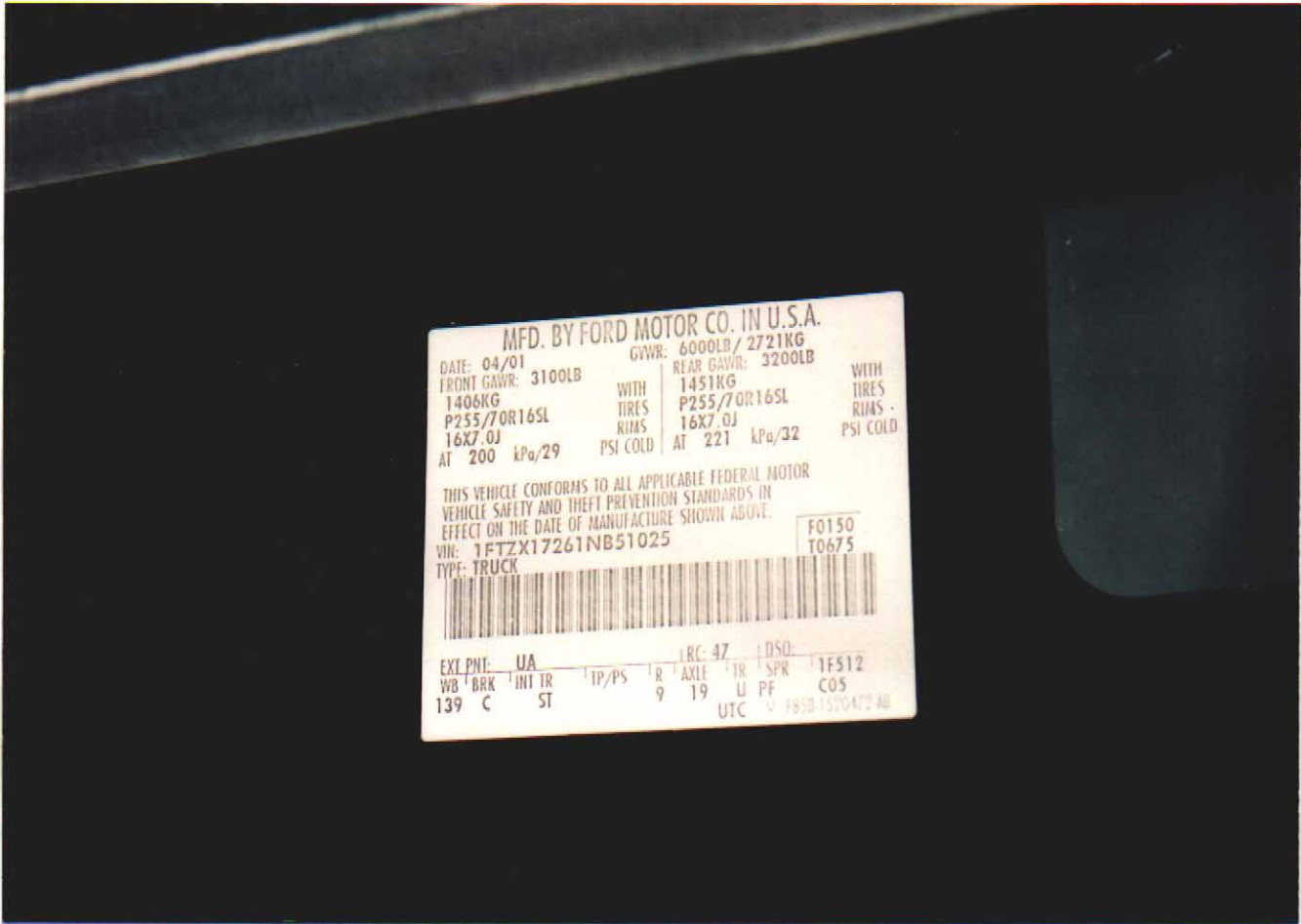
Figure A-62 Post-Test Passenger Dummy Knee Contact - View 1



Figure A-63 Post-Test Passenger Dummy Knee Contact - View 2



Figure A-64 Post-Test Passenger Dummy Knee Contact - View 3



MFD. BY FORD MOTOR CO. IN U.S.A.


DATE: 04/01	GWR: 6000LB / 2721KG	
FRONT GAWR: 3100LB	REAR GAWR: 3200LB	WITH
1406KG	1451KG	TIRES
P255/70R16SL	P255/70R16SL	RIMS
16X7.0J	16X7.0J	PSI COLD
AT 200 kPa/29	PSI COLD AT 221 kPa/32	

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 1FTZX17261NB51025

TYPE: TRUCK

F0150
T0675



EXT. PNT: UA	RC: 47	DSO:
WB BRK INT TR	R AXLE TR	SPR 1F512
139 C ST	9 19	U PF C05
	UTC	F85B 1320472 AB

Figure A-65 Pre-Test Vehicle Certification and Tire Load Label View

Appendix B

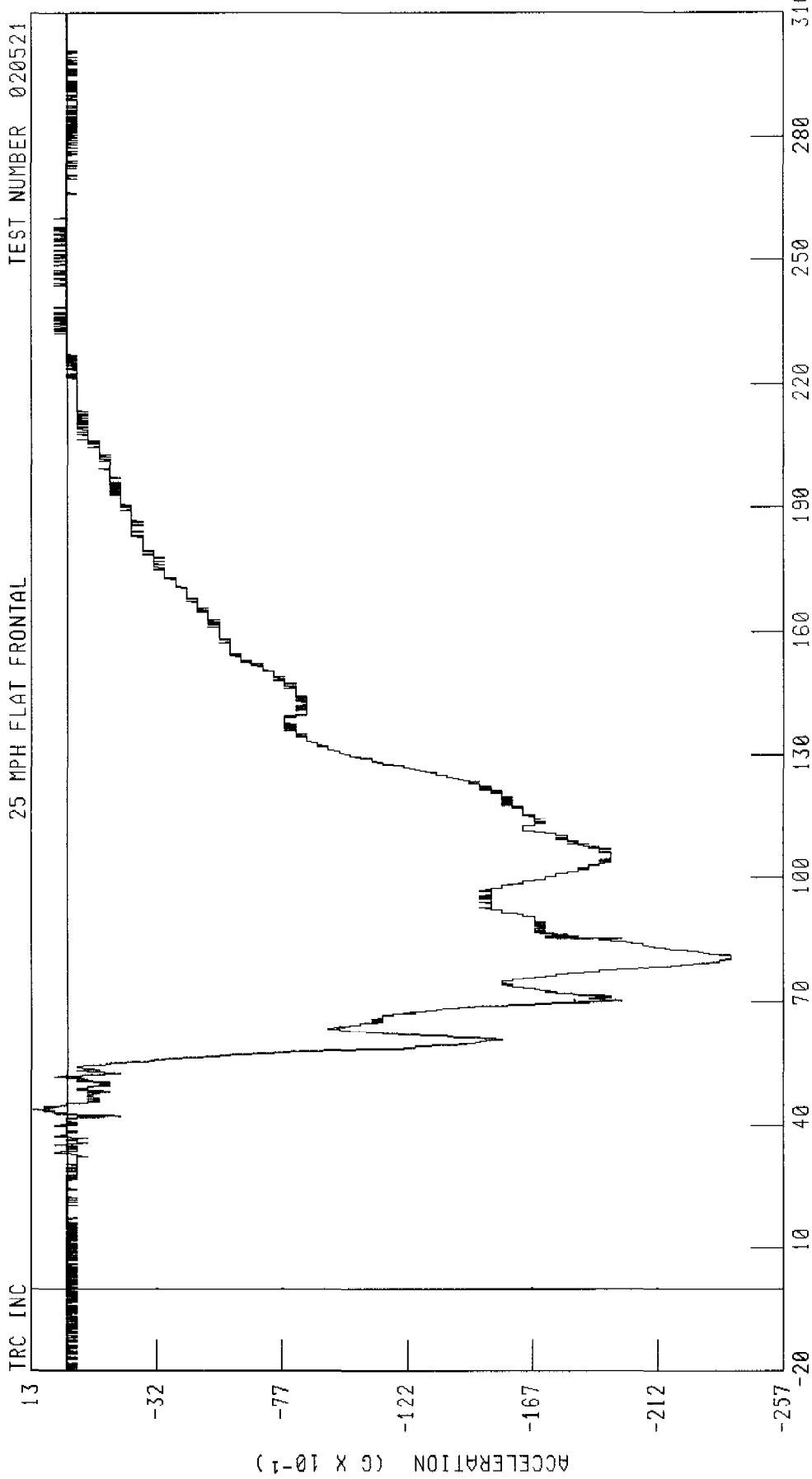
Data Plots

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

CHANNEL HEDXG1 FILTER CH CLASS 1000

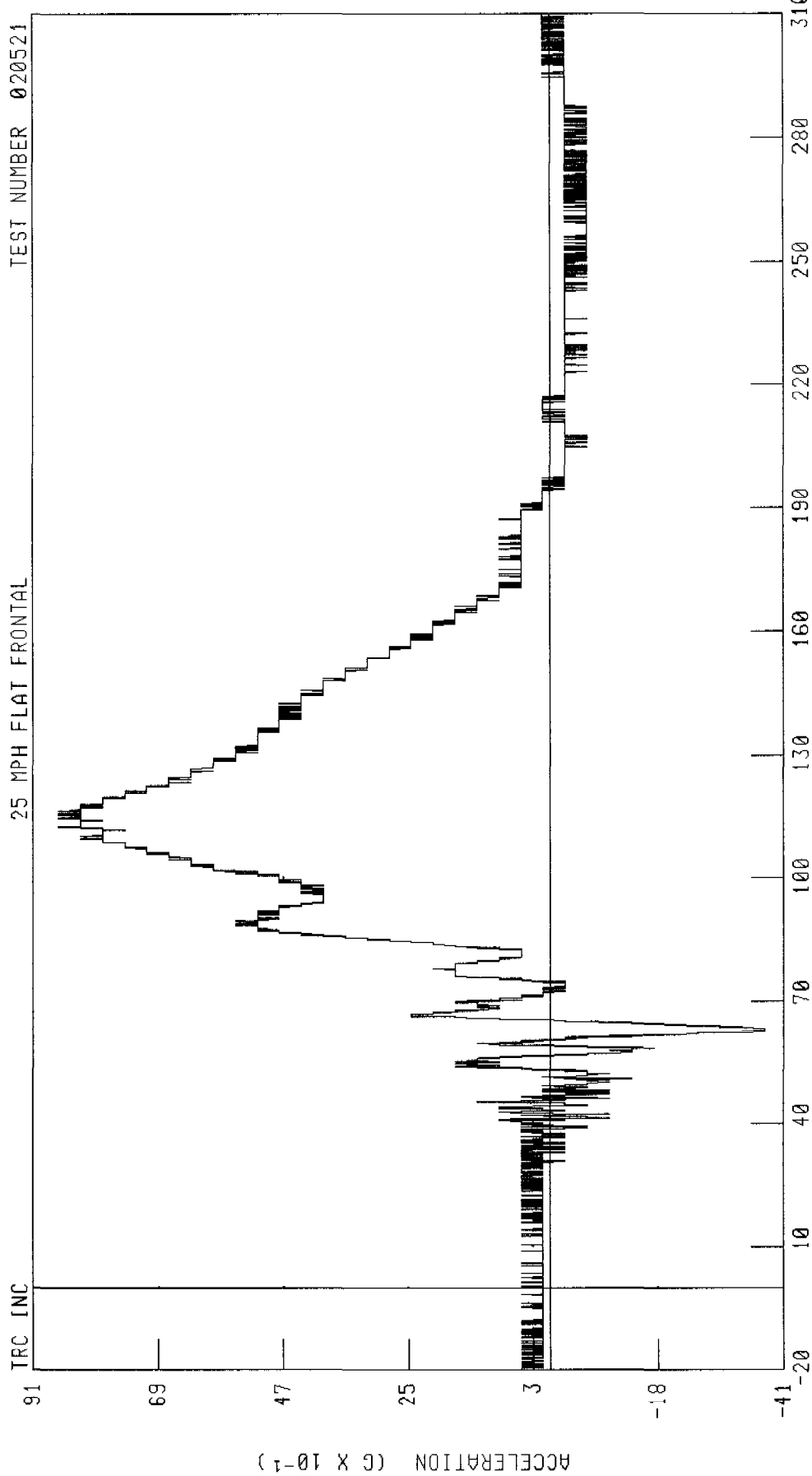
PEAK DATA 1 23 G @ 43 68 MS, -23 82 G @ 80 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD Y-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL HEDYG1 FILTER CH CLASS 1000

PEAK DATA 8 66 G @ 112 56 MS, -3 76 G @ 62 40 MS

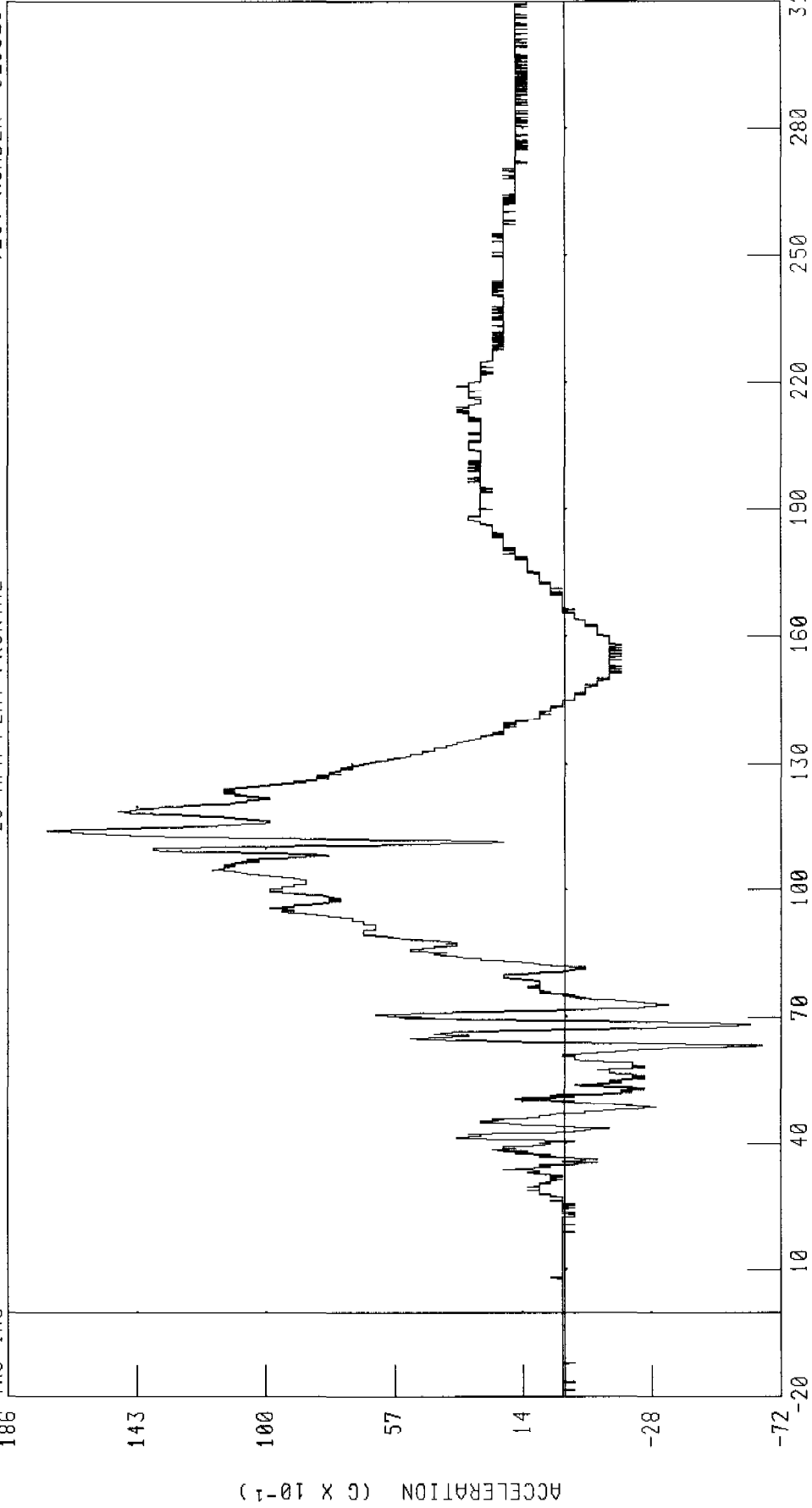
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD Z-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL HEDZG1 FILTER CH CLASS 1000

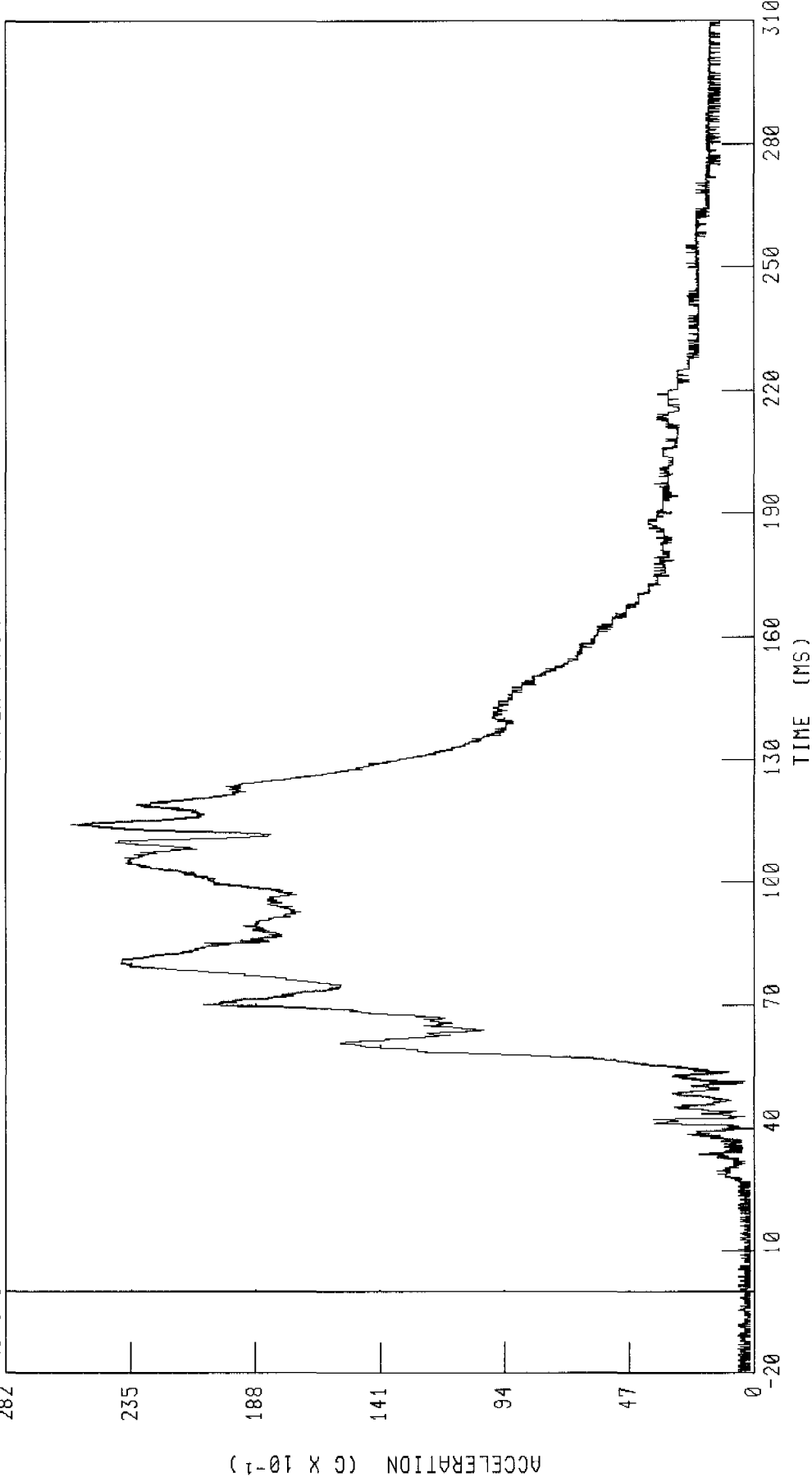
PEAK DATA 17 28 G @ 114 24 MS, -6 57 G @ 63 20 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER HEAD RESULTANT ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



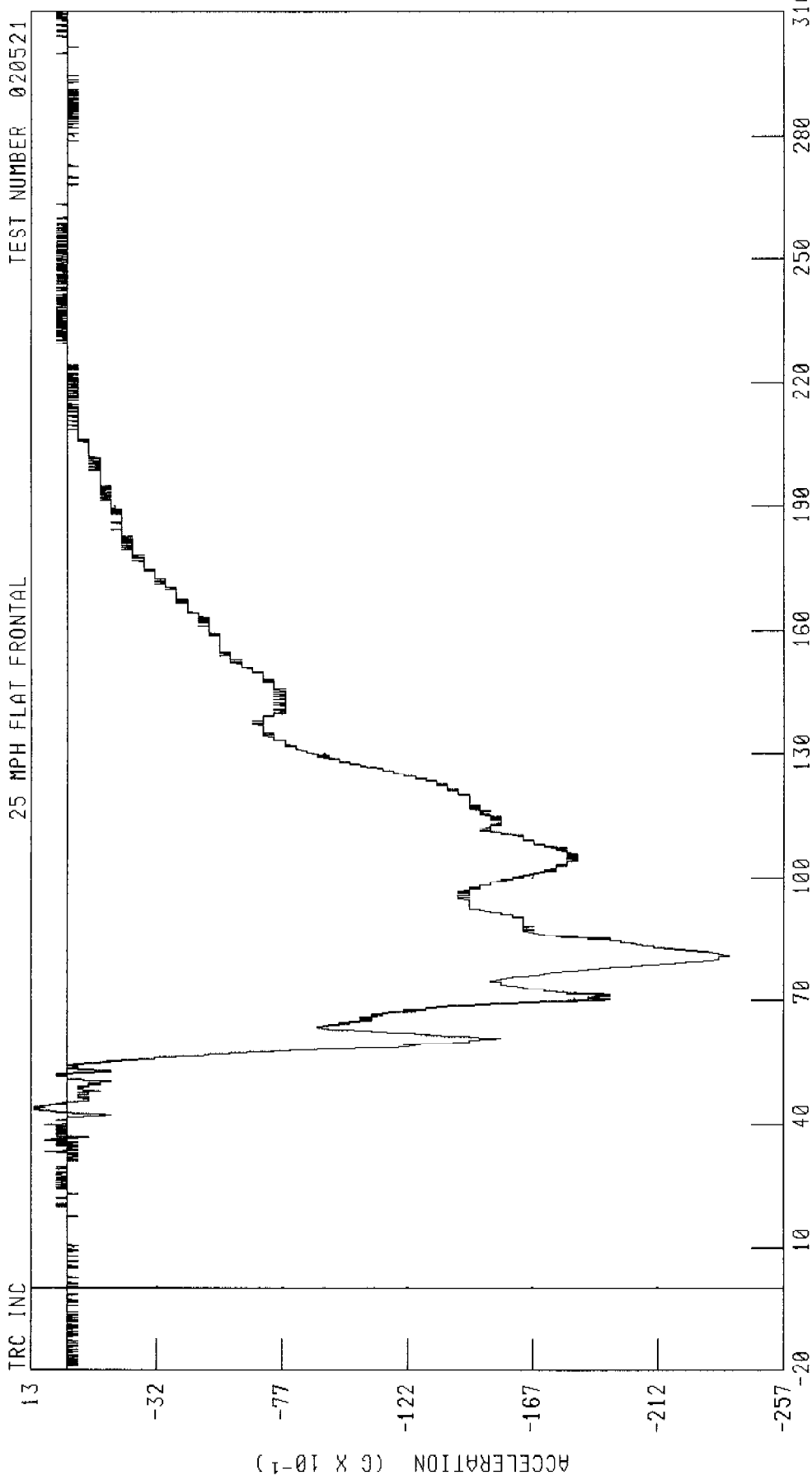
CHANNEL HEDRG1 FILTER CH CLASS 1000

PEAK DATA 25 73 G @ 114 24 MS, 0 15 G @ -19 52 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER HEAD X-AXIS ACCELERATION REDUNDANT

TRC INC TEST NUMBER 020521

25 MPH FLAT FRONTAL



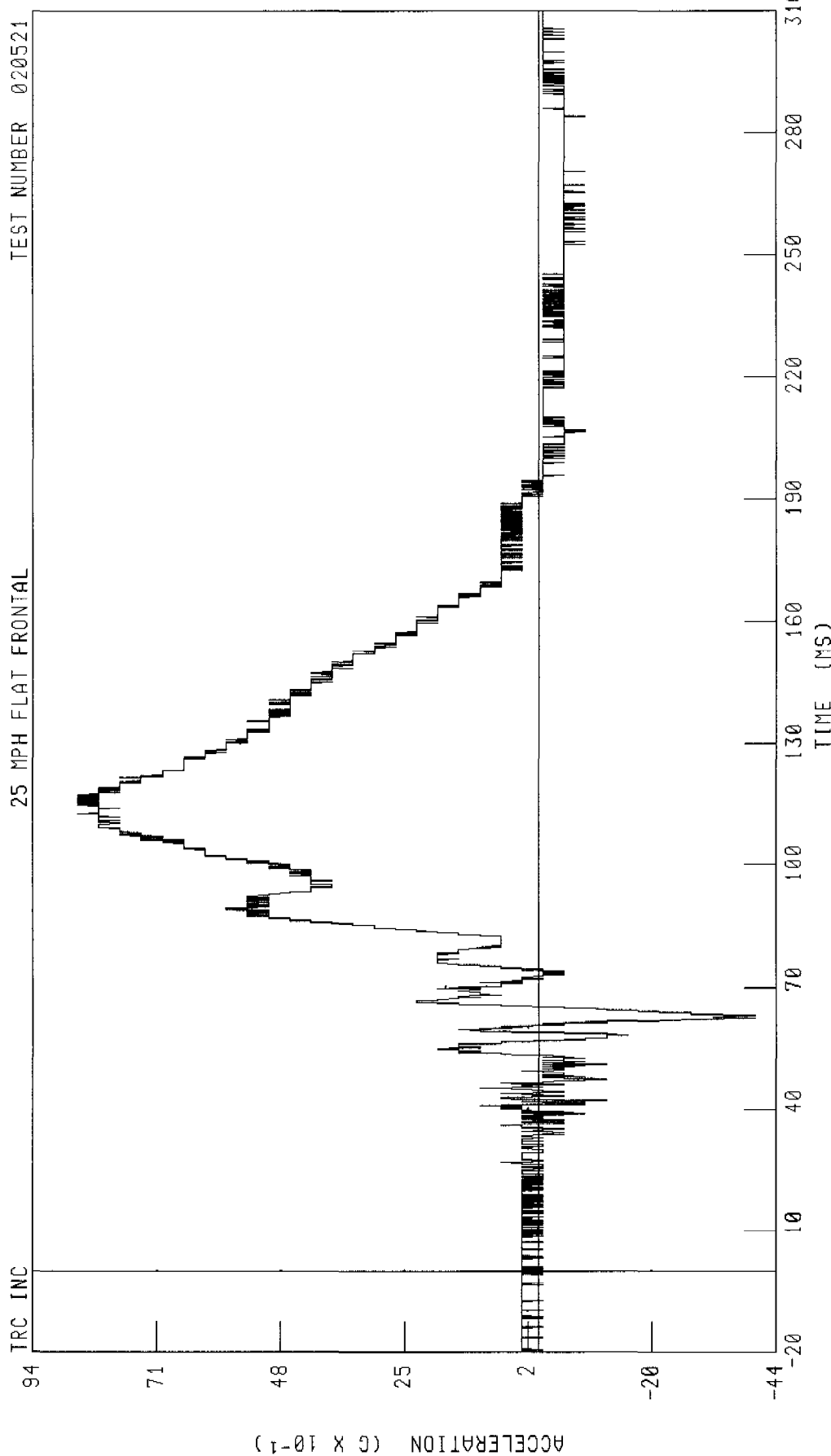
CHANNEL HE0XR1 FILTER CH CLASS 1000

PEAK DATA 1 19 G @ 43 36 MS, -23 78 G @ 80 56 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER HEAD Y-AXIS ACCELERATION REDUNDANT

TEST NUMBER 020521

25 MPH FLAT FRONTAL

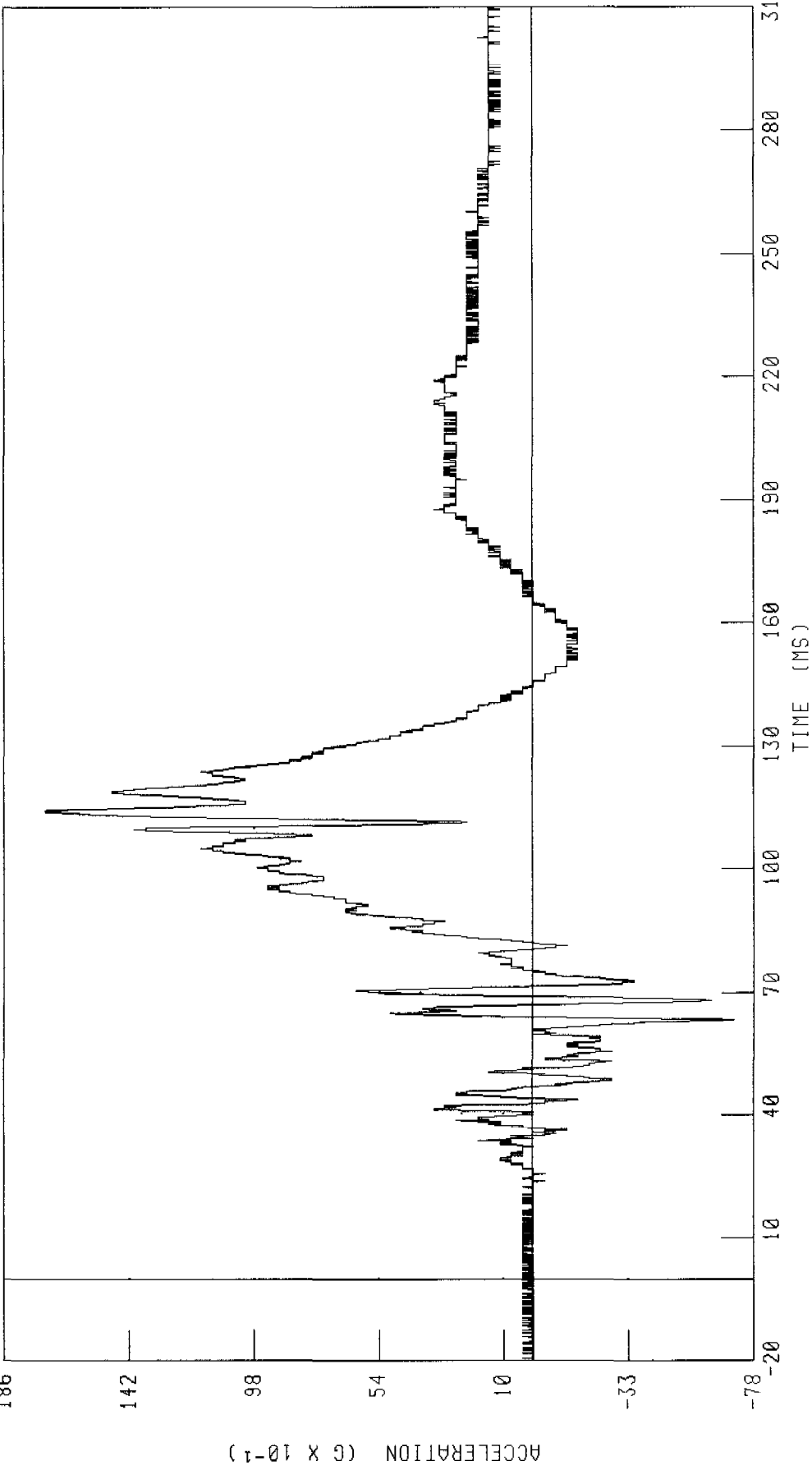


CHANNEL HEDYR1 FILTER CH CLASS 1000

PEAK DATA 8 57 G @ 112 56 MS, -4 01 G @ 62 48 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER HEAD Z-AXIS ACCELERATION REDUNDANT

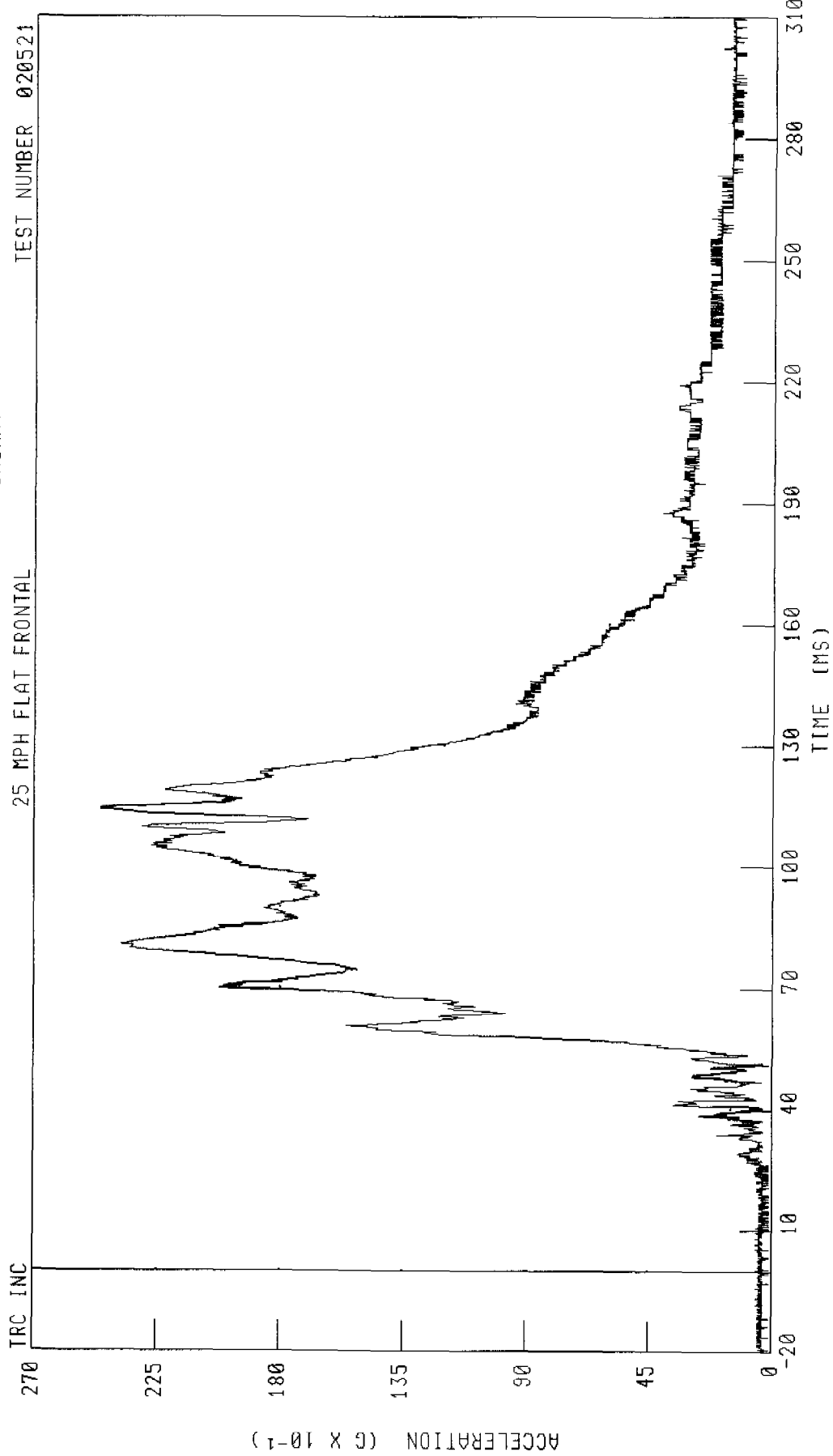
TRC INC
25 MPH FLAT FRONTAL
TEST NUMBER 020521



CHANNEL HEDZR1 FILTER CH CLASS 1000
PEAK DATA 17 14 G @ 114 08 MS, -7 11 G @ 63 28 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER HEAD RESULTANT ACCELERATION REDUNDANT

TRC INC
25 MPH FLAT FRONTAL
TEST NUMBER 020521



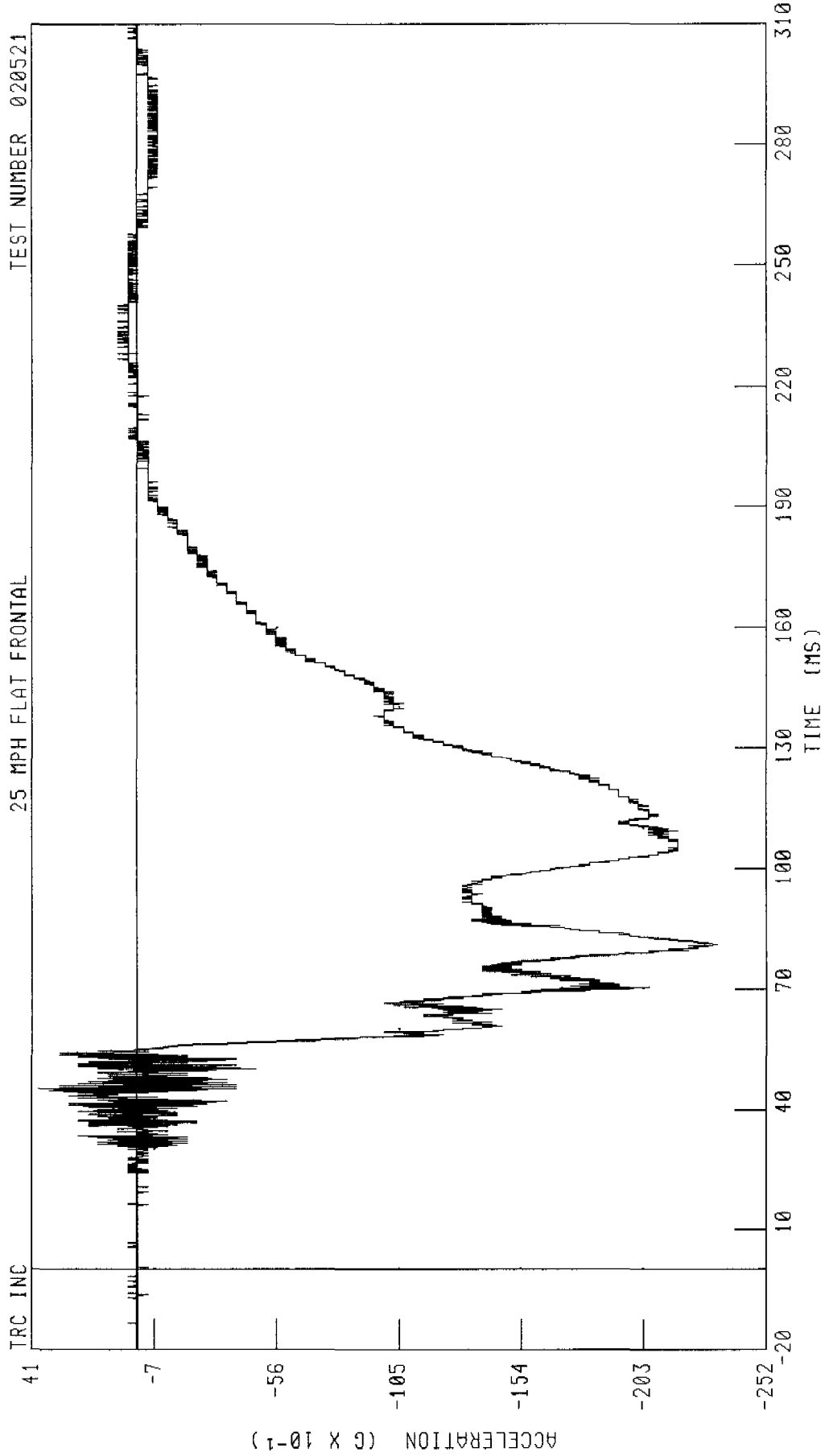
CHANNEL HEDRR1 FILTER CH CLASS 1000 PEAK DATA 24 57 G @ 114 08 MS, 0 11 G @ -19 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD X-AXIS (LT) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL HD1XC1 FILTER CH CLASS 1000

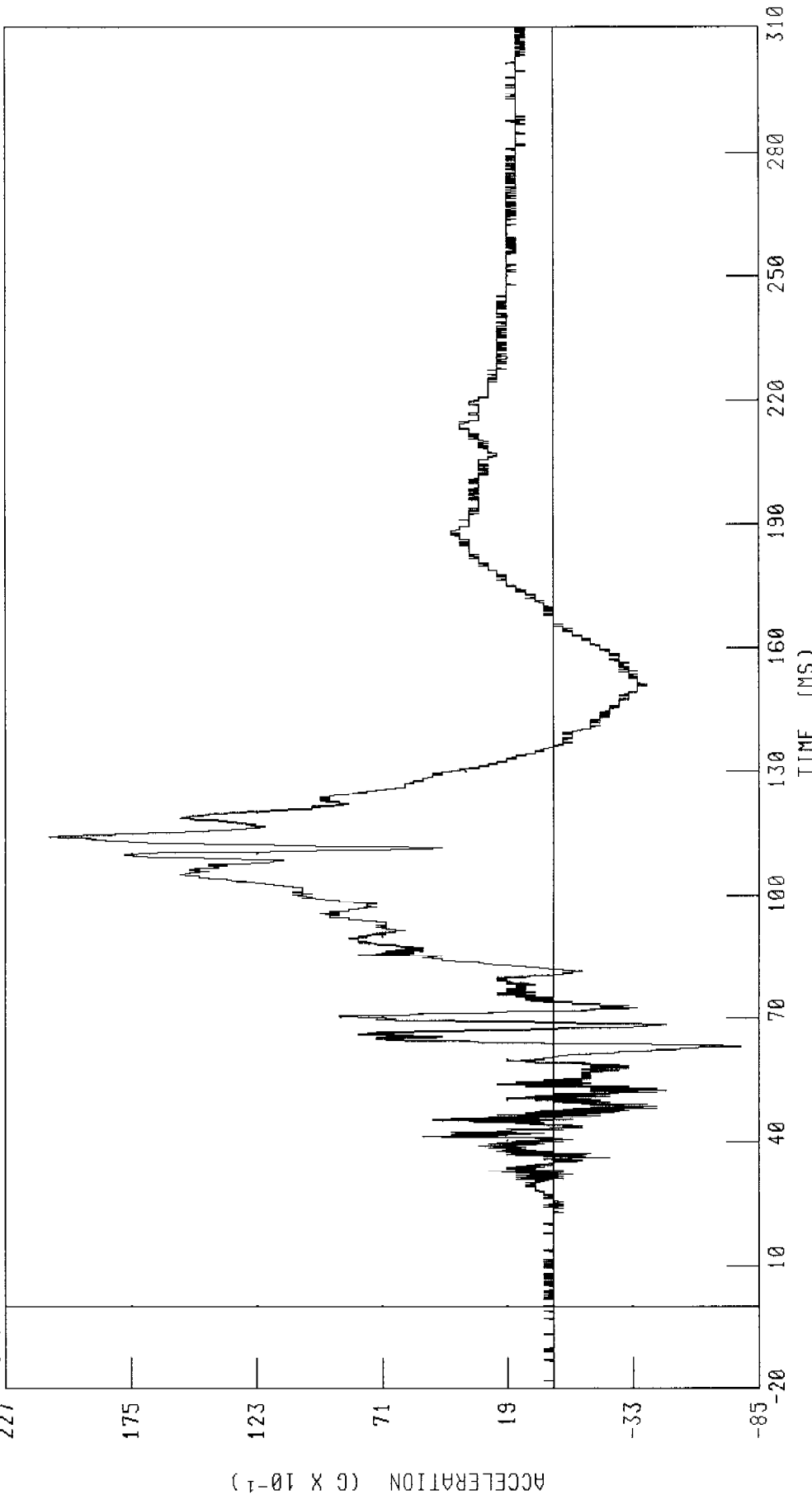
PEAK DATA 3 90 C @ 45 12 MS, -23 27 G @ 80 96 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER HEAD Z-AXIS (LT) ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL HD1ZG1 FILTER CH CLASS 1000

PEAK DATA 20 90 G @ 114 32 MS, -7 77 G @ 63 12 MS

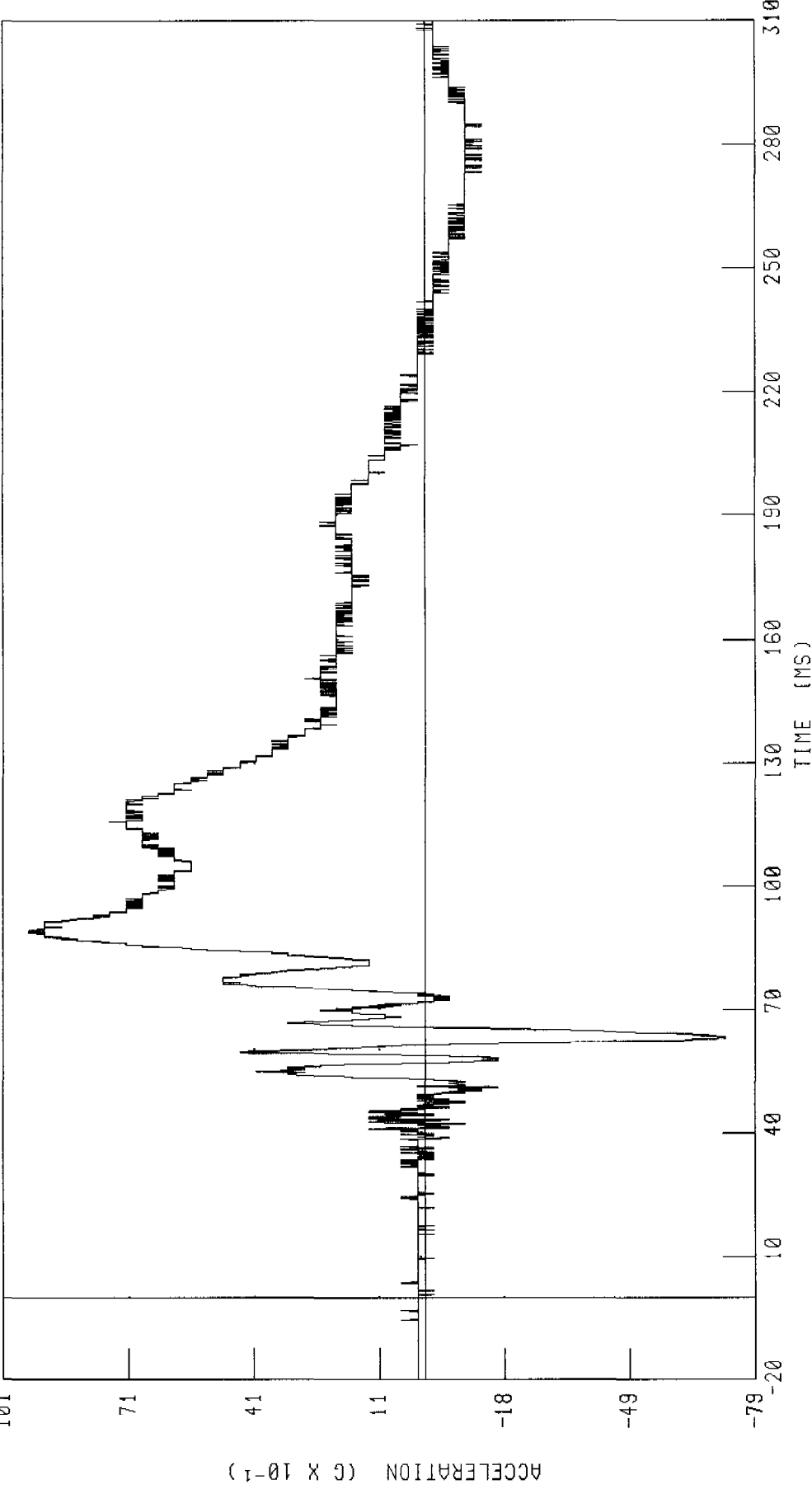
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD Y-AXIS (FT) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL HD2YG1 FILTER CH CLASS 1000

PEAK DATA 9 50 G @ 89 12 MS, -7 18 G @ 62 96 MS

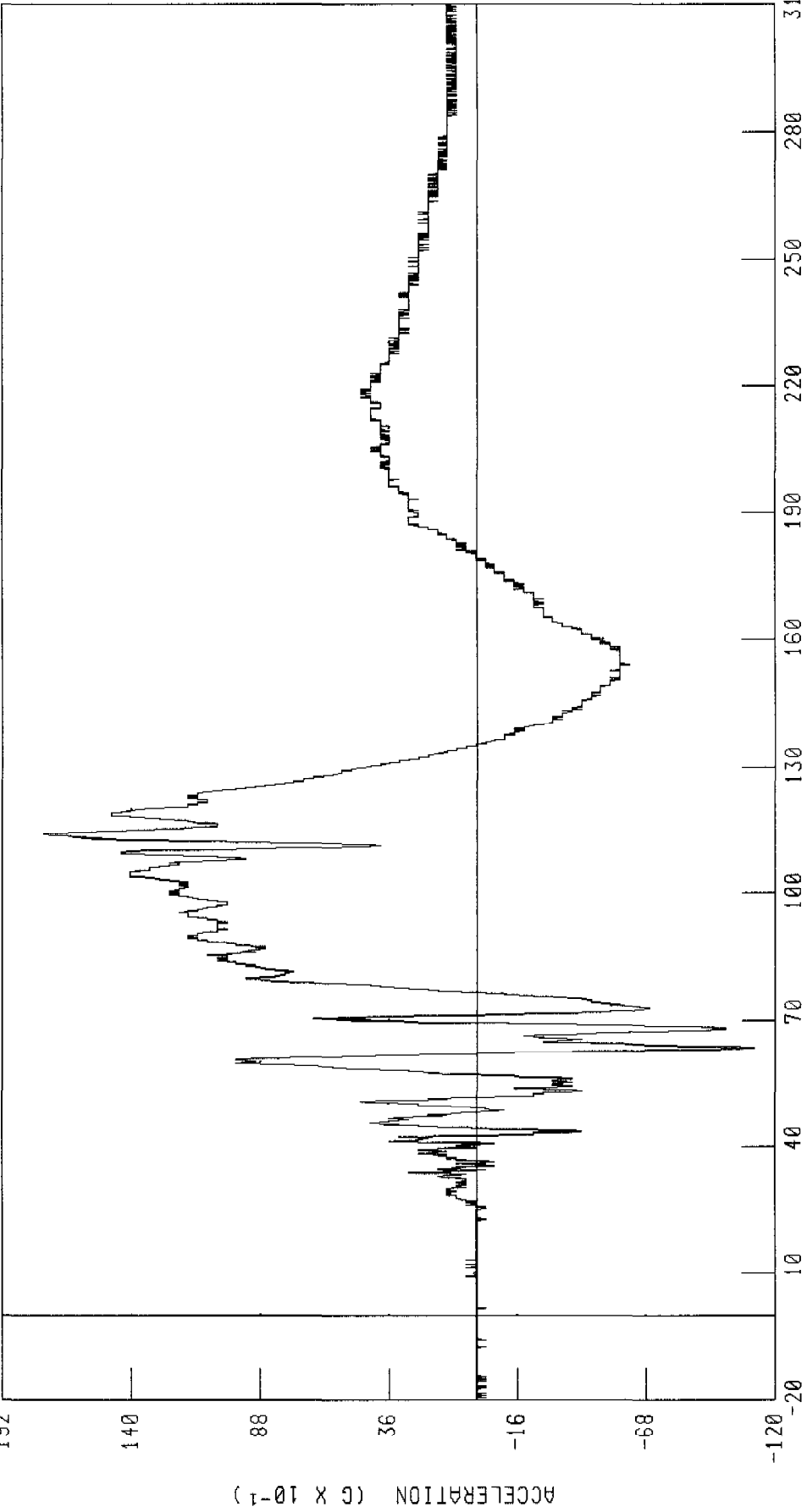
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD Z-AXIS (FT) ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC_INC



CHANNEL HDZG1 FILTER CH CLASS 1000

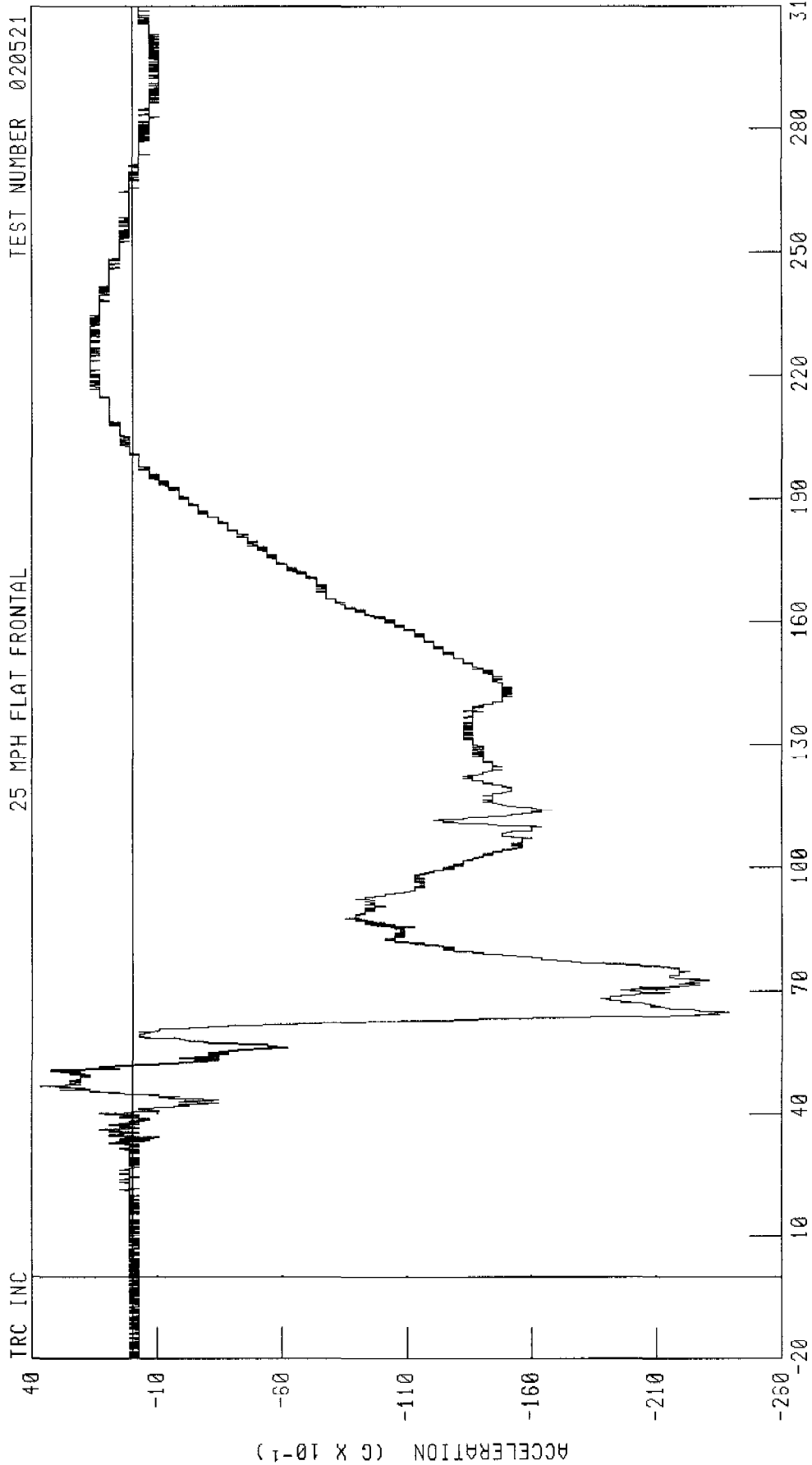
PEAK DATA 17 53 G @ 114 24 MS, -11 19 G @ 63 36 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD X-AXIS (TP) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

CHANNEL HD3XG1 FILTER CH CLASS 1000

PEAK DATA 3 65 G @ 46 80 MS, -23 88 G @ 64 80 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER HEAD Y-AXIS (TP) ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC

120

92

63

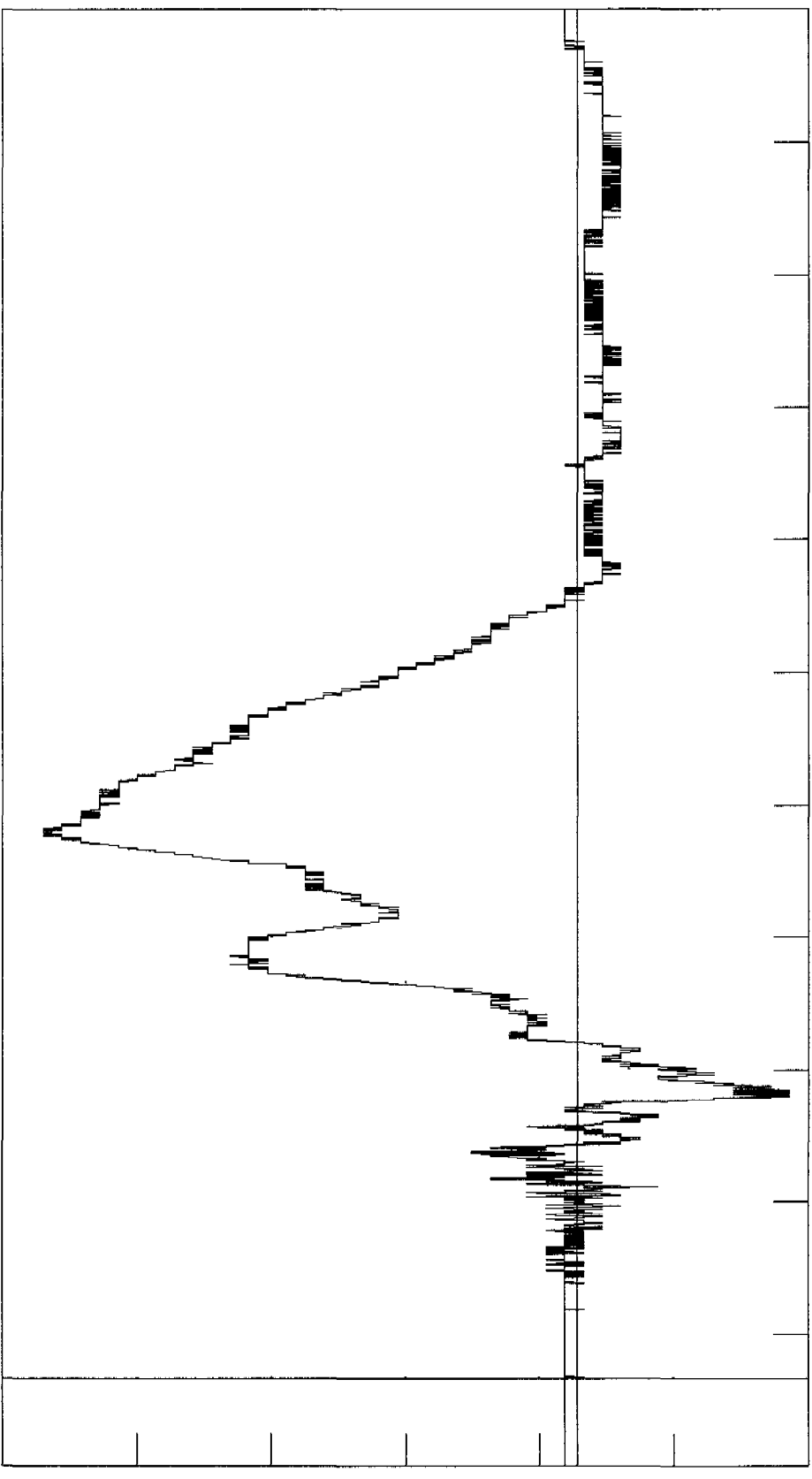
35

7

-20

-48

ACCELERATION (G X 10⁻¹)



TIME (MS)

310

280

250

220

190

160

130

100

70

40

10

PEAK DATA 11 15 G @ 123 20 MS, -4 40 G @ 64 00 MS

CHANNEL HD3YG1 FILTER CH CLASS 1000

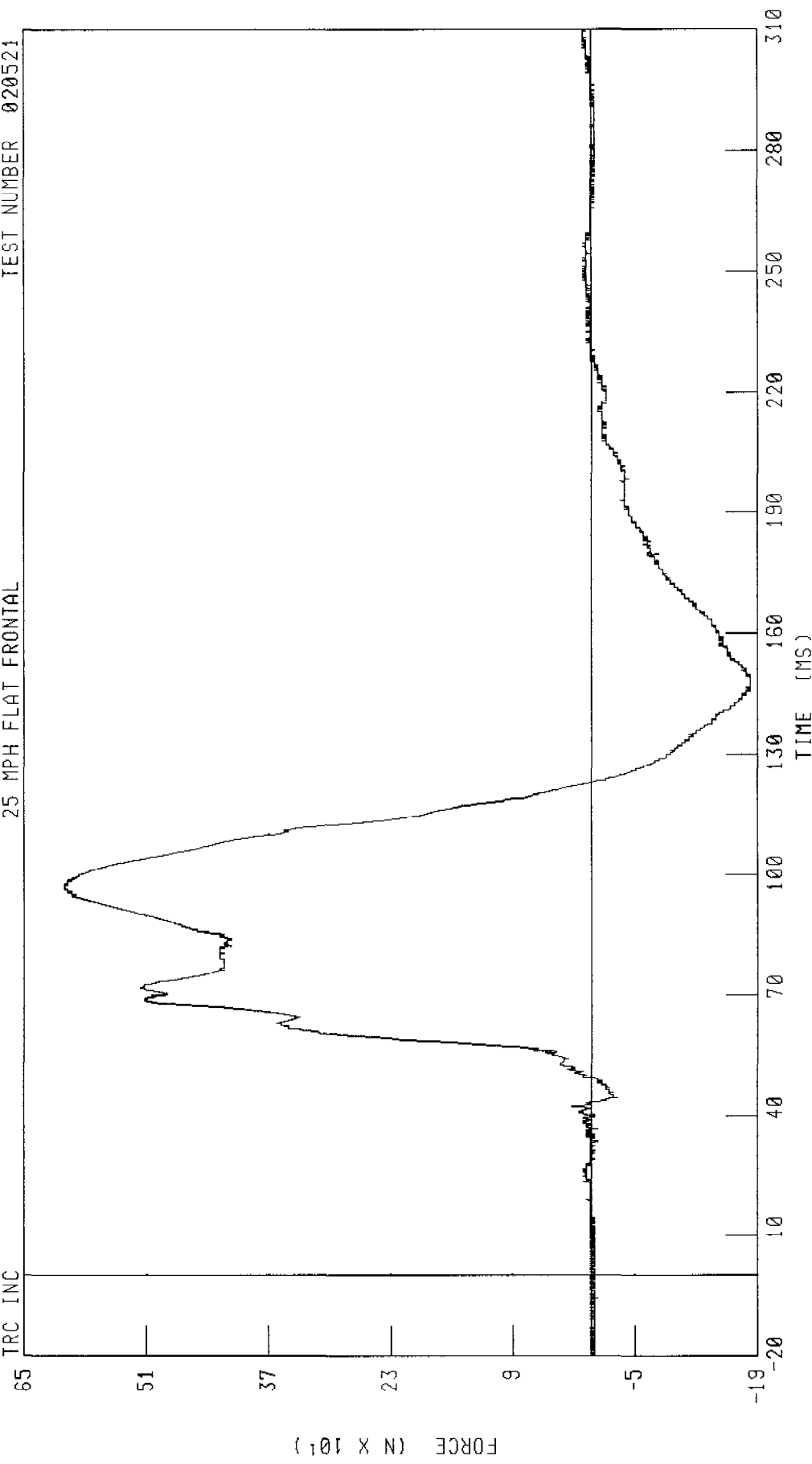
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NECK X-AXIS SHEAR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL NEKXF1 FILTER CH CLASS 1000

PEAK DATA 604 38 N @ 96 56 MS, -181 53 N @ 145 60 MS

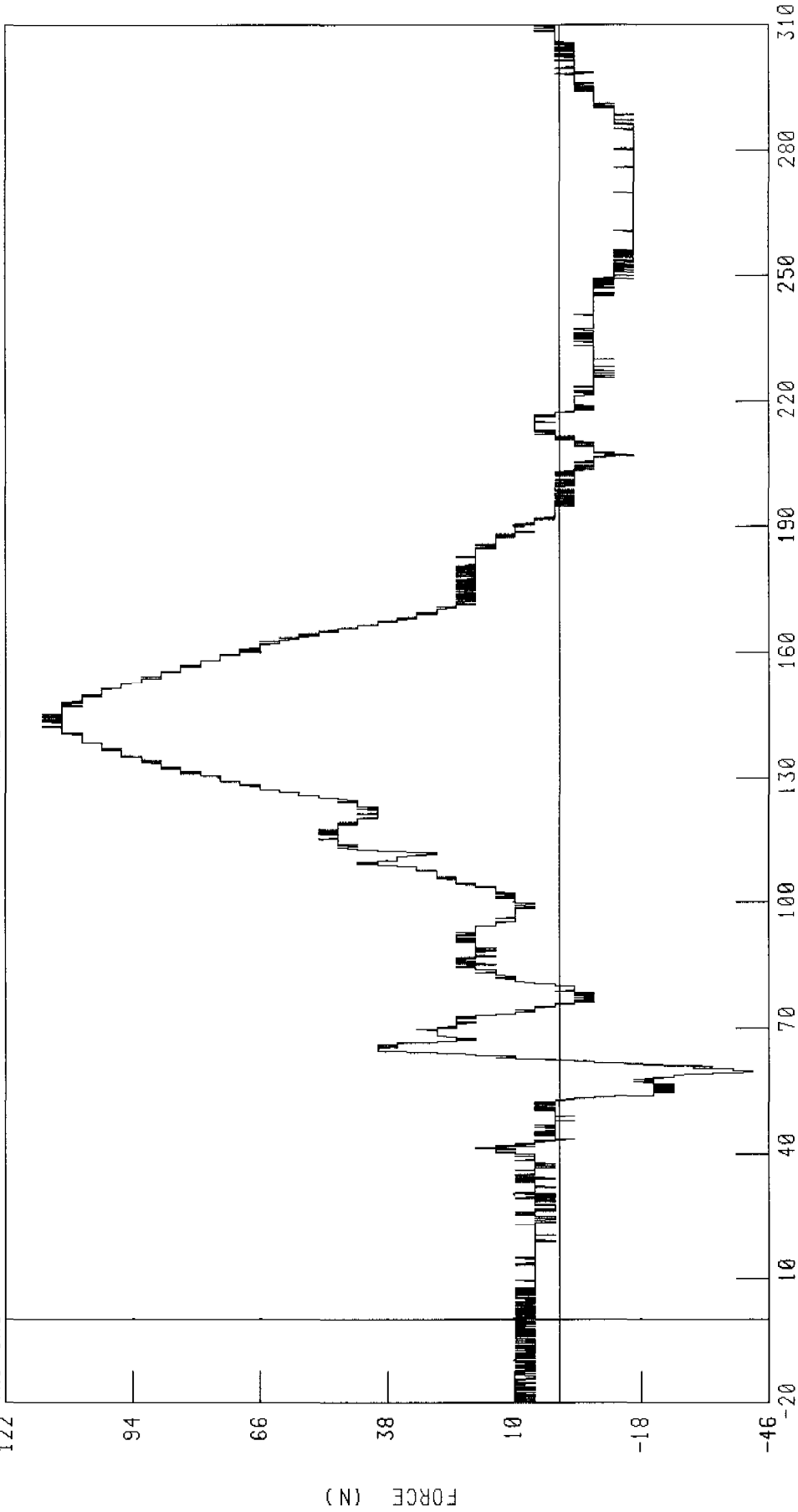
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NECK Y-AXIS SHEAR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL NEKYFI FILTER CH CLASS 1000

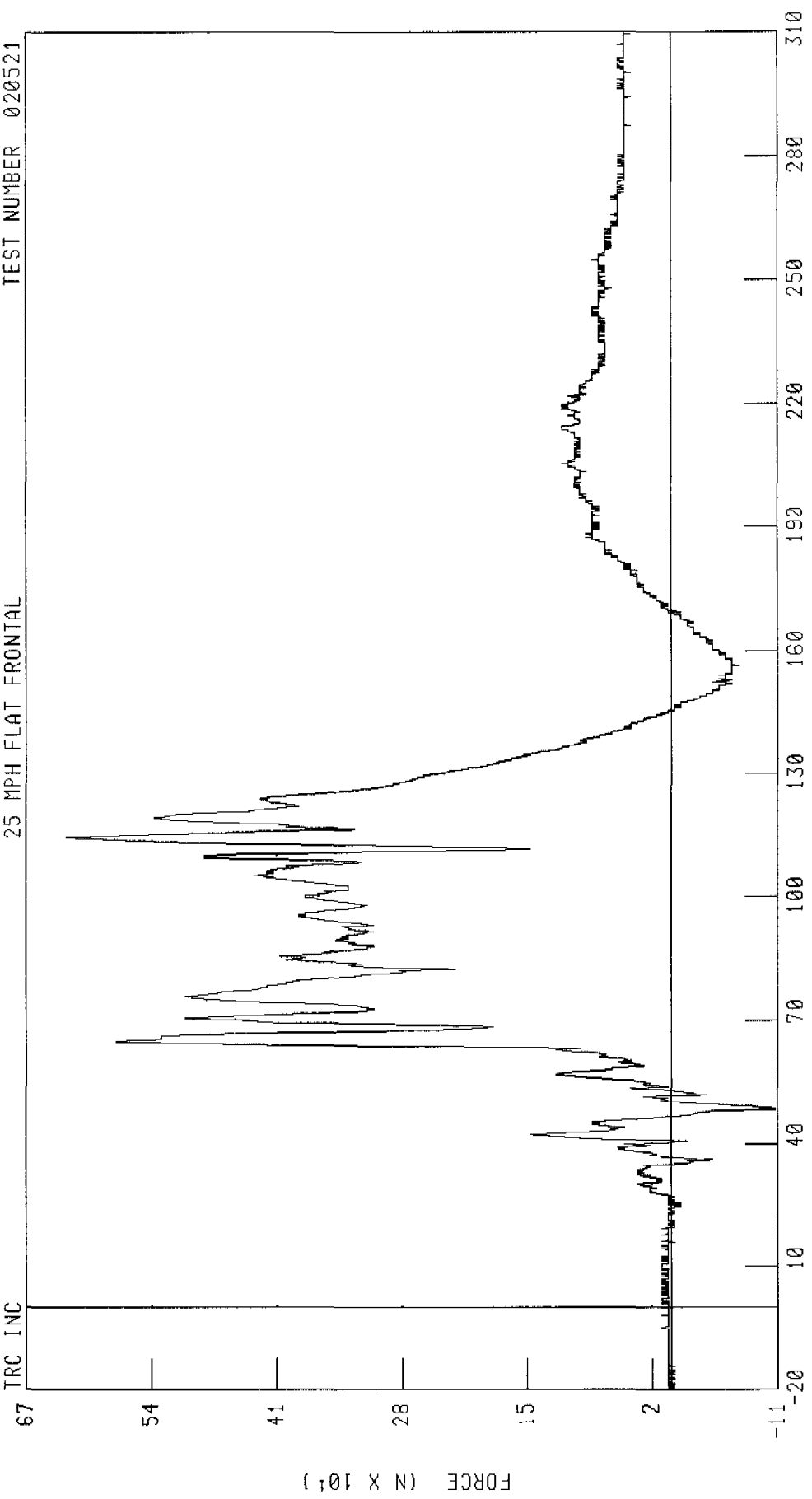
PEAK DATA 113 98 N @ 142 32 MS, -42 45 N @ 59 36 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NECK Z-AXIS AXIAL FORCE

TEST NUMBER 020521

TRC INC



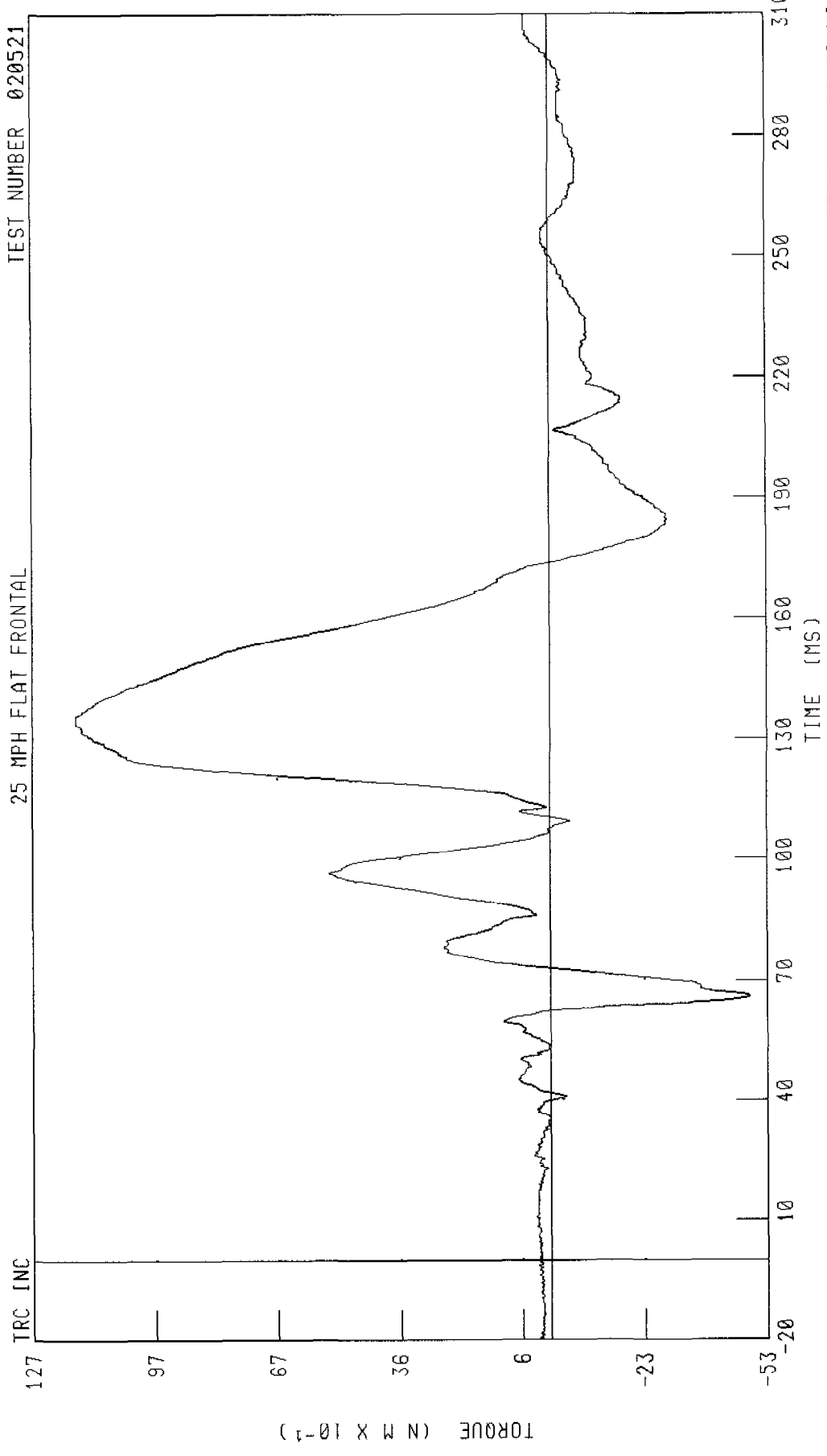
CHANNEL NEKZF1 FILTER CH CLASS 1000

PEAK DATA 628 70 N @ 114 32 MS, -107 99 N @ 48 16 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NECK MOMENT ABOUT X AXIS

TEST NUMBER 020521

25 MPH FLAT FRONTAL



TIME (MS)

PEAK DATA 11 64 N M @ 134 08 MS, -4 87 N M @ 66 00 MS

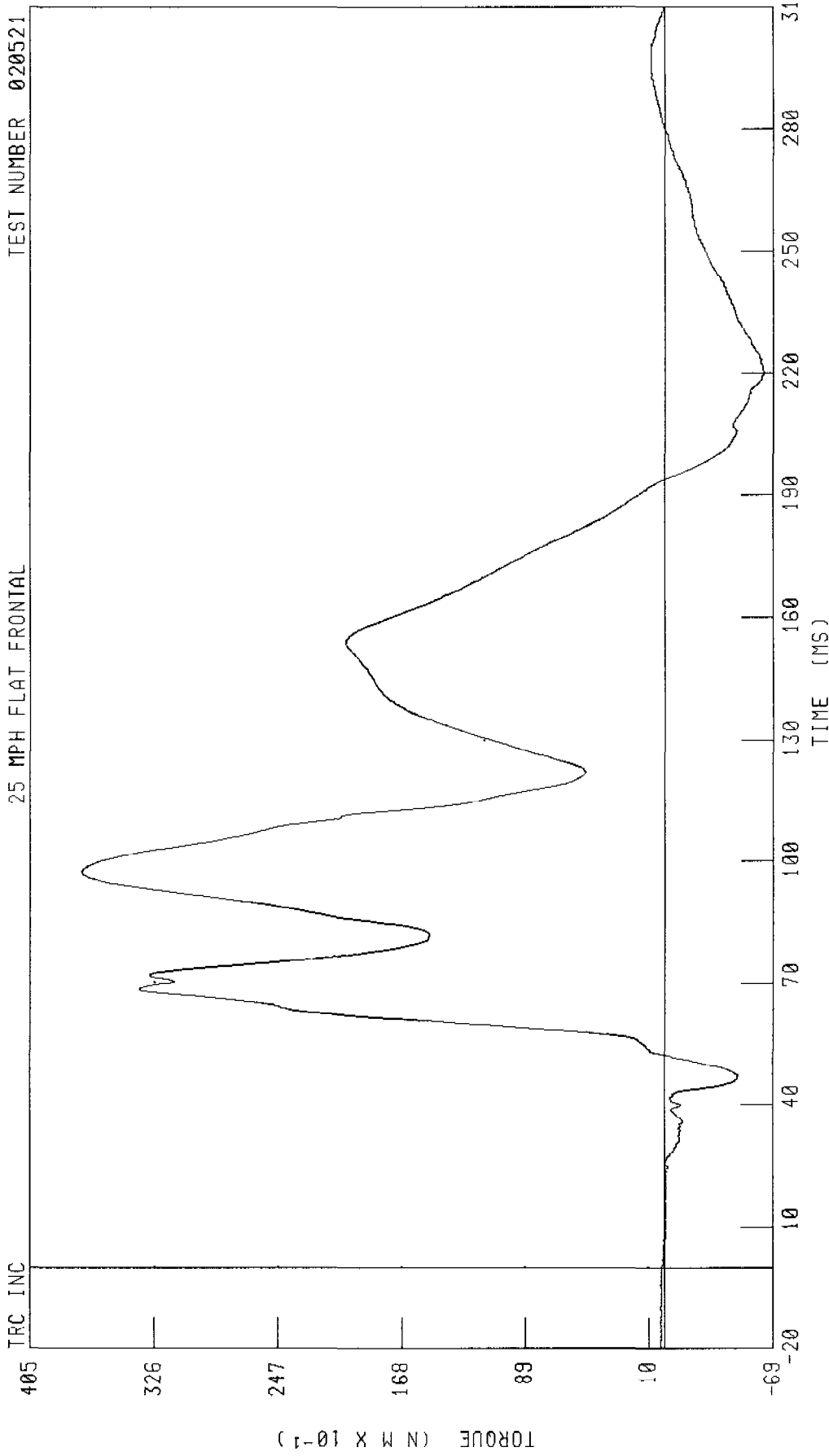
CHANNEL NEKXMI FILTER CH CLASS 600

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NECK MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



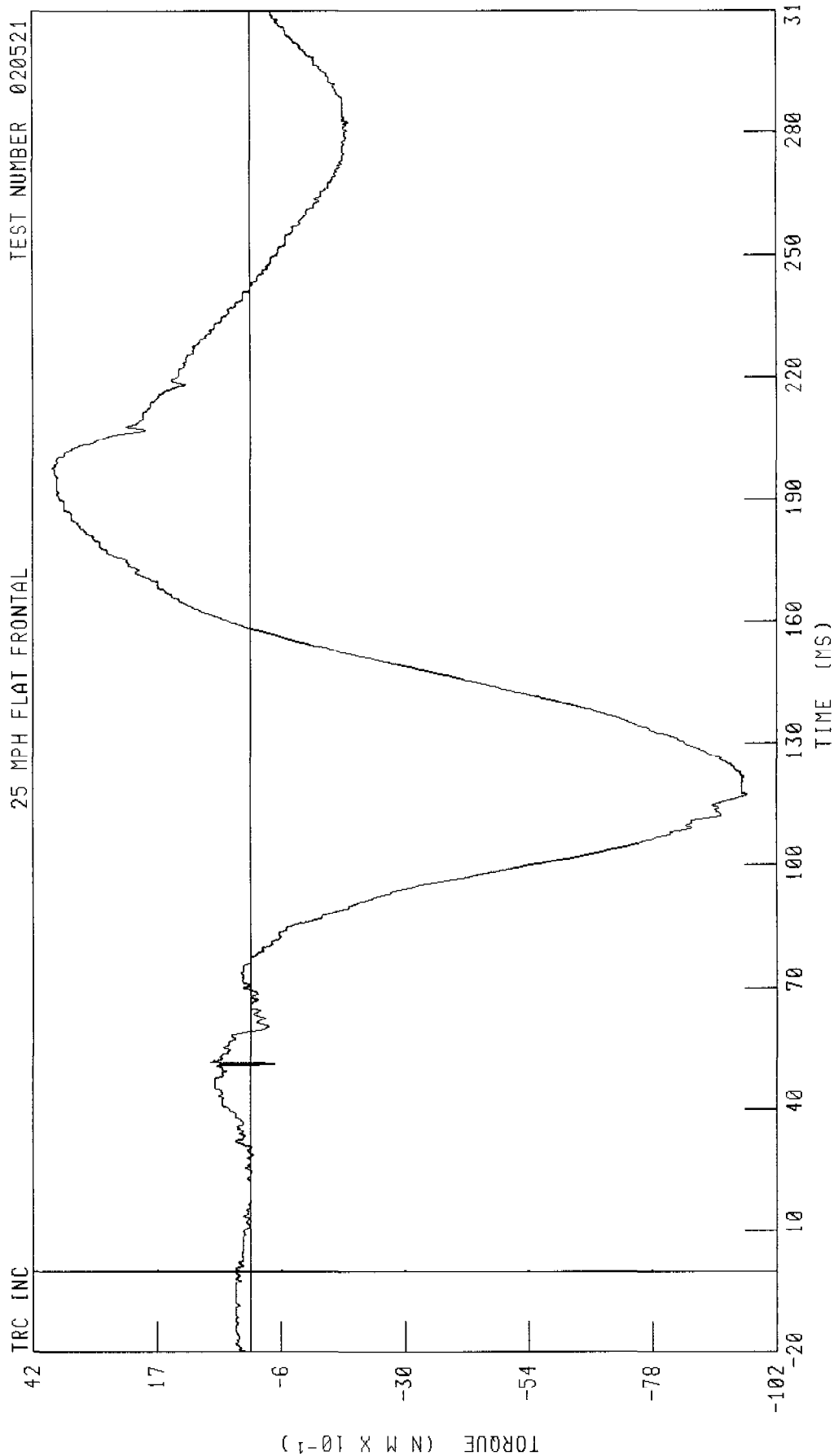
CHANNEL NEKYM1 FILTER CH CLASS 600 PEAK DATA 37 23 N M @ 97 36 MS, -6 28 N M @ 219 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NECK MOMENT ABOUT Z AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



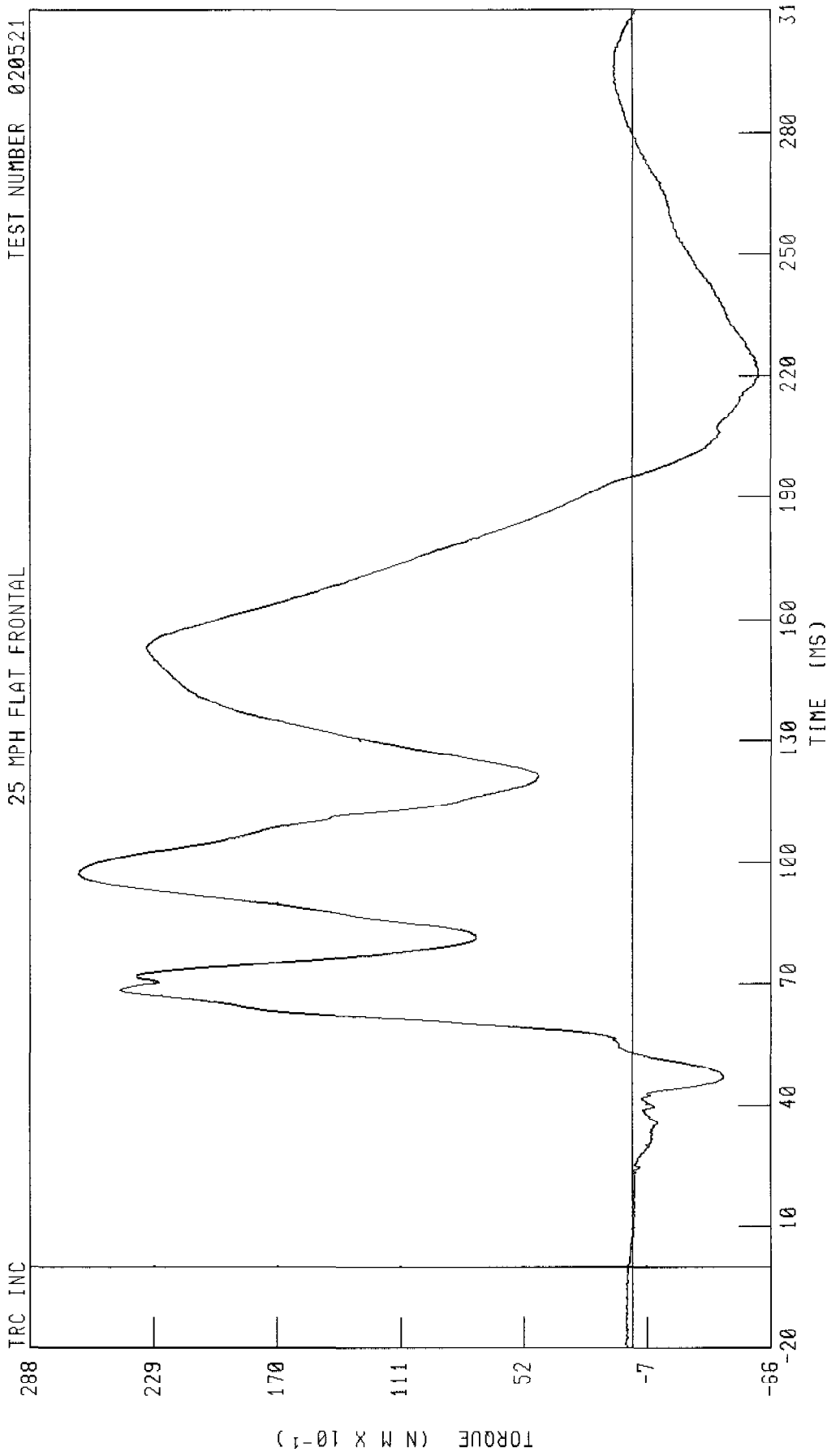
CHANNEL NEKZM1 FILTER CH CLASS 600

PEAK DATA 3 82 N M @ 197 76 MS, -9 64 N M @ 117 52 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NECK OCCIPITAL CONDYLE MOMENT ABOUT Y AXIS

TEST NUMBER 020521

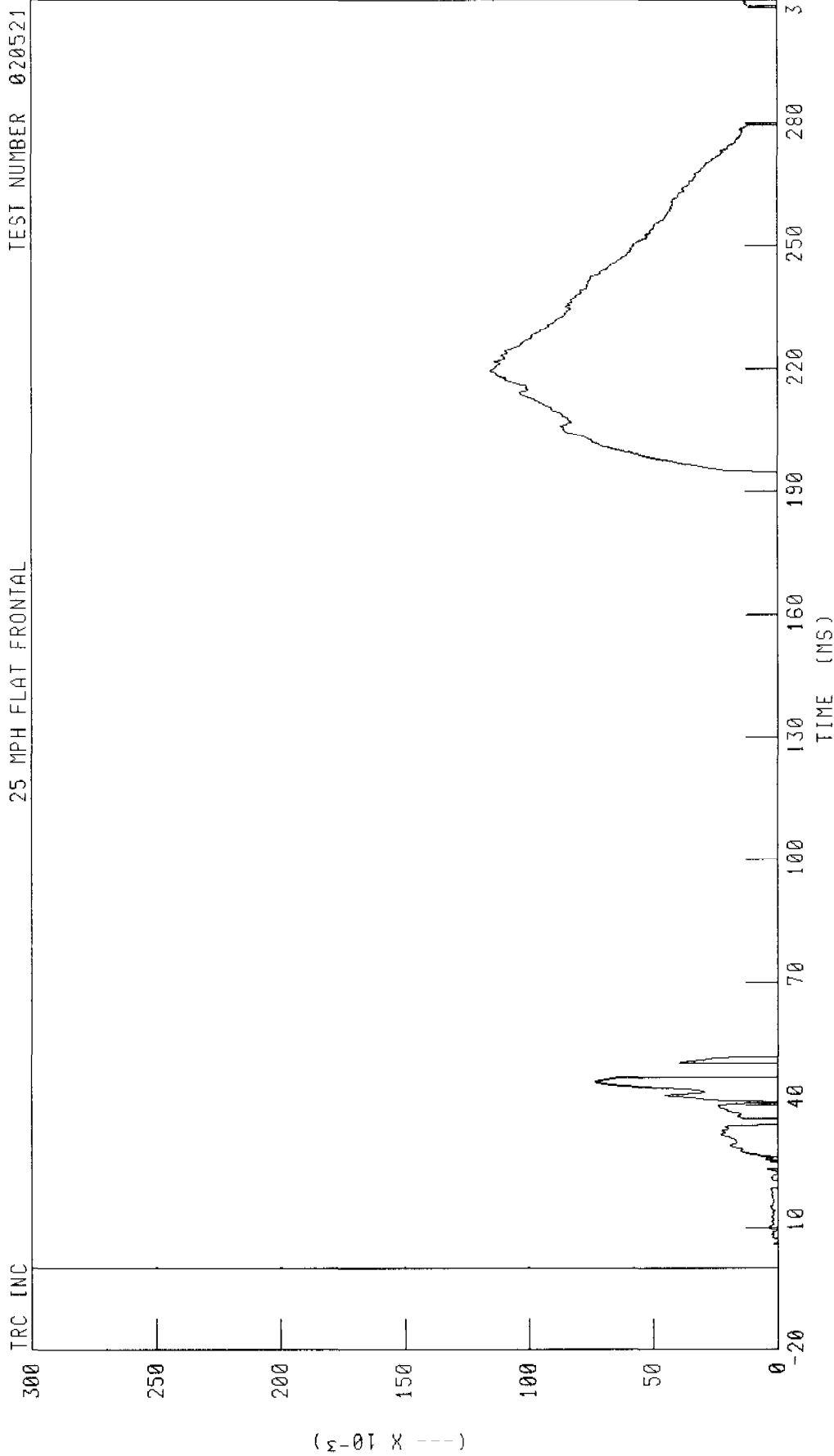
25 MPH FLAT FRONTAL



PEAK DATA 26 49 N M @ 97 44 MS, -6 02 N M @ 220 72 MS

CHANNEL NEKOM1 FILTER CH CLASS 600

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NIJ TENSION/EXTENSION
25 MPH FLAT FRONTAL



TEST NUMBER 020521

CHANNEL NTE1 FILTER CH CLASS 600 PEAK DATA 0 12 --- 0 219 52 MS, 0 00 --- 0 -20 00 MS

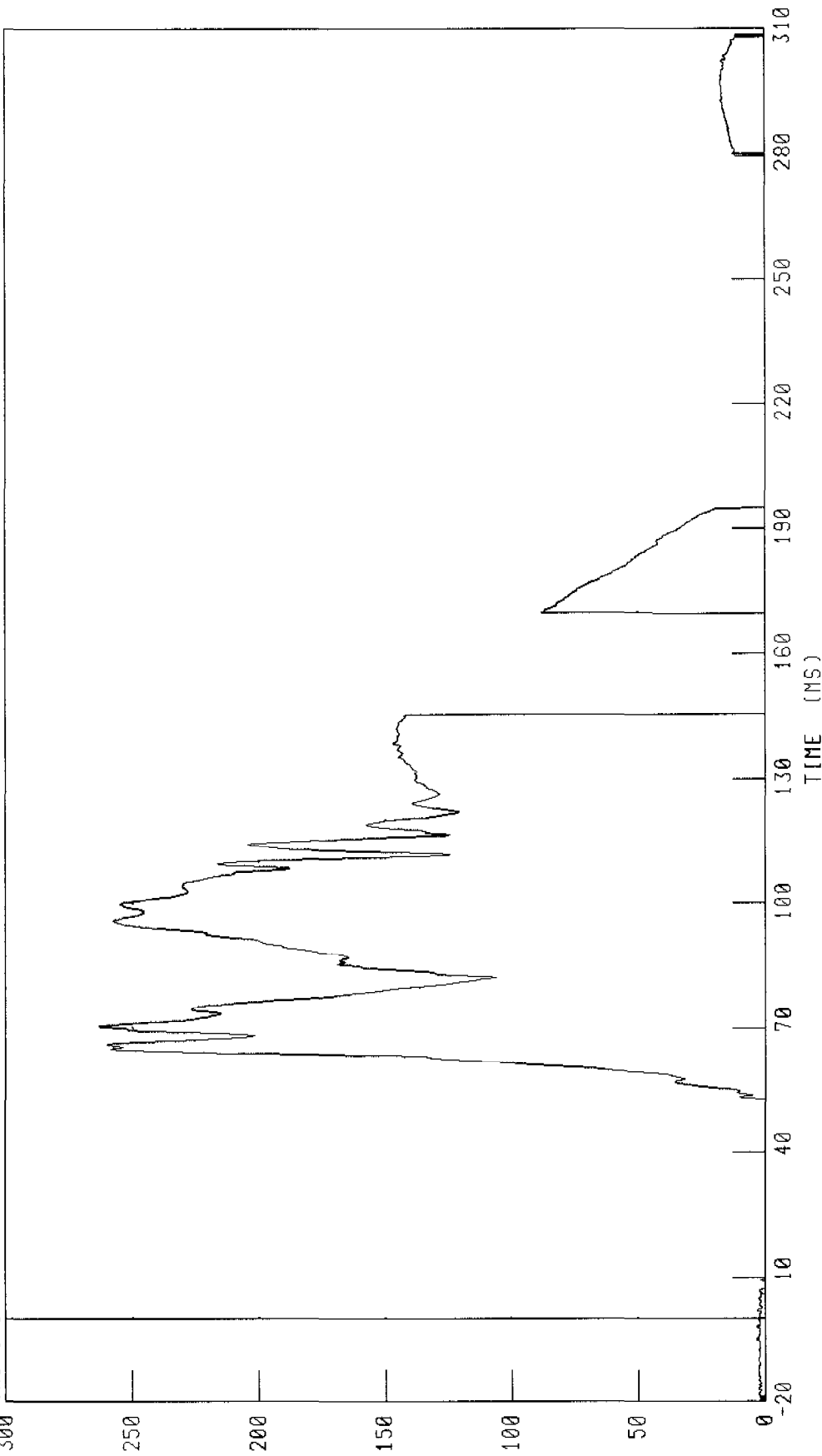
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NIJ TENSION/FLEXION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL NTF1 FILTER CH CLASS 600 PEAK DATA 0 26 --- 0 70 56 MS, 0 00 --- 0 -19 60 MS

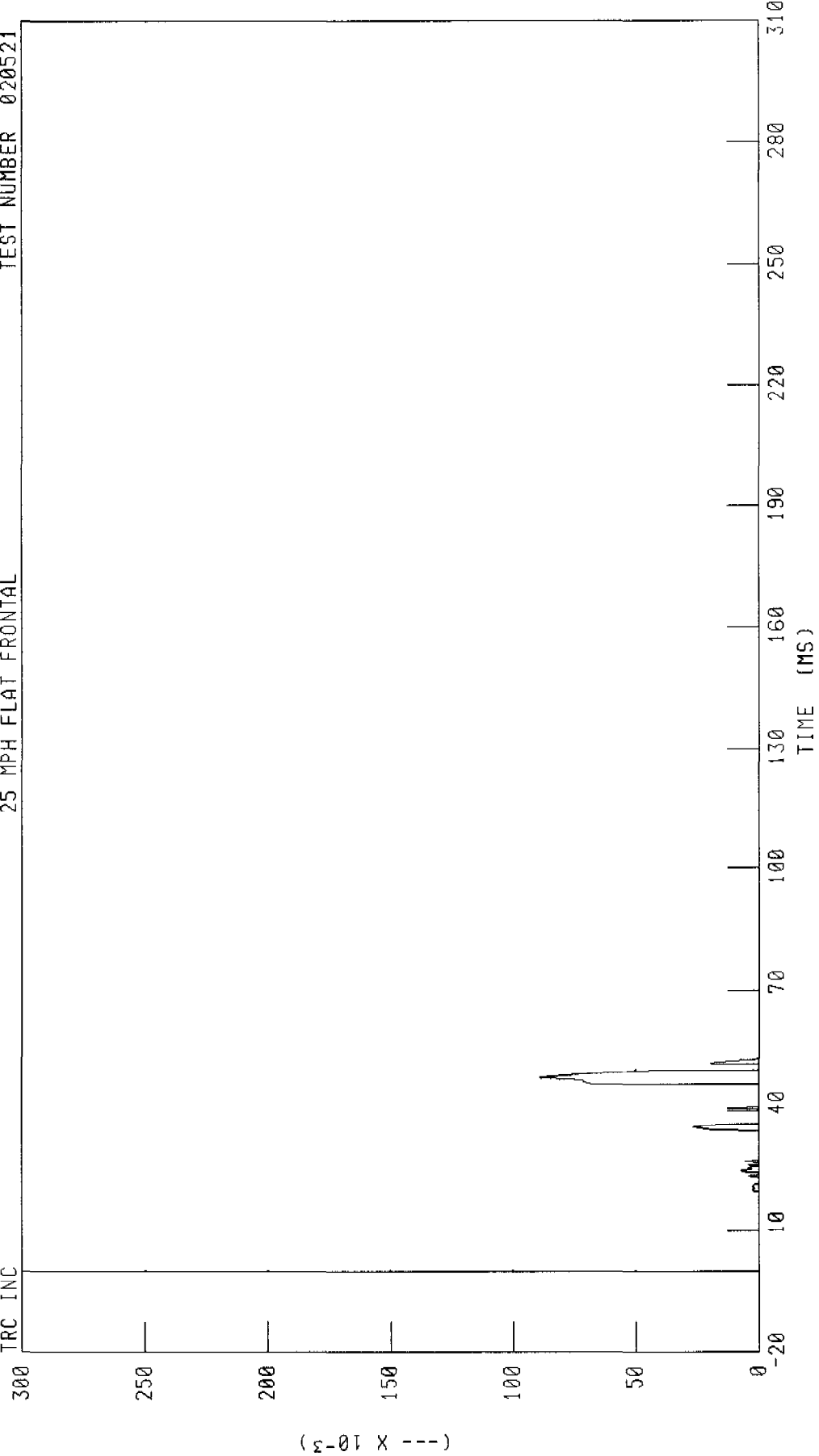
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NIJ COMPRESSION/EXTENSION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL NCE1 FILTER CH CLASS 600

PEAK DATA 0 09 --- 0 48 24 MS, 0 00 --- 0 -20 00 MS

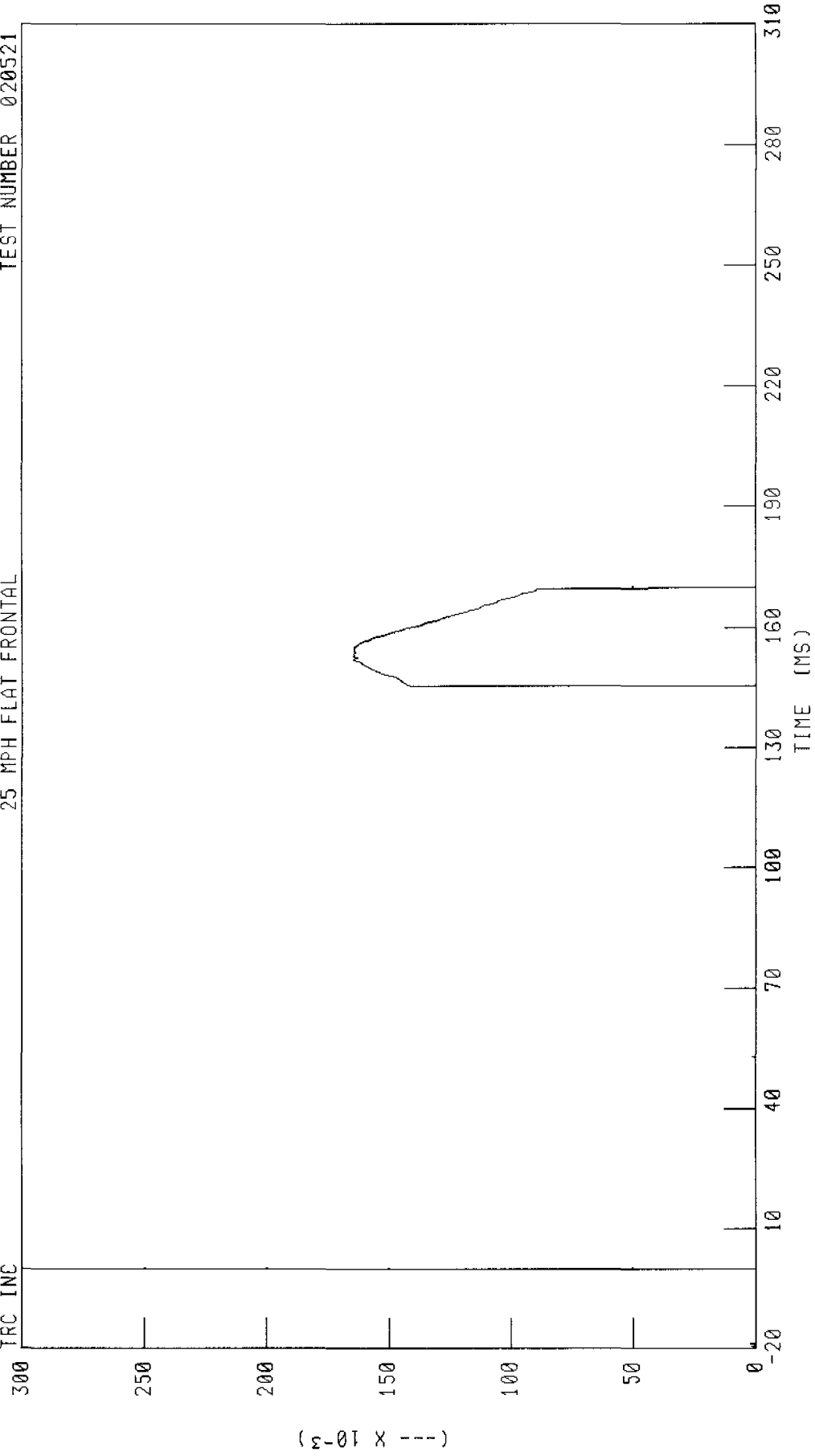
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NIJ COMPRESSION/FLEXION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

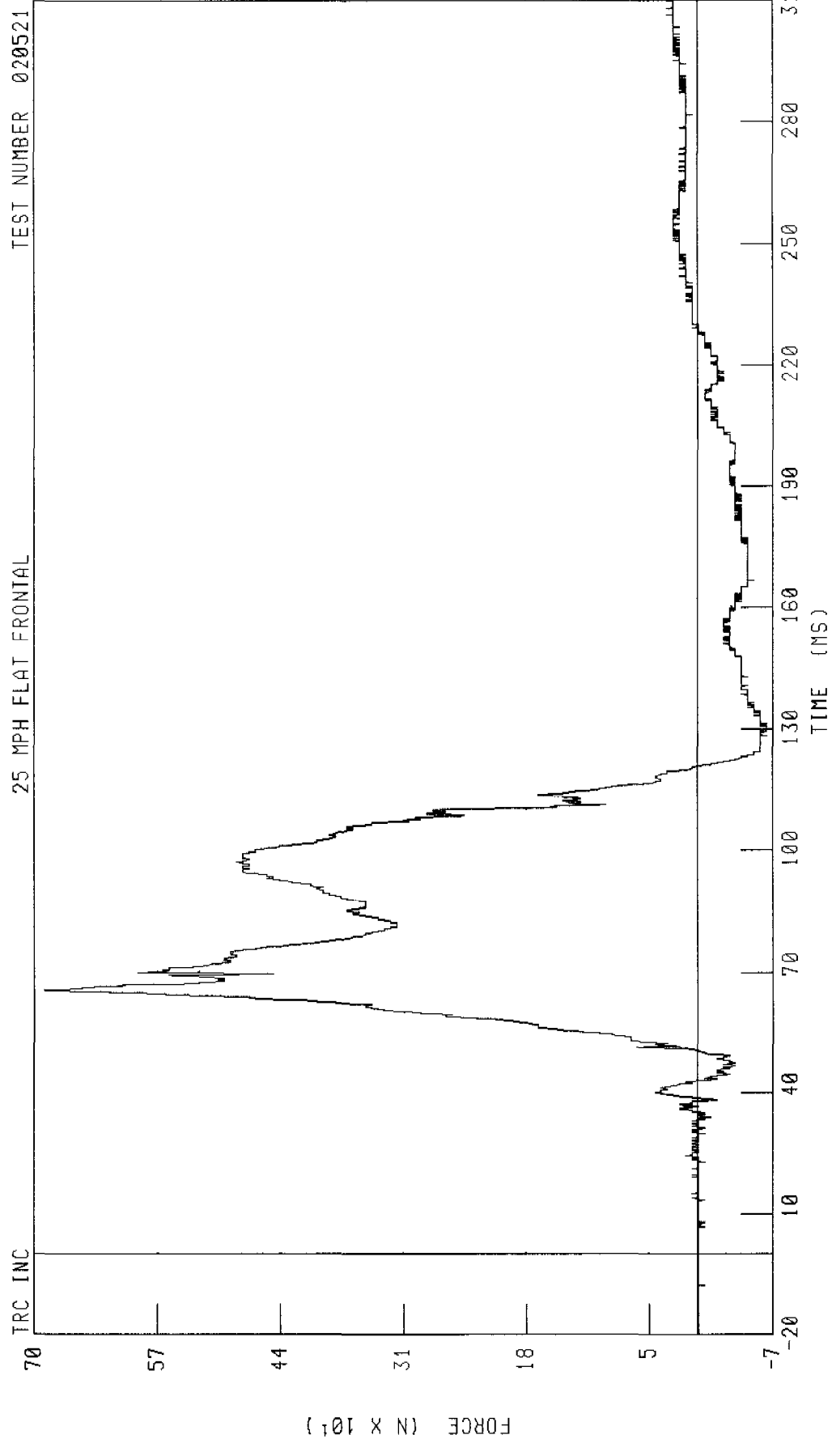


(--- X 10⁻³)

TIME (MS)

CHANNEL NCF1 FILTER CH CLASS 600 PEAK DATA 0 16 --- 0 152 08 MS, 0 00 --- 0 -20 00 MS

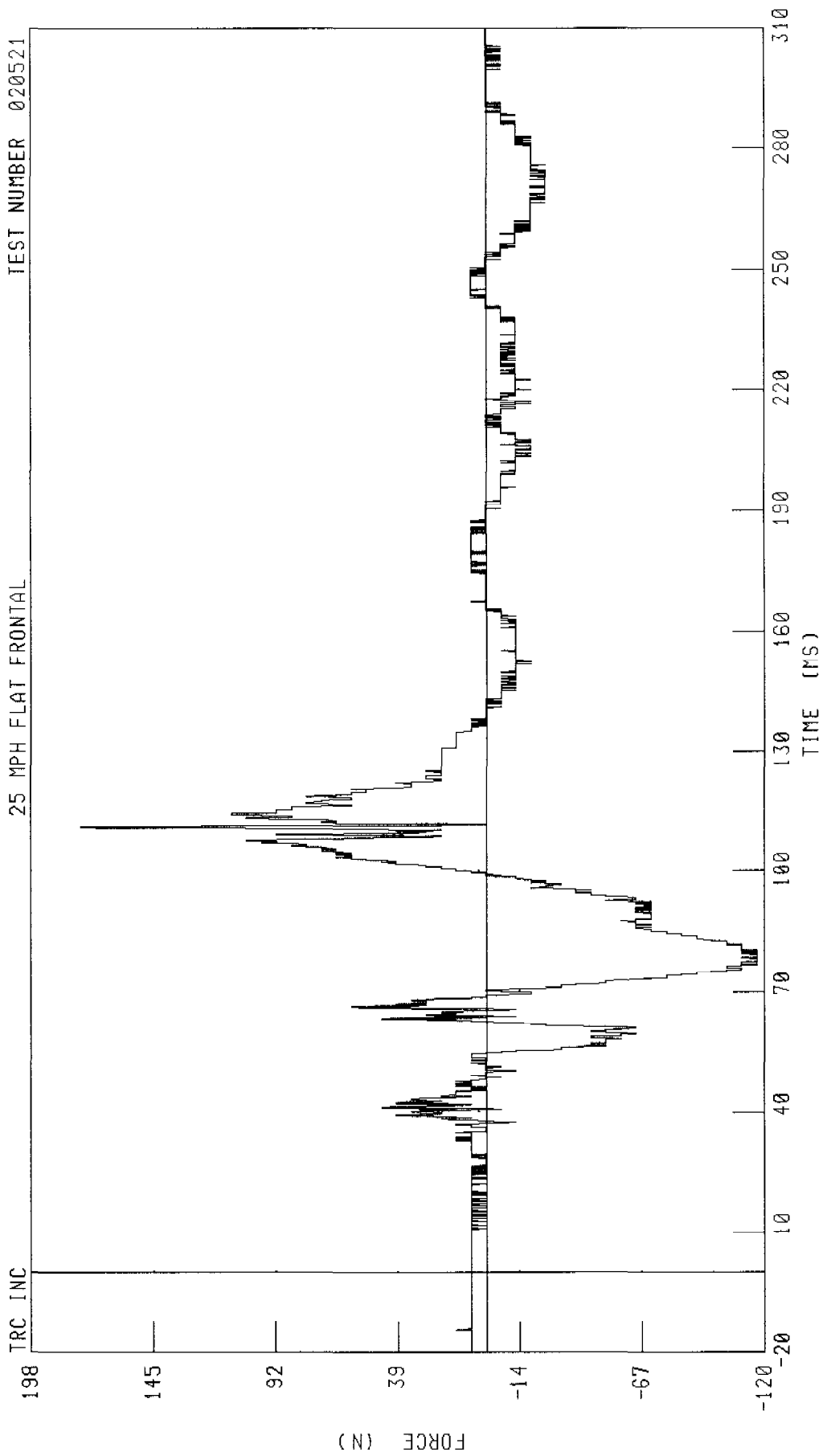
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NECK LOWER X-AXIS SHEAR FORCE



CHANNEL NKLXF1 FILTER CH CLASS 1000 PEAK DATA 690 05 N @ 65 60 MS, -72 63 N @ 128 40 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NECK LOWER Y-AXIS SHEAR FORCE

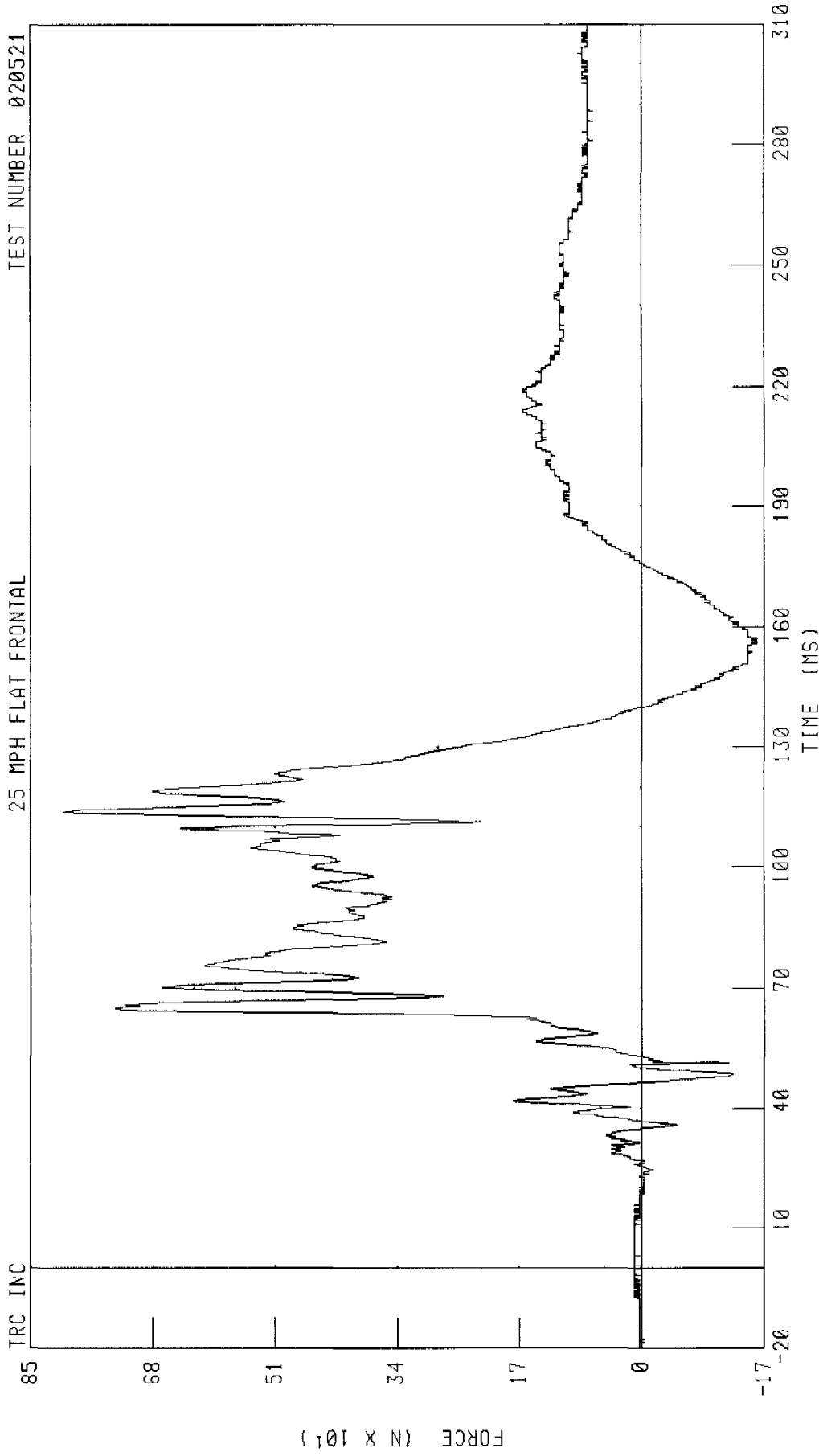
TRC INC
25 MPH FLAT FRONTAL
TEST NUMBER 020521



CHANNEL NKLYF1 FILTER CH CLASS 1000

PEAK DATA 176 35 N @ 111 20 MS, -116 72 N @ 76 80 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NECK LOWER Z-AXIS AXIAL FORCE



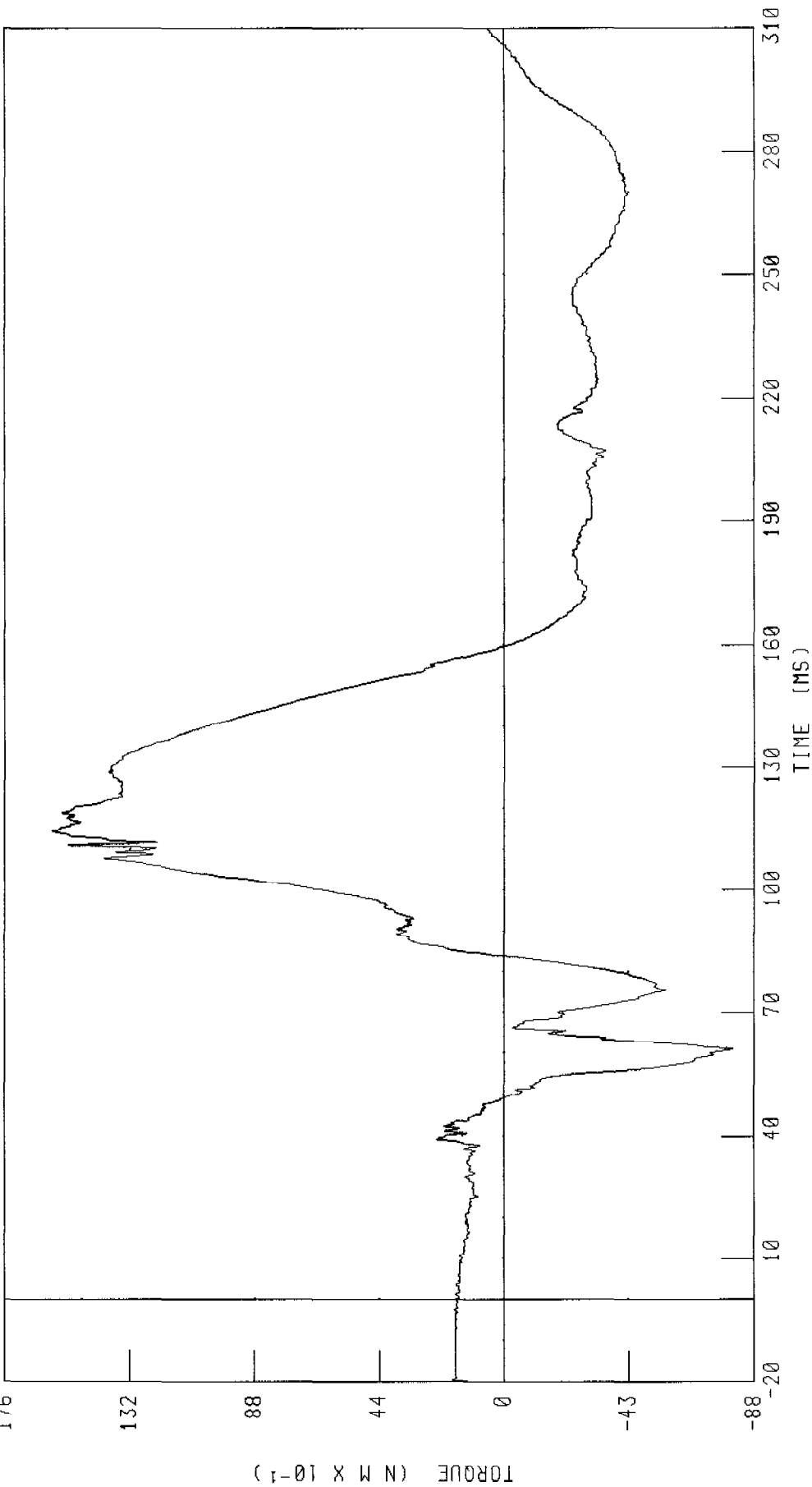
CHANNEL NKLZF1 FILTER CH CLASS 1000

PEAK DATA 804 14 N @ 114 08 MS, -160 00 N @ 156 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NECK LOWER MOMENT ABOUT X AXIS

