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12

Report Number: 208S-TRC-02-004

Vehicle Safety Compliance Testing for FMVSS 208
for Occupant Crash Protection
Sled Test

Ford Motor Company
2002 Ford Explorer
NHTSA Number: C20203
TRC Inc. Test Number: S011207

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



Test Date: December 7, 2001
Report Date: December 27, 2001

Final Report

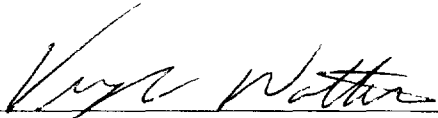
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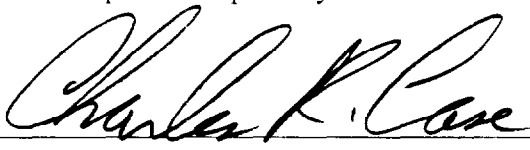
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Test Performed By Brian T Bautsch, Test Engineer

Report Approved By

 Date 12/27/01
Virginia L. Watters, Project Manager
Transportation Research Center Inc

Final Report Accepted By

 Date 2/25/02
Contracting Officer's Technical Representative (COTR),
NHTSA, Office of Vehicle Safety Compliance

METRIC CONVERSION FACTORS

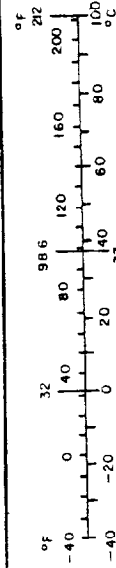
Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.54	centimeters	cm
ft	feet	30.48	centimeters	cm
yd	yards	0.9144	meters	m
mi	miles	1.60934	kilometers	km
AREA				
in ²	square inches	6.4516	square centimeters	cm ²
ft ²	square feet	0.092903	square meters	m ²
yd ²	square yards	0.836127	square meters	m ²
mi ²	square miles	2.599987	square kilometers	km ²
	acres	0.404686	hectares	ha
MASS (weight)				
oz	ounces	28.3495	grams	g
lb	pounds	0.453592	kilograms	kg
	short tons (2000 lb)	0.907185	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.473176	liters	l
qt	quarts	0.946353	liters	l
gal	gallons	3.78541	liters	l
ft ³	cubic feet	0.0283168	cubic meters	m ³
yd ³	cubic yards	0.764555	cubic meters	m ³
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

1 in = 2.54 (exact) cm; 1 ft = 0.3048 m; 1 yd = 0.9144 m; 1 mi = 1.60934 km; 1 lb = 0.453592 kg; 1 short ton = 2000 lb = 907.185 kg; 1 long ton = 2240 lb = 1016.047 kg; 1 US gallon = 128 fl oz = 3.78541 l; 1 UK gallon = 160 fl oz = 4.54609 l; 1 cubic foot = 28.3168 l; 1 cubic yard = 0.764555 m³

Approximate Conversions from Metric Measures

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



Technical Report Documentation Page

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16	Abstract An FMVSS 208 Section 13 compliance sled test was conducted on a 2002 Ford Explorer 4-door, NHTSA No C20203 in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No TP208S-01 for the determination of FMVSS 208 compliance Possible test failures identified were as follows None				
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Purpose

This Federal Motor Vehicle safety Standard (FMVSS) 208 compliance sled test is part of the FMVSS compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by the Transportation Research Center Inc (TRC Inc) under Contract No DTNH22-98-D-01055. The purpose of this test was to determine if the subject vehicle, a 2002 Ford Explorer 4-door, NHTSA No C20203, meets the performance requirements of FMVSS 208, "Occupant Crash Protection," in the impact simulation sled test mode.

Test Procedure

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208S-01, dated January 15, 1998. Data was obtained relative to FMVSS 208, "Occupant Crash Protection," performance.

The sled test vehicle was instrumented with six (6) accelerometers to measure longitudinal axis accelerations. The sled was instrumented with one (1) longitudinal accelerometer, which is pre-filtered with an analog filter to 200 Hz as an integral part of the sled firing circuit, and two (2) additional longitudinal accelerometers: the primary accelerometer for pulse and integrated velocity determination and a backup accelerometer. In addition, the sled was instrumented with one (1) light trap to measure velocity and two (2) airbag firing timing circuits.

The sled test vehicle contained two (2) Part 572 E 50th percentile adult male anthropomorphic test devices (dummies). The dummies were positioned in the front outboard designated seating positions according to the dummy placement procedure specified in Appendix B of the Laboratory Test Procedure. The dummies were not restrained by seat belts.

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

The forty-two (42) data channels were digitally sampled at 12,500 samples per second and processed per Sections 11.7 through 11.9 of the Laboratory Test Procedure.

The sled test event was recorded by one (1) real-time motion picture camera and six (6) high-speed motion picture cameras. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera.

Test Results Summary

This FMVSS 208 compliance sled test was conducted by TRC Inc on December 7, 2001

The test vehicle, a 2002 Ford Explorer 4-door, NHTSA No C20203, does appear to comply with the performance requirements of FMVSS 208 in the impact simulation sled test mode as measured by Hybrid III 50th percentile male dummies

	FMVSS 208 Max Allowable Injury Assessment Values	Driver	Passenger
HIC	1000	121	62
Chest g	60 g	38.1	34.3
Chest Displacement	3 inches	1.0	0.2
Left Femur	2250 lbs	1375	1102
Right Femur	2250 lbs	1326	1194
Neck Extension	57 Nm	8.1	19.2
Neck Flexion	190 Nm	42.6	58.3
Neck Tension	3300 N	879	457
Neck Compression	4000 N	450	958
Neck Shear	3100 N	772	1070

The subject vehicle, a 2002 Ford Explorer, NHTSA No C20203, appears to meet the other FMVSS 208 requirements for which it was tested. These results are shown in the data sheets that are included in this report.

The sled test vehicle was equipped with air bags at the driver and passenger seating positions. The dummies were not restrained by seat belts. The sled carriage was accelerated to 17.6 g with an integrated velocity change of 29.3 mph. The air bags were triggered at 20.2 milliseconds after 0.5 g acceleration was measured by the firing circuit. Following subsequent digital data processing and filtering the acceleration signal to Channel Class 60, the air bag event trigger signal was 21.7 ms after the 0.5 g acceleration level was indicated.

Data Acquisition Explanations

The measured velocity data channel, SLDXV, from the light trap vane attached to the sled recorded three anomalous spikes between 250 and 285 milliseconds. The peak velocity reported in the tables of this report is limited to the time frame of interest prior to the anomalies: 0 to 240 milliseconds.

Sled Test Summary

NHTSA number	C20203
Test type	Alternate 208 Sled
Test date	12/07/01
Test time	1111
Ambient temperature at impact area	69 3° F
Vehicle year/make/ model/body style	2002/Ford/Explorer/4-door

<u>Dummy Info</u>	Driver #230	Front #314
Type	Hybrid III	Hybrid III
Location	Left Front	Right Front
Restraint	Airbag, supplemental	Airbag, supplemental
Number of data channels	15	15

Number of Cameras

Real-time	1
High-speed	6

Door Opening Data

Left Front	Easy
Right Front	Easy

Front Seat Data

Seat track failure	None	None
Seat back failure	None	None

Visible Dummy Contact Points

Head	Airbag, visor	Airbag, visor
Chest	Airbag	Airbag
Left knee	Knee bolster	Glove box
Right knee	Knee bolster	Glove box

General Test and Vehicle Parameter Data for the Sled Test Vehicle

Test Vehicle Information

Vehicle year/make/ model body style	2002 Ford/Explorer/4-door
Color	Harvest Gold Clearcoat
VIN	1FMZU62E92UB05828
NHTSA number	C20203
Engine data	
Placement	Inline
Cylinders	6
Displacement	4
Transmission data	<u>5</u> speed, ___ manual, <u>X</u> automatic, <u>X</u> overdrive
Final drive	___ fwd, <u>X</u> rwd, ___ 4wd
Date vehicle received	10/31 2001
Odometer reading	62
Dealer's name and address	Ricart Ford Inc 4255 South Hamilton Road Columbus, Ohio 43327

Major Options

Power steering	Yes	Other 4-wheel disk brakes with ABS
Power brakes	Yes	
Power windows	Yes	
Air conditioning	Yes	
Power door locks	Yes	

Remarks

General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont'd

Data from Vehicle's Certification Label

Vehicle manufactured by	Ford Motor Company
Date of manufacture	8/01
VIN	1FMZU62E92UB05828
GVWR	5680 lbs
GAWR Front	2560 lbs
Rear	3200 lbs

Data from Vehicle's Tire Placard

Tire pressure with maximum capacity vehicle load

Front	30 psi
-------	--------

Rear	35 psi
------	--------

Recommended tire size	P235/70R16
-----------------------	------------

Load range	N/A
------------	-----

Recommended cold tire pressure

Front	30 psi
-------	--------

Rear	35 psi
------	--------

Size of tires on vehicle	P235/70R16
--------------------------	------------

Spare tire	P235/70R16
------------	------------

Vehicle capacity data

Type of front seats	Bucket
---------------------	--------

Number of occupants

Front	2
-------	---

Rear	3
------	---

Total	5
-------	---

Remarks

General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont'd

Weight of test vehicle as received (with maximum fluids)

Right front	1104.5 lbs	Right rear	1017.2 lbs
Left front	1107.6 lbs	Left rear	997.8 lbs
Total front weight	2212.1 lbs	(52.3% of total vehicle weight)	
Total rear weight	2015.0 lbs	(47.7% of total vehicle weight)	
Total delivered weight	4227.1 lbs		

Calculation of test vehicle's target test weight

RCLW = Rated Cargo and Luggage Weight

UDW = Unloaded Delivered Weight (4227.1 lbs)

DSC = Designated Seating Capacity (5)

RCLW = 300 lbs

Target test weight = $UDW + RCLW + (\text{Number of Hybrid III dummies} \times 167 \text{ lbs per dummy})$

Target test weight = $4227.1 + 300 + 334 = 4861.1 \text{ lbs}$

Weight of test vehicle with two dummies and 300 lbs of cargo weight

Right front	1177.7 lbs	Right rear	1260.1 lbs
Left front	1186.5 lbs	Left rear	1236.8 lbs
Total front weight	2364.2 lbs	(48.6% of total vehicle weight)	
Total rear weight	2496.9 lbs	(51.4% of total vehicle weight)	
Total test weight	4861.1 lbs		

Remarks

Weight of ballast secured in vehicle cargo area 0 lbs

Components removed to meet target test weight None

General Test and Vehicle Parameter Data for the Sled Test Vehicle, Cont'd

Test Vehicle Attitude

As delivered door sill angle 1 8° Nose Down
As tested door sill angle 1 7° Nose Down
Fully loaded door sill angle 1 4° Nose Down
Vehicle Wheelbase 113 7 inches

Fuel System Data

Fuel system capacity from owner's manual 22 5 gallons
Useable capacity figure furnished by COTR 22 0 gallons

Remarks The roll angle measurements were within 1 inch of each other
The left and right side measurements were 34 3 inches and 34 2 inches respectively

Post-Impact Data

Test number	S011207	
NHTSA number	C20203	
Test date	12 07 01	
Test time	1111	
Test type	Alternate FMVSS 208 Sled Test	
Impact angle	0°	
Ambient temperature at impact area	69.3° F	
Temperature in occupant compartment	70.8° F	
Sled carriage velocity		
Integrated velocity from the integration of the entire sled acceleration		29.3 mph
Measured velocity from the light trap device attached to the sled (backup)		28.9 mph ¹
Specified integrated velocity range		28 to 30 mph
Sled carriage acceleration		
Acceleration	17.6 g	
Specified acceleration range	16.0 g - 18.2 g	
Sled carriage acceleration duration		
Time from T-0(-0.5 g) to 0.0 g	125.3 ms	
Specified acceleration duration	120 - 130 ms	

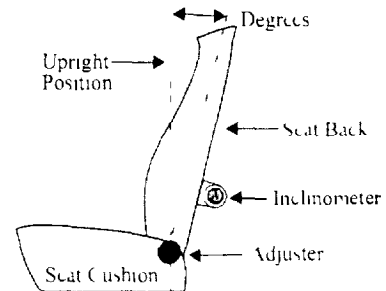
The sled acceleration curve was within the specified corridor

¹ See Data Acquisition Explanations

Seat and Steering Column Positioning Data

Vehicle 2002/Ford/Explorer/4-door

NHTSA No C20203



Front Seat Assembly
Left Side View

Nominal Design Riding Position

Driver Seat Seat Back Angle = 19.3° Manual

The seat back was adjusted to the position resulting in a back angle nearest to 19° when measured by an inclinometer 11.5 inches above the back pivot on the rear outboard seat frame, per manufacturer's instructions

Passenger Seat Seat Back Angle = 19.7° Manual

The seat back was adjusted to the position resulting in a back angle nearest to 19° when measured by an inclinometer 11.5 inches above the back pivot on the rear outboard seat frame, per manufacturer's instructions

Seat Fore and Aft Positions

Driver Seat 1 rear of mid

The seat was positioned in the first locking notch rear of the center of the track adjustment. There was no locking notch at center track due to an even number of locking positions.

Passenger 1 rear of mid

The seat was positioned in the first locking notch rear of the center of the track adjustment. There was no locking notch at center track due to an even number of locking positions.

Steering Column Adjustments

The steering column was adjustable. The steering column was tilted full up and full down and then positioned for testing in the center of the locus described.

Dummy Measurement Data for Front Seat Occupants

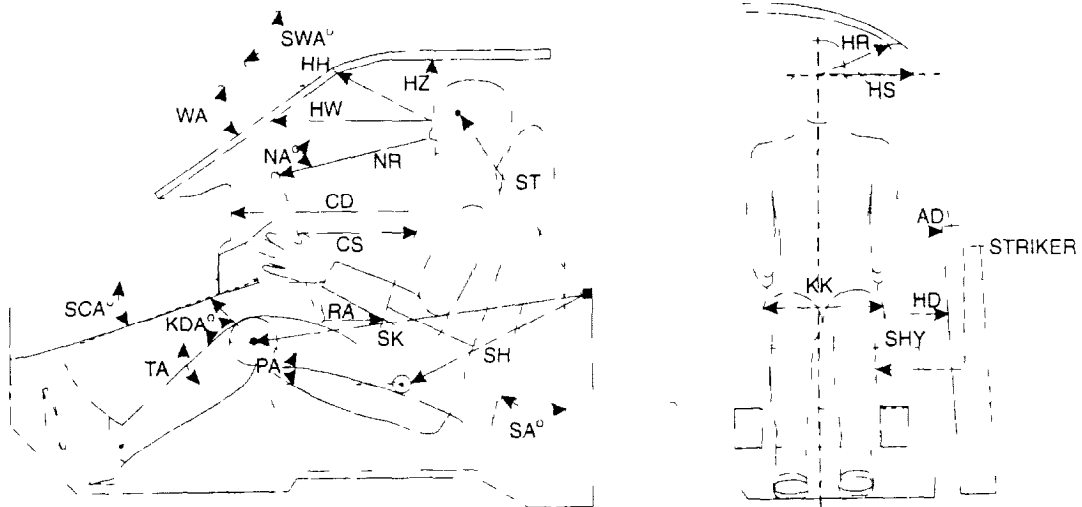
Designation	Type of Measurement	Driver (Serial #230)	Passenger (Serial #314)
WA	Windshield angle	33.8°	N/A
SWA	Steering wheel angle	19.3°	N/A
SCA	Steering column angle	20.2°	N/A
SA	Seat back angle	19.3°	19.7°
HZ	Head to roof	7.5 in	7.3 in
HH	Head to header	14.9 in	14.3 in
HW	Head to windshield	20.3 in	20.6 in
HR	Head to side header	8.2 in	8.5 in
NR	Nose to rim	13.9 in	N/A
NA	Nose to rim angle	17°	N/A
CD	Chest to dash	19.8 in	19.9 in
CS	Steering wheel to chest	11.3 in	N/A
RA	Rim to abdomen	6.6 in	N/A
KDL	Left knee to dash	6.5 in	5.8 in
KDR	Right knee to dash	6.5 in	6.3 in
KDA	Outboard knee to dash angle	36°	25°
PA	Pelvis angle	19.5°	19.5°
TA	Tibia angle	36.3°	35°
KK	Knee to knee	11.5 in	10.6 in
ST ¹	Striker to head	24.6 in	24.4 in
	Striker to head angle	-79°	-81°
SK ¹	Striker to knee	23.7 in	24.0 in
	Striker to knee angle	-1°	-4°
SH ¹	Striker to H-point	8.8 in	8.9 in
	Striker to H-point angle	19°	9°
SHY	Striker to H-point (Y dir.)	9.1 in	8.5 in
HS	Head to side window	12.8 in	12.6 in
HD	H-point to door	5.6 in	5.2 in
AD	Arm to door	5.1 in	5.4 in

The seat back angle (SA°) is measured relative to vertical

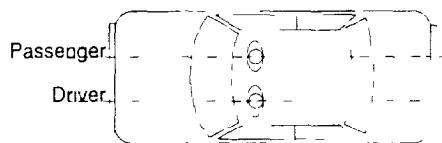
All other angles are measured relative to horizontal

¹ A negative angle indicates the measurement point was located below the striker

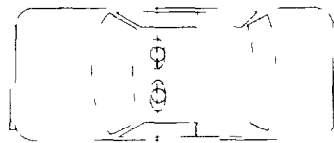
Dummy Measurement Locations for Front Seat Occupants



VERTICAL LONGITUDINAL PLANE



VERTICAL TRANSVERSE PLANE



Descriptions of Dummy Measurements

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

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

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

* Measurement used in Data Tape Reference Guide

¹ Only outboard measurement is referenced in Data Tape Reference Guide

Descriptions of Dummy Measurements, Cont'd

SH,
SK,
ST

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

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

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

Angles

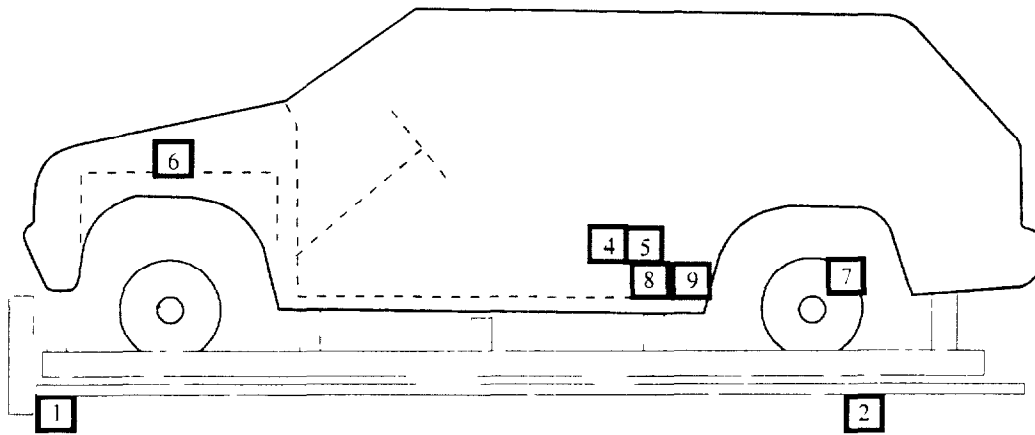
- SA Seat Back Angle, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn't provide clear instructions contact the COTR.

* Measurement used in Data Tape Reference Guide

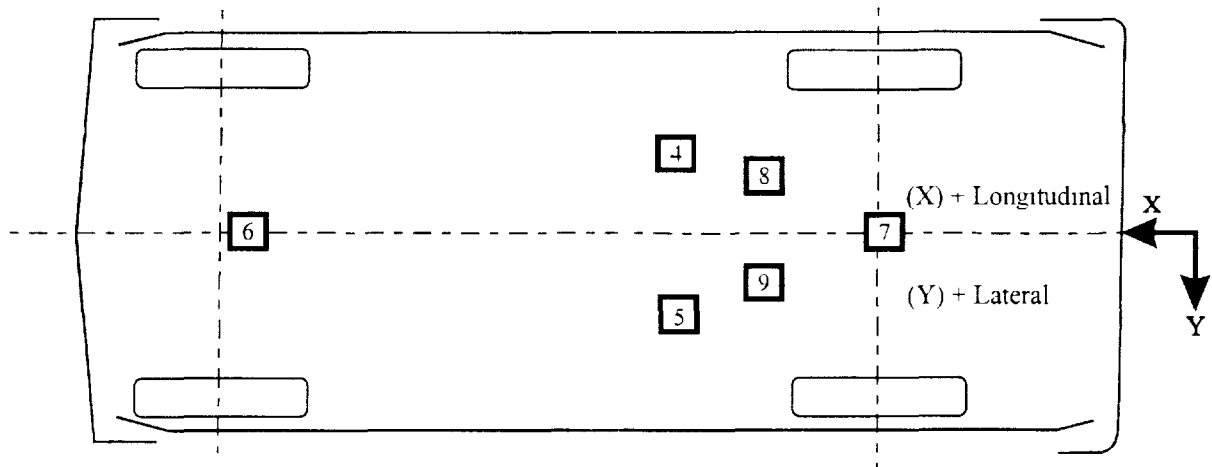
Descriptions of Dummy Measurements, Cont'd

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

Vehicle Accelerometer Placement



Side View



Bottom View

Vehicle Data Summary and Accelerometer Locations

TEST NUMBER: S011207 No. LOCATION	X	Y	POSITIVE DIRECTION	NEGATIVE DIRECTION
1 SLED ACCELERATION PRIMARY	165.6 in	-1.0 in	0.6 g @ 162.8 ms	17.6 g @ 55.8 ms
2 SLED ACCELERATION - BACKUP REDUNDANT	165.6 in	-1.0 in	0.6 g @ 162.8 ms	17.7 g @ 55.8 ms
3 SLED VELOCITY MEASURED ¹ INTEGRATED ²	NA	NA	0.1 mph @ 8.9 ms --- ---	28.9 mph @ 158.1 ms 29.3 mph @ 152.0 ms
4 LEFT BODY AT REAR SEAT LONGITUDINAL	78.1 in	-18.1 in	1.2 g @ 134.1 ms	21.7 g @ 64.6 ms
5 RIGHT BODY AT REAR SEAT LONGITUDINAL	78.0 in	17.5 in	1.3 g @ 134.3 ms	20.6 g @ 65.6 ms
6 TOP ENGINE LONGITUDINAL	161.4 in	-7.1 in	2.9 g @ 131.0 ms	18.8 g @ 50.2 ms
7 REAR AXLE LONGITUDINAL	43.1 in	-0.4 in	1.8 g @ 128.6 ms	41.7 g @ 62.2 ms
8 LEFT VEHICLE FRAML LONGITUDINAL	57.5 in	-15.1 in	59.0 g @ 62.4 ms	17.5 g @ 50.6 ms

Vehicle Data Summary and Accelerometer Locations, Cont'd

TEST NUMBER: S011207	X	Y	POSITIVE DIRECTION		NEGATIVE DIRECTION	
NO. LOCATION						
9 RIGHT VEHICLE FRAME LONGITUDINAL	57.7 in	15.1 in	0 8 g	@ 129.0 ms	18.1 g	@ 57.4 ms
10 DRIVER PRIMARY AIRBAG EVENT	NA	NA	1 0 volt	@ 21.7 ms	---	---
11 PASSENGER PRIMARY AIRBAG EVENT	NA	NA	1.0 volt	@ 21.7 ms	---	---

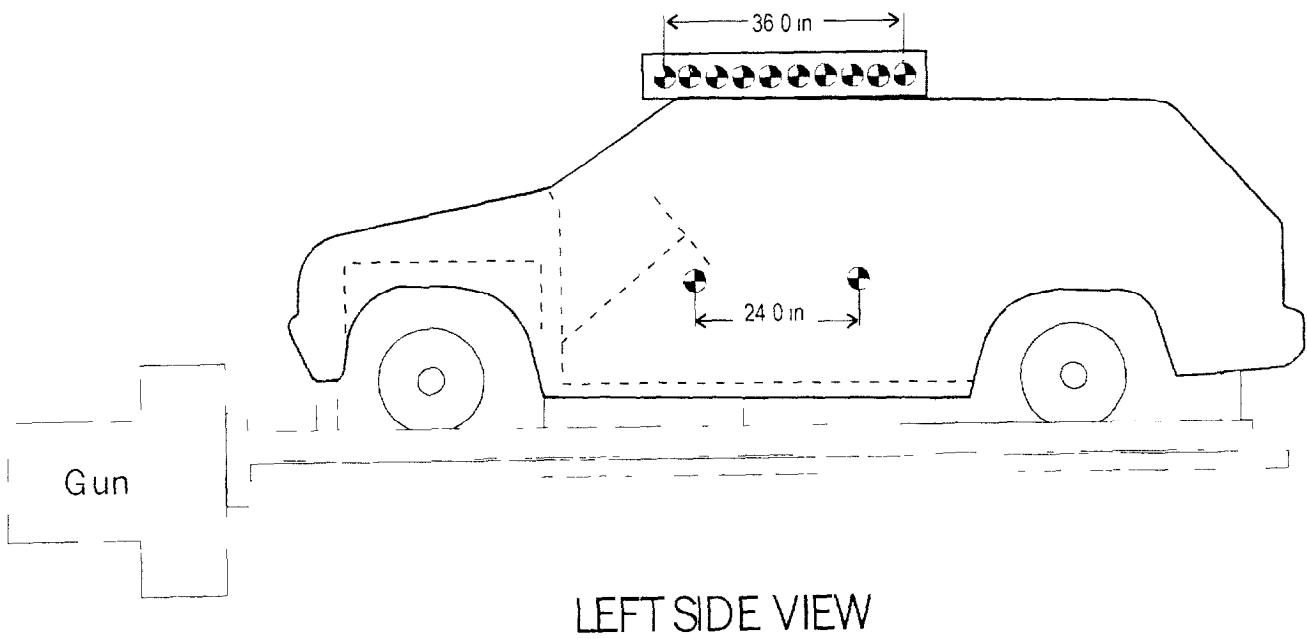
REFERENCE: X: + FORWARD FROM VEHICLE REAR SURFACE
Y: + RIGHTWARD FROM SLED CARRIAGE CENTERLINE

¹¹See Data Acquisition Explanations

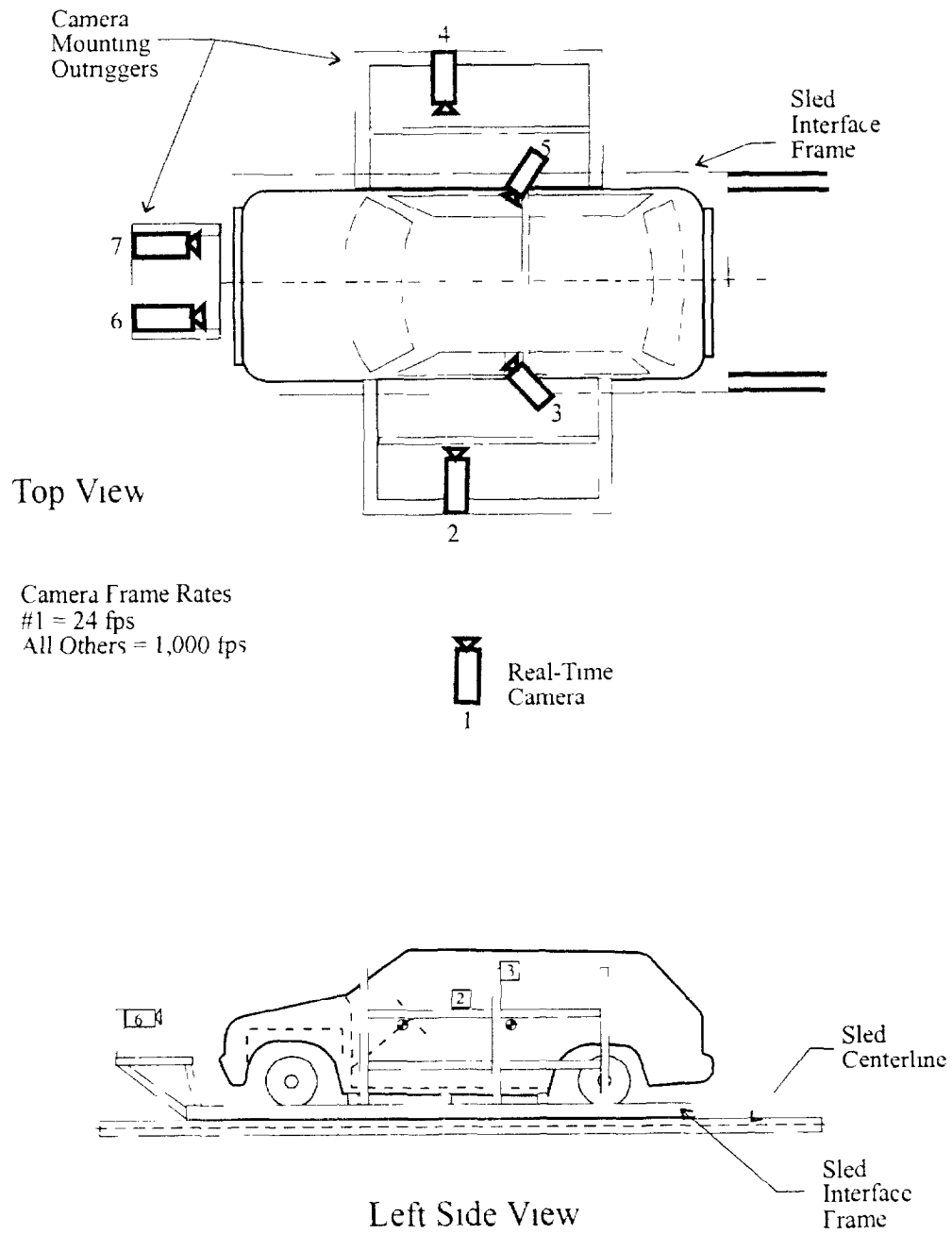
²²No positive data in time frame of interest.

Vehicle Targeting Measurements

REFERENCE PHOTO TARGETS



Camera Positions



Motion Picture Camera Locations

Vehicle year/make/model/body style 2002/Ford/Explorer/4-door

NIITSA No C20203

Test Number S011207

Camera Number	View	Camera Positions ¹			Camera Angle ²	Film Plane to Head Target	Camera Lens	Film Speed
		X	Y	Z				
1	Left side view offboard	93.0 in	314.9 in	56.4 in	0°	295.3 in	10 mm	24 frames/s
2	Left side view wide	69.5 in	72.9 in	50.7 in	3.5°	58.2 in	8 mm	1025 frames/s
3	Left side view over shoulder	98.4 in	49.1 in	60.3 in	14.2°	38.1 in	8 mm	870 frames/s
4	Right side view wide	70.9 in	91.7 in	50.5 in	4.1°	76.0 in	13 mm	992 frames/s
5	Right side view over shoulder	99.6 in	49.9 in	57.0 in	11.1°	38.4 in	8 mm	N/A ³ frames/s
6	Front view - driver	27.5 in	13.1 in	56.2 in	7.6°	51.5 in	8 mm	1000 frames/s
7	Front view - passenger	27.2 in	15.9 in	55.6 in	8.2°	52.8 in	8 mm	1007 frames/s

- ¹ X Film plane to front of sled
Y Film plane to sled centerline
Z Film plane to top of sled

² Angle Film plane of camera downward from horizontal plane

³ Film speed could not be measured, timing LED's did not function

FMVSS 208 Occupant Injury Data

Vehicle 2002/Ford/Explorer/4-door

NHTSA No C20203

Date 12/07/01

Maximum Acceleration Values (g's) ¹	Driver Dummy #230	Passenger Dummy #314
Head Channel X	-41.1	-24.8
Head Channel Y	6.4	-13.5
Head Channel Z	22.6	21.3
HEAD RESULTANT	41.4	28.4
Chest Channel X	-36.6	-32.3
Chest Channel Y	2.5	2.7
Chest Channel Z	12.3	16.7
CHEST RESULTANT	38.6	35.2

Head Injury Criteria (HIC) Values

HIC	121	62
t ₁ = (ms)	118.88	83.12
t ₂ = (ms)	139.92	119.12

[The maximum time interval from t₁ to t₂ is 36 milliseconds.]

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

CLIP	38.1	34.3
t ¹ = (ms)	94.245	104.284
t ² = (ms)	97.205	107.244
Chest Deflection (in)	1.0	0.2

¹ Sign Convention per SAEJ211, March 1995

FMVSS 208 Occupant Injury Data, Cont'd

Vehicle 2002 Ford Explorer/4-door

NHTSA No C20203

Date 12/07/01

Max Compressive Femur Forces (lbs)	Driver Dummy #230	Passenger Dummy #314
Left Side (lbs)	1375	1102
Right Side (lbs)	1326	1194

Neck Injury Criteria	Driver Dummy #230	Passenger Dummy #314
Peak Flexion Bending Moment (N-m)	42 6	58 3
Peak Extension Bending Moment (N-m)	8 1	19 2
Peak Axial Tension (N)	879	457
Peak Axial Compression (N)	450	958
Peak Positive X-axis Shear (N)	772	1070
Peak Negative X-axis Shear (N)	79	302

FMVSS 208 Seat Belt Warning System Check

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203 Technician Steve Bell and Nicholas Echeverria Date 11/20/2001

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

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

A 1 S7 3(a)(1)

Time duration of audible warning signal = 7 seconds
(4 to 8 seconds)

Time duration of reminder light operation = 61 seconds
(no less than 60 seconds)

A 2 S7 3(a)(2)

Time duration of audible warning signal = seconds
(4 to 8 seconds) (see 49 USCS @ 30124)

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

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

B 1 S7 3(a)(1)

Time duration of audible warning signal = 0 seconds
(audible warning should not operate)

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

B 2 S7 3(a)(2)

Time duration of audible warning signal = seconds
(audible warning should not operate)

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

C Note wording of visual warning

Fasten Seat Belt

Fasten Belt

Symbol 101



FMVSS 208 Readiness Indicator

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203

Technician Steve Bell

Date 11/20/2001

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

Is the system totally mechanical?

Yes-☐, No-☒

Describe the location of the readiness indicator Lower left corner of instrument cluster

Is the readiness indicator clearly visible to the driver?

Yes-☒, No-☐

Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided?

Yes-☒, No-☐,

FMVSS 208 Air Bag Labels

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203 Technician Steve Bell and Nicholas Echeverria Date 11/20/2001

1 Air Bag Maintenance Label and Owner's Manual Instructions

1 1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?

☐ Yes (Go to 1 2)

☒ No (Go to 2)

1 2 Does the Vehicle have a maintenance or replacement label?

☐ Yes-Pass ☐ No-Fail

1 3 Does the label contain one of the following?

☐ Yes-Pass ☐ No-Fail

☐ Schedule on label specifies month and year

☐ Schedule on label specifies vehicle mileage

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

1 4 Is the label permanently affixed within the passenger compartment?

☐ Yes-Pass ☐ No-Fail

1 5 Is the label lettered in English?

☐ Yes-Pass ☐ No-Fail

1 6 Is the label in block capitals and numerals?

☐ Yes-Pass ☐ No-Fail

1 7 Are the letters and numerals at least 3/32 inch high?

☐ Yes-Pass ☐ No-Fail

1 8 Does the owner's manual set forth the recommended schedule for maintenance or replacement?

☐ Yes-Pass ☐ No-Fail

2 Does the owner's manual (S4 5 1 (f))

2 1 Include a description of the vehicle's air bag system in an easily understandable format?

☒ Yes ☐ No-Fail

2 2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating positions?

☒ Yes ☐ No-Fail

FMVSS 208 Air Bag Labels, Cont'd.

- 2 3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions? ☒ Yes ☐ No-Fail
- 2 4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash? ☒ Yes ☐ No-Fail
- 2 5 Provide any necessary precautions regarding the proper positioning of occupants including children, at seating positions equipped with air bags to insure maximum safety protection for those occupants? ☒ Yes ☐ No-Fail
- 2 6 Explain that no objects should be place over or near the air bag on the steering wheel or on the instrument panel because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate? ☒ Yes ☐ No-Fail

3 Does the Vehicle

- 3 1 Provide an automatic means to ensure that the air bag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard seat? ☐ Yes ☒ No
- 3 2 Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which it might have an adverse effect on infants in rear-facing child seat, and unbelted or improperly belted children? ☐ Yes ☒ No
- 3 3 Have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children? ☐ Yes ☒ No

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

FMVSS 208 Air Bag Labels, Cont'd.

4 Sun Visor Warning Label

- 4 1 Is the label permanently affixed (may be permanent marking or molding) to either side of the sun visor at each front outboard seating position with an air bag?

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

- 4 2 Does the label conform in content (**vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children."**) (S4 5 1(b)(2)(v)) to the label shown in either Figure 6a or 6b as appropriate at each front outboard seating position with an air bag? (S4 5 1(b)(2))

4 2 1 Dual air bags

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

- 4 2 2 Vehicles with driver air bag ONLY - either 4 2 1 or 4 2 2 is applicable, not both (S4 5 1(b)(2)(iv))

- 4 2 2 1 Does the label conform on content to the label shown in either Figure 6a or 6b as appropriate?

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

- 4 2 2 2 Does the label conform in content to the label shown in Figure 6a where the label can be modified to omit the pictogram and the message may read

DEATH or SERIOUS INJURY can occur

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

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

FMVSS 208 Air Bag Labels, Cont'd.

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

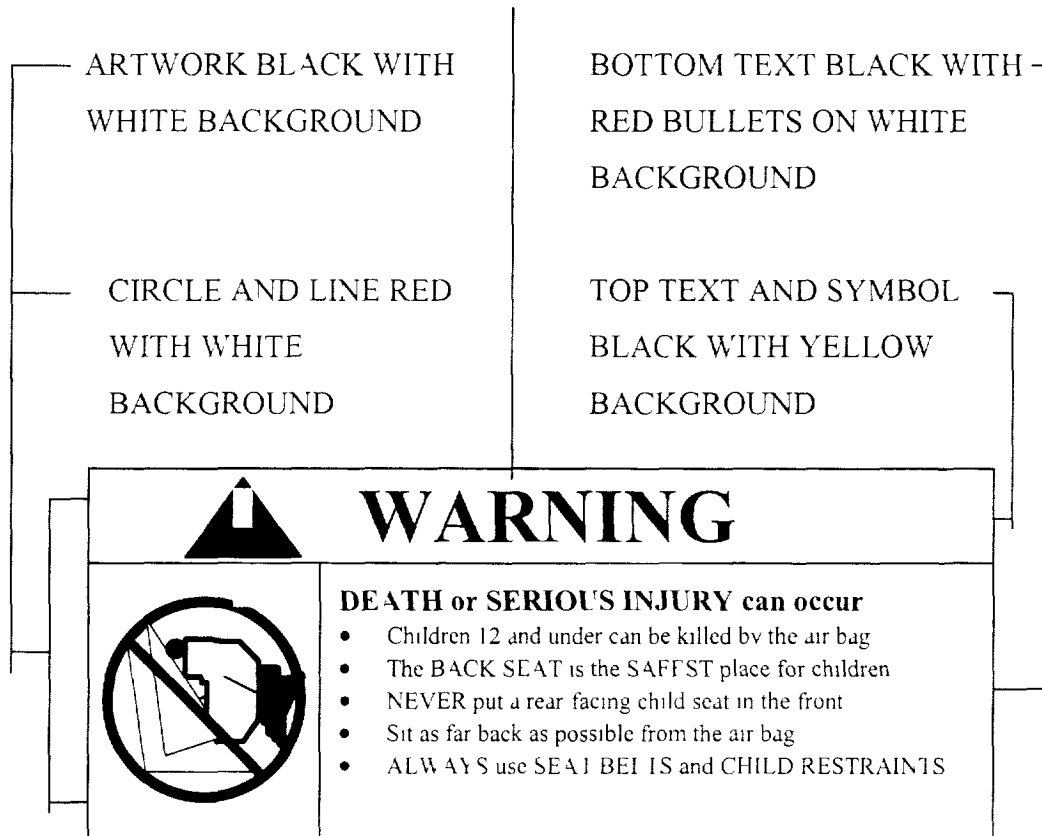


Figure 6a
(S4 s 1(b)(2))

FMVSS 208 Air Bag Labels, Cont'd.

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

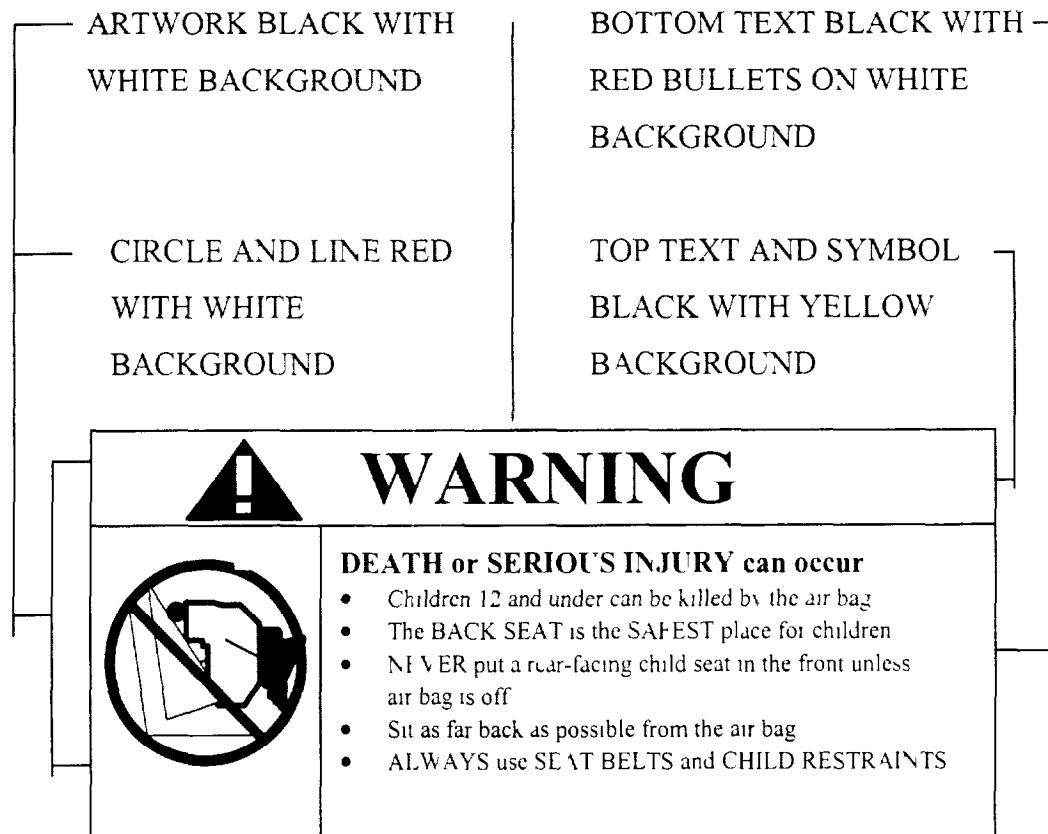


Figure 6b
(S4 5 1(b)(2))

- 4 3 Is the driver side label heading area yellow with the word "warning" and the alert symbol in black? (S4 5 1 (b)(2)(i))

Driver side ☒ Yes-Pass ☐ No-Fail

Passenger side ☒ Yes-Pass ☐ No-Fail

- 4 4 Is the message white with black text? (S4 5 1 (b)(2)(ii))

Driver side ☒ Yes-Pass ☐ No-Fail

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

- 4 5 Is the message area at least 30 cm²? (S4 5 1(b)(2)(iii))

Actual message area, driver side 30.4 cm²

Actual message area, passenger side 30.4 cm²

Driver side ☒ Yes-Pass ☐ No-Fail

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

FMVSS 208 Air Bag Labels, Cont'd.

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

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

Driver side ☒ Yes-Pass ☐ No-Fail

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

- 4 7 Is the pictogram at least 30 mm in diameter? (S4 5 1(b)(2)(iii))

Actual diameter, driver side 30 mm

Actual diameter, passenger side 30 mm

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

Driver side ☒ Yes-Pass ☐ No-Fail

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

- 4 8 Is the same side of the sun visor to which the sun visor label is affixed free of other information with the exception of an air bag maintenance label

(S4 5 1(b)(3)) and/or rollover warning label specified in 49 CFR Part 575

§575.105?

Driver side ☒ Yes-Pass ☐ No-Fail

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

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

Driver side ☒ Yes-Pass ☐ No-Fail

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

5 Air Bag Alert Label

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

Driver ☒ Yes ☐ No Passenger ☒ Yes ☐ No **If yes, go to 6**

- 5 2 Does the label conform in content to the label shown in Figure 6c?
(S4 5 1(c)(2))

☐ Yes-Pass ☐ No-Fail

Circle and Line Red
with White
Background

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION

Artwork Black with
White Background

Text Yellow with
Black Background

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



FMVSS 208 Air Bag Labels, Cont'd.