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL NKLXMI FILTER CH CLASS 600

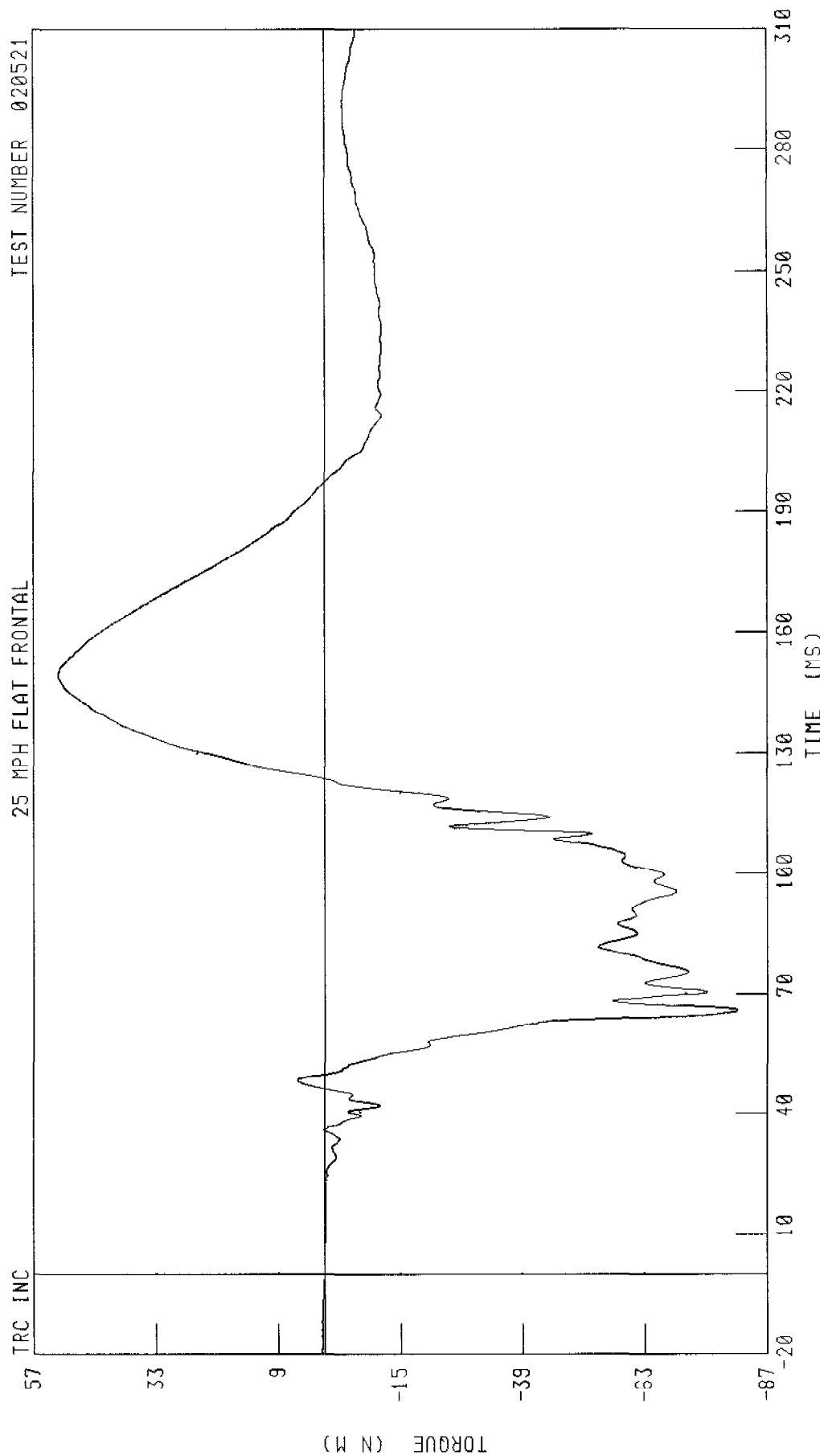
PEAK DATA 15 93 N M @ 114 64 MS, -8 07 N M @ 61 04 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER NECK LOWER MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521

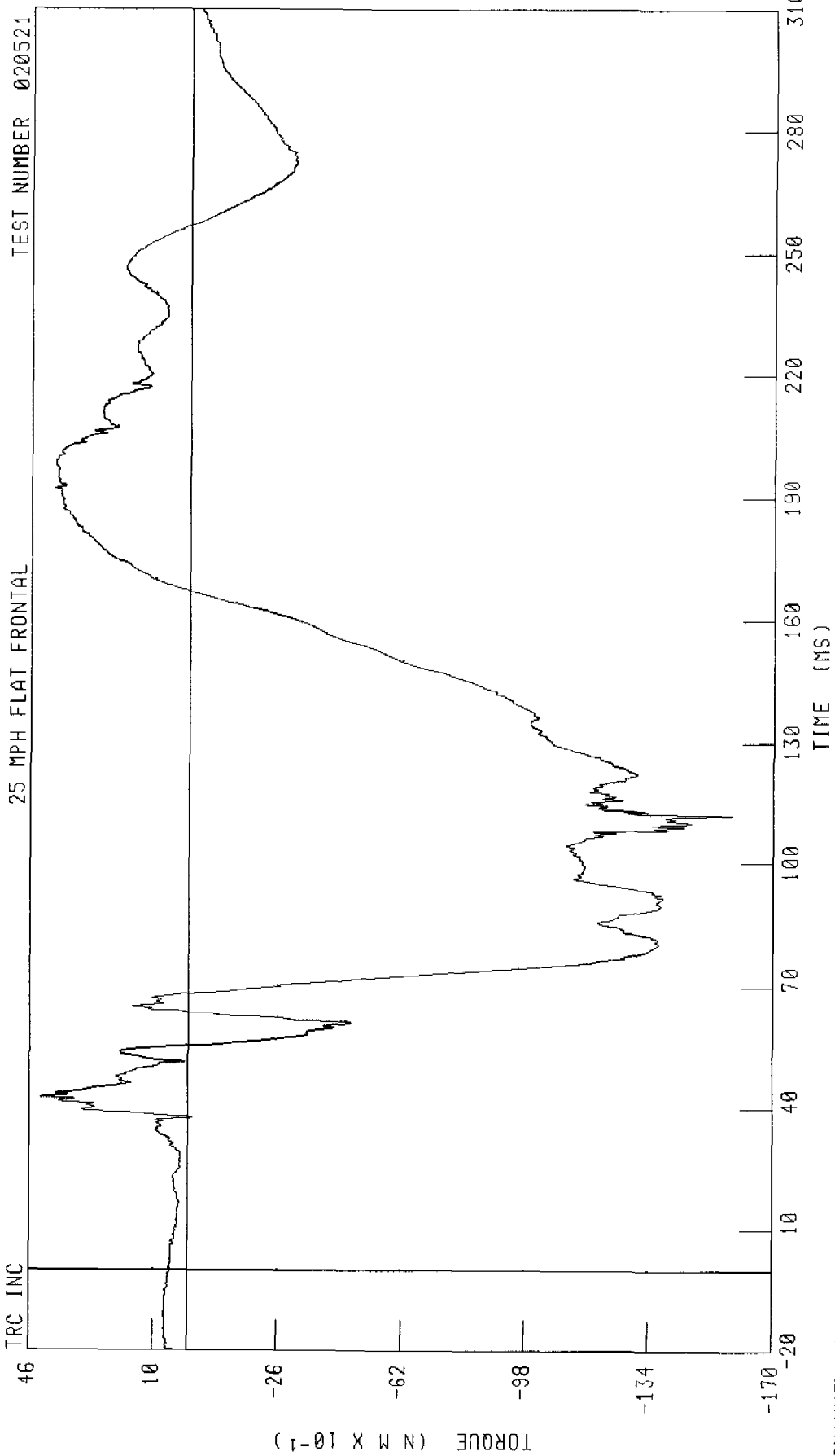


TIME (MS)

PEAK DATA 52 17 N M @ 149 68 MS, -81 20 N M @ 65 92 MS

CHANNEL NKLYM1 FILTER CH CLASS 600

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER NECK LOWER MOMENT ABOUT Z AXIS



CHANNEL NKLZMI FILTER CH CLASS 600 PEAK DATA 4 26 N M @ 42 56 MS, -15 82 N M @ 111 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER CHEST X-AXIS ACCELERATION

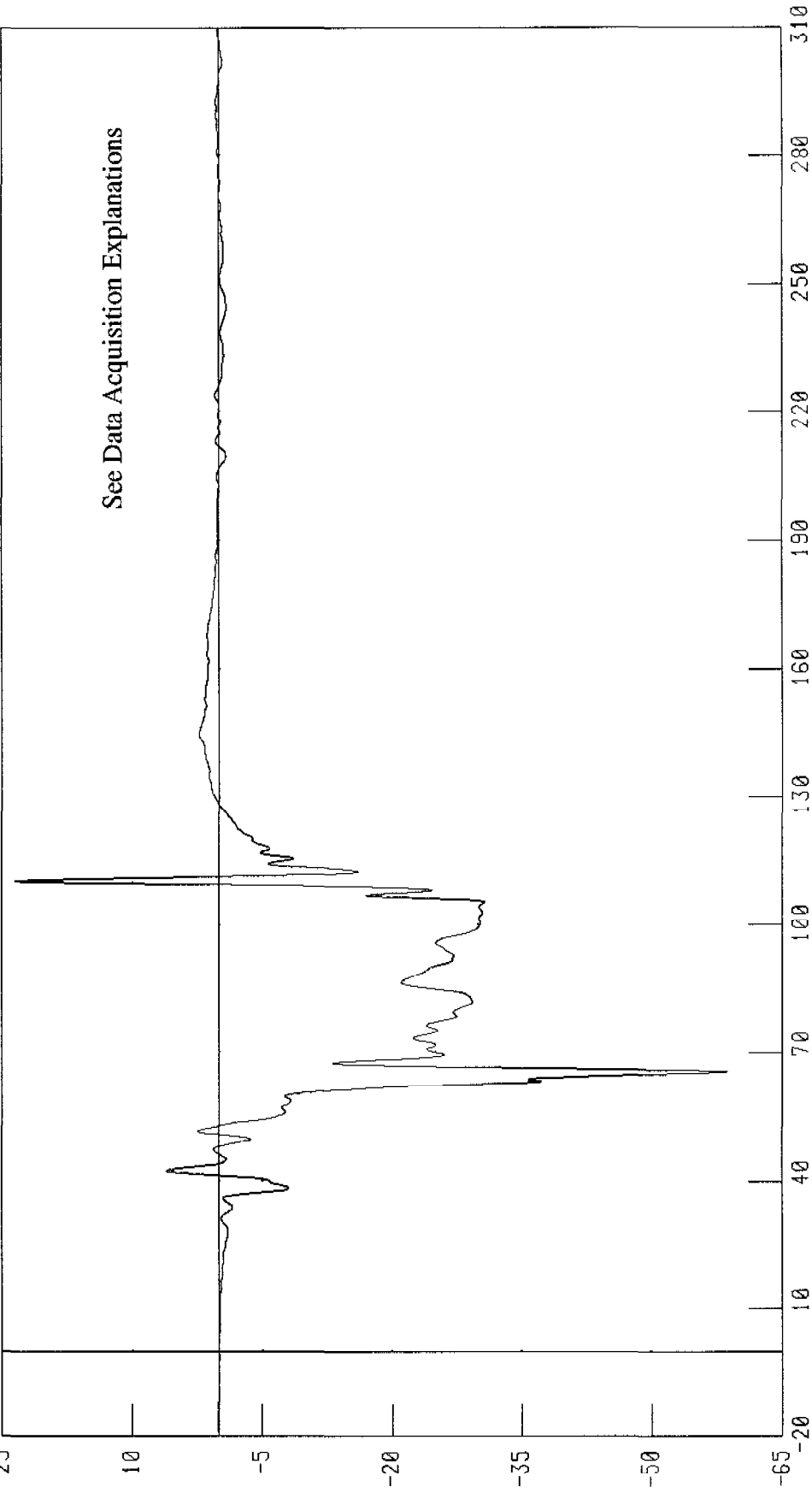
25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

See Data Acquisition Explanations

ACCELERATION (G)



TIME (MS)

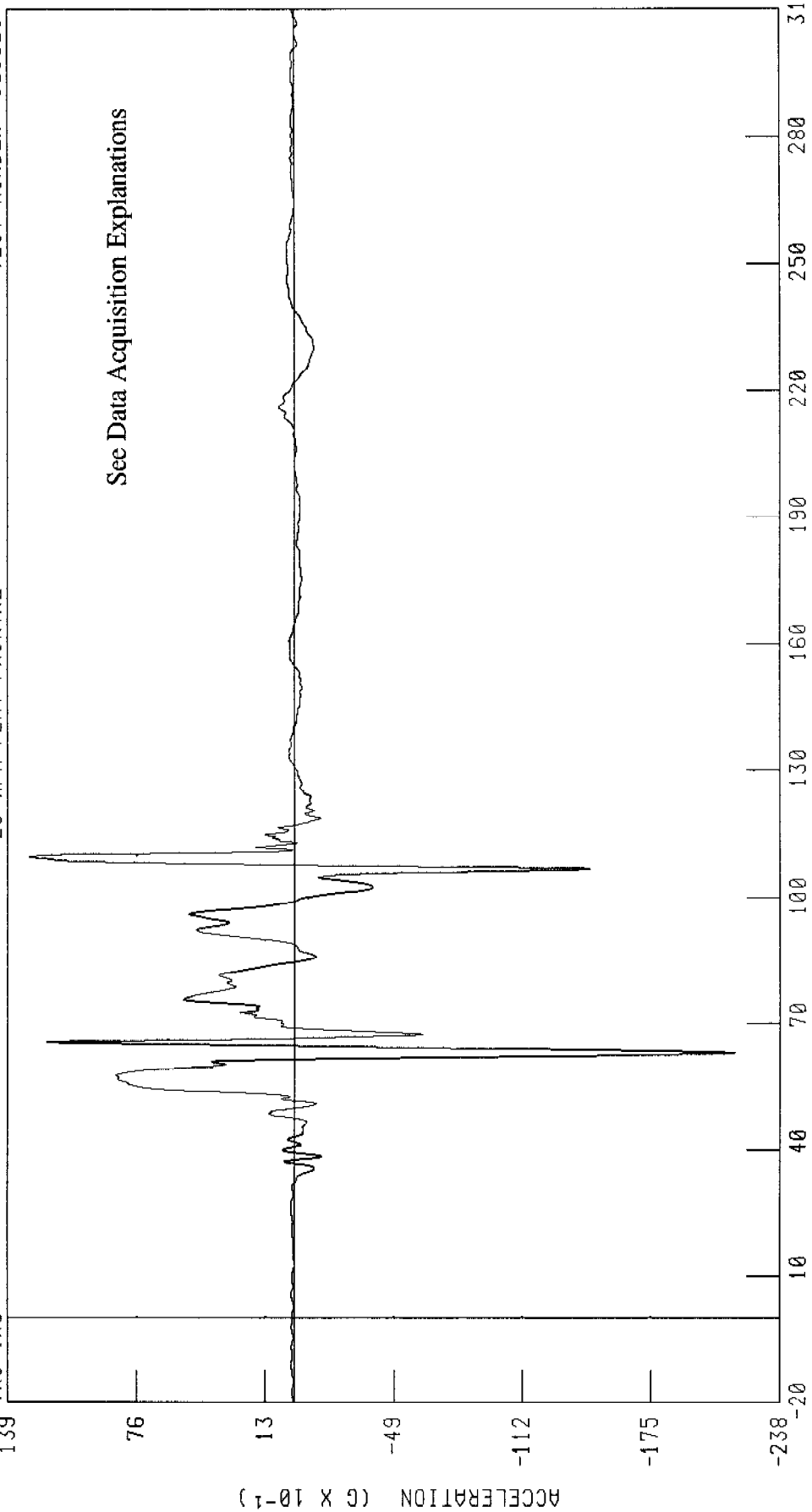
CHANNEL CSTXC1 FILTER CH CLASS 180

PEAK DATA 23 47 G @ 110 48 MS, -58 66 G @ 65 44 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER CHEST Y-AXIS ACCELERATION

TEST NUMBER 020521

TRC INC



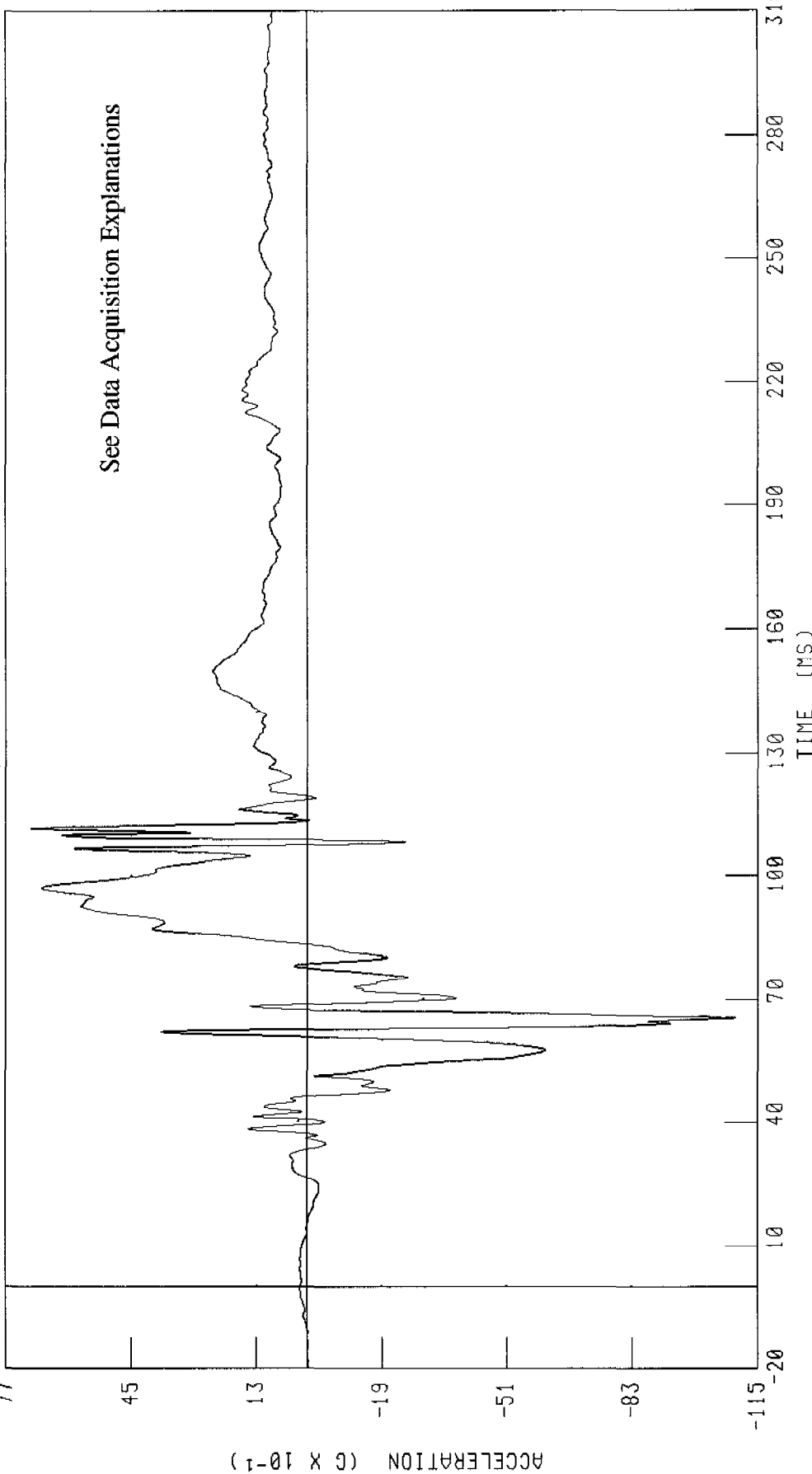
CHANNEL CSTYG1 FILTER CH CLASS 180

PEAK DATA 12.97 G @ 109.92 MS, -21.60 G @ 62.96 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER CHEST Z-AXIS ACCELERATION
25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



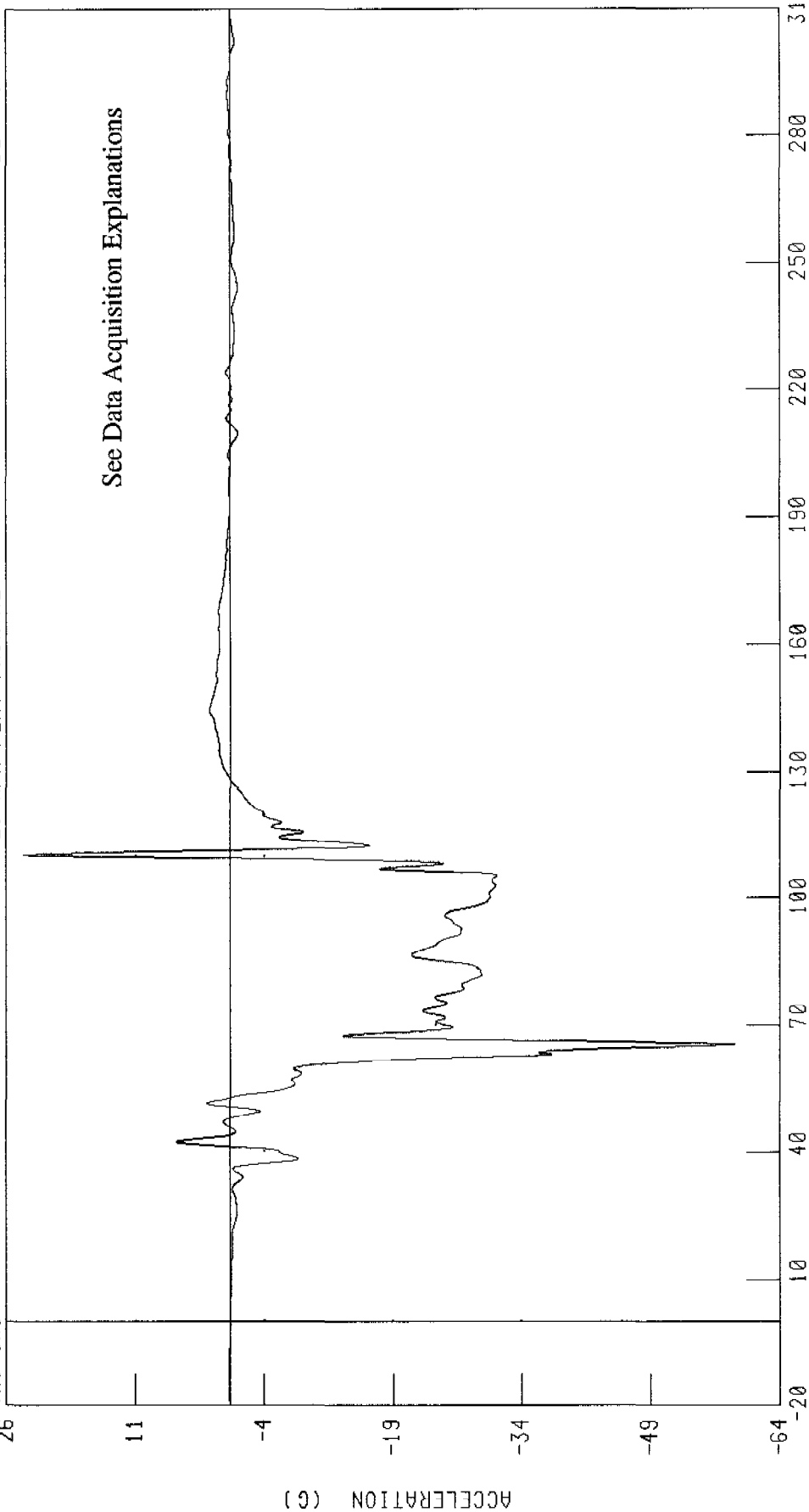
CHANNEL CSTZC1 FILTER CH CLASS 180 PEAK DATA 7 06 G @ 111 68 MS, -10 94 G @ 65 44 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER CHEST X-AXIS REDUNDANT ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC

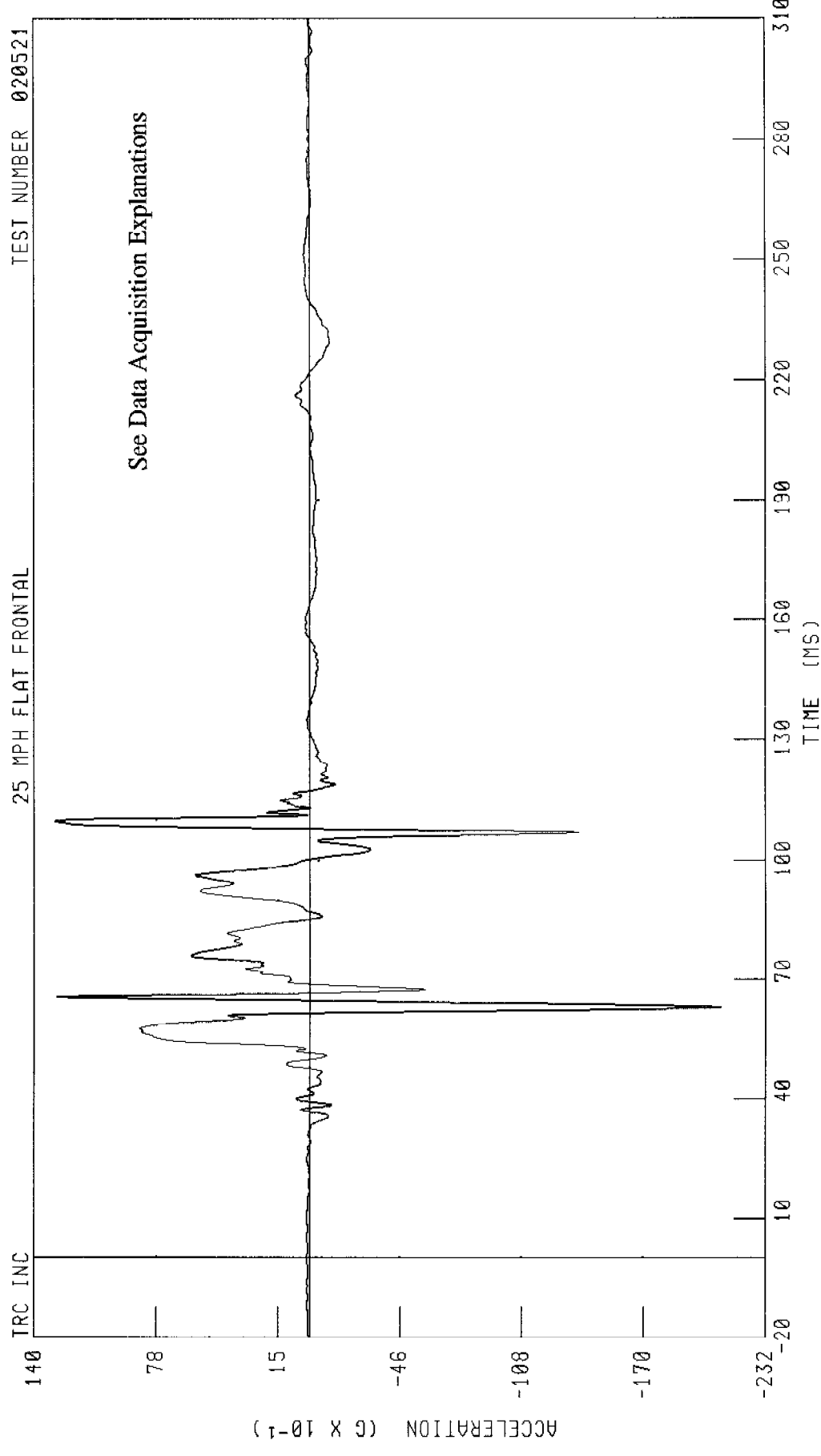


CHANNEL CSTXR1 FILTER CH CLASS 130

PEAK DATA 23 97 G @ 110 48 MS, -58 76 G @ 65 44 MS

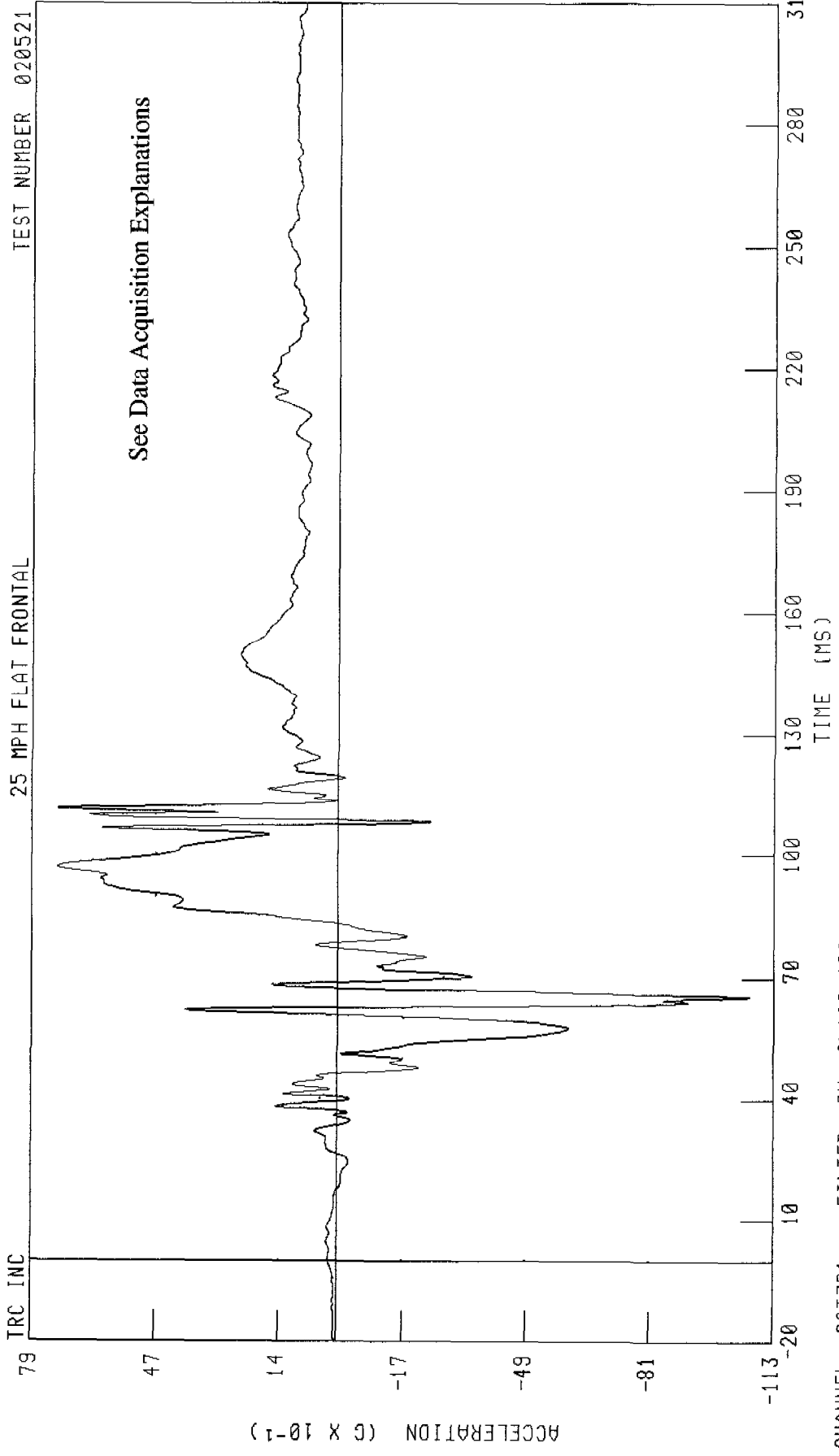
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER CHEST Y-AXIS REDUNDANT ACCELERATION

TRC INC TEST NUMBER 020521



CHANNEL CSTR1 FILTER CH CLASS 180 PEAK DATA 12 98 C @ 109 84 MS, -20 96 G @ 63 04 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER CHEST Z-AXIS REDUNDANT ACCELERATION



TEST NUMBER 020521

25 MPH FLAT FRONTAL

PEAK DATA 7 23 G @ 97 20 MS, -10 69 G @ 65 44 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER CHEST RESULTANT ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

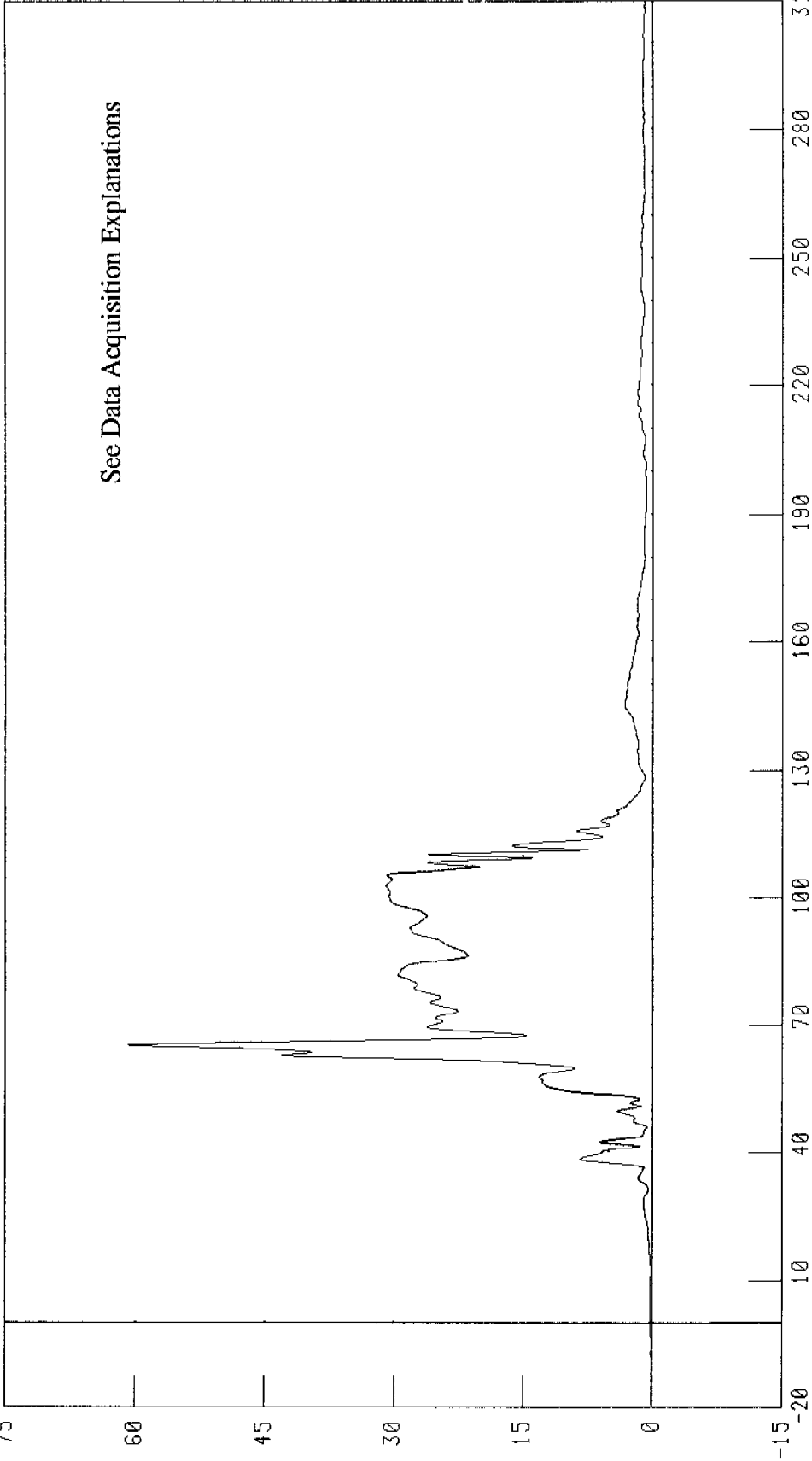
See Data Acquisition Explanations

ACCELERATION (G)

TIME (MS)

CHANNEL CSTRG1 FILTER CH CLASS 180

PEAK DATA 60 82 G @ 65 44 MS, 0 01 G @ -20 00 MS

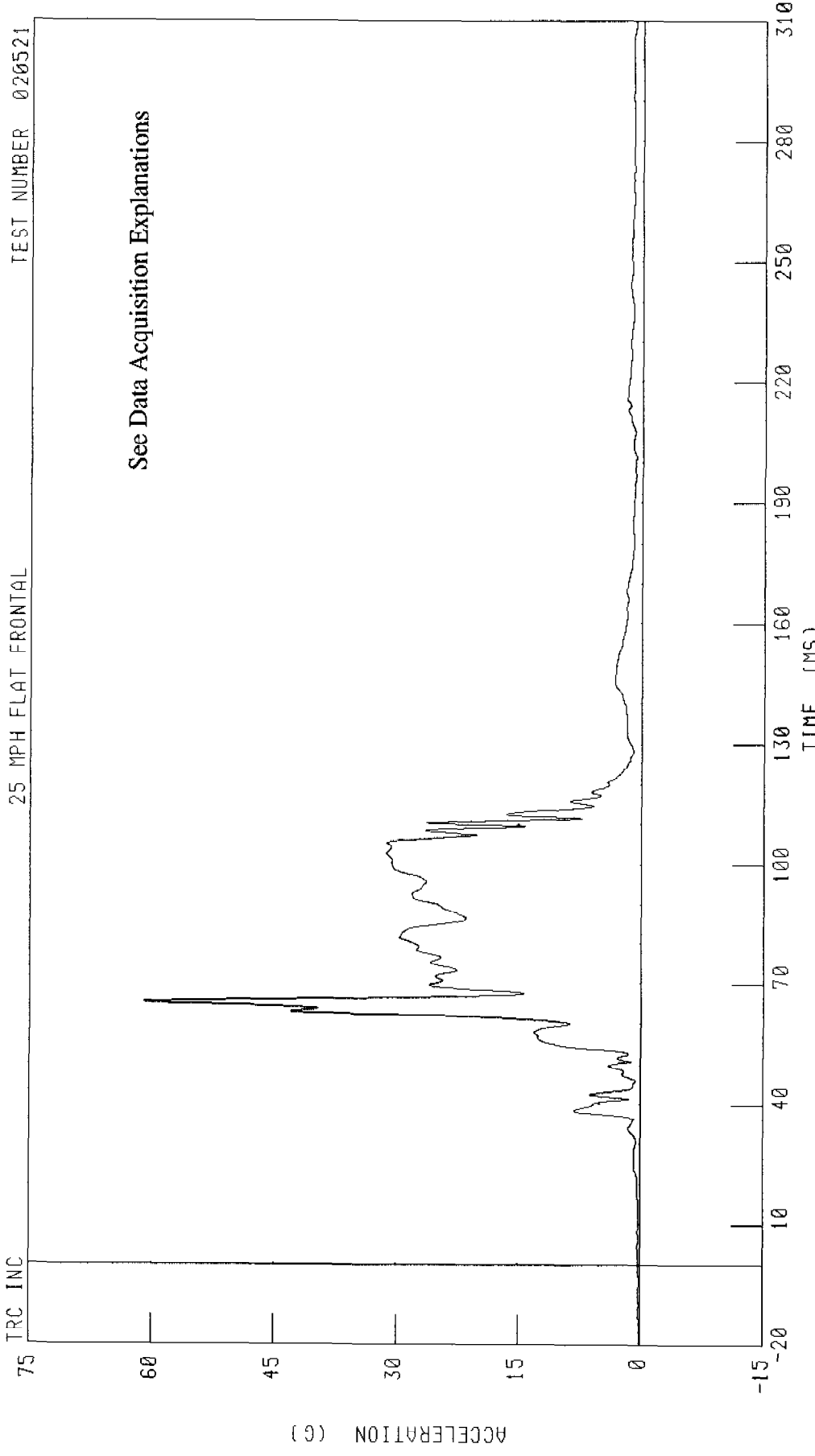


2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER CHEST REDUNDANT RESULTANT ACCELERATION

TRC INC TEST NUMBER 020521

25 MPH FLAT FRONTAL

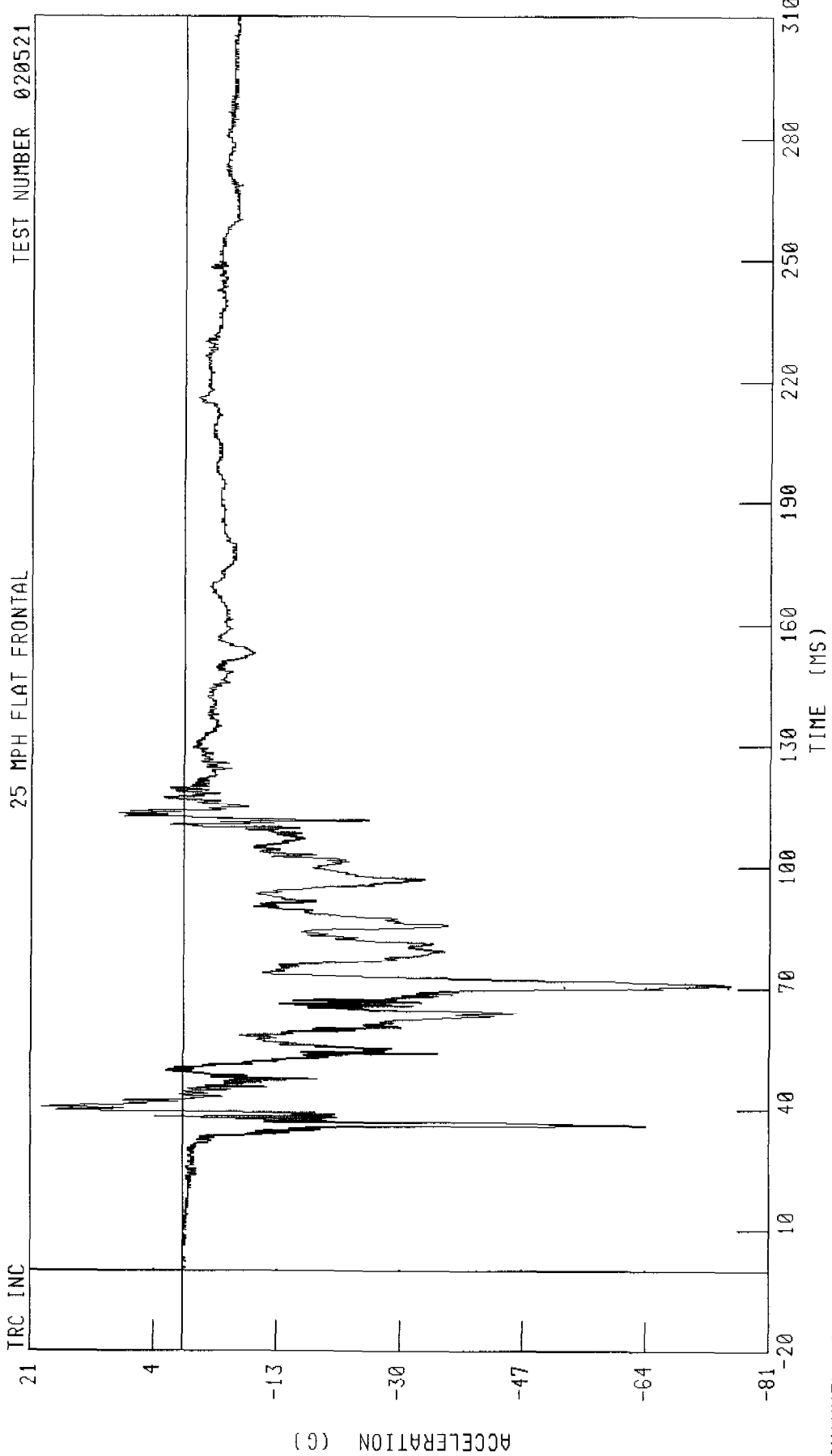
See Data Acquisition Explanations



CHANNEL CSTRR1 FILTER CH CLASS 180 PEAK DATA 61 04 G @ 65 44 MS, 0 01 G @ -20 00 MS

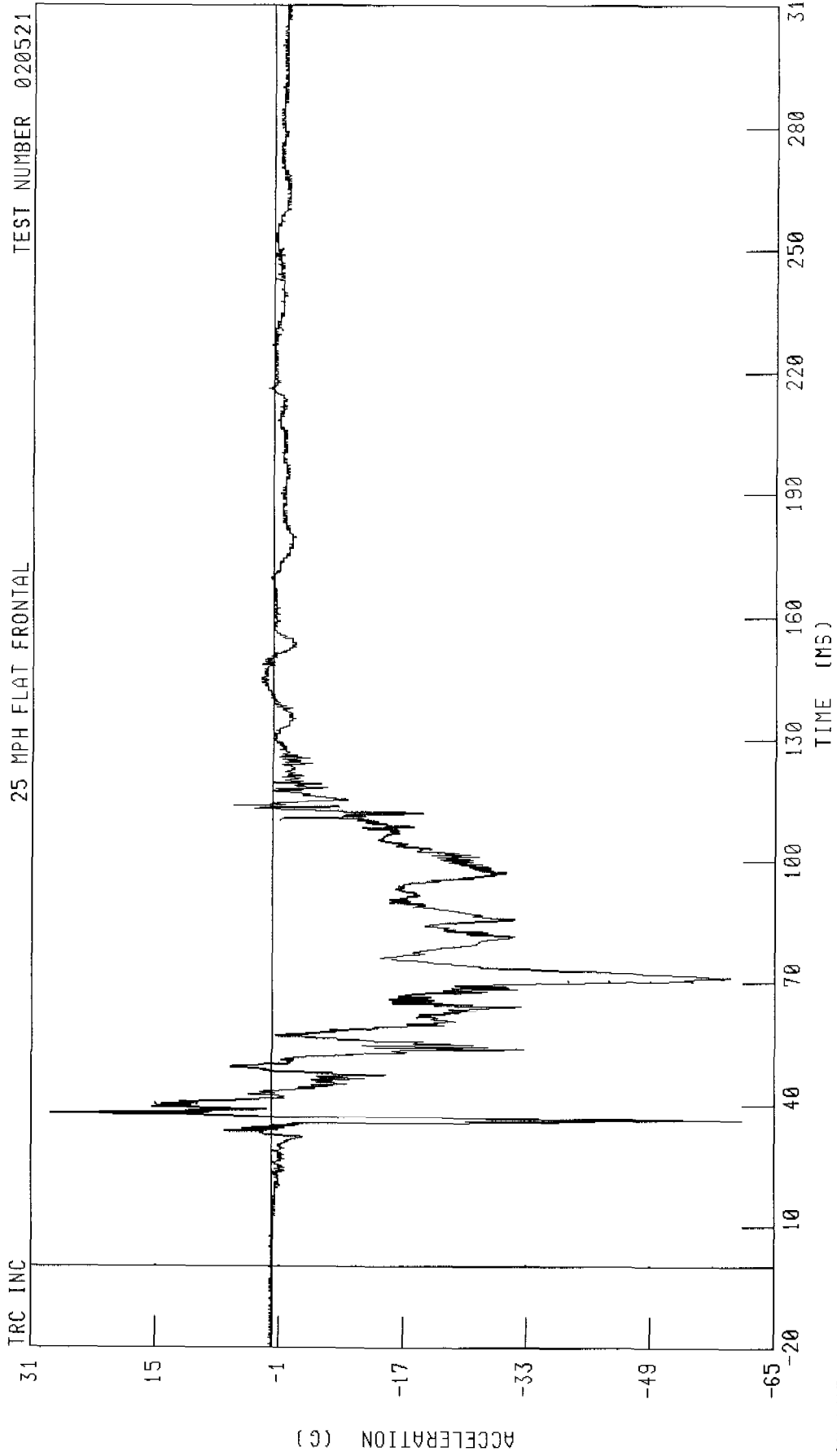
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER STERNUM UPPER X-AXIS ACCELERATION

TRC INC
TEST NUMBER 020521



CHANNEL STUXC1 FILTER CH CLASS 1000
PEAK DATA 19 43 G @ 40 48 MS, -75 70 G @ 70 64 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER STERNUM MID X-AXIS ACCELERATION
25 MPH FLAT FRONTAL



TEST NUMBER 020521

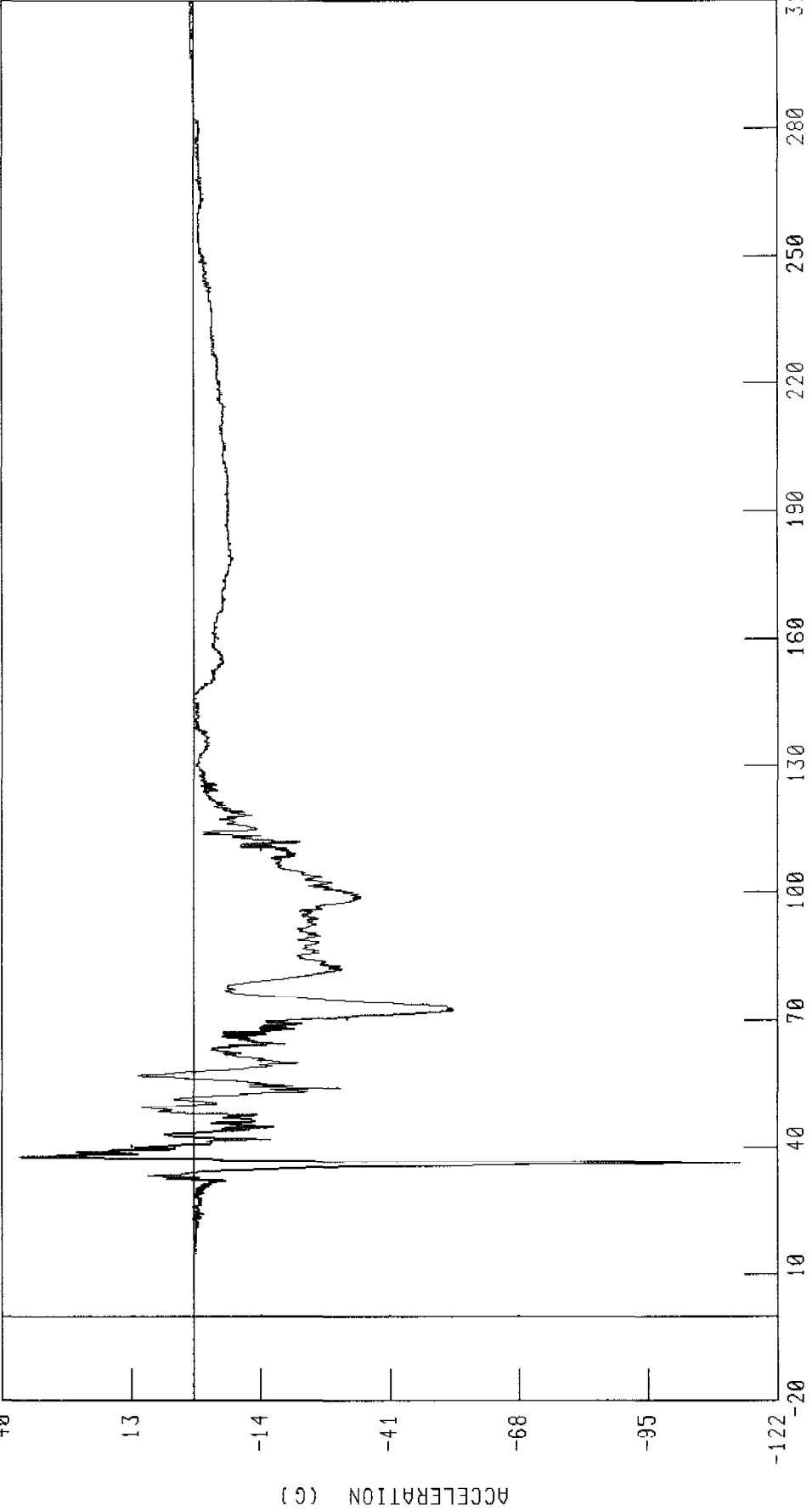
CHANNEL STMXG1 FILTER CH CLASS 1000 PEAK DATA 28 59 G @ 37 92 MS, -60 88 G @ 36 08 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER STERNUM LOWER X-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



TIME (MS)

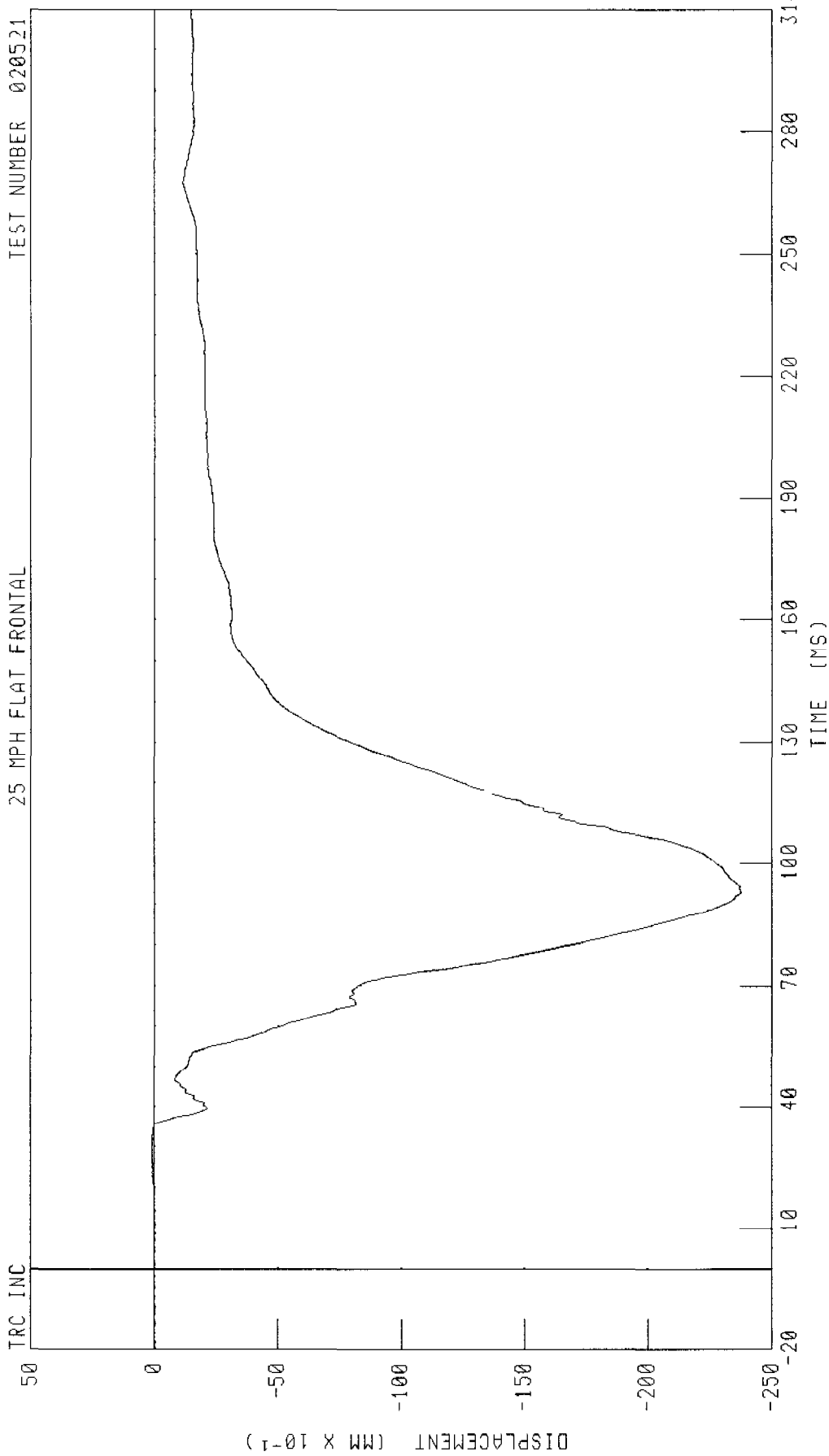
CHANNEL STLX01 FILTER CH CLASS 1000 PEAK DATA 36 41 G @ 37 76 MS, -114 31 G @ 36 32 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER CHEST DEFLECTION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL CSTXD1 FILTER CH CLASS 600

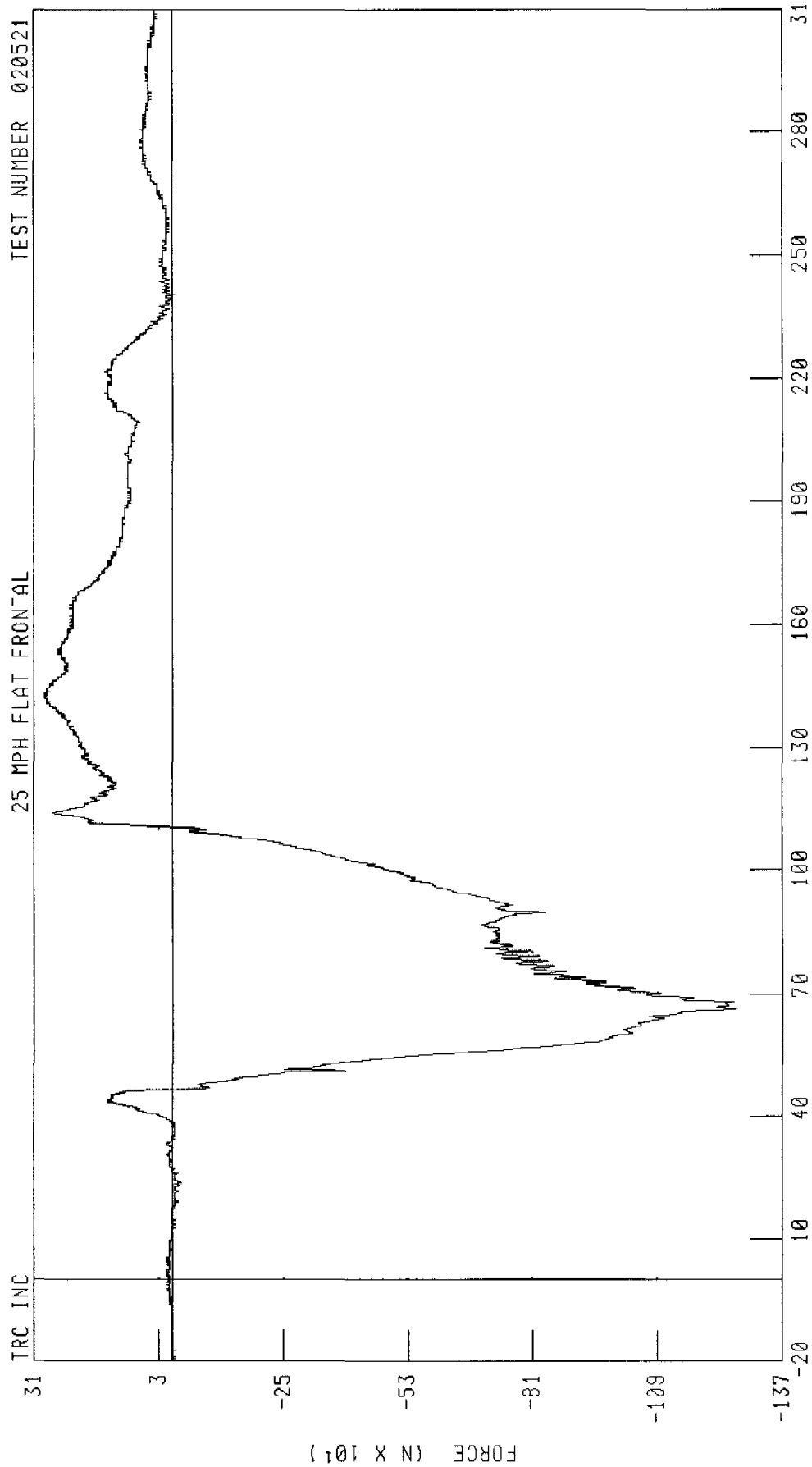
PEAK DATA 0 11 MM @ 31 28 MS, -23 77 MM @ 92 88 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LUMBAR X-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

CHANNEL LMBXF1 FILTER CH CLASS 1000

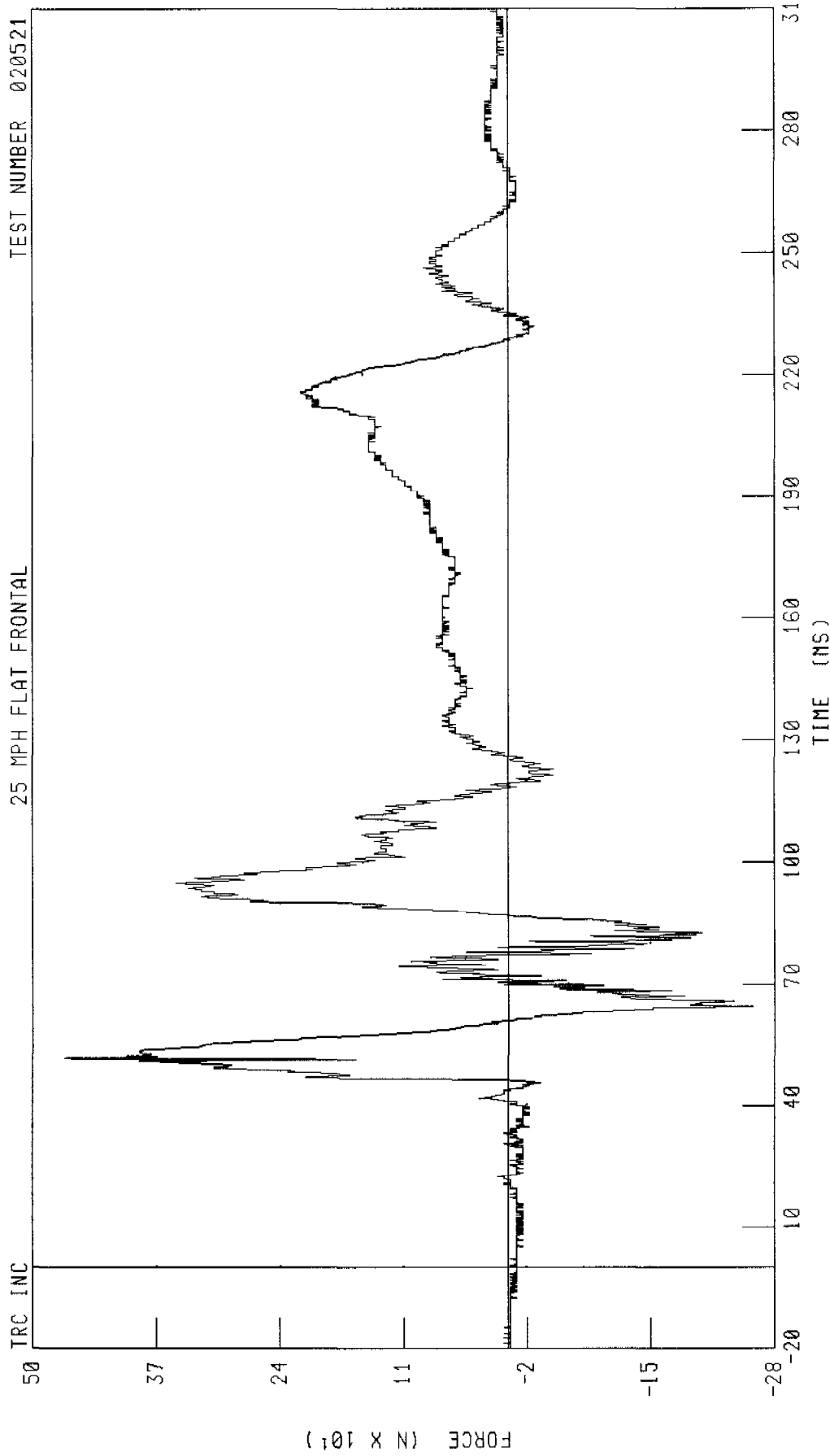
PEAK DATA 287 93 N @ 142 24 MS, -1268 03 N @ 66 48 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LUMBAR Y-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL LMBYF1 FILTER CH CLASS 1000

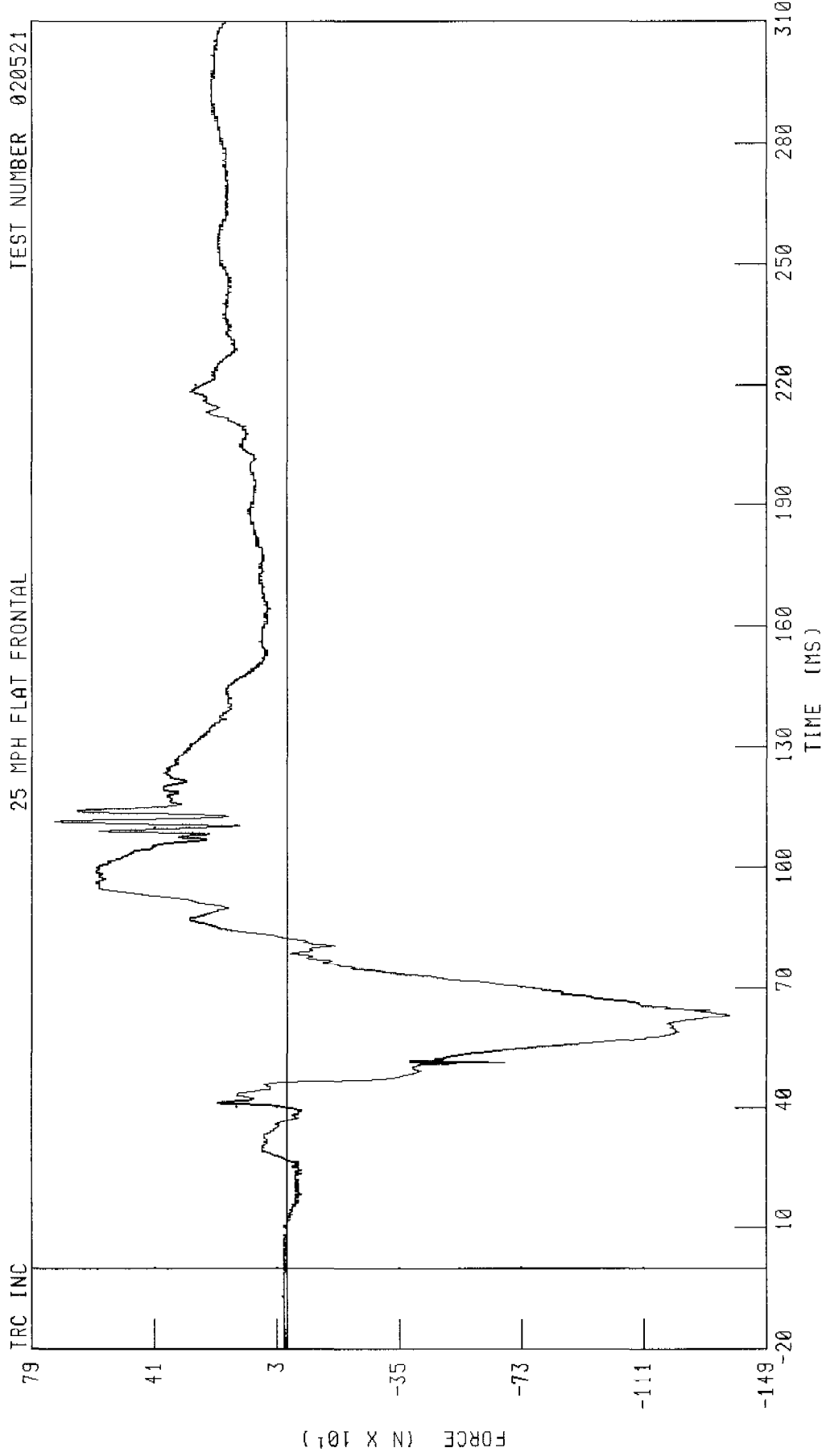
PEAK DATA 466 61 N @ 51 76 MS, -256 67 N @ 64 56 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LUMBAR Z-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL LMBZF1 FILTER CH CLASS 1000

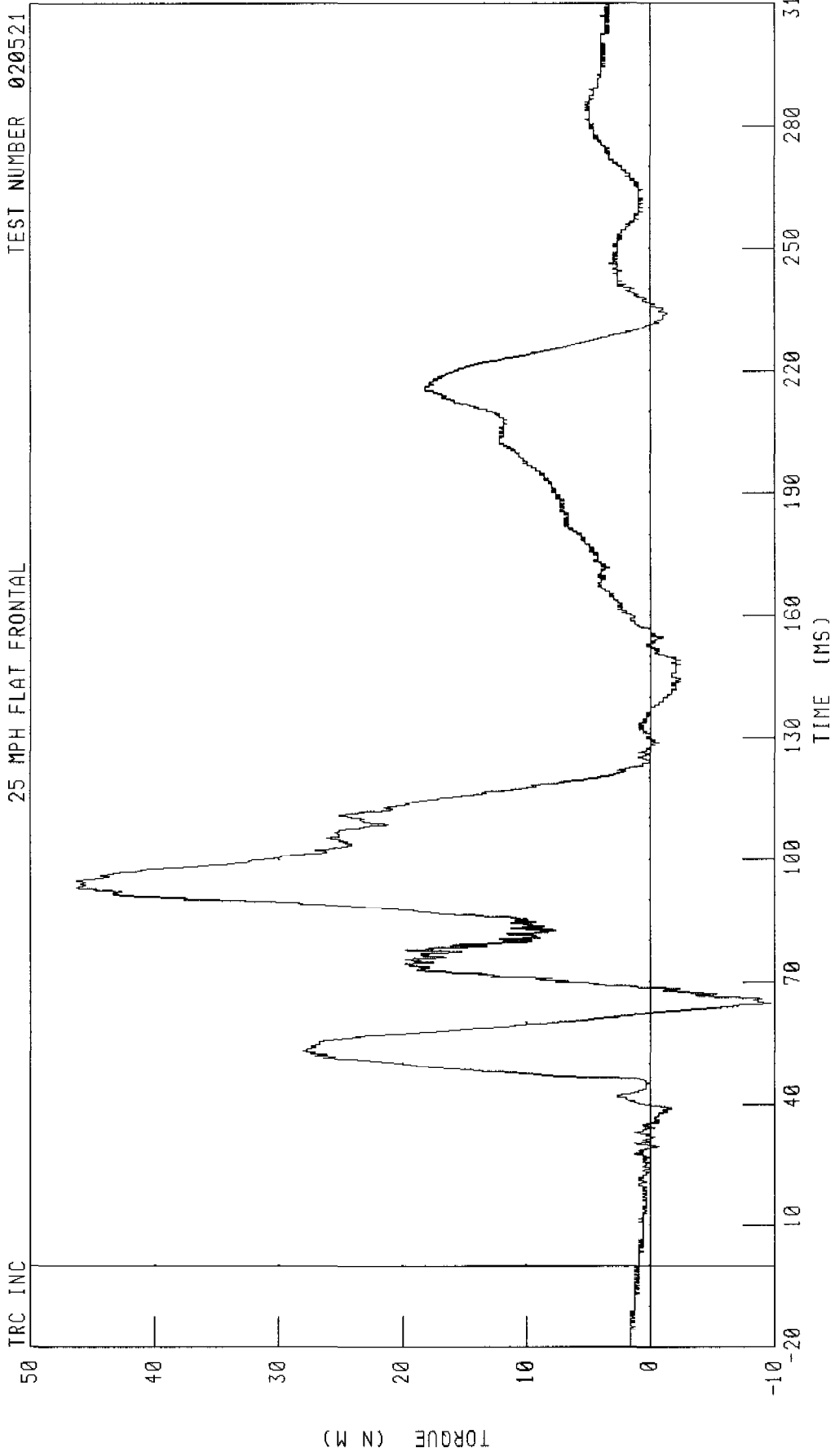
PEAK DATA 719 98 N @ 111 52 MS, -1373 61 N @ 63 12 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LUMBAR X-AXIS MOMENT

25 MPH FLAT FRONTAL

TEST NUMBER 020521



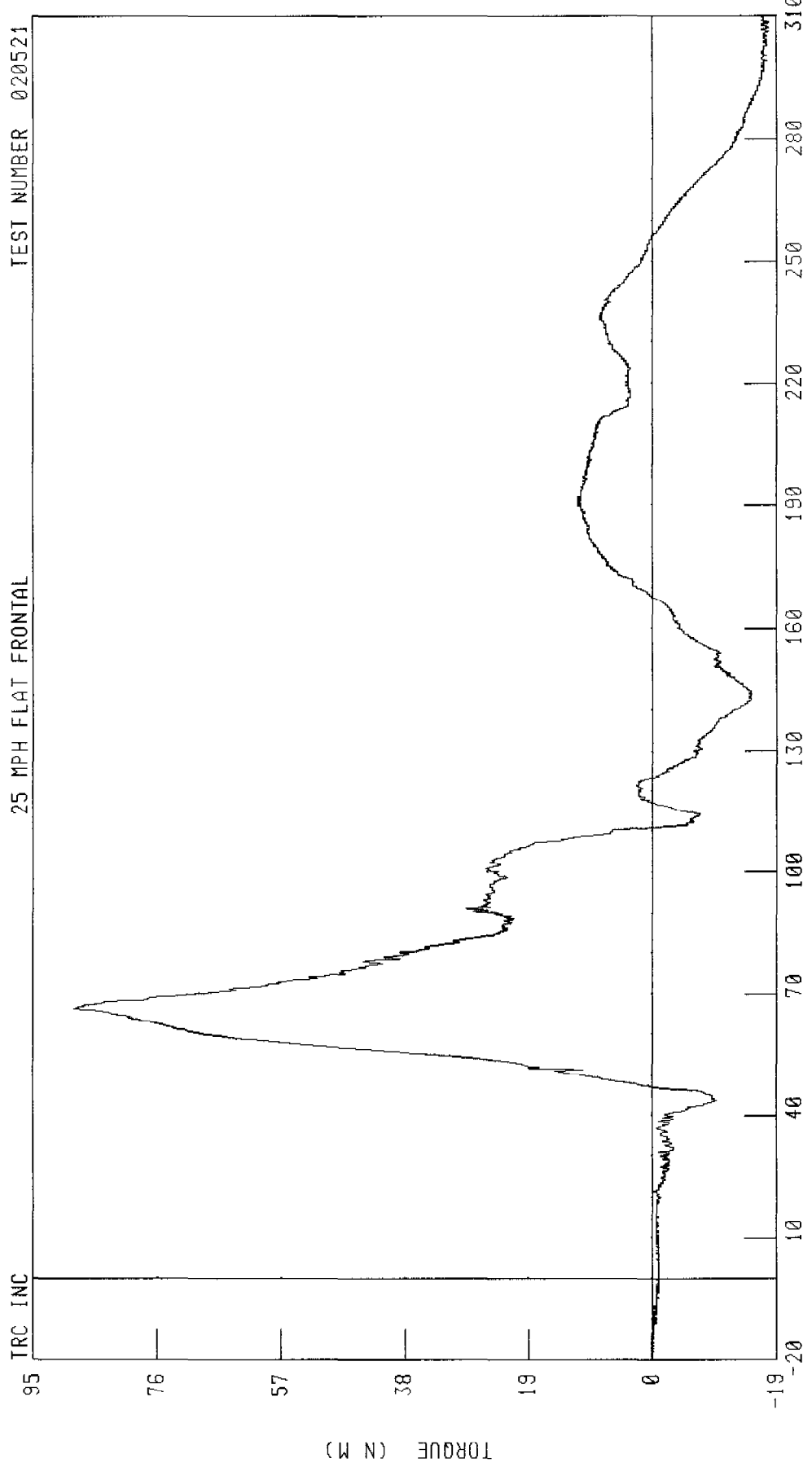
CHANNEL LMBXM1 FILTER CH CLASS 1000

PEAK DATA 46 31 N M @ 93 20 MS, -9 65 N M @ 64 80 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LUMBAR Y-AXIS MOMENT

TEST NUMBER 020521



PEAK DATA 88 78 N M @ 66 32 MS, -17 82 N M @ 306 00 MS

CHANNEL LMBYM1 FILTER CH CLASS 1000

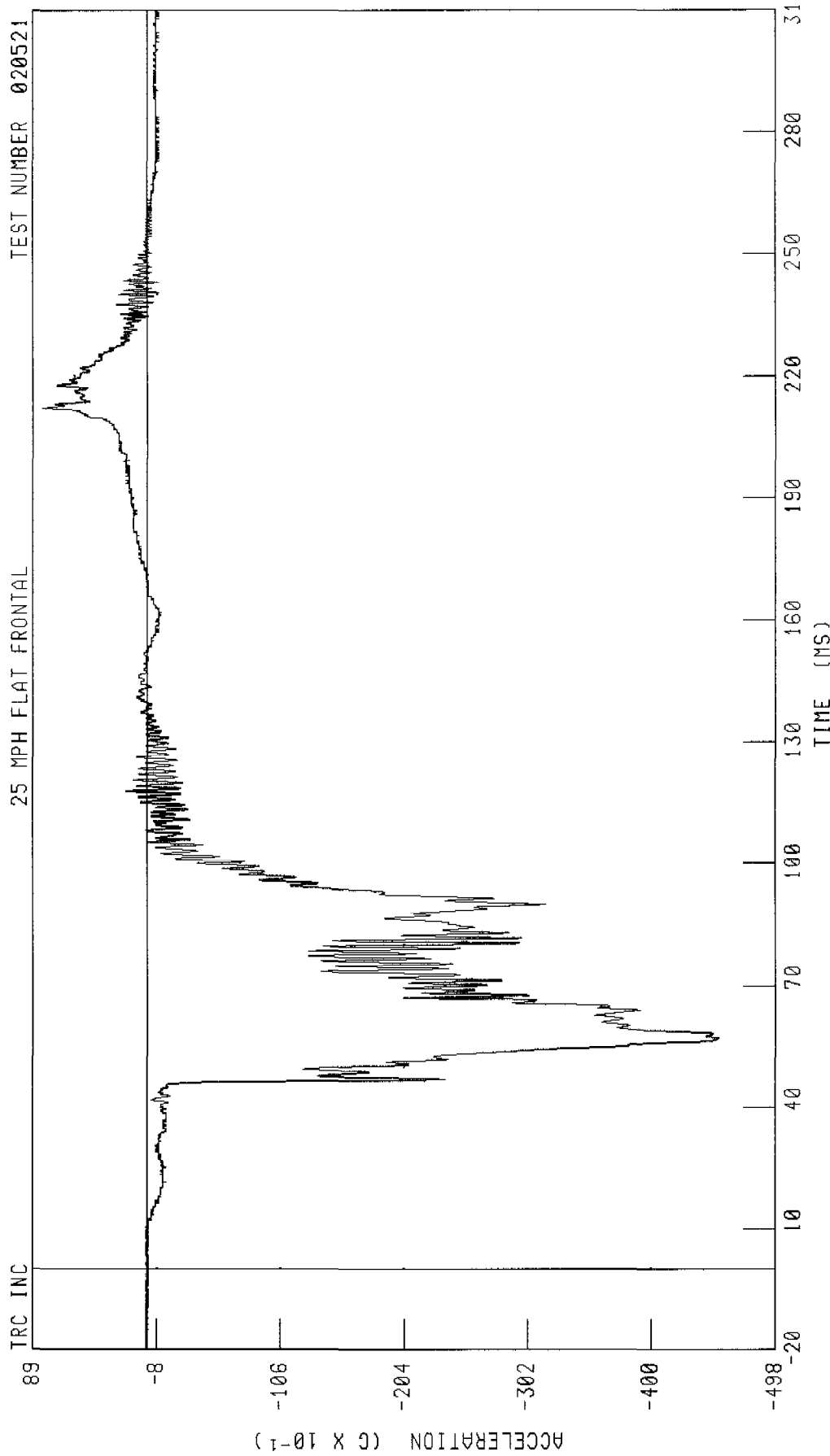
TRC INC

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER PELVIS X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL PEVXG1 FILTER CH CLASS 1000

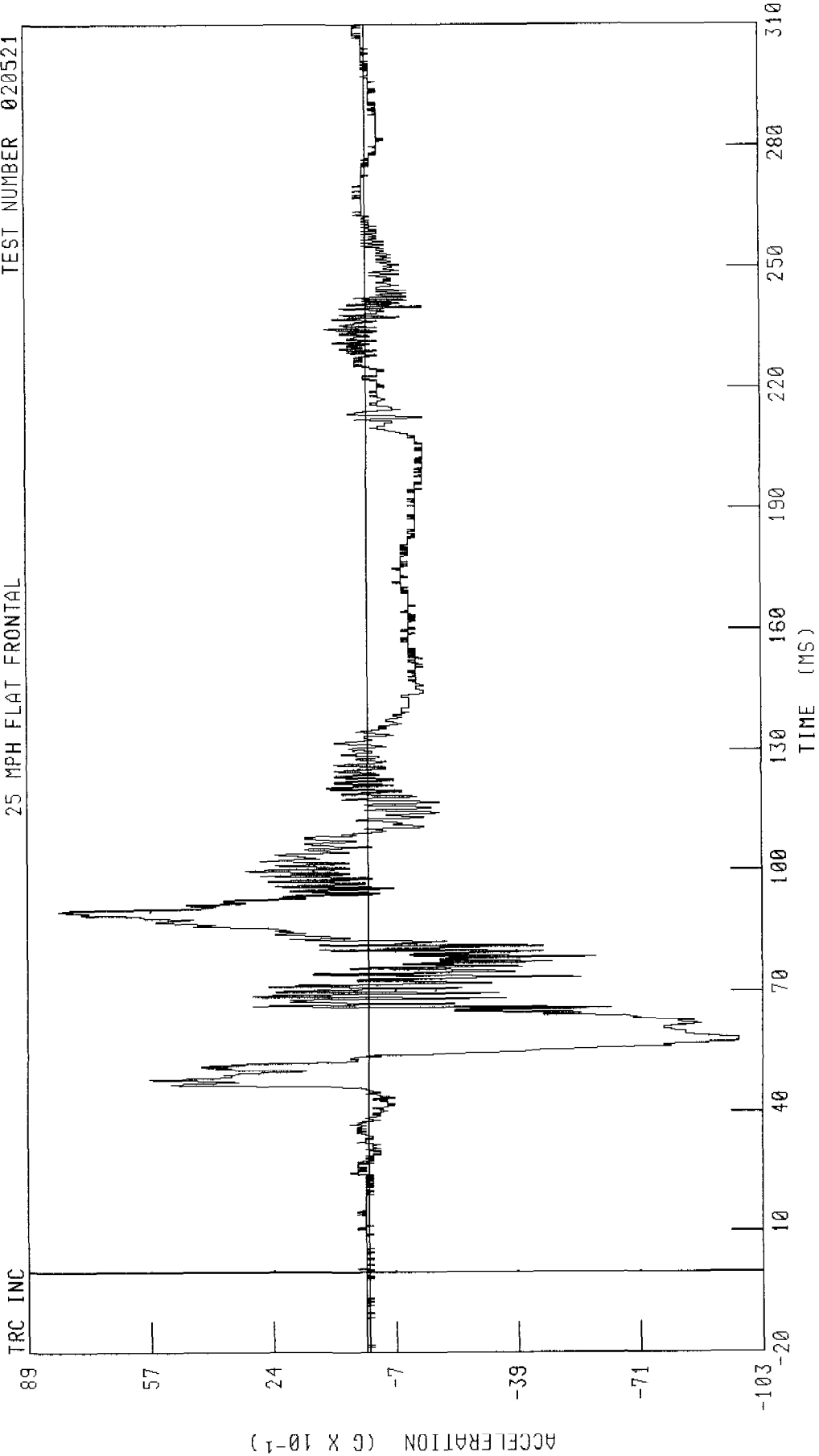
PEAK DATA 8 24 G @ 212 16 MS, -45 30 G @ 56 80 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER PELVIS Y-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL PEVYG1 FILTER CH CLASS 1000

PEAK DATA 8 09 G @ 89 92 MS, -9 67 G @ 57 36 MS

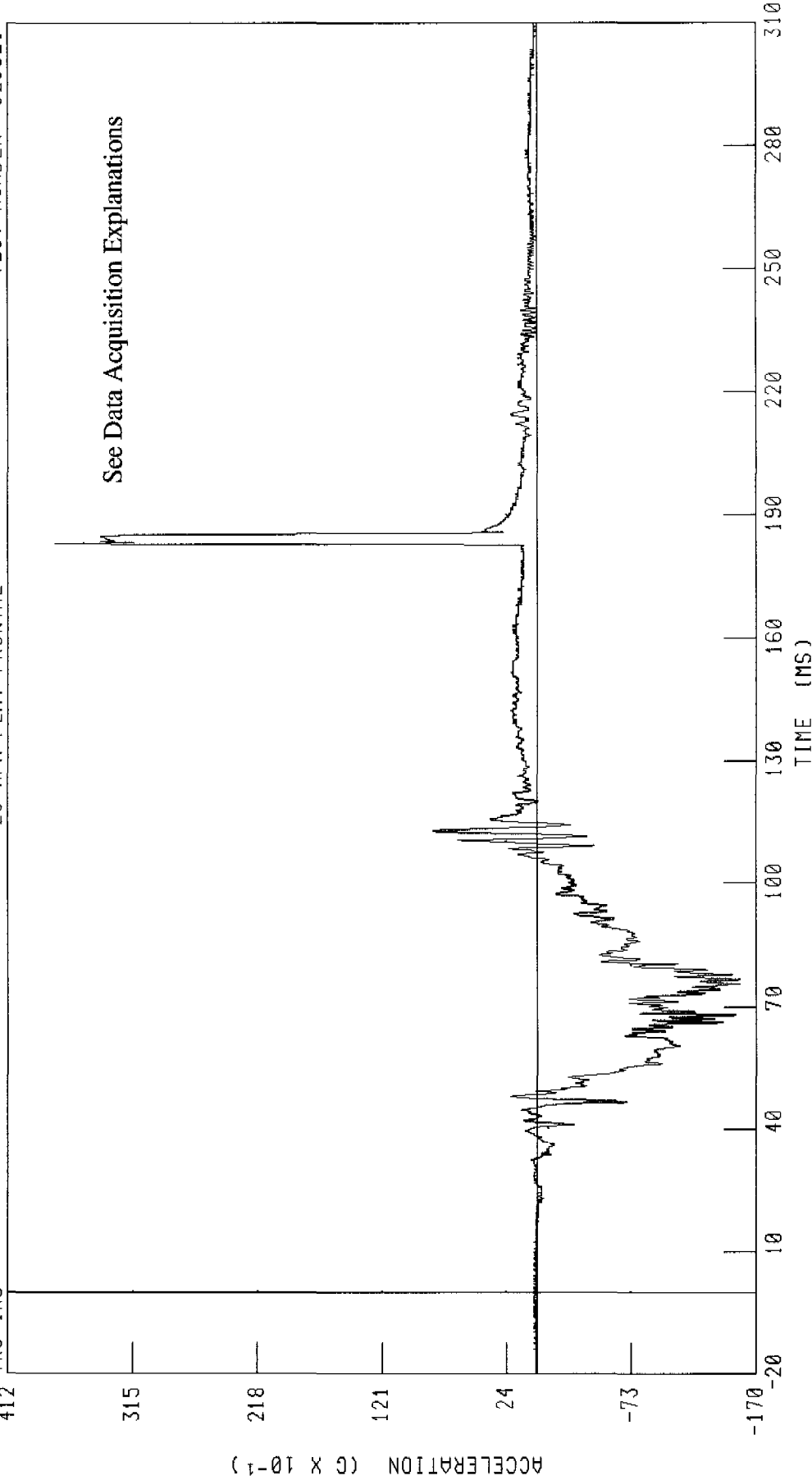
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER PELVIS Z-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL PEVZG1 FILTER CH CLASS 1000

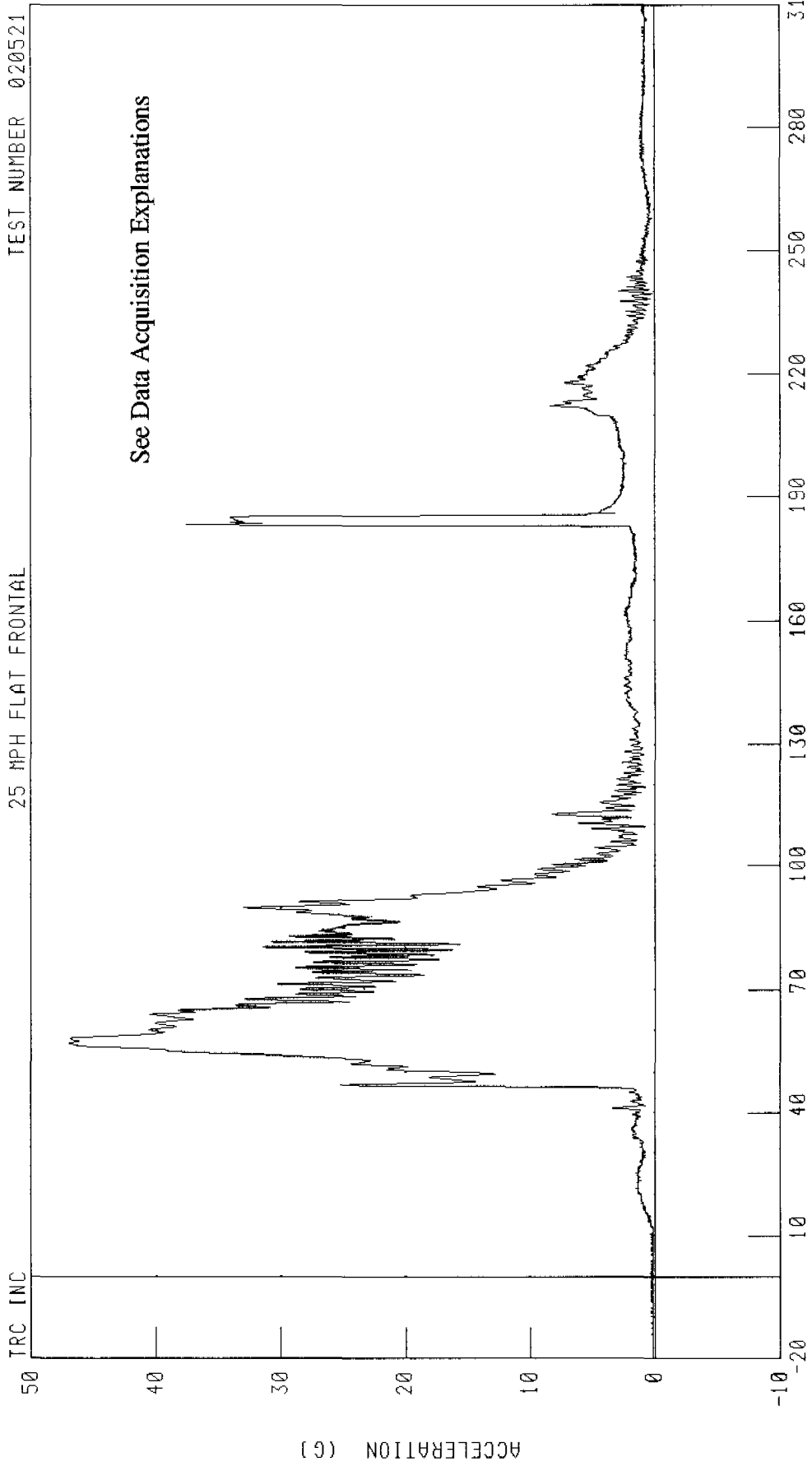
PEAK DATA 37 52 G @ 183 44 MS, -15 80 G @ 75 52 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER PELVIS RESULTANT ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

CHANNEL PEVR61 FILTER CH CLASS 1000

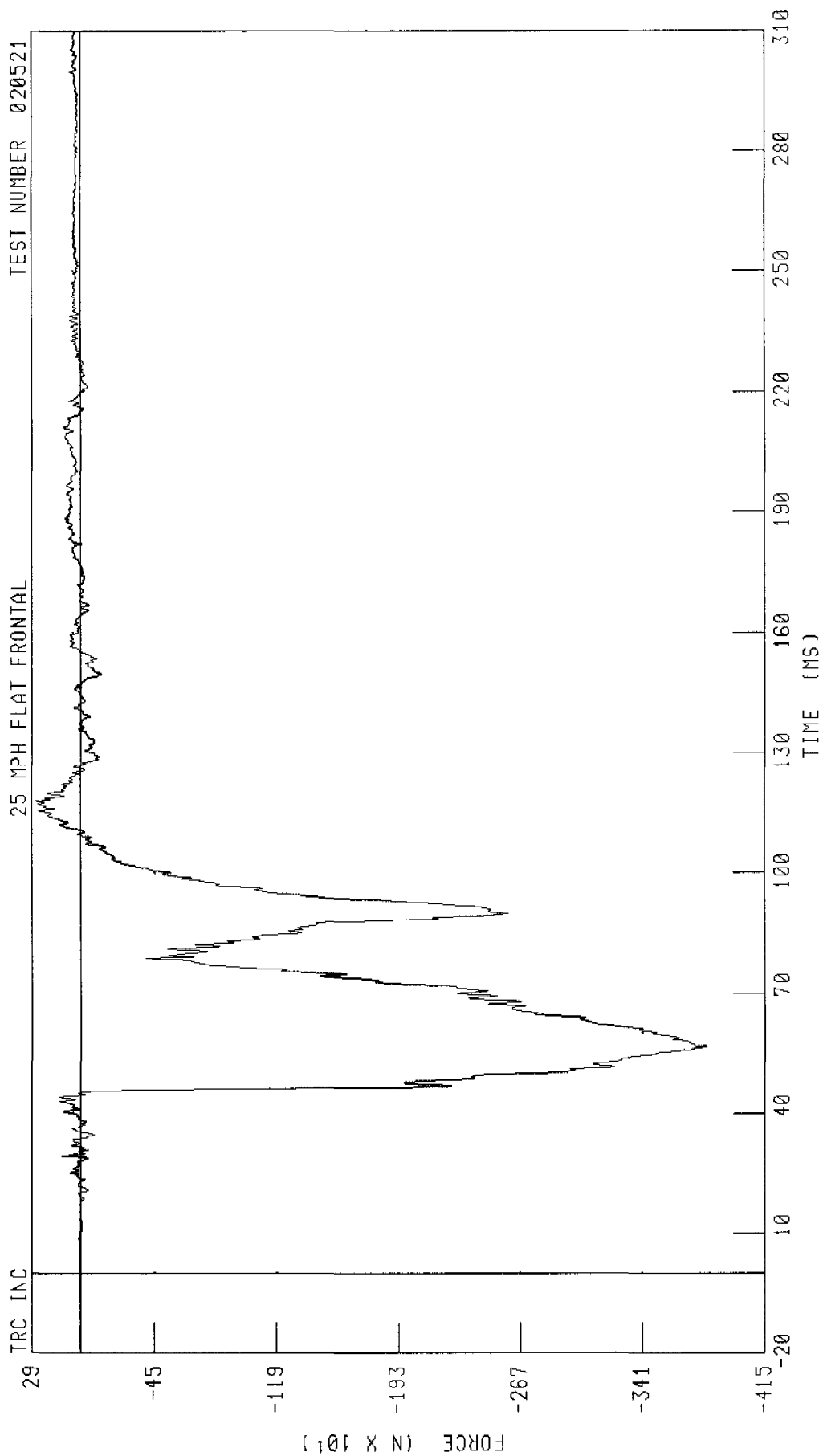
PEAK DATA 46 99 G @ 57 12 MS, 0 13 G @ -20 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LEFT FEMUR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL LFMZF1 FILTER CH CLASS 600 PEAK DATA 268 34 N @ 118 08 MS, -3798 17 N @ 56 72 MS

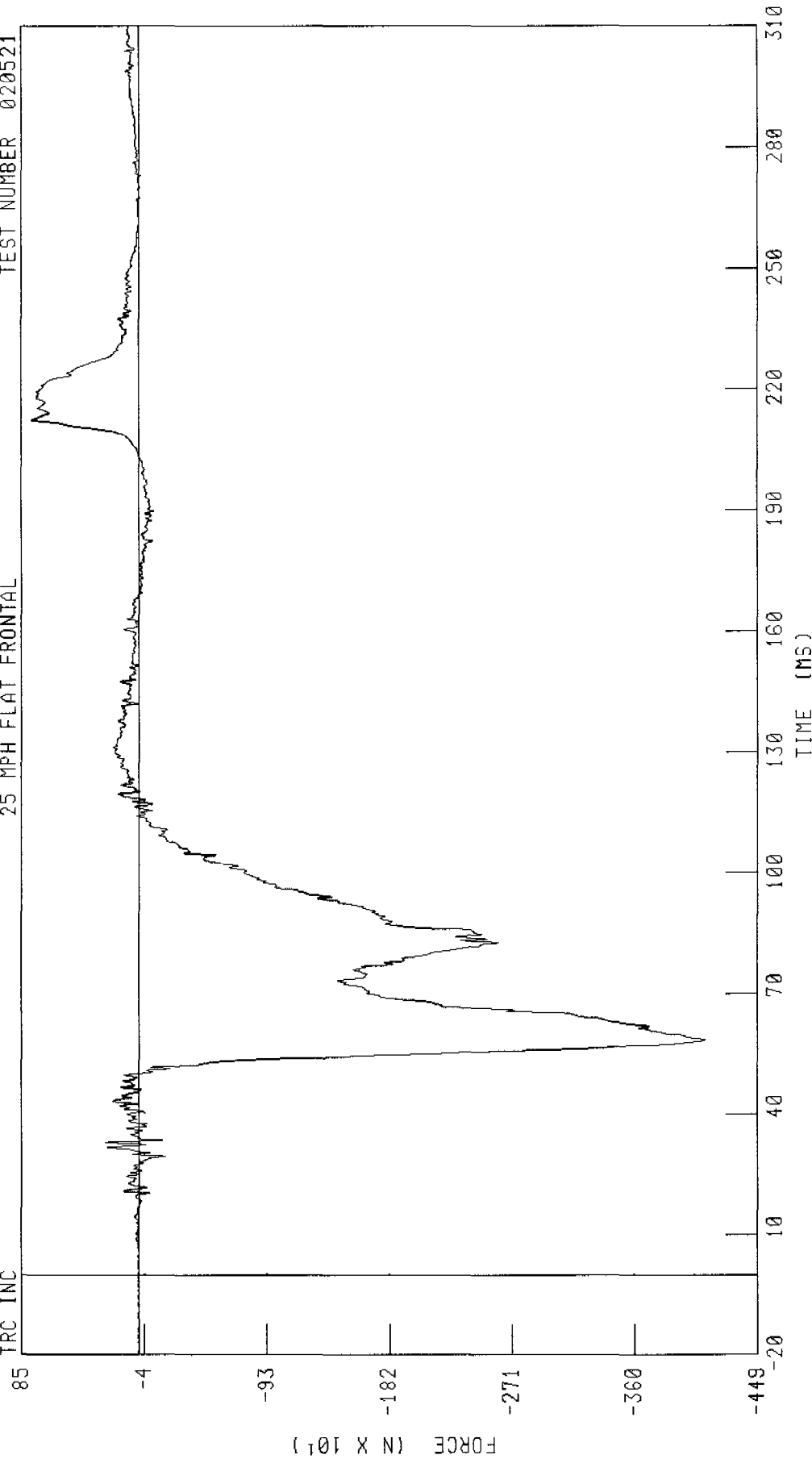
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT FEMUR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL RMZF1 FILTER CH CLASS 600

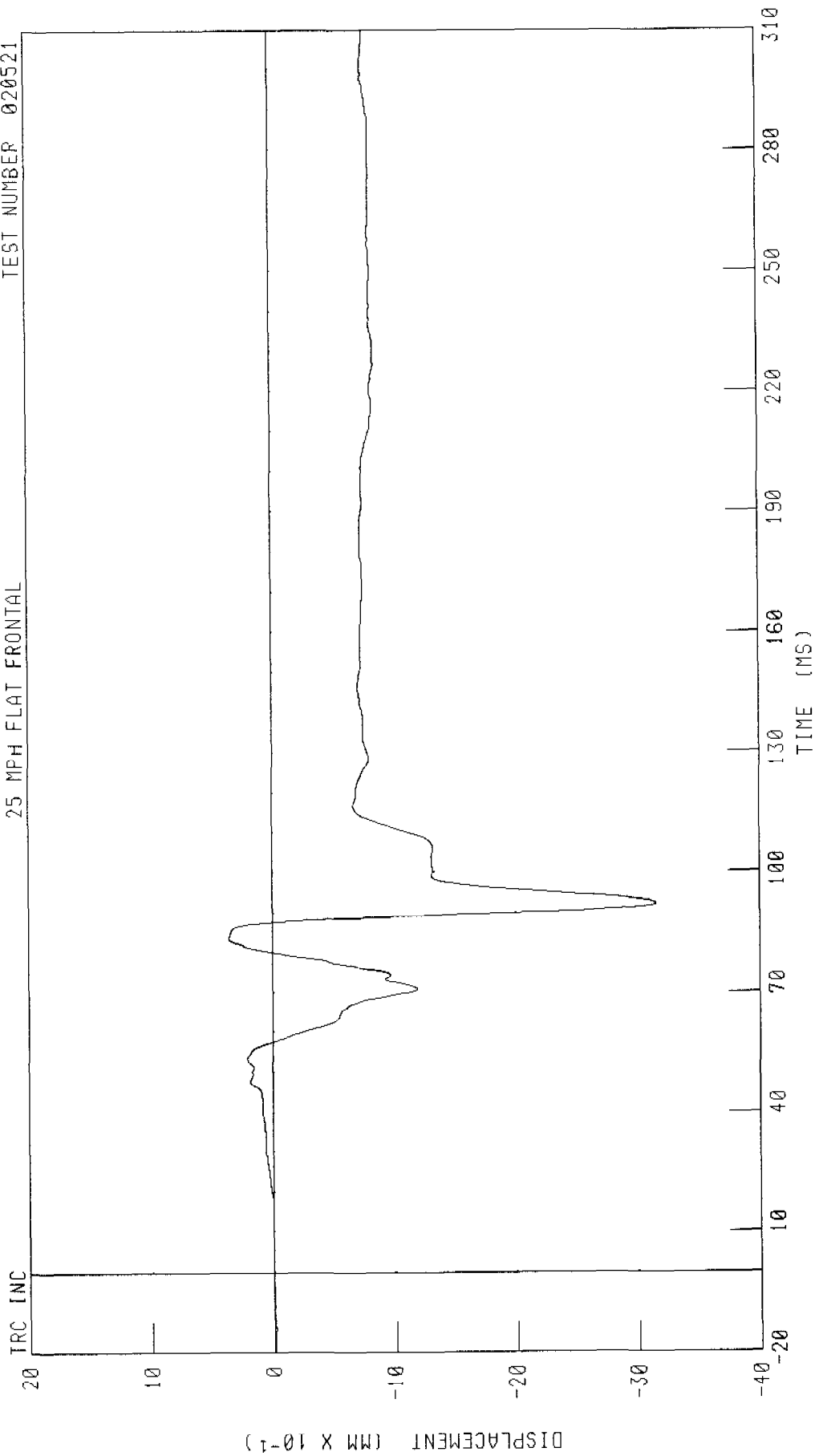
PEAK DATA 773 73 N @ 212 24 MS, -4113 04 N @ 58 32 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LEFT TIBIA TO FEMUR DISPLACEMENT

25 MPH FLAT FRONTAL

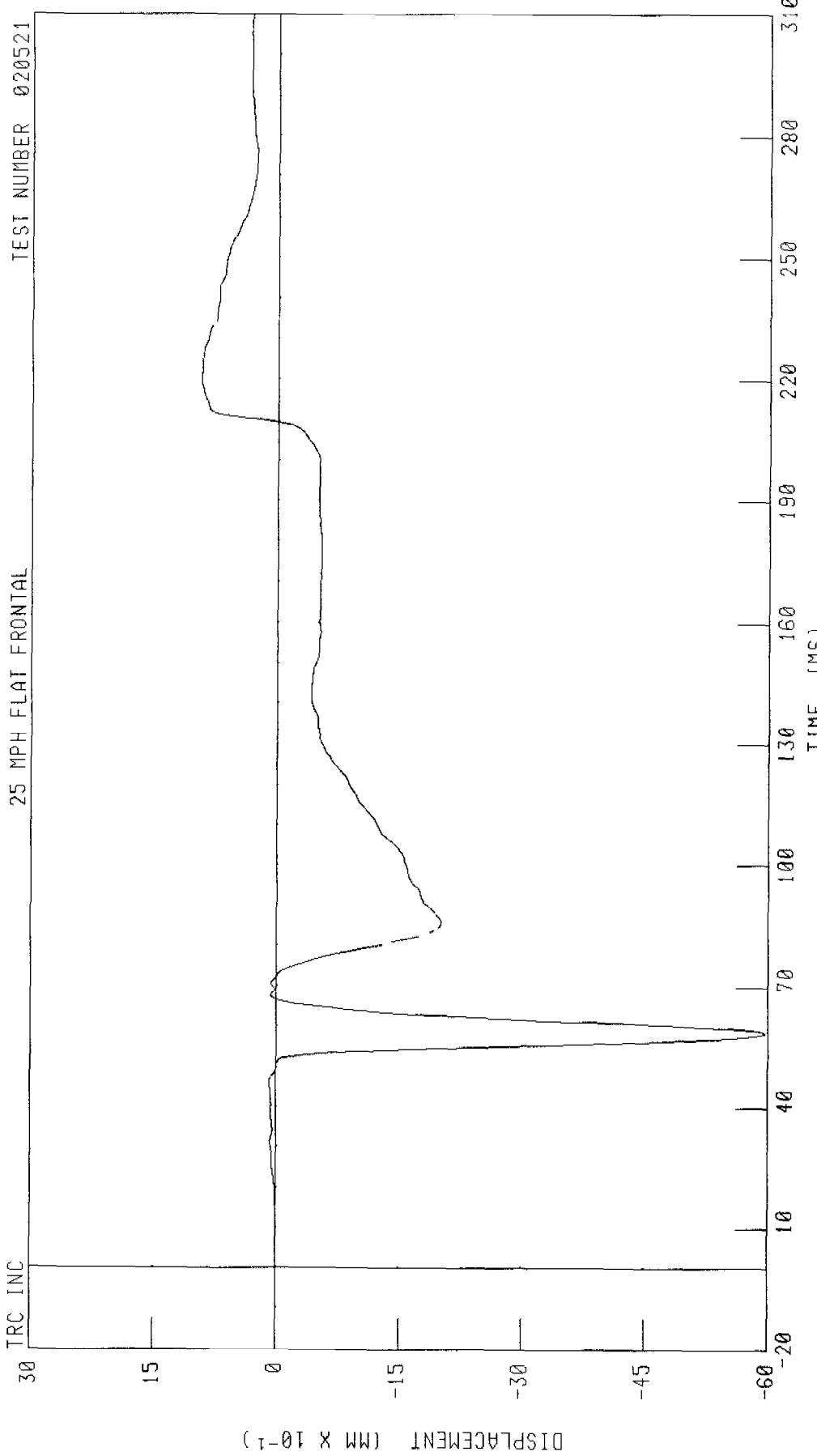
TEST NUMBER 020521



CHANNEL KNLXD1 FILTER CH CLASS 180

PEAK DATA 0 36 MM @ 83 68 MS, -3 15 MM @ 92 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT TIBIA TO FEMUR DISPLACEMENT

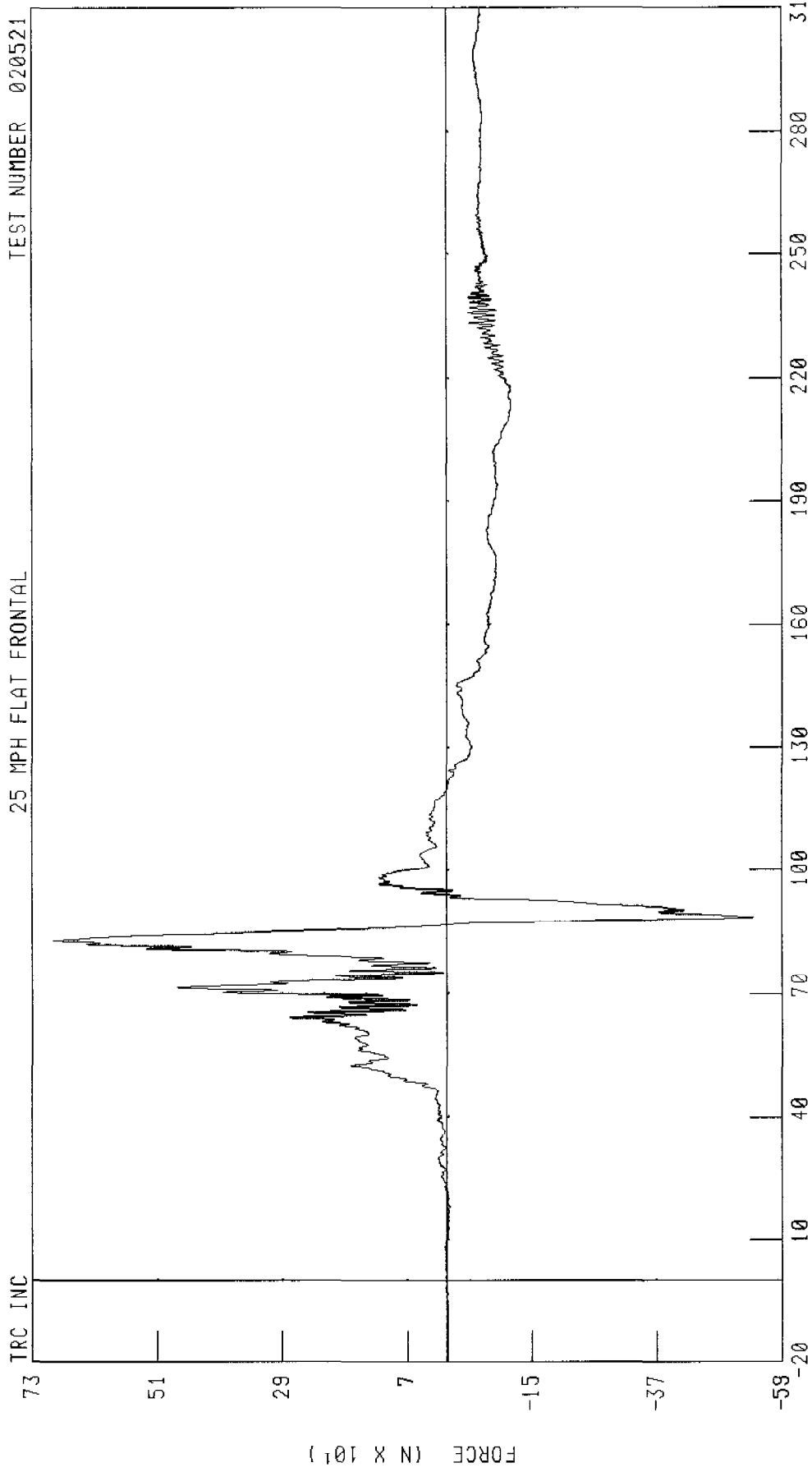


CHANNEL KNRXD1 FILTER CH CLASS 180 PEAK DATA 0 95 MM @ 219 92 MS, -5 97 MM @ 58 40 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT UPPER TIBIA X-AXIS FORCE

TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL TBLXF1 FILTER CH CLASS 600

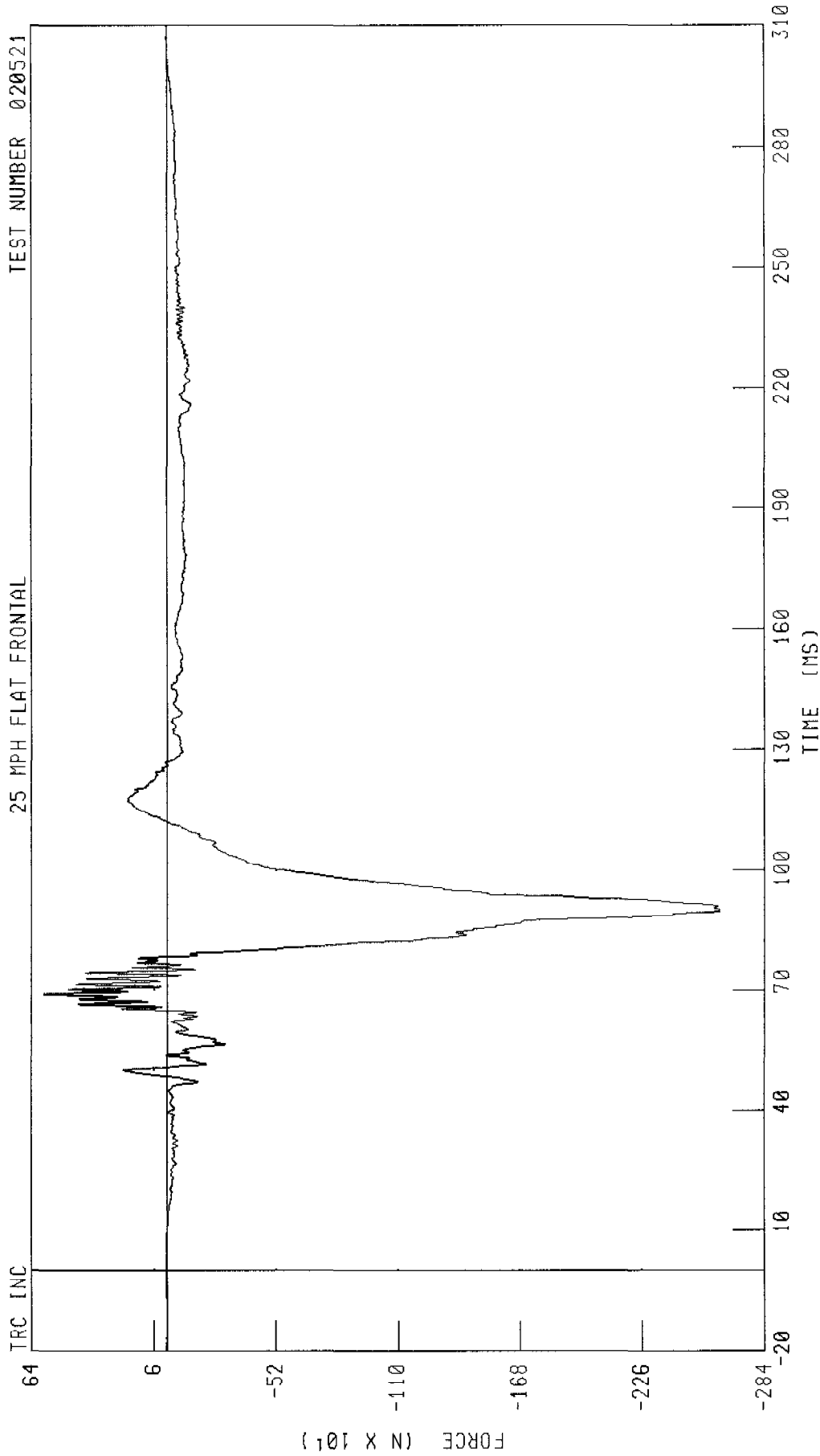
PEAK DATA 692 69 N @ 83 04 MS, -540 74 N @ 88 56 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LEFT UPPER TIBIA Z-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521

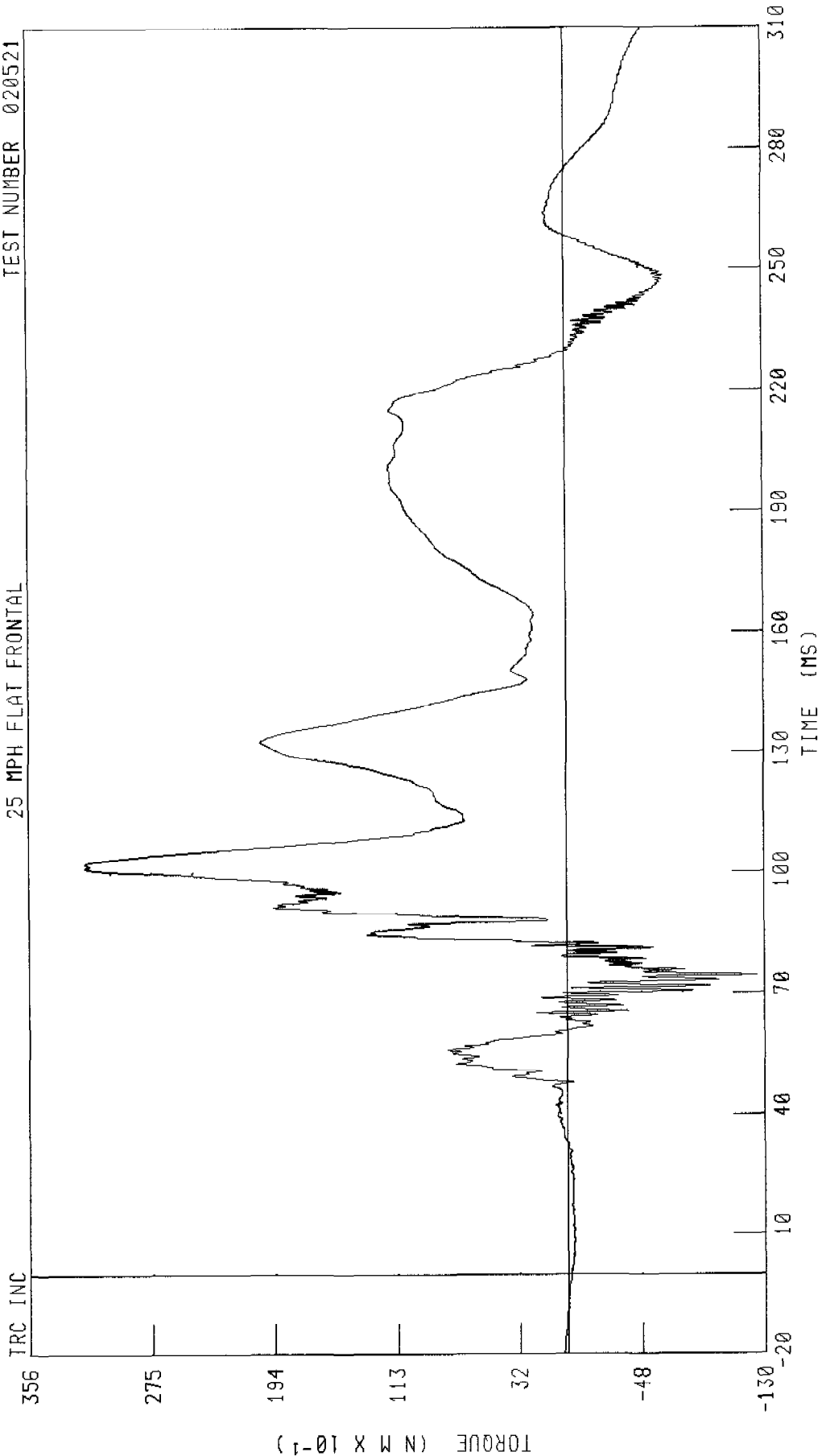


CHANNEL TBLZF1 FILTER CH CLASS 600

PEAK DATA 582 50 N @ 69 04 MS, -2629 47 N @ 90 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT UPPER TIBIA MOMENT ABOUT X AXIS