5 3 Is the message area black with yellow text? (S4 5 1(c)(2)(i))
☐ Yes-Pass ☐ No-Fail

5 4 Is the message area at least 20 cm²? (S4 5 1(c)(2)(i))
Actual message area N/A cm² ☐ Yes-Pass ☐ No-Fail

5 5 Is the pictogram black with a red circle and slash on a white background?
(S4 5 1(c)(2)(ii))
For vehicles with driver side air bag ONLY ☐ N/A
☐ Yes-Pass ☐ No-Fail

5 6 Is the pictogram at least 20 mm in diameter? (S4 5 1(c)(2)(ii))
Actual diameter is N/A mm
For vehicles with driver side air bag ONLY ☐ N/A
☐ Yes-Pass ☐ No-Fail

6 Label On the Dash

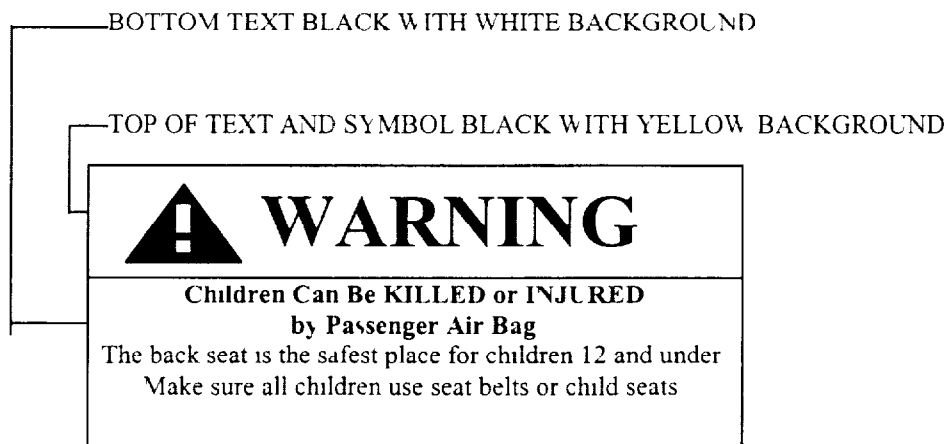
6 1 Does the vehicle have a passenger air bag?
☒ Yes ☐ No

If no, this check list is complete.

6 2 Does the vehicle have a label on the dash or steering wheel hub? (S4 5 1(e))
☒ Yes-Pass ☐ No-Fail

6 3 Does the label conform in content (**vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under."**) (S4 5 1(e)(iii)) to the label shown in Figure 7? (S4 5 1(e))
☒ Yes-Pass ☐ No-Fail

Figure 7
(S4 5 1(e))



FMVSS 208 Air Bag Labels, Cont'd.

- 6 4 Is the heading area yellow with the word “warning” and the alert symbol in black?
(S4 5 1(e)(1)) ☒ Yes-Pass ☐ No-Fail
- 6 5 Is the message white with black text? (S4 5 1(e)(11)) ☒ Yes-Pass ☐ No-Fail
- 6 6 Is the message area at least 30 cm²? (S4 5 1(e)(11))
Actual message area 40.2 cm² ☒ Yes-Pass ☐ No-Fail

FMVSS 208 Rear Outboard Seating Position Seat Belts

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203

Technician Brian T Bautsch

Date 12/07/01

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

Yes-☒, No-☐, N/A ☐ (No Back Seat)

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

N/A

FMVSS 208 Lap Belt Lockability

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

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

Vehicle Model Year/Make/Model/Body Style 2002/Ford Explorer/4-door

NHTSA No C20203 Technician Steve Bell

Date 11/21/2001

Designated Seating Position Right Front

- ☒1 Record test seat position Mid
(S7 1 1 5(c)(1)) (Any position is acceptable)
- ☒2 Buckle the seat belt (S7 1 1 5(c)(1))
- ☒3 Complete any procedures recommended in the vehicle owner's manual to activate any
locking feature (S7 1 1 5(c)(1))
- ☒4 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT have to be attached
by the vehicle user to the seat belt webbing, retractor, or any other part to the vehicle?
(S7 1 1 5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒5 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT require inverting,
twisting or deforming of the belt webbing? (S7 1 1 5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒6 Does the vehicle user need to take some action to activate the locking feature on the lap
belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to
forward-facing?

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

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

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203

Technician Steve Bell

Date 11/21/2001

Designated Seating Position Right Front

- ☒7 Locate a reference point A on the seat belt buckle (S7 1 1 5(c)(2))
- ☒8 Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly (S7 1 1 5(c)(2))
- ☒9 Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system (S7 1 1 5(c)(2))
- ☒10 Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly (S7 1 1 5(c)(2)) Measured distance between A and B 71.3 inches
- ☒11 Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing (S7 1 1 5(c)(3))
- ☒12 To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in figure 5 Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal (S7 1 1 5(c)(4)) Measured force application angle 10 degrees (Spec. 5~15 degrees)
- ☒13 Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied (S7 1 1 5(c)(4)) Measured distance between A and B 30.9 inches

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203 Technician Steve Bell

Date 11/21/2001

Designated Seating Position Right Front

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

Record onset rate 5 lbs/sec (spec 10 ~50 lb/sec)

The measured distance between A and B is 31.3 inches (S7 1 1 5(c)(6))

- ☒ 15 Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7 1 1 5 (c)(7))

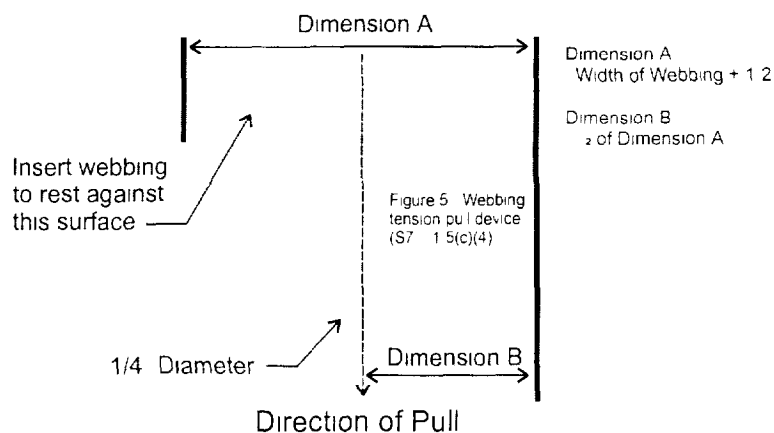
14-13= 0.4 inches

☒ Yes-Pass ☐ No-Fail

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

10-14= 40.0 inches

☒ Yes-Pass ☐ No-Fail



FMVSS 208 Lap Belt Lockability

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

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

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203

Technician Steve Bell

Date 11/21/2001

Designated Seating Position Right Rear

- ☒1 Record test seat position Fixed
(S7 1 1 5(c)(1)) (Any position is acceptable)
- ☒2 Buckle the seat belt (S7 1 1 5(c)(1))
- ☒3 Complete any procedures recommended in the vehicle owner's manual to activate any
locking feature (S7 1 1 5(c)(1))
- ☒4 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT have to be attached
by the vehicle user to the seat belt webbing, retractor, or any other part to the vehicle?
(S7 1 1 5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒5 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT require inverting,
twisting or deforming of the belt webbing? (S7 1 1 5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒6 Does the vehicle user need to take some action to activate the locking feature on the lap
belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to
forward-facing?

If yes, go to 6 1 If no, go to 7

☐ Yes

☒ No

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

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203 Technician Steve Bell

Date 11/21/2001

Designated Seating Position Right Rear

- ☒7 Locate a reference point A on the seat belt buckle (S7 1 1 5(c)(2))
- ☒8 Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly (S7 1 1 5(c)(2))
- ☒9 Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system (S7 1 1 5(c)(2))
- ☒10 Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly (S7 1 1 5(c)(2)) Measured distance between A and B **69.9** inches
- ☒11 Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing (S7 1 1 5(c)(3))
- ☒12 To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in figure 5 Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal (S7 1 1 5(c)(4)) Measured force application angle **10** degrees (Spec 5~15 degrees)
- ☒13 Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied (S7 1 1 5(c)(4)) Measured distance between A and B **28.0** inches

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203

Technician Steve Bell

Date 11/21/2001

Designated Seating Position Right Rear

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

Record onset rate 5 lbs/sec (spec 10 ~50 lb/sec)

The measured distance between A and B is 28.7 inches (S7 1 1 5(c)(6))

- ☒ 15 Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7 1 1 5 (c)(7))

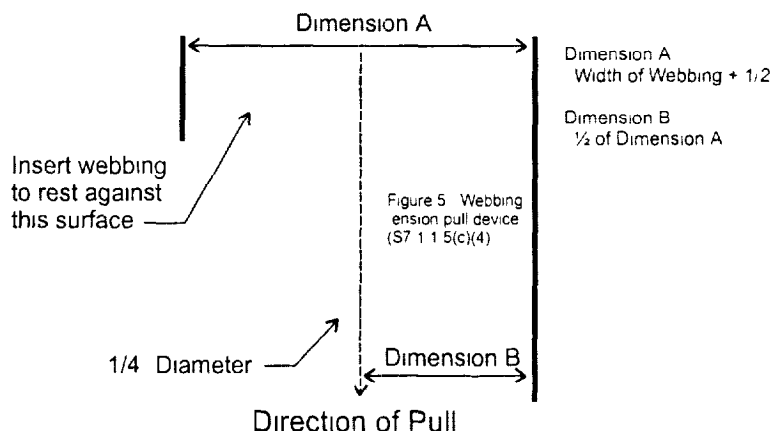
14-13= 0.7 inches

☒ Yes-Pass ☐ No-Fail

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

10-14= 41.2 inches

☒ Yes-Pass ☐ No-Fail



FMVSS 208 Lap Belt Lockability

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

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

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203

Technician Steve Bell

Date 11/21/2001

Designated Seating Position Left Rear

- ☒1 Record test seat position Fixed
(S7 1 1 5(c)(1)) (Any position is acceptable)
- ☒2 Buckle the seat belt (S7 1 1 5(c)(1))
- ☒3 Complete any procedures recommended in the vehicle owner's manual to activate any
locking feature (S7 1 1 5(c)(1))
- ☒4 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT have to be attached
by the vehicle user to the seat belt webbing, retractor, or any other part to the vehicle?
(S7 1 1 5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒5 Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be
adjusted to forward-facing consist of a locking device that does NOT require inverting,
twisting or deforming of the belt webbing? (S7 1 1 5(a)) ☒ Yes-Pass ☐ No-Fail
- ☒6 Does the vehicle user need to take some action to activate the locking feature on the lap
belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to
forward-facing?

If yes, go to 6 1 If no, go to 7

☐ Yes ☒ No

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

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

NHTSA No C20203 Technician Steve Bell

Date 11/21/2001

Designated Seating Position Left Rear

- ☒7 Locate a reference point A on the seat belt buckle (S7 1 1 5(c)(2))
- ☒8 Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly (S7 1 1 5(c)(2))
- ☒9 Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system (S7 1 1 5(c)(2))
- ☒10 Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly (S7 1 1 5(c)(2)) Measured distance between A and B 70.1 inches
- ☒11 Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing (S7 1 1 5(c)(3))
- ☒12 To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in figure 5 Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal (S7 1 1 5(c)(4)) Measured force application angle 10 degrees (Spec 5~15 degrees)
- ☒13 Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied (S7 1 1 5(c)(4)) Measured distance between A and B 27.2 inches

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style 2002/Ford Explorer/4-door

NHTSA No C20203

Technician Steve Bell

Date 11/21/2001

Designated Seating Position Left Rear

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

Record onset rate 5 lbs/sec (spec 10 ~50 lb/sec)

The measured distance between A and B is 27.8 inches (S7 1 1 5(c)(6))

- ☒ 15 Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7 1 1 5 (c)(7))

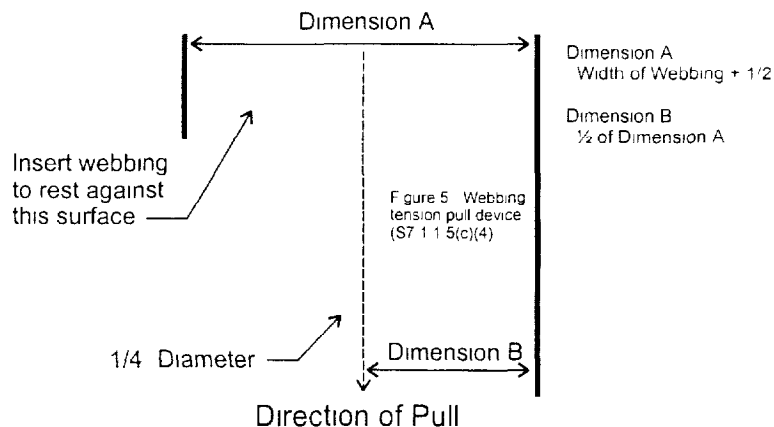
14-13= 0.6 inches

☒ Yes-Pass ☐ No-Fail

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

10-14= 42.3 inches

☒ Yes-Pass ☐ No-Fail



FMVSS 208 Seat Belt Comfort And Convenience Test

Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Left Front

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

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

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

- ☒ Check
☐ N/A

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

- ☐ Check
☒ N/A

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

- ☒ Check
☐ N/A

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

- ☒ Check
☐ N/A

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Belt Contact Force (S7.4.3)

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

☐ Check
☒ N/A

- 7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3)

☐ Check
☒ N/A

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

☒ Check

- 9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.6 pounds.

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

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

FMVSS 208 Seat Belt Comfort And Convenience Test

Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Right Front

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

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

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

- ☒ Check
☐ N/A

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

- ☐ Check
☒ N/A

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

- ☒ Check
☐ N/A

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

- ☒ Check
☐ N/A

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Belt Contact Force (S7.4.3)

- 6 Place each adjustable head restraint in its highest adjustment position
☐ Check
☒ N/A
- 7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3)
☐ Check
☒ N/A
- 8 Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure
☒ Check
- 9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.6 pounds
☒ 0.0 to 0.7 pounds - Pass
☐ greater than 0.7 pounds - FAIL*

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

FMVSS 208 Seat Belt Comfort And Convenience Test

Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Right Rear

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

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

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

☐ Check
☒ N/A

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

☐ Check
☒ N/A

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

☐ Check
☒ N/A

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

☒ Check
☐ N/A

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Belt Contact Force (S7.4.3)

- 6 Place each adjustable head restraint in its highest adjustment position ☒ Check
☐ N/A
- 7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3) ☐ Check
☒ N/A
- 8 Position the test dummy according to the dummy position placement instructions in Appendix B of the Laboratory Test Procedure ☒ Check
- 9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest (S10.8). Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.6 pounds.
- ☒ 0.0 to 0.7 pounds - Pass
☐ greater than 0.7 pounds - FAIL*

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

FMVSS 208 Seat Belt Comfort And Convenience Test

Belt Contact Force (S7.4.3)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Left Rear

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

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

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

- ☐ Check
☒ N/A

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

- ☐ Check
☒ N/A

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

- ☐ Check
☒ N/A

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

- ☒ Check
☐ N/A

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Belt Contact Force (S7.4.3)

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

☒ Check
☐ N/A

- 7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3)

☐ Check
☒ N/A

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

☒ Check

- 9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest (S10.8). Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds. Contact force is 0.6 pounds.

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

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

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Latchplate Access (S7.4.4)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Left Front

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

- 1 Position the seat in its forward most adjustment position ☒ Check
- 2 Position the test dummy using the procedures in Appendix B of the Laboratory Test Procedure (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position) ☒ Check
- 3 Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant ☒ Check
- 4 Attach the inboard and outboard reach string following the instructions on Figure 1C of the Laboratory Test Procedure ☒ Check
- 5 Place the latch plate in the stowed position ☒ Check
- 6 Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms Is the latchplate within the reach envelope?
Yes- ☒ Pass, No- ☐ Fail
- 7 Using the clearance test block, specified in Figure 2C of the Laboratory Test Procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle
Yes- ☒ Pass, No- ☐ Fail

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Latchplate Access (S7.4.4)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Right Front

Date of Comfort and Convenience Check 11/20 2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

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

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

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

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

- 6 Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms Is the latchplate within the reach envelope?
Yes- ☒ Pass, No- ☐ Fail

- 7 Using the clearance test block, specified in Figure 2C of the Laboratory Test Procedure, determine if there is sufficient clearance between the vehicle seat and the side of vehicle to allow the test block to move unhindered to the latchplate or buckle
Yes- ☒ Pass, No- ☐ Fail

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Retraction (S7.4.5)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Left Front

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

If yes, go to seat belt guides and hardware

- 2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used (S8 1 2) ☒ Check
- 3 If separately adjustable in a vertical direction, the seats are at the lowest position ☒ Check
- 4 Place any adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer ☒ Check
- 5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant This information will be furnished by the COTR ☒ Check
- 6 Place each adjustable head restraint in its highest adjustment position ☒ Check

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Retraction (S7.4.5)

- 7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3) ☒ Check
- 8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B of the Laboratory Test Procedure ☒ Check
- 9 Restrain the dummies using the belt systems for the position being tested ☒ Check
- 10 Stow outboard armrests that are capable of being stowed ☒ Check
- 11 Check the statement that applies to this test vehicle
- (A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latchplate is released ☒ Pass
- (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released ☐ Pass
- (C) Neither A or B apply ☐ **Fail**
- 12 With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
Yes- ☒ Pass, No- ☐ **Fail**
- 13 If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated? ☒ N/A
Yes- ☐ Pass, No- ☐ **Fail**

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Retraction (S7.4.5)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Right Front

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

If yes, go to seat belt guides and hardware

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

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

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

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

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

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Retraction (S7.4.5)

- 7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8 1 3) ☒ Check
- 8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B ☒ Check
- 9 Restrain the dummies using the belt systems for the position being tested ☒ Check
- 10 Stow outboard armrests that are capable of being stowed ☒ Check
- 11 Check the statement that applies to this test vehicle
- (A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latchplate is released ☒ Pass
- (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latchplate is released ☒ Pass
- (C) Neither A or B apply ☐ **Fail**
- 12 With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
- Yes- ☒ Pass, No- ☐ **Fail**
- 13 If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?
- ☒ N/A
- Yes- ☐ Pass, No- ☐ **Fail**

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Seat Belt Guides And Hardware (S7.4.6)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Left Front

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

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

B Seats which are removable

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

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

1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? ☐ Yes go to 2

☒ No this form is complete

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

Yes- ☐ Pass, No- ☐ Fail

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

Yes- ☐ Pass, No- ☐ Fail

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Seat Belt Guides And Hardware (S7.4.6)

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

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

☐ Check

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

☐ Check

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

☐ Check

Yes- ☐ Pass, No- ☐ **Fail**

5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?

Yes- ☐ Pass, No- ☐ **Fail**

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Seat Belt Guides And Hardware (S7.4.6)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Right Front

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

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

B Seats which are removable

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

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

1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? ☐ Yes go to 2

☒ No this form is complete

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

Yes- ☐ Pass, No- ☐ Fail

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

Yes- ☐ Pass, No- ☐ Fail

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Seat Belt Guides And Hardware (S7.4.6)

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

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

☐ Check

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

☐ Check

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

☐ Check

Yes- ☐ Pass, No- ☐ **Fail**

- 5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?

Yes- ☐ Pass, No- ☐ **Fail**

FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Seat Belt Guides And Hardware (S7.4.6)

Test Vehicle NHTSA No C20203

Vehicle Model Year/Make/Model/Body Style 2002/Ford/Explorer/4-door

Designated Seating Position Tested Right Rear, Center Rear, Left Rear-does not apply for
reason B below

Date of Comfort and Convenience Check 11/20/2001

Technician Performing Check Steve Bell

GVWR 5680 pounds

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

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

A Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))

B Seats which are removable

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

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

1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? ☐ Yes go to 2

☐ No this form is complete

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

Yes-☐ Pass, No- ☐ **Fail**

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

Yes-☐ Pass, No- ☐ **Fail**

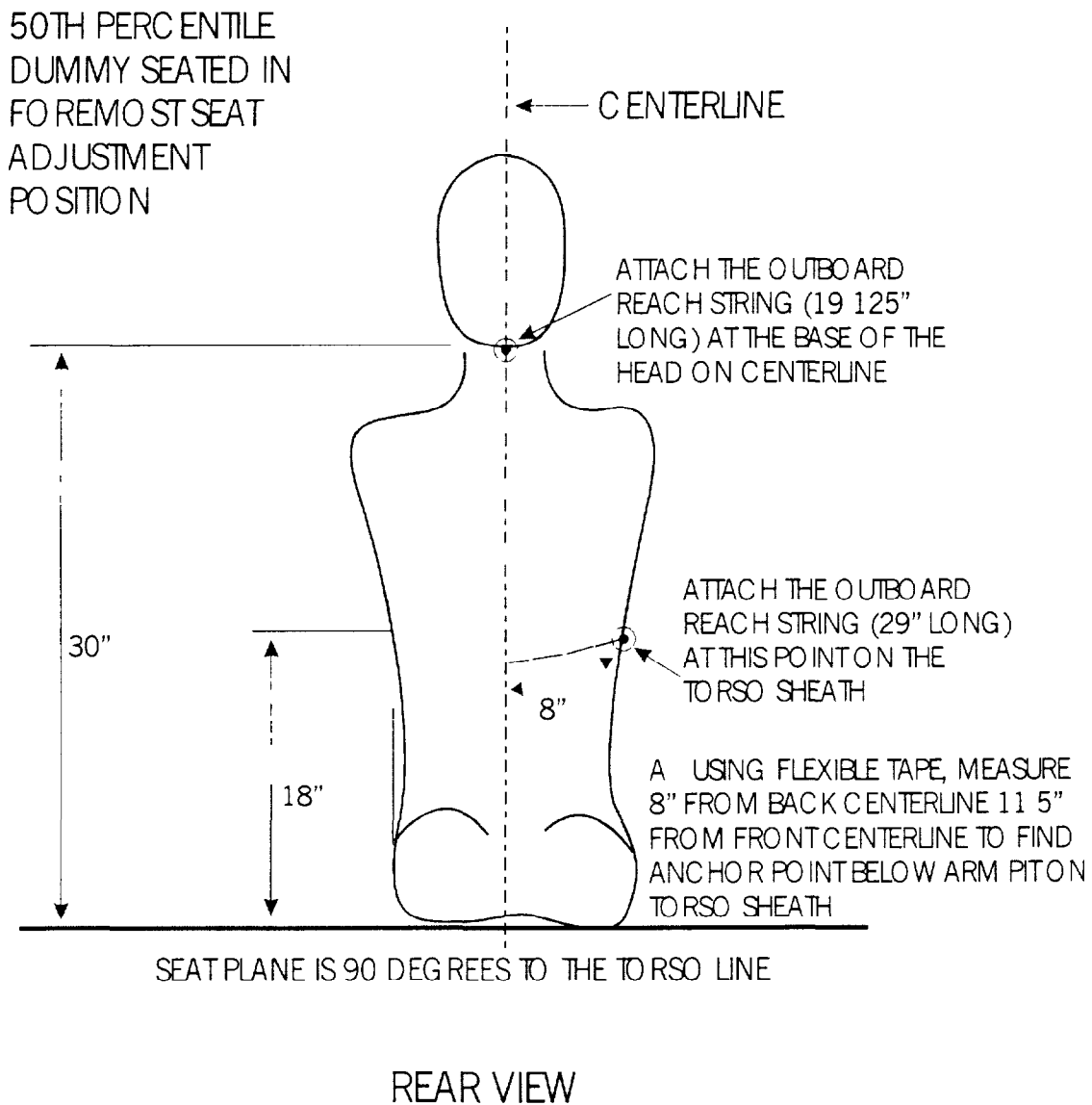
FMVSS 208 Seat Belt Comfort And Convenience Test Summary, Cont'd.

Seat Belt Guides And Hardware (S7.4.6)

- 4 The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order
- (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched
☐ Check
- (B) The seat is moved to any position to which it is designed to be adjusted
☐ Check
- (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position
☐ Check
Yes- ☐ Pass, No- ☐ **Fail**
- 5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?
Yes- ☐ Pass, No- ☐ **Fail**

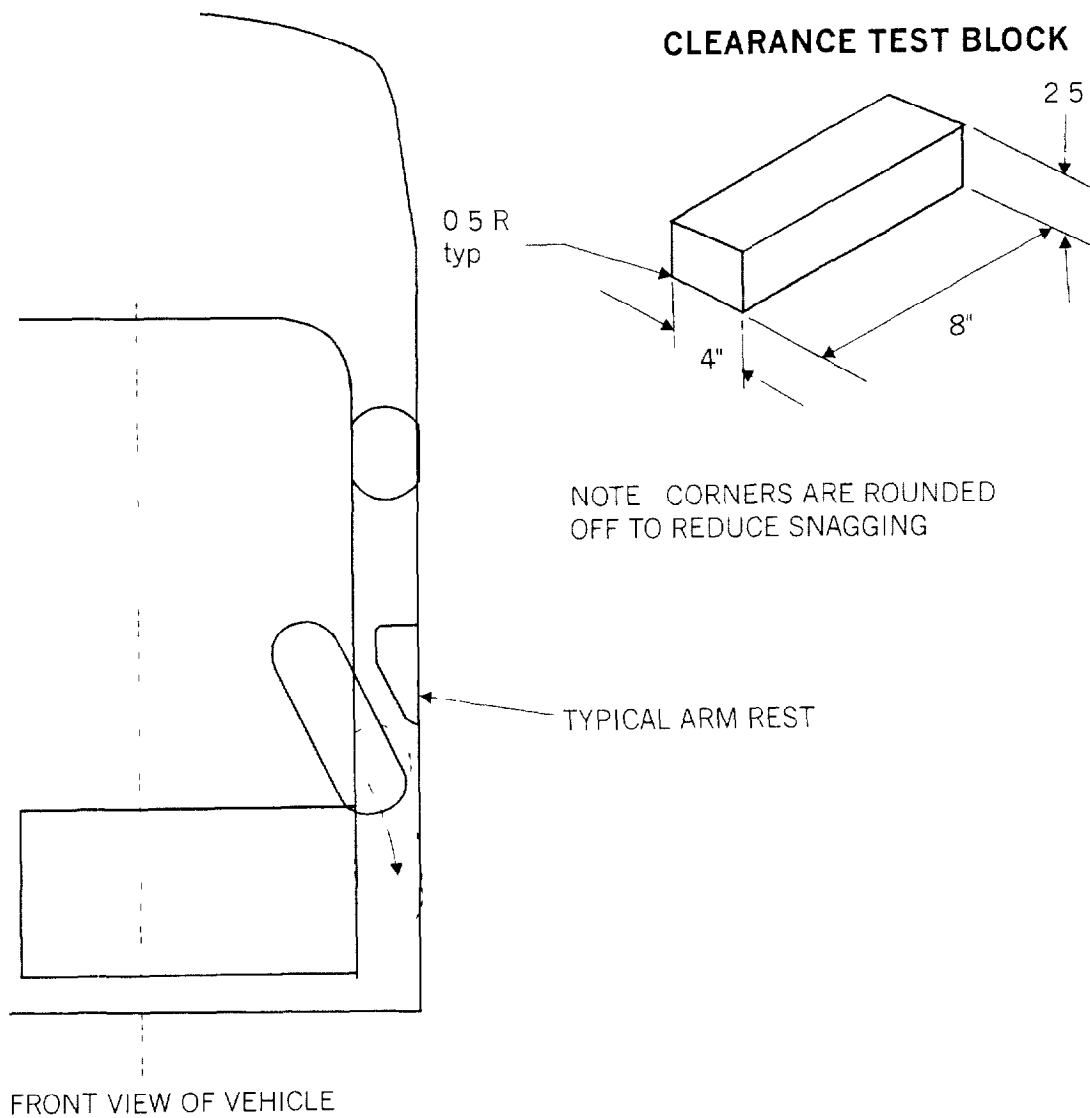
LOCATION OF ANCHORING POINTS FOR LATCHPLATE REACH LIMITING CHAINS OR STRINGS TO TEST FOR LATCHPLATE ACCESSIBILITY

PART 572E DUMMY



Laboratory Test Procedure Figure 1C

USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS



Laboratory Test Procedure Figure 2C

Appendix A

Photographs

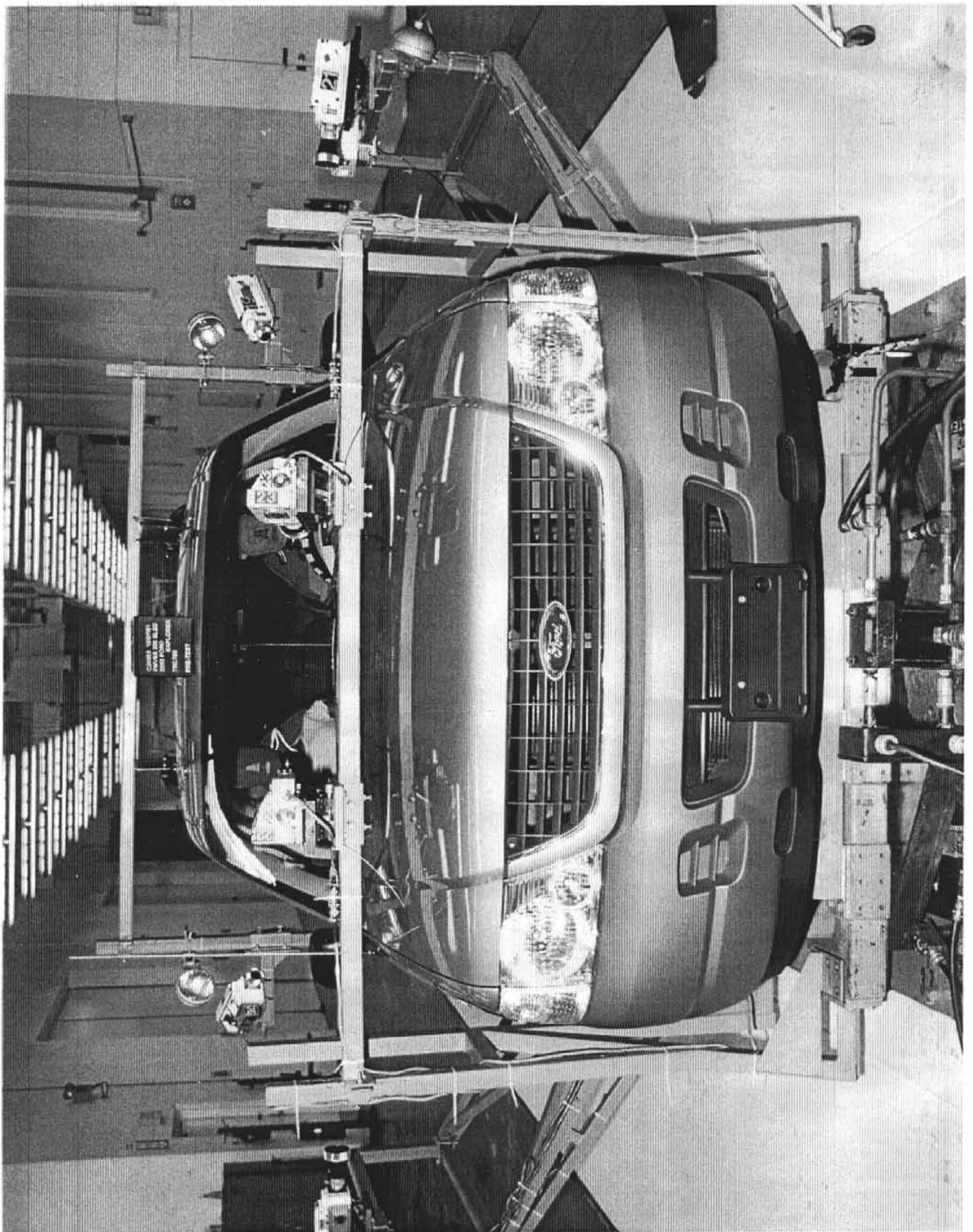
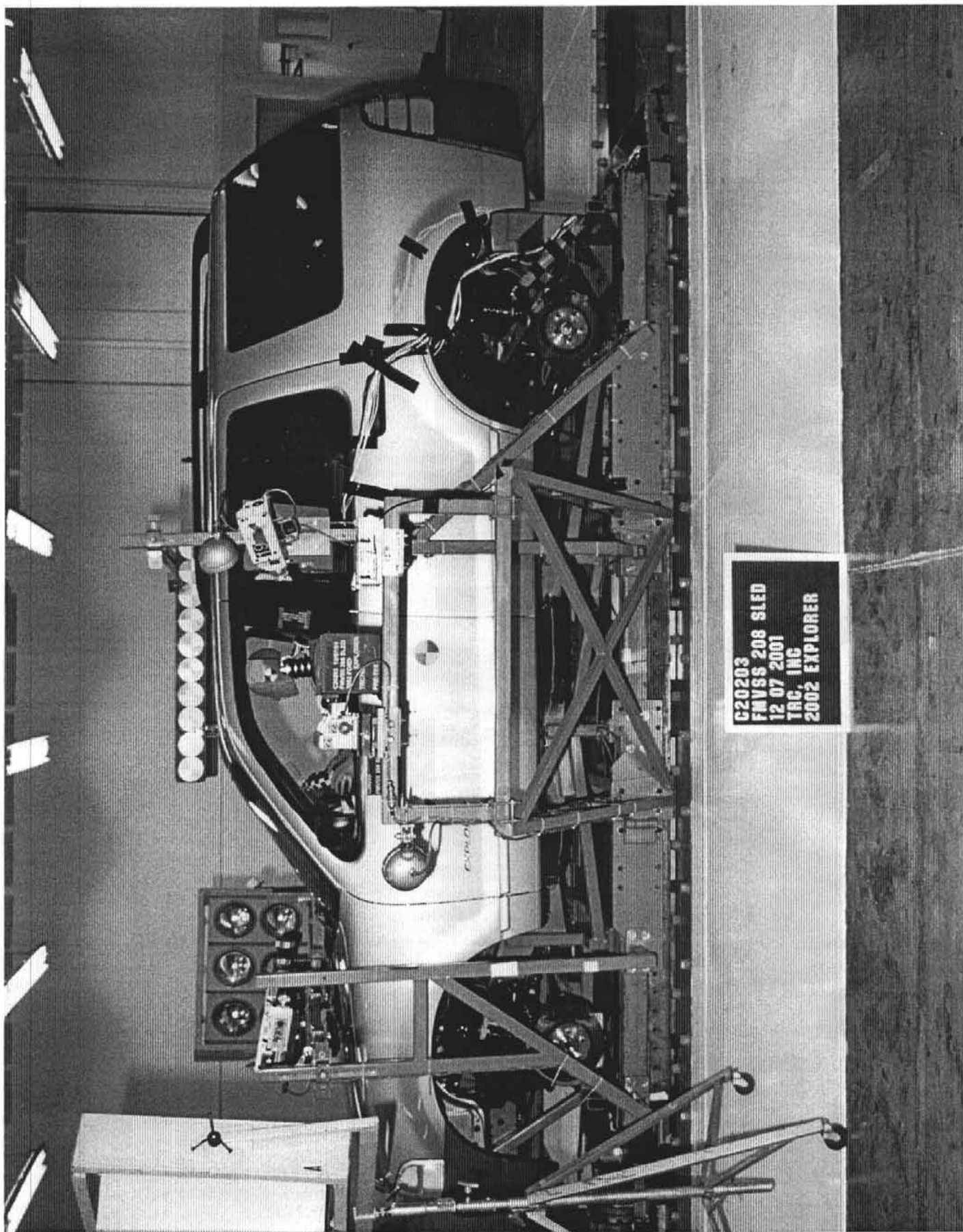