25 MPH FLAT FRONTAL TEST NUMBER 020521



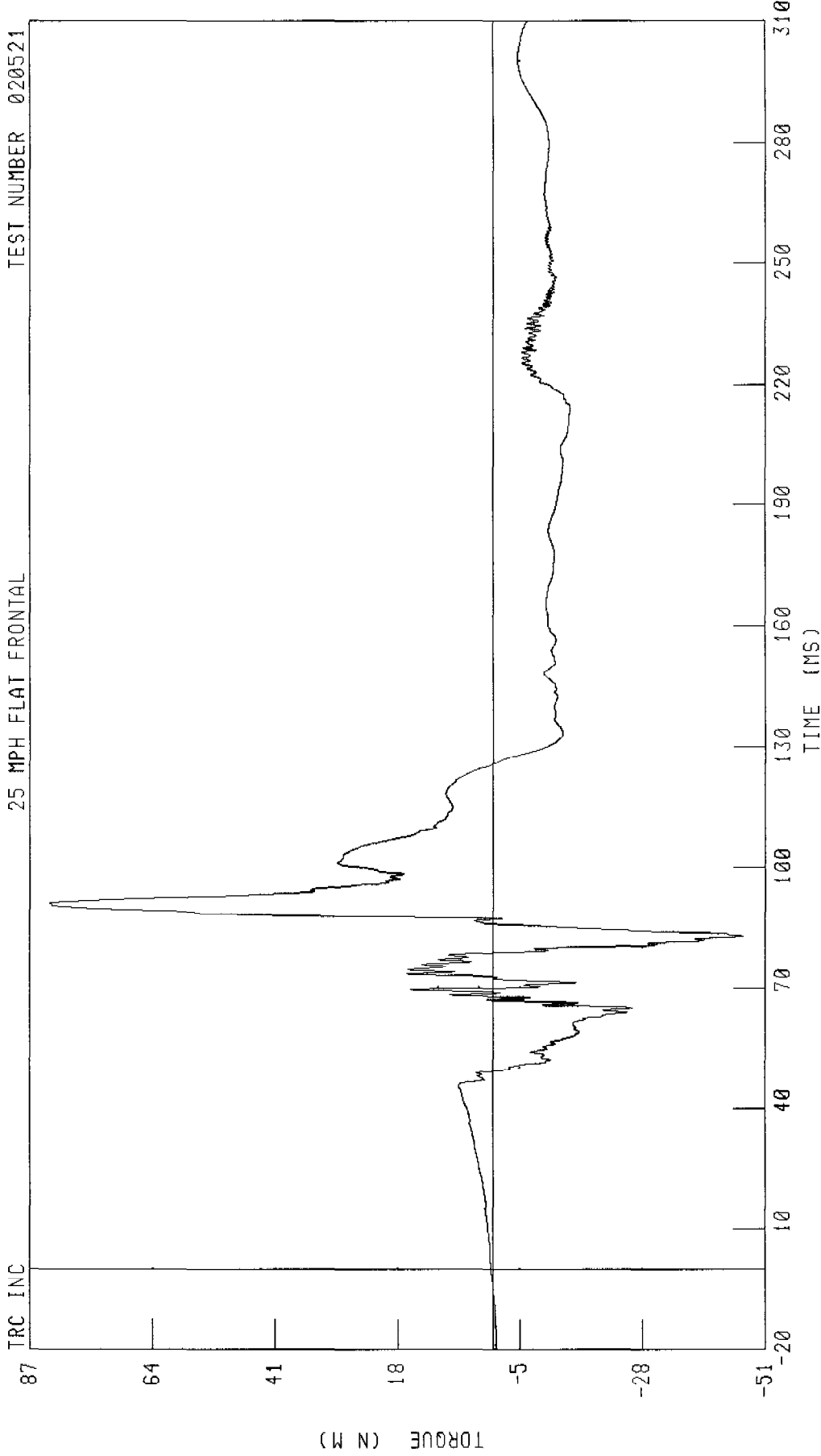
CHANNEL TBLXMI FILTER CH CLASS 600 TIME (MS) PEAK DATA 31 90 N M @ 101 36 MS, -12 50 N M @ 74 48 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LEFT UPPER TIBIA MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL TBLYM1 FILTER CH CLASS 600

PEAK DATA 83 43 N M @ 91 28 MS, -46 84 N M @ 82 88 MS

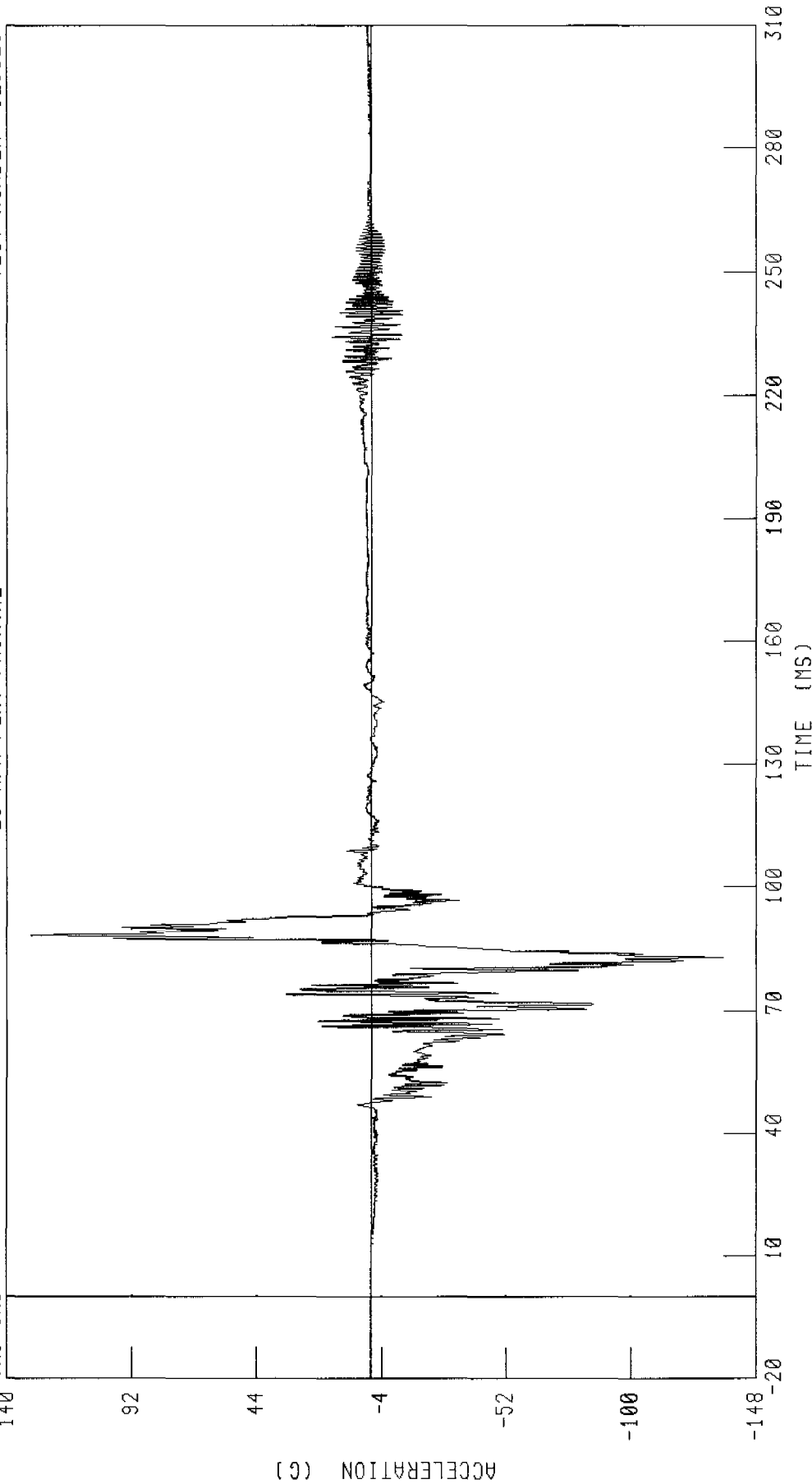
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LEFT TIBIA X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



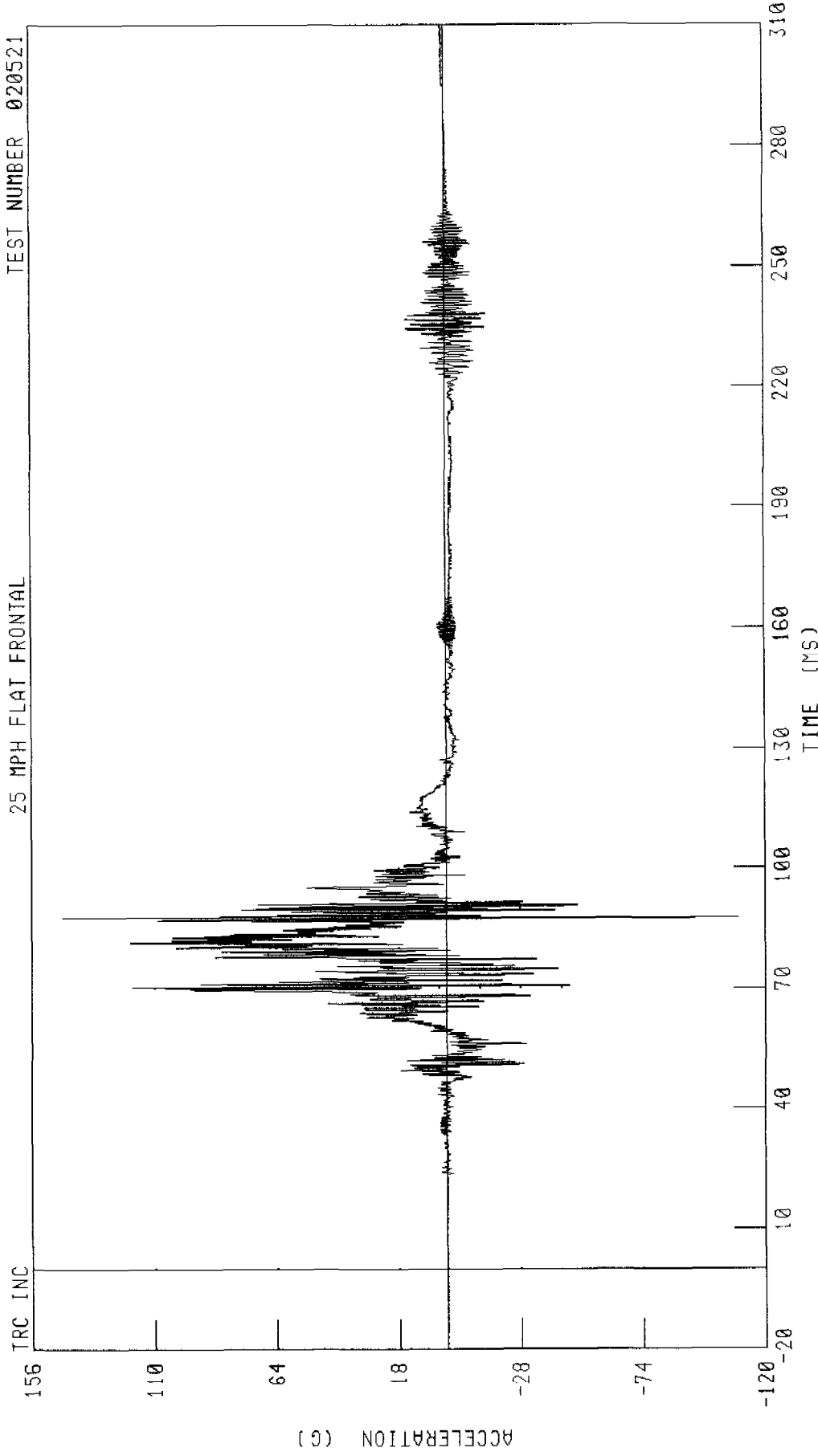
CHANNEL TBLXC1 FILTER CH CLASS 1000

PEAK DATA 130 77 G @ 88 40 MS, -135 26 G @ 83 12 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT TIBIA Z-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL



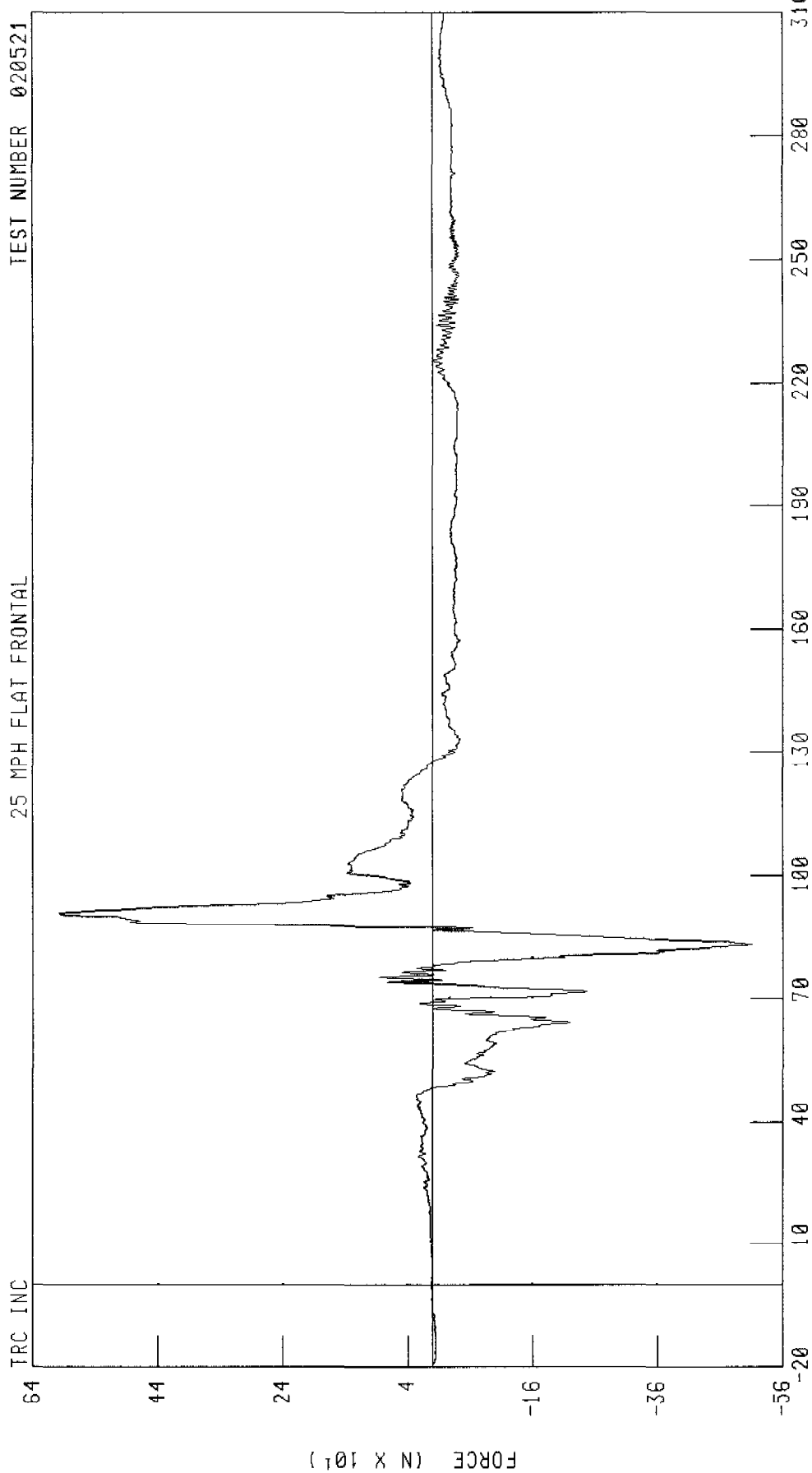
CHANNEL TBLZG1 FILTER CH CLASS 1000

PEAK DATA 144 31 G @ 87 92 MS, -110 04 G @ 87 60 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT LOWER TIBIA X-AXIS FORCE

TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL ANLXF1 FILTER CH CLASS 600
PEAK DATA 598 07 N @ 90 88 MS, -511 18 N @ 83 04 MS

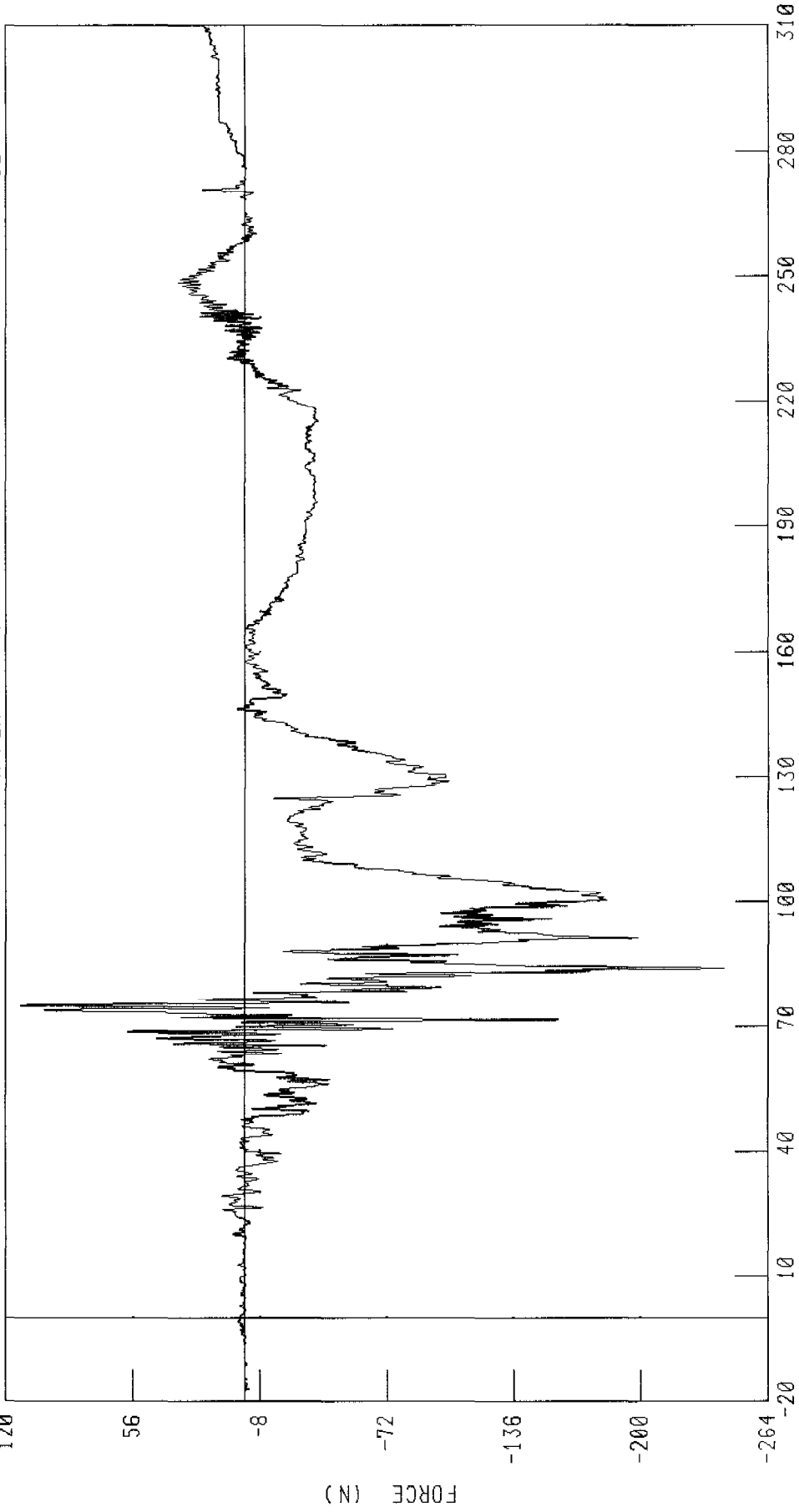
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LEFT LOWER TIBIA Y-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

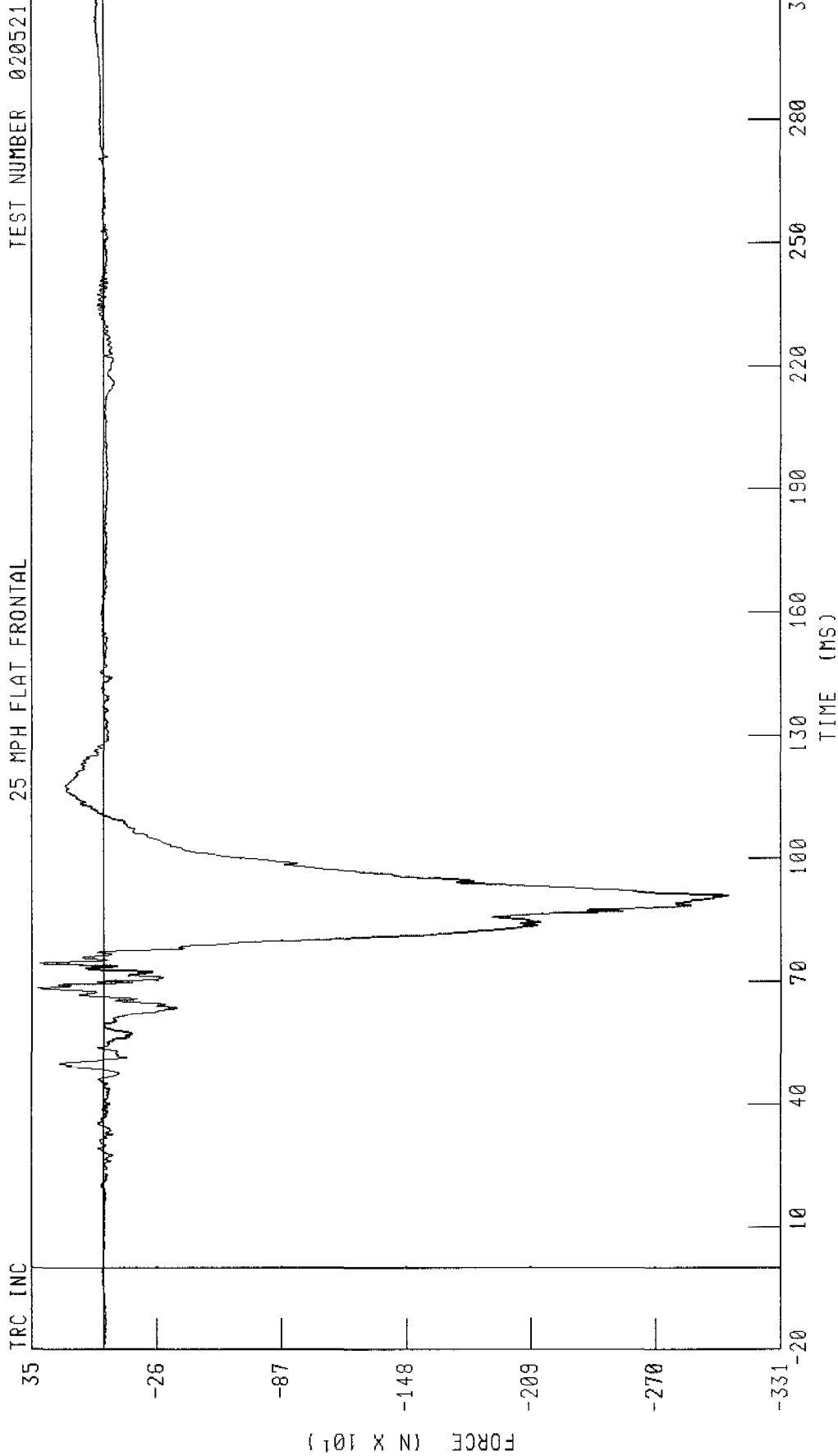


TIME (MS)

PEAK DATA 112 76 N @ 75 04 MS, -241 57 N @ 84 08 MS

CHANNEL ANLYF1 FILTER CH CLASS 600

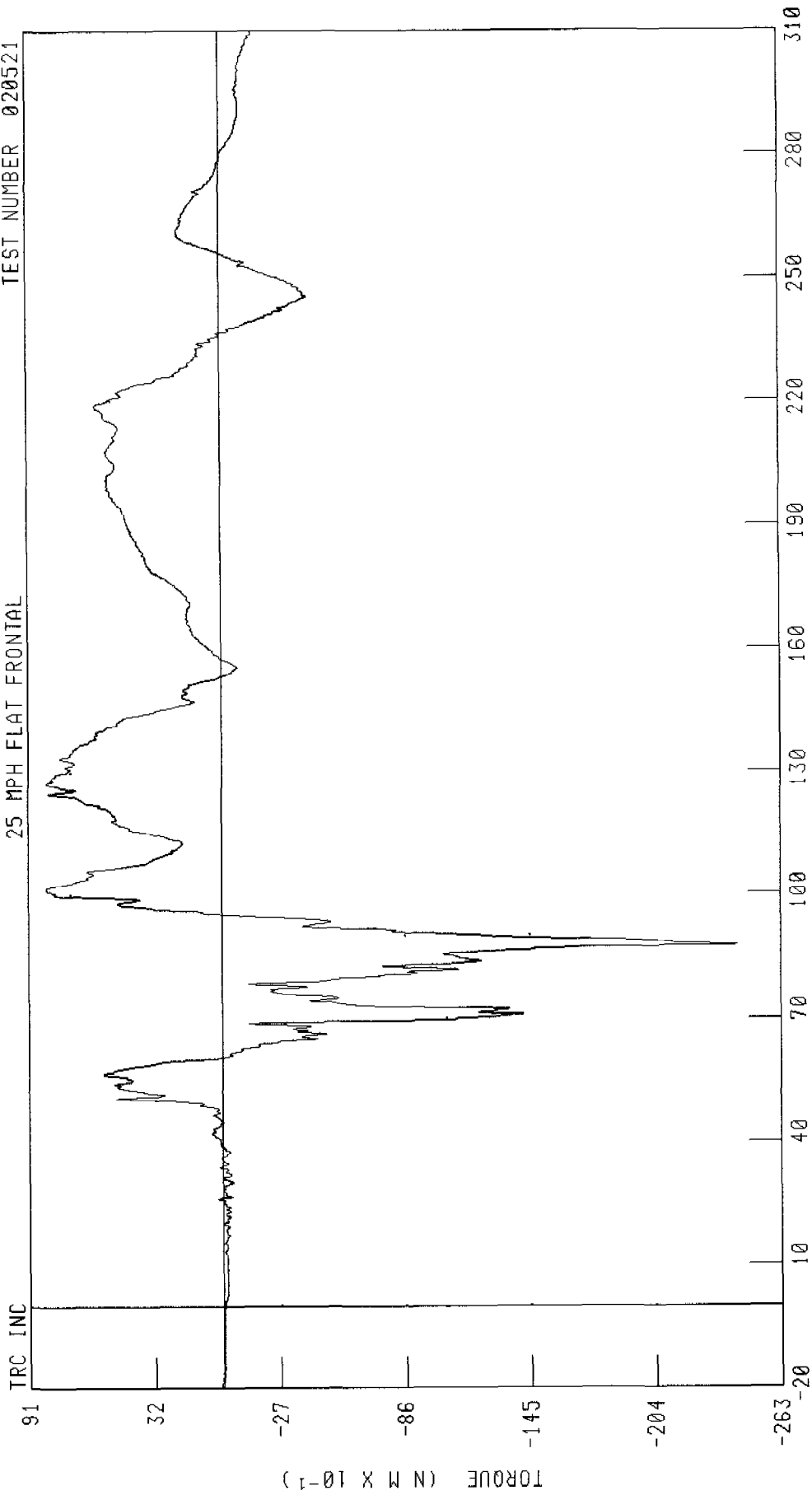
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT LOWER TIBIA Z-AXIS FORCE



2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT LOWER TIBIA MOMENT ABOUT X AXIS

TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL ANLXM1 FILTER CH CLASS 600

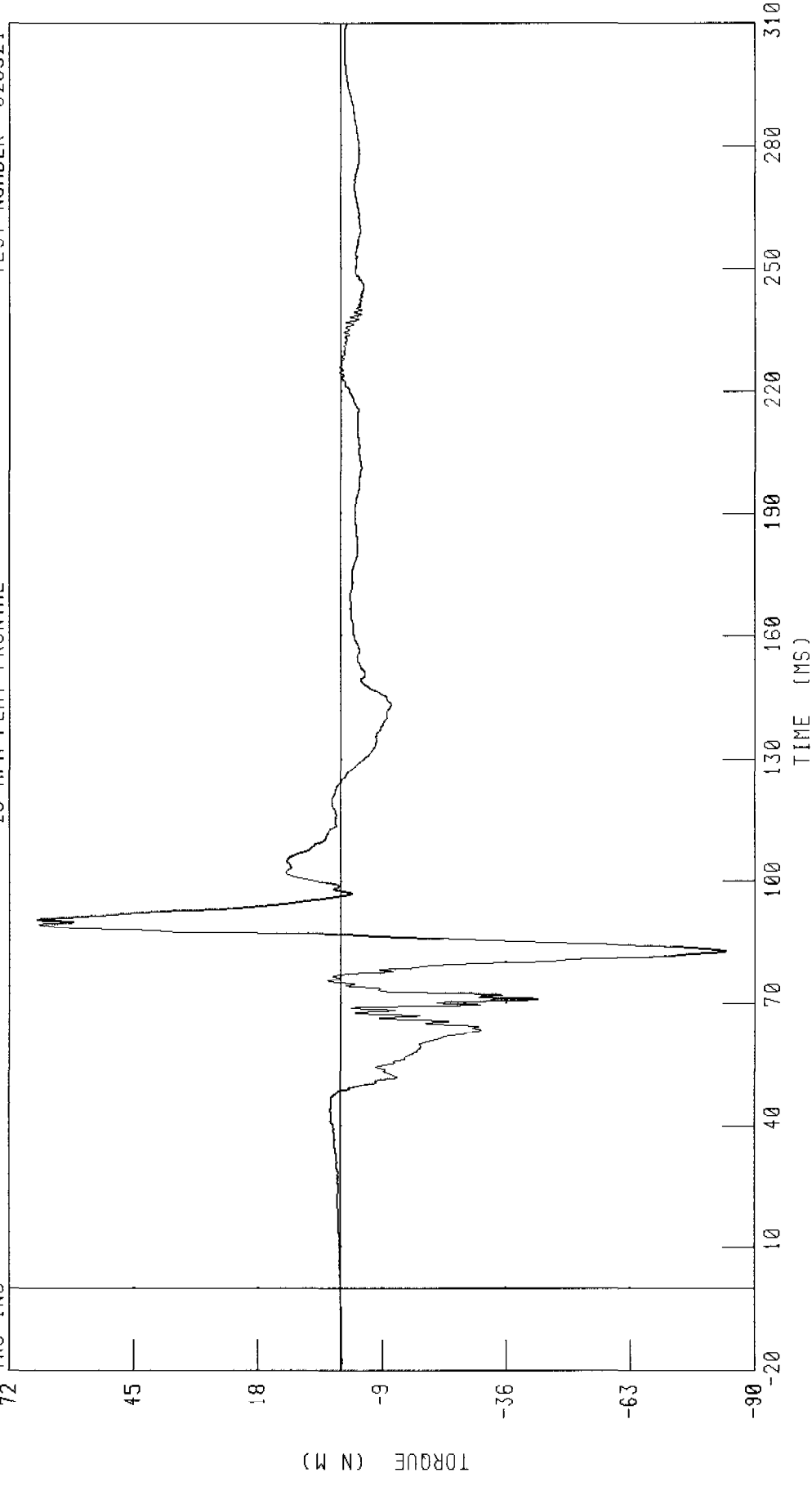
PEAK DATA 8 29 N M @ 101 20 MS, -24 27 N M @ 87 60 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT LOWER TIBIA MOMENT ABOUT Y AXIS

TEST NUMBER 020521

25 MPH FLAT FRONTAL

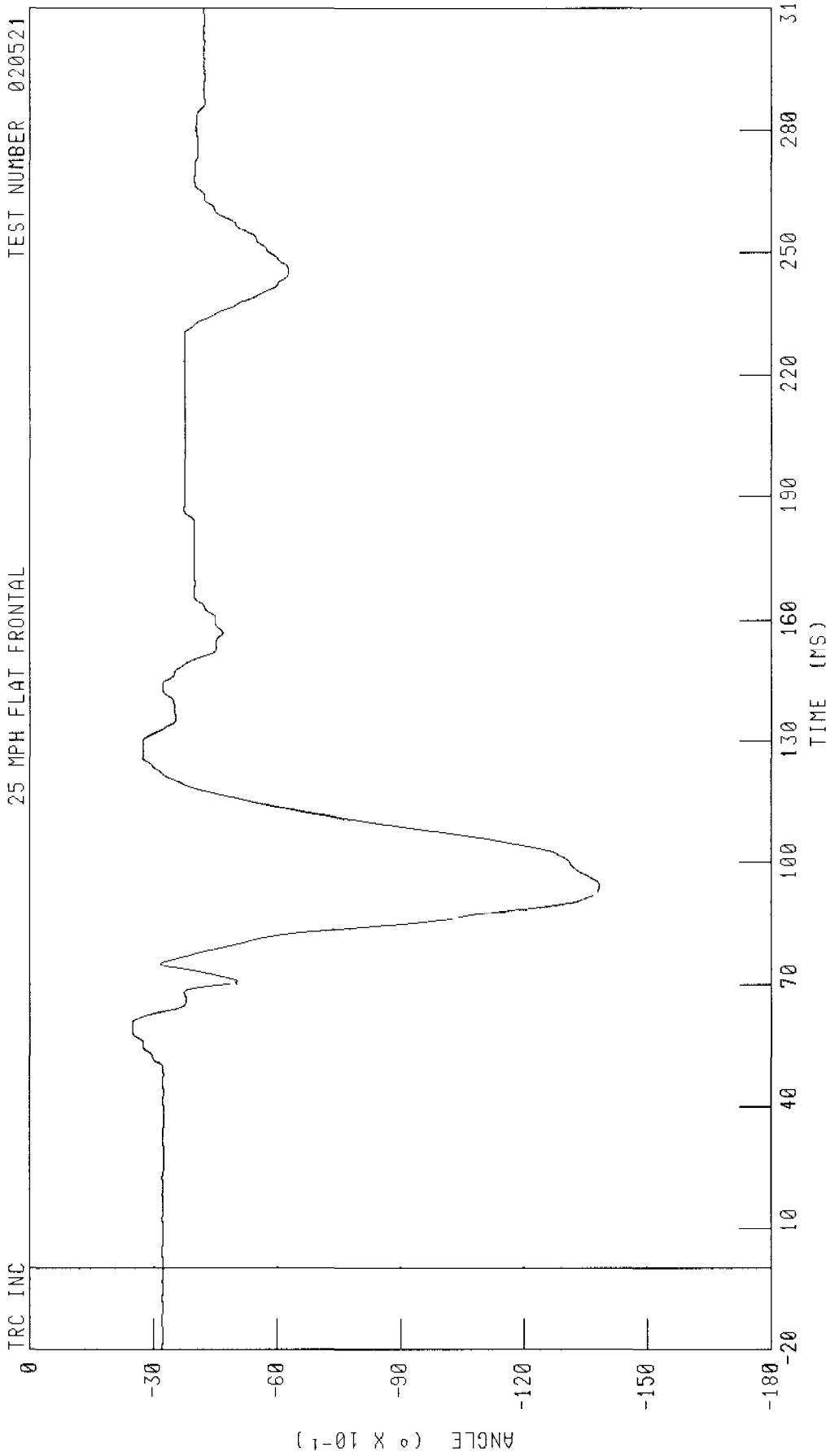
TRC INC



CHANNEL ANLYM1 FILTER CH CLASS 600
PEAK DATA 66 01 N M @ 90 72 MS, -83 81 N M @ 82 72 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT FOOT TO ANKLE X-AXIS DISPLACEMENT
25 MPH FLAT FRONTAL

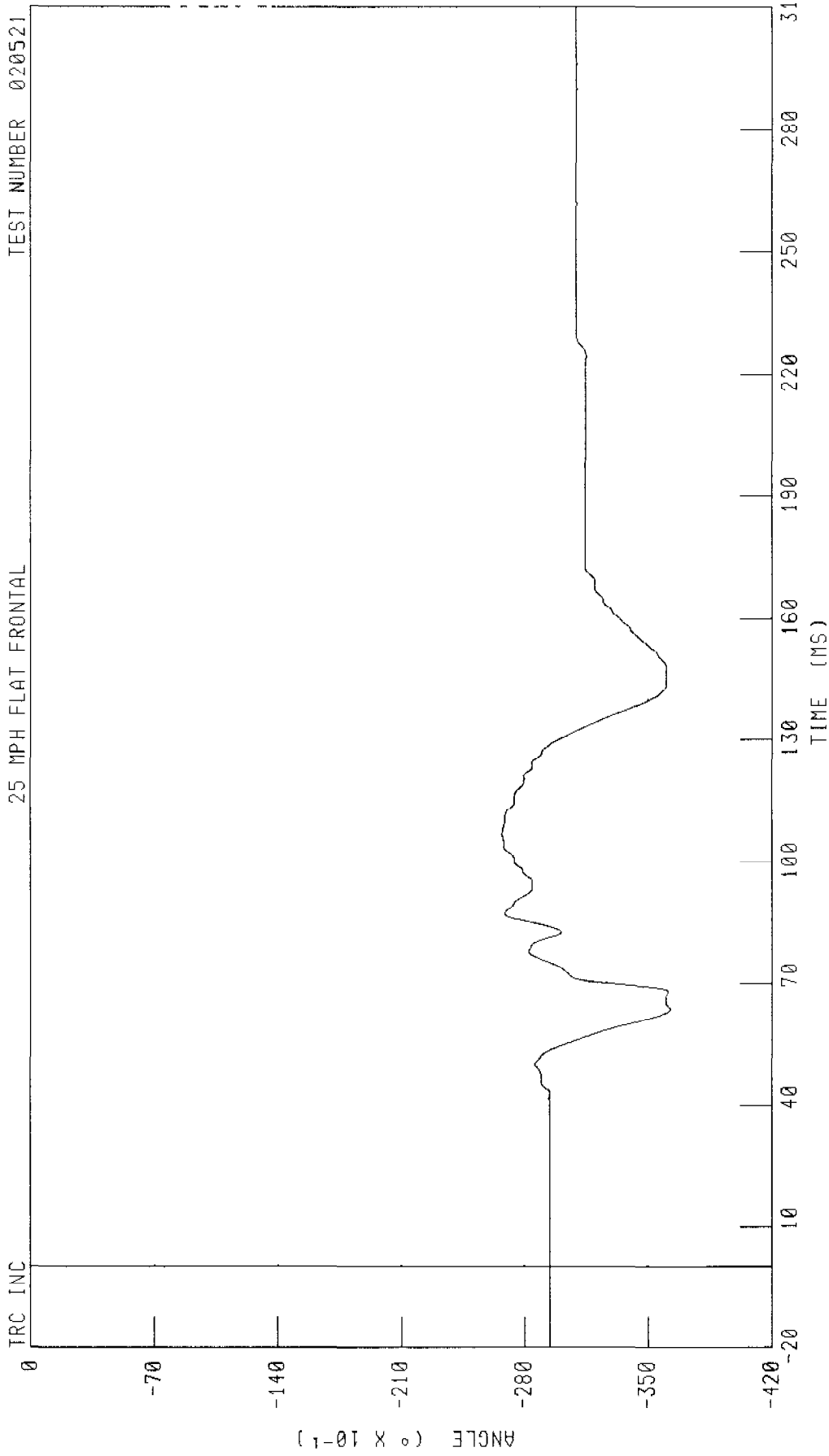
TEST NUMBER 020521



CHANNEL FTLXD1 FILTER CH CLASS 180 PEAK DATA -2.47 ° @ 60.24 MS, -13.83 ° @ 94.72 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT FOOT TO ANKLE Y-AXIS DISPLACEMENT

TRC INC 25 MPH FLAT FRONTAL TEST NUMBER 020521

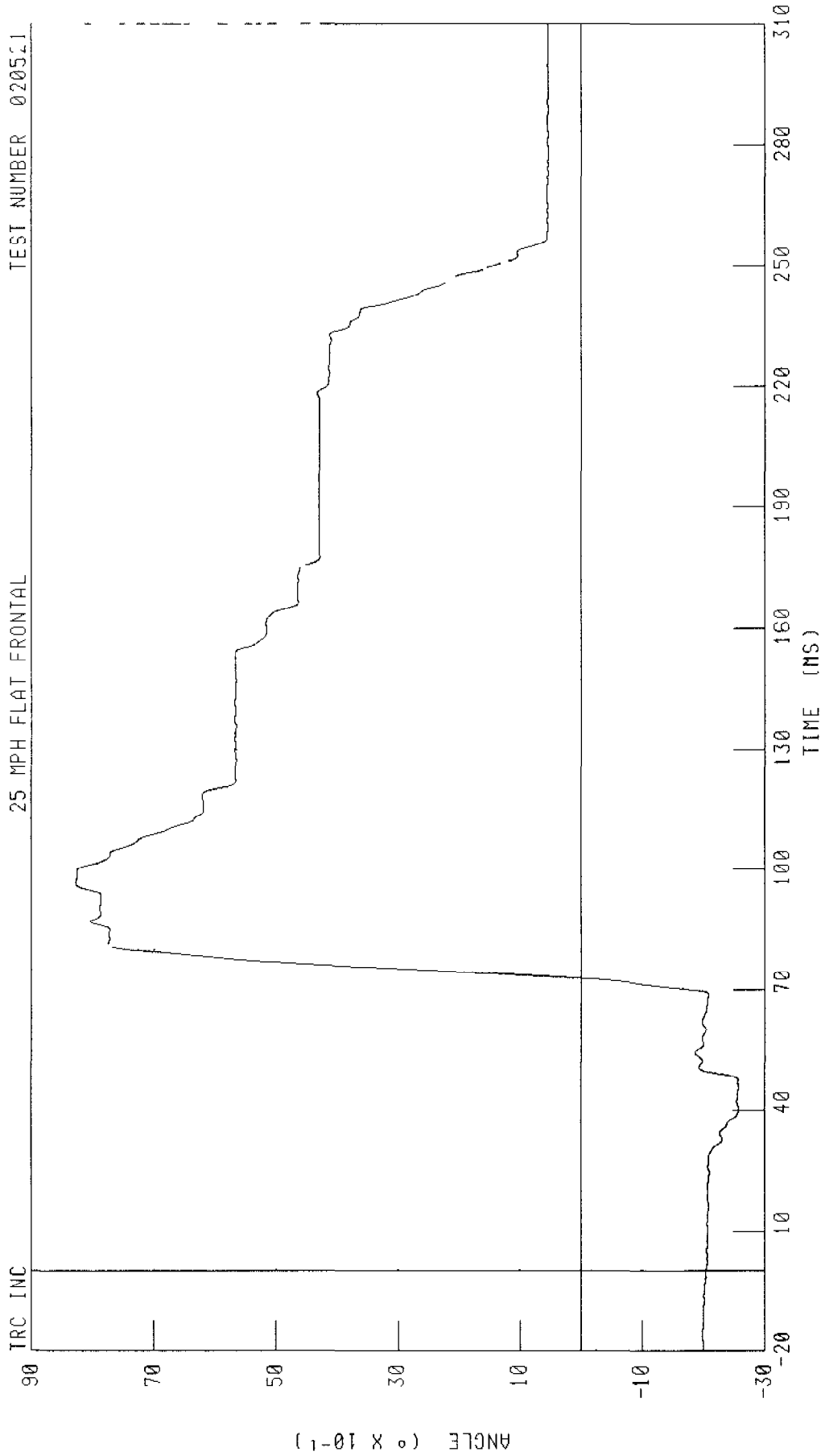


CHANNEL FTLYD1 FILTER CH CLASS 180 PEAK DATA -26 73 ° @ 106 88 MS, -36 25 ° @ 63 68 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT FOOT TO ANKLE Z-AXIS DISPLACEMENT

TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL FTLZD1 FILTER CH CLASS 180

PEAK DATA 8 28 ° @ 96 72 MS, -2 58 ° @ 40 32 MS

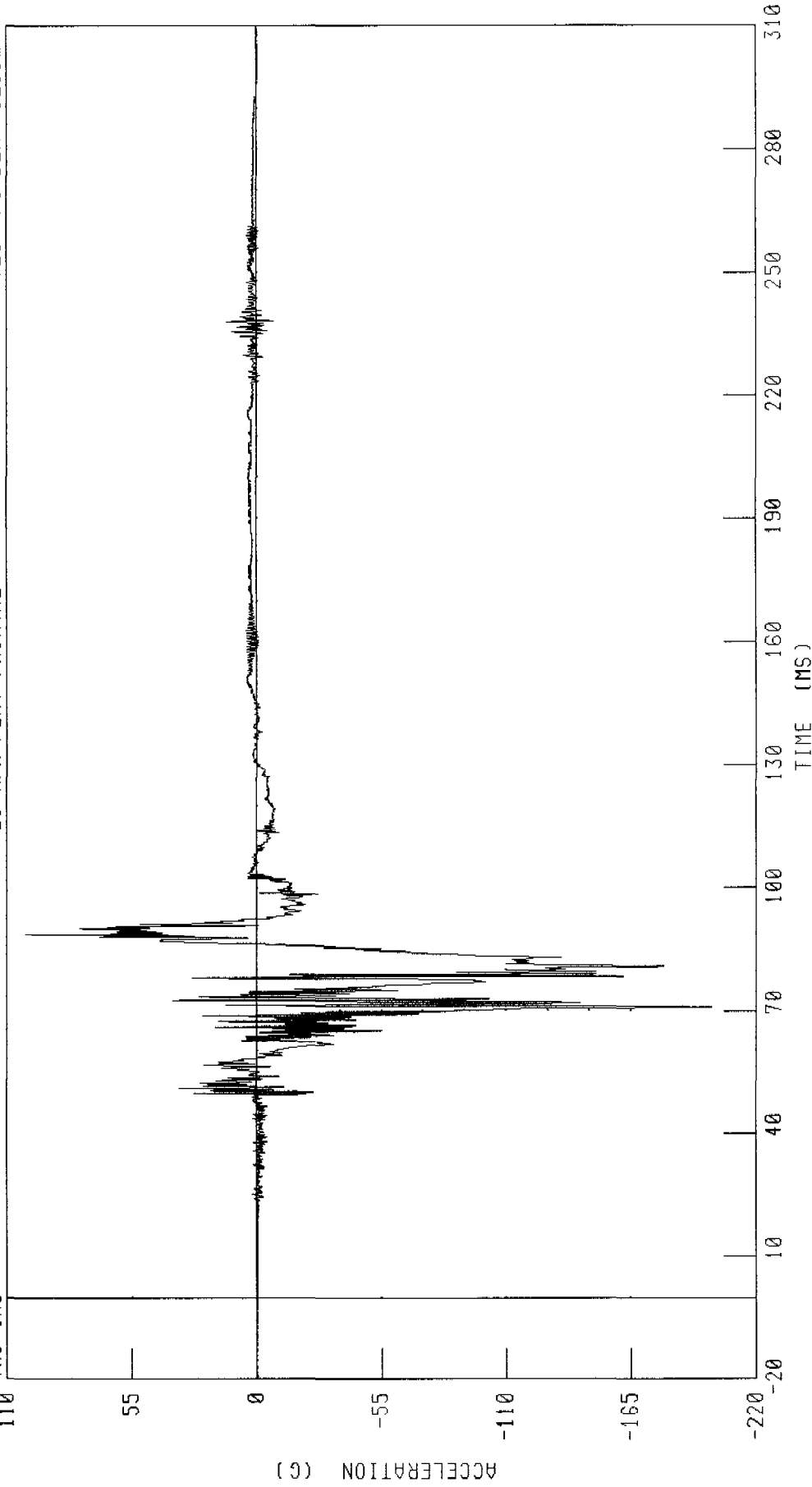
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER LEFT FOOT X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC_INC



TIME (MS)

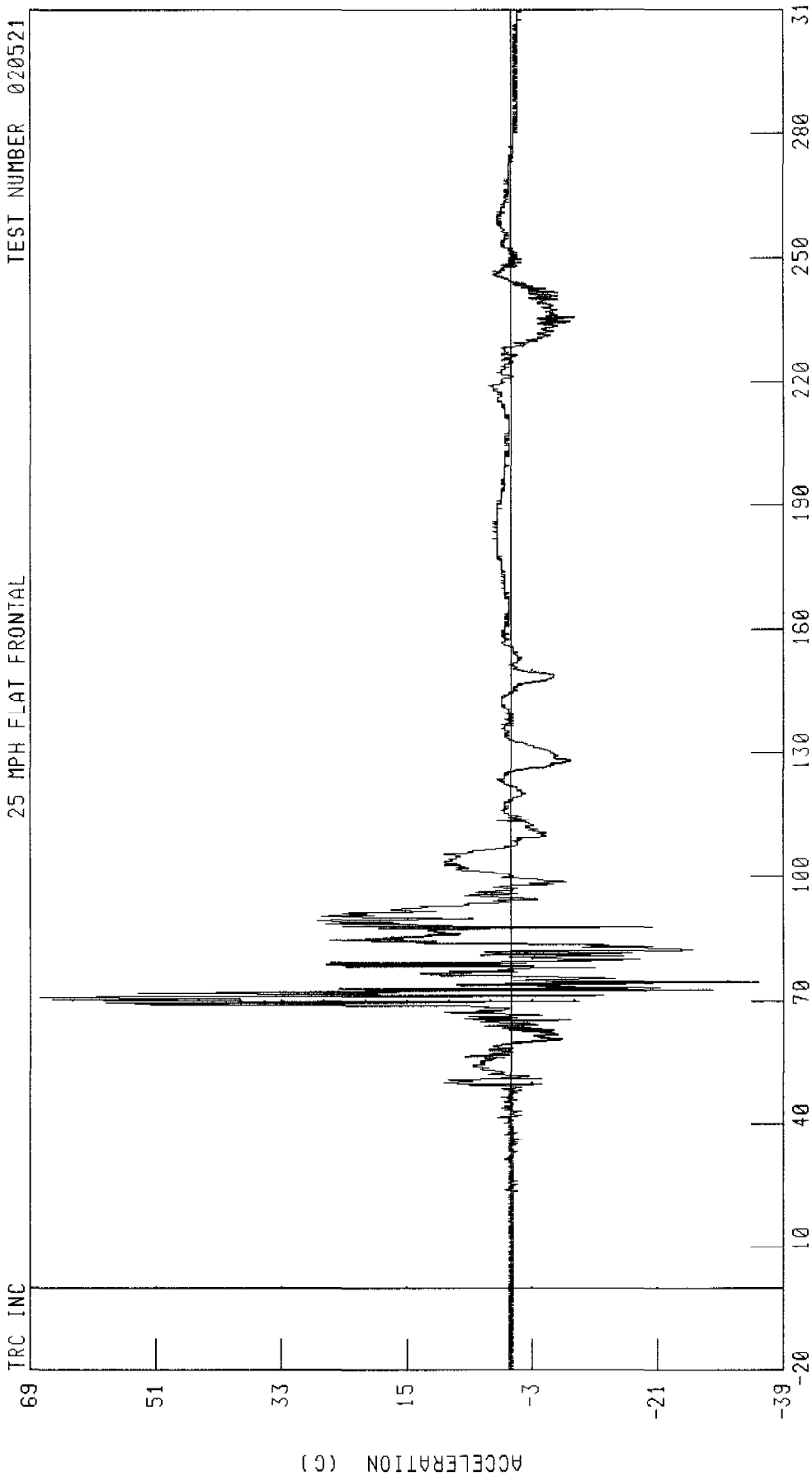
CHANNEL FTLXG1 FILTER CH CLASS 1000

PEAK DATA 101 72 G @ 88 56 MS, -200 53 G @ 70 96 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT FOOT Y-AXIS ACCELERATION

TEST NUMBER 020521

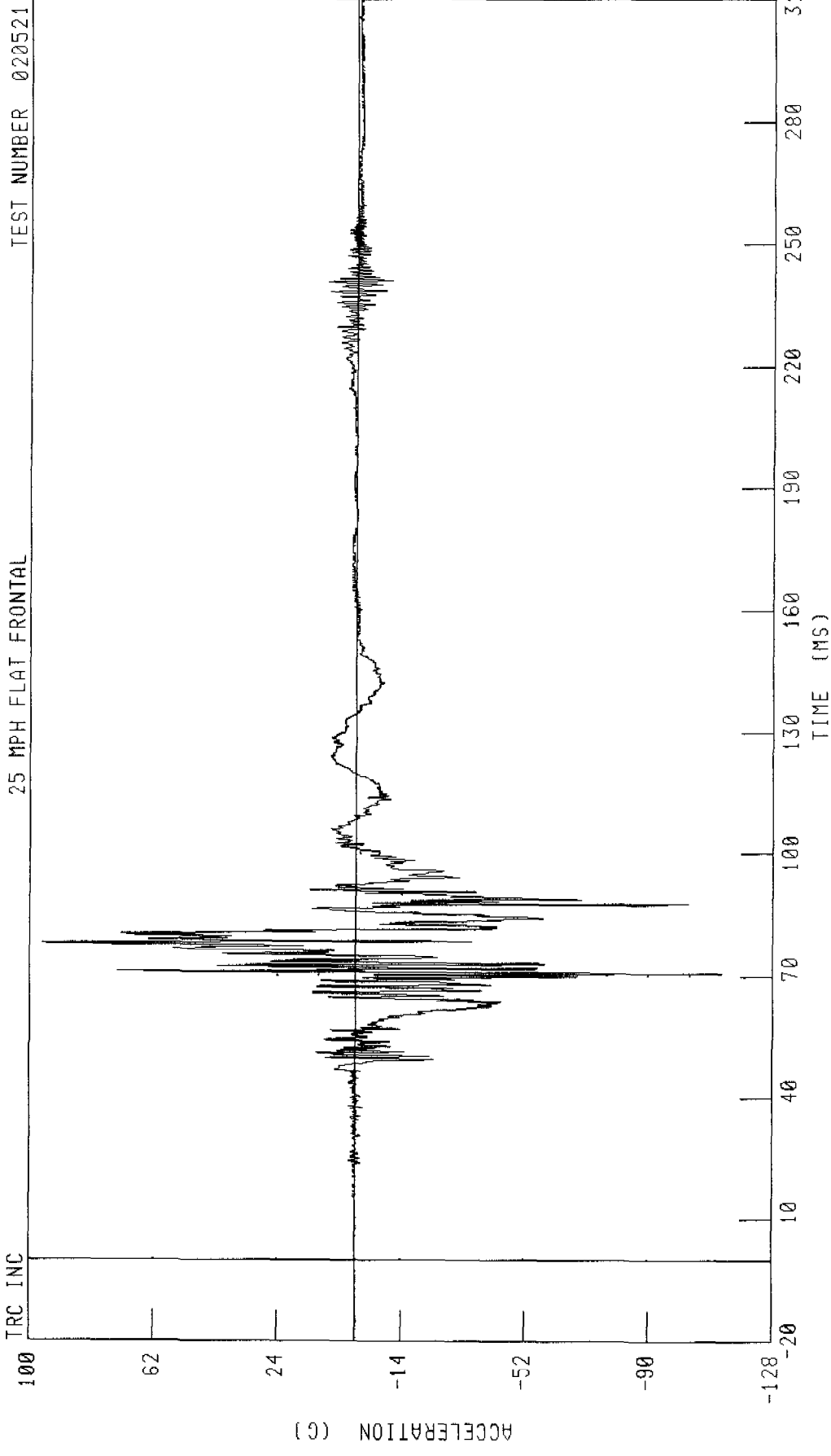
25 MPH FLAT FRONTAL



CHANNEL F1YG1 FILTER CH CLASS 1000

PEAK DATA 67 66 G @ 70 88 MS, -35 47 G @ 74 56 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT FOOT Z-AXIS ACCELERATION
25 MPH FLAT FRONTAL



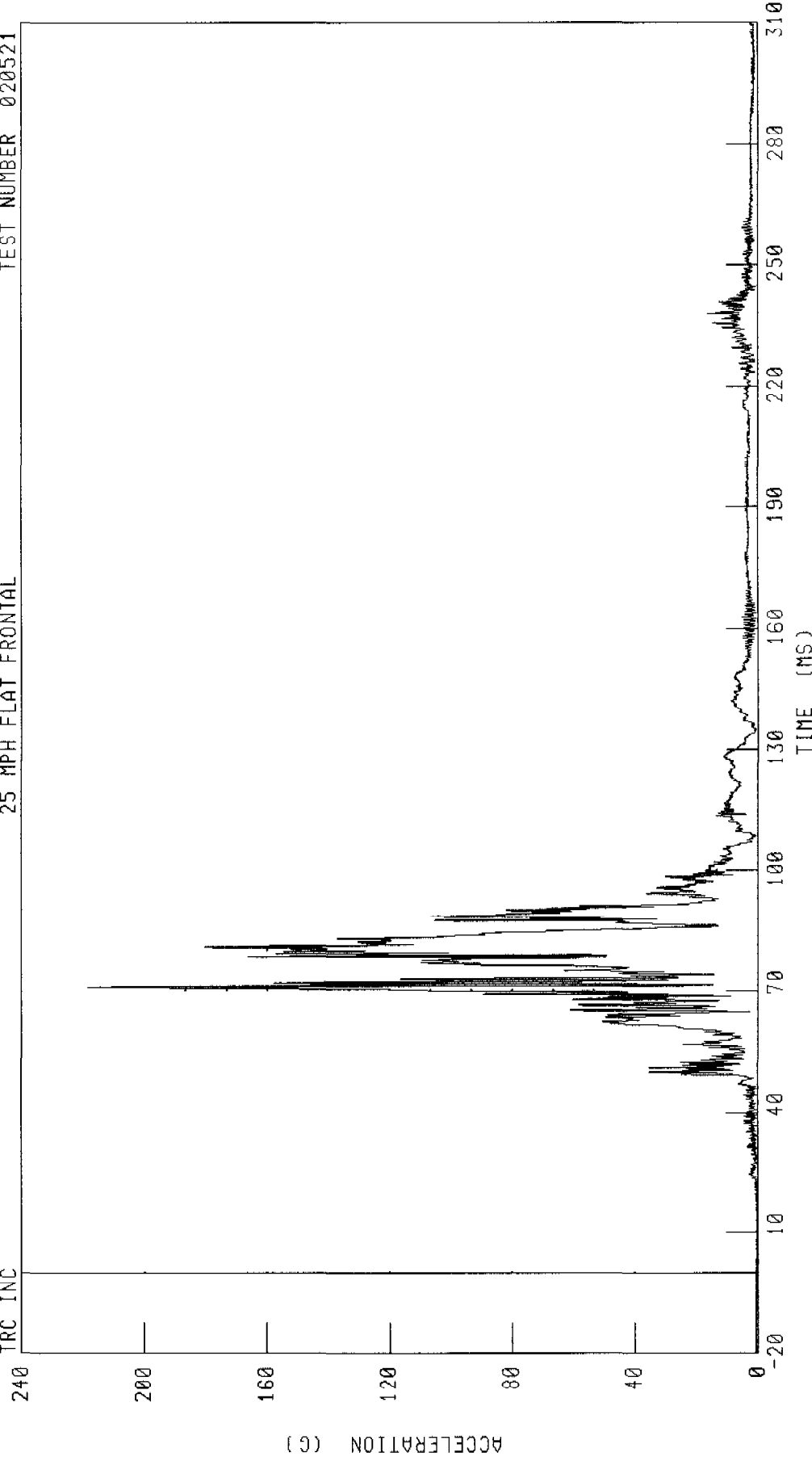
CHANNEL FTLZG1 FILTER CH CLASS 1000 PEAK DATA 96 19 G @ 78 16 MS, -112 44 G @ 70 64 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER LEFT FOOT RESULTANT ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL FTLRG1 FILTER CH CLASS 1000

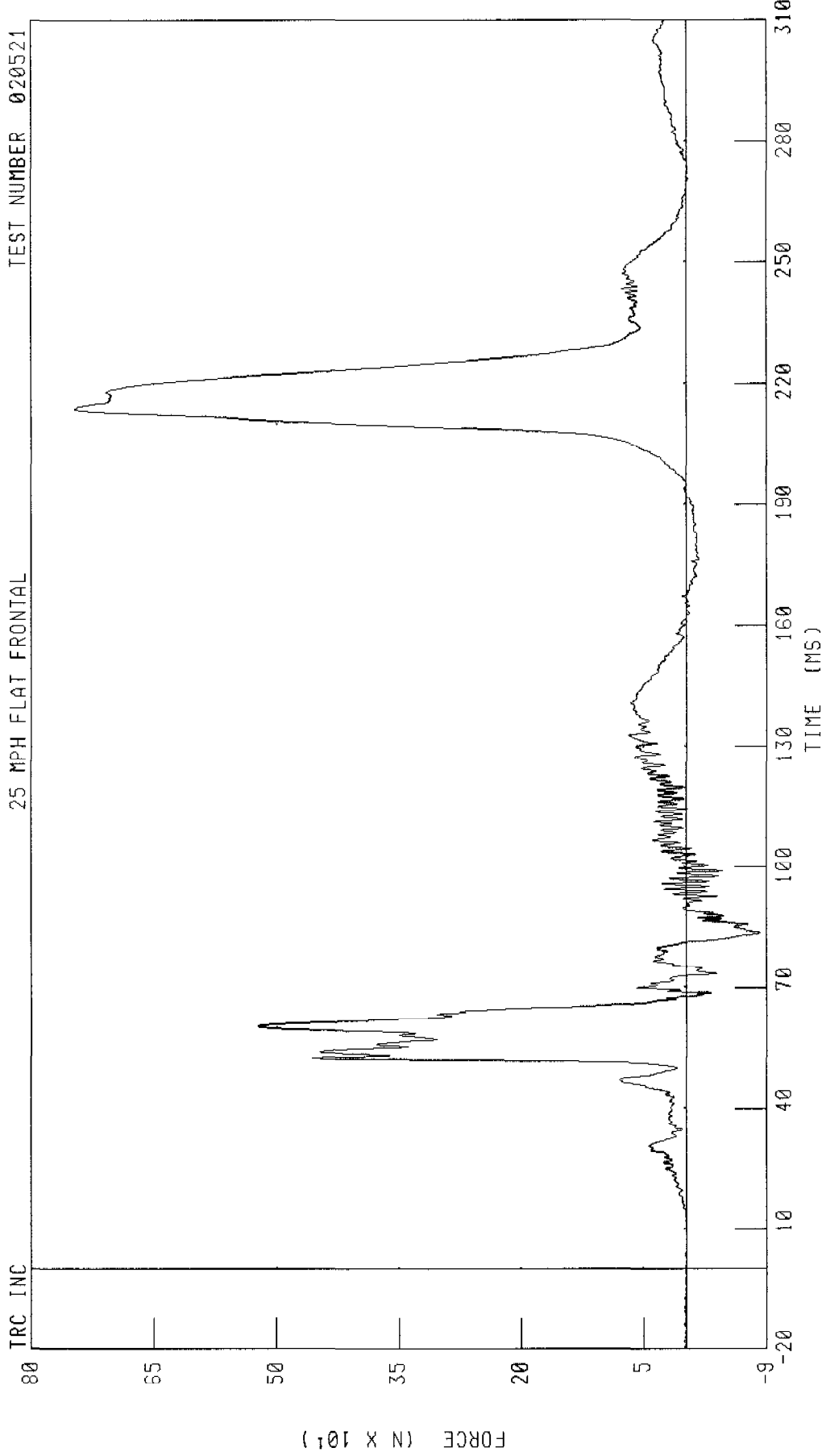
PEAK DATA 218 37 G @ 70 96 MS, 0 36 G @ -19 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT UPPER TIBIA X-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL TBRXF1 FILTER CH CLASS 600

PEAK DATA 749 47 N @ 213 76 MS, -88 94 N @ 83 68 MS

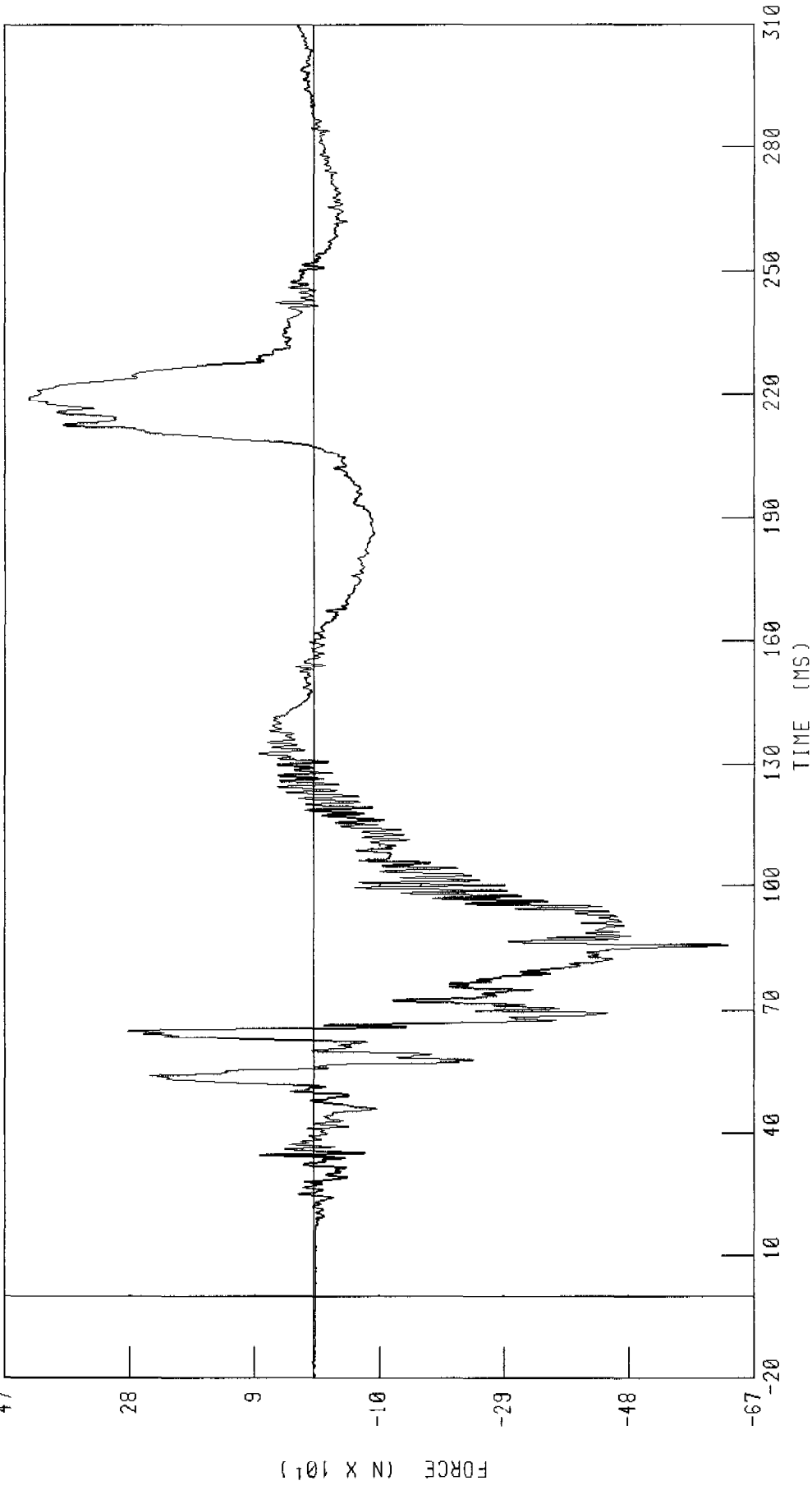
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT UPPER TIBIA Z-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



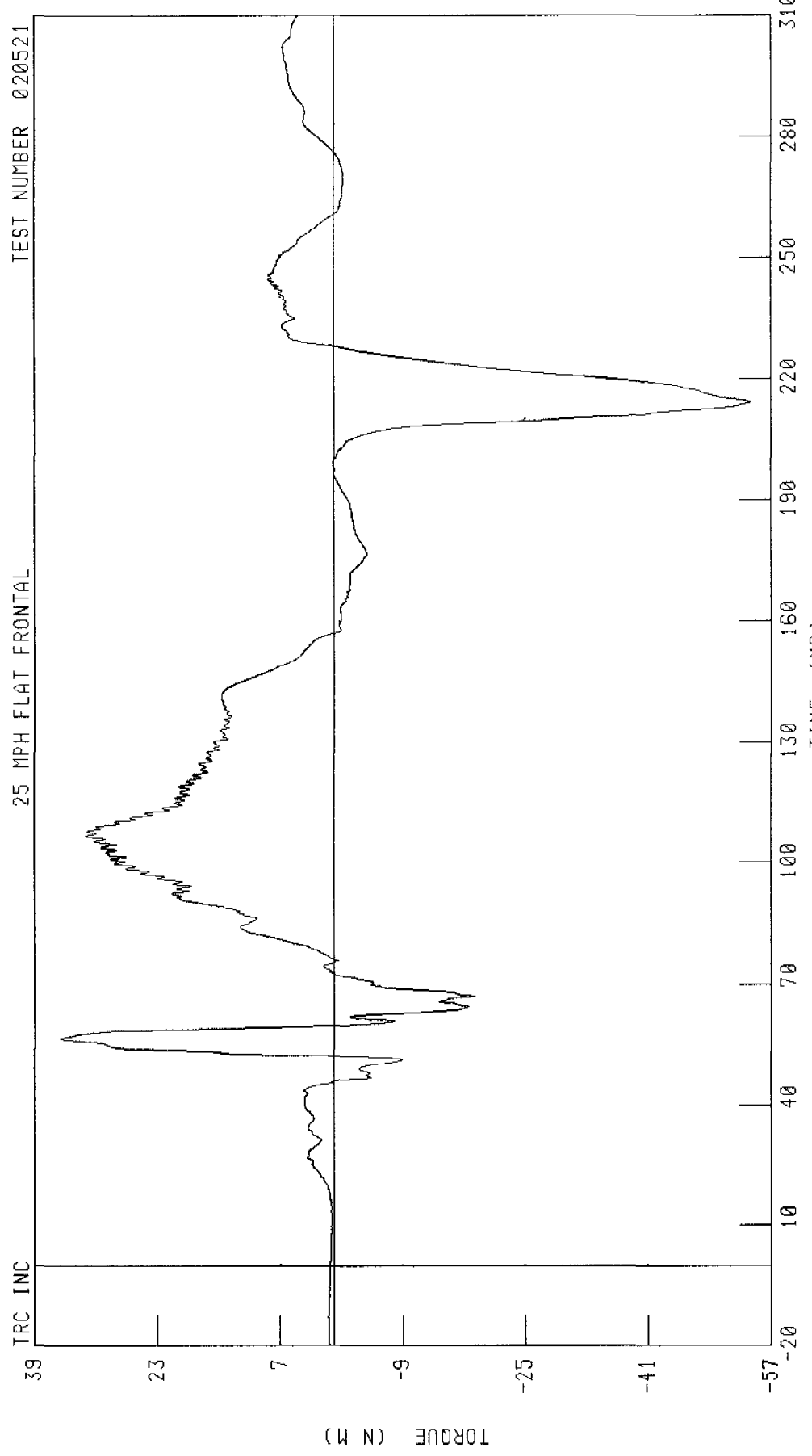
CHANNEL TBRZF1 FILTER CH CLASS 600

PEAK DATA 433 85 N @ 219 20 MS, -631 77 N @ 85 68 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT UPPER TIBIA MOMENT ABOUT X AXIS

TEST NUMBER 020521

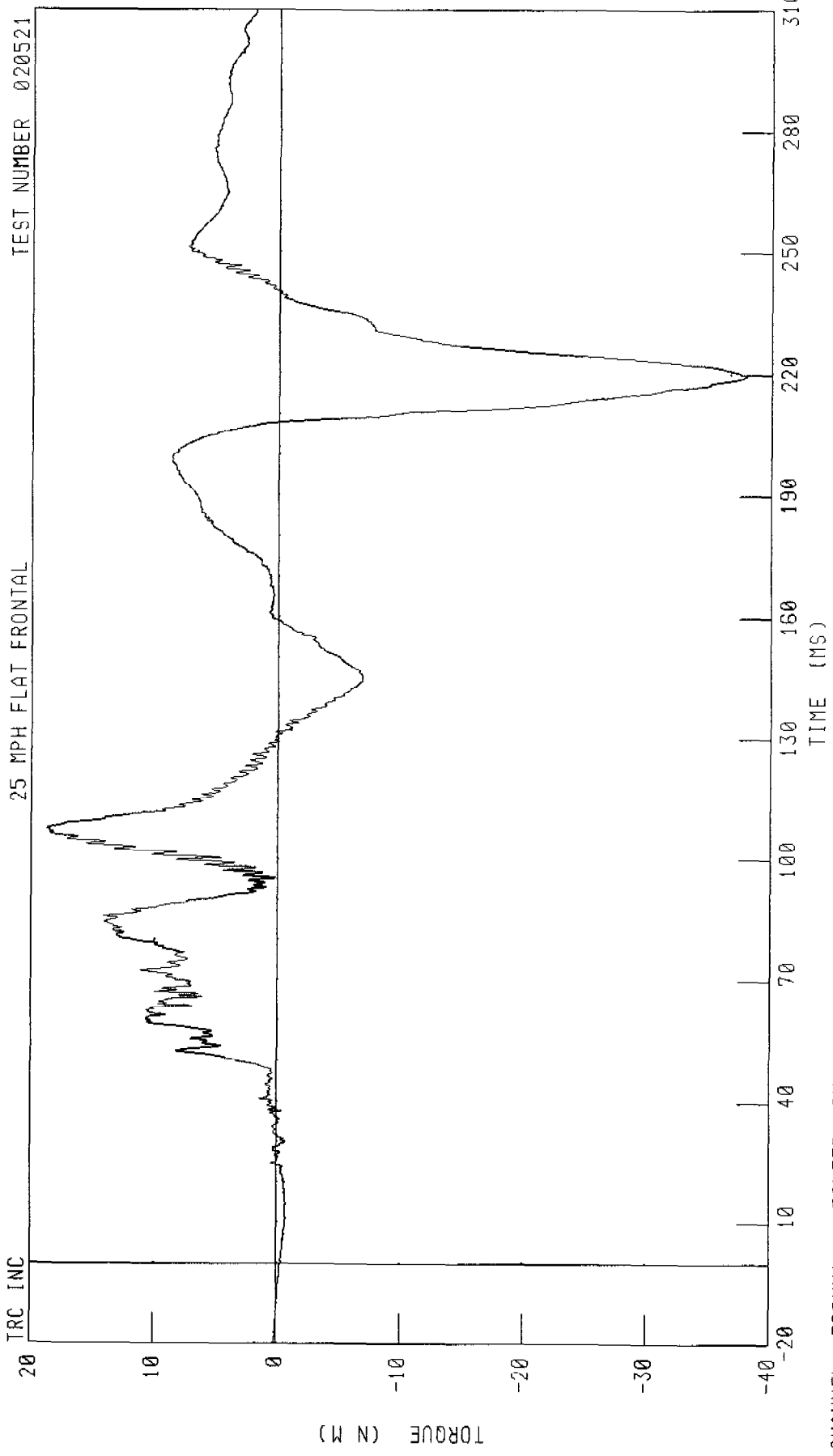
25 MPH FLAT FRONTAL



TIME (MS)

CHANNEL TBRXM1 FILTER CH CLASS 600 PEAK DATA 35 66 N M @ 56 48 MS, -54 33 N M @ 214 08 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT UPPER TIBIA MOMENT ABOUT Y AXIS



CHANNEL TBRYM1 FILTER CH CLASS 600

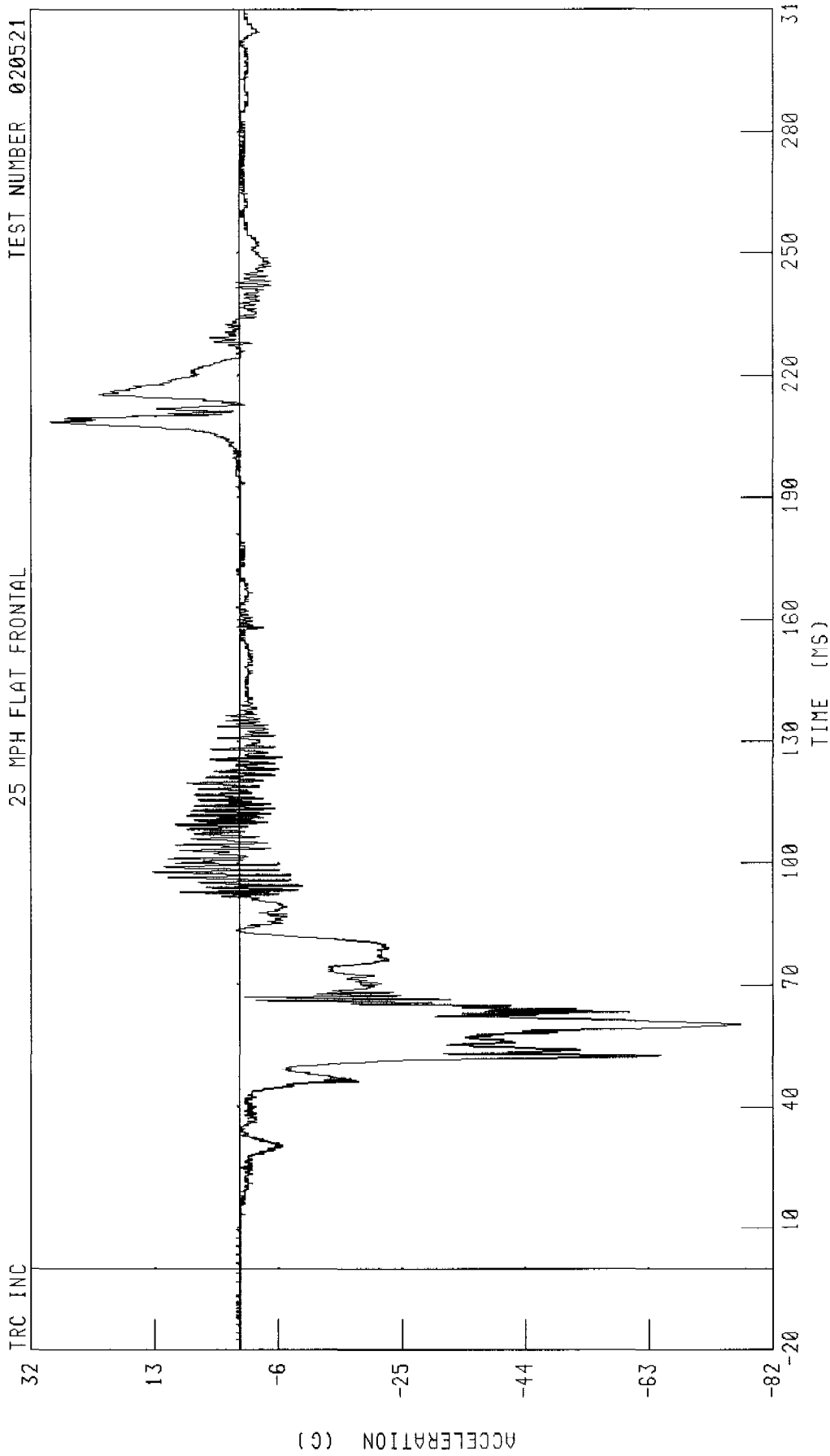
PEAK DATA 18 73 N M @ 107 84 MS, -37 98 N M @ 219 60 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT TIBIA X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL TBRXG1 FILTER CH CLASS 1000

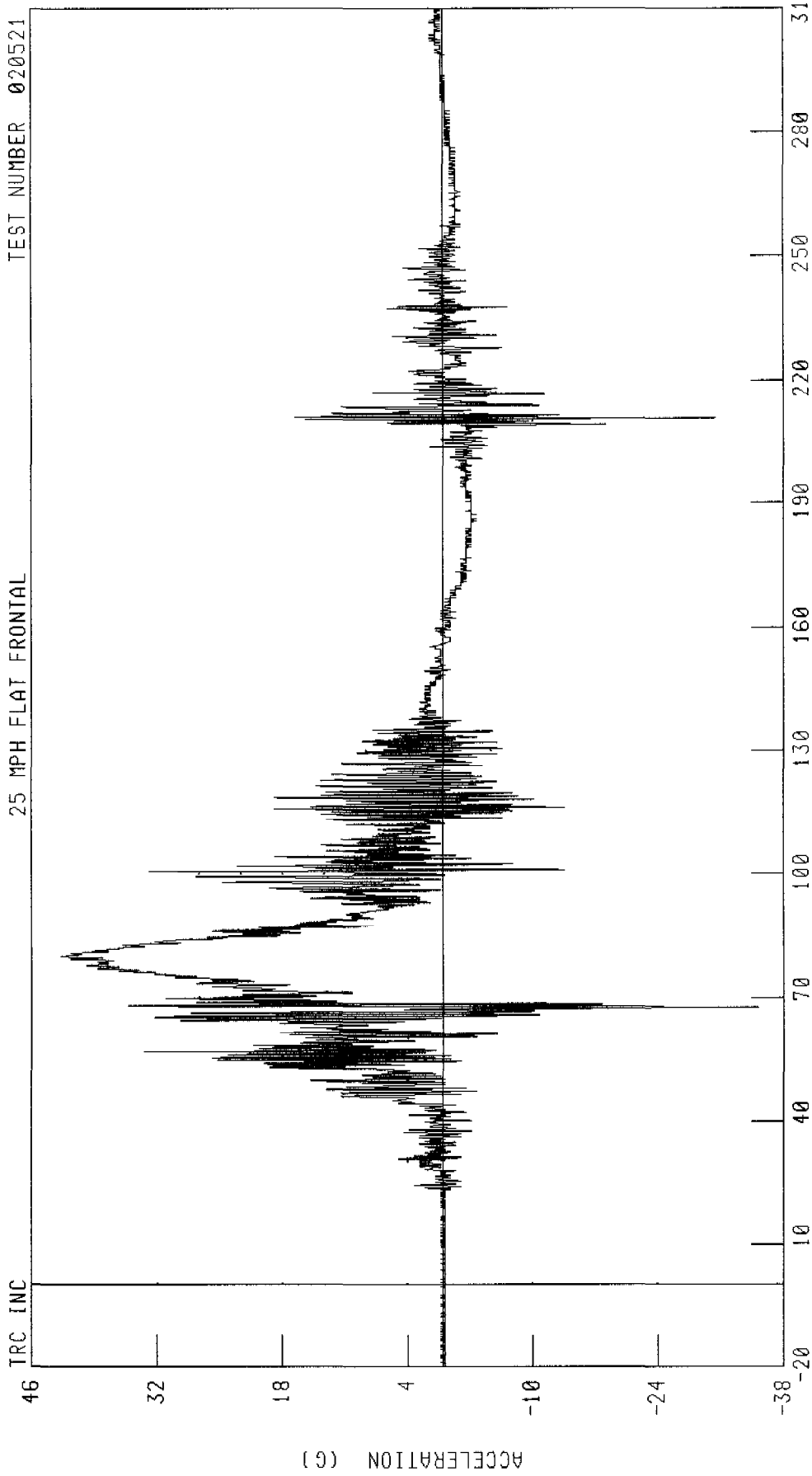
PEAK DATA 29 20 G @ 208 72 MS, -77 05 G @ 60 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT TIBIA Z-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL TBRZG1 FILTER CH CLASS 1000

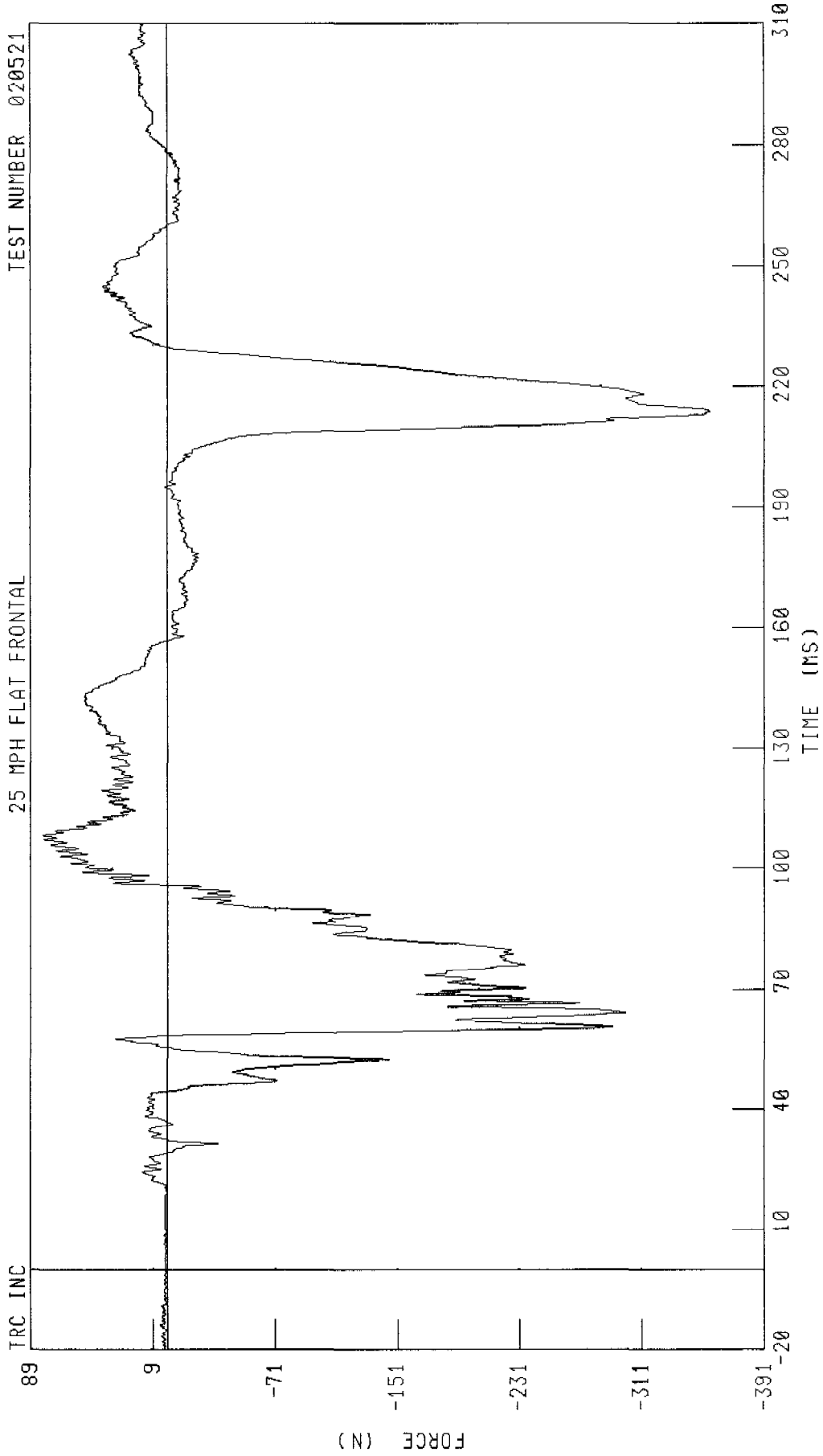
PEAK DATA 42 75 G @ 80 24 MS, -35 12 G @ 67 60 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT LOWER TIBIA X-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



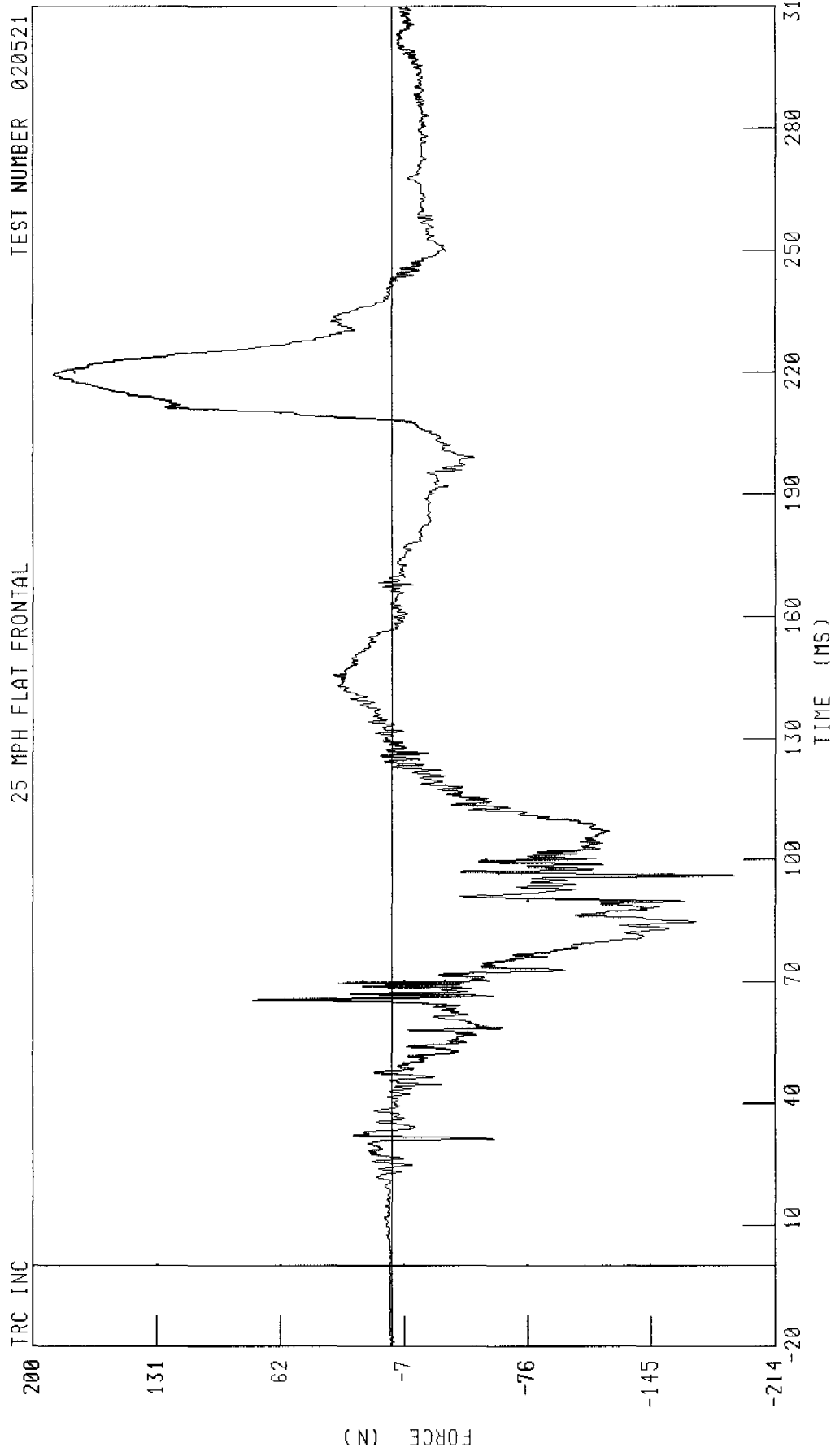
CHANNEL ANRFX1 FILTER CH CLASS 600 PEAK DATA 81 32 N @ 108 48 MS, -355 62 N @ 213 68 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT LOWER TIBIA Y-AXIS FORCE

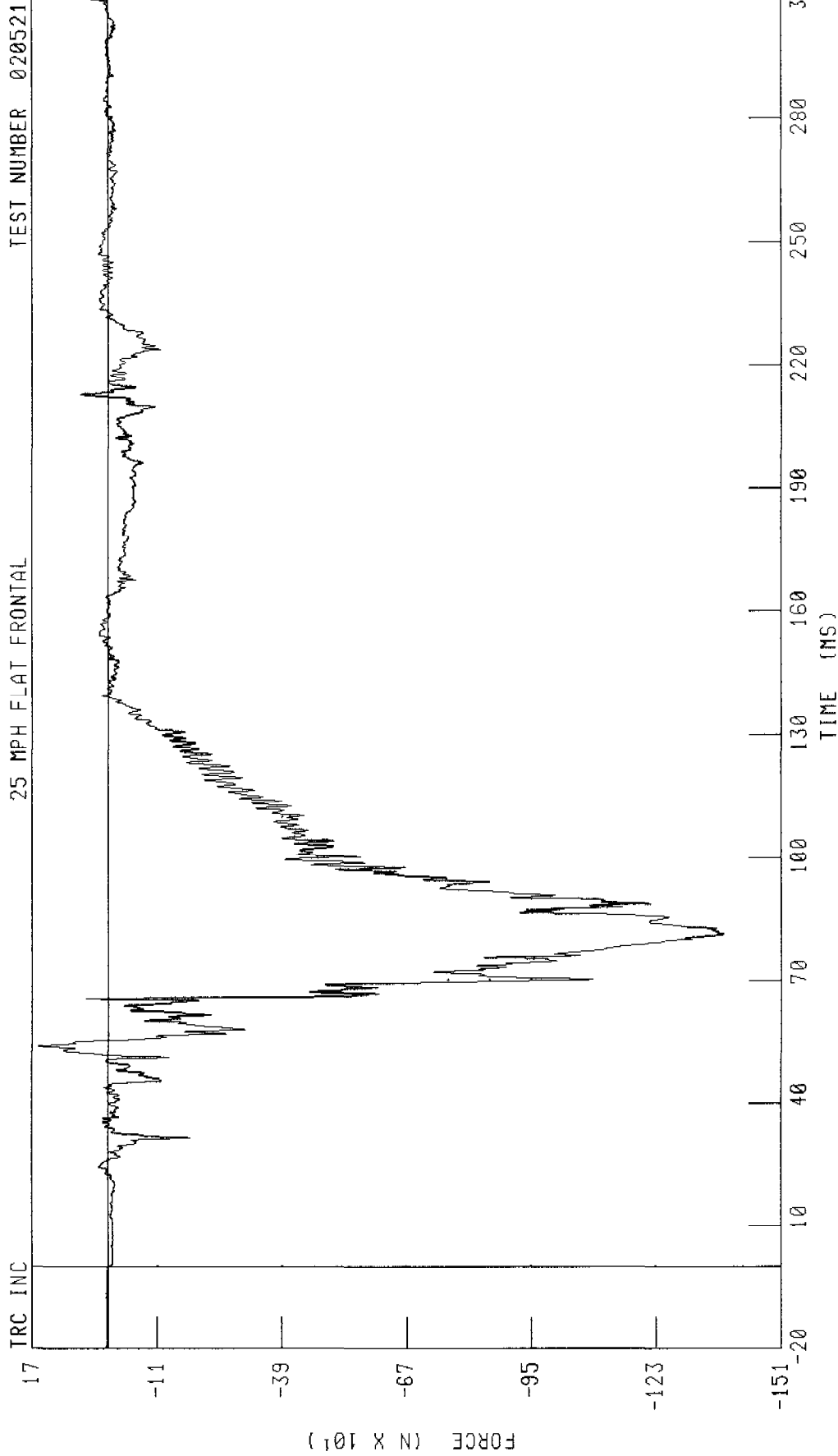
25 MPH FLAT FRONTAL

TEST NUMBER 020521

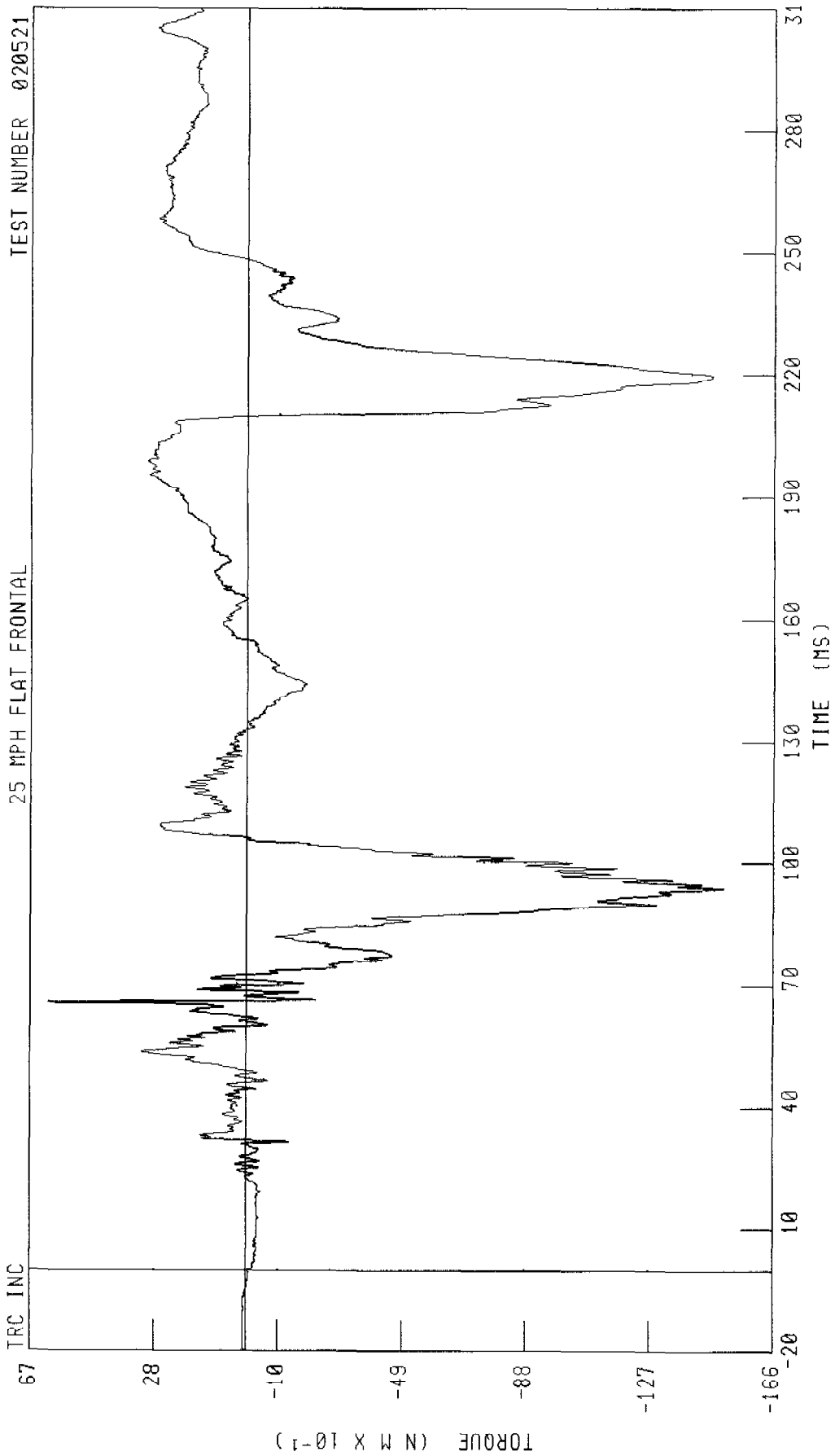


CHANNEL ANRYF1 FILTER CH CLASS 600 PEAK DATA 188 42 N @ 219 52 MS, -191 14 N @ 96 16 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT LOWER TIBIA Z-AXIS FORCE



2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT LOWER TIBIA MOMENT ABOUT X AXIS



CHANNEL ANRXM1 FILTER CH CLASS 600

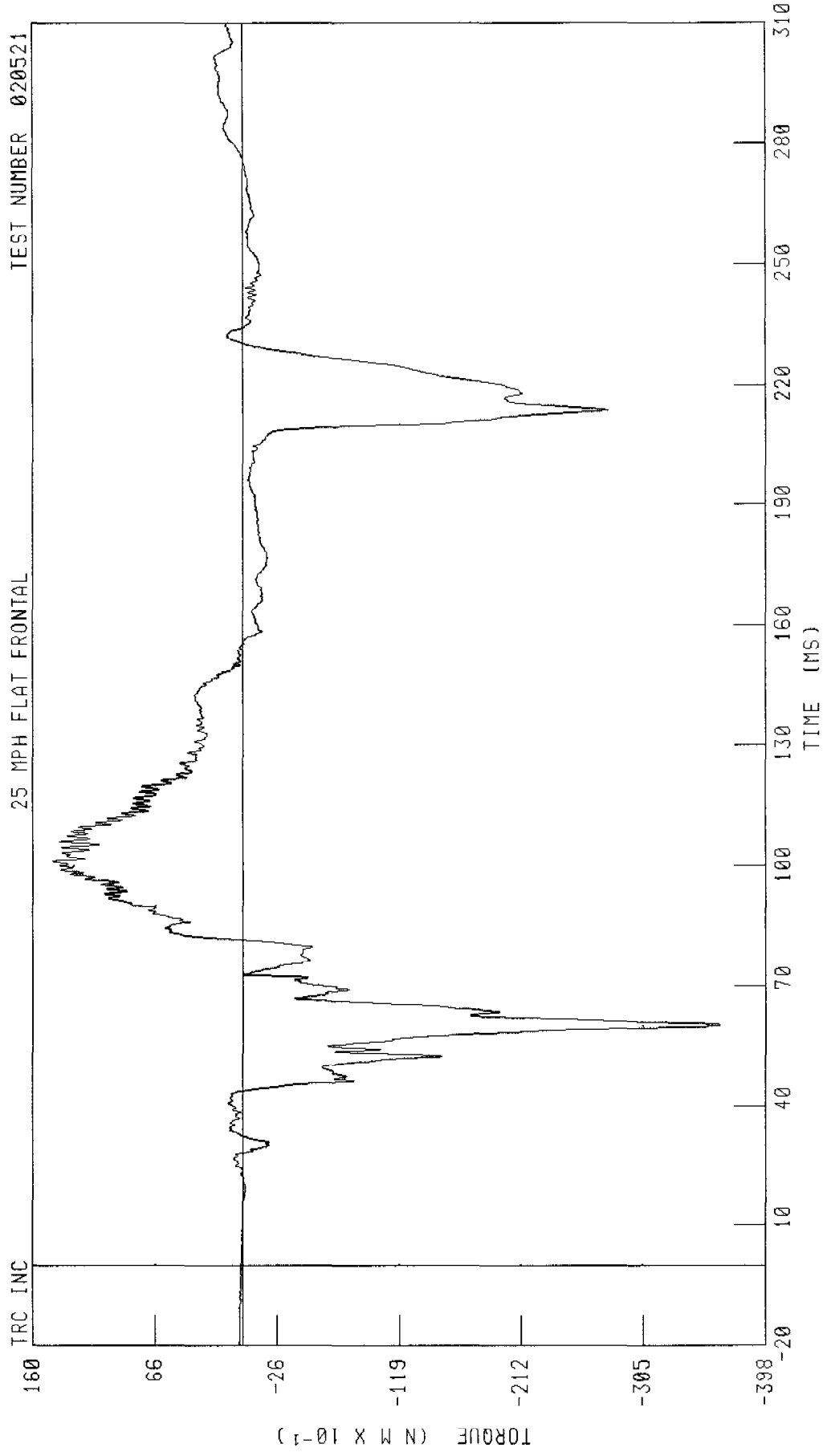
PEAK DATA 6 24 N M @ 65 76 MS, -15 04 N M @ 93 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER RIGHT LOWER TIBIA MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



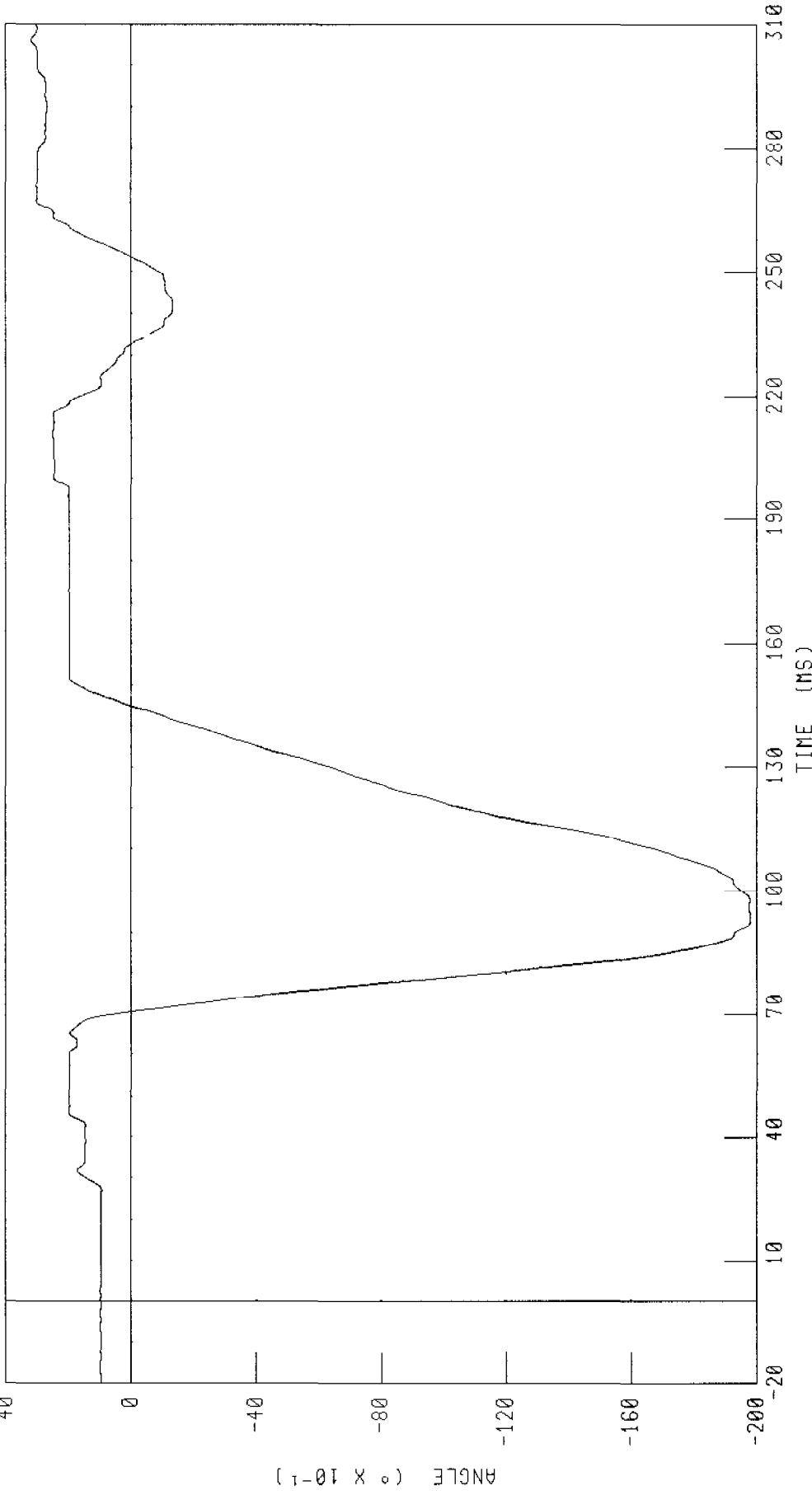
CHANNEL ANRYM1 FILTER CH CLASS 600 PEAK DATA 14 55 N M @ 101 28 MS, -36 36 N M @ 60 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT FOOT TO ANKLE X-AXIS DISPLACEMENT

TRC INC

25 MPH FLAT FRONTAL

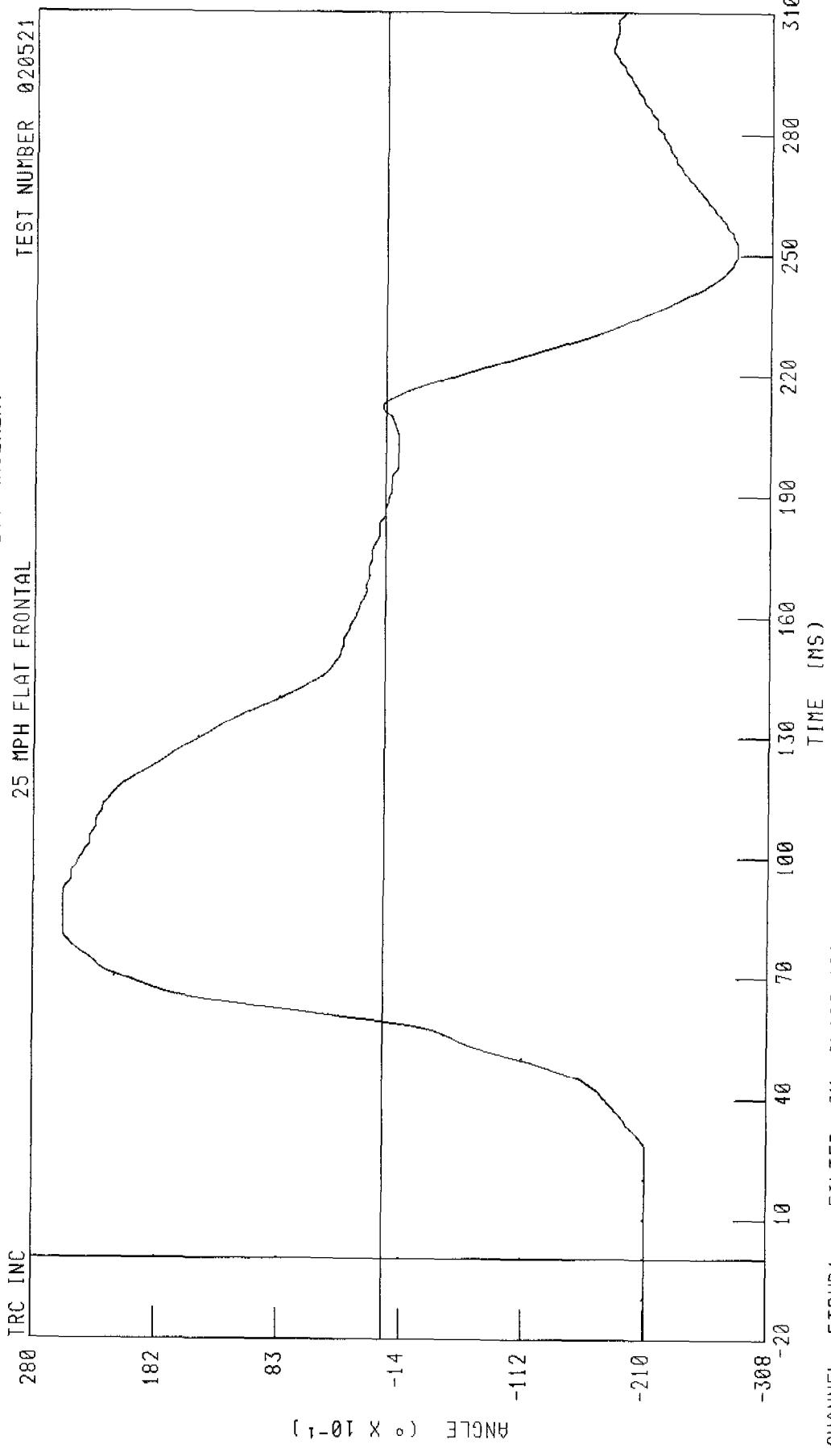
TEST NUMBER 020521



CHANNEL FTRX01 FILTER CH CLASS 180

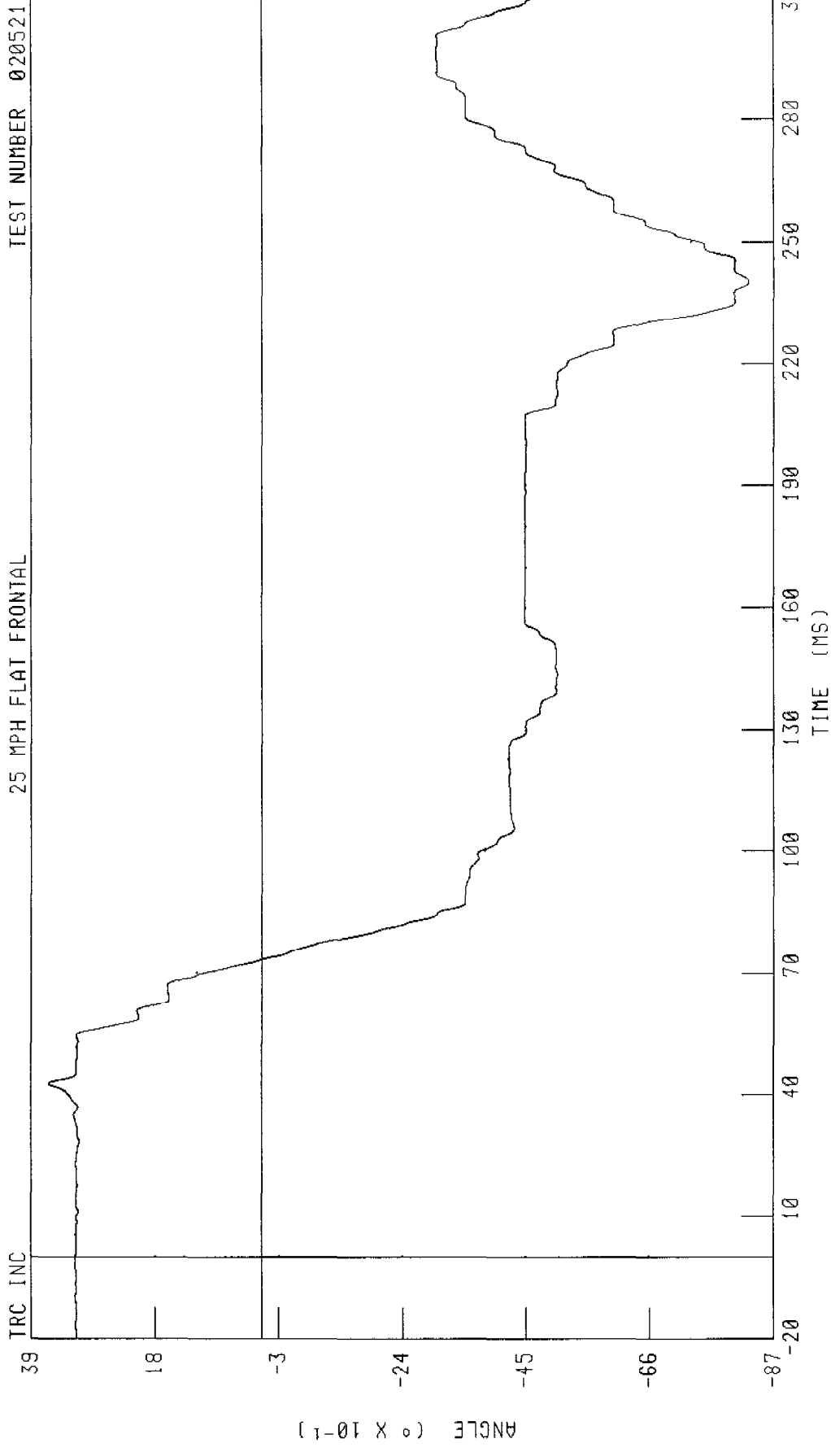
PEAK DATA 3 20 ° @ 306 08 MS, -19 80 ° @ 92 80 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT FOOT TO ANKLE Y-AXIS DISPLACEMENT



CHANNEL FTRYD1 FILTER CH CLASS 180
PEAK DATA 25 60 ° @ 86 72 MS, -28 07 ° @ 250 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT FOOT TO ANKLE Z-AXIS DISPLACEMENT
25 MPH FLAT FRONTAL

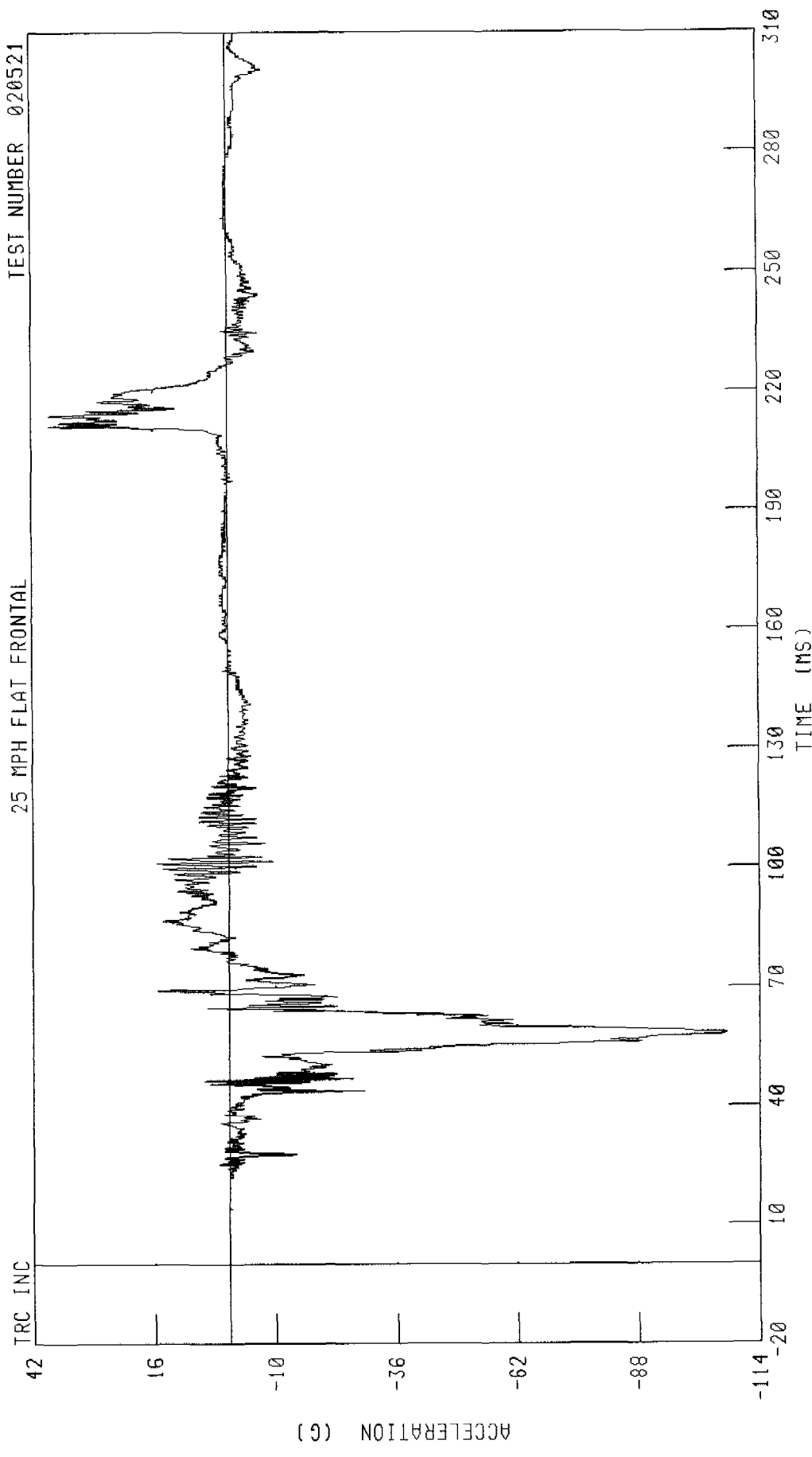


TEST NUMBER 020521

CHANNEL FTRZD1 FILTER CH CLASS 180 PEAK DATA 3 60 ° @ 42 72 MS, -8 28 ° @ 240 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT FOOT X-AXIS ACCELERATION
25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL FTRXC1 FILTER CH CLASS 1000