Figure A-1 Pre-Test Front View of Test Vehicle Mounted to Sled

A-2

S011207



C20203
FMVSS 208 SLED
12 07 2001
TRC, INC
2002 EXPLORER

Figure A-2 Pre-Test Left Side View of Test Vehicle Mounted to Sled

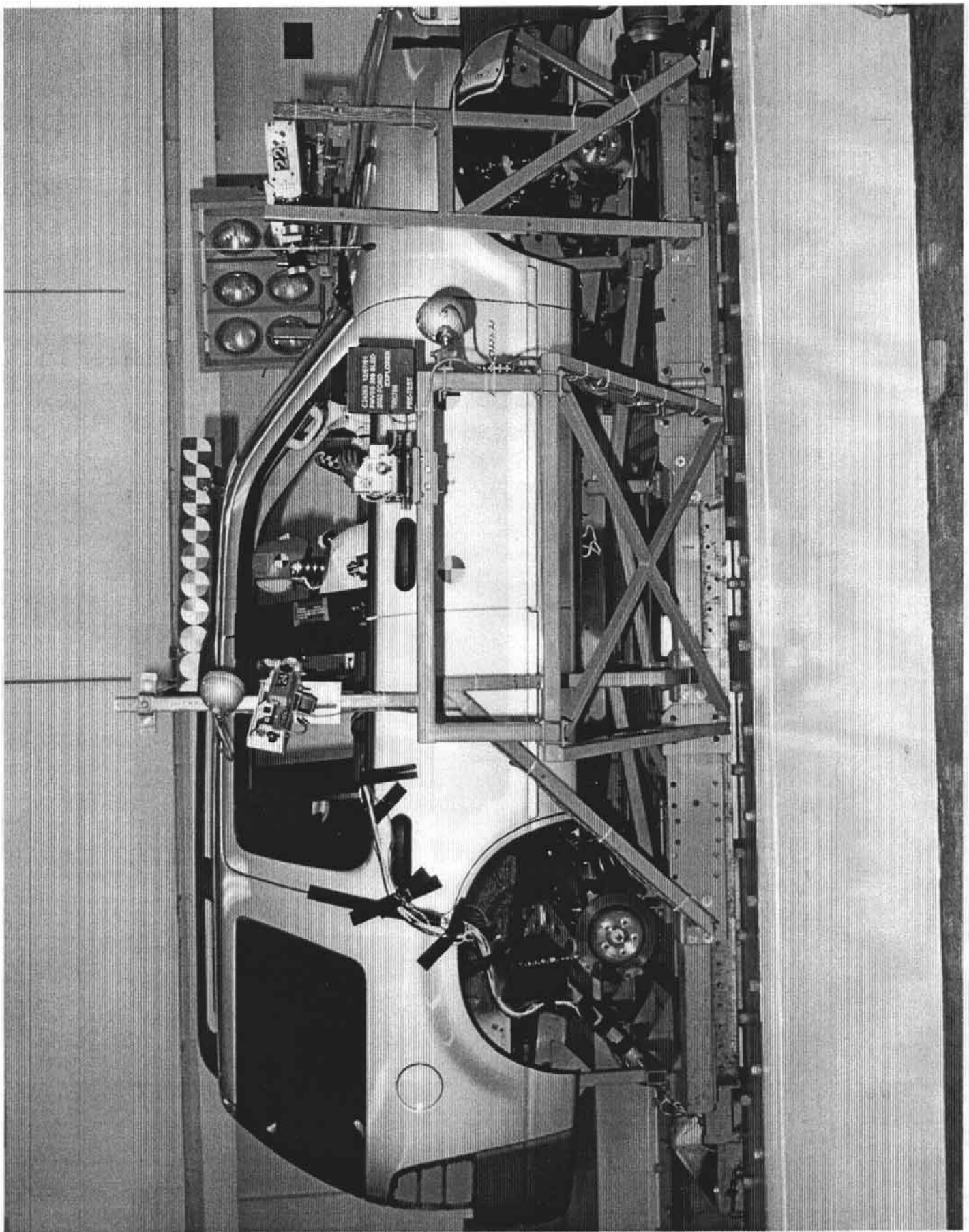


Figure A-3 Pre-Test Right Side View of Test Vehicle Mounted to Sled



Figure A-5 Post-Test Windshield View
A-6

S011207

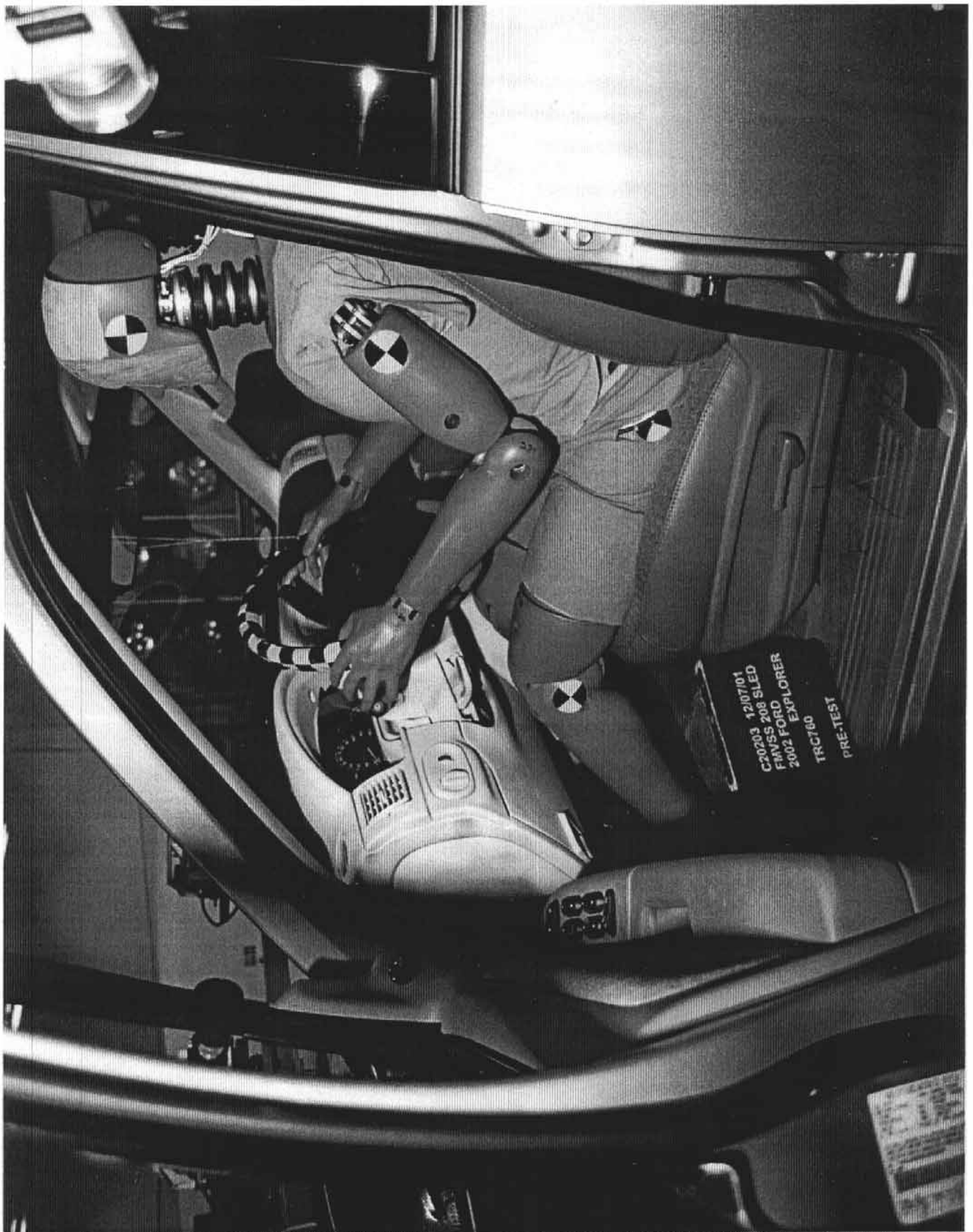


Figure A-6 Pre-Test Driver Dummy Position View with Door Open

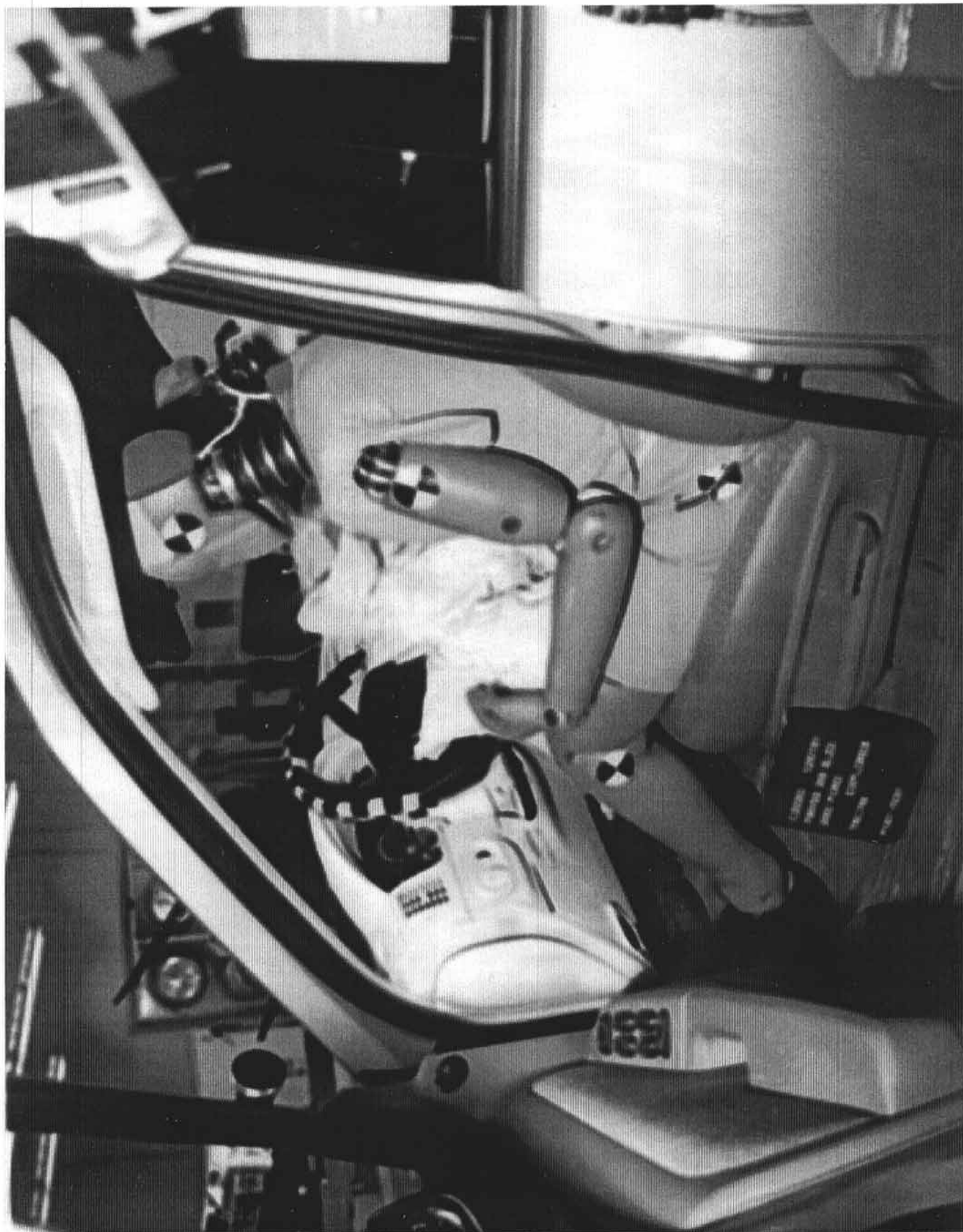


Figure A-7 Post-Test Driver Dummy Position View with Door Open

A-8

S011207

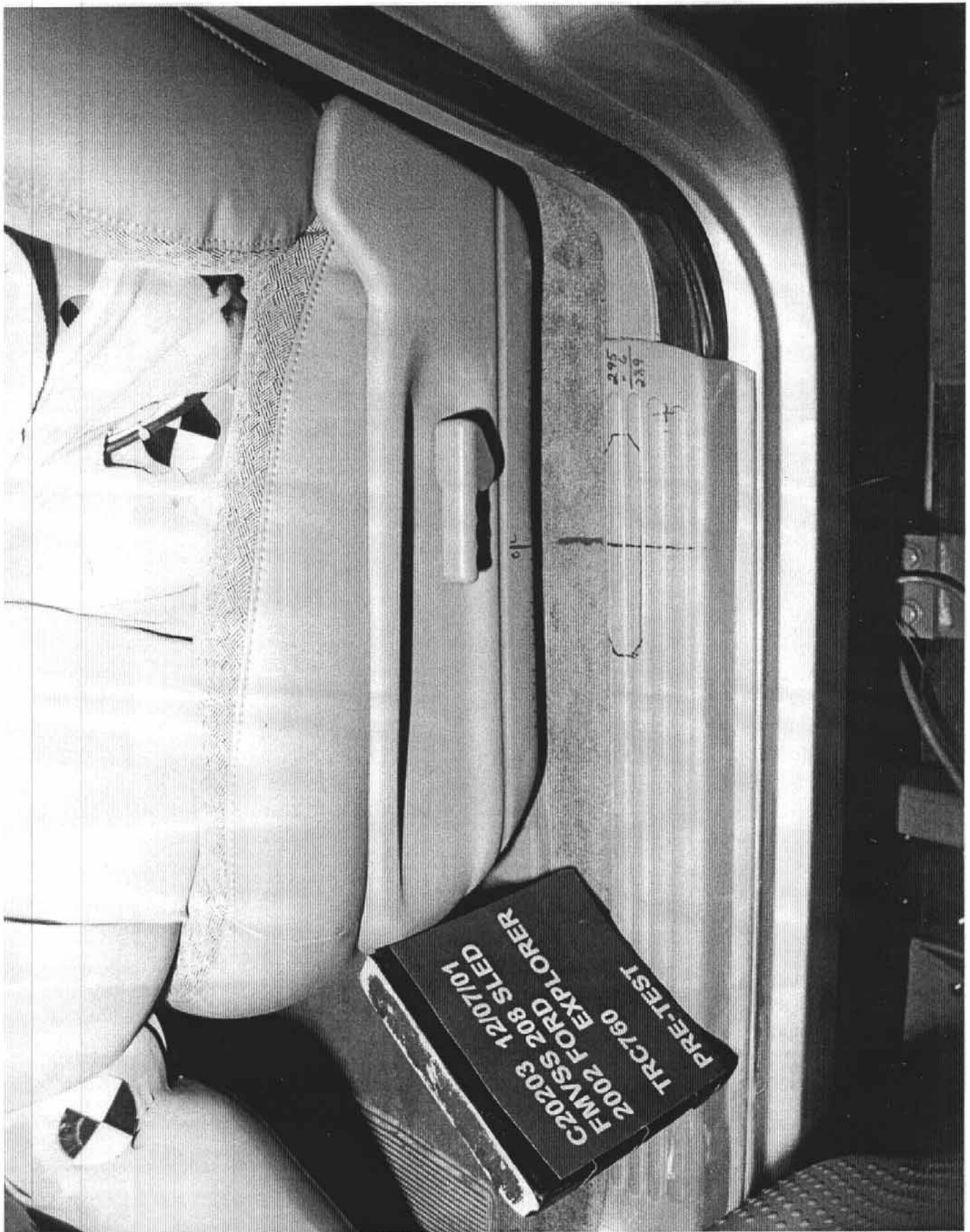


Figure A-8 Pre-Test Driver Seat Track Position View
A-9

S011207

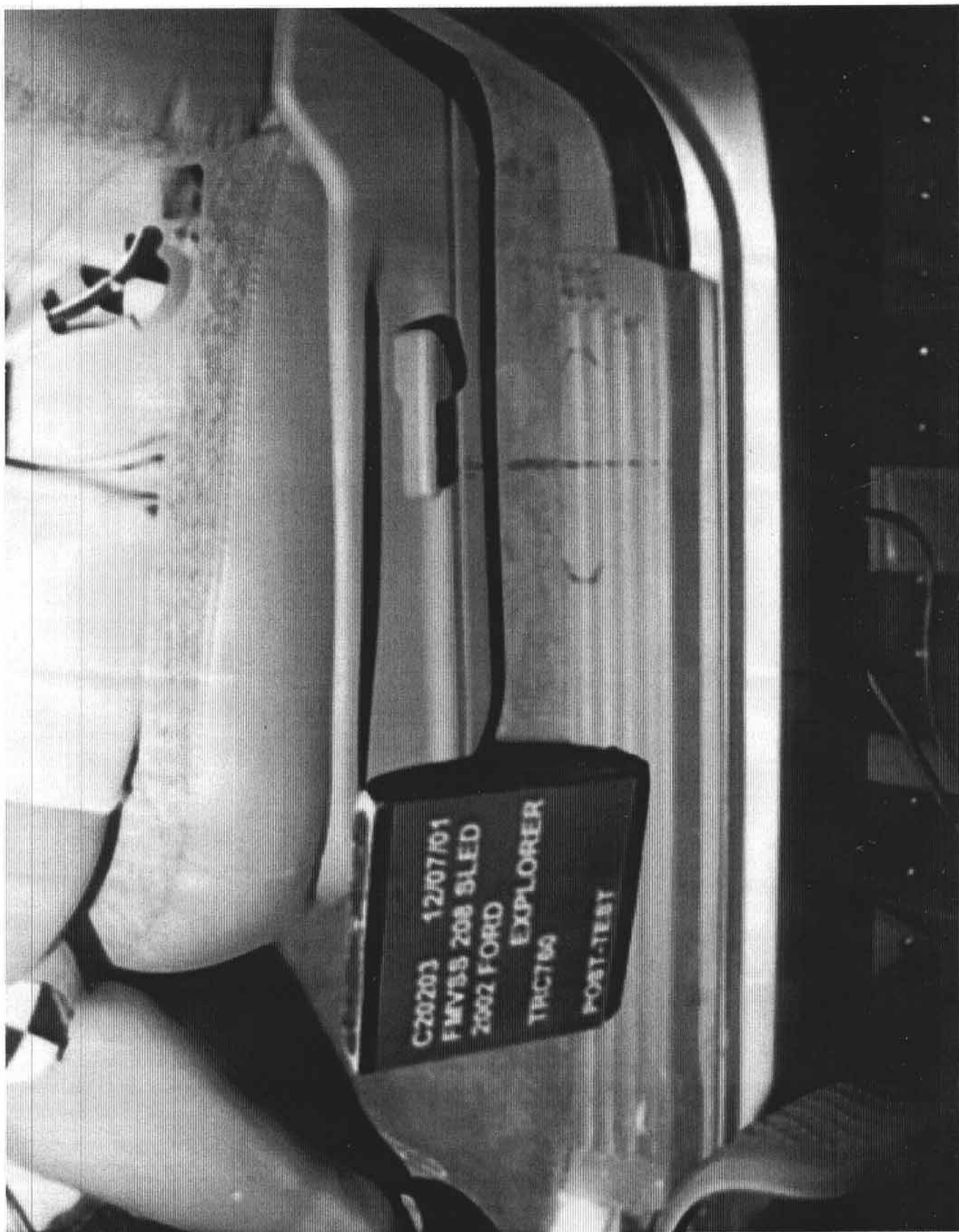


Figure A-9 Post-Test Driver Seat Track Position View

A-10

S011207



Figure A-10 Pre-Test Driver Dummy Position Front View



Figure A-11 Post-Test Driver Dummy Position Front View



Figure A-12 Pre-Test Passenger Dummy Position View with Door Open



Figure A-13 Post-Test Passenger Dummy Position View with Door Open
A-14 S011207



Figure A-14 Pre-Test Passenger Seat Track Position View

A-15

S011207



Figure A-15 Post-Test Passenger Seat Track Position View



Figure A-16 Pre-Test Passenger Dummy Position Front View

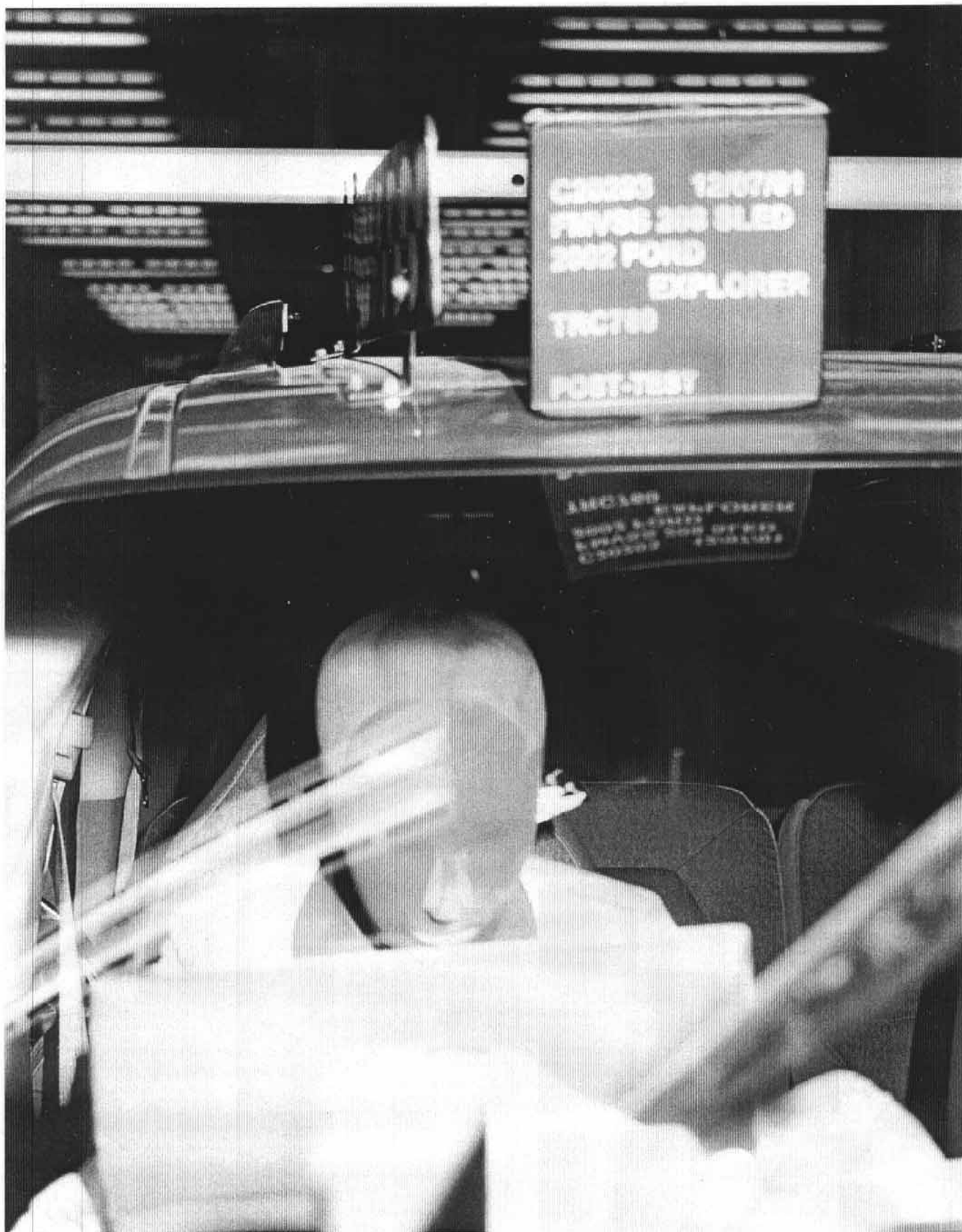


Figure A-17 Post-Test Passenger Dummy Position Front View

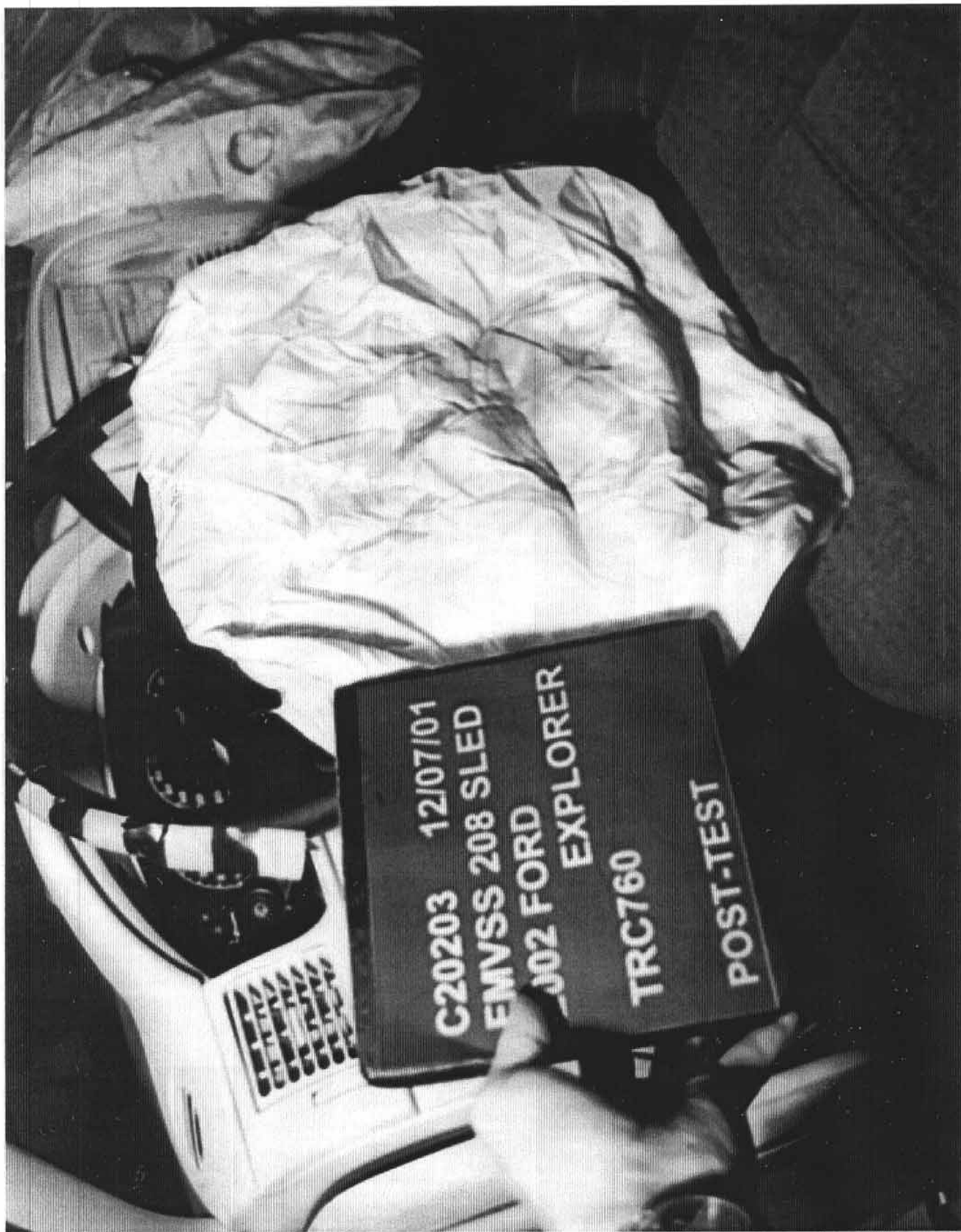


Figure A-18 Post-Test Driver Airbag View

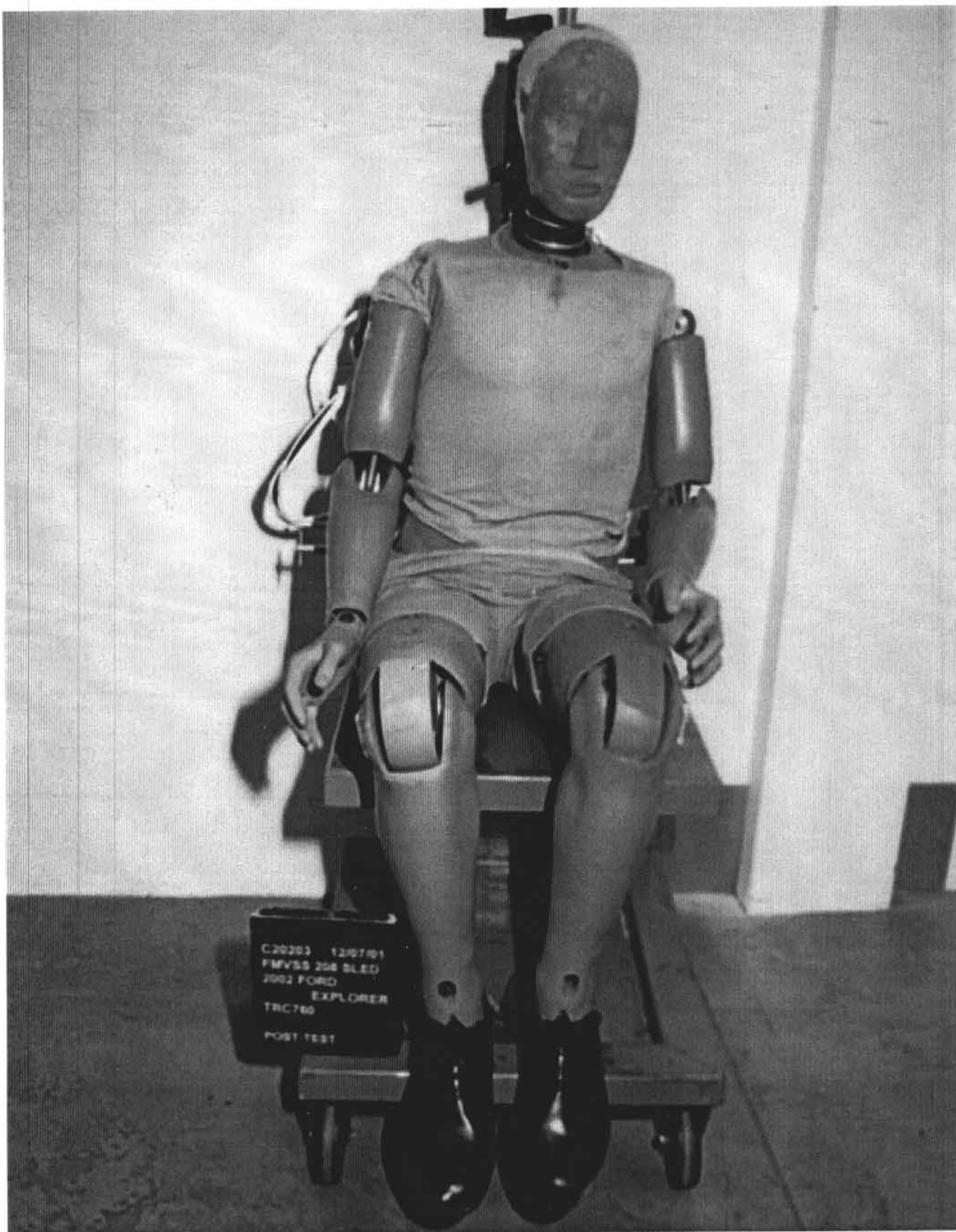


Figure A-19 Post-Test Driver Dummy Removed from Vehicle Overall View

A-20

S011207



Figure A-23 Post-Test Passenger Head Contact View



Figure A-24 Pre-Test Driver Knee Bolster View
A-25

S011207



Figure A-25 Post-Test Driver Knee Bolster View



Figure A-26 Pre-Test Passenger Glove Box View
A-27

S011207



Figure A-27 Post-Test Passenger Glove Box View
A-28

S011207



Figure A-28 Pre-Test Steering Column Linkage in Engine Compartment View

PRE-TEST

[illegible]

A-30

S011207

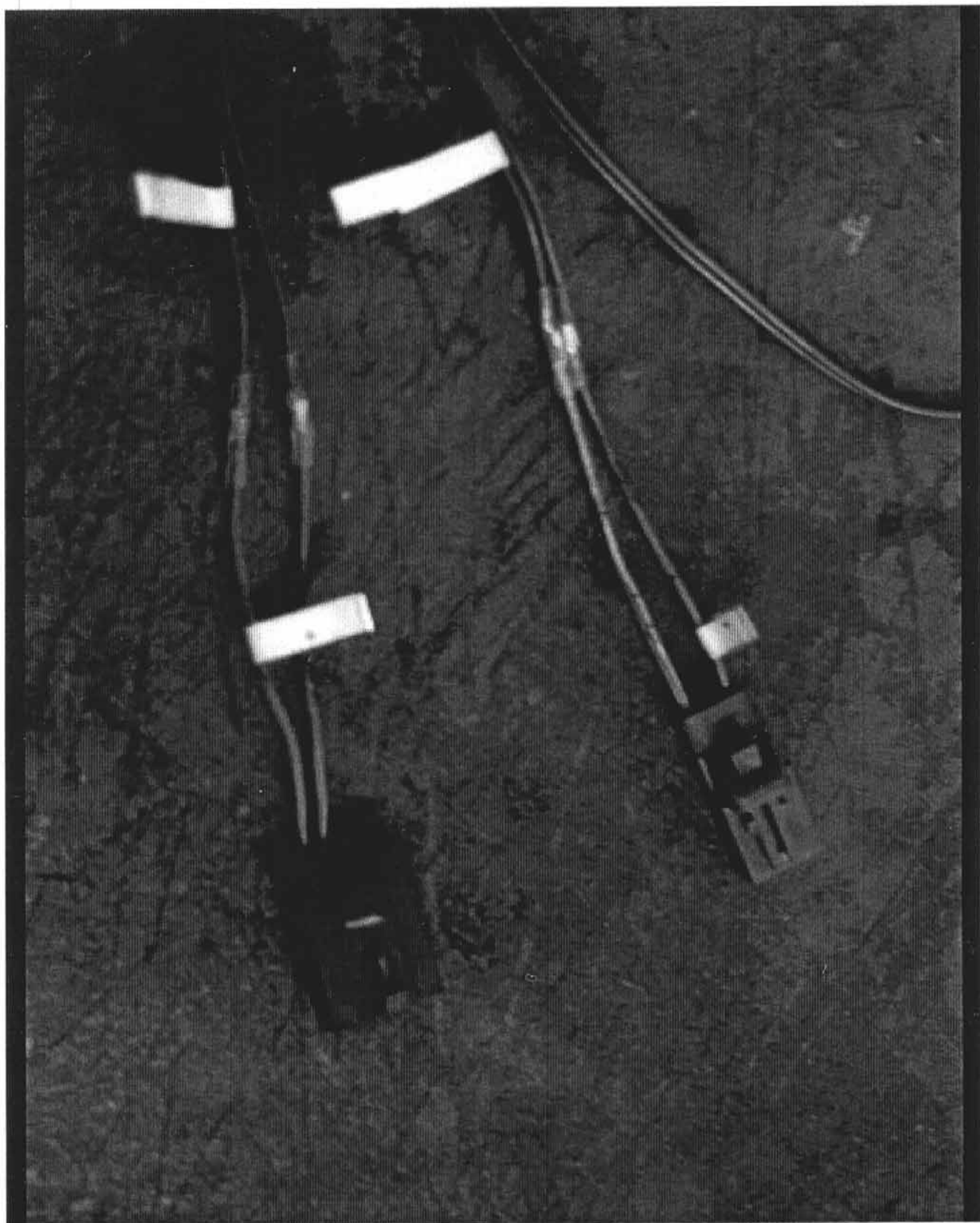


Figure A-30 Pre-Test Driver and Passenger Airbag Wiring View

A-31

S011207

Appendix B

Data Plots

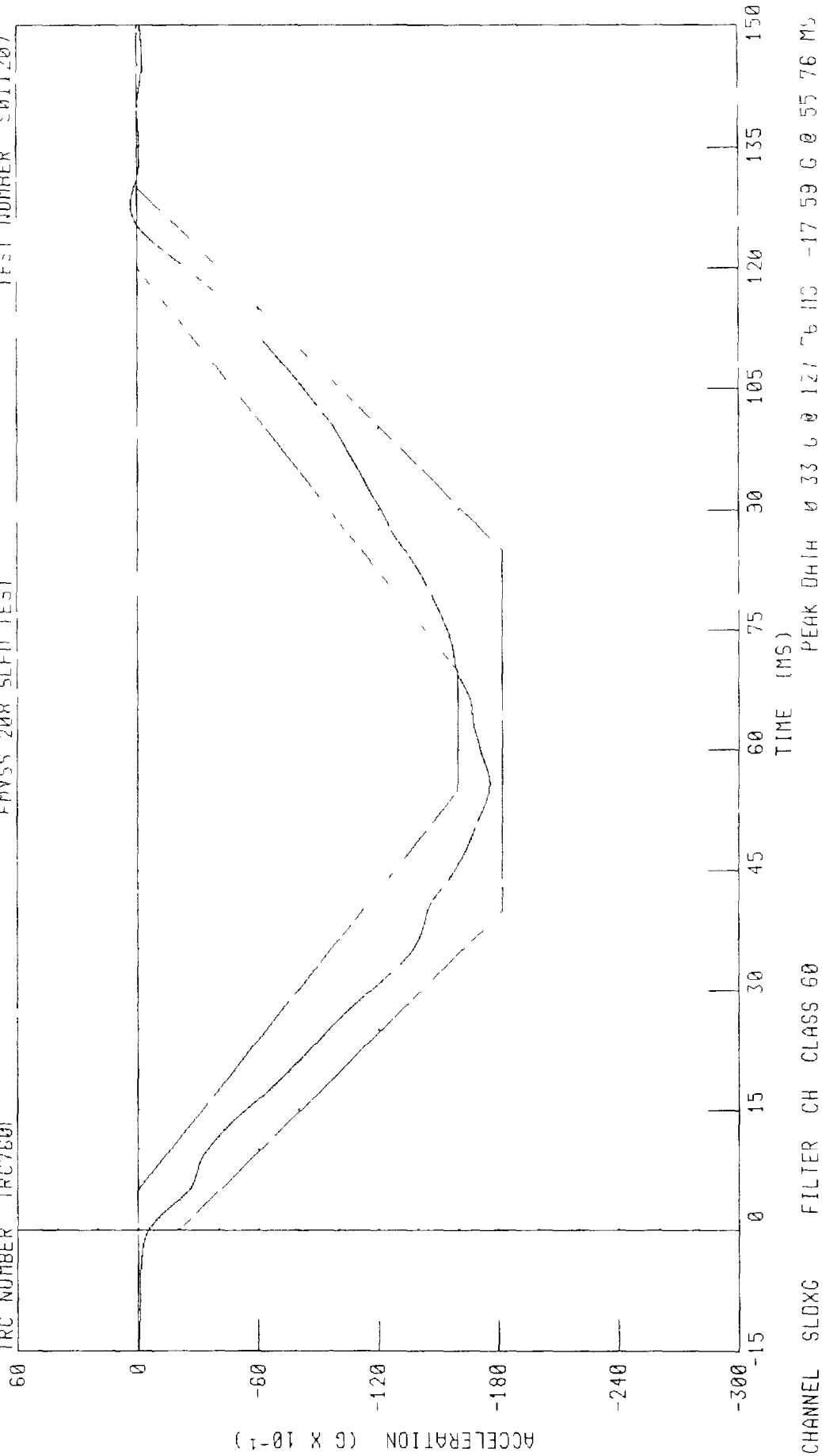
(20203 / 2002 FORD EXPLORER

SLED ACCELERATION

FMVSS 208 SLED TEST

TRC NUMBER IRC760F

TEST NUMBER S011207



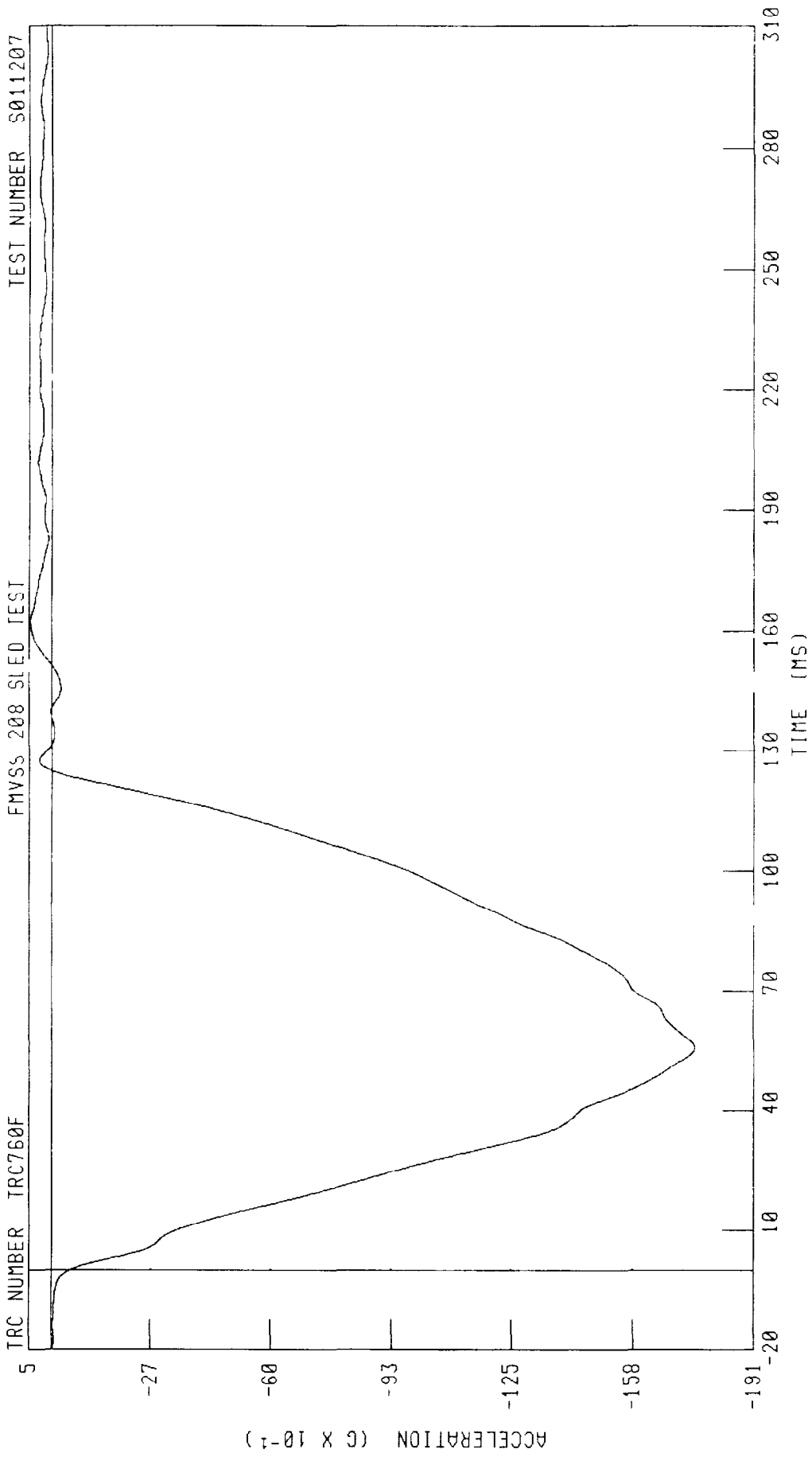
C20203 / 2002 FORD EXPLORER

SLED ACCELERATION

FMVSS 208 SLED TEST

TEST NUMBER S011207

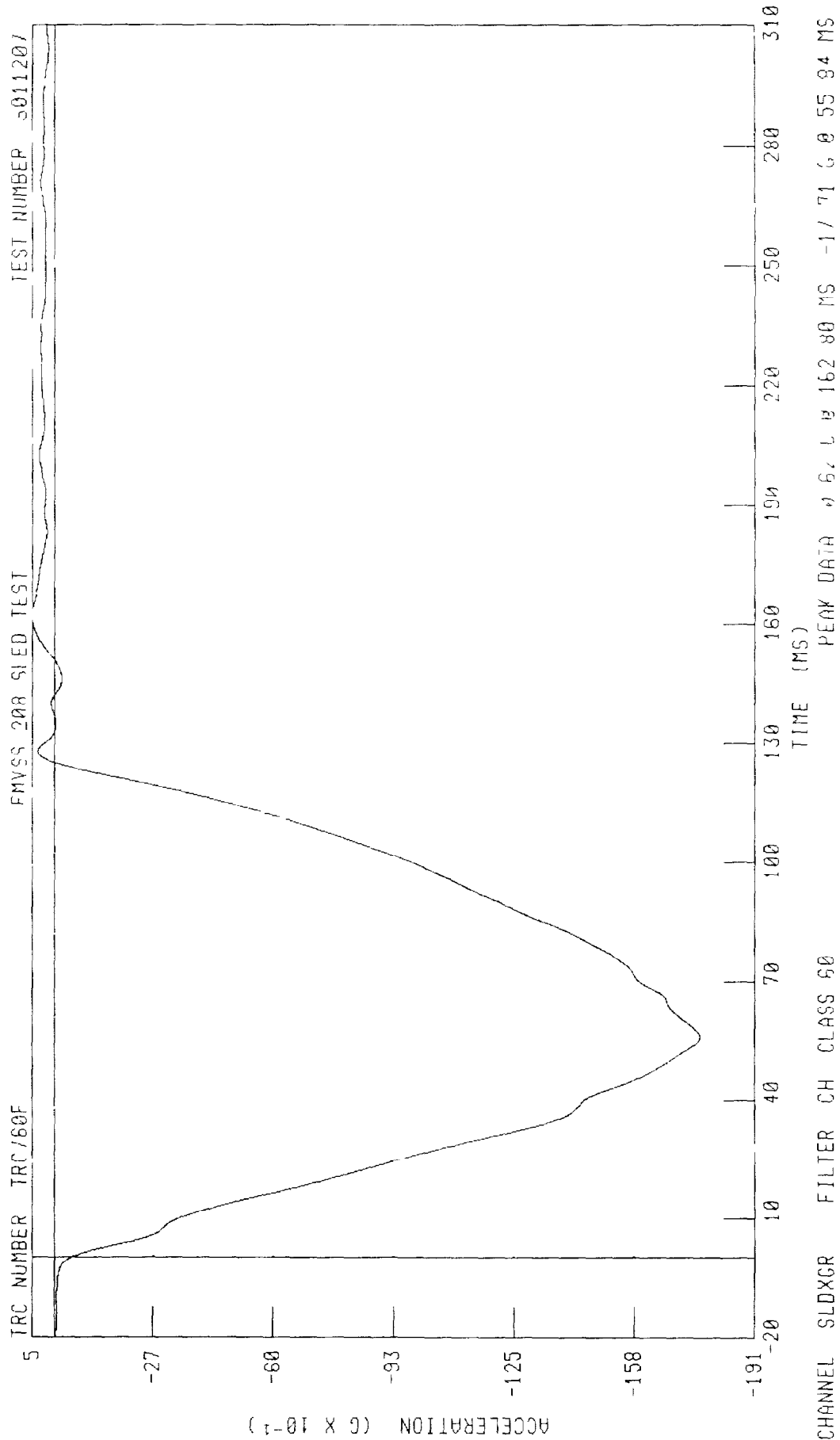
TRC NUMBER TRC760F



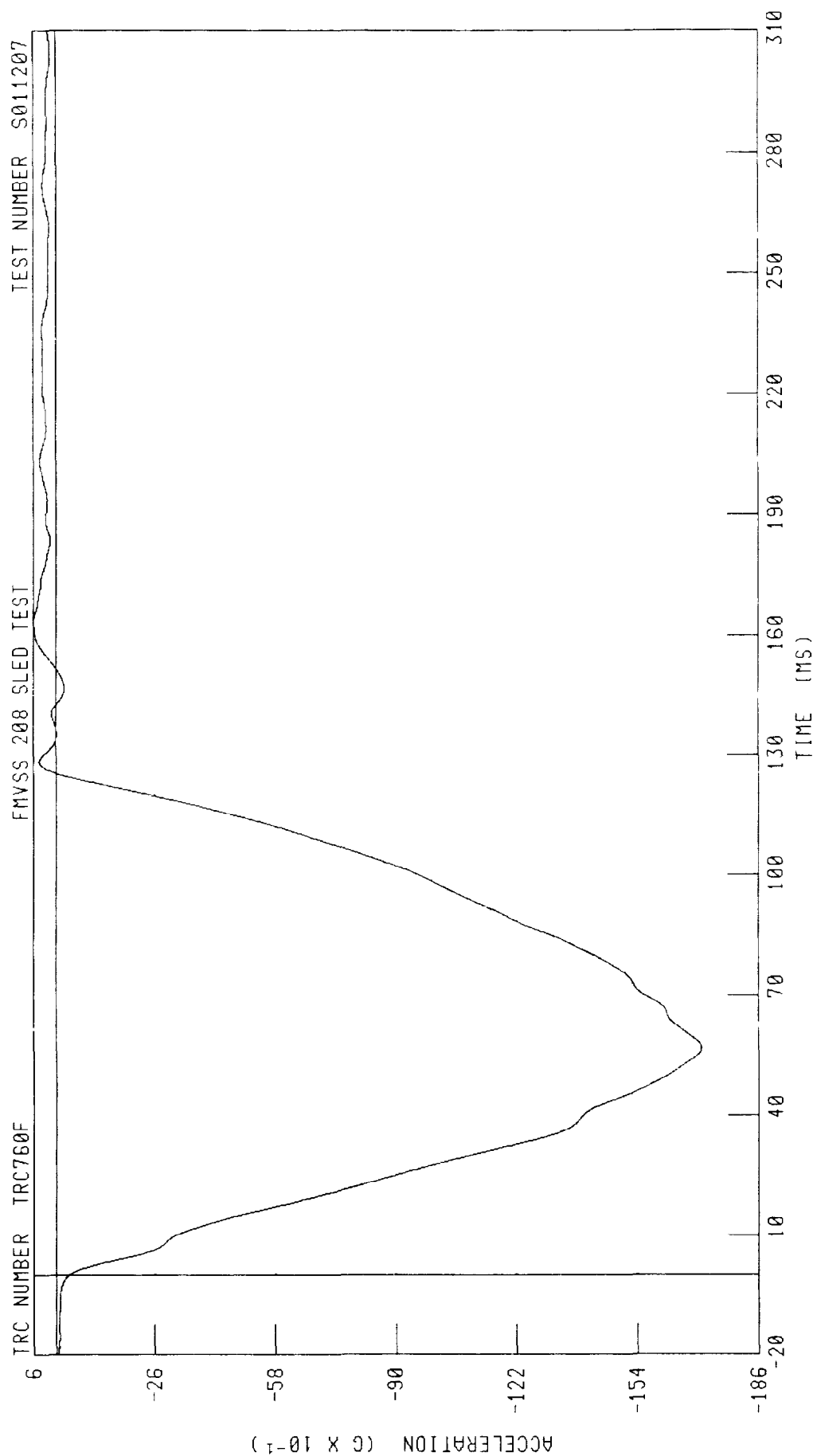
PEAK DATA 0 57 G 0 162 80 MS, -17 59 G 0 55 76 MS

CHANNEL SLDXC FILTER CH CLASS 60

C20203 / 2002 FORD EXPLORER
 SLED ACCELERATION - BACKUP



C20203 / 2002 FORO EXPLORER
 SLED ACCELERATION FOR TIMING CIRCUIT
 FMVSS 208 SLED TEST



TEST NUMBER S011207

TRC NUMBER TRC760F

PEAK DATA 0 60 0 0 163 52 MS, -17 10 0 0 56 72 MS

CHANNEL SLDXCT FILTER CH CLASS 60

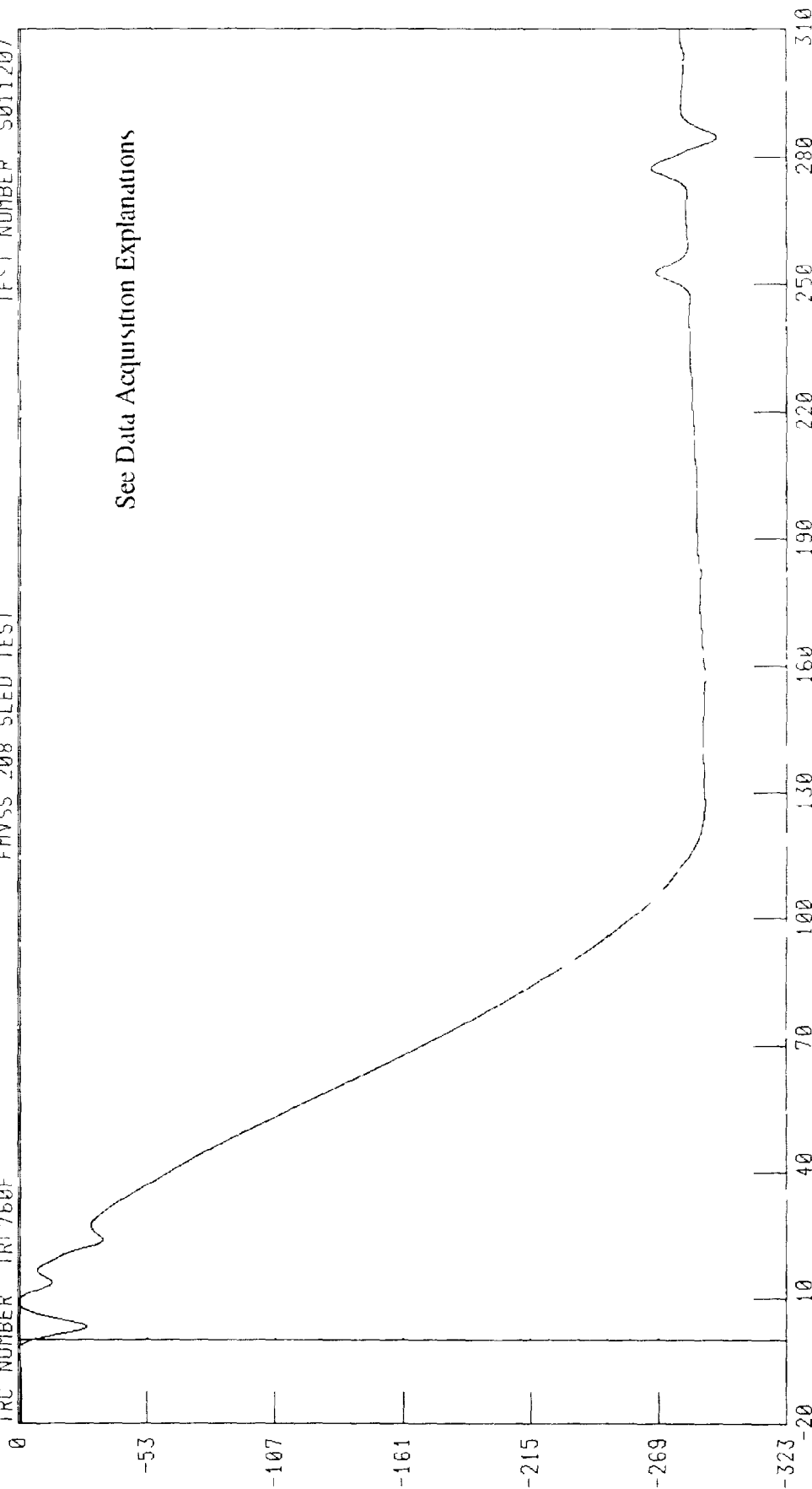
C20203 / 2002 FORD EXPLORER
MEASURED VELOCITY TRAP
FMVSS 208 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F

See Data Acquisition Explanations

VELOCITY (MPH X 10⁻¹)

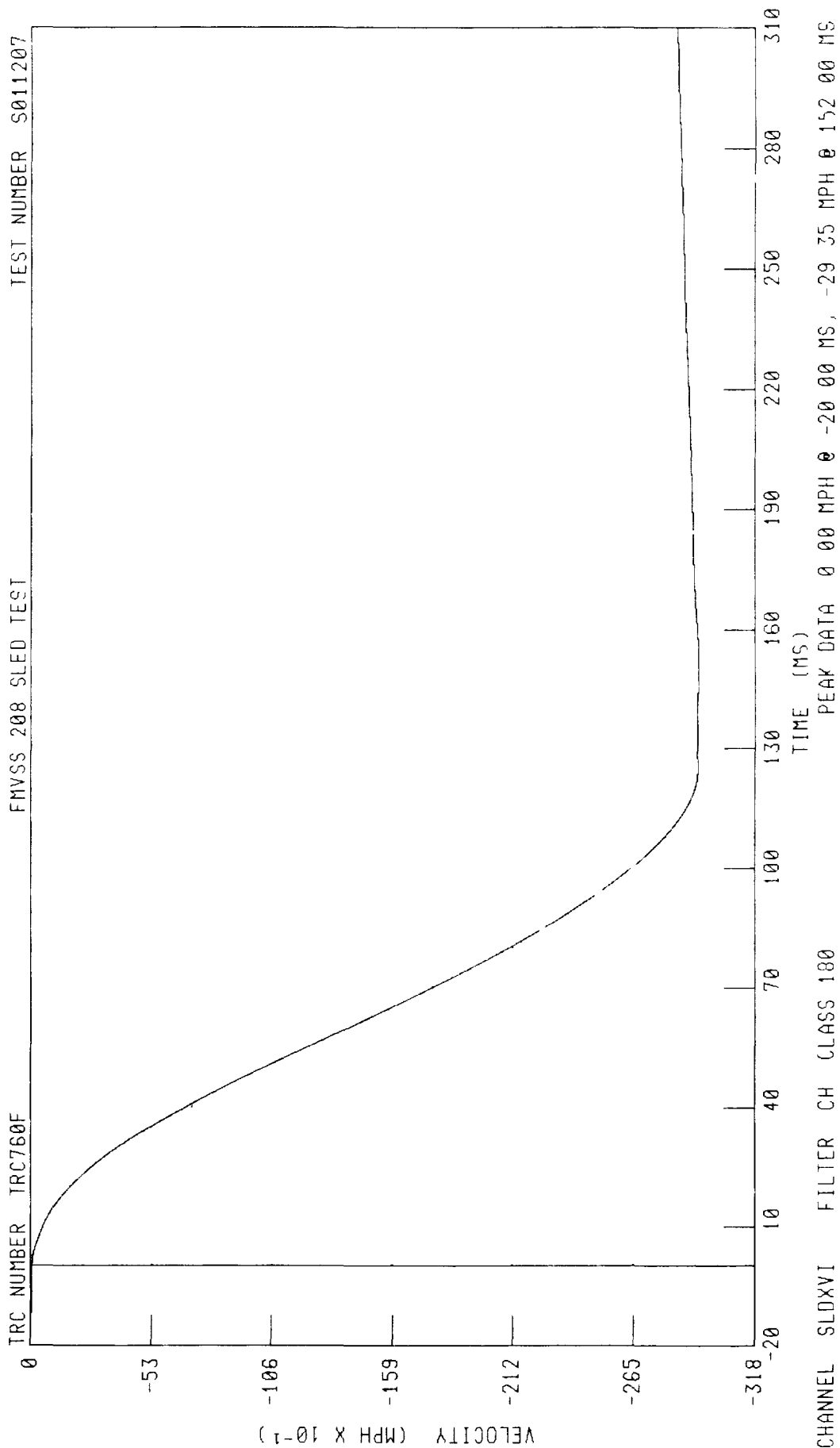


TIME (MS)

PEAK DATA 0 11 MPH 0 72 MS 23 7F MPH 0 204 64 MS

CHANNEL SLDXV FILTER CH CLASS 60

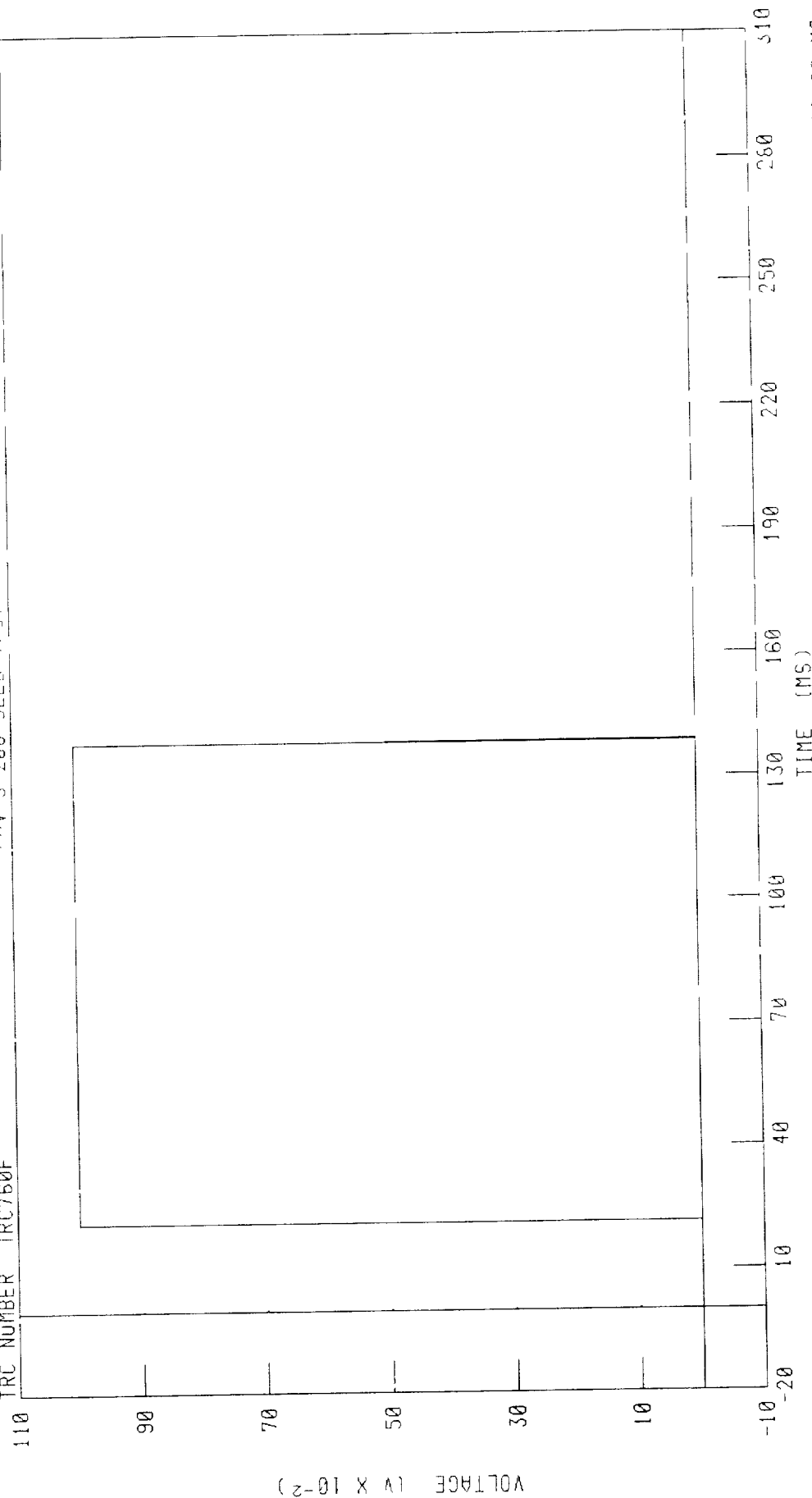
C20203 / 2002 FORD EXPLORER
SLED VELOCITY (INTEGRATED)



C24203 / 2002 FORD EXPLORER
 DRIVER PRIMARY AIRBAG EVENT
 FMVSS 208 SLED 1F3T

TEST NUMBER S011207

TRC NUMBER TRC760F

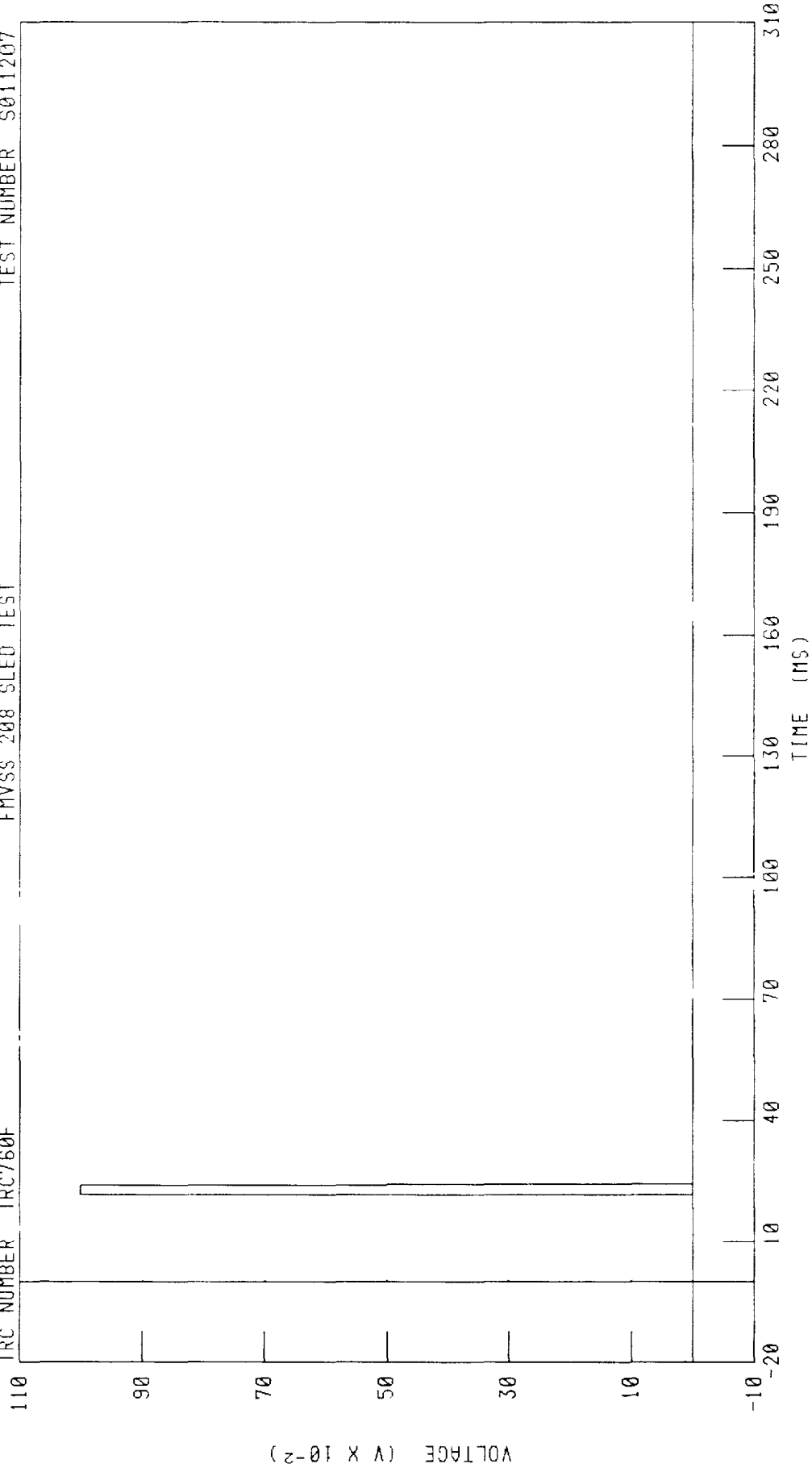


CHANNEL ABEVT1 FILTER CH CLASS 1000

C20203 - 2002 FORD EXPLORER
PASSENGER PRIMARY AIRBAC EVENT
FMVSS 208 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F



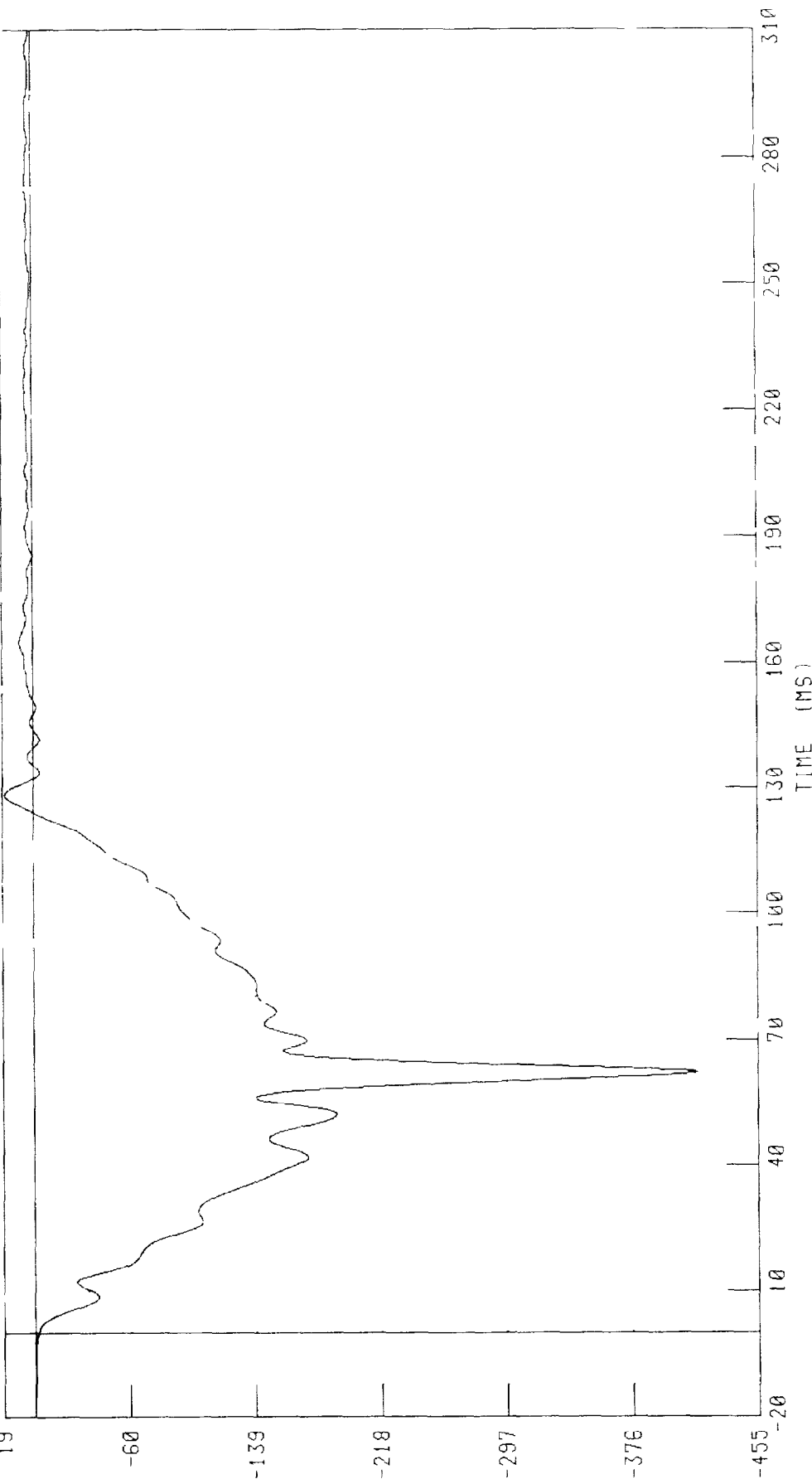
PEAK DATA 1 00 V 0 21 68 MS, 0 00 V 0 -20 00 MS

CHANNEL ABEVT2 FILTER CH CLASS 1000

020207 / 2002 FORD EXPLORER
 REAR AXLE X-AXIS ACCELERATION
 FMVSS 209 CLED TEST

TEST NUMBER 5011207

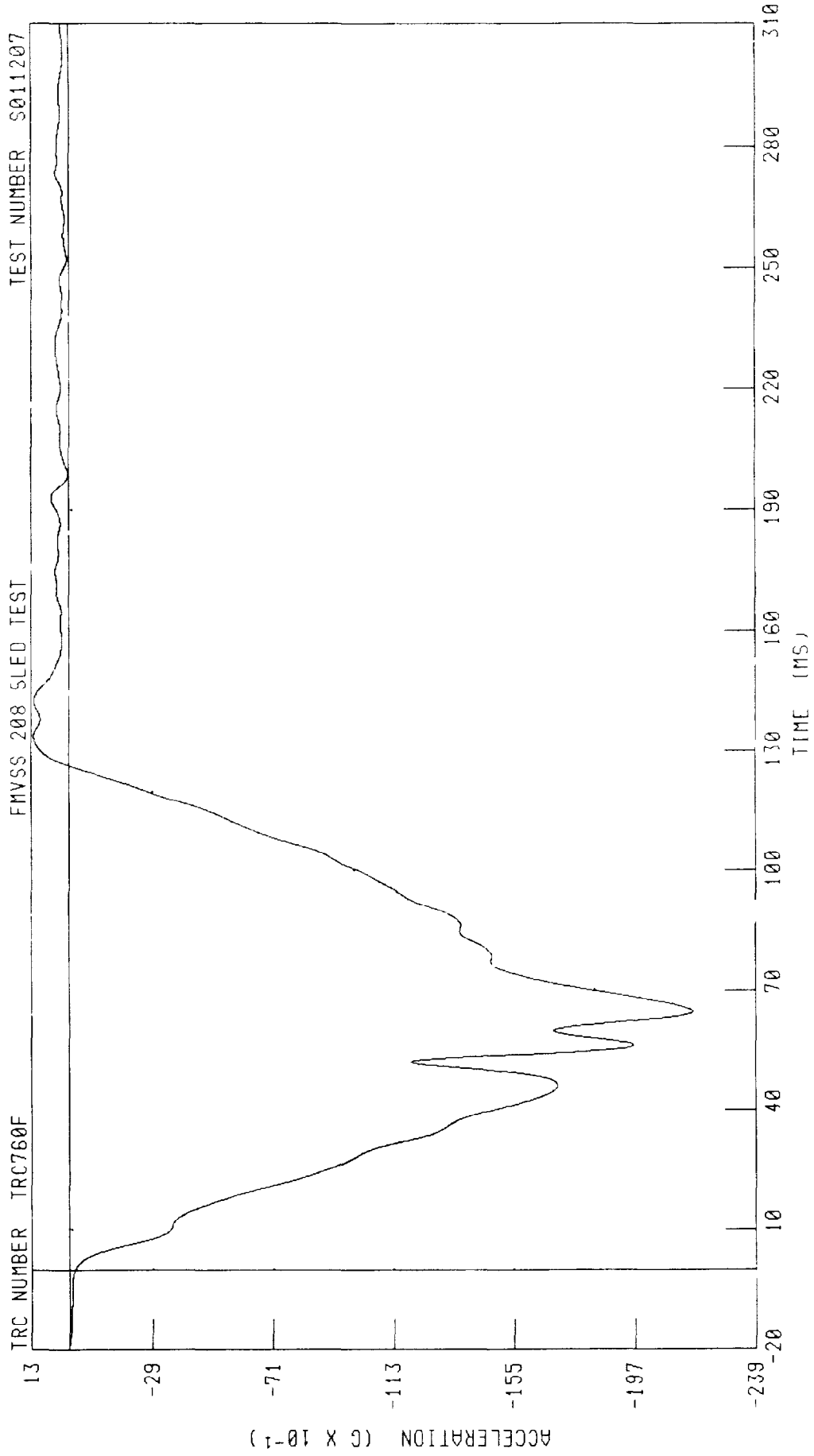
TRC NUMBER TRC760F



PEAK DATA 1 76 0 0 120 61 MS 41 67 0 0 62 24 MS

CHANNEL RAXG FILTER CH CLASS 60

C20203 / 2002 FORD EXPLORER
LEFT BODY AT REAR SEAT X-AXIS ACCELERATION

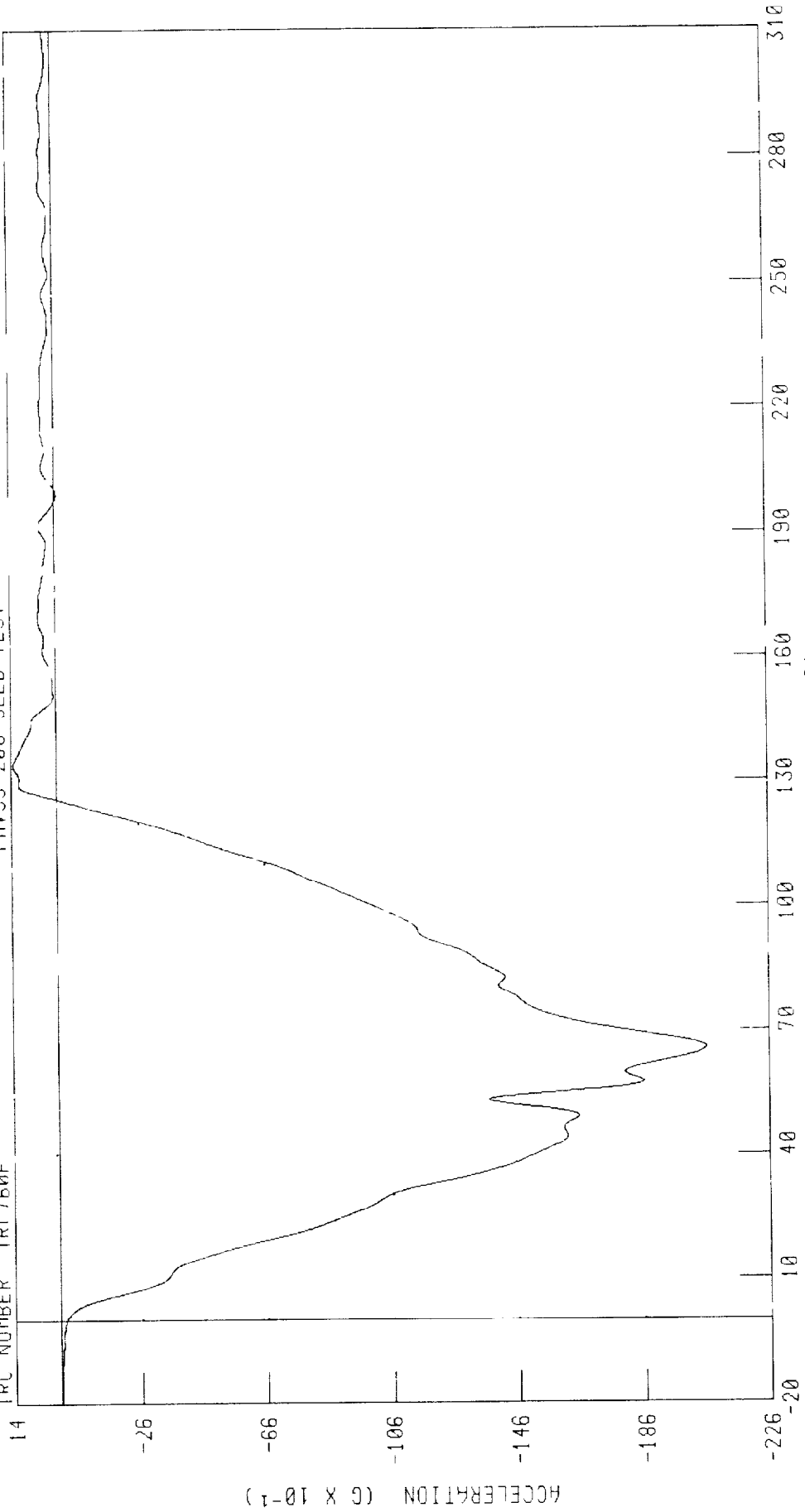


CHANNEL LSXXG FILTER CH CLASS 60

C20203 / 2002 FORD EXPLORER
 RIGHT BODY AT REAR SEAT X AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER S011207

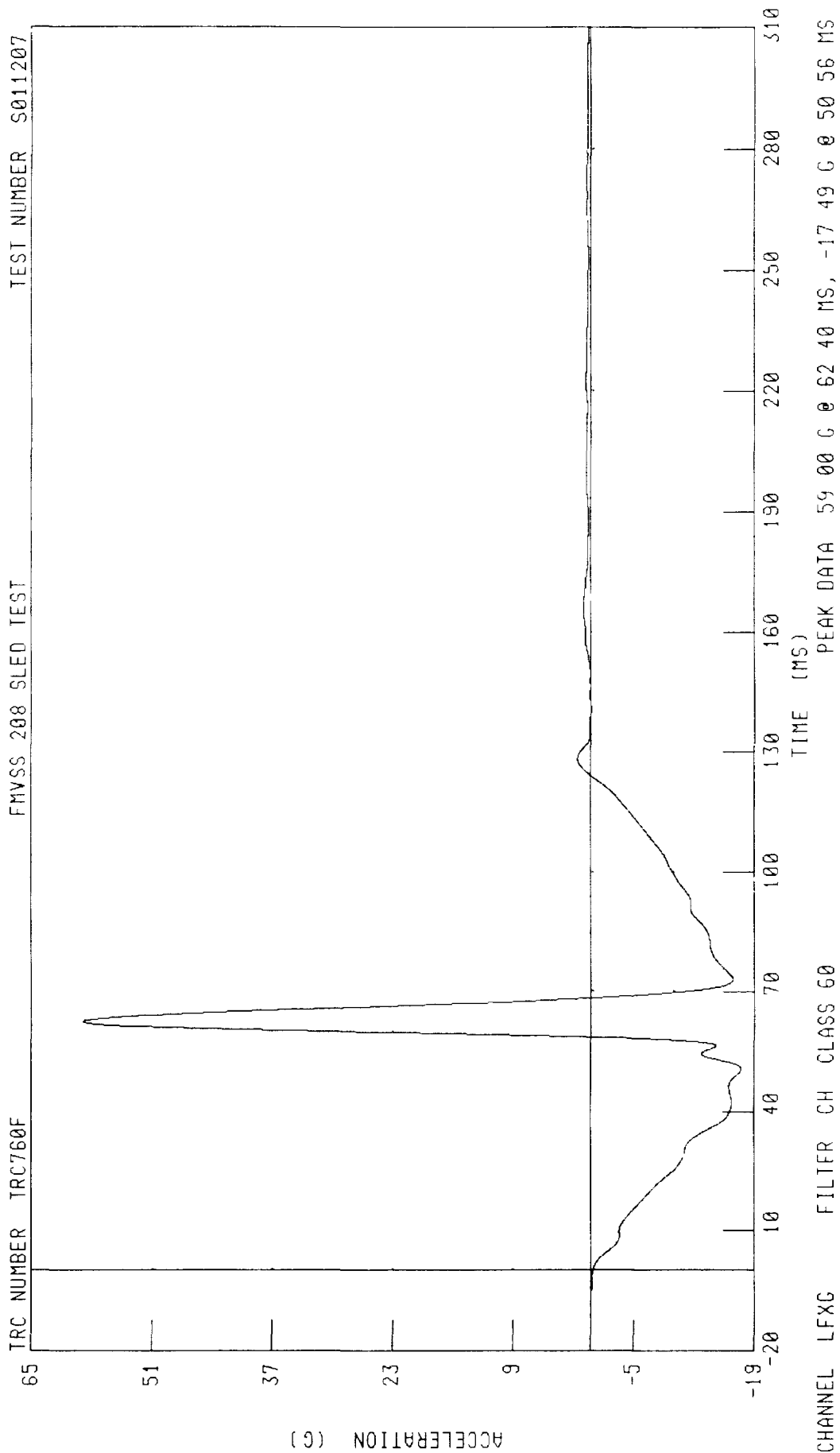
TRC NUMBER TRC750F



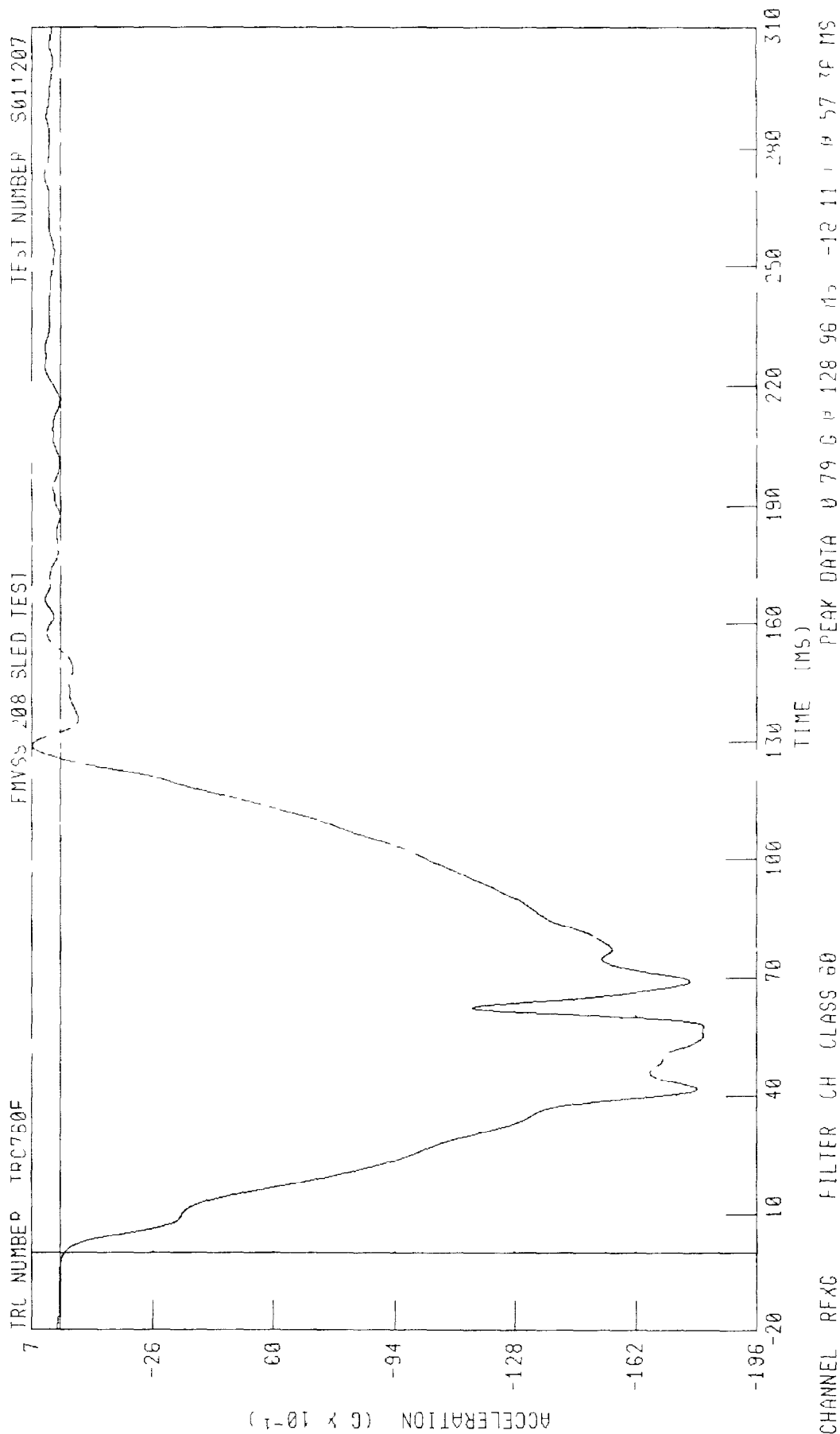
PEAK DATA 1 34 G @ 134 MS -20 62 G @ 65 60 MS

CHANNEL RSXXG FILTER CH CLASS 60

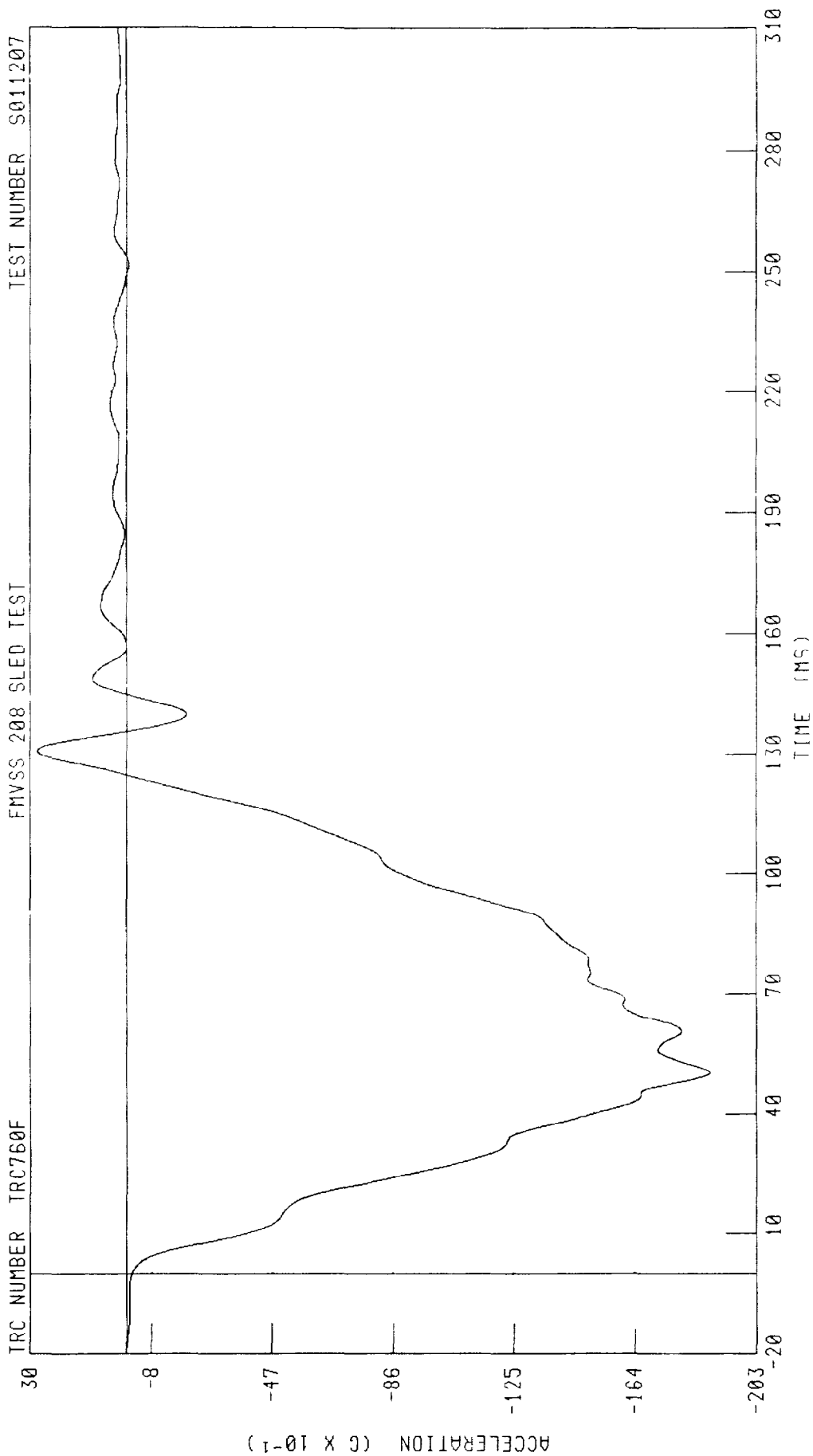
C20203 / 2002 FORD EXPLORER
LEFT VEHICLE FRAME X-AXIS ACCELERATION



C20203 2002 FORD EXPLORER
RIGHT VEHICLE FRAME X-AXIS ACCELERATION



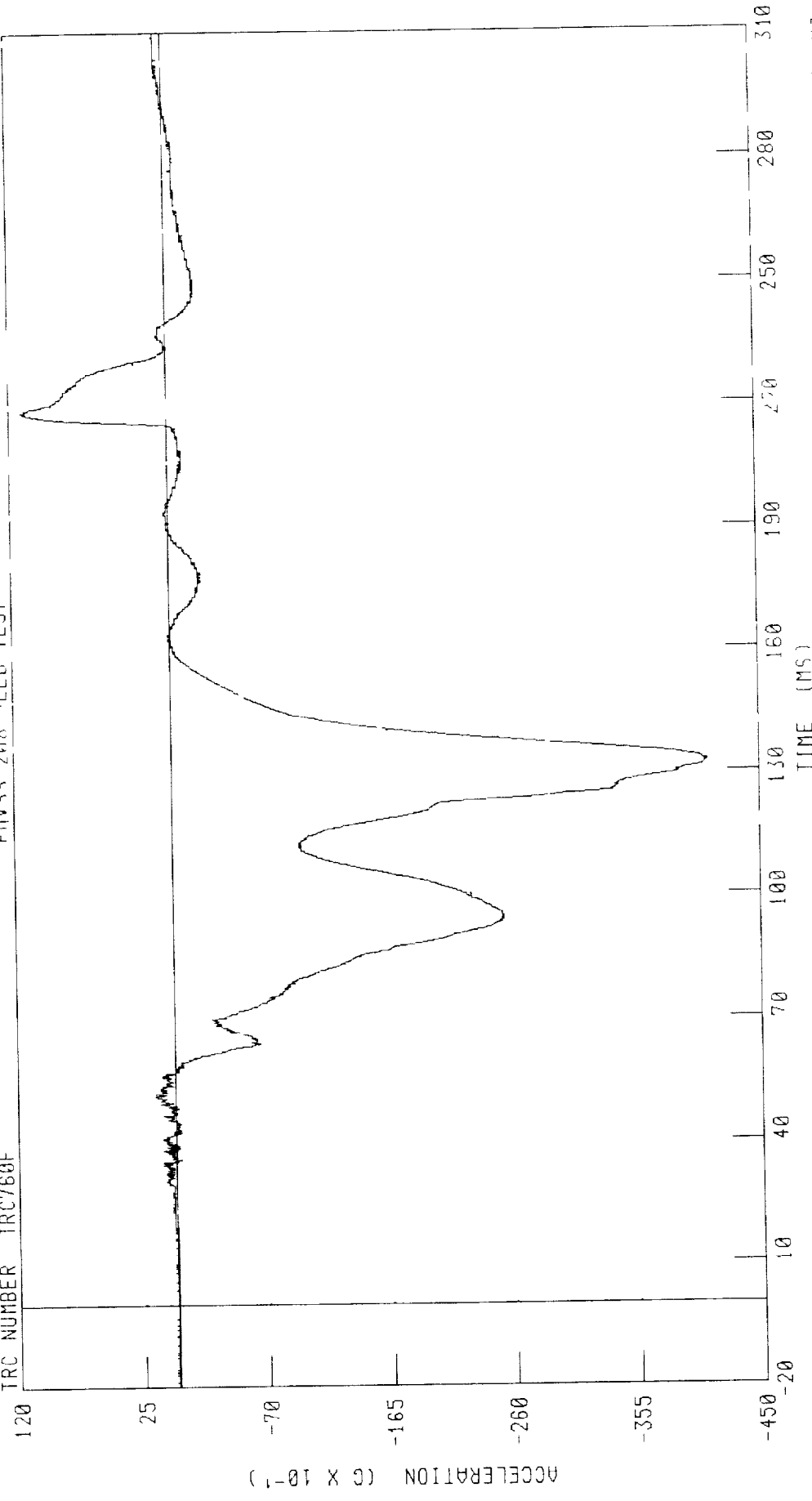
C20203 / 2002 FORD EXPLORER
TOP ENGINE X-AXIS ACCELERATION



C20203 / 2002 FORD EXPLORER
 DRIVER HEAD X-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER 5011207

TRC NUMBER TRC760F

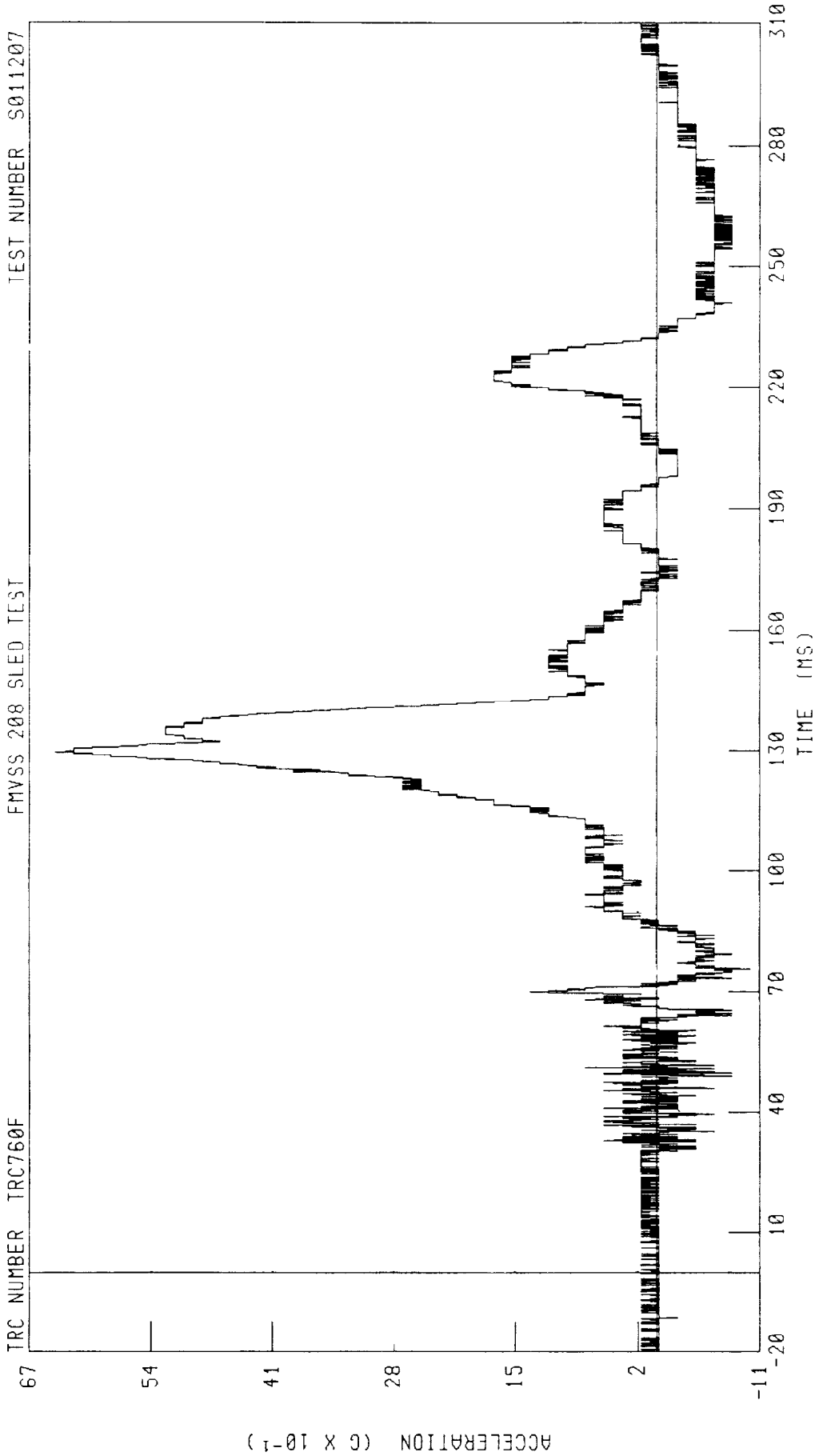


TIME (MS)