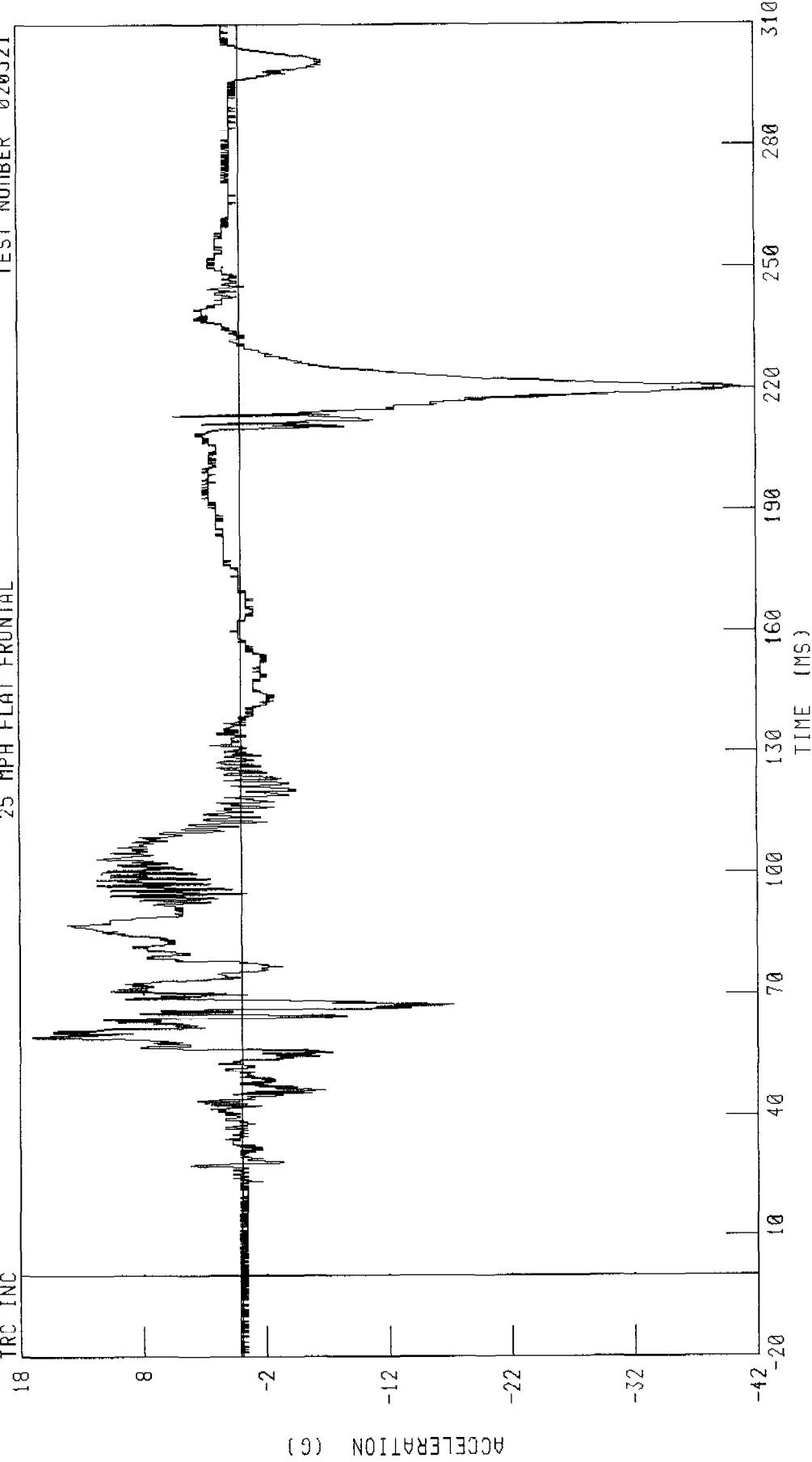
PEAK DATA 38 36 G @ 211 36 MS, -107 03 G @ 58 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT FOOT Y-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC_INC

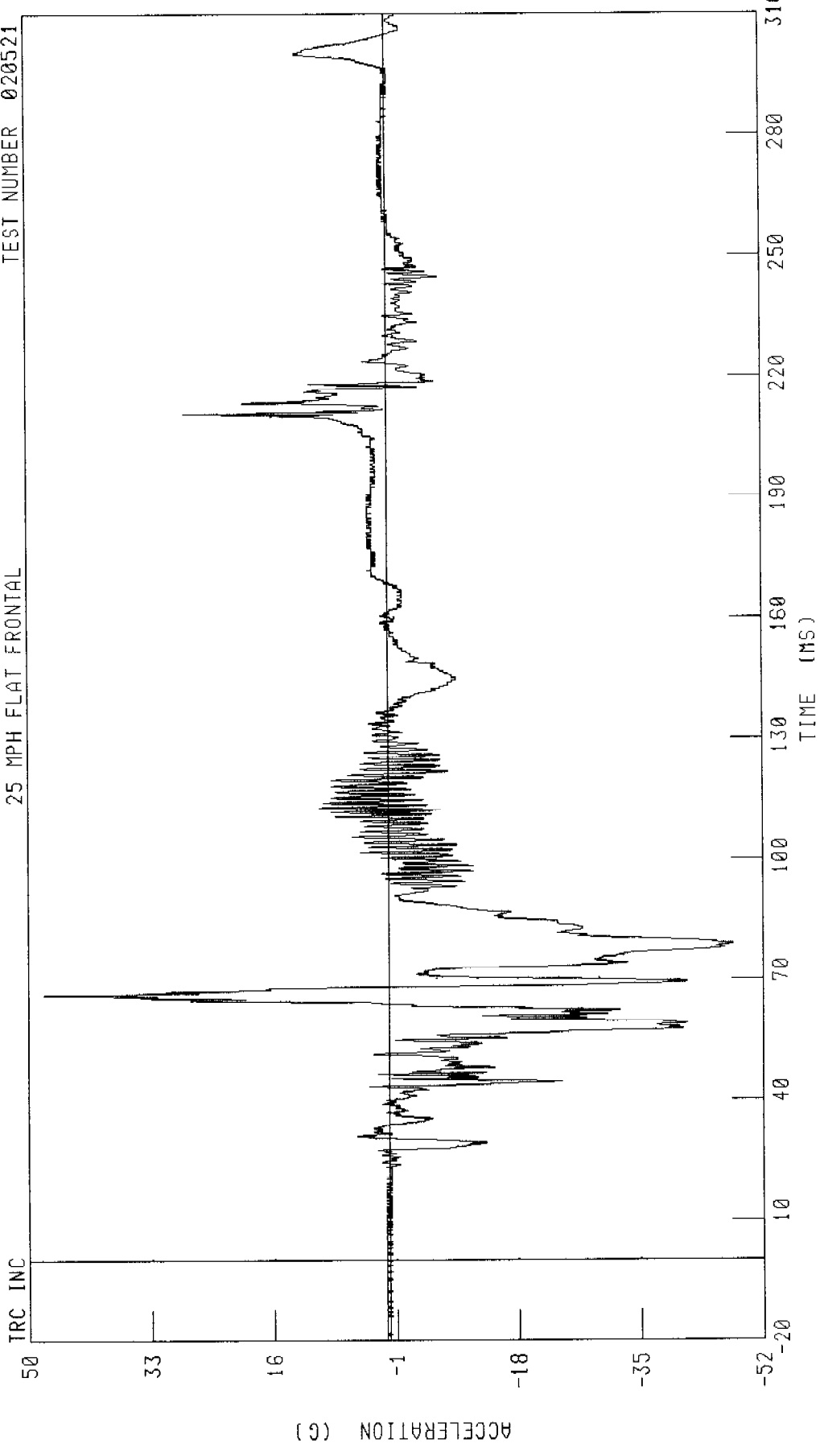


CHANNEL FTRYG1 FILTER CH CLASS 1000

PEAK DATA 17 03 0 59 36 MS, -41 15 G @ 220 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT FOOT Z-AXIS ACCELERATION
25 MPH FLAT FRONTAL

TEST NUMBER 020521



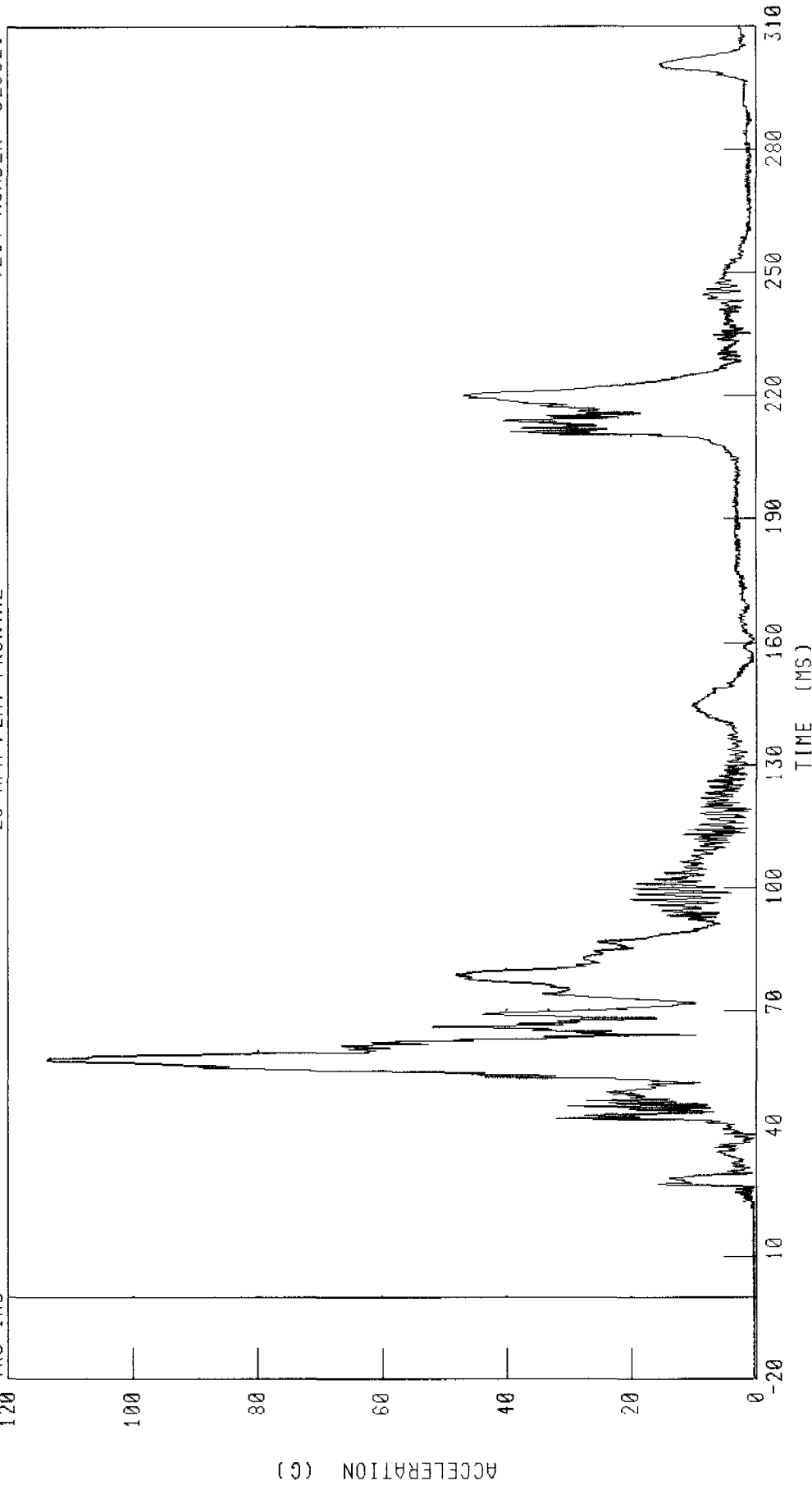
CHANNEL FTR7G1 FILTER CH CLASS 1000 PEAK DATA 47 86 G @ 66 16 MS, -47 82 G @ 78 88 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
DRIVER RIGHT FOOT RESULTANT ACCELERATION

TRC INC

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL FTRRG1 FILTER CH CLASS 1000

PEAK DATA 113 82 G @ 57 92 MS, 0 32 G @ -20 00 MS

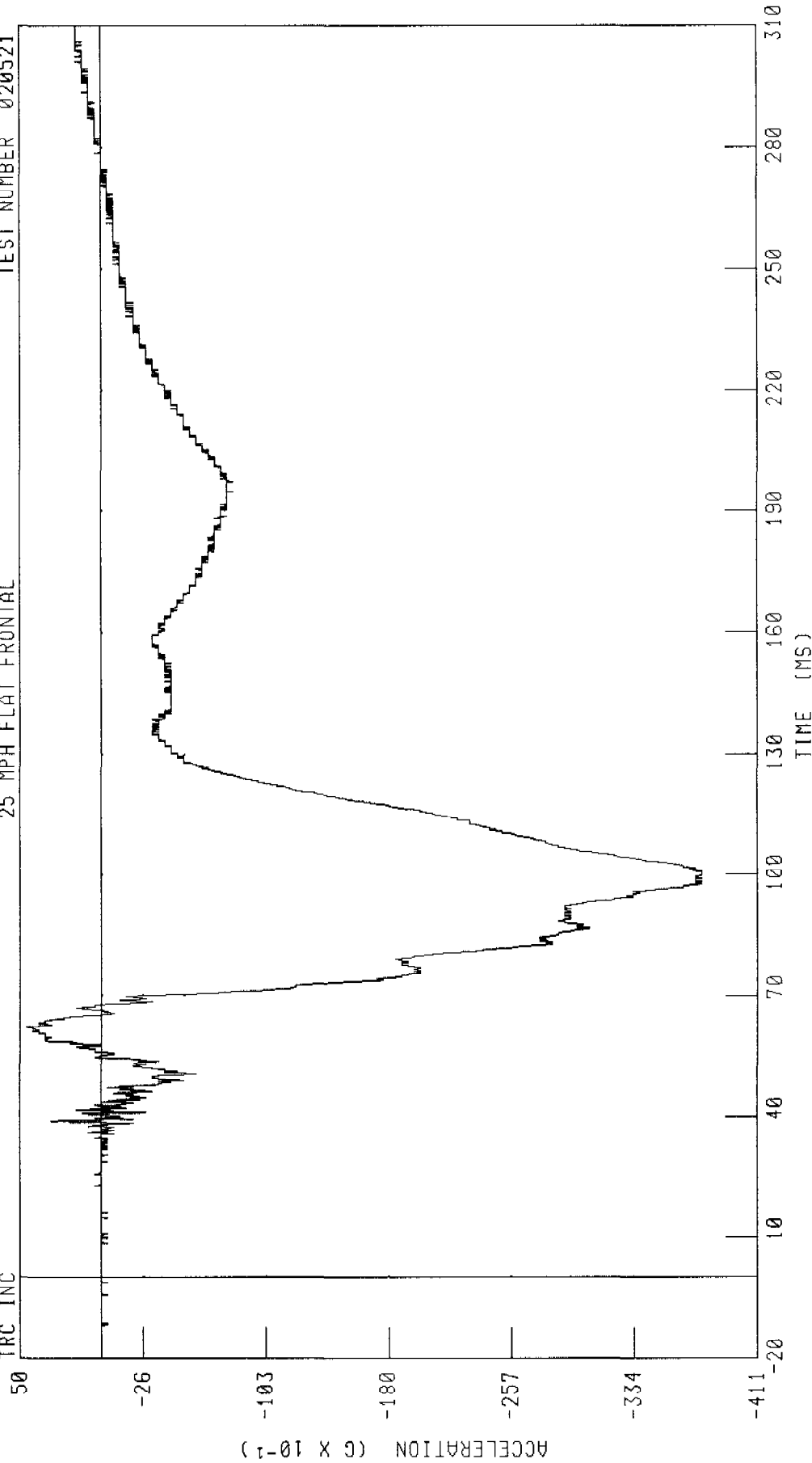
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL HEDXC2 FILTER CH CLASS 1000

PEAK DATA 4 71 G @ 62 24 MS, -37 66 G @ 97 76 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER HEAD Y-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC

154

122

90

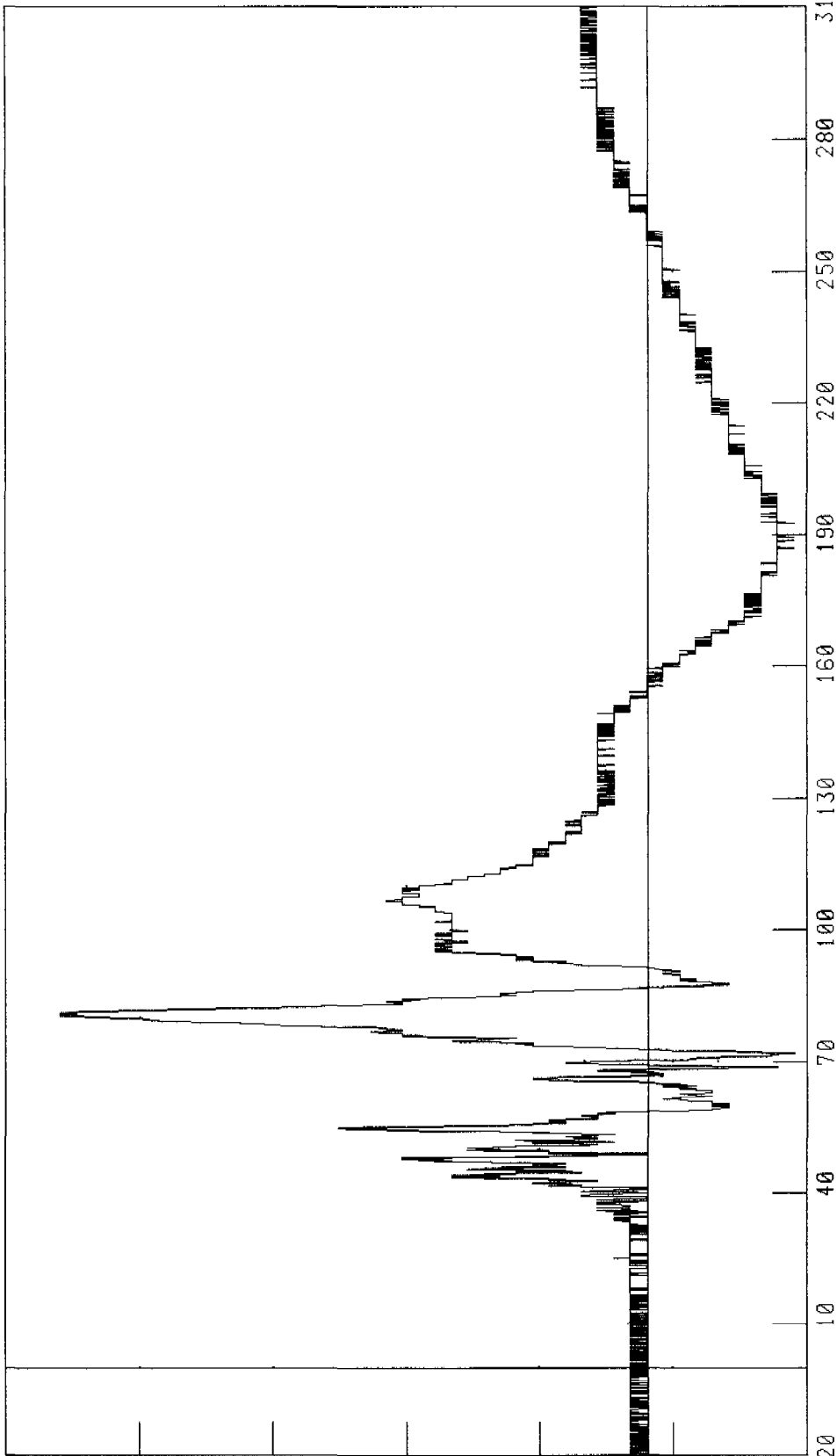
58

26

-6

-38

ACCELERATION (G X 10⁻¹)

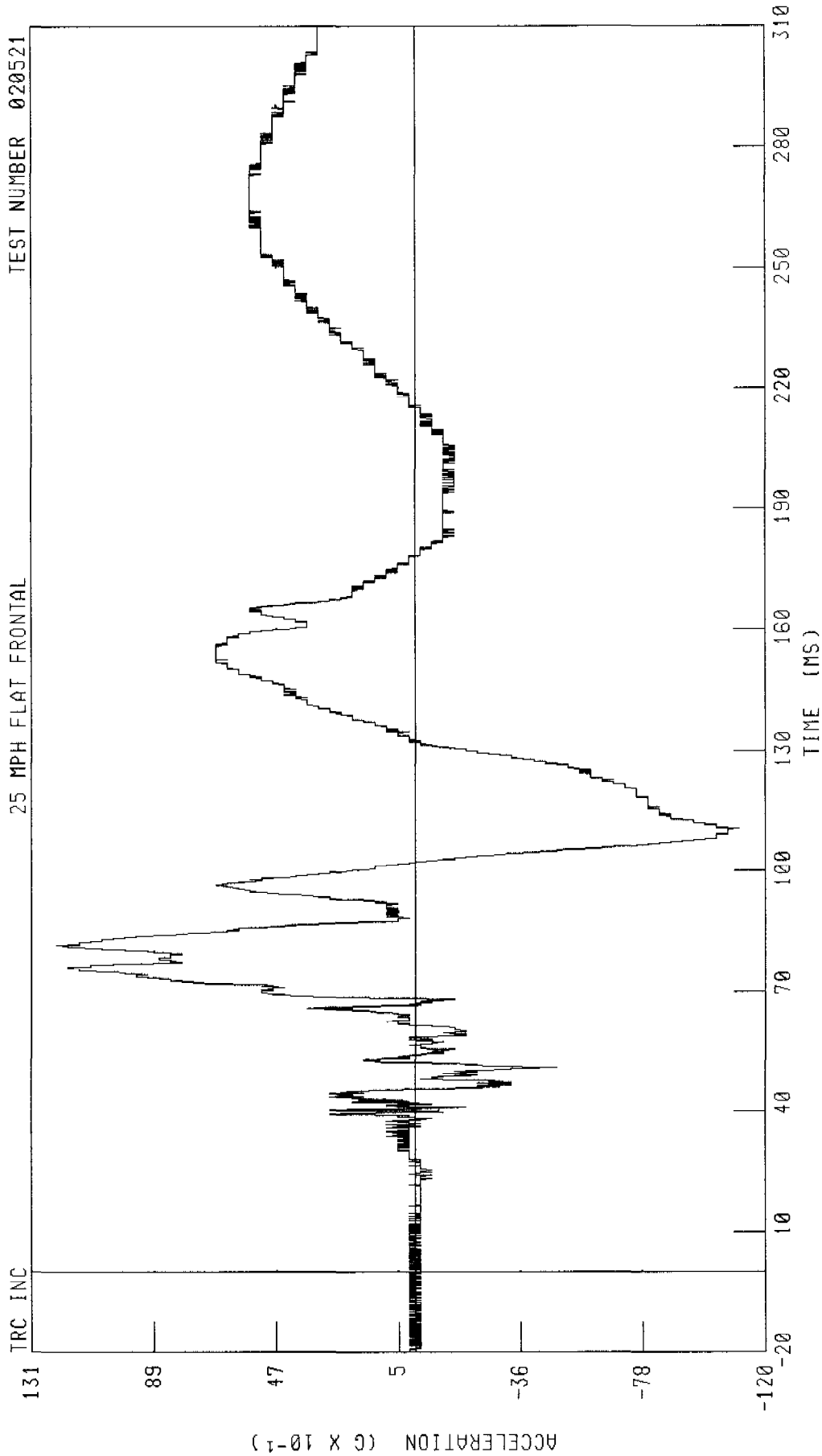


TIME (MS)

CHANNEL HEDYC2 FILTER CH CLASS 1000

PEAK DATA 14 10 G @ 80 64 MS, -3 49 G @ 71 68 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER HEAD Z-AXIS ACCELERATION



CHANNEL HEDZC2 FILTER CH CLASS 1000

PEAK DATA 12 36 G @ 81 44 MS, -11 10 G @ 110 40 MS

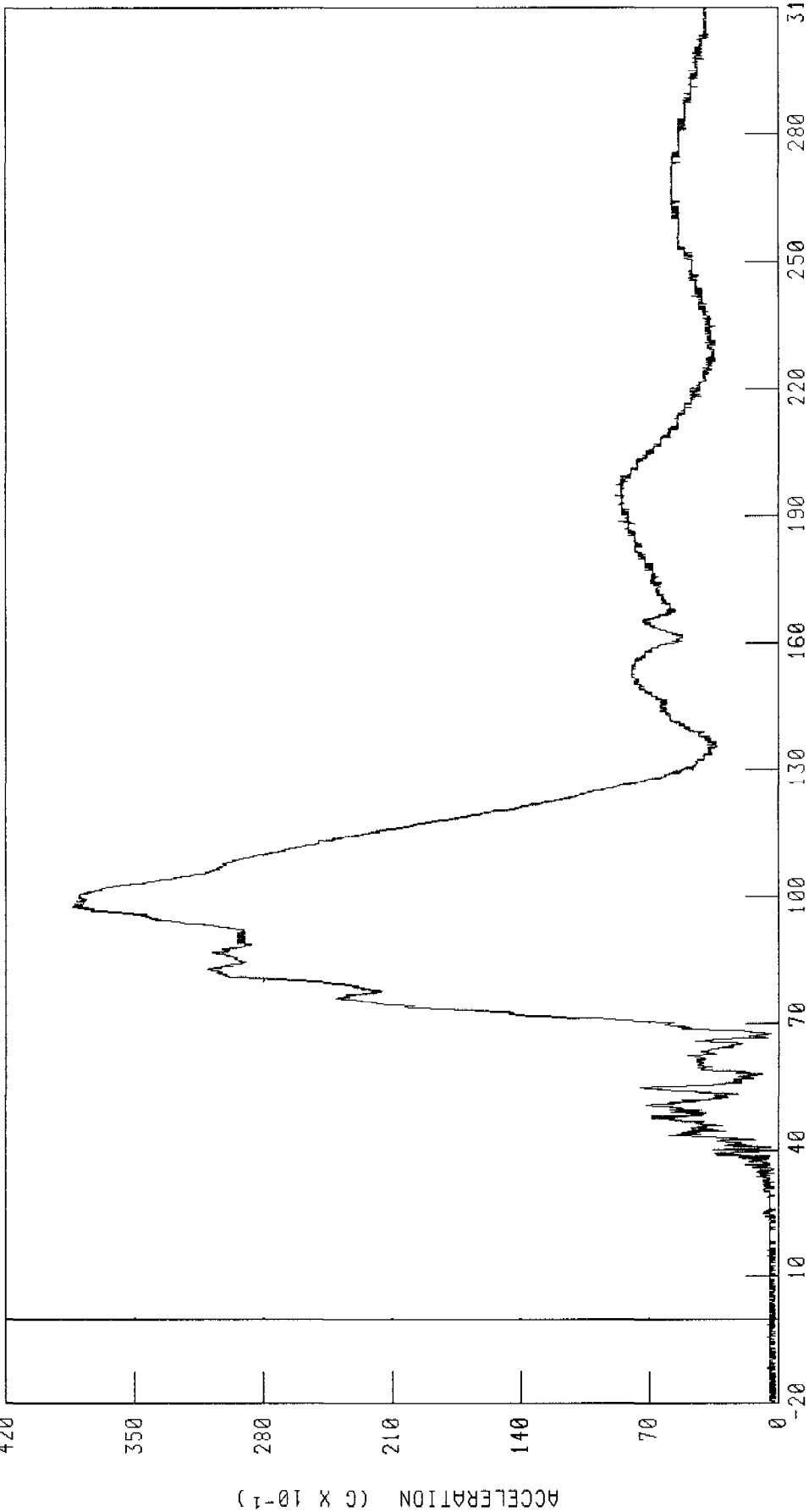
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD RESULTANT ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

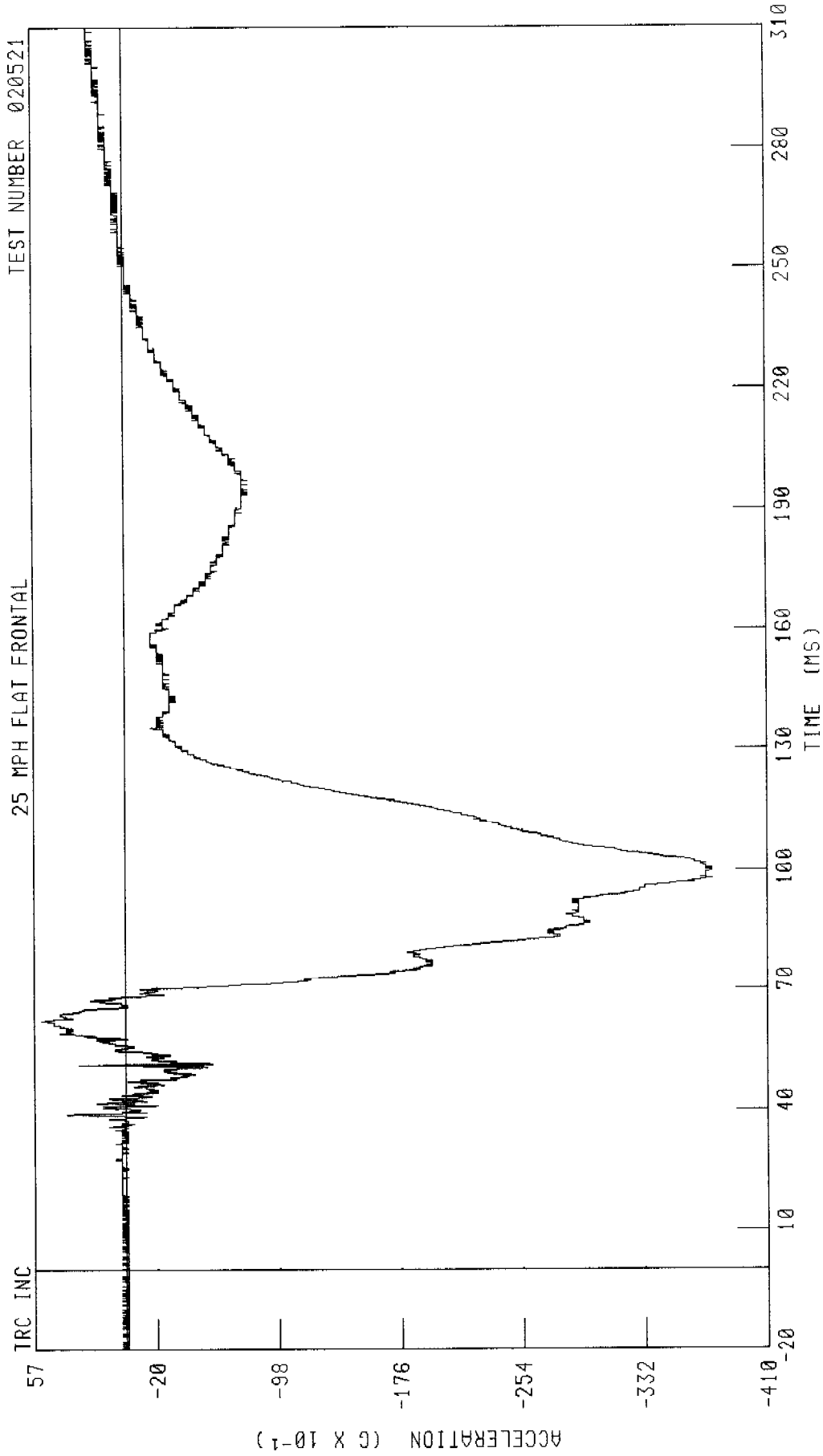


TIME (MS)

CHANNEL HEDRC2 FILTER CH CLASS 1000

PEAK DATA 38 38 G @ 97 84 MS, 0 15 G @ -19 04 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER HEAD X-AXIS ACCELERATION REDUNDANT



CHANNEL HEDXR2 FILTER CH CLASS 1000

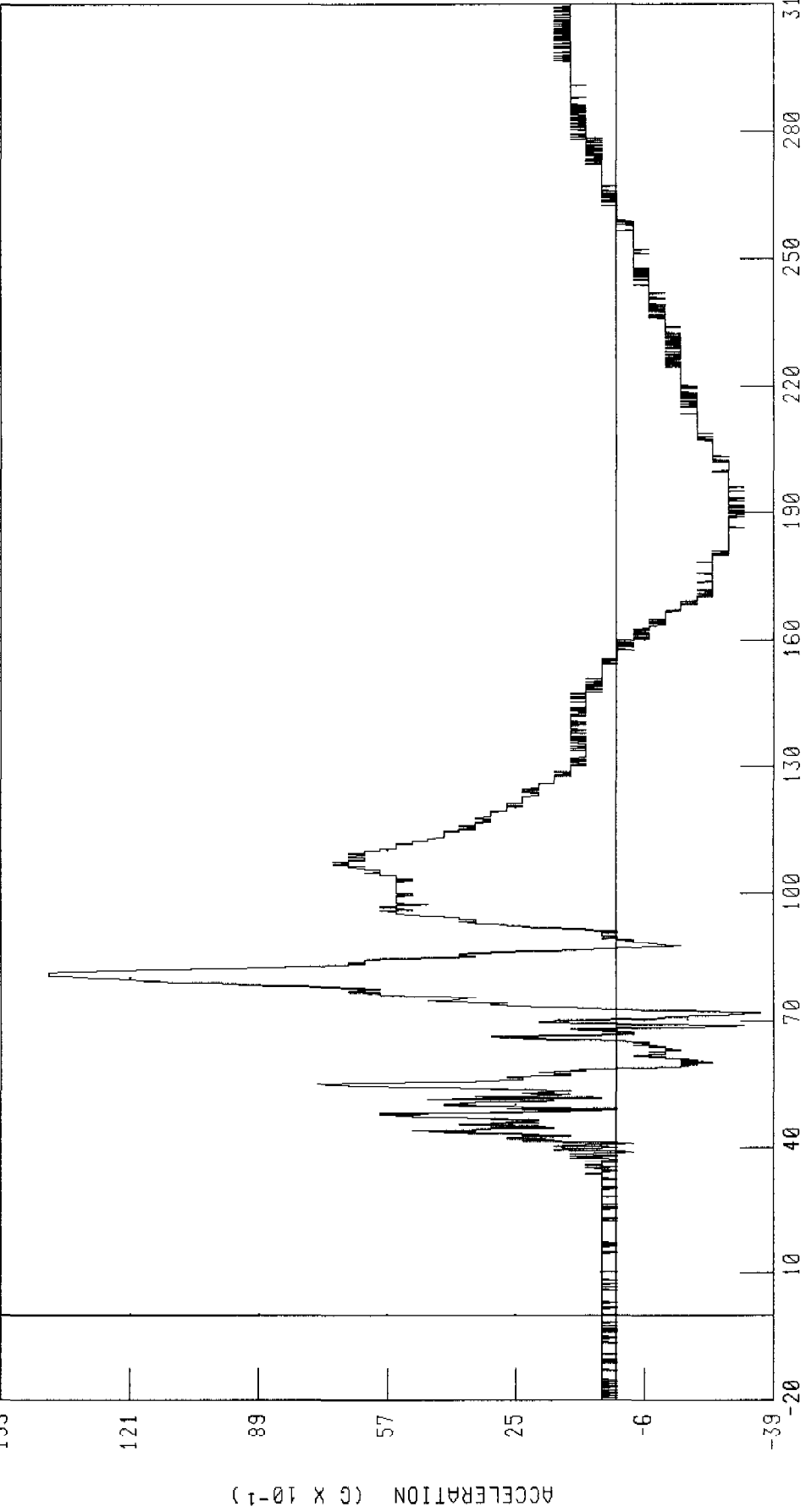
PEAK DATA 5 34 0 62 32 MS, -37 53 0 97 84 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER HEAD Y-AXIS ACCELERATION REDUNDANT

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



TIME (MS)

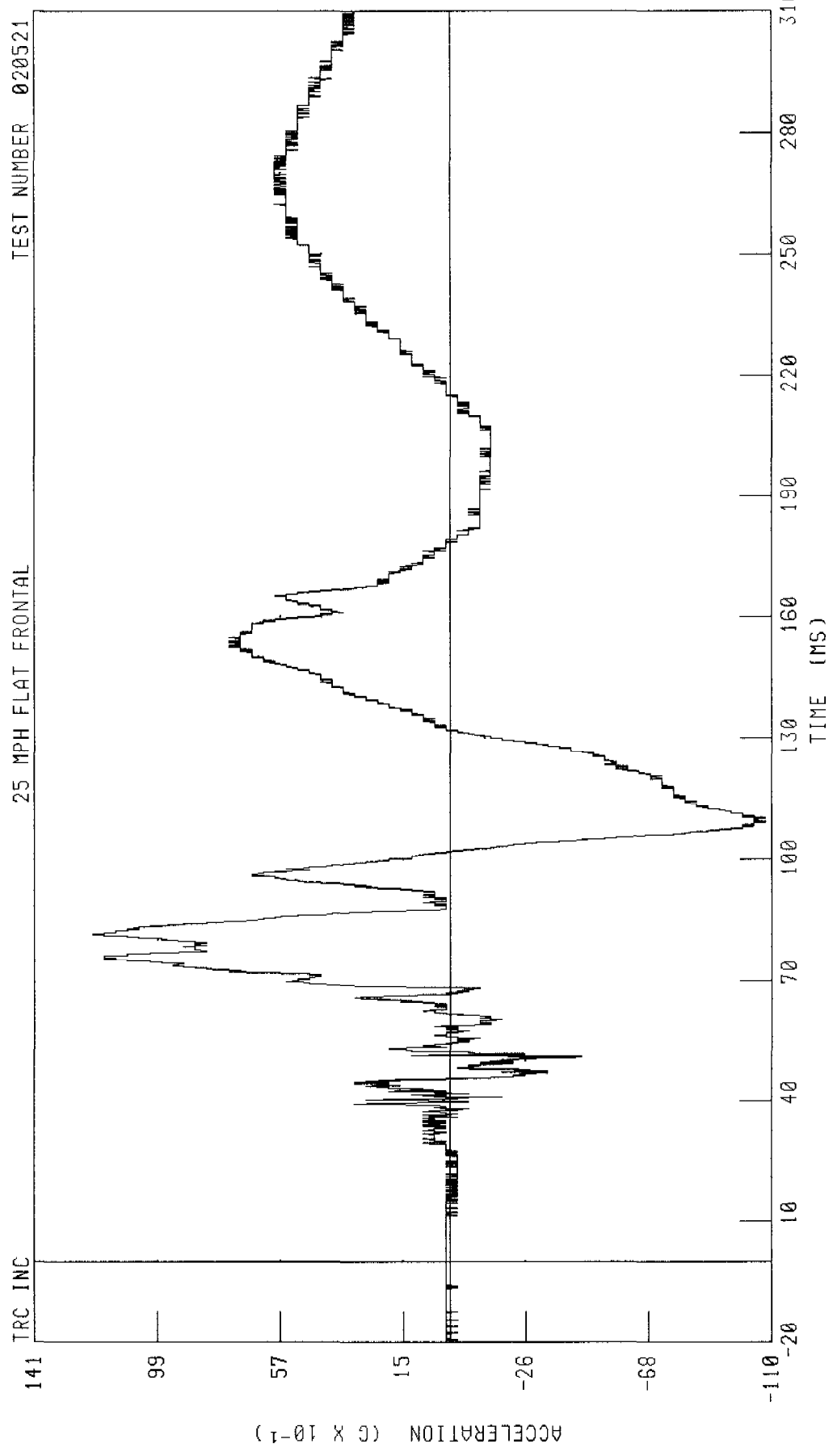
CHANNEL HEDYR2 FILTER CH CLASS 1000

PEAK DATA 14 12 G @ 80 64 MS, -3 57 G @ 71 68 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER HEAD Z-AXIS ACCELERATION REDUNDANT

TEST NUMBER 020521

25 MPH FLAT FRONTAL



TRC INC

CHANNEL HEDZR2 FILTER CH CLASS 1000

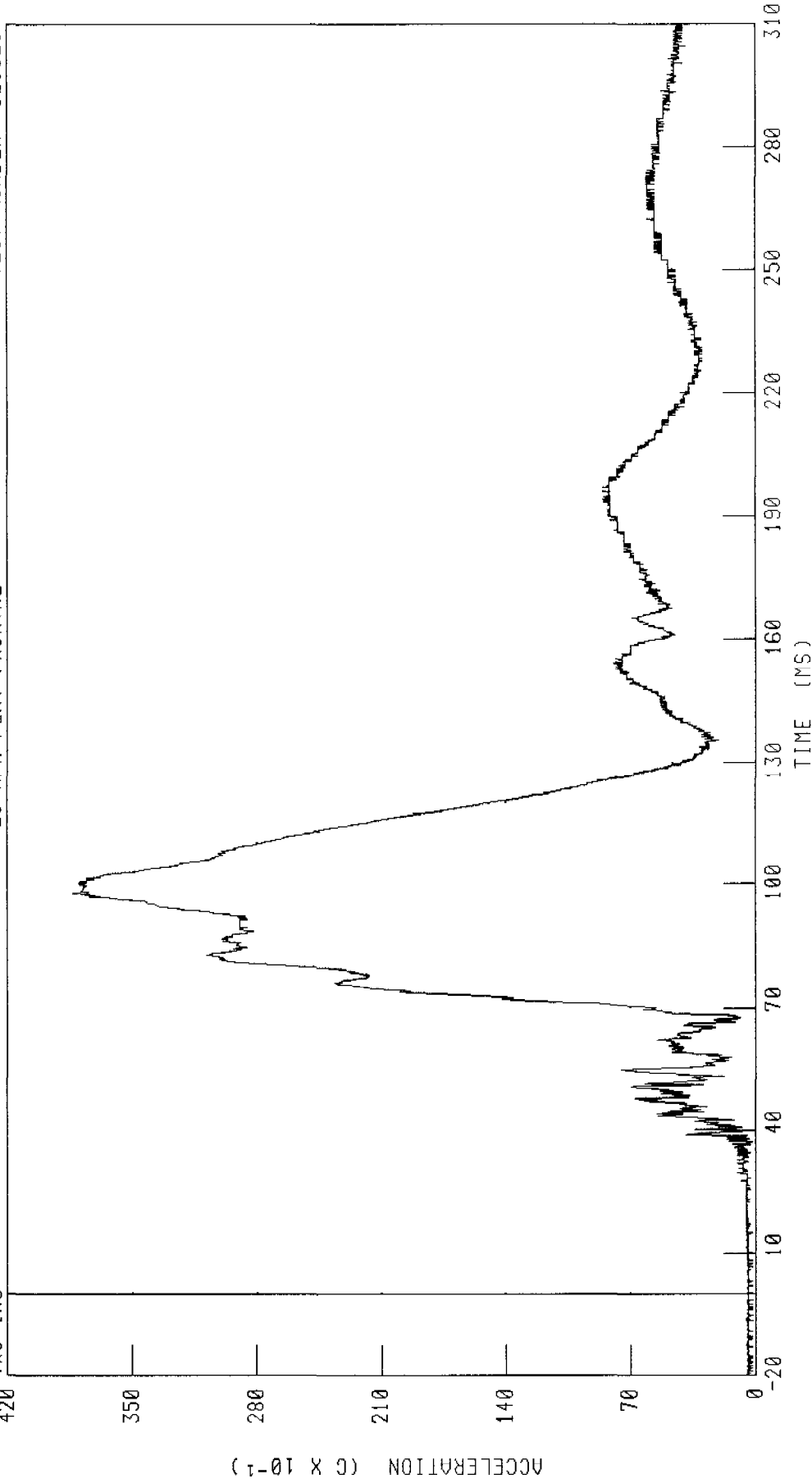
PEAK DATA 12 22 G @ 81 36 MS, -10 77 G @ 109 36 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER HEAD RESULTANT ACCELERATION REDUNDANT

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL HEDRR2 FILTER CH CLASS 1000

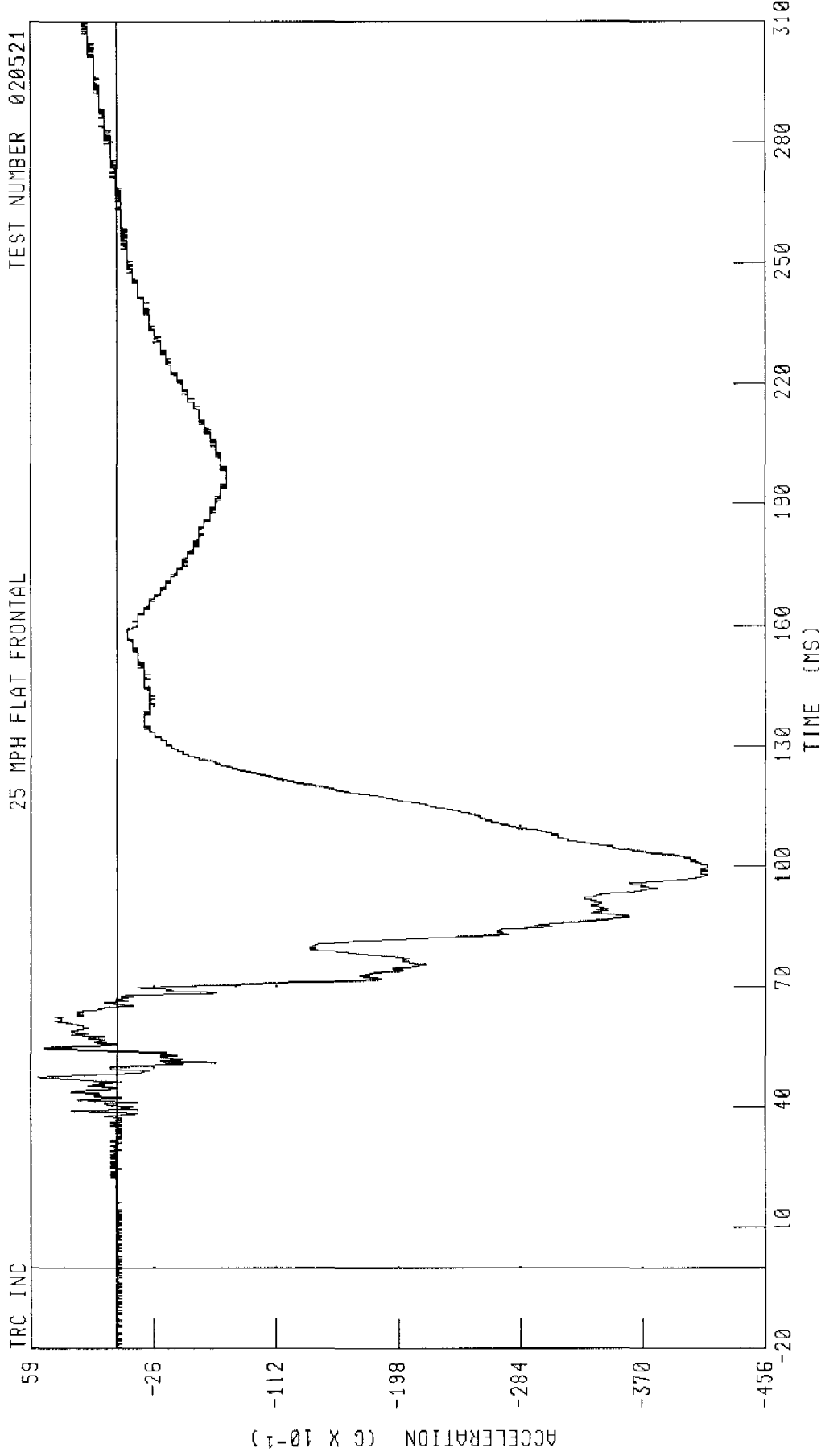
PEAK DATA 38 34 G @ 97 84 MS, 0 18 G @ -19 04 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD X-AXIS (LT) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL HD1XG2 FILTER CH CLASS 1000

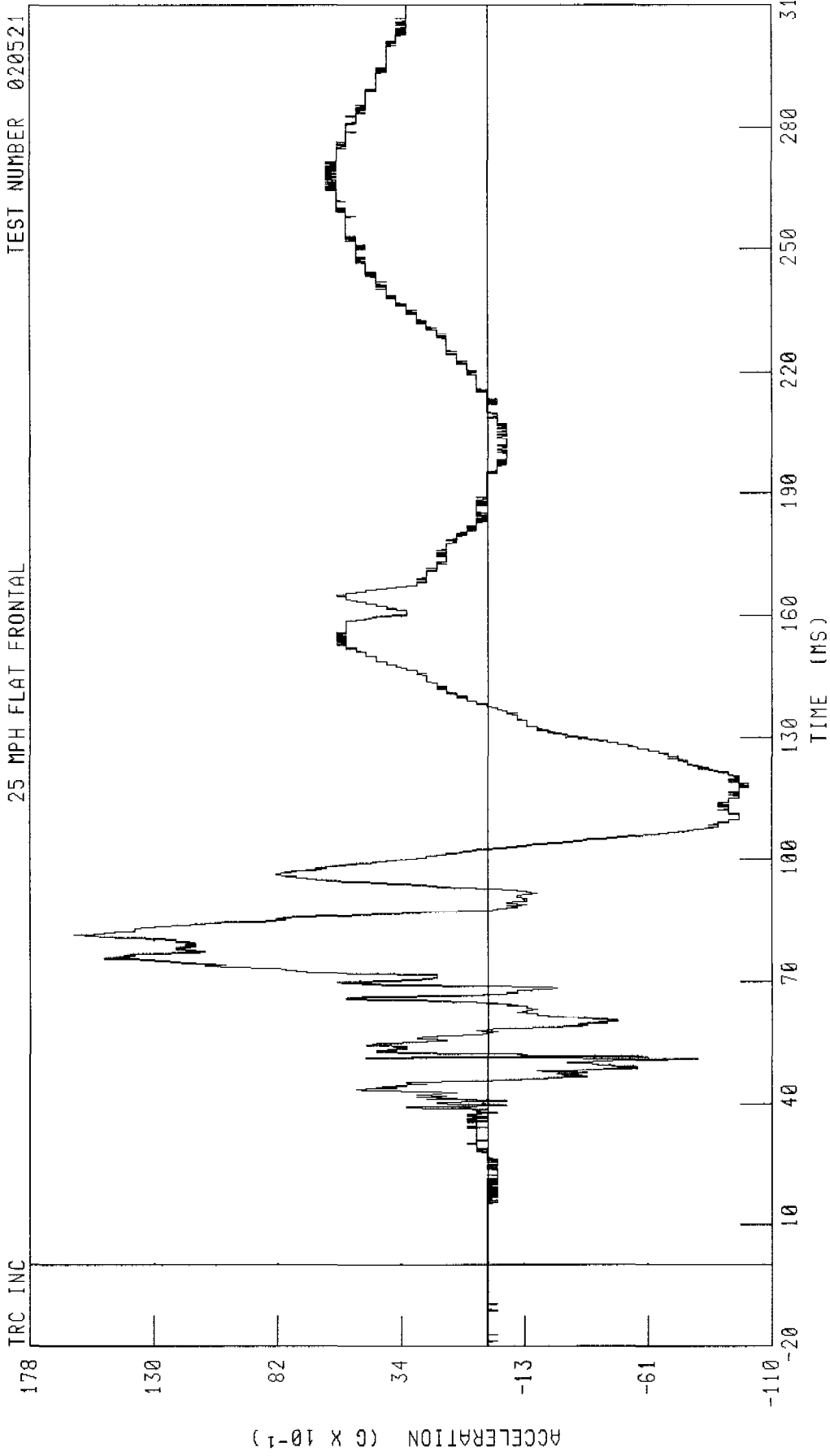
PEAK DATA 5 47 G @ 47 44 MS, -41 51 G @ 97 76 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD Z-AXIS (LT) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL HD1ZC2 FILTER CH CLASS 1000

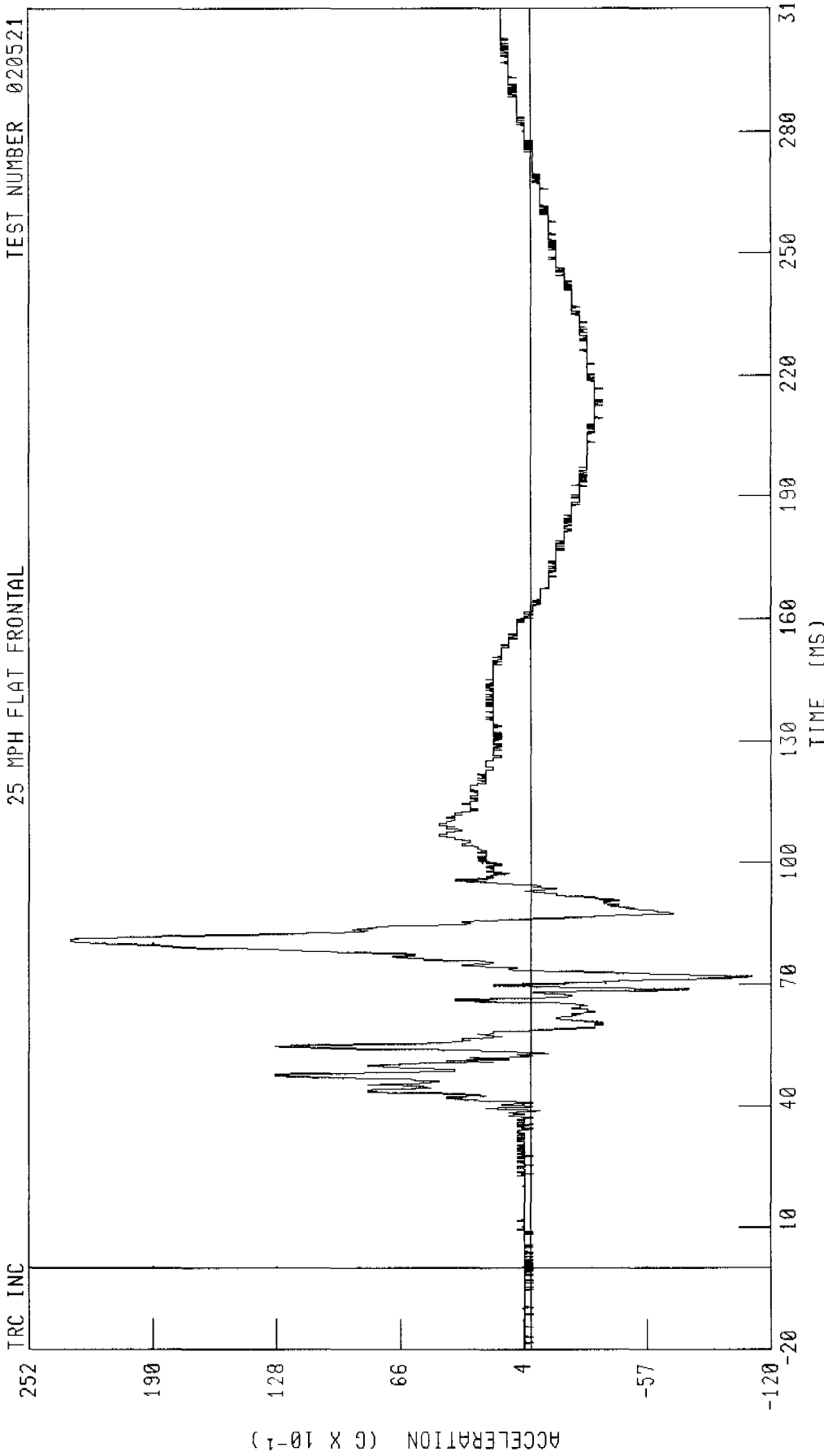
PEAK DATA 16 09 G @ 81 52 MS, -10 12 G @ 117 60 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD Y-AXIS (FT) ACCELERATION

25 MPH FLAT FRONTAL TEST NUMBER 020521

TRC INC



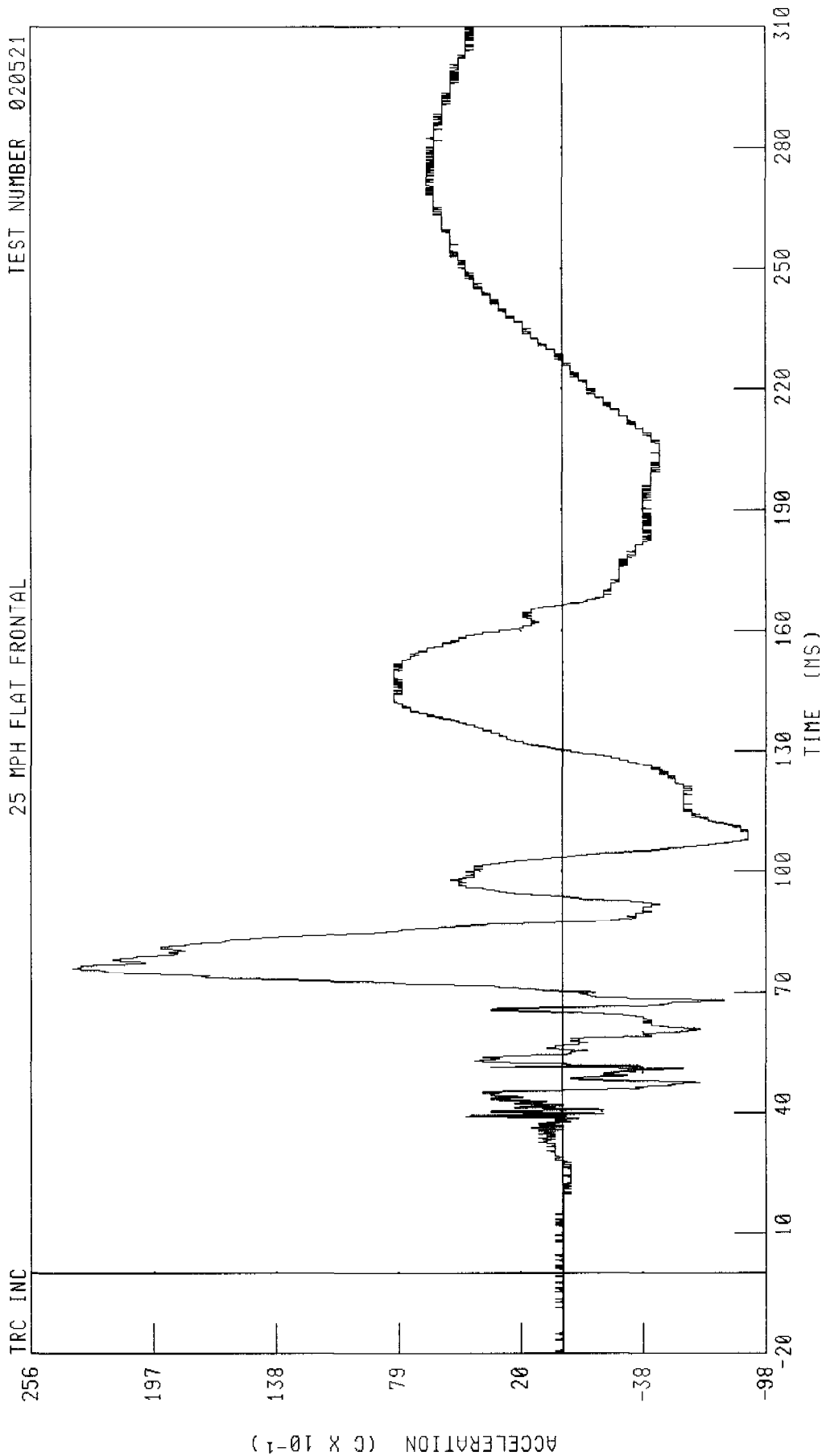
CHANNEL HD2YG2 FILTER CH CLASS 1000 PEAK DATA 23 12 G @ 80 72 MS, -11 07 G @ 71 84 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD Z-AXIS (FT) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL HD2ZG2 FILTER CH CLASS 1000

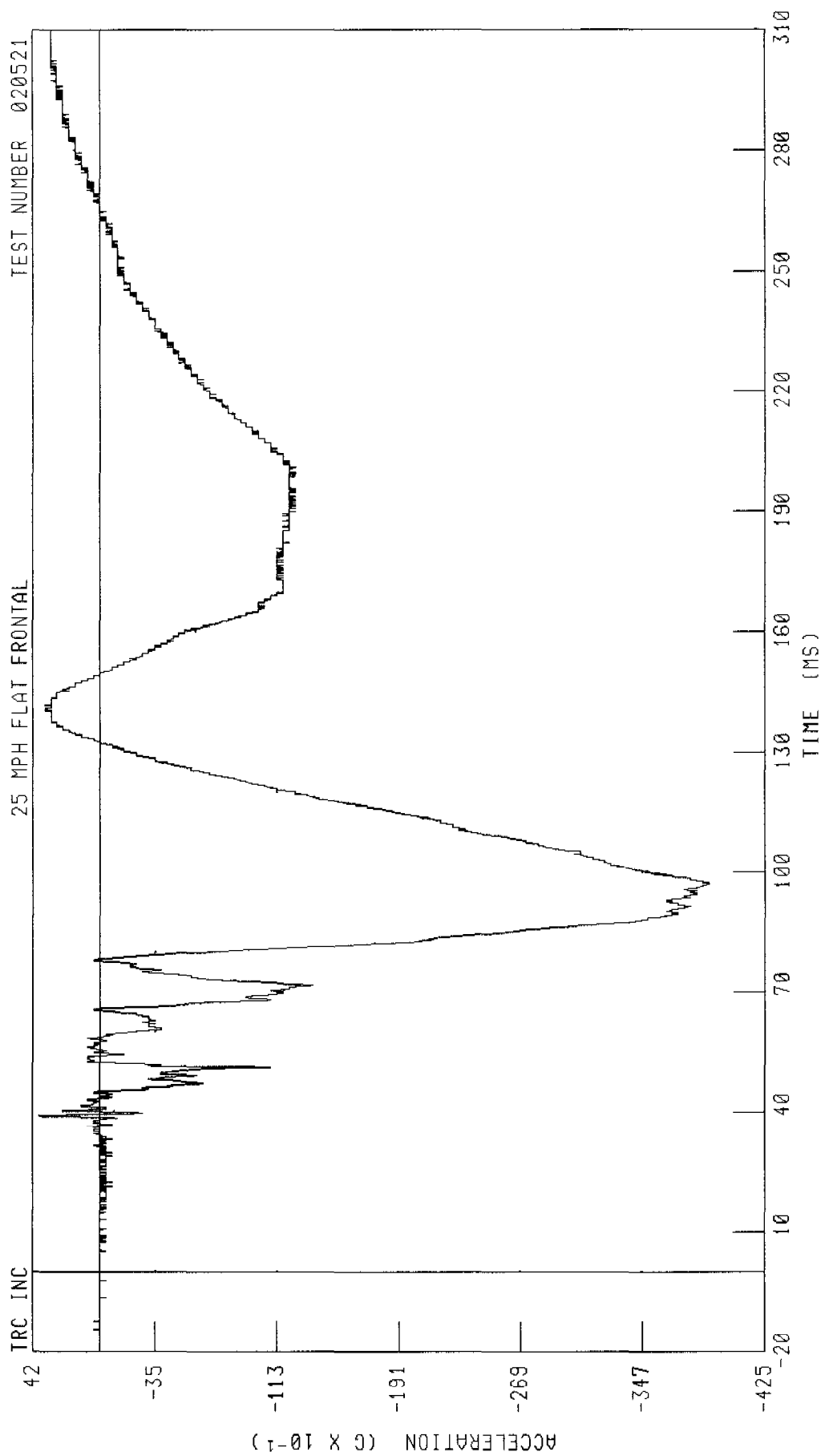
PEAK DATA 23 63 G @ 76 08 MS, -8 97 G @ 107 76 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD X-AXIS (TP) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

CHANNEL HDJXG2 FILTER CH CLASS 1000

PEAK DATA 3 93 G @ 39 04 MS, -38 93 G @ 96 96 MS

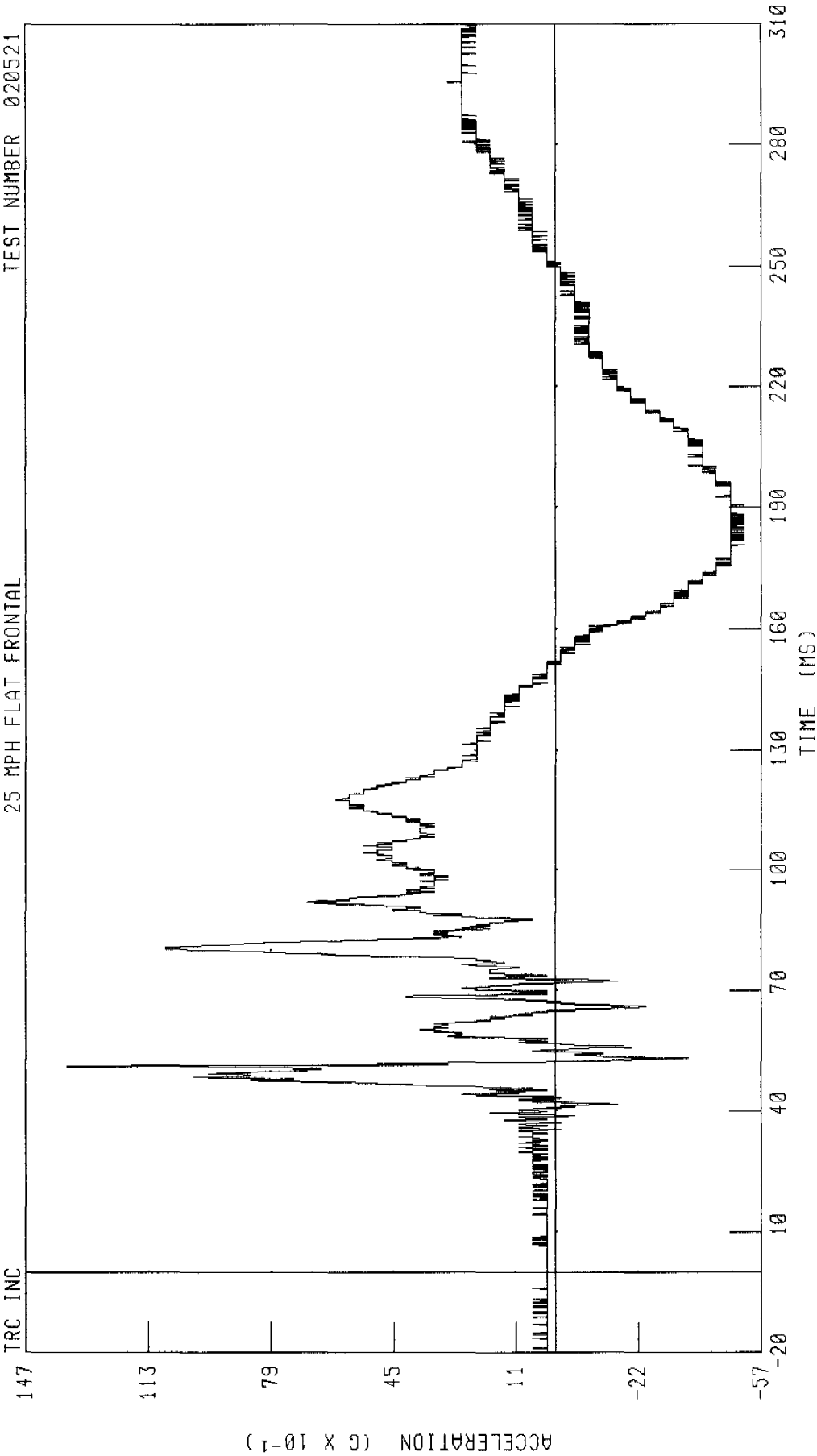
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER HEAD Y-AXIS (TP) ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL HD3YG2 FILTER CH CLASS 1000

PEAK DATA 13 56 G @ 51 36 MS, -5 25 G @ 180 80 MS

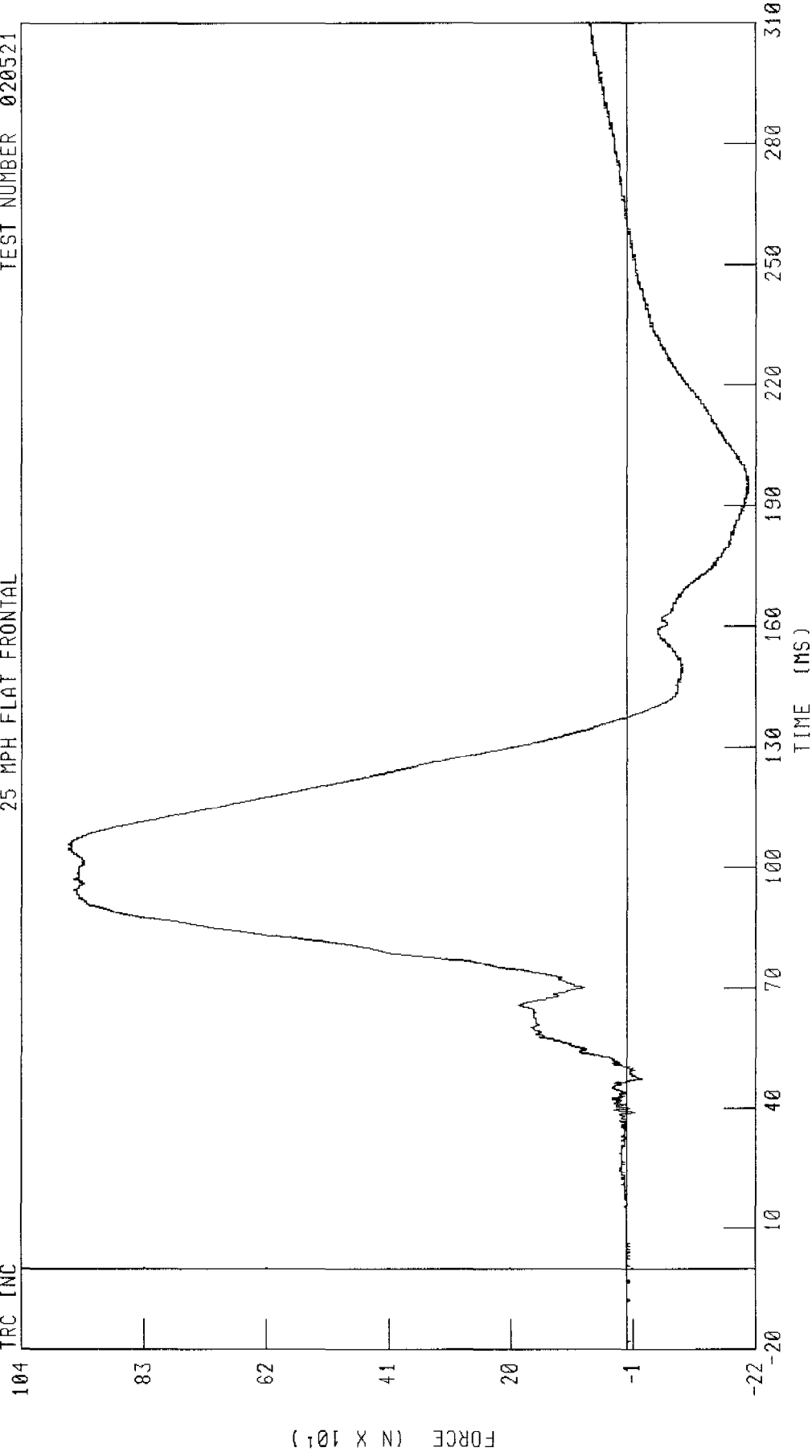
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER NECK X-AXIS SHEAR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL NEKXF2 FILTER CH CLASS 1000

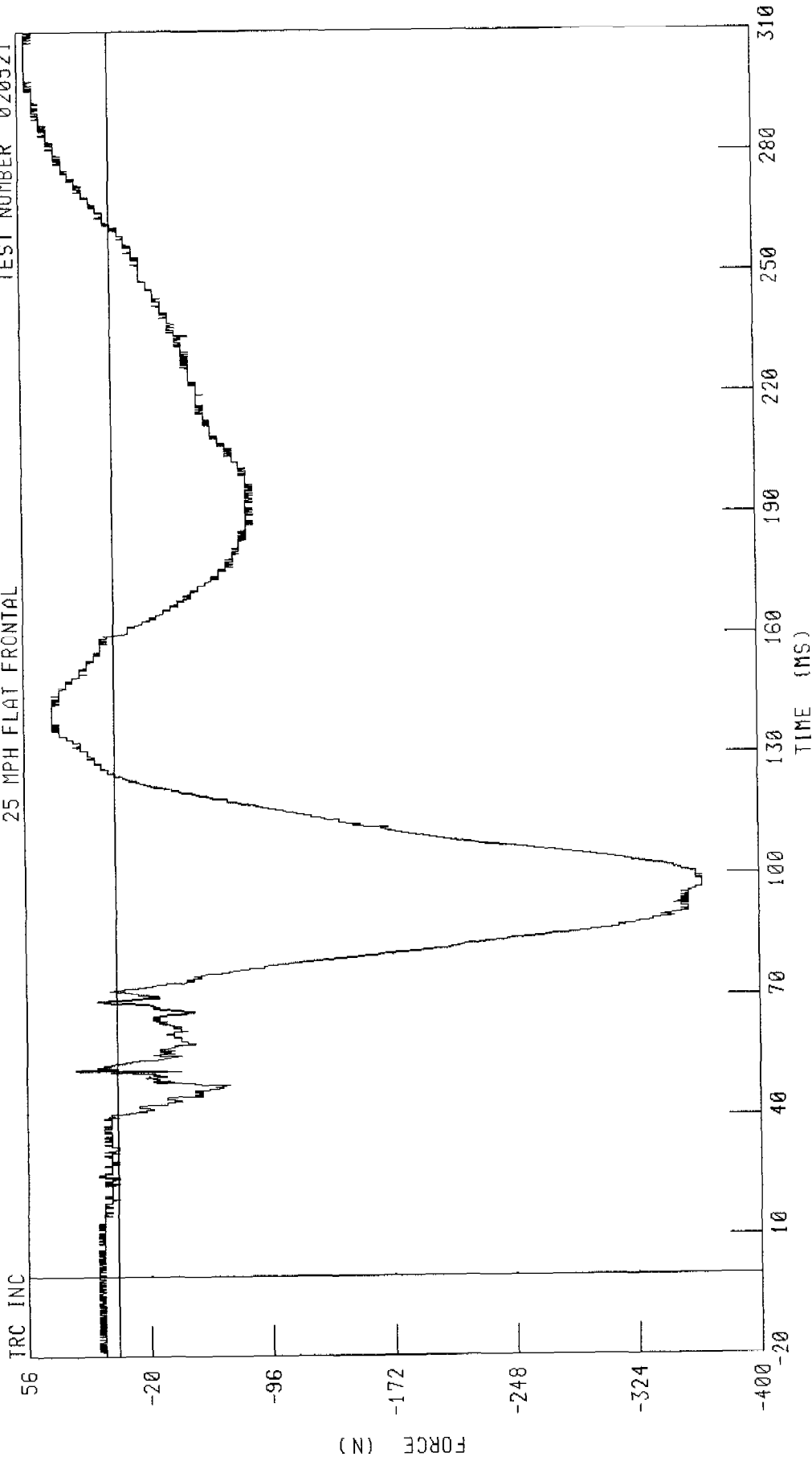
PEAK DATA 959 84 N @ 104 72 MS, -208 58 N @ 192 96 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER NECK Y-AXIS SHEAR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



PEAK DATA 51 72 N @ 295 68 MS, -364 98 N @ 96 56 MS

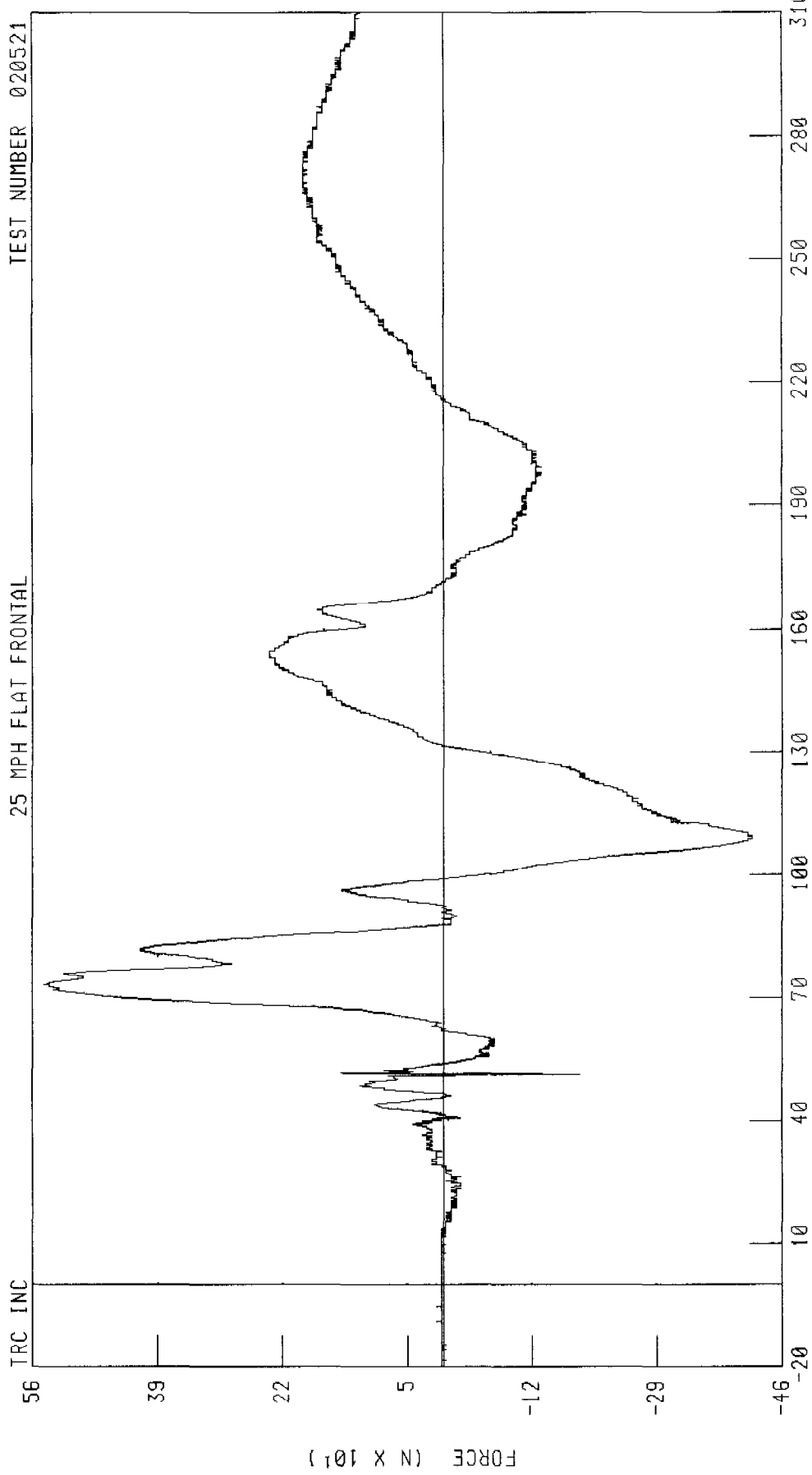
CHANNEL NEKYF2 FILTER CH CLASS 1000

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER NECK Z-AXIS AXIAL FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

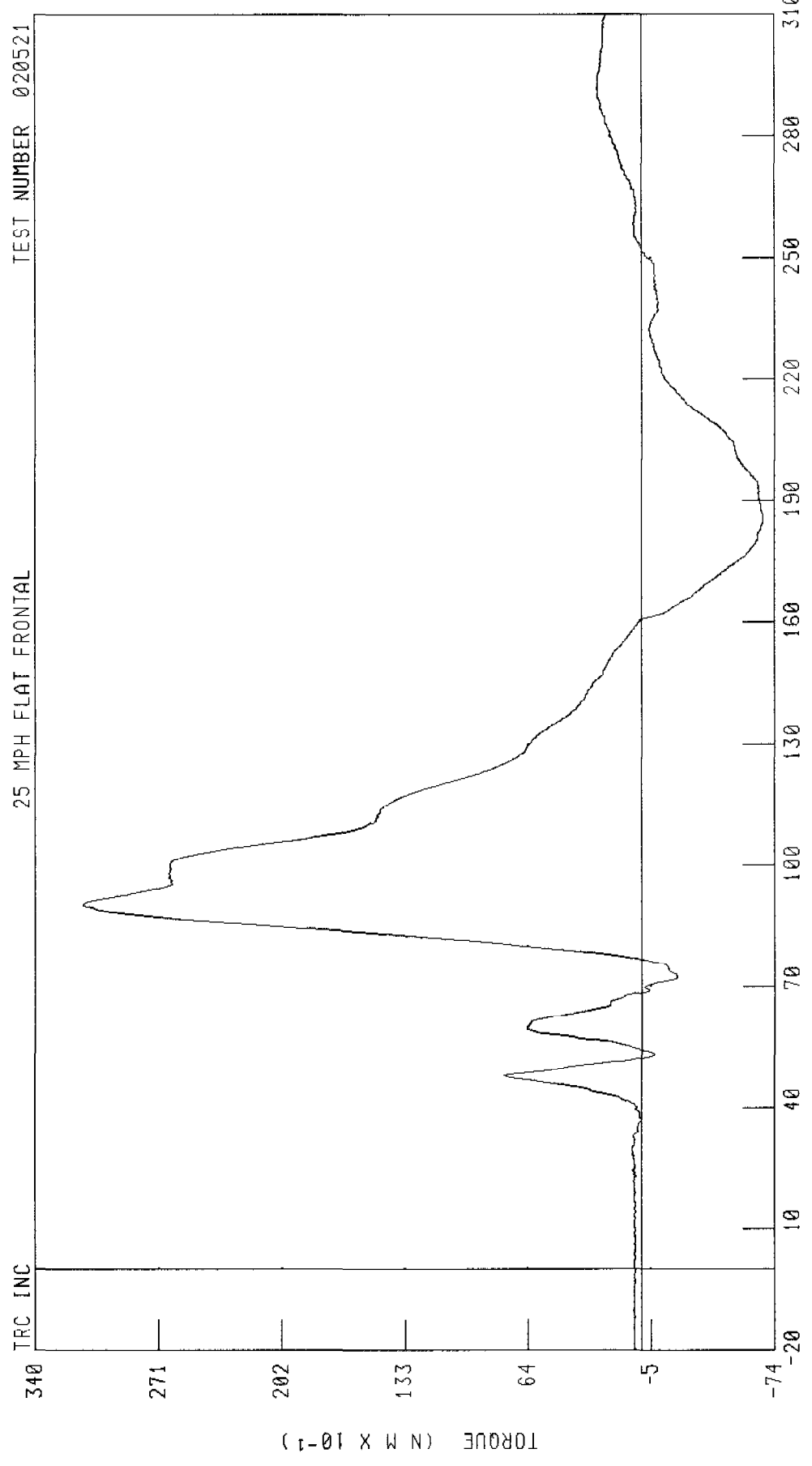
PEAK DATA 543 93 N @ 73 28 MS, -420 04 N @ 108 80 MS

CHANNEL NEKZF2 FILTER CH CLASS 1000

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK MOMENT ABOUT X AXIS

TEST NUMBER 020521

25 MPH FLAT FRONTAL



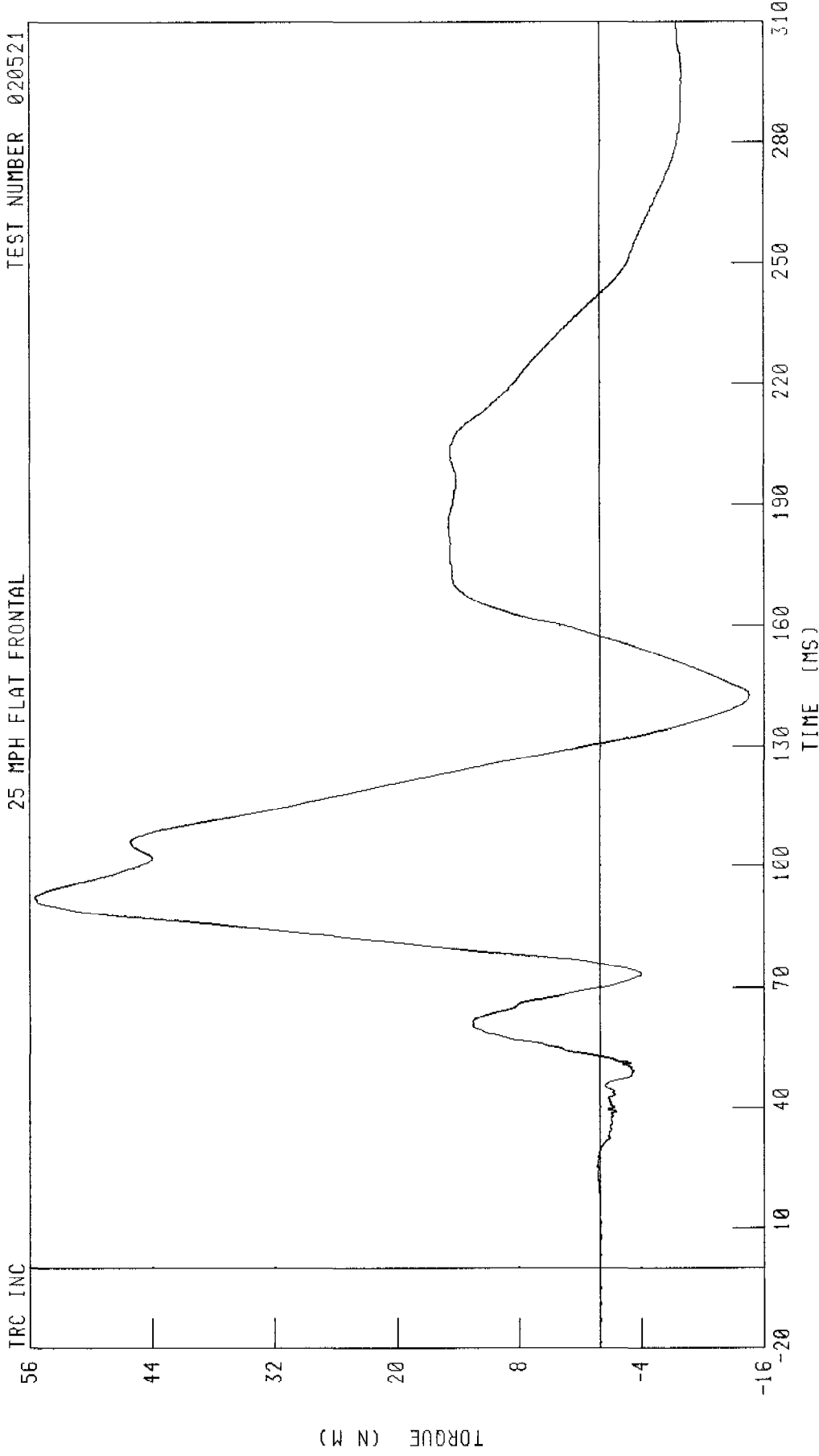
CHANNEL NEKXM2 FILTER CH CLASS 600 PEAK DATA 31 31 N M @ 90 72 MS, -6 77 N M @ 184 88 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER NECK MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



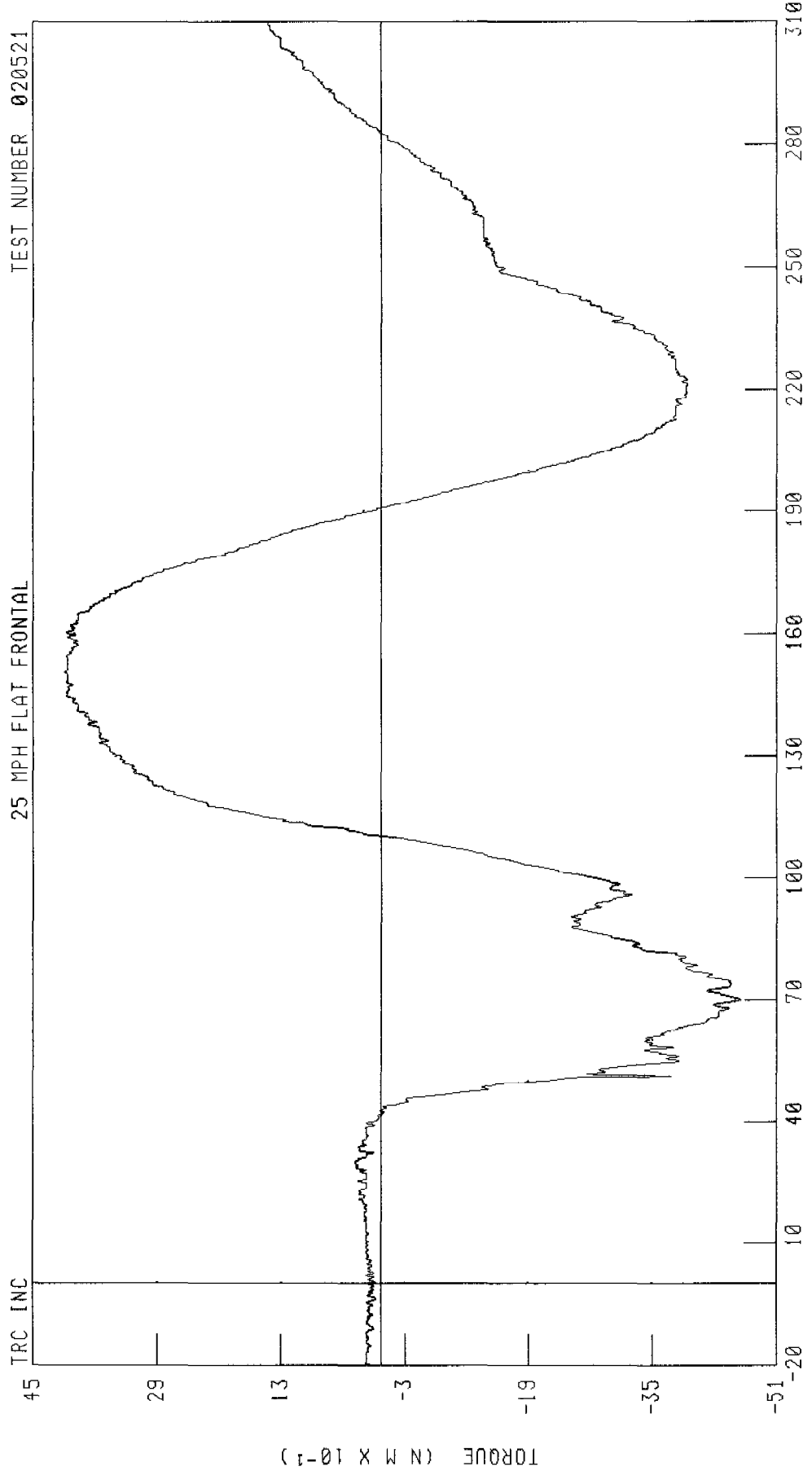
CHANNEL NEKYM2 FILTER CH CLASS 600 PEAK DATA 55 51 N M @ 92 24 MS, -14 58 N M @ 142 56 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER NECK MOMENT ABOUT Z AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



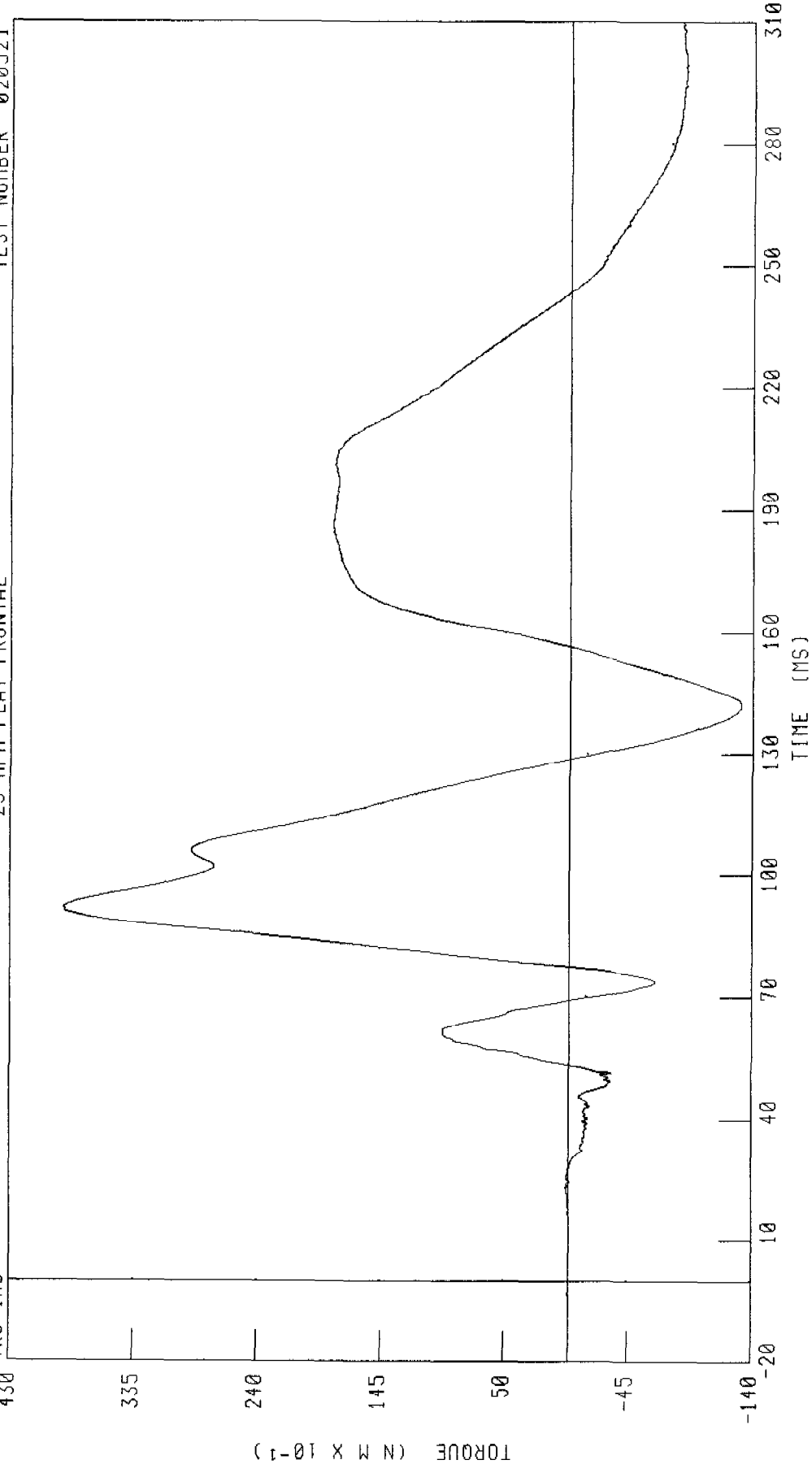
CHANNEL NEKZM2 FILTER CH CLASS 600 PEAK DATA 4 09 N M @ 150 64 MS, -4 64 N M @ 70 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK OCCIPITAL CONDYLE MOMENT ABOUT Y AXIS

TRC INC

25 MPH FLAT FRONTAL

TEST NUMBER 020521

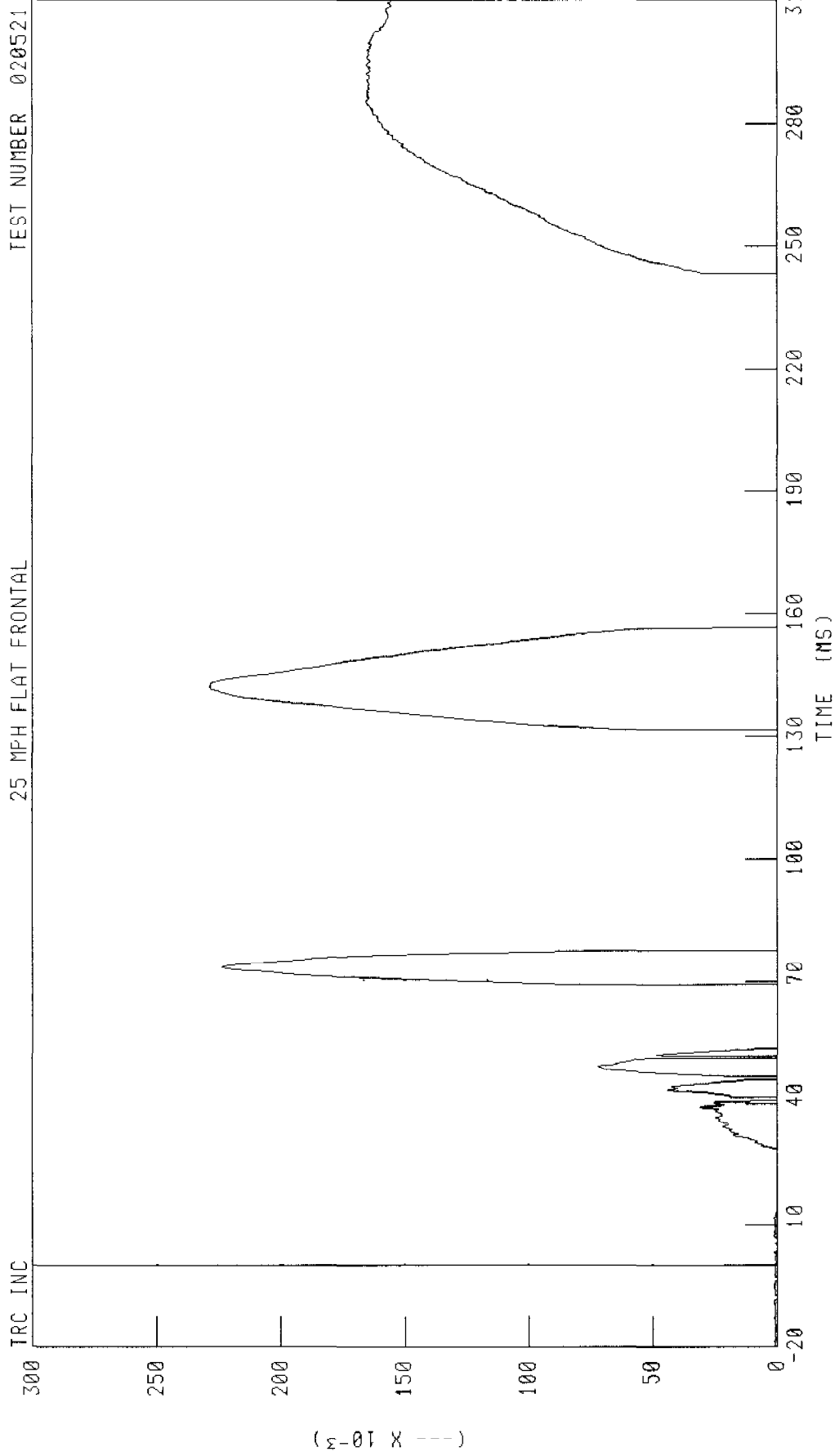


CHANNEL NEKOM2 FILTER CH CLASS 600

TIME (MS)

PEAK DATA 38 90 N M @ 92 08 MS, -13 16 N M @ 141 84 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NIJ TENSION/EXTENSION
25 MPH FLAT FRONTAL



TEST NUMBER 020521

CHANNEL NTE2 FILTER CH CLASS 600 PEAK DATA 0 23 --- 0 142 40 MS, 0 00 --- 0 -18 24 MS

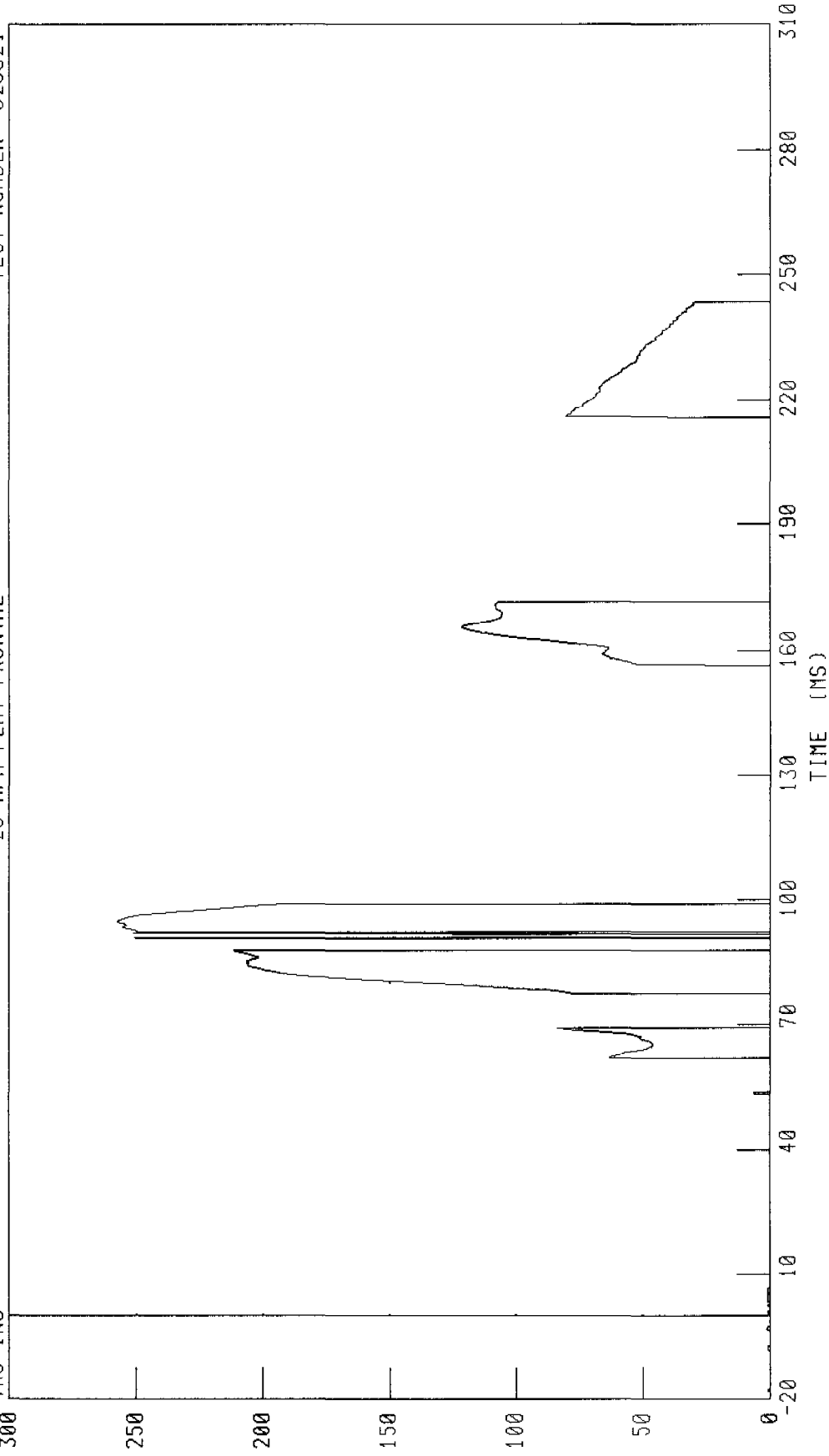
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER NIJ TENSION/FLEXION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



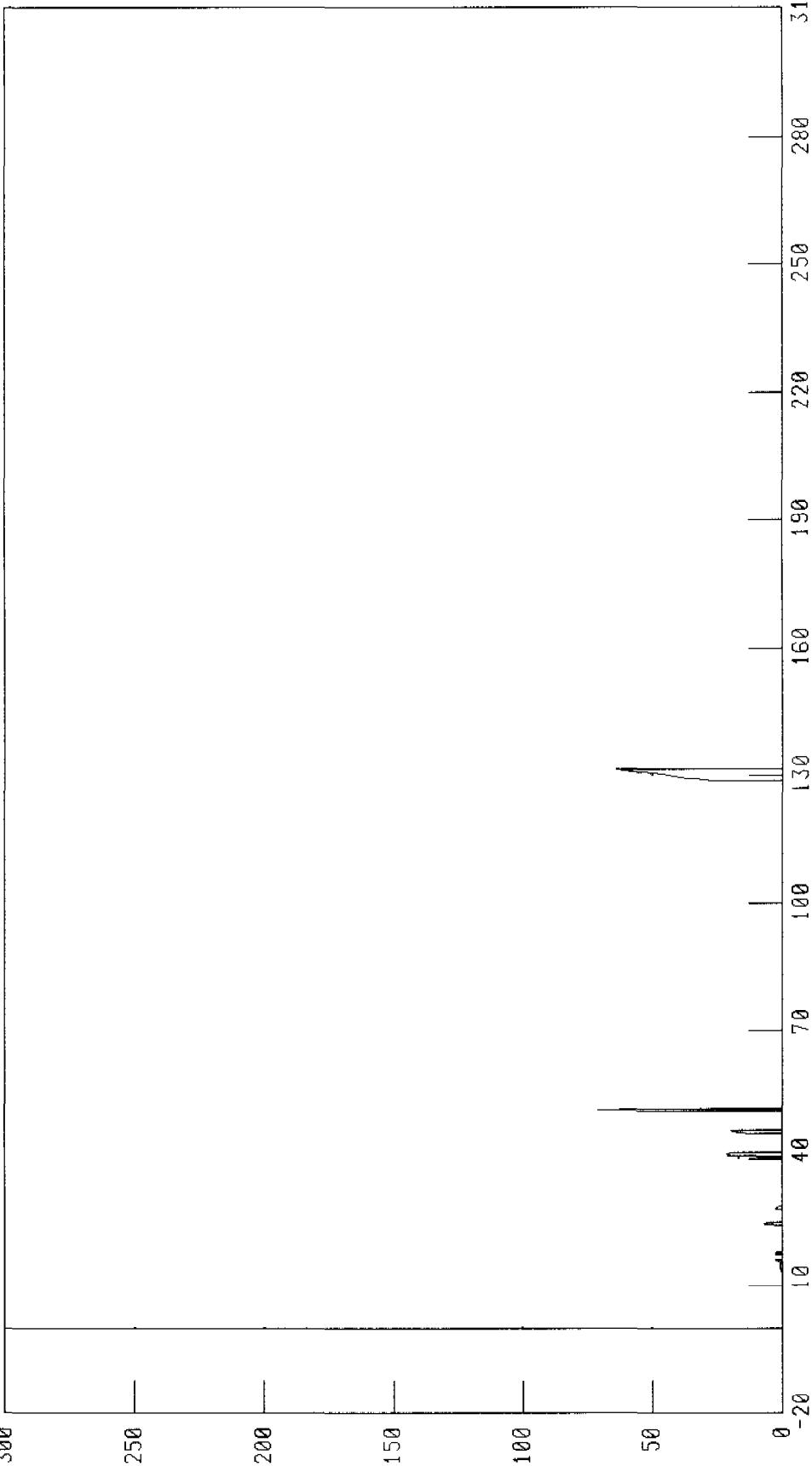
CHANNEL NTF2 FILTER CH CLASS 600 PEAK DATA 0 26 --- @ 94 96 MS, 0 00 --- @ -20 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NIJ COMPRESSION/EXTENSION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



(--- X 10⁻³)

TIME (MS)

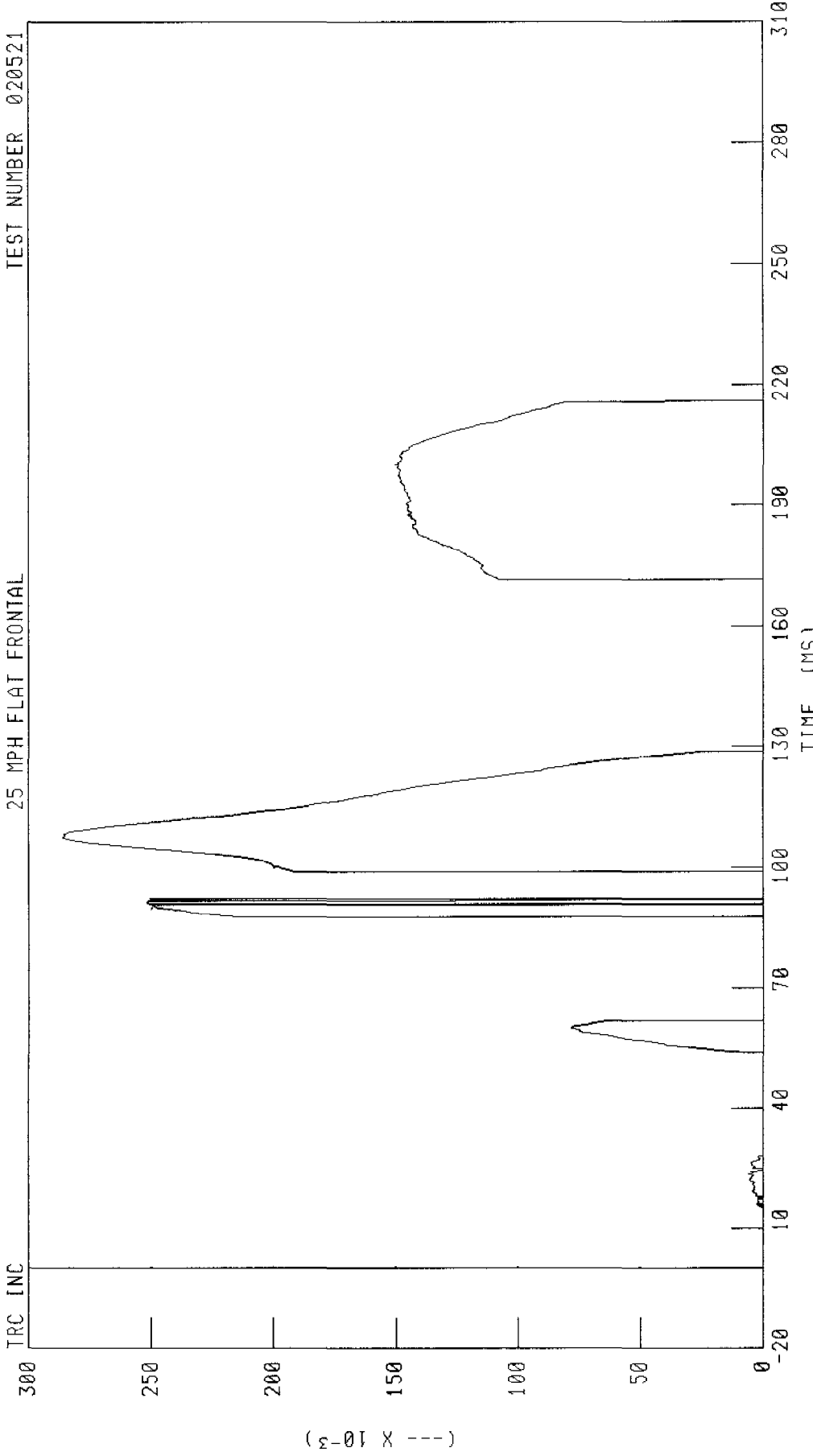
CHANNEL NCE2 FILTER CH CLASS 600

PEAK DATA 0 07 --- 0 51 36 MS, 0 00 --- 0 -20 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NIJ COMPRESSION/FLEXION
25 MPH FLAT FRONTAL

TEST NUMBER 020521

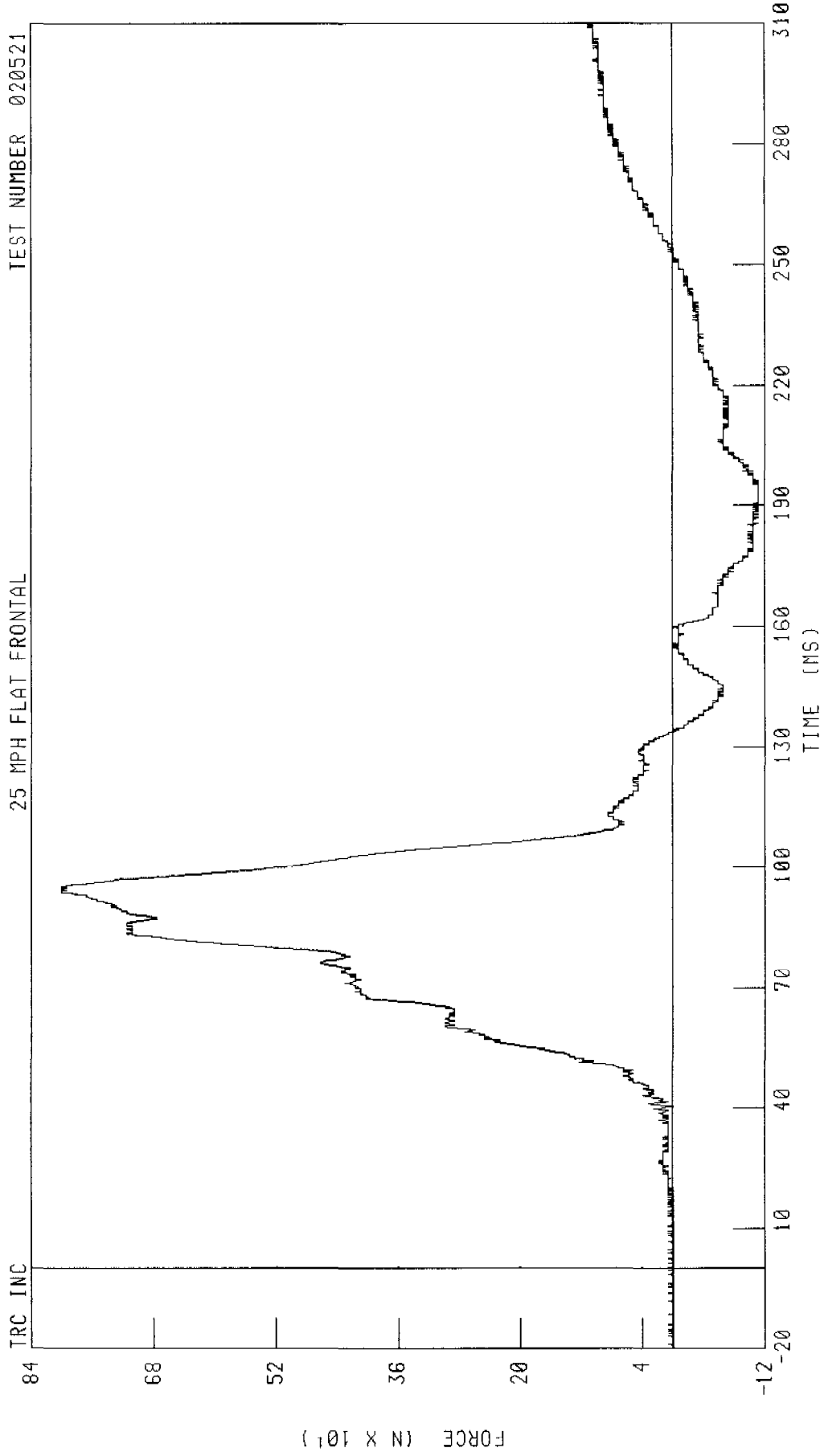
TRC INC



(--- X 10⁻³)

CHANNEL NCF2 FILTER CH CLASS 600 PEAK DATA 0 29 --- 0 107 60 MS, 0 00 --- 0 -20 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK LOWER X-AXIS SHEAR FORCE

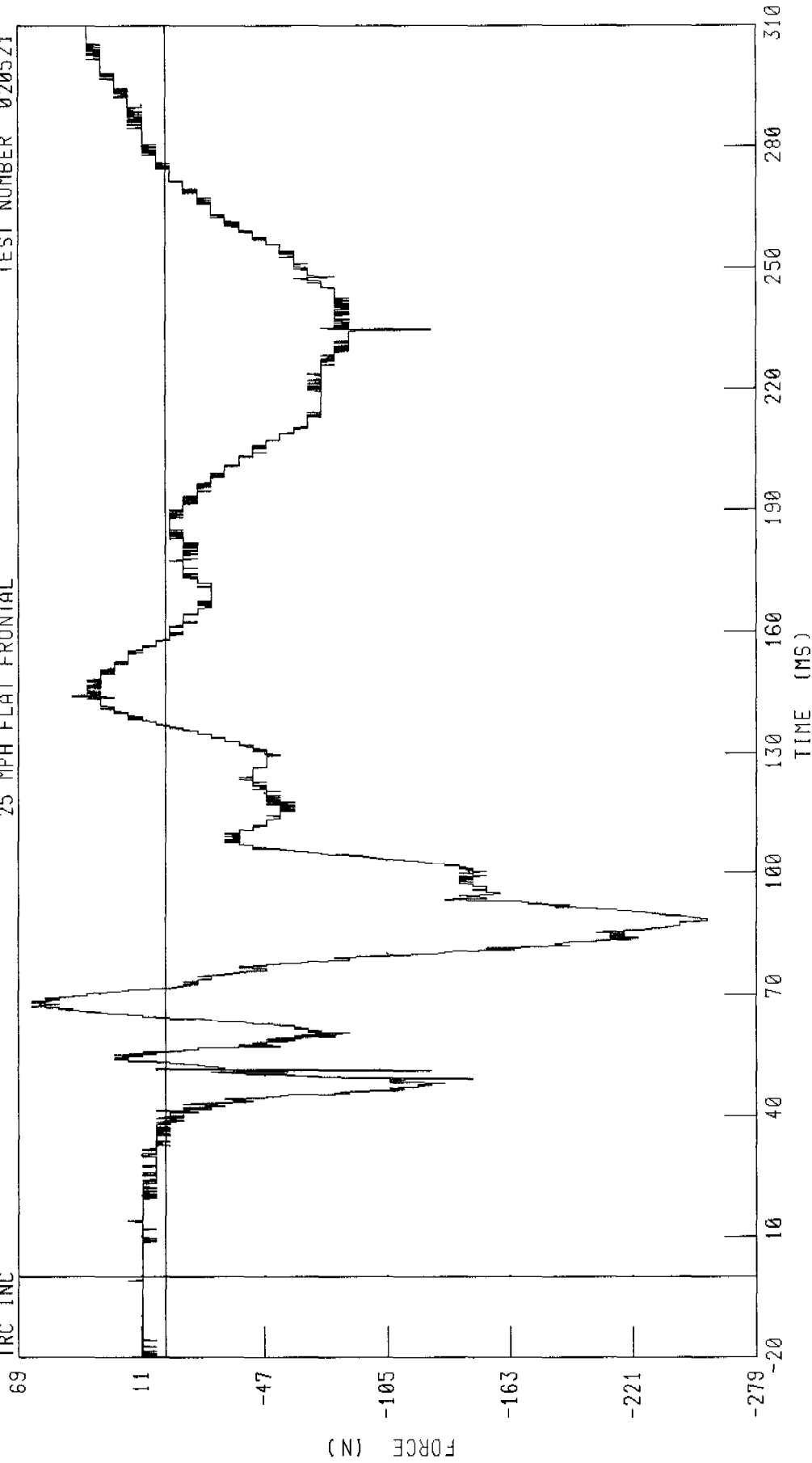


2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK LOWER Y-AXIS SHEAR FORCE

TEST NUMBER 020521

25 MPH FLAT FRONTAL

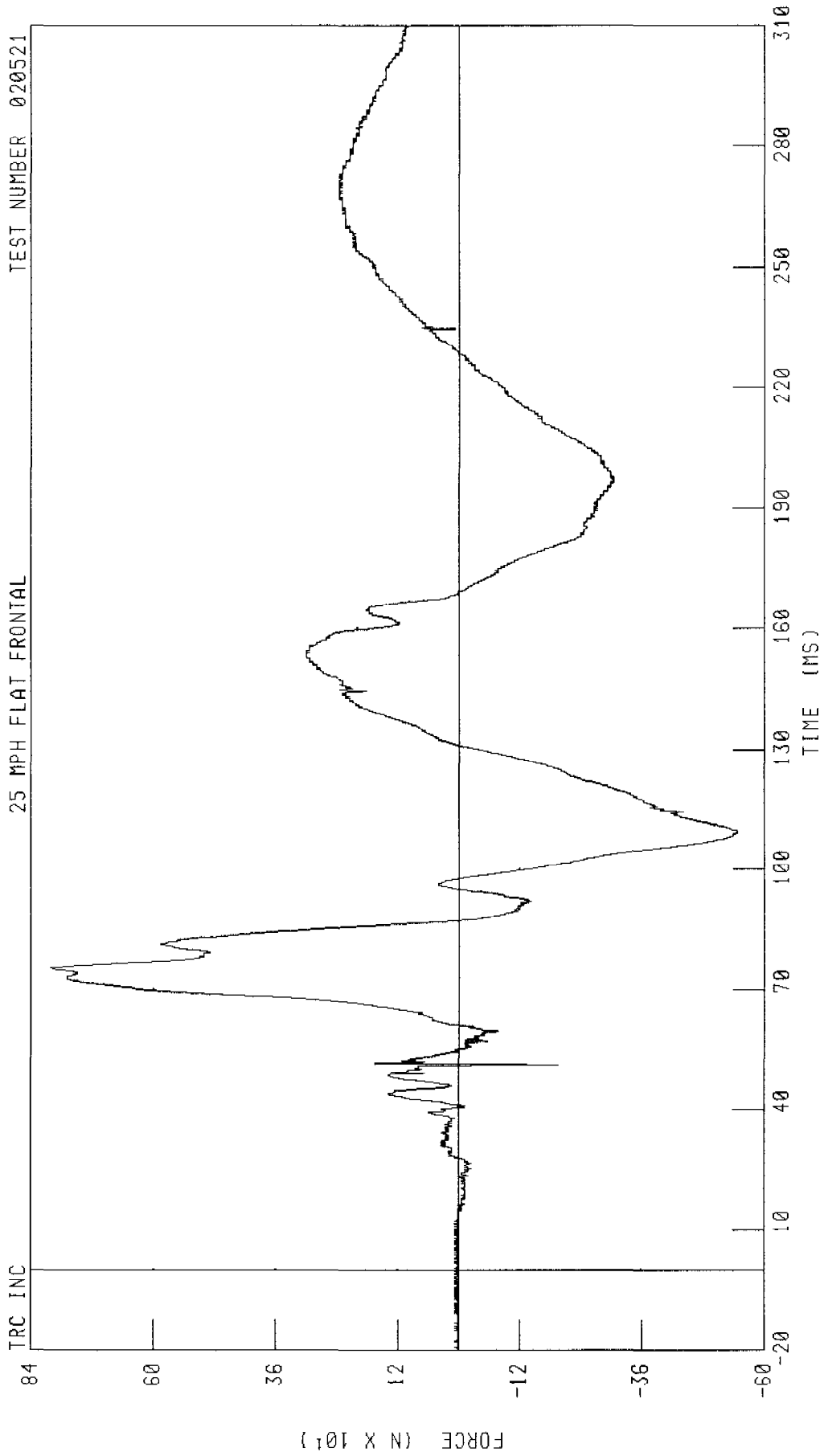
TRC INC



CHANNEL NKLYF2 FILTER CH CLASS 1000

PEAK DATA 62 89 N @ 67 04 MS, -256 07 N @ 88 08 MS

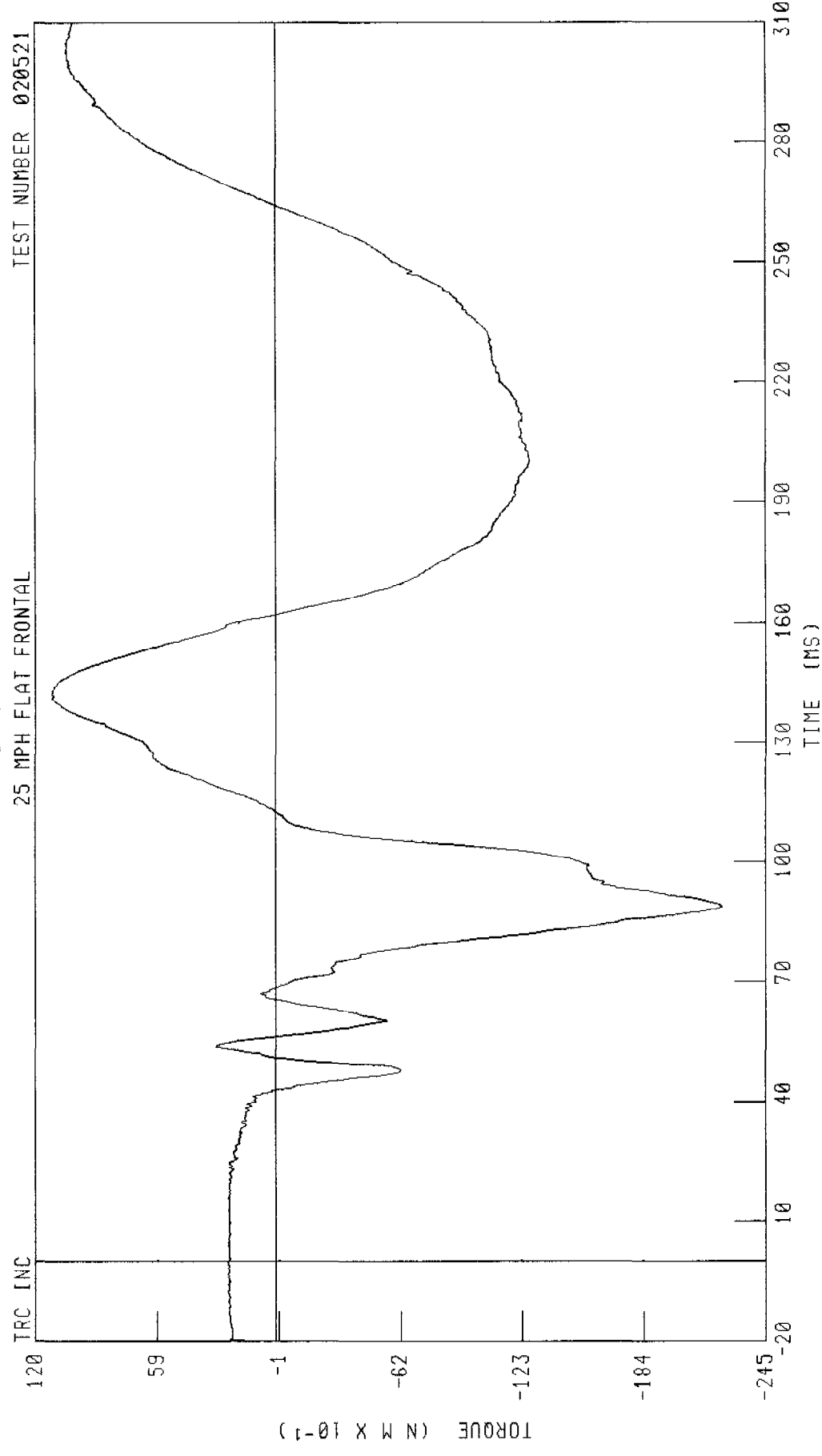
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK LOWER Z-AXIS AXIAL FORCE



CHANNEL NKLZF2 FILTER CH CLASS 1000

PEAK DATA 801 79 N @ 75 36 MS, -546 69 N @ 108 88 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK LOWER MOMENT ABOUT X AXIS

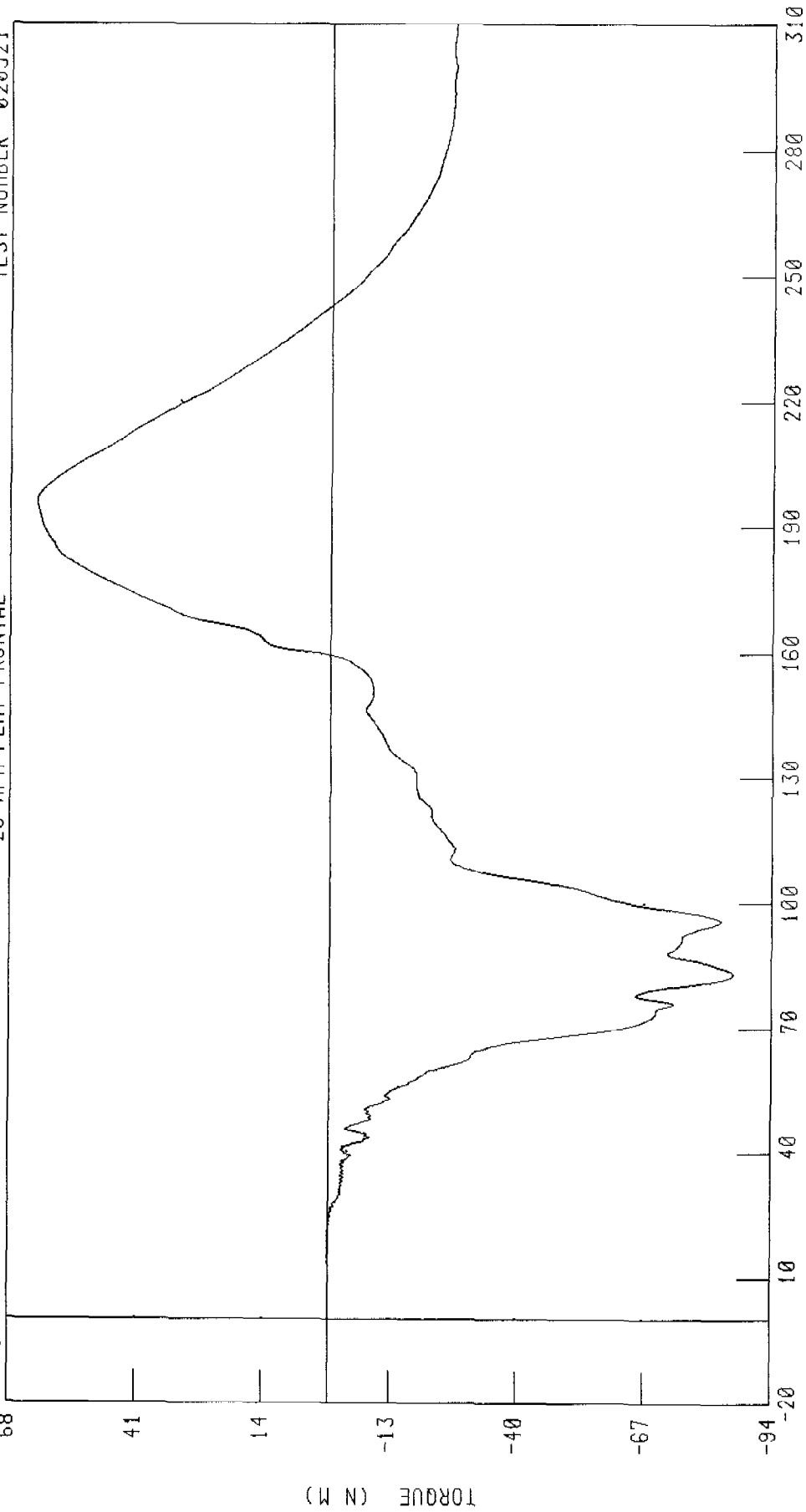


2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK LOWER MOMENT ABOUT Y AXIS

TRC INC

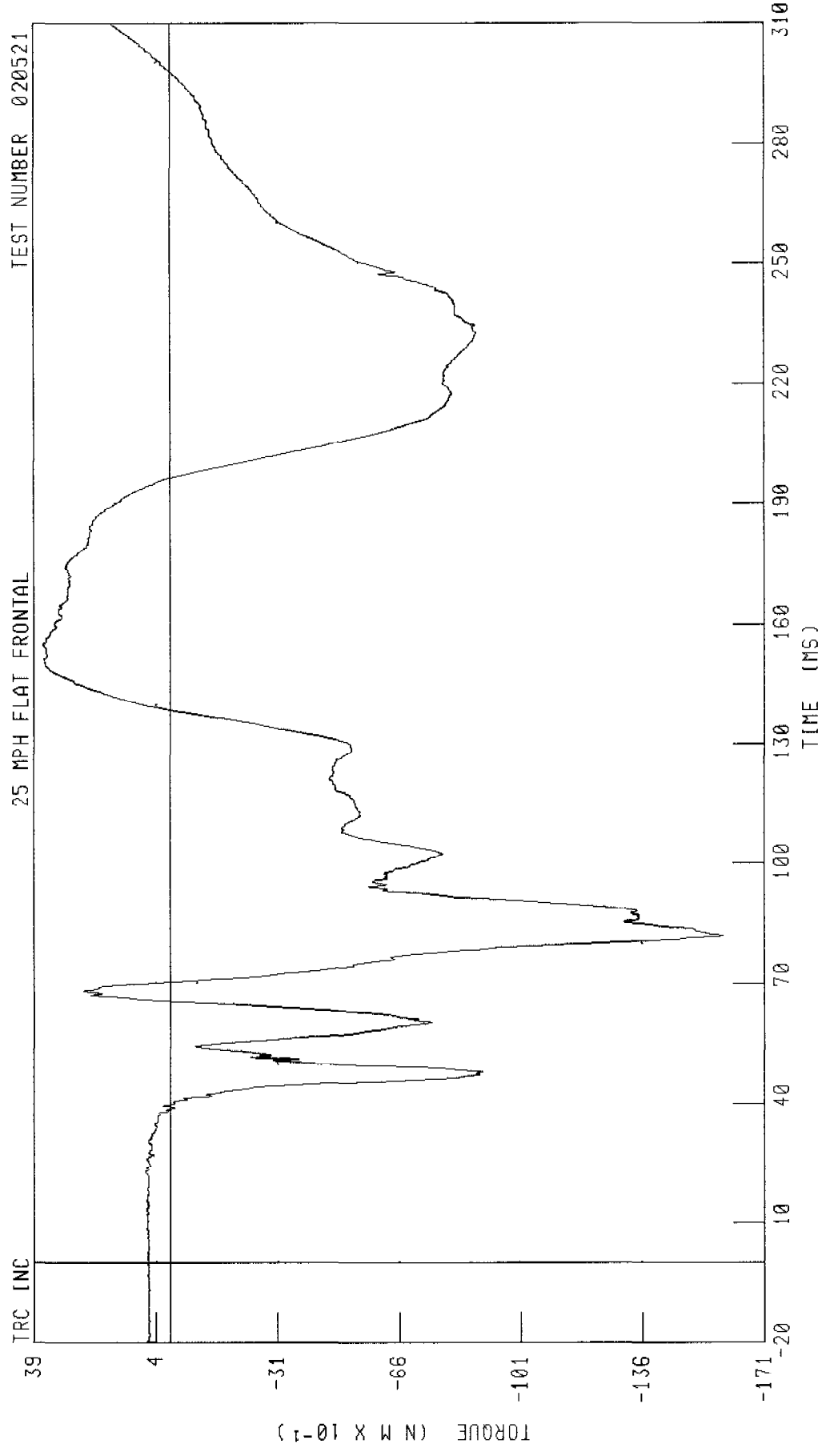
TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL NKLYM2 FILTER CH CLASS 600
PEAK DATA 62 35 N M @ 195 92 MS, -85 98 N M @ 83 36 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER NECK LOWER MOMENT ABOUT Z AXIS



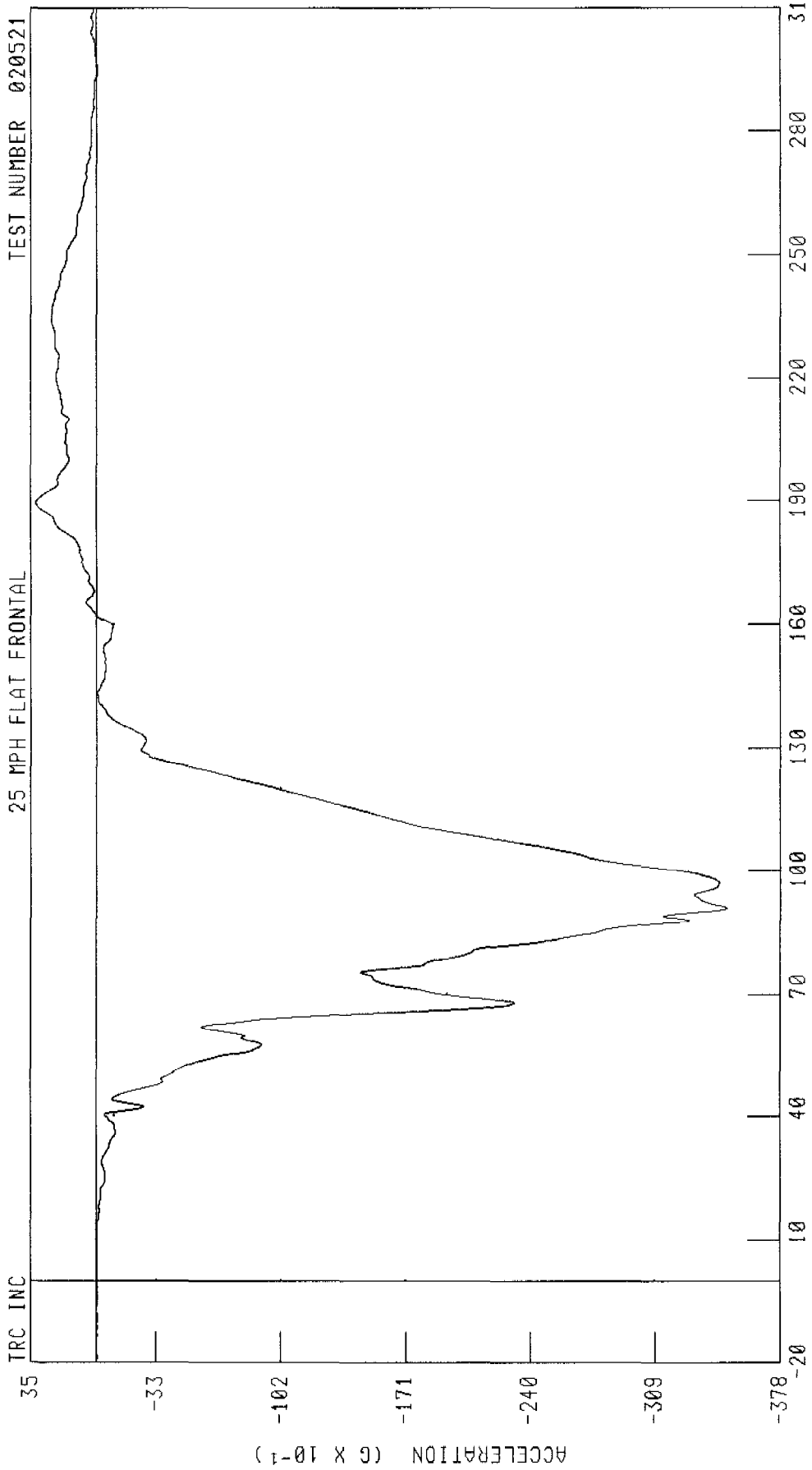
CHANNEL NKLZM2 FILTER CH CLASS 600 PEAK DATA 3 63 N M @ 155 28 MS, -15 91 N M @ 82 08 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER CHEST X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TRC INC

CHANNEL CSTXC2 FILTER CH CLASS 180

PEAK DATA 3 31 G @ 189 68 MS, -34 86 G @ 91 04 MS

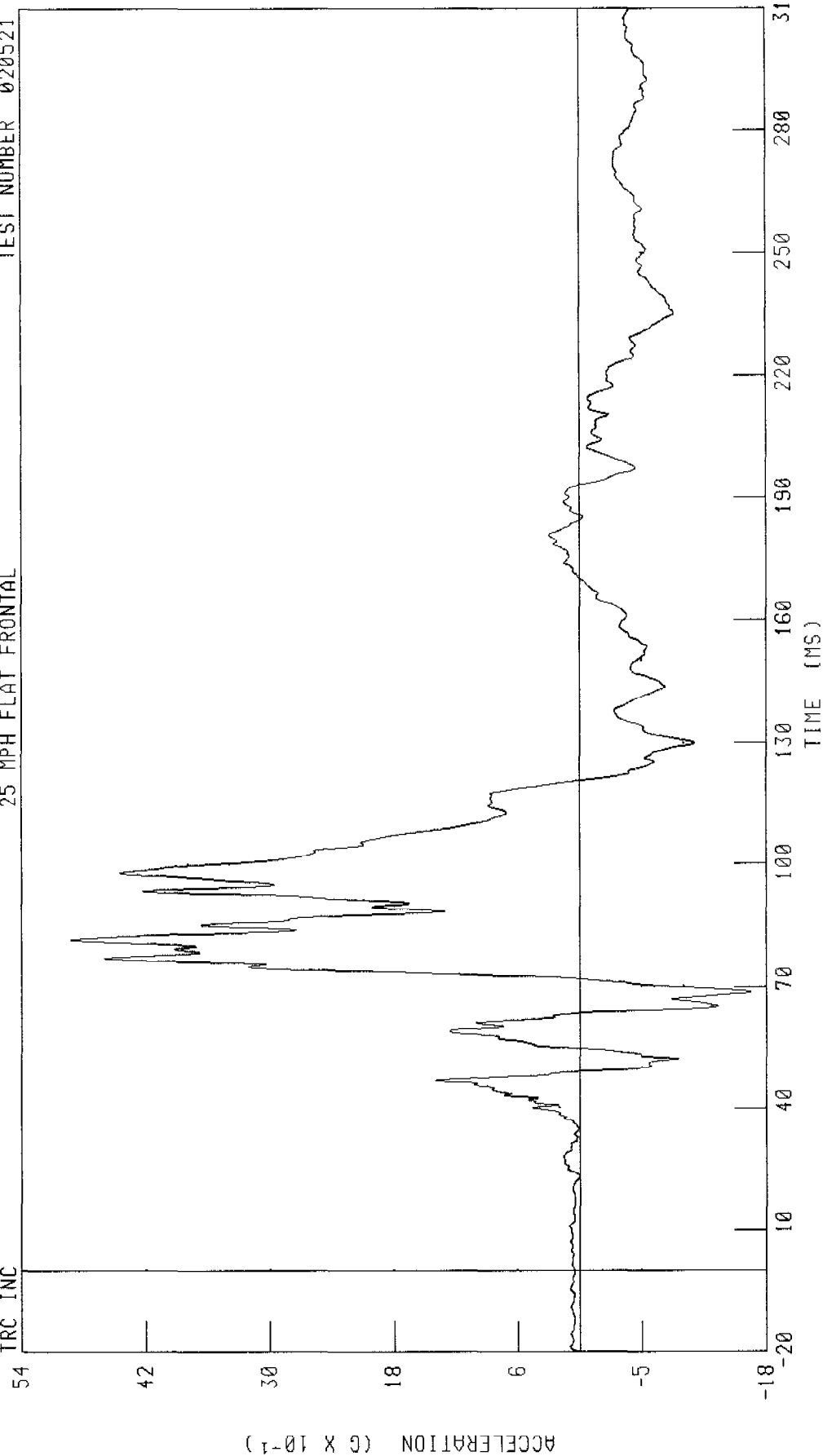
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER CHEST Y-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL CSTYG2 FILTER CH CLASS 180

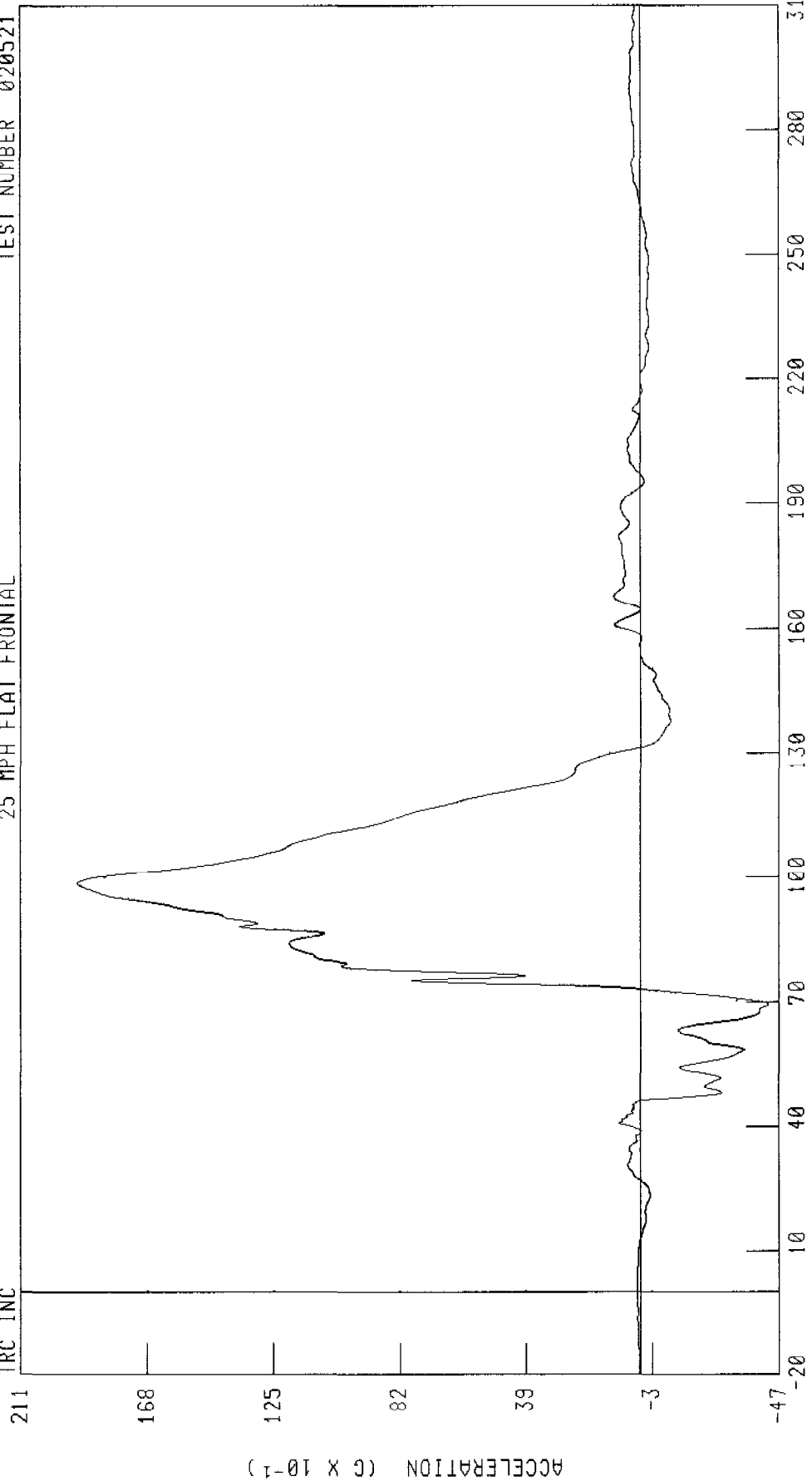
PEAK DATA 4 93 G @ 81 68 MS, -1 65 G @ 68 72 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER CHEST Z-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL CSTZC2 FILTER CH CLASS 180

PEAK DATA 19 19 G @ 98 72 MS, -4 35 G @ 69 36 MS

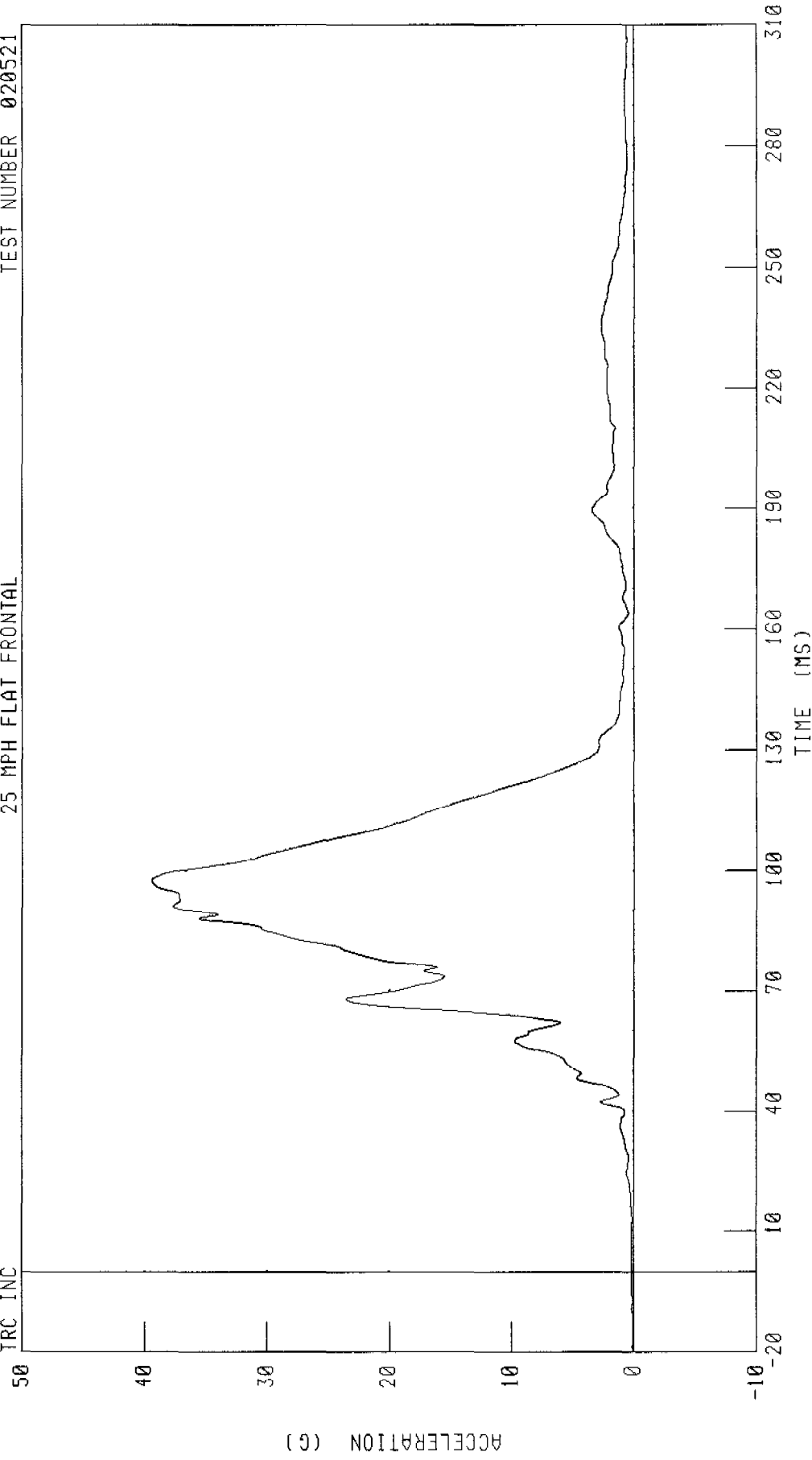
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER CHEST RESULTANT ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL CSTRG2 FILTER CH CLASS 180

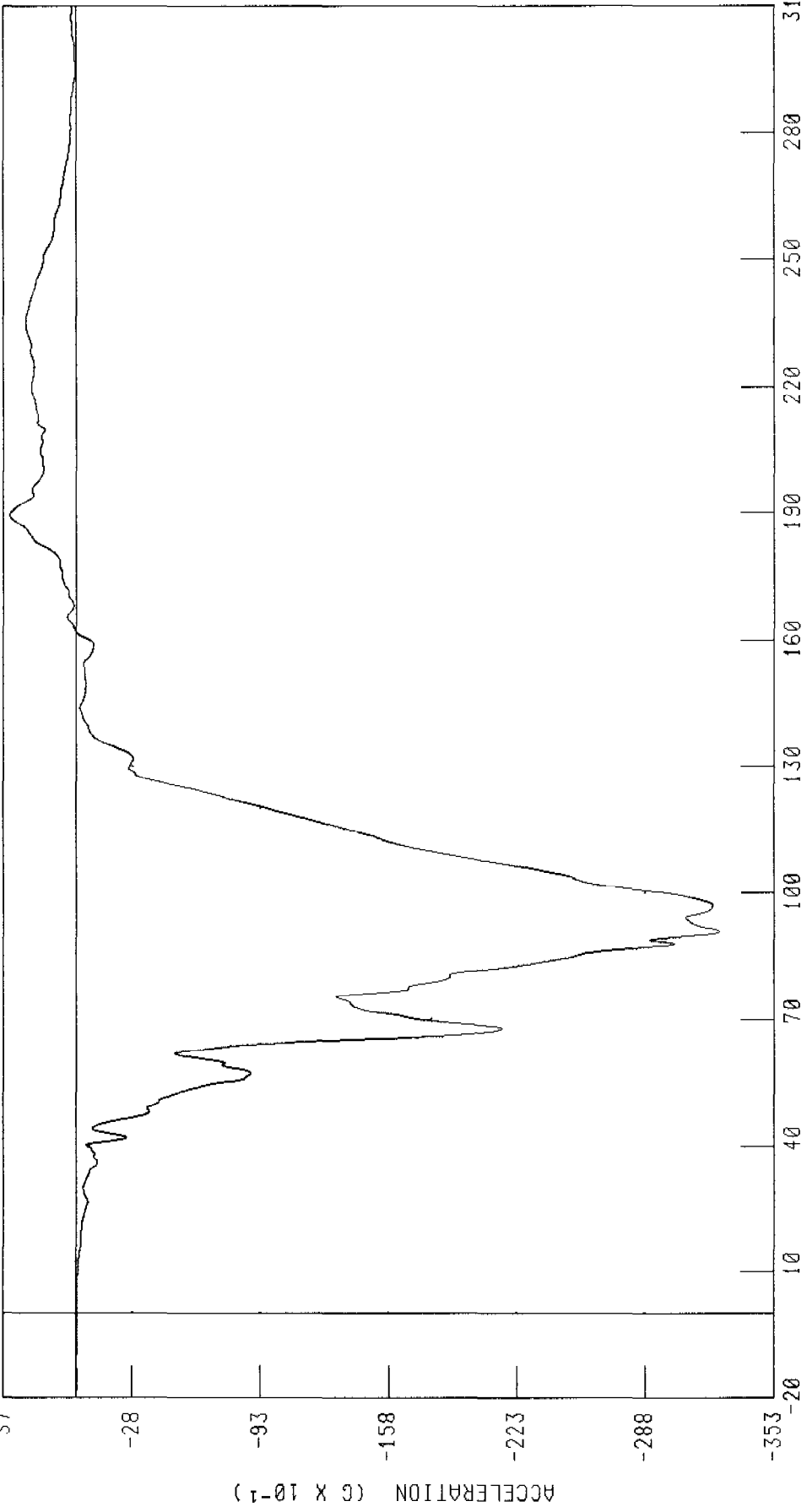
PEAK DATA 39 47 G @ 97 60 MS, 0 01 G @ -20 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER CHEST X-AXIS ACCELERATION REDUNDANT

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL CSTXR2 FILTER CH CLASS 180

PEAK DATA 3 38 G @ 189 52 MS, -32 55 G @ 90 96 MS

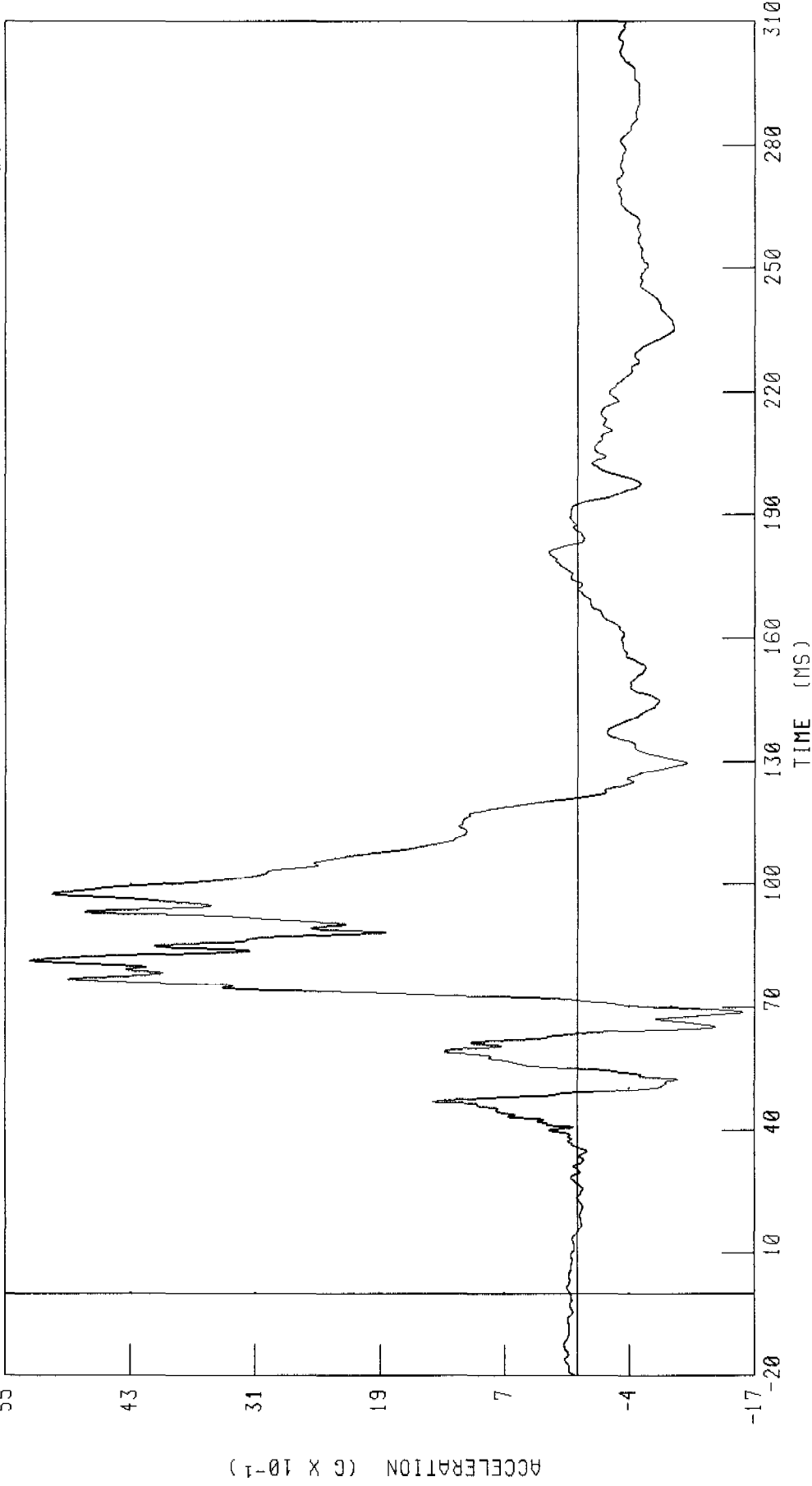
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER CHEST Y-AXIS ACCELERATION REDUNDANT

25 MPH FLAT FRONTAL

TEST NUMBER 020521

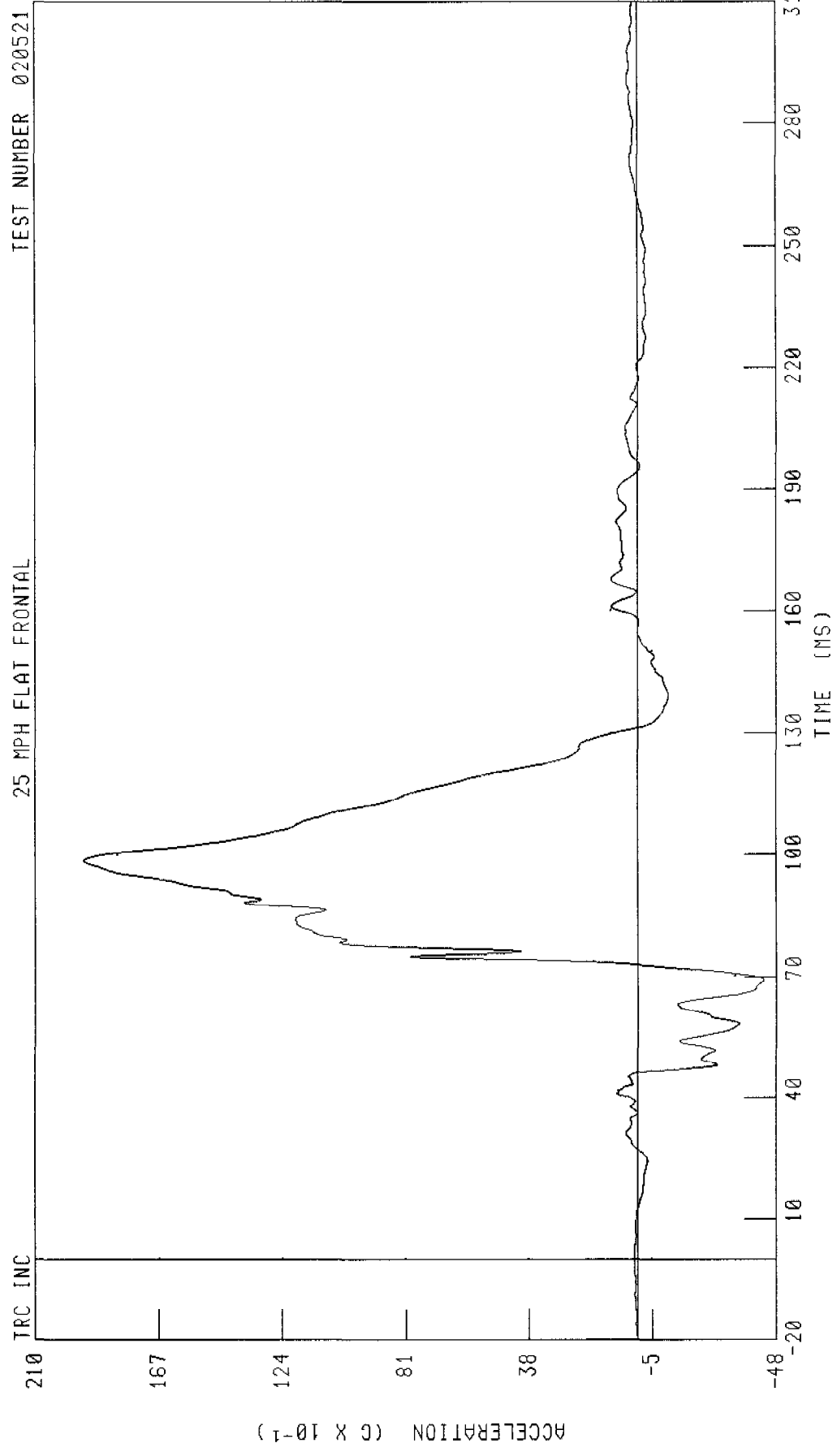
TRC INC



CHANNEL CSTVR2 FILTER CH CLASS 180

PEAK DATA 5 27 0 81 60 MS, -1 59 0 68 64 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER CHEST Z-AXIS ACCELERATION REDUNDANT
25 MPH FLAT FRONTAL



TEST NUMBER 020521

CHANNEL CSTZR2 FILTER CH CLASS 180 PEAK DATA 19 33 G @ 98 64 MS, -4 38 G @ 69 20 MS

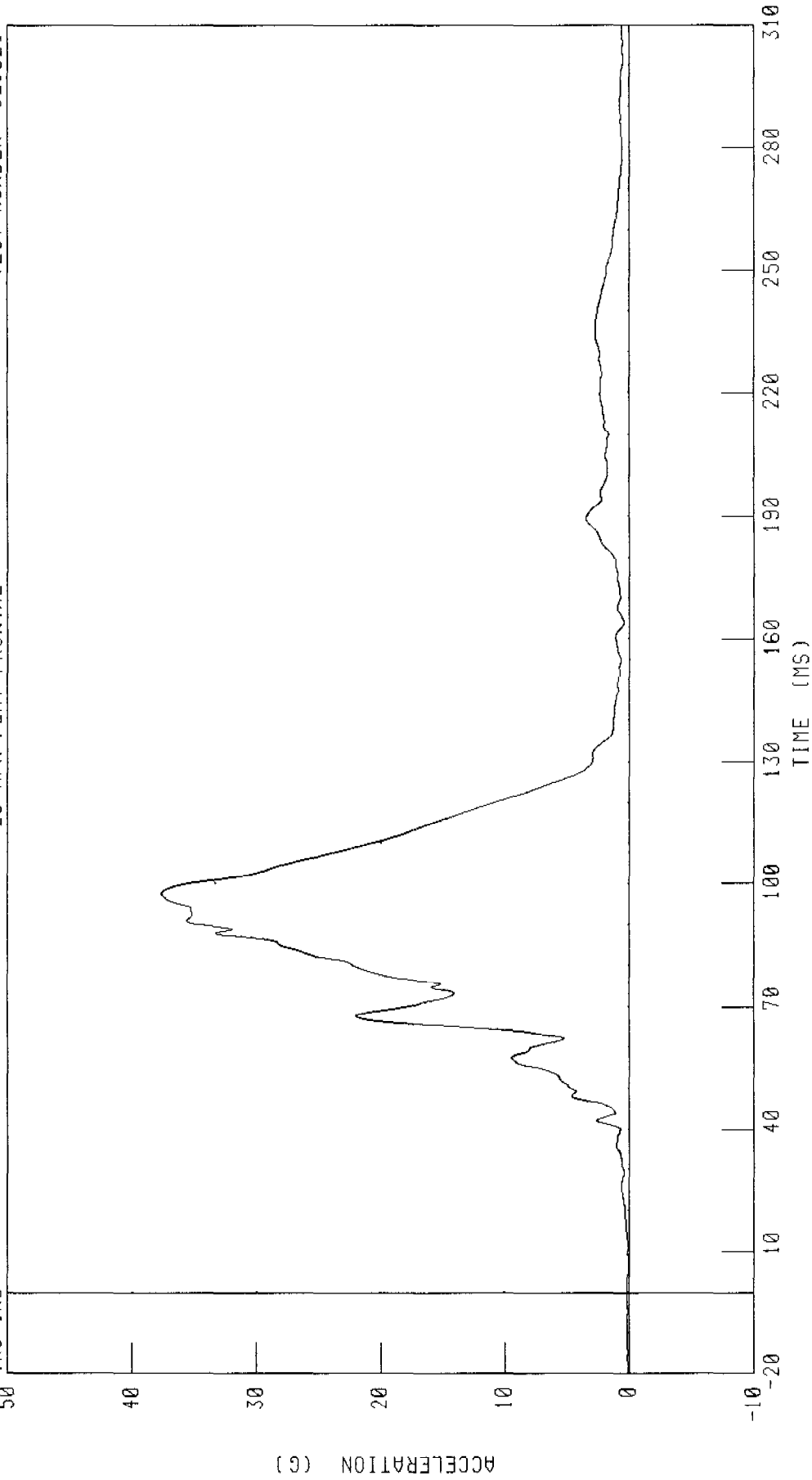
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER CHEST RESULTANT ACCELERATION REDUNDANT

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL CSTRR2 FILTER CH CLASS 180 PEAK DATA 37 66 G @ 97 60 MS, 0 01 G @ -20 00 MS

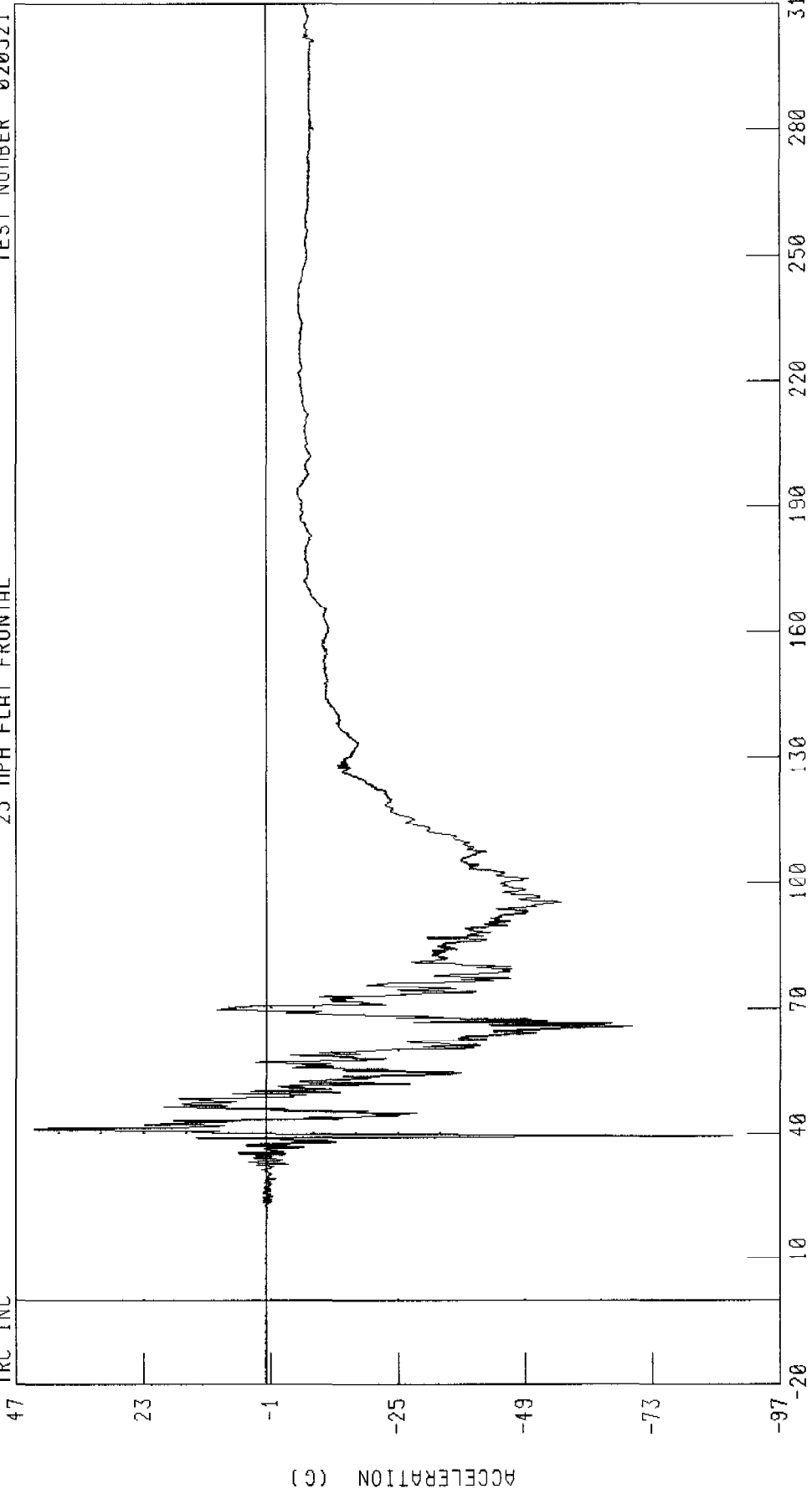
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER STERNUM UPPER X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

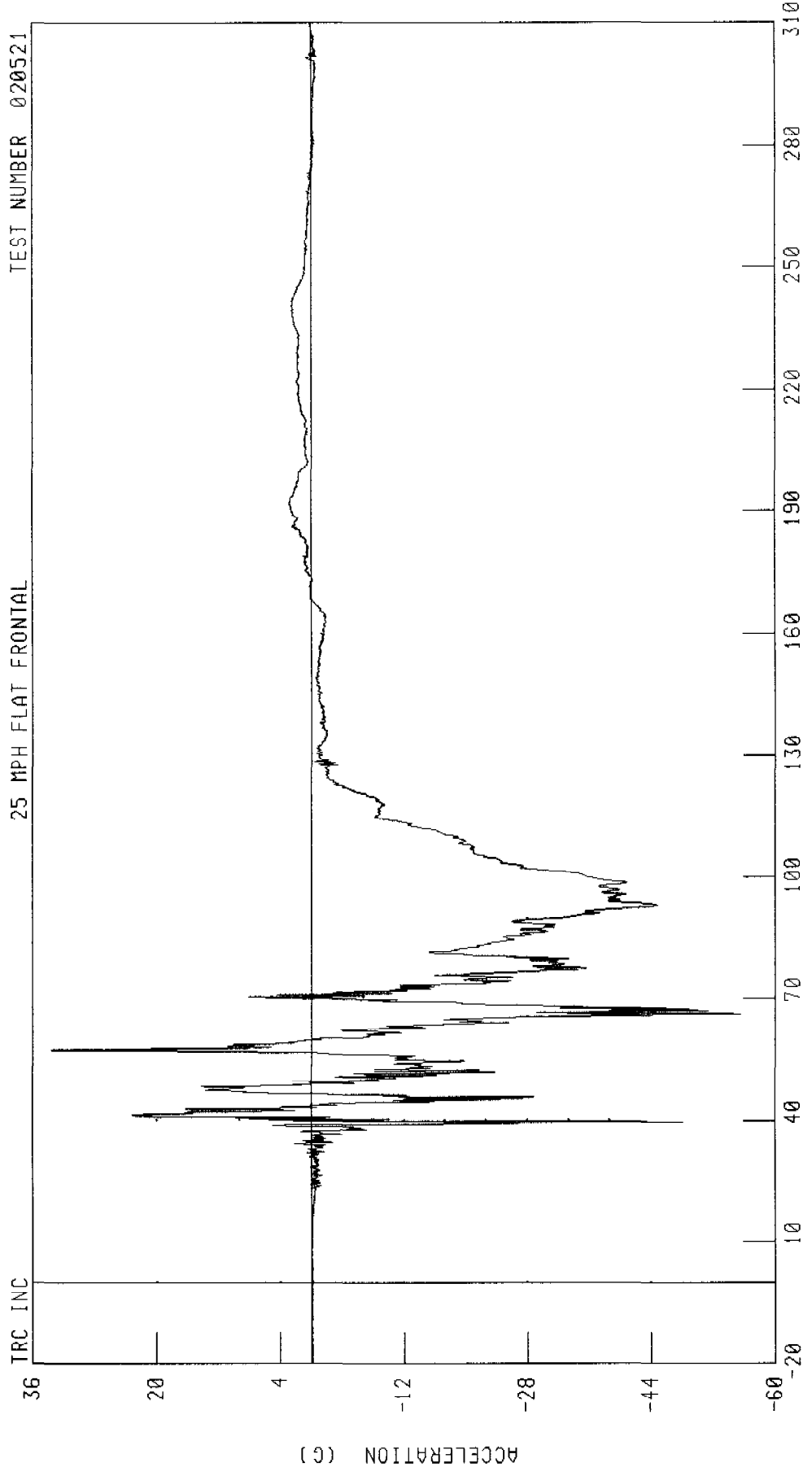
CHANNEL STUXG2 FILTER CH CLASS 1000

PEAK DATA 43 53 G @ 41 28 MS, -88 00 G @ 39 44 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER STERNUM MID X-AXIS ACCELERATION

TRC INC TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL STHXG2 FILTER CH CLASS 1000

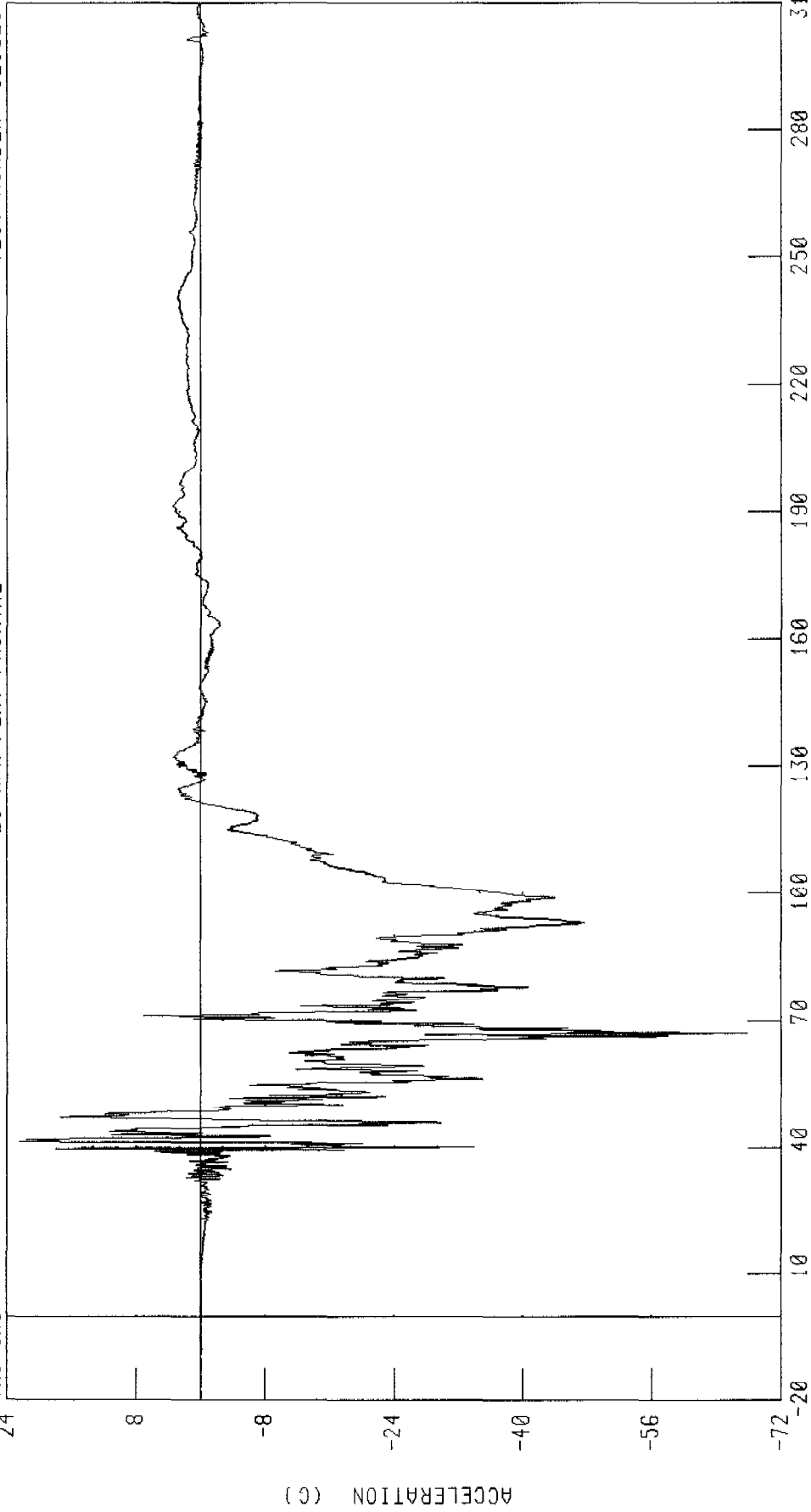
PEAK DATA 33 63 G @ 57 28 MS, -55 58 G @ 66 16 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER STERNUM LOWER X-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL STLXC2 FILTER CH CLASS 1000

TIME (MS)

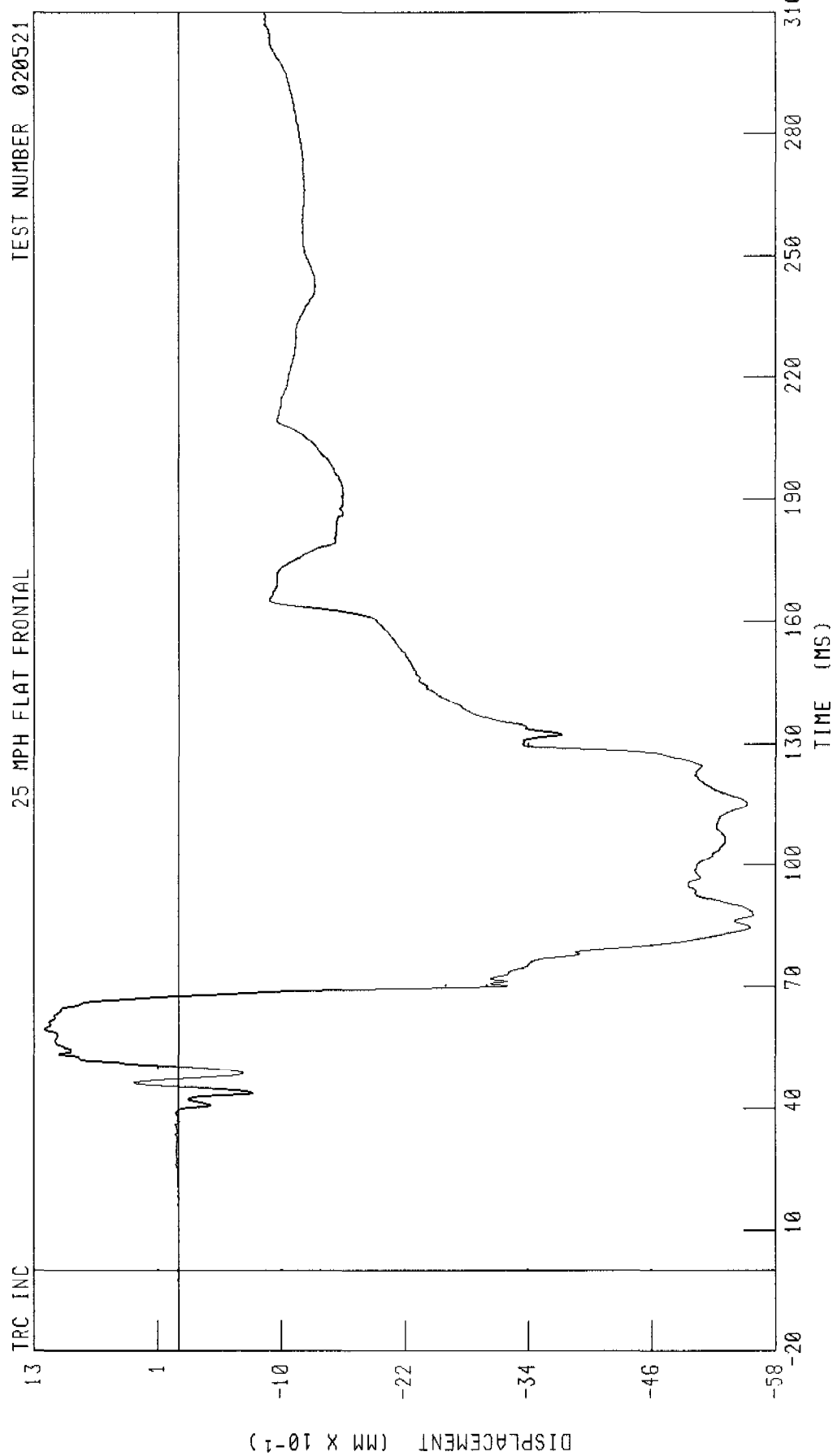
PEAK DATA 22 42 G @ 41 44 MS, -67 88 G @ 67 12 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER CHEST DEFLECTION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



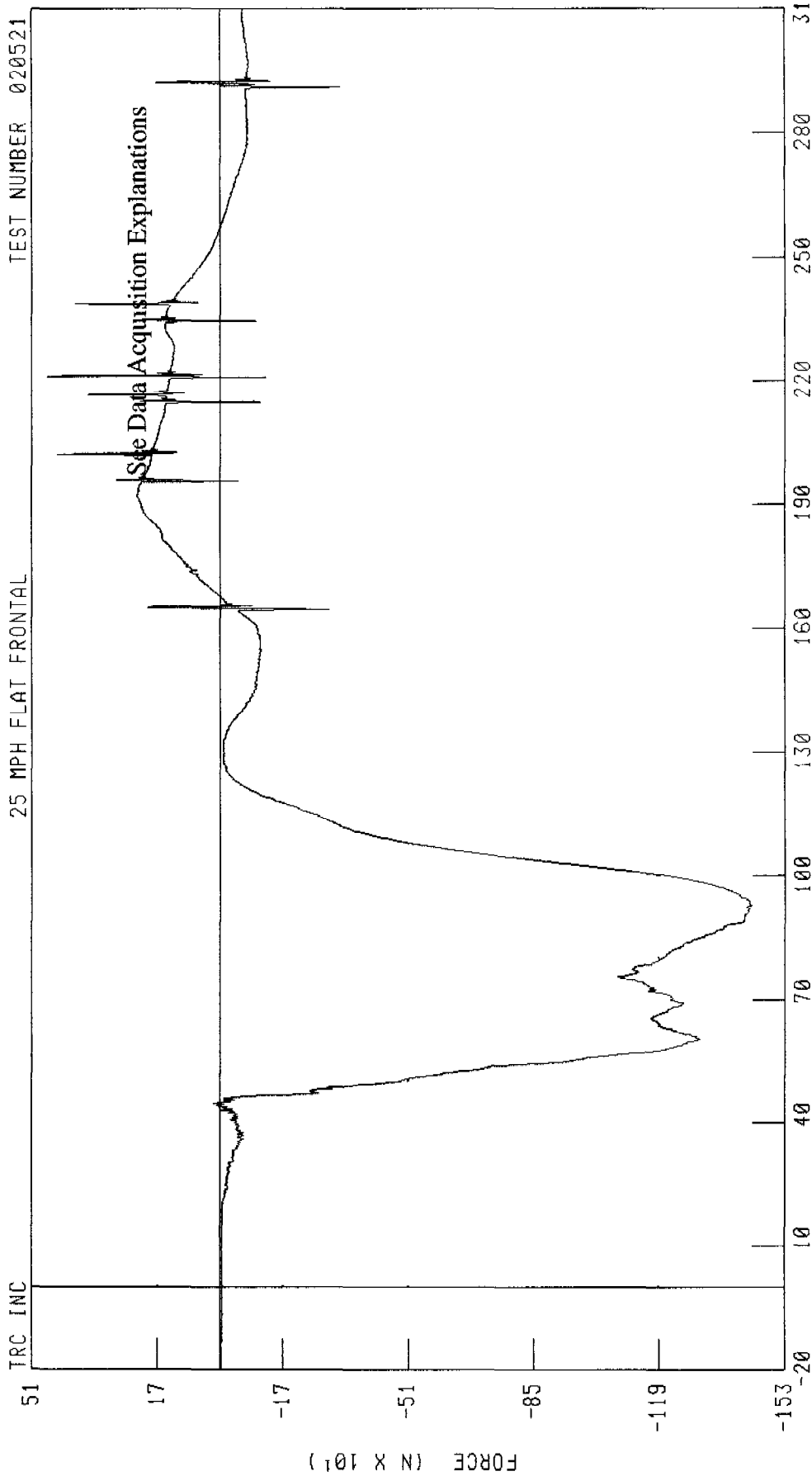
CHANNEL CSTXD2 FILTER CH CLASS 600

PEAK DATA 1 30 MM @ 59 60 MS, -5 59 MM @ 87 52 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LUMBAR X-AXIS FORCE

TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL LMBXF2 FILTER CH CLASS 1000

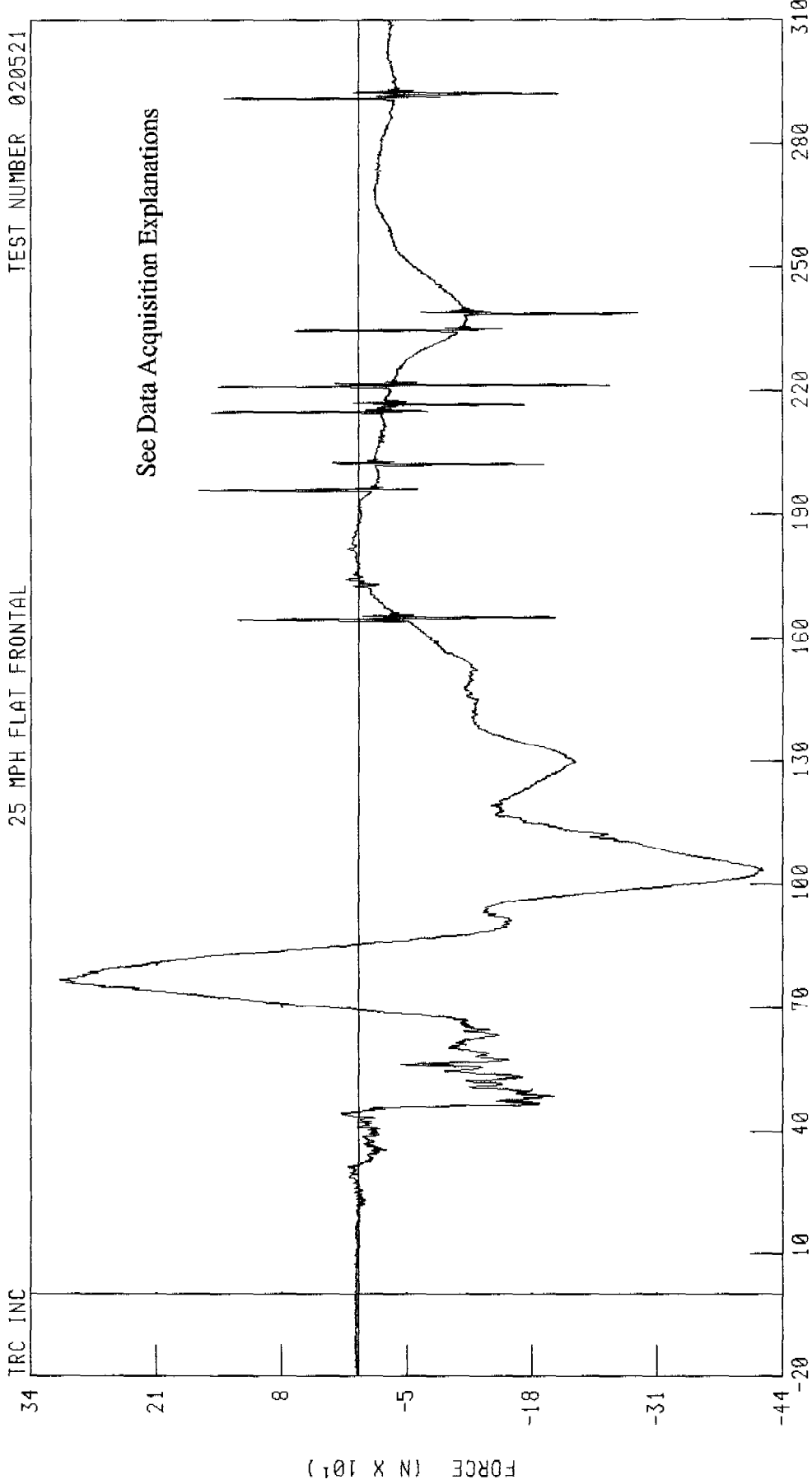
PEAK DATA 466 48 N @ 221 36 MS, -1440 27 N @ 92 88 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LUMBAR Y-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



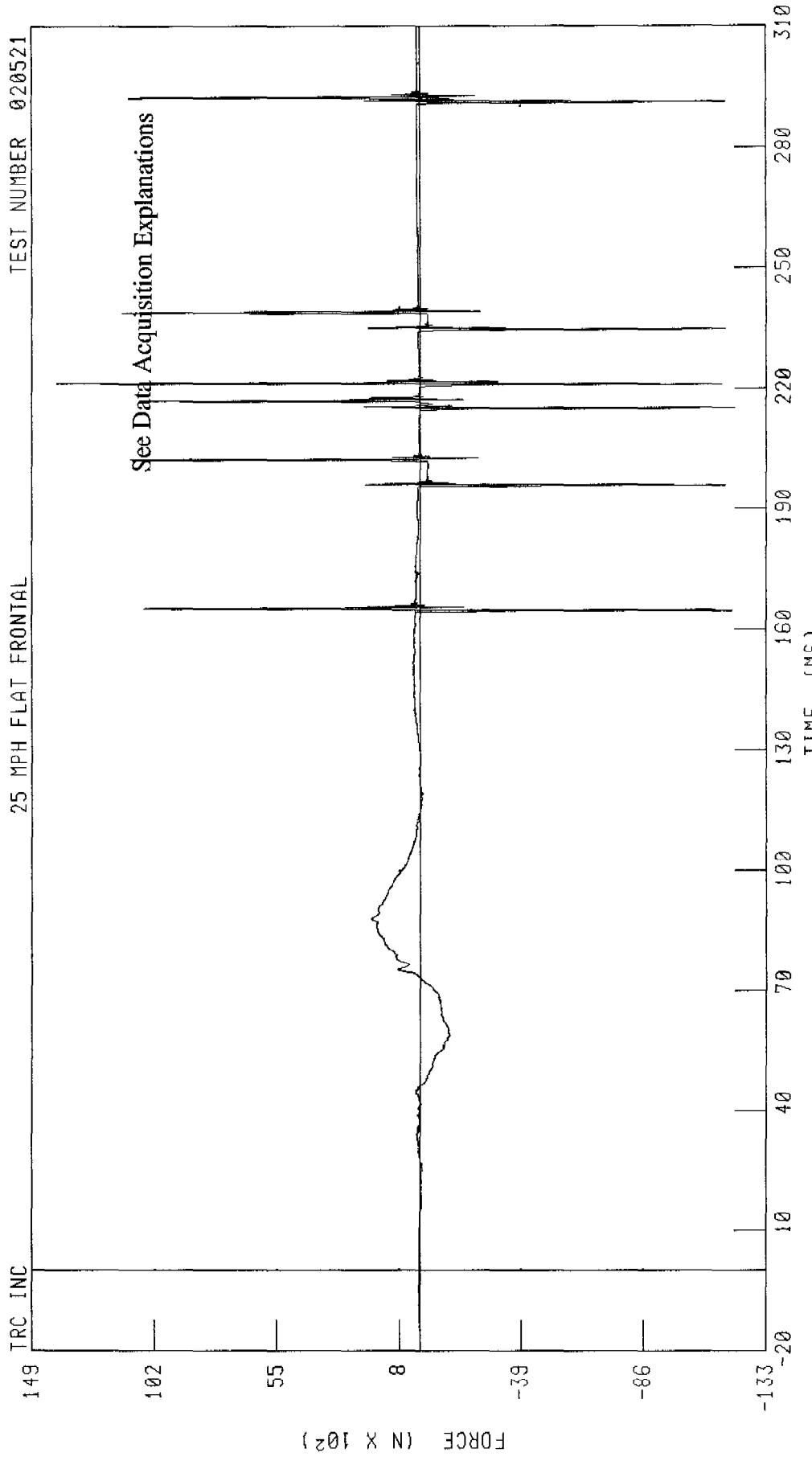
See Data Acquisition Explanations

TIME (MS)

CHANNEL LMBYF2 FILTER CH CLASS 1000

PEAK DATA 310 68 N @ 76 64 MS, -419 98 N @ 103 52 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LUMBAR Z-AXIS FORCE



CHANNEL LMBZF2 FILTER CH CLASS 1000

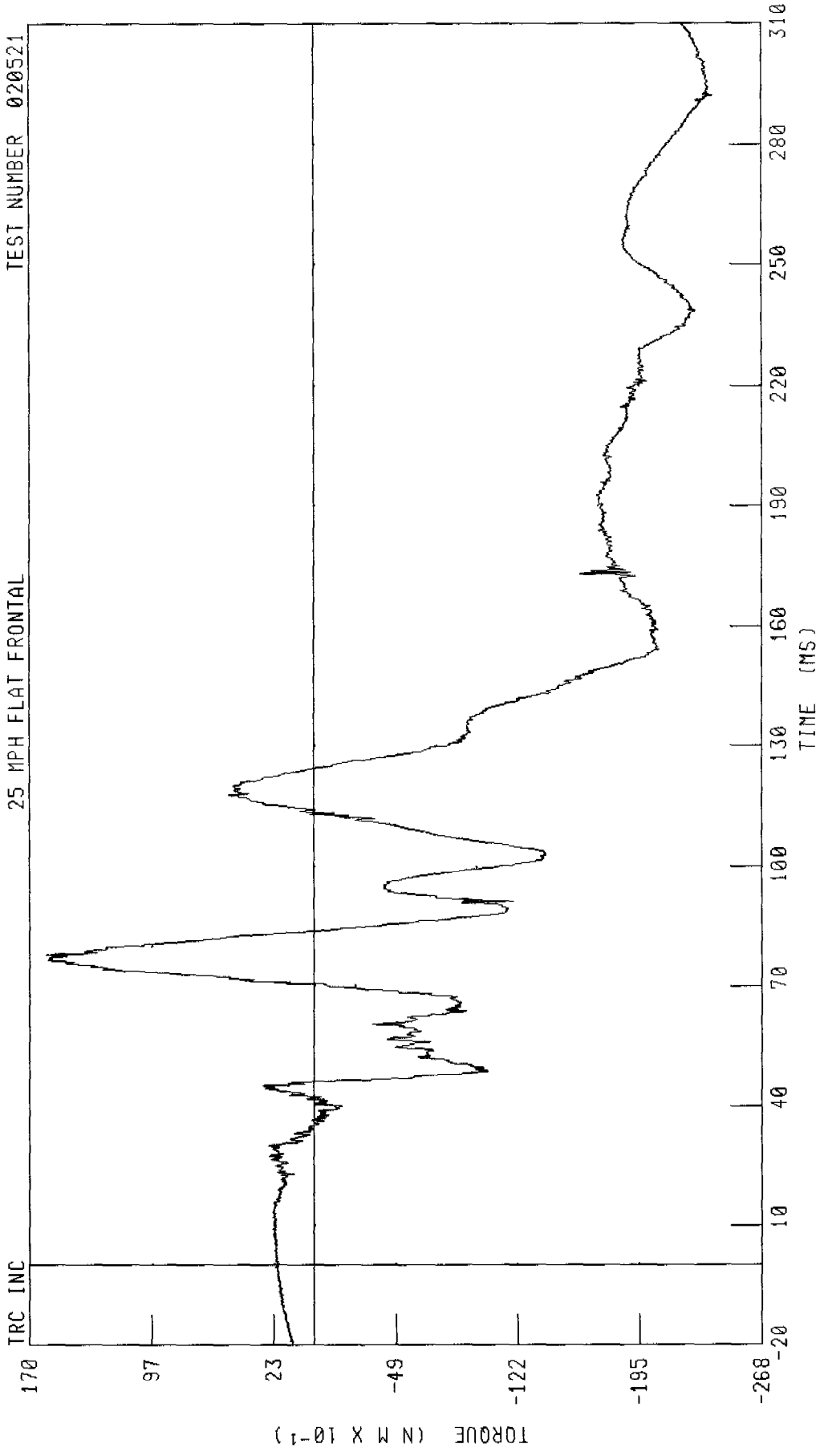
PEAK DATA 13955 73 N @ 221 44 MS, -12096 19 N @ 215 04 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LUMBAR X-AXIS MOMENT

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL LMBXM2 FILTER CH CLASS 1000

PEAK DATA 16 00 N M @ 78 00 MS, -23 87 N M @ 292 16 MS

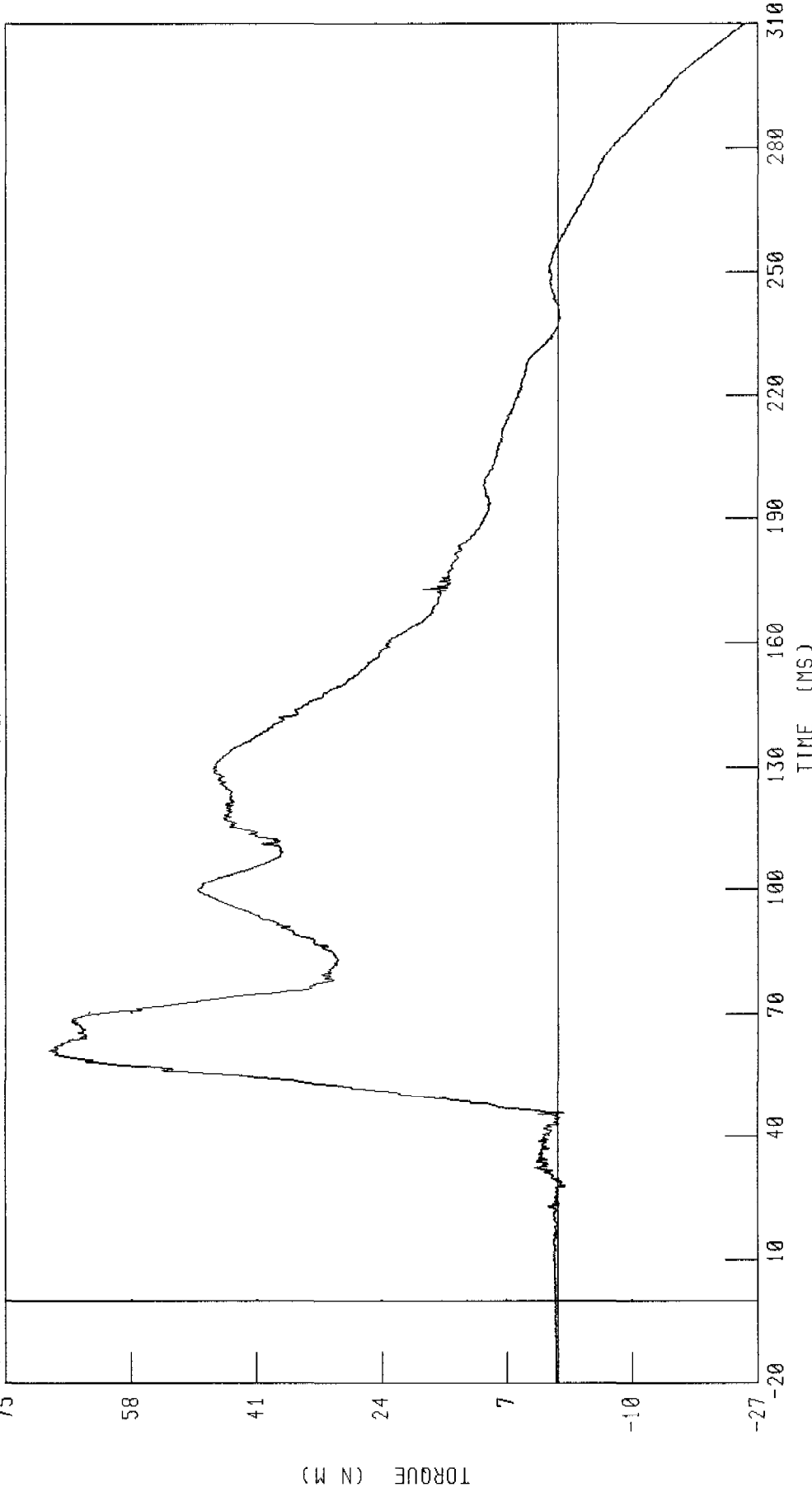
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LUMBAR Y-AXIS MOMENT

25 MPH FLAT FRONTAL

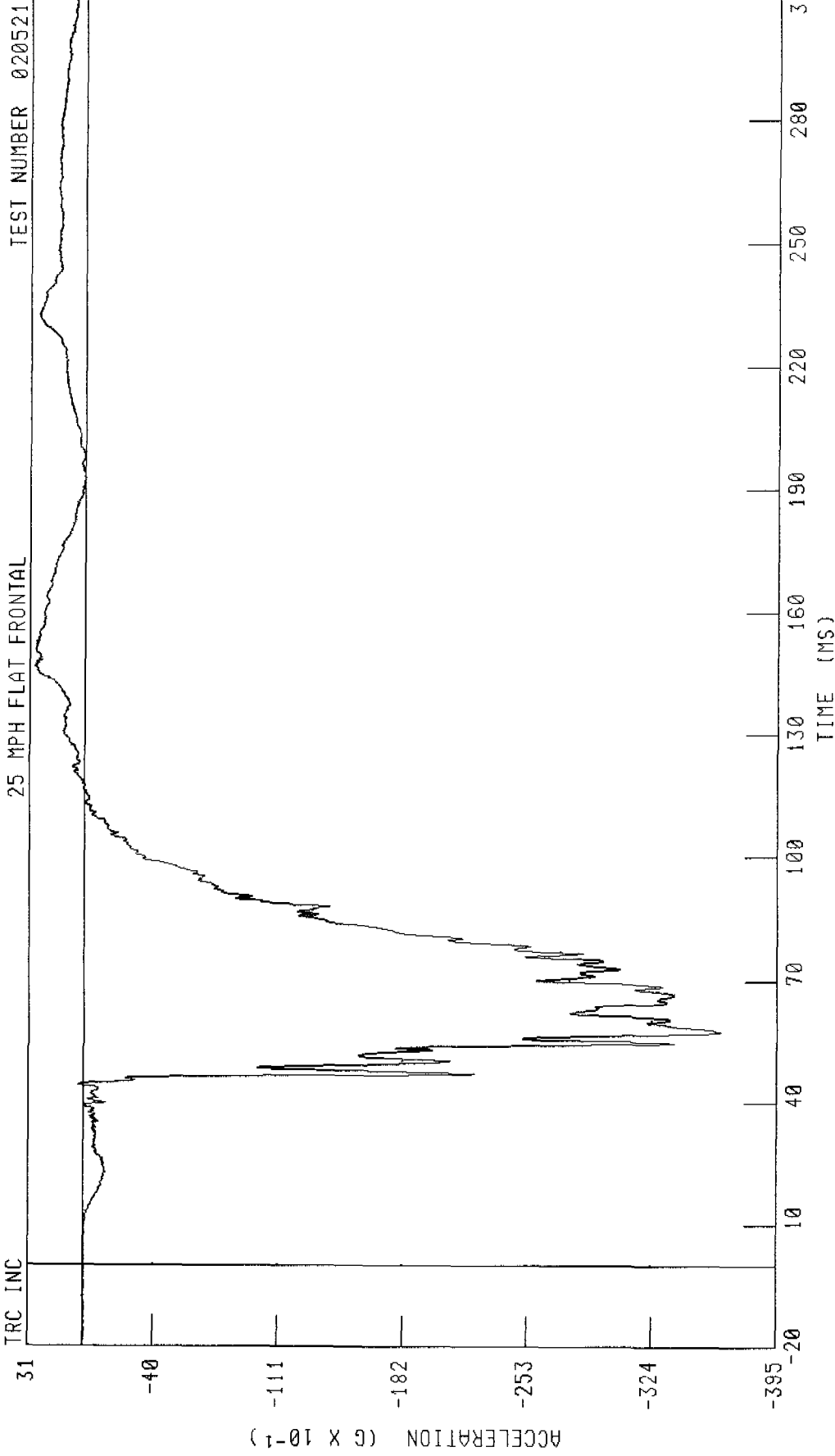
IRC INC

TEST NUMBER 020521



CHANNEL LMBYM2 FILTER CH CLASS 1000 PEAK DATA 69 08 N M @ 61 04 MS, -25 40 N M @ 310 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER PELVIS X-AXIS ACCELERATION



CHANNEL PEVXC2 FILTER CH CLASS 1000

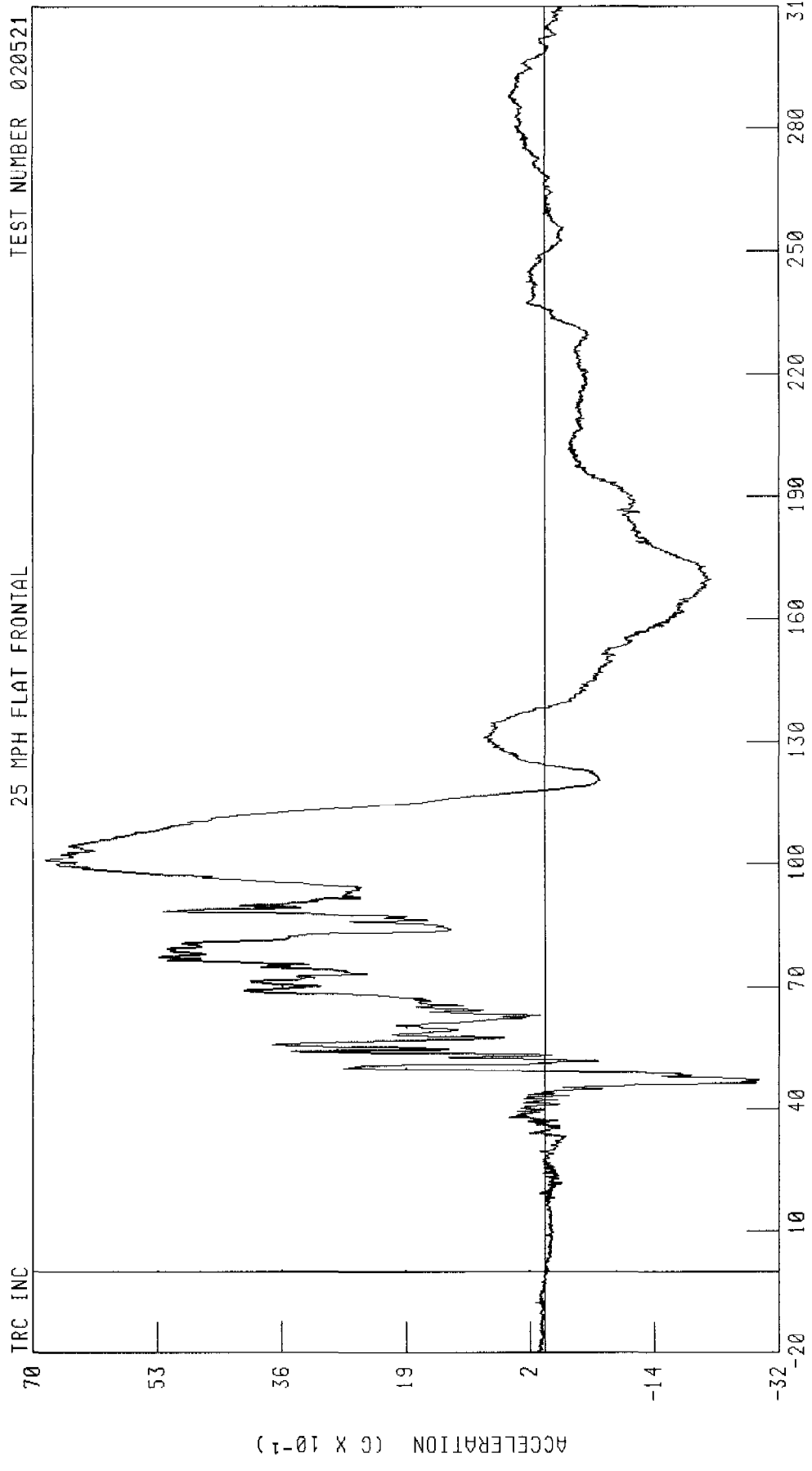
PEAK DATA 2 84 G @ 146 48 MS, -36 30 G @ 57 36 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER PELVIS Y-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL PEVYG2 FILTER CH CLASS 1000

PEAK DATA 6 83 G @ 101 04 MS, -2 93 G @ 47 12 MS

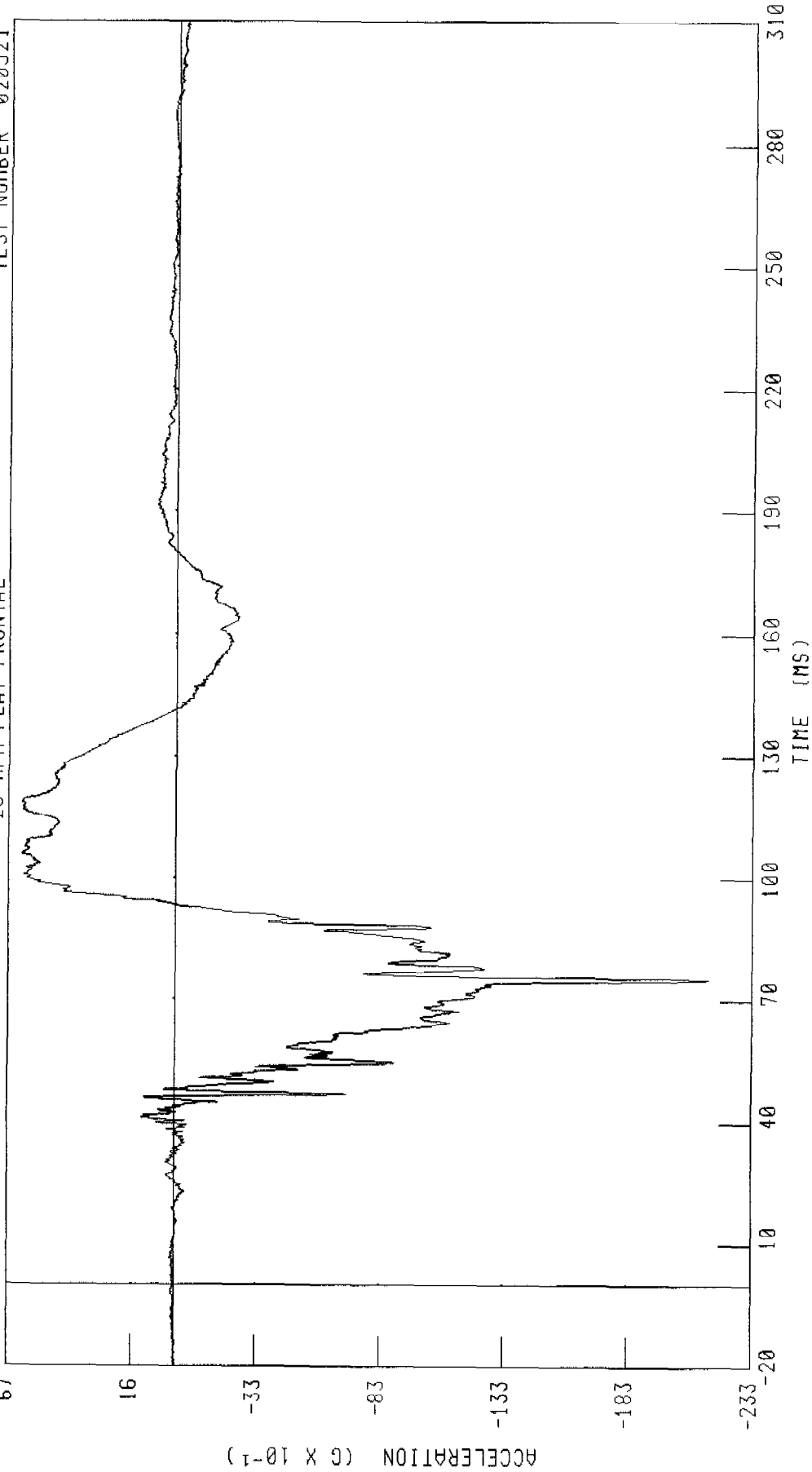
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER PELVIS Z-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TRC INC

TEST NUMBER 020521



CHANNEL PEVZG2 FILTER CH CLASS 1000

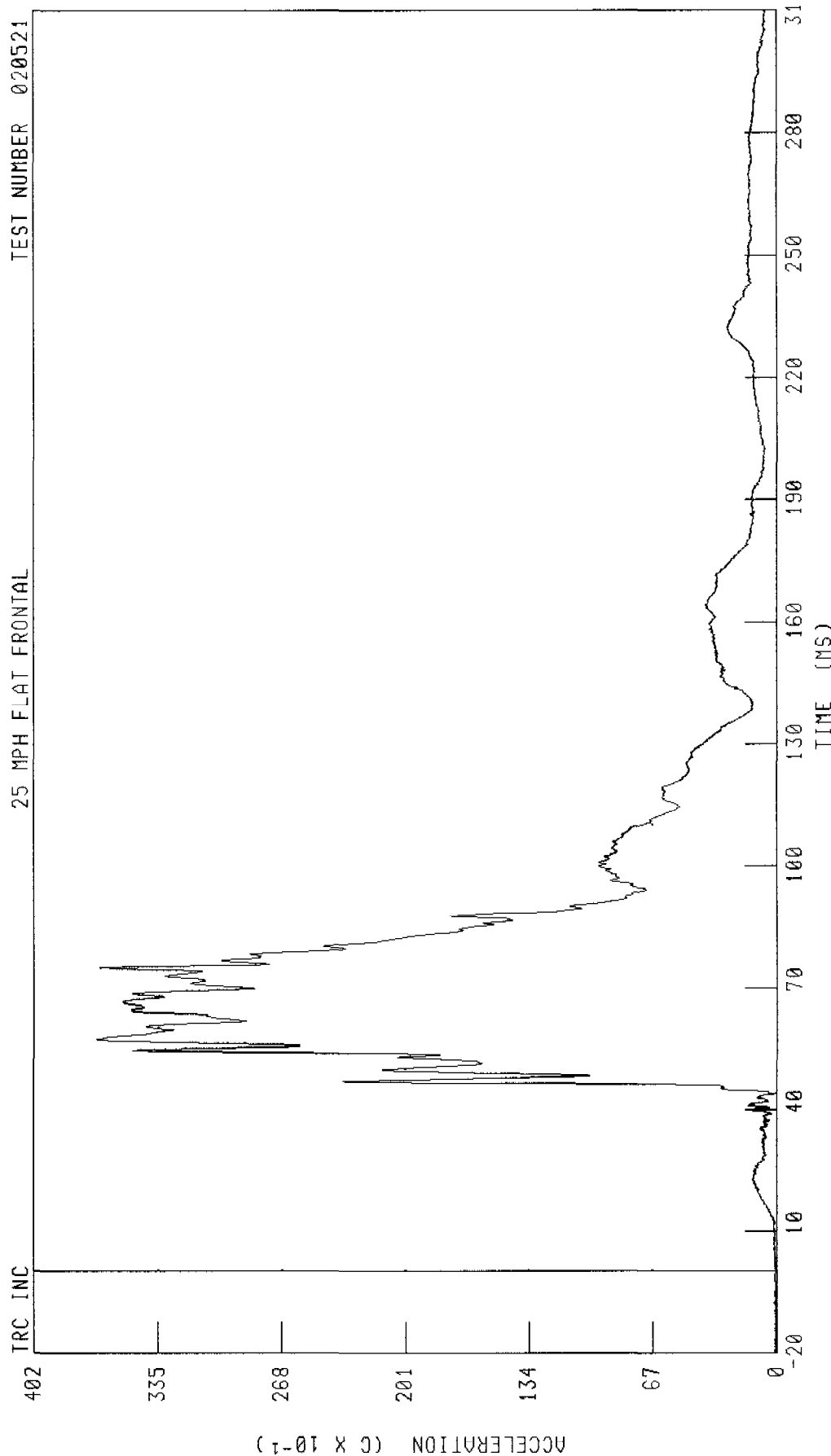
PEAK DATA 6 17 G @ 118 72 MS, -21 59 G @ 75 12 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER PELVIS RESULTANT ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL PEVRC2 FILTER CH CLASS 1000

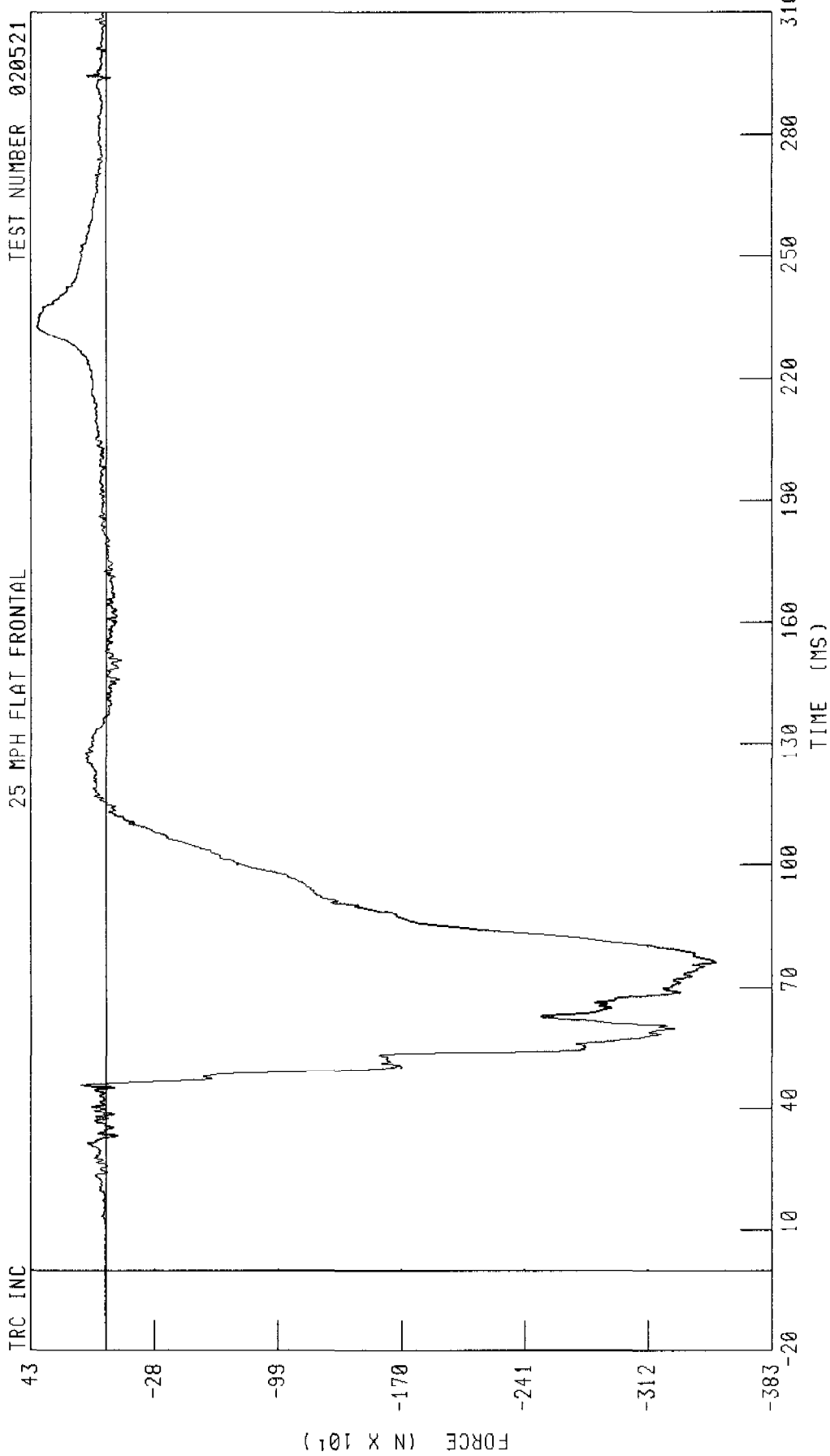
PEAK DATA 36 81 C 0 57 36 MS, 0 02 G 0 -8 48 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LEFT FEMUR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

CHANNEL LFMZF2 FILTER CH CLASS 600

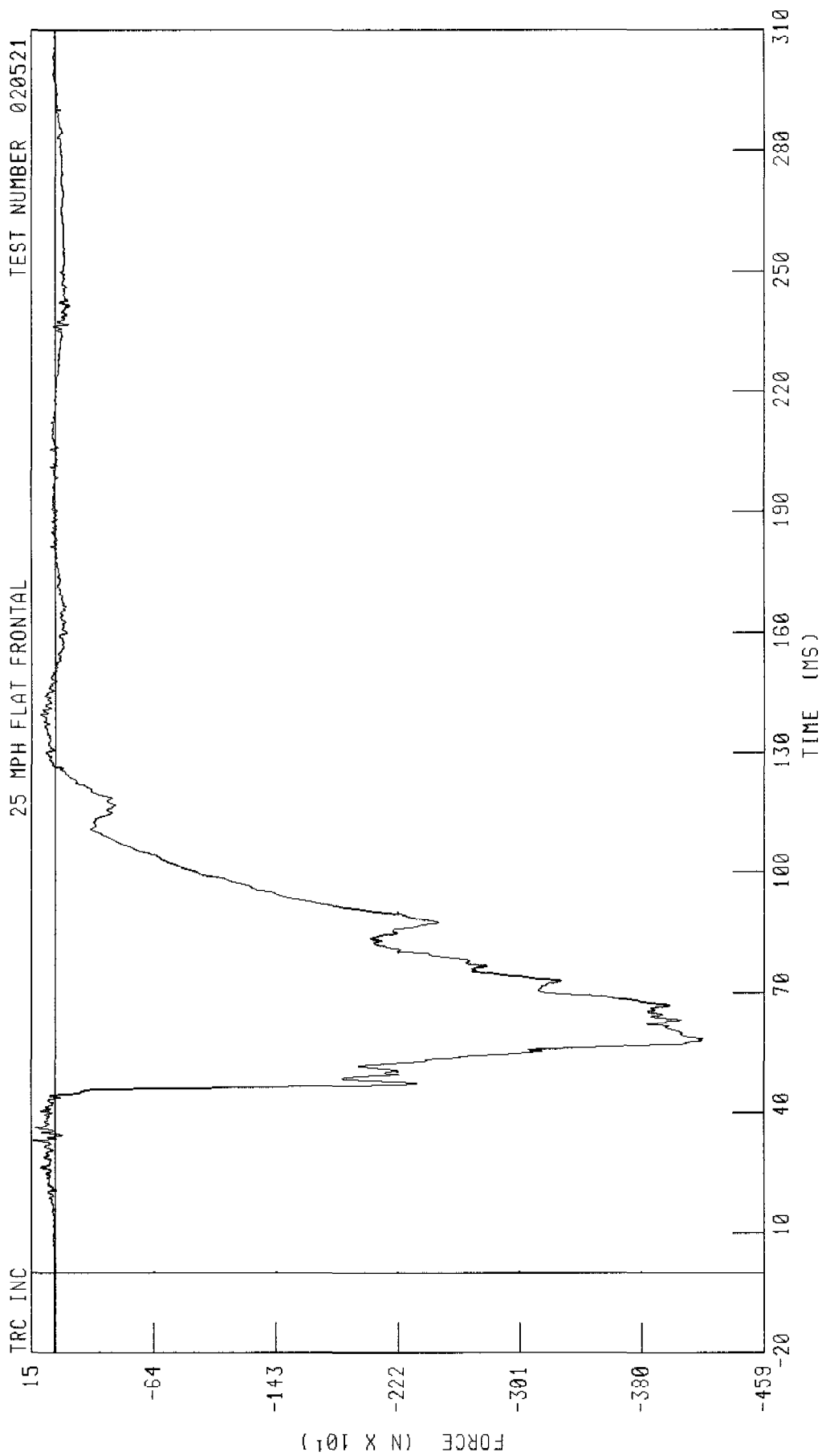
PEAK DATA 394 62 N @ 232 72 MS, -3509 70 N @ 76 32 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER RIGHT FEMUR FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



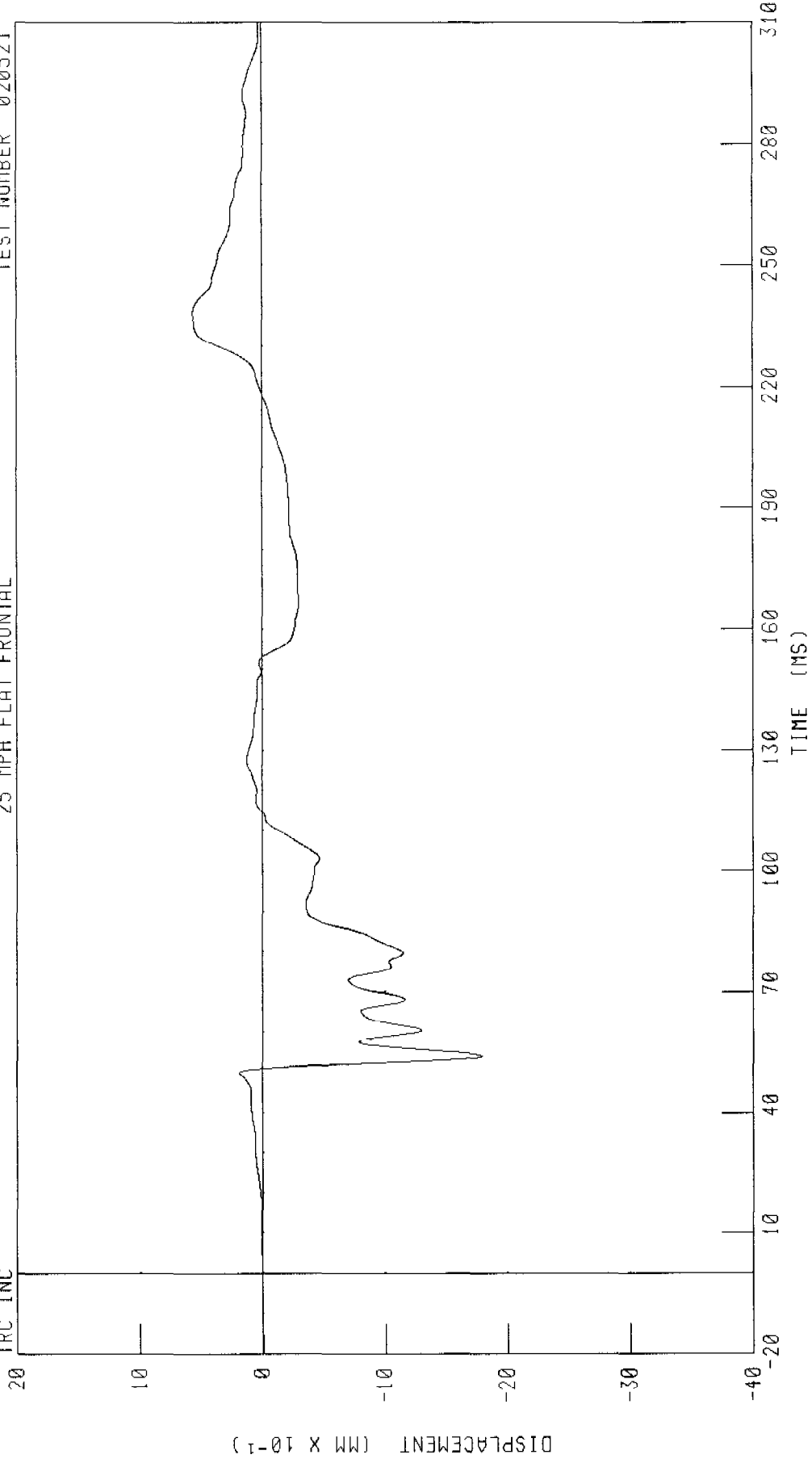
CHANNEL RFMZF2 FILTER CH CLASS 600

PEAK DATA 137 45 N @ 32 88 MS, -4197 53 N @ 58 40 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT TIBIA TO FEMUR DISPLACEMENT
25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

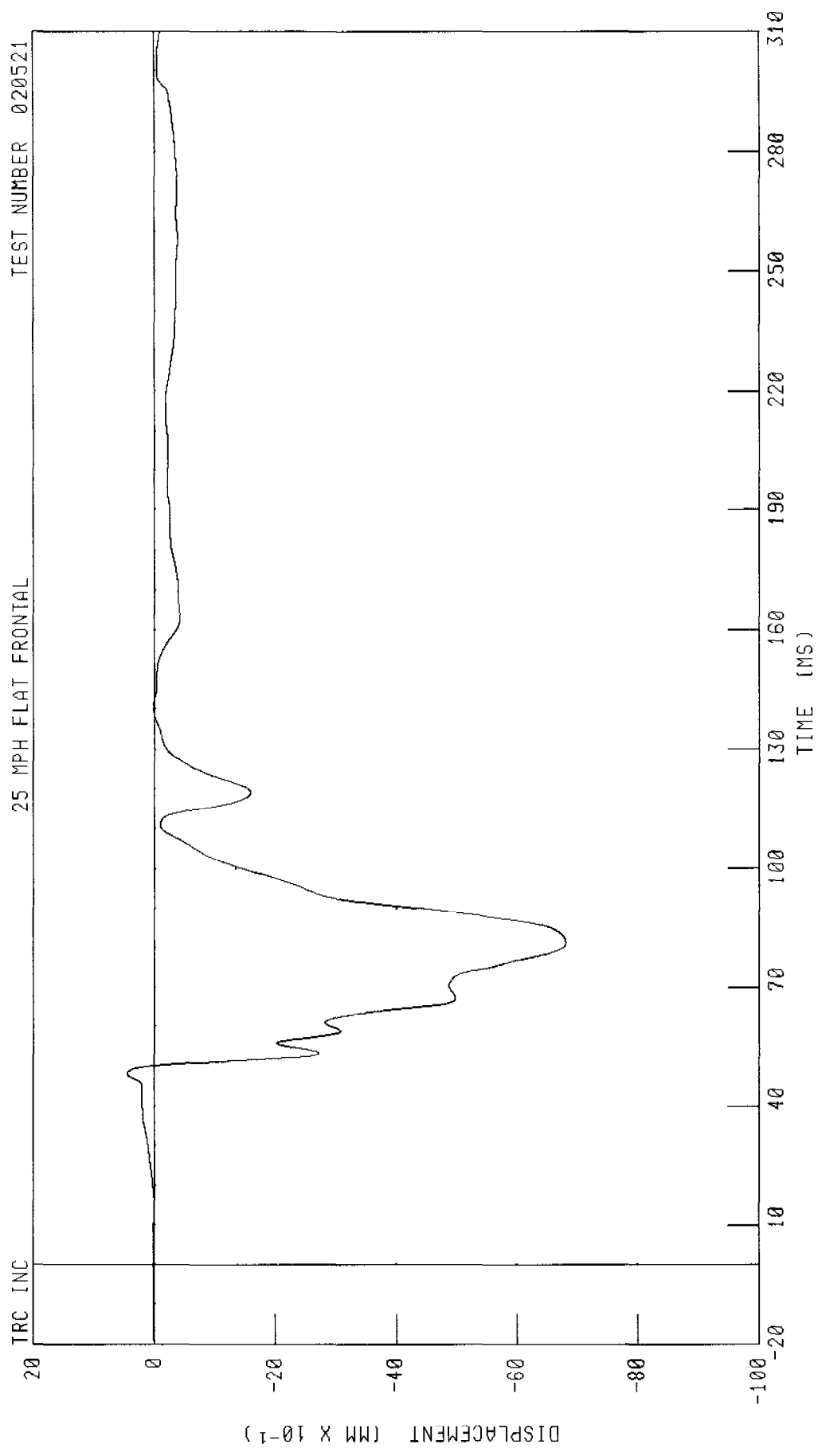


CHANNEL KNLXD2 FILTER CH CLASS 180 PEAK DATA 0 57 MM @ 238 32 MS, -1 79 MM @ 54 40 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT TIBIA TO FEMUR DISPLACEMENT

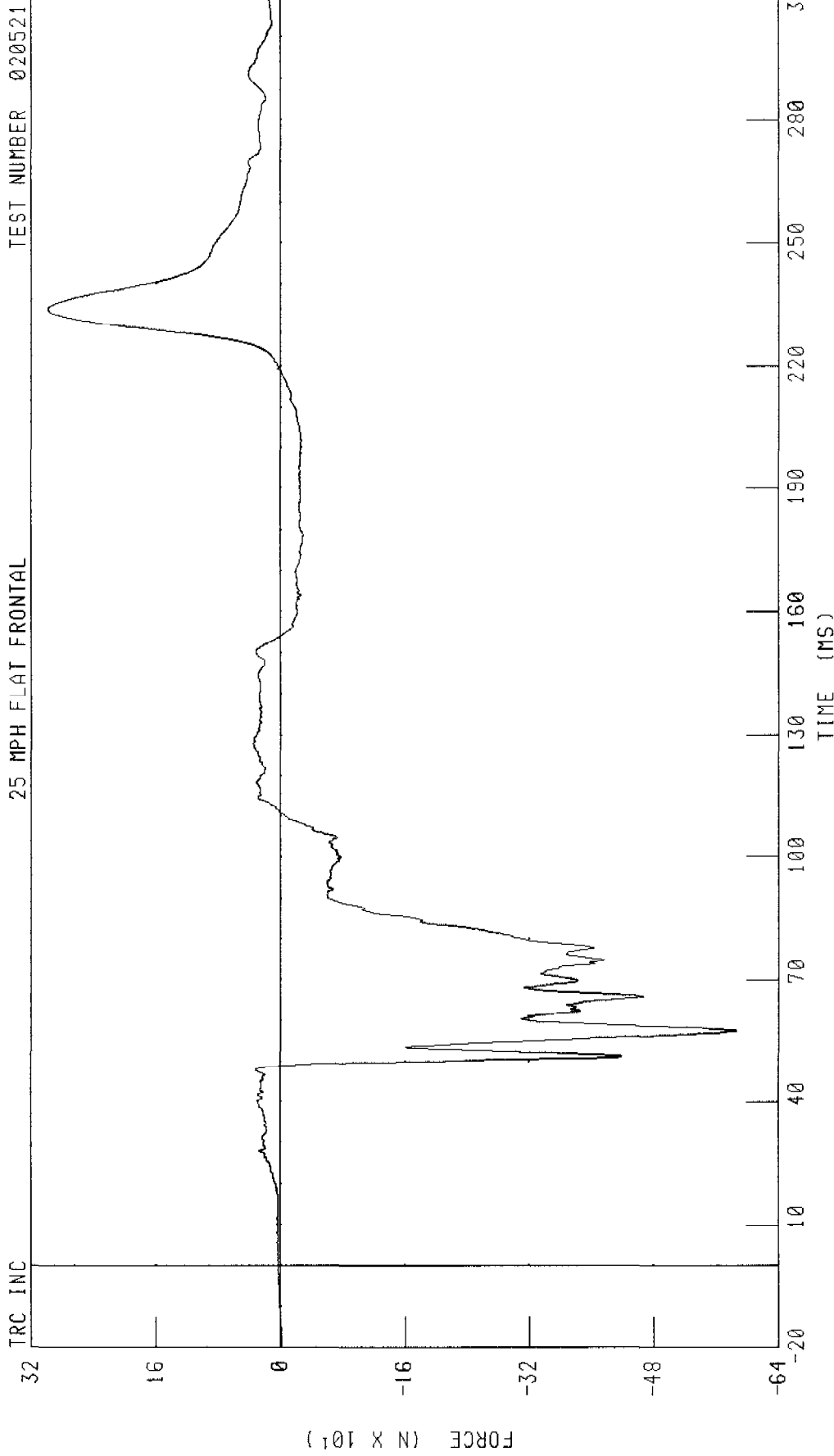
TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL KNRXD2 FILTER CH CLASS 180 PEAK DATA 0 45 MM @ 48 24 MS, -6 81 MM @ 81 28 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT UPPER TIBIA X-AXIS FORCE
25 MPH FLAT FRONTAL