PEAK DATA 11.1, 6.8, 21.0, 40 MS, -41.06 G @ 132.24 MS

CHANNEL HEDXC1 FILTER CH CLASS 100H

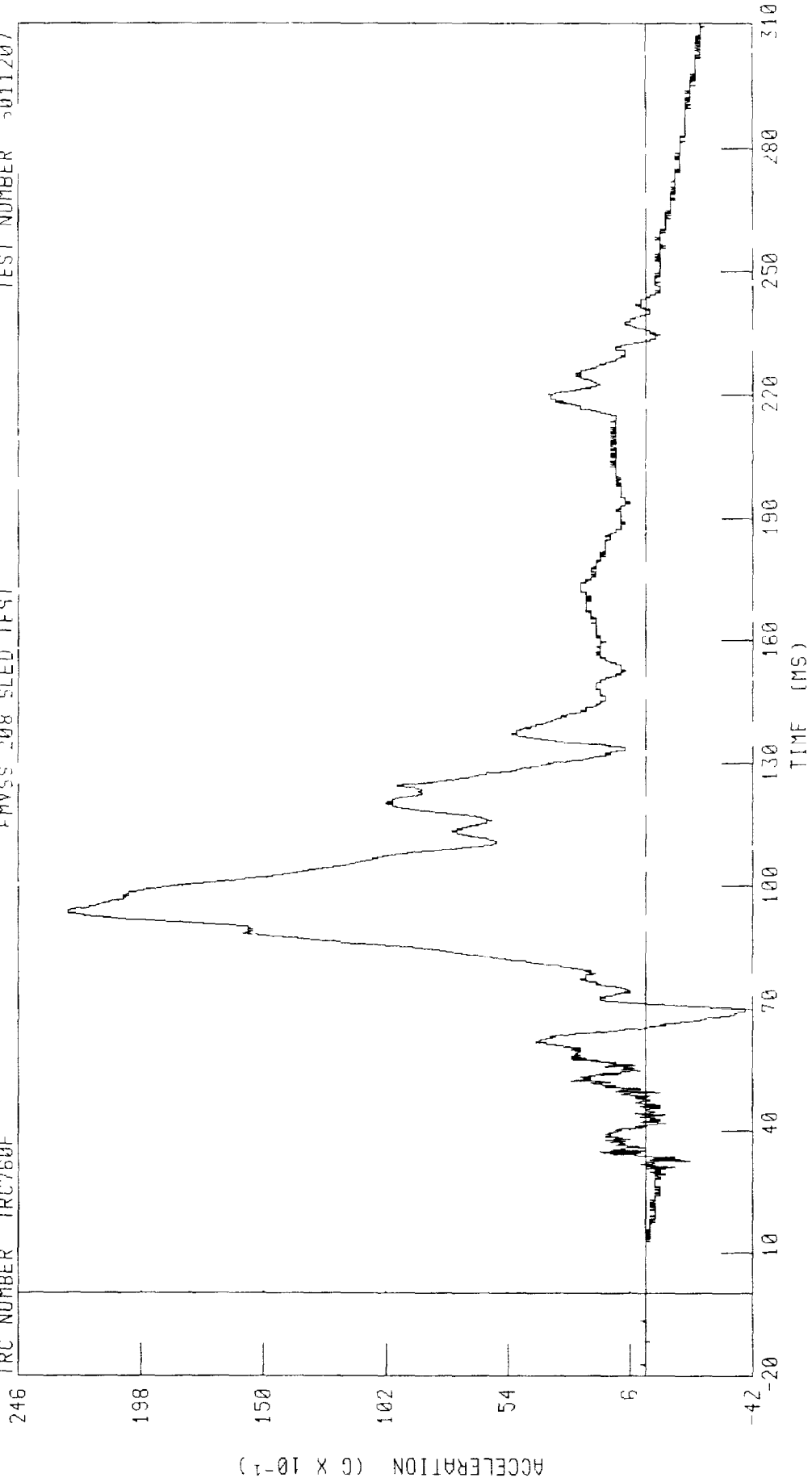
C20203 / 2002 FORD EXPLORER
DRIVER HEAD Y-AXIS ACCELERATION



C20203 / 2002 FORD EXPLORER
 DRIVER HEAD Z-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER 3011207

TRC NUMBER TRC760F



PEAK DATA 12.65 10.33 28 MS, -7.91 G W 63.12 MS

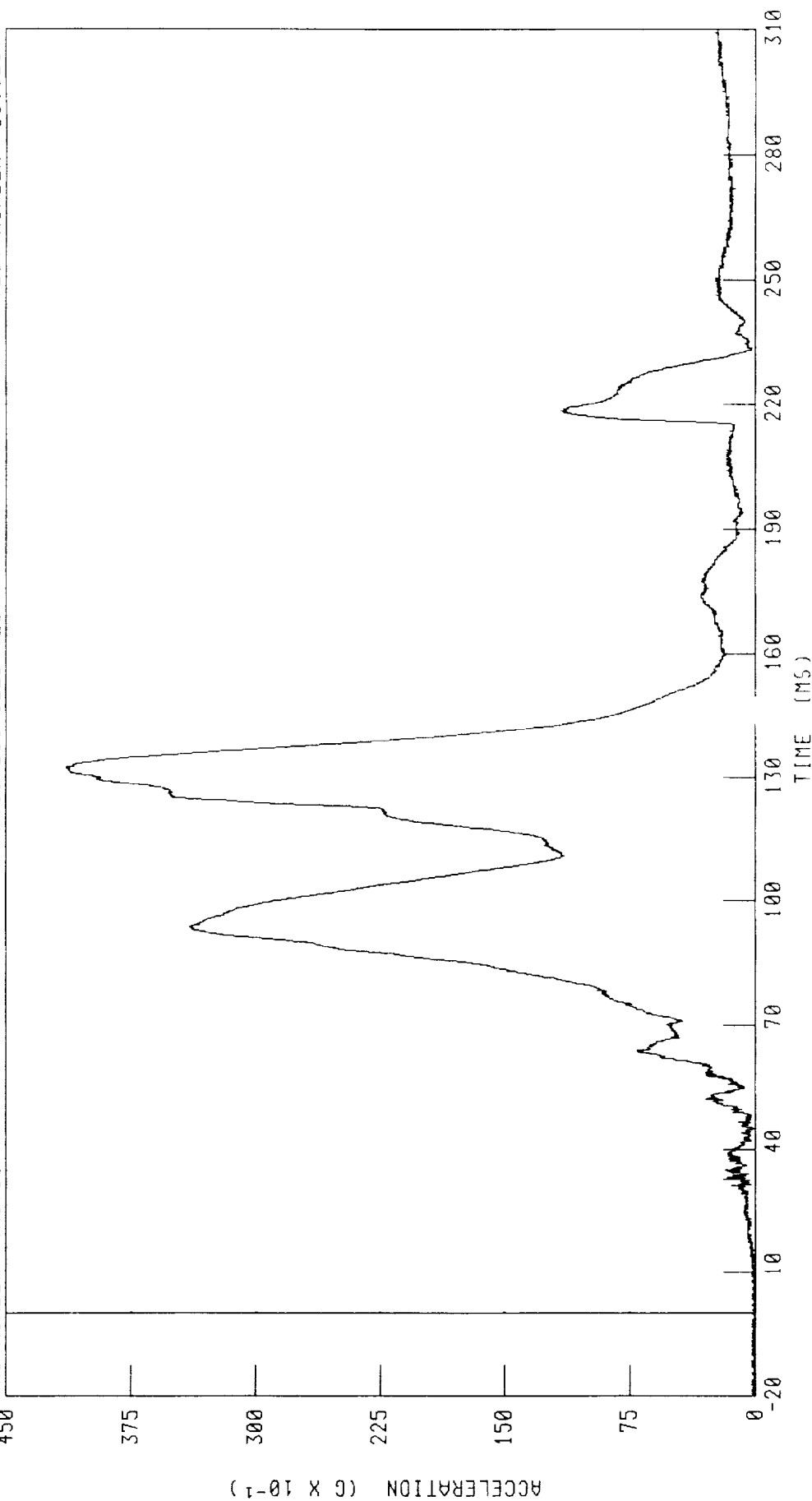
CHANNEL HEADZG1 FILTER CH CLASS 1400

C20203 / 2002 FORD EXPLORER
 DRIVER HEAD RESULTANT ACCELERATION

TRC NUMBER TRC760F

FMVSS 208 SLED TEST

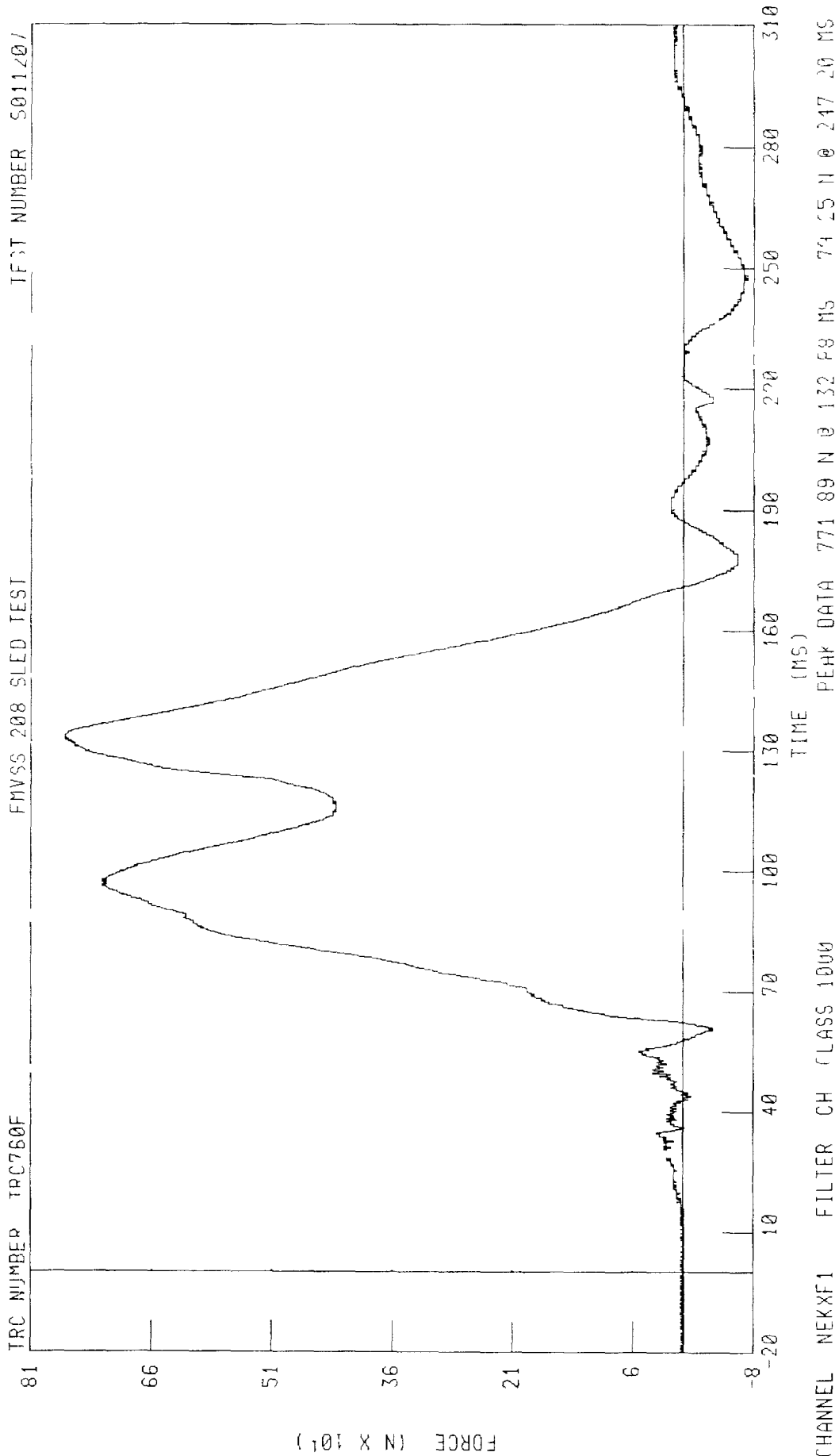
TEST NUMBER S011207



CHANNEL HEDRC1 FILTER CH CLASS 1000

PEAK DATA 41 38 G @ 132 24 MS, 0 03 G @ -20 00 MS

C20203 2002 FORD EXPLORER
 DRIVER NECK X-AXIS SHEAR FORCE
 FMVSS 208 SLED TEST



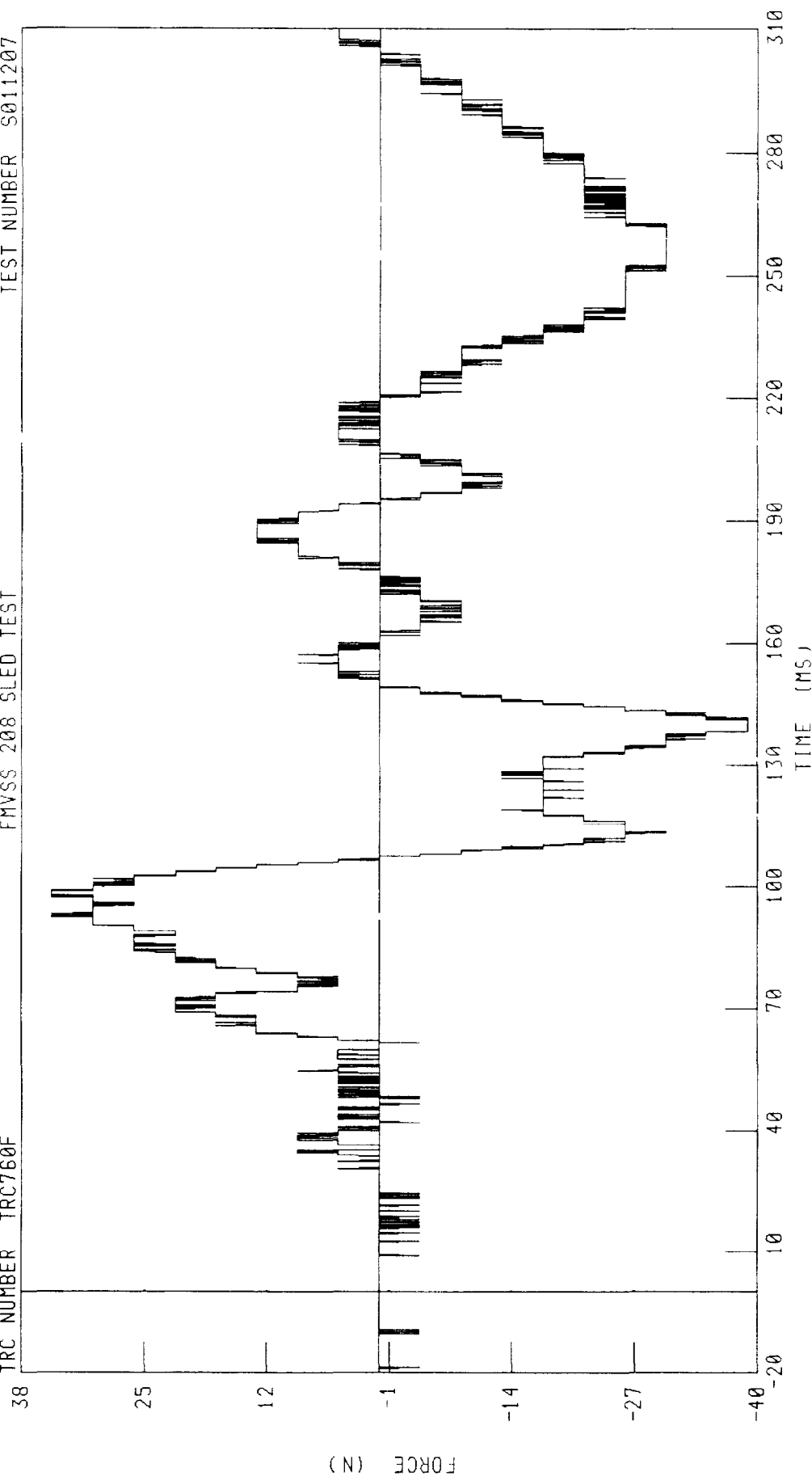
C20203 / 2002 FORD EXPLORER

DRIVER NECK Y-AXIS SHEAR FORCE

FMVSS 208 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F



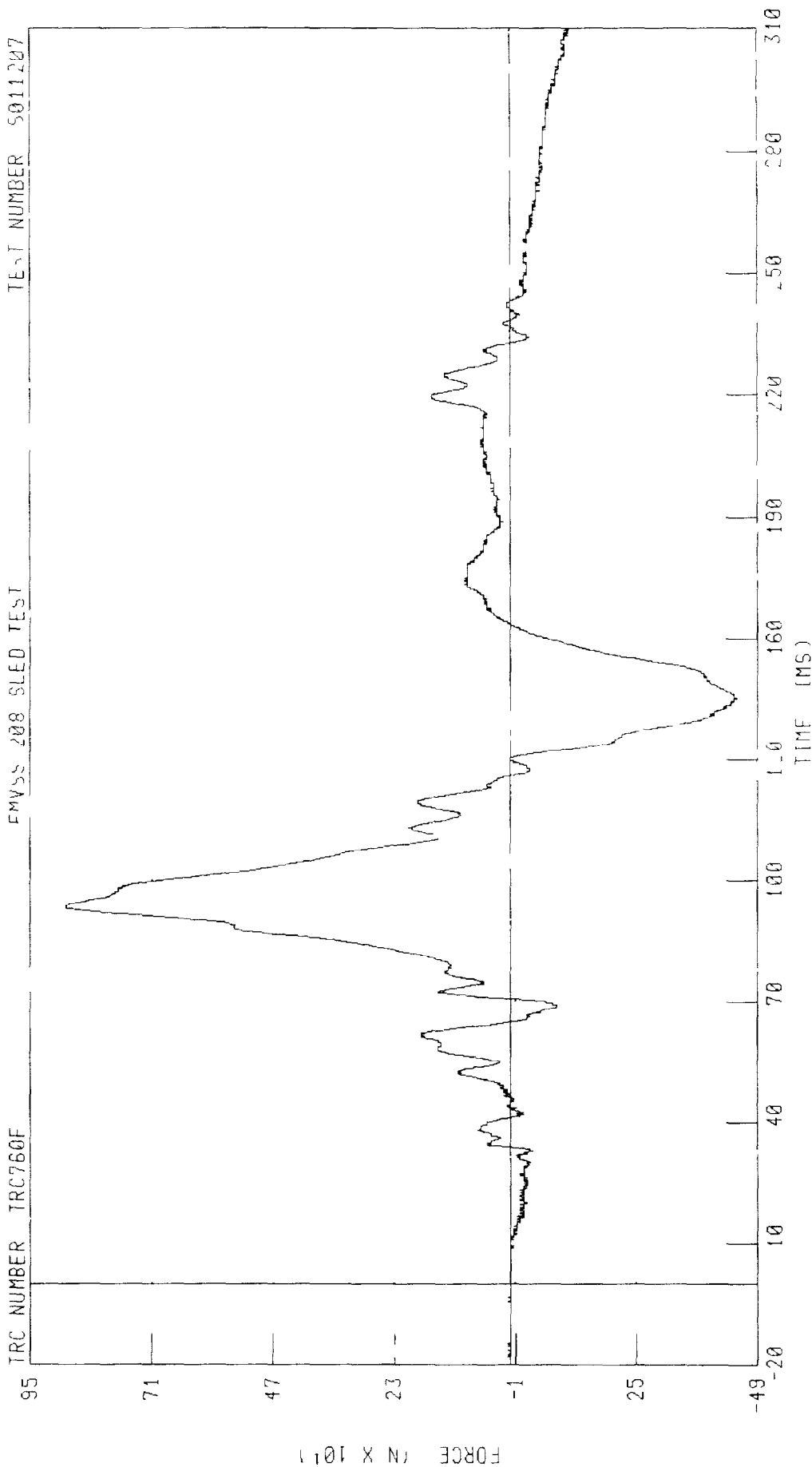
PEAK DATA 34 82 N @ 92 80 MS, -39 01 N @ 138 32 MS

CHANNEL NEKYF1 FILTER CH CLASS 1000

120203 U02 FORD EXPLORER
 DRIVER NECK Z-AXIS AXIAL FORCE
 FMVSS 208 SLED TEST

TRC NUMBER TRC760F

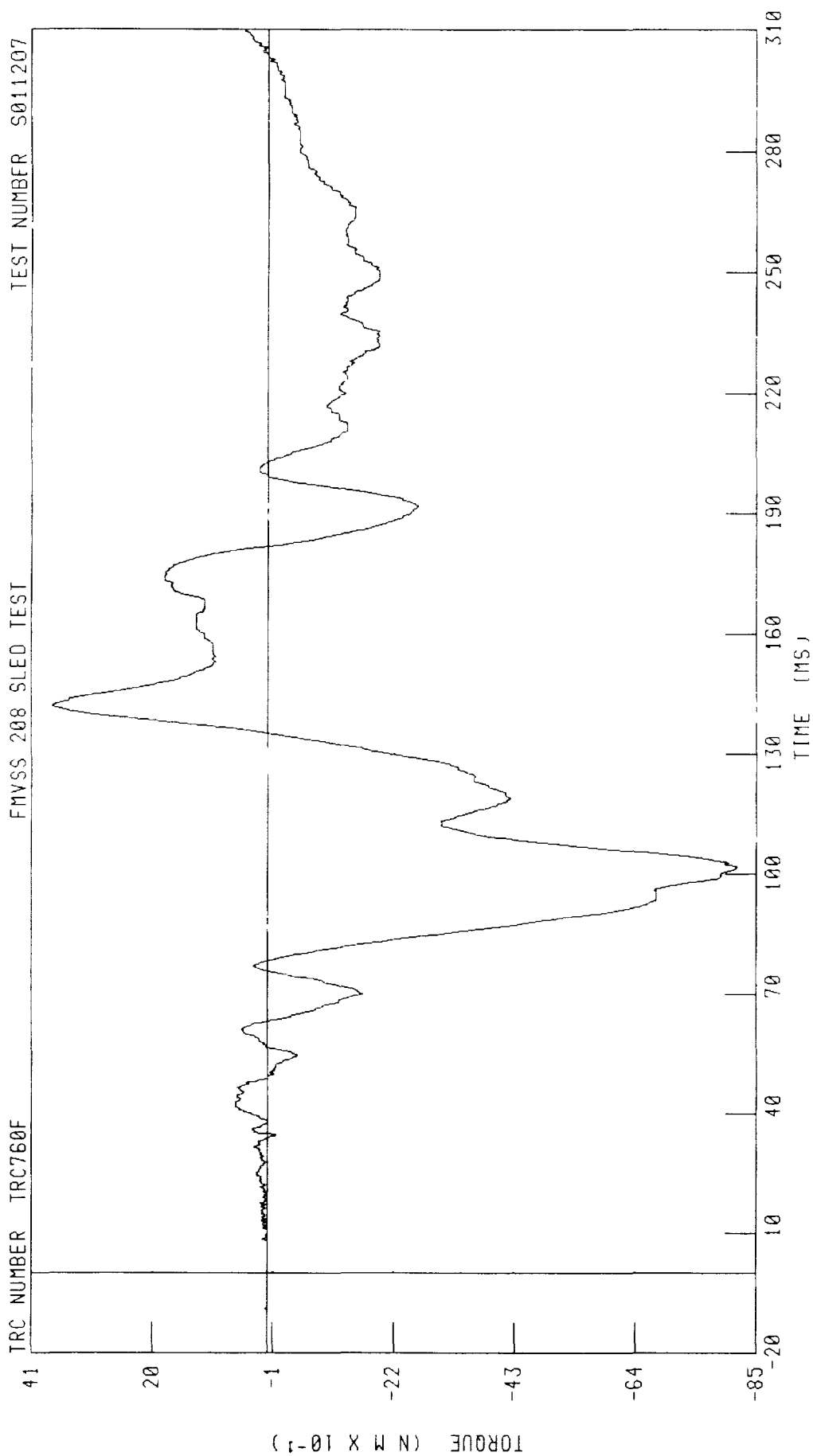
TEST NUMBER 5011207



CHANNEL NEKZF1 FILTER CH CLASS 10000

PEAK DATA 879.24 N @ 35.12 MS, -449.58 N @ 145.12 MS

C20203 / 2002 FORD EXPLORER
 DRIVER NECK MOMENT ABOUT X AXIS



PEAK DATA 3 73 N M @ 142 40 MS, -8 18 N M @ 101 92 MS

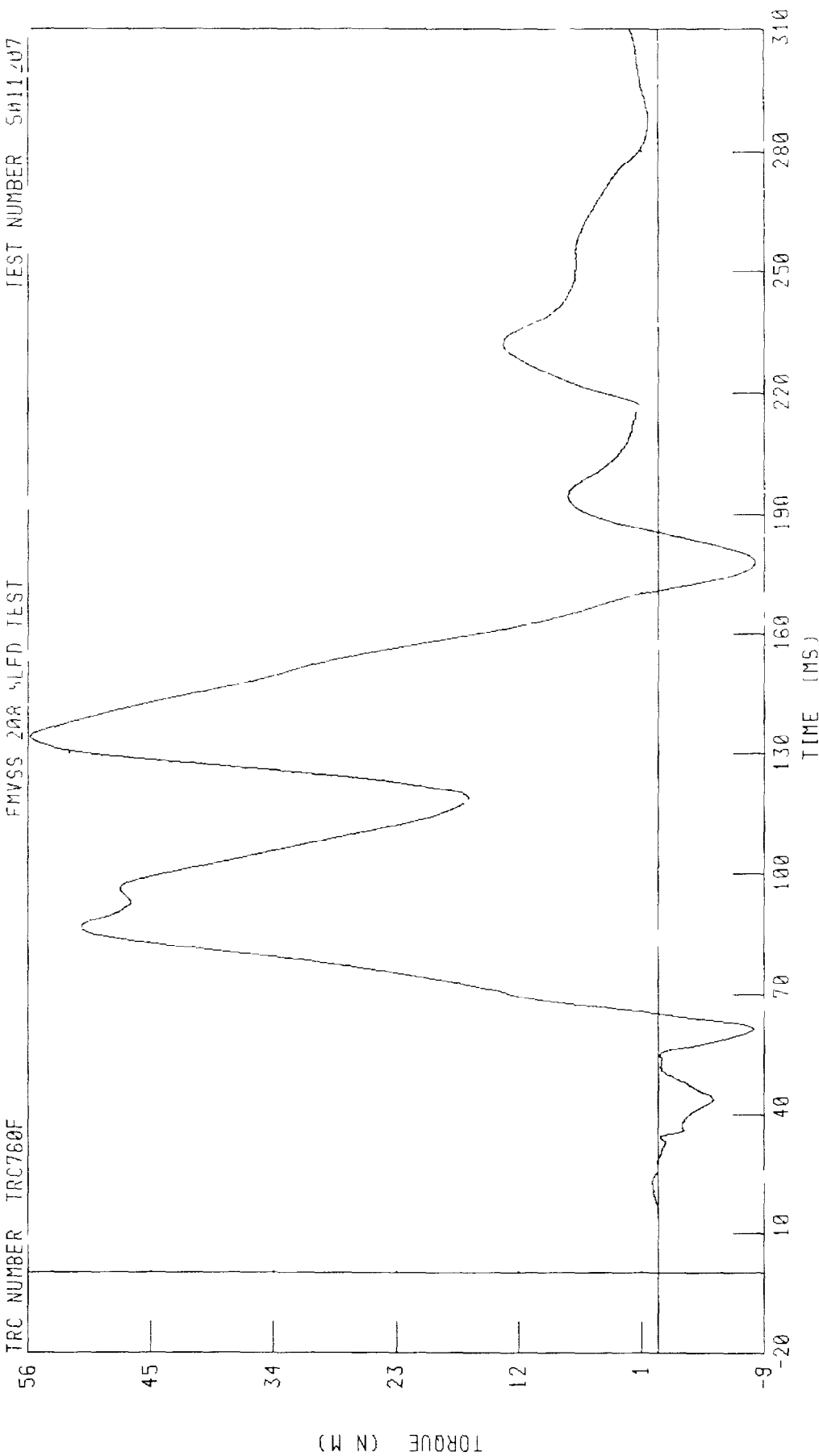
CHANNEL NEKX01 FILTER CH CLASS F00

C20203 / 2002 FORD EXPLORER
 DRIVER NECK MOMENT ABOUT Y AXIS

TRC NUMBER TRC760F

FMVSS 208 SLFD TEST

TEST NUMBER SW11207



TIME (MS)

PEAK DATA 56 35 N M @ 134 16 MS -6 70 N M @ 177 92 MS

CHANNEL NEKYM1 FILTER CH CLASS C00

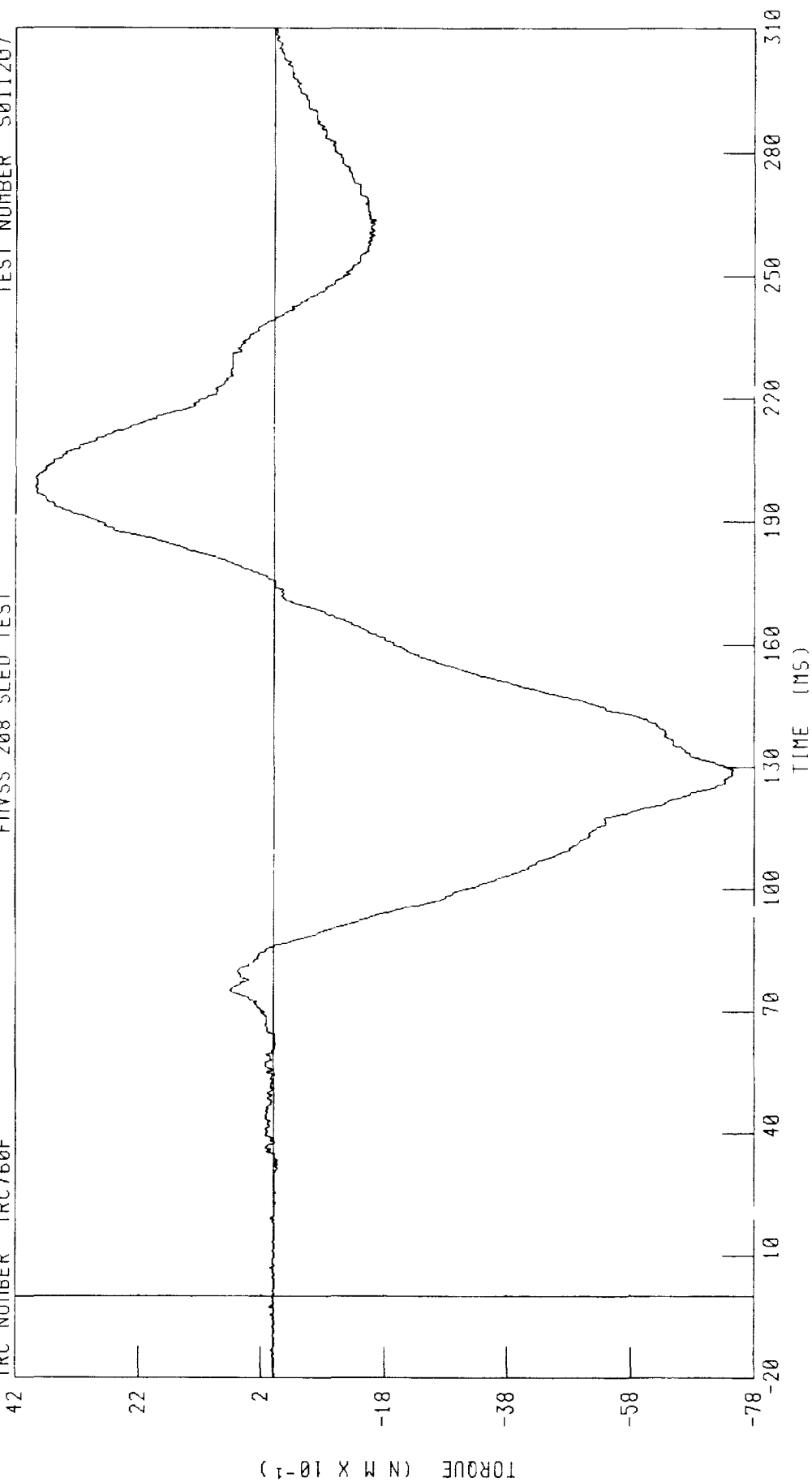
TORQUE (N.M)

C20203 / 2002 FORD EXPLORER
 DRIVER NECK MOMENT ABOUT Z AXIS

TRC NUMBER TRC760F

FMVSS 208 SLED TEST

TEST NUMBER S011207



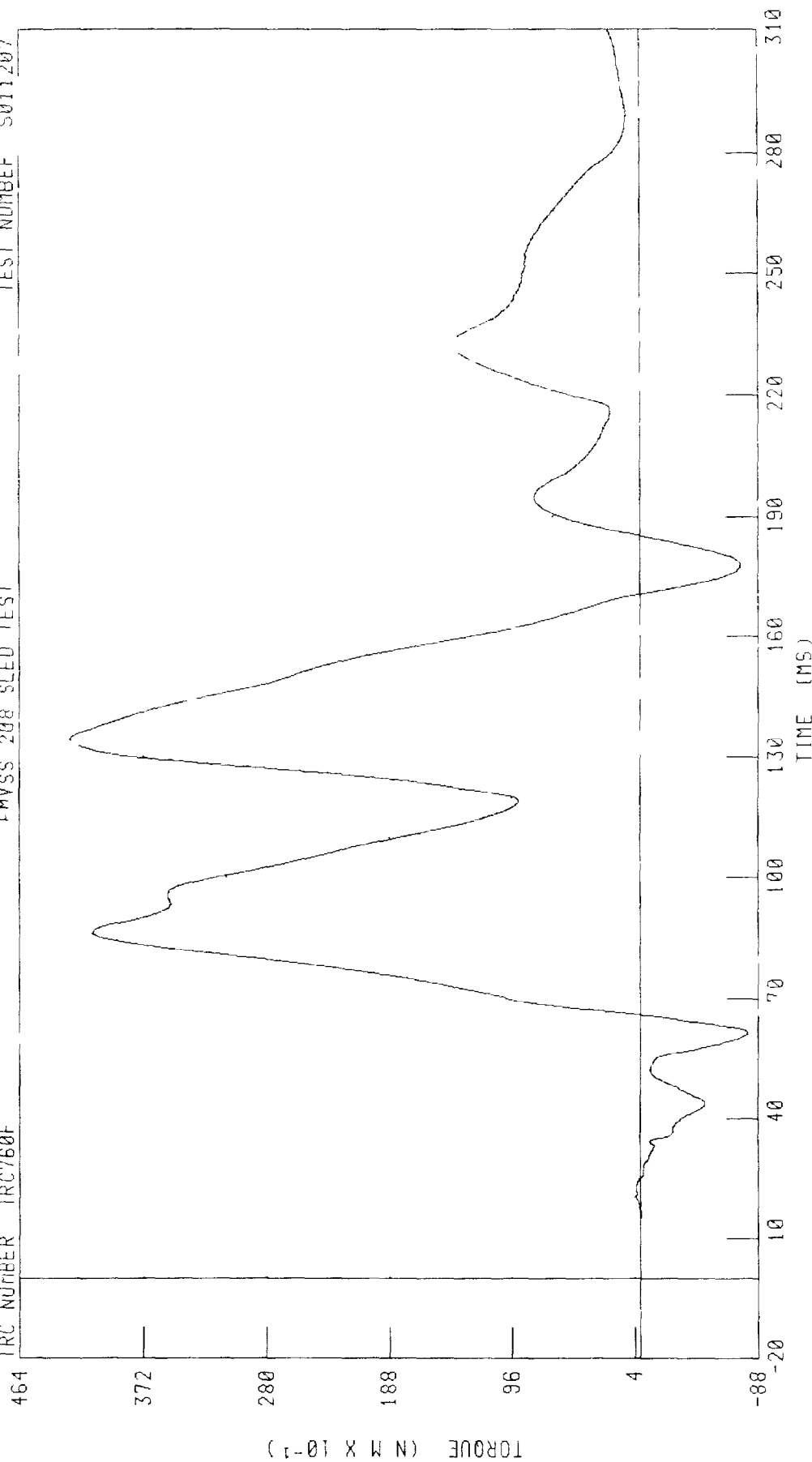
CHANNEL NEKZM1 FILTER CH CLASS 600

PEAK DATA 3 89 N M @ 200 80 MS, -7 46 N M @ 129 36 MS

C20203 / 2002 FORD EXPLORER
 DRIVER NECK MOMENT ABOUT X AXIS OCCIPITAL CONDYLE
 FMVSS 208 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F

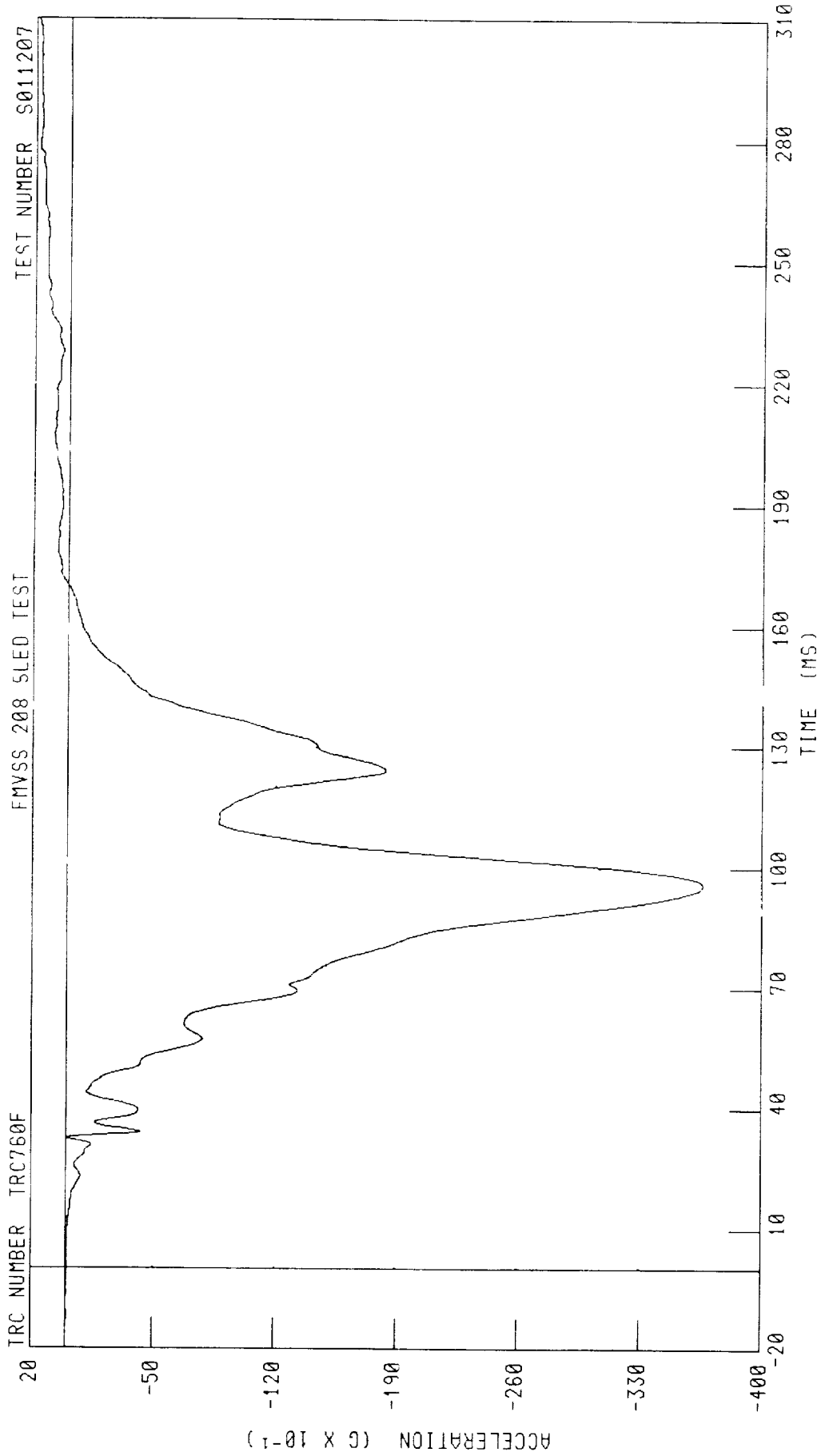


TIME (MS)

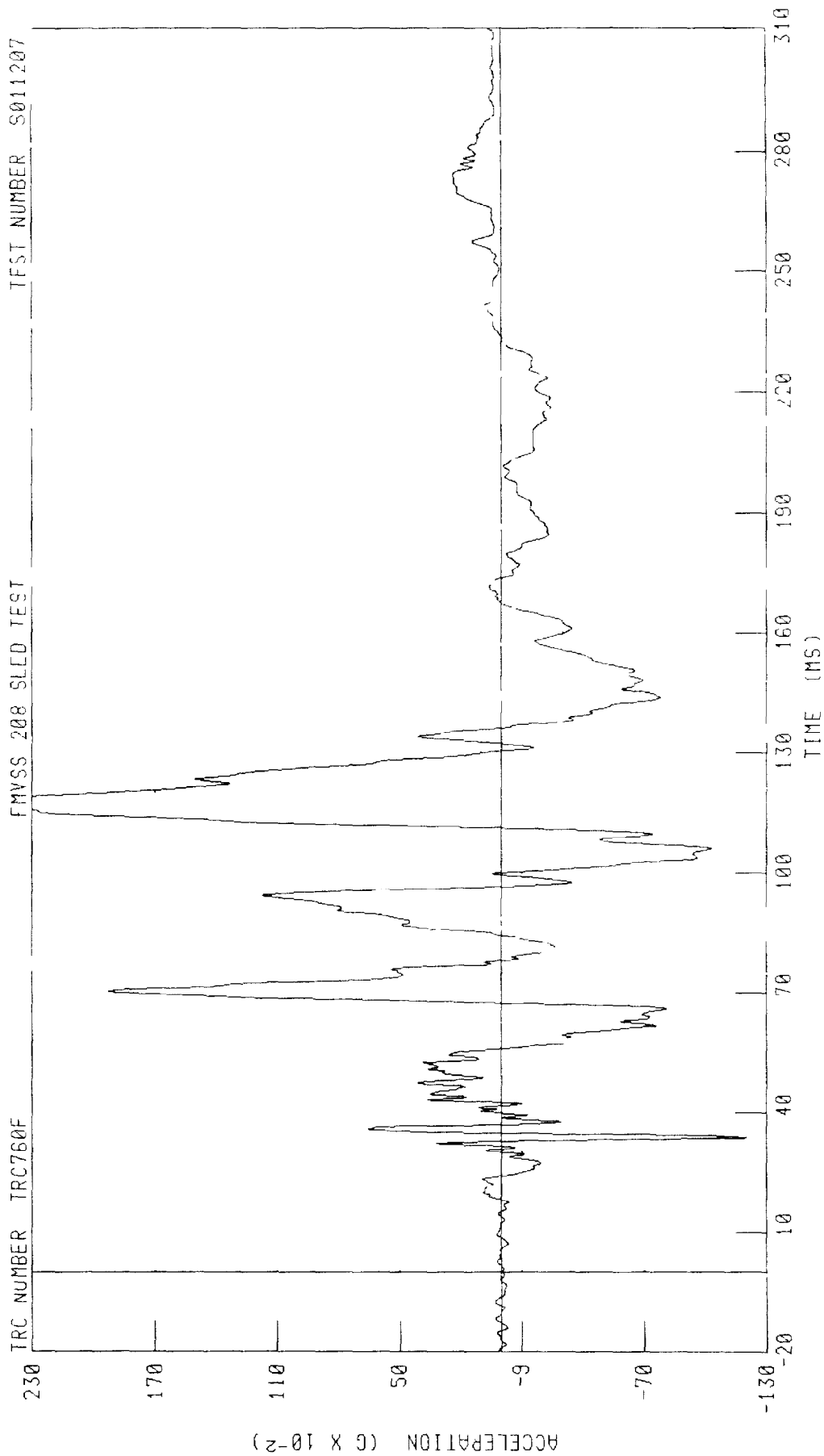
PEAK DATA 42 65 N M @ 1.1 1.4 11., 8 06 N M @ 4.1 1.6 MS