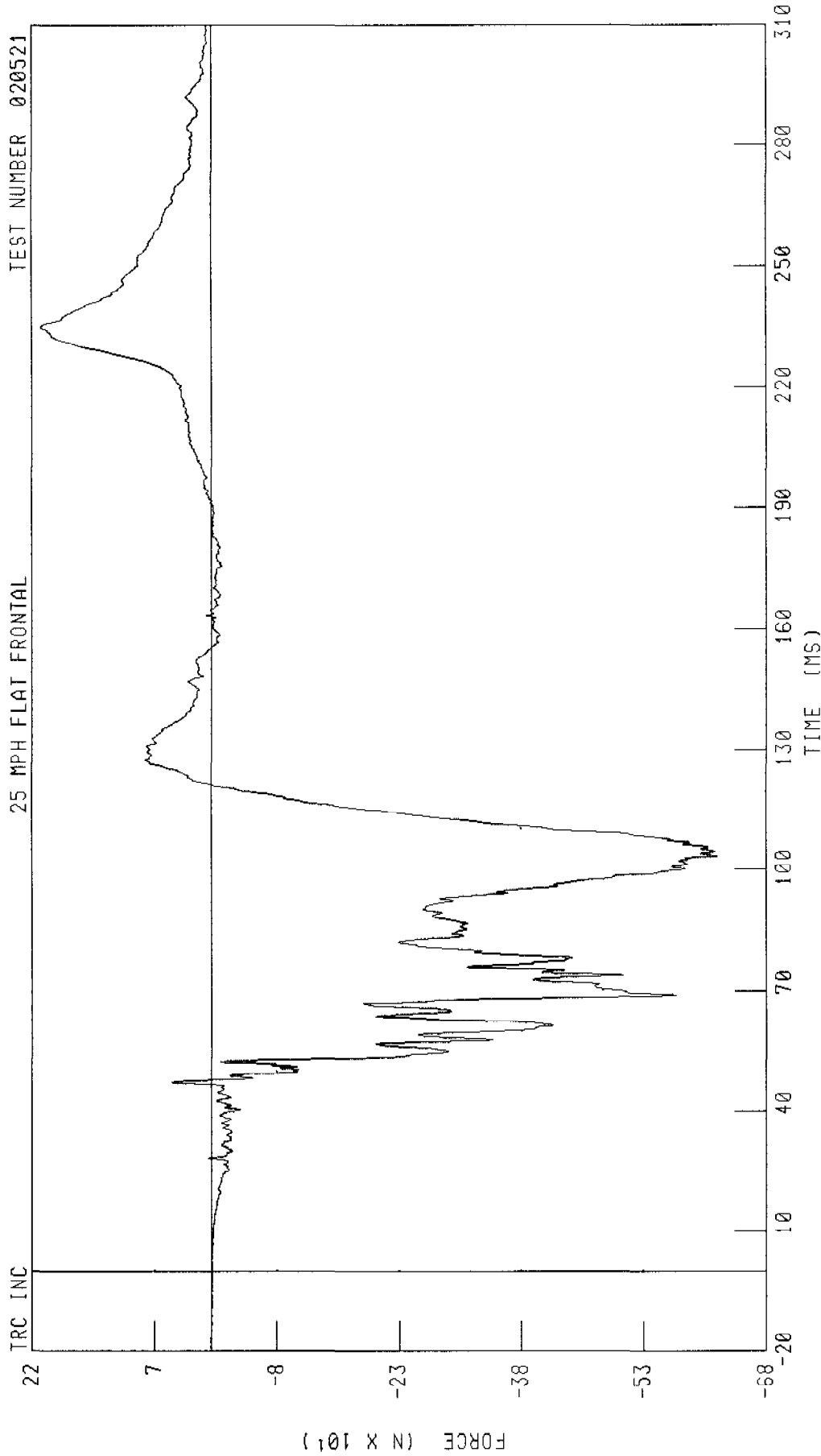
CHANNEL TBLXF2 FILTER CH CLASS 600 PEAK DATA 299 00 N @ 234 00 MS, -586 60 N @ 57 60 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LEFT UPPER TIBIA Z-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



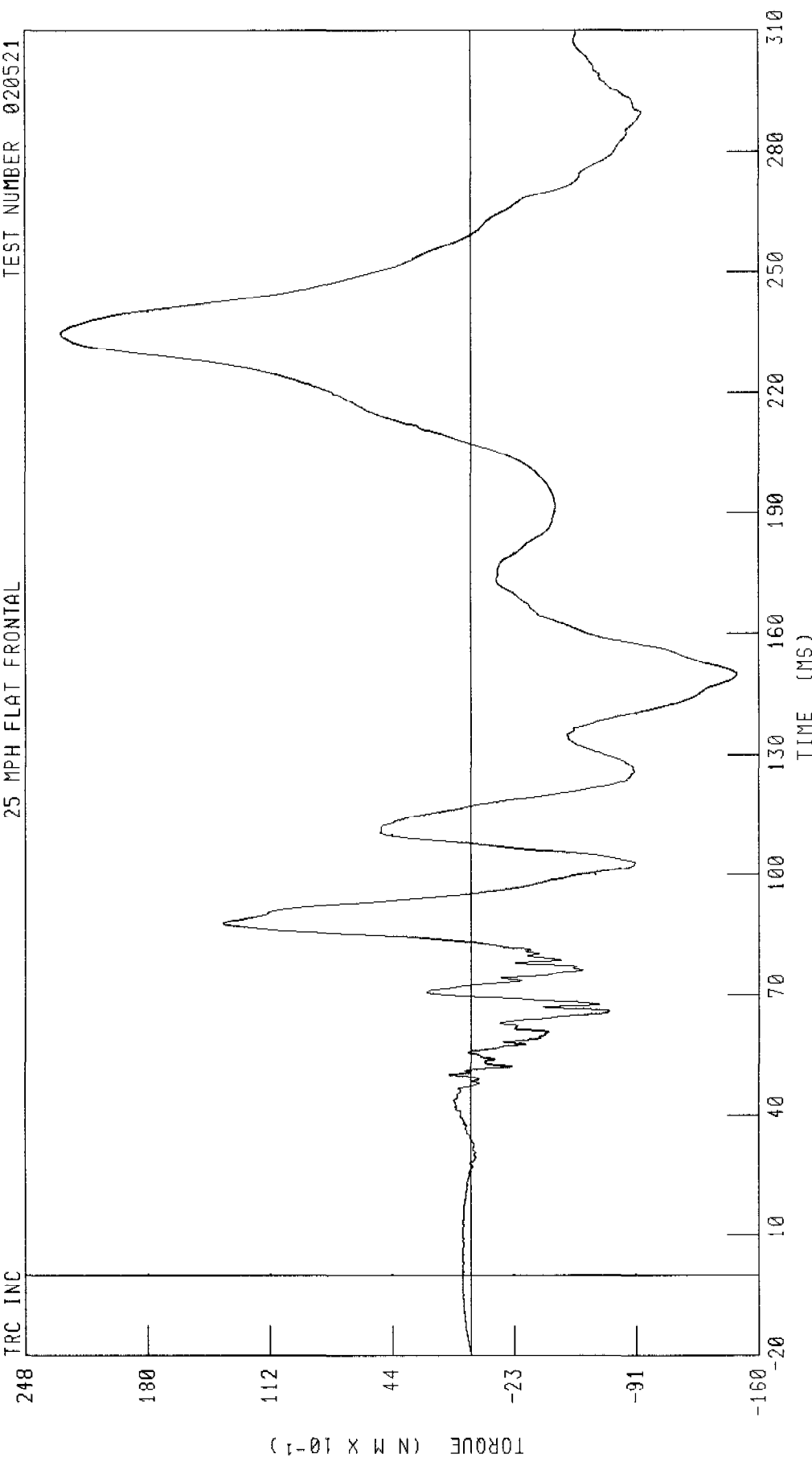
CHANNEL TBLZF2 FILTER CH CLASS 600 PEAK DATA 209 01 N @ 234 96 MS, -619 99 N @ 103 36 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT UPPER TIBIA MOMENT ABOUT X AXIS

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



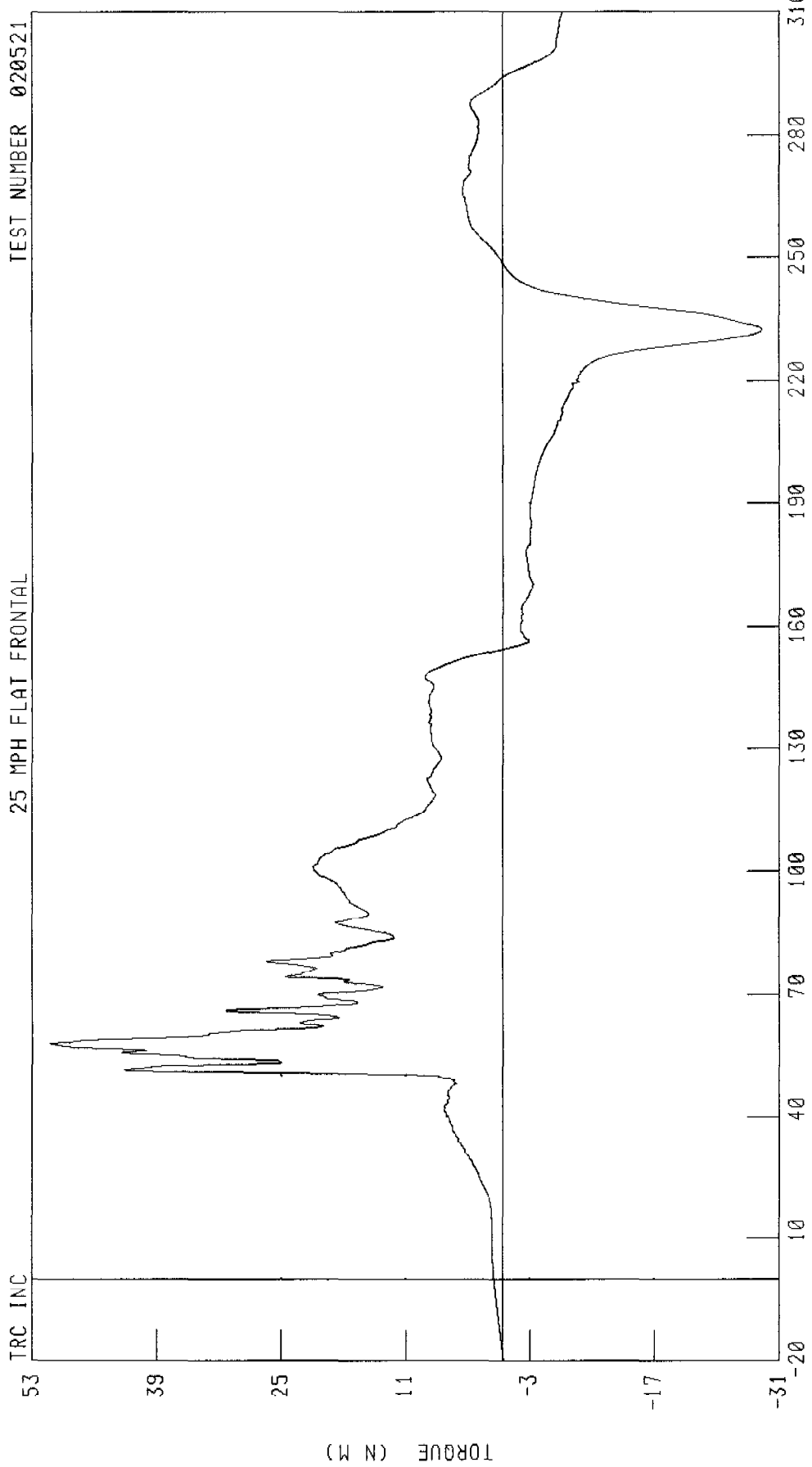
CHANNEL TBLXM2 FILTER CH CLASS 600 PEAK DATA 22 84 N M @ 234 96 MS, -14 78 N M @ 149 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LEFT UPPER TIBIA MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

PEAK DATA 51 00 N M @ 57 84 MS, -29 08 N M @ 232 48 MS

CHANNEL TBLYM2 FILTER CH CLASS 600

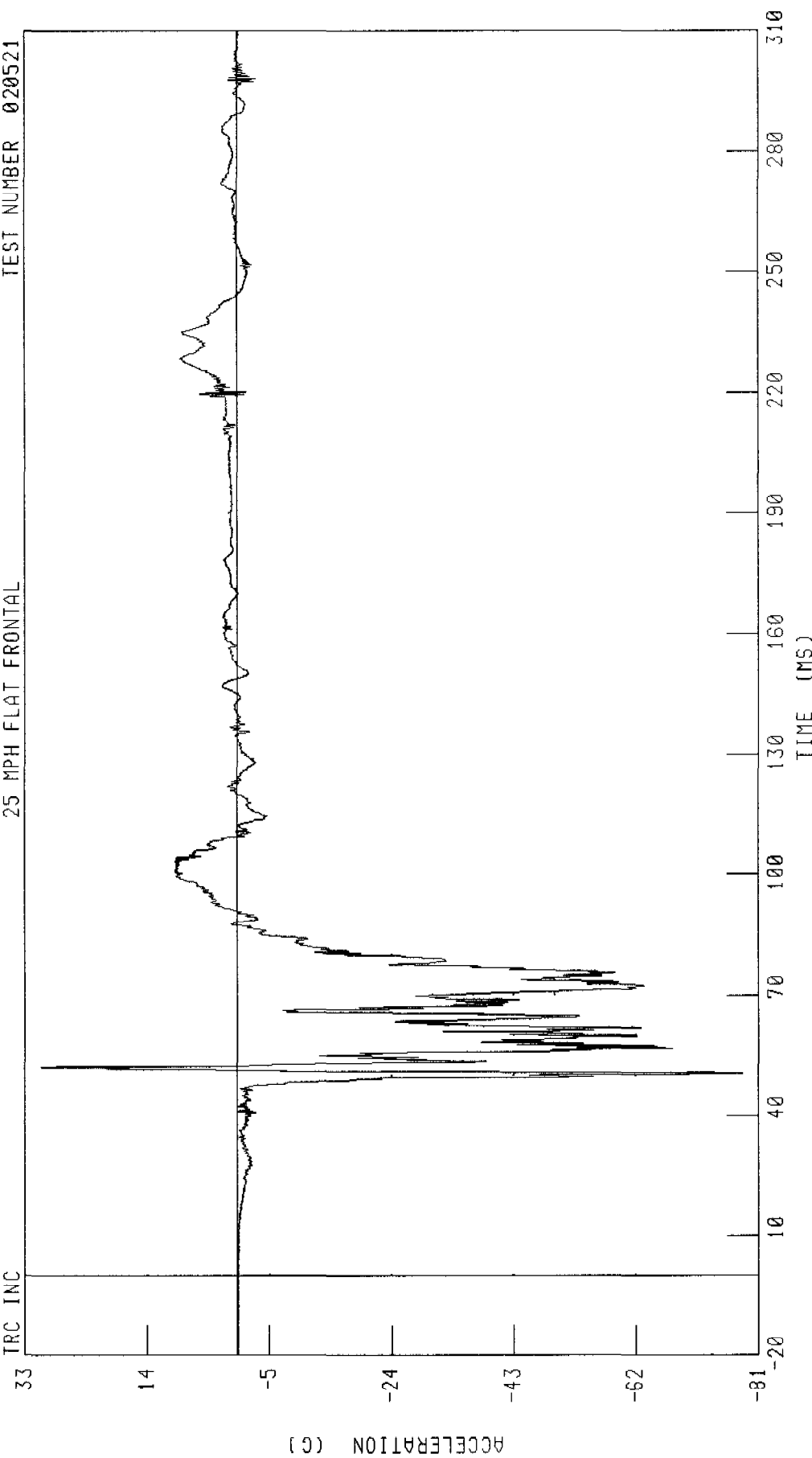
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LEFT TIBIA X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



TIME (MS)

CHANNEL TBLXC2 FILTER CH CLASS 1000

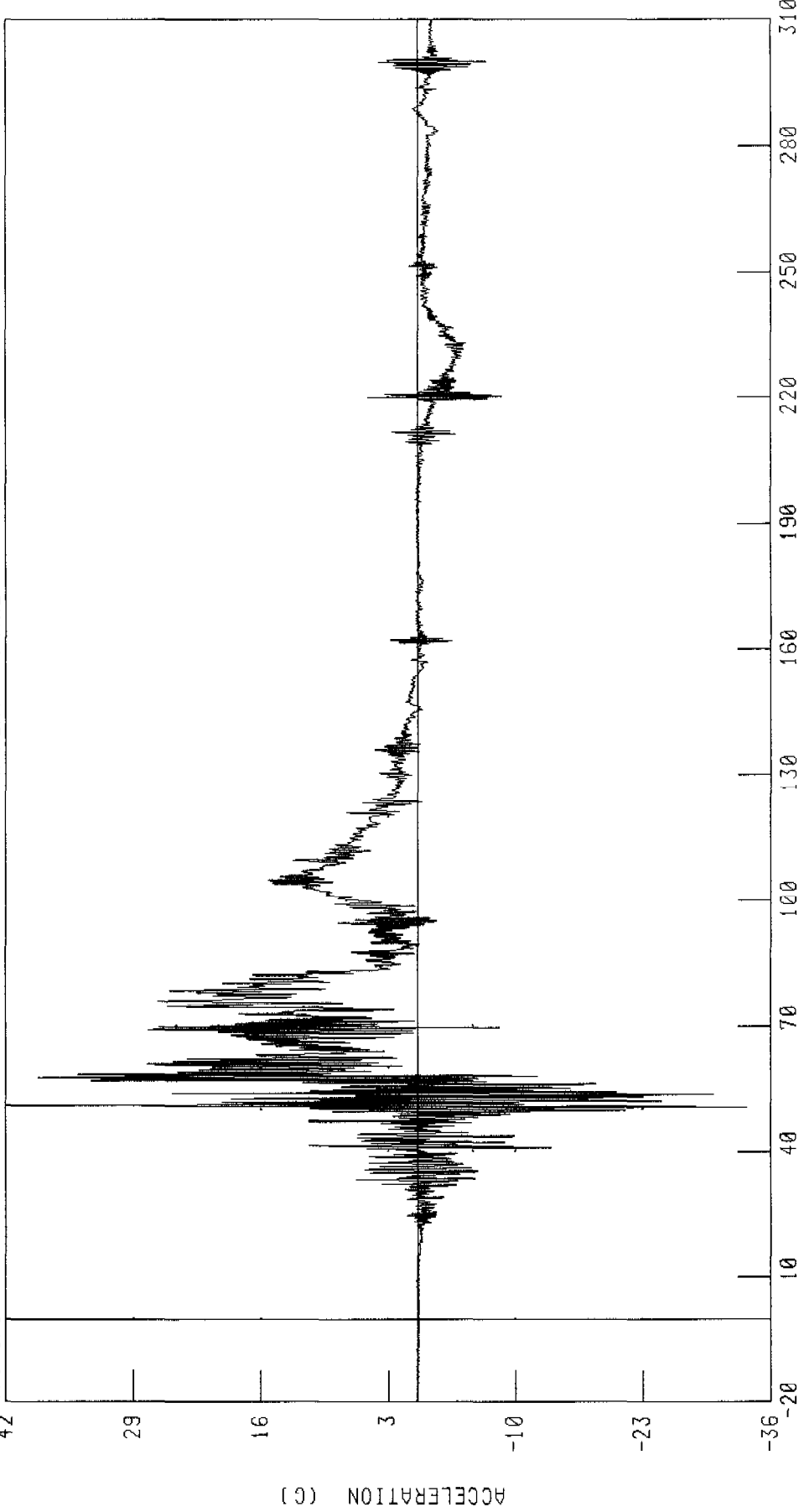
PEAK DATA 30 46 G @ 52 16 MS, -78 54 G @ 50 56 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT TIBIA Z-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC

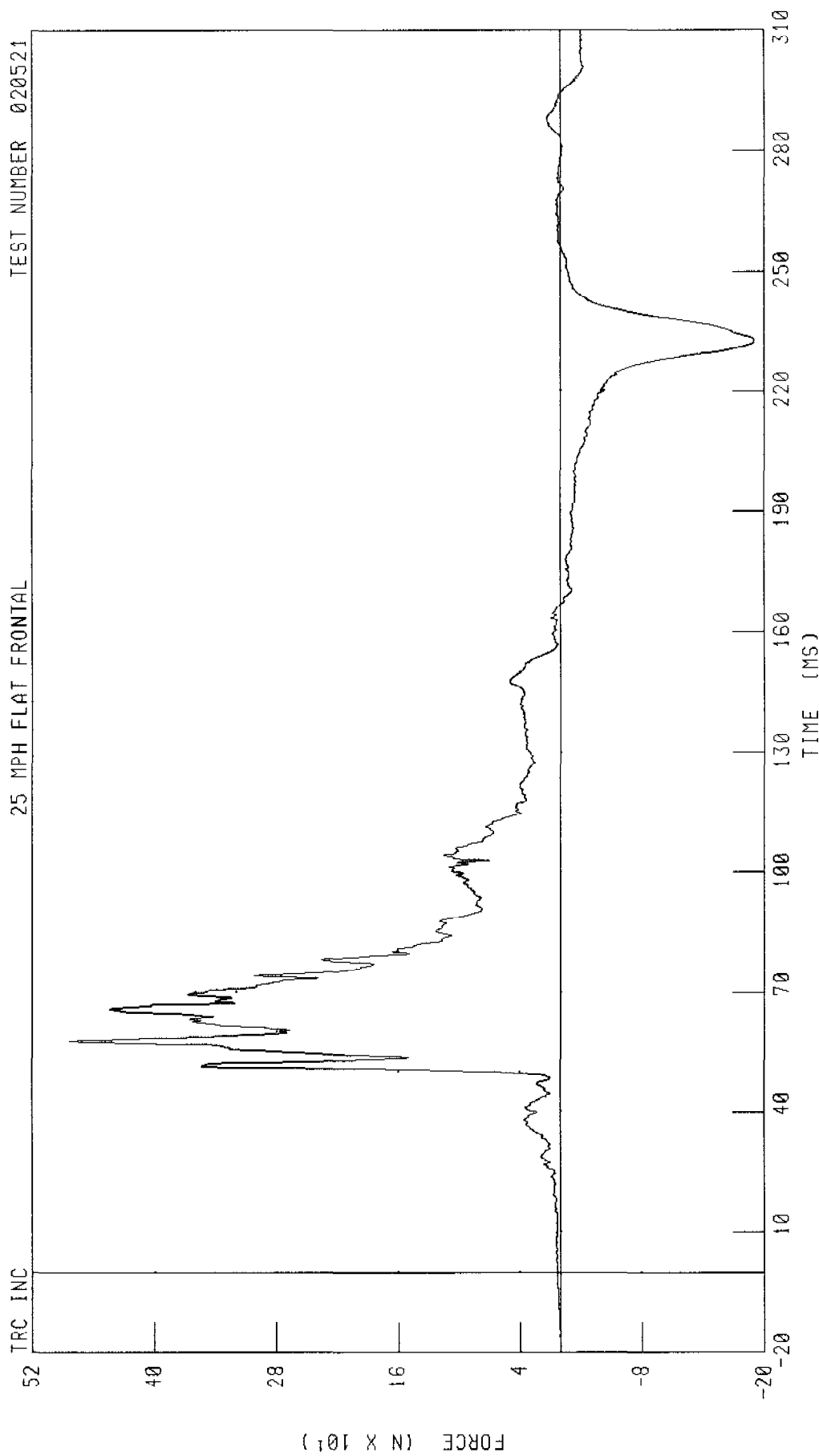


CHANNEL TBLZC2 FILTER CH CLASS 1000

PEAK DATA 42 35 G @ 51 04 MS, -33 57 G @ 50 64 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT LOWER TIBIA X-AXIS FORCE

TRC INC 25 MPH FLAT FRONTAL TEST NUMBER 020521



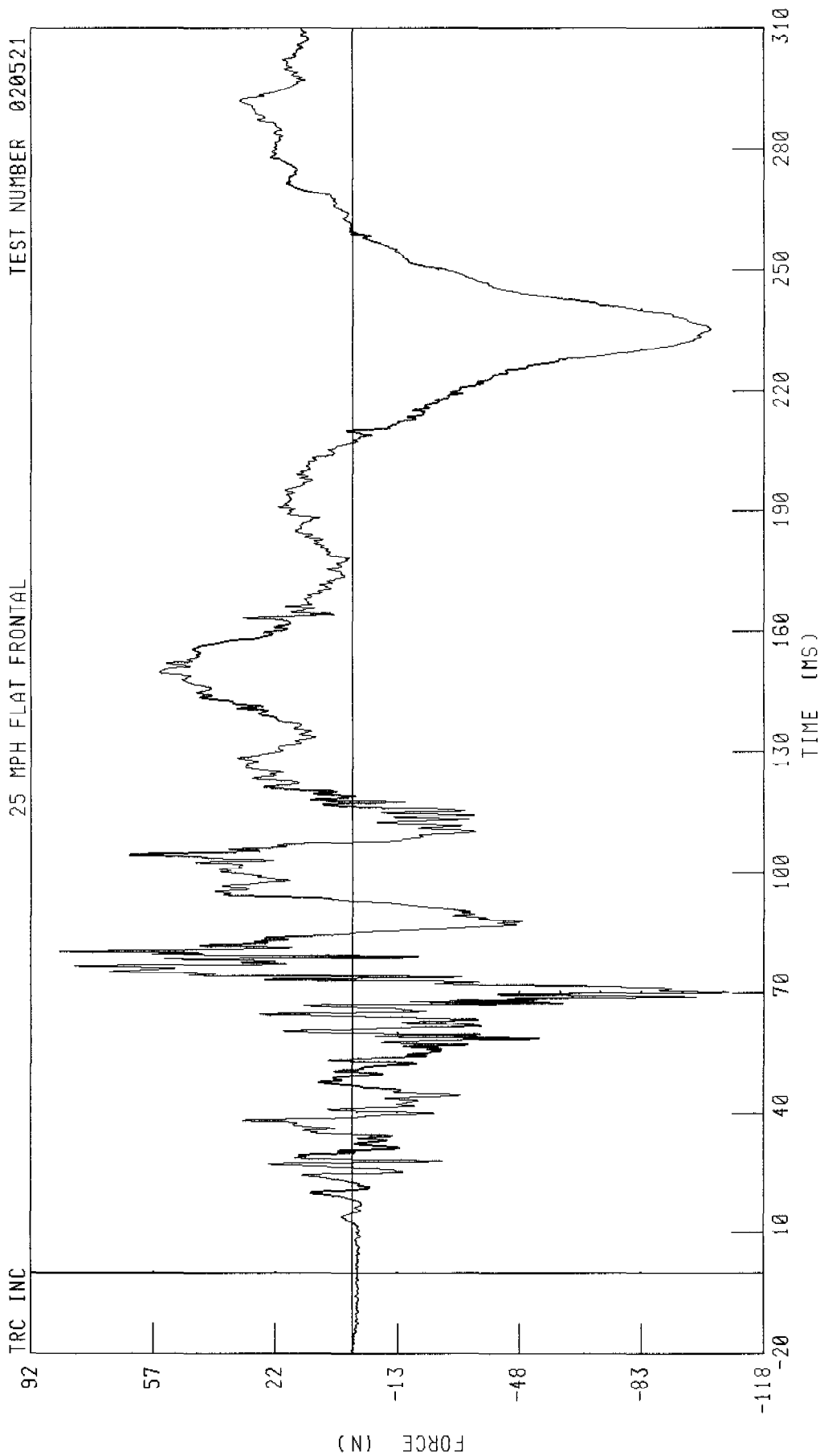
CHANNEL ANLXF2 FILTER CH CLASS 600 PEAK DATA 483 32 N @ 57 68 MS, -190 40 N @ 232 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LEFT LOWER TIBIA Y-AXIS FORCE

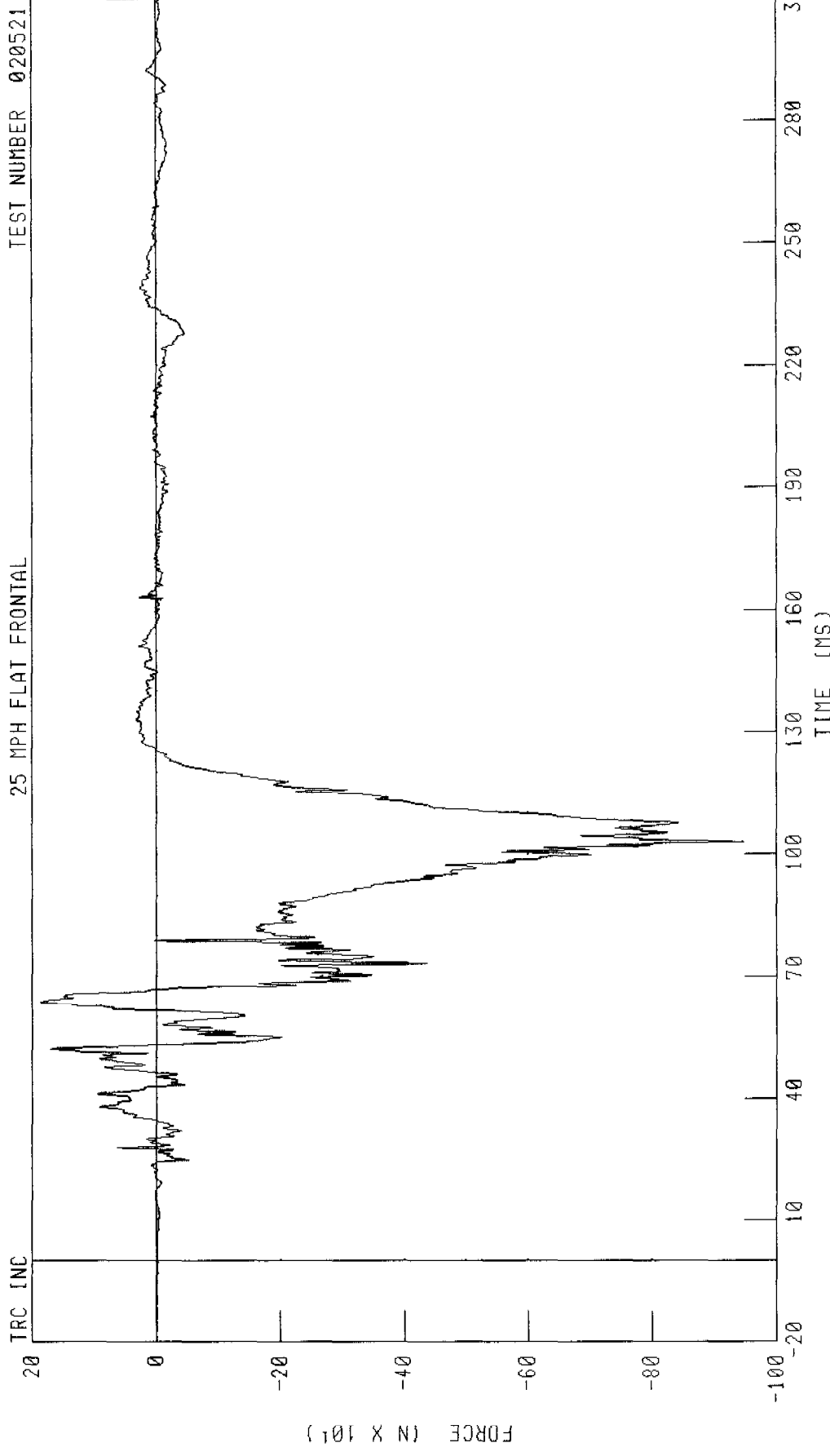
25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL ANLYF2 FILTER CH CLASS 600 PEAK DATA 83 76 N @ 80 24 MS, -107 89 N @ 70 08 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT LOWER TIBIA Z-AXIS FORCE
25 MPH FLAT FRONTAL



CHANNEL ANLZF2 FILTER CH CLASS 600

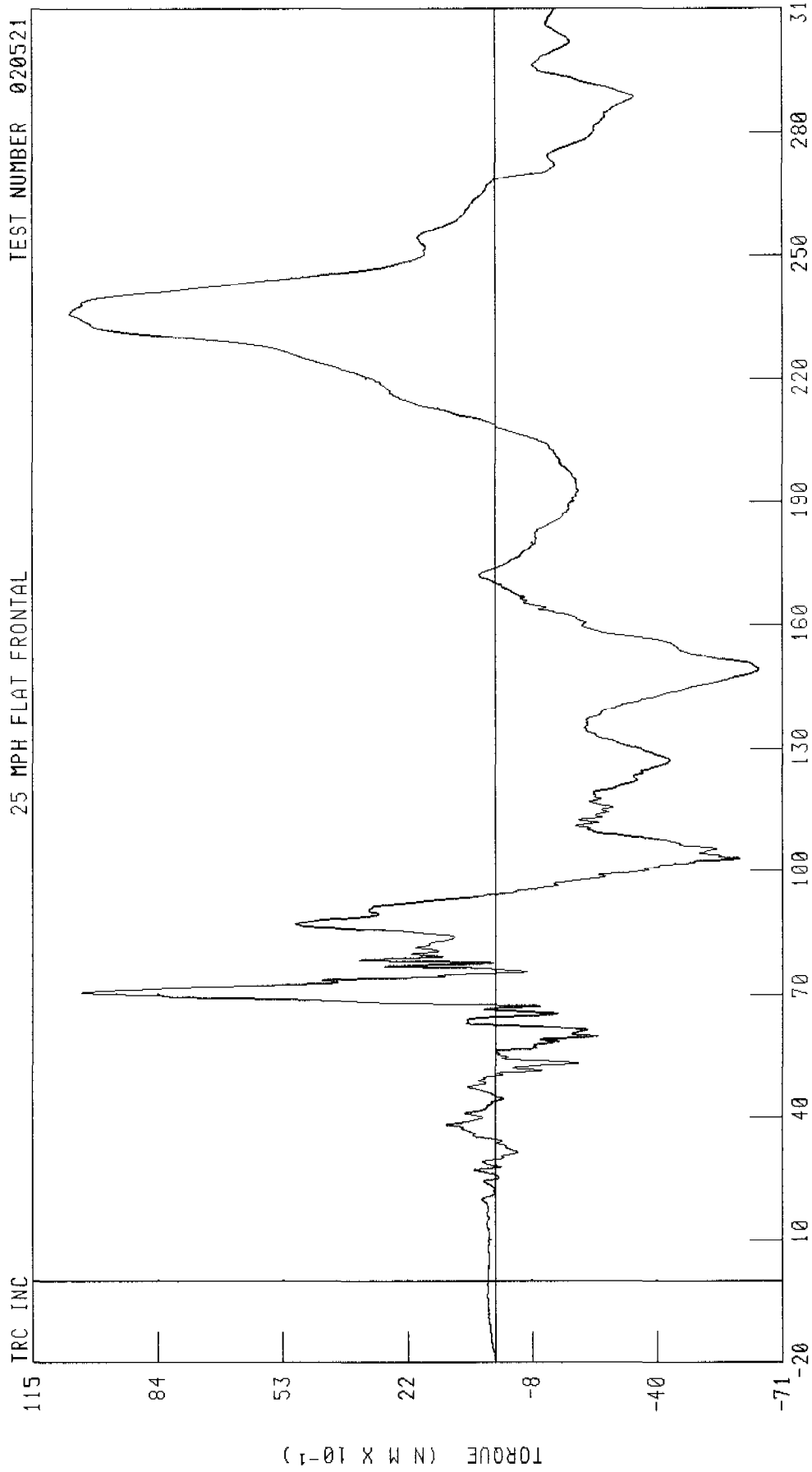
PEAK DATA 187 65 N @ 63 76 MS, -948 23 N @ 103 20 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LEFT LOWER TIBIA MOMENT ABOUT X AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



TIME (MS)

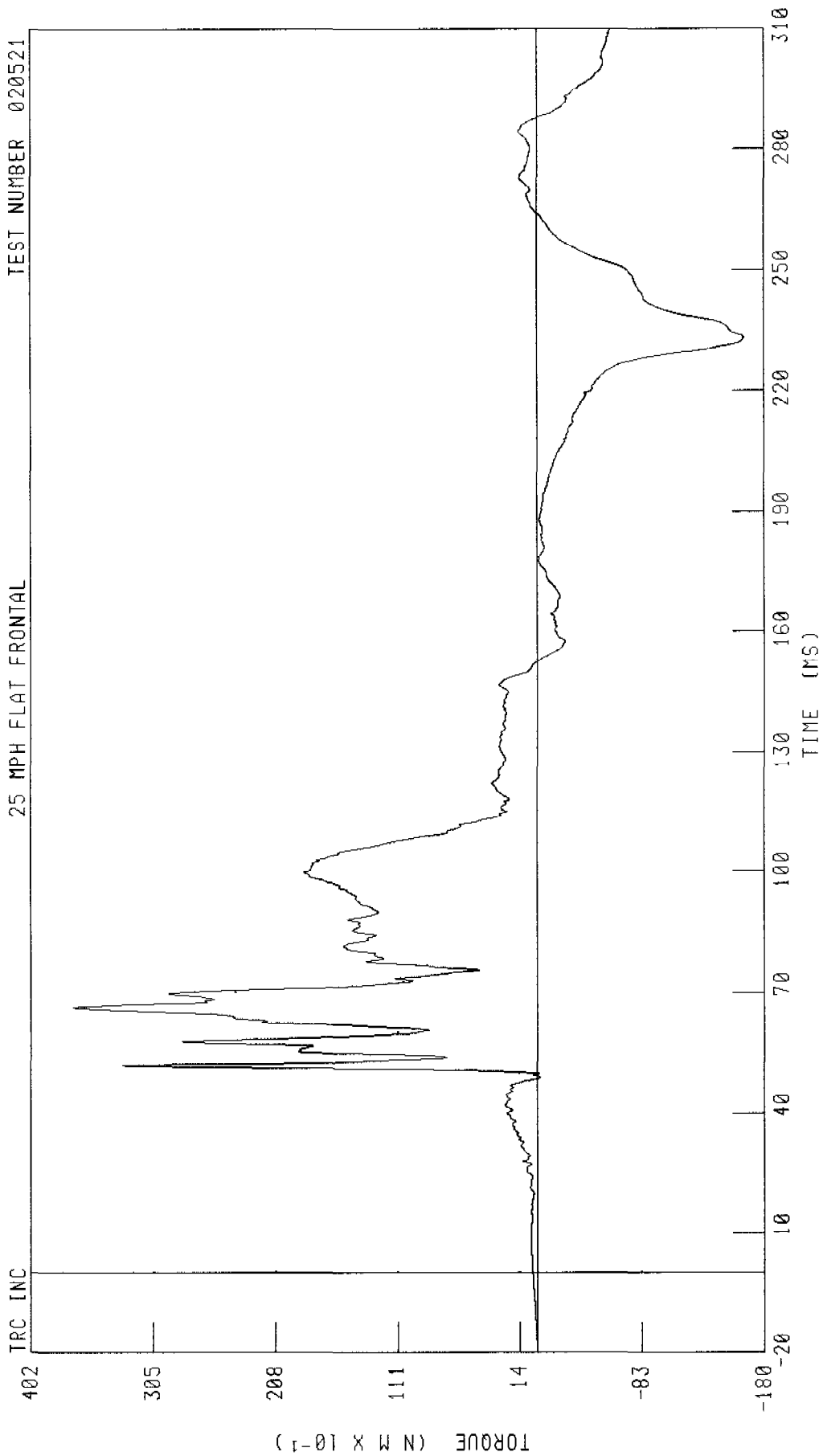
PEAK DATA 10 58 N M @ 235 92 MS, -6 53 N M @ 149 28 MS

CHANNEL ANLXM2 FILTER CH CLASS 600

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT LOWER TIBIA MOMENT ABOUT Y AXIS

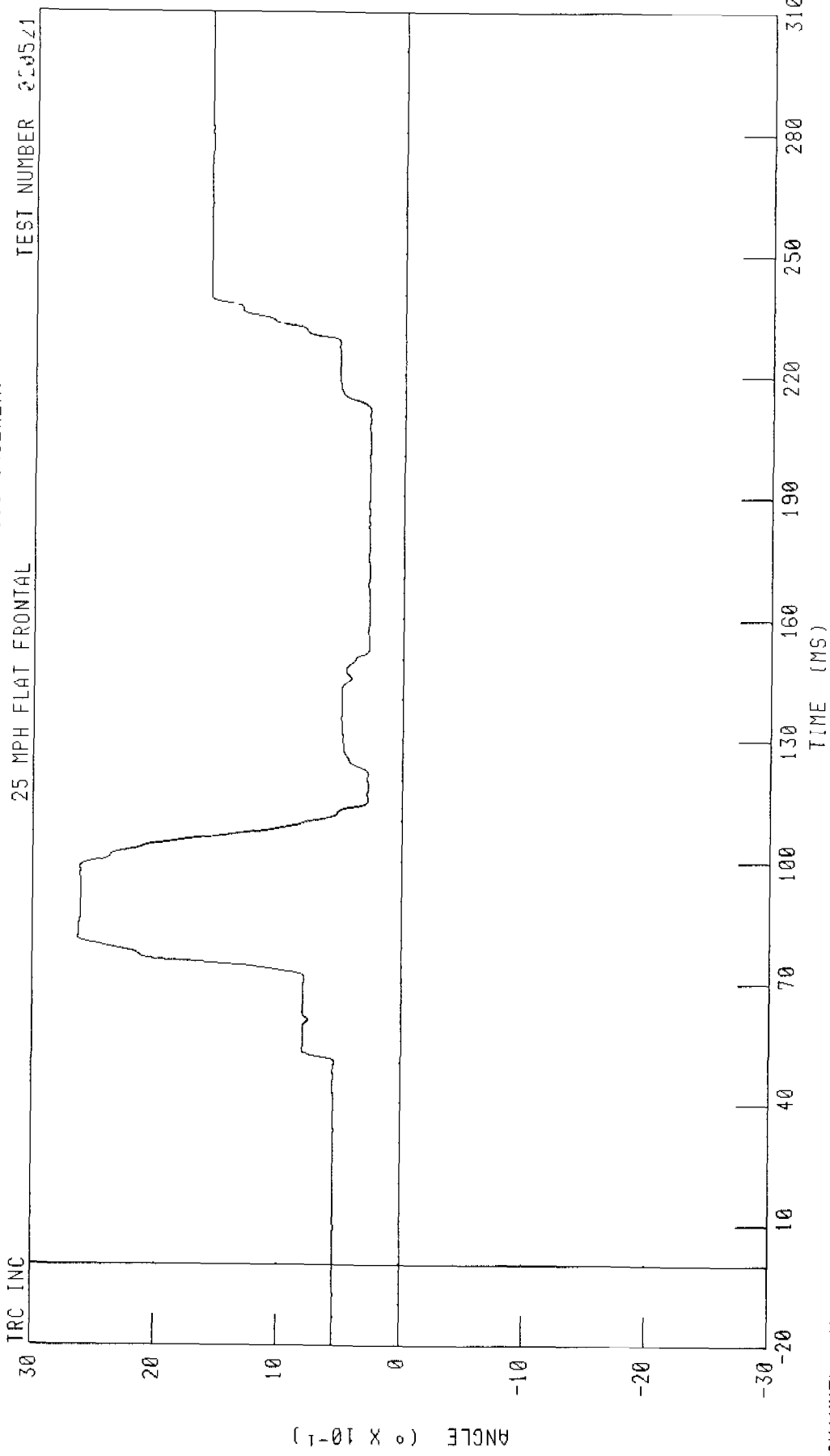
25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL ANLYM2 FILTER CH CLASS 600 PEAK DATA 36 81 N M @ 66 32 MS, -16 42 N M @ 233 12 MS

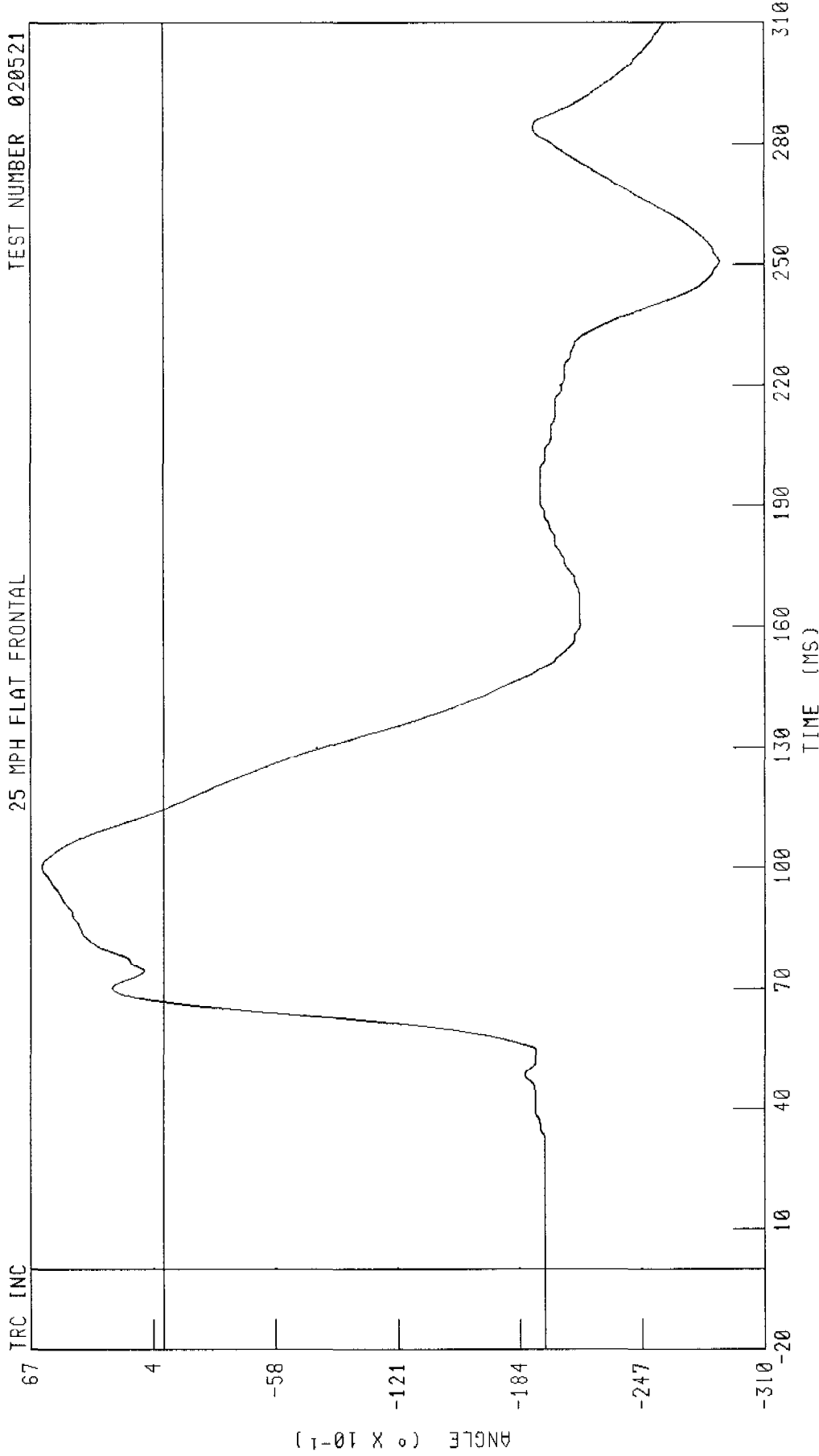
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT FOOT TO ANKLE X-AXIS DISPLACEMENT



2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT FOOT TO ANKLE Y-AXIS DISPLACEMENT

TEST NUMBER 020521

25 MPH FLAT FRONTAL

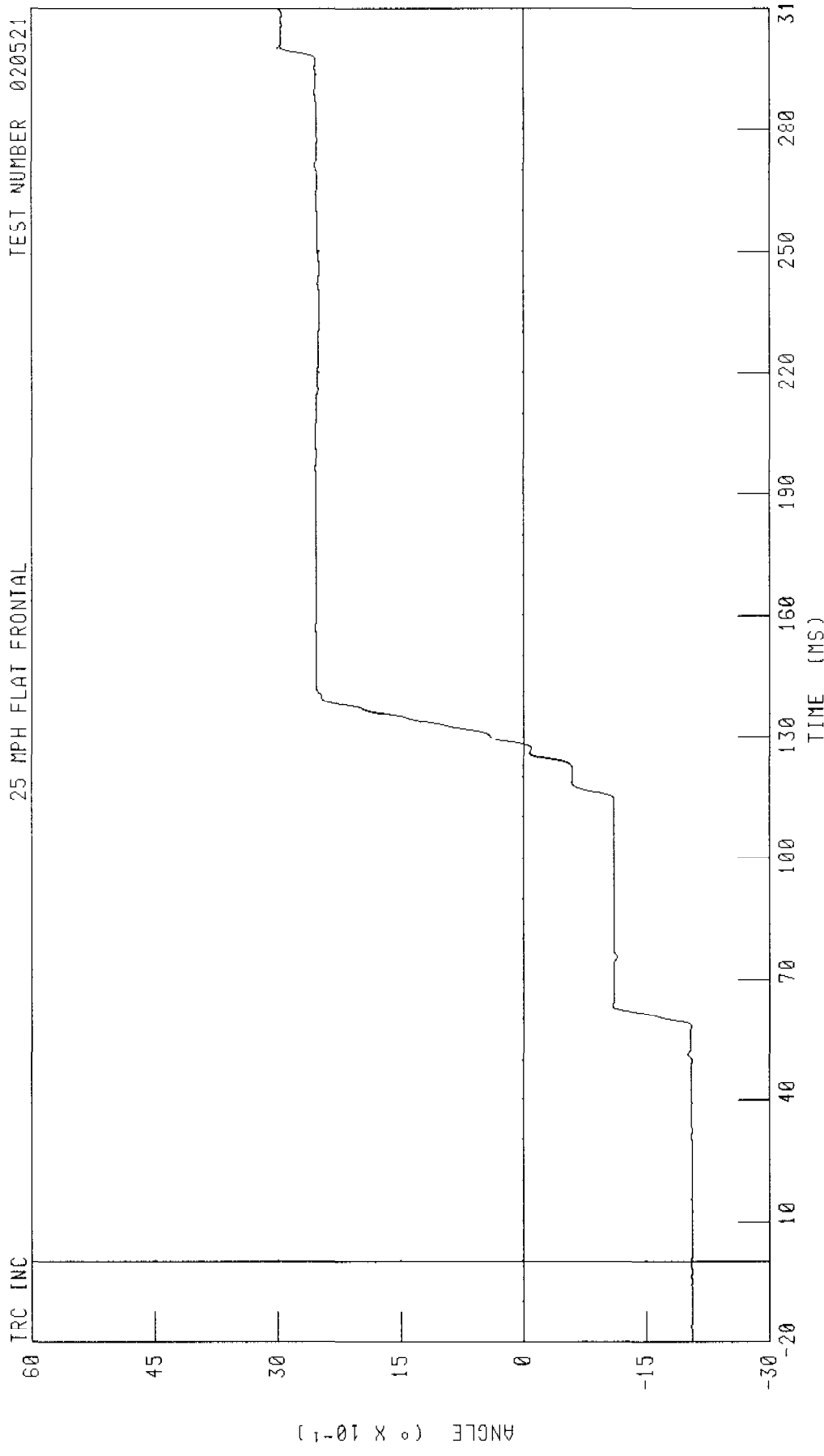


CHANNEL FTLYD2 FILTER CH CLASS 180 PEAK DATA 6 21 @ 100 32 MS, -28 69 @ 250 64 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT FOOT TO ANKLE Z-AXIS DISPLACEMENT

TEST NUMBER 020521

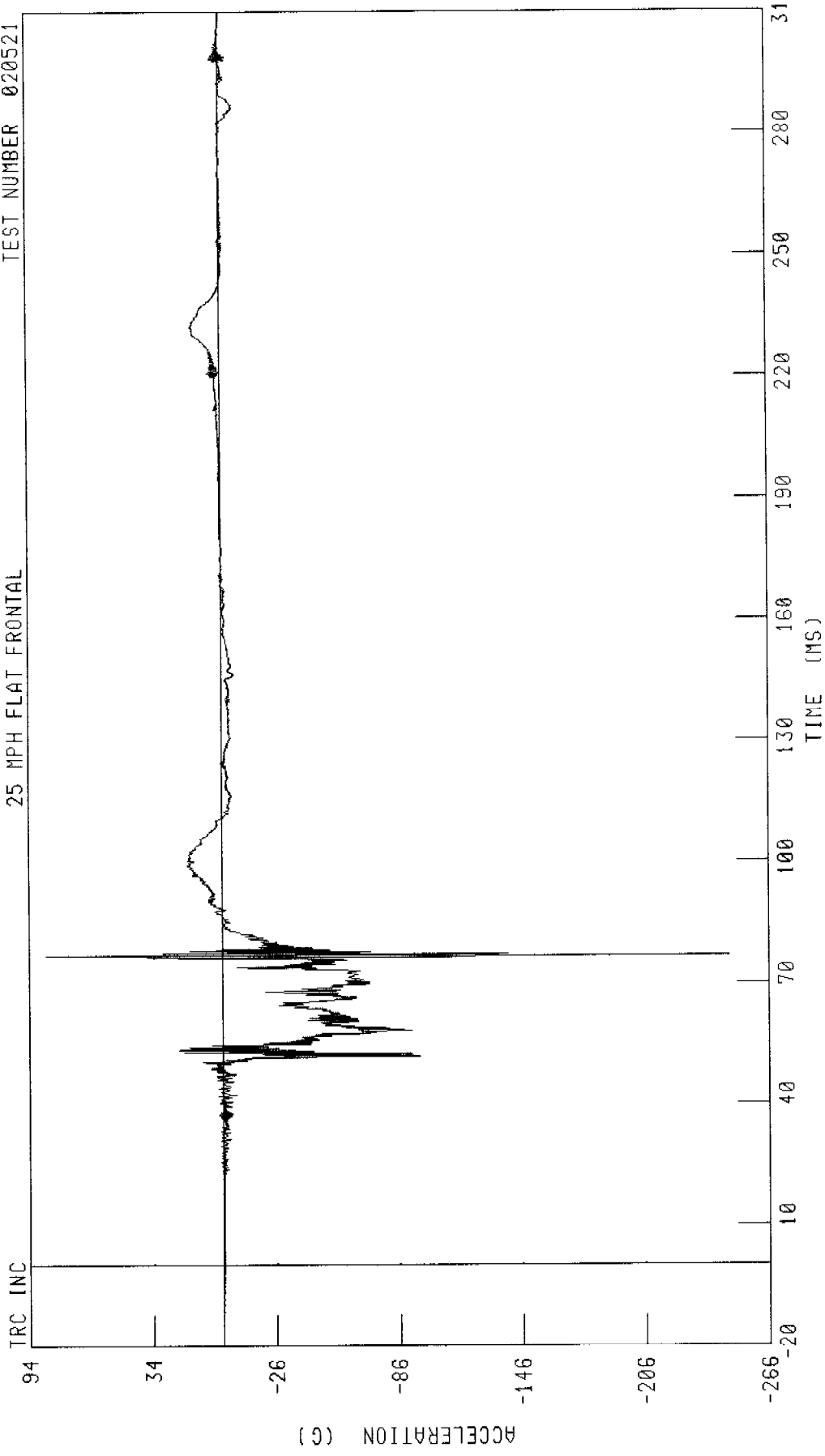
25 MPH FLAT FRONTAL



CHANNEL FTLZD2 FILTER CH CLASS 180 PEAK DATA 3 01 @ 310 00 MS, -2 06 @ 9 28 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT FOOT X-AXIS ACCELERATION
25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL FTLXC2 FILTER CH CLASS 1000 PEAK DATA 85 88 G @ 77 04 MS, -246 82 G @ 76 72 MS

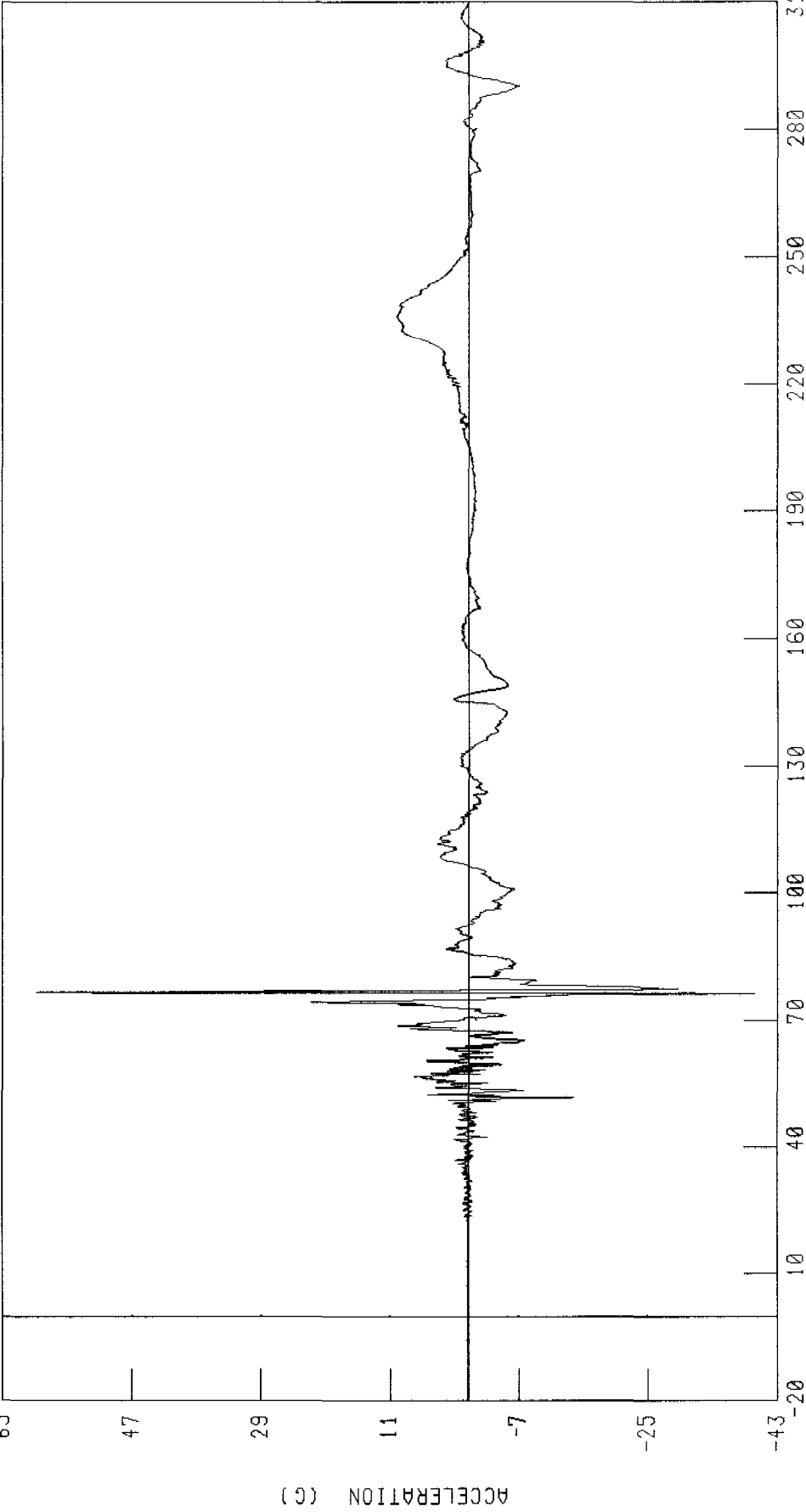
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER LEFT FOOT Y-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

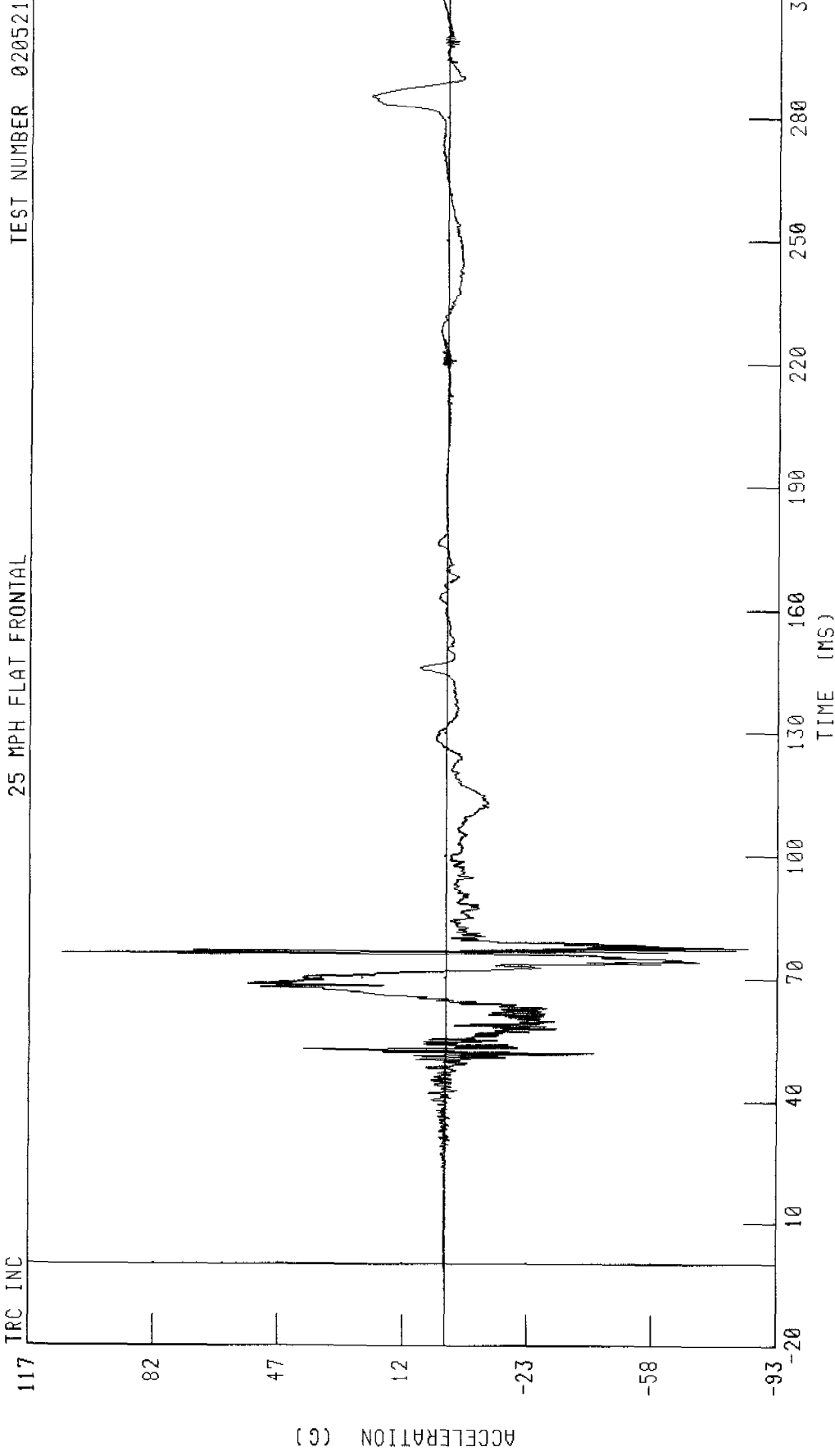


TIME (MS)

CHANNEL FTLYC2 FILTER CH CLASS 1000

PEAK DATA 60 29 G @ 76 64 MS, -39 89 G @ 76 32 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT FOOT Z-AXIS ACCELERATION
25 MPH FLAT FRONTAL



CHANNEL FTLZG2 FILTER CH CLASS 1000

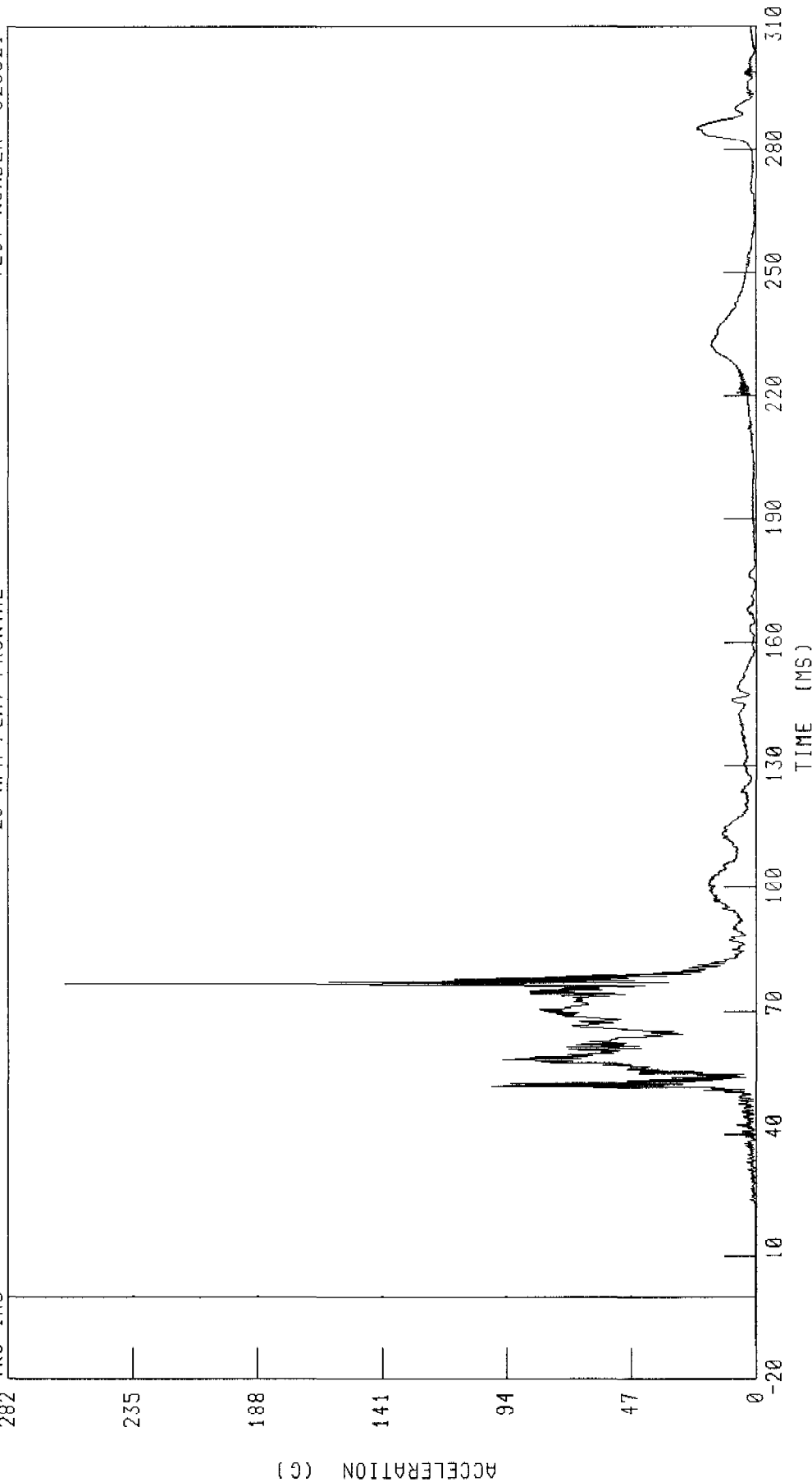
PEAK DATA 107 76 G @ 76 48 MS, -84 63 G @ 77 84 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER LEFT FOOT RESULTANT ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

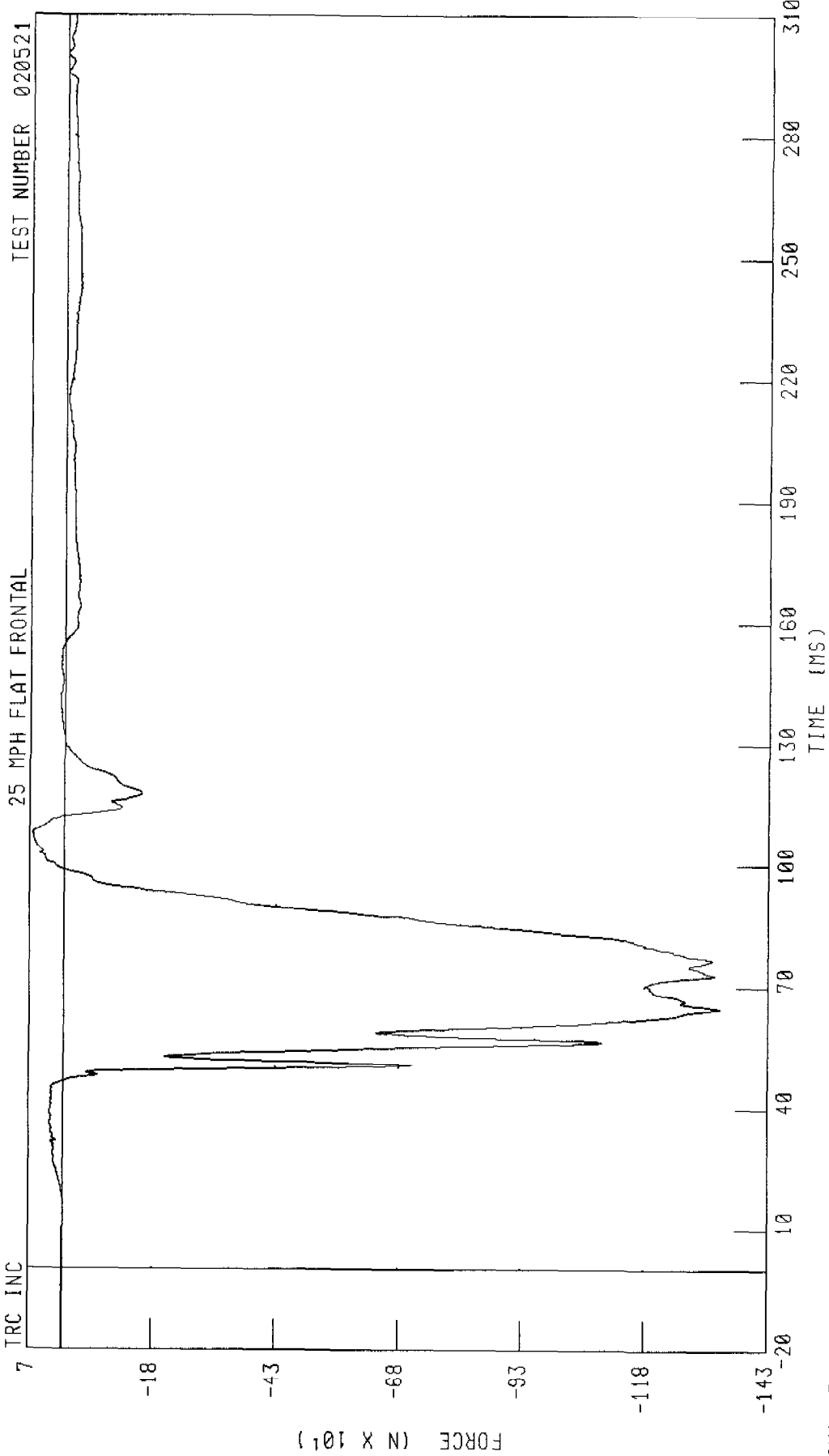
TRC INC



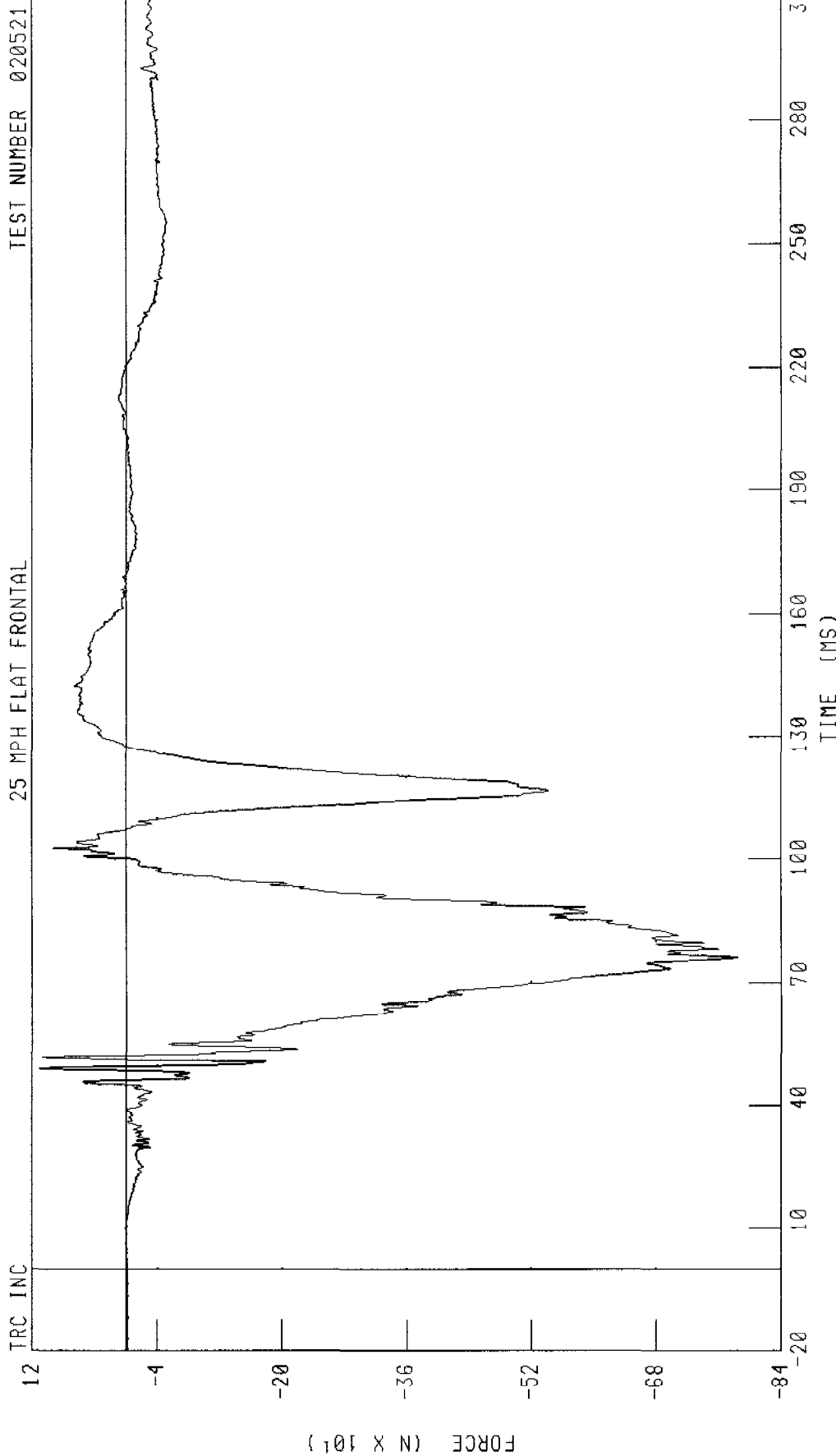
CHANNEL FTLRG2 FILTER CH CLASS 1000

PEAK DATA 260 74 G @ 76 72 MS, 0 02 G @ -20 00 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT UPPER TIBIA X-AXIS FORCE



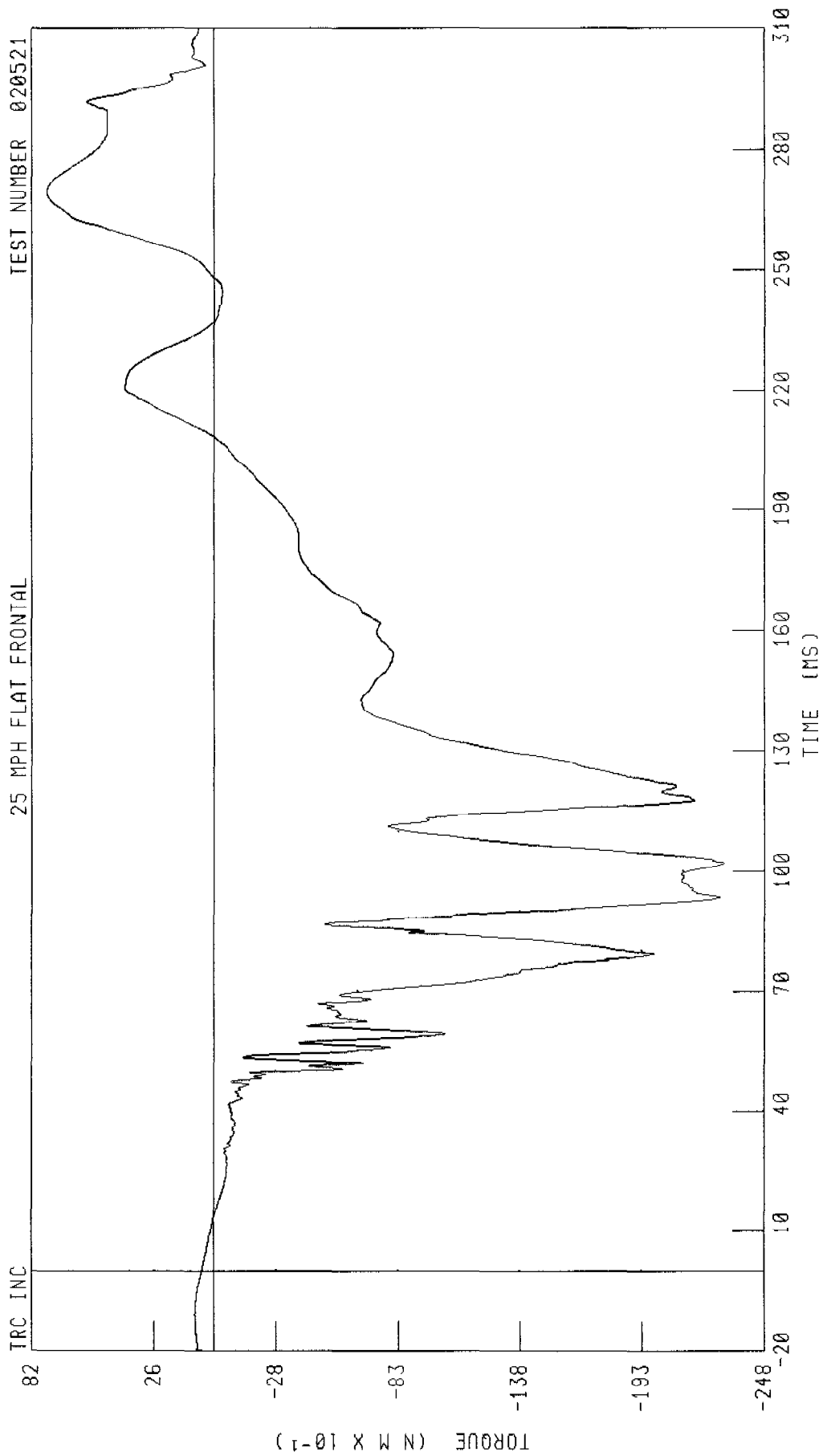
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT UPPER TIBIA Z-AXIS FORCE



CHANNEL TBRZF2 FILTER CH CLASS 600 PEAK DATA 110 93 N @ 49 20 MS, -783 92 N @ 76 24 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT UPPER TIBIA MOMENT ABOUT X AXIS

25 MPH FLAT FRONTAL TEST NUMBER 020521



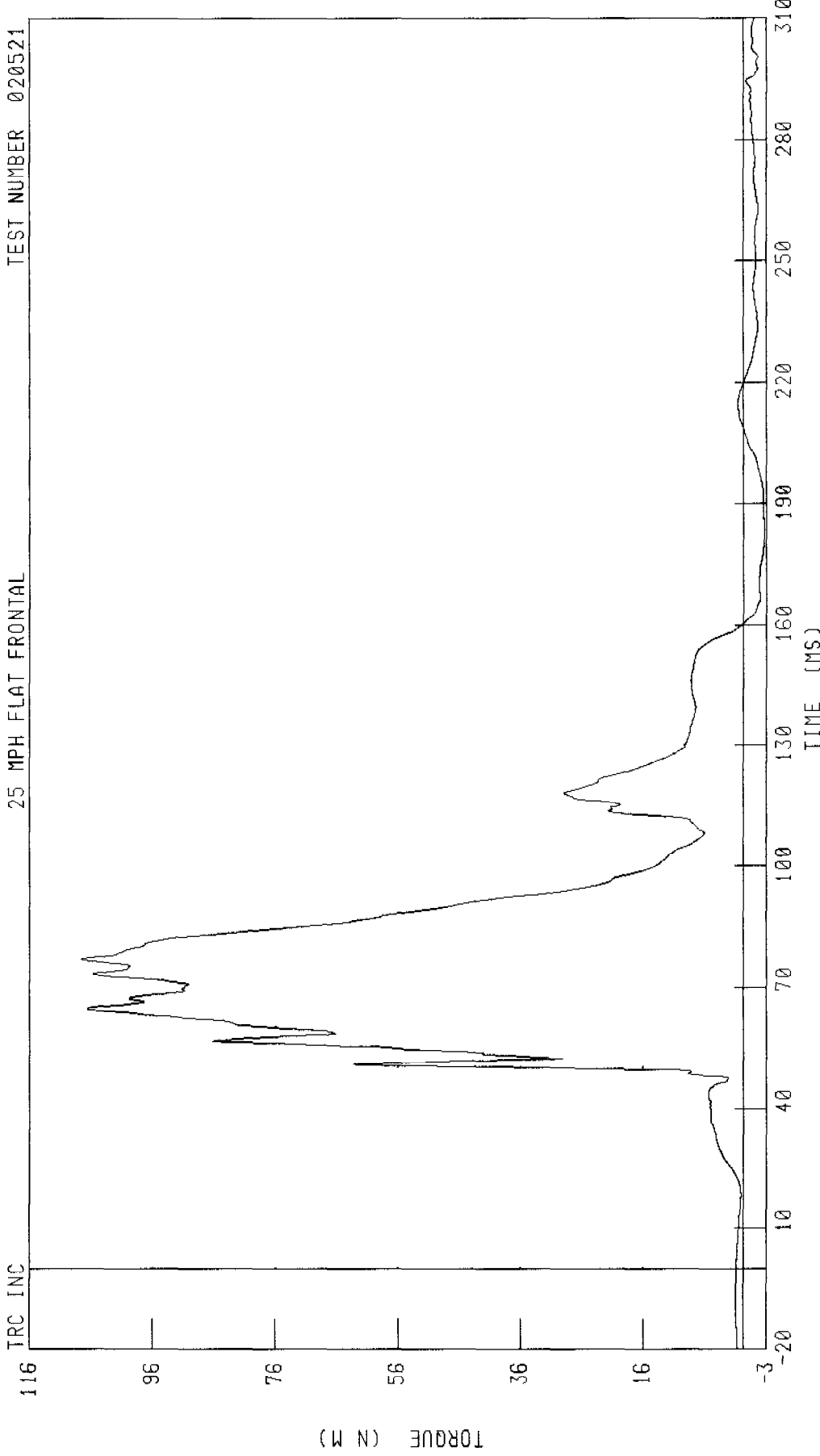
CHANNEL TBRXM2 FILTER CH CLASS 600 PEAK DATA 7 52 N M @ 269 60 MS, -23 00 N M @ 102 16 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER RIGHT UPPER TIBIA MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL TBRYM2 FILTER CH CLASS 600

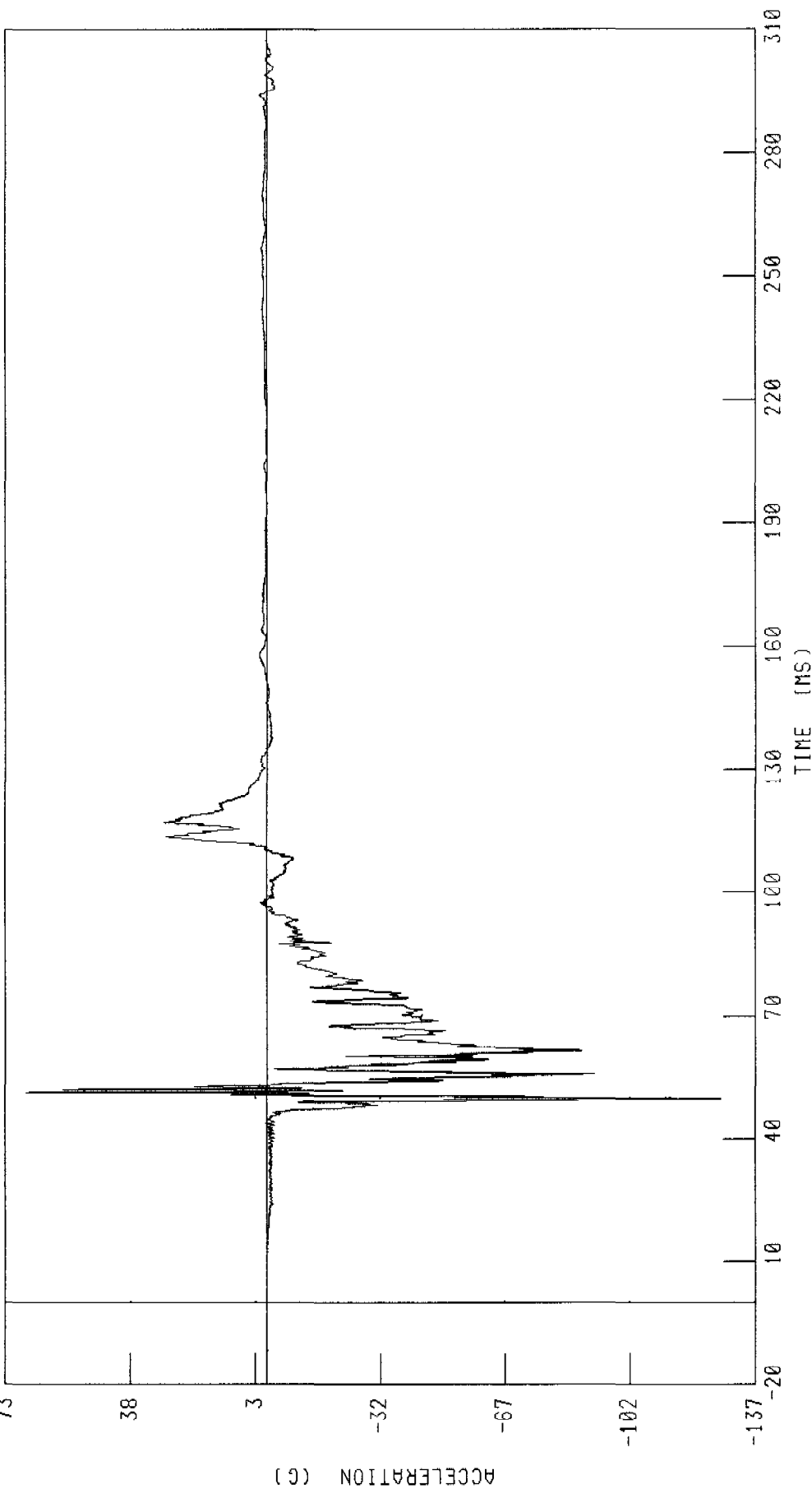
PEAK DATA 107 98 N M @ 77 04 MS. -3 45 N M @ 181 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT TIBIA X-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL TBRXG2 FILTER CH CLASS 1000

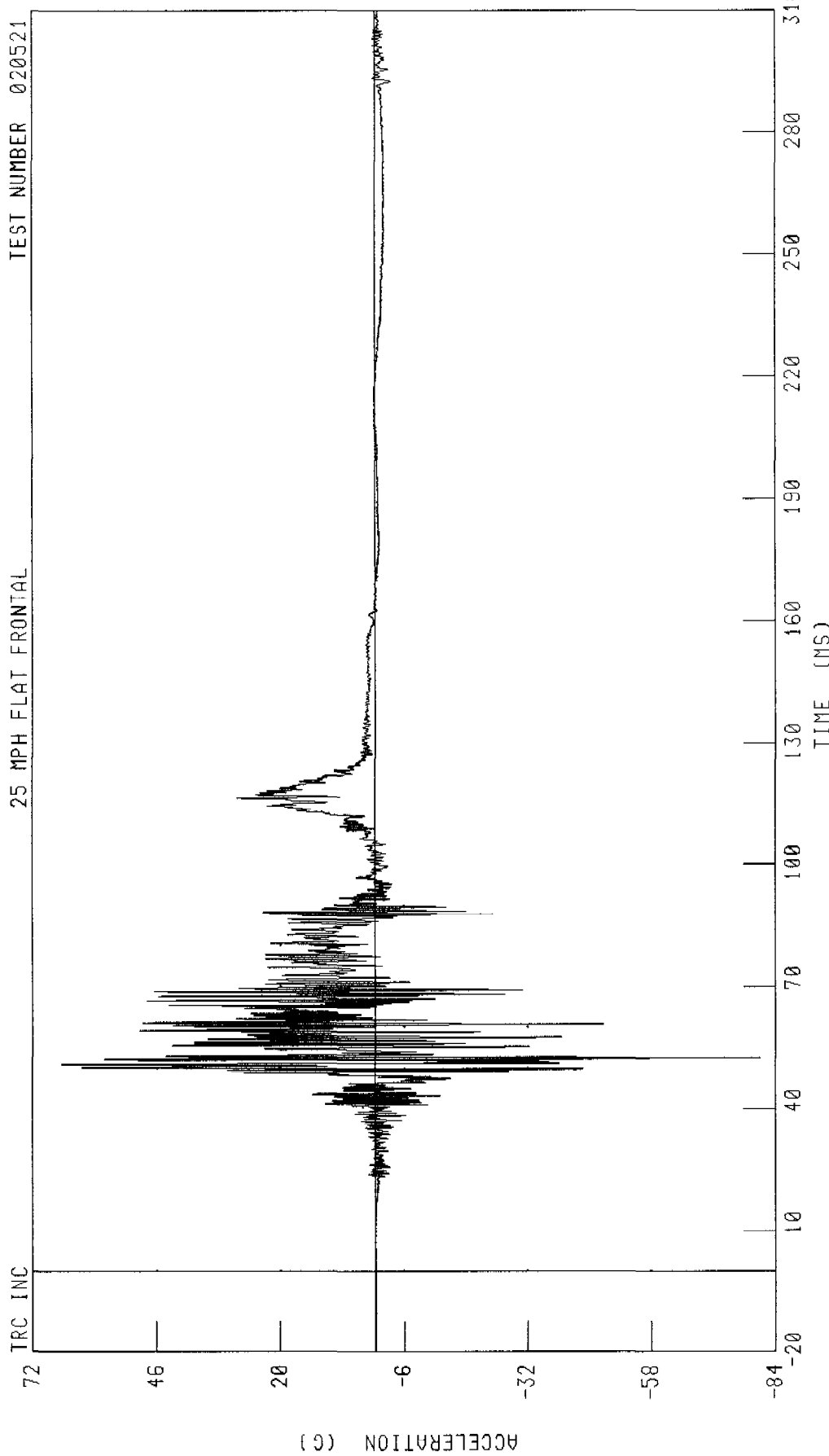
PEAK DATA 67 15 G @ 51 44 MS, -127 59 G @ 49 84 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER RIGHT TIBIA Z-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL TBRZG2 FILTER CH CLASS 1000

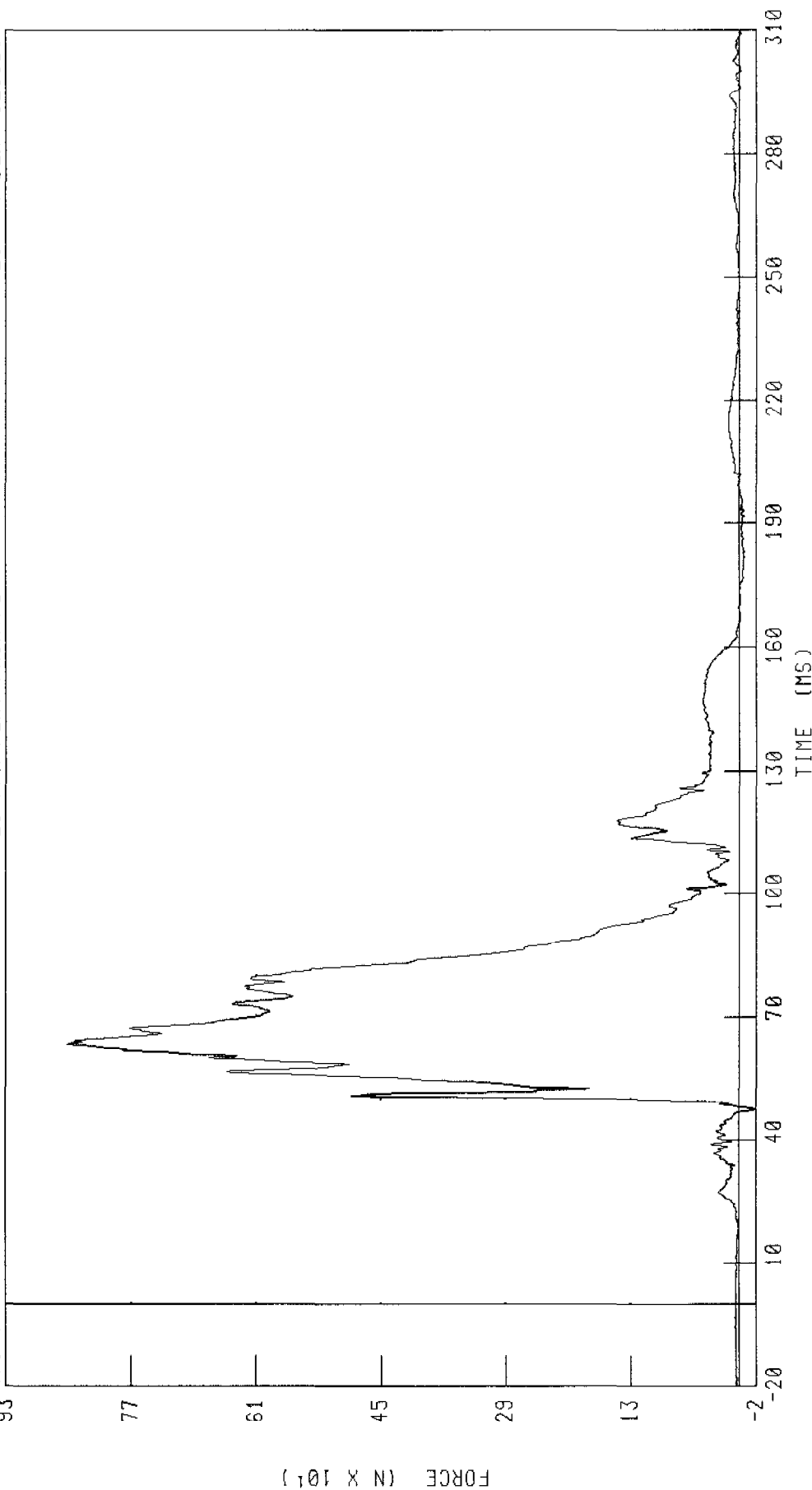
PEAK DATA 65 78 G @ 51 12 MS, -80 67 G @ 52 64 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT LOWER TIBIA X-AXIS FORCE

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC



CHANNEL ANRXF2 FILTER CH CLASS 600

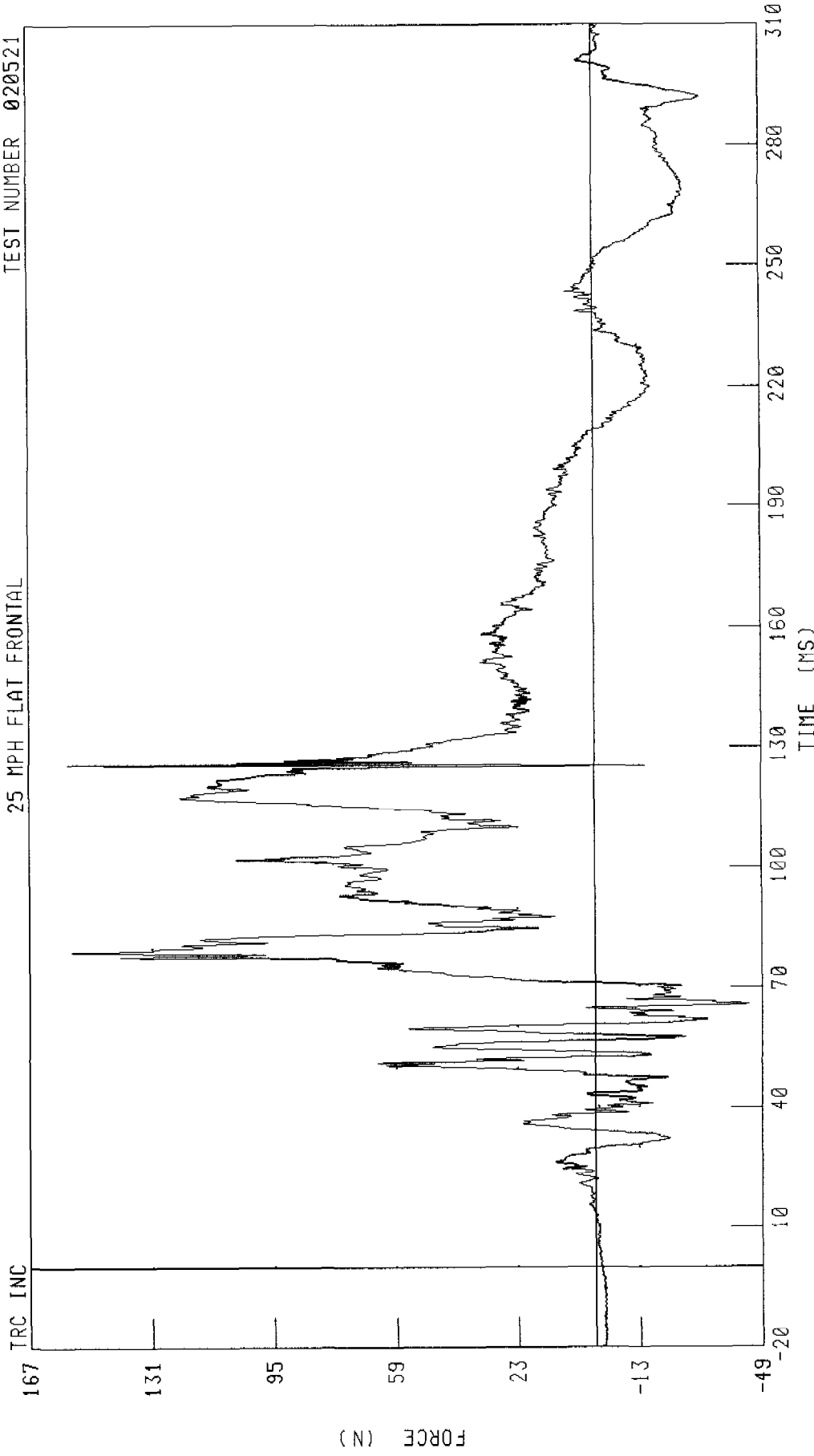
PEAK DATA 859 14 N @ 63 60 MS, -20 70 N @ 47 52 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER RIGHT LOWER TIBIA Y-AXIS FORCE

25 MPH FLAT FRONTAL

TEST NUMBER 020521



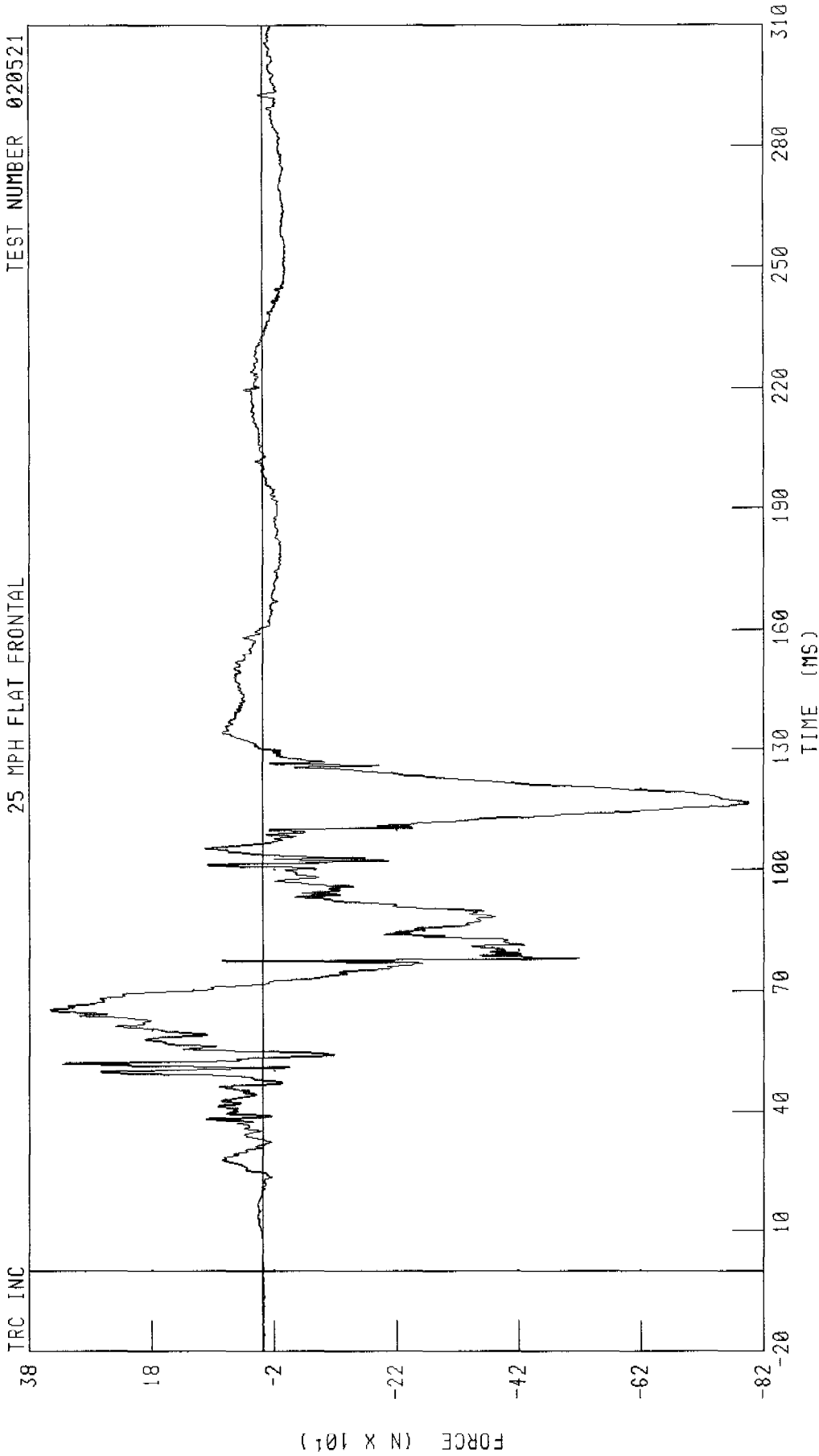
PEAK DATA 155 35 N @ 125 92 MS, -45 16 N @ 65 84 MS

CHANNEL ANRYF2 FILTER CH CLASS 600

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT LOWER TIBIA Z-AXIS FORCE
25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



PEAK DATA 346 74 N @ 65 20 MS, -797 28 N @ 116 72 MS

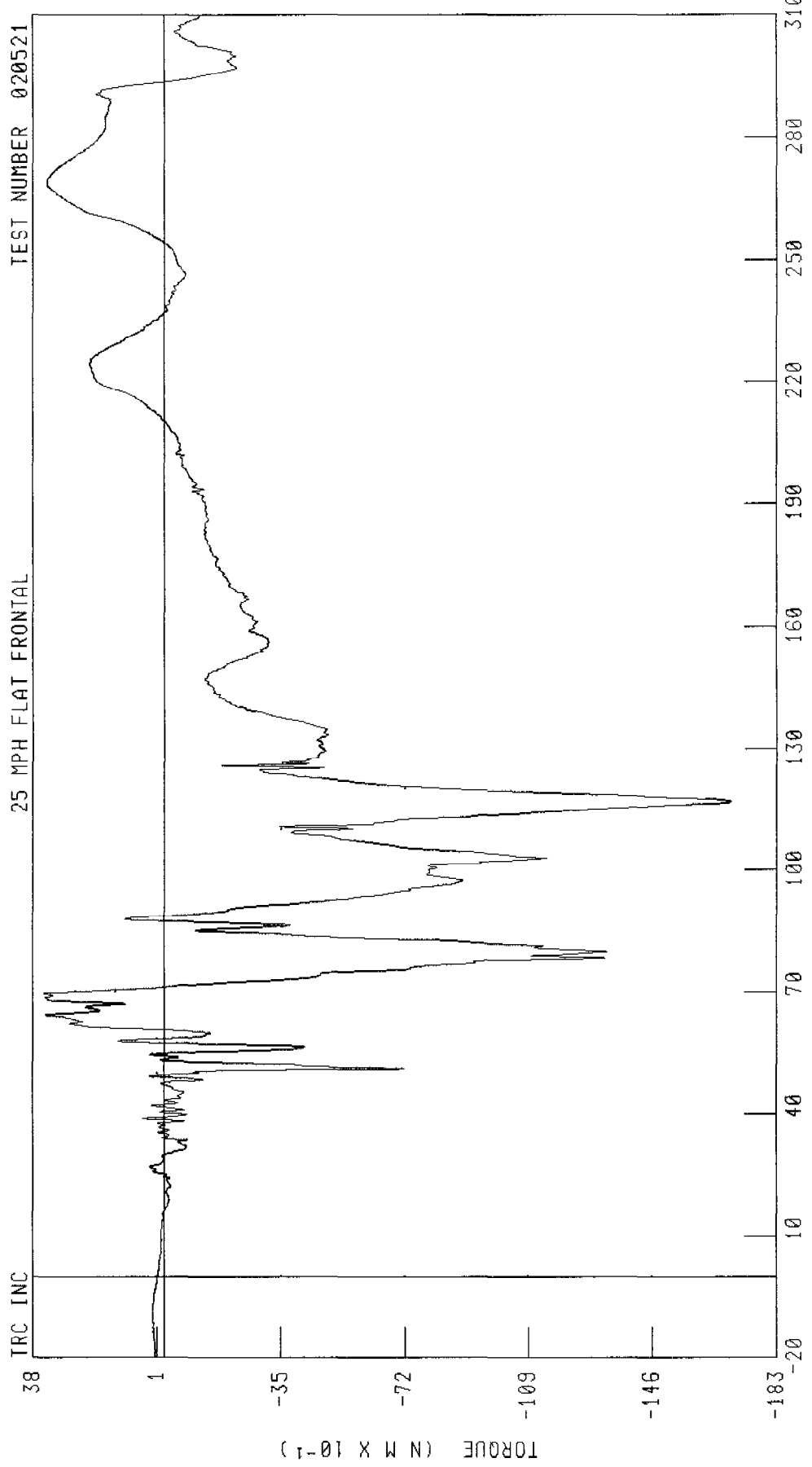
CHANNEL ANRZF2 FILTER CH CLASS 600

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER RIGHT LOWER TIBIA MOMENT ABOUT X AXIS

25 MPH FLAT FRONTAL

TEST NUMBER 020521



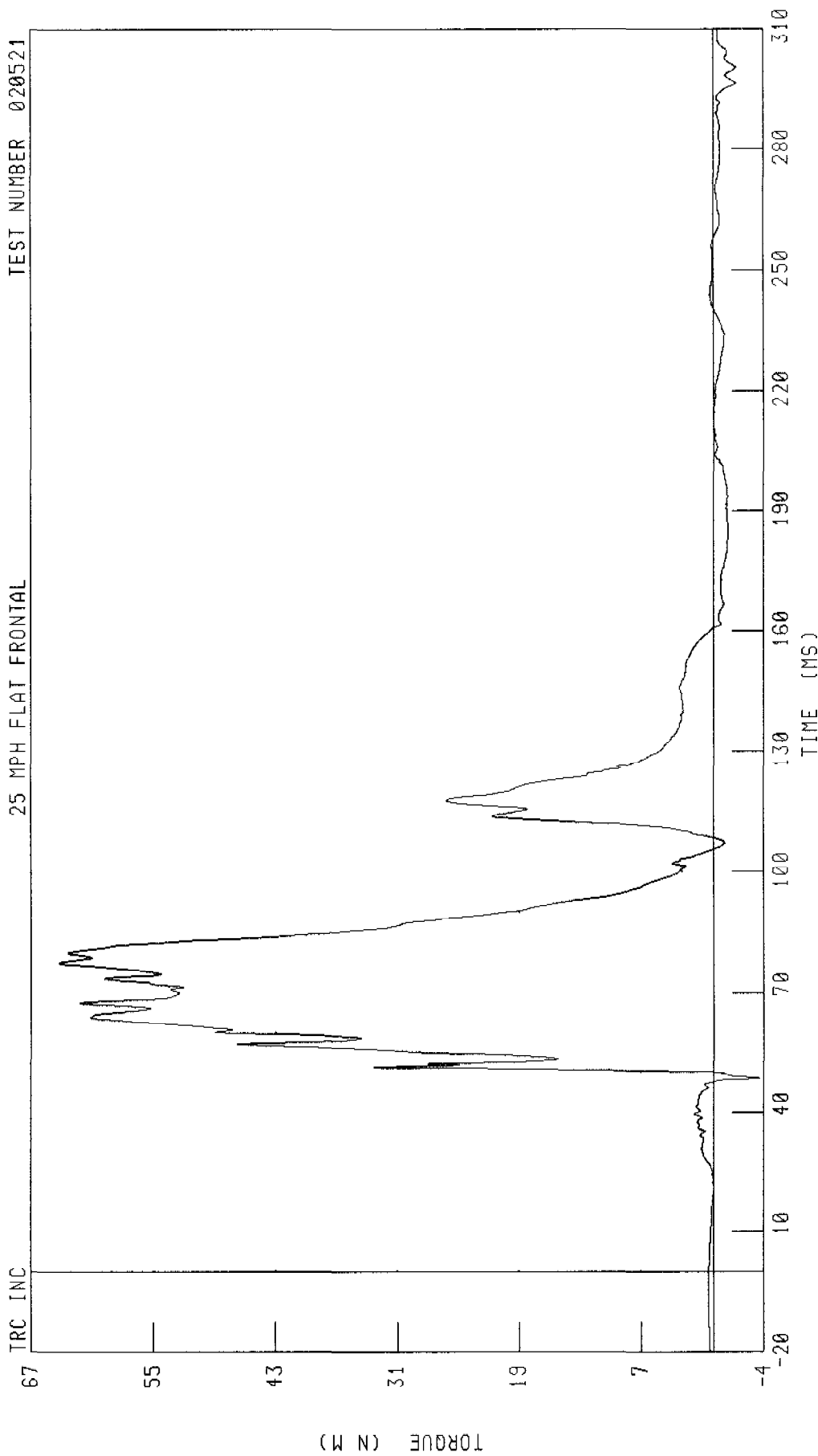
CHANNEL ANRXM2 FILTER CH CLASS 600 PEAK DATA 3 58 N M @ 69 68 MS, -16 97 N M @ 116 96 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER RIGHT LOWER TIBIA MOMENT ABOUT Y AXIS

25 MPH FLAT FRONTAL

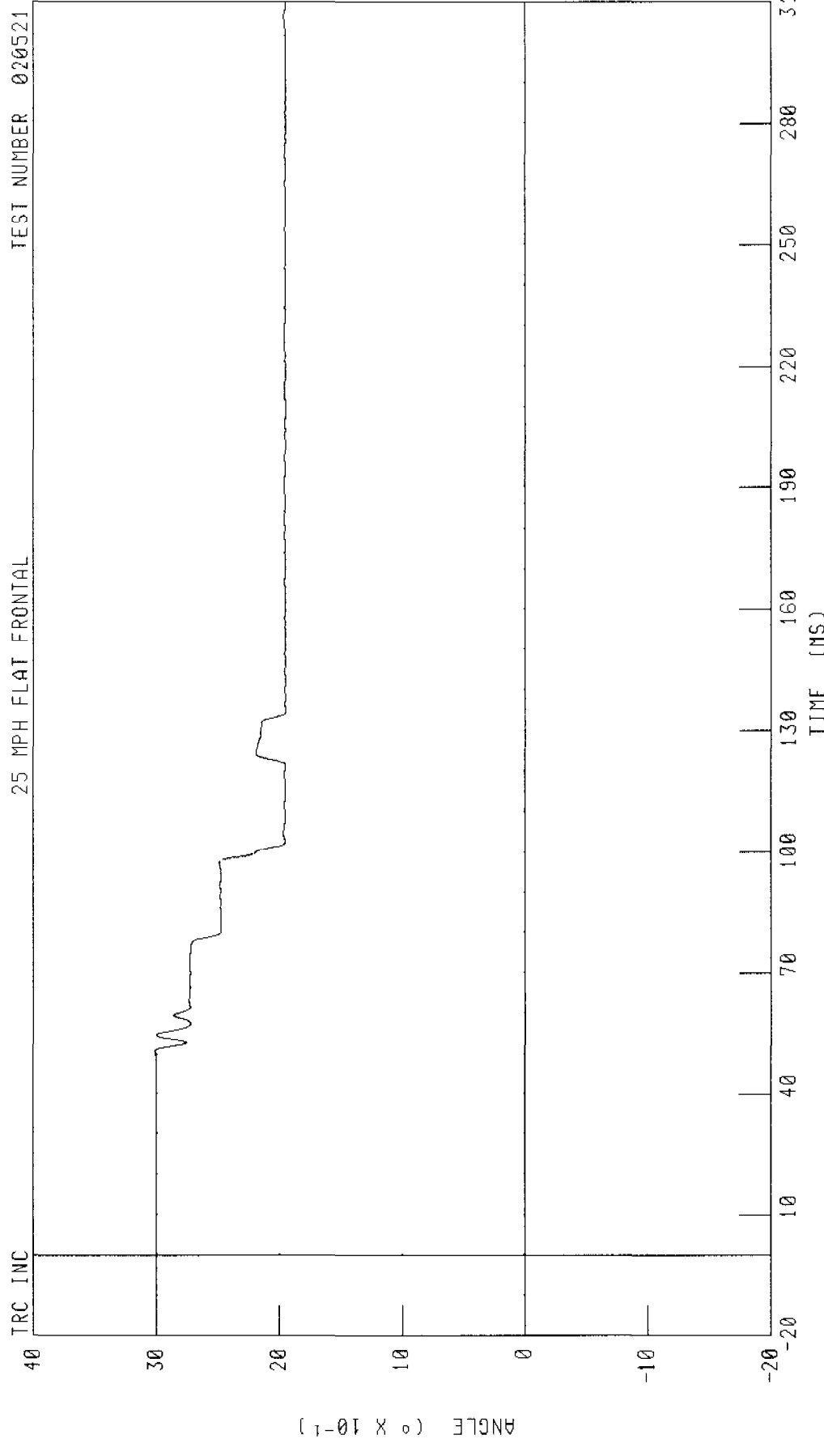
TEST NUMBER 020521



CHANNEL ANRYM2 FILTER CH CLASS 600

PEAK DATA 64 40 N M @ 77 44 MS, -4 53 N M @ 48 40 MS

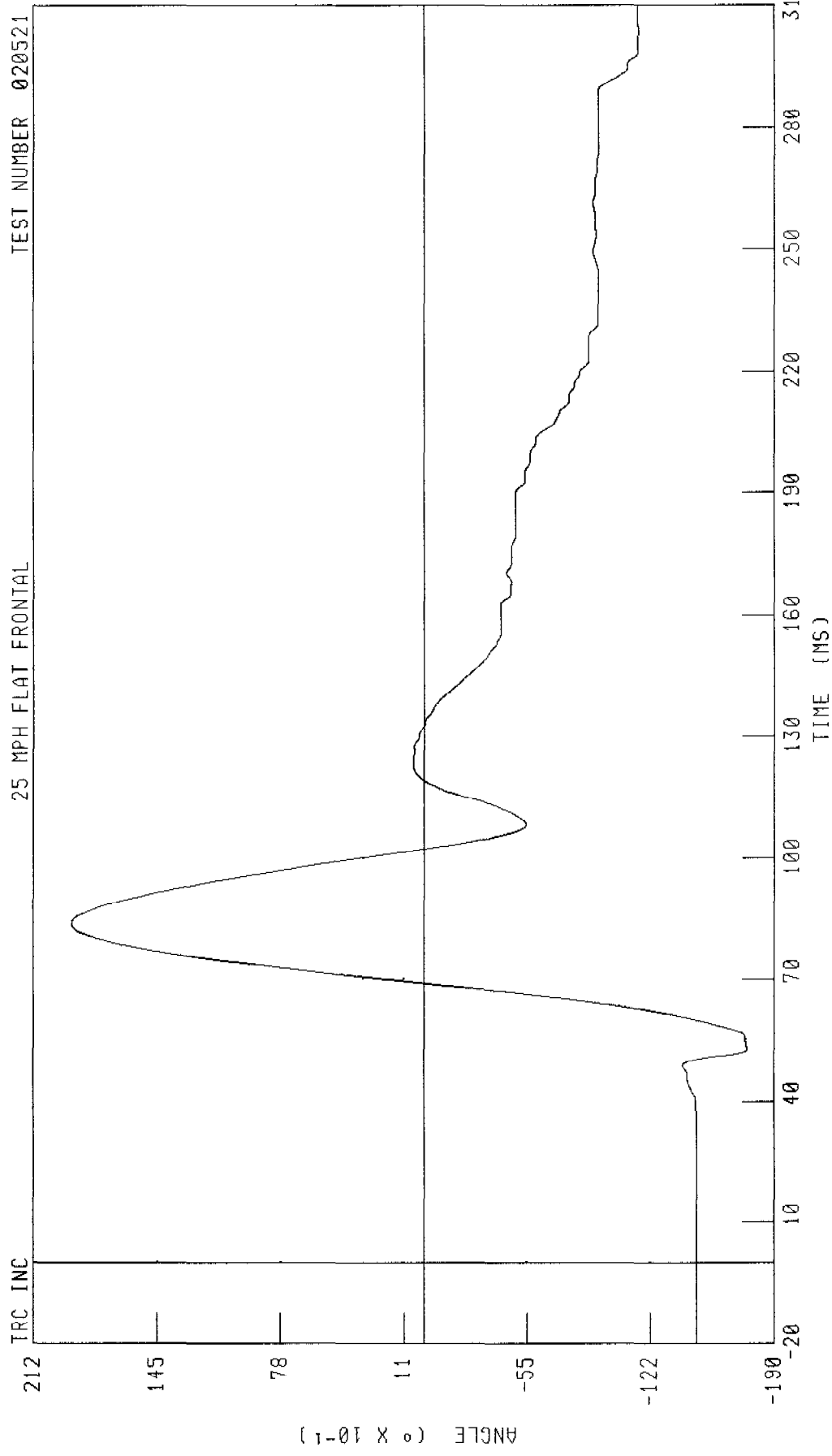
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT FOOT TO ANKLE X-AXIS DISPLACEMENT
25 MPH FLAT FRONTAL