CHANNEL NEKOM1 FILTER CH CLASS 600

C20203 / 2002 FORD EXPLORER
 DRIVER CHEST X-AXIS ACCELERATION



C20203 / 2002 FORD EXPLORER
 DRIVER CHEST Y-AXIS ACCELERATION



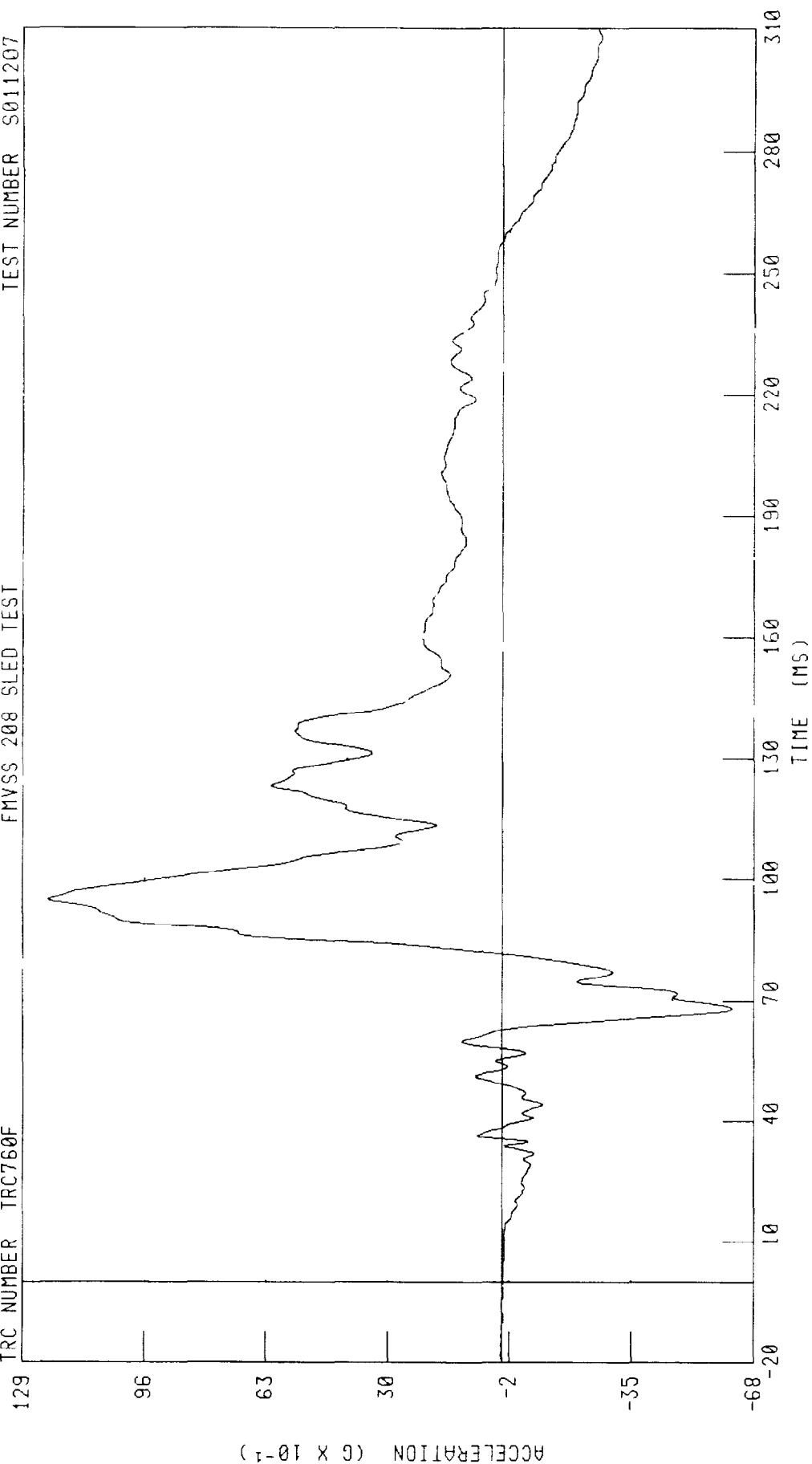
PEAK DATA - 52 G @ 117.04 MS, -120 G @ 33.76 MS

CHANNEL CSTYG1 FILTER CH CLASS 180

C20203 / 2002 FORD EXPLORER
 DRIVER CHEST Z-AXIS ACCELERATION
 FMVSS 208 SLED TEST

TRC NUMBER TRC760F

TEST NUMBER S011207



PEAK DATA 12 30 G @ 95 12 MS -6 22 G @ 68 00 MS

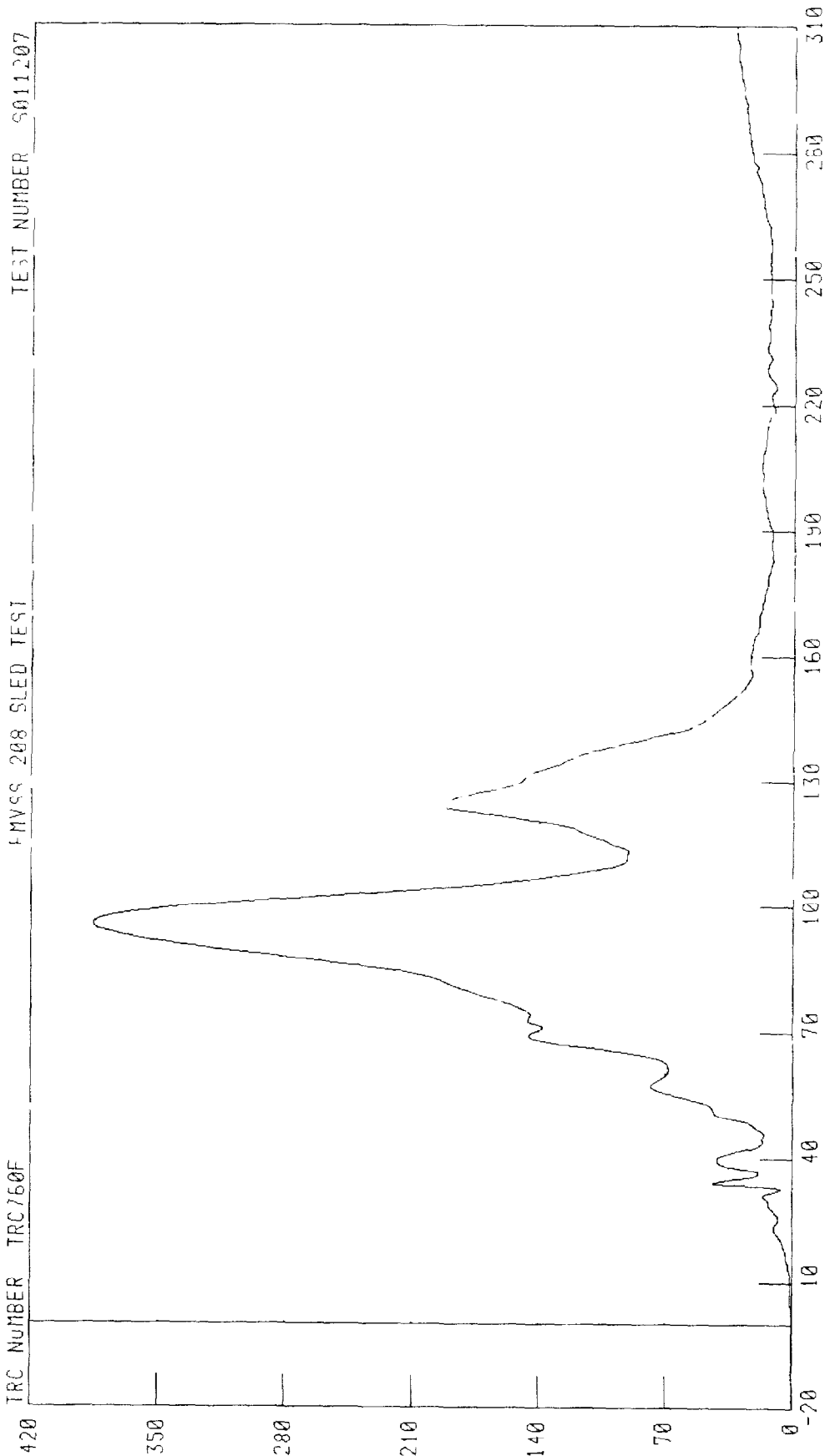
CHANNEL CSTZG1 FILTER CH CLASS 180

C20203 / 2002 FORD EXPLORER
 DRIVER CHEST RESULTANT ACCELERATION

TEST NUMBER 9011207

TRC NUMBER TRC760F

FMVSS 208 SLED TEST



PEAK DATA 38 5 6 0 95 44 MS, 0 00 3 0 17 44 MS

CHANNEL CSTRG1 FILTER CH CLASS 180

ACCELERATION (G X 10⁻¹)

TIME (MS)

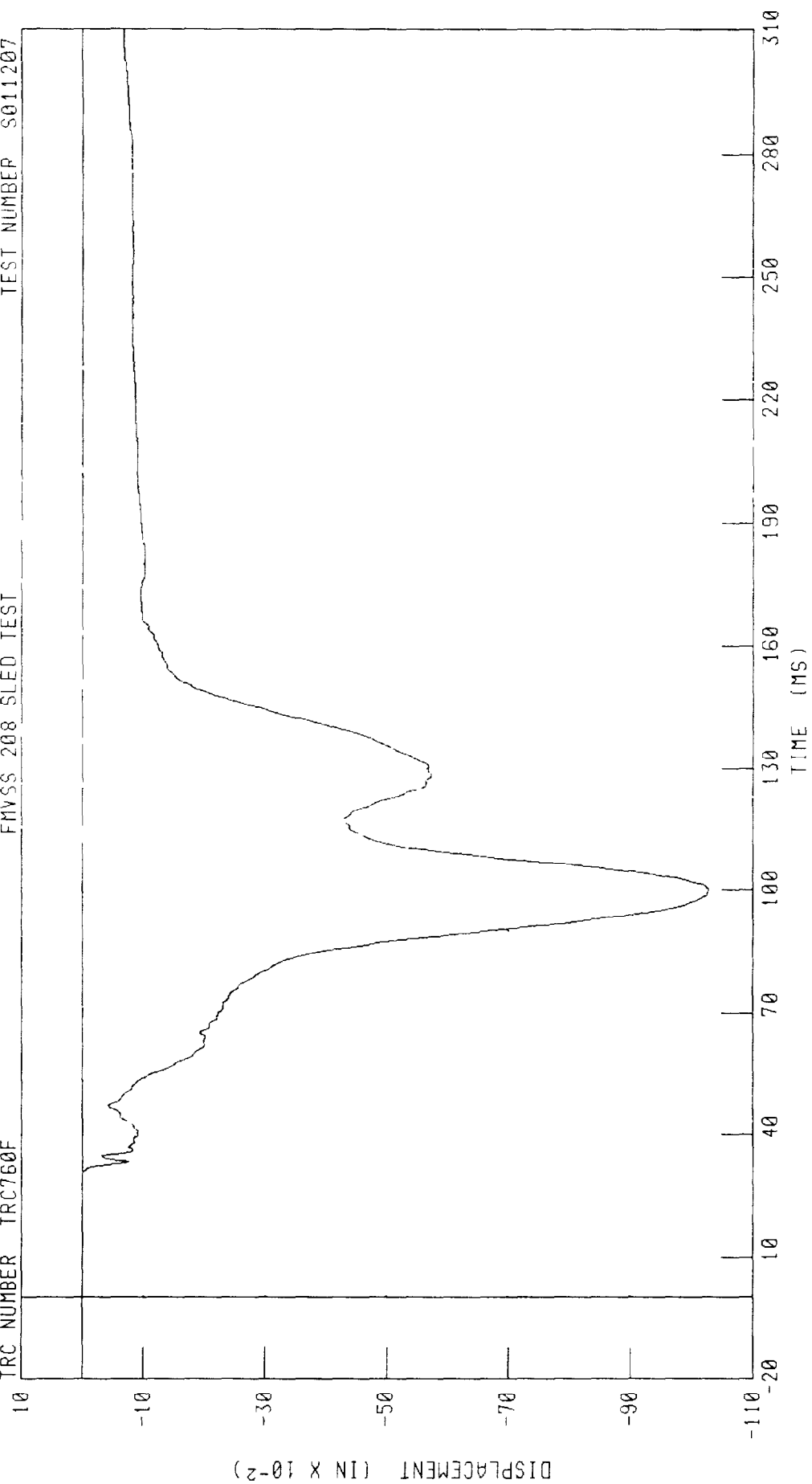
C20203 2002 FORD EXPLORER

DRIVER CHEST DEFLECTION

FMVSS 208 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F



TIME (MS)

PEAK DATA 0 00 IN @ 27 84 MS, -1 03 IN @ 100 08 MS

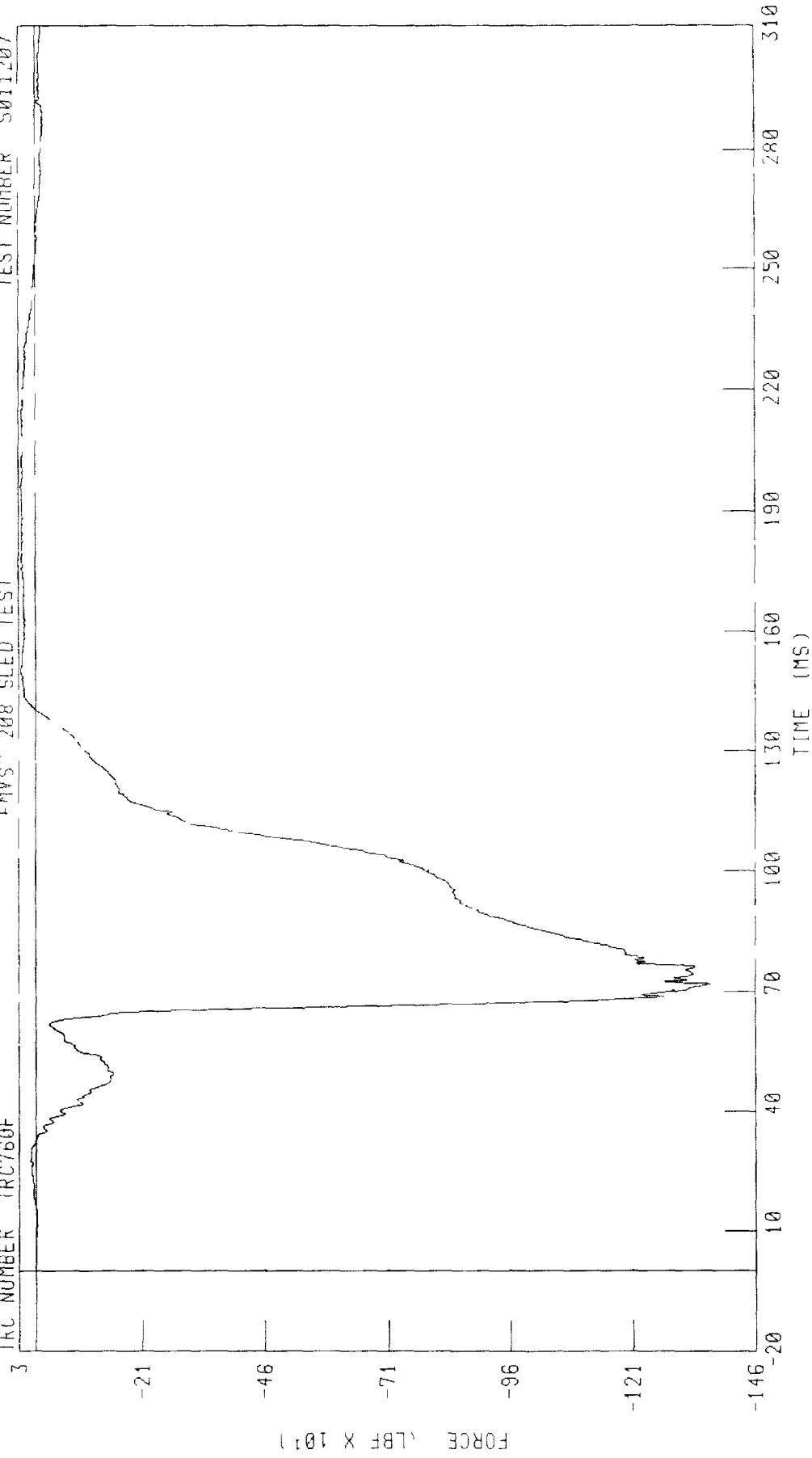
CHANNEL CSTXD1 FILTER CH CLASS 600

DISPLACEMENT (IN X 10^{-2})

C20203 / 2007 FORD EXPLORER
 DRIVER LEFT FEMUR FORCE
 FMVS 200 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F



PEAK DATA 70 25 LBF @ 196 00 MS, -1375 36 LBF @ 71 68 MS

CHANNEL LFMZF1 FILTER CH CLASS 600

C20203 / 2002 FORD EXPLORER

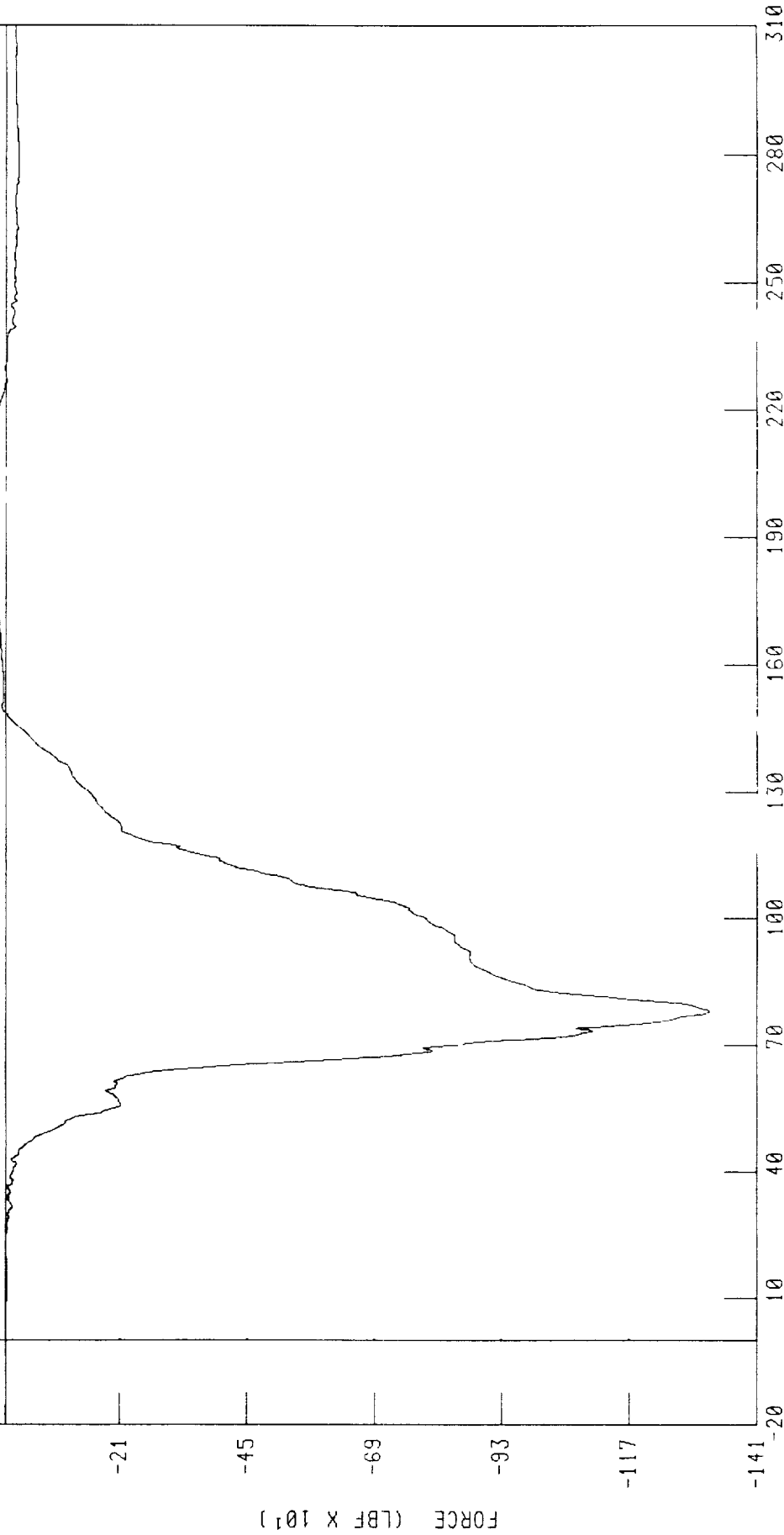
DRIVER RIGHT FEMUR FORCE

FMVSS 208 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F

2



PEAK DATA

23 39 LBF @ 209 68 MS -1326 39 LBF @ 78 08 MS

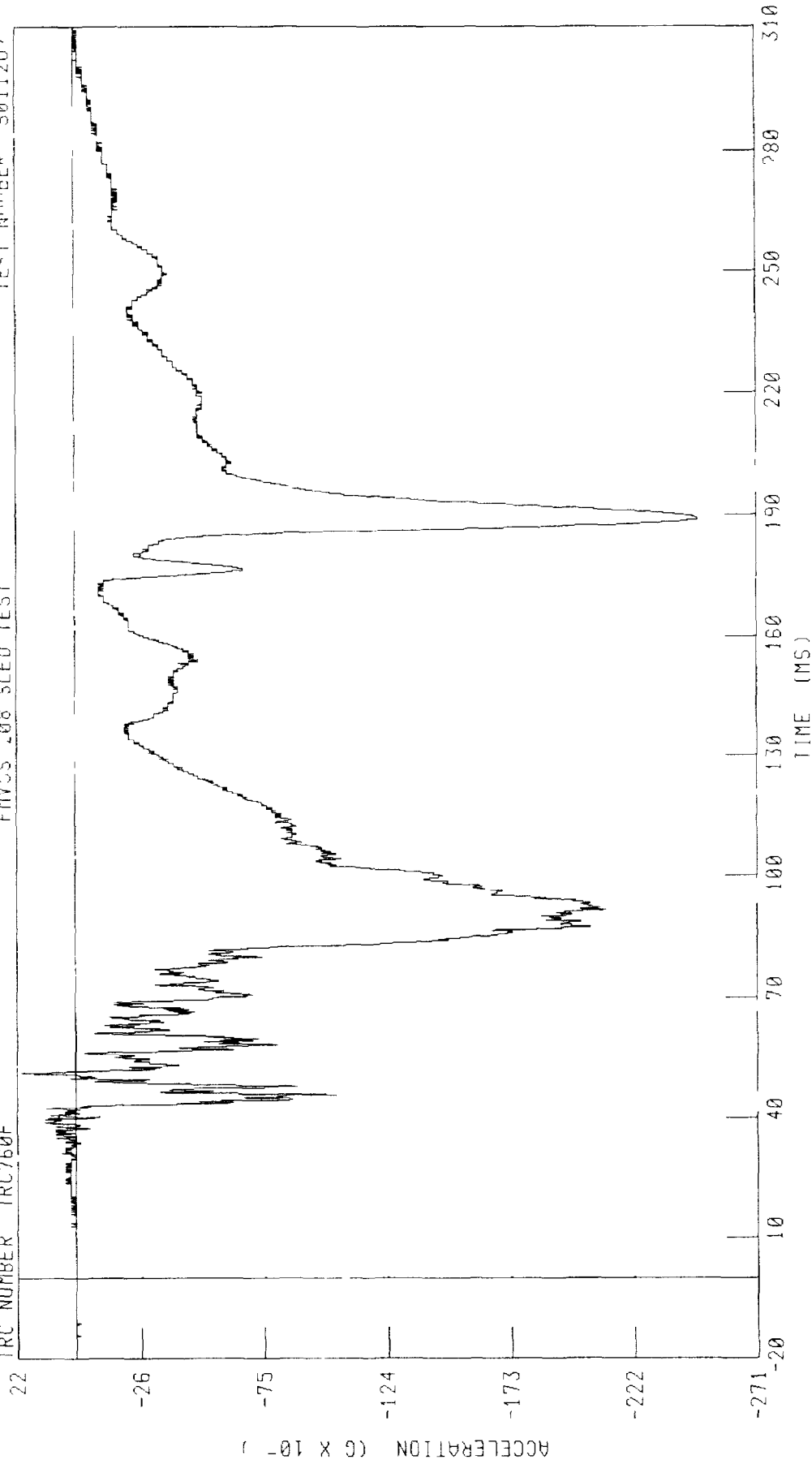
CHANNEL RFMZFI FILTER CH CLASS 600

©2003 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER HEAD X-AXIS ACCELERATION

TEST NUMBER 5011207

FMVCS 208 SLED TEST

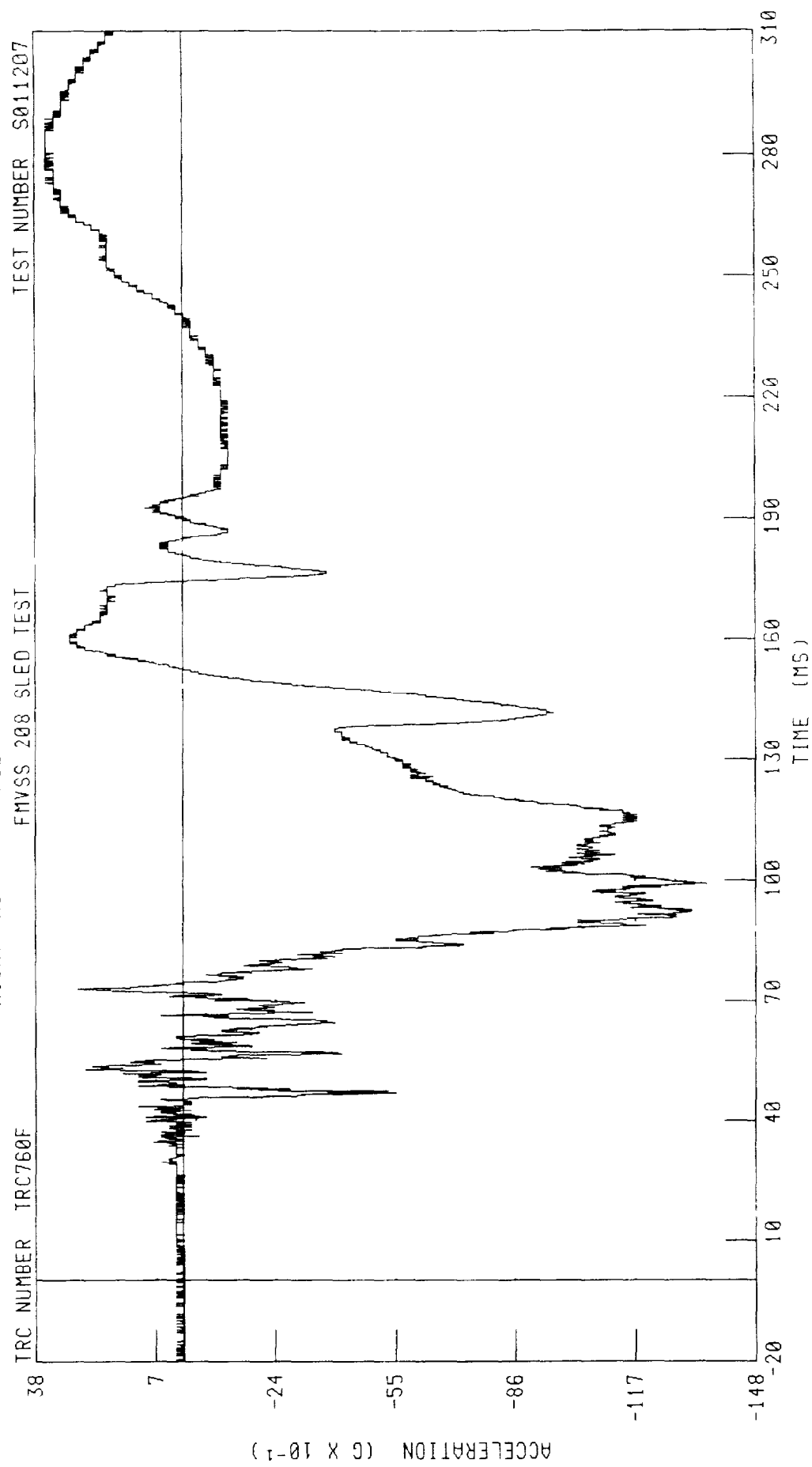
IRC NUMBER TRC760F



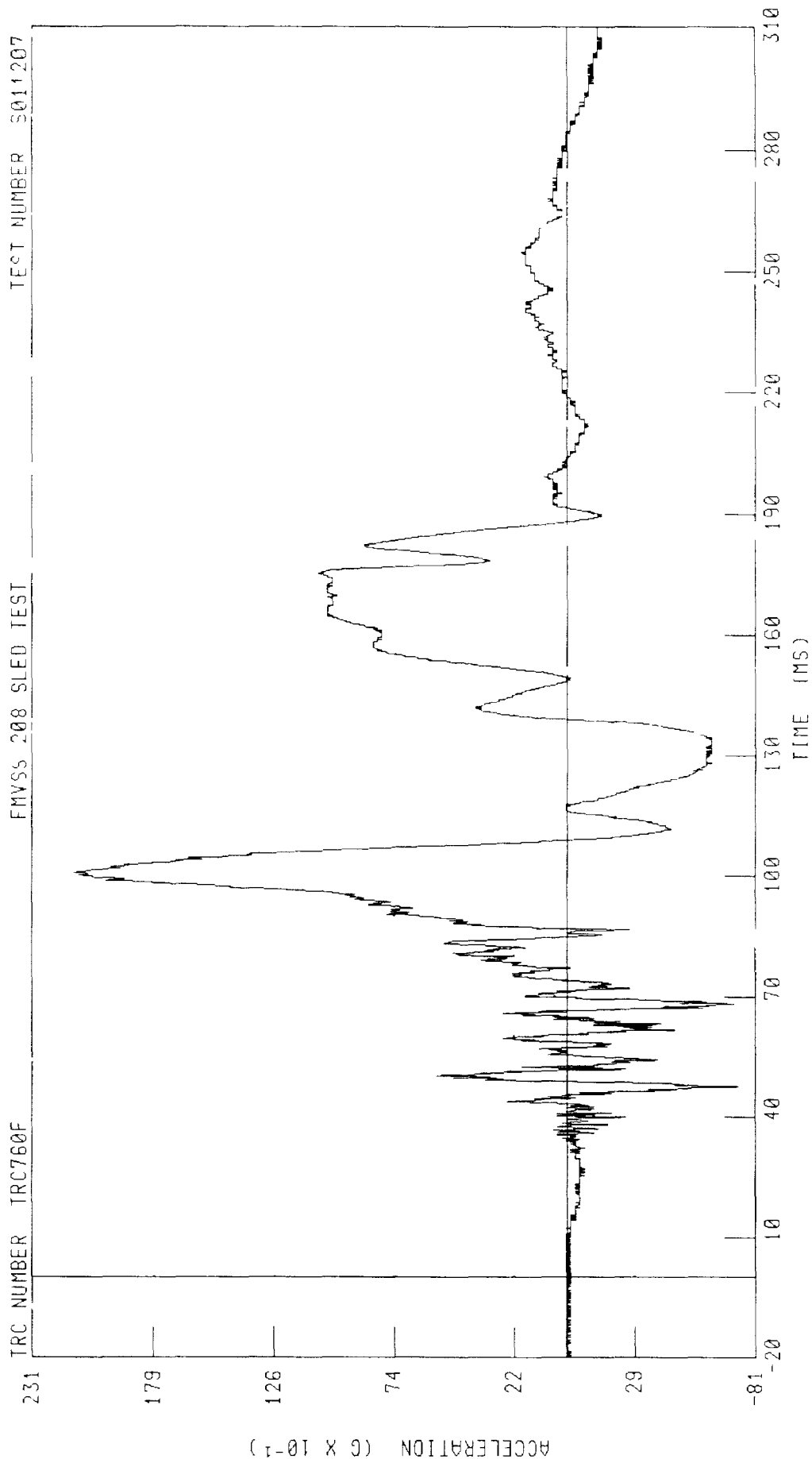
PEAK DATA 2.15 G @ 51.04 MS, -24.73 @ 188.80 MS

CHANNEL HEDXC2 FILTER CH CLASS 1000

C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION
 FMVSS 208 SLED TEST



C20203 / 2402 FORD EXPLORER
 RIGHT FRONT PASSENGER HEAD Z-AXIS ACCELERATION

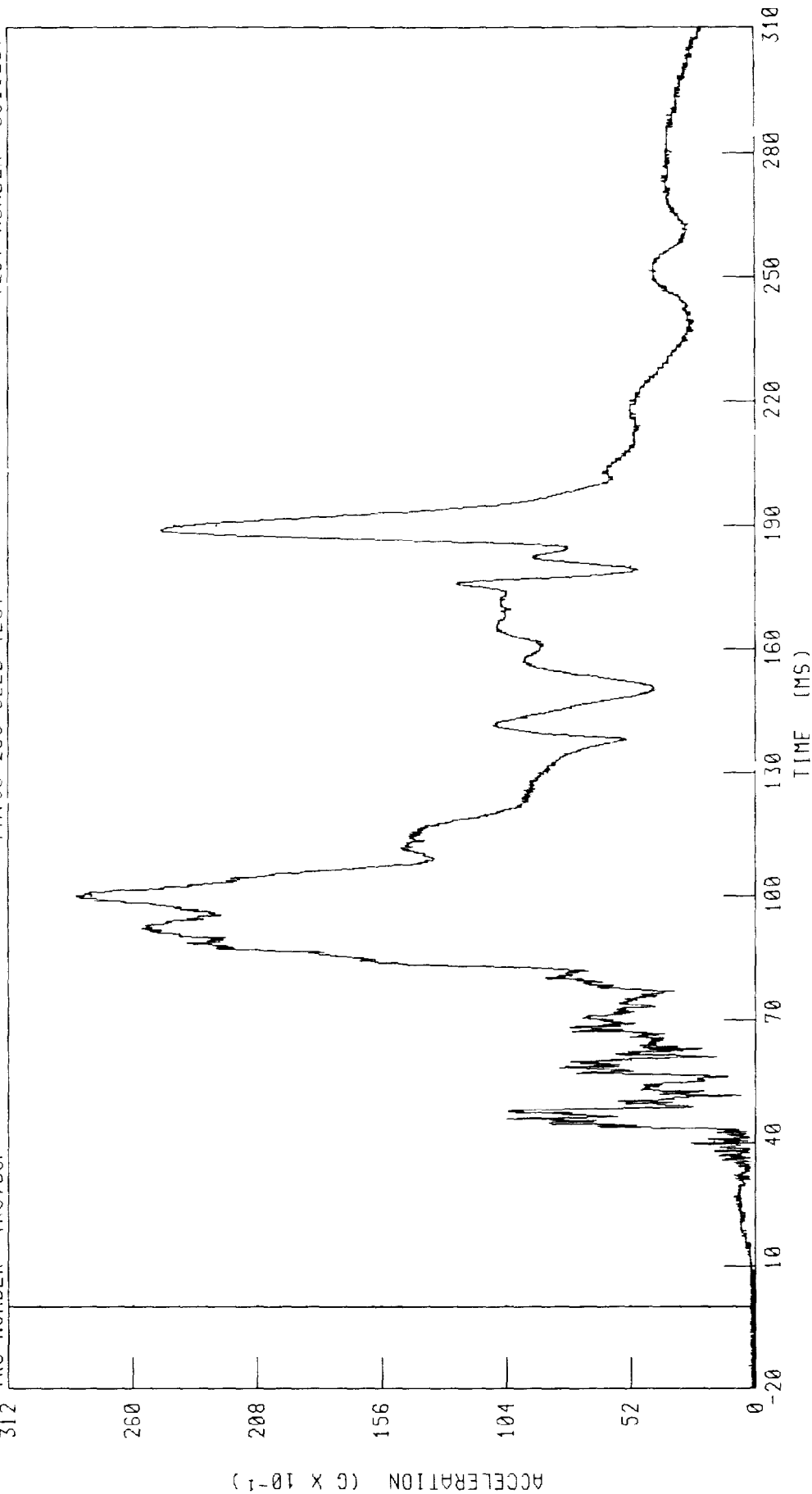


CHANNEL HEAD02 FILTER CH CLASS 1000

C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER HEAD RESULTANT ACCELERATION
 FMVSS 208 SLED TEST

TEST NUMBER S011207

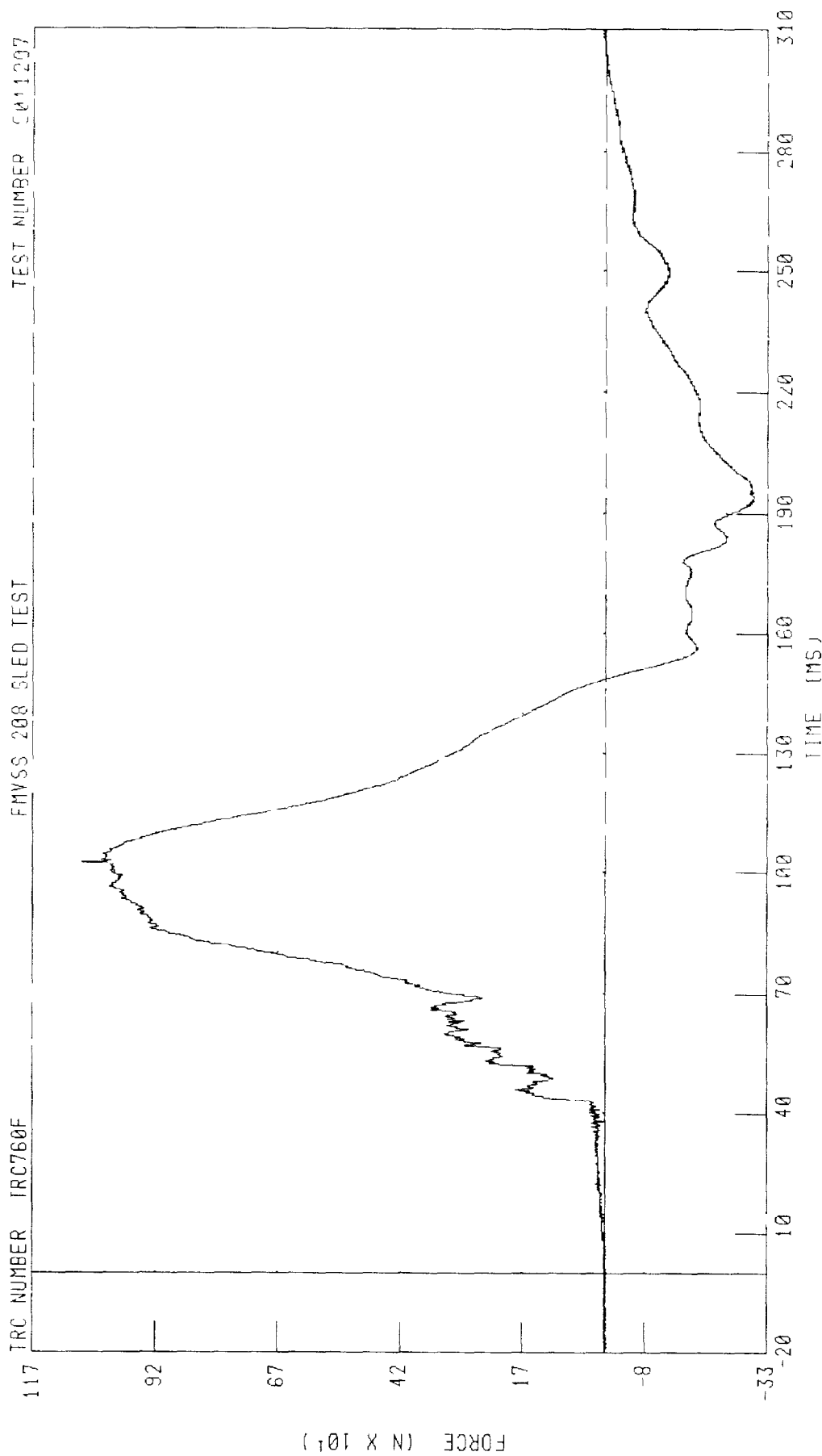
TRC NUMBER TRC760F



PEAK DATA 28 39 G @ 100 32 MS, 0 04 G @ -20 00 MS

CHANNEL HEDRC2 FILTER CH CLASS 1000

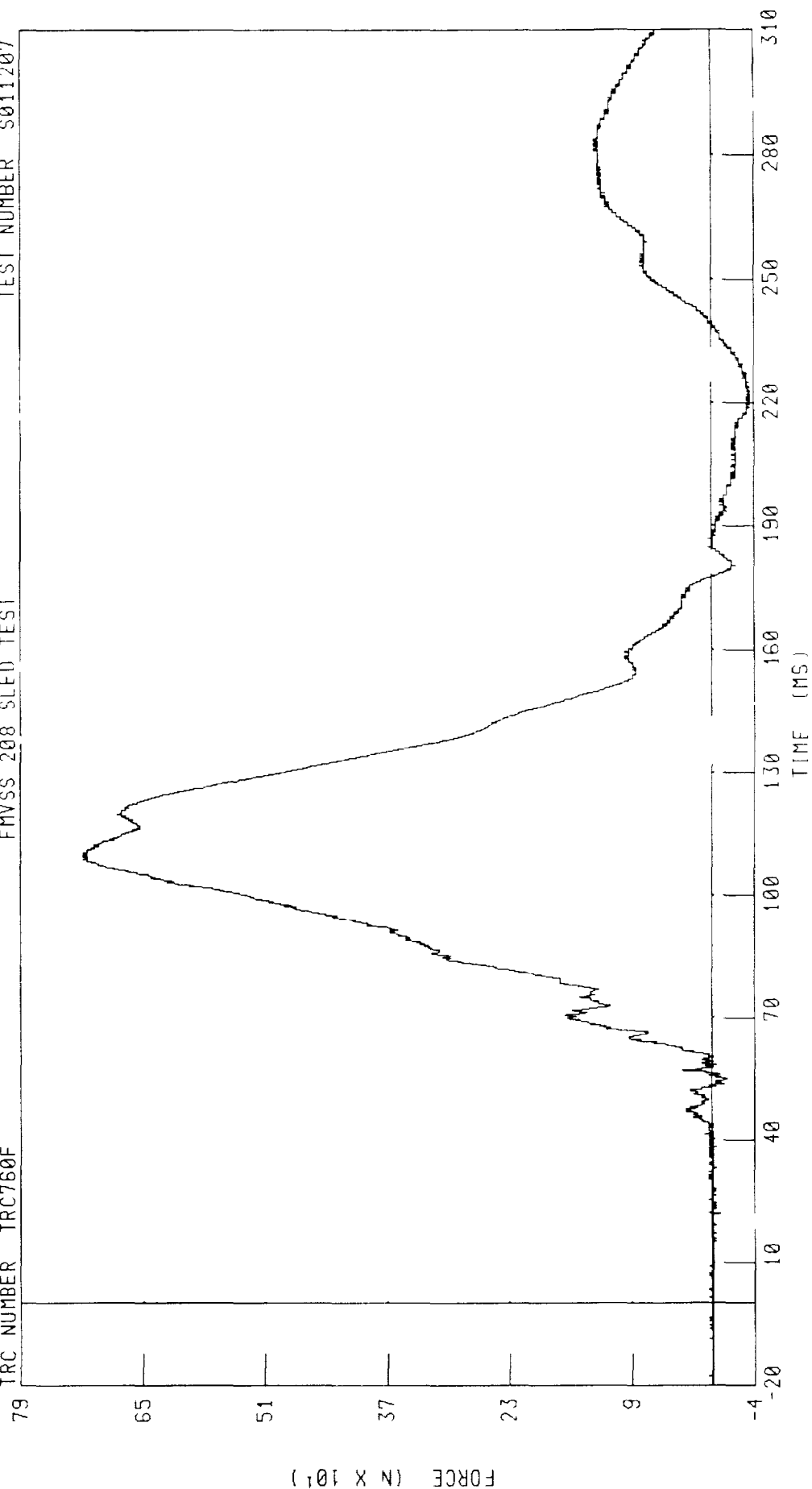
C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER NECK X-AXIS SHEAR FORCE



C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER NECK Y-AXIS SHEAR FORCE
 FMVSS 208 SLED TEST