CHANNEL FTRXD2 FILTER CH CLASS 180 PEAK DATA 3 01 ° @ 50 72 MS, 1 95 ° @ 121 44 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT FOOT TO ANKLE Y-AXIS DISPLACEMENT
25 MPH FLAT FRONTAL

TEST NUMBER 020521



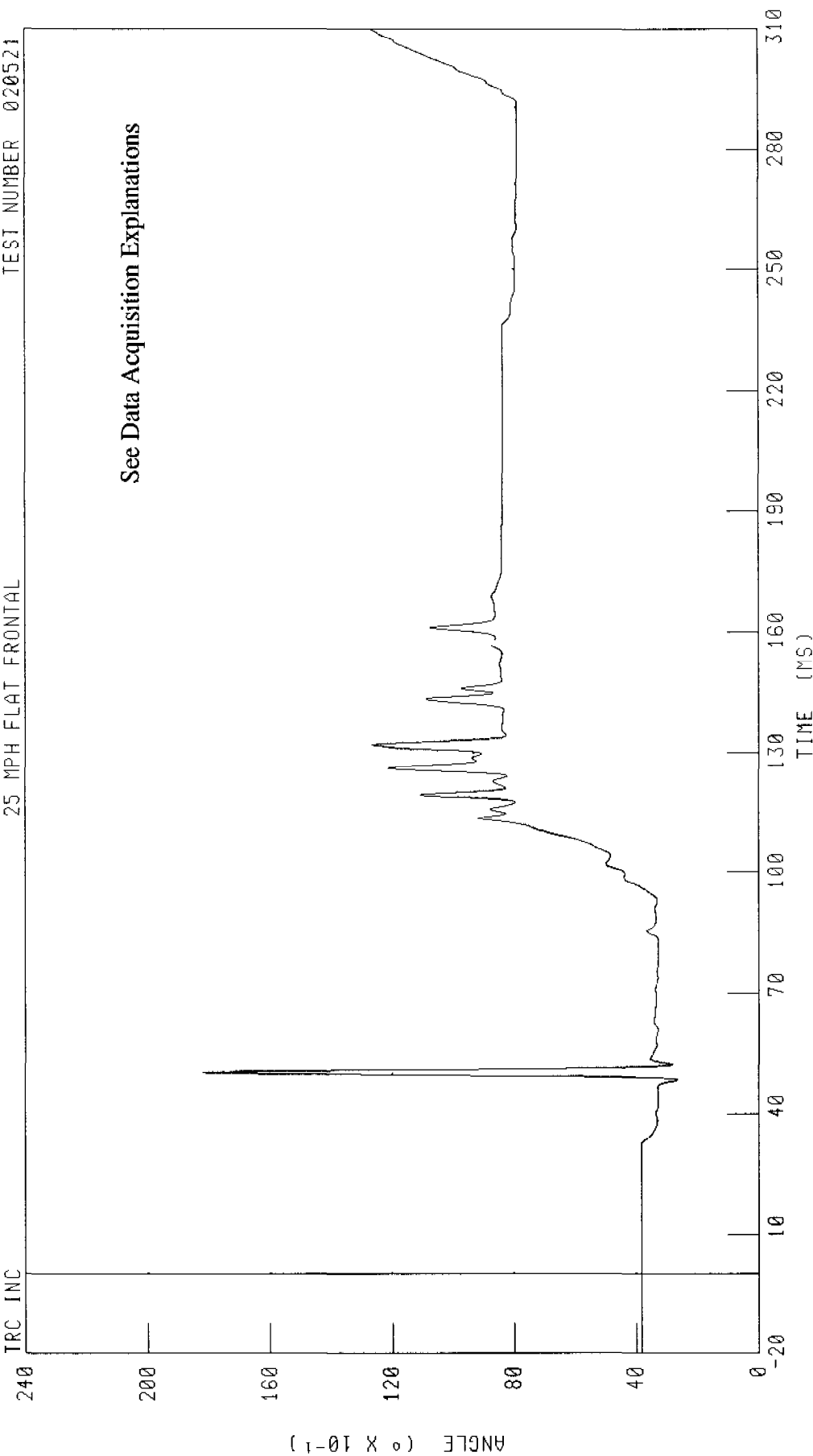
CHANNEL FTRYD2 FILTER CH CLASS 180
PEAK DATA 19 11 ° @ 83 76 MS, -17 55 ° @ 52 72 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT FOOT TO ANKLE Z-AXIS DISPLACEMENT
25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC_INC

See Data Acquisition Explanations



TIME (MS)

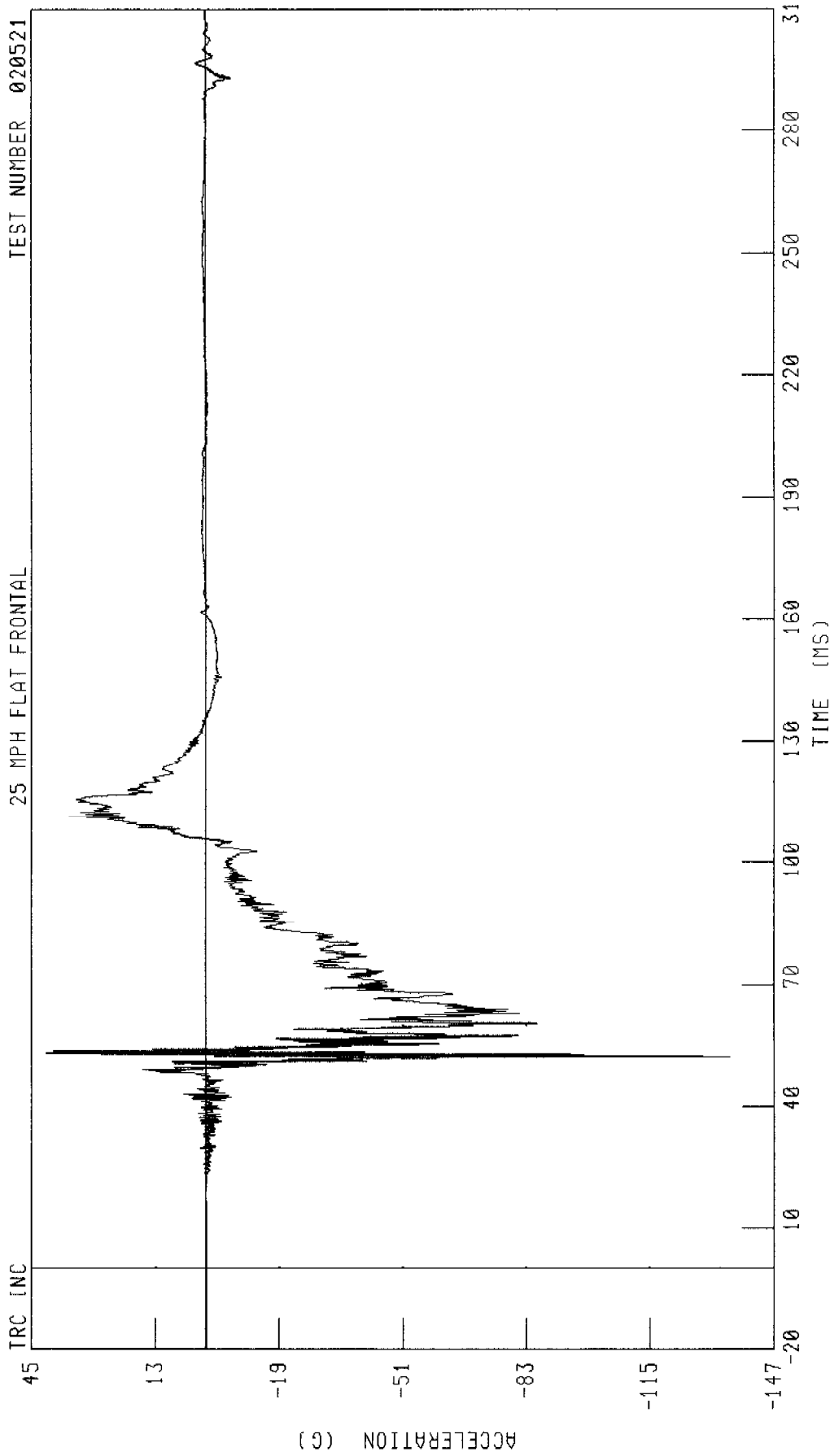
CHANNEL FTRZD2 FILTER CH CLASS 180

PEAK DATA 18 22 ° @ 50 48 MS, 2 64 ° @ 48 56 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT FOOT X-AXIS ACCELERATION

TRC INC TEST NUMBER 020521

25 MPH FLAT FRONTAL



CHANNEL FTRXC2 FILTER CH CLASS 1000 PEAK DATA 41 25 G @ 53 04 MS, -135 55 G @ 52 16 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT FOOT Y-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC

188

130

72

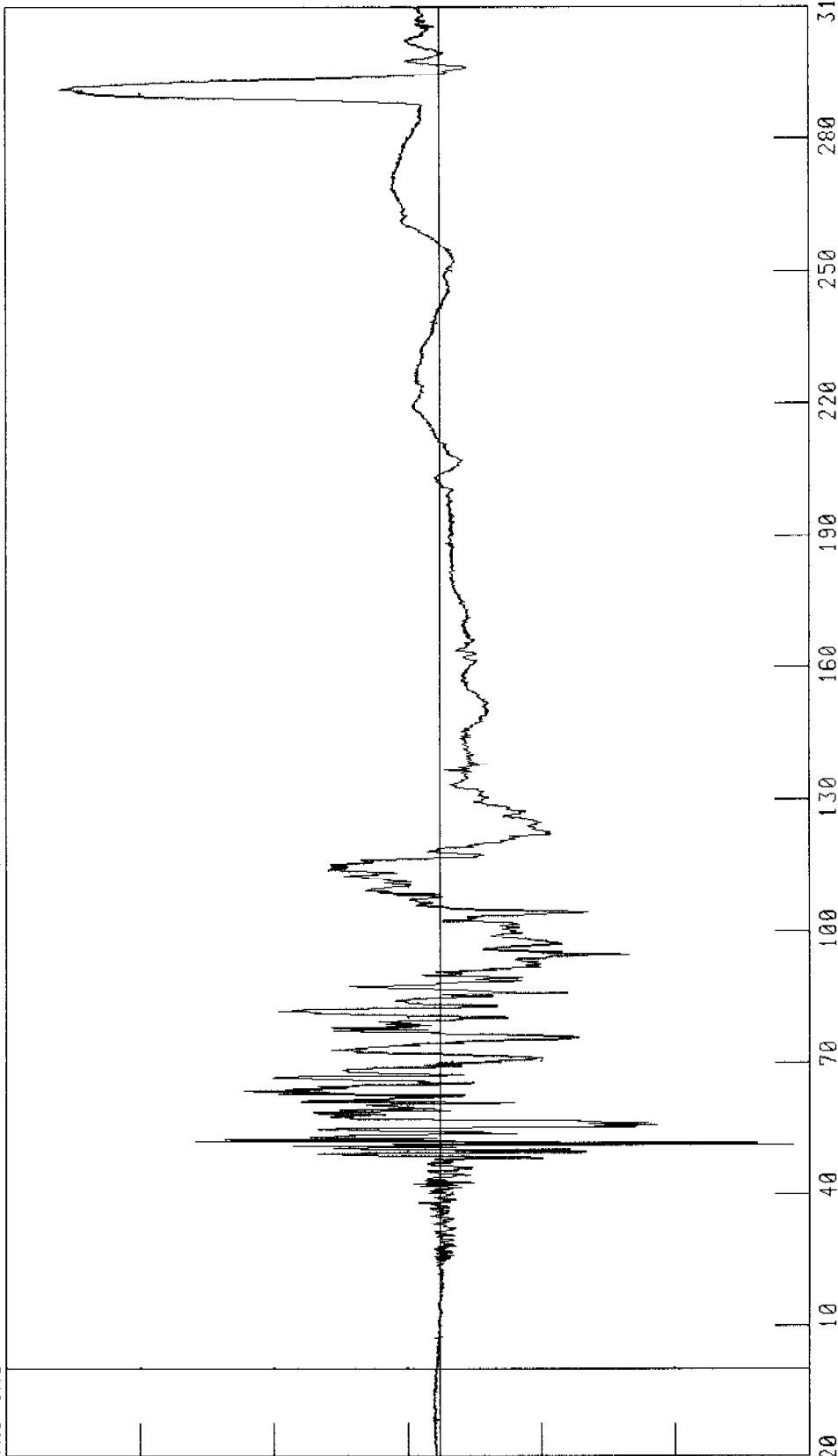
14

-43

-102

-160

ACCELERATION (G X 10⁻¹)



TIME (MS)

310

280

250

220

190

160

130

100

70

40

10

CHANNEL FTRYC2 FILTER CH CLASS 1000

PEAK DATA 16 47 G @ 291 20 MS, -15 31 G @ 51 44 MS

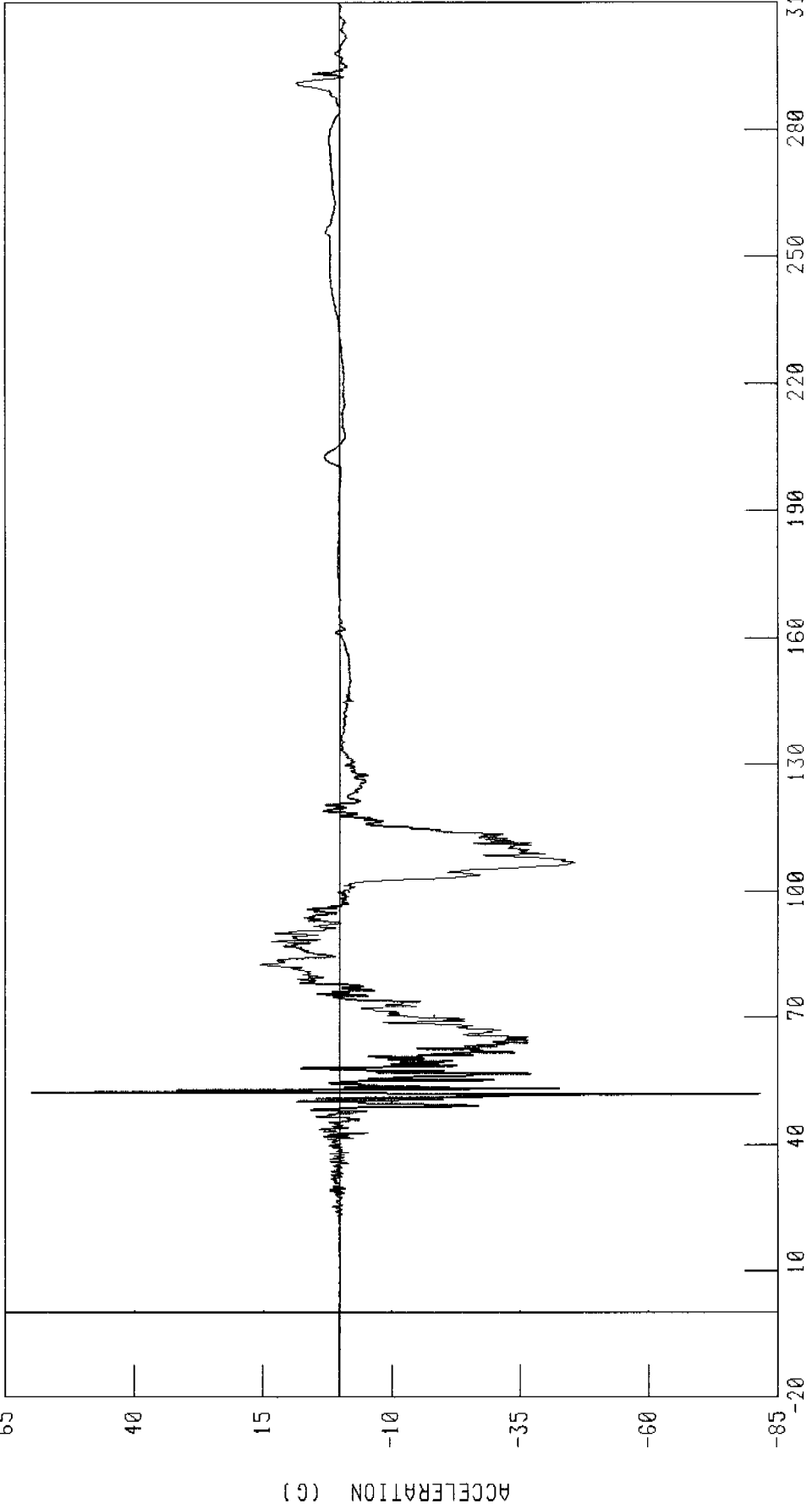
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER RIGHT FOOT Z-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC

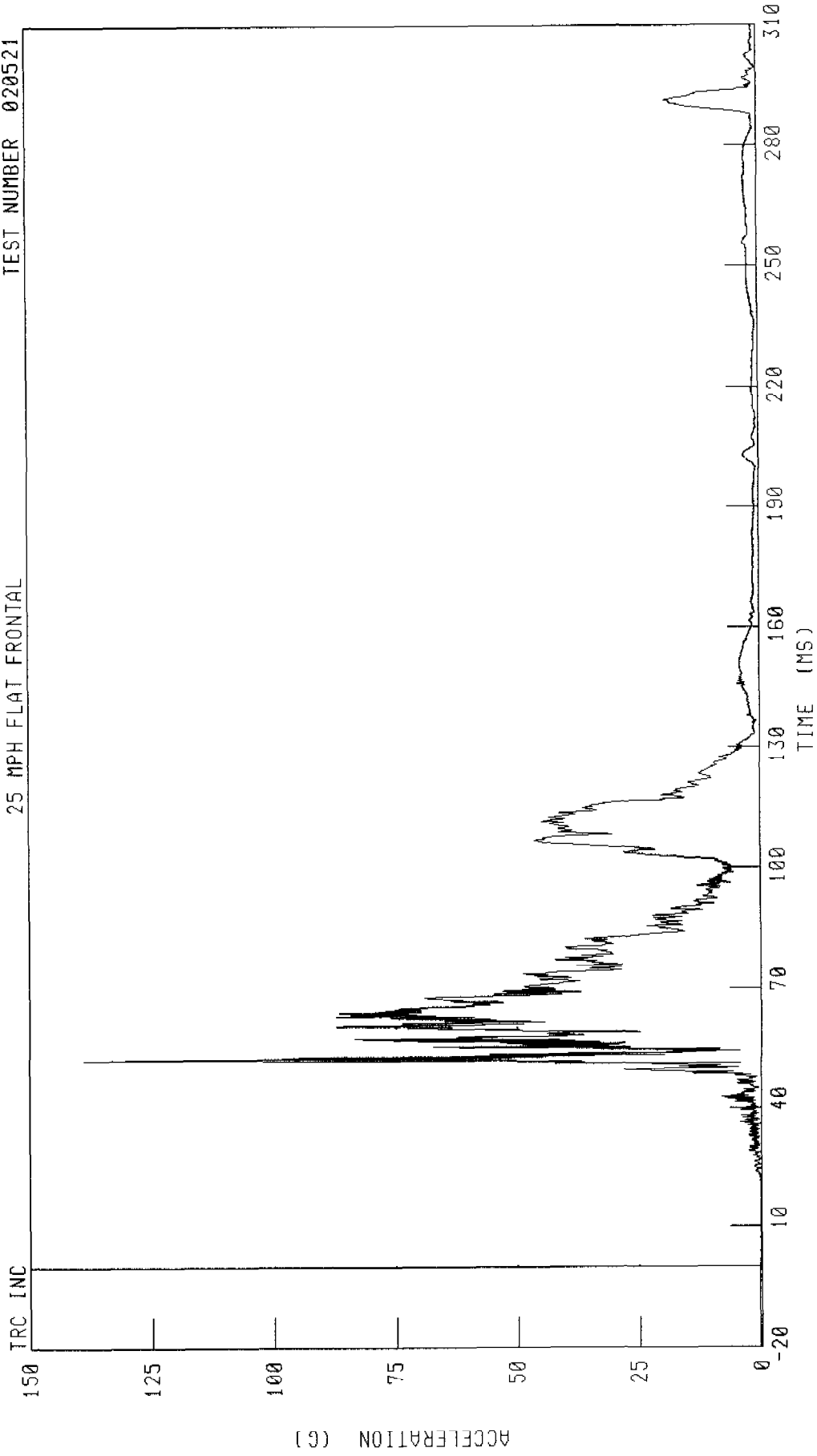


CHANNEL FTRZG2 FILTER CH CLASS 1000

PEAK DATA 59 86 G @ 52 40 MS, -81 70 G @ 52 00 MS

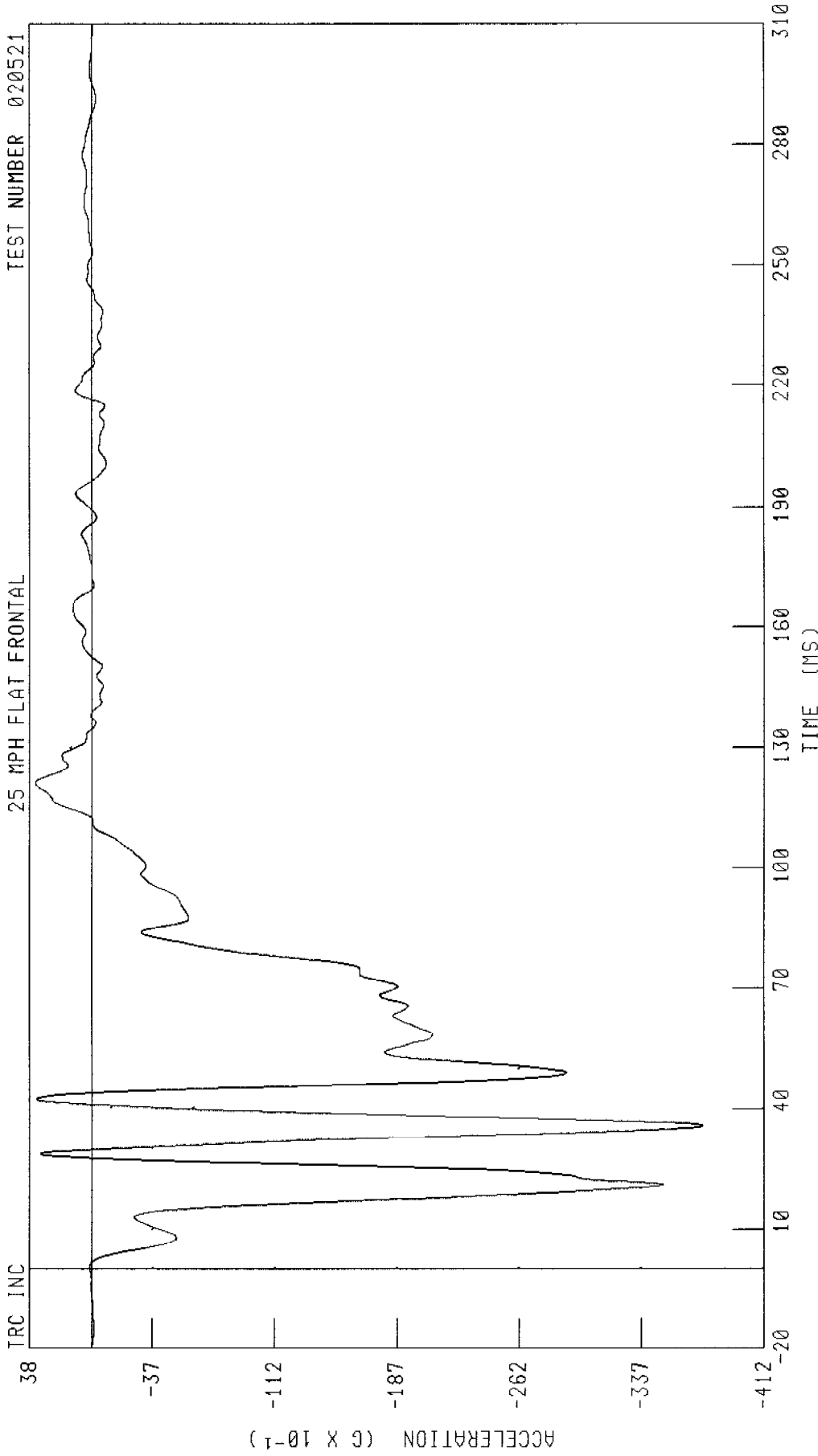
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
PASSENGER RIGHT FOOT RESULTANT ACCELERATION
25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL FTRRG2 FILTER CH CLASS 1000 PEAK DATA 138.88 G @ 52.16 MS, 0.02 G @ 17.12 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION



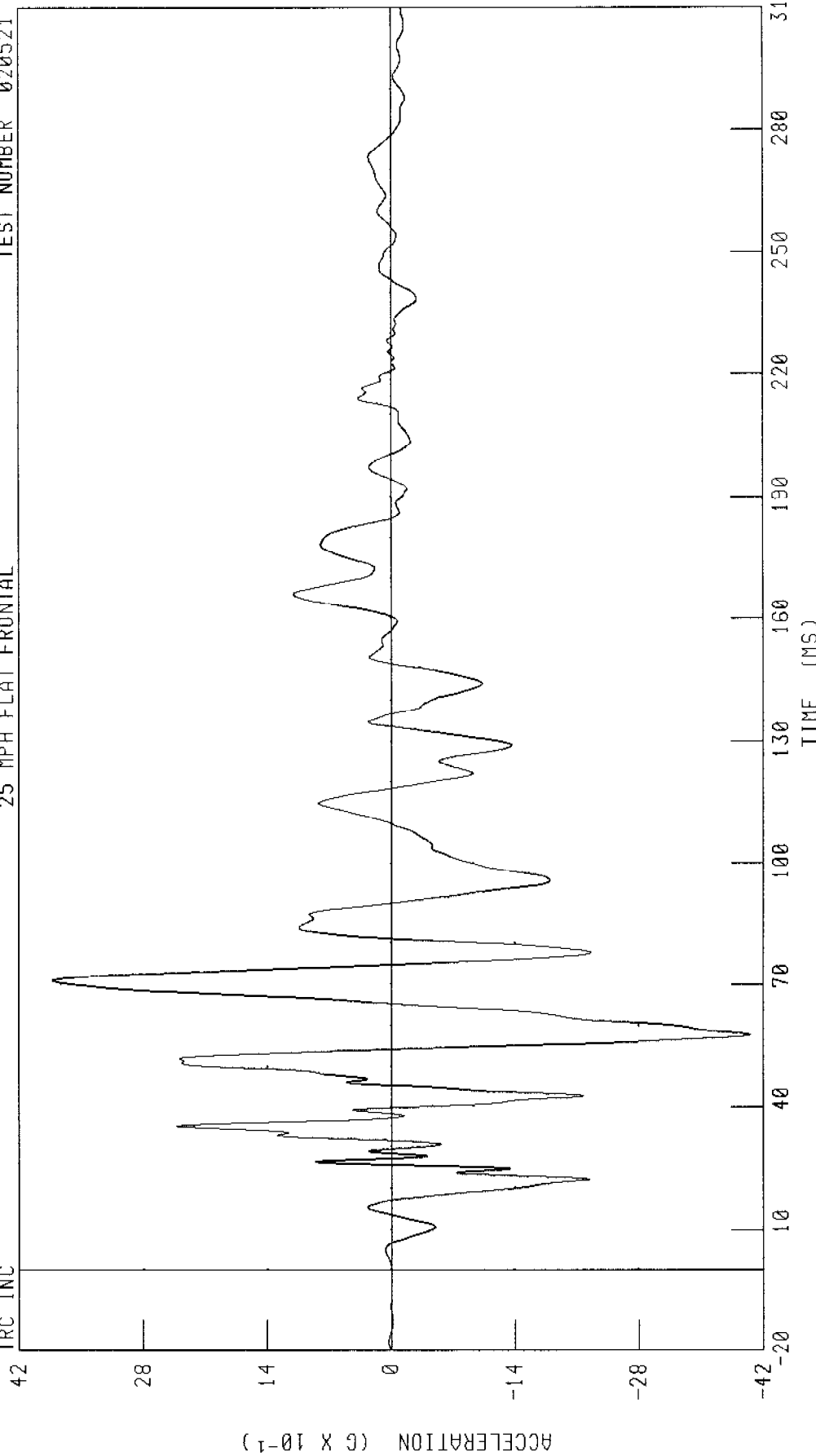
CHANNEL VCCXG1 FILTER CH CLASS 60 PEAK DATA 3 46 G @ 121 28 MS, -37 46 G @ 35 68 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION

TEST NUMBER 020521

25 MPH FLAT FRONTAL

TRC INC

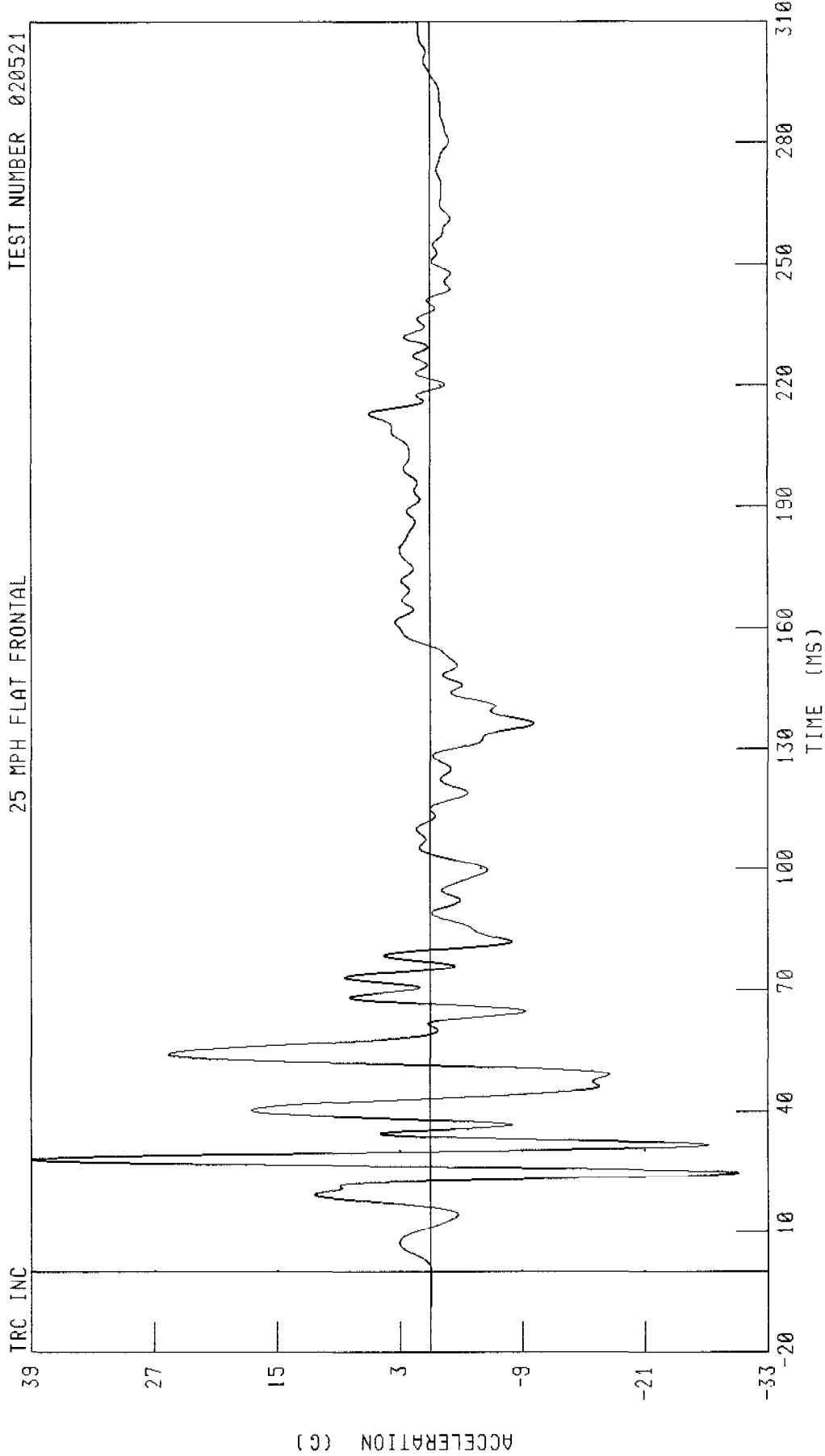


CHANNEL VCCYG1 FILTER CH CLASS 60

PEAK DATA 3 82 G @ 71 04 MS, -4 06 G @ 57 68 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
VEHICLE CENTER OF GRAVITY Z-AXIS ACCELERATION

TRC INC 25 MPH FLAT FRONTAL TEST NUMBER 020521

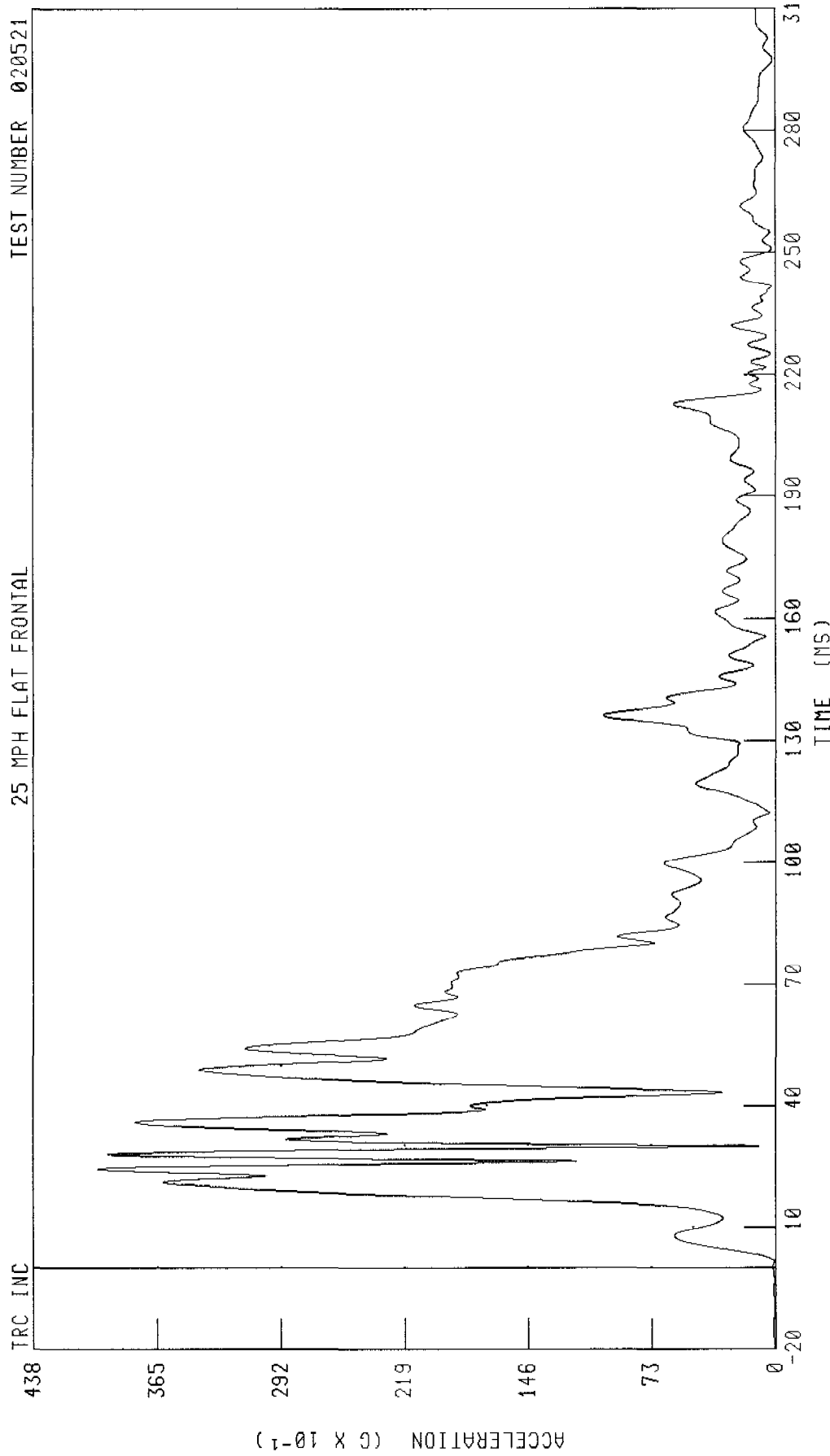


CHANNEL VCGZG1 FILTER CH CLASS 60 PEAK DATA 39 36 G @ 27 92 MS, -30 18 G @ 24 48 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL VCGRG1 FILTER CH CLASS 60

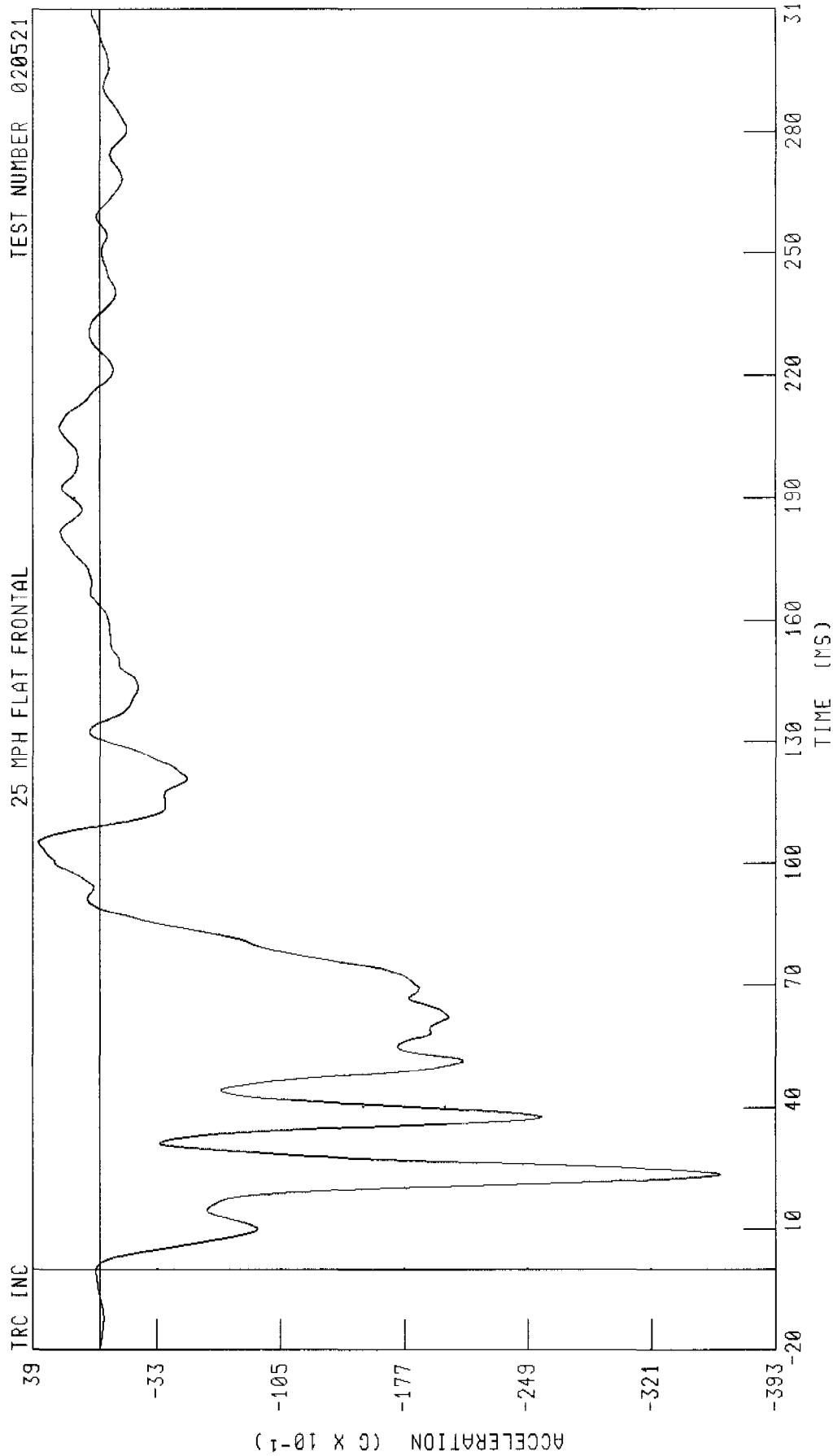
PEAK DATA 40 00 G @ 24 32 MS, 0 03 G @ -19 52 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

REAR DECK X-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



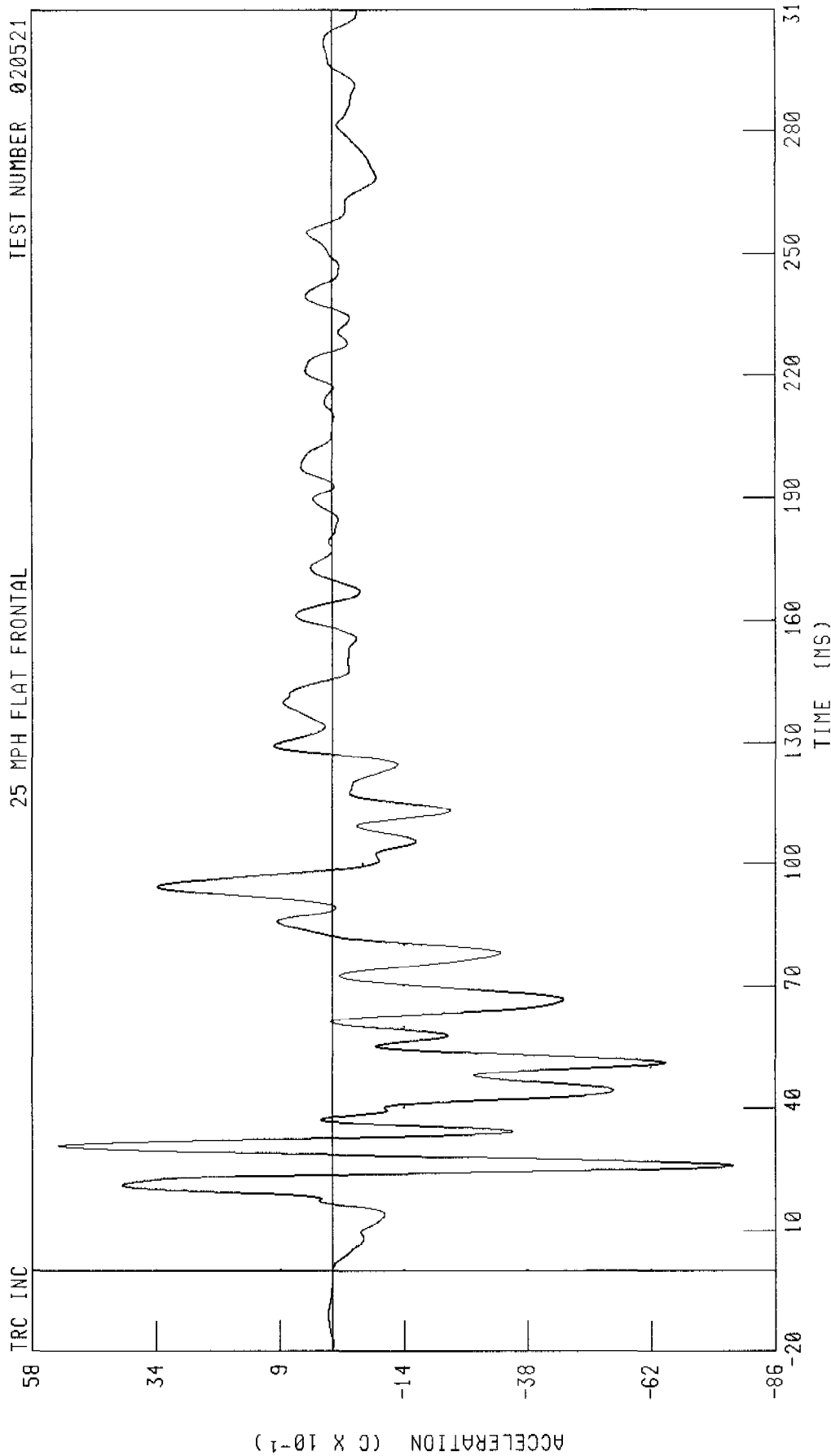
CHANNEL RDKXG1 FILTER CH CLASS 60 PEAK DATA 3 58 G @ 105 52 MS, -36 11 G @ 23 44 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

REAR DECK Y-AXIS ACCELERATION

25 MPH FLAT FRONTAL

TEST NUMBER 020521



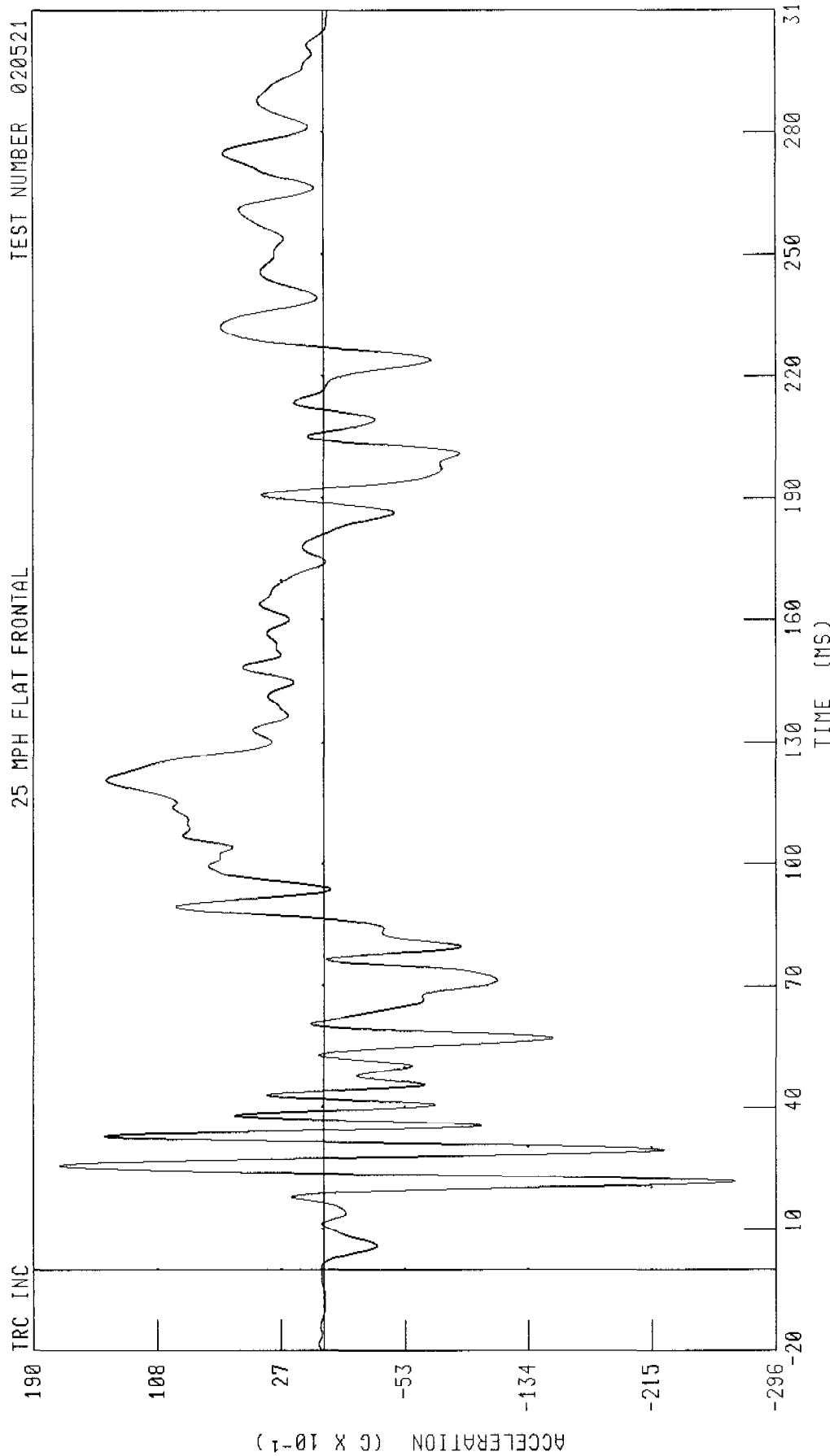
CHANNEL RDKYCI FILTER CH CLASS 60 PEAK DATA 5 30 6 30 64 MS, -7 80 C 0 25 92 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

REAR DECK Z-AXIS ACCELERATION

25 MPH FLAT FRONTAL

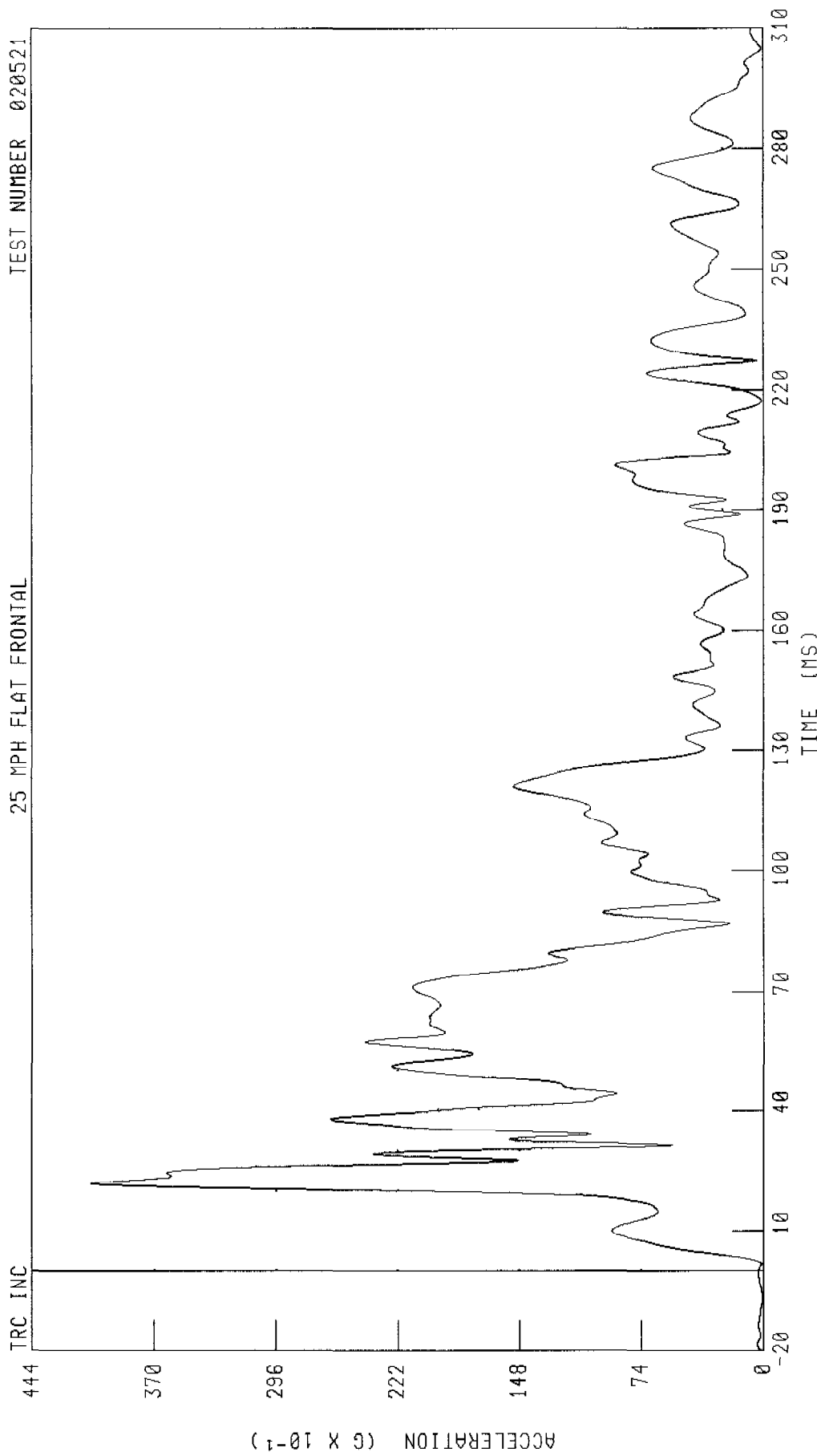
TEST NUMBER 020521



CHANNEL RDKZG1 FILTER CH CLASS 60 PEAK DATA 17 29 G @ 25 60 MS, -26 95 G @ 21 60 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH
REAR DECK RESULTANT ACCELERATION

25 MPH FLAT FRONTAL TEST NUMBER 020521



CHANNEL RDKRC1 FILTER CH CLASS 60

PEAK DATA 40 87 G @ 22 00 MS, 0 03 G @ -7 04 MS

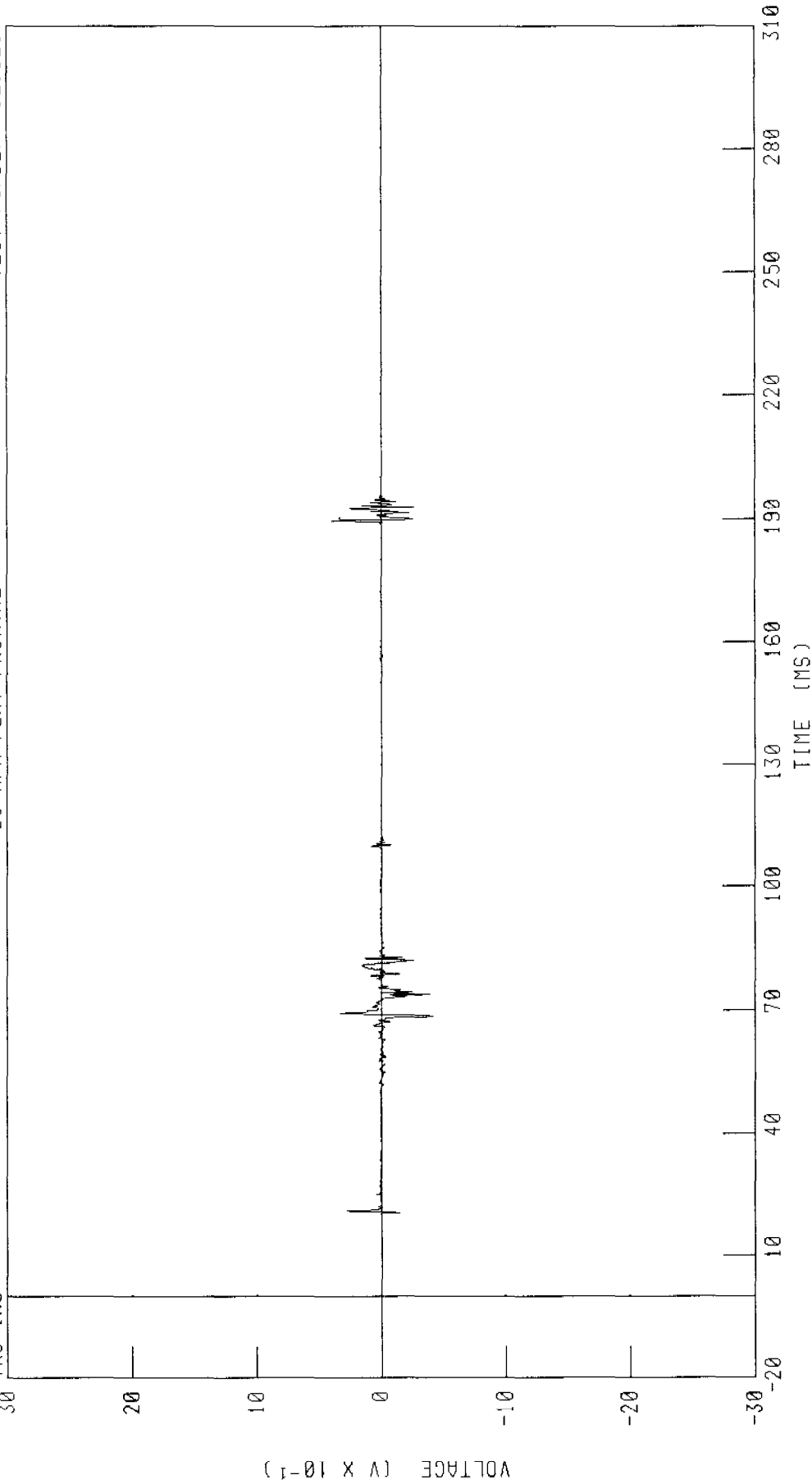
2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

DRIVER AIRBAG EVENT - WIRE A

25 MPH FLAT FRONTAL

TEST NUMBER 020521

TRC INC



CHANNEL DABETA FILTER CH CLASS 1000

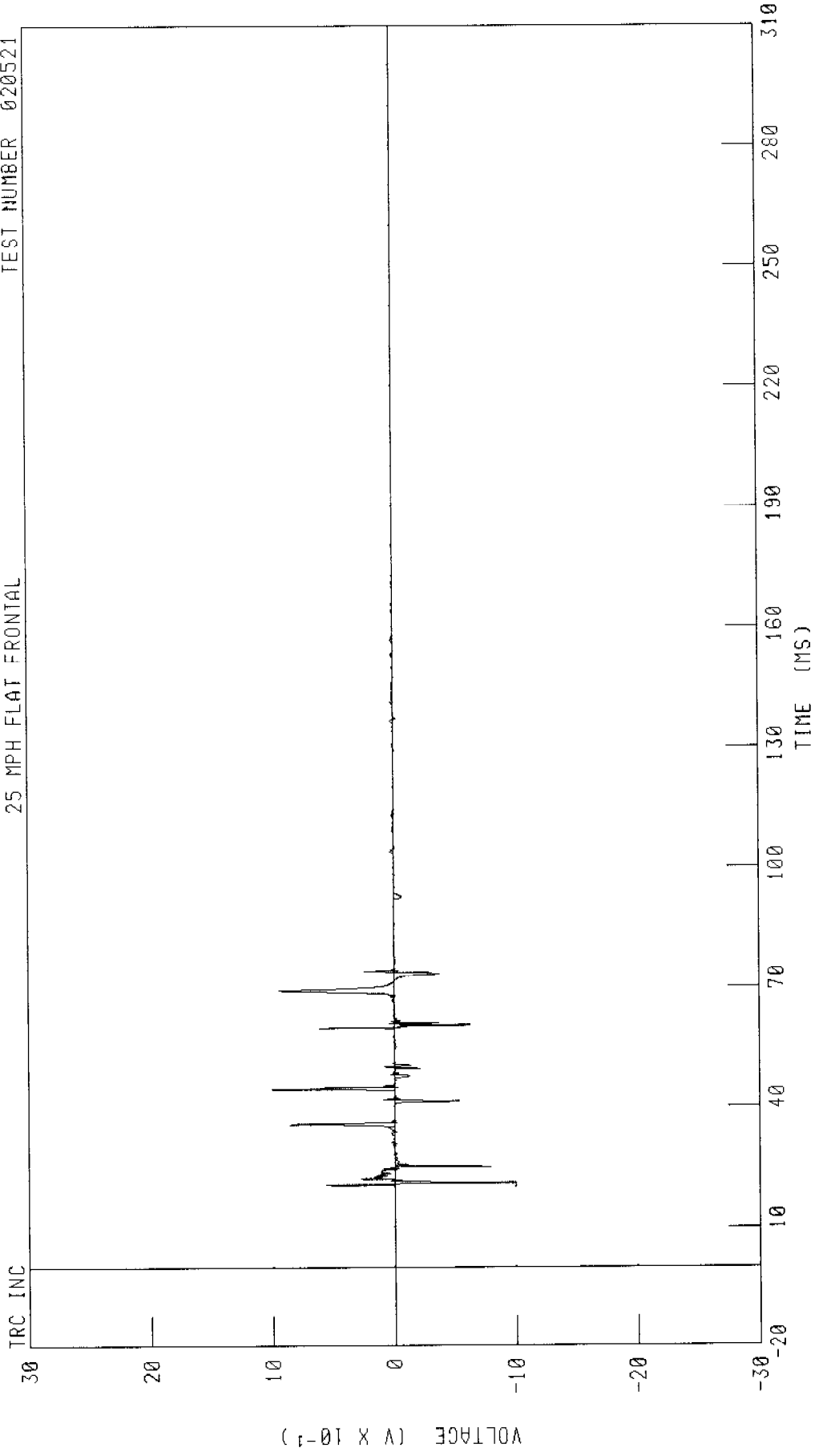
PEAK DATA 0 39 V @ 189 60 MS, -0 46 V @ 68 64 MS

2001 FORD F150 XL SPORT EXTENDED CAB INTO FLAT FRONTAL BARRIER AT 25 MPH

PASSENGER AIRBAG EVENT - WIRE A

25 MPH FLAT FRONTAL

TEST NUMBER 020521



CHANNEL PABETA FILTER CH CLASS 1000

PEAK DATA 1 00 V @ 44 32 MS, -1 00 V @ 20 96 MS

Appendix C

Dummy Configuration and Performance Verification Data

Pre-test Dummy Configuration and Performance Verification Data

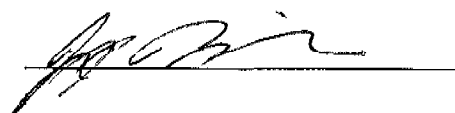
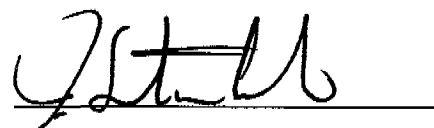
Driver Dummy S/N: 416

Transportation Research Center Inc.
572F HIII 5th Dummy
External Dimensions
Serial No. 416 Calibration No. 14

Test Parameter	Dimension	Specification	Results	Pass
Total Sitting Height	A	774.7 - 800.1 mm	783 mm	Yes
Shoulder Pivot Height	B	431.8 - 457.2 mm	449 mm	Yes
Hip Pivot Height	C	81.3 - 86.3 mm	82 mm	Yes
Hip Pivot from Backline	D	144.8 - 149.8 mm	149 mm	Yes
Shoulder Pivot from Backline	E	68.6 - 83.8 mm	70.5 mm	Yes
Thigh Clearance	F	119.4 - 134.6 mm	123 mm	Yes
Back of Elbow to Wrist Pivot	G	243.9 - 259.0 mm	249 mm	Yes
Head Back to Backline	H	40.7 - 45.7 mm	43 mm	Yes
Shoulder to Elbow Length	I	276.9 - 297.1 mm	283 mm	Yes
Elbow Rest Height	J	182.9 - 203.2 mm	193 mm	Yes
Buttock Knee Length	K	520.7 - 546.1 mm	536 mm	Yes
Popliteal Height	L	355.6 - 375.9 mm	361 mm	Yes
Knee Pivot Height	M	393.7 - 419.1 mm	402 mm	Yes
Buttock Popliteal Height	N	414.1 - 439.4 mm	421 mm	Yes
Chest Depth without Jacket	O	175.3 - 190.5 mm	181 mm	Yes
Foot Length	P	218.5 - 233.6 mm	230 mm	Yes
Buttock to Knee Pivot Length	R	457.2 - 482.6 mm	468 mm	Yes
Head Breadth	S	137.2 - 147.3 mm	139 mm	Yes
Head Depth	T	177.8 - 187.9 mm	180 mm	Yes
Hip Breadth	U	299.8 - 314.9 mm	302 mm	Yes
Shoulder Breadth	V	350.6 - 365.7 mm	356 mm	Yes
Foot Breadth	W	78.8 - 93.9 mm	88 mm	Yes
Head Circumference	X	528.4 - 548.6 mm	539 mm	Yes
Chest Circumference with Jacket	Y	850.9 - 881.3 mm	864 mm	Yes
Waist Circumference	Z	759.5 - 789.9 mm	782 mm	Yes
Reference Location for Chest Circumference	AA	299.8 - 309.8 mm	306 mm	Yes
Reference Location for Waist Circumference	BB	160.1 - 170.1 mm	168 mm	Yes

Technician

Approved


Transportation Research Center Inc.

5720 Head Drop Test

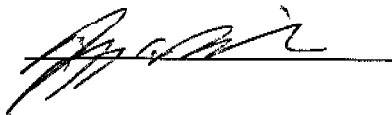
HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

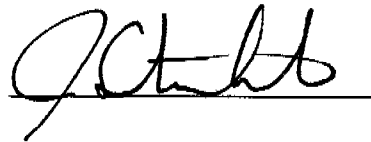
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Peak Resultant Acceleration	250 - 300 g	285.9 g	Yes
Peak Lateral Acceleration	15 g Max	12.2 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician



Approved

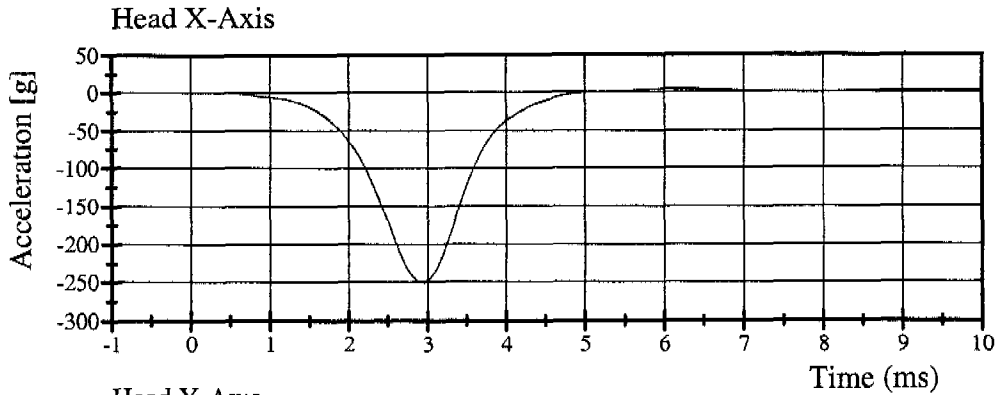


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

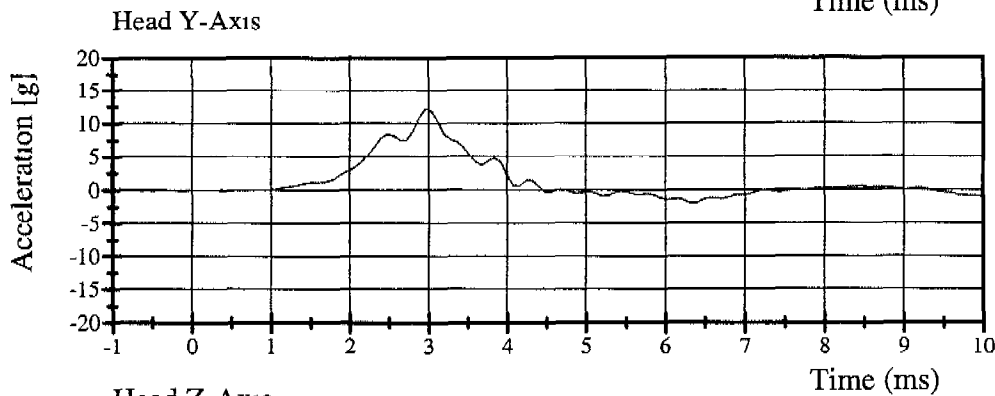
Test Date 05/17/2002



Filter Class: 1000

Max: 3.9 g at 6.1 ms

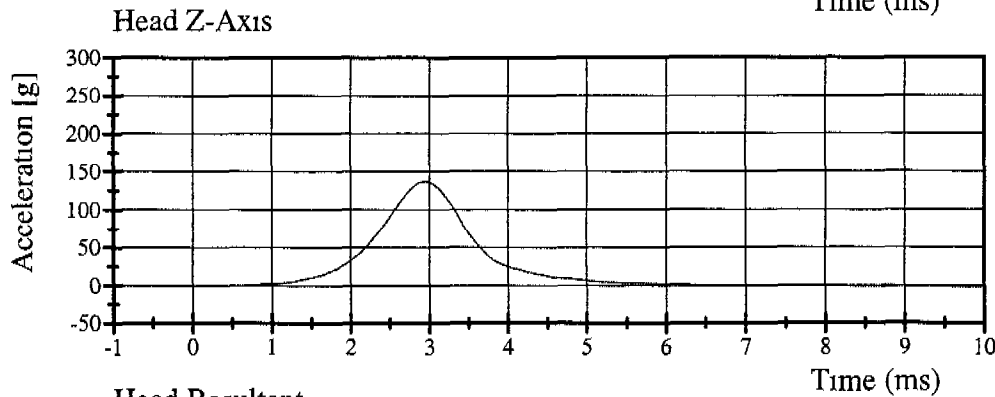
Min: -250.6 g at 3.0 ms



Filter Class: 1000

Max: 12.2 g at 3.0 ms

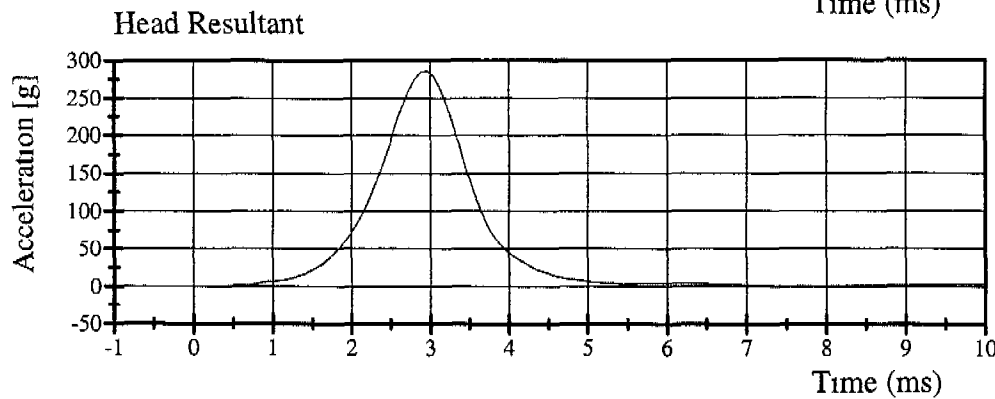
Min: -2.0 g at 6.3 ms



Filter Class: 1000

Max: 137.0 g at 3.0 ms

Min: -2.0 g at 9.9 ms



Filter Class: 1000

Max: 285.9 g at 3.0 ms

Min: 0.0 g at 2.1 ms

Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

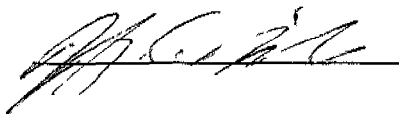
HIII 5th Female Serial No. 416 Calibration No. 14 - 2

Test Date 05/17/2002

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.10 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.14 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.21 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.12 m/s	Yes
Peak D Plane Rotation	77 - 91 °	78.4 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	76.74 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	89.84 ms	Yes

Comments:

Technician



Approved



05 17 2002 11 00 17 480

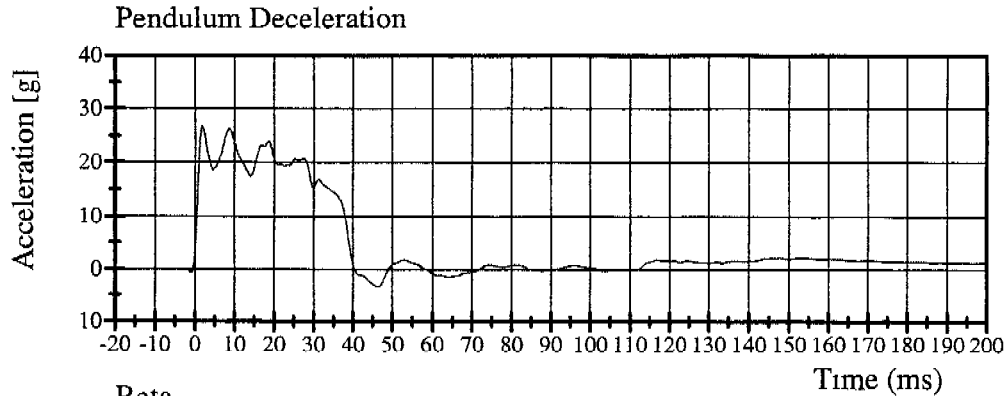


Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 2

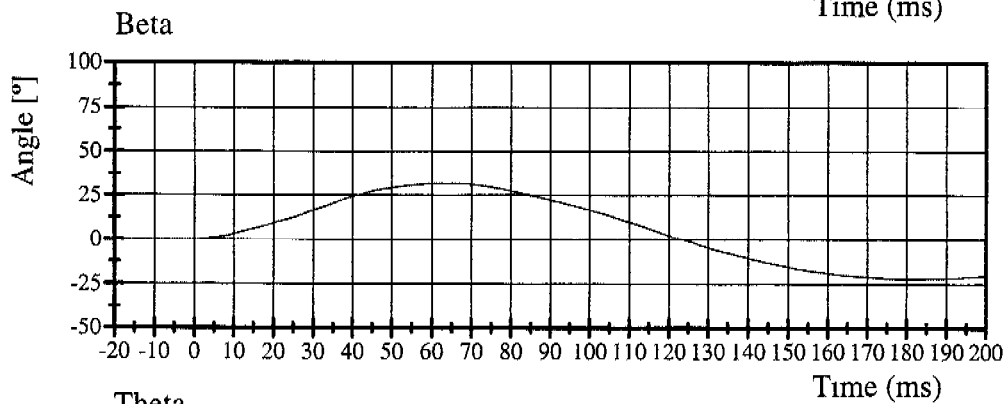
Test Date 05/17/2002



Filter Class: 180

Max: 26.7 g at 1.8 ms

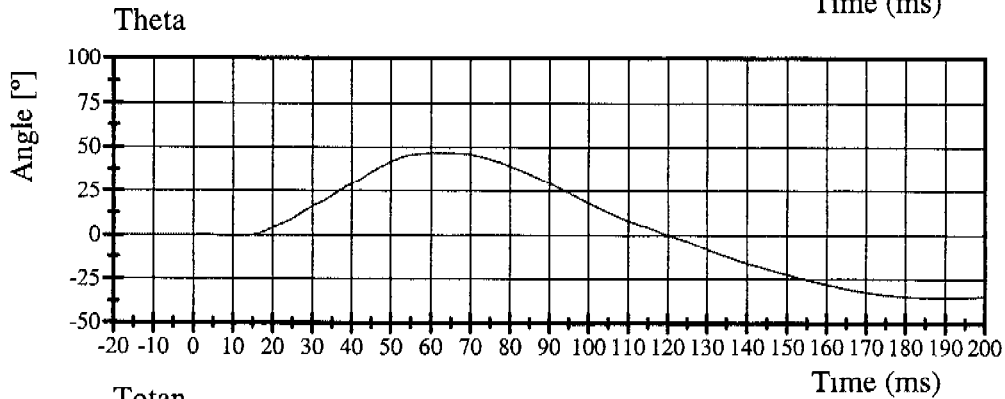
Min: -3.4 g at 46.3 ms



Filter Class: 60

Max: 31.7 ° at 63.7 ms

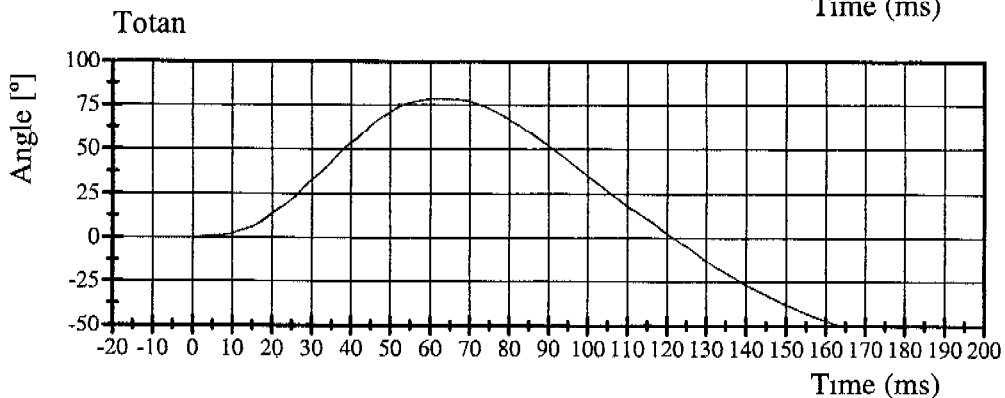
Min: -22.0 ° at 181.6 ms



Filter Class: 60

Max: 46.8 ° at 61.7 ms

Min: -35.1 ° at 189.0 ms



Filter Class: 60

Max: 78.4 ° at 62.2 ms

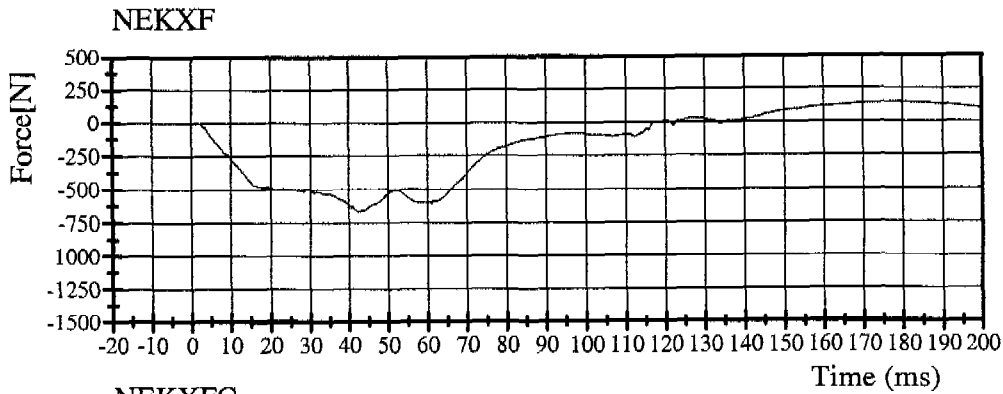
Min: -57.0 ° at 184.2 ms

Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 2

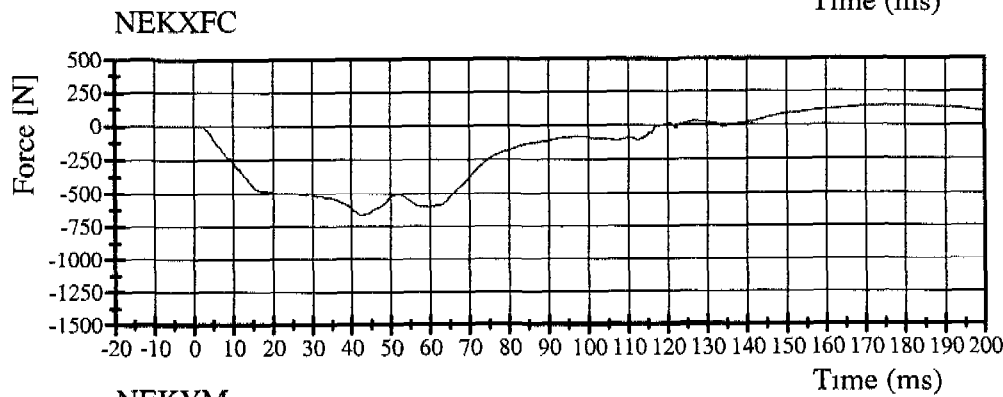
Test Date 05/17/2002



Filter Class: 1000

Max: 143.7 N at 177.8 ms

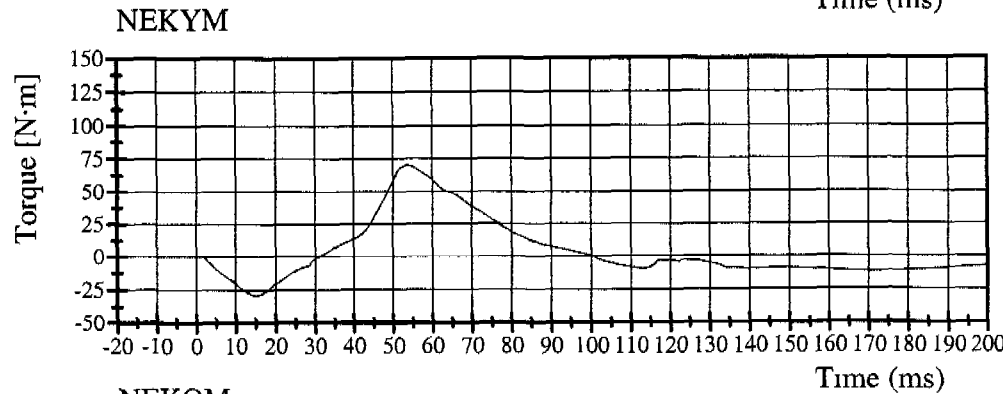
Min: -667.9 N at 42.4 ms



Filter Class: 600

Max: 143.1 N at 177.9 ms

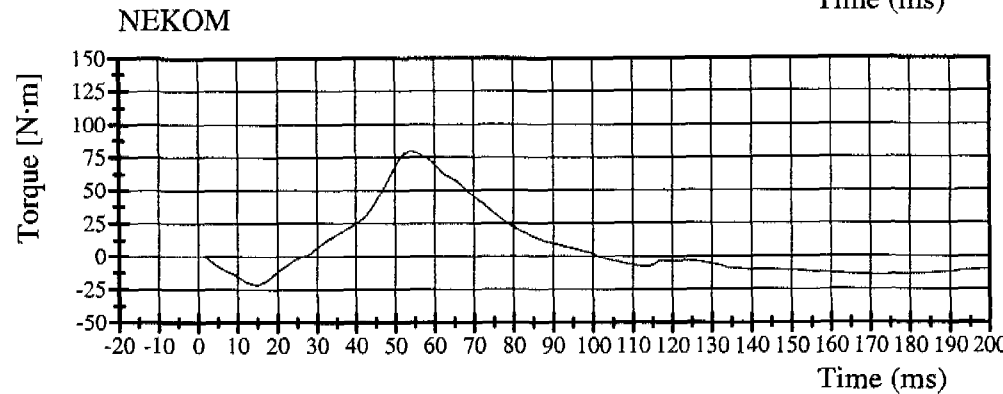
Min: -666.7 N at 42.5 ms



Filter Class: 600

Max: 69.9 N·m at 53.6 ms

Min: -29.4 N·m at 15.3 ms



Filter Class: 600

Max: 79.5 N·m at 54.1 ms

Min: -21.5 N·m at 14.9 ms

Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

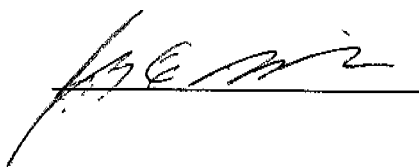
HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

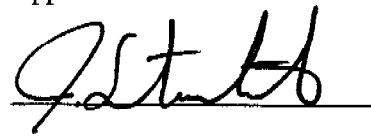
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.18 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.54 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.13 m/s	Yes
30 ms	4.60 - 5.60 m/s	4.64 m/s	Yes
Peak D Plane Rotation	99 - 114 °	102.4 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-55.50 N·m	Yes
Positive Moment Decay Time To -10 N·m	94 - 114 ms	105.60 ms	Yes

Comments:

Technician



Approved



05 17 2002 11 40 08 547



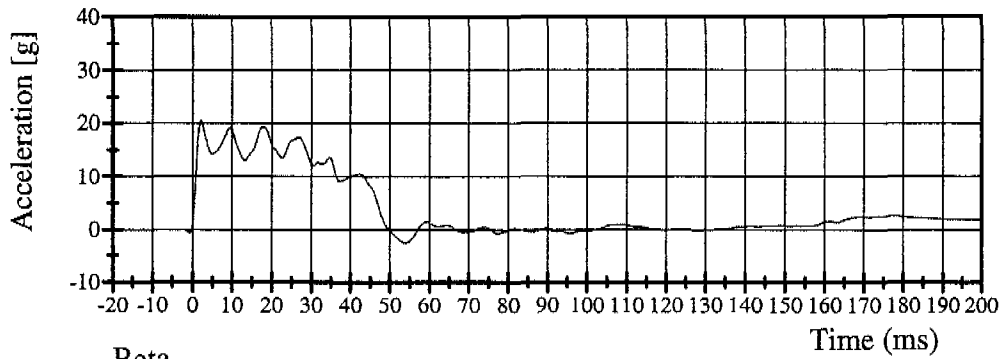
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

Pendulum Deceleration

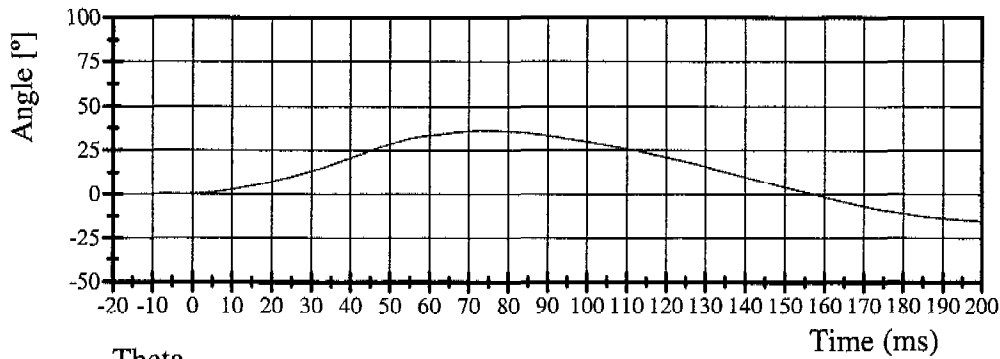


Filter Class: 180

Max: 20.4 g at 2.0 ms

Min: -2.7 g at 53.8 ms

Beta

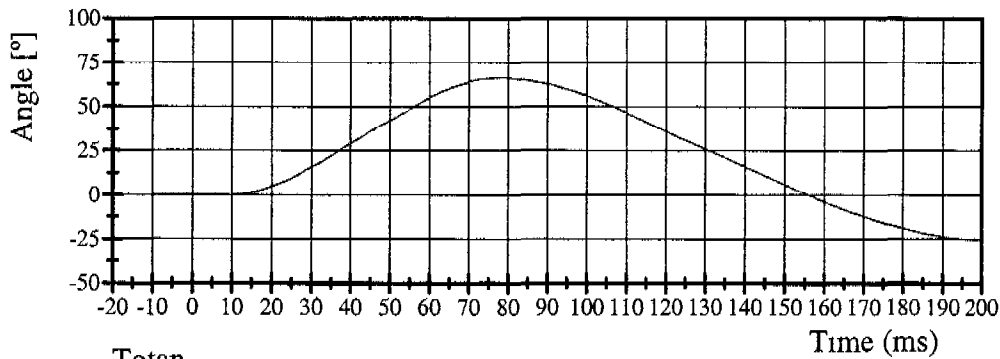


Filter Class: 60

Max: 36.2 ° at 73.7 ms

Min: -15.4 ° at 204.3 ms

Theta

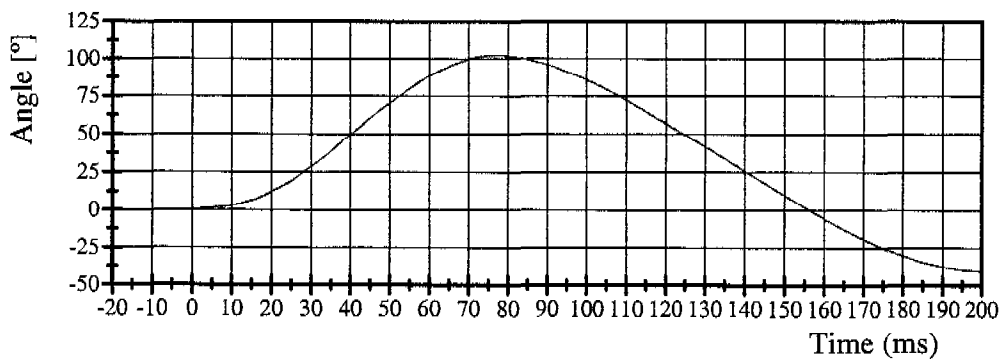


Filter Class: 60

Max 66.4 ° at 78.6 ms

Min: -25.4 ° at 202.8 ms

Totan



Filter Class: 60

Max: 102.4 ° at 77.8 ms

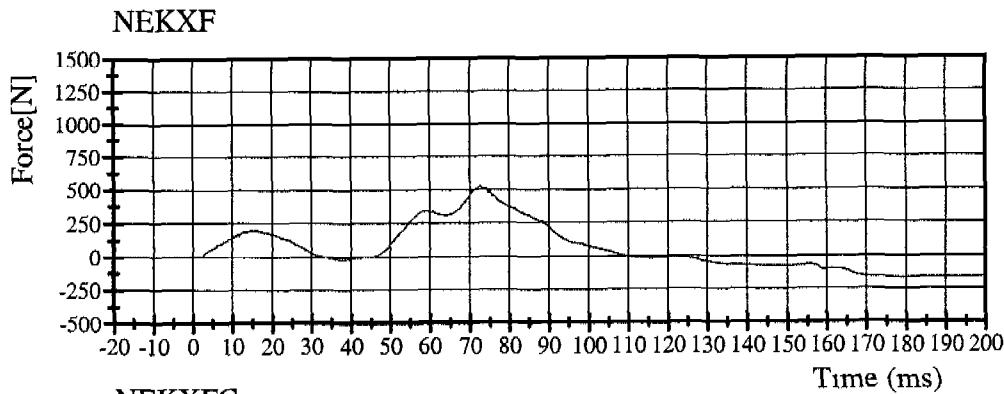
Min: -40.8 ° at 203.7 ms

Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No 14 - 1

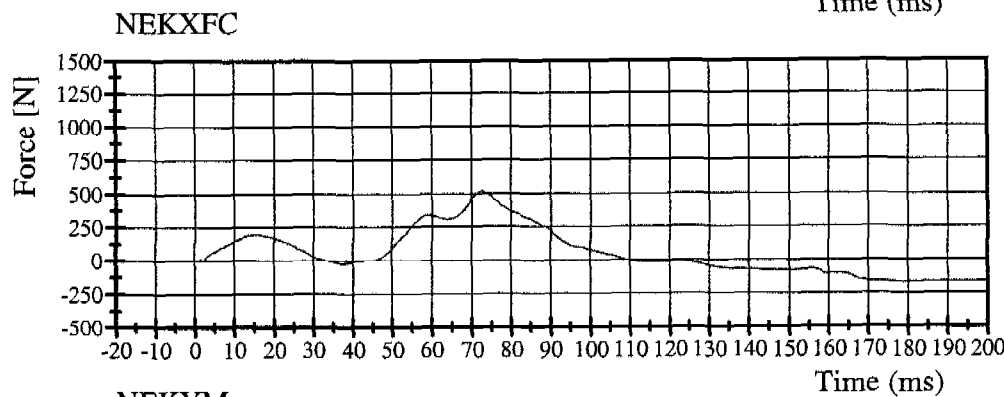
Test Date 05/17/2002



Filter Class: 1000

Max: 521.6 N at 72.6 ms

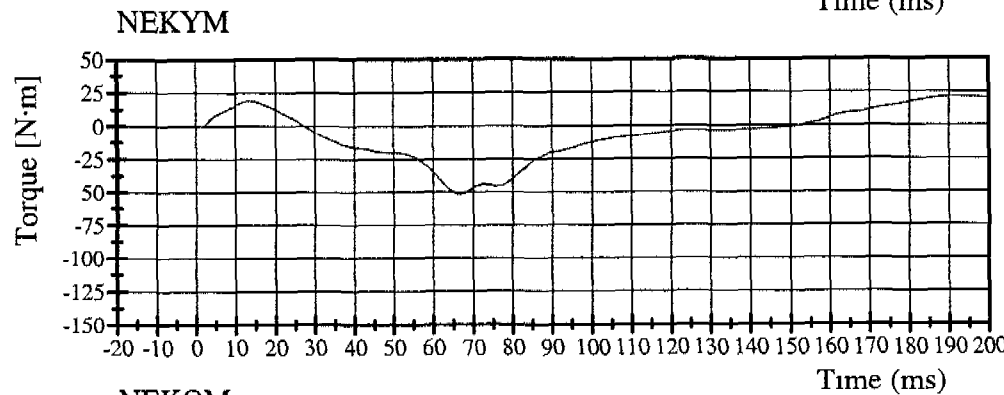
Min: -173.1 N at 178.9 ms



Filter Class: 600

Max: 521.7 N at 72.5 ms

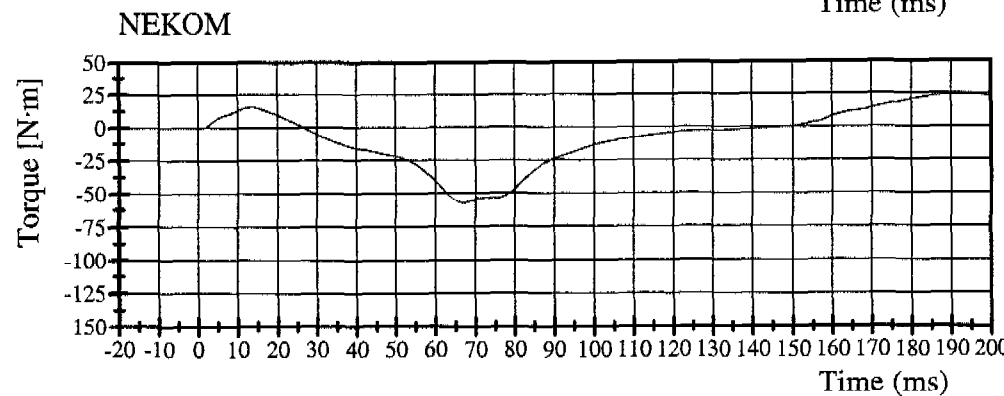
Min: -172.4 N at 178.9 ms



Filter Class: 600

Max: 21.3 N·m at 192.0 ms

Min: -51.4 N·m at 66.6 ms



Filter Class 600

Max: 24.3 N·m at 192.0 ms

Min: -57.4 N·m at 67.0 ms

Transportation Research Center Inc.

5720 Thorax Test

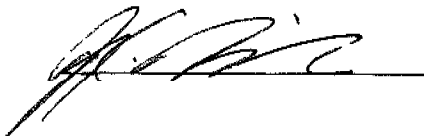
HIII 5th Female Serial No 416 Calibration No. 14 - 3

Test Date 05/20/2002

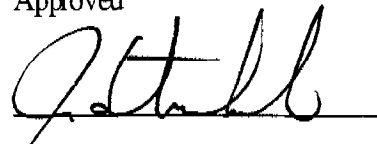
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.66 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-54.9 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4290 N	Yes
Internal Hysteresis	105 % Max.	95 %	Yes
Internal Hysteresis	69 - 85 %	73 %	Yes

Comments:

Technician



Approved



05 20 2002 09 09 18 1745



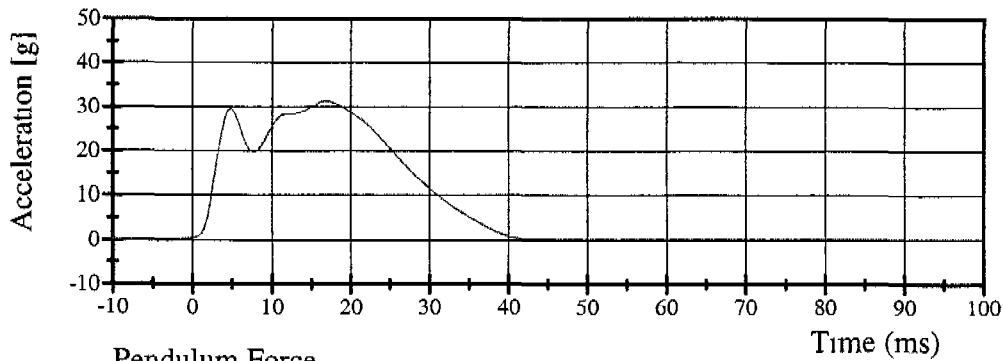
Transportation Research Center Inc.

5720 Thorax Test

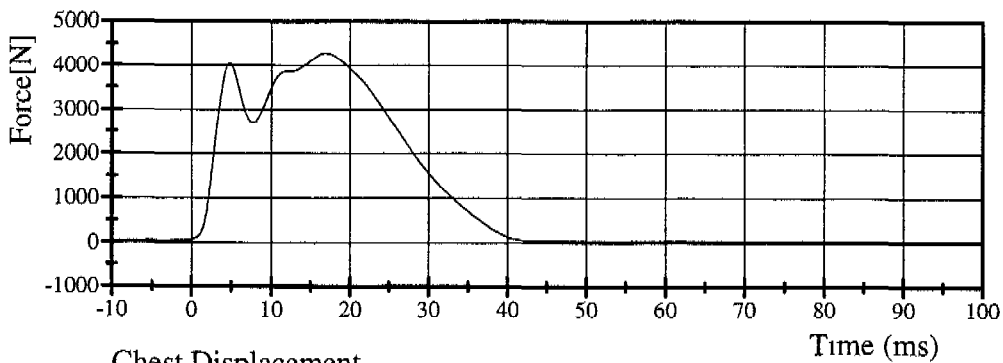
HIII 5th Female Serial No. 416 Calibration No. 14 - 3

Test Date 05/20/2002

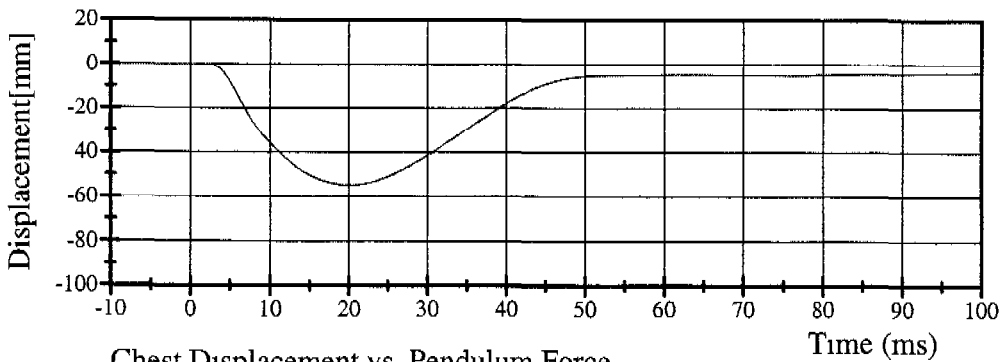
Pendulum Deceleration



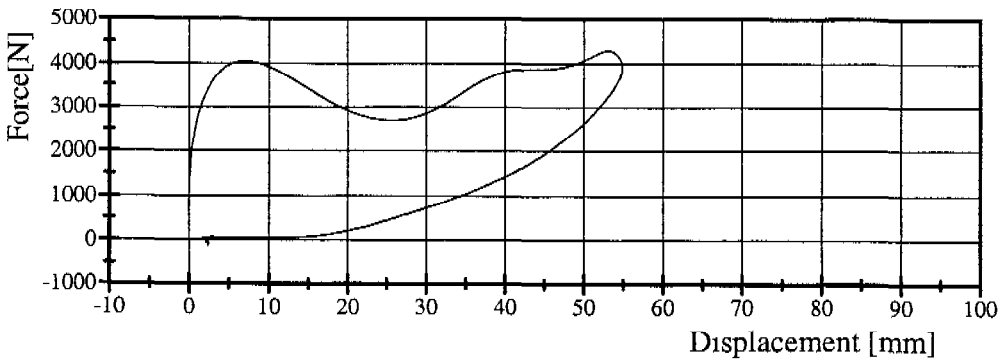
Pendulum Force



Chest Displacement



Chest Displacement vs. Pendulum Force



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

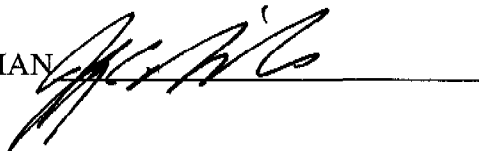
CAL DATE: 17-May-02

TRC, INC. TEST NO: 416C14TF1 572 O SN 416 TORSO FLEX CAL 14

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 – 70 %	45 %
INITIAL ANGLE OF UNSUPPORTED DUMMY	<= 20 DEG. REFERENCED TO VERTICAL	13.2 DEG
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	361.2 N
RETURN ANGLE @ 3MINUTES		17.1 DEG
DIFFERENCE BETWEEN RETURN ANGLE & INITIAL ANGLE	+/- 8 DEG OF INITIAL ANGLE	3.9 DEG.

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

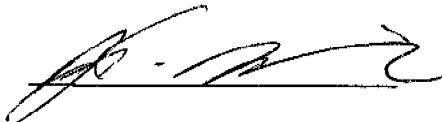
HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

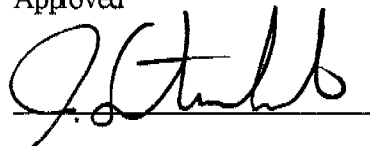
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.10 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3532 N	Yes

Comments:

Technician



Approved



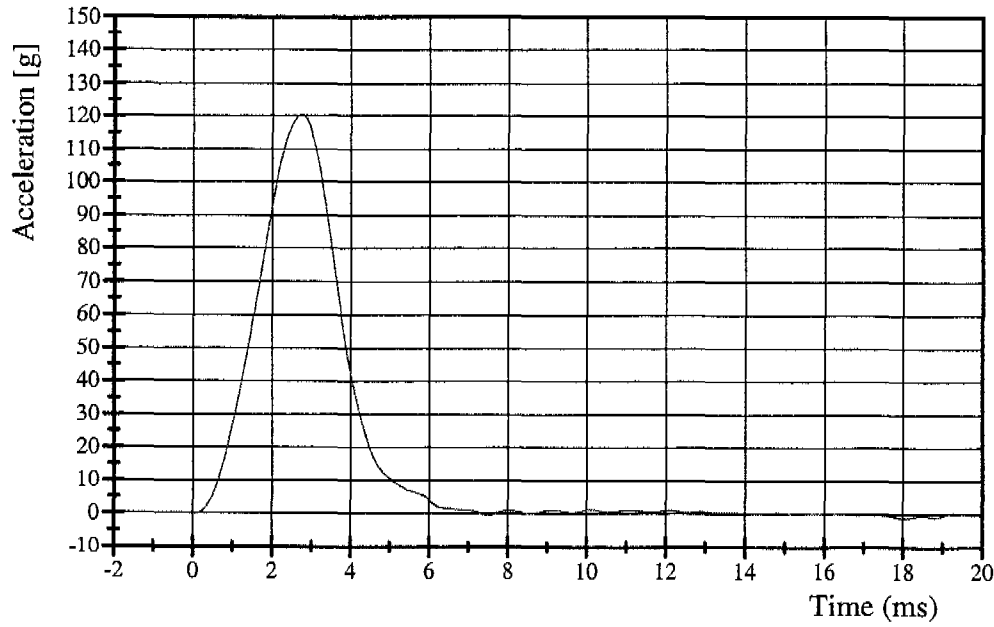
Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

Pendulum Deceleration

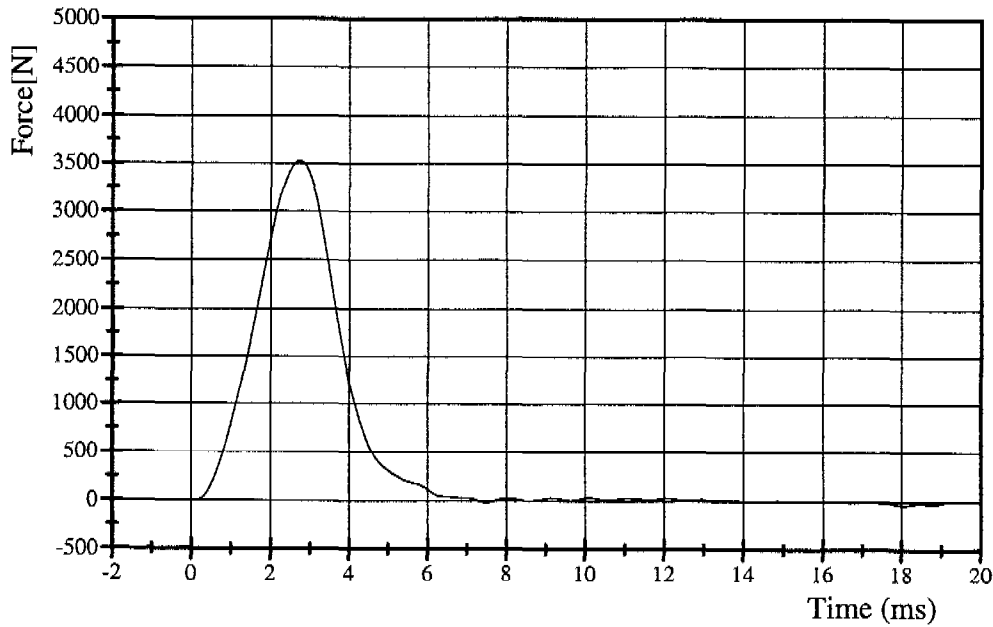


Filter Class: 600

Max: 120.5 g at 2.7 ms

Min: -1.3 g at 18.1 ms

Pendulum Force



Filter Class: 600

Max: 3531.9 N at 2.7 ms

Min: -37.2 N at 18.1 ms

Transportation Research Center Inc.

5720 Right Knee Test

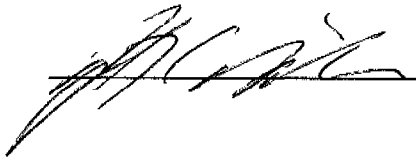
HIII 5th Female Serial No 416 Calibration No. 14 - 1

Test Date 05/17/2002

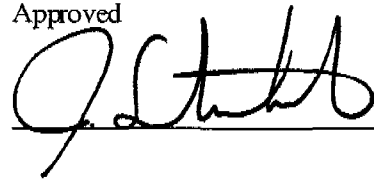
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.10 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3532 N	Yes

Comments:

Technician



Approved



05 17 2002 10 55 30 1700

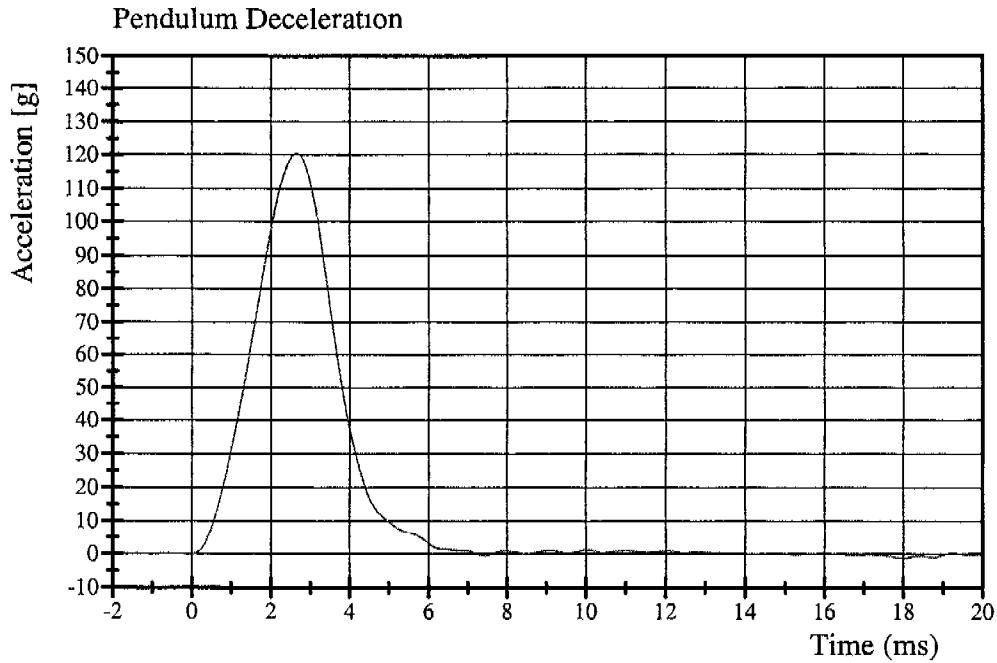


Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

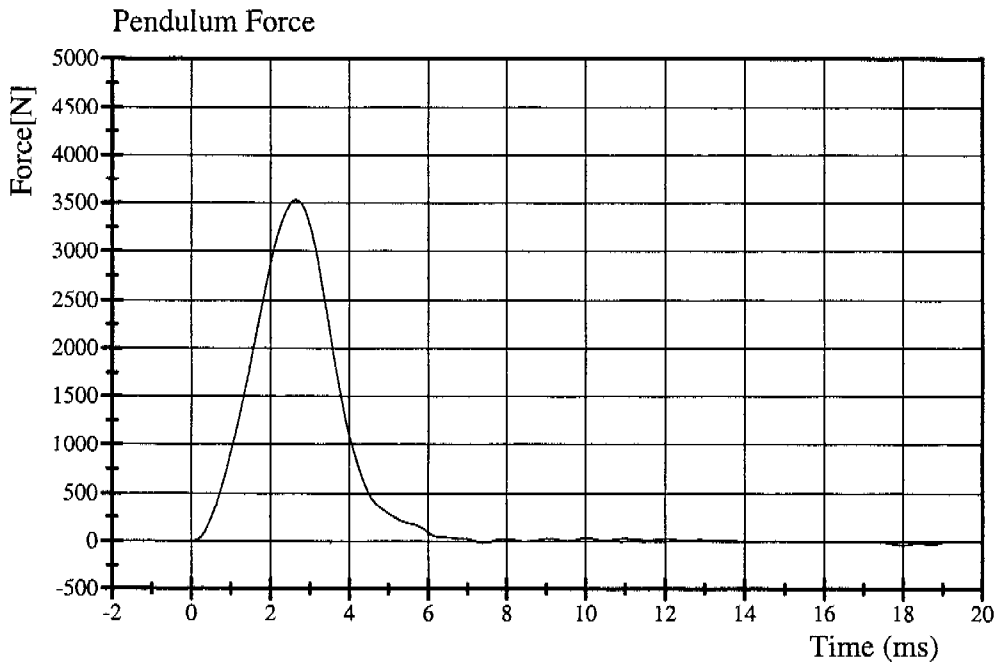
Test Date 05/17/2002



Filter Class: 600

Max: 120.5 g at 2.6 ms

Min: -1.3 g at 18.0 ms



Filter Class: 600

Max: 3531.9 N at 2.6 ms

Min: -37.2 N at 18.0 ms

Transportation Research Center Inc.

5720 Left Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

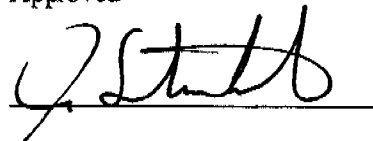
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.76 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-14.1 mm	Yes

Comments:

Technician



Approved

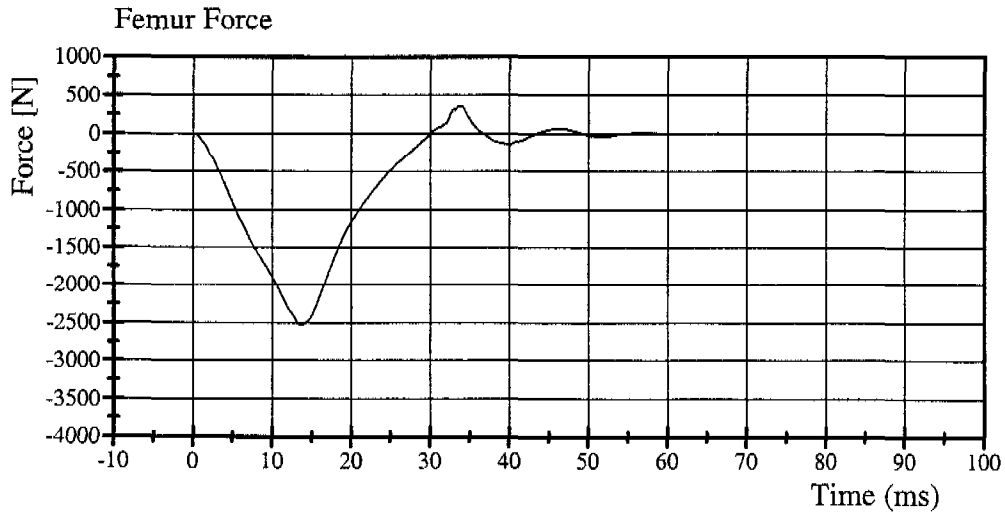


Transportation Research Center Inc.

5720 Left Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

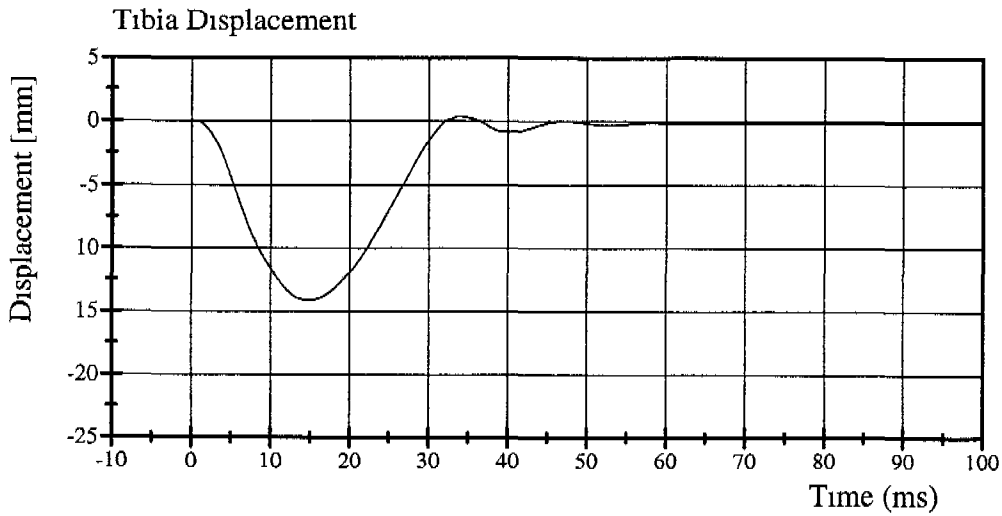
Test Date 05/17/2002



Filter Class: 600

Max: 357.4 N at 33.8 ms

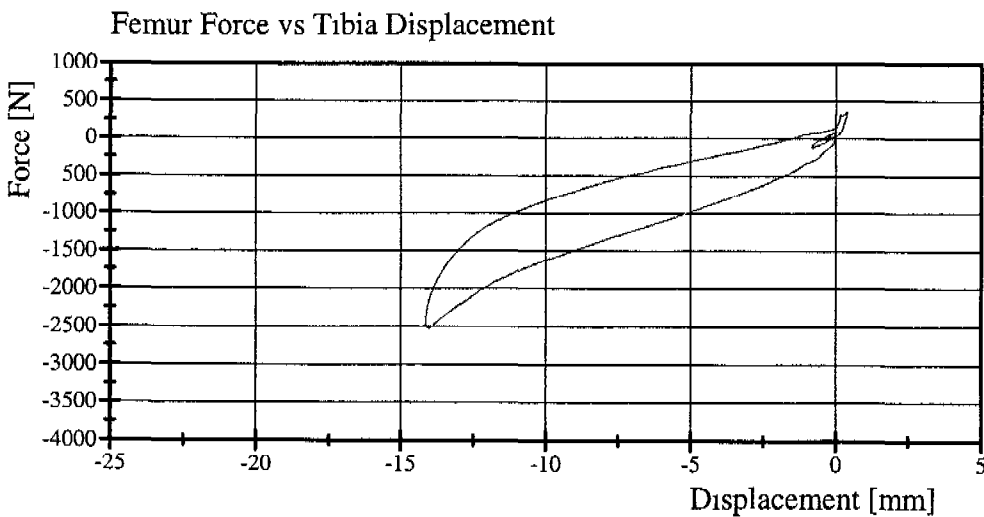
Min: -2525.5 N at 13.6 ms



Filter Class: 600

Max: 0.4 mm at 33.9 ms

Min: -14.1 mm at 14.8 ms



Transportation Research Center Inc.

5720 Right Slider Test

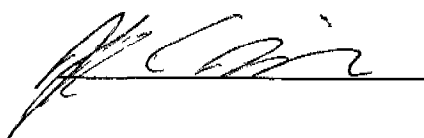
HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

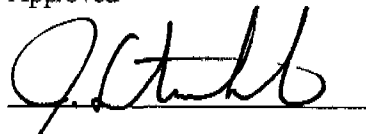
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.76 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-14.4 mm	Yes

Comments:

Technician



Approved



05 17 2002 09 22 21 1702

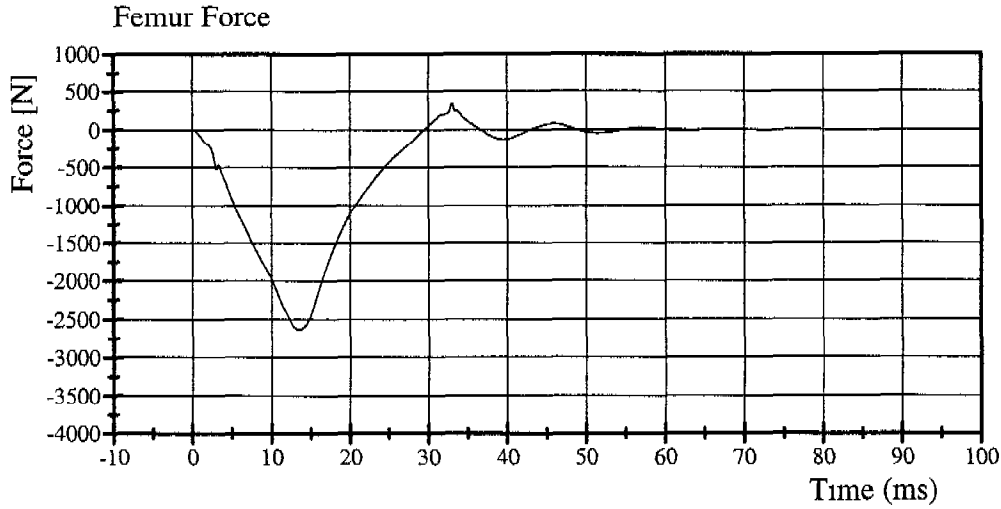


Transportation Research Center Inc.

5720 Right Slider Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

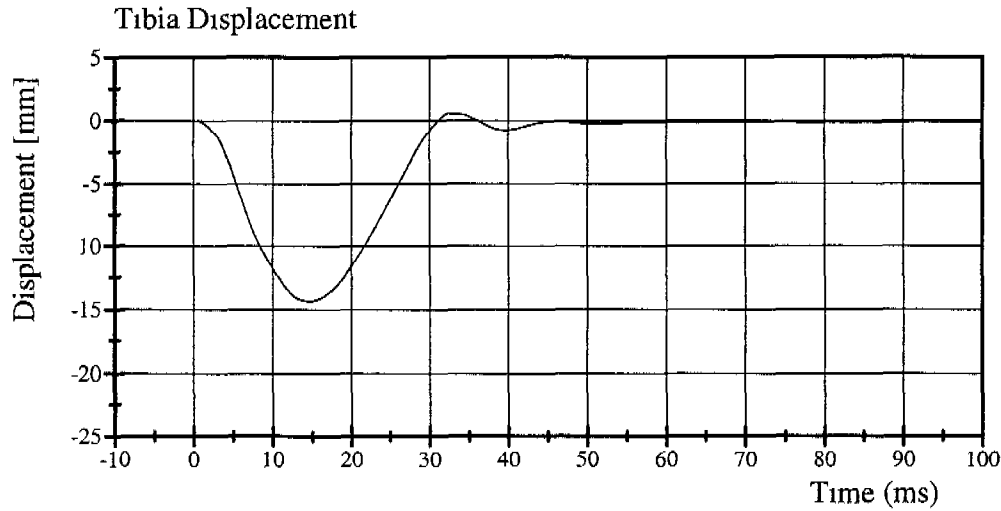
Test Date 05/17/2002



Filter Class: 600

Max: 348.6 N at 33.0 ms

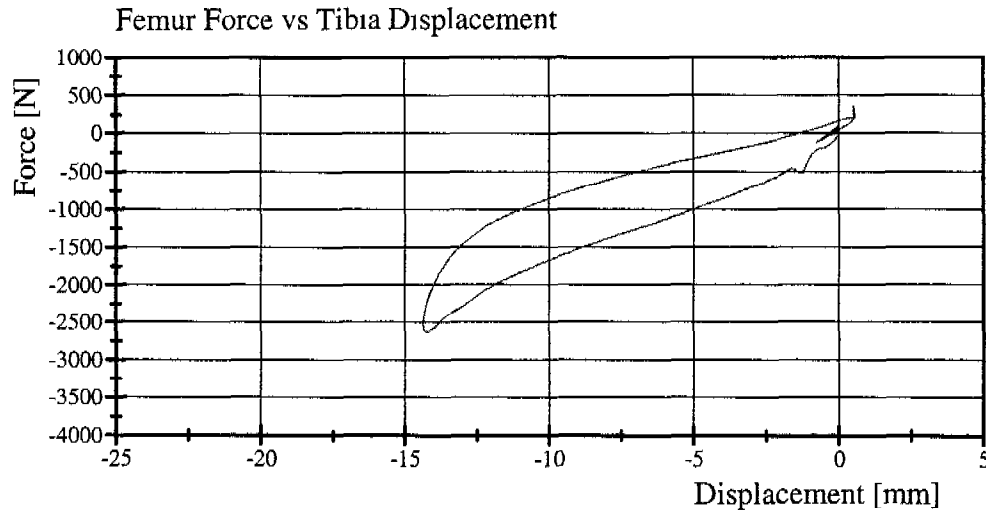
Min: -2633.0 N at 13.5 ms



Filter Class: 600

Max: 0.6 mm at 32.4 ms

Min: -14.4 mm at 14.6 ms



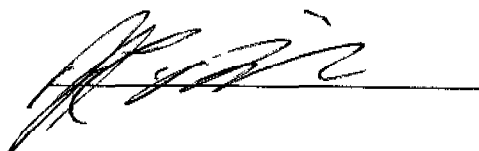
Pre-test Dummy Configuration and Performance Verification Data

Passenger Dummy S/N: 421

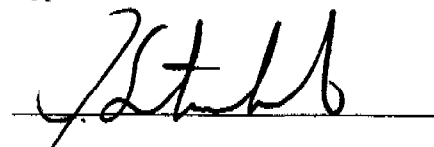
Transportation Research Center Inc.
572F HIII 5th Dummy
External Dimensions
Serial No. 421 Calibration No. 07

Test Parameter	Dimension	Specification	Results	Pass
Total Sitting Height	A	774.7 - 800.1 mm	790 mm	Yes
Shoulder Pivot Height	B	431.8 - 457.2 mm	449 mm	Yes
Hip Pivot Height	C	81.3 - 86.3 mm	86 mm	Yes
Hip Pivot from Backline	D	144.8 - 149.8 mm	145 mm	Yes
Shoulder Pivot from Backline	E	68.6 - 83.8 mm	77 mm	Yes
Thigh Clearance	F	119.4 - 134.6 mm	130 mm	Yes
Back of Elbow to Wrist Pivot	G	243.9 - 259.0 mm	254 mm	Yes
Head Back to Backline	H	40.7 - 45.7 mm	45 mm	Yes
Shoulder to Elbow Length	I	276.9 - 297.1 mm	281 mm	Yes
Elbow Rest Height	J	182.9 - 203.2 mm	192 mm	Yes
Buttock Knee Length	K	520.7 - 546.1 mm	533 mm	Yes
Popliteal Height	L	355.6 - 375.9 mm	367 mm	Yes
Knee Pivot Height	M	393.7 - 419.1 mm	408 mm	Yes
Buttock Popliteal Height	N	414.1 - 439.4 mm	430 mm	Yes
Chest Depth without Jacket	O	175.3 - 190.5 mm	184 mm	Yes
Foot Length	P	218.5 - 233.6 mm	229 mm	Yes
Buttock to Knee Pivot Length	R	457.2 - 482.6 mm	472 mm	Yes
Head Breadth	S	137.2 - 147.3 mm	144 mm	Yes
Head Depth	T	177.8 - 187.9 mm	181 mm	Yes
Hip Breadth	U	299.8 - 314.9 mm	301 mm	Yes
Shoulder Breadth	V	350.6 - 365.7 mm	351 mm	Yes
Foot Breadth	W	78.8 - 93.9 mm	89 mm	Yes
Head Circumference	X	528.4 - 548.6 mm	547 mm	Yes
Chest Circumference with Jacket	Y	850.9 - 881.3 mm	867 mm	Yes
Waist Circumference	Z	759.5 - 789.9 mm	765 mm	Yes
Reference Location for Chest Circumference	AA	299.8 - 309.8 mm	305 mm	Yes
Reference Location for Waist Circumference	BB	160.1 - 170.1 mm	165 mm	Yes

Technician



Approved




Transportation Research Center Inc.

5720 Head Drop Test

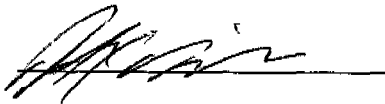
HIII 5th Female Serial No. 421 Calibration No. 07 - 2

Test Date 05/20/2002

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	29 %	Yes
Peak Resultant Acceleration	250 - 300 g	279.3 g	Yes
Peak Lateral Acceleration	15 g Max	-3.8 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician



Approved

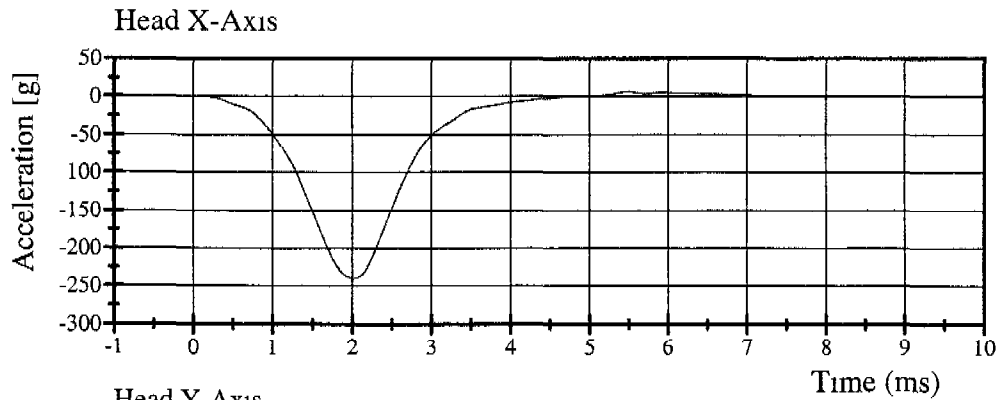


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 421 Calibration No 07 - 2

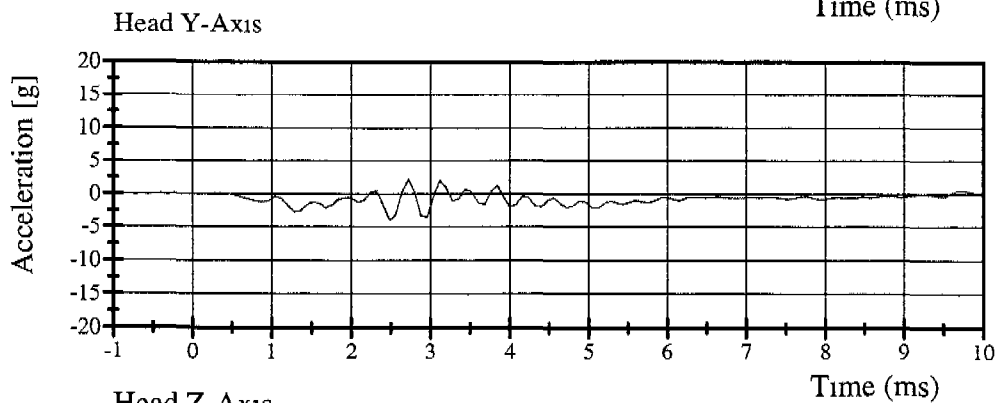
Test Date 05/20/2002



Filter Class: 1000

Max: 5.8 g at 5.5 ms

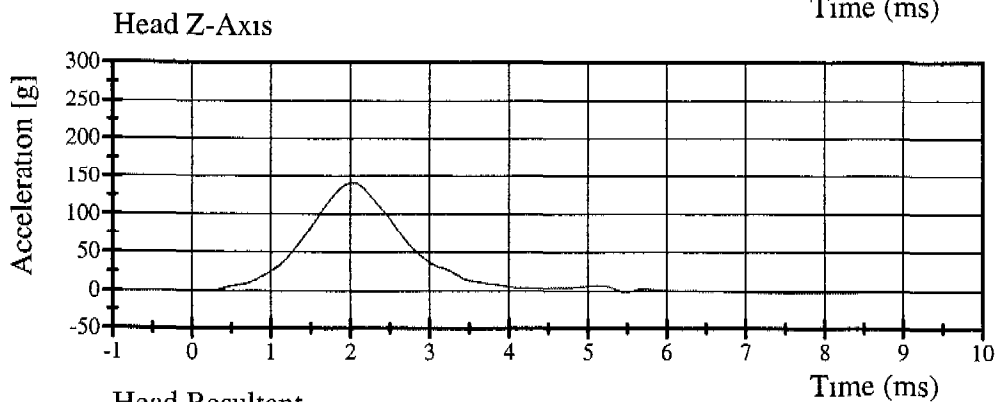
Min: -241.0 g at 2.0 ms



Filter Class: 1000

Max: 2.2 g at 2.7 ms

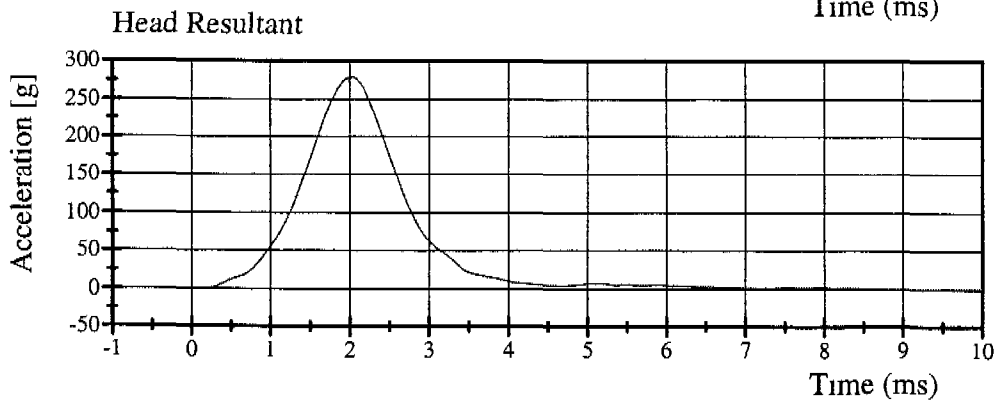
Min: -3.8 g at 2.5 ms



Filter Class: 1000

Max: 141.3 g at 2.0 ms

Min: -2.3 g at 7.5 ms



Filter Class: 1000

Max: 279.3 g at 2.0 ms

Min: 0.0 g at 2.2 ms

Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

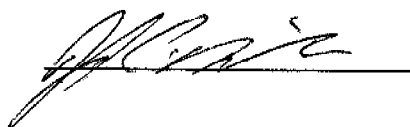
HIII 5th Female Serial No. 421 Calibration No. 07 - 7

Test Date 05/20/2002

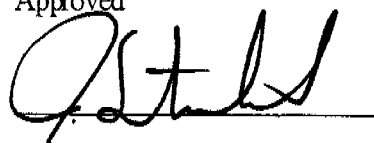
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.10 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.47 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.81 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.85 m/s	Yes
Peak D Plane Rotation	77 - 91 °	83.2 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	71.77 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	89.76 ms	Yes

Comments:

Technician



Approved



05 20 2002 15 08 35 477



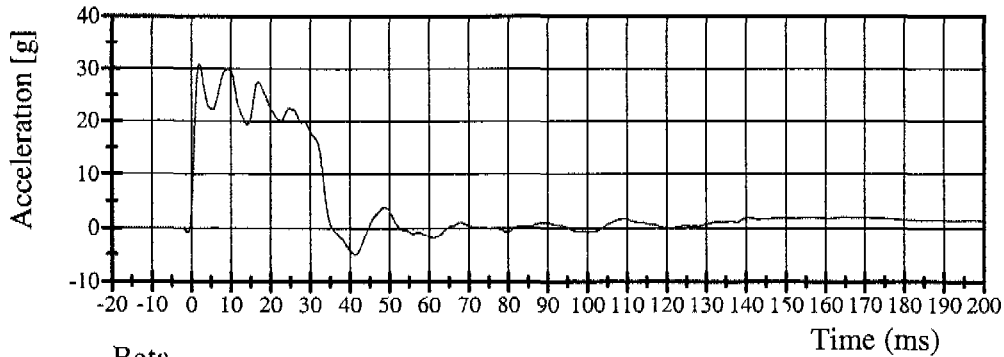
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 421 Calibration No. 07 - 7

Test Date 05/20/2002

Pendulum Deceleration

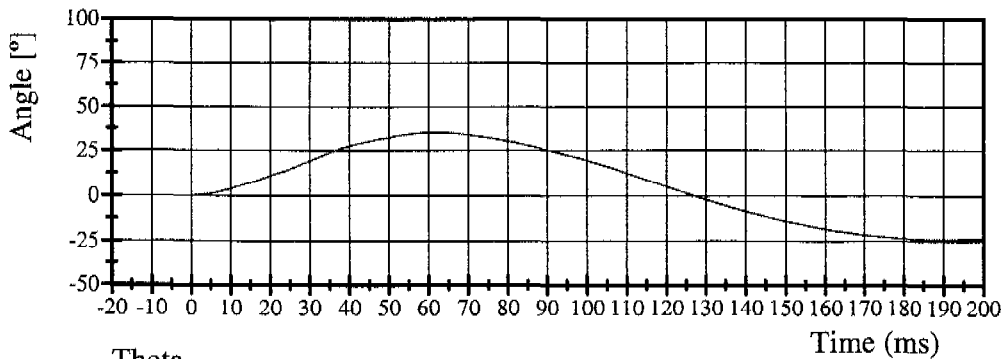


Filter Class: 180

Max: 30.9 g at 2.0 ms

Min: -5.0 g at 41.3 ms

Beta

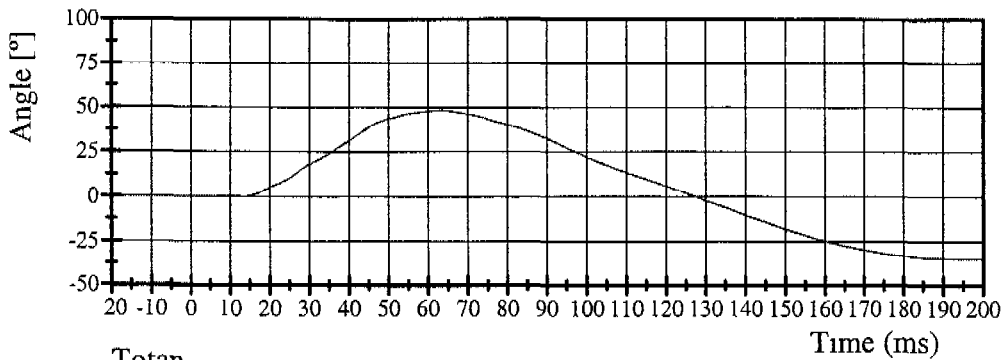


Filter Class: 60

Max: 35.1 ° at 61.7 ms

Min: -23.8 ° at 186.9 ms

Theta

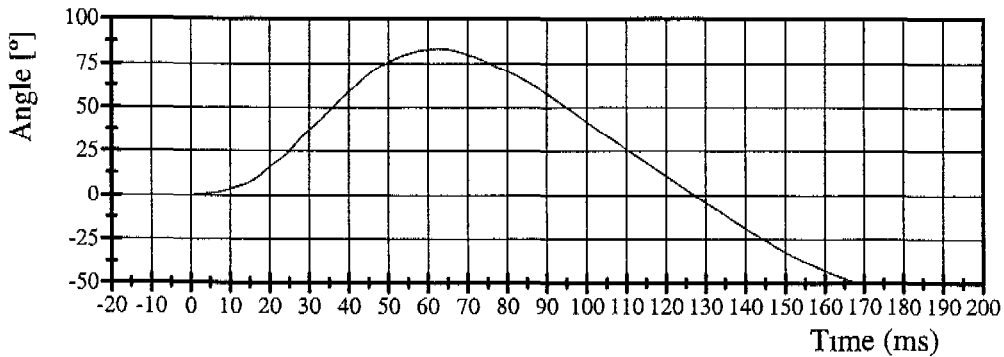


Filter Class: 60

Max: 48.0 ° at 63.2 ms

Min: -34.7 ° at 196.1 ms

Totan



Filter Class: 60

Max: 83.2 ° at 63.0 ms

Min: -58.5 ° at 194.9 ms

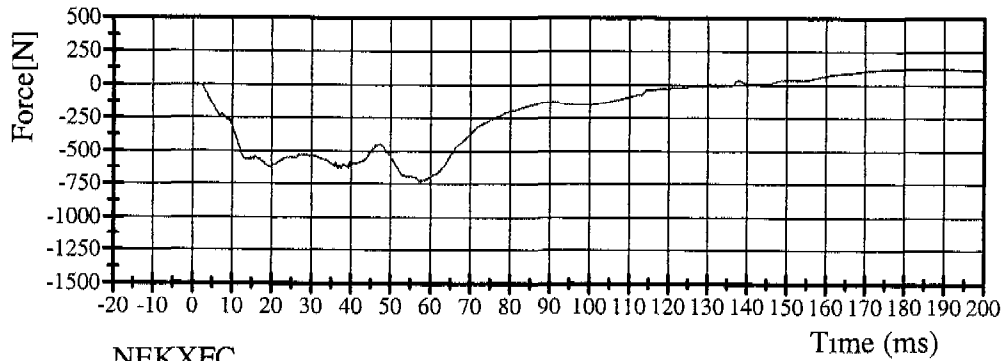
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 421 Calibration No. 07 - 7

Test Date 05/20/2002

NEKXF

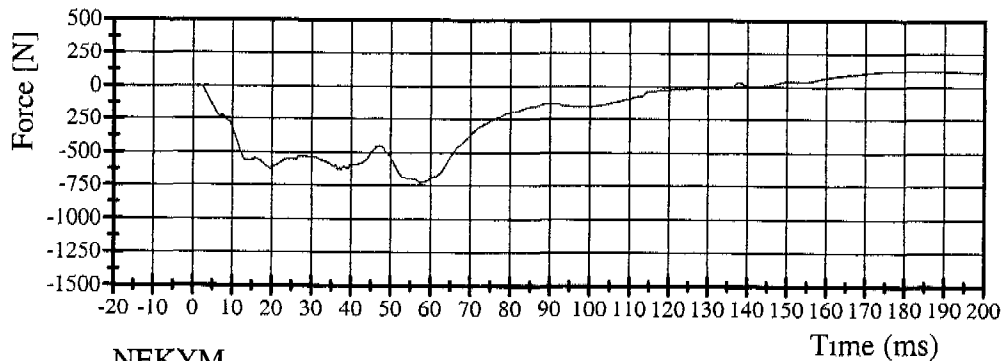


Filter Class: 1000

Max: 122.7 N at 186.4 ms

Min: -731.9 N at 57.5 ms

NEKXFC

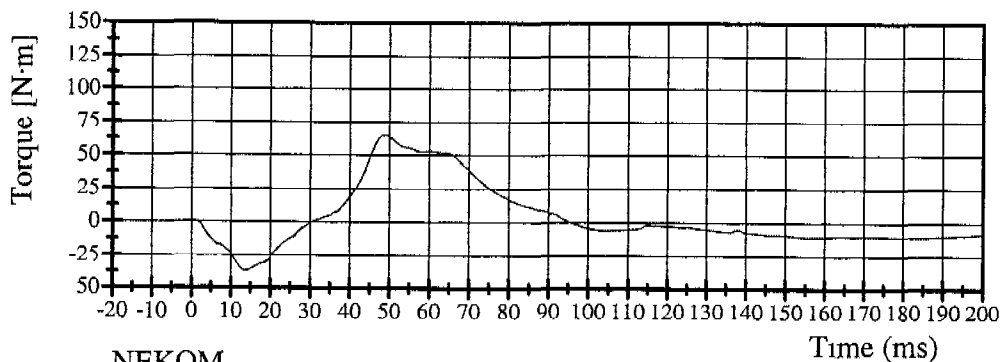


Filter Class: 600

Max: 122.0 N at 186.6 ms

Min: -730.4 N at 57.4 ms

NEKYM

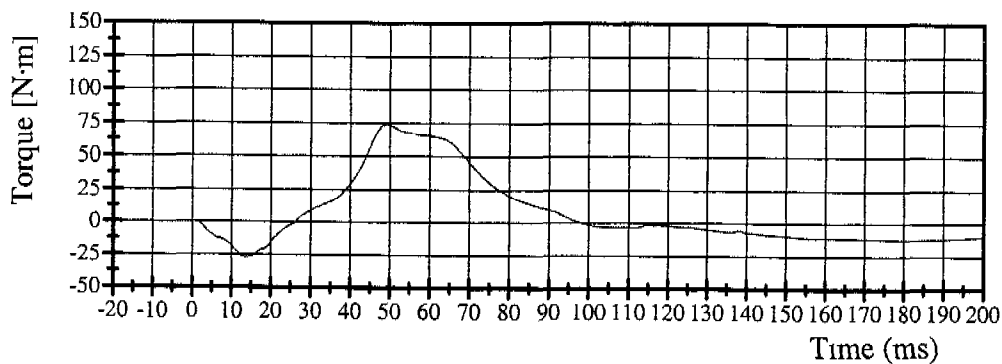


Filter Class: 600

Max: 64.8 N·m at 48.7 ms

Min: -36.8 N·m at 13.4 ms

NEKOM



Filter Class: 600

Max: 73.8 N·m at 49.4 ms

Min: -26.9 N·m at 13.4 ms

Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

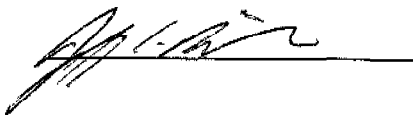
HIII 5th Female Serial No. 421 Calibration No 07 - 1

Test Date 05/20/2002

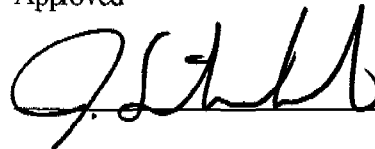
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	29 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.18 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.88 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.82 m/s	Yes
30 ms	4.60 - 5.60 m/s	5.56 m/s	Yes
Peak D Plane Rotation	99 - 114 °	103.9 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-60.37 N·m	Yes
Positive Moment Decay Time To -10 N·m	94 - 114 ms	102.72 ms	Yes

Comments:

Technician



Approved



05 20 2002 15 39 31 543

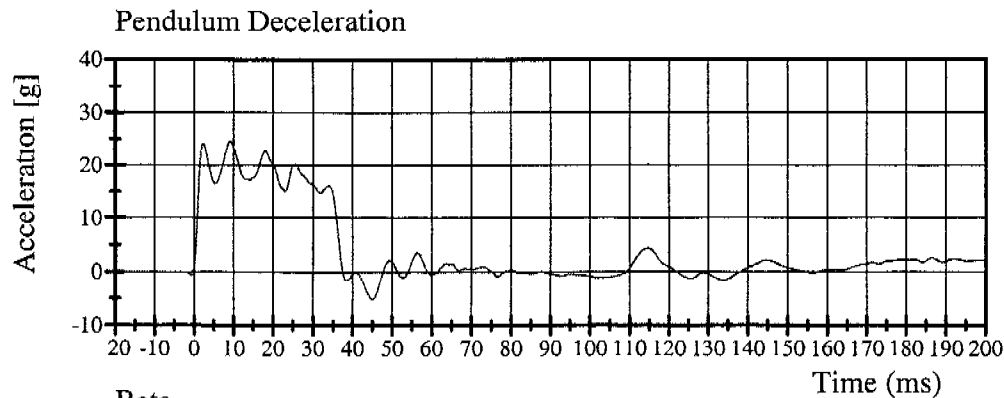


Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No 421 Calibration No. 07 - 1

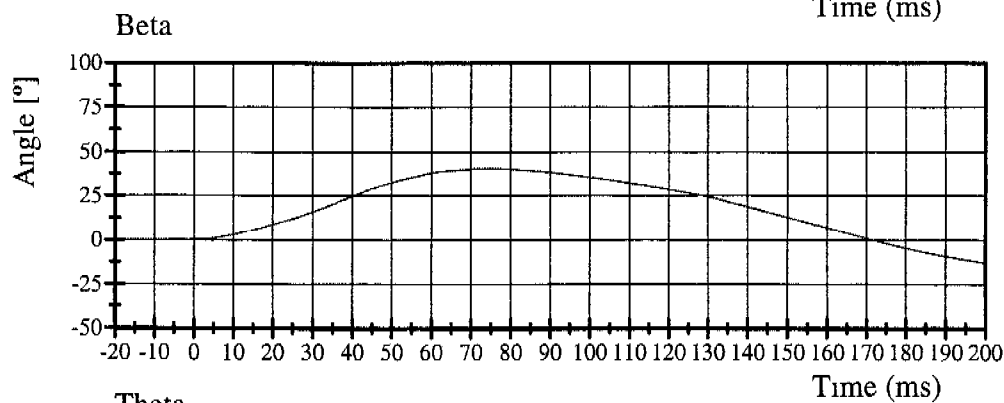
Test Date 05/20/2002



Filter Class: 180

Max: 24.7 g at 9.1 ms

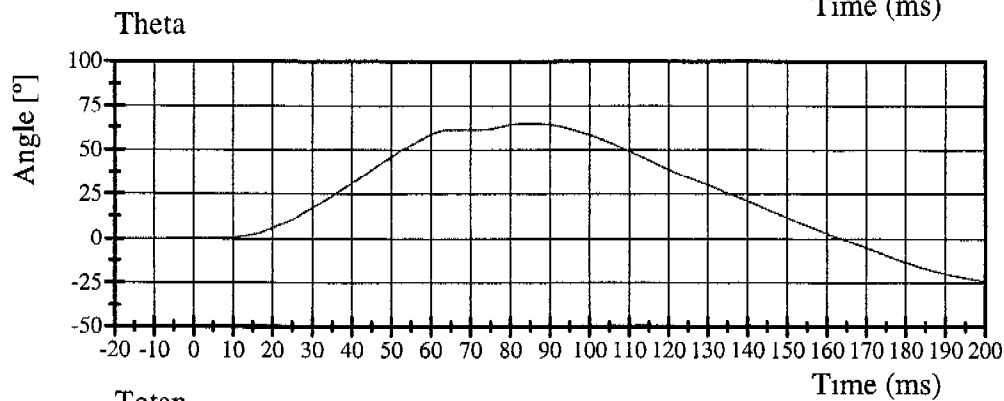
Min: -5.2 g at 45.0 ms



Filter Class: 60

Max: 40.4 ° at 72.9 ms

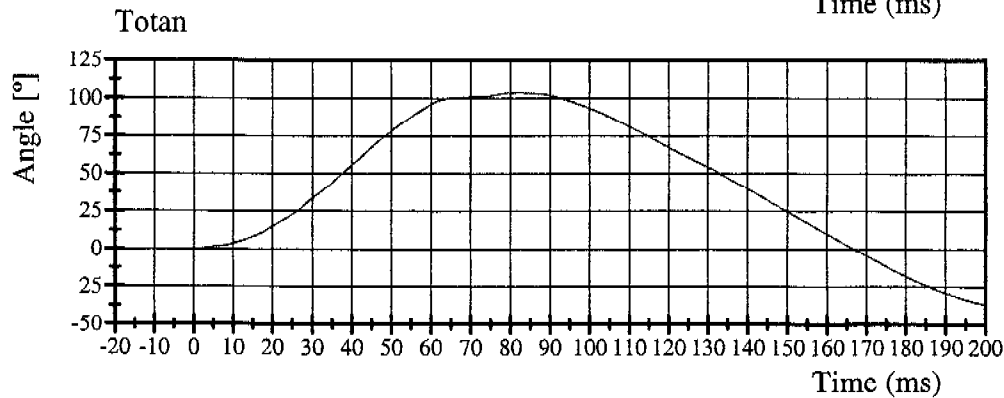
Min: -15.3 ° at 220.0 ms



Filter Class: 60

Max: 64.4 ° at 84.2 ms

Min: -26.1 ° at 214.9 ms



Filter Class: 60

Max: 103.9 ° at 81.5 ms

Min: -41.3 ° at 219.0 ms

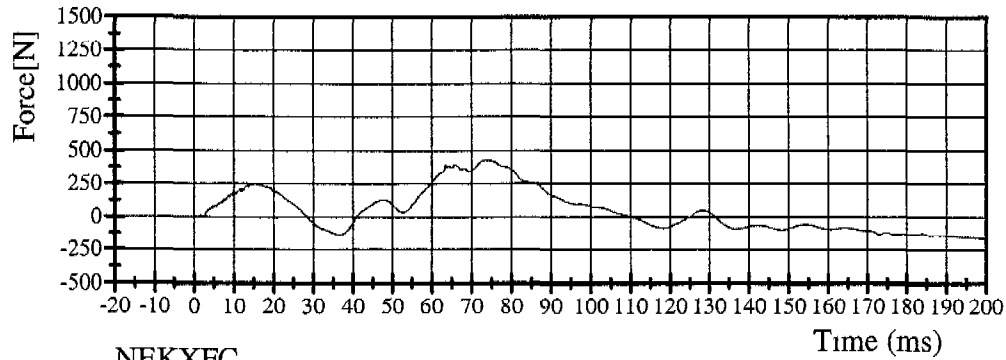
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 421 Calibration No. 07 - 1

Test Date 05/20/2002

NEKXF

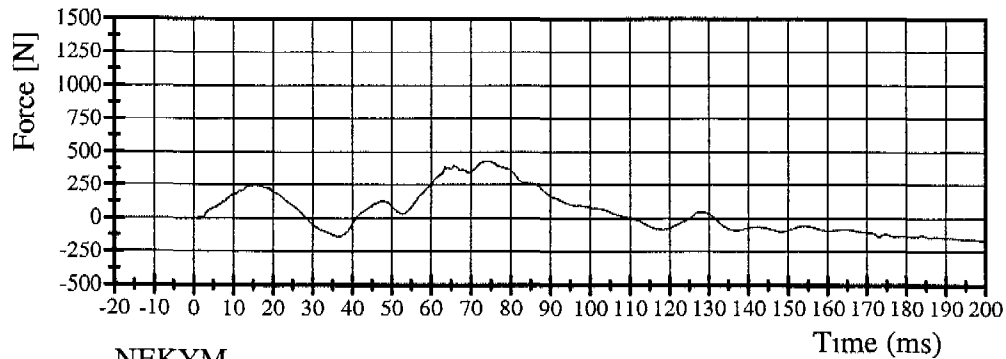


Filter Class: 1000

Max: 431.2 N at 73.6 ms

Min: -166.4 N at 201.0 ms

NEKXFC

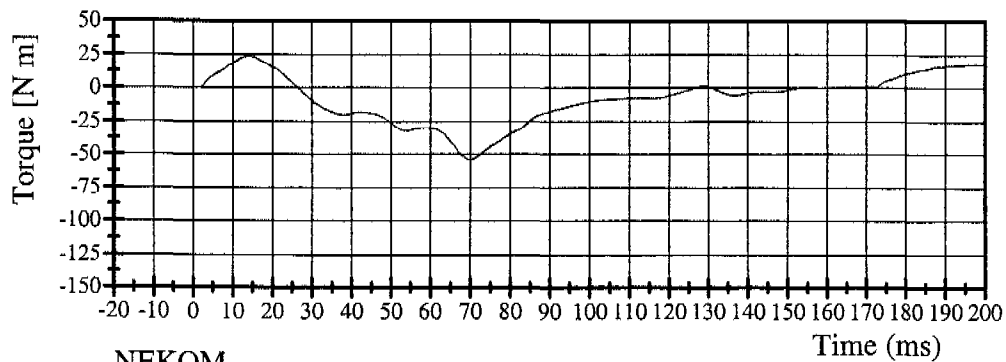


Filter Class: 600

Max: 430.6 N at 73.8 ms

Min: -165.8 N at 202.6 ms

NEKYM

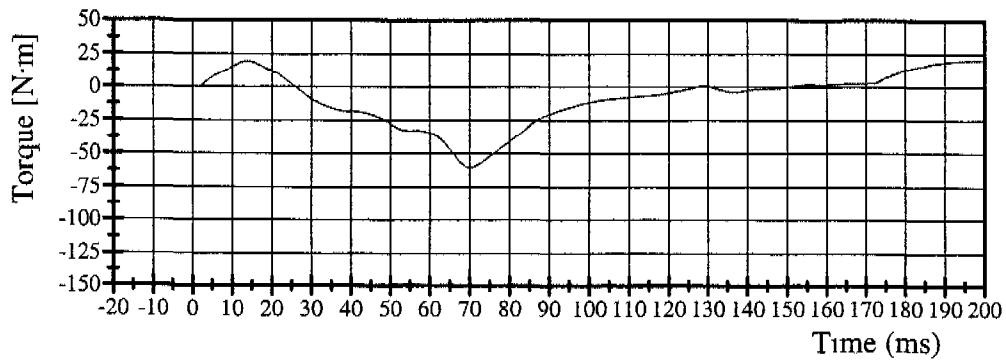


Filter Class: 600

Max: 23.8 N·m at 14.0 ms

Min: -54.2 N·m at 69.8 ms

NEKOM



Filter Class: 600

Max: 21.0 N·m at 207.1 ms

Min: -60.4 N·m at 70.0 ms

Transportation Research Center Inc.

5720 Thorax Test

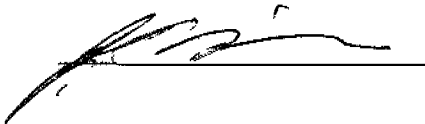
HIII 5th Female Serial No. 421 Calibration No. 07 - 1

Test Date 05/20/2002

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.82 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-52.9 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4086 N	Yes
Internal Hysteresis	105 % Max.	100 %	Yes
Internal Hysteresis	69 - 85 %	73 %	Yes

Comments:

Technician



Approved



05 20 2002 16 19 12 1668



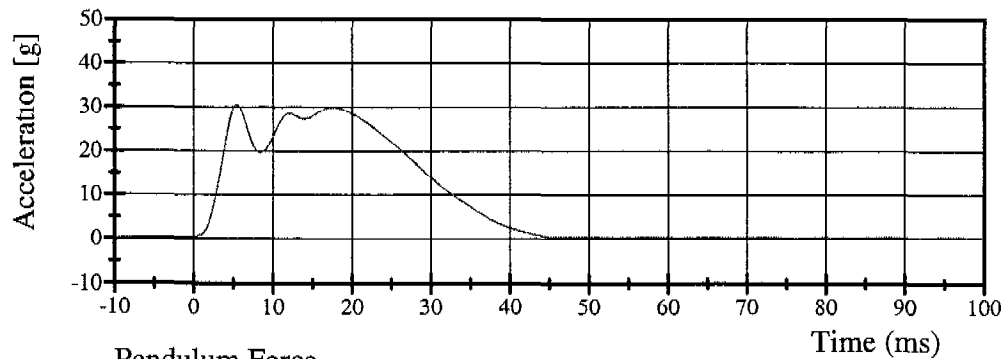
Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 421 Calibration No. 07 - 1

Test Date 05/20/2002

Pendulum Deceleration

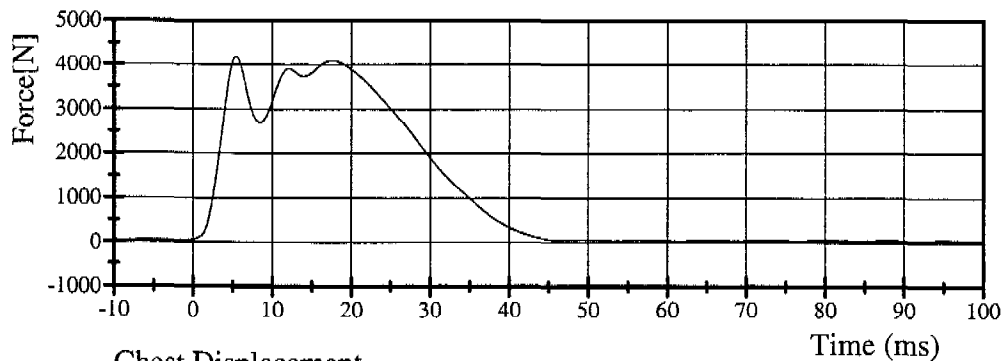


Filter Class 180

Max: 30.5 g at 5.4 ms

Min: -0.1 g at 237.5 ms

Pendulum Force

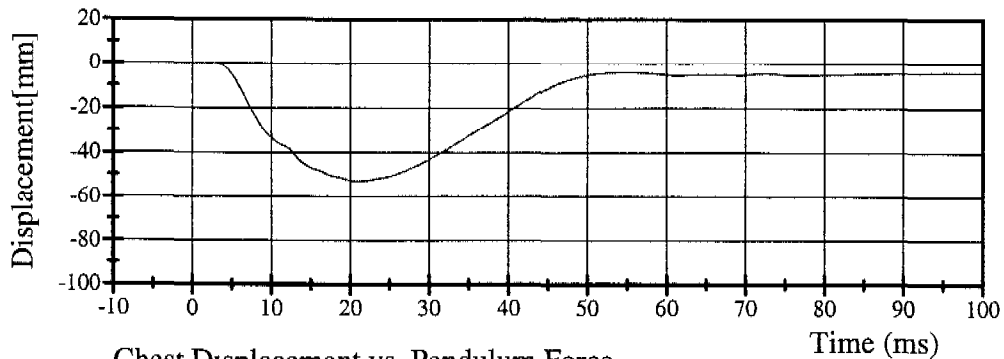


Filter Class. 180

Max. 4182.3 N at 5.4 ms

Min: -13.4 N at 237.5 ms

Chest Displacement

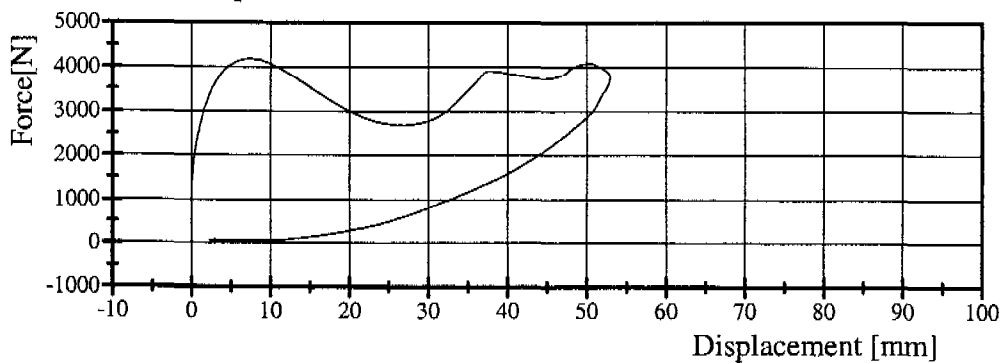


Filter Class: 180

Max. 0.0 mm at 2.2 ms

Min: -52.9 mm at 20.9 ms

Chest Displacement vs. Pendulum Force



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

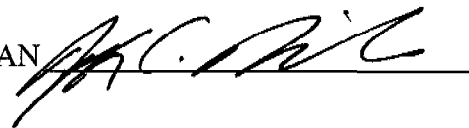
CAL DATE: 20-May-02

TRC, INC. TEST NO: 421C07TF1 572 O SN 421 TORSO FLEX CAL 07

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 – 70 %	31 %
INITIAL ANGLE OF UNSUPPORTED DUMMY	≤ 20 DEG. REFERENCED TO VERTICAL	16.1 DEG.
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	353.2 N
RETURN ANGLE @ 3MINUTES		20.1 DEG.
DIFFERENCE BETWEEN RETURN ANGLE & INITIAL ANGLE	± 8 DEG OF INITIAL ANGLE	4.0 DEG.

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

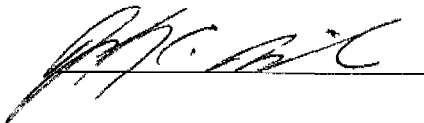
HIII 5th Female Serial No. 416 Calibration No. 14 - 1

Test Date 05/17/2002

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.10 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3725 N	Yes

Comments:

Technician



Approved

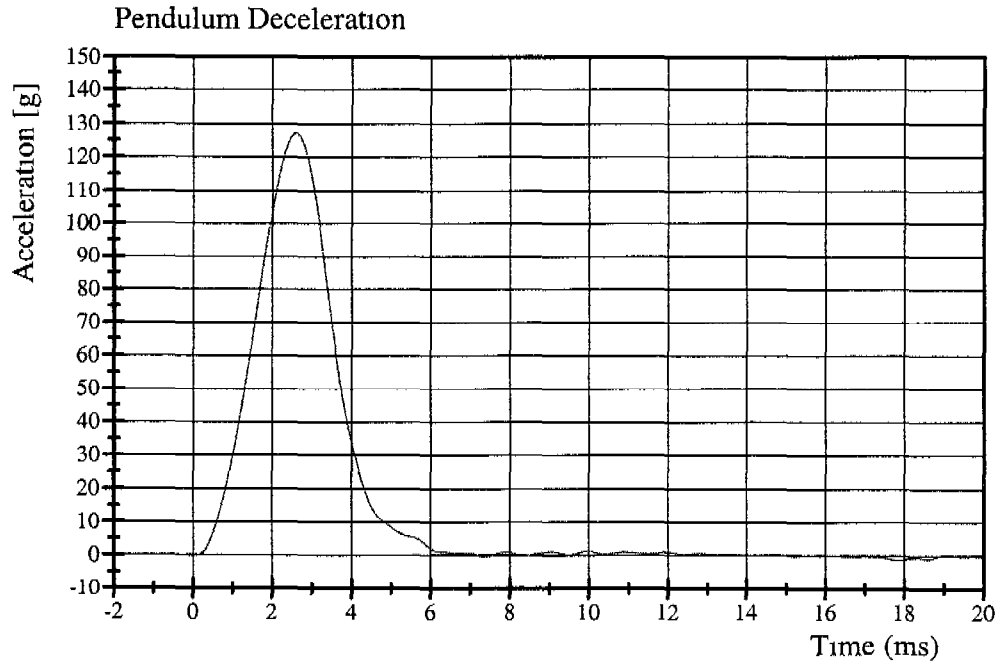


Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 416 Calibration No. 14 - 1

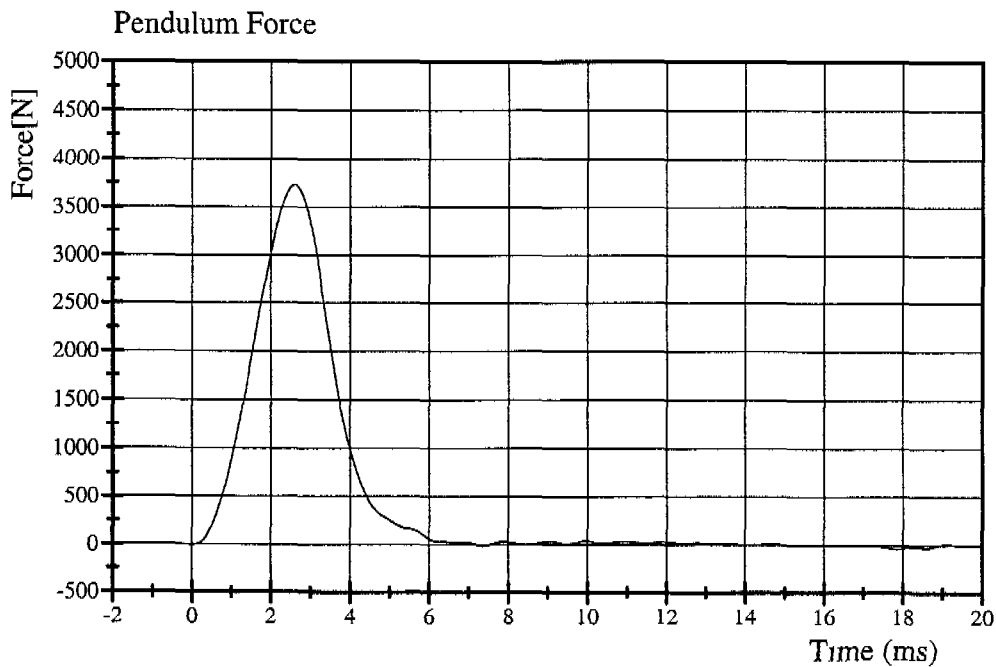
Test Date 05/17/2002



Filter Class: 600

Max: 127.0 g at 2.6 ms

Min: -1.3 g at 17.8 ms



Filter Class: 600

Max: 3725.2 N at 2.6 ms

Min: -36.9 N at 17.8 ms

Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No 421 Calibration No. 07 - 1

Test Date 05/17/2002

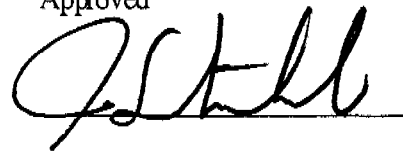
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.12 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3732 N	Yes

Comments:

Technician



Approved



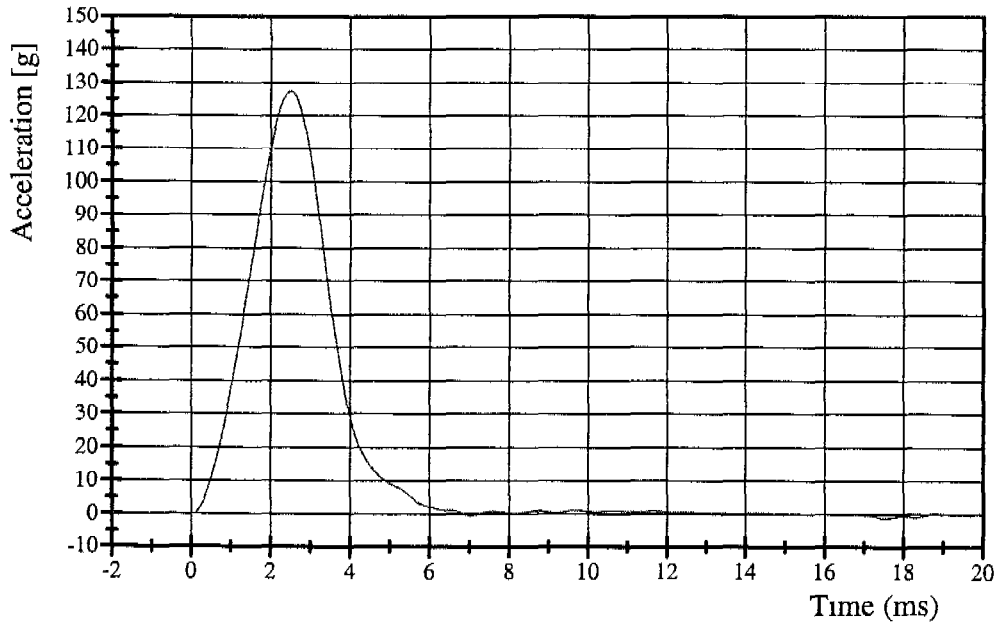
Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 421 Calibration No. 07 - 1

Test Date 05/17/2002

Pendulum Deceleration

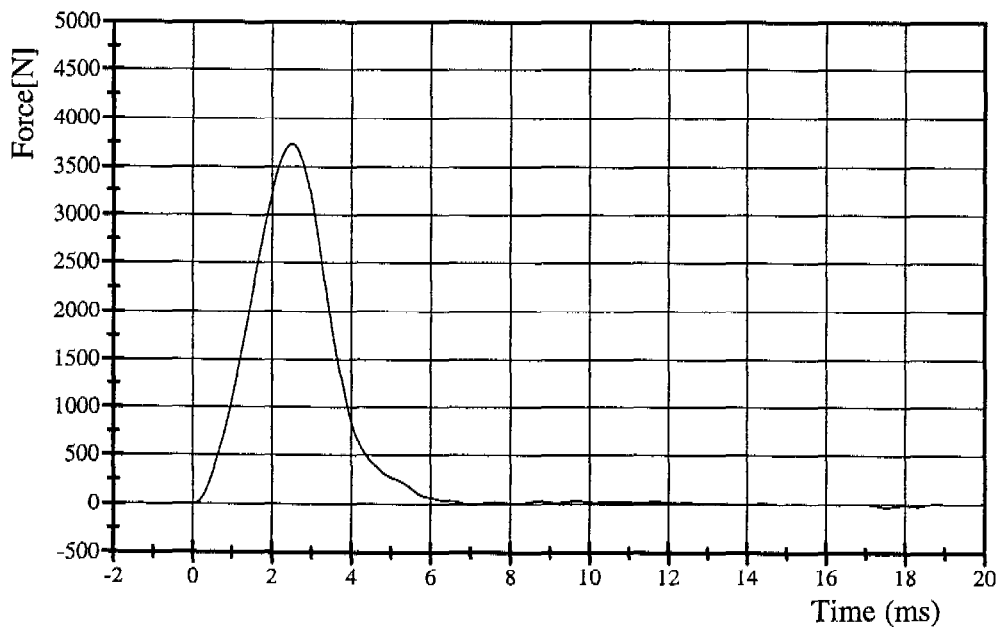


Filter Class: 600

Max: 127.3 g at 2.5 ms

Min: -1.1 g at 17.5 ms

Pendulum Force



Filter Class: 600

Max: 3732.2 N at 2.5 ms

Min: -33.4 N at 17.5 ms

Transportation Research Center Inc.

5720 Left Knee Slider Test

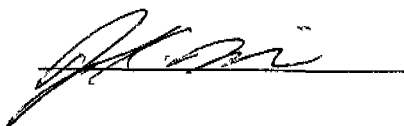
HIII 5th Female Serial No. 421 Calibration No. 07 - 1

Test Date 05/17/2002

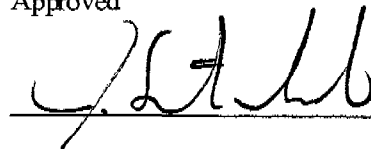
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.76 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-14.3 mm	Yes

Comments:

Technician



Approved

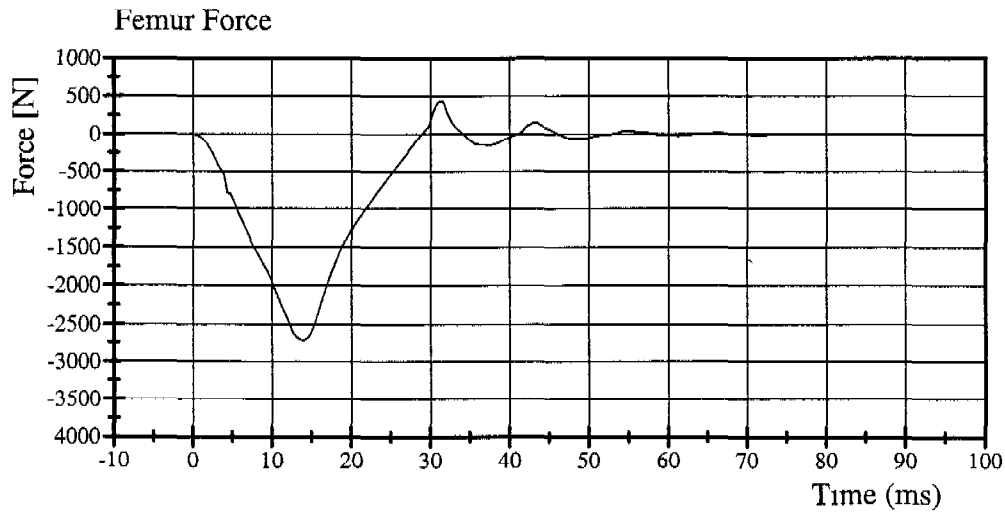


Transportation Research Center Inc.

5720 Left Knee Slider Test

HIII 5th Female Serial No. 421 Calibration No. 07 - 1

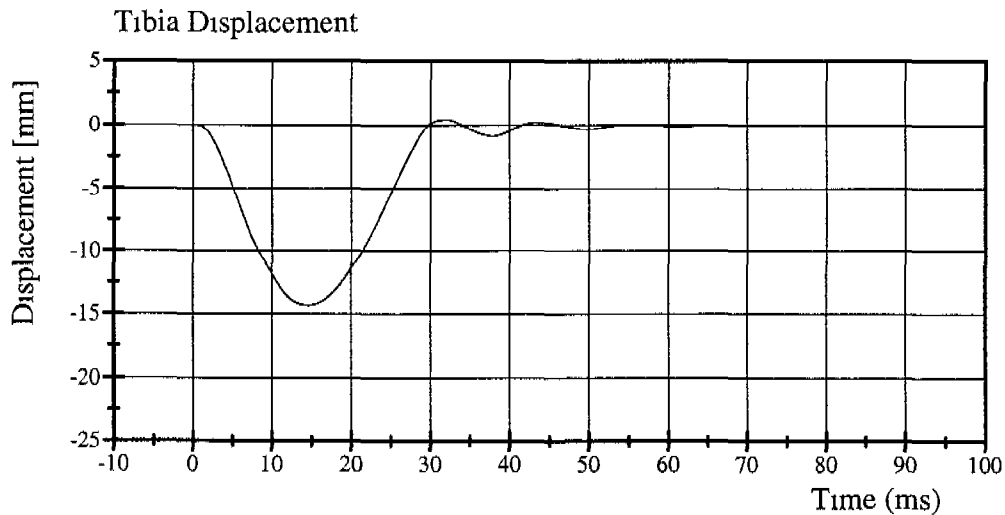
Test Date 05/17/2002



Filter Class: 600

Max: 438.4 N at 31.4 ms

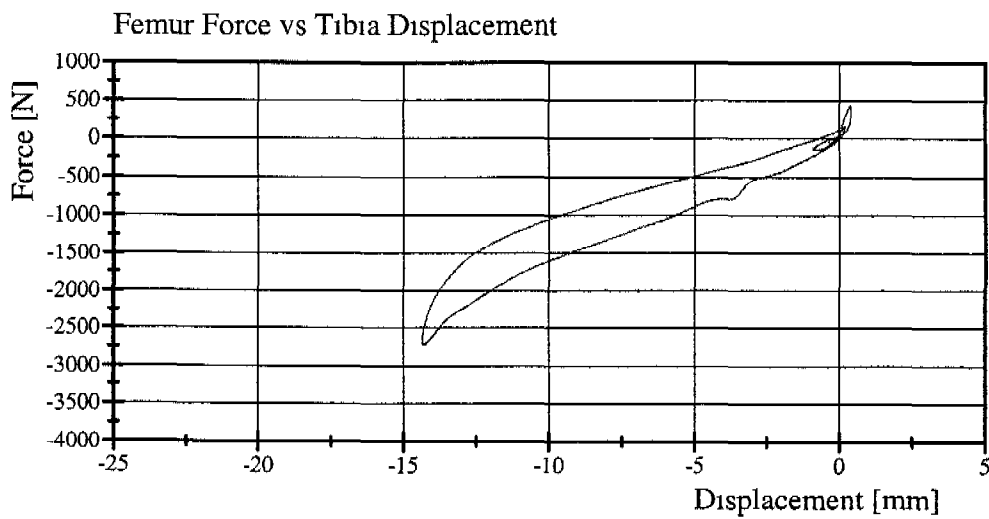
Min: -2717.6 N at 13.9 ms



Filter Class: 600

Max: 0.4 mm at 31.8 ms

Min: -14.3 mm at 14.6 ms



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Transportation Research Center Inc.

5720 Right Knee Slider Test

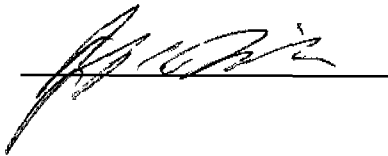
HIII 5th Female Serial No. 421 Calibration No. 07 - 1

Test Date 05/17/2002

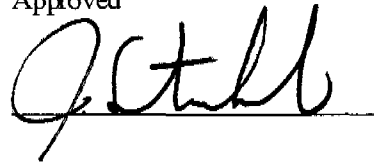
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.75 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-14.8 mm	Yes

Comments:

Technician



Approved

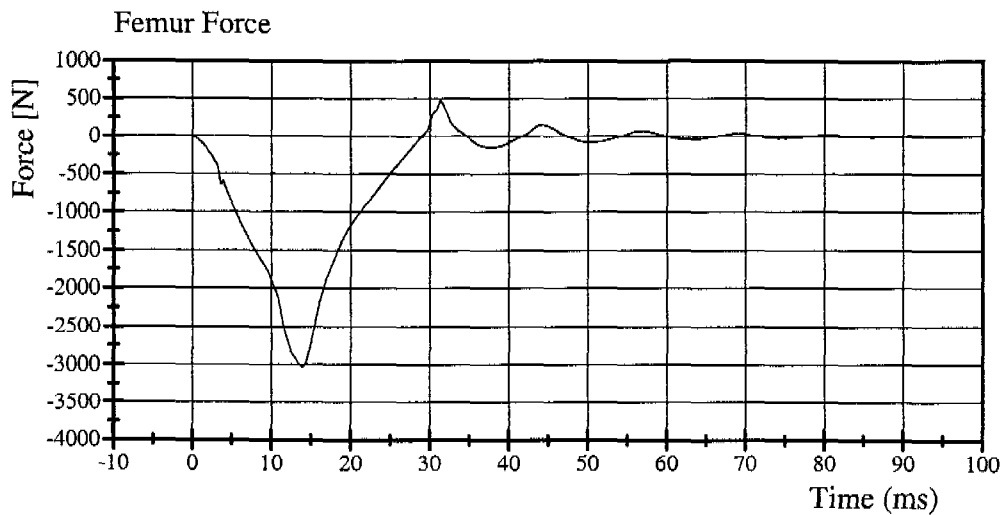


Transportation Research Center Inc.

5720 Right Knee Slider Test

HIII 5th Female Serial No. 421 Calibration No. 07 - 1

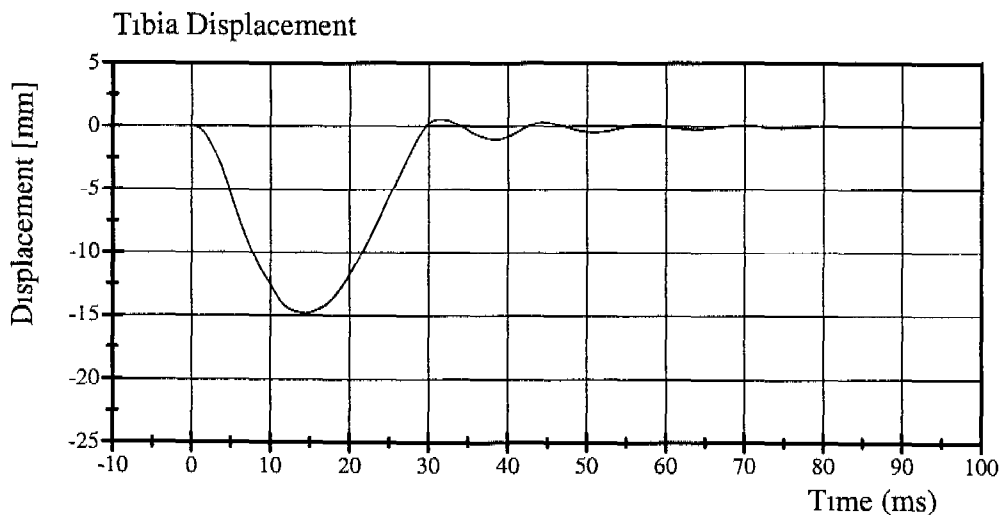
Test Date 05/17/2002



Filter Class: 600

Max: 470.3 N at 31.3 ms

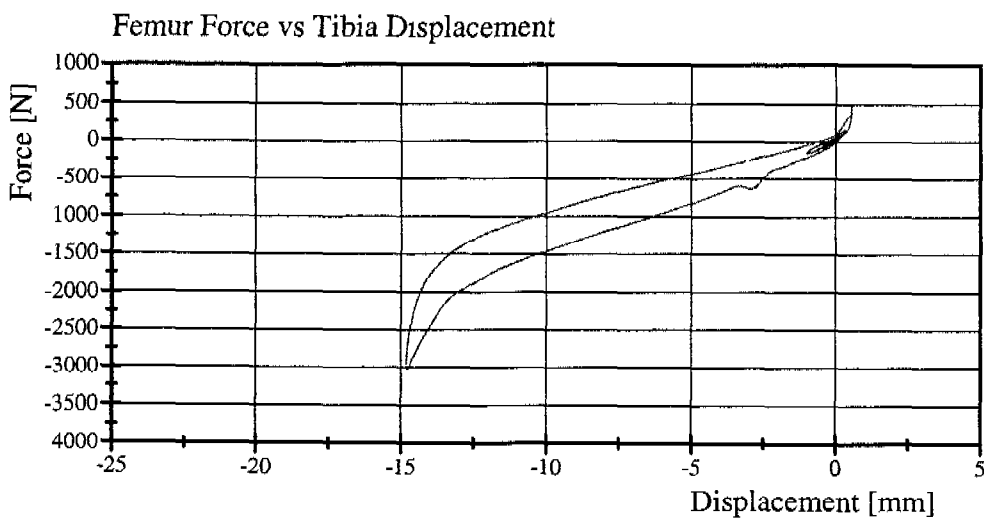
Min: -3025.5 N at 14.0 ms



Filter Class: 600

Max: 0.6 mm at 31.7 ms

Min: -14.8 mm at 14.4 ms



Appendix D

Test Equipment and Instrumentation Calibration Information

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. The polarity column indicates whether a polarity change occurred during data acquisition to conform to J211 MAR95. See Report Sign Convention sheet for description of data output as presented in the report: occasionally channels have been adjusted in post-acquisition processing to conform to J211 MAR95.

Sign Convention
SAE J211 MAR95

Accelerometers:
+X: Forward
+Y: Rightward
+Z: Downward

Potentiometers:
+Chest longitudinal deflection: Outward
+Chest lateral deflection: Leftward
+Seat belt displacement: Outward
+Seat belt extension: Elongation
+Knee slider displacement: Distance between femur and tibia
increased (in relation to a seated
dummy)

Rotation potentiometers:
+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

Load cells:
+Femur force: Tension
+Seat belt force: Tension
+Barrier force: Tension

Neck load cells:
+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

Tibia load cells:
+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

Sign Convention, Cont'd.
SAE J211 MAR95

Lumbar load cells: +X force: Chest rearward, pelvis forward
+Y force: Chest leftward, pelvis rightward
+Z force: Chest upward, pelvis downward
+X moment: Left shoulder toward left hip
+Y moment: Sternum toward front of legs
+Z moment: Right shoulder forward, left shoulder rearward

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

Channel Report

5/21/2002 7 36 22 AM

Name of Test 020521

System K3600

Name of DAU DAU1

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol. Cal.	Group	Mfg.	Model
1000	EVENT	SYNC1	SYNC1		10 24	+ 4/15/2002	-1	TRC	Event
1001	02A02-F02	HEDXG1	Head Accel X	Fwd	801 85428	+ 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1002	02A18-N10	HEDYG1	Head Accel Y	Lft	794 83358	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1003	02A09-F15	HEDZG1	Head Accel Z	Up	800 87595	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1004	01L26-F02	HEDXR1	Head Accel Red X	Rwd	798 80179	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1005	02A09-F13	HEDYR1	Head Accel Red Y	Lft	805 41135	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1006	02A16-A06	HEDZR1	Head Accel Red Z	Up	800 98872	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1007	02A16-A19	HD1XG1	Head (LT) Accel X	Fwd	806 28651	+ 1/25/2002	OK 416v	Entran	EGE-73B6Q-200
1008	02A16-A22	HD1ZG1	Head (LT) Accel Z	Up	793 23273	- 1/30/2002	OK 416v	Entran	EGE-73B6Q-200
1009	02A18-N04	HD2YG1	Head (FT) Accel Y	Lft	794 42660	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1010	02A18-N20	HD2ZG1	Head (FT) Accel Z	Up	794 84592	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1011	02A09-F01	HD3XG1	Head (TP) Accel X	Fwd	805 63947	+ 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1012	02A09-F17	HD3YG1	Head (TP) Accel Y	Lft	796 34180	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200
1013	IF-205-161-FX	NEKXF1	Neck Force X	Hd	8892 5003	- 3/18/2002	OK 416v	FTSS	IF-205
1014	IF-205-161-FY	NEKYF1	Neck Force Y	Hd	8899 5046	+ 3/18/2002	OK 416v	FTSS	IF-205
1015	IF-205-161-FZ	NEKZF1	Neck Force Z	Hd	13351 704	+ 3/18/2002	OK 416v	FTSS	IF-205
1016	IF-205-161-MX	NEKXM1	Neck Moment X	Rt Ear	282 61167	- 3/18/2002	OK 416v	FTSS	IF-205
1017	IF-205-161-MY	NEKYM1	Neck Moment Y	Chn	282 67032	+ 3/18/2002	OK 416v	FTSS	IF-205
1018	IF-205-161-MZ	NEKZM1	Neck Moment Z	Chn	282 76257	+ 3/18/2002	OK 416v	FTSS	IF-205
1019	3251-108-FX	NKLYF1	Neck Lwr Force X	Hd	13350 194	- 8/21/2001	OK 416v	Denton	3251
1020	3251-108-FY	NKLYF1	Neck Lwr Force Y	Hd	13337 912	+ 8/21/2001	OK 416v	Denton	3251
1021	3251-108-FZ	NKLYF1	Neck Lwr Force Z	Hd	13341 543	+ 8/21/2001	OK 416v	Denton	3251
1022	3251-108-MX	NKLYM1	Neck Lwr Moment X	Rt Ear	339 23322	- 8/21/2001	OK 416v	Denton	3251
1023	3251-108-MY	NKLYM1	Neck Lwr Moment Y	Chn	338 91670	+ 8/21/2001	OK 416v	Denton	3251
1024	3251-108-MZ	NKLYM1	Neck Lwr Moment Z	Chn	181 17067	+ 8/21/2001	OK 416v	Denton	3251
1025	02A16-A04	CSTXG1	Chest Accel X	Fwd	398 71663	+ 1/30/2002	OK 416v	Entran	EGE-73B6Q-200
1026	C02B19-F02	CSTYG1	Chest Accel Y	Lft	399 43828	- 3/25/2002	OK 416v	Entran	EGE-73B6Q-200
1027	C02B19-F06	CSTZG1	Chest Accel Z	Up	400 72318	- 3/25/2002	OK 416v	Entran	EGE-73B6Q-200
1028	B02A25-N08	CSTXR1	Chest Accel Red X	Rwd	400 65732	- 2/8/2002	OK 416v	Entran	EGE-73B6Q-200
1029	01L17-F09	CSTYR1	Chest Accel Red Y	Lft	399 33859	- 2/1/2002	OK 416v	Entran	EGE-73B6Q-200

Channel Report

5/21/2002 7 36 23 AM

1030	C02B19-F04	CSTZR1	Chest Accel Red Z	Up	401 39232	g	-	3/25/2002	OK	416v	Entran	EGE-73B6Q-200
1031	B02A09-F08	STUXG1	Sternum Up Accel X	Fwd	795 21010	g	+	2/11/2002	OK	416v	Entran	EGE-73B6Q-200
1032	02A16-A05	STMXG1	Sternum Mid Accel X	Fwd	793 23273	g	+	1/25/2002	OK	416v	Entran	EGE-73B6Q-200
1033	02A16-A16	STLXG1	Sternum Lwr Accel X	Fwd	793 50319	g	+	1/25/2002	OK	416v	Entran	EGE-73B6Q-200
1034	14CB1-2897-416	CSTXD1	Chest Deflection X 516	Strmm	98 566265	mm	+	6/18/2001	OK	416v	Servo	14CB1-2897
1035	2152-076-FX	LMBXF1	Lumbar Force X	Cst	13333 047	N	-	6/1/2001	OK	416v	Denton	2152
1036	2152-076-FY	LMBZF1	Lumbar Force Y	Cst	13344 730	N	+	6/1/2001	OK	416v	Denton	2152
1037	2152-076-FZ	LMBZF1	Lumbar Force Z	Cst	17791 212	N	+	6/1/2001	OK	416v	Denton	2152
1038	2152-076-MX	LMBXM1	Lumbar Moment X	Rt	678 13736	N m	-	6/1/2001	OK	416v	Denton	2152
1039	2152-076-MY	LMBYM1	Lumbar Moment Y	Strmm	677 99944	N m	+	6/1/2001	OK	416v	Denton	2152
1040	C02B19-F03	PEVXG1	Pelvis Accel X	Rwd	398.73215	g	-	3/25/2002	OK	416v	Entran	EGE-73B6Q-200
1041	02A16-A27	PEVYG1	Pelvis Accel Y	Lft	399 86254	g	-	1/30/2002	OK	416v	Entran	EGE-73B6Q-200
1042	C02B19-F01	PEVZG1	Pelvis Accel Z	Up	401 51666	g	-	3/25/2002	OK	416v	Entran	EGE-73B6Q-200
1043	2430-736	LFMZP1	Left Femur Force Z #8	Knee	13340 662	N	+	3/18/2002	OK	416v	GSE	2430
1044	2430-742	RFMZP1	Right Femur Force Z 507	Knee	13339 705	N	+	3/18/2002	OK	416v	GSE	2430
1045	150-0121VR-555	KNLXD1	Left Knee Displacement	Tib	43 132134	mm	-	5/8/2002	OK	416v	SpaceAge	150-0121VR
1046	4825-79-FX	TBLXF1	Left Upr Tibia Force X LC12	Tib	8891 9575	N	+	11/29/2000	---	416v	Denton	4825
1047	4825-79-FZ	TBLZF1	Left Upr Tibia Force Z LC7	Tib	8896 9975	N	+	11/29/2000	---	416v	Denton	4825
1048	4825-79-MX	TBLXM1	Left Upr Tibia Moment X LC3	Ank	282 78718	N m	+	11/29/2000	---	416v	Denton	4825
1049	4825-79-MY	TBLYM1	Left Upr Tibia Moment Y LC4	Ank	282 40542	N m	+	11/29/2000	---	416v	Denton	4825
1050	99H30-Z10	TBLXG1	Left Tibia Accel X	Fwd	1186 9986	g	+	4/26/2002	OK	416v	Entran	EGE-73BQE0-20
1051	98H10-F17	TBLZG1	Left Tibia Accel Z	Up	1205 7697	g	-	4/25/2002	OK	416v	Entran	EGE-73BQE-2000
1052	4826-77-FX	ANLXF1	Left Lwr Tibia Force X LC21	Ank	8902 0193	N	+	11/8/2000	---	416v	Denton	4826
1053	4826-77-FY	ANLYF1	Left Lwr Tibia Force Y LC06	Ank	8901 3331	N	+	11/8/2000	---	416v	Denton	4826
1054	4826-77-FZ	ANLZF1	Left Lwr Tibia Force Z LC24	Ank	8903 6937	N	+	11/8/2000	---	416v	Denton	4826
1055	4826-77-MX	ANLXM1	Left Lwr Tibia Moment X	Ank	282 48278	N m	+	11/8/2000	---	416v	Denton	4826
1056	4826-77-MY	ANLYM1	Left Lwr Tibia Moment Y	Ank	282 74668	N m	+	11/8/2000	---	416v	Denton	4826
1057	PD210-4B-AK-04	FTLXD1	Left Foot Disp X POT7	Evers1	160	o	+	7/31/2001	OK	416v	Contelec	PD210-4B
1058	PD210-4B-AK-04	FTLYD1	Left Foot Disp Y POT8	Dorsif	160 40100	o	+	7/31/2001	OK	416v	Contelec	PD210-4B
1059	PD210-4B-AK-08	FTLZD1	Left Foot Disp Z POT9	Intern	162 79809	o	+	7/31/2001	OK	416v	Contelec	PD210-4B
1060	99H30-Z11	FTLXG1	Left Foot Accel X	Fwd	1185 8439	g	+	4/26/2002	OK	416v	Entran	EGE-73BQE0-20
1061	01J02-F05	FTLYG1	Left Foot Accel Y	Rt	1200 0187	g	+	4/25/2002	OK	416v	Entran	EGE-73B6Q-200
1062	01J02-F22	FTLZG1	Left Foot Accel Z	Dn	1206 9636	g	+	4/25/2002	OK	416v	Entran	EGE-73B6Q-200
1063	150-0121VL-548	KNRXd1	Right Knee Displacement	Tib	43 923990	mm	-	5/8/2002	OK	416v	SpaceAge	150-0121VL
1064	4825-76-FX	TBRXF1	Right Upr Tibia Force X	Tib	8895 4242	N	+	11/8/2000	---	416v	Denton	4825

Channel Report

5/21/2002 7:36:23 AM

1065	4825-76-FZ	TBRZF1	Right Upr Tibia Force Z	Tib	8902 9634	N	+	11/8/2000	---	416v	Denton	4825
1066	4825-76-MX	TBRXM1	Right Upr Tibia Moment X	Ank	282 19485	N m	+	11/8/2000	---	416v	Denton	4825
1067	4825-76-MY	TBRYM1	Right Upr Tibia Moment Y	Ank	282 29805	N m	+	11/8/2000	---	416v	Denton	4825
1068	99H30-Z13	TBRXG1	Right Tibia Accel X	Fwd	1202 2165	g	+	4/25/2002	OK	416v	Entran	EGE-73BQE0-20
1069	99H30-Z01	TBRZG1	Right Tibia Accel Z	Up	1190 1441	g	-	4/25/2002	OK	416v	Entran	EGE-73BQE0-20
1070	4826-78-FX	ANRXXF1	Right Lwr Tibia Force X	Ank	8900 6516	N	+	11/8/2000	---	416v	Denton	4826
1071	4826-78-FY	ANRYF1	Right Lwr Tibia Force Y	Ank	8902 2298	N	+	11/8/2000	---	416v	Denton	4826
1072	4826-78-FZ	ANRZF1	Right Lwr Tibia Force Z	Ank	8903 7377	N	+	11/8/2000	---	416v	Denton	4826
1073	4826-78-MX	ANRXM1	Right Lwr Tibia Moment X	Ank	282.00626	N m	+	11/8/2000	---	416v	Denton	4826
1074	4826-78-MY	ANRYM1	Right Lwr Tibia Moment Y	Ank	282 18429	N m	+	11/8/2000	---	416v	Denton	4826
1075	PD210-4B-AK-08	FTRXD1	Right Foot Disp X ROT X	Invers	162 28209	°	+	7/31/2001	OK	416v	Contelec	PD210-4B
1076	PD210-4B-AK-08	FTRYD1	Right Foot Disp Y ROT Y	Dorsif	161 82048	°	+	7/31/2001	OK	416v	Contelec	PD210-4B
1077	PD210-4B-AK-08	FTRZD1	Right Foot Disp Z ROT Z	Exter	161 46326	°	+	7/31/2001	OK	416v	Contelec	PD210-4B
1078	01J02-F10	FTRXG1	Right Foot Accel X	Fwd	1210 4018	g	+	4/25/2002	OK	416v	Entran	EGE-73B6Q-200
1079	99H30-Z15	FTRYG1	Right Foot Accel Y	Rt	1191 6399	g	+	4/26/2002	OK	416v	Entran	EGE-73BQE0-20
1080	01J02-F03	FTRZG1	Right Foot Accel Z	Dn	1187 5768	g	+	4/26/2002	OK	416v	Entran	EGE-73B6Q-200
1081	02A16-A24	HEDXG2	Head Accel X	Fwd	803.51537	g	+	1/25/2002	OK	421v	Entran	EGE-73B6Q-200
1082	02A16-A01	HEDYG2	Head Accel Y	Lft	800 51908	g	-	1/28/2002	OK	421v	Entran	EGE-73B6Q-200
1083	01L26-F06	HEDZG2	Head Accel Z	Up	800 57541	g	-	2/1/2002	OK	421v	Entran	EGE-73B6Q-200
1084	02A16-A03	HEDXR2	Head Accel Red X	Rwd	798 15426	g	-	1/28/2002	OK	421v	Entran	EGE-73B6Q-200
1085	02A16-A08	HEDYR2	Head Accel Red Y	Lft	805 39235	g	-	1/28/2002	OK	421v	Entran	EGE-73B6Q-200
1086	02A16-A09	HEDZR2	Head Accel Red Z	Up	798 32849	g	+	1/25/2002	OK	421v	Entran	EGE-73B6Q-200
1087	02A16-A28	HD1XG2	Head (LT) Accel X	Fwd	795 22862	g	+	1/25/2002	OK	421v	Entran	EGE-73B6Q-200
1088	02A16-A20	HD1ZG2	Head (LT) Accel Z	Up	801 28957	g	-	1/25/2002	OK	421v	Entran	EGE-73B6Q-200
1089	02A09-F12	HD2YG2	Head (FT) Accel Y	Lft	804 72777	g	-	2/1/2002	OK	421v	Entran	EGE-73B6Q-200
1090	02A18-N07	HD2ZG2	Head (FT) Accel Z	Up	794 84592	g	-	2/1/2002	OK	421v	Entran	EGE-73B6Q-200
1091	02A16-A23	HD3XG2	Head (TP) Accel X	Fwd	798 00498	g	+	1/30/2002	OK	421v	Entran	EGE-73B6Q-200
1092	02A16-A25	HD3YG2	Head (TP) Accel Y	Lft	802 66509	g	-	1/25/2002	OK	421v	Entran	EGE-73B6Q-200
1093	IF-205-180-FX	NEKXF2	Neck Force X	Hd	8895.5814	N	-	3/18/2002	OK	421v	FTSS	IF-205
1094	IF-205-180-FY	NEKYF2	Neck Force Y	Hd	8889 5852	N	+	3/18/2002	OK	421v	FTSS	IF-205
1095	IF-205-180-FZ	NEKZF2	Neck Force Z	Hd	13339 358	N	+	3/18/2002	OK	421v	FTSS	IF-205
1096	IF-205-180-MX	NEKXM2	Neck Moment X	Rt Ear	282 44346	N m	-	3/18/2002	OK	421v	FTSS	IF-205
1097	IF-205-180-MY	NEKYM2	Neck Moment Y	Chn	282 51594	N m	+	3/18/2002	OK	421v	FTSS	IF-205
1098	IF-205-180-MZ	NEKZM2	Neck Moment Z	Chn	282 66794	N m	+	3/18/2002	OK	421v	FTSS	IF-205
1099	3251-107-FX	NKLYF2	Neck Lwr Force X	Hd	13348 061	N	-	7/6/2001	OK	421v	Denton	3251

Channel Report

5/21/2002 7 36 24 AM

1100	3251-107-FY	NKLYF2	Neck Lwr Force Y	Hd	13331 262	N	+	7/6/2001	OK	421v	Denton	3251
1101	3251-107-FZ	NKLZF2	Neck Lwr Force Z	Hd	13341 504	N	+	7/6/2001	OK	421v	Denton	3251
1102	3251-107-MX	NKLXM2	Neck Lwr Moment X	Rt Ear	338 99620	N m	-	7/6/2001	OK	421v	Denton	3251
1103	3251-107-MY	NKLYM2	Neck Lwr Moment Y	Chn	338 80164	N m	+	7/6/2001	OK	421v	Denton	3251
1104	3251-107-MZ	NKLZM2	Neck Lwr Moment Z	Chn	181 03965	N m	+	7/6/2001	OK	421v	Denton	3251
1105	B02A25-N03	CSTXG2	Chest Accel X	Fwd	400 42075	g	+	2/11/2002	OK	421v	Entran	EGE-73B6Q-200
1106	02A18-N12	CSTYG2	Chest Accel Y	Lft	399.88440	g	-	2/1/2002	OK	421v	Entran	EGE-73B6Q-200
1107	J41077	VCGXG	VEHICLE CG X-AXIS	FWD	979 07981	g	+	5/1/2002	OK	-1	Endevco	7264-2000TZ

Channel Report

5/21/2002 7 36 24 AM

Name of DAU DAU6

System MINIDAU

Name of Test 020521

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol. Cal.	Group	Mfg.	Model
6001	B02A25-N06	CSTXR2	Chest Accel Red X	Rwd	397.21946 g	-	421v	Entran	EGE-73B6Q-200
6002	02A04-A24	CSTYR2	Chest Accel Red Y	Lft	399.67526 g	-	421v	Entran	EGE-73B6Q-200
6003	B02A18-N22	CSTZR2	Chest Accel Red Z	Up	400.83298 g	-	421v	Entran	EGE-73B6Q-200
6004	02A16-A14	STUXG2	Sternum Up Accel X	Fwd	813.78345 g	+	421v	Entran	EGE-73B6Q-200
6005	02A16-A12	STMXG2	Sternum Mid Accel X	Fwd	795.63643 g	+	421v	Entran	EGE-73B6Q-200
6006	02A18-N16	STLXG2	Sternum Lwr Accel X	Fwd	792.80283 g	+	421v	Entran	EGE-73B6Q-200
6007	14CB1-2897-135	CSTXD2	Chest Deflection X	Strm	99.823164 mm	+	421v	Servo	14CB1-2897
6008	2152A-086-FX	LMBXF2	Lumbar Force X	Cst	13347.713 N	-	421v	Denton	2152A
6009	2152A-086-FY	LMBYF2	Lumbar Force Y	Cst	13345.651 N	+	421v	Denton	2152A
6010	2152A-086-FZ	LMBZF2	Lumbar Force Z	Cst	17801.847 N	+	421v	Denton	2152A
6011	2152A-086-MX	LMBXM2	Lumbar Moment X	Rt	678.65489 N m	-	421v	Denton	2152A
6012	2152A-086-MY	LMBYM2	Lumbar Moment Y	Strm	677.74043 N m	+	421v	Denton	2152A
6013	02A09-F11	PEVXG2	Pelvis Accel X	Rwd	397.82439 g	-	421v	Entran	EGE-73B6Q-200
6014	02A16-A26	PEVYG2	Pelvis Accel Y	Lft	401.00250 g	+	421v	Entran	EGE-73B6Q-200
6015	02A18-N15	PEVZG2	Pelvis Accel Z	Up	397.23179 g	-	421v	Entran	EGE-73B6Q-200
6016	2430-739	LFMZF2	Left Femur Force Z S37	Knee	13342.961 N	+	421v	GSE	2430
6017	2430-760	RFMZF2	Right Femur Force Z VRTC 4	Knee	13346.030 N	+	421v	GSE	2430
6018	150-0121VR-150	KNLXD2	Left Knee Displacement	Tib	39.804553 mm	+	421v	SpaceAge	150-0121VR
6019	4825-82-FX	TBLXF2	Left Up Tibia Force X LC2	Tib	8896.4868 N	+	421v	Denton	4825
6020	4825-82-FZ	TBLZF2	Left Up Tibia Force Z LC9	Tib	8888.9485 N	+	421v	Denton	4825
6021	4825-82-MX	TBLXM2	Left Up Tibia Moment X	Ank	282.05009 N m	+	421v	Denton	4825
6022	4825-82-MY	TBLYM2	Left Up Tibia Moment Y	Ank	281.70191 N m	+	421v	Denton	4825
6023	99H30-Z09	TBLXG2	Left Tibia Accel X	Fwd	1191.0300 g	+	421v	Entran	EGE-73BQE0-20
6024	99H12-F09	TBLZG2	Left Tibia Accel Z	Up	1205.2446 g	-	421v	Entran	EGE-73BQE0-20
6025	4826-82-FX	ANLXF2	Left Lwr Tibia Force X LC13	Ank	8913.1993 N	+	421v	Denton	4826
6026	4826-82-FY	ANLYF2	Left Lwr Tibia Force Y LC14	Ank	8879.6414 N	+	421v	Denton	4826
6027	4826-82-FZ	ANLZF2	Left Lwr Tibia Force Z LC20	Ank	8899.2296 N	+	421v	Denton	4826
6028	4826-82-MX	ANLXM2	Left Lwr Tibia Moment X	Ank	282.62355 N m	+	421v	Denton	4826
6029	4826-82-MY	ANLYM2	Left Lwr Tibia Moment Y	Ank	282.95264 N m	+	421v	Denton	4826
6030	PD210-4B-AK-06	FTLXD2	Left Foot Disp X POT4	Invers	161.56516 °	+	421v	Contelec	PD210-4B

Channel Report

5/21/2002 7 36 24 AM

6031	PD210-4B-AK-06	FTLYD2	Left Foot Disp	Y	POT5	Dorsif	162 48809	°	+	7/31/2001	OK	421v	Contelec	PD210-4B
6032	PD210-4B-AK-06	FTLZD2	Left Foot Disp	Z	POT6	Exter	161 87164	°	+	7/31/2001	OK	421v	Contelec	PD210-4B

Channel Report

5/21/2002 7 36 24 AM

Chan.#	Sensor #	Mnemonic	Description	System	MINIDAU	Name of DAU	DAU7	Pol.	Cal.	Group	Mfg.	Model
7001	98H10-F03	FTLXG2	Left Foot Accel X					+	4/25/2002	OK	421V	EGE-73BQ-2000
7002	98H10-F07	FTLYG2	Left Foot Accel Y					+	4/25/2002	OK	421V	EGE-73BQ-2000
7003	98H13-F16	FTLZG2	Left Foot Accel Z					+	4/25/2002	OK	421V	EGE-73BQ-2000
7004	150-0121VL-149	KNRXXD2	Right Knee Displacement					+	5/8/2002	OK	421V	150-0121VL
7005	4825-80-FX	TBRXF2	Right Upr Tibia Force X LC1					+	12/7/2000	---	421V	4825
7006	4825-80-FZ	TBRZF2	Right Upr Tibia Force Z LC8					+	12/7/2000	---	421V	4825
7007	4825-80-MX	TBRXM2	Right Upr Tibia Moment X					+	12/7/2000	---	421V	4825
7008	4825-80-MY	TBRYM2	Right Upr Tibia Moment Y					+	12/7/2000	---	421V	4825
7009	99H12-F19	TBRXG2	Right Tibia Accel X					+	4/26/2002	OK	421V	EGE-73BQE0-20
7010	99H30-Z12	TBRZG2	Right Tibia Accel Z					-	4/26/2002	OK	421V	EGE-73BQE0-20
7011	4826-76-FX	ANRXF2	Right Lwr Tibia Force X LC16					+	11/8/2000	---	421V	4826
7012	4826-76-FY	ANRYF2	Right Lwr Tibia Force Y LC18					+	11/8/2000	---	421V	4826
7013	4826-76-FZ	ANRZF2	Right Lwr Tibia Force Z LC19					+	11/8/2000	---	421V	4826
7014	4826-76-MX	ANRXM2	Right Lwr Tibia Moment X					+	11/8/2000	---	421V	4826
7015	4826-76-MY	ANRYM2	Right Lwr Tibia Moment Y					+	11/8/2000	---	421V	4826
7016	PD210-4B-AK-13	FTRXD2	Right Foot Disp. X POT1					+	7/31/2001	OK	421V	PD210-4B
7017	PD210-4B-AK-06	FTRYD2	Right Foot Disp. Y POT2					+	7/31/2001	OK	421V	PD210-4B
7018	PD210-4B-AK-06	FTRZD2	Right Foot Disp. Z POT3					+	7/31/2001	OK	421V	PD210-4B
7019	98H14-K06	FTRXG2	Right Foot Accel X					+	4/26/2002	OK	421V	EGE-73BQ-2000
7020	99H12-F03	FTRYG2	Right Foot Accel Y					+	4/25/2002	OK	421V	EGE-73BQE0-20
7021	98H14-K10	FTRZG2	Right Foot Accel Z					+	4/25/2002	OK	421V	EGE-73BQ-2000
7022	B02A25-N10	CSTZG2	Chest Accel Z					-	2/11/2002	OK	421V	EGE-73B6Q-200
7023	J40528	VCGYG	VEHICLE CG Y-AXIS					-	4/4/2002	OK	-1	7264-2000TZ
7024	J36177	VCGZG	VEHICLE CG Z-AXIS					-	1/7/2002	OK	-1	7264-2000TZ
7025	J41113	RDKXG	REAR DECK X-AXIS					+	4/3/2002	OK	-1	7264-2000TZ
7026	J41114	RDKYG	REAR DECK Y-AXIS					-	4/3/2002	OK	-1	7264-2000TZ
7027	J38775	RDKZG	REAR DECK Z-AXIS					-	5/1/2002	OK	-1	7264-2000TZ
7028	IP1	DABETA	DRIVER AIRBAG EVENT -					+	6/15/2000	---	-1	FLUKE Y8101A
7029	IP2	DABETB	PASSENGER AIRBAG EVENT					+	6/15/2000	---	-1	FLUKE Y8101A

Dummy 416v Type HYBRID III 5th Description VRTC - 416v HYBRID III 5th Female CAL'd 2-1-02 (DKS 5-17-02)J211

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
HEDXG	Head Accel X	EGE-73B6Q-20	02A02-F02	Entran	g	2000	2/1/02	Fwd	0
HEDYG	Head Accel Y	EGE-73B6Q-20	02A18-N10	Entran	g	2000	2/1/02	Lft	1
HEDZG	Head Accel Z	EGE-73B6Q-20	02A09-F15	Entran	g	2000	2/1/02	Up	1
HEDXR	Head Accel Red X	EGE-73B6Q-20	01L26-F02	Entran	g	2000	2/1/02	Rwd	1
HEDYR	Head Accel Red Y	EGE-73B6Q-20	02A09-F13	Entran	g	2000	2/1/02	Lft	1
HEDZR	Head Accel Red Z	EGE-73B6Q-20	02A16-A06	Entran	g	2000	2/1/02	Up	1
HD1XG	Head (LT) Accel X	EGE-73B6Q-20	02A16-A19	Entran	g	2000	1/25/02	Fwd	0
HD1ZG	Head (LT) Accel Z	EGE-73B6Q-20	02A16-A22	Entran	g	2000	1/30/02	Up	1
HD2YG	Head (FT) Accel Y	EGE-73B6Q-20	02A18-N04	Entran	g	2000	2/1/02	Lft	1
HD2ZG	Head (FT) Accel Z	EGE-73B6Q-20	02A18-N20	Entran	g	2000	2/1/02	Up	1
HD3XG	Head (TP) Accel X	EGE-73B6Q-20	02A09-F01	Entran	g	2000	2/1/02	Fwd	0
HD3YG	Head (TP) Accel Y	EGE-73B6Q-20	02A09-F17	Entran	g	2000	2/1/02	Lft	1
NEKXF	Neck Force X	IF-205	IF-205-161-FX	FTSS	0.000187241 N	8896	3/18/02	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	IF-205	IF-205-161-FY	FTSS	0.000180632 N	8896	3/18/02	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	IF-205	IF-205-161-FZ	FTSS	0.000092626 N	13344	3/18/02	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	IF-205	IF-205-161-MX	FTSS	0.005688142 N m	282.5	3/18/02	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	IF-205	IF-205-161-MY	FTSS	0.005759292 N m	282.5	3/18/02	Chn to Strmm	0
NEKZM	Neck Moment Z	IF-205	IF-205-161-MZ	FTSS	0.00836354 N m	282.5	3/18/02	Chn to Lt Shld	0
NKLYF	Neck Lwr Force X	3251	3251-108-FX	Denton	0.000174325 N	13344.6	8/21/01	Hd Rr,Cst Fd	1
NKLYF	Neck Lwr Force Y	3251	3251-108-FY	Denton	0.000173696 N	13344.6	8/21/01	Hd Lt,Cst Rt	0
NKLYF	Neck Lwr Force Z	3251	3251-108-FZ	Denton	0.000096061 N	13344.6	8/21/01	Hd Up,Cst Dn	0
NKLYM	Neck Lwr Moment X	3251	3251-108-MX	Denton	0.004491923 N m	451.9	8/21/01	Lt Ear to Lt Shld	1
NKLYM	Neck Lwr Moment Y	3251	3251-108-MY	Denton	0.004297854 N m	451.9	8/21/01	Chn to Strmm	0
NKLYM	Neck Lwr Moment Z	3251	3251-108-MZ	Denton	0.005223779 N m	338.95	8/21/01	Chn to Lt Shld	0
CSTYG	Chest Accel X	EGE-73B6Q-20	02A16-A04	Entran	g	2000	1/30/02	Fwd	0
CSTYG	Chest Accel Y	EGE-73B6Q-20	C02B19-F02	Entran	g	2000	3/25/02	Lft	1

020521

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
CSTZG	Chest Accel Z	EGE-73B6Q-20	C02B19-F06	Entran	0.01907	g 2000	3/25/02	Up	1
CSTXR	Chest Accel Red X	EGE-73B6Q-20	B02A25-N08	Entran	0.01966	g 2000	2/8/02	Rwd	1
CSTYR	Chest Accel Red Y	EGE-73B6Q-20	01L17-F09	Entran	0.01928	g 2000	2/1/02	Lft	1
CSTZR	Chest Accel Red Z	EGE-73B6Q-20	C02B19-F04	Entran	0.01784	g 2000	3/25/02	Up	1
STUXG	Sternum Upr Accel X	EGE-73B6Q-20	B02A09-F08	Entran	0.02111	g 2000	2/11/02	Fwd	0
STMXG	Sternum Mid Accel X	EGE-73B6Q-20	02A16-A05	Entran	0.02188	g 2000	1/25/02	Fwd	0
STLXG	Sternum Lwr Accel X	EGE-73B6Q-20	02A16-A16	Entran	0.02264	g 2000	1/25/02	Fwd	0
CSTXD	Chest Deflection X	14CB1-2897	14CB1-2897-416	Servo	1.5983	mm 100	6/18/01	Stmm Away Frm Spn	0
LMBXF	Lumbar Force X	2152	2152-076-FX	Denton	0.000144364	N 13344.6	6/1/01	Cst Fd, Pel Rr	1
LMBYF	Lumbar Force Y	2152	2152-076-FY	Denton	0.000143967	N 13344.6	6/1/01	Cst Lt, Pel Rt	0
LMBZF	Lumbar Force Z	2152	2152-076-FZ	Denton	0.000058433	N 17793	6/1/01	Cst Up, Pel Dn	0
LMBXM	Lumbar Moment X	2152	2152-076-MX	Denton	0.002374243	N m 677.9	6/1/01	Rt Shld to Rt Hip	1
LMBYM	Lumbar Moment Y	2152	2152-076-MY	Denton	0.002370998	N m 677.9	6/1/01	Stmm to Frt of Legs	0
PEVXG	Pelvis Accel X	EGE-73B6Q-20	C02B19-F03	Entran	0.01759	g 2000	3/25/02	Rwd	1
PEVYG	Pelvis Accel Y	EGE-73B6Q-20	02A16-A27	Entran	0.02152	g 2000	1/30/02	Lft	1
PEVZG	Pelvis Accel Z	EGE-73B6Q-20	C02B19-F01	Entran	0.01977	g 2000	3/25/02	Up	1
LFMZP	Left Femur Force Z #8	2430	2430-736	GSE	0.000069527	N 13344	3/18/02	Knee Fd, Pel Rr	0
RPMZP	Right Femur Force Z	2430	2430-742	GSE	0.000066867	N 13344	3/18/02	Knee Fd, Pel Rr	0
KNLXD	Left Knee Displacement	150-0121VR	150-0121VR-5556	SpaceAge	23.741	mm	5/8/02	Tib Rr, Hld Fem	1
TBLXF	Left Upr Tibia Force X	4825	4825-79-FX	Denton	0.000264129	N 8896	11/29/00	Tib Fd, Knee Rr	0
TBLZF	Left Upr Tibia Force Z	4825	4825-79-FZ	Denton	0.000108172	N 8896	11/29/00	Tib Dn, Knee Up	0
TBLXM	Left Upr Tibia Moment X	4825	4825-79-MX	Denton	0.010405453	N m 282.4	11/29/00	Ank Lt, Hld Knee	0
TBLYM	Left Upr Tibia Moment Y	4825	4825-79-MY	Denton	0.010242917	N m 282.4	11/29/00	Ank Fd, Hld Knee	0
TBLXG	Left Tibia Accel X	EGE-73BQE0-2	99H30-Z10	Entran	0.02054	g 2000	4/26/02	Fwd	0
TBLYG	Left Tibia Accel Z	EGE-73BQ-200	98H10-F17	Entran	0.01975	g 2000	4/25/02	Up	0
ANLXF	Left Lwr Tibia Force X	4826	4826-77-FX	Denton	0.000261432	N 8896	11/8/00	Ank Fd, Knee Rr	0
ANLYF	Left Lwr Tibia Force Y	4826	4826-77-FY	Denton	0.000262646	N 8896	11/8/00	Ank Rt, Knee Lft	0
ANLZF	Left Lwr Tibia Force Z	4826	4826-77-FZ	Denton	0.000107284	N 8896	11/8/00	Ank Dn, Knee Up	0

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
ANLXM	Left Lwr Tibia Moment X LC30	4826	4826-77-MX	Denton	0 010269121 N m	282 4	11/8/00	Ank Lt,Hld Knee	0
ANLYM	Left Lwr Tibia Moment Y LC05	4826	4826-77-MY	Denton	0 010377124 N m	282 4	11/8/00	Ank Fd,Hld Knee	0
FTLXD	Left Foot Disp X POT7	PD210-4B	PD210-4B-AK-047	Contelec	3 2 °	318	7/31/01	Inversion	0
FTLYD	Left Foot Disp Y POT8	PD210-4B	PD210-4B-AK-049	Contelec	3 192 °	318	7/31/01	Dorsiflexion	0
FTLZD	Left Foot Disp Z POT9	PD210-4B	PD210-4B-AK-087	Contelec	3 145 °	318	7/31/01	External Rotation	0
FTLXG	Left Foot Accel X	EGE-73BQE0-2 99H30-Z11		Entran	0 02056 g	2000	4/26/02	Fwd	0
FTLYG	Left Foot Accel Y	EGE-73B6Q-20 01J02-F05		Entran	0 02188 g	2000	4/25/02	Rt	0
FTLZG	Left Foot Accel Z	EGE-73B6Q-20 01J02-F22		Entran	0 02293 g	2000	4/25/02	Dn	0
KNRXD	Right Knee Displacement	150-0121VL	150-0121VL-5482	SpaceAge	23 313 mm	40	5/8/02	Tib Rr,Hld Fern	1
TBRXF	Right Upr Tibia Force X UTRFX	4825	4825-76-FX	Denton	0 000260442 N	8896	11/8/00	Tib Fd,Knee Rr	0
TBRZF	Right Upr Tibia Force Z UTRFZ	4825	4825-76-FZ	Denton	0 000107093 N	8896	11/8/00	Tib Dn,Knee Up	0
TBRXM	Right Upr Tibia Moment X UTRMX	4825	4825-76-MX	Denton	0 010338172 N m	282 4	11/8/00	Ank Lt,Hld Knee	0
TBRYM	Right Upr Tibia Moment Y UTRMY	4825	4825 76-MY	Denton	0 010246813 N m	282 4	11/8/00	Ank Fd,Hld Knee	0
TBRXG	Right Tibia Accel X	EGE-73BQE0-2 99H30-Z13		Entran	0 02028 g	2000	4/25/02	Fwd	0
TBRYG	Right Tibia Accel Z	EGE-73BQE0-2 99H30-Z01		Entran	0 01912 g	2000	4/25/02	Up	0
ANRFX	Right Lwr Tibia Force X LTRFX	4826	4826-78-FX	Denton	0 000263871 N	8896	11/8/00	Ank Fd,Knee Rr	0
ANRYF	Right Lwr Tibia Force Y LC25	4826	4826-78-FY	Denton	0 00026504 N	8896	11/8/00	Ank Rt,Knee Lift	0
ANRZF	Right Lwr Tibia Force Z LTRFZ	4826	4826-78-FZ	Denton	0 000108498 N	8896	11/8/00	Ank Dn,Knee Up	0
ANRXM	Right Lwr Tibia Moment X LC27	4826	4826-78-MX	Denton	0 010286473 N m	282 4	11/8/00	Ank Lt,Hld Knee	0
ANRYM	Right Lwr Tibia Moment Y LTRMY	4826	4826-78-MY	Denton	0 01048796 N m	282 4	11/8/00	Ank Fd,Hld Knee	0
FTRXD	Right Foot Disp X ROT X	PD210-4B	PD210-4B-AK-084	Contelec	3 155 °	318	7/31/01	Everston	0
FTRYD	Right Foot Disp Y ROTY	PD210-4B	PD210-4B-AK-085	Contelec	3 164 °	318	7/31/01	Dorsiflexion	0
FTRZD	Right Foot Disp Z ROTZ	PD210-4B	PD210-4B-AK-086	Contelec	3 171 °	318	7/31/01	Internal Rotation	0
FTRXG	Right Foot Accel X	EGE-73B6Q-20 01J02-F10		Entran	0 02115 g	2000	4/25/02	Fwd	0
FTRYG	Right Foot Accel Y	EGE-73BQE0-2 99H30-Z15		Entran	0 01953 g	2000	4/26/02	Rt	0
FTRZG	Right Foot Accel Z	EGE-73B6Q-20 01J02-F03		Entran	0 02053 g	2000	4/26/02	Dn	0

Dummy 421v Type HYBRID III 5th Description VRTC - 421v HYBRID III 5th Female CAL'd 1-25-02 (DKS 5-17-02)J211

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
HEDXG	Head Accel X	EGE-73B6Q-20	02A16-A24	Entran	g	2000	1/25/02	Fwd	0
HEDYG	Head Accel Y	EGE-73B6Q-20	02A16-A01	Entran	g	2000	1/28/02	Lft	1
HEDZG	Head Accel Z	EGE-73B6Q-20	01L26-F06	Entran	g	2000	2/1/02	Up	1
HEDXR	Head Accel Red X	EGE-73B6Q-20	02A16-A03	Entran	g	2000	1/28/02	Rwd	1
HEDYR	Head Accel Red Y	EGE-73B6Q-20	02A16-A08	Entran	g	2000	1/28/02	Lft	1
HEDZR	Head Accel Red Z	EGE-73B6Q-20	02A16-A09	Entran	g	2000	1/25/02	Up	1
HD1XG	Head (LT) Accel X	EGE-73B6Q-20	02A16-A28	Entran	g	2000	1/25/02	Fwd	0
HD1ZG	Head (LT) Accel Z	EGE-73B6Q-20	02A16-A20	Entran	g	2000	1/25/02	Up	1
HD2YG	Head (FT) Accel Y	EGE-73B6Q-20	02A09-F12	Entran	g	2000	2/1/02	Lft	1
HD2ZG	Head (FT) Accel Z	EGE-73B6Q-20	02A18-N07	Entran	g	2000	2/1/02	Up	1
HD3XG	Head (TP) Accel X	EGE-73B6Q-20	02A16-A23	Entran	g	2000	1/30/02	Fwd	0
HD3YG	Head (TP) Accel Y	EGE-73B6Q-20	02A16-A25	Entran	g	2000	1/25/02	Lft	1
NEKXF	Neck Force X	IF-205	IF-205-180-FX	FTSS	N	8896	3/18/02	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	IF-205	IF-205-180-FY	FTSS	N	8896	3/18/02	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	IF-205	IF-205-180-FZ	FTSS	N	13344	3/18/02	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	IF-205	IF-205-180-MX	FTSS	N m	282.5	3/18/02	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	IF-205	IF-205-180-MY	FTSS	N m	282.5	3/18/02	Chn to Sirmm	0
NEKZM	Neck Moment Z	IF-205	IF-205-180-MZ	FTSS	N m	282.5	3/18/02	Chn to Lt Shld	0
NKLYF	Neck Lwr Force Y	3251	3251-107-FY	Denton	N	13344.6	7/6/01	Hd Fd,Cst Rr	1
NKLYM	Neck Lwr Moment Y	3251	3251-107-MY	Denton	N m	13344.6	7/6/01	Hd Lt,Cst Rt	0
NKLYZ	Neck Lwr Force Z	3251	3251-107-FZ	Denton	N	13344.6	7/6/01	Hd Up,Cst Dn	0
NKLYM	Neck Lwr Moment X	3251	3251-107-MX	Denton	N m	451.9	7/6/01	Lt Ear to Lt Shld	1
NKLYM	Neck Lwr Moment Y	3251	3251-107-MY	Denton	N m	451.9	7/6/01	Chn to Sirmm	0
NKLYM	Neck Lwr Moment Z	3251	3251-107-MZ	Denton	N m	338.95	7/6/01	Chn to Lt Shld	0
CSTYG	Chest Accel X	EGE-73B6Q-20	B02A25-N03	Entran	g	2000	2/1/02	Fwd	0
CSTYG	Chest Accel Y	EGE-73B6Q-20	02A18-N12	Entran	g	2000	2/1/02	Lft	1

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip	
CSTZG	Chest Accel Z	EGE-73B6Q-20	B02A25-N10	Entran	0 01965	g	2000	2/11/02	Up	1
CSTXR	Chest Accel Red X	EGE-73B6Q-20	B02A25-N06	Entran	0 02014	g	2000	2/11/02	Rwd	1
CSTYR	Chest Accel Red Y	EGE-73B6Q-20	02A04-A24	Entran	0 01912	g	2000	2/1/02	Lft	1
CSTZR	Chest Accel Red Z	EGE-73B6Q-20	B02A18-N22	Entran	0 02094	g	2000	2/11/02	Up	1
STUXG	Sternum Up Accel X	EGE-73B6Q-20	02A16-A14	Entran	0 02247	g	2000	1/25/02	Fwd	0
STMXG	Sternum Mid Accel X	EGE-73B6Q-20	02A16-A12	Entran	0 02219	g	2000	1/28/02	Fwd	0
STLXG	Sternum Lwr Accel X	EGE-73B6Q-20	02A18-N16	Entran	0 01957	g	2000	2/1/02	Fwd	0
CSTXD	Chest Deflection X	14CBI-2897	14CBI-2897-1355	Servo	1 70969	mm	100	3/25/02	Strmm Away Frm Spn	0
LMBXF	Lumbar Force X	2152A	2152A-086-FX	Denton	0 000139995	N	13344 6	6/2/01	Cst Fd, Pel Rr	1
LMBYF	Lumbar Force Y	2152A	2152A-086-FY	Denton	0 000138002	N	13344 6	6/2/01	Cst Lt, Pel Rt	0
LMBZF	Lumbar Force Z	2152A	2152A-086-FZ	Denton	0 000050458	N	17793	6/2/01	Cst Up, Pel Dn	0
LMBXM	Lumbar Moment X	2152A	2152A-086-MX	Denton	0 002293111	N m	677 9	6/2/01	Rt Shld to Rt Hip	1
LMBYM	Lumbar Moment Y	2152A	2152A-086-MY	Denton	0 002268623	N m	677 9	6/2/01	Strmm to Frt of Legs	0
LFMZ	Left Femur Force Z S37	2430	2430-739	GSE	0 000067676	N	13344	3/18/02	Knee Fd, Pel Rr	0
RFMZ	Right Femur Force Z VRTC 4	2430	2430-760	GSE	0 000067069	N	13344	3/18/02	Knee Fd, Pel Rr	0
PEVXG	Pelvis Accel X	EGE-73B6Q-20	02A09-F11	Entran	0 0198	g	2000	2/1/02	Rwd	1
PEVYG	Pelvis Accel Y	EGE-73B6Q-20	02A16 A26	Entran	0 01995	g	2000	1/28/02	Lft	0
PEVZG	Pelvis Accel Z	EGE-73B6Q-20	02A18-N15	Entran	0 01868	g	2000	2/1/02	Up	1
KNLXD	Left Knee Displacement POT10	150-0121VR	150-0121VR-15021	SpaceAge	23 387	mm	40	5/8/02	Tib Fd, Hld Fem	0
TBLXF	Left Uptr Tibia Force X LC2	4825	4825-82-FX	Denton	0 000268929	N	8896 4	11/8/00	Tib Fd, Knee Rr	0
TBLZF	Left Uptr Tibia Force Z LC9	4825	4825-82-FZ	Denton	0 000109505	N	8896 4	11/8/00	Tib Dn, Knee Up	0
TBLXM	Left Uptr Tibia Moment X LC10	4825	4825-82-MX	Denton	0 010314093	N m	282 4	11/8/00	Ank Lt, Hld Knee	0
TBLYM	Left Uptr Tibia Moment Y LC11	4825	4825-82-MY	Denton	0 010326841	N m	282 4	11/8/00	Ank Fd, Hld Knee	0
TBLXG	Left Tibia Accel X	EGE-73BQE0-2	99H30-Z09	Entran	0 01954	g	2000	4/25/02	Fwd	0
TBLYG	Left Tibia Accel Z	EGE-73BQE0-2	99H12-F09	Entran	0 01847	g	2000	4/26/02	Up	0
ANLXF	Left Lwr Tibia Force X LC13	4826	4826-82-FX	Denton	0 000264714	N	8896 4	11/15/00	Ank Fd, Knee Rr	0
ANLYF	Left Lwr Tibia Force Y LC14	4826	4826-82-FY	Denton	0 000265714	N	8896 4	11/15/00	Ank Rt, Knee Lft	0
ANLZF	Left Lwr Tibia Force Z LC20	4826	4826-82-FZ	Denton	0 000108145	N	8896 4	11/15/00	Ank Dn, Knee Up	0

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Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
ANLXM	Left Lwr Tibia Moment X LC22	4826	4826-82-MX	Denton	0 010351983 N m	282.4	11/15/00	Ank Lt,Hld Knee	0
ANLYM	Left Lwr Tibia Moment Y LC28	4826	4826-82-MY	Denton	0 010339943 N m	282.4	11/15/00	Ank Fd,Hld Knee	0
FILXD	Left Foot Disp X POT4	PD210-4B	PD210-4B-AK-066	Contelec	3 169 °	318	7/31/01	Inversion	0
FILYD	Left Foot Disp Y POT5	PD210-4B	PD210-4B-AK-068	Contelec	3 151 °	318	7/31/01	Dorsiflexion	0
FILZD	Left Foot Disp Z POT6	PD210-4B	PD210-4B-AK-067	Contelec	3 163 °	318	7/31/01	External Rotation	0
FTLXG	Left Foot Accel X	EGE-73BQ-200	98H10-F03	Entran	0 0168 g	2000	4/25/02	Fwd	0
FTLYG	Left Foot Accel Y	EGE-73BQ-200	98H10-F07	Entran	0 02132 g	2000	4/25/02	Rt	0
FTLZG	Left Foot Accel Z	EGE-73BQ-200	98H13-F16	Entran	0 01827 g	2000	4/25/02	Dn	0
KNRXd	Right Knee Displacement AXRRP	150-0121VL	150-0121VL-14949	SpaceAge	23 436 mm	40	5/8/02	Tib Fd,Hld Fem	0
TBRXF	Right Upr Tibia Force X LC1	4825	4825-80-FX	Denton	0 00027111 N	8896.4	12/7/00	Tib Fd,Knee Rr	0
TBRZF	Right Upr Tibia Force Z LC8	4825	4825-80-FZ	Denton	0 000109415 N	8896.4	12/7/00	Tib Dn,Knee Up	0
TBRXM	Right Upr Tibia Moment X LC15	4825	4825-80-MX	Denton	0 010508499 N m	282.4	12/7/00	Ank Lt,Hld Knee	0
TBRYM	Right Upr Tibia Moment Y LC17	4825	4825-80-MY	Denton	0 01037677 N m	282.4	12/7/00	Ank Fd,Hld Knee	0
TBRXG	Right Tibia Accel X	EGE-73BQE0-2	99H12-F19	Entran	0 01986 g	2000	4/26/02	Fwd	0
TBRYG	Right Tibia Accel Z	EGE-73BQE0-2	99H30-Z12	Entran	0 02018 g	2000	4/26/02	Up	0
ANRXF	Right Lwr Tibia Force X LC16	4826	4826-76-FX	Denton	0 000262084 N	8896.4	11/8/00	Ank Fd,Knee Rr	0
ANRYF	Right Lwr Tibia Force Y LC18	4826	4826-76-FY	Denton	0 000262432 N	8896.4	11/8/00	Ank Rt,Knee Lift	0
ANRZF	Right Lwr Tibia Force Z LC19	4826	4826-76-FZ	Denton	0 000108617 N	8896.4	11/8/00	Ank Dn,Knee Up	0
ANRXM	Right Lwr Tibia Moment X LC23	4826	4826-76-MX	Denton	0 010348796 N m	282.4	11/8/00	Ank Lt,Hld Knee	0
ANRYM	Right Lwr Tibia Moment Y LC26	4826	4826-76-MY	Denton	0 010518059 N m	282.4	11/8/00	Ank Fd,Hld Knee	0
FTRXD	Right Foot Disp X POT1	PD210-4B	PD210-4B-AK-131	Contelec	3 157 °	318	7/31/01	Everston	0
FTRYD	Right Foot Disp Y POT2	PD210-4B	AK-064	Contelec	3 166 °	318	7/31/01	Dorsiflexion	0
FTRZD	Right Foot Disp Z POT3	PD210-4B	PD210-4B-AK-065	Contelec	3 167 °	318	7/31/01	Internal Rotation	0
FTRXG	Right Foot Accel X	EGE-73BQ-200	98H14-K06	Entran	0 0211 g	2000	4/26/02	Fwd	0
FTRYG	Right Foot Accel Y	EGE-73BQE0-2	99H12-F03	Entran	0 01896 g	2000	4/25/02	Rt	0
FTRZG	Right Foot Accel Z	EGE-73BQ-200	98H14-K10	Entran	0 01816 g	2000	4/25/02	Dn	0

Description Of Timing Marks On TRC High-Speed Film

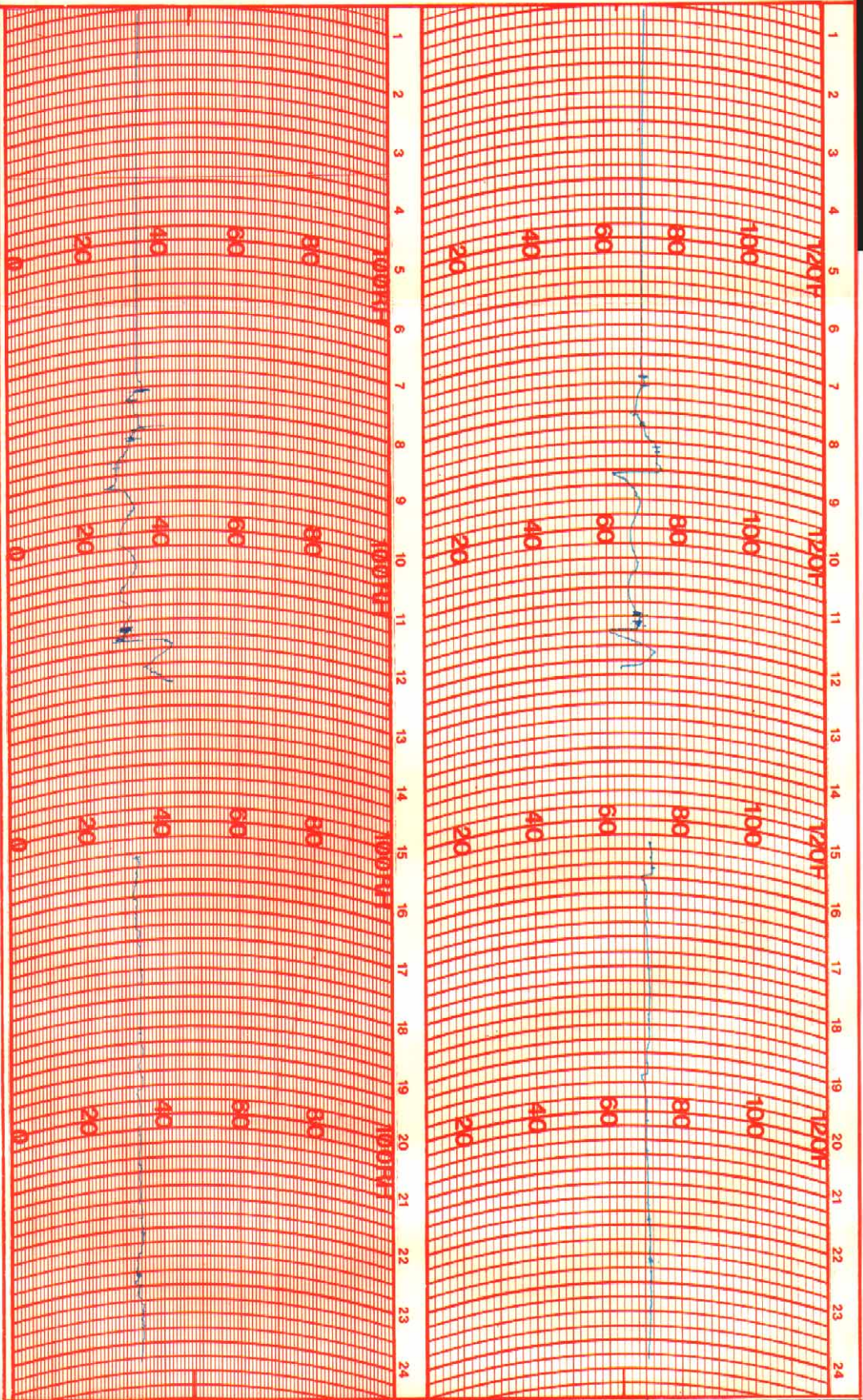
All TRC high-speed cameras are equipped with red LEDs which put timing marks on the right edge of the film. TRC uses a single timing generator to generate the timing for all cameras. This allows the timing marks to be common to all cameras. The timing marks can be used to measure camera speed (frames 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 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.

To locate time-zero, observe the continuous LED that is visible on the left side of the frame at the beginning of each view. Locate the frame where the left side LED is fully extinguished and reverse 4 frames for the Photosonic cameras; reverse 5 frames for Hycam cameras; reverse 2 frames for Stalex cameras. This frame is time-zero.



WEATHER MEASURE
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HYGROTHERMOGRAPH
 1 DAY

CHART # C311 D HF
 PART # 699123

STATION VRTC DATE ON 20010621 - 0400 DATE OFF _____

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