TEST NUMBER S011207

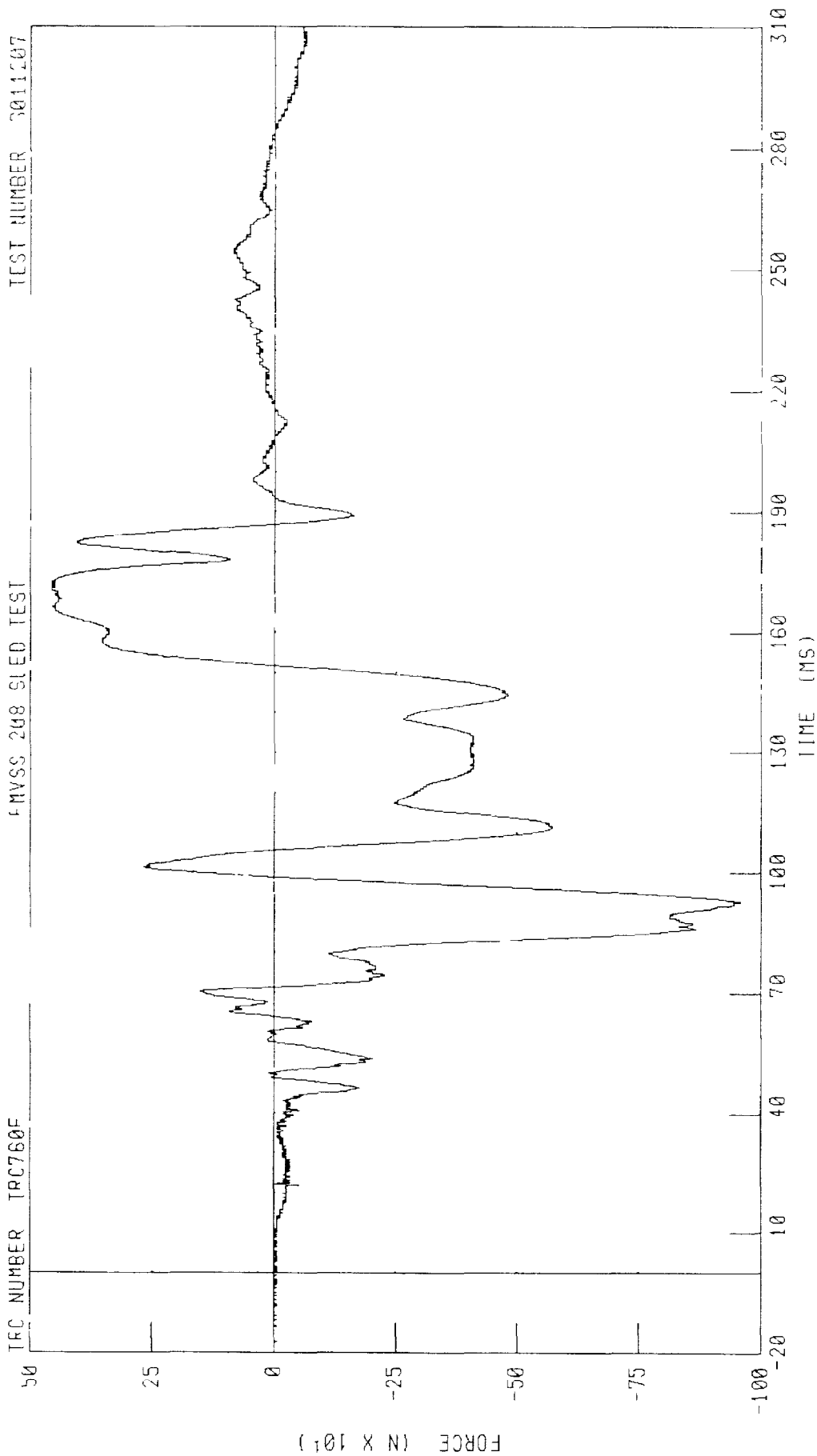
TRC NUMBER TRC760F



PEAK DATA 720 68 N @ 109 10 MS, -43 69 N @ 218 64 MS

CHANNEL NEKF2 FILTER CH CLASS 1000

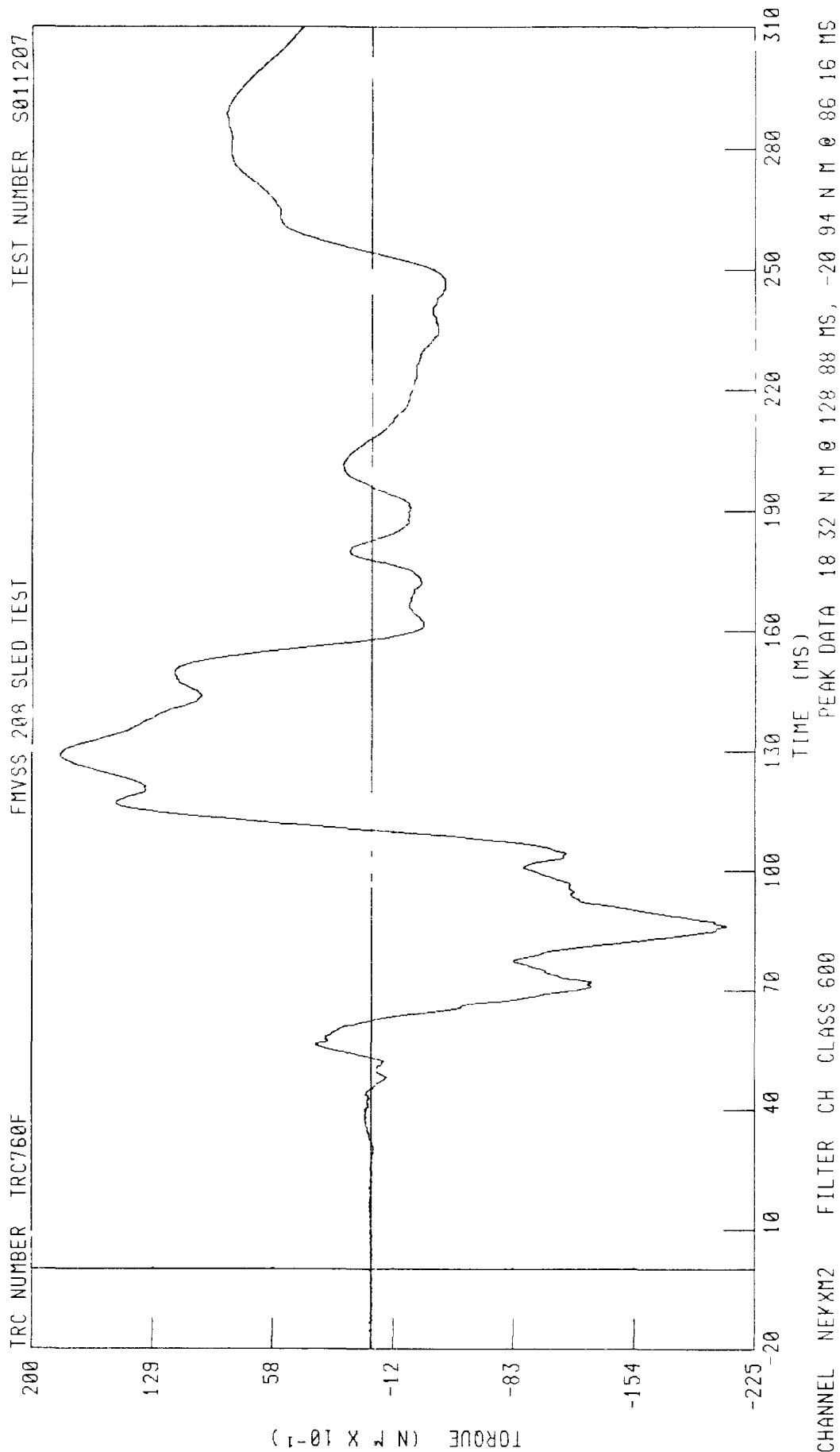
C20203 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER NECK Z-AXIS AXIAL FORCE
 FMVSS 208 SLED TEST



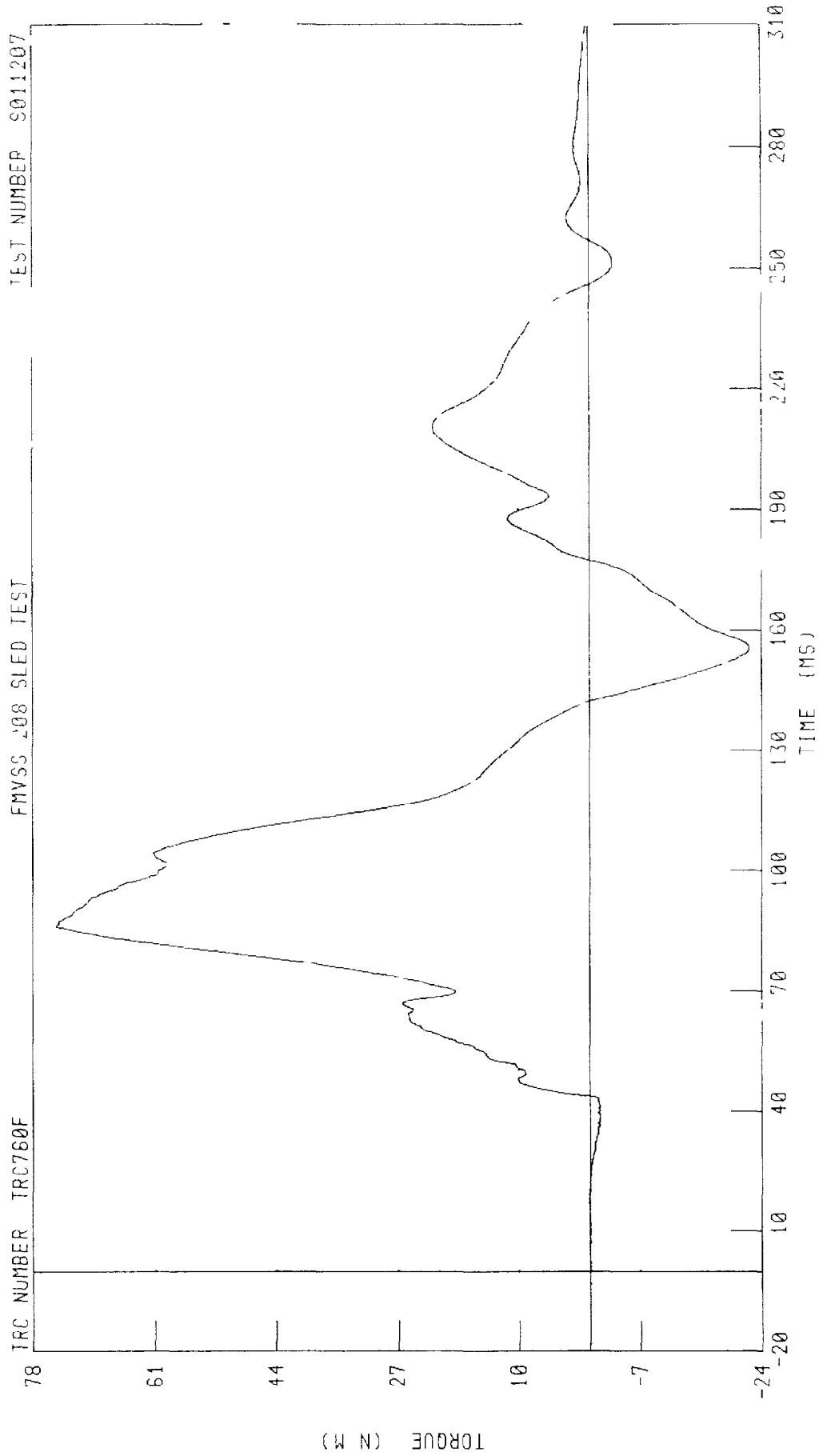
CHANNEL NFKZFP2 FILTER CH CLASS 1000 TIME (MS) 456 91 N @ 106 < 2 MS, -957 73 N @ 92 60 MS

TEST NUMBER 3011207

C20203 / 2002 FORD EXPLORER
RIGHT FRONT PASSENGER NECK MOMENT ABOUT X AXIS

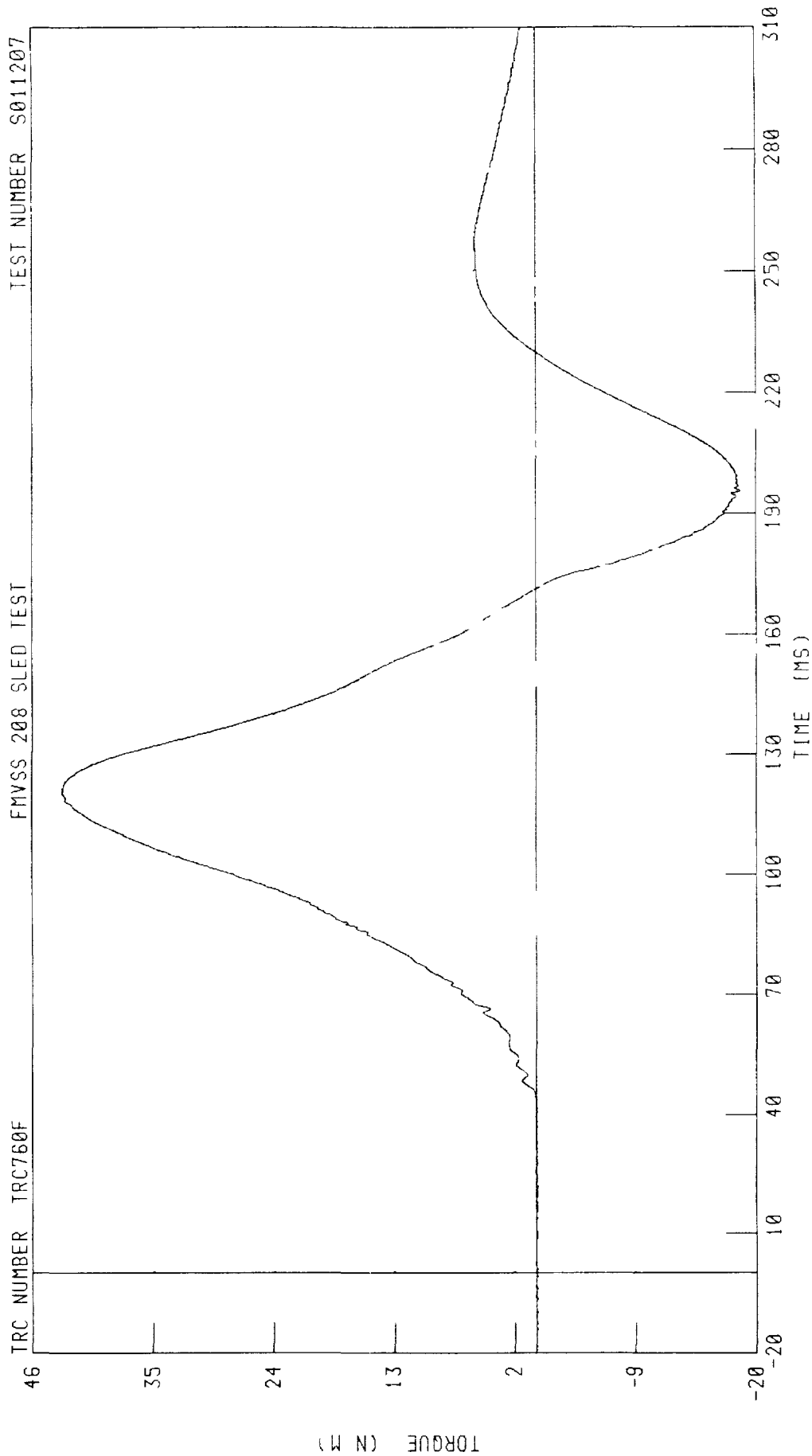


C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS
 FMVSS 208 SLED TEST



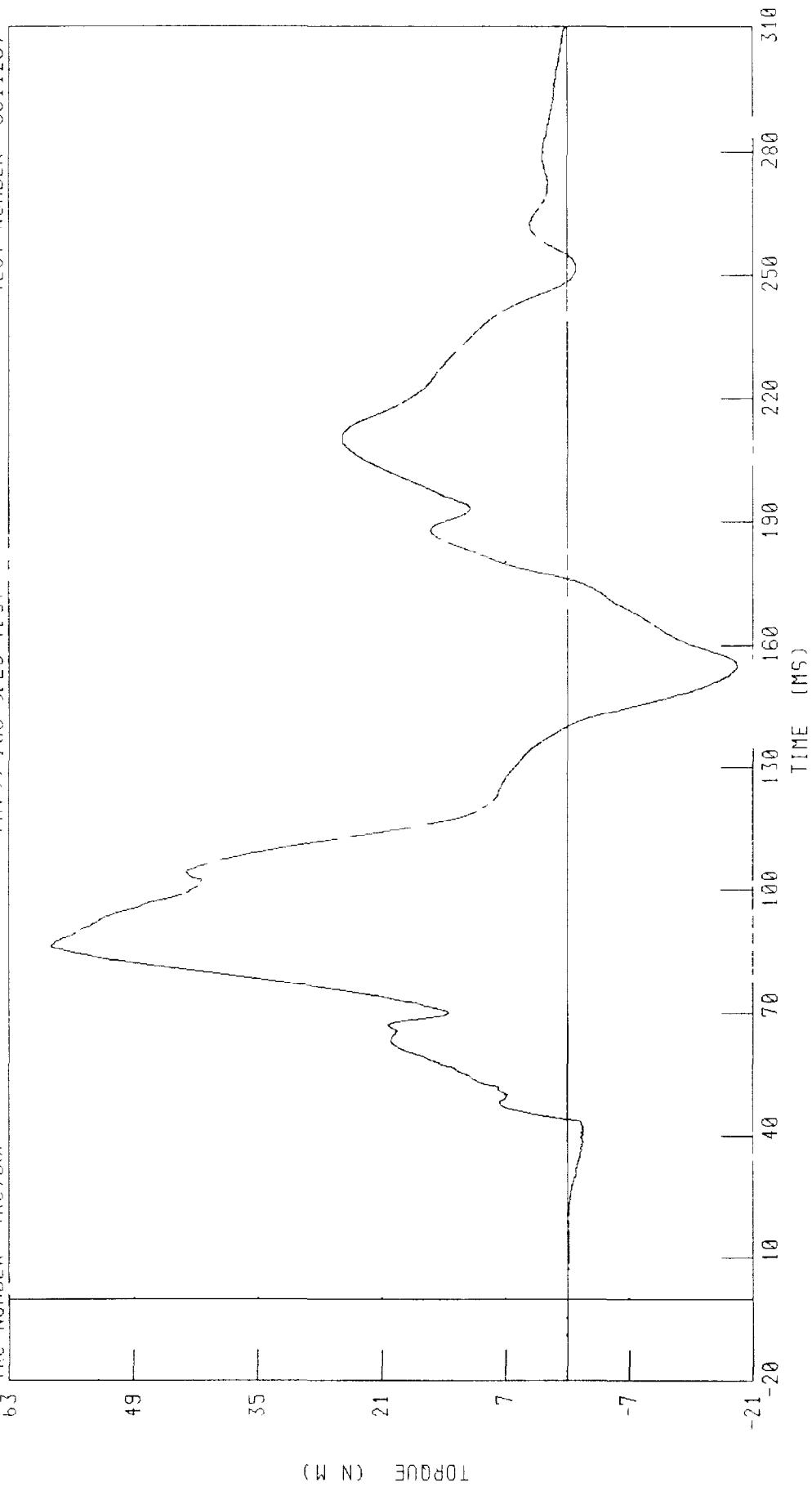
CHANNEL NFKYM2 FILTER CH CLASS 600 PEAK DATA 74 77 N M @ 96 32 M 22 34 N M @ 155 76 MS

C20203 / 2002 FORD EXPLORER
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Z AXIS



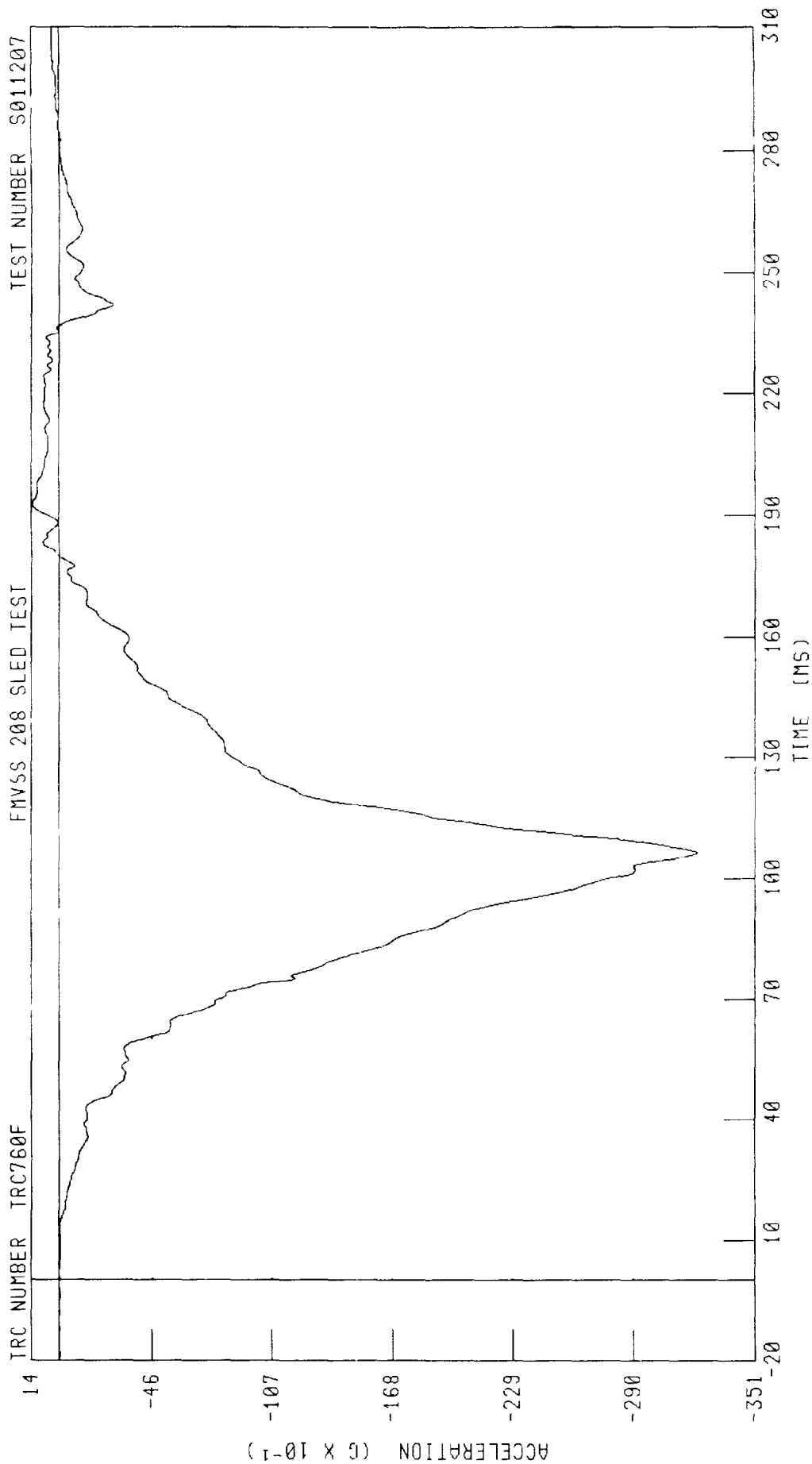
CHANNEL NEKZM2 FILTER CH CLASS 600

L20203 - 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS OCCIPITAL CONDYLE
 TRC NUMBER TRC760F FMVSS 208 SLED TEST TEST NUMBER S011207



CHANNEL NEKOM2 FILTER CH CLASS 600
 PEAK DATA 58.33 N M @ 86.40 MS -13.13 N M @ 154.72 MS

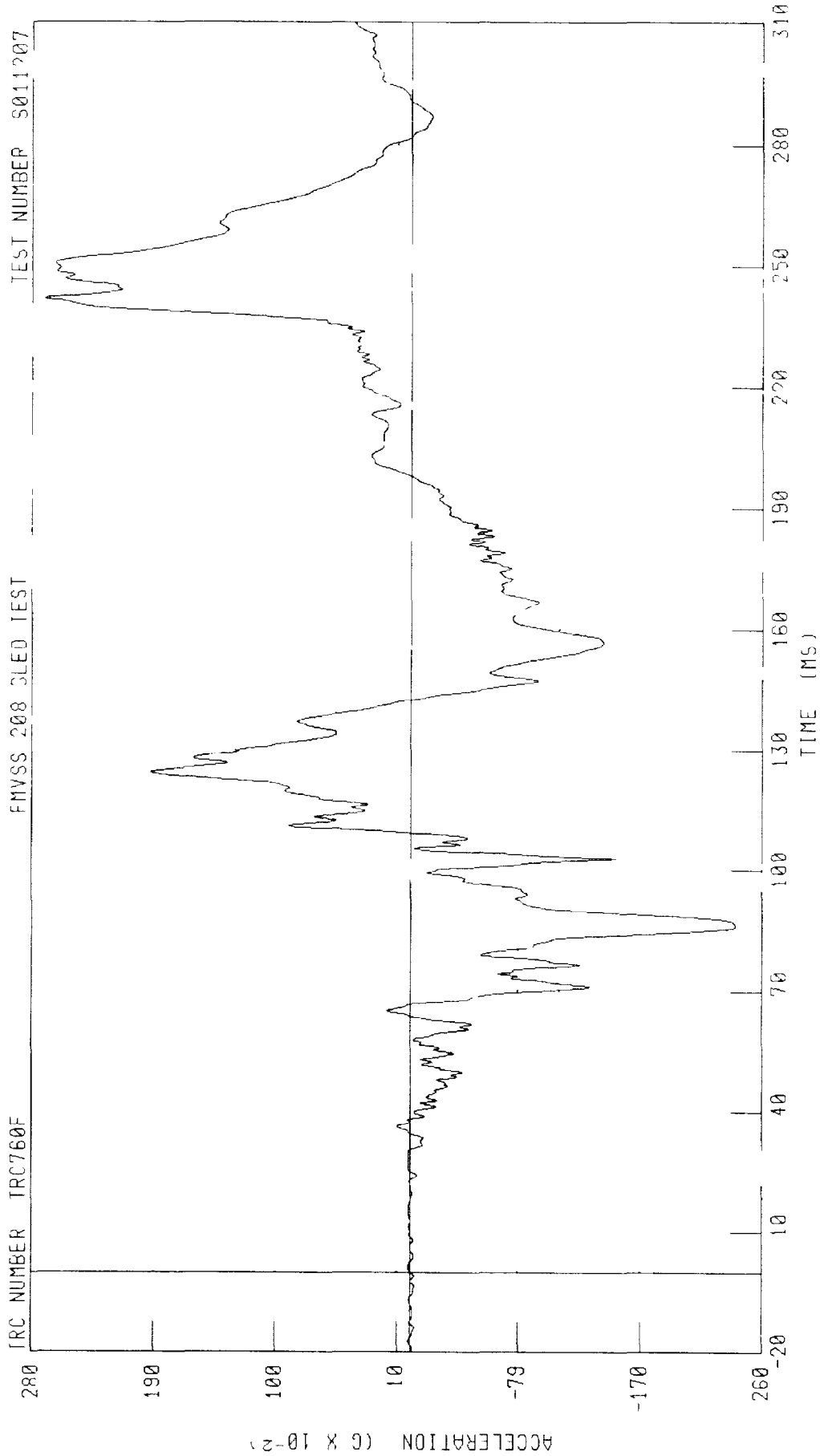
C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER CHEST X-AXIS ACCELERATION
 FMVSS 208 SLED TEST



PEAK DATA 1 34 G @ 192 64 MS, -32 29 G @ 106 56 MS

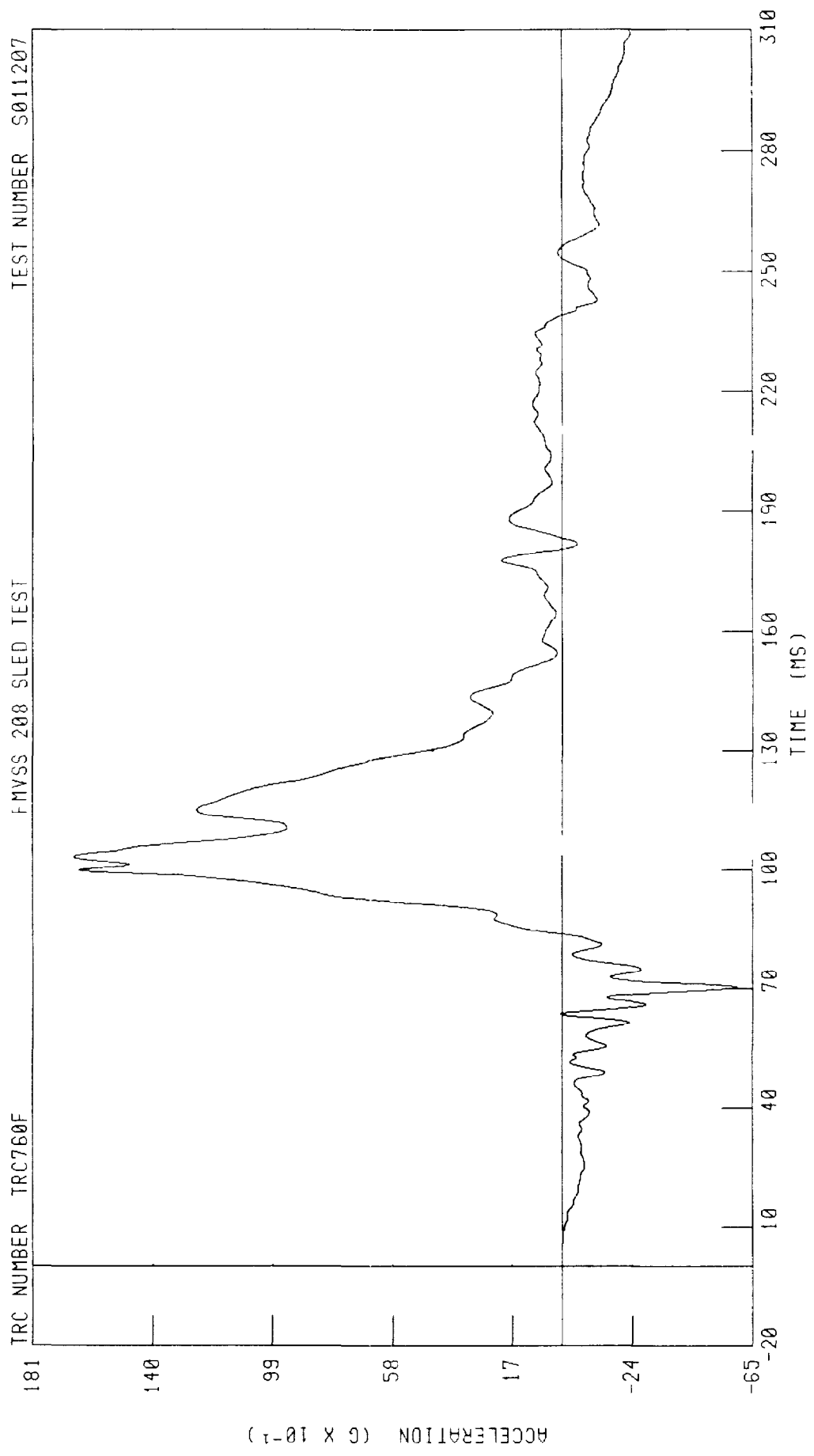
CHANNEL CSTXG2 FILTER CH CLASS 180

C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER CHEST Y AXIS ACCELERATION
 FMVSS 208 SLED TEST



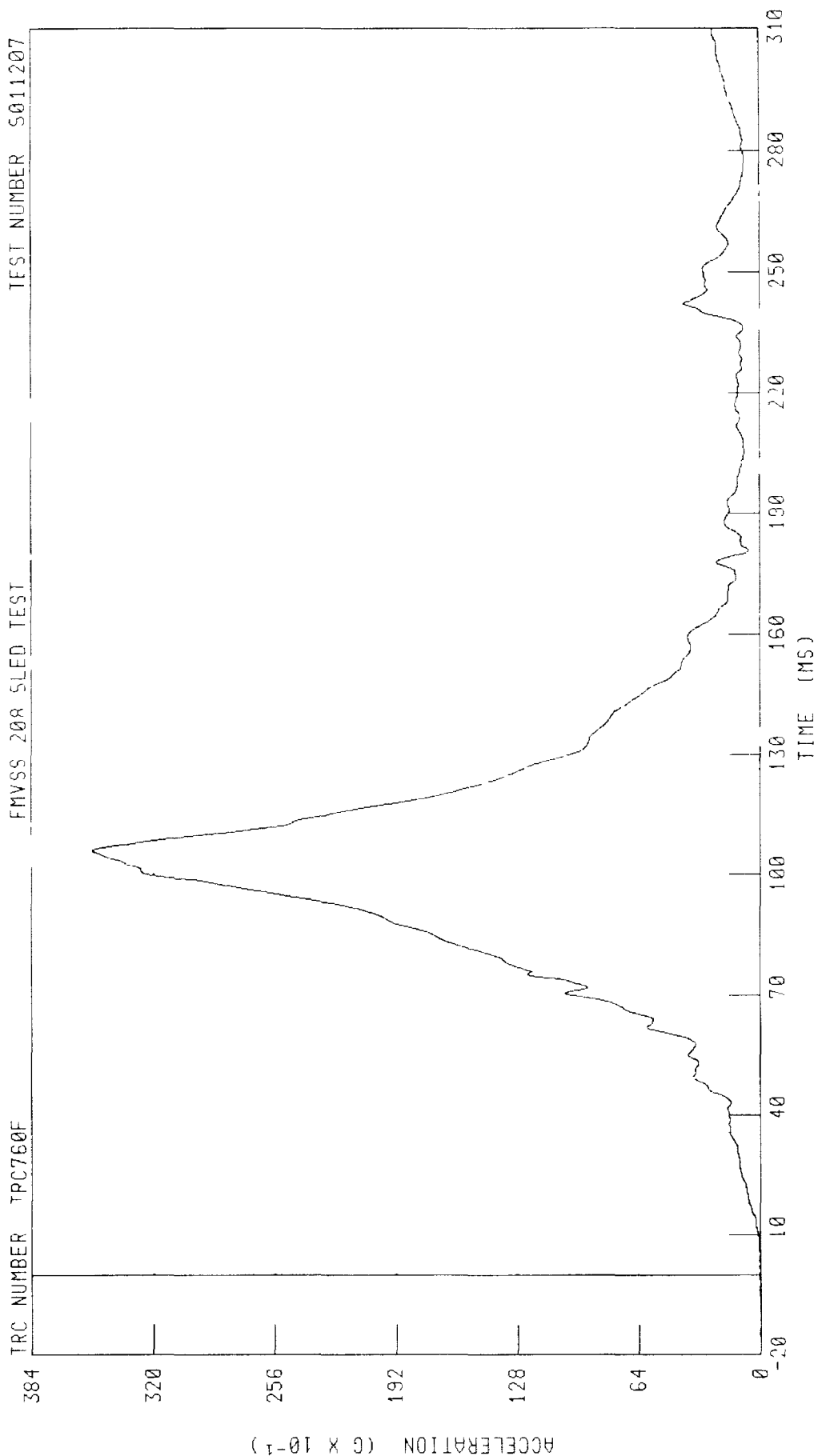
CHANNEL CSTYG2 FILTER CH CLASS 100 PEAK DATA 2 71 6 0 -42 00 MS -2 41 6 0 86 00 MS

C20203 / 2002 FORD EXPLORER
RIGHT FRONT PASSENGER CHEST Z-AXIS ACCELERATION

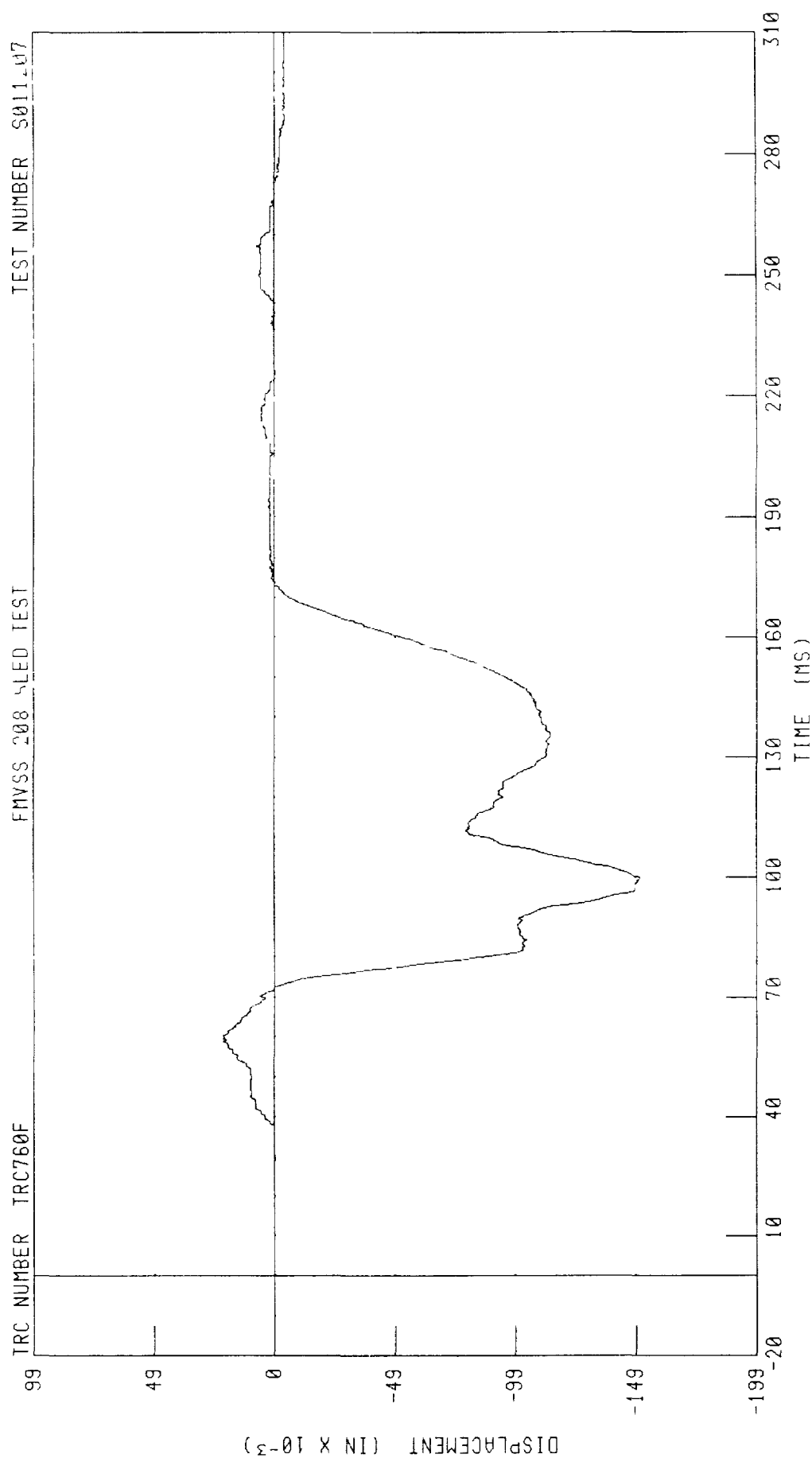


CHANNEL CSTZC2 FILTER CH CLASS 180 PEAK DATA 16 67 G @ 103 52 MS, -5 98 G @ 70 24 MS

C20203 / 2002 FORD EXPLORE
 RIGHT FRONT PASSENGER CHEST RESULTANT ACCELERATION



C20203 / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER CHEST DEFLECTION
 FMVSS 208 SLED TEST



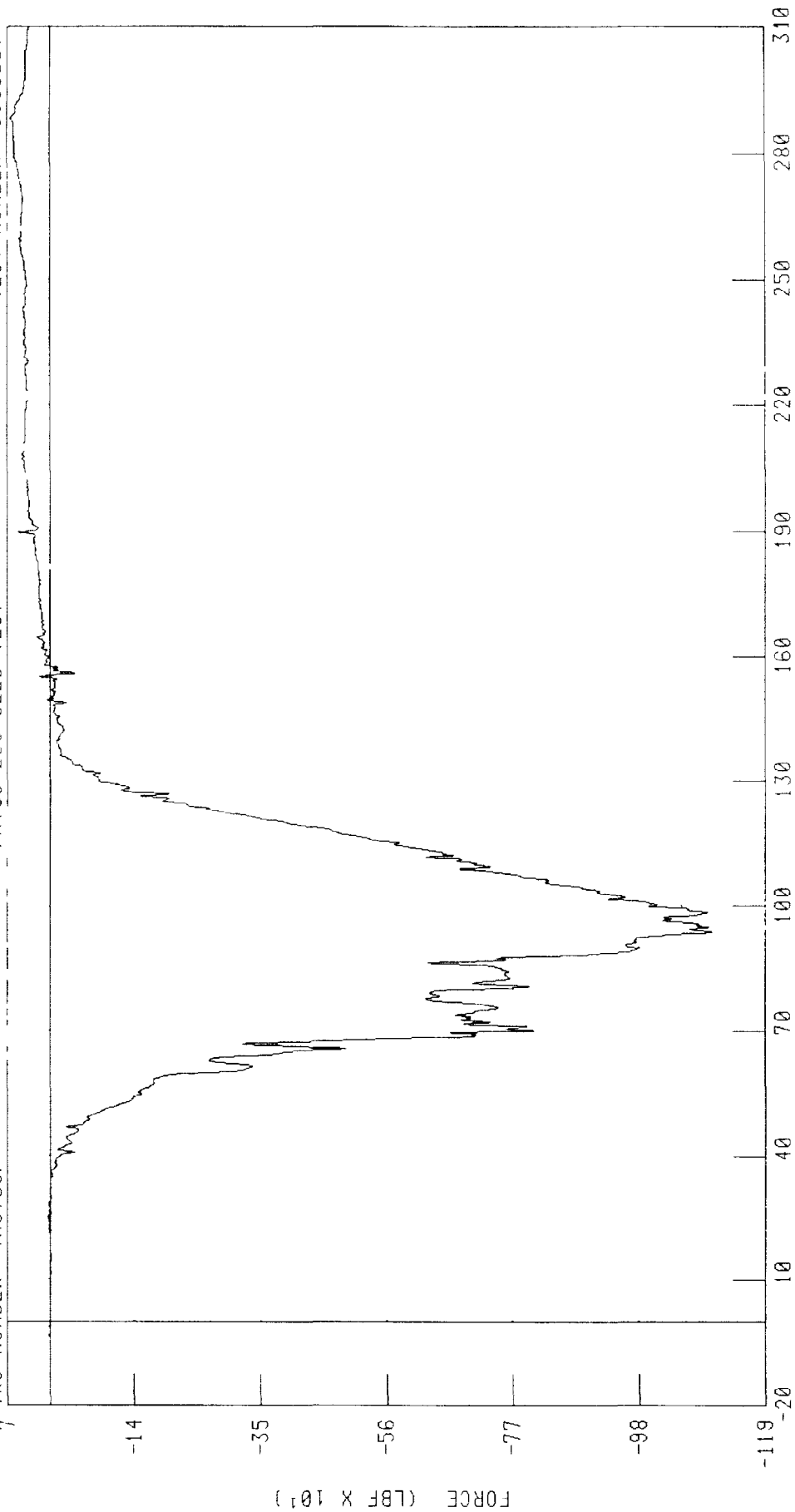
PEAK DATA 0 02 IN 0 51 68 MS, -0 15 IN 0 99 92 MS

CHANNEL CSTXD2 FILTER CH CLASS 600

C2020s / 2002 FORD EXPLORER
 RIGHT FRONT PASSENGER LEFT FEMUR FORCE
 FMVSS 208 SLED TEST

TEST NUMBER 5011207

TRC NUMBER TRC760F



TIME (MS)

PEAK DATA 64 44 LBF @ 288 40 MS, -1102 01 LBF @ 93 84 MS

CHANNEL LFMZF2 FILTER CH CLASS 600

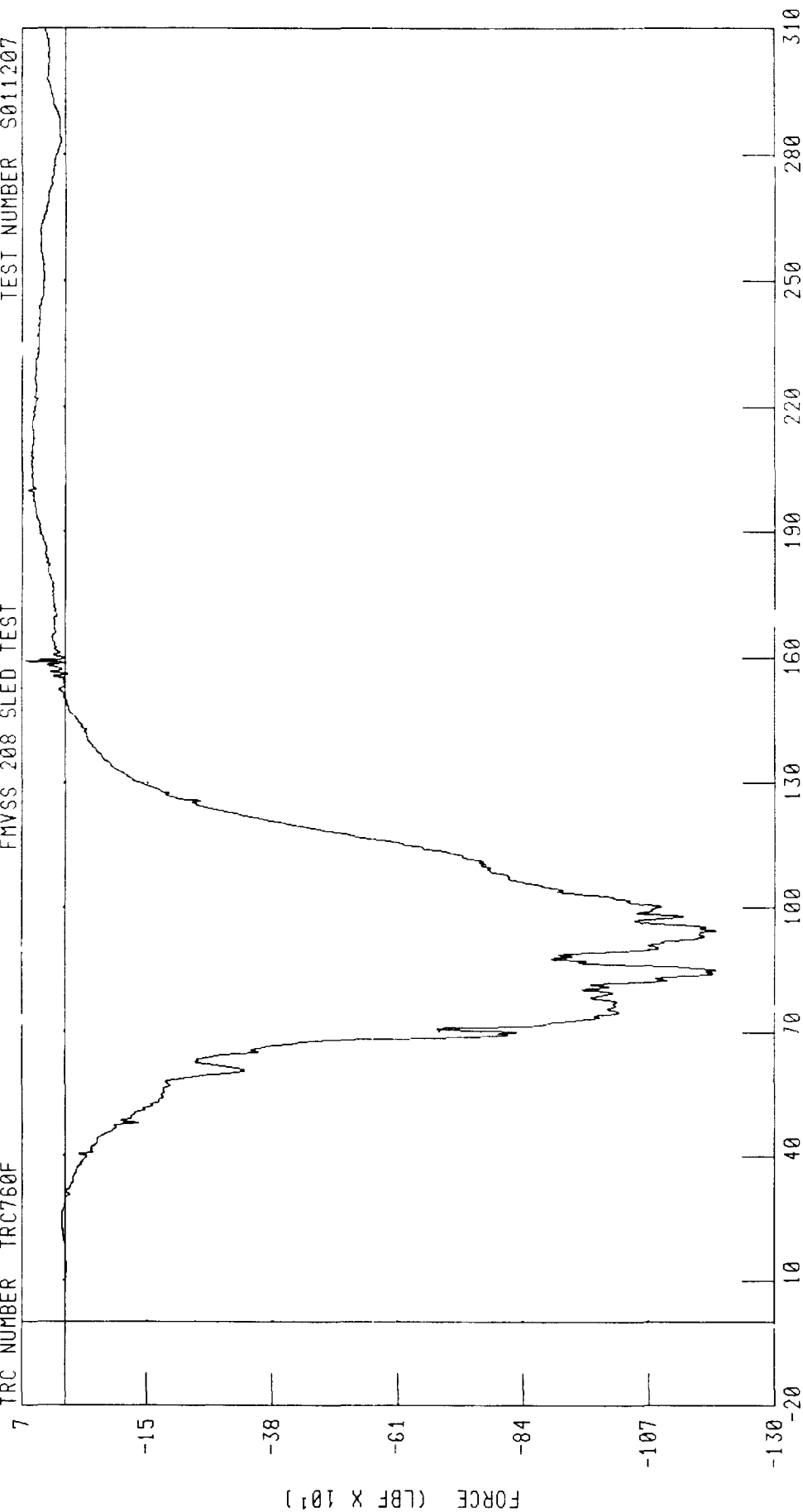
C20203 / 2002 FORD EXPLORER

RIGHT FRONT PASSENGER RIGHT FEMUR FORCE

FMVSS 208 SLED TEST

TEST NUMBER S011207

TRC NUMBER TRC760F



TIME (MS)

PEAK DATA 72 52 LBF @ 159 44 MS, -1194 31 LBF @ 94 64 MS

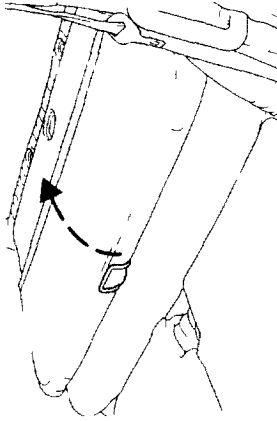
CHANNEL RFMZF2 FILTER CH CLASS 600

Appendix C

Manufacturer's Vehicle Information

Seating and safety restraints

- 2 Pull the seat release lever located on top of the seatback while lifting the seatback into the upright position
- 3 The seatback will latch into place



The third row seat is equipped with combination lap and shoulder belts in both seating positions. For information on the proper operation of the safety restraints, refer to *Safety Restraints* in this chapter.

SAFETY RESTRAINTS

Safety restraints precautions



Always drive and ride with your seatback upright and the lap belt snug and low across the hips.



To reduce the risk of injury, make sure children sit where they can be properly restrained.



Never let a passenger hold a child on his or her lap while the vehicle is moving. The passenger cannot protect the child from injury in a collision.



All occupants of the vehicle, including the driver, should always properly wear their safety belts, even when an air bag (SRS) is provided.

Seating and safety restraints

! It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and safety belts. Be sure everyone in your vehicle is in a seat and using a safety belt properly.

! In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a safety belt.

! Each seating position in your vehicle has a specific safety belt assembly which is made up of one buckle and one tongue that are designed to be used as a pair. 1) Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. 2) Never swing the safety belt around your neck over the inside shoulder. 3) Never use a single belt for more than one person.

C-3

! Always transport children 12 years old and under in the back seat and always properly use appropriate child restraints.

Energy management feature

The front outboard and rear safety restraints in the vehicle are combination lap and shoulder belts. The front passenger and rear seat safety belts have two types of locking modes.

- This vehicle has a seat belt system with an energy management feature at the front outboard seating positions to help further reduce the risk of injury in the event of a head-on collision.
- This seat belt system has a retractor assembly that is designed to pay out webbing in a controlled manner. This feature is designed to help reduce the belt force acting on the occupant's chest.

Seating and safety restraints

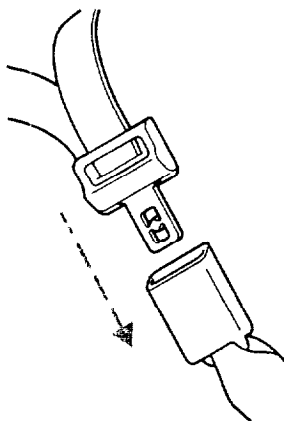
! After any vehicle collision, the seat belt system at all passenger seating positions must be checked by a qualified technician to verify that the "automatic locking retractor" feature for child seats is still functioning properly. In addition, all seat belts should be checked for proper function.

! BELT AND RETRACTOR ASSEMBLY MUST BE REPLACED if the seat belt assembly "automatic locking retractor" feature or any other seat belt function is not operating properly when checked according to the procedures in Workshop Manual.

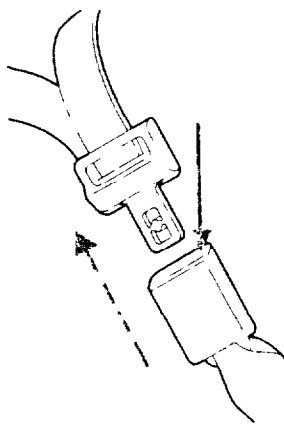
! Failure to replace the belt and retractor assembly could increase the risk of injury in collisions.

Combination lap and shoulder belts

1. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) until you hear a snap and feel it latch. Make sure the tongue is securely fastened in the buckle.



2. To unfasten, push the release button and remove the tongue from the buckle.



Seating and safety restraints

The front and rear outboard safety restraints in the vehicle are combination lap and shoulder belts. The front passenger and rear seat outboard safety belts have two types of locking modes described below.

Vehicle sensitive mode

The vehicle sensitive mode is the normal retractor mode allowing free shoulder belt length adjustment to your movements and locking in response to vehicle movement. For example, if the driver brakes suddenly or turns a corner sharply or the vehicle receives an impact of approximately 8 km/h (5 mph) or more, the combination safety belts will lock to help reduce forward movement of the driver and passengers.

Automatic locking mode

In this mode, the shoulder belt is automatically pre locked. The belt will still retract to remove any slack in the shoulder belt.

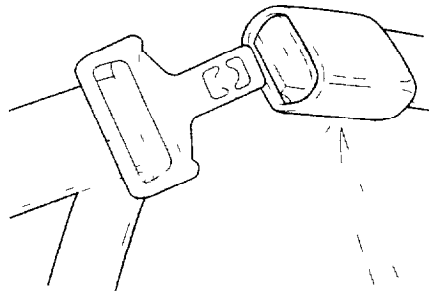
The automatic locking mode is not available on the driver safety belt.

When to use the automatic locking mode

- Any time a child safety seat is installed in a passenger front or outboard rear seating position (if equipped). Children 12 years old and under should be properly restrained in the rear seat whenever possible. Refer to *Safety Restraints for Children or Safety Seats for Children* later in this chapter.

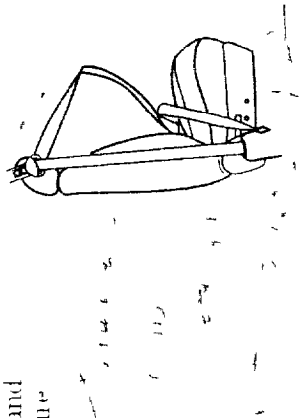
How to use the automatic locking mode

- Buckle the combination lap and shoulder belt.



Seating and safety restraints

- Grasp the shoulder portion and pull downward until the entire belt is extracted.



- Allow the belt to retract. As the belt retracts, you will hear a clicking sound. This indicates the safety belt is now in the automatic locking mode.

How to disengage the automatic locking mode

Disconnect the combination lap/shoulder belt and allow it to retract completely to disengage the automatic locking mode and activate the vehicle sensitive (emergency) locking mode.

- After any vehicle collision, the front passenger and rear outboard seat belt systems must be checked by a qualified technician to verify that the 'automatic locking retractor' feature for child seats is still functioning properly. In addition, all seat belts should be checked for proper function.

- BELT AND RETRACTOR ASSEMBLY MUST BE REPLACED if the seat belt assembly 'automatic locking retractor' feature or any other seat belt function is not operating properly when checked according to the procedures in Workshop Manual.

- Failure to replace the belt and retractor assembly could increase the risk of injury in collisions.

Seating and safety restraints

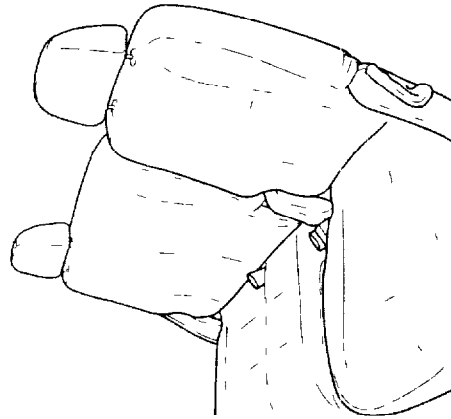
Lap belts

Adjusting the lap belt



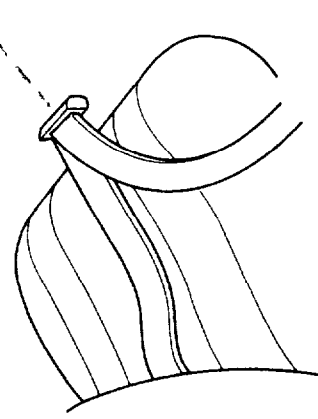
The lap belt should fit snugly and as low as possible around the hips not across the waist

- 2nd row center seating position — 60/40



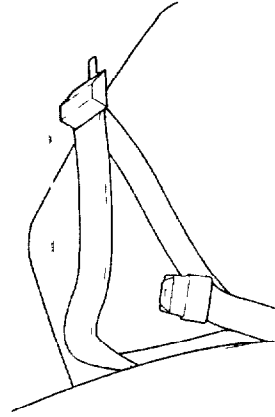
The lap belt does not adjust automatically

Insert the tongue into the correct buckle (the buckle closest to the direction the tongue is coming from). To lengthen the belt, turn the tongue at a right angle to the belt and pull across your lap until it reaches the buckle. To tighten the belt, pull the loose end of the belt through the tongue until it fits snugly across the hips

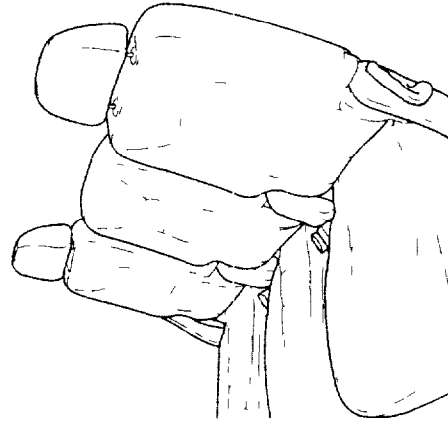


Seating and safety restraints

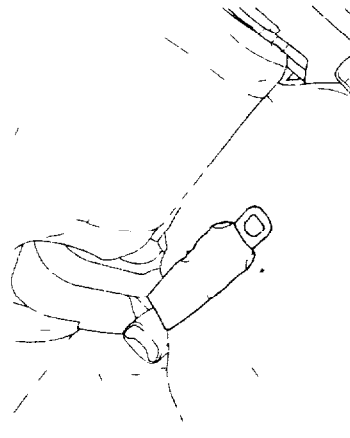
Shorten and fasten the belt when not in use



- 2nd row center seating position — 40/20/40



The lap belt will adjust automatically. To fasten, grasp the tongue, and with a continuous motion, pull out enough webbing to buckle the tongue into the correct buckle. If you did not pull out enough webbing to reach the buckle, allow the tongue to retract fully before trying to pull it out again



Seating and safety restraints

Safety belt pretensioner

Your vehicle is equipped with safety belt pretensioners in the driver and front passenger seating positions.

The safety belt pretensioners are designed to activate only when the safety belts are fastened during certain frontal or near frontal collisions with sufficient longitudinal deceleration. A safety belt pretensioner is a device which tightens the webbing of the lap and shoulder belts in such a way that they fit more snugly against the body.

The driver and front outboard passenger safety belt system (including retractors, buckles and height adjusters) must be replaced if the vehicle is involved in a collision that results in the activation of the safety belt pretensioners. Refer to the *Safety belt maintenance* section in this chapter.

! Failure to replace the safety belt assembly under the above conditions could result in severe personal injuries in the event of a collision.

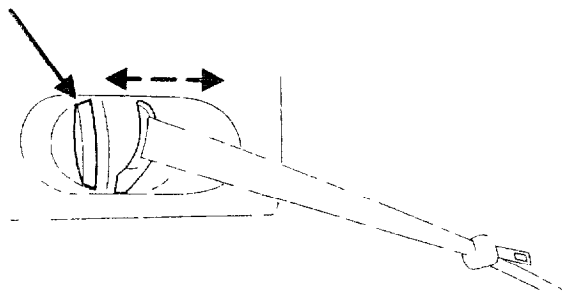
Seating and safety restraints

Safety belt height adjustment

Your vehicle has safety belt height adjustments for the front and rear outboard seating positions. Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

To lower the shoulder belt height, squeeze the button and slide the height adjuster down. To raise the height of the shoulder belt, slide the height adjuster up. Pull down on the height adjuster to make sure it is locked in place.

! Position the shoulder belt height adjusters so that the belt rests across the middle of your shoulder. Failure to adjust the safety belt properly could reduce the effectiveness of the seat belt and increase the risk of injury in a collision.



Safety belt extension assembly

If the safety belt is too short when fully extended, there is a 20 cm (8 inch) safety belt extension assembly that can be added (part number 611C22). This assembly can be obtained from your dealer at no cost.

Use only extensions manufactured by the same supplier as the safety belt. Manufacturer identification is located at the end of the webbing on the label. Also, use the safety belt extension only if the safety belt is too short for you when fully extended. Do not use extensions to change the fit of the shoulder belt across the torso.

Safety belt warning light and indicator chime

The seat belt warning light illuminates in the instrument cluster and a chime sounds to remind the occupants to fasten their safety belts.

Seating and safety restraints

Conditions of operation

If...	Then...
The driver's safety belt is not buckled before the ignition switch is turned to the ON position	The safety belt warning light illuminates 1-2 minutes and the warning chime sounds 4-6 seconds
The driver's safety belt is buckled while the indicator light is illuminated and the warning chime is sounding	The safety belt warning light and warning chime turn off
The driver's safety belt is buckled before the ignition switch is turned to the ON position	The safety belt warning light and indicator chime remain off

BeltMinder

The BeltMinder feature is a supplemental warning to the safety belt warning function. This feature provides additional reminders to the driver that the driver's safety belt is unbuckled by intermittently sounding a chime and illuminating the safety belt warning lamp in the instrument cluster.

If...	Then...
The driver's safety belt is not buckled before the vehicle has reached at least 5 km/h (3 mph) and 1-2 minutes have elapsed since the ignition switch has been turned to ON	The BeltMinder feature is activated - the safety belt warning light illuminates and the warning chime sounds for 6 seconds every 30 seconds, repeating for approximately 5 minutes or until safety belt is buckled
The driver's safety belt is buckled while the safety belt indicator light is illuminated and the safety belt warning chime is sounding	The BeltMinder feature will not activate
The driver's safety belt is buckled before the ignition switch is turned to the ON position	The BeltMinder feature will not activate

The purpose of the BeltMinder is to remind occasional wearers to wear safety belts all of the time.

Seating and safety restraints

The following are reasons most often given for not wearing safety belts (All statistics based on U.S. data)

Reasons given...	Consider..
Crashes are rare events	36 700 crashes occur every day. The more we drive, the more we are exposed to rare events, even for good drivers. <i>I'm 4 of us will be seriously injured in a crash during our lifetime</i>
I'm not going far	3 of 4 fatal crashes occur within 25 miles of home
Belts are uncomfortable	We design our safety belts to enhance comfort. If you are uncomfortable - try different positions for the safety belt upper anchorage and seatback which should be as upright as possible. This can improve comfort.
I was in a hurry	Prime time for an accident. BeltMinder reminds us to take a few seconds to buckle up
Sat belts don't work	Safety belts , when used properly, reduce risk of death to front seat occupants by 45% in cars , and by 60% in light trucks
Traffic is light	Nearly 1 of 2 deaths occur in single-vehicle crashes , many when no other vehicles are around
Belts wrinkle my clothes	Possibly, but a serious crash can do much more than wrinkle your clothes, particularly if you are unbelted
The people I'm with don't wear belts	Set the example, teen deaths occur 4 times more often in vehicles with TWO or MORE people. Children and younger brothers/sisters imitate behavior they see.
I have an air bag	Air bags offer greater protection when used with safety belts. Frontal airbags are not designed to inflate in rear end side crashes or rollovers.
I'd rather be thrown clear	Not a good idea. People who are ejected are 40 times more likely to DIE. Safety belts help prevent ejection. WE CAN'T PICK OUR CRASH!

! Do not sit on top of a buckled safety belt to avoid the BeltMinder chime. Sitting on the safety belt will increase the risk of injury in an accident. To disable (one-time) or deactivate the BeltMinder feature please follow the directions stated below.

Seating and safety restraints

One time disable

Any time the safety belt is buckled and then unbuckled during an ignition ON cycle BeltMinder will be disabled for that ignition cycle only.

Deactivating/activating the BeltMinder feature

Read steps 1 - 9 thoroughly before proceeding with the deactivation/activation programming procedure

The BeltMinder feature can be deactivated/activated by performing the following procedure

Before following the procedure make sure that

- the parking brake is set
- the gearshift is in P (Park) (automatic transmission) or the neutral position (manual transmission)
- the ignition switch is in the OFF position
- all vehicle doors are closed
- the driver's safety belt is unbuckled
- the parklamps/headlamps are in OFF position (If vehicle is equipped with Autolamps, the Autolamps feature **MUST** be turned off.)

 To reduce the risk of injury, do not deactivate/activate the Belt Minder feature while driving the vehicle

- 1 Turn the ignition switch to the RUN (or ON) position (DO NOT START THE ENGINE)
- 2 Wait until the safety belt warning light turns off (Approximately 1-2 minutes)
 - Steps 3-5 must be completed within 60 seconds or the procedure will have to be repeated
- 3 Buckle then unbuckle the safety belt three times, ending with the safety belt unbuckled. This can be done before or during BeltMinder warning activation
- 4 Turn on the parklamps/headlamps, turn off the parklamps/headlamps
- 5 Buckle then unbuckle the safety belt three times, ending with the safety belt unbuckled
 - After step 5 the safety belt warning light will be turned on for three seconds

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Seating and safety restraints

- 6 Within seven seconds of the safety belt warning light turning off buckle then unbuckle the safety belt
 - This will disable BeltMinder if it is currently enabled, or enable BeltMinder if it is currently disabled
- 7 Confirmation of disabling BeltMinder is provided by flashing the safety belt warning light four times per second for three seconds
- 8 Confirmation of enabling BeltMinder is provided by flashing the safety belt warning light four times per second for three seconds followed by three seconds with the safety belt warning light off, then followed by flashing the safety belt warning light four times per second for three seconds again
- 9 After receiving confirmation, the deactivation/activation procedure is complete

Safety belt maintenance

Inspect the safety belt systems periodically to make sure they work properly and are not damaged. Inspect the safety belts to make sure there are no nicks, tears or cuts. Replace if necessary. All safety belt assemblies including retractors, buckles, front seat belt buckle assemblies, buckle support assemblies (slide bar if equipped), shoulder belt height adjusters (if equipped) shoulder belt guide or seatback (if equipped) child safety seat tether bracket assemblies (if equipped) LATCH child seat tether anchors and lower anchors (if equipped), and attaching hardware should be inspected after a collision. Ford Motor Company recommends that all safety belt assemblies used in vehicles involved in a collision be replaced. However, if the collision was minor and a qualified technician finds that the belts do not show damage and continue to operate properly they do not need to be replaced. Safety belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.

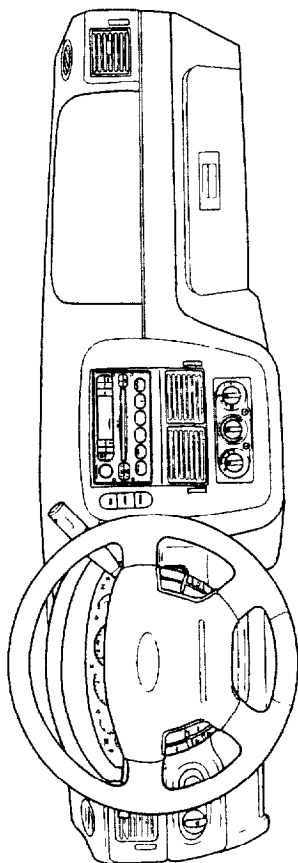
 Failure to inspect and if necessary replace the safety belt assembly under the above conditions could result in severe personal injuries in the event of a collision.

Refer to *Cleaning and maintaining the safety belts* in the *Cleaning* chapter

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Seating and safety restraints

AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

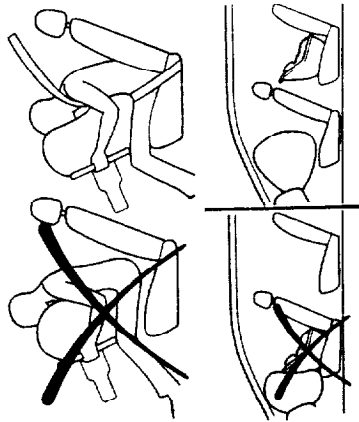


Your vehicle is equipped with a crash sensing and diagnostic module which records information about the air bag and sensor systems. In the event of a collision this module may save information related to the collision including information about the air bag system and impact severity. This information will assist Ford Motor Company in the servicing vehicle and helping to better understand real world collisions and further improve the safety of future vehicles.

Important supplemental restraint system (SRS) precautions

The supplemental restraint system is designed to work with the safety belt to help protect the driver and right front passenger from certain upper body injuries.

Air bags DO NOT inflate slowly or gently and the risk of injury from a deploying air bag is greatest close to the trim covering the air bag module.



Seating and safety restraints

⚠ All occupants of the vehicle, including the driver, should always properly wear their safety belts, even when an air bag (SRS) is provided.

⚠ Always transport children 12 years old and under in the back seat and always properly use appropriate child restraints.

⚠ National Highway Traffic Safety Administration (NHTSA) recommends a minimum distance of at least 25 cm (10 inches) between an occupant's chest and the driver air bag module.

⚠ Never place your arm over the air bag module as a deploying air bag can result in serious arm fractures or other injuries.

Steps you can take to properly position yourself away from the air bag:

- Move your seat to the rear as far as you can while still reaching the pedals comfortably.
- Recline the seat slightly (one or two degrees) from the upright position.

⚠ Do not put anything on or over the air bag module. Placing objects on or over the air bag inflation area may cause those objects to be propelled by the air bag into your face and torso causing serious injury.

⚠ Do not attempt to service, repair, or modify the air bag supplemental restraint systems or its fuses. See your Ford or Lincoln Mercury dealer.

⚠ The front passenger air bag is not designed to offer protection to occupants in the center front seating position.

Seating and safety restraints

⚠ Modifications to the front end of the vehicle, including frame, bumper, front end body structure and non-Ford tow hooks may affect the performance of the air bag sensors increasing the risk of injury. Do not modify the front end of the vehicle.

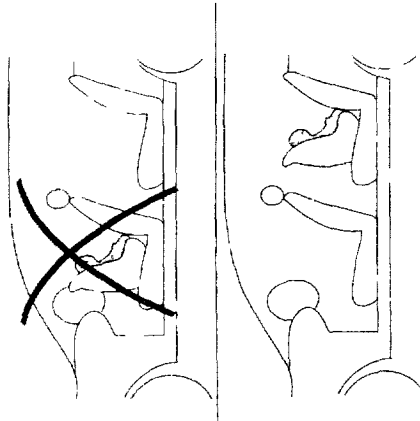
⚠ Additional equipment may affect the performance of the air bag sensors increasing the risk of injury. Please refer to the Body Builders Layout Book for instructions about the appropriate installation of additional equipment.

Children and air bags

For additional important safety information, read all information on safety restraints in this guide.

Children must always be properly restrained. Accident statistics suggest that children are safer when properly restrained in the rear seating position than in the front seating position. Failure to follow these instructions may increase the risk of injury in a collision.

⚠ Air bags can kill or injure a child in a child seat. **NEVER** place a rear-facing child seat in front of an active air bag. If you must use a forward-facing child seat in the front seat, move the seat all the way back.



Seating and safety restraints

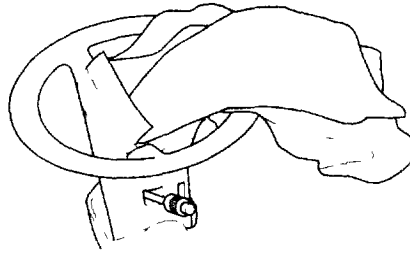
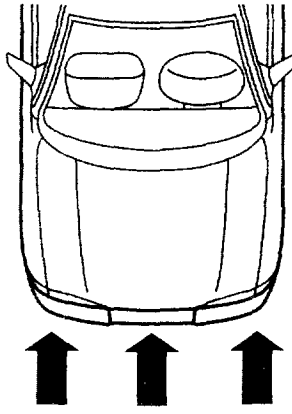
How does the air bag supplemental restraint system work?

The air bag SRs is designed to activate when the vehicle sustains longitudinal deceleration sufficient to cause the sensors to close an electrical circuit that initiates air bag inflation.

The fact that the air bags did not inflate in a collision does not mean that something is wrong with the system. Rather, it means the forces were not of the type sufficient to cause activation. Front air bags are designed to inflate in frontal and near-frontal collisions, not rollover, side impact, or rear-impacts unless the collision causes sufficient longitudinal deceleration.

The air bags inflate and deflate rapidly upon activation. After air bag deployment, it is normal to notice a smoke-like, powdery residue or smell the burnt propellant. This may consist of cornstarch, talcum powder (to lubricate the bag) or sodium compounds (e.g., baking soda) that result from the combustion process that inflates the air bag. Small amounts of sodium hydroxide may be present which may irritate the skin and eyes, but none of the residue is toxic.

While the system is designed to help reduce serious injuries, contact with a deploying air bag may also cause abrasions, swelling or temporary hearing loss. Because air bags must inflate rapidly and with considerable force, there is the risk of death or serious injuries such as fractures, facial and eye injuries or internal injuries, particularly to occupants who are not properly restrained or are otherwise out of position at the time of air bag deployment. Thus, it is extremely important that occupants be properly restrained as far away from the air bag module as possible while maintaining vehicle control.



Seating and safety restraints



Several air bag system components get hot after inflation. Do not touch them after inflation.



If the air bag has deployed, **the air bag will not function again and must be replaced immediately**. If the air bag is not replaced, the unrepaired area will increase the risk of injury in a collision.

The SRS consists of

- driver and passenger air bag modules (which include the inflators and air bags)
- side air curtains (if equipped). Refer to *Side air curtain system* later in this chapter
- one or more impact and safing sensors
- a readiness light and tone
- diagnostic module
- and the electrical wiring which connects the components

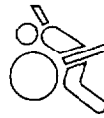
The diagnostic module monitors its own internal circuits and the supplemental air bag electrical system warning (including the impact sensors), the system wiring, the air bag system readiness light, the air bag back up power and the air bag ignitors.

Determining if the system is operational

The SRS uses a readiness light in the instrument cluster or a tone to indicate the condition of the system. Refer to *Air bag readiness* section in the *Instrument cluster* chapter. Routine maintenance of the air bag is not required.

A difficulty with the system is indicated by one or more of the following:

- The readiness light will either flash or stay lit
- The readiness light will not illuminate immediately after ignition is turned on
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem and/or light are repaired.



Seating and safety restraints

If any of these things happen, even intermittently, have the SRS serviced at your dealership or by a qualified technician immediately. Unless serviced, the system may not function properly in the event of a collision.

Side air curtain system (if equipped)

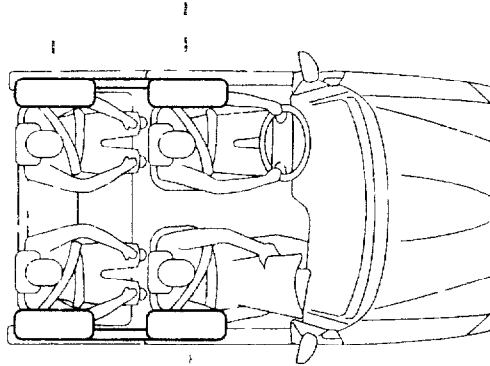
-  Do not attempt to service, repair, or modify the air bag supplemental restraint system, its fuses or the seat cover on a seat containing an air bag. See your Ford or Lincoln Mercury dealer.
-  All occupants of the vehicle including the driver should always wear their safety belts even when an air bag SRS is provided.
-  To reduce risk of injury, do not obstruct or place objects in the deployment path of the inflatable curtain.

Seating and safety r strains

How does the side air curtain system work?

The side air curtain system consists of the following

- An inflatable nylon curtain with a gas generator concealed behind the headliner and above the doors
- The headliner will flex to open above the side doors to allow air curtain deployment
- The same warning light, electronic control and diagnostic unit as used for the front air curtains
- Four crash sensors, two located at the base of the 'B' pillars (above the front seats) and two at the base of the 'C' pillars (above the 2nd row seats)



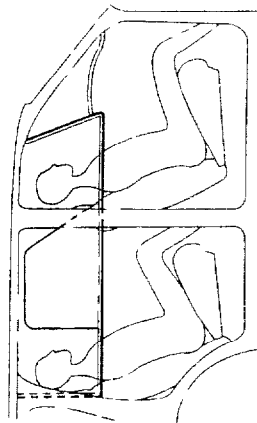
Side air curtains, in combination with seat belts, can help reduce the risk of severe injuries in the event of a significant side impact collision

The side air curtains are mounted to the sheet metal above the first and second row seats. In certain lateral collisions, the air curtain on the side affected by the collision will be inflated, even if the respective seat is not occupied. The air curtain was designed to inflate between the side window area and occupant to further enhance the head protection provided to occupants in side impact collisions

The air curtain SRS is designed to activate when the vehicle sustains lateral deceleration sufficient to cause the sensors to close an electrical circuit that initiates air curtain inflation

The fact that the air curtains did not inflate in a collision does not mean that something is wrong with the system. Rather, it means the forces were not of the type sufficient to cause activation. Side air curtains are designed to inflate in side-impact collisions, not roll-over, rear-impact, frontal or near-frontal collisions, unless the collision causes sufficient lateral deceleration

Seating and safety r strains



⚠ Several air bag system components get hot after inflation. Do not touch them after inflation.

⚠ If the side air curtain has deployed, the air curtain will not function again. The side air curtain system (including the A, B and C pillar trim) must be inspected and serviced by a qualified technician in accordance with the vehicle service manual. If the air curtain is not replaced, the unrepaired area will increase the risk of injury in a collision.

Determining if the system is operational

The SRS uses a readiness light in the instrument cluster or a tone to indicate the condition of the system. Refer to the *Air bag readiness* section in the *Instrumentation* chapter. Routine maintenance of the air bag is not required.

A difficulty with the system is indicated by one or more of the following

- The readiness light (same light as for front air bag system) will either flash or stay lit
- The readiness light will not illuminate immediately after ignition is turned on
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem and light are repaired.

If any of these things happen, even intermittently, have the SRS serviced at your dealership or by a qualified technician immediately. Unless serviced, the system may not function properly in the event of a collision.

Seating and safety restraints

Disposal of air bags and air bag equipped vehicles (including pretensioners)

For disposal of air bags or air bag equipped vehicles, see your local dealership or qualified technician. Air bags MUST BE disposed of by qualified personnel.

SAFETY RESTRAINTS FOR CHILDREN

See the following sections for directions on how to properly use safety restraints for children. Also see *Air bag supplemental restraint system (SRS)* in this chapter for special instructions about using air bags.

Important child restraint precautions

You are required by law to use safety restraints for children in the U.S. and Canada. If small children ride in your vehicle (generally children who are four years old or younger and who weigh 18 kg [40 lbs] or less), you must put them in safety seats made especially for children. Check your local and state or provincial laws for specific requirements regarding the safety of children in your vehicle.

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 Never let a passenger hold a child on his or her lap while the vehicle is moving. The passenger cannot protect the child from injury in a collision.

Always follow the instructions and warnings that come with any infant or child restraint you might use.

When possible, always place children under age 12 in the rear seat of your vehicle. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in the front seating position.

Children and safety belts

If the child is the proper size, restrain the child in a safety seat.

Children who are too large for child safety seats (as specified by your child safety seat manufacturer) should always wear safety belts.

Follow all the important safety restraint and air bag precautions that apply to adult passengers in your vehicle.

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Seating and safety restraints

If the shoulder belt portion of a combination lap and shoulder belt can be positioned so it does not cross or rest in front of the child's face or neck, the child should wear the lap and shoulder belt. Moving the child closer to the center of the vehicle may help provide a good shoulder belt fit.

 Do not leave children, unreliable adults, or pets unattended in your vehicle.

To improve the fit of lap and shoulder belts on children who have outgrown child safety seats, Ford recommends use of a belt-positioning booster seat that is labelled as conforming to all applicable Federal motor vehicle safety standards. Belt-positioning booster seats raise the child and provide a shorter, firmer seating cushion that encourages safer seating posture and better fit of lap and shoulder belts on the child.

A belt-positioning booster seat should be used if the shoulder belt rests in front of the child's face or neck, or if the lap belt does not fit snugly on both thighs, or if the thighs are too short to let the child sit all the way back on the seat cushion when the lower legs hang over the edge of the seat cushion. You may wish to discuss the special needs of your child with your pediatrician.

SAFETY SEATS FOR CHILDREN



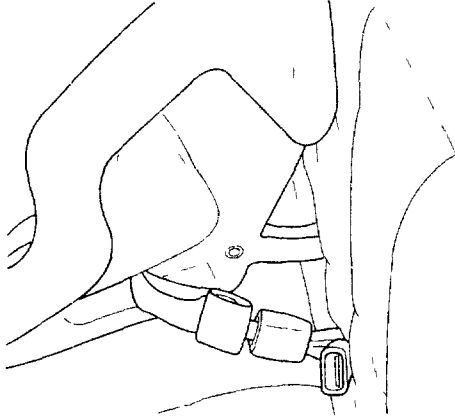
Child and infant or child safety seats

Use a safety seat that is recommended for the size and weight of the child. Carefully follow all of the manufacturer's instructions with the safety seat you put in your vehicle. If you do not install and use the safety seat properly, the child may be injured in a sudden stop or collision.

Seating and safety restraints

When installing a child safety seat

- Review and follow the information presented in the *Air Bag Supplemental Restraint System (SRS)* section in this chapter
- Use the correct safety belt buckle for that seating position (the buckle closest to the direction the tongue is coming from)
- Insert the belt tongue into the proper buckle until you hear a snap and feel it latch. Make sure the tongue is securely fastened in the buckle
- Keep the buckle release button pointing up and away from the safety seat with the tongue between the child seat and the release button, to prevent accidental unbuckling
- Place seat back in upright position
- Put the safety belt in the automatic locking mode. Refer to *Automatic locking mode* (passenger side front and outboard rear seating positions) (if equipped) section in this chapter



Ford recommends the use of a child safety seat having a top tether strap. Install the child safety seat in a seating position which is capable of providing a tether anchorage. For more information on top tether straps, refer to *Attaching child safety seats with tether straps* in this chapter.

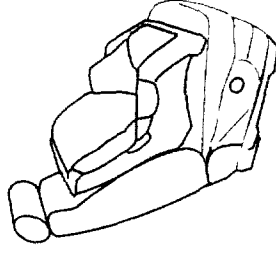
! Carefully follow all of the manufacturer's instructions included with the safety seat you put in your vehicle. If you do not install and use the safety seat properly, the child may be injured in a sudden stop or collision.

Seating and safety restraints

Installing child safety seats in combination lap and shoulder belt seating positions

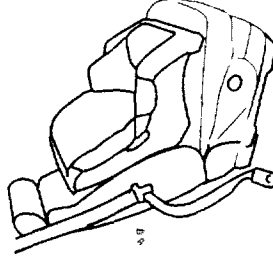
! Air bags can kill or injure a child in a child seat. **NEVER** place a rear-facing child seat in front of an active air bag. If you must use a forward-facing child seat in the front seat, move the seat all the way back.

- 1 Position the child safety seat in a seat with a combination lap and shoulder belt



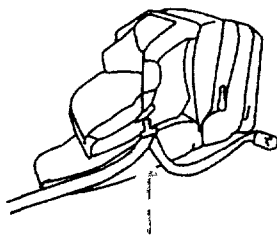
! Children 12 and under should be properly restrained in the rear seat whenever possible.

- 2 Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together

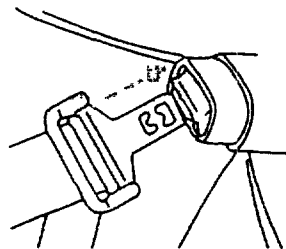


Seating and safety r straints

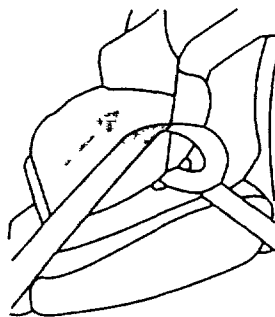
3 While holding the shoulder and lap belt portions together, route the tongue through the child seat according to the child seat manufacturer's instructions. Be sure the belt webbing is not twisted



4 Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a snap and feel the latch engage. Make sure the tongue is latched securely by pulling on it



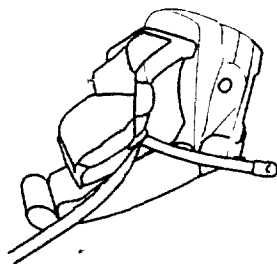
5 To put the retractor in the automatic locking mode, grasp the shoulder portion of the belt and pull downward until all of the belt is extracted and a click is heard



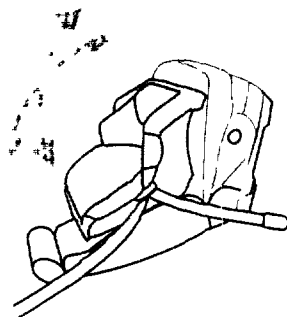
6 Allow the belt to retract. The belt will click as it retracts to indicate it is in the automatic locking mode

Seating and safety restraints

7 Pull the lap belt portion across the child seat toward the buckle and pull up on the shoulder belt while pushing down with your knee on the child seat



8 Allow the safety belt to retract to remove any slack in the belt



9 Before placing the child in the seat, forcibly tilt the seat forward and back to make sure the seat is securely held in place. To check this, grab the seat at the belt path and attempt to move it side to side and forward and back. There should be no more than one inch of movement for proper installation

10 Try to pull the belt out of the retractor to make sure the retractor is in the automatic locking mode (you should not be able to pull more belt out). If the retractor is not locked, unbuckle the belt and repeat steps two through nine

Check to make sure the child seat is properly secured before each use

Attaching child safety seats with tether straps

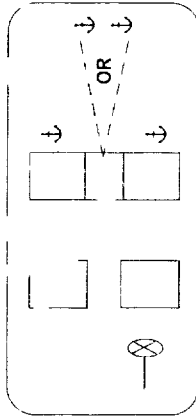
Most new forward facing child safety seats include a tether strap which goes over the back of the seat and hooks to an anchoring point. Tether straps are available as an accessory for many older safety seats. Contact the manufacturer of your child seat for information about ordering a tether strap

The rear seats of your vehicle are equipped with built-in tether strap anchors located behind the seats as shown below

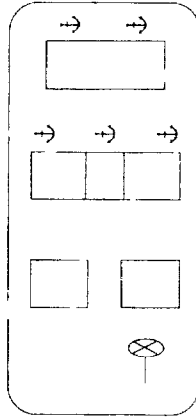
Seating and safety restraints

The tether strap anchors in your vehicle are in the following positions (shown from top view)

- 5 passenger vehicle



- 7 passenger vehicle



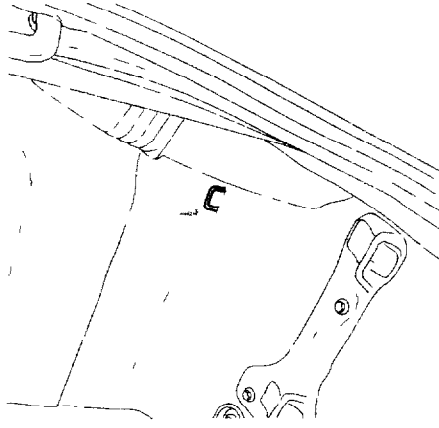
! Attach the tether strap only to the appropriate tether anchor as shown. The tether strap may not work properly if attached somewhere other than the correct tether anchor

- 1 Position the child safety seat on the rear seat cushion
- 2 Route the tether strap under the head restraint and between the head restraint posts
- 3 Locate the correct anchor for the selected rear seating position

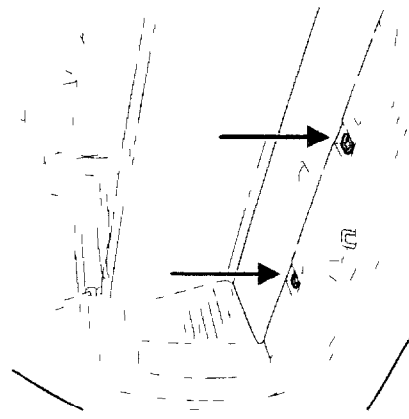
When placing a child safety seat in the 2nd row center seating position of the 5 passenger vehicle, the tether straps may be attached to either of the tether anchors located at the rear of the cargo area

Seating and safety restraints

- Behind 2nd row seat

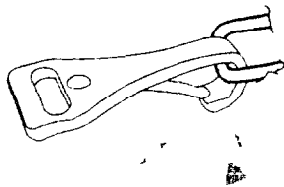


- At the rear of the cargo area



Seating and safety restraints

- 4 Clip the tether strap to the anchor



 If the tether strap is clipped incorrectly, the child safety seat may not be retained properly in the event of a collision

- 5 Refer to the *Installing child safety seats in combination lap and shoulder belt seating positions* section of this chapter for further instructions to secure the child safety seat

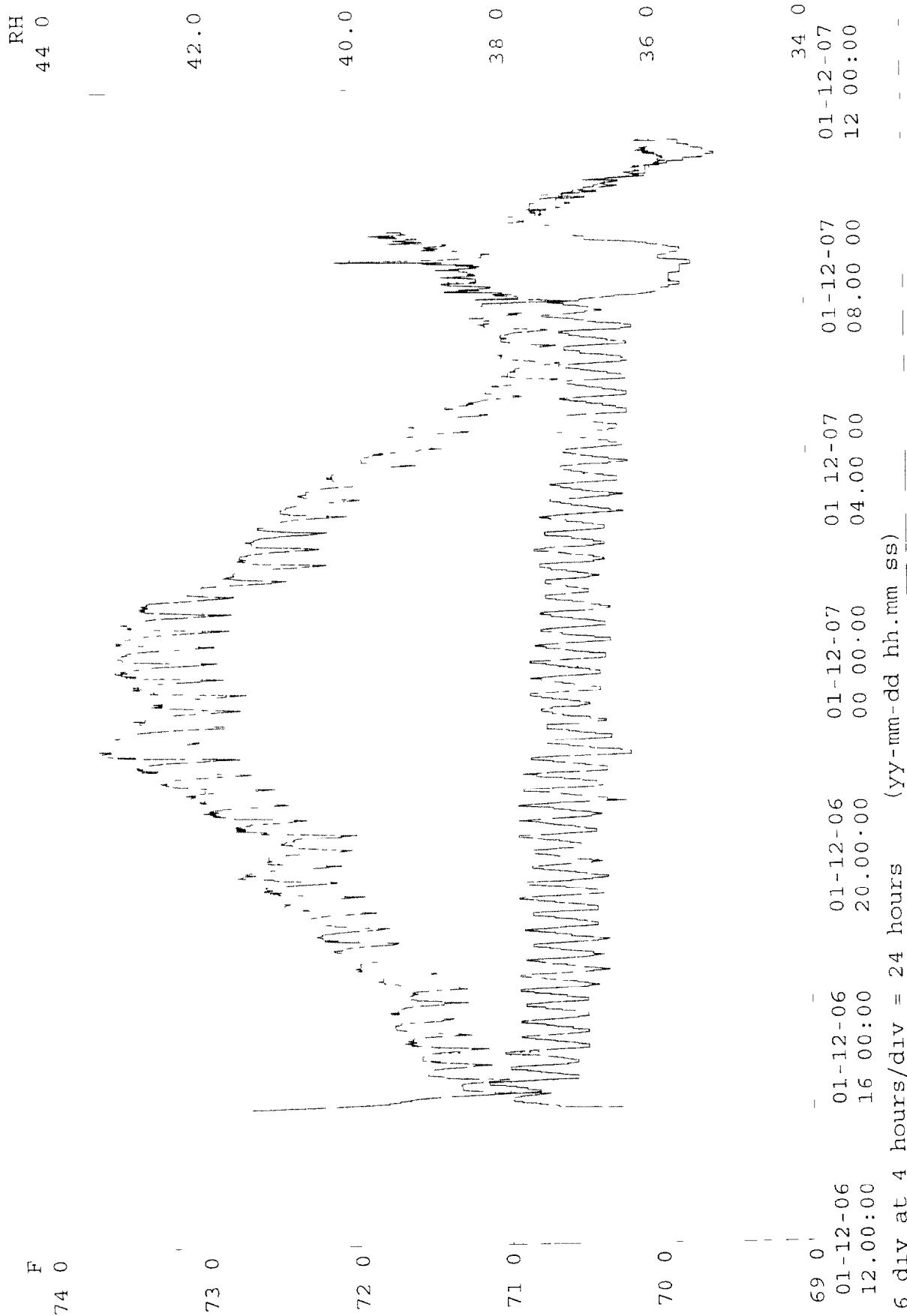
- 6 Tighten the child safety seat tether strap according to the manufacturer's instructions

 If the safety seat is not anchored properly, the risk of a child being injured in a collision greatly increases

Appendix D

Miscellaneous Test Information

Temperature Chart



